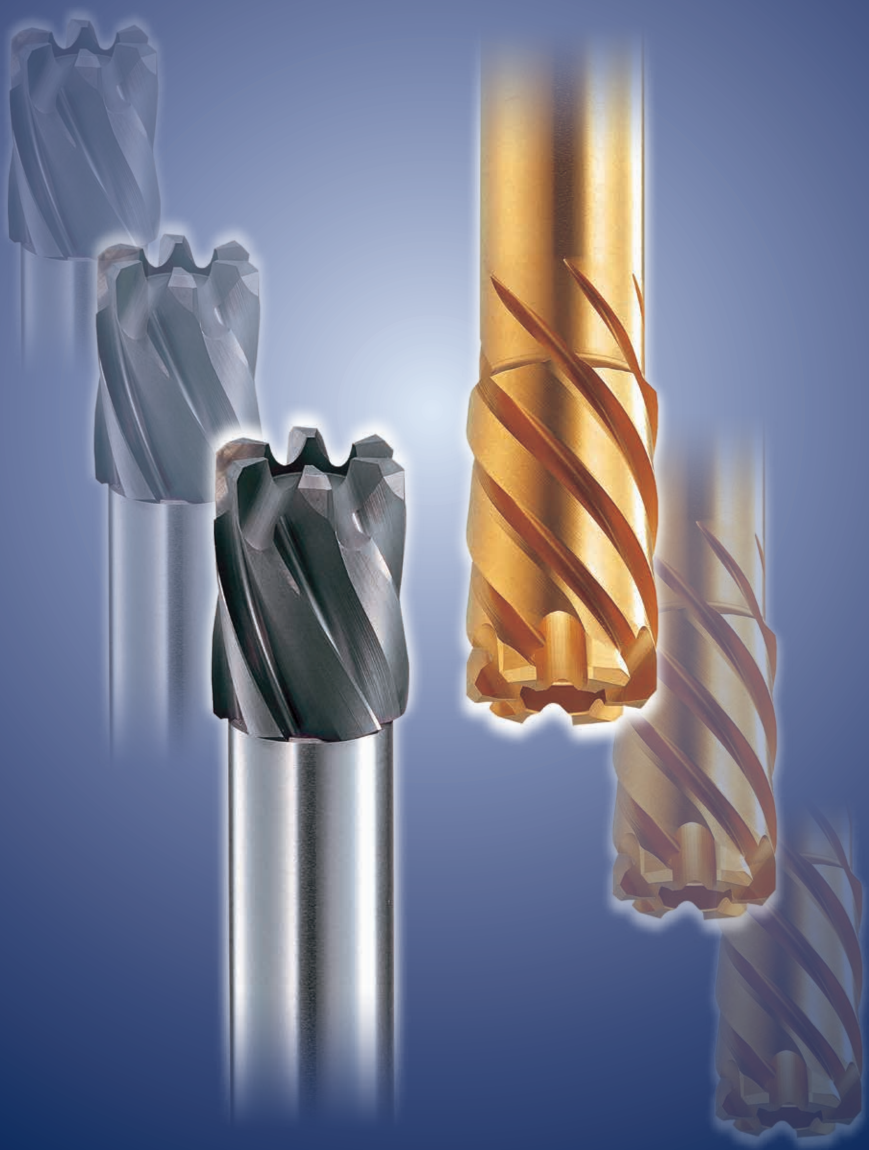
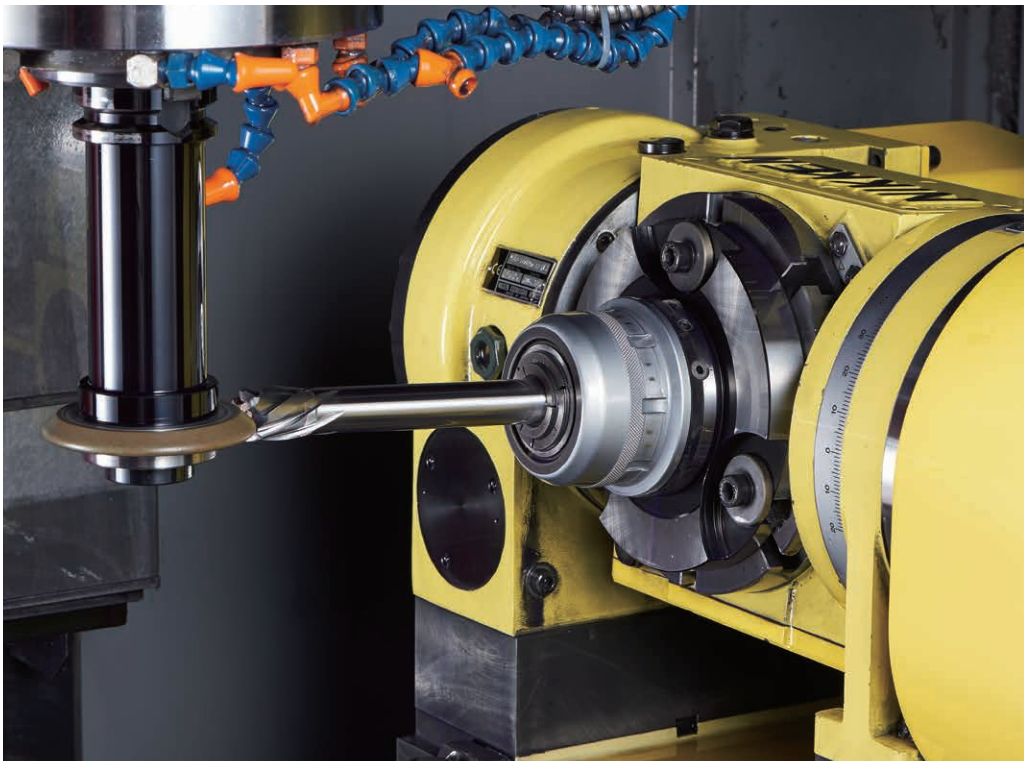
REAMER SERIES



NIKKEN KOSAKUSHO WORKS, LTD.

CAT.NO.166FⒺ



NEW FLANGE TYPE "ZERO FIT HOLDER" IDEAL FOR CUTTER REGRINDING

CODE NO. CF-CZF32 : CHUCKING DIA. 32 mm
CF-CZF42 : CHUCKING DIA. 42 mm

NIKKEN KOSAKUSHO WORKS, LTD. OSAKA, JAPAN.

5-1, 1-chome, Minamishinden, Daito-shi, Osaka-fu, Japan. Telephone:072-869-5820 Telefax:072-869-6220

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SPAIN & PORTUGAL
CUTTING TOOL S.L (TOOLING)
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E-20018 DONOSTIA-SAN SEBASTIAN
Tel.+34-(0)-902-820090 Fax.+34-(0)-902-820099
NIKKEN EUROPE DIVISORES ESPANA (CNC ROTARY TABLE)
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Namdong-Gu, Incheon, Korea 405-819
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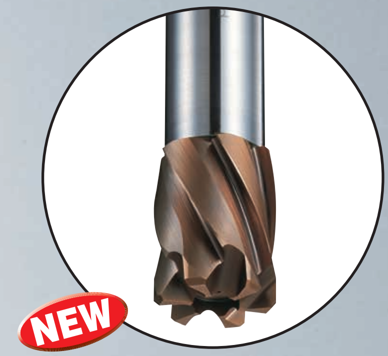
http://www.nikken-kosakusho.co.jp
e-mail : export@nikken-kosakusho.co.jp

■Please give your order to the following agent.

D.LH.2

●Specifications are subject to change without notice.

NIKKEN REAMER SERIES



PF RADICAL MILL REAMER EVO

PF SPECTRUM REAMER SPX

TURNING SKILL REAMER

NIKKEN

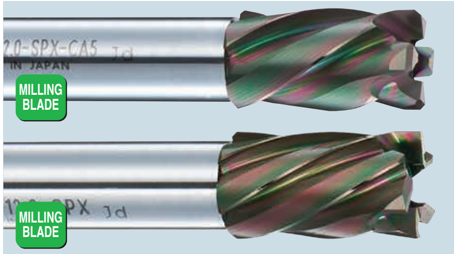
Carbide Reamer Series

OH means c/w Oil Hole(Internal Coolant Supply)

For difficult-to-cut materials evolution series NEW

Designed for difficult-to-cut materials with an extremely heat-resistant alloy coating for such as Inconel, Hastelloy, and Waspaloy

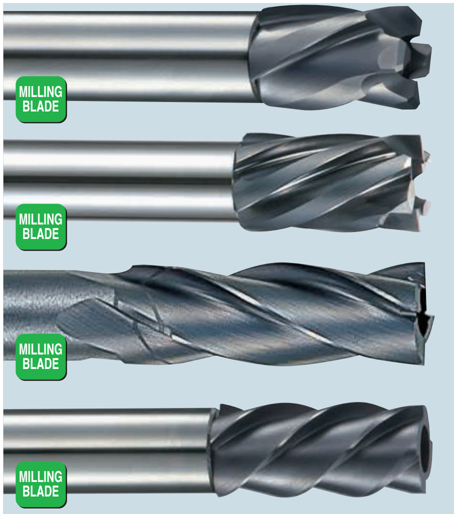
RMSS-EVO	Straight shank	P. 7
PF-RMSS-EVO	Straight shank	P. 7
RFSS-EVO	Straight shank	P. 7
PF-RFSS-EVO	Straight shank	P. 7



For aluminium, aluminium casting Spectrum Reamer Series NEW

Super-hard with a new thin-film hydrogen-free SPX coating

RMSS-SPX	Straight shank	P. 9
PF-RMSS-SPX	Straight shank	P. 9
RFSS-SPX	Straight shank	P.11
PF-RFSS-SPX	Straight shank	P.11



PF Radical Reamer Series

The run-out accuracy and the tool life have been substantially improved with Press Fit type Radical Reamer. This is sophisticated reamer with fine powder carbide and TiCN-2 coated for low friction purpose and hardness HV3,500, thus its tool life is extremely extended even with water soluble coolant.

RMSS PF-RMSS	Straight shank	P.12
PF-RMSS-OH	Straight shank OH	P.16
RMS	Straight shank long	P.17
PF-RMMS	MT shank	P.19
RFSS PF-RFSS	Straight shank	P.19
RFS	Straight shank	P.22
RRSS-F	Straight shank	P.24
RRSS-F-OH	Straight shank OH	P.27
RDSS PF-RDSS	Straight shank	P.28
RDS	Straight shank	P.31

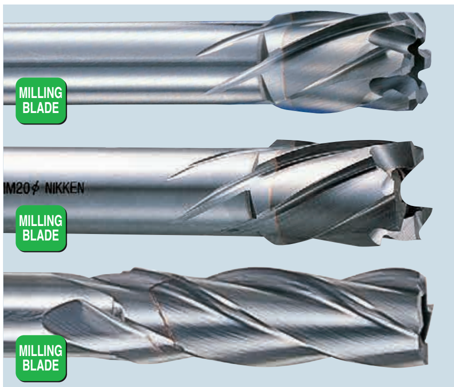
Carbide Radical Mill Reamer DLC Coating

DLC(Diamond-Like Carbon) coating provides improvement for aluminium and non-ferrous metals reaming.
3 type of the reamers with milling blade are into a line up

Carbide Mill Reamer DLC Coating

DLC(Diamond-Like Carbon) coating provides improvement for aluminium and non-ferrous metals reaming.
3 type of the reamers with milling blade are into a line up

RMSS-DLC	Straight shank	P.34
HMS-DLC	Straight shank	P.58
RFSS-DLC	Straight shank	P.37
FMS-DLC	Straight shank	P.60
RRSS-F-DLC	Straight shank	P.38
RXS-F-DLC	Straight shank	P.62



Carbide Mill Reamer

As the Mill Reamer made by K10 grade carbide, the cutting speed can be substantially increased for the productivity improvement. Especially it performs very well on Cast Iron, Meehanite, Aluminium, and Non-steel metal.

HMS	Straight shank	P.41
HMM	MT shank	P.49
FMS	Straight shank	P.52
FMM	MT shank	P.54
RXS-F	Straight shank	P.55
RXS-F-OH	Straight shank OH	P.57

Carbide Broach Reamer

The Carbide Broach Reamer maintain the excellent surface finish for Aluminium and Cast Iron reaming operation.

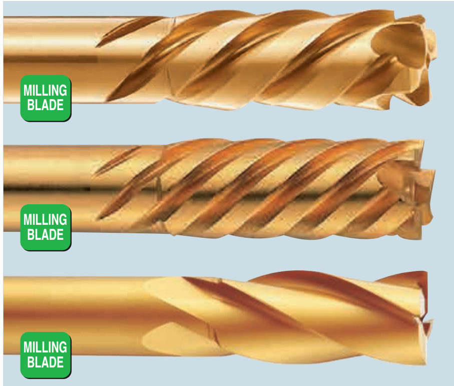
SX	Straight shank	P.64
MX	MT shank	P.67

NIKKEN REAMER SERIES

NIKKEN

HSS Reamer Series

OH means c/w Oil Hole(Internal Coolant Supply)



NC Sensor Reamer

The NC Sensor Reamer is dedicated for better surface finish, especially effective on Stainless Steel, Die Steel, Annealed and Tempered Steel. The high precision finish surface can be achieved with its TiN Coated and its burnishing effect. The reamer can be used with even water soluble coolant.

NCS	Straight shank ········· P.70	
NCM	MT shank ··············· P.75	
NCS-F	Straight shank ········· P.76	
NCM-F	MT shank ··············· P.80	
RNS-F	Straight shank ········· P.81	

Tough-Cut Skill Reamer

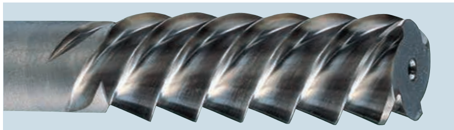
This is all-mighty reamer, which is made by powder HSS & ion-nitrided and good for tough materials, die steel, annealed and tempered steel.

NEW

Turning Skill Reamer

Short type Skill Reamer for NC Lathe

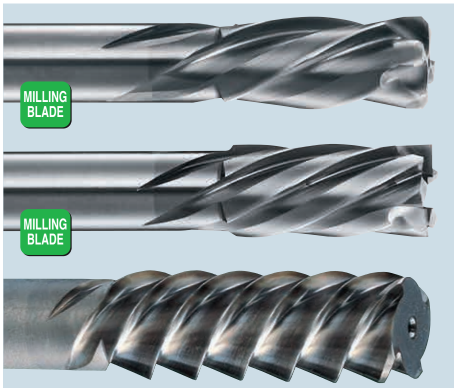
SRS	Straight shank ········· P.84
SRM	MT shank ··············· P.92
SRS-F	Straight shank ········· P.95
SRM-F	MT shank ··············· P.97
RSS-F	Straight shank ········· P.98
RSS-F-OH	Straight shank OH ··· P.101
RSST-F	Straight shank ········ P.106
SRST-F	Straight shank ········ P.108



Broach Reamer

The ultra high left-handed helix of 60 degree performs smooth reaming operation.

BRS	Straight shank ········ P.110
BRM	MT shank ·············· P.123



Long Type Reamer

Longer neck type for deep hole is also available.

SRS-L	Straight shank ········ P.102
SRS-F-L	Straight shank ········ P.103
BRS-L	Straight shank ········ P.129
BRM-L	MT shank ·············· P.130

Recommended Cutting Conditions and Special Made Reamer/Technical Information

Recommended cutting conditions and introduction of special made reamer such as Long Type, Reamer with guide. And refer the technical information. (P.131～P.158)

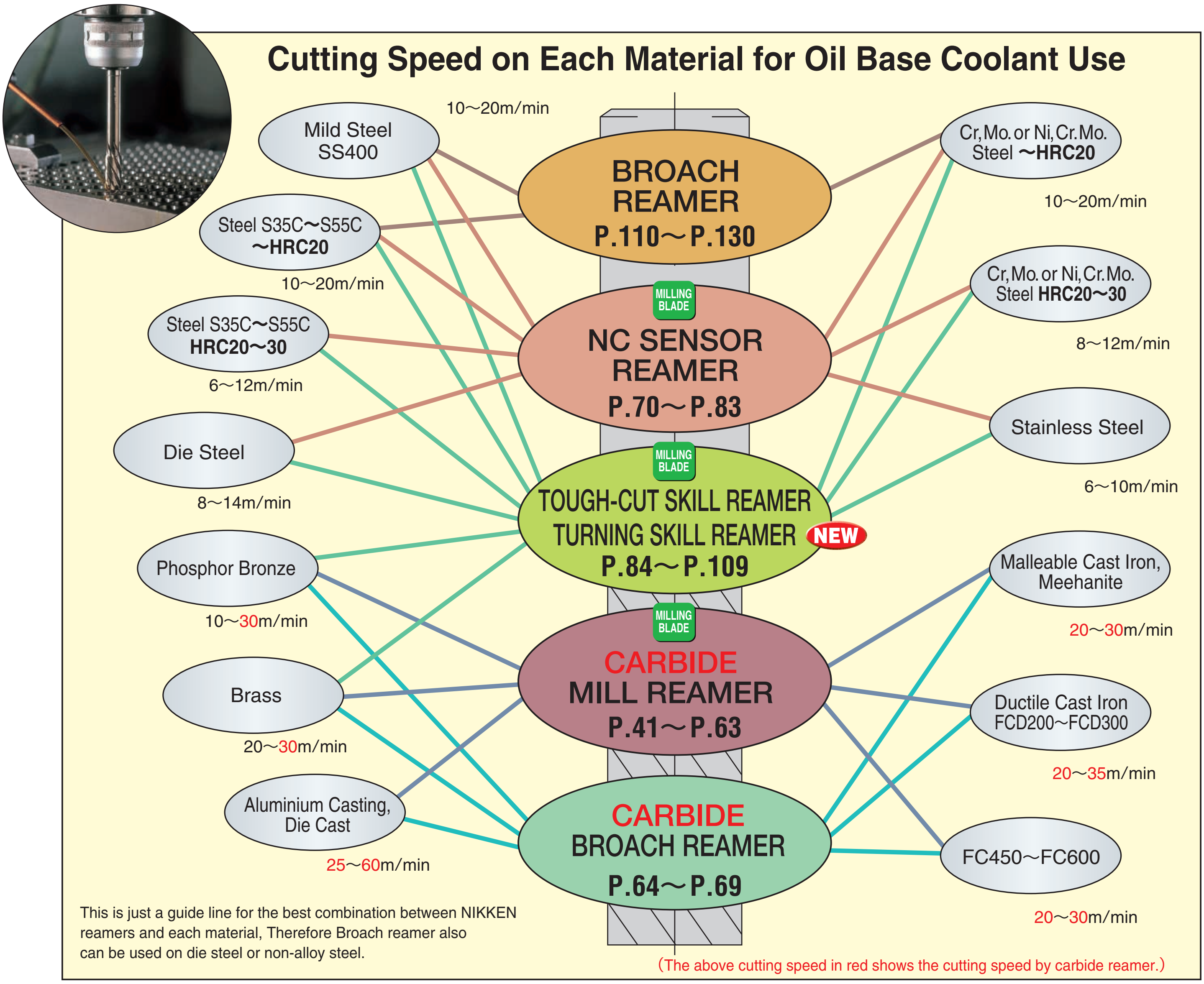
Guide of Tool Specification Icons

MILLING BLADE	With Milling Blade to correct the drill hole
UNEQUAL	Unequel dividing improves roundness
LH-HELIX 45°	Left-Hand Helix discharges chip ahead and Right-Hand Helix discharge chip front side
P.00	Page No. for recommended cutting conditions
PN	Plazma Nitriding of the cutting area This performs outstanding cutting life
TiN COAT	TiN coating improves welding resistance and wear resistance
TiCN2 COAT	TiCN2 Coating improves welding resistance and wear resistance on carbide
EVO COAT	Coating for difficult-to-cut materials with an extremely heat-resistant, welding resistance and wear resistance
DLC COAT	Coating for aluminium and non-ferrous metals
SPX COAT	super-hard(HV6000) with a thin-film hydrogen-free SPX (new coating) designed for aluminium and non-ferrous metals

*The symbols shown on this catalogue confirm to ISO13399.

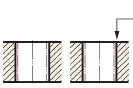
Please reter the content of ⚠ Caution and safety instruction.

Wide Product Range to meet All Material Requirements
Long Tool Life・High Finishing Accuracy on Tough Materials



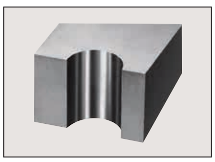
■REAMERS FOR THROUGH HOLE / STEPPED HOLE / BLIND HOLE

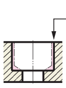
CAN BE SELECTED BY SHAPE OF THE HOLE



EXCELLENT STRAIGHTNESS AND CIRCULARITY.

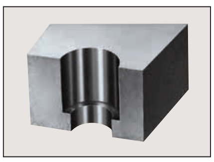
FOR THROUGH HOLE

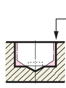




EXCELLENT STRAIGHTNESS AND CIRCULARITY.

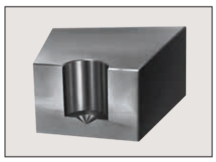
FOR STEPPED HOLE





EXCELLENT STRAIGHTNESS AND CIRCULARITY.

FOR BLIND HOLE



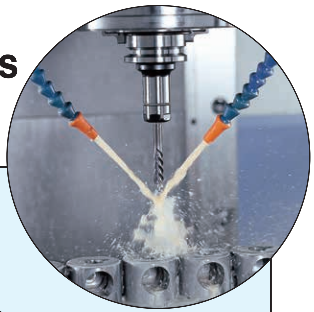
WHEN YOU CANNOT GET GOOD RESULT FOR BLIND HOLE BY USING ENDMILL, BORING ARBOR AND SO ON, PLEASE TRY “REAMERS FOR BLIND HOLE

PARTICULAR CASE

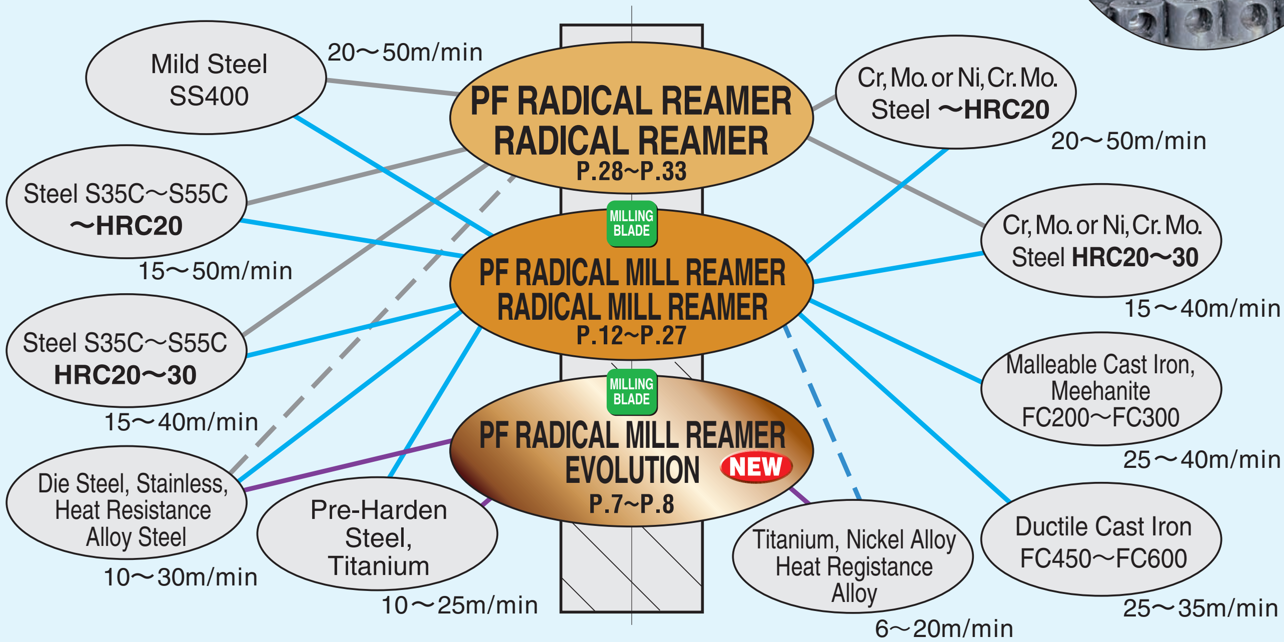
∗Coated reamer is normally not suitable for the cast iron, however(PF)RADICAL REAMER / NC SENSOR REAMER may be suitable for FCD400-600.
∗Under normal conditions, coated reamer is not suitable for the aluminium, however (PF)RADICAL REAMER may be suitable for ADC as well.
∗For the cast iron with soluable coolant, CARBIDE MILL REAMER (K01 GRADE) may be used.

NIKKEN

Wide Product Range to meet All Material Requirements
Long Tool Life•High Finishing Accuracy on Tough Materials

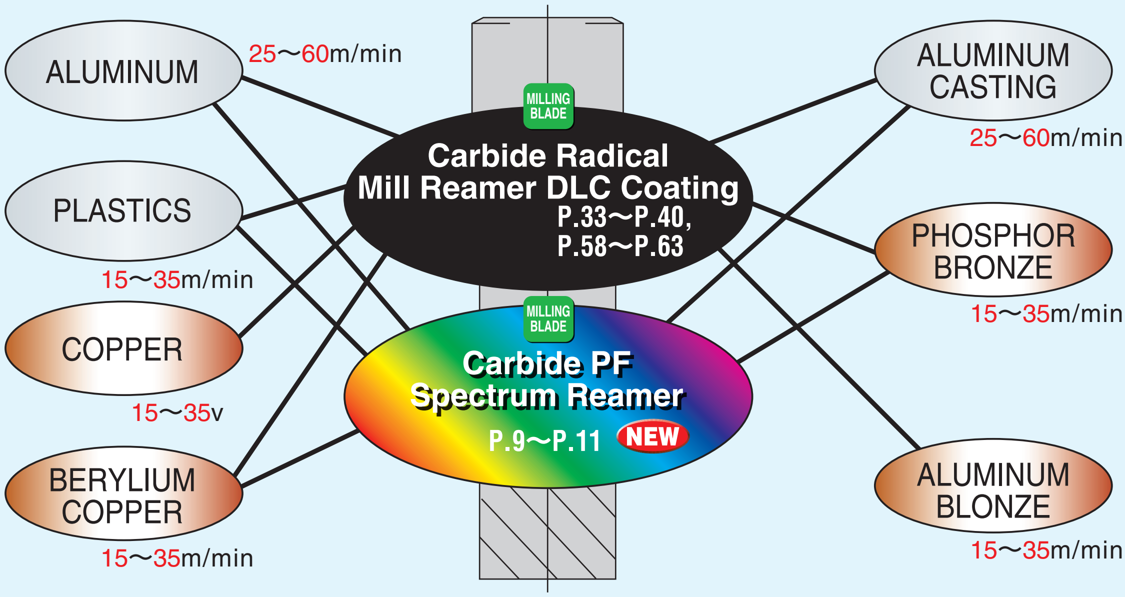


Cutting Speed on Each Material for Soluble Coolant Use



●Please select the other reamers as PF radical reamer(below) for alminium / copper / no-ferrous alloy.
●When using oil base coolant, you could get better accuracy and longer tool life.

Cutting Speed on Each Material for Soluble Coolant Use



●Please select the other reamers for the other materials.
●With using oil base coolant, you could get better accuracy and longer tool life.

NIKKEN CARBIDE PF RADICAL REAMER EVO

NIKKEN

Specially designed for the material difficult-to-cut.

Photo shows Radical Mill Reamer PF-RMSS-EVO

■Especially for nickel-based alloys and titanium alloys such as Inconel®, Hastelloy® and Waspaloy®.

■Smooth cutting capability and special coating to protect the base material from cutting heat and deposition.

> **Radical Mill Reamer EVO**
> is a **reamer dedicated**
> **to the materials difficult-to-cut.**

■Machining Result

Hastelloy® C276 equivalent (HB180) **φ10mm**
V=18m/min, f=0.2mm/rev → φ10mm within H7 and Ra0.3

Inconel® 718 equivalent (HB250~280) **φ10mm**
V=5m/min, f=0.2mm/rev → φ10mm within H7 and Rz6.3

Inconel® 65 equivalent (HB210) **φ4mm**
V=10m/min, f=0.1mm/rev, Hole depth12mm
1000 holes could be done.

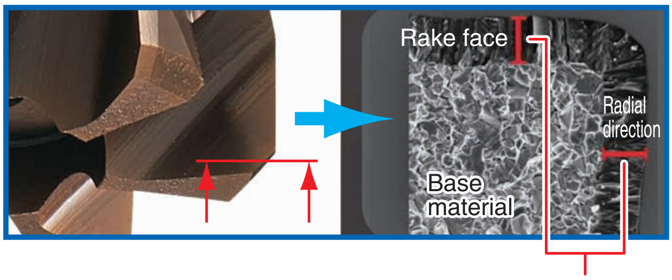
■The latest advanced coating technology has been incorporated into the Radical Mill Reamer EVO.

◉The angle of the cutting edge is optimized for the materials difficult-to-cut.
◉Highly deposition-resistant coating was used with a heat resistance of 1100°C and a film hardness of 3200 HV.
◉Even though the arc evaporation, the droplets and pin holes are extremly reduced and smooth cutting surface can be done.

■Uniform coating film thickness and sharp edge

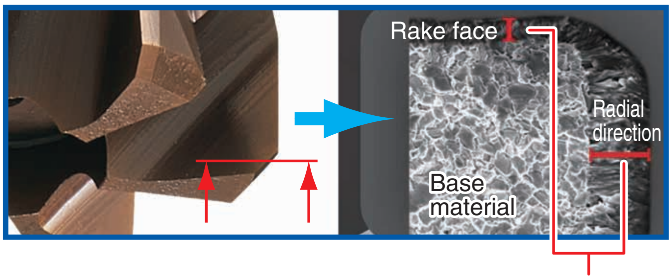
SEM (scanning Election Microscope) photo

E V O



Uniform coating film thickness

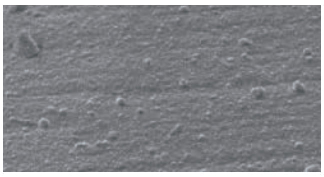
Regular Arc vapor deposition



Non-uniform coating film thickness

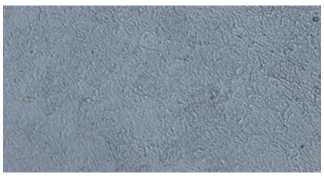
Checking for droplets with an SEM

EVO

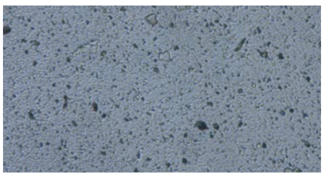


Regular Arc Vapor deposition

Checking for pin holes and concave depressions



EVO

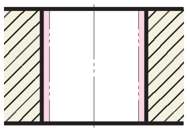


Regular Arc Vapor deposition

NIKKEN CARBIDE PF RADICAL REAMER EVO

NIKKEN

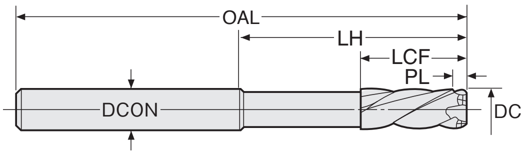
PF-RMSS-EVO Carbide PF Radical Mill Reamer EVO (Straight Shank)



Explanation of the Code No.

PF- RMSS - 12.0 - EVO

- FOR DIFFICULT-TO -CUT MATERIALS
- DIAMETER
- **RADICAL MILLREAMER SERIES**
  RMSS : STRAIGHT SHANK FOR THROUGH HOLE
- NONE:SOLID CARBIDE PF-:PRESS FIT



MILLING BLADE | LH-HELIX 30-35° | EVO COAT | P.132 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS- 3.0-EVO	●	3.0	60	3	4.0	16	35
-3.175-EVO	△	3.175(1/8)	60	3	4.0	16	35
- 3.5-EVO	●	3.5	60	4	4.4	18	35
- 4.0-EVO	●	4.0	60	4	4.8	18	35
- 4.5-EVO	●	4.5	70	5	4.8	22	40
- 5.0-EVO	●	5.0	70	5	4.8	22	40
- 5.5-EVO	●	5.5	85	6	5.1	25	50
- 6.0-EVO	●	6.0	85	6	5.4	25	50
- 6.35-EVO	△	6.35(1/4)	90	8	5.6	25	50
- 6.5-EVO	●	6.5	90	8	5.6	25	50
- 7.0-EVO	●	7.0	90	8	6.0	25	50
- 7.5-EVO	●	7.5	100	8	6.4	25	60
-7.938-EVO	△	7.938(5/16)	100	10	6.6	25	60
- 8.0-EVO	●	8.0	100	10	6.6	25	60
- 8.5-EVO	●	8.5	105	10	6.8	25	60
- 9.0-EVO	●	9.0	105	10	7.0	25	60
- 9.5-EVO	●	9.5	110	10	7.1	29	60
-9.525-EVO	△	9.525(3/8)	110	10	7.1	29	60
- 10.0-EVO	●	10.0	110	10	7.2	29	60

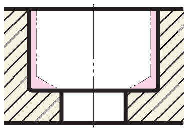
Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
PF-RMSS- 10.5-EVO	●	10.5	115	12	7.6	22	65
- 11.0-EVO	●	11.0	115	12	7.9	22	65
-11.113-EVO	△	11.113(7/16)	115	12	7.9	22	65
- 11.5-EVO	●	11.5	125	12	7.9	22	70
- 12.0-EVO	●	12.0	125	12	7.9	22	70
- 12.5-EVO	●	12.5	130	12	7.9	22	75
- 12.7-EVO	△	12.7(1/2)	130	12	7.9	22	75
- 13.0-EVO	●	13.0	130	12	8.2	22	75
- 13.5-EVO	●	13.5	130	16	8.2	22	75
- 14.0-EVO	●	14.0	130	16	9.0	22	75
- 15.0-EVO	●	15.0	140	16	9.0	22	80
- 16.0-EVO	●	16.0	150	16	9.4	24	90
- 17.0-EVO	●	17.0	150	16	9.4	24	90
- 18.0-EVO	●	18.0	155	20	9.4	24	90
- 19.0-EVO	●	19.0	155	20	9.4	24	90
- 20.0-EVO	●	20.0	160	20	9.8	24	95
	-	-	-	-	-	-	-

★PL means chamfering length to ΦDC. ★**Long type and OH type is also available.**

NIKKEN CARBIDE PF RADICAL REAMER EVO

NIKKEN

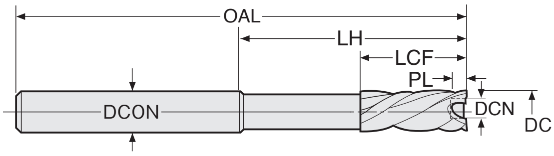
PF-RFSS-EVO For STEPPED HOLE Carbide PF Radical Mill Reamer EVO (Straight Shank)



Explanation of the Code No.

PF- RFSS - 12.0 - EVO

- FOR DIFFICULT-TO -CUT MATERIALS
- DIAMETER
- **RADICAL MILLREAMER SERIES**
  RFSS : STRAIGHT SHANK FOR STEPPED HOLE
- NONE:SOLID CARBIDE PF-:PRESS FIT



MILLING BLADE | LH-HELIX 30° | EVO COAT | P.132 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS- 4.0-EVO	●	4.0	60	4	0.6	2.0	18	35
- 4.5-EVO	●	4.5	70	5	0.6	2.0	22	40
- 5.0-EVO	●	5.0	70	5	0.6	2.5	22	40
- 5.5-EVO	●	5.5	85	6	0.6	3.0	25	50
- 6.0-EVO	●	6.0	85	6	0.6	3.0	25	50
- 6.35-EVO	△	6.35(1/4)	90	8	0.6	3.0	25	50
- 6.5-EVO	●	6.5	90	8	0.6	3.0	25	50
- 7.0-EVO	●	7.0	90	8	0.6	3.5	25	50
- 7.5-EVO	●	7.5	100	8	0.6	4.0	25	60
-7.938-EVO	△	7.938(5/16)	100	8	0.6	4.0	25	60
- 8.0-EVO	●	8.0	100	8	0.6	4.0	25	60
- 8.5-EVO	●	8.5	105	10	0.6	4.5	25	60
- 9.0-EVO	●	9.0	105	10	0.6	4.5	25	60
- 9.5-EVO	●	9.5	110	10	0.6	5.0	29	60
-9.525-EVO	△	9.525(3/8)	110	10	0.6	5.0	29	60
- 10.0-EVO	●	10.0	110	10	0.6	5.0	29	60

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
PF-RFSS- 10.5-EVO	●	10.5	115	12	0.6	5.0	22	65
- 11.0-EVO	●	11.0	115	12	0.6	5.0	22	65
-11.113-EVO	△	11.113(7/16)	115	12	0.6	5.0	22	65
- 11.5-EVO	●	11.5	125	12	0.6	5.0	22	70
- 12.0-EVO	●	12.0	125	12	0.6	5.0	22	70
- 12.5-EVO	●	12.5	130	12	0.6	5.0	22	75
- 12.7-EVO	△	12.7(1/2)	130	12	0.6	5.0	22	75
- 13.0-EVO	●	13.0	130	12	0.6	5.0	22	75
- 13.5-EVO	●	13.5	130	16	0.6	7.0	22	75
- 14.0-EVO	●	14.0	130	16	0.6	7.0	22	75
- 15.0-EVO	●	15.0	140	16	0.6	7.0	22	80
- 16.0-EVO	●	16.0	150	16	0.6	7.0	24	90
- 17.0-EVO	●	17.0	150	16	0.6	7.0	24	90
- 18.0-EVO	●	18.0	155	20	0.6	7.0	24	90
- 19.0-EVO	●	19.0	155	20	0.6	9.0	24	90
- 20.0-EVO	●	20.0	160	20	0.6	9.0	24	95

★PL means chamfering length to ΦDC. ★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★**Long type and OH type is also available.**
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN CARBIDE PF SPECTRUM REAMER SPX

NIKKEN

The newest reamer for aluminum and nonferrous metals with SPX coating

超硬

Photo shows Radical Mill Reamer PF-RMSS-SPX

Features of SPX coating (Hydrogen-Free DLC)

■High level of hardness

High hardness level **(6000 HV)** has been achieved using a **Hydrogen-Free DLC coating**, which contains no hydrogen at the time of deposition. The hardness is extremely close to that of a diamond. (The hardness of conventional diamond-like carbon (DLC) coatings is approximately 3000 HV.)

■Heat resistance

Coating for physical vapor deposition (PVD) adopting special filtering technology allows for a highly heat-resistant coating with few impurities and with heat resistance of 550°C. (The heat resistance of conventional diamond-like carbon (DLC) coatings the heat resistance is approximately 300°C.)

■High efficiency performance

The film thickness is 1μm or less, therefore it does not effect to cutting performance.
The coating with superior slilding performance and adhered strongly on the base material suppress heat generation when reaming and long tool life can be realized.

■The "Spectrum Reamer" is …

●This is a special new reamer for aluminum, cast aluminum, nonferrous metals and resin, with a new type of **Hydrogen-Free SPX** (new coating), which has thin film with a high level of hardness, and totally different from conventional DLC contained hydrogen.

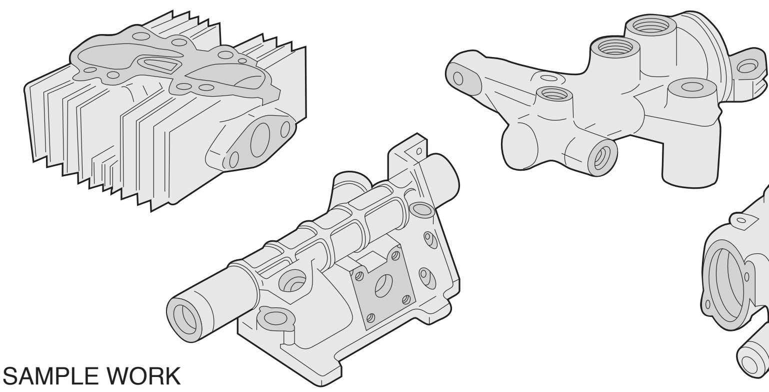
●The angle of the cutting edge has been optimized for the work materials and SPX coating.

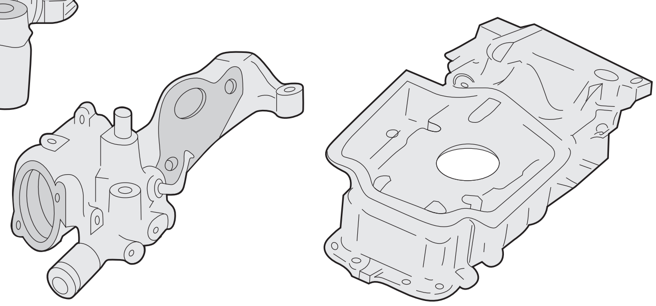
■Operative example of the spectrum reamer

RMSS-10.0-SPX
Material : A6061
Prepared hole : φ9.8mm
Cutting speed : 45m/min
Feed/rev : 0.15mm/rev
Soluble coolant
Roughness=Rz1μm
Finished diameter : within 3μm

PF-RMSS-12.0-SPX
Material : ADC12
Prepared hole : φ11.5mm
Cutting speed : 30m/min
Feed/rev : 0.2mm/rev
Soluble coolant
Roughness=Rz1μm
Finished diameter : within 3μm

PF-RMSS-10.5-SPX
Material : A2017
Prepared hole : φ10.0mm
Cutting speed : 50m/min
Feed/rev : 0.2mm/rev
Machining length : 30mm
Soluble coolant
Roughness=Rz0.5μm
1200 holes could be done (Total cutting length : 36m)
Finished diameter : within 3μm



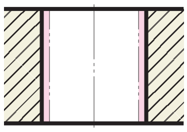


SAMPLE WORK

NIKKEN CARBIDE PF SPECTRUM REAMER SPX

NIKKEN

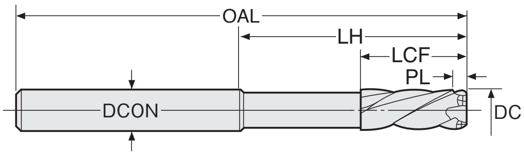
PF-RMSS-SPX Carbide PF Spectrum Reamer (Straight Shank)



Explanation of the Code No.

PF- RMSS - 12.0 - SPX

- SPX REAMER
- DIAMETER
- **RADICAL MILLREAMER SERIES** RMSS : STRAIGHT SHANK FOR THROUGH HOLE
- NONE:SOLID CARBIDE PF-:PRESS FIT



MILLING BLADE | LH-HELIX 30-35° | SPX COAT | P.132 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS- 3.0 -SPX	●	3.0	60	3	4.0	16	35
- 3.01-SPX	△	3.01					
- 3.02-SPX	△	3.02					
- 3.03-SPX	△	3.03					
-3.175-SPX	△	3.175(1/8)	60	3	4.0	16	35
- 3.5 -SPX	●	3.5	60	4	4.4	18	35
- 4.0 -SPX	●	4.0	60	4	4.8	18	35
- 4.01-SPX	△	4.01					
- 4.02-SPX	△	4.02					
- 4.03-SPX	△	4.03					
- 4.5 -SPX	●	4.5	70	5	4.8	22	40
- 5.0 -SPX	●	5.0	70	5	4.8	22	40
- 5.01-SPX	△	5.01					
- 5.02-SPX	△	5.02					
- 5.03-SPX	△	5.03					
- 5.5 -SPX	●	5.5	85	6	5.1	25	50
- 6.0 -SPX	●	6.0	85	6	5.4	25	50
- 6.01-SPX	△	6.01					
- 6.02-SPX	△	6.02					
- 6.03-SPX	△	6.03					
- 6.35-SPX	△	6.35(1/4)	90	8	5.6	25	50
- 6.5 -SPX	●	6.5	90	8	5.6	25	50
- 7.0 -SPX	●	7.0	90	8	6.0	25	50
- 7.01-SPX	△	7.01					
- 7.02-SPX	△	7.02					
- 7.03-SPX	△	7.03					
RMSS- 7.5 -SPX	●	7.5	100	8	6.4	25	60
-7.938-SPX	△	7.938(5/16)	100	8	6.6	25	60
- 8.0 -SPX	●	8.0	100	8	6.6	25	60
- 8.01-SPX	△	8.01					
- 8.02-SPX	△	8.02					
- 8.03-SPX	△	8.03					
- 8.5 -SPX	●	8.5	105	10	6.8	25	60
- 9.0 -SPX	●	9.0	105	10	7.0	25	60
- 9.01-SPX	△	9.01					
- 9.02-SPX	△	9.02					
- 9.03-SPX	△	9.03					
- 9.5 -SPX	●	9.5	110	10	7.1	29	60
-9.525-SPX	△	9.525(3/8)	110	10	7.1	29	60
-10.0 -SPX	●	10.0	110	10	7.2	29	60
-10.01-SPX	△	10.01					
-10.02-SPX	△	10.02					
-10.03-SPX	△	10.03					
	–	–	–	–	–	–	–

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
PF-RMSS- 10.5 -SPX	●	10.5	115	12	7.6	22	65
- 11.0 -SPX	●	11.0	115	12	7.9	22	65
- 11.01-SPX	△	11.01					
- 11.02-SPX	△	11.02					
- 11.03-SPX	△	11.03					
-11.113-SPX	△	11.113(7/16)	115	12	7.9	22	65
- 11.5 -SPX	●	11.5	125	12	7.9	22	70
- 12.0 -SPX	●	12.0	125	12	7.9	22	70
- 12.01-SPX	△	12.01					
- 12.02-SPX	△	12.02					
- 12.03-SPX	△	12.03					
- 12.5 -SPX	●	12.5	130	12	7.9	22	75
- 12.7-SPX	△	12.7(1/2)	130	12	7.9	22	75
- 13.0 -SPX	●	13.0	130	12	8.2	22	75
- 13.01-SPX	△	13.01					
- 13.02-SPX	△	13.02					
- 13.03-SPX	△	13.03					
- 13.5 -SPX	●	13.5	130	16	8.2	22	75
- 14.0 -SPX	●	14.0	130	16	9.0	22	75
- 14.01-SPX	△	14.01					
- 14.02-SPX	△	14.02					
- 14.03-SPX	△	14.03					
- 15.0 -SPX	●	15.0	140	16	9.0	22	80
- 15.01-SPX	△	15.01					
- 15.02-SPX	△	15.02					
- 15.03-SPX	△	15.03					
- 16.0 -SPX	●	16.0	150	16	9.4	24	90
- 16.01-SPX	△	16.01					
- 16.02-SPX	△	16.02					
- 16.03-SPX	△	16.03					
- 17.0 -SPX	●	17.0	150	16	9.4	24	90
- 17.01-SPX	△	17.01					
- 17.02-SPX	△	17.02					
- 17.03-SPX	△	17.03					
- 18.0 -SPX	●	18.0	155	20	9.4	24	90
- 18.01-SPX	△	18.01					
- 18.02-SPX	△	18.02					
- 18.03-SPX	△	18.03					
- 19.0 -SPX	●	19.0	155	20	9.4	24	90
- 19.01-SPX	△	19.01					
- 19.02-SPX	△	19.02					
- 19.03-SPX	△	19.03					
- 20.0 -SPX	●	20.0	160	20	9.8	24	95
- 20.01-SPX	△	20.01					
- 20.02-SPX	△	20.02					
- 20.03-SPX	△	20.03					

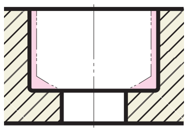
★PL means chamfering length to ΦDC.
★Long type and OH type is also available.

Next page

NIKKEN CARBIDE PF SPECTRUM REAMER SPX

NIKKEN

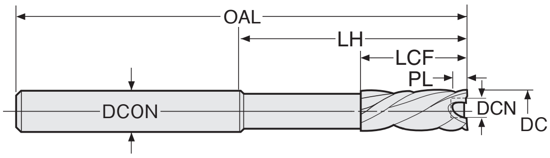
PF-RFSS-SPX
For STEPPED HOLE
Carbide PF Spectrum Reamer (Straight Shank)



Explanation of the Code No.

PF- RFSS - 12.0 - SPX

- SPXリーマ
- DIAMETER
- RADICAL MILLREAMER SERIES
  RFSS : STRAIGHT SHANK FOR STEPPED HOLE
- NONE:SOLID CARBIDE PF-:PRESS FIT



MILLING BLADE | LH-HELIX 30-35° | SPX COAT | P.132 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS- 4.0 -SPX	●	4.0	60	4	0.6	2.0	18	35
- 4.01-SPX	△	4.01						
- 4.02-SPX	△	4.02						
- 4.03-SPX	△	4.03						
- 4.5 -SPX	●	4.5	70	5	0.6	2.0	22	40
- 5.0 -SPX	●	5.0	70	5	0.6	2.5	22	40
- 5.01-SPX	△	5.01						
- 5.02-SPX	△	5.02						
- 5.03-SPX	△	5.03						
- 5.5 -SPX	●	5.5	85	6	0.6	3.0	25	50
- 6.0 -SPX	●	6.0	85	6	0.6	3.0	25	50
- 6.01-SPX	△	6.01						
- 6.02-SPX	△	6.02						
- 6.03-SPX	△	6.03						
- 6.35-SPX	△	6.35(1/4)	90	8	0.6	3.0	25	50
- 6.5 -SPX	●	6.5	90	8	0.6	3.0	25	50
- 7.0 -SPX	●	7.0	90	8	0.6	3.5	25	50
- 7.01-SPX	△	7.01						
- 7.02-SPX	△	7.02						
- 7.03-SPX	△	7.03						
- 7.5 -SPX	●	7.5	100	8	0.6	4.0	25	60
-7.938-SPX	△	7.938(5/16)	100	8	0.6	4.0	25	60
- 8.0 -SPX	●	8.0	100	8	0.6	4.0	25	60
- 8.01-SPX	△	8.01						
- 8.02-SPX	△	8.02						
- 8.03-SPX	△	8.03						
- 8.5 -SPX	●	8.5	105	10	0.6	4.5	25	60
- 9.0 -SPX	●	9.0	105	10	0.6	4.5	25	60
- 9.01-SPX	△	9.01						
- 9.02-SPX	△	9.02						
- 9.03-SPX	△	9.03						
- 9.5 -SPX	●	9.5	110	10	0.6	5.0	29	60
-9.525-SPX	△	9.525(3/8)	110	10	0.6	5.0	29	60
-10.0 -SPX	●	10.0	110	10	0.6	5.0	29	60
-10.01-SPX	△	10.01						
-10.02-SPX	△	10.02						
-10.03-SPX	△	10.03						
	–	–	–	–	–	–	–	–

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
PF-RFSS- 10.5 -SPX	●	10.5	115	12	0.6	5.0	22	65
- 11.0 -SPX	●	11.0	115	12	0.6	5.0	22	65
- 11.01-SPX	△	11.01						
- 11.02-SPX	△	11.02						
- 11.03-SPX	△	11.03						
-11.113-SPX	△	11.113(7/16)	115	12	0.6	5.0	22	65
- 11.5 -SPX	●	11.5	125	12	0.6	5.0	22	70
- 12.0 -SPX	●	12.0	125	12	0.6	5.0	22	70
- 12.01-SPX	△	12.01						
- 12.02-SPX	△	12.02						
- 12.03-SPX	△	12.03						
- 12.5 -SPX	●	12.5	130	12	0.6	5.0	22	75
- 12.7 -SPX	△	12.7(1/2)	130	12	0.6	5.0	22	75
- 13.0 -SPX	●	13.0	130	12	0.6	5.0	22	75
- 13.01-SPX	△	13.01						
- 13.02-SPX	△	13.02						
- 13.03-SPX	△	13.03						
- 13.5 -SPX	●	13.5	130	16	0.6	7.0	22	75
- 14.0 -SPX	●	14.0	130	16	0.6	7.0	22	75
- 14.01-SPX	△	14.01						
- 14.02-SPX	△	14.02						
- 14.03-SPX	△	14.03						
- 15.0 -SPX	●	15.0	140	16	0.6	7.0	22	80
- 15.01-SPX	△	15.01						
- 15.02-SPX	△	15.02						
- 15.03-SPX	△	15.03						
- 16.0 -SPX	●	16.0	150	16	0.6	7.0	24	90
- 16.01-SPX	△	16.01						
- 16.02-SPX	△	16.02						
- 16.03-SPX	△	16.03						
- 17.0 -SPX	●	17.0	150	16	0.6	7.0	24	90
- 17.01-SPX	△	17.01						
- 17.02-SPX	△	17.02						
- 17.03-SPX	△	17.03						
- 18.0 -SPX	●	18.0	155	20	0.6	7.0	24	90
- 18.01-SPX	△	18.01						
- 18.02-SPX	△	18.02						
- 18.03-SPX	△	18.03						
- 19.0 -SPX	●	19.0	155	20	0.6	9.0	24	90
- 19.01-SPX	△	19.01						
- 19.02-SPX	△	19.02						
- 19.03-SPX	△	19.03						
- 20.0 -SPX	●	20.0	160	20	0.6	9.0	24	95
- 20.01-SPX	△	20.01						
- 20.02-SPX	△	20.02						
- 20.03-SPX	△	20.03						

★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★**Long type and OH type is also available.**
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN CARBIDE PF RADICAL REAMER SERIES

NIKKEN

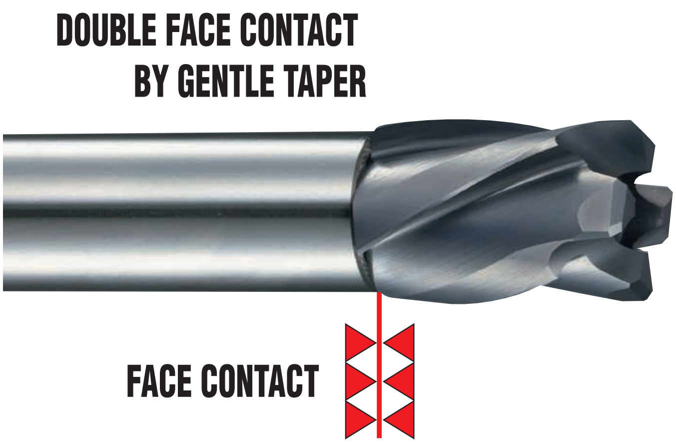
PRESS FIT CONNECTION

Ultra fine particle Carbide + TiCN-2coating


Photo shows Radical Mill Reamer PF-RMSS

PF RADICAL REAMER

CREDIBILITY OF THE COATING IS IMPROVED SUBSTANTIALLY

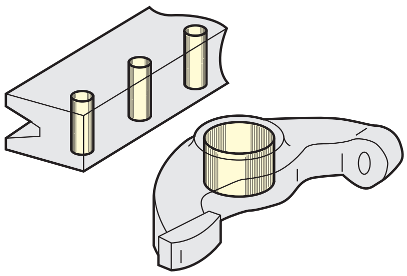


NEW

Oil-hole types on Radical reamer series. ☞P.16

■FEATURE

●High speed･High accuracy reaming
●Credibility of the coating improves substantially
●Stable machined diameter accuracy, good surface finish and long tool life with using water base coolant.



■SUITABLE FOE DIE(PREHARDENED STEEL) AND REGENERATOR MATERIAL(TITANIUM ALLOY)

PF-RMSS-12.0

Material : Prehardened Steel HRC40
Drilled Hole = φ11.7
Depth = 30mm

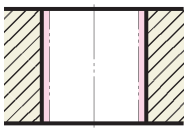
Cutting Speed V = 20m/min
Feed / rev = 0.2mm/rev
Excellent Finish, Good Accuracy
Stable Cutting Chip
Water Base Coolant

NIKKEN CARBIDE RADICAL MILL REAMER

NIKKEN

RMSS Carbide Radical Mill Reamer (Straight Shank)

MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 *See P.4 for icons.

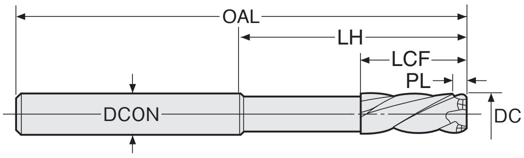


Explanation of the Code No.

RMSS - 12.0

● DIAMETER

● RADICAL MILLREAMER SERIES
RMSS : STRAIGHT SHANK FOR THROUGH HOLE



CARBIDE

FOR STEPPED HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS- 2.97	△	2.97	60	3	4.0	16	35
- 2.98	△	2.98					
- 2.99	△	2.99					
- 3.0	●	3.0					
- 3.01	△	3.01	60	3	4.0	16	35
- 3.02	△	3.02					
- 3.03	△	3.03					
- 3.04	△	3.04					
- 3.05	△	3.05					
- 3.1	△	3.1					
- 3.2	△	3.2					
- 3.3	△	3.3	60	4	4.4	18	35
- 3.4	△	3.4					
- 3.5	●	3.5					
- 3.6	△	3.6					
- 3.7	△	3.7					
- 3.8	△	3.8	60	4	4.8	18	35
- 3.9	△	3.9					
- 3.97	△	3.97					
- 3.98	△	3.98					
- 3.99	△	3.99					
- 4.0	●	4.0					
- 4.01	△	4.01	60	4	4.8	18	35
- 4.02	△	4.02					
- 4.03	△	4.03					
- 4.04	△	4.04					
- 4.05	△	4.05					
- 4.1	△	4.1					
- 4.2	△	4.2					
- 4.3	△	4.3	70	5	4.8	22	40
- 4.4	△	4.4					
- 4.5	●	4.5					
- 4.6	△	4.6					
- 4.7	△	4.7					
- 4.8	△	4.8					
- 4.9	△	4.9					
- 4.97	△	4.97					
- 4.98	△	4.98					
- 4.99	△	4.99					
- 5.0	●	5.0					
- 5.01	△	5.01	70	5	4.8	22	40
- 5.02	△	5.02					
- 5.03	△	5.03					
- 5.04	△	5.04					
- 5.05	△	5.05					
- 5.1	△	5.1					
- 5.2	△	5.2					
- 5.3	△	5.3	85	6	5.1	25	50
- 5.4	△	5.4					
- 5.5	●	5.5					
- 5.6	△	5.6					
- 5.7	△	5.7					
- 5.8	△	5.8	85	6	5.4	25	50
- 5.9	△	5.9					
- 5.97	△	5.97					
- 5.98	△	5.98					
- 5.99	△	5.99					
- 6.0	△	6.0					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS- 6.01	△	6.01	85	6	5.4	25	50
- 6.02	△	6.02					
- 6.03	△	6.03					
- 6.04	△	6.04					
- 6.05	△	6.05					
- 6.1	△	6.1					
- 6.2	△	6.2					
- 6.3	△	6.3	90	8	5.6	25	50
- 6.4	△	6.4					
- 6.5	●	6.5					
- 6.6	△	6.6					
- 6.7	△	6.7					
- 6.8	△	6.8	90	8	6.0	25	50
- 6.9	△	6.9					
- 6.97	△	6.97					
- 6.98	△	6.98					
- 6.99	△	6.99					
- 7.0	●	7.0					
- 7.01	△	7.01	90	8	6.0	25	50
- 7.02	△	7.02					
- 7.03	△	7.03					
- 7.04	△	7.04					
- 7.05	△	7.05					
- 7.1	△	7.1					
- 7.2	△	7.2					
- 7.3	△	7.3	100	8	6.4	25	60
- 7.4	△	7.4					
- 7.5	●	7.5					
- 7.6	△	7.6					
- 7.7	△	7.7					
- 7.8	△	7.8	100	8	6.6	25	60
- 7.9	△	7.9					
- 7.97	△	7.97					
- 7.98	△	7.98					
- 7.99	△	7.99					
- 8.0	●	8.0					
- 8.01	△	8.01	100	8	6.6	25	60
- 8.02	△	8.02					
- 8.03	△	8.03					
- 8.04	△	8.04					
- 8.05	△	8.05					
- 8.1	△	8.1					
- 8.2	△	8.2					
- 8.3	△	8.3	105	10	6.8	25	60
- 8.4	△	8.4					
- 8.5	●	8.5					
- 8.6	△	8.6					
- 8.7	△	8.7					
- 8.8	△	8.8	105	10	7.0	25	60
- 8.9	△	8.9					
- 8.97	△	8.97					
- 8.98	△	8.98					
- 8.99	△	8.99					
- 9.0	●	9.0					
- 9.01	△	9.01	105	10	7.0	25	60
- 9.02	△	9.02					
- 9.03	△	9.03					
- 9.04	△	9.04					

★PL means chamfering length to ΦDC.

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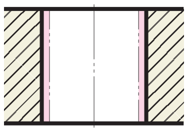
NIKKEN

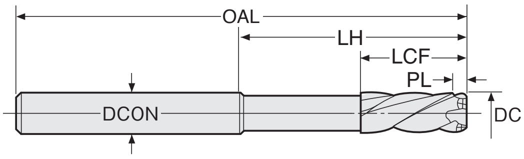
RMSS Carbide Radical Mill Reamer (Straight Shank)



Explanation of the Code No.

RMSS - 12.0

- DIAMETER
- RADICAL MILLREAMER SERIES
  RMSS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS- 9.05	△	9.05					
- 9.1	△	9.1	105	10	7.0	25	60
- 9.2	△	9.2					
- 9.3	△	9.3					
- 9.4	△	9.4					
- 9.5	△	9.5	110	10	7.1	29	60
- 9.6	△	9.6					
- 9.7	△	9.7					
- 9.8	●	9.8					
- 9.9	△	9.9					
- 9.97	△	9.97	110	10	7.2	29	60
- 9.98	△	9.98					
- 9.99	△	9.99					
-10.0	△	10.0					
-10.01	△	10.01					
-10.02	△	10.02					
-10.03	●	10.03					
-10.04	△	10.04	110	10	7.2	29	60
-10.05	△	10.05					
-10.1	△	10.1					
-10.2	△	10.2					
-10.3	△	10.3					
-10.4	△	10.4					
-10.5	△	10.5	115	12	7.6	29	65
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8					
-10.9	△	10.9					
-10.97	△	10.97	115	12	7.9	29	65
-10.98	△	10.98					
-10.99	△	10.99					
-11.0	△	11.0					
-11.01	△	11.01					
-11.02	△	11.02					
-11.03	△	11.03					
-11.04	△	11.04	115	12	7.9	29	65
-11.05	△	11.05					
-11.1	△	11.1					
-11.2	△	11.2					
-11.3	△	11.3					
-11.4	△	11.4					
-11.5	△	11.5					
-11.6	△	11.6					
-11.7	△	11.7					
-11.8	△	11.8	125	12	7.9	29	70
-11.9	△	11.9					
-11.97	△	11.97					
-11.98	△	11.98					
-11.99	△	11.99					
-12.0	△	12.0					
-12.01	△	12.01					
-12.02	△	12.02					
-12.03	△	12.03					
-12.04	△	12.04	125	12	7.9	29	70
-12.05	△	12.05					
-12.1	△	12.1					
-12.2	△	12.2					
-12.3	△	12.3	130	12	7.9	29	75

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS-12.4	△	12.4					
-12.5	△	12.5	130	12	7.9	29	75
-12.6	△	12.6					
-12.7	△	12.7					
-12.8	△	12.8					
-12.9	△	12.9					
-12.97	△	12.97	130	12	8.2	29	75
-12.98	△	12.98					
-12.99	△	12.99					
-13.0	△	13.0					
-13.01	△	13.01					
-13.02	△	13.02					
-13.03	△	13.03					
-13.04	△	13.04	130	12	8.2	29	75
-13.05	△	13.05					
-13.1	△	13.1					
-13.2	△	13.2					
-13.3	△	13.3					
-13.4	△	13.4					
-13.5	△	13.5	130	12	8.2	29	75
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8					
-13.9	△	13.9					
-13.97	△	13.97	130	16	9.0	29	75
-13.98	△	13.98					
-13.99	△	13.99					
-14.0	△	14.0					
-14.01	△	14.01					
-14.02	△	14.02					
-14.03	△	14.03					
-14.04	△	14.04	130	16	9.0	29	75
-14.05	△	14.05					
-14.1	△	14.1					
-14.2	△	14.2					
-14.3	△	14.3					
-14.4	△	14.4					
-14.5	△	14.5					
-14.6	△	14.6					
-14.7	△	14.7					
-14.8	△	14.8	140	16	9.0	29	80
-14.9	△	14.9					
-14.97	△	14.97					
-14.98	△	14.98					
-14.99	△	14.99					
-15.0	△	15.0					
-15.01	△	15.01					
-15.02	△	15.02					
-15.03	△	15.03					
-15.04	△	15.04	140	16	9.0	29	80
-15.05	△	15.05					
-15.1	△	15.1					
-15.2	△	15.2					
-15.3	△	15.3					
-15.4	△	15.4					
-15.5	△	15.5	150	16	9.4	30	90
-15.6	△	15.6					
-15.7	△	15.7					

★PL means chamfering length to ΦDC.

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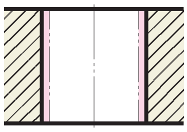
NIKKEN CARBIDE RADICAL MILL REAMER

NIKKEN

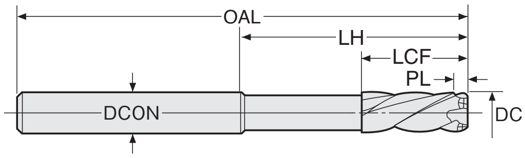
RMSS Carbide Radical Mill Reamer (Straight Shank)



Explanation of the Code No.

RMSS - 12.0

- DIAMETER
- RADICAL MILLREAMER SERIES
  RMSS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.132 *See P.4 for icons.

CARBIDE
FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS-15.8	△	15.8	150	16	9.4	30	90
-15.9	△	15.9					
-15.97	△	15.97					
-15.98	△	15.98					
-15.99	△	15.99					
-16.0	△	16.0					
-16.01	△	16.01	150	16	9.4	30	90
-16.02	△	16.02					
-16.03	△	16.03					
-16.04	△	16.04					
-16.05	△	16.05					
-16.1	△	16.1					
-16.2	△	16.2					
-16.3	△	16.3					
-16.4	△	16.4					
-16.5	△	16.5					
-16.6	△	16.6					
-16.7	△	16.7					
-16.8	△	16.8					
-16.9	△	16.9					
-16.97	△	16.97					
-16.98	△	16.98					
-16.99	△	16.99					
-17.0	△	17.0					
-17.01	△	17.01	150	16	9.4	30	90
-17.02	△	17.02					
-17.03	△	17.03					
-17.04	△	17.04					
-17.05	△	17.05					
-17.1	△	17.1					
-17.2	△	17.2					
-17.3	△	17.3	155	20	9.4	30	90
-17.4	△	17.4					
-17.5	△	17.5					
-17.6	△	17.6					
-17.7	△	17.7					
-17.8	△	17.8					
-17.9	△	17.9					
-17.97	△	17.97					
-17.98	△	17.98					
-17.99	△	17.99					
-18.0	△	18.0					
-18.01	△	18.01	155	20	9.4	30	90
-18.02	△	18.02					
-18.03	△	18.03					
-18.04	△	18.04					
-18.05	△	18.05					
-18.1	△	18.1					
-18.2	△	18.2					
-18.3	△	18.3					
-18.4	△	18.4					
-18.5	△	18.5					
-18.6	△	18.6					
-18.7	△	18.7					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS-18.8	△	18.8	155	20	9.4	30	90
-18.9	△	18.9					
-18.97	△	18.97					
-18.98	△	18.98					
-18.99	△	18.99					
-19.0	△	19.0					
-19.01	△	19.01	155	20	9.4	30	90
-19.02	△	19.02					
-19.03	△	19.03					
-19.04	△	19.04					
-19.05	△	19.05					
-19.1	△	19.1					
-19.2	△	19.2					
-19.3	△	19.3	160	20	9.8	30	95
-19.4	△	19.4					
-19.5	△	19.5					
-19.6	△	19.6					
-19.7	△	19.7					
-19.8	△	19.8					
-19.9	△	19.9					
-19.97	△	19.97					
-19.98	△	19.98					
-19.99	△	19.99					
-20.0	△	20.0					
-20.01	△	20.01	160	20	9.8	30	95
-20.02	△	20.02					
-20.03	△	20.03					
-20.04	△	20.04					
-20.05	△	20.05					
-20.5	△	20.5	170	20	10.3	33.5	105
-21.0	△	21.0					
-21.5	△	21.5	180	20	10.8	33.5	105
-22.0	△	22.0					
-22.5	△	22.5	180	25	10.8	33.5	110
-23.0	△	23.0					
-23.5	△	23.5					
-24.0	△	24.0					
-24.5	△	24.5	190	25	11.3	33.5	120
-25.0	△	25.0					
-25.5	△	25.5	190	25	11.3	33.5	120
-26.0	△	26.0					
-26.5	△	26.5					
-27.0	△	27.0					
-27.5	△	27.5	200	32	11.6	39	120
-28.0	△	28.0					
-28.5	△	28.5					
-29.0	△	29.0					
-29.5	△	29.5					
-30.0	△	30.0					
	–	–	–	–	–	–	–

★PL means chamfering length to ΦDC.

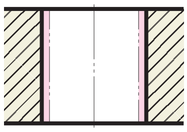
★Long type is also available. P.17

★OH type is also available. P.16

NIKKEN CARBIDE PF RADICAL MILL REAMER

NIKKEN

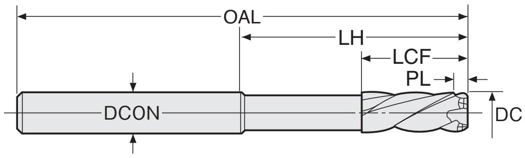
PF-RMSS Carbide Radical Mill Reamer (Straight Shank)



Explanation of the Code No.

PF- RMSS - 12.0

- DIAMETER
- RADICAL MILLREAMER SERIES
  RMSS : STRAIGHT SHANK FOR THROUGH HOLE
- NONE:SOLID CARBIDE PF-:PRESS FIT



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.132 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
PF-RMSS- 10.5	●	10.5	115	12	7.6	22	65
- 11.0	●	11.0	115	12	7.9	22	65
- 11.5	●	11.5	125	12	7.9	22	70
- 12.0	●	12.0					
- 12.5	●	12.5	130	12	7.9	22	75
- 13.0	●	13.0	130	12	8.2	22	75
- 13.5	●	13.5	130	16	8.2	22	75
- 14.0	●	14.0	130	16	9.0	22	75
- 15.0	●	15.0	140	16	9.0	22	80
- 16.0	●	16.0	150	16	9.4	24	90
- 17.0	●	17.0					
- 18.0	●	18.0	155	20	9.4	24	90

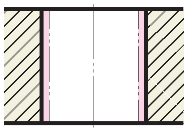
Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
PF-RMSS- 19.0	●	19.0	155	20	9.4	24	90
- 20.0	●	20.0	160	20	9.8	24	95
- 21.0	●	21.0	170	20	10.3	24	105
- 22.0	●	22.0	170	20	10.8	28	105
- 23.0	●	23.0	180	25	10.8	28	110
- 24.0	●	24.0					
- 25.0	●	25.0	190	25	11.3	28	120
- 26.0	●	26.0					
- 27.0	●	27.0	200	32	11.6	34	120
- 28.0	●	28.0					
- 29.0	●	29.0					
- 30.0	●	30.0					

★PL means chamfering length to ΦDC.
★**Long type is also available. PF-RMS-15.0**
★**OH type is also available. ☞ Please see below.**

NIKKEN CARBIDE RADICAL MILL REAMER OH

NIKKEN

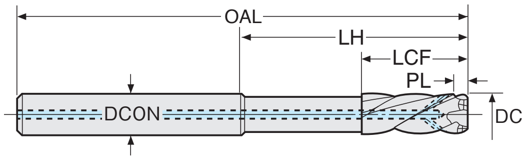
PF-RMSS-OH Carbide Radical Mill Reamer (With Oil Hole)



Code No.の説明(例)

PF- RMSS - 12.0 - OH

- OH付の意
- DIAMETER
- RADICAL MILLREAMER SERIES
  RMSS : STRAIGHT SHANK FOR THROUGH HOLE
- NONE:SOLID CARBIDE PF-:PRESS FIT



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.132 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

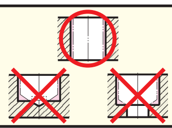
Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS- 5.0-OH	△	5.0	70	5	4.8	22	40
- 6.0-OH	△	6.0	85	6	5.4	25	50
- 7.0-OH	△	7.0	90	8	6.0	25	50
- 8.0-OH	△	8.0	100	8	6.6	25	60
- 9.0-OH	△	9.0	105	10	7.0	25	60
-10.0-OH	△	10.0	110	10	7.2	29	60
	–	–	–	–	–	–	–

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
PF-RMSS-11.0-OH	△	11.0	115	12	7.9	22	65
-12.0-OH	△	12.0	125	12	7.9	22	70
-13.0-OH	△	13.0	130	12	8.2	22	75
-14.0-OH	△	14.0	130	16	9.0	22	75
-15.0-OH	△	15.0	140	16	9.0	22	80
-16.0-OH	△	16.0	150	16	9.4	24	90
-17.0-OH	△	17.0	150	16	9.4	24	90
-18.0-OH	△	18.0	155	20	9.4	24	90
-19.0-OH	△	19.0	155	20	9.4	24	90
-20.0-OH	△	20.0	160	20	9.8	24	95

★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★This is not suitable to use on drilling machine due to tensile force of right-handed. Please use on machining center, NC lathe and milling machine.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

⚠

·This is for through hole. Please do not use for blind hole and stepped hole. Radical mill reamer with OH for blind hole is also available. ☞**P.27**
·High pressure coolant is not effective. The guide line of the coolant pressure is around 0.5-2.0Mpa.



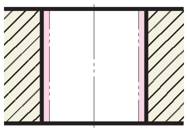
CARBIDE

FOR THROUGH HOLE

NIKKEN CARBIDE RADICAL MILL REAMER LONG TYPE

NIKKEN

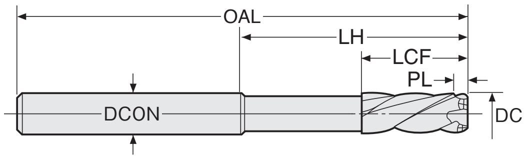
RMS Carbide Radical Mill Reamer (Long Type)



Explanation of the Code No.

RMS - 8.0

- DIAMETER
- RADICAL MILLREAMER SERIES
  RMS : STRAIGHT SHANK LONG TYPE FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMS- 4.3	△	4.3	75	5	4.8	22	45
- 4.4	△	4.4					
- 4.5	△	4.5					
- 4.6	△	4.6					
- 4.7	△	4.7					
- 4.8	△	4.8					
- 4.9	△	4.9					
- 4.97	△	4.97					
- 4.98	△	4.98					
- 4.99	△	4.99					
- 5.0	△	5.0					
- 5.01	△	5.01	75	5	4.8	22	45
- 5.02	△	5.02					
- 5.03	△	5.03					
- 5.04	△	5.04					
- 5.05	△	5.05					
- 5.1	△	5.1					
- 5.2	△	5.2					
- 5.3	△	5.3	100	6	5.1	25	65
- 5.4	△	5.5					
- 5.5	△	5.4					
- 5.6	△	5.6					
- 5.7	△	5.7					
- 5.8	△	5.8	100	6	5.4	25	65
- 5.9	△	5.9					
- 5.97	△	5.97					
- 5.98	△	5.98					
- 5.99	△	5.99					
- 6.0	△	6.0					
- 6.01	△	6.01	100	6	5.4	25	65
- 6.02	△	6.02					
- 6.03	△	6.03					
- 6.04	△	6.04					
- 6.05	△	6.05					
- 6.1	△	6.1					
- 6.2	△	6.2					
- 6.3	△	6.3	110	8	5.6	25	70
- 6.4	△	6.4					
- 6.5	△	6.5					
- 6.6	△	6.6					
- 6.7	△	6.7					
- 6.8	△	6.8	110	8	5.6	25	70
- 6.9	△	6.9					
- 6.97	△	6.97					
- 6.98	△	6.98					
- 6.99	△	6.99					
- 7.0	△	7.0					
- 7.01	△	7.01	110	8	6.0	25	70
- 7.02	△	7.02					
- 7.03	△	7.03					
- 7.04	△	7.04					
- 7.05	△	7.05					
- 7.1	△	7.1					
- 7.2	△	7.2					
- 7.3	△	7.3	125	8	6.4	25	85
- 7.4	△	7.4					
- 7.5	△	7.5					
- 7.6	△	7.6					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMS- 7.7	△	7.7	125	8	6.4	25	85
- 7.8	△	7.8	125	8	6.6	25	85
- 7.9	△	7.9					
- 7.97	△	7.97					
- 7.98	△	7.98					
- 7.99	△	7.99					
- 8.0	△	8.0					
- 8.01	△	8.01	125	8	6.6	25	85
- 8.02	△	8.02					
- 8.03	△	8.03					
- 8.04	△	8.04					
- 8.05	△	8.05					
- 8.1	△	8.1					
- 8.2	△	8.2					
- 8.3	△	8.3	135	10	6.8	25	90
- 8.4	△	8.4					
- 8.5	△	8.5					
- 8.6	△	8.6					
- 8.7	△	8.7					
- 8.8	△	8.8	135	10	7.0	29	90
- 8.9	△	8.9					
- 8.97	△	8.97					
- 8.98	△	8.98					
- 8.99	△	8.99					
- 9.0	△	9.0					
- 9.01	△	9.01	135	10	7.0	29	90
- 9.02	△	9.02					
- 9.03	△	9.03					
- 9.04	△	9.04					
- 9.05	△	9.05					
- 9.1	△	9.1					
- 9.2	△	9.2					
- 9.3	△	9.3	150	10	7.1	29	100
- 9.4	△	9.4					
- 9.5	△	9.5					
- 9.6	△	9.6					
- 9.7	△	9.7					
- 9.8	△	9.8	150	10	7.2	29	100
- 9.9	△	9.9					
- 9.97	△	9.97					
- 9.98	△	9.98					
- 9.99	△	9.99					
-10.0	△	10.0					
-10.01	△	10.01	150	10	7.2	29	100
-10.02	△	10.02					
-10.03	△	10.03					
-10.04	△	10.04					
-10.05	△	10.05					
-10.1	△	10.1					
-10.2	△	10.2					
-10.3	△	10.3	155	12	7.6	29	105
-10.4	△	10.4					
-10.5	△	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8	155	12	7.9	29	105
-10.9	△	10.9					
-10.97	△	10.97					

★PL means chamfering length to ΦDC.

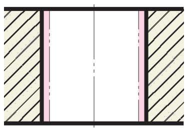
Next page

NIKKEN CARBIDE RADICAL MILL REAMER LONG TYPE

NIKKEN

RMS Carbide Radical Mill Reamer (Long Type)

MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 ∗See P.4 for icons.

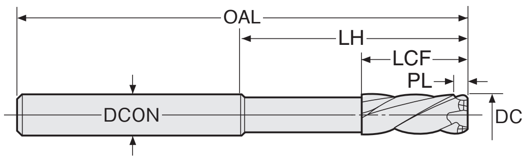


Explanation of the Code No.

RMS - 8.0

● DIAMETER

● RADICAL MILLREAMER SERIES
RMS : STRAIGHT SHANK LONG TYPE FOR THROUGH HOLE



CARBIDE

FOR THROUGH HOLE

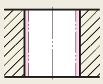
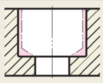
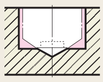
STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMS-10.98	△	10.98	155	12	7.9	29	105
-10.99	△	10.99					
-11.0	△	11.0					
-11.01	△	11.01	155	12	7.9	29	105
-11.02	△	11.02					
-11.03	△	11.03					
-11.04	△	11.04					
-11.05	△	11.05					
-11.1	△	11.1					
-11.2	△	11.2					
-11.3	△	11.3	160	12	7.9	29	105
-11.4	△	11.4					
-11.5	△	11.5					
-11.6	△	11.6					
-11.7	△	11.7					
-11.8	△	11.8					
-11.9	△	11.9					
-11.97	△	11.97					
-11.98	△	11.98					
-11.99	△	11.99					
-12.0	△	12.0					
-12.01	△	12.01	160	12	7.9	29	105
-12.02	△	12.02					
-12.03	△	12.03					
-12.04	△	12.04					
-12.05	△	12.05					
-12.1	△	12.1					
-12.2	△	12.2					
-12.3	△	12.3	165	12	7.9	29	110
-12.4	△	12.4					
-12.5	△	12.5					
-12.6	△	12.6					
-12.7	△	12.7					
-12.8	△	12.8	165	12	8.2	29	110

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMS-12.9	△	12.9	165	12	8.2	29	110
-12.97	△	12.97					
-12.98	△	12.98					
-12.99	△	12.99					
-13.0	△	13.0					
-13.01	△	13.01	165	12	8.2	29	110
-13.02	△	13.02					
-13.03	△	13.03					
-13.04	△	13.04					
-13.05	△	13.05					
-13.1	△	13.1					
-13.2	△	13.2					
-13.3	△	13.3	170	16	8.2	29	115
-13.4	△	13.4					
-13.5	△	13.5					
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8	170	16	9.0	29	115
-13.9	△	13.9					
-13.97	△	13.97					
-13.98	△	13.98					
-13.99	△	13.99					
-14.0	△	14.0					
-14.01	△	14.01	170	16	9.0	29	115
-14.02	△	14.02					
-14.03	△	14.03					
-14.04	△	14.04					
-14.05	△	14.05					
-15.0	△	15.0	180	16	9.0	29	120
-16.0	△	16.0	185	16	9.4	30	125
-17.0	△	17.0	185	16	9.4	30	125
-18.0	△	18.0	195	20	9.4	30	130
-19.0	△	19.0	195	20	9.4	30	130
-20.0	△	20.0	205	20	9.8	30	140

★PL means chamfering length to ΦDC.
★In case of dia.φ11 or larger, press fit connection is possible. Please contact us.

LINE UP OF RADICAL REAMER

HOLE SHAPE	REAMER CODE	REAMER SHAPE	FEATURE
 THROUGH HOLE	RADICAL REAMER, PF RADICAL REAMER **RDSS,PF-RDSS** ☞ **P.28** LONG TYPE RADICAL REAMER **RDS**(PRODUCTION BY ORDER)		BASIC RADICAL REAMER WITH LEFT-HAND 45° HELIX MAKES REAMING SMOOTHLY.
	RADICAL REAMER, PF RADICAL REAMER **RMSS、PF-RMSS、PF-RMMS** ☞ **P.12, P.19** LONG TYPE RADICAL REAMER **RMS**(SEMI STANDARD) ☞ **P.17**		MILLING BLADE, POSITIVE RAKE, CORRECTS THE DRILL HOLE.
 STEPPED HOLE	C/W MILLING BLADE RADICAL MILL REAMER(STEPPED HOLE) **RFSS、PF-RFSS** ☞ **P.19** LONG TYPE RADICAL REAMER **RFS**(PRODUCTION BY ORDER) ☞ **P.22**		EADICAL MILL REAMER WITH MILLING BLADE FOR STEPPED HOLE SUCH AS FOR BEARING SHEET.
 BLIND HOLE	C/W MILLING BLADE RIGHT-HAND HELIX RADICAL MILL REAMER **RRSS-F、RRSS-F-OH**(SEMI STANDARD) ☞ **P.24** ∗RIGHT-HAND HELIX TYPE IS NOT POSSIBLE FOR PRESS FIT TYPE AS THE CHIPS INTERFARE THE SHANK.		RIGHT-HAND HELOX RADICAL MILL REAMER FOR BLIND HOLE.

CARBIDE

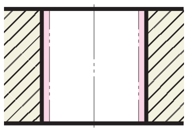
FOR THROUGH HOLE

FOR STEPPED HOLE

NIKKEN CARBIDE RADICAL MILL REAMER

NIKKEN

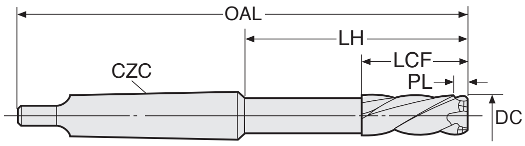
PF-RMMS Carbide Radical Mill Reamer (Morse taper Shank)



Explanation of the Code No.

PF- RMMS - 12.0

- DIAMETER
- RADICAL MILLREAMER SERIES RMMS : MORSE TAPER SHANK
- NONE:SOLID CARBIDE PF-:PRESS FIT



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
PF-RMMS- 10.5	●	10.5	130	MT1	7.6	22	64.5
- 11.0	●	11.0	130	MT1	7.9	22	64.5
- 11.5	●	11.5	135	MT1	7.9	22	69.5
- 12.0	●	12.0	135	MT1	7.9	22	69.5
- 12.5	●	12.5	140	MT1	7.9	22	74.5
- 13.0	●	13.0	140	MT1	8.2	22	74.5
- 13.5	●	13.5	140	MT1	8.2	22	74.5
- 14.0	●	14.0	140	MT1	9.0	22	74.5
- 15.0	●	15.0	160	MT2	9.0	22	80
- 16.0	●	16.0	170	MT2	9.4	24	90
- 17.0	●	17.0	170	MT2	9.4	24	90
- 18.0	●	18.0	170	MT2	9.4	24	90

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
PF-RMMS- 19.0	●	19.0	170	MT2	9.4	24	90
- 20.0	●	20.0	175	MT2	9.8	24	95
- 21.0	●	21.0	185	MT2	10.3	24	105
- 22.0	●	22.0	185	MT2	10.8	28	105
- 23.0	●	23.0	190	MT2	10.8	28	110
- 24.0	●	24.0	210	MT3	10.8	28	111
- 25.0	●	25.0	220	MT3	11.3	28	121
- 26.0	●	26.0	220	MT3	11.3	28	121
- 27.0	●	27.0	220	MT3	11.3	28	121
- 28.0	●	28.0	220	MT3	11.6	34	121
- 29.0	●	29.0	220	MT3	11.6	34	121
- 30.0	●	30.0	220	MT3	11.6	34	121

★PL means chamfering length to ΦDC. ★**Long type is also available.**

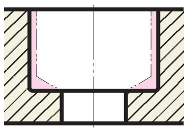
★**MT shank is determined by reamer dia : ~φ14 : MT1, φ15 ~φ23:MT2, φ24~φ30 : MT3, φ31**

★Please use Radical Mill Reamer of Φ10 or less with straight shank. ☞ **P.16**

NIKKEN CARBIDE RADICAL MILL REAMER

NIKKEN

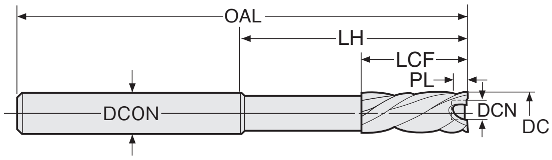
RFSS For Stepped Hole Carbide Radical Mill Reamer (Straight Shank)



Explanation of the Code No.

RFSS - 12.0

- DIAMETER
- RADICAL MILLREAMER SERIES RFSS : STRAIGHT SHANK FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS- 3.97	△	3.97	60	4	0.6	2.0	18	35
- 3.98	△	3.98						
- 3.99	△	3.99						
- 4.0	●	4.0						
- 4.01	△	4.01	60	4	0.6	2.0	18	35
- 4.02	△	4.02						
- 4.03	△	4.03						
- 4.04	△	4.04						
- 4.05	△	4.05						
- 4.1	△	4.1						
- 4.2	△	4.2						
- 4.3	△	4.3	70	5	0.6	2.0	22	40
- 4.4	△	4.4						
- 4.5	●	4.5						
- 4.6	△	4.6						
- 4.7	△	4.7						
- 4.8	△	4.8						
- 4.9	△	4.9						
- 4.97	△	4.97	70	5	0.6	2.5	22	40
- 4.98	△	4.98						
- 4.99	△	4.99						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS- 5.0	●	5.0	70	5	0.6	2.5	22	40
- 5.01	△	5.01	70	5	0.6	2.5	22	40
- 5.02	△	5.02						
- 5.03	△	5.03						
- 5.04	△	5.04						
- 5.05	△	5.05						
- 5.1	△	5.1						
- 5.2	△	5.2						
- 5.3	△	5.3	85	6	0.6	3.0	25	50
- 5.4	△	5.4						
- 5.5	●	5.5						
- 5.6	△	5.6						
- 5.7	△	5.7						
- 5.8	△	5.8						
- 5.9	△	5.9						
- 5.97	△	5.97						
- 5.98	△	5.98						
- 5.99	△	5.99						
- 6.0	●	6.0						
- 6.01	△	6.01	85	6	0.6	3.0	25	50
- 6.02	△	6.02						

★PL means chamfering length to ΦDC.

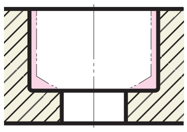
Next page

NIKKEN CARBIDE RADICAL MILL REAMER

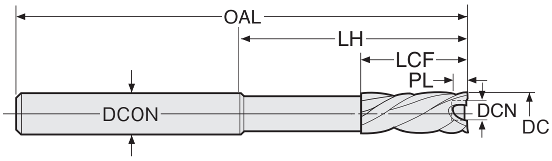
NIKKEN

RFSS

For STEPPED HOLE
Carbide Radical Mill Reamer (Straight Shank)



Explanation of the Code No.
RFSS - 12.0
DIAMETER
RADICAL MILLREAMER SERIES
RFSS : STRAIGHT SHANK FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 *See P.4 for icons.

CARBIDE FOR STEPPED HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS- 6.03	△	6.03	85	6	0.6	3.0	25	50
- 6.04	△	6.04						
- 6.05	△	6.05						
- 6.1	△	6.1						
- 6.2	△	6.2						
- 6.3	△	6.3	90	8	0.6	3.0	25	50
- 6.4	△	6.4						
- 6.5	●	6.5						
- 6.6	△	6.6						
- 6.7	△	6.7						
- 6.8	△	6.8	90	8	0.6	3.5	25	50
- 6.9	△	6.9						
- 6.97	△	6.97						
- 6.98	△	6.98						
- 6.99	△	6.99						
- 7.0	●	7.0						
- 7.01	△	7.01	90	8	0.6	3.5	25	50
- 7.02	△	7.02						
- 7.03	△	7.03						
- 7.04	△	7.04						
- 7.05	△	7.05						
- 7.1	△	7.1						
- 7.2	△	7.2						
- 7.3	□	7.3	100	8	0.6	4.0	25	60
- 7.4	□	7.4						
- 7.5	●	7.5						
- 7.6	△	7.6						
- 7.7	△	7.7						
- 7.8	△	7.8						
- 7.9	△	7.9						
- 7.97	△	7.97						
- 7.98	△	7.98						
- 7.99	△	7.99						
- 8.0	●	8.0						
- 8.01	△	8.01	100	8	0.6	4.0	25	60
- 8.02	△	8.02						
- 8.03	△	8.03						
- 8.04	△	8.04						
- 8.05	△	8.05						
- 8.1	△	8.1						
- 8.2	△	8.2						
- 8.3	△	8.3	105	10	0.6	4.5	25	60
- 8.4	△	8.4						
- 8.5	●	8.5						
- 8.6	△	8.6						
- 8.7	△	8.7						
- 8.8	△	8.8						
- 8.9	△	8.9						
- 8.97	△	8.97						
- 8.98	△	8.98						
- 8.99	△	8.99						
- 9.0	●	9.0						
- 9.01	△	9.01	105	10	0.6	4.5	25	60
- 9.02	△	9.02						
- 9.03	△	9.03						
- 9.04	△	9.04						
- 9.05	△	9.05						
- 9.1	△	9.1						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS- 9.2	△	9.2	105	10	0.6	4.5	25	60
- 9.3	△	9.3	110	10	0.6	5.0	29	60
- 9.4	△	9.4						
- 9.5	●	9.5						
- 9.6	△	9.6						
- 9.7	△	9.7						
- 9.8	△	9.8						
- 9.9	△	9.9						
- 9.97	△	9.97	110	10	0.6	5.0	29	65
- 9.98	△	9.98						
- 9.99	△	9.99						
-10.0	●	10.0						
-10.01	△	10.01	110	10	0.6	5.0	29	65
-10.02	△	10.02						
-10.03	△	10.03						
-10.04	△	10.04						
-10.05	△	10.05						
-10.1	△	10.1						
-10.2	△	10.2						
-10.3	△	10.3	115	12	0.6	5.0	29	65
-10.4	△	10.4						
-10.5	△	10.5						
-10.6	△	10.6						
-10.7	△	10.7						
-10.8	△	10.8						
-10.9	△	10.9						
-10.97	△	10.97						
-10.98	△	10.98						
-10.99	△	10.99						
-11.0	△	11.0						
-11.01	△	11.01	115	12	0.6	5.0	29	65
-11.02	△	11.02						
-11.03	△	11.03						
-11.04	△	11.04						
-11.05	△	11.05						
-11.1	△	11.1						
-11.2	△	11.2						
-11.3	△	11.3	125	12	0.6	6.0	29	70
-11.4	△	11.4						
-11.5	△	11.5						
-11.6	△	11.6						
-11.7	△	11.7						
-11.8	△	11.8						
-11.9	△	11.9						
-11.97	△	11.97						
-11.98	△	11.98						
-11.99	△	11.99						
-12.0	△	12.0						
-12.01	△	12.01	125	12	0.6	6.0	29	70
-12.02	△	12.02						
-12.03	△	12.03						
-12.04	△	12.04						
-12.05	△	12.05						
-12.1	△	12.1						
-12.2	△	12.2						
-12.3	△	12.3	130	12	0.6	6.0	29	75
-12.4	△	12.4						
-12.5	△	12.5						

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

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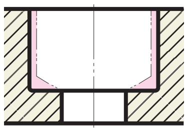
NIKKEN CARBIDE RADICAL MILL REAMER

NIKKEN

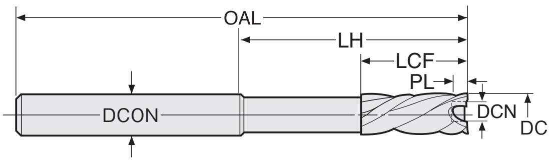
RFSS

For STEPPED HOLE
Carbide Radical Mill Reamer (Straight Shank)



Explanation of the Code No.

RFSS - 12.0
- DIAMETER
- RADICAL MILLREAMER SERIES
  RFSS : STRAIGHT SHANK FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 — *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS-12.6	△	12.6	130	12	0.6	6.0	29	75
-12.7	△	12.7						
-12.8	△	12.8						
-12.9	△	12.9						
-12.97	△	12.97						
-12.98	△	12.98						
-12.99	△	12.99						
-13.0	△	13.0						
-13.01	△	13.01	130	12	0.6	6.0	29	75
-13.02	△	13.02						
-13.03	△	13.03						
-13.04	△	13.04						
-13.05	△	13.05						
-13.1	△	13.1						
-13.2	△	13.2						
-13.3	△	13.3	130	16	0.6	7.0	29	75
-13.4	△	13.4						
-13.5	△	13.5						
-13.6	△	13.6						
-13.7	△	13.7						
-13.8	△	13.8						
-13.9	△	13.9						
-13.97	△	13.97						
-13.98	△	13.98						
-13.99	△	13.99						
-14.0	△	14.0						
-14.01	△	14.01	130	16	0.6	7.0	29	75
-14.02	△	14.02						
-14.03	△	14.03						
-14.04	△	14.04						
-14.05	△	14.05						
-14.1	△	14.1						
-14.2	△	14.2						
-14.3	△	14.3	140	16	0.6	7.0	29	80
-14.4	△	14.4						
-14.5	△	14.5						
-14.6	△	14.6						
-14.7	△	14.7						
-14.8	△	14.8						
-14.9	△	14.9						
-14.97	△	14.97						
-14.98	△	14.98						
-14.99	△	14.99						
-15.0	△	15.0						
-15.1	△	15.1	140	16	0.6	7.0	29	80
-15.2	△	15.2						
-15.3	△	15.3	150	16	0.6	7.0	30	90
-15.4	△	15.4						
-15.5	△	15.5						
-15.6	△	15.6						
-15.7	△	15.7						
-15.8	△	15.8						
-15.9	△	15.9						
-16.0	△	16.0						
-16.1	△	16.1	150	16	0.6	7.0	30	90
-16.2	△	16.2						
-16.3	△	16.3	150	16	0.6	8.0	30	90

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS-16.4	△	16.4	150	16	0.6	8.0	30	90
-16.5	△	16.5						
-16.6	△	16.6						
-16.7	△	16.7						
-16.8	△	16.8						
-16.9	△	16.9						
-17.0	△	17.0						
-17.1	△	17.1	150	16	0.6	8.0	30	90
-17.2	△	17.2						
-17.3	△	17.3	155	20	0.6	9.0	30	90
-17.4	△	17.4						
-17.5	△	17.5						
-17.6	△	17.6						
-17.7	△	17.7						
-17.8	△	17.8						
-17.9	△	17.9						
-18.0	△	18.0						
-18.1	△	18.1	155	20	0.6	9.0	30	90
-18.2	△	18.2						
-18.3	△	18.3						
-18.4	△	18.4						
-18.5	△	18.5						
-18.6	△	18.6						
-18.7	△	18.7						
-18.8	△	18.8						
-18.9	△	18.9						
-19.0	△	19.0						
-19.1	△	19.1	155	20	0.6	9.0	30	90
-19.2	△	19.2						
-19.3	△	19.3	160	20	0.6	9.0	30	95
-19.4	△	19.4						
-19.5	△	19.5						
-19.6	△	19.6						
-19.7	△	19.7						
-19.8	△	19.8						
-19.9	△	19.9						
-20.0	△	20.0						
-20.5	△	20.5	170	20	0.6	9.0	33.5	105
-21.0	△	21.0						
-21.5	△	21.5	170	20	0.6	10.0	33.5	105
-22.0	△	22.0						
-22.5	△	22.5	180	25	0.6	11.0	33.5	110
-23.0	△	23.0						
-23.5	△	23.5	180	25	0.6	11.0	33.5	110
-24.0	△	24.0						
-24.5	△	24.5	190	25	0.6	12.0	33.5	120
-25.0	△	25.0						
-25.5	△	25.5	190	25	0.6	13.0	33.5	120
-26.0	△	26.0						
-26.5	△	26.5	190	25	0.6	13.0	33.5	120
-27.0	△	27.0						
-27.5	△	27.5	200	32	0.6	14.0	39	120
-28.0	△	28.0						
-28.5	△	28.5	200	32	0.9	15.0	39	120
-29.0	△	29.0						
-29.5	△	29.5	200	32	0.9	15.0	39	120
-30.0	△	30.0						

★PL means chamfering length to ΦDC. ★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.

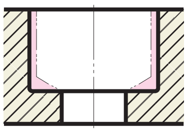
★Long type is also available. RFS: ☞ P.22 ★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN CARBIDE RADICAL MILL REAMER

NIKKEN

PF-RFSS

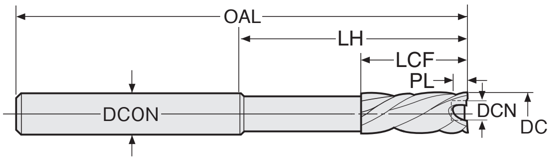
For STEPPED HOLE
Carbide PF Radical Mill Reamer (Straight Shank)



Explanation of the Code No.

PF- RFSS - 12.0

- DIAMETER
- RADICAL MILLREAMER SERIES
  RFSS : STRAIGHT SHANK FOR STEPPED HOLE
- NONE:SOLID CARBIDE PF-:PRESS FIT



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
PF-RFSS-10.5	●	10.5	115	12	0.6	5.0	22	65
-11.0	●	11.0	115	12	0.6	5.0	22	65
-11.5	●	11.5	125	12	0.6	5.0	22	70
-12.0	●	12.0	125	12	0.6	5.0	22	70
-12.5	●	12.5	130	12	0.6	5.0	22	75
-13.0	●	13.0	130	12	0.6	5.0	22	75
-13.5	●	13.5	130	16	0.6	7.0	22	75
-14.0	●	14.0	130	16	0.6	7.0	22	75
-15.0	●	15.0	140	16	0.6	7.0	22	80
-16.0	●	16.0	150	16	0.6	7.0	22	90
-17.0	●	17.0	150	20	0.6	7.0	24	90
-18.0	●	18.0	155	20	0.6	7.0	24	90

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
PF-RFSS-19.0	●	19.0	155	20	0.6	9.0	24	90
-20.0	●	20.0	160	20	0.6	9.0	24	95
-21.0	●	21.0	170	20	0.6	9.0	24	105
-22.0	●	22.0	170	20	0.6	9.0	28	105
-23.0	●	23.0	180	25	0.6	9.0	28	110
-24.0	●	24.0	180	25	0.6	11.0	28	110
-25.0	●	25.0	190	25	0.6	11.0	28	120
-26.0	●	26.0	190	25	0.6	11.0	28	120
-27.0	●	27.0	190	25	0.6	14.0	28	120
-28.0	●	28.0	200	32	0.6	15.0	34	120
-29.0	●	29.0	200	32	0.6	15.0	34	120
-30.0	●	30.0	200	32	0.6	15.0	34	120

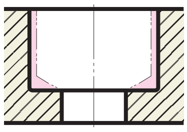
★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN CARBIDE RADICAL MILL REAMER LONG TYPE

NIKKEN

RFS

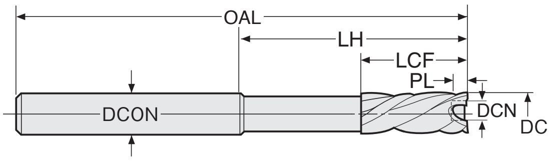
For STEPPED HOLE
Carbide Radical Mill Reamer (Long Type)



Explanation of the Code No.

RFS - 12.0

- DIAMETER
- RADICAL MILLREAMER SERIES
  RFS : STRAIGHT SHANK LONG TYPE FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFS-4.3	△	4.3	75	5	0.6	2.0	22	45
-4.4	△	4.4						
-4.5	△	4.5						
-4.6	△	4.6						
-4.7	△	4.7						
-4.8	△	4.8	75	5	0.6	2.5	22	45
-4.9	△	4.9						
-4.97	△	4.97						
-4.98	△	4.98						
-4.99	△	4.99						
-5.0	△	5.0						
-5.01	△	5.01	75	5	0.6	2.5	22	45
-5.02	△	5.02						
-5.03	△	5.03						
-5.04	△	5.04						
-5.05	△	5.05						
-5.1	△	5.1						
-5.2	△	5.2						
-5.3	△	5.3	100	6	0.6	3.0	25	65
-5.4	△	5.4						
-5.5	△	5.5						
-5.6	△	5.6						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFS-5.7	△	5.7	100	6	0.6	3.0	25	65
-5.8	△	5.8						
-5.9	△	5.9						
-5.97	△	5.97						
-5.98	△	5.98						
-5.99	△	5.99						
-6.0	△	6.0						
-6.01	△	6.01	100	6	0.6	3.0	25	65
-6.02	△	6.02						
-6.03	△	6.03						
-6.04	△	6.04						
-6.05	△	6.05						
-6.1	△	6.1						
-6.2	△	6.2						
-6.3	△	6.3	110	8	0.6	3.0	25	70
-6.4	△	6.4						
-6.5	△	6.5						
-6.6	△	6.6						
-6.7	△	6.7						
-6.8	△	6.8	110	8	0.6	3.5	25	70
-6.9	△	6.9						
-6.97	△	6.97						

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

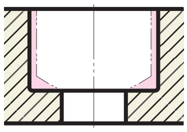
Next page

NIKKEN CARBIDE RADICAL MILL REAMER LONG TYPE

NIKKEN

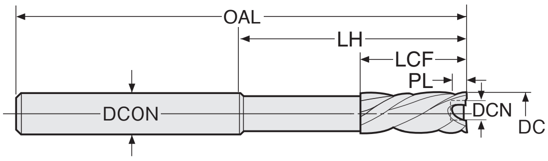
RFS

For STEPPED HOLE
Carbide Radical Mill Reamer (Long Type)



Explanation of the Code No.

RFS - 12.0
- DIAMETER
- RADICAL MILLREAMER SERIES
  RFS : STRAIGHT SHANK LONG TYPE FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133 *See P.4 for icons.

CARBIDE

FOR STEPPED HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFS- 6.98	△	6.98						
- 6.99	△	6.99	110	8	0.6	3.5	25	70
- 7.0	△	7.0						
- 7.01	△	7.01						
- 7.02	△	7.02						
- 7.03	△	7.03						
- 7.04	△	7.04	110	8	0.6	3.5	25	70
- 7.05	△	7.05						
- 7.1	△	7.1						
- 7.2	△	7.2						
- 7.3	△	7.3						
- 7.4	△	7.4						
- 7.5	△	7.5						
- 7.6	△	7.6						
- 7.7	△	7.7						
- 7.8	△	7.8	125	8	0.6	4.0	20	85
- 7.9	△	7.9						
- 7.97	△	7.97						
- 7.98	△	7.98						
- 7.99	△	7.99						
- 8.0	△	8.0						
- 8.01	△	8.01						
- 8.02	△	8.02						
- 8.03	△	8.03						
- 8.04	△	8.04	125	8	0.6	4.0	20	85
- 8.05	△	8.05						
- 8.1	△	8.1						
- 8.2	△	8.2						
- 8.3	△	8.3						
- 8.4	△	8.4						
- 8.5	△	8.5						
- 8.6	△	8.6						
- 8.7	△	8.7						
- 8.8	△	8.8	135	10	0.6	4.5	20	90
- 8.9	△	8.9						
- 8.97	△	8.97						
- 8.98	△	8.98						
- 8.99	△	8.99						
- 9.0	△	9.0						
- 9.01	△	9.01						
- 9.02	△	9.02						
- 9.03	△	9.03						
- 9.04	△	9.04	135	10	0.6	4.5	20	90
- 9.05	△	9.05						
- 9.1	△	9.1						
- 9.2	△	9.2						
- 9.3	△	9.3						
- 9.4	△	9.4						
- 9.5	△	9.5						
- 9.6	△	9.6						
- 9.7	△	9.7						
- 9.8	△	9.8	150	10	0.6	5.0	22	100
- 9.9	△	9.9						
- 9.97	△	9.97						
- 9.98	△	9.98						
- 9.99	△	9.99						
-10.0	△	10.0						
-10.01	△	10.01	150	10	0.6	5.0	22	100

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFS-10.02	△	10.02						
-10.03	△	10.03						
-10.04	△	10.04	150	10	0.6	5.0	22	100
-10.05	△	10.05						
-10.1	△	10.1						
-10.2	△	10.2						
-10.3	△	10.3						
-10.4	△	10.4						
-10.5	△	10.5						
-10.6	△	10.6						
-10.7	△	10.7						
-10.8	△	10.8	155	12	0.6	5.0	22	105
-10.9	△	10.9						
-10.97	△	10.97						
-10.98	△	10.98						
-10.99	△	10.99						
-11.0	△	11.0						
-11.01	△	11.01						
-11.02	△	11.02						
-11.03	△	11.03						
-11.04	△	11.04	155	12	0.6	5.0	22	105
-11.05	△	11.05						
-11.1	△	11.1						
-11.2	△	11.2						
-11.3	△	11.3						
-11.4	△	11.4						
-11.5	△	11.5						
-11.6	△	11.6						
-11.7	△	11.7						
-11.8	△	11.8	160	12	0.6	6.0	22	105
-11.9	△	11.9						
-11.97	△	11.97						
-11.98	△	11.98						
-11.99	△	11.99						
-12.0	△	12.0						
-12.01	△	12.01						
-12.02	△	12.02						
-12.03	△	12.03						
-12.04	△	12.04	160	12	0.6	6.0	22	105
-12.05	△	12.05						
-12.1	△	12.1						
-12.2	△	12.2						
-12.3	△	12.3						
-12.4	△	12.4						
-12.5	△	12.5						
-12.6	△	12.6						
-12.7	△	12.7						
-12.8	△	12.8	165	12	0.6	6.0	22	110
-12.9	△	12.9						
-12.97	△	12.97						
-12.98	△	12.98						
-12.99	△	12.99						
-13.0	△	13.0						
-13.01	△	13.01						
-13.02	△	13.02						
-13.03	△	13.03	165	12	0.6	6.0	22	110
-13.04	△	13.04						
-13.05	△	13.05						

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

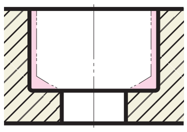
Next page

NIKKEN CARBIDE RADICAL MILL REAMER LONG TYPE

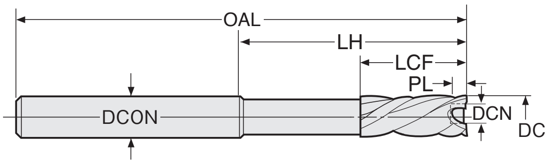
NIKKEN

RFS

For STEPPED HOLE
Carbide Radical Mill Reamer (Long Type)



Explanation of the Code No.
RFS - 12.0
● DIAMETER
● RADICAL MILLREAMER SERIES
RFS : STRAIGHT SHANK LONG TYPE FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | TiCN2 COAT | P.133

*See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFS-13.1	△	13.1	165	12	0.6	6.0	22	110
-13.2	△	13.2						
-13.3	△	13.3	170	16	0.6	7.0	22	115
-13.4	△	13.4						
-13.5	△	13.5						
-13.6	△	13.6						
-13.7	△	13.7						
-13.8	△	13.8						
-13.9	△	13.9						
-13.97	△	13.97						
-13.98	△	13.98						
-13.99	△	13.99						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFS-14.0	△	14.0	170	16	0.6	7.0	29	115
-14.01	△	14.01	170	16	0.6	7.0	29	115
-14.02	△	14.02						
-14.03	△	14.03						
-14.04	△	14.04						
-14.05	△	14.05						
-15.0	△	15.0	180	16	0.6	7.0	29	120
-16.0	△	16.0	185	16	0.6	7.0	30	125
-17.0	△	17.0	185	16	0.6	8.0	30	125
-18.0	△	18.0	195	20	0.6	9.0	30	130
-19.0	△	19.0	195	20	0.6	9.0	30	130
-20.0	△	20.0	205	20	0.6	9.0	30	140

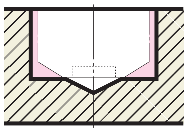
★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN CARBIDE RIGHT HAND HELICAL RADICAL MILL REAMER

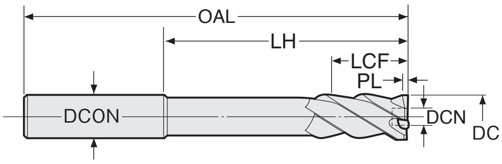
NIKKEN

RRSS-F

RIGHT HAND HELICAL For BLIND HOLE
Radical Mill Reamer



Explanation of the Code No.
RRSS - 10.0 - F
● FOR BLIND HOLE
● DIAMETER
● RADICAL MILLREAMER SERIES
RRSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30-40° | TiCN2 COAT | P.133

*See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS- 2.97F	△	2.97	60	3	0.6	1.2	16	35
- 2.98F	△	2.98						
- 2.99F	△	2.99						
- 3.0 F	△	3.0						
- 3.01F	△	3.01	60	3	0.6	1.2	16	35
- 3.02F	△	3.02						
- 3.03F	△	3.03						
- 3.04F	△	3.04						
- 3.05F	△	3.05						
- 3.1 F	△	3.1						
- 3.2 F	△	3.2						
- 3.3 F	△	3.3	60	4	0.6	2.0	18	35
- 3.4 F	△	3.4						
- 3.5 F	△	3.5						
- 3.6 F	△	3.6						
- 3.7 F	△	3.7						
- 3.8 F	△	3.8						
- 3.9 F	△	3.9						
- 3.97F	△	3.97						
- 3.98F	△	3.98						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS- 3.99F	△	3.99	60	4	0.6	2.0	18	35
- 4.0 F	△	4.0						
- 4.01F	△	4.01	60	4	0.6	2.0	18	35
- 4.02F	△	4.02						
- 4.03F	△	4.03						
- 4.04F	△	4.04						
- 4.05F	△	4.05						
- 4.1 F	△	4.1						
- 4.2 F	△	4.2						
- 4.3 F	△	4.3	70	5	0.6	2.0	22	40
- 4.4 F	△	4.4						
- 4.5 F	△	4.5						
- 4.6 F	△	4.6						
- 4.7 F	△	4.7						
- 4.8 F	△	4.8	70	5	0.6	2.5	22	40
- 4.9 F	△	4.9						
- 4.97F	△	4.97						
- 4.98F	△	4.98						
- 4.99F	△	4.99						
- 5.0 F	△	5.0						

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

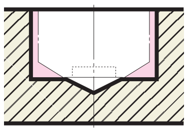
Next page

NIKKEN CARBIDE RIGHT HAND HELICAL RADICAL MILL REAMER

NIKKEN

RRSS-F

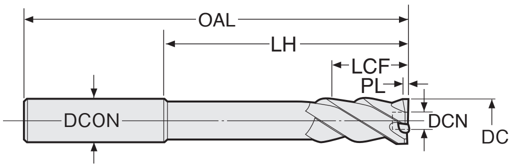
RIGHT HAND HELICAL For BLIND HOLE
Radical Mill Reamer



Explanation of the Code No.

RRSS - 10.0 - F

- F: FOR BLIND HOLE
- 10.0: DIAMETER
- RRSS: **RADICAL MILLREAMER SERIES** — RRSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30-40° | TiCN2 COAT | P.133 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ **LCF must be longer than hole depth**

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS- 5.01F	△	5.01	70	5	0.6	2.5	22	40
- 5.02F	△	5.02						
- 5.03F	△	5.03						
- 5.04F	△	5.04						
- 5.05F	△	5.05						
- 5.1 F	△	5.1						
- 5.2 F	△	5.2						
- 5.3 F	△	5.3	85	6	0.6	3.0	25	50
- 5.4 F	△	5.4						
- 5.5 F	△	5.5						
- 5.6 F	△	5.6						
- 5.7 F	△	5.7						
- 5.8 F	△	5.8						
- 5.9 F	△	5.9						
- 5.97F	△	5.97						
- 5.98F	△	5.98						
- 5.99F	△	5.99						
- 6.0 F	△	6.0						
- 6.01F	△	6.01	85	6	0.6	3.0	25	50
- 6.02F	△	6.02						
- 6.03F	△	6.03						
- 6.04F	△	6.04						
- 6.05F	△	6.05						
- 6.1 F	△	6.1						
- 6.2 F	△	6.2						
- 6.3 F	△	6.3	90	8	0.6	3.0	25	50
- 6.4 F	△	6.4						
- 6.5 F	△	6.5						
- 6.6 F	△	6.6						
- 6.7 F	△	6.7						
- 6.8 F	△	6.8						
- 6.9 F	△	6.9						
- 6.97F	△	6.97	90	8	0.6	3.5	25	50
- 6.98F	△	6.98						
- 6.99F	△	6.99						
- 7.0 F	△	7.0						
- 7.01F	△	7.01	90	8	0.6	3.5	25	50
- 7.02F	△	7.02						
- 7.03F	△	7.03						
- 7.04F	△	7.04						
- 7.05F	△	7.05						
- 7.1 F	△	7.1						
- 7.2 F	△	7.2						
- 7.3 F	△	7.3	100	8	0.6	4.0	25	60
- 7.4 F	△	7.4						
- 7.5 F	△	7.5						
- 7.6 F	△	7.6						
- 7.7 F	△	7.7						
- 7.8 F	△	7.8						
- 7.9 F	△	7.9						
- 7.97F	△	7.97						
- 7.98F	△	7.98						
- 7.99F	△	7.99						
- 8.0 F	△	8.0						
- 8.01F	△	8.01	100	8	0.6	4.0	25	60
- 8.02F	△	8.02						
- 8.03F	△	8.03						
- 8.04F	△	8.04						

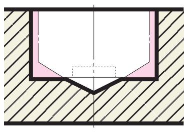
Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS- 8.05F	△	8.05	100	8	0.6	4.0	25	60
- 8.1 F	△	8.1						
- 8.2 F	△	8.2						
- 8.3 F	△	8.3	105	10	0.6	4.5	25	60
- 8.4 F	△	8.4						
- 8.5 F	△	8.5						
- 8.6 F	△	8.6						
- 8.7 F	△	8.7						
- 8.8 F	△	8.8						
- 8.9 F	△	8.9						
- 8.97F	△	8.97						
- 8.98F	△	8.98						
- 8.99F	△	8.99						
- 9.0 F	△	9.0						
- 9.01F	△	9.01	105	10	0.6	4.5	25	60
- 9.02F	△	9.02						
- 9.03F	△	9.03						
- 9.04F	△	9.04						
- 9.05F	△	9.05						
- 9.1 F	△	9.1						
- 9.2 F	△	9.2						
- 9.3 F	△	9.3	110	10	0.6	5.0	29	60
- 9.4 F	△	9.4						
- 9.5 F	△	9.5						
- 9.6 F	△	9.6						
- 9.7 F	△	9.7						
- 9.8 F	△	9.8						
- 9.9 F	△	9.9						
- 9.97F	△	9.97						
- 9.98F	△	9.98						
- 9.99F	△	9.99						
-10.0 F	△	10.0						
-10.01F	△	10.01	110	10	0.6	5.0	29	60
-10.02F	△	10.02						
-10.03F	△	10.03						
-10.04F	△	10.04						
-10.05F	△	10.05						
-10.1 F	△	10.1						
-10.2 F	△	10.2						
-10.3 F	△	10.3	115	12	0.6	5.0	29	65
-10.4 F	△	10.4						
-10.5 F	△	10.5						
-10.6 F	△	10.6						
-10.7 F	△	10.7						
-10.8 F	△	10.8						
-10.9 F	△	10.9						
-10.97F	△	10.97						
-10.98F	△	10.98						
-10.99F	△	10.99						
-11.0 F	△	11.0						
-11.01F	△	11.01	115	12	0.6	5.0	29	65
-11.02F	△	11.02						
-11.03F	△	11.03						
-11.04F	△	11.04						
-11.05F	△	11.05						
-11.1 F	△	11.1						
-11.2 F	△	11.2						
-11.3 F	△	11.3	125	12	0.6	6.0	29	70

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

Next page

RRSS-F

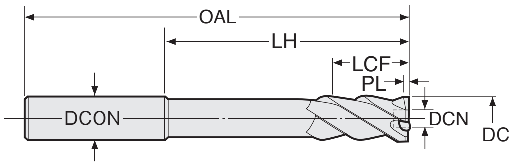
RIGHT HAND HELICAL For BLIND HOLE Radical Mill Reamer



Explanation of the Code No.

RRSS - 10.0 - F

- F: FOR BLIND HOLE
- 10.0: DIAMETER
- RRSS: **RADICAL MILLREAMER SERIES** — RRSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30-40° | TiCN2 COAT | P.133 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ **LCF must be longer than hole depth**

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS-11.4 F	△	11.4	125	12	0.6	6.0	29	70
-11.5 F	△	11.5						
-11.6 F	△	11.6						
-11.7 F	△	11.7						
-11.8 F	△	11.8						
-11.9 F	△	11.9						
-11.97F	△	11.97						
-11.98F	△	11.98						
-11.99F	△	11.99						
-12.0 F	△	12.0						
-12.01F	△	12.01	125	12	0.6	6.0	29	70
-12.02F	△	12.02						
-12.03F	△	12.03						
-12.04F	△	12.04						
-12.05F	△	12.05						
-12.1 F	△	12.1						
-12.2 F	△	12.2						
-12.3 F	△	12.3	130	12	0.6	6.0	29	75
-12.4 F	△	12.4						
-12.5 F	△	12.5						
-12.6 F	△	12.6						
-12.7 F	△	12.7						
-12.8 F	△	12.8						
-12.9 F	△	12.9						
-12.97F	△	12.97						
-12.98F	△	12.98						
-12.99F	△	2.99						
-13.0 F	△	13.0						
-13.01F	△	13.01	130	12	0.6	6.0	29	75

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS-13.02F	△	13.02	130	16	0.6	7.0	29	75
-13.03F	△	13.03						
-13.04F	△	13.04						
-13.05F	△	13.05						
-13.1 F	△	13.1						
-13.2 F	△	13.2						
-13.3 F	△	13.3						
-13.4 F	△	13.4						
-13.5 F	△	13.5						
-13.6 F	△	13.6						
-13.7 F	△	13.7						
-13.8 F	△	13.8						
-13.9 F	△	13.9						
-13.97F	△	13.97						
-13.98F	△	13.98						
-13.99F	△	13.99						
-14.0 F	△	14.0						
-14.01F	△	14.01	130	16	0.6	7.0	29	75
-14.02F	△	14.02						
-14.03F	△	14.03						
-14.04F	△	14.04						
-14.05F	△	14.05						
-15.0 F	△	15.0	140	16	0.6	7.0	29	80
-16.0 F	△	16.0	150	16	0.6	7.0	30	90
-17.0 F	△	17.0	150	16	0.6	8.0	30	90
-18.0 F	△	18.0	155	20	0.6	9.0	30	90
-19.0 F	△	19.0	155	20	0.6	9.0	30	90
-20.0 F	△	20.0	160	20	0.6	9.0	30	95

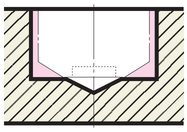
★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★**Depending on the material, the chips may be tangled. When the hole depth is more then twice of the hole diameter, we recommend Right-Handed Helix Radical Reamer with OH.** ☞**P.27**
★This is not suitable to use on drilling machine due to tensile force of right-handed. Please use on machining center, NC lathe and milling machine.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN CARBIDE RIGHT HAND HELICAL RADICAL MILL REAMER OH

NIKKEN

RRSS-F-OH

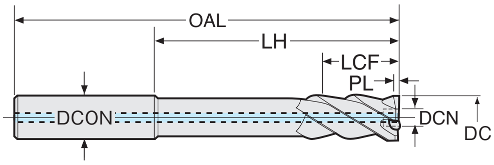
RIGHT HAND HELICAL For BLIND HOLE
Radical Mill Reamer (With Oil Hole)



Explanation of the Code No.

RRSS - 12.0 - F - OH

- WITH OH
- FOR BLIND HOLE
- DIAMETER
- **RADICAL MILLREAMER SERIES**
  RRSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30-40° | TiCN2 COAT | P.133 | *See P.4 for icons.

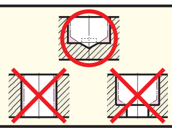
STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

MINIMUM DIAMETER : ϕ5.0mm

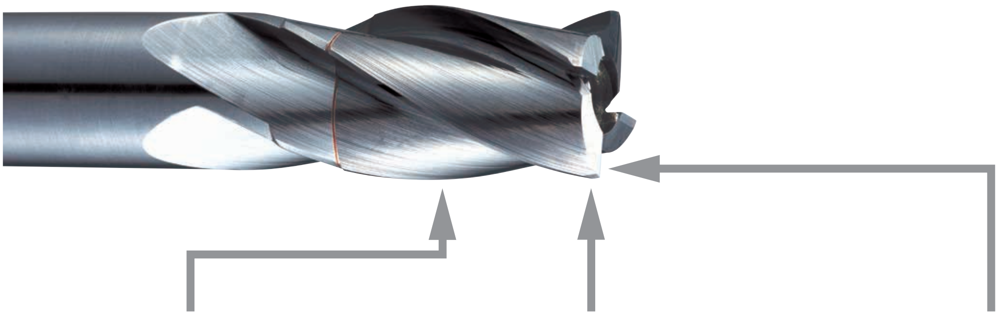
Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS- 5.0F-OH	△	5.0	70	5	0.6	2.5	22	40
- 6.0F-OH	△	6.0	85	6	0.6	3.0	25	50
- 6.5F-OH	△	6.5	90	8	0.6	3.0	25	50
- 7.0F-OH	△	7.0	90	8	0.6	3.5	25	50
- 7.5F-OH	△	7.5	100	8	0.6	4.0	25	60
- 8.0F-OH	△	8.0						
- 8.5F-OH	△	8.5	105	10	0.6	4.5	25	60
- 9.0F-OH	△	9.0						
- 9.5F-OH	△	9.5	110	10	0.6	5.0	29	60
-10.0F-OH	△	10						
-10.5F-OH	△	10.5	115	12	0.6	5.0	29	65
-11.0F-OH	△	11.0						
RRSS-11.5F-OH	△	11.5	125	12	0.6	6.0	29	70
-12.0F-OH	△	12.0						
-12.5F-OH	△	12.5	130	12	0.6	6.0	29	75
-13.0F-OH	△	13.0						
-13.5F-OH	△	13.5	130	16	0.6	7.0	29	75
-14.0F-OH	△	14.0						
-15.0F-OH	△	15.0	140	16	0.6	7.0	29	80
-16.0F-OH	△	16.0	150	16	0.6	7.0	30	90
-17.0F-OH	△	17.0	150	16	0.6	8.0	30	90
-18.0F-OH	△	18.0	155	20	0.6	9.0	30	90
-19.0F-OH	△	19.0	155	20	0.6	9.0	30	90
-20.0F-OH	△	20.0	160	20	0.6	9.0	30	95

★PL means chamfering length to ϕDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ϕDCN.
★This is not suitable to use on drilling machine due to tensile force of right-handed. Please use on machining center, NC lathe and milling machine.
★Please slightly decrease feed rate before reaching the bottom of the hole without using fixed cycle if you finish the seating face.

⚠
·This is for blind hole. Please do not use for through hole or stepped hole.
·High pressure coolant is not etlective. The guide line of the coolant pressure is around 0.5-2.0Mpa.



RIGHT-HANDED HELICAL REAMER STRUCTURE



Burnishing

This is a polishing section without cutting edge to clean up the roughness of the finished surface.

Reamer blade (Finishing)

Smooth finish is achieved by reamer blade for the optimal finishing removal from milling blade.

Milling blade (Semi-Finish)

Semi-finish (Optimal finishing removal) is achived by milling blade from drilled hole variation.

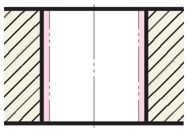
LINE UP OF RIGHT-HELIX REAMER

RSS-F ; POWDER HIGH-SPEED STEEL WITH ION NITRO PROCESSING
RNS-F ; POWDER HIGH-SPEED STEEL WITH TiN COATING
RXS-F ; K10 GRADE CARBIDE NON COATING
RXS-F-DLC ; K10 GRADE CARBIDE WITH DLC COATING
RRSS-F ; SUPERFINE PARTICLE CARBIDE WITH TiCN2 COATING
RRSS-F-DLC ; SUPERFINE PARTICLE CARBIDE WITH DLC COATING
ALL REAMERS ARE WITH MILLING BLADE.

NIKKEN CARBIDE RADICAL REAMER

NIKKEN

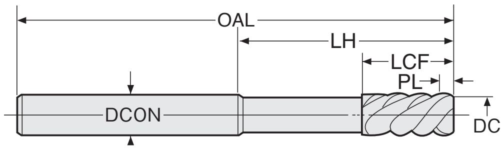
RDSS Carbide Radical Reamer (Straight Shank)



Explanation of the Code No.

RDSS - 12.0

- DIAMETER
- RADICAL MILLREAMER SERIES
  RDSS : STRAIGHT SHANK FOR THROUGH HOLE



LH-HELIX 45° | TiCN2 COAT | P.132 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

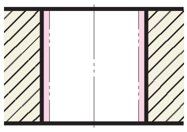
Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RDSS- 2.5	△	2.5	60	3	4.6	16	35
- 2.6	△	2.6					
- 2.7	△	2.7					
- 2.8	△	2.8					
- 2.9	△	2.9					
- 2.97	△	2.97					
- 2.98	△	2.98					
- 2.99	△	2.99					
- 3.0	●	3.0					
- 3.01	△	3.01	60	3	4.6	16	35
- 3.02	△	3.02					
- 3.03	△	3.03					
- 3.04	△	3.04					
- 3.05	△	3.05					
- 3.1	△	3.1					
- 3.2	△	3.2					
- 3.3	△	3.3	60	4	4.6	18	35
- 3.4	△	3.4					
- 3.5	●	3.5					
- 3.6	△	3.6					
- 3.7	△	3.7					
- 3.8	△	3.8					
- 3.9	△	3.9					
- 3.97	△	3.97					
- 3.98	△	3.98					
- 3.99	△	3.99					
- 4.0	●	4.0					
- 4.01	△	4.01	60	4	4.6	18	35
- 4.02	△	4.02					
- 4.03	△	4.03					
- 4.04	△	4.04					
- 4.05	△	4.05					
- 4.1	△	4.1					
- 4.2	△	4.2					
- 4.3	△	4.3	70	5	5.7	22	40
- 4.4	△	4.4					
- 4.5	●	4.5					
- 4.6	△	4.6					
- 4.7	△	4.7					
- 4.8	△	4.8					
- 4.9	△	4.9					
- 4.97	△	4.97					
- 4.98	△	4.98					
- 4.99	△	4.99					
- 5.0	●	5.0					
- 5.01	△	5.01	70	5	5.7	22	40
- 5.02	△	5.02					
- 5.03	△	5.03					
- 5.04	△	5.04					
- 5.05	△	5.05					
- 5.1	△	5.1					
- 5.2	△	5.2					
- 5.3	△	5.3	85	6	5.7	25	50
- 5.4	△	5.4					
- 5.5	●	5.5					
- 5.6	△	5.6					
- 5.7	△	5.7					
- 5.8	△	5.8					
RDSS- 5.9	△	5.9	85	6	5.7	25	50
- 5.97	△	5.97					
- 5.98	△	5.98					
- 5.99	△	5.99					
- 6.0	●	6.0					
- 6.01	△	6.01	85	6	5.7	25	50
- 6.02	△	6.02					
- 6.03	△	6.03					
- 6.04	△	6.04					
- 6.05	△	6.05					
- 6.1	△	6.1					
- 6.2	△	6.2					
- 6.3	△	6.3	90	8	7.0	25	50
- 6.4	△	6.4					
- 6.5	●	6.5					
- 6.6	△	6.6					
- 6.7	△	6.7					
- 6.8	△	6.8					
- 6.9	△	6.9					
- 6.97	△	6.97					
- 6.98	△	6.98					
- 6.99	△	6.99					
- 7.0	●	7.0					
- 7.01	△	7.01	90	8	7.0	25	50
- 7.02	△	7.02					
- 7.03	△	7.03					
- 7.04	△	7.04					
- 7.05	△	7.05					
- 7.1	△	7.1					
- 7.2	△	7.2					
- 7.3	△	7.3	100	8	7.0	25	60
- 7.4	△	7.4					
- 7.5	●	7.5					
- 7.6	△	7.6					
- 7.7	△	7.7					
- 7.8	△	7.8					
- 7.9	△	7.9					
- 7.97	△	7.97					
- 7.98	△	7.98					
- 7.99	△	7.99					
- 8.0	●	8.0					
- 8.01	△	8.01	100	8	7.0	25	60
- 8.02	△	8.02					
- 8.03	△	8.03					
- 8.04	△	8.04					
- 8.05	△	8.05					
- 8.1	△	8.1					
- 8.2	△	8.2					
- 8.3	△	8.3	105	10	7.0	25	60
- 8.4	△	8.4					
- 8.5	●	8.5					
- 8.6	△	8.6					
- 8.7	△	8.7					
- 8.8	△	8.8					
- 8.9	△	8.9					
- 8.97	△	8.97					
- 8.98	△	8.98					
- 8.99	△	8.99					

★PL means chamfering length to ΦDC.

Next page

NIKKEN

RDSS Carbide Radical Reamer (Straight Shank)



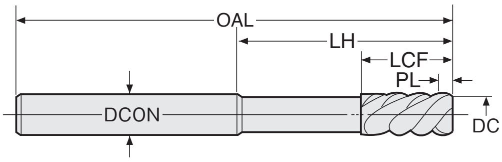
Explanation of the Code No.

RDSS - 12.0

DIAMETER

RADICAL MILLREAMER SERIES

RDSS : STRAIGHT SHANK FOR THROUGH HOLE



LH-HELIX 45° TiCN2 COAT P.132 ＊See P.4 for icons.

CARBIDE

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RDSS- 9.0	●	9.0	105	10	7.0	25	60
- 9.01	△	9.01					
- 9.02	△	9.02					
- 9.03	△	9.03					
- 9.04	△	9.04	105	10	7.0	25	60
- 9.05	△	9.05					
- 9.1	△	9.1					
- 9.2	△	9.2					
- 9.3	△	9.3					
- 9.4	△	9.4					
- 9.5	●	9.5					
- 9.6	△	9.6					
- 9.7	△	9.7					
- 9.8	△	9.8	110	10	7.0	29	60
- 9.9	△	9.9					
- 9.97	△	9.97					
- 9.98	△	9.98					
- 9.99	△	9.99					
-10.0	●	10.0					
-10.01	△	10.01					
-10.02	△	10.02					
-10.03	△	10.03					
-10.04	△	10.04	110	10	7.0	29	60
-10.05	△	10.05					
-10.1	△	10.1					
-10.2	△	10.2					
-10.3	△	10.3					
-10.4	△	10.4					
-10.5	△	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8	115	12	7.0	29	65
-10.9	△	10.9					
-10.97	△	10.97					
-10.98	△	10.98					
-10.99	△	10.99					
-11.0	△	11.0					
-11.01	△	11.01					
-11.02	△	11.02					
-11.03	△	11.03					
-11.04	△	11.04	115	12	7.0	29	65
-11.05	△	11.05					
-11.1	△	11.1					
-11.2	△	11.2					
-11.3	△	11.3					
-11.4	△	11.4					
-11.5	△	11.5					
-11.6	△	11.6					
-11.7	△	11.7					
-11.8	△	11.8	125	12	7.0	29	70
-11.9	△	11.9					
-11.97	△	11.97					
-11.98	△	11.98					
-11.99	△	11.99					
-12.0	△	12.0					
-12.01	△	12.01					
-12.02	△	12.02	125	12	7.0	29	70
-12.03	△	12.03					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RDSS-12.04	△	12.04					
-12.05	△	12.05	125	12	7.0	29	70
-12.1	△	12.1					
-12.2	△	12.2					
-12.3	△	12.3					
-12.4	△	12.4					
-12.5	△	12.5					
-12.6	△	12.6					
-12.7	△	12.7					
-12.8	△	12.8	130	12	7.0	29	75
-12.9	△	12.9					
-12.97	△	12.97					
-12.98	△	12.98					
-12.99	△	12.99					
-13.0	△	13.0					
-13.01	△	13.01					
-13.02	△	13.02					
-13.03	△	13.03					
-13.04	△	13.04	130	12	7.0	29	75
-13.05	△	13.05					
-13.1	△	13.1					
-13.2	△	13.2					
-13.3	△	13.3					
-13.4	△	13.4					
-13.5	△	13.5					
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8	130	16	7.0	29	75
-13.9	△	13.9					
-13.97	△	13.97					
-13.98	△	13.98					
-13.99	△	13.99					
-14.0	△	14.0					
-14.01	△	14.01					
-14.02	△	14.02					
-14.03	△	14.03					
-14.04	△	14.04	130	16	7.0	29	75
-14.05	△	14.05					
-14.1	△	14.1					
-14.2	△	14.2					
-14.3	△	14.3					
-14.4	△	14.4					
-14.5	△	14.5					
-14.6	△	14.6					
-14.7	△	14.7					
-14.8	△	14.8	140	16	7.0	29	80
-14.9	△	14.9					
-14.97	△	14.97					
-14.98	△	14.98					
-14.99	△	14.99					
-15.0	△	15.0					
-15.01	△	15.01					
-15.02	△	15.02					
-15.03	△	15.03					
-15.04	△	15.04	140	16	7.0	29	80
-15.05	△	15.05					
-15.1	△	15.1					
-15.2	△	15.2					

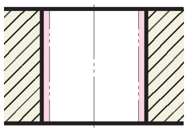
★PL means chamfering length to φDC.

Next page

NIKKEN CARBIDE RADICAL REAMER

NIKKEN

RDSS Carbide Radical Reamer (Straight Shank)

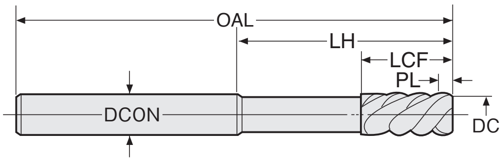


Explanation of the Code No.

RDSS - 12.0

DIAMETER

RADICAL MILLREAMER SERIES
RDSS : STRAIGHT SHANK FOR THROUGH HOLE



LH-HELIX 45° | TiCN2 COAT | P.132 *See P.4 for icons.

CARBIDE

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RDSS-15.3	△	15.3					
-15.4	△	15.4					
-15.5	△	15.5					
-15.6	△	15.6					
-15.7	△	15.7					
-15.8	△	15.8	150	16	7.0	30	90
-15.9	△	15.9					
-15.97	△	15.97					
-15.98	△	15.98					
-15.99	△	15.99					
-16.0	△	16.0					
-16.01	△	16.01					
-16.02	△	16.02					
-16.03	△	16.03					
-16.04	△	16.04					
-16.05	△	16.05					
-16.1	△	16.1					
-16.2	△	16.2					
-16.3	△	16.3					
-16.4	△	16.4					
-16.5	△	16.5	150	16	7.0	30	90
-16.6	△	16.6					
-16.7	△	16.7					
-16.8	△	16.8					
-16.9	△	16.9					
-16.97	△	16.97					
-16.98	△	16.98					
-16.99	△	16.99					
-17.0	△	17.0					
-17.01	△	17.01					
-17.02	△	17.02					
-17.03	△	17.03					
-17.04	△	17.04	150	16	7.0	30	90
-17.05	△	17.05					
-17.1	△	17.1					
-17.2	△	17.2					
-17.3	△	17.3					
-17.4	△	17.4					
-17.5	△	17.5					
-17.6	△	17.6					
-17.7	△	17.7					
-17.8	△	17.8	155	20	7.0	30	90
-17.9	△	17.9					
-17.97	△	17.97					
-17.98	△	17.98					
-17.99	△	17.99					
-18.0	△	18.0					
-18.01	△	18.01	155	20	7.0	30	90
-18.02	△	18.02					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RDSS-18.03	△	18.03					
-18.04	△	18.04					
-18.05	△	18.05					
-18.1	△	18.1					
-18.2	△	18.2					
-18.3	△	18.3					
-18.4	△	18.4					
-18.5	△	18.5	155	20	7.0	30	90
-18.6	△	18.6					
-18.7	△	18.7					
-18.8	△	18.8					
-18.9	△	18.9					
-18.97	△	18.97					
-18.98	△	18.98					
-18.99	△	18.99					
-19.0	△	19.0					
-19.01	△	19.01					
-19.02	△	19.02					
-19.03	△	19.03					
-19.04	△	19.04	155	20	7.0	30	90
-19.05	△	19.05					
-19.1	△	19.1					
-19.2	△	19.2					
- 19.3	△	19.3					
-19.4	△	19.4					
-19.5	△	19.5					
-19.6	△	19.6					
-19.7	△	19.7					
-19.8	△	19.8	160	20	7.0	30	95
-19.9	△	19.9					
-19.97	△	19.97					
-19.98	△	19.98					
-19.99	△	19.99					
-20.0	△	20.0					
-20.01	△	20.01					
-20.02	△	20.02					
-20.03	△	20.03	160	20	7.0	30	95
-20.04	△	20.04					
-20.05	△	20.05					
-21.0	△	21.0	170	20	8.0	33.5	105
-22.0	△	22.0	170	20	8.0	33.5	105
-23.0	△	23.0	180	25	8.0	33.5	110
-24.0	△	24.0	180	25	8.0	33.5	110
-25.0	△	25.0	190	25	8.0	33.5	120
-26.0	△	26.0	190	25	8.0	33.5	120
-27.0	△	27.0	190	25	8.0	33.5	120
-28.0	△	28.0	200	32	8.0	39	120
-29.0	△	29.0	200	32	8.0	39	120
-30.0	△	30.0	200	32	8.0	39	120

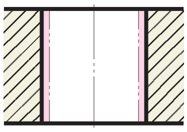
★PL means chamfering length to ΦDC.

★Long type is also available. RDS : ☞P.31

NIKKEN CARBIDE RADICAL REAMER

NIKKEN

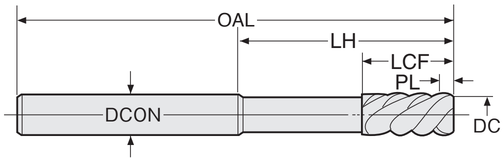
PF-RDSS Carbide PF Radical Reamer (Straight Shank)



Explanation of the Code No.

PF- RDSS - 12.0

- DIAMETER
- RADICAL MILLREAMER SERIES
  RDSS : STRAIGHT SHANK FOR THROUGH HOLE
- NONE:SOLID CARBIDE PF-:PRESS FIT



LH-HELIX 45° | TiCN2 COAT | P.132 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

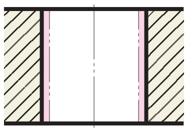
Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
PF-RDSS-10.5	●	10.5	115	12	7.0	22	65
-11.0	●	11.0					
-11.5	●	11.5	125	12	7.0	22	70
-12.0	●	12.0					
-12.5	●	12.5	130	12	7.0	22	75
-13.0	●	13.0					
-13.5	●	13.5	130	16	7.0	22	75
-14.0	●	14.0					
-15.0	●	15.0	140	16	7.0	22	80
-16.0	●	16.0	150	16	7.0	24	90
-17.0	●	17.0	155	20	7.0	24	90
-18.0	●	18.0					
PF-RDSS-19.0	●	19.0	155	20	7.0	24	90
-20.0	●	20.0	160	20	7.0	24	95
-21.0	●	21.0	170	20	8.0	24	105
-22.0	●	22.0	170	20	8.0	28	105
-23.0	●	23.0	180	25	8.0	28	110
-24.0	●	24.0					
-25.0	●	25.0	190	25	8.0	28	120
-26.0	●	26.0					
-27.0	●	27.0					
-28.0	●	28.0	200	32	8.0	34	120
-29.0	●	29.0					
-30.0	●	30.0					

★PL means chamfering length to ΦDC.

NIKKEN CARBIDE RADICAL MILL REAMER LONG TYPE

NIKKEN

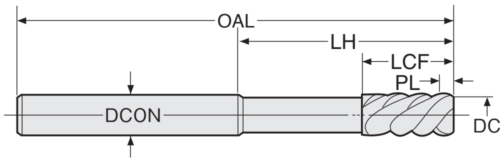
RDS Carbide Radical Reamer (Long Type)



Explanation of the Code No.

RDS - 12.0

- DIAMETER
- RADICAL MILLREAMER SERIES
  RDS : STRAIGHT SHANK FOR THROUGH HOLE



LH-HELIX 45° | TiCN2 COAT | P.132 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RDS-4.3	△	4.3	75	5	5.7	22	45
-4.4	△	4.4					
-4.5	△	4.5					
-4.6	△	4.6					
-4.7	△	4.7					
-4.8	△	4.8					
-4.9	△	4.9					
-4.97	△	4.97					
-4.98	△	4.98					
-4.99	△	4.99					
-5.0	△	5.0					
-5.01	△	5.01	75	5	5.7	22	45
-5.02	△	5.02					
-5.03	△	5.03					
-5.04	△	5.04					
-5.05	△	5.05					
-5.1	△	5.1					
-5.2	△	5.2					
-5.3	△	5.3	100	6	5.7	25	65
-5.4	△	5.4					
-5.5	△	5.5					
-5.6	△	5.6					
-5.7	△	5.7					
RDS-5.8	△	5.8	100	6	5.7	25	65
-5.9	△	5.9					
-5.97	△	5.97					
-5.98	△	5.98					
-5.99	△	5.99					
-6.0	△	6.0					
-6.01	△	6.01	100	6	5.7	25	65
-6.02	△	6.02					
-6.03	△	6.03					
-6.04	△	6.04					
-6.05	△	6.05					
-6.1	△	6.1					
-6.2	△	6.2					
-6.3	△	6.3	100	8	7.0	25	70
-6.4	△	6.4					
-6.5	△	6.5					
-6.6	△	6.6					
-6.7	△	6.7					
-6.8	△	6.8	110	8	7.0	25	70
-6.9	△	6.9					
-6.97	△	6.97					
-6.98	△	6.98					
-6.99	△	6.99					

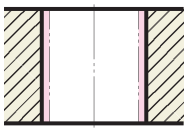
★PL means chamfering length to ΦDC.

Next page

NIKKEN CARBIDE RADICAL MILL REAMER LONG TYPE

NIKKEN

RDS Carbide Radical Reamer (Long Type)



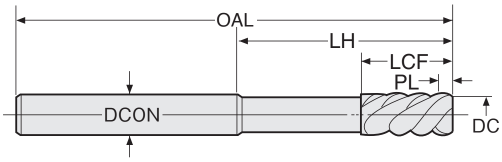
Explanation of the Code No.

RDS - 12.0

● DIAMETER

● RADICAL MILLREAMER SERIES

RDS : STRAIGHT SHANK LONG TYPE FOR THROUGH HOLE



LH-HELIX 45° | TiCN2 COAT | P.132

*See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RDS- 7.0	△	7.0	110	8	7.0	25	70
- 7.01	△	7.01	110	8	7.0	25	70
- 7.02	△	7.02					
- 7.03	△	7.03					
- 7.04	△	7.04					
- 7.05	△	7.05					
- 7.1	△	7.1					
- 7.2	△	7.2					
- 7.3	△	7.3	125	8	7.0	25	85
- 7.4	△	7.4					
- 7.5	△	7.5					
- 7.6	△	7.6					
- 7.7	△	7.7					
- 7.8	△	7.8					
- 7.9	△	7.9					
- 7.97	△	7.97					
- 7.98	△	7.98					
- 7.99	△	7.99					
- 8.0	△	8.0					
- 8.01	△	8.01	125	8	7.0	25	85
- 8.02	△	8.02					
- 8.03	△	8.03					
- 8.04	△	8.04					
- 8.05	△	8.05					
- 8.1	△	8.1					
- 8.2	△	8.2					
- 8.3	△	8.3	135	10	7.0	25	90
- 8.4	△	8.4					
- 8.5	△	8.5					
- 8.6	△	8.6					
- 8.7	△	8.7					
- 8.8	△	8.8					
- 8.9	△	8.9					
- 8.97	△	8.97					
- 8.98	△	8.98					
- 8.99	△	8.99					
- 9.0	△	9.0					
- 9.01	△	9.01	135	10	7.0	25	90
- 9.02	△	9.02					
- 9.03	△	9.03					
- 9.04	△	9.04					
- 9.05	△	9.05					
- 9.1	△	9.1					
- 9.2	△	9.2					
- 9.3	△	9.3	150	10	7.0	29	100
- 9.4	△	9.4					
- 9.5	△	9.5					
- 9.6	△	9.6					
- 9.7	△	9.7					
- 9.8	△	9.8					
- 9.9	△	9.9					
- 9.97	△	9.97					
- 9.98	△	9.98					
- 9.99	△	9.99					
-10.0	△	10.0					
-10.01	△	10.01	150	10	7.0	29	100
-10.02	△	10.02					
-10.03	△	10.03					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RDS-10.04	△	10.04	150	10	7.0	29	100
-10.05	△	10.05					
-10.1	△	10.1					
-10.2	△	10.2					
-10.3	△	10.3	155	12	7.0	29	105
-10.4	△	10.4					
-10.5	△	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8					
-10.9	△	10.9					
-10.97	△	10.97					
-10.98	△	10.98					
-10.99	△	10.99					
-11.0	△	11.0					
-11.01	△	11.01	155	12	7.0	29	105
-11.02	△	11.02					
-11.03	△	11.03					
-11.04	△	11.04					
-11.05	△	11.05					
-11.1	△	11.1					
-11.2	△	11.2					
-11.3	△	11.3	160	12	7.0	29	105
-11.4	△	11.4					
-11.5	△	11.5					
-11.6	△	11.6					
-11.7	△	11.7					
-11.8	△	11.8					
-11.9	△	11.9					
-11.97	△	11.97					
-11.98	△	11.98					
-11.99	△	11.99					
-12.0	△	12.0					
-12.01	△	12.01	160	12	7.0	29	105
-12.02	△	12.02					
-12.03	△	12.03					
-12.04	△	12.04					
-12.05	△	12.05					
-12.1	△	12.1					
-12.2	△	12.2					
-12.3	△	12.3	165	12	7.0	29	110
-12.4	△	12.4					
-12.5	△	12.5					
-12.6	△	12.6					
-12.7	△	12.7					
-12.8	△	12.8					
-12.9	△	12.9					
-12.97	△	12.97					
-12.98	△	12.98					
-12.99	△	12.99					
-13.0	△	13.0					
-13.01	△	13.01	165	12	7.0	29	110
-13.02	△	13.02					
-13.03	△	13.03					
-13.04	△	13.04					
-13.05	△	13.05					
-13.1	△	13.1					
-13.2	△	13.2					

★PL means chamfering length to ΦDC.

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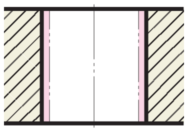
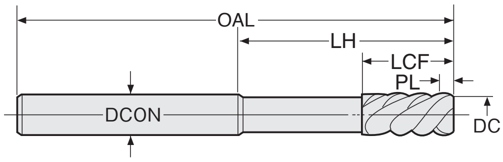
NIKKEN CARBIDE RADICAL MILL REAMER LONG TYPE NIKKEN

RDS Carbide Radical Reamer (Long Type)



Explanation of the Code No.
RDS - 12.0
● DIAMETER
● RADICAL MILLREAMER SERIES
RDS : STRAIGHT SHANK LONG TYPE FOR THROUGH HOLE



LH-HELIX 45° | TiCN2 COAT | P.132 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RDS-13.3	△	13.3	170	16	7.0	29	115
-13.4	△	13.4					
-13.5	△	13.5					
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8					
-13.9	△	13.9					
-13.97	△	13.97	170	16	7.0	29	115
-13.98	△	13.98					
-13.99	△	13.99					
-14.0	△	14.0					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RDS-14.01	△	14.01	170	16	7.0	29	115
-14.02	△	14.02					
-14.03	△	14.03					
-14.04	△	14.04					
-14.05	△	14.05					
-15.0	△	15.0	180	16	7.0	29	120
-16.0	△	16.0	185	16	7.0	30	125
-17.0	△	17.0	185	16	7.0	30	125
-18.0	△	18.0	195	20	7.0	30	130
-19.0	△	19.0	195	20	7.0	30	130
-20.0	△	20.0	205	20	7.0	30	140

★PL means chamfering length to φDC.

NIKKEN CARBIDE RADICAL MILL REAMER DLC COATING NIKKEN

For aluminum parts, high-silicon aluminum alloys and nonferrous metals.

■DLC=DIAMOND LIKE CARBON

Low coefficient of friction and high coating film hardness is obtained with carbon thin film that has adhesive strength approximating that of Diamonds.

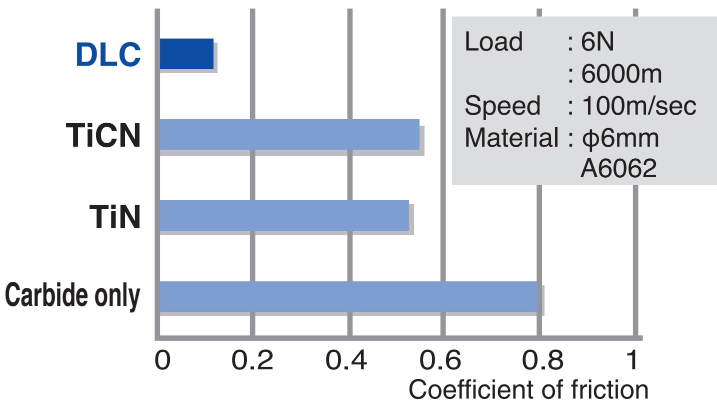
■AMORPHOUS STRUCTURE

This is not crystalline structure like a Diamond, so peeling may not be occured.

➡ It is equivalent to a hard silicon compound, and deposition of formed cutting edge will be prevented.
It is better toughness than Diamond.
This is the low cost reamer than Diamond reamer.

Average coefficient of friction for various coatings against A6062

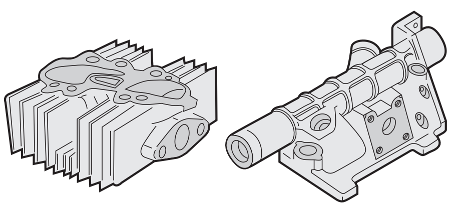
*Testing was finished at approximately 100 m, since there was significant ball wear for the coatings other than DLC.



*From the ball-on-disk wear test

■Cutting example

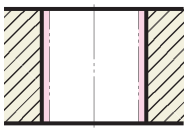
RMSS-10.0-DLC
Material : A6061
Drilled hole : φ9.8
Cutting speed : 30m/min
Feed/rev : 0.12mm/rev
Soluble coolant
Roughness = Rz1μm
Finished diameter : within 3μm



●SAMPLE WORK

NIKKEN CARBIDE RADICAL MILL REAMER DLC COATING NIKKEN

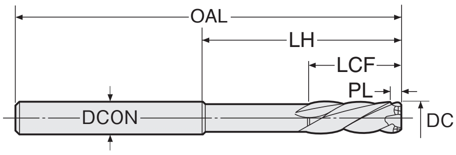
RMSS-DLC Carbide Radical Reamer (DLC Coating)



Explanation of the Code No.

RMSS - 10.0 - DLC

- DLC COATING
- DIAMETER
- **RADICAL MILLREAMER SERIES**
  RMSS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | DLC COAT | P.134 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

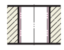
Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS-2.97-DLC	△	2.97	60	3	4.0	16	35
-2.98-DLC	△	2.98					
-2.99-DLC	△	2.99					
-3.0 -DLC	△	3.0					
-3.01-DLC	△	3.01	60	3	4.0	16	35
-3.02-DLC	△	3.02					
-3.03-DLC	△	3.03					
-3.04-DLC	△	3.04					
-3.05-DLC	△	3.05					
-3.1 -DLC	△	3.1					
-3.2 -DLC	△	3.2					
-3.3 -DLC	△	3.3	60	4	4.4	18	35
-3.4 -DLC	△	3.4					
-3.5 -DLC	△	3.5					
-3.6 -DLC	△	3.6					
-3.7 -DLC	△	3.7					
-3.8 -DLC	△	3.8	60	4	4.8	18	35
-3.9 -DLC	△	3.9					
-3.97-DLC	△	3.97					
-3.98-DLC	△	3.98					
-3.99-DLC	△	3.99					
-4.0 -DLC	△	4.0					
-4.01-DLC	△	4.01	60	4	4.8	18	35
-4.02-DLC	△	4.02					
-4.03-DLC	△	4.03					
-4.04-DLC	△	4.04					
-4.05-DLC	△	4.05					
-4.1 -DLC	△	4.1					
-4.2 -DLC	△	4.2					
-4.3 -DLC	△	4.3	70	5	4.8	22	40
-4.4 -DLC	△	4.4					
-4.5 -DLC	△	4.5					
-4.6 -DLC	△	4.6					
-4.7 -DLC	△	4.7					
-4.8 -DLC	△	4.8					
-4.9 -DLC	△	4.9					
-4.97-DLC	△	4.97					
-4.98-DLC	△	4.98					
-4.99-DLC	△	4.99					
-5.0 -DLC	△	5.0					
-5.01-DLC	△	5.01	70	5	4.8	22	40
-5.02-DLC	△	5.02					
-5.03-DLC	△	5.03					
5.04-DLC	△	5.04					
-5.05-DLC	△	5.05					
-5.1 -DLC	△	5.1					
-5.2 -DLC	△	5.2					
-5.3 -DLC	△	5.3	85	6	5.1	25	50
-5.4 -DLC	△	5.4					
-5.5 -DLC	△	5.5					
-5.6 -DLC	△	5.6					
-5.7 -DLC	△	5.7					
-5.8 -DLC	△	5.8	85	6	5.4	25	50
-5.9 -DLC	△	5.9					
-5.97-DLC	△	5.97					
-5.98-DLC	△	5.98					
-5.99-DLC	△	5.99					
-6.0 -DLC	△	6.0					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS-6.01-DLC	△	6.01	85	6	5.4	25	50
-6.02-DLC	△	6.02					
-6.03-DLC	△	6.03					
-6.04-DLC	△	6.04					
-6.05-DLC	△	6.05					
-6.1 -DLC	△	6.1					
-6.2 -DLC	△	6.2					
-6.3 -DLC	△	6.3	90	8	5.6	25	50
-6.4 -DLC	△	6.4					
-6.5 -DLC	△	6.5					
-6.6 -DLC	△	6.6					
-6.7 -DLC	△	6.7					
-6.8 -DLC	△	6.8	90	8	6.0	25	50
-6.9 -DLC	△	6.9					
-6.97-DLC	△	6.97					
-6.98-DLC	△	6.98					
-6.99-DLC	△	6.99					
-7.0 -DLC	△	7.0					
-7.01-DLC	△	7.01	90	8	6.0	25	50
-7.02-DLC	△	7.02					
-7.03-DLC	△	7.03					
-7.04-DLC	△	7.04					
-7.05-DLC	△	7.05					
-7.1 -DLC	△	7.1					
-7.2 -DLC	△	7.2					
-7.3 -DLC	△	7.3	100	8	6.4	25	60
-7.4 -DLC	△	7.4					
-7.5 -DLC	△	7.5					
-7.6 -DLC	△	7.6					
-7.7 -DLC	△	7.7					
-7.8 -DLC	△	7.8	100	8	6.6	25	60
-7.9 -DLC	△	7.9					
-7.97-DLC	△	7.97					
-7.98-DLC	△	7.98					
-7.99-DLC	△	7.99					
-8.0 -DLC	△	8.0					
-8.01-DLC	△	8.01	100	8	6.6	25	60
-8.02-DLC	△	8.02					
-8.03-DLC	△	8.03					
-8.04-DLC	△	8.04					
-8.05-DLC	△	8.05					
-8.1- DLC	△	8.1					
-8.2 -DLC	△	8.2					
-8.3 -DLC	△	8.3	105	10	6.8	25	60
-8.4 -DLC	△	8.4					
-8.5 -DLC	△	8.5					
-8.6 -DLC	△	8.6					
-8.7 -DLC	△	8.7					
-8.8 -DLC	△	8.8	105	10	7.0	25	60
-8.9 -DLC	△	8.9					
-8.97-DLC	△	8.97					
-8.98-DLC	△	8.98					
-8.99-DLC	△	8.99					
-9.0 -DLC	△	9.0					
-9.01-DLC	△	9.01	105	10	7.0	25	60
-9.02-DLC	△	9.02					
-9.03-DLC	△	9.03					
-9.04-DLC	△	9.04					

★PL means chamfering length to ΦDC.

CARBIDE

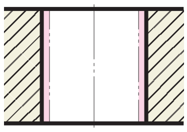
FOR THROUGH HOLE



Next page

NIKKEN CARBIDE RADICAL MILL REAMER DLC COATING NIKKEN

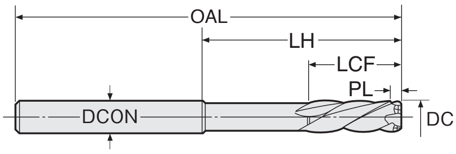
RMSS-DLC Carbide Radical Reamer (DLC Coating)



Explanation of the Code No.

RMSS - 10.0 - DLC

- DLC COATING
- DIAMETER
- RADICAL MILLREAMER SERIES
  RMSS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | DLC COAT | P.134 | ∗See P.4 for icons.

CARBIDE

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS- 9.05-DLC	△	9.05	105	10	7.0	25	60
- 9.1 -DLC	△	9.1					
- 9.2 -DLC	△	9.2					
- 9.3 -DLC	△	9.3	110	10	7.1	29	60
- 9.4 -DLC	△	9.4					
- 9.5 -DLC	△	9.5					
- 9.6 -DLC	△	9.6					
- 9.7 -DLC	△	9.7					
- 9.8 -DLC	△	9.8	110	10	7.2	29	60
- 9.9 -DLC	△	9.9					
- 9.97-DLC	△	9.97					
- 9.98-DLC	△	9.98					
- 9.99-DLC	△	9.99					
-10.0 -DLC	△	10.0					
-10.01-DLC	△	10.01	110	10	7.2	29	60
-10.02-DLC	△	10.02					
-10.03-DLC	△	10.03					
-10.04-DLC	△	10.04					
-10.05-DLC	△	10.05					
-10.1 -DLC	△	10.1					
-10.2 -DLC	△	10.2					
-10.3 -DLC	△	10.3	115	12	7.6	29	65
-10.4 -DLC	△	10.4					
-10.5 -DLC	△	10.5					
-10.6 -DLC	△	10.6					
-10.7 -DLC	△	10.7					
-10.8 -DLC	△	10.8	115	12	7.9	29	65
-10.9 -DLC	△	10.9					
-10.97-DLC	△	10.97					
-10.98-DLC	△	10.98					
-10.99-DLC	△	10.99					
-11.0 -DLC	△	11.0					
-11.01-DLC	△	11.01	115	12	7.9	29	65
-11.02-DLC	△	11.02					
-11.03-DLC	△	11.03					
-11.04-DLC	△	11.04					
-11.05-DLC	△	11.05					
-11.1 -DLC	△	11.1					
-11.2 -DLC	△	11.2					
-11.3 -DLC	△	11.3	125	12	7.9	29	70
-11.4 -DLC	△	11.4					
-11.5 -DLC	△	11.5					
-11.6 -DLC	△	11.6					
-11.7 -DLC	△	11.7					
-11.8 -DLC	△	11.8					
-11.9 -DLC	△	11.9					
-11.97-DLC	△	11.97					
-11.98-DLC	△	11.98					
-11.99-DLC	△	11.99					
-12.0 -DLC	△	12.0					
-12.01-DLC	△	12.01	125	12	7.9	29	70
-12.02-DLC	△	12.02					
-12.03-DLC	△	12.03					
-12.04-DLC	△	12.04					
-12.05-DLC	△	12.05					
-12.1 -DLC	△	12.1					
-12.2 -DLC	△	12.2					
-12.3 -DLC	△	12.3	130	12	7.9	29	75

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS-12.4 -DLC	△	12.4	130	12	7.9	29	75
-12.5 -DLC	△	12.5					
-12.6 -DLC	△	12.6					
-12.7 -DLC	△	12.7					
-12.8 -DLC	△	12.8	130	12	8.2	29	75
-12.9 -DLC	△	12.9					
-12.97-DLC	△	12.97					
-12.98-DLC	△	12.98					
-12.99-DLC	△	12.99					
-13.0 -DLC	△	13.0					
-13.01-DLC	△	13.01	130	12	8.2	29	75
-13.02-DLC	△	13.02					
-13.03-DLC	△	13.03					
-13.04-DLC	△	13.04					
-13.05-DLC	△	13.05					
-13.1 -DLC	△	13.1	130	16	8.2	29	75
-13.2 -DLC	△	13.2					
-13.3 -DLC	△	13.3					
-13.4 -DLC	△	13.4					
-13.5 -DLC	△	13.5					
-13.6 -DLC	△	13.6					
-13.7 -DLC	△	13.7					
-13.8 -DLC	△	13.8	130	16	9.0	29	75
-13.9 -DLC	△	13.9					
-13.97-DLC	△	13.97					
-13.98-DLC	△	13.98					
-13.99-DLC	△	13.99					
-14.0 -DLC	△	14.0					
-14.01-DLC	△	14.01	130	16	9.0	29	75
-14.02-DLC	△	14.02					
-14.03-DLC	△	14.03					
-14.04-DLC	△	14.04					
-14.05-DLC	△	14.05					
-14.1 -DLC	△	14.1					
-14.2 -DLC	△	14.2					
-14.3 -DLC	△	14.3	140	16	9.0	29	80
-14.4 -DLC	△	14.4					
-14.5 -DLC	△	14.5					
-14.6 -DLC	△	14.6					
-14.7 -DLC	△	14.7					
-14.8 -DLC	△	14.8					
-14.9 -DLC	△	14.9					
-14.97-DLC	△	14.97					
-14.98-DLC	△	14.98					
-14.99-DLC	△	14.99					
-15.0 -DLC	△	15.0					
-15.01-DLC	△	15.01	140	16	9.0	29	80
-15.02-DLC	△	15.02					
-15.03-DLC	△	15.03					
-15.04-DLC	△	15.04					
-15.05-DLC	△	15.05					
-15.1 -DLC	△	15.1					
-15.2 -DLC	△	15.2					
-15.3 -DLC	△	15.3	150	16	9.4	30	90
-15.4 -DLC	△	15.4					
-15.5 -DLC	△	15.5					
-15.6 -DLC	△	15.6					
-15.7 -DLC	△	15.7					

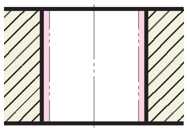
★PL means chamfering length to ΦDC.

Next page

NIKKEN CARBIDE RADICAL MILL REAMER DLC COATING

NIKKEN

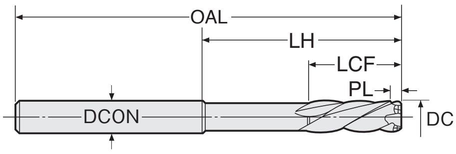
RMSS-DLC Carbide Radical Reamer (DLC Coating)



Explanation of the Code No.

RMSS - 10.0 - DLC

- DLC COATING
- DIAMETER
- **RADICAL MILLREAMER SERIES**
  RMSS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | DLC COAT | P.134 | ∗See P.4 for icons.

CARBIDE

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS-15.8 -DLC	△	15.8	150	16	9.4	30	90
-15.9 -DLC	△	15.9					
-15.97-DLC	△	15.97					
-15.98-DLC	△	15.98					
-15.99-DLC	△	15.99					
-16.0 -DLC	△	16.0					
-16.01-DLC	△	16.01	150	16	9.4	30	90
-16.02-DLC	△	16.02					
-16.03-DLC	△	16.03					
-16.04-DLC	△	16.04					
-16.05-DLC	△	16.05					
-16.1 -DLC	△	16.1					
-16.2 -DLC	△	16.2					
-16.3 -DLC	△	16.3					
-16.4 -DLC	△	16.4					
-16.5 -DLC	△	16.5					
-16.6 -DLC	△	16.6					
-16.7 -DLC	△	16.7					
-16.8 -DLC	△	16.8					
-16.9 -DLC	△	16.9					
-16.97-DLC	△	16.97					
-16.98-DLC	△	16.98					
-16.99-DLC	△	16.99					
-17.0 -DLC	△	17.0					
-17.01-DLC	△	17.01	150	16	9.4	30	90
-17.02-DLC	△	17.02					
-17.03-DLC	△	17.03					
-17.04-DLC	△	17.04					
-17.05-DLC	△	17.05					
-17.1 -DLC	△	17.1					
-17.2 -DLC	△	17.2					
-17.3 -DLC	△	17.3	155	20	9.4	30	90
-17.4 -DLC	△	17.4					
-17.5 -DLC	△	17.5					
-17.6 -DLC	△	17.6					
-17.7 -DLC	△	17.7					
-17.8 -DLC	△	17.8					
-17.9 -DLC	△	17.9					
-17.97-DLC	△	17.97					
-17.98-DLC	△	17.98					
-17.99-DLC	△	17.99					
-18.0 -DLC	△	18.0					
-18.01-DLC	△	18.01	155	20	9.4	30	90
-18.02-DLC	△	18.02					
-18.03-DLC	△	18.03					
-18.04-DLC	△	18.04					
-18.05-DLC	△	18.05					
-18.1 -DLC	△	18.1					
-18.2 -DLC	△	18.2					
-18.3 -DLC	△	18.3					
-18.4 -DLC	△	18.4					
-18.5 -DLC	△	18.5					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
RMSS-18.6 -DLC	△	18.6	155	20	9.4	30	90
-18.7 -DLC	△	18.7					
-18.8 -DLC	△	18.8					
-18.9 -DLC	△	18.9					
-18.97-DLC	△	18.97					
-18.98-DLC	△	18.98					
-18.99-DLC	△	18.99					
-19.0 -DLC	△	19.0					
-19.01-DLC	△	19.01	155	20	9.4	30	90
-19.02-DLC	△	19.02					
-19.03-DLC	△	19.03					
-19.04-DLC	△	19.04					
-19.05-DLC	△	19.05					
-19.1 -DLC	△	19.1					
-19.2 -DLC	△	19.2					
-19.3 -DLC	△	19.3	160	20	9.8	30	95
-19.4 -DLC	△	19.4					
-19.5 -DLC	△	19.5					
-19.6 -DLC	△	19.6					
-19.7 -DLC	△	19.7					
-19.8 -DLC	△	19.8					
-19.9 -DLC	△	19.9					
-19.97-DLC	△	19.97					
-19.98-DLC	△	19.98					
-19.99-DLC	△	19.99					
-20.0 -DLC	△	20.0					
-20.01-DLC	△	20.01	160	20	9.8	30	95
-20.02-DLC	△	20.02					
-20.03-DLC	△	20.03					
-20.04-DLC	△	20.04					
-20.05-DLC	△	20.05					
-20.5 -DLC	△	20.5	170	20	10.3	33.5	105
-21.0 -DLC	△	21.0					
-21.5 -DLC	△	21.5	170	20	10.8	33.5	105
-22.0 -DLC	△	22.0					
-22.5 -DLC	△	22.5	180	25	10.8	33.5	110
-23.0 -DLC	△	23.0					
-23.5 -DLC	△	23.5	180	25	10.8	33.5	110
-24.0 -DLC	△	24.0					
-24.5 -DLC	△	24.5	190	25	11.3	33.5	120
-25.0 -DLC	△	25.0					
-25.5 -DLC	△	25.5	190	25	11.3	33.5	120
-26.0 -DLC	△	26.0					
-26.5 -DLC	△	26.5	190	25	11.3	33.5	120
-27.0 -DLC	△	27.0					
-27.5 -DLC	△	27.0	200	32	11.6	39	120
-28.0 -DLC	△	28.0					
-28.5 -DLC	△	28.5	200	32	11.6	39	120
-29.0 -DLC	△	29.0					
-29.5 -DLC	△	29.5	200	32	11.6	39	120
-30.0 -DLC	△	30.0					
	–	–	–	–	–	–	–

★PL means chamfering length to φDC.

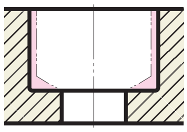
⚠ DLC coating reamer is for aluminium and non-ferrous metals reaming. Please select most suitable reamer for the other materials. ☞ **P.5, P.6**

NIKKEN CARBIDE RADICAL MILL REAMER DLC COATING

NIKKEN

RFSS-DLC

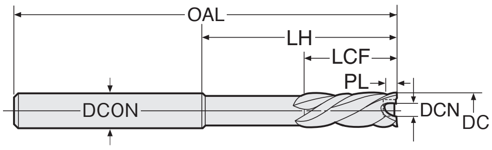
For STEPPED HOLE
Carbide Radical Mill Reamer (DLC Coating)



Explanation of the Code No.

RFSS - 10.0 - DLC

- DLC COATING
- DIAMETER
- RADICAL MILLREAMER SERIES
  RFSS : STRAIGHT SHANK FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | DLC COAT | P.134 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS- 3.97-DLC	△	3.97	60	4	0.6	2.0	18	35
- 3.98-DLC	△	3.98						
- 3.99-DLC	△	3.99						
- 4.0 -DLC	△	4.0						
- 4.01-DLC	△	4.01	60	4	0.6	2.0	18	35
- 4.02-DLC	△	4.02						
- 4.03-DLC	△	4.03						
- 4.04-DLC	△	4.04						
- 4.05-DLC	△	4.05						
- 4.5 -DLC	△	4.5	70	5	0.6	2.5	22	40
- 4.97-DLC	△	4.97						
- 4.98-DLC	△	4.98						
- 4.99-DLC	△	4.99						
- 5.0 -DLC	△	5.0						
- 5.01-DLC	△	5.01	70	5	0.6	2.5	22	40
- 5.02-DLC	△	5.02						
- 5.03-DLC	△	5.03						
- 5.04-DLC	△	5.04						
- 5.05-DLC	△	5.05						
- 5.5 -DLC	△	5.5	85	6	0.6	3.0	25	50
- 5.97-DLC	△	5.97						
- 5.98-DLC	△	5.98						
- 5.99-DLC	△	5.99						
- 6.0 -DLC	△	6.0						
- 6.01-DLC	△	6.01	85	6	0.6	3.0	25	50
- 6.02-DLC	△	6.02						
- 6.03-DLC	△	6.03						
- 6.04-DLC	△	6.04						
- 6.05-DLC	△	6.05						
- 6.5 -DLC	△	6.5	90	8	0.6	3.5	25	50
- 6.97-DLC	△	6.97						
- 6.98-DLC	△	6.98						
- 6.99-DLC	△	6.99						
- 7.0 -DLC	△	7.0						
- 7.01-DLC	△	7.01	90	8	0.6	3.5	25	50
- 7.02-DLC	△	7.02						
- 7.03-DLC	△	7.03						
- 7.04-DLC	△	7.04						
- 7.05-DLC	△	7.05						
- 7.5 -DLC	△	7.5	100	8	0.6	4.0	25	60
- 7.97-DLC	△	7.97						
- 7.98-DLC	△	7.98						
- 7.99-DLC	△	7.99						
- 8.0 -DLC	△	8.0						
- 8.01-DLC	△	8.01	100	8	0.6	4.0	25	60
- 8.02-DLC	△	8.02						
- 8.03-DLC	△	8.03						
- 8.04-DLC	△	8.04						
- 8.05-DLC	△	8.05						
- 8.5 -DLC	△	8.5	105	10	0.6	4.5	25	60
- 8.97-DLC	△	8.97						
- 8.98-DLC	△	8.98						
- 8.99-DLC	△	8.99						
- 9.0 -DLC	△	9.0						
- 9.01-DLC	△	9.01	105	10	0.6	4.5	25	60
- 9.02-DLC	△	9.02						
- 9.03-DLC	△	9.03						
- 9.04-DLC	△	9.04						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS- 9.05-DLC	△	9.05	105	10	0.6	4.5	25	60
- 9.5 -DLC	△	9.5	110	10	0.6	5.0	29	60
- 9.97-DLC	△	9.97						
- 9.98-DLC	△	9.98						
- 9.99-DLC	△	9.99						
-10.0 -DLC	△	10						
-10.01-DLC	△	10.01	110	10	0.6	5.0	29	60
-10.02-DLC	△	10.02						
-10.03-DLC	△	10.03						
-10.04-DLC	△	10.04						
-10.05-DLC	△	10.05						
-10.5 -DLC	△	10.5	115	12	0.6	5.0	29	65
-10.97-DLC	△	10.97						
-10.98-DLC	△	10.98						
-10.99-DLC	△	10.99						
-11.0 -DLC	△	11.0						
-11.01-DLC	△	11.01	115	12	0.6	5.0	29	65
-11.02-DLC	△	11.02						
-11.03-DLC	△	11.03						
-11.04-DLC	△	11.04						
-11.05-DLC	△	11.05						
-11.5 -DLC	△	11.5	125	12	0.6	6.0	29	70
-11.97-DLC	△	11.97						
-11.98-DLC	△	11.98						
-11.99-DLC	△	11.99						
-12.0 -DLC	△	12.0						
-12.01-DLC	△	12.01	125	12	0.6	6.0	29	70
-12.02-DLC	△	12.02						
-12.03-DLC	△	12.03						
-12.04-DLC	△	12.04						
-12.05-DLC	△	12.05						
-12.5 -DLC	△	12.5	130	12	0.6	6.0	29	75
-12.97-DLC	△	12.97						
-12.98-DLC	△	12.98						
-12.99-DLC	△	12.99						
-13.0 -DLC	△	13.0						
-13.01-DLC	△	13.01	130	12	0.6	6.0	29	75
-13.02-DLC	△	13.02						
-13.03-DLC	△	13.03						
-13.04-DLC	△	13.04						
-13.05-DLC	△	13.05						
-13.5 -DLC	△	13.5	130	16	0.6	7.0	29	75
-13.97-DLC	△	13.97						
-13.98-DLC	△	13.98						
-13.99-DLC	△	13.99						
-14.0 -DLC	△	14.0						
-14.01-DLC	△	14.01	130	16	0.6	7.0	29	75
-14.02-DLC	△	14.02						
-14.03-DLC	△	14.03						
-14.04-DLC	△	14.04						
-14.05-DLC	△	14.05						
-14.5 -DLC	△	14.5	140	16	0.6	7.0	29	80
-15.0 -DLC	△	15.0						
-15.5 -DLC	△	15.5	150	16	0.6	7.0	30	90
-16.0 -DLC	△	16.0						
-16.5 -DLC	△	16.5	150	16	0.6	8.0	30	90
-17.0 -DLC	△	17.0						
-17.5 -DLC	△	17.5	155	20	0.6	9.0	30	90

★PL means chamfering length to ΦDC.

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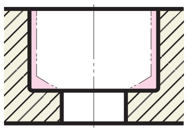
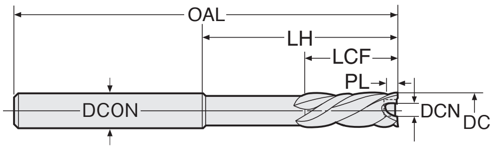
NIKKEN CARBIDE RADICAL MILL REAMER DLC COATING NIKKEN

RFSS-DLC

For STEPPED HOLE
Carbide Radical Mill Reamer (DLC Coating)



Explanation of the Code No.
RFSS - 10.0 - DLC
- DLC COATING
- DIAMETER
- **RADICAL MILLREAMER SERIES**
  RFSS : STRAIGHT SHANK FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | DLC COAT | P.134 ＊See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS- 18.0-DLC	△	18.0	155	20	0.6	9.0	30	90
- 18.5-DLC	△	18.5	155	20	0.6	9.0	30	90
- 19.0-DLC	△	19.0						
- 19.5-DLC	△	19.5	160	20	0.6	9.0	30	95
- 20.0-DLC	△	20.0						
- 20.5-DLC	△	20.5	170	20	0.6	9.0	33.5	105
- 21.0-DLC	△	21.0						
- 21.5-DLC	△	21.5	170	20	0.6	10	33.5	105
- 22.0-DLC	△	22.0						
- 22.5-DLC	△	22.5	180	25	0.6	11	33.5	110
- 23.0-DLC	△	23.0						
- 23.5-DLC	△	23.5	180	25	0.6	11	33.5	110
- 24.0-DLC	△	24.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RFSS- 24.5-DLC	△	24.5	190	25	0.6	12	33.5	120
- 25.0-DLC	△	25.0						
- 25.5-DLC	△	25.5	190	25	0.6	13	33.5	120
- 26.0-DLC	△	26.0						
- 26.5-DLC	△	26.5	190	25	0.6	13	33.5	120
- 27.0-DLC	△	27.0						
- 27.5-DLC	△	27.5	200	32	0.6	14	39	120
- 28.0-DLC	△	28.0						
- 28.5-DLC	△	28.5	200	32	0.9	15	39	120
- 29.0-DLC	△	29.0						
- 29.5-DLC	△	29.5	200	32	0.9	15	39	120
- 30.0-DLC	△	30.0						
	–	–	–	–	–	–	–	–

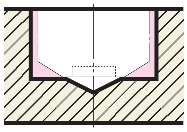
★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

⚠ DLC coating reamer is for aluminium and non-ferrous metals reaming. Please select most suitable reamer for the other materials. ☞ **P.5, P.6**

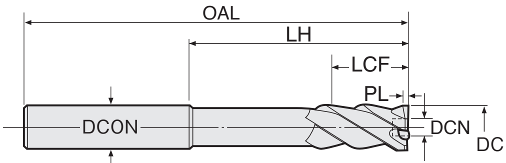
NIKKEN CARBIDE RADICAL MILL REAMER DLC COATING NIKKEN

RRSS-F-DLC

RIGHT HAND HELICAL For BLIND HOLE
Carbide Radical Mill Reamer (DLC Coating)



Explanation of the Code No.
RRSS - 10.0 - F - DLC
- DLC COATING
- FOR BLIND HOLE
- DIAMETER
- **RADICAL MILLREAMER SERIES**
  RRSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



⚠ **LCF must be longer than hole depth**

MILLING BLADE | RH-HELIX 40° | DLC COAT | P.134 ＊See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS- 2.97F-DLC	△	2.97	60	3	0.6	1.2	16	35
- 2.98F-DLC	△	2.98						
- 2.99F-DLC	△	2.99						
- 3.0 F-DLC	△	3.0						
- 3.01F-DLC	△	3.01	60	3	0.6	1.2	16	35
- 3.02F-DLC	△	3.02						
- 3.03F-DLC	△	3.03						
- 3.04F-DLC	△	3.04						
- 3.05F-DLC	△	3.05						
- 3.1 F-DLC	△	3.1						
- 3.2 F-DLC	△	3.2						
- 3.3 F-DLC	△	3.3	60	4	0.6	2.0	18	35
- 3.4 F-DLC	△	3.4						
- 3.5 F-DLC	△	3.5						
- 3.6 F-DLC	△	3.6						
- 3.7 F-DLC	△	3.7						
- 3.8 F-DLC	△	3.8	60	4	0.6	2.0	18	35
- 3.9 F-DLC	△	3.9						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS- 3.97F-DLC	△	3.97	60	4	0.6	2.0	18	35
- 3.98F-DLC	△	3.98						
- 3.99F-DLC	△	3.99						
- 4.0 F-DLC	△	4.0						
- 4.01F-DLC	△	4.01	60	4	0.6	2.0	18	35
- 4.02F-DLC	△	4.02						
- 4.03F-DLC	△	4.03						
- 4.04F-DLC	△	4.04						
- 4.05F-DLC	△	4.05						
- 4.1 F-DLC	△	4.1	60	4	0.6	2.0	18	35
- 4.2 F-DLC	△	4.2						
- 4.3 F-DLC	△	4.3	70	5	0.6	2.0	22	40
- 4.4 F-DLC	△	4.4						
- 4.5 F-DLC	△	4.5						
- 4.6 F-DLC	△	4.6						
- 4.7 F-DLC	△	4.7						
- 4.8 F-DLC	△	4.8	70	5	0.6	2.5	22	40
- 4.9 F-DLC	△	4.9						

★PL means chamfering length to ΦDC.

Next page

NIKKEN CARBIDE RADICAL MILL REAMER DLC COATING

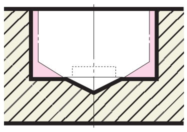
NIKKEN

CARBIDE

FOR BLIND HOLE

RRSS-F-DLC

RIGHT HAND HELICAL For BLIND HOLE
Carbide Radical Mill Reamer (DLC Coating)

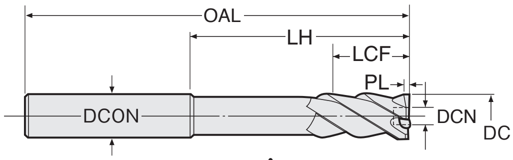


Explanation of the Code No.

RRSS - 10.0 - F - DLC

- DLC COATING
- FOR BLIND HOLE
- DIAMETER
- **RADICAL MILLREAMER SERIES**
  RRSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE

MILLING BLADE | RH-HELIX 30° | DLC COAT | P.134 ＊See P.4 for icons.



STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS- 4.97F-DLC	△	4.97	70	5	0.6	2.5	22	40
- 4.98F-DLC	△	4.98						
- 4.99F-DLC	△	4.99						
- 5.0 F-DLC	△	5.0						
- 5.01F-DLC	△	5.01	70	5	0.6	2.5	22	40
- 5.02F-DLC	△	5.02						
- 5.03F-DLC	△	5.03						
- 5.04F-DLC	△	5.04						
- 5.05F-DLC	△	5.05						
- 5.1 F-DLC	△	5.1						
- 5.2 F-DLC	△	5.2						
- 5.3 F-DLC	△	5.3	85	6	0.6	3.0	25	50
- 5.4 F-DLC	△	5.4						
- 5.5 F-DLC	△	5.5						
- 5.6 F-DLC	△	5.6						
- 5.7 F-DLC	△	5.7						
- 5.8 F-DLC	△	5.8						
- 5.9 F-DLC	△	5.9						
- 5.97F-DLC	△	5.97						
- 5.98F-DLC	△	5.98						
- 5.99F-DLC	△	5.99						
- 6.0 F-DLC	△	6.0						
- 6.01F-DLC	△	6.01	85	6	0.6	3.0	25	50
- 6.02F-DLC	△	6.02						
- 6.03F-DLC	△	6.03						
- 6.04F-DLC	△	6.04						
- 6.05F-DLC	△	6.05						
- 6.1 F-DLC	△	6.1						
- 6.2 F-DLC	△	6.2						
- 6.3 F-DLC	△	6.3	90	8	0.6	3.0	25	50
- 6.4 F-DLC	△	6.4						
- 6.5 F-DLC	△	6.5						
- 6.6 F-DLC	△	6.6						
- 6.7 F-DLC	△	6.7						
- 6.8 F-DLC	△	6.8						
- 6.9 F-DLC	△	6.9						
- 6.97F-DLC	△	6.97						
- 6.98F-DLC	△	6.98						
- 6.99F-DLC	△	6.99						
- 7.0 F-DLC	△	7.0						
- 7.01F-DLC	△	7.01	90	8	0.6	3.5	25	50
- 7.02F-DLC	△	7.02						
- 7.03F-DLC	△	7.03						
- 7.04F-DLC	△	7.04						
- 7.05F-DLC	△	7.05						
- 7.1 F-DLC	△	7.1						
- 7.2 F-DLC	△	7.2						
- 7.3 F-DLC	△	7.3	100	8	0.6	4.0	25	60
- 7.4 F-DLC	△	7.4						
- 7.5 F-DLC	△	7.5						
- 7.6 F-DLC	△	7.6						
- 7.7 F-DLC	△	7.7						
- 7.8 F-DLC	△	7.8						
- 7.9 F-DLC	△	7.9						
- 7.97F-DLC	△	7.97						
- 7.98F-DLC	△	7.98						
- 7.99F-DLC	△	7.99						
- 8.0 F-DLC	△	8.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS- 8.01F-DLC	△	8.01	100	8	0.6	4.0	25	60
- 8.02F-DLC	△	8.02						
- 8.03F-DLC	△	8.03						
- 8.04F-DLC	△	8.04						
- 8.05F-DLC	△	8.05						
- 8.1 F-DLC	△	8.1						
- 8.2 F-DLC	△	8.2						
- 8.3 F-DLC	△	8.3	105	10	0.6	4.5	25	60
- 8.4 F-DLC	△	8.4						
- 8.5 F-DLC	△	8.5						
- 8.6 F-DLC	△	8.6						
- 8.7 F-DLC	△	8.7						
- 8.8 F-DLC	△	8.8						
- 8.9 F-DLC	△	8.9						
- 8.97F-DLC	△	8.97						
- 8.98F-DLC	△	8.98						
- 8.99F-DLC	△	8.99						
- 9.0 F-DLC	△	9.0						
- 9.01F-DLC	△	9.01	105	10	0.6	4.5	25	60
- 9.02F-DLC	△	9.02						
- 9.03F-DLC	△	9.03						
- 9.04F-DLC	△	9.04						
- 9.05F-DLC	△	9.05						
- 9.1 F-DLC	△	9.1						
- 9.2 F-DLC	△	9.2						
- 9.3 F-DLC	△	9.3	110	10	0.6	5.0	29	60
- 9.4 F-DLC	△	9.4						
- 9.5 F-DLC	△	9.5						
- 9.6 F-DLC	△	9.6						
- 9.7 F-DLC	△	9.7						
- 9.8 F-DLC	△	9.8						
- 9.9 F-DLC	△	9.9						
- 9.97F-DLC	△	9.97						
- 9.98F-DLC	△	9.98						
- 9.99F-DLC	△	9.99						
-10.0 F-DLC	△	10.0						
-10.01F-DLC	△	10.01	110	10	0.6	5.0	29	60
-10.02F-DLC	△	10.02						
-10.03F-DLC	△	10.03						
-10.04F-DLC	△	10.04						
-10.05F-DLC	△	10.05						
-10.1 F-DLC	△	10.1						
-10.2 F-DLC	△	10.2						
-10.3 F-DLC	△	10.3	115	12	0.6	5.0	29	65
-10.4 F-DLC	△	10.4						
-10.5 F-DLC	△	10.5						
-10.6 F-DLC	△	10.6						
-10.7 F-DLC	△	10.7						
-10.8 F-DLC	△	10.8						
-10.9 F-DLC	△	10.9						
-10.97F-DLC	△	10.97						
-10.98F-DLC	△	10.98						
-10.99F-DLC	△	10.99						
-11.0 F-DLC	△	11.0						
-11.01F-DLC	△	11.01	115	12	0.6	5.0	29	65
-11.02F-DLC	△	11.02						
-11.03F-DLC	△	11.03						
-11.04F-DLC	△	11.04						

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

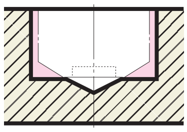
Next page

NIKKEN CARBIDE RADICAL MILL REAMER DLC COATING

NIKKEN

RRSS-F-DLC

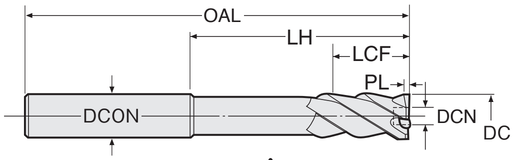
RIGHT HAND HELICAL For BLIND HOLE
Carbide Radical Mill Reamer (DLC Coating)



Explanation of the Code No.

RRSS - 10.0 - F - DLC

- DLC COATING
- FOR BLIND HOLE
- DIAMETER
- **RADICAL MILLREAMER SERIES**
  RRSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30° | DLC COAT | P.134 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ **LCF must be longer than hole depth**

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS-11.05F-DLC	△	11.05						
-11.1 F-DLC	△	11.1	115	12	0.6	5.0	29	65
-11.2 F-DLC	△	11.2						
-11.3 F-DLC	△	11.3						
-11.4 F-DLC	△	11.4						
-11.5 F-DLC	△	11.5						
-11.6 F-DLC	△	11.6						
-11.7 F-DLC	△	11.7						
-11.8 F-DLC	△	11.8	125	12	0.6	6.0	29	70
-11.9 F-DLC	△	11.9						
-11.97F-DLC	△	11.97						
-11.98F-DLC	△	11.98						
-11.99F-DLC	△	11.99						
-12.0 F-DLC	△	12.0						
-12.01F-DLC	△	12.01						
-12.02F-DLC	△	12.02						
-12.03F-DLC	△	12.03						
-12.04F-DLC	△	12.04	125	12	0.6	6.0	29	70
-12.05F-DLC	△	12.05						
-12.1 F-DLC	△	12.1						
-12.2 F-DLC	△	12.2						
-12.3 F-DLC	△	12.3						
-12.4 F-DLC	△	12.4						
-12.5 F-DLC	△	12.5						
-12.6 F-DLC	△	12.6						
-12.7 F-DLC	△	12.7	130	12	0.6	6.0	29	75
-12.8 F-DLC	△	12.8						
-12.9 F-DLC	△	12.9						
-12.97F-DLC	△	12.97						
-12.98F-DLC	△	12.98						
-12.99F-DLC	△	12.99						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RRSS-13.0 F-DLC	△	13.0	130	12	0.6	6.0	29	75
-13.01F-DLC	△	13.01						
-13.02F-DLC	△	13.02						
-13.03F-DLC	△	13.03						
-13.04F-DLC	△	13.04	130	12	0.6	6.0	29	75
-13.05F-DLC	△	13.05						
-13.1 F-DLC	△	13.1						
-13.2 F-DLC	△	13.2						
-13.3 F-DLC	△	13.3						
-13.4 F-DLC	△	13.4						
-13.5 F-DLC	△	13.5						
-13.6 F-DLC	△	13.6						
-13.7 F-DLC	△	13.7						
-13.8 F-DLC	△	13.8	130	16	0.6	7.0	29	75
-13.9 F-DLC	△	13.9						
-13.97F-DLC	△	13.97						
-13.98F-DLC	△	13.98						
-13.99F-DLC	△	13.99						
-14.0 F-DLC	△	14.0						
-14.01F-DLC	△	14.01						
-14.02F-DLC	△	14.02						
-14.03F-DLC	△	14.03	130	16	0.6	7.0	29	75
-14.04F-DLC	△	14.04						
-14.05F-DLC	△	14.05						
-15.0 F-DLC	△	15.0	140	16	0.6	7.0	29	80
-16.0 F-DLC	△	16.0	150	16	0.6	7.0	30	90
-17.0 F-DLC	△	17.0	150	16	0.6	8.0	30	90
-18.0 F-DLC	△	18.0	155	20	0.6	9.0	30	90
-19.0 F-DLC	△	19.0	155	20	0.6	9.0	30	90
-20.0 F-DLC	△	20.0	160	20	0.6	9.0	30	95

★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★**As the chips may tangle, we recommend Right-handed Helix Radical Reamer with OH.**
★This is not suitable to use on drilling machine due to tensile force of right-handed. Please use on machining center, NC lathe and milling machine.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

⚠ DLC coating reamer is for aluminium and non-ferrous metals reaming. Please select most suitable reamer for the other materials. ☞ **P.5, P.6**

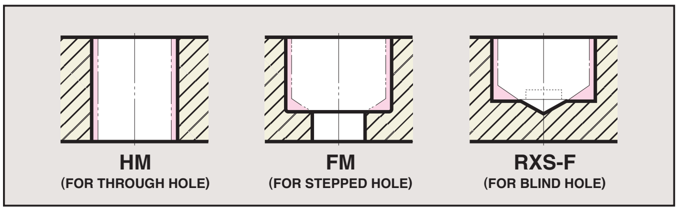
NIKKEN CARBIDE MILL REAMER

NIKKEN

Photo shows Mill Reamer HMS

Features

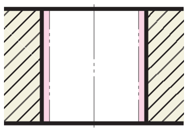
- Although the geometry of Mill Reamer is almost same as Tough Cut Skill Reamer, the material of Mill Reamer is carbide (K10 grade carbide).
- Machining speed can be high, and this is the better way to increase productivity.
- The suitable materials are castings, cast aluminum and Meehanite material.
- Milling blade with positive rake angle will correct drilled hole diameter to obtain suitable removal for following reaming.
- We have the HM Series (for through holes), which simultaneously perform milling, finish reaming and burnishing, and the FM Series (for stepped holes), which simultaneously perform milling, finish reaming and facing.



NIKKEN CARBIDE MILL REAMER

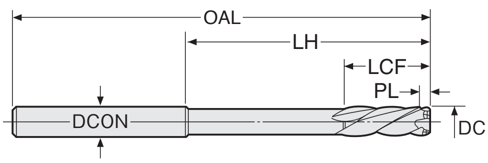
NIKKEN

HMS Mill Reamer (Straight Shank)



Explanation of the Code No.

HMS - 5.0
- DIAMETER
- MILLREAMER SERIES
  HMS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 2.95	△	2.95	60	3	4.0	16	35
- 2.96	△	2.96					
- 2.97	△	2.97					
- 2.98	△	2.98					
- 2.99	△	2.99					
- 3.0	●	3.0					
- 3.01	△	3.01	60	3	4.0	16	35
- 3.02	△	3.02					
- 3.03	△	3.03					
- 3.04	△	3.04					
- 3.05	△	3.05					
- 3.06	△	3.06					
- 3.07	△	3.07					
- 3.08	△	3.08					
- 3.09	△	3.09					
- 3.1	△	3.1					
- 3.11	△	3.11	60	3	4.0	16	35
- 3.12	△	3.12					
- 3.13	△	3.13					
- 3.14	△	3.14					
- 3.15	△	3.15					
- 3.16	△	3.16					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 3.17	△	3.17	60	3	4.0	16	35
- 3.175	△	3.175(1/8)					
- 3.18	△	3.18					
- 3.19	△	3.19					
- 3.2	△	3.2					
- 3.21	△	3.21	60	4	4.4	18	35
- 3.22	△	3.22					
- 3.23	△	3.23					
- 3.24	△	3.24					
- 3.25	△	3.25					
- 3.26	△	3.26					
- 3.27	△	3.27					
- 3.28	△	3.28					
- 3.29	△	3.29					
- 3.3	△	3.3					
- 3.31	△	3.31	60	4	4.4	18	35
- 3.32	△	3.32					
- 3.33	△	3.33					
- 3.34	△	3.34					
- 3.35	△	3.35					
- 3.36	△	3.36					
- 3.37	△	3.37					

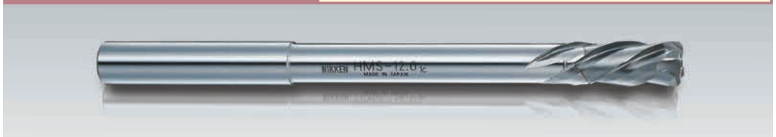
★PL means chamfering length to φDC.

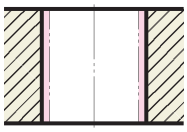
Next page

NIKKEN CARBIDE MILL REAMER

NIKKEN

HMS Mill Reamer (Straight Shank)





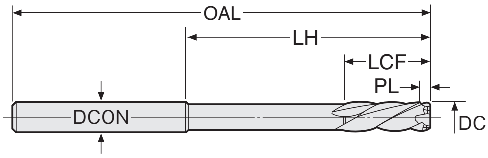
Explanation of the Code No.

HMS - 5.0

DIAMETER

MILLREAMER SERIES

HMS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 3.38	△	3.38					
- 3.39	△	3.39	60	4	4.4	18	35
- 3.4	△	3.4					
- 3.41	△	3.41					
- 3.42	△	3.42					
- 3.43	△	3.43					
- 3.44	△	3.44					
- 3.45	△	3.45	60	4	4.4	18	35
- 3.46	△	3.46					
- 3.47	△	3.47					
- 3.48	△	3.48					
- 3.49	△	3.49					
- 3.5	△	3.5					
- 3.51	△	3.51					
- 3.52	△	3.52					
- 3.53	△	3.53					
- 3.54	△	3.54					
- 3.55	△	3.55	60	4	4.4	18	35
- 3.56	△	3.56					
- 3.57	△	3.57					
- 3.58	△	3.58					
- 3.59	△	3.59					
- 3.6	△	3.6					
- 3.61	△	3.61					
- 3.62	△	3.62					
- 3.63	△	3.63					
- 3.64	△	3.64					
- 3.65	△	3.65	60	4	4.4	18	35
- 3.66	△	3.66					
- 3.67	△	3.67					
- 3.68	△	3.68					
- 3.69	△	3.69					
- 3.7	△	3.7					
- 3.71	△	3.71					
- 3.72	△	3.72					
- 3.73	△	3.73					
- 3.74	△	3.74					
- 3.75	△	3.75	60	4	4.8	18	35
- 3.76	△	3.76					
- 3.77	△	3.77					
- 3.78	△	3.78					
- 3.79	△	3.79					
- 3.8	△	3.8					
- 3.81	△	3.81					
- 3.82	△	3.82					
- 3.83	△	3.83					
- 3.84	△	3.84					
- 3.85	△	3.85	60	4	4.8	18	35
- 3.86	△	3.86					
- 3.87	△	3.87					
- 3.88	△	3.88					
- 3.89	△	3.89					
- 3.9	△	3.9					
- 3.91	△	3.91					
- 3.92	△	3.92					
- 3.93	△	3.93	60	4	4.8	18	35
- 3.94	△	3.94					
- 3.95	△	3.95					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 3.96	△	3.96					
- 3.97	△	3.97					
- 3.98	△	3.98	60	4	4.8	18	35
- 3.99	△	3.99					
- 4.0	●	4.0					
- 4.01	△	4.01					
- 4.02	△	4.02					
- 4.03	△	4.03					
- 4.04	△	4.04					
- 4.05	△	4.05	60	4	4.8	18	35
- 4.06	△	4.06					
- 4.07	△	4.07					
- 4.08	△	4.08					
- 4.09	△	4.09					
- 4.1	△	4.1					
- 4.11	△	4.11					
- 4.12	△	4.12					
- 4.13	△	4.13					
- 4.14	△	4.14					
- 4.15	△	4.15	60	4	4.8	18	35
- 4.16	△	4.16					
- 4.17	△	4.17					
- 4.18	△	4.18					
- 4.19	△	4.19					
- 4.2	△	4.2					
- 4.21	△	4.21					
- 4.22	△	4.22					
- 4.23	△	4.23					
- 4.24	△	4.24					
- 4.25	△	4.25	75	5	4.8	22	45
- 4.26	△	4.26					
- 4.27	△	4.27					
- 4.28	△	4.28					
- 4.29	△	4.29					
- 4.3	△	4.3					
- 4.31	△	4.31					
- 4.32	△	4.32					
- 4.33	△	4.33					
- 4.34	△	4.34					
- 4.35	△	4.35	75	5	4.8	22	45
- 4.36	△	4.36					
- 4.37	△	4.37					
- 4.38	△	4.38					
- 4.39	△	4.39					
- 4.4	△	4.4					
- 4.41	△	4.41					
- 4.42	△	4.42					
- 4.43	△	4.43					
- 4.44	△	4.44					
- 4.45	△	4.45	75	5	4.8	22	45
- 4.46	△	4.46					
- 4.47	△	4.47					
- 4.48	△	4.48					
- 4.49	△	4.49					
- 4.5	△	4.5					
- 4.51	△	4.51					
- 4.52	△	4.52	75	5	4.8	22	45
- 4.53	△	4.53					

★PL means chamfering length to ΦDC.

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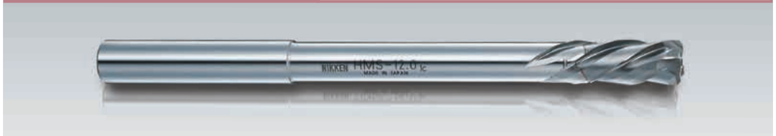
NIKKEN CARBIDE MILL REAMER

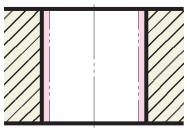
NIKKEN

CARBIDE

FOR THROUGH HOLE

HMS Mill Reamer (Straight Shank)



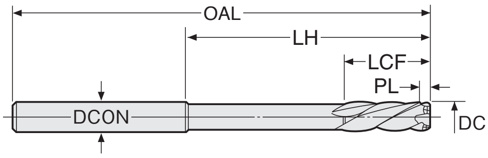


Explanation of the Code No.

HMS - 5.0

DIAMETER

MILLREAMER SERIES
HMS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 4.54	△	4.54	75	5	4.8	22	45
- 4.55	△	4.55					
- 4.56	△	4.56					
- 4.57	△	4.57					
- 4.58	△	4.58					
- 4.59	△	4.59					
- 4.6	△	4.6					
- 4.61	△	4.61	75	5	4.8	22	45
- 4.62	△	4.62					
- 4.63	△	4.63					
- 4.64	△	4.64					
- 4.65	△	4.65					
- 4.66	△	4.66					
- 4.67	△	4.67					
- 4.68	△	4.68					
- 4.69	△	4.69					
- 4.7	△	4.7					
- 4.71	△	4.71	75	5	4.8	22	45
- 4.72	△	4.72					
- 4.73	△	4.73					
- 4.74	△	4.74					
- 4.75	△	4.75					
- 4.76	△	4.76					
- 4.763	△	4.763(3/16)					
- 4.77	△	4.77					
- 4.78	△	4.78					
- 4.79	△	4.79					
- 4.8	△	4.8					
- 4.81	△	4.81	75	5	4.8	22	45
- 4.82	△	4.82					
- 4.83	△	4.83					
- 4.84	△	4.84					
- 4.85	△	4.85					
- 4.86	△	4.86					
- 4.87	△	4.87					
- 4.88	△	4.88					
- 4.89	△	4.89					
- 4.9	△	4.9					
- 4.91	△	4.91	75	5	4.8	22	45
- 4.92	△	4.92					
- 4.93	△	4.93					
- 4.94	△	4.94					
- 4.95	△	4.95					
- 4.96	△	4.96					
- 4.97	△	4.97					
- 4.98	△	4.98					
- 4.99	△	4.99					
- 5.0	●	5.0					
- 5.01	△	5.01	75	5	4.8	2	45
- 5.02	△	5.02					
- 5.03	△	5.03					
- 5.04	△	5.04					
- 5.05	△	5.05					
- 5.06	△	5.06					
- 5.07	△	5.07					
- 5.08	△	5.08					
- 5.09	△	5.09					
- 5.1	△	5.1					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 5.11	△	5.11	75	5	4.8	22	45
- 5.12	△	5.12					
- 5.13	△	5.13					
- 5.14	△	5.14					
- 5.15	△	5.15					
- 5.16	△	5.16					
- 5.17	△	5.17					
- 5.18	△	5.18					
- 5.19	△	5.19					
- 5.2	△	5.2					
- 5.21	△	5.21	100	6	5.1	25	65
- 5.22	△	5.22					
- 5.23	△	5.23					
- 5.24	△	5.24					
- 5.25	△	5.25					
- 5.26	△	5.26					
- 5.27	△	5.27					
- 5.28	△	5.28					
- 5.29	△	5.29					
- 5.3	△	5.3					
- 5.31	△	5.31	100	6	5.1	25	65
- 5.32	△	5.32					
- 5.33	△	5.33					
- 5.34	△	5.34					
- 5.35	△	5.35					
- 5.36	△	5.36					
- 5.37	△	5.37					
- 5.38	△	5.38					
- 5.39	△	5.39					
- 5.4	△	5.4					
- 5.41	△	5.41	100	6	5.1	25	65
- 5.42	△	5.42					
- 5.43	△	5.43					
- 5.44	△	5.44					
- 5.45	△	5.45					
- 5.46	△	5.46					
- 5.47	△	5.47					
- 5.48	△	5.48					
- 5.49	△	5.49					
- 5.5	●	5.5					
- 5.51	△	5.51	100	6	5.1	25	65
- 5.52	△	5.52					
- 5.53	△	5.53					
- 5.54	△	5.54					
- 5.55	△	5.55					
- 5.56	△	5.56					
- 5.57	△	5.57					
- 5.58	△	5.58					
- 5.59	△	5.59					
- 5.6	△	5.6					
- 5.61	△	5.61	100	6	5.1	25	65
- 5.62	△	5.62					
- 5.63	△	5.63					
- 5.64	△	5.64					
- 5.65	△	5.65					
- 5.66	△	5.66					
- 5.67	△	5.67					
- 5.68	△	5.68					

★PL means chamfering length to ΦDC.

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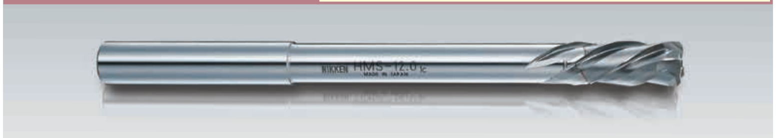
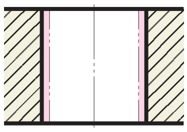
NIKKEN CARBIDE MILL REAMER

NIKKEN

HMS Mill Reamer (Straight Shank)

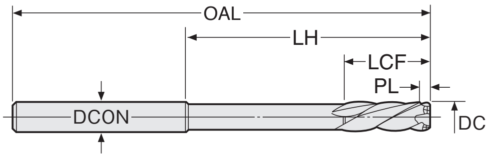




Explanation of the Code No.

HMS - 5.0

- DIAMETER
- MILLREAMER SERIES
  HMS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135 | ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 5.69	△	5.69	100	6	5.1	25	65
- 5.7	△	5.70					
- 5.71	△	5.71	100	6	5.4	25	65
- 5.72	△	5.72					
- 5.73	△	5.73					
- 5.74	△	5.74					
- 5.75	△	5.75					
- 5.76	△	5.76					
- 5.77	△	5.77					
- 5.78	△	5.78					
- 5.79	△	5.79					
- 5.8	△	5.8					
- 5.81	△	5.81	100	6	5.4	25	65
- 5.82	△	5.82					
- 5.83	△	5.83					
- 5.84	△	5.84					
- 5.85	△	5.85					
- 8.86	△	8.86					
- 5.87	△	5.87					
- 5.88	△	5.88					
- 5.89	△	5.89					
- 5.9	△	5.9					
- 5.91	△	5.91	100	6	5.4	25	65
- 5.92	△	5.92					
- 5.93	△	5.93					
- 5.94	△	5.94					
- 5.95	△	5.95					
- 5.96	△	5.96					
- 5.97	△	5.97					
- 5.98	△	5.98					
- 5.99	△	5.99					
- 6.0	●	6.0					
- 6.01	△	6.01	100	6	5.4	25	65
- 6.02	△	6.02					
- 6.03	△	6.03					
- 6.04	△	6.04					
- 6.05	△	6.05					
- 6.06	△	6.06					
- 6.07	△	6.07					
- 6.08	△	6.08					
- 6.09	△	6.09					
- 6.1	△	6.1					
- 6.11	△	6.11	100	6	5.4	25	65
- 6.12	△	6.12					
- 6.13	△	6.13					
- 6.14	△	6.14					
- 6.15	△	6.15					
- 6.16	△	6.16					
- 6.17	△	6.17					
- 6.18	△	6.18					
- 6.19	△	6.19					
- 6.2	△	6.2					
- 6.21	△	6.21	110	8	5.6	25	70
- 6.22	△	6.22					
- 6.23	△	6.23					
- 6.24	△	6.24					
- 6.25	△	6.25					
- 6.26	△	6.26					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 6.27	△	6.27	110	8	5.6	25	70
- 6.28	△	6.28					
- 6.29	△	6.29					
- 6.3	△	6.3					
- 6.31	△	6.31	110	8	5.6	25	70
- 6.32	△	6.32					
- 6.33	△	6.33					
- 6.34	△	6.34					
- 6.35	△	6.35(1/4)					
- 6.36	△	6.36					
- 6.37	△	6.37					
- 6.38	△	6.38					
- 6.39	△	6.39					
- 6.4	△	6.4					
- 6.41	△	6.41	110	8	5.6	25	70
- 6.42	△	6.42					
- 6.43	△	6.43					
- 6.44	△	6.44					
- 6.45	△	6.45					
- 6.46	△	6.46					
- 6.47	△	6.47					
- 6.48	△	6.48					
- 6.49	△	6.49					
- 6.5	●	6.5					
- 6.51	△	6.51	110	8	5.6	25	70
- 6.52	△	6.52					
- 6.53	△	6.53					
- 6.54	△	6.54					
- 6.55	△	6.55					
- 6.56	△	6.56					
- 6.57	△	6.57					
- 6.58	△	6.58					
- 6.59	△	6.59					
- 6.6	△	6.6					
- 6.61	△	6.61	110	8	5.6	25	70
- 6.62	△	6.62					
- 6.63	△	6.63					
- 6.64	△	6.64					
- 6.65	△	6.65					
- 6.66	△	6.66					
- 6.67	△	6.67					
- 6.68	△	6.68					
- 6.69	△	6.69					
- 6.7	△	6.7					
- 6.71	△	6.71	110	8	6.0	25	70
- 6.72	△	6.72					
- 6.73	△	6.73					
- 6.74	△	6.74					
- 6.75	△	6.75					
- 6.76	△	6.76					
- 6.77	△	6.77					
- 6.78	△	6.78					
- 6.79	△	6.79					
- 6.8	△	6.8					
- 6.81	△	6.81	110	8	6.0	25	70
- 6.82	△	6.82					
- 6.83	△	6.83					
- 6.84	△	6.84					

★PL means chamfering length to ΦDC.

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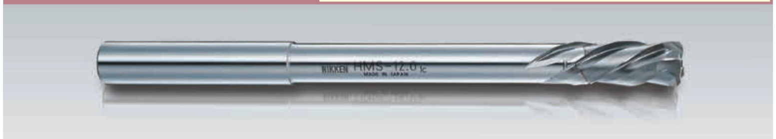
NIKKEN CARBIDE MILL REAMER

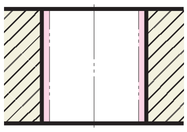
NIKKEN

CARBIDE

FOR THROUGH HOLE

HMS Mill Reamer (Straight Shank)





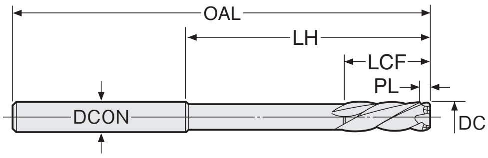
Explanation of the Code No.

HMS - 5.0

DIAMETER

MILLREAMER SERIES

HMS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 6.85	△	6.85	110	8	6.0	25	70
- 6.86	△	6.86					
- 6.87	△	6.87					
- 6.88	△	6.88					
- 6.89	△	6.89					
- 6.9	△	6.9					
- 6.91	△	6.91	110	8	6.0	25	70
- 6.92	△	6.92					
- 6.93	△	6.93					
- 6.94	△	6.94					
- 6.95	△	6.95					
- 6.96	△	6.96					
- 6.97	△	6.97					
- 6.98	△	6.98					
- 6.99	△	6.99					
- 7.0	●	7.0					
- 7.01	△	7.01	110	8	6.0	25	70
- 7.02	△	7.02					
- 7.03	△	7.03					
- 7.04	△	7.04					
- 7.05	△	7.05					
- 7.06	△	7.06					
- 7.07	△	7.07					
- 7.08	△	7.08					
- 7.09	△	7.09					
- 7.1	△	7.1					
- 7.11	△	7.11	110	8	6.0	25	70
- 7.12	△	7.12					
- 7.13	△	7.13					
- 7.14	△	7.14					
- 7.15	△	7.15					
- 7.16	△	7.16					
- 7.17	△	7.17					
- 7.18	△	7.18					
- 7.19	△	7.19					
- 7.2	△	7.2					
- 7.21	△	7.21	125	8	6.4	25	85
- 7.22	△	7.22					
- 7.23	△	7.23					
- 7.24	△	7.24					
- 7.25	△	7.25					
- 7.26	△	7.26					
- 7.27	△	7.27					
- 7.28	△	7.28					
- 7.29	△	7.29					
- 7.3	△	7.3					
- 7.31	△	7.31	125	8	6.4	25	85
- 7.32	△	7.32					
- 7.33	△	7.33					
- 7.34	△	7.34					
- 7.35	△	7.35					
- 7.36	△	7.36					
- 7.37	△	7.37					
- 7.38	△	7.38					
- 7.39	△	7.39					
- 7.4	△	7.4					
- 7.41	△	7.41	125	8	6.4	25	85
- 7.42	△	7.42					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 7.43	△	7.43	125	8	6.4	25	85
- 7.44	△	7.44					
- 7.45	△	7.45					
- 7.46	△	7.46					
- 7.47	△	7.47					
- 7.48	△	7.48					
- 7.49	△	7.49					
- 7.5	●	7.5					
- 7.51	△	7.51	125	8	6.4	25	85
- 7.52	△	7.52					
- 7.53	△	7.53					
- 7.54	△	7.54					
- 7.55	△	7.55					
- 7.56	△	7.56					
- 7.57	△	7.57					
- 7.58	△	7.58					
- 7.59	△	7.59					
- 7.6	△	7.6					
- 7.61	△	7.61	125	8	6.4	25	85
- 7.62	△	7.62					
- 7.63	△	7.63					
- 7.64	△	7.64					
- 7.65	△	7.65					
- 7.66	△	7.66					
- 7.67	△	7.67					
- 7.68	△	7.68					
- 7.69	△	7.69					
- 7.7	△	7.7					
- 7.71	△	7.71	125	8	6.6	25	85
- 7.72	△	7.72					
- 7.73	△	7.73					
- 7.74	△	7.74					
- 7.75	△	7.75					
- 7.76	△	7.76					
- 7.77	△	7.77					
- 7.78	△	7.78					
- 7.79	△	7.79					
- 7.8	△	7.8					
- 7.81	△	7.81	125	8	6.6	25	85
- 7.82	△	7.82					
- 7.83	△	7.83					
- 7.84	△	7.84					
- 7.85	△	7.85					
- 7.86	△	7.86					
- 7.87	△	7.87					
- 7.88	△	7.88					
- 7.89	△	7.89					
- 7.9	△	7.9					
- 7.91	△	7.91	125	8	6.6	25	85
- 7.92	△	7.92					
- 7.93	△	7.93					
- 7.938	△	7.938(5/16)					
- 7.94	△	7.94					
- 7.95	△	7.95					
- 7.96	△	7.96					
- 7.97	△	7.97					
- 7.98	△	7.98					
- 7.99	△	7.99					

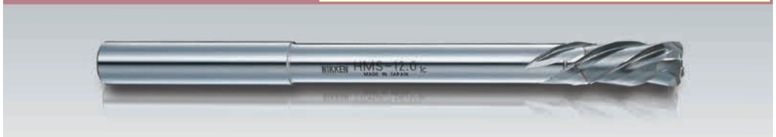
★PL means chamfering length to ΦDC.

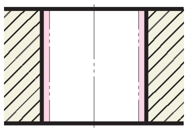
Next page

NIKKEN CARBIDE MILL REAMER

NIKKEN

HMS Mill Reamer (Straight Shank)

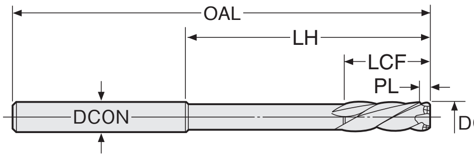




Explanation of the Code No.

HMS - 5.0

- DIAMETER
- MILLREAMER SERIES
  HMS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 8.0	●	8.0	125	8	6.6	25	85
- 8.01	△	8.01	125	8	6.6	25	85
- 8.02	△	8.02					
- 8.03	△	8.03					
- 8.04	△	8.04					
- 8.05	△	8.05					
- 8.06	△	8.06					
- 8.07	△	8.07					
- 8.08	△	8.08					
- 8.09	△	8.09					
- 8.1	△	8.1					
- 8.11	△	8.11	125	8	6.6	25	85
- 8.12	△	8.12					
- 8.13	△	8.13					
- 8.14	△	8.14					
- 8.15	△	8.15					
- 8.16	△	8.16					
- 8.17	△	8.17					
- 8.18	△	8.18					
- 8.19	△	8.19					
- 8.2	△	8.2					
- 8.21	△	8.21	135	10	6.8	25	90
- 8.22	△	8.22					
- 8.23	△	8.23					
- 8.24	△	8.24					
- 8.25	△	8.25					
- 8.26	△	8.26					
- 8.27	△	8.27					
- 8.28	△	8.28					
- 8.29	△	8.29					
- 8.3	△	8.3					
- 8.31	△	8.31	135	10	6.8	25	90
- 8.32	△	8.32					
- 8.33	△	8.33					
- 8.34	△	8.34					
- 8.35	△	8.35					
- 8.36	△	8.36					
- 8.37	△	8.37					
- 8.38	△	8.38					
- 8.39	△	8.39					
- 8.4	△	8.4					
- 8.41	△	8.41	135	10	6.8	25	90
- 8.42	△	8.42					
- 8.43	△	8.43					
- 8.44	△	8.44					
- 8.45	△	8.45					
- 8.46	△	8.46					
- 8.47	△	8.47					
- 8.48	△	8.48					
- 8.49	△	8.49					
- 8.5	●	8.5					
- 8.51	△	8.51	135	10	6.8	25	90
- 8.52	△	8.52					
- 8.53	△	8.53					
- 8.54	△	8.54					
- 8.55	△	8.55					
- 8.56	△	8.56					
- 8.57	△	8.57					
HMS- 8.58	△	8.58	135	10	6.8	25	90
- 8.59	△	8.59					
- 8.6	△	8.6					
- 8.61	△	8.61	135	10	6.8	25	90
- 8.62	△	8.62					
- 8.63	△	8.63					
- 8.64	△	8.64					
- 8.65	△	8.65					
- 8.66	△	8.66					
- 8.67	△	8.67					
- 8.68	△	8.68					
- 8.69	△	8.69					
- 8.7	△	8.7					
- 8.71	△	8.71	135	10	7.0	25	90
- 8.72	△	8.72					
- 8.73	△	8.73					
- 8.74	△	8.74					
- 8.75	△	8.75					
- 8.76	△	8.76					
- 8.77	△	8.77					
- 8.78	△	8.78					
- 8.79	△	8.79					
- 8.8	△	8.8					
- 8.81	△	8.81	135	10	7.0	25	90
- 8.82	△	8.82					
- 8.83	△	8.83					
- 8.84	△	8.84					
- 8.85	△	8.85					
- 8.86	△	8.86					
- 8.87	△	8.87					
- 8.88	△	8.88					
- 8.89	△	8.89					
- 8.9	△	8.9					
- 8.91	△	8.91	135	10	7.0	25	90
- 8.92	△	8.92					
- 8.93	△	8.93					
- 8.94	△	8.94					
- 8.95	△	8.95					
- 8.96	△	8.96					
- 8.97	△	8.97					
- 8.98	△	8.98					
- 8.99	△	8.99					
- 9.0	●	9.0					
- 9.01	△	9.01	135	10	7.0	25	90
- 9.02	△	9.02					
- 9.03	△	9.03					
- 9.04	△	9.04					
- 9.05	△	9.05					
- 9.06	△	9.06					
- 9.07	△	9.07					
- 9.08	△	9.08					
- 9.09	△	9.09					
- 9.1	△	9.1					
- 9.11	△	9.11	135	10	7.0	25	90
- 9.12	△	9.12					
- 9.13	△	9.13					
- 9.14	△	9.14					
- 9.15	△	9.15					

★PL means chamfering length to ΦDC.

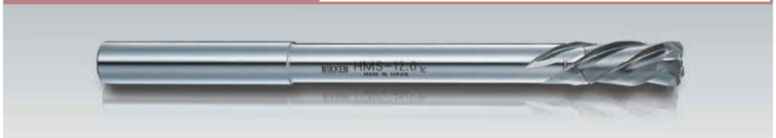
Next page

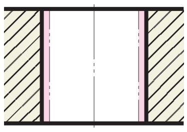
CARBIDE

FOR THROUGH HOLE

NIKKEN

HMS Mill Reamer (Straight Shank)

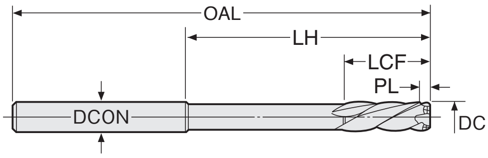




Explanation of the Code No.

HMS - 5.0

- DIAMETER
- MILLREAMER SERIES
  HMS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 9.16	△	9.16	135	10	7.0	25	100
- 9.17	△	9.17					
- 9.18	△	9.18					
- 9.19	△	9.19					
- 9.2	△	9.2					
- 9.21	△	9.21	150	10	7.1	29	100
- 9.22	△	9.22					
- 9.23	△	9.23					
- 9.24	△	9.24					
- 9.25	△	9.25					
- 9.26	△	9.26					
- 9.27	△	9.27					
- 9.28	△	9.28					
- 9.29	△	9.29					
- 9.3	△	9.3					
- 9.31	△	9.31	150	10	7.1	29	100
- 9.32	△	9.32					
- 9.33	△	9.33					
- 9.34	△	9.34					
- 9.35	△	9.35					
- 9.36	△	9.36					
- 9.37	△	9.37					
- 9.38	△	9.38					
- 9.39	△	9.39					
- 9.4	△	9.4					
- 9.41	△	9.41	150	10	7.1	29	100
- 9.42	△	9.42					
- 9.43	△	9.43					
- 9.44	△	9.44					
- 9.45	△	9.45					
- 9.46	△	9.46					
- 9.47	△	9.47					
- 9.48	△	9.48					
- 9.49	△	9.49					
- 9.5	●	9.5					
- 9.51	△	9.51	150	10	7.1	29	100
- 9.52	△	9.52					
- 9.525	△	9.525(3/8)					
- 9.53	△	9.53					
- 9.54	△	9.54					
- 9.55	△	9.55					
- 9.56	△	9.56					
- 9.57	△	9.57					
- 9.58	△	9.58					
- 9.59	△	9.59					
- 9.6	△	9.6					
- 9.61	△	9.61	150	10	7.1	29	100
- 9.62	△	9.62					
- 9.63	△	9.63					
- 9.64	△	9.64					
- 9.65	△	9.65					
- 9.66	△	9.66					
- 9.67	△	9.67					
- 9.68	△	9.68					
- 9.69	△	9.69					
- 9.7	△	9.7					
- 9.71	△	9.71	150	10	7.2	29	100
- 9.72	△	9.72					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 9.73	△	9.73	150	10	7.2	29	100
- 9.74	△	9.74					
- 9.75	△	9.75					
- 9.76	△	9.76					
- 9.77	△	9.77					
- 9.78	△	9.78					
- 9.79	△	9.79					
- 9.8	△	9.8					
- 9.81	△	9.81	150	10	7.2	29	100
- 9.82	△	9.82					
- 9.83	△	9.83					
- 9.84	△	9.84					
- 9.85	△	9.85					
- 9.86	△	9.86					
- 9.87	△	9.87					
- 9.88	△	9.88					
- 9.89	△	9.89					
- 9.9	△	9.9					
- 9.91	△	9.91	150	10	7.2	29	100
- 9.92	△	9.92					
- 9.93	△	9.93					
- 9.94	△	9.94					
- 9.95	△	9.95					
- 9.96	△	9.96					
- 9.97	△	9.97					
- 9.98	△	9.98					
- 9.99	△	9.99					
-10.0	●	10.0					
-10.01	△	10.01	150	10	7.2	29	100
-10.02	△	10.02					
-10.03	△	10.03					
-10.04	△	10.04					
-10.05	△	10.05					
-10.1	△	10.1					
-10.2	△	10.2					
-10.3	△	10.3	155	12	7.6	29	105
-10.4	△	10.4					
-10.5	●	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8	155	12	7.9	29	105
-10.9	△	10.9					
-10.97	△	10.97					
-10.98	△	10.98					
-10.99	△	10.99					
-11.0	●	11.0					
-11.01	△	11.01	155	12	7.9	29	105
-11.02	△	11.02					
-11.03	△	11.03					
-11.04	△	11.04					
-11.05	△	11.05					
-11.1	△	11.1					
-11.113	△	11.113(7/16)					
-11.2	△	11.2					
-11.3	△	11.3	160	12	7.9	29	105
-11.4	△	11.4					
-11.5	●	11.5					
-11.6	△	11.6					

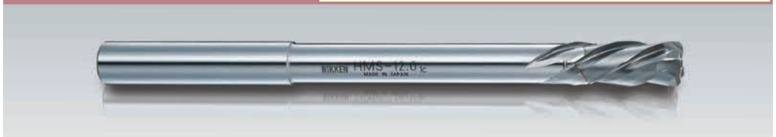
★PL means chamfering length to ΦDC.

Next page

NIKKEN CARBIDE MILL REAMER

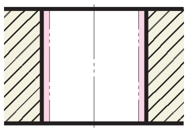
NIKKEN

HMS Mill Reamer (Straight Shank)



MILLING BLADE | LH-HELIX 30-35° | P.135

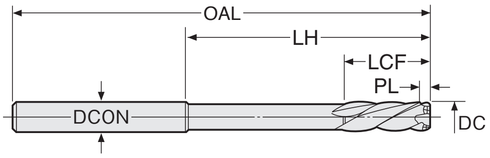
*See P.4 for icons.



Explanation of the Code No.

HMS - 5.0

- DIAMETER
- MILLREAMER SERIES
  HMS : STRAIGHT SHANK FOR THROUGH HOLE



CARBIDE

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS-11.7	△	11.7	160	12	7.9	29	105
-11.8	△	11.8					
-11.9	△	11.9					
-11.97	△	11.97					
-11.98	△	11.98					
-11.99	△	11.99					
-12.0	●	12.0					
-12.01	△	12.01	165	12	7.9	29	110
-12.02	△	12.02					
-12.03	△	12.03					
-12.04	△	12.04					
-12.05	△	12.05					
-12.1	△	12.1					
-12.2	△	12.2					
-12.3	△	12.3	165	12	8.2	29	110
-12.4	△	12.4					
-12.5	●	12.5					
-12.6	△	12.6					
-12.7	△	12.7(1/2)					
-12.8	△	12.8	165	12	8.2	29	110
-12.9	△	12.9					
-12.97	△	12.97					
-12.98	△	12.98					
-12.99	△	12.99					
-13.0	●	13.0					
-13.01	△	13.01	165	12	8.2	29	110
-13.02	△	13.02					
-13.03	△	13.03					
-13.04	△	13.04					
-13.05	△	13.05					
-13.1	△	13.1					
-13.2	△	13.2					
-13.3	△	13.3	170	16	8.2	29	115
-13.4	△	13.4					
-13.5	●	13.5					
-13.6	△	13.6					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS-13.7	△	13.7	170	16	8.2	29	115
-13.8	△	13.8	170	16	9.0	29	115
-13.9	△	13.9					
-13.97	△	13.97					
-13.98	△	13.98					
-13.99	△	13.99					
-14.0	●	14.0					
-14.01	△	14.01	170	16	9.0	29	115
-14.02	△	14.02					
-14.03	△	14.03					
-14.04	△	14.04					
-14.05	△	14.05					
-14.5	△	14.5	180	16	9.0	29	120
-15.0	△	15.0					
-15.5	△	15.5	185	16	9.4	30	125
-15.875	△	15.875(5/8)					
-16.0	△	16.0					
-16.5	△	16.5	185	16	9.4	30	125
-17.0	△	17.0					
-17.5	△	17.5	195	20	9.4	30	130
-18.0	△	18.0					
-18.5	△	18.5	195	20	9.4	30	130
-19.0	△	19.0					
-19.05	△	19.05(3/4)					
-19.5	△	19.5	205	20	9.8	30	140
-20.0	△	20.0					
-21.0	△	21.0	215	20	10.3	33.5	150
-22.0	△	22.0	215	20	10.8	33.5	150
-23.0	△	23.0	230	25	10.8	33.5	160
-24.0	△	24.0	230	25	10.8	33.5	160
-25.0	△	25.0	230	25	11.3	33.5	160
-26.0	△	26.0	230	25	11.3	33.5	160
-27.0	△	27.0	230	25	11.3	33.5	160
-28.0	△	28.0	240	32	11.6	39	160
-29.0	△	29.0	240	32	11.6	39	160
-30.0	△	30.0	240	32	11.6	39	160

★PL means chamfering length to φDC.

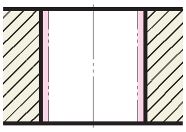
NIKKEN CARBIDE MILL REAMER

NIKKEN

CARBIDE

FOR THROUGH HOLE

HMM Mill Reamer (Morse Taper Shank)

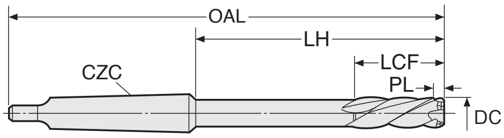


Explanation of the Code No.

HMM - 6.0

DIAMETER

● MILLREAMER SERIES
HMM : MORSE TAPER SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135

*See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
HMM- 3.0	△	3.0	115	MT1	4	16	49.5
- 3.1	△	3.1	115	MT1	4	16	49.5
- 3.2	△	3.2					
- 3.3	△	3.3	115	MT1	4.4	18	49.5
- 3.4	△	3.4					
- 3.5	△	3.5					
- 3.6	△	3.6					
- 3.7	△	3.7					
- 3.8	△	3.8	115	MT1	4.8	18	49.5
- 3.9	△	3.9					
- 4.0	△	4.0					
- 4.1	△	4.1	115	MT1	4.8	18	49.5
- 4.2	△	4.2					
- 4.3	△	4.3	130	MT1	4.8	22	64.5
- 4.4	△	4.4					
- 4.5	△	4.5					
- 4.6	△	4.6					
- 4.7	△	4.7					
- 4.8	△	4.8					
- 4.9	△	4.9					
- 5.0	△	5.0					
- 5.1	△	5.1	130	MT1	4.8	22	64.5
- 5.2	△	5.2					
- 5.3	△	5.3	130	MT1	5.1	25	64.5
- 5.4	△	5.4					
- 5.5	△	5.5					
- 5.6	△	5.6					
- 5.7	△	5.7					
- 5.8	△	5.8	130	MT1	5.4	25	64.5
- 5.9	△	5.9					
- 6.0	●	6.0					
- 6.1	△	6.1	130	MT1	5.4	25	64.5
- 6.2	△	6.2					
- 6.3	△	6.3	140	MT1	5.6	25	74.5
- 6.4	△	6.4					
- 6.5	●	6.5					
- 6.6	△	6.6					
- 6.7	△	6.7					
- 6.8	△	6.8	140	MT1	6.0	25	74.5
- 6.9	△	6.9					
- 7.0	●	7.0					
- 7.1	△	7.1	140	MT1	6.0	25	74.5
- 7.2	△	7.2					
- 7.3	△	7.3	150	MT1	6.4	25	84.5
- 7.4	△	7.4					
- 7.5	●	7.5					
- 7.6	△	7.6					
- 7.7	△	7.7					
- 7.8	△	7.8	150	MT1	6.6	25	84.5
- 7.9	△	7.9					
- 8.0	●	8.0					
- 8.1	△	8.1	150	MT1	6.6	25	84.5
- 8.2	△	8.2					
- 8.3	△	8.3	165	MT1	6.8	25	99.5
- 8.4	△	8.4					
- 8.5	●	8.5					
- 8.6	△	8.6					
- 8.7	△	8.7					

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
HMM- 8.8	△	8.8	165	MT1	7.0	25	99.5
- 8.9	△	8.9					
- 9.0	●	9.0					
- 9.1	△	9.1	165	MT1	7.0	25	99.5
- 9.2	△	9.2					
- 9.3	△	9.3	165	MT1	7.1	29	99.5
- 9.4	△	9.4					
- 9.5	●	9.5					
- 9.6	△	9.6					
- 9.7	△	9.7					
- 9.8	△	9.8	165	MT1	7.2	29	99.5
- 9.9	△	9.9					
-10.0	●	10.0					
-10.1	△	10.1	165	MT1	7.2	29	99.5
-10.2	△	10.2					
-10.3	△	10.3	170	MT1	7.6	29	104.5
-10.4	△	10.4					
-10.5	●	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8	170	MT1	7.9	29	104.5
-10.9	△	10.9					
-11.0	●	11.0					
-11.1	△	11.1	170	MT1	7.9	29	104.5
-11.2	△	11.2					
-11.3	△	11.3	175	MT1	7.9	29	109.5
-11.4	△	11.4					
-11.5	●	11.5					
-11.6	△	11.6					
-11.7	△	11.7					
-11.8	△	11.8					
-11.9	△	11.9					
-12.0	●	12.0					
-12.1	△	12.1	175	MT1	7.9	29	109.5
-12.2	△	12.2					
-12.3	△	12.3	180	MT1	7.9	29	114.5
-12.4	△	12.4					
-12.5	●	12.5					
-12.6	△	12.6					
-12.7	△	12.7					
-12.8	△	12.8	180	MT1	8.2	29	114.5
-12.9	△	12.9					
-13.0	●	13.0					
-13.1	△	13.1	180	MT1	8.2	29	114.5
-13.2	△	13.2					
-13.3	△	13.3					
-13.4	△	13.4					
-13.5	●	13.5					
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8	180	MT1	9.0	29	114.5
-13.9	△	13.9					
-14.0	●	14.0					
-14.1	△	14.1	180	MT1	9.0	29	114.5
-14.2	△	14.2					
-14.3	△	14.3	200	MT2	9.0	29	120
-14.4	△	14.4					
-14.5	●	14.5					

★PL means chamfering length to φDC.

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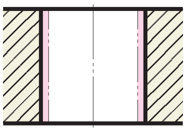
NIKKEN CARBIDE MILL REAMER

NIKKEN

HMM Mill Reamer (Morse Taper Shank)



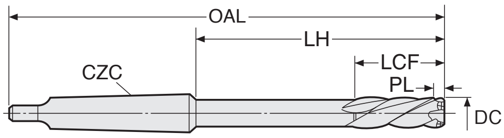
Explanation of the Code No.

HMM - 6.0

DIAMETER

MILLREAMER SERIES

HMM : MORSE TAPER SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135

*See P.4 for icons.

CARBIDE

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
HMM-14.6	△	14.6	200	MT2	9.0	29	120
-14.7	△	14.7					
-14.8	△	14.8					
-14.9	△	14.9					
-15.0	●	15.0					
-15.1	△	15.1	200	MT2	9.0	29	120
-15.2	△	15.2					
-15.3	△	15.3	205	MT2	9.4	30	125
-15.4	△	15.4					
-15.5	●	15.5					
-15.6	△	15.6					
-15.7	△	15.7					
-15.8	△	15.8					
-15.9	△	15.9					
-16.0	●	16.0					
-16.1	△	16.1	205	MT2	9.4	30	125
-16.2	△	16.2					
-16.3	△	16.3					
-16.4	△	16.4					
-16.5	●	16.5					
-16.6	△	16.6					
-16.7	△	16.7					
-16.8	△	16.8					
-16.9	△	16.9					
-17.0	●	17.0					
-17.1	△	17.1	205	MT2	9.4	30	125
-17.2	△	17.2					
-17.3	△	17.3	210	MT2	9.4	30	130
-17.4	△	17.4					
-17.5	●	17.5					
-17.6	△	17.6					
-17.7	△	17.7					
-17.8	△	17.8					
-17.9	△	17.9					
-18.0	●	18.0					
-18.1	△	18.1	210	MT2	9.4	30	130
-18.2	△	18.2					
-18.3	△	18.3					
-18.4	△	18.4					
-18.5	●	18.5					
-18.6	△	18.6					
-18.7	△	18.7					
-18.8	△	18.8					
-18.9	△	18.9					
-19.0	●	19.0					
-19.1	△	19.1	210	MT2	9.4	30	130
-19.2	△	19.2					
-19.3	△	19.3	220	MT2	9.8	30	140
-19.4	△	19.4					
-19.5	●	19.5					
-19.6	△	19.6					
-19.7	△	19.7					
-19.8	△	19.8					
-19.9	△	19.9					
-20.0	●	20.0					
-20.1	△	20.1	220	MT2	9.8	30	140
-20.2	△	20.2					
-20.3	△	20.3	230	MT2	9.8	33.5	150

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
HMM-20.4	△	20.4	230	MT2	9.8	33.5	150
-20.5	●	20.5					
-20.6	△	20.6					
-20.7	△	20.7					
-20.8	△	20.8	230	MT2	10.3	33.5	150
-20.9	△	20.9					
-21.0	●	21.0					
-21.1	△	21.1	230	MT2	10.3	33.5	150
-21.2	△	21.2					
-21.3	△	21.3					
-21.4	△	21.4					
-21.5	●	21.5					
-21.6	△	21.6					
-21.7	△	21.7					
-21.8	△	21.8	230	MT2	10.8	33.5	150
-21.9	△	21.9					
-22.0	●	22.0					
-22.1	△	22.1	230	MT2	10.8	33.5	150
-22.2	△	22.2					
-22.3	△	22.3	240	MT2	10.8	33.5	160
-22.4	△	22.4					
-22.5	●	22.5					
-22.6	△	22.6					
-22.7	△	22.7					
-22.8	△	22.8					
-22.9	△	22.9					
-23.0	●	23.0					
-23.1	△	23.1	240	MT2	10.8	33.5	160
-23.2	△	23.2					
-23.3	△	23.3	250	MT3	10.8	33.5	151
-23.4	△	23.4					
-23.5	●	23.5					
-23.6	△	23.6					
-23.7	△	23.7					
-23.8	△	23.8					
-23.9	△	23.9					
-24.0	●	24.0					
-24.1	△	24.1	250	MT3	10.8	33.5	151
-24.2	△	24.2					
-24.3	△	24.3	255	MT3	10.8	33.5	156
-24.4	△	24.4					
-24.5	●	24.5					
-24.6	△	24.6					
-24.7	△	24.7					
-24.8	△	24.8					
-24.9	△	24.9	255	MT3	11.3	33.5	156
-25.0	●	25.0					
-25.1	△	25.1	255	MT3	11.3	33.5	156
-25.2	△	25.2					
-25.3	△	25.3					
-25.4	△	25.4					
-25.5	●	25.5					
-25.6	△	25.6					
-25.7	△	25.7					
-25.8	△	25.8					
-25.9	△	25.9					
-26.0	●	26.0					
-26.1	△	26.1	255	MT3	11.3	33.5	156

★PL means chamfering length to ΦDC.

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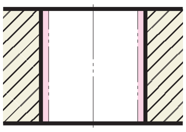
NIKKEN CARBIDE MILL REAMER

NIKKEN

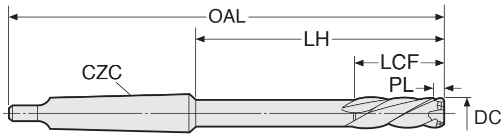
HMM Mill Reamer (Morse Taper Shank)



Explanation of the Code No.

HMM - 6.0

- DIAMETER (6.0)
- MILLREAMER SERIES (HMM)
  HMM : MORSE TAPER SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135

∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
HMM-26.2	△	26.2	255	MT3	11.3	33.5	156
-26.3	△	26.3					
-26.4	△	26.4					
-26.5	●	26.5					
-26.6	△	26.6					
-26.7	△	26.7					
-26.8	△	26.8					
-26.9	△	26.9					
-27.0	●	27.0					
-27.1	△	27.1	255	MT3	11.3	33.5	156
-27.2	△	27.2					
-27.3	△	27.3	260	MT3	11.6	39	161
-27.4	△	27.4					
-27.5	●	27.5					
-27.6	△	27.6					
-27.7	△	27.7					
-27.8	△	27.8					
-27.9	△	27.9					
-28.0	●	28.0					
-28.1	△	28.1	260	MT3	11.6	39	161
-28.2	△	28.2					
-28.3	△	28.3					
-28.4	△	28.4					
-28.5	●	28.5					
-28.6	△	28.6					
-28.7	△	28.7					
-28.8	△	28.8					
-28.9	△	28.9					
-29.0	●	29.0					
-29.1	△	29.1	260	MT3	11.6	39	161
-29.2	△	29.2					
-29.3	△	29.3					
-29.4	△	29.4					
-29.5	●	29.5					
-29.6	△	29.6					
-29.7	△	29.7					
-29.8	△	29.8					
-29.9	△	29.9					
-30.0	●	30.0					
-30.5	●	30.5	300	MT3	11.6	39	201

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
HMM-31.0	●	31.0	300	MT3	11.6	39	201
-31.5	●	31.5					
-32.0	●	32.0					
-32.5	●	32.5	325	MT4	11.6	39	201
-33.0	●	33.0					
-33.5	●	33.5	325	MT4	11.6	41	201
-34.0	●	34.0					
-34.5	●	34.5					
-35.0	●	35.0					
-35.5	●	35.5	330	MT4	12.1	41	206
-36.0	●	36.0					
-36.5	●	36.5	330	MT4	12.1	46	206
-37.0	●	37.0					
-37.5	●	37.5					
-38.0	●	38.0					
-38.5	●	38.5					
-39.0	●	39.0					
-39.5	●	39.5					
-40.0	●	40.0					
-40.5	●	40.5	330	MT4	12.1	49	206
-41.0	●	41.0					
-41.5	●	41.5	335	MT4	12.1	49	211
-42.0	●	42.0					
-42.5	●	42.5	335	MT4	12.6	49	211
-43.0	●	43.0					
-43.5	●	43.5					
-44.0	●	44.0					
-44.5	●	44.5					
-45.0	●	45.0					
-45.5	●	45.5	340	MT4	12.6	51	216
-46.0	●	46.0					
-46.5	●	46.5					
-47.0	●	47.0					
-47.5	●	47.5	350	MT4	13.5	51	226
-48.0	●	48.0					
-48.5	●	48.5	350	MT4	13.5	56	226
-49.0	●	49.0					
-49.5	●	49.5	385	MT4	13.5	56	261
-50.0	●	50.0					

★PL means chamfering length to φDC.

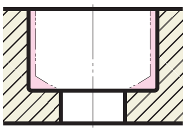
★MT size is determined by reamer dia：～φ14：MT1, φ15～φ23：MT2, φ24～ φ32：MT3, φ33～φ62：MT4, φ63～：MT5

NIKKEN CARBIDE MILL REAMER

NIKKEN

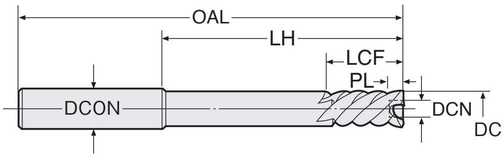
FMS

For STEPPED HOLE
Mill Reamer (Straight Shank)



Explanation of the Code No.

FMS - 15.0
- DIAMETER
- MILLREAMER SERIES
  FMS : STRAIGHT SHANK FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135 ∗See P.4 for icons.

CARBIDE

FOR STEPPED HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
FMS- 3.97	△	3.97	60	4	0.6	2.0	18	35
- 3.98	△	3.98						
- 3.99	△	3.99						
- 4.0	●	4.0						
- 4.01	△	4.01	60	4	0.6	2.0	18	35
- 4.02	△	4.02						
- 4.03	△	4.03						
- 4.04	△	4.04						
- 4.05	△	4.05						
- 4.1	△	4.1						
- 4.2	△	4.2						
- 4.3	△	4.3	75	5	0.6	2.0	22	45
- 4.4	△	4.4						
- 4.5	△	4.5						
- 4.6	△	4.6						
- 4.7	△	4.7						
- 4.8	△	4.8	75	5	0.6	2.5	22	45
- 4.9	△	4.9						
- 4.97	△	4.97						
- 4.98	△	4.98						
- 4.99	△	4.99						
- 5.0	●	5.0						
- 5.01	△	5.01	75	5	0.6	2.5	22	45
- 5.02	△	5.02						
- 5.03	△	5.03						
- 5.04	△	5.04						
- 5.05	△	5.05						
- 5.1	△	5.1						
- 5.2	△	5.2						
- 5.3	△	5.3	100	6	0.6	2.5	25	65
- 5.4	△	5.4						
- 5.5	△	5.5						
- 5.6	△	5.6						
- 5.7	△	5.7						
- 5.8	△	5.8	100	6	0.6	3.0	25	65
- 5.9	△	5.9						
- 5.97	△	5.97						
- 5.98	△	5.98						
- 5.99	△	5.99						
- 6.0	●	6.0						
- 6.01	△	6.01	100	6	0.6	3.0	25	65
- 6.02	△	6.02						
- 6.03	△	6.03						
- 6.04	△	6.04						
- 6.05	△	6.05						
- 6.1	△	6.1						
- 6.2	△	6.2						
- 6.3	△	6.3	110	8	0.6	3.5	25	70
- 6.4	△	6.4						
- 6.5	△	6.5						
- 6.6	△	6.6						
- 6.7	△	6.7						
- 6.8	△	6.8						
- 6.9	△	6.9						
- 6.97	△	6.97						
- 6.98	△	6.98						
- 6.99	△	6.99						
- 7.0	●	7.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
FMS- 7.01	△	7.01	110	8	0.6	3.5	25	70
- 7.02	△	7.02						
- 7.03	△	7.03						
- 7.04	△	7.04						
- 7.05	△	7.05						
- 7.1	△	7.1						
- 7.2	△	7.2						
- 7.3	△	7.3	125	8	0.6	4.0	25	85
- 7.4	△	7.4						
- 7.5	△	7.5						
- 7.6	△	7.6						
- 7.7	△	7.7						
- 7.8	△	7.8						
- 7.9	△	7.9						
- 7.97	△	7.97						
- 7.98	△	7.98						
- 7.99	△	7.99						
- 8.0	●	8.0						
- 8.01	△	8.01	125	8	0.6	4.0	25	85
- 8.02	△	8.02						
- 8.03	△	8.03						
- 8.04	△	8.04						
- 8.05	△	8.05						
- 8.1	△	8.1						
- 8.2	△	8.2						
- 8.3	△	8.3	135	10	0.6	4.5	25	90
- 8.4	△	8.4						
- 8.5	△	8.5						
- 8.6	△	8.6						
- 8.7	△	8.7						
- 8.8	△	8.8						
- 8.9	△	8.9						
- 8.97	△	8.97						
- 8.98	△	8.98						
- 8.99	△	8.99						
- 9.0	●	9.0						
- 9.01	△	9.01	135	10	0.6	4.5	25	90
- 9.02	△	9.02						
- 9.03	△	9.03						
- 9.04	△	9.04						
- 9.05	△	9.05						
- 9.1	△	9.1						
- 9.2	△	9.2						
- 9.3	△	9.3	150	10	0.6	5.0	29	100
- 9.4	△	9.4						
- 9.5	△	9.5						
- 9.6	△	9.6						
- 9.7	△	9.7						
- 9.8	△	9.8						
- 9.9	△	9.9						
- 9.97	△	9.97						
- 9.98	△	9.98						
- 9.99	△	9.99						
-10.0	●	10.0						
-10.01	△	10.01	150	10	0.6	5.0	29	100
-10.02	△	10.02						
-10.03	△	10.03						
-10.04	△	10.04						

★PL means chamfering length to φDC.

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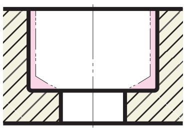
NIKKEN CARBIDE MILL REAMER

NIKKEN

FMS

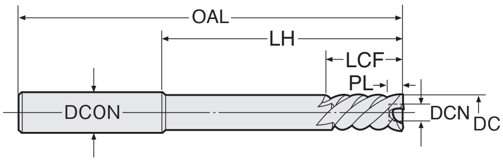
For STEPPED HOLE
Mill Reamer (Straight Shank)



Explanation of the Code No.

FMS - **15.0**

● DIAMETER
● **MILLREAMER SERIES**
FMS : STRAIGHT SHANK FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | P.135 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
FMS-10.05	△	10.05	150	10	0.6	5.0	29	100
-10.1	△	10.1						
-10.2	△	10.2						
-10.3	△	10.3	155	12	0.6	5.0	29	105
-10.4	△	10.4						
-10.5	△	10.5						
-10.6	△	10.6						
-10.7	△	10.7						
-10.8	△	10.8						
-10.9	△	10.9						
-10.97	△	10.97						
-10.98	△	10.98						
-10.99	△	10.99						
-11.0	●	11.0						
-11.01	△	11.01	155	12	0.6	5.0	29	105
-11.02	△	11.02						
-11.03	△	11.03						
-11.04	△	11.04						
-11.05	△	11.05						
-11.1	△	11.1						
-11.2	△	11.2						
-11.3	△	11.3	160	12	0.6	6.0	29	105
-11.4	△	11.4						
-11.5	△	11.5						
-11.6	△	11.6						
-11.7	△	11.7						
-11.8	△	11.8						
-11.9	△	11.9						
-11.97	△	11.97						
-11.98	△	11.98						
-11.99	△	11.99						
-12.0	●	12.0						
-12.01	△	12.01	160	12	0.6	6.0	29	105
-12.02	△	12.02						
-12.03	△	12.03						
-12.04	△	12.04						
-12.05	△	12.05						
-12.1	△	12.1						
-12.2	△	12.2						
-12.3	△	12.3	165	12	0.6	6.0	29	110
-12.4	△	12.4						
-12.5	△	12.5						
-12.6	△	12.6						
-12.7	△	12.7						
-12.8	△	12.8						
-12.9	△	12.9						
-12.97	△	12.97						
-12.98	△	12.98						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
FMS-12.99	△	12.99	165	12	0.6	6.0	29	110
-13.0	●	13.0						
-13.01	△	13.01	165	12	0.6	6.0	29	110
-13.02	△	13.02						
-13.03	△	13.03						
-13.04	△	13.04						
-13.05	△	13.05						
-13.1	△	13.1						
-13.2	△	13.2						
-13.3	△	13.3	170	16	0.6	7.0	29	115
-13.4	△	13.4						
-13.5	△	13.5						
-13.6	△	13.6						
-13.7	△	13.7						
-13.8	△	13.8						
-13.9	△	13.9						
-13.97	△	13.97						
-13.98	△	13.98						
-13.99	△	13.99						
-14.0	●	14.0						
-14.01	△	14.01	170	16	0.6	7.0	29	115
-14.02	△	14.02						
-14.03	△	14.03						
-14.04	△	14.04						
-14.05	△	14.05						
-14.5	△	14.5	180	16	0.6	7.0	29	120
-15.0	△	15.0						
-15.5	△	15.5	185	16	0.6	7.0	30	125
-16.0	△	16.0						
-16.5	△	16.5	185	16	0.6	8.0	30	125
-17.0	△	17.0						
-17.5	△	17.5	195	20	0.6	9.0	30	130
-18.0	△	18.0						
-18.5	△	18.5	195	20	0.6	9.0	30	130
-19.0	△	19.0						
-19.5	△	19.5	205	20	0.6	10.0	30	140
-20.0	△	20.0						
-21.0	△	21.0	215	20	0.6	10	33.5	150
-22.0	△	22.0	215	20	0.6	11	33.5	150
-23.0	△	23.0	230	25	0.6	12	33.5	160
-24.0	△	24.0	230	25	0.6	12	33.5	160
-25.0	△	25.0	230	25	0.6	13	33.5	160
-26.0	△	26.0	230	25	0.6	14	33.5	160
-27.0	△	27.0	230	25	0.6	14	33.5	160
-28.0	△	28.0	240	32	0.6	15	39	160
-29.0	△	29.0	240	32	0.9	16	39	160
-30.0	△	30.0	240	32	0.9	16	39	160

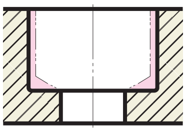
★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Please use right-handed helix reamer when there are not enough space for the chips. ☞ **P.55**
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN CARBIDE MILL REAMER

NIKKEN

FMM

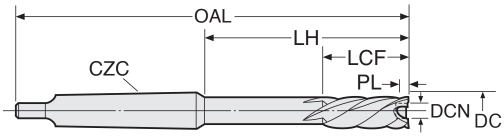
For STEPPED HOLE
Mill Reamer (Morse Taper Shank)



Explanation of the Code No.

FMM - 15.0

- DIAMETER
- MILLREAMER SERIES
  FMM : MORSE TAPER SHANK FOR STEPPED HOLE



CARBIDE

FOR STEPPED HOLE

MILLING BLADE | LH-HELIX 30° | P.135 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	DCN	LCF	LH
FMM- 5.0	△	5.0	115	MT1	0.6	2.5	22	49.5
- 5.5	△	5.5	130	MT1	0.6	3.0	25	64.5
- 6.0	△	6.0						
- 6.5	△	6.5	140	MT1	0.6	3.0	25	74.5
- 7.0	△	7.0	140	MT1	0.6	3.5	25	74.5
- 7.5	△	7.5	150	MT1	0.6	4.0	25	84.5
- 8.0	●	8.0						
- 8.5	△	8.5	165	MT1	0.6	4.5	25	99.5
- 9.0	●	9.0						
- 9.5	△	9.5	165	MT1	0.6	5.0	29	99.5
-10.0	●	10.0						
-10.5	△	10.5	170	MT1	0.6	5.0	29	104.5
-11.0	●	11.0						
-11.5	△	11.5	175	MT1	0.6	6.0	29	109.5
-12.0	●	12.0						
-12.5	△	12.5	180	MT1	0.6	6.0	29	114.5
-13.0	●	13.0						
-13.5	△	13.5	180	MT1	0.6	7.0	29	114.5
-14.0	●	14.0						
-14.5	△	14.5	160	MT2	0.6	7.0	29	80
-15.0	●	15.0						
-15.5	△	15.5	165	MT2	0.6	7.0	30	85
-16.0	●	16.0						
-16.5	△	16.5	165	MT2	0.6	8.0	30	85
-17.0	●	17.0						
-17.5	△	17.5	170	MT2	0.6	9.0	30	90
-18.0	●	18.0						
-18.5	△	18.5						
-19.0	●	19.0						
-19.5	△	19.5	180	MT2	0.6	10.0	30	100
-20.0	●	20.0						
-20.5	△	20.5	180	MT2	0.6	10.0	33.5	100
-21.0	●	21.0						
-22.0	●	22.0	190	MT2	0.6	11.0	33.5	110
-23.0	●	23.0	195	MT2	0.6	12.0	33.5	115
-24.0	●	24.0	225	MT3	0.6	12.0	33.5	126
-25.0	●	25.0	225	MT3	0.6	13.0	33.5	126
-26.0	●	26.0	225	MT3	0.6	14.0	33.5	126
-27.0	●	27.0						
-28.0	●	28.0	230	MT3	0.9	15.0	39	131
-29.0	●	29.0	230	MT3	0.9	16.0	39	131
-30.0	●	30.0	235	MT3	0.9	16.0	39	136
-31.0	●	31.0	235	MT3	0.9	17.0	39	136
-32.0	●	32.0	245	MT3	0.9	18.0	39	146
-33.0	●	33.0	270	MT4	0.9	18.0	39	146
-34.0	●	34.0	275	MT4	0.9	19.0	41	151
-35.0	●	35.0	275	MT4	0.9	20.0	41	151
-36.0	●	36.0						
-37.0	●	37.0	275	MT4	0.9	21.0	46	151
-38.0	●	38.0	275	MT4	0.9	22.0	46	151
-39.0	●	39.0						
-40.0	●	40.0	275	MT4	0.9	23.0	46	151
-41.0	●	41.0	275	MT4	1.2	24.0	49	151
-42.0	●	42.0						
-43.0	●	43.0	275	MT4	1.2	25.0	49	151
-44.0	●	44.0	275	MT4	1.2	26.0	49	151

Code No.	STOCK	DC H7	OAL	CZC	PL	DCN	LCF	LH
FMM-45.0	●	45.0	275	MT4	1.2	26.0	49	151
-46.0	●	46.0	275	MT4	1.2	27.0	51	151
-47.0	●	47.0	275	MT4	1.2	28.0	51	151
-48.0	●	48.0	280	MT4	1.2	28.0	51	156
-49.0	●	49.0	280	MT4	1.2	29.0	56	156
-50.0	●	50.0	280	MT4	1.2	30.0	56	156
-51.0	●	51.0	290	MT4	1.2	36.0	50	166
-52.0	●	52.0						
-53.0	●	53.0						
-54.0	●	54.0						
-55.0	●	55.0						
-56.0	●	56.0	290	MT4	1.2	40.0	50	166
-57.0	●	57.0	295	MT4	1.2	40.0	50	171
-58.0	●	58.0						
-59.0	●	59.0						
-60.0	●	60.0						
-61.0	●	61.0	295	MT4	1.2	40.0	50	171
-62.0	●	62.0	295	MT4	1.2	45.0	50	171
-63.0	●	63.0	330	MT5	1.2	45.0	50	174
-64.0	●	64.0						
-65.0	●	65.0						
-66.0	●	66.0						
-67.0	●	67.0	330	MT5	1.2	50.0	50	174
-68.0	●	68.0						
-69.0	●	69.0						
-70.0	●	70.0						
-71.0	●	71.0	330	MT5	1.2	50.0	50	174
-72.0	●	72.0	330	MT5	1.2	52.0	50	174
-73.0	●	73.0						
-74.0	●	74.0						
-75.0	●	75.0						
-76.0	●	76.0						
-77.0	●	77.0	330	MT5	1.2	55.0	50	174
-78.0	●	78.0						
-79.0	●	79.0	340	MT5	1.2	55.0	50	184
-80.0	●	80.0	340	MT5	1.2	58.0	50	184
-81.0	●	81.0	340	MT5	1.2	58.0	50	184
-82.0	●	82.0						
-83.0	●	83.0						
-84.0	●	84.0						
-85.0	●	85.0	340	MT5	1.2	60.0	50	184
-86.0	●	86.0						
-87.0	●	87.0						
-88.0	●	88.0						
-89.0	●	89.0						
-90.0	●	90.0	340	MT5	1.2	65.0	50	184
-91.0	●	91.0	340	MT5	1.2	65.0	50	184
-92.0	●	92.0						
-93.0	●	93.0						
-94.0	●	94.0						
-95.0	●	95.0						
-96.0	●	96.0	340	MT5	1.2	70.0	50	184
-97.0	●	97.0						
-98.0	●	98.0						
-99.0	●	99.0						
-100.0	●	100.0	340	MT5	1.2	75.0	50	184

★PL means chamfering length to ΦDC. ★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Please use right-handed helix reamer when there are not enough space for the chips. ☞ P.55 ★**MT size is determined by reamer dia : ~φ14:MT1, φ15~φ23 : MT2, φ24~φ32 : MT3, φ33~φ62 : MT4, φ63~ : MT5**
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

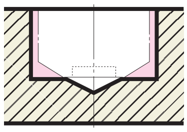
NIKKEN CARBIDE MILL REAMER

NIKKEN

RXS-F

RIGHT HAND HELICAL For BLIND HOLE
Mill Reamer (Straight Shank)

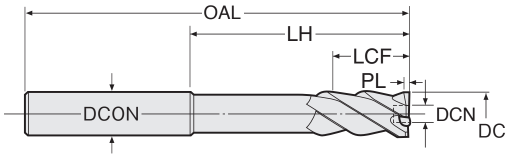
MILLING BLADE | RH-HELIX 30-40° | P.135 ∗See P.4 for icons.



Explanation of the Code No.

RXS - 10.0 - F

- FOR BLIND HOLE
- DIAMETER
- **MILLREAMER SERIES**
  RXS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



CARBIDE

FOR BLIND HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS- 2.97F	△	2.97	60	3	0.6	1.2	16	35
- 2.98F	△	2.98						
- 2.99F	△	2.99						
- 3.0 F	△	3.0						
- 3.01F	△	3.01	60	3	0.6	1.2	16	35
- 3.02F	△	3.02						
- 3.03F	△	3.03						
- 3.04F	△	3.04						
- 3.05F	△	3.05						
- 3.1 F	△	3.1						
- 3.2 F	△	3.2						
- 3.3 F	△	3.3	60	4	0.6	2.0	18	35
- 3.4 F	△	3.4						
- 3.5 F	△	3.5						
- 3.6 F	△	3.6						
- 3.7 F	△	3.7						
- 3.8 F	△	3.8						
- 3.9 F	△	3.9						
- 3.97F	△	3.97						
- 3.98F	△	3.98						
- 3.99F	△	3.99						
- 4.0 F	△	4.0						
- 4.01F	△	4.01	60	4	0.6	2.0	18	35
- 4.02F	△	4.02						
- 4.03F	△	4.03						
- 4.04F	△	4.04						
- 4.05F	△	4.05						
- 4.1 F	△	4.1						
- 4.2 F	△	4.2						
- 4.3 F	△	4.3	75	5	0.6	2.0	22	45
- 4.4 F	△	4.4						
- 4.5 F	△	4.5						
- 4.6 F	△	4.6						
- 4.7 F	△	4.7						
- 4.8 F	△	4.8	75	5	0.6	2.5	22	45
- 4.9 F	△	4.9						
- 4.97F	△	4.97						
- 4.98F	△	4.98						
- 4.99F	△	4.99						
- 5.0 F	●	5.0						
- 5.01F	△	5.01	75	5	0.6	2.5	22	45
- 5.02F	△	5.02						
- 5.03F	△	5.03						
- 5.04F	△	5.04						
- 5.05F	△	5.05						
- 5.1 F	△	5.1						
- 5.2 F	△	5.2						
- 5.3 F	△	5.3	100	6	0.6	2.5	25	65
- 5.4 F	△	5.4						
- 5.5 F	△	5.5						
- 5.6 F	△	5.6						
- 5.7 F	△	5.7						
- 5.8 F	△	5.8	100	6	0.6	3.0	25	65
- 5.9 F	△	5.9						
- 5.97F	△	5.97						
- 5.98F	△	5.98						
- 5.99F	△	5.99						
- 6.0 F	●	6.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS- 6.01F	△	6.01	100	6	0.6	3.0	25	65
- 6.02F	△	6.02						
- 6.03F	△	6.03						
- 6.04F	△	6.04						
- 6.05F	△	6.05						
- 6.1 F	△	6.1						
- 6.2 F	△	6.2						
- 6.3 F	△	6.3	110	8	0.6	3.0	25	70
- 6.4 F	△	6.4						
- 6.5 F	△	6.5						
- 6.6 F	△	6.6						
- 6.7 F	△	6.7						
- 6.8 F	△	6.8	110	8	0.6	3.5	25	70
- 6.9 F	△	6.9						
- 6.97F	△	6.97						
- 6.98F	△	6.98						
- 6.99F	△	6.99						
- 7.0 F	●	7.0						
- 7.01F	△	7.01	110	8	0.6	3.5	25	70
- 7.02F	△	7.02						
- 7.03F	△	7.03						
- 7.04F	△	7.04						
- 7.05F	△	7.05						
- 7.1 F	△	7.1						
- 7.2 F	△	7.2						
- 7.3 F	△	7.3	125	8	0.6	4.0	25	85
- 7.4 F	△	7.4						
- 7.5 F	△	7.5						
- 7.6 F	△	7.6						
- 7.7 F	△	7.7						
- 7.8 F	△	7.8						
- 7.9 F	△	7.9						
- 7.97F	△	7.97						
- 7.98F	△	7.98						
- 7.99F	△	7.99						
- 8.0 F	●	8.0						
- 8.01F	△	8.01	125	8	0.6	4.0	25	85
- 8.02F	△	8.02						
- 8.03F	△	8.03						
- 8.04F	△	8.04						
- 8.05F	△	8.05						
- 8.1 F	△	8.1						
- 8.2 F	△	8.2						
- 8.3 F	△	8.3	135	10	0.6	4.5	25	90
- 8.4 F	△	8.4						
- 8.5 F	△	8.5						
- 8.6 F	△	8.6						
- 8.7 F	△	8.7						
- 8.8 F	△	8.8						
- 8.9 F	△	8.9						
- 8.97F	△	8.97						
- 8.98F	△	8.98						
- 8.99F	△	8.99						
- 9.0 F	●	9.0						
- 9.01F	△	9.01	135	10	0.6	4.5	25	90
- 9.02F	△	9.02						
- 9.03F	△	9.03						
- 9.04F	△	9.04						

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

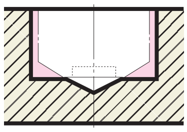
Next page

NIKKEN CARBIDE MILL REAMER

NIKKEN

RXS-F

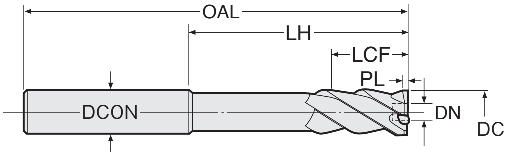
RIGHT HAND HELICAL For BLIND HOLE
Mill Reamer (Straight Shank)



Explanation of the Code No.

RXS - 10.0 - F

- FOR BLIND HOLE
- DIAMETER
- **MILLREAMER SERIES**
  RXS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30° | P.135 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ **LCF must be longer than hole depth**

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS- 9.05F	△	9.05						
- 9.1 F	△	9.1	135	10	0.6	4.5	25	90
- 9.2 F	△	9.2						
- 9.3 F	△	9.3						
- 9.4 F	△	9.4						
- 9.5 F	△	9.5						
- 9.6 F	△	9.6						
- 9.7 F	△	9.7						
- 9.8 F	△	9.8	150	10	0.6	5.0	29	100
- 9.9 F	△	9.9						
- 9.97F	△	9.97						
- 9.98F	△	9.98						
- 9.99F	△	9.99						
-10.0 F	●	10.0						
-10.01F	△	10.01						
-10.02F	△	10.02						
-10.03F	△	10.03						
-10.04F	△	10.04	150	10	0.6	5.0	29	100
-10.05F	△	10.05						
-10.1 F	△	10.1						
-10.2 F	△	10.2						
-10.3 F	△	10.3						
-10.4 F	△	10.4						
-10.5 F	△	10.5						
-10.6 F	△	10.6						
-10.7 F	△	10.7						
-10.8 F	△	10.8	155	12	0.6	5.0	29	105
-10.9 F	△	10.9						
-10.97F	△	10.97						
-10.98F	△	10.98						
-10.99F	△	10.99						
-11.0 F	●	11.0						
-11.01F	△	11.01						
-11.02F	△	11.02						
-11.03F	△	11.03						
-11.04F	△	11.04	155	12	0.6	5.0	29	105
-11.05F	△	11.05						
-11.1 F	△	11.1						
-11.2 F	△	11.2						
-11.3 F	△	11.3						
-11.4 F	△	11.4						
-11.5 F	△	11.5						
-11.6 F	△	11.6						
-11.7 F	△	11.7						
-11.8 F	△	11.8	160	12	0.6	6.0	29	105
-11.9 F	△	11.9						
-11.97F	△	11.97						
-11.98F	△	11.98						
-11.99F	△	11.99						
-12.0 F	●	12.0						
-12.01F	△	12.01						
-12.02F	△	12.02						
-12.03F	△	12.03						
-12.04F	△	12.04	160	12	0.6	6.0	29	105
-12.05F	△	12.05						
-12.1 F	△	12.1						
-12.2 F	△	12.2						
-12.3 F	△	12.3	165	12	0.6	6.0	29	110

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS-12.4 F	△	12.4						
-12.5 F	△	12.5						
-12.6 F	△	12.6						
-12.7 F	△	12.7						
-12.8 F	△	12.8	165	12	0.6	6.0	29	110
-12.9 F	△	12.9						
-12.97F	△	12.97						
-12.98F	△	12.98						
-12.99F	△	12.99						
-13.0 F	●	13.0						
-13.01F	△	13.01						
-13.02F	△	13.02						
-13.03F	△	13.03						
-13.04F	△	13.04	165	12	0.6	6.0	29	110
-13.05F	△	13.05						
-13.1 F	△	13.1						
-13.2 F	△	13.2						
-13.3 F	△	13.3						
-13.4 F	△	13.4						
-13.5 F	△	13.5						
-13.6 F	△	13.6						
-13.7 F	△	13.7						
-13.8 F	△	13.8	170	16	0.6	7.0	29	115
-13.9 F	△	13.9						
-13.97F	△	13.97						
-13.98F	△	13.98						
-13.99F	△	13.99						
-14.0 F	●	14.0						
-14.01F	△	14.01						
-14.02F	△	14.02						
-14.03F	△	14.03	170	16	0.6	7.0	29	115
-14.04F	△	14.04						
-14.05F	△	14.05						
-15.0 F	●	15.0	180	16	0.6	7.0	29	120
-15.5 F	△	15.5	185	16	0.6	7.0	30	125
-16.0 F	●	16.0						
-16.5 F	△	16.5	185	16	0.6	8.0	30	125
-17.0 F	●	17.0						
-17.5 F	△	17.5	195	20	0.6	9.0	30	130
-18.0 F	●	18.0						
-18.5 F	△	18.5	195	20	0.6	9.0	30	130
-19.0 F	●	19.0						
-19.5 F	△	19.5	205	20	0.6	10.0	30	140
-20.0 F	●	20.0						
-21.0 F	●	21.0	215	20	0.6	10.0	33.5	150
-22.0 F	●	22.0	215	20	0.6	11.0	33.5	150
-23.0 F	●	23.0	230	25	0.6	12.0	33.5	160
-24.0 F	●	24.0						
-25.0 F	●	25.0	230	25	0.6	13.0	33.5	160
-26.0 F	●	26.0	230	25	0.6	14.0	33.5	160
-27.0 F	●	27.0						
-28.0 F	●	28.0	240	32	0.6	15.0	39	160
-29.0 F	●	29.0	240	32	0.9	16.0	39	160
-30.0 F	●	30.0						
-31.0 F	●	31.0	280	32	0.9	17.0	39	200
-32.0 F	●	32.0	280	32	0.9	18.0	39	200
-33.0 F	●	33.0						
-34.0 F	●	34.0	280	32	0.9	19.0	41	200

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

Next page

CARBIDE
FOR BLIND HOLE

NIKKEN CARBIDE MILL REAMER

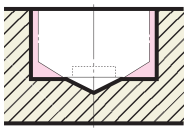
NIKKEN

CARBIDE

FOR BLIND HOLE

RXS-F

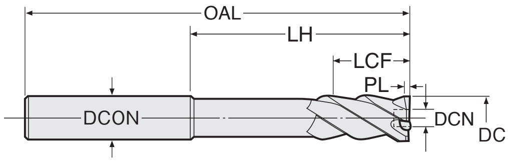
RIGHT HAND HELICAL For BLIND HOLE
Mill Reamer (Straight Shank)



Explanation of the Code No.

RXS - 10.0 - F

- FOR BLIND HOLE
- DIAMETER
- MILLREAMER SERIES
  RXS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30° | P.135 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS-35.0F	●	35.0	280	32	0.9	20.0	41	200
-36.0F	●	36.0	285	32	0.9	20.0	41	205
-37.0F	●	37.0	285	32	0.9	21.0	46	205
-38.0F	●	38.0	285	32	0.9	22.0	46	205
-39.0F	●	39.0						
-40.0F	●	40.0	290	32	1.2	23.0	46	210
-41.0F	●	41.0	290	32	1.2	24.0	49	210
-42.0F	●	42.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS-43.0F	●	43.0	290	32	1.2	25.0	49	210
-44.0F	●	44.0	290	32	1.2	26.0	49	210
-45.0F	●	45.0						
-46.0F	●	46.0	295	32	1.2	27.0	51	215
-47.0F	●	47.0	295	32	1.2	28.0	51	215
-48.0F	●	48.0	310	32	1.2	28.0	51	230
-49.0F	●	49.0	310	32	1.2	29.0	56	230
-50.0F	●	50.0	310	32	1.2	30.0	56	230

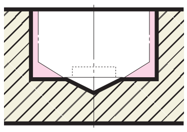
★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
Depending on the material, the chips may tangle. When the hole depth is more thn twice of the hole diameter, we recommend Right-Hand Helix Radical Reamer with OH. ☞ Please see below.
★This is not suitable to use on drilling machine due to tensile force of right-handed. Please use on machining center, NC lathe and milling machine.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN CARBIDE MILL REAMER OH

NIKKEN

RXS-F-OH

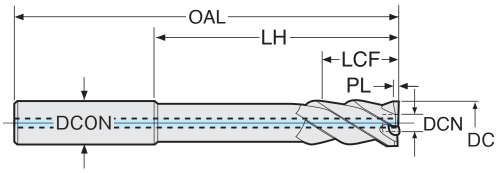
RIGHT HAND HELICAL For BLIND HOLE
Mill Reamer (With Oil Hole)



Explanation of the Code No.

RXS - 10.0 - F - OH

- OH付の意
- FOR BLIND HOLE
- DIAMETER
- MILLREAMER SERIES
  RXS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30° | P.135 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

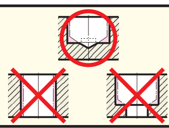
Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS- 5.0F-OH	△	5.0	75	5	0.6	2.5	22	45
- 6.0F-OH	△	6.0	100	6	0.6	3.0	25	65
- 7.0F-OH	△	7.0	110	8	0.6	3.5	25	70
- 8.0F-OH	△	8.0	125	8	0.6	4.0	25	85
- 9.0F-OH	△	9.0	135	10	0.6	4.5	25	90
-10.0F-OH	△	10.0	150	10	0.6	5.0	29	100
-11.0F-OH	△	11.0	155	12	0.6	5.0	29	105
-12.0F-OH	△	12.0	160	12	0.6	6.0	29	105
-13.0F-OH	△	13.0	165	12	0.6	6.0	29	110
-14.0F-OH	△	14.0	170	16	0.6	7.0	29	115
-15.0F-OH	△	15.0	180	16	0.6	7.0	29	120
-16.0F-OH	△	16.0	185	16	0.6	7.0	30	125
-17.0F-OH	△	17.0	185	16	0.6	8.0	30	125

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS-18.0F-OH	△	18.0	195	20	0.6	9.0	30	130
-19.0F-OH	△	19.0						
-20.0F-OH	△	20.0	205	20	0.6	10.0	30	140
-21.0F-OH	△	21.0	215	20	0.6	10.0	33.5	150
-22.0F-OH	△	22.0	215	20	0.6	11.0	33.5	150
-23.0F-OH	△	23.0	230	25	0.6	12.0	33.5	160
-24.0F-OH	△	24.0						
-25.0F-OH	△	25.0	230	25	0.6	13.0	33.5	160
-26.0F-OH	△	26.0	230	25	0.6	14.0	33.5	160
-27.0F-OH	△	27.0						
-28.0F-OH	△	28.0	240	32	0.6	15.0	39	160
-29.0F-OH	△	29.0	240	32	0.9	16.0	39	160
-30.0F-OH	△	30.0						

★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★This is not suitable to use on drilling machine due to tensile force of right-handed. Please use on machining center, NC lathe and milling machine.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

⚠

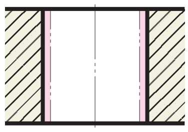
·This is for blind hole. Please do not use for through hole or stepped hole. Radical mill reamer with OH for blind hole is also available. ☞P.27
·High pressure coolant is not etlective. The guide line of the coolant pressure is around 0.5-2.0Mpa.



NIKKEN CARBIDE MILL REAMER DLC COATING

NIKKEN

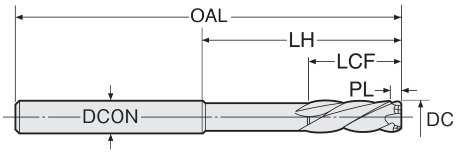
HMS-DLC Carbide Mill Reamer (DLC Coating)



Explanation of the Code No.

HMS - 10.0 - DLC

- DLC COATING
- DIAMETER
- MILLREAMER SERIES
  HMS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | DLC COAT | P.136 | *See P.4 for icons.

CARBIDE

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 2.95-DLC	△	2.95	60	3	4.0	16	35
- 2.96-DLC	△	2.96					
- 2.97-DLC	△	2.97					
- 2.98-DLC	△	2.98					
- 2.99-DLC	△	2.99					
- 3.0 -DLC	△	3.0					
- 3.01-DLC	△	3.01	60	3	4.0	16	35
- 3.02-DLC	△	3.02					
- 3.03-DLC	△	3.03					
- 3.04-DLC	△	3.04					
- 3.05-DLC	△	3.05					
- 3.1 -DLC	△	3.1					
- 3.2 -DLC	△	3.2					
- 3.3 -DLC	△	3.3	60	4	4.4	18	35
- 3.4 -DLC	△	3.4					
- 3.5 -DLC	△	3.5					
- 3.6 -DLC	△	3.6					
- 3.7 -DLC	△	3.7					
- 3.8 -DLC	△	3.8	60	4	4.8	18	35
- 3.9 -DLC	△	3.9					
- 3.97-DLC	△	3.97					
- 3.98-DLC	△	3.98					
- 3.99-DLC	△	3.99					
- 4.0 -DLC	△	4.0					
- 4.01-DLC	△	4.01	60	4	4.8	18	35
- 4.02-DLC	△	4.02					
- 4.03-DLC	△	4.03					
- 4.04-DLC	△	4.04					
- 4.05-DLC	△	4.05					
- 4.1 -DLC	△	4.1					
- 4.2 -DLC	△	4.2					
- 4.3 -DLC	△	4.3	75	5	4.8	22	45
- 4.4 -DLC	△	4.4					
- 4.5 -DLC	△	4.5					
- 4.6 -DLC	△	4.6					
- 4.7 -DLC	△	4.7					
- 4.8 -DLC	△	4.8					
- 4.9 -DLC	△	4.9					
- 4.97-DLC	△	4.97					
- 4.98-DLC	△	4.98					
- 4.99-DLC	△	4.99					
- 5.0 -DLC	△	5.0					
- 5.01-DLC	△	5.01	75	5	4.8	22	45
- 5.02-DLC	△	5.02					
- 5.03-DLC	△	5.03					
- 5.04-DLC	△	5.04					
- 5.05-DLC	△	5.05					
- 5.1 -DLC	△	5.1					
- 5.2 -DLC	△	5.2					
- 5.3 -DLC	△	5.3	100	6	5.1	25	65
- 5.4 -DLC	△	5.4					
- 5.5 -DLC	△	5.5					
- 5.6 -DLC	△	5.6					
- 5.7 -DLC	△	5.7					
- 5.8 -DLC	△	5.8	100	6	5.4	25	65
- 5.9 -DLC	△	5.9					
- 5.97-DLC	△	5.97					
- 5.98-DLC	△	5.98					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 5.99-DLC	△	5.99	100	6	5.4	25	65
- 6.0 -DLC	△	6.0					
- 6.01-DLC	△	6.01	100	6	5.4	25	65
- 6.02-DLC	△	6.02					
- 6.03-DLC	△	6.03					
- 6.04-DLC	△	6.04					
- 6.05-DLC	△	6.05					
- 6.1 -DLC	△	6.1					
- 6.2 -DLC	△	6.2					
- 6.3 -DLC	△	6.3	110	8	5.6	25	70
- 6.4 -DLC	△	6.4					
- 6.5 -DLC	△	6.5					
- 6.6 -DLC	△	6.6					
- 6.7 -DLC	△	6.7					
- 6.8 -DLC	△	6.8	110	8	6.0	25	70
- 6.9 -DLC	△	6.9					
- 6.97-DLC	△	6.97					
- 6.98-DLC	△	6.98					
- 6.99-DLC	△	6.99					
- 7.0 -DLC	△	7.0					
- 7.01-DLC	△	7.01	110	8	6.0	25	70
- 7.02-DLC	△	7.02					
- 7.03-DLC	△	7.03					
- 7.04-DLC	△	7.04					
- 7.05-DLC	△	7.05					
- 7.1 -DLC	△	7.1					
- 7.2 -DLC	△	7.2					
- 7.3 -DLC	△	7.3	125	8	6.4	25	85
- 7.4 -DLC	△	7.4					
- 7.5 -DLC	△	7.5					
- 7.6 -DLC	△	7.6					
- 7.7 -DLC	△	7.7					
- 7.8 -DLC	△	7.8	125	8	6.6	25	85
- 7.9 -DLC	△	7.9					
- 7.97-DLC	△	7.97					
- 7.98-DLC	△	7.98					
- 7.99-DLC	△	7.99					
- 8.0 -DLC	△	8.0					
- 8.01-DLC	△	8.01	125	8	6.6	25	85
- 8.02-DLC	△	8.02					
- 8.03-DLC	△	8.03					
- 8.04-DLC	△	8.04					
- 8.05-DLC	△	8.05					
- 8.1 -DLC	△	8.1					
- 8.2 -DLC	△	8.2					
- 8.3 -DLC	△	8.3	135	10	6.8	25	90
- 8.4 -DLC	△	8.4					
- 8.5 -DLC	△	8.5					
- 8.6 -DLC	△	8.6					
- 8.7 -DLC	△	8.7					
- 8.8 -DLC	△	8.8	135	10	7.0	25	90
- 8.9 -DLC	△	8.9					
- 8.97-DLC	△	8.97					
- 8.98-DLC	△	8.98					
- 8.99-DLC	△	8.99					
- 9.0 -DLC	△	9.0					
- 9.01-DLC	△	9.01	135	10	7.0	25	90
- 9.02-DLC	△	9.02					

★PL means chamfering length to φDC.

Next page

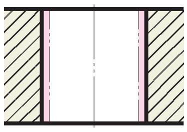
NIKKEN CARBIDE MILL REAMER DLC COATING

NIKKEN

CARBIDE

FOR THROUGH HOLE

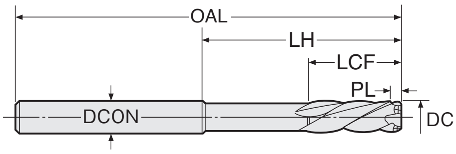
HMS-DLC Carbide Mill Reamer (DLC Coating)



Explanation of the Code No.

HMS - 10.0 - DLC

- DLC COATING
- DIAMETER
- **MILLREAMER SERIES**
  HMS : STRAIGHT SHANK FOR THROUGH HOLE



MILLING BLADE | LH-HELIX 30-35° | DLC COAT | P.136 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS- 9.03-DLC	△	9.03	135	10	7.0	25	90
- 9.04-DLC	△	9.04					
- 9.05-DLC	△	9.05					
- 9.1 -DLC	△	9.1					
- 9.2 -DLC	△	9.2					
- 9.3 -DLC	△	9.3	150	10	7.1	29	100
- 9.4 -DLC	△	9.4					
- 9.5 -DLC	△	9.5					
- 9.6 -DLC	△	9.6					
- 9.7 -DLC	△	9.7					
- 9.8 -DLC	△	9.8	150	10	7.2	29	100
- 9.9 -DLC	△	9.9					
- 9.97-DLC	△	9.97					
- 9.98-DLC	△	9.98					
- 9.99-DLC	△	9.99					
-10.0 -DLC	△	10.0					
-10.01-DLC	△	10.01	150	10	7.2	29	100
-10.02-DLC	△	10.02					
-10.03-DLC	△	10.03					
-10.04-DLC	△	10.04					
-10.05-DLC	△	10.05					
-10.1 -DLC	△	10.1					
-10.2 -DLC	△	10.2					
-10.3 -DLC	△	10.3	155	12	7.6	29	105
-10.4 -DLC	△	10.4					
-10.5 -DLC	△	10.5					
-10.6 -DLC	△	10.6					
-10.7 -DLC	△	10.7					
-10.8 -DLC	△	10.8	155	12	7.9	29	105
-10.9 -DLC	△	10.9					
-10.97-DLC	△	10.97					
-10.98-DLC	△	10.98					
-10.99-DLC	△	10.99					
-11.0 -DLC	△	11.0					
-11.01-DLC	△	11.01	155	12	7.9	29	105
-11.02-DLC	△	11.02					
-11.03-DLC	△	11.03					
-11.04-DLC	△	11.04					
-11.05-DLC	△	11.05					
-11.1 -DLC	△	11.1					
-11.2 -DLC	△	11.2					
-11.3 -DLC	△	11.3	160	12	7.9	29	105
-11.4 -DLC	△	11.4					
-11.5 -DLC	△	11.5					
-11.6 -DLC	△	11.6					
-11.7 -DLC	△	11.7					
-11.8 -DLC	△	11.8					
-11.9 -DLC	△	11.9					
-11.97-DLC	△	11.97					
-11.98-DLC	△	11.98					
-11.99-DLC	△	11.99					
-12.0 -DLC	△	12.0					
-12.01-DLC	△	12.01	160	12	7.9	29	105

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
HMS-12.02-DLC	△	12.02	160	12	7.9	29	105
-12.03-DLC	△	12.03					
-12.04-DLC	△	12.04					
-12.05-DLC	△	12.05					
-12.1 -DLC	△	12.1					
-12.2 -DLC	△	12.2					
-12.3 -DLC	△	12.3	165	12	7.9	29	110
-12.4 -DLC	△	12.4					
-12.5 -DLC	△	12.5					
-12.6 -DLC	△	12.6					
-12.7 -DLC	△	12.7					
-12.8 -DLC	△	12.8	165	12	8.2	29	110
-12.9 -DLC	△	12.9					
-12.97-DLC	△	12.97					
-12.98-DLC	△	12.98					
-12.99-DLC	△	12.99					
-13.0 -DLC	△	13.0					
-13.01-DLC	△	13.01	165	12	8.2	29	110
-13.02-DLC	△	13.02					
-13.03-DLC	△	13.03					
-13.04-DLC	△	13.04					
-13.05-DLC	△	13.05					
-13.1 -DLC	△	13.1					
-13.2 -DLC	△	13.2					
-13.3 -DLC	△	13.3	170	16	8.2	29	110
-13.4 -DLC	△	13.4					
-13.5 -DLC	△	13.5					
-13.6 -DLC	△	13.6					
-13.7 -DLC	△	13.7					
-13.8 -DLC	△	13.8	170	16	9.0	29	115
-13.9 -DLC	△	13.9					
-13.97-DLC	△	13.97					
-13.98-DLC	△	13.98					
-13.99-DLC	△	13.99					
-14.0 -DLC	△	14.0					
-14.01-DLC	△	14.01	170	16	9.0	29	115
-14.02-DLC	△	14.02					
-14.03-DLC	△	14.03					
-14.04-DLC	△	14.04					
-14.05-DLC	△	14.05					
-14.5 -DLC	△	14.5	180	16	9.0	29	120
-15.0 -DLC	△	15.0					
-15.5 -DLC	△	15.5	185	16	9.4	30	125
-16.0 -DLC	△	16.0					
-16.5 -DLC	△	16.5	185	16	9.4	30	125
-17.0 -DLC	△	17.0					
-17.5 -DLC	△	17.5	195	20	9.4	30	130
-18.0 -DLC	△	18.0					
-18.5 -DLC	△	18.5	195	20	9.4	30	130
-19.0 -DLC	△	19.0					
-19.5 -DLC	△	19.5	205	20	9.8	30	140
-20.0 -DLC	△	20.0					

★PL means chamfering length to ΦDC.

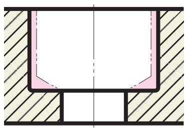
DLC coating reamer is for aluminium and non-ferrous metals reaming. Please select most suitable reamer for the other materials. ☞ P.5, P.6

NIKKEN CARBIDE MILL REAMER DLC COATING

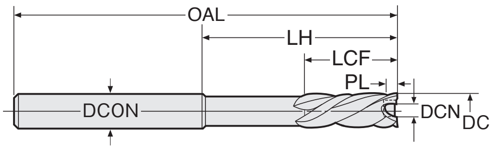
NIKKEN

FMS-DLC

For STEPPED HOLE
Carbide Mill Reamer (DLC Coating)



Explanation of the Code No.
FMS - 10.0 - DLC
- DLC COATING
- DIAMETER
- MILLREAMER SERIES
  FMS : STRAIGHT SHANK FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | DLC COAT | P.136 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
FMS- 3.97-DLC	△	3.97	60	4	0.6	2.0	18	35
- 3.98-DLC	△	3.98						
- 3.99-DLC	△	3.99						
- 4.0 -DLC	△	4.0						
- 4.01-DLC	△	4.01	60	4	0.6	2.0	18	35
- 4.02-DLC	△	4.02						
- 4.03-DLC	△	4.03						
- 4.04-DLC	△	4.04						
- 4.05-DLC	△	4.05						
- 4.1 -DLC	△	4.1						
- 4.2 -DLC	△	4.2						
- 4.3 -DLC	△	4.3	75	5	0.6	2.0	22	45
- 4.4 -DLC	△	4.4						
- 4.5 -DLC	△	4.5						
- 4.6 -DLC	△	4.6						
- 4.7 -DLC	△	4.7						
- 4.8 -DLC	△	4.8	75	5	0.6	2.5	22	45
- 4.9 -DLC	△	4.9						
- 4.97-DLC	△	4.97						
- 4.98-DLC	△	4.98						
- 4.99-DLC	△	4.99						
- 5.0 -DLC	△	5.0						
- 5.01-DLC	△	5.01	75	5	0.6	2.5	22	45
- 5.02-DLC	△	5.02						
- 5.03-DLC	△	5.03						
- 5.04-DLC	△	5.04						
- 5.05-DLC	△	5.05						
- 5.1 -DLC	△	5.1						
- 5.2 -DLC	△	5.2						
- 5.3 -DLC	△	5.3	100	6	0.6	2.5	25	65
- 5.4 -DLC	△	5.4						
- 5.5 -DLC	△	5.5						
- 5.6 -DLC	△	5.6						
- 5.7 -DLC	△	5.7						
- 5.8 -DLC	△	5.8	100	6	0.6	3.0	25	65
- 5.9 -DLC	△	5.9						
- 5.97-DLC	△	5.97						
- 5.98-DLC	△	5.98						
- 5.99-DLC	△	5.99						
- 6.0 -DLC	△	6.0						
- 6.01-DLC	△	6.01	100	6	0.6	3.0	25	65
- 6.02-DLC	△	6.02						
- 6.03-DLC	△	6.03						
- 6.04-DLC	△	6.04						
- 6.05-DLC	△	6.05						
- 6.1 -DLC	△	6.1						
- 6.2 -DLC	△	6.2						
- 6.3 -DLC	△	6.3	110	8	0.6	3.0	25	70
- 6.4 -DLC	△	6.4						
- 6.5 -DLC	△	6.5						
- 6.6 -DLC	△	6.6						
- 6.7 -DLC	△	6.7						
- 6.8 -DLC	△	6.8	110	8	0.6	3.5	25	70
- 6.9 -DLC	△	6.9						
- 6.97-DLC	△	6.97						
- 6.98-DLC	△	6.98						
- 6.99-DLC	△	6.99						
- 7.0 -DLC	△	7.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
FMS- 7.01-DLC	△	7.01	110	8	0.6	3.5	25	70
- 7.02-DLC	△	7.02						
- 7.03-DLC	△	7.03						
- 7.04-DLC	△	7.04						
- 7.05-DLC	△	7.05						
- 7.1 -DLC	△	7.1						
- 7.2 -DLC	△	7.2						
- 7.3 -DLC	△	7.3	125	8	0.6	4.0	25	85
- 7.4 -DLC	△	7.4						
- 7.5 -DLC	△	7.5						
- 7.6 -DLC	△	7.6						
- 7.7 -DLC	△	7.7						
- 7.8 -DLC	△	7.8						
- 7.9 -DLC	△	7.9						
- 7.97-DLC	△	7.97						
- 7.98-DLC	△	7.98						
- 7.99-DLC	△	7.99						
- 8.0 -DLC	△	8.0						
- 8.01-DLC	△	8.01	125	8	0.6	4.0	25	85
- 8.02-DLC	△	8.02						
- 8.03-DLC	△	8.03						
- 8.04-DLC	△	8.04						
- 8.05-DLC	△	8.05						
- 8.1 -DLC	△	8.1						
- 8.2 -DLC	△	8.2						
- 8.3 -DLC	△	8.3	135	10	0.6	4.5	25	90
- 8.4 -DLC	△	8.4						
- 8.5 -DLC	△	8.5						
- 8.6 -DLC	△	8.6						
- 8.7 -DLC	△	8.7						
- 8.8 -DLC	△	8.8						
- 8.9 -DLC	△	8.9						
- 8.97-DLC	△	8.97						
- 8.98-DLC	△	8.98						
- 8.99-DLC	△	8.99						
- 9.0 -DLC	△	9.0						
- 9.01-DLC	△	9.01	135	10	0.6	4.5	25	90
- 9.02-DLC	△	9.02						
- 9.03-DLC	△	9.03						
- 9.04-DLC	△	9.04						
- 9.05-DLC	△	9.05						
- 9.1 -DLC	△	9.1						
- 9.2 -DLC	△	9.2						
- 9.3 -DLC	△	9.3	150	10	0.6	5.0	29	100
- 9.4 -DLC	△	9.4						
- 9.5 -DLC	△	9.5						
- 9.6 -DLC	△	9.6						
- 9.7 -DLC	△	9.7						
- 9.8 -DLC	△	9.8						
- 9.9 -DLC	△	9.9						
- 9.97-DLC	△	9.97						
- 9.98-DLC	△	9.98						
- 9.99-DLC	△	9.99						
-10.0 -DLC	△	10.0						
-10.01-DLC	△	10.01	150	10	0.6	5.0	29	100
-10.02-DLC	△	10.02						
-10.03-DLC	△	10.03						
-10.04-DLC	△	10.04						

★PL means chamfering length to ΦDC.

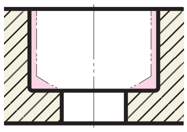
Next page

NIKKEN CARBIDE MILL REAMER DLC COATING

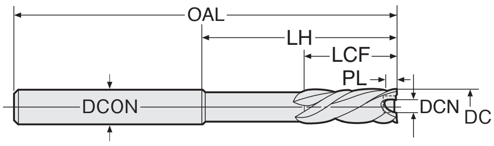
NIKKEN

FMS-DLC

For STEPPED HOLE
Carbide Mill Reamer (DLC Coating)



Explanation of the Code No.
FMS - 10.0 - DLC
● DLC COATING
● DIAMETER
● MILLREAMER SERIES
FMS : STRAIGHT SHANK FOR STEPPED HOLE



MILLING BLADE | LH-HELIX 30-35° | DLC COAT | P.136 *See P.4 for icons.

CARBIDE

FOR STEPPED HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
FMS-10.05-DLC	△	10.05	150	10	0.6	5.0	29	100
-10.1 -DLC	△	10.1						
-10.2 -DLC	△	10.2						
-10.3 -DLC	△	10.3	155	12	0.6	5.0	29	105
-10.4 -DLC	△	10.4						
-10.5 -DLC	△	10.5						
-10.6 -DLC	△	10.6						
-10.7 -DLC	△	10.7						
-10.8 -DLC	△	10.8						
-10.9 -DLC	△	10.9						
-10.97-DLC	△	10.97						
-10.98-DLC	△	10.98						
-10.99-DLC	△	10.99						
-11.0 -DLC	△	11.0						
-11.01-DLC	△	11.01	155	12	0.6	5.0	29	105
-11.02-DLC	△	11.02						
-11.03-DLC	△	11.03						
-11.04-DLC	△	11.04						
-11.05-DLC	△	11.05						
-11.1 -DLC	△	11.1						
-11.2 -DLC	△	11.2						
-11.3 -DLC	△	11.3	160	12	0.6	6.0	29	105
-11.4 -DLC	△	11.4						
-11.5 -DLC	△	11.5						
-11.6 -DLC	△	11.6						
-11.7 -DLC	△	11.7						
-11.8 -DLC	△	11.8						
-11.9 -DLC	△	11.9						
-11.97-DLC	△	11.97						
-11.98-DLC	△	11.98						
-11.99-DLC	△	11.99						
-12.0 -DLC	△	12.0						
-12.01-DLC	△	12.01	160	12	0.6	6.0	29	105
-12.02-DLC	△	12.02						
-12.03-DLC	△	12.03						
-12.04-DLC	△	12.04						
-12.05-DLC	△	12.05						
-12.1 -DLC	△	12.1						
-12.2 -DLC	△	12.2						
-12.3 -DLC	△	12.3	165	12	0.6	6.0	29	110
-12.4 -DLC	△	12.4						
-12.5 -DLC	△	12.5						
-12.6 -DLC	△	12.6						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
FMS-12.7 -DLC	△	12.7	165	12	0.6	6.0	29	110
-12.8 -DLC	△	12.8						
-12.9 -DLC	△	12.9						
-12.97-DLC	△	12.97						
-12.98-DLC	△	12.98						
-12.99-DLC	△	12.99						
-13.0 -DLC	△	13.0						
-13.01-DLC	△	13.01	165	12	0.6	6.0	29	110
-13.02-DLC	△	13.02						
-13.03-DLC	△	13.03						
-13.04-DLC	△	13.04						
-13.05-DLC	△	13.05						
-13.1 -DLC	△	13.1						
-13.2 -DLC	△	13.2						
-13.3 -DLC	△	13.3	170	16	0.6	7.0	29	115
-13.4 -DLC	△	13.4						
-13.5 -DLC	△	13.5						
-13.6 -DLC	△	13.6						
-13.7 -DLC	△	13.7						
-13.8 -DLC	△	13.8						
-13.9 -DLC	△	13.9						
-13.97-DLC	△	13.97						
-13.98-DLC	△	13.98						
-13.99-DLC	△	13.99						
-14.0 -DLC	△	14.0						
-14.01-DLC	△	14.01	170	16	0.6	7.0	29	115
-14.02-DLC	△	14.02						
-14.03-DLC	△	14.03						
-14.04-DLC	△	14.04						
-14.05-DLC	△	14.05						
-14.5 -DLC	△	14.5	180	16	0.6	7.0	29	120
-15.0 -DLC	△	15.0						
-15.5 -DLC	△	15.5	185	16	0.6	7.0	30	125
-16.0 -DLC	△	16.0						
-16.5 -DLC	△	16.5	185	16	0.6	8.0	30	125
-17.0 -DLC	△	17.0						
-17.5 -DLC	△	17.5	195	20	0.6	9.0	30	130
-18.0 -DLC	△	18.0						
-18.5 -DLC	△	18.5	195	20	0.6	9.0	30	130
-19.0 -DLC	△	19.0						
-19.5 -DLC	△	19.5	205	20	0.6	10.0	30	140
-20.0 -DLC	△	20.0						

★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

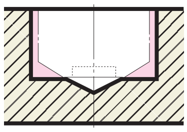
⚠ DLC coating reamer is for aluminium and non-ferrous metals reaming. Please select most suitable reamer for the other materials. ☞ P.5, P.6

NIKKEN CARBIDE MILL REAMER DLC COATING RIGHT HAND HELICAL

NIKKEN

RXS-F-DLC

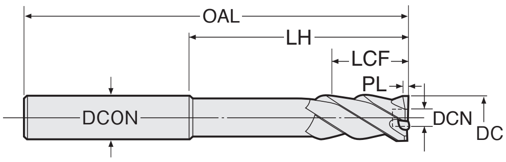
RIGHT HAND HELICAL For BLIND HOLE
Mill Reamer (DLC Coating)



Explanation of the Code No.

RXS - 10.0 - F - DLC

- DLC COATING
- FOR BLIND HOLE
- DIAMETER
- MILLREAMER SERIES
  RXS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30-40° | DLC COAT | P.132 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS- 2.97F-DLC	△	2.97	60	3	0.6	1.2	16	35
- 2.98F-DLC	△	2.98						
- 2.99F-DLC	△	2.99						
- 3.0 F-DLC	△	3.0						
- 3.01F-DLC	△	3.01						
- 3.02F-DLC	△	3.02						
- 3.03F-DLC	△	3.03						
- 3.04F-DLC	△	3.04						
- 3.05F-DLC	△	3.05						
- 3.1 F-DLC	△	3.1						
- 3.2 F-DLC	△	3.2						
- 3.3 F-DLC	△	3.3	60	4	0.6	2.0	18	35
- 3.4 F-DLC	△	3.4						
- 3.5 F-DLC	△	3.5						
- 3.6 F-DLC	△	3.6						
- 3.7 F-DLC	△	3.7						
- 3.8 F-DLC	△	3.8						
- 3.9 F-DLC	△	3.9						
- 3.97F-DLC	△	3.97						
- 3.98F-DLC	△	3.98						
- 3.99F-DLC	△	3.99						
- 4.0 F-DLC	△	4.0						
- 4.01F-DLC	△	4.01	60	4	0.6	2.0	18	35
- 4.02F-DLC	△	4.02						
- 4.03F-DLC	△	4.03						
- 4.04F-DLC	△	4.04						
- 4.05F-DLC	△	4.05						
- 4.1 F-DLC	△	4.1						
- 4.2 F-DLC	△	4.2						
- 4.3 F-DLC	△	4.3	75	5	0.6	2.0	22	45
- 4.4 F-DLC	△	4.4						
- 4.5 F-DLC	△	4.5						
- 4.6 F-DLC	△	4.6						
- 4.7 F-DLC	△	4.7						
- 4.8 F-DLC	△	4.8	75	5	0.6	2.5	22	45
- 4.9 F-DLC	△	4.9						
- 4.97F-DLC	△	4.97						
- 4.98F-DLC	△	4.98						
- 4.99F-DLC	△	4.99						
- 5.0 F-DLC	△	5.0						
- 5.01F-DLC	△	5.01	75	5	0.6	2.5	22	45
- 5.02F-DLC	△	5.02						
- 5.03F-DLC	△	5.03						
- 5.04F-DLC	△	5.04						
- 5.05F-DLC	△	5.05						
- 5.1 F-DLC	△	5.1						
- 5.2 F-DLC	△	5.2						
- 5.3 F-DLC	△	5.3	100	6	0.6	2.5	25	65
- 5.4 F-DLC	△	5.4						
- 5.5 F-DLC	△	5.5						
- 5.6 F-DLC	△	5.6						
- 5.7 F-DLC	△	5.7						
- 5.8 F-DLC	△	5.8	100	6	0.6	3.0	25	65
- 5.9 F-DLC	△	5.9						
- 5.97F-DLC	△	5.97						
- 5.98F-DLC	△	5.98						
- 5.99F-DLC	△	5.99						
- 6.0 F-DLC	△	6.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS- 6.01F-DLC	△	6.01	100	6	0.6	3.0	25	65
- 6.02F-DLC	△	6.02						
- 6.03F-DLC	△	6.03						
- 6.04F-DLC	△	6.04						
- 6.05F-DLC	△	6.05						
- 6.1 F-DLC	△	6.1						
- 6.2 F-DLC	△	6.2						
- 6.3 F-DLC	△	6.3	110	8	0.6	3.0	25	70
- 6.4 F-DLC	△	6.4						
- 6.5 F-DLC	△	6.5						
- 6.6 F-DLC	△	6.6						
- 6.7 F-DLC	△	6.7						
- 6.8 F-DLC	△	6.8	110	8	0.6	3.5	25	70
- 6.9 F-DLC	△	6.9						
- 6.97F-DLC	△	6.97						
- 6.98F-DLC	△	6.98						
- 6.99F-DLC	△	6.99						
- 7.0 F-DLC	△	7.0						
- 7.01F-DLC	△	7.01	110	8	0.6	3.5	25	70
- 7.02F-DLC	△	7.02						
- 7.03F-DLC	△	7.03						
- 7.04F-DLC	△	7.04						
- 7.05F-DLC	△	7.05						
- 7.1 F-DLC	△	7.1						
- 7.2 F-DLC	△	7.2						
- 7.3 F-DLC	△	7.3	125	8	0.6	4.0	25	85
- 7.4 F-DLC	△	7.4						
- 7.5 F-DLC	△	7.5						
- 7.6 F-DLC	△	7.6						
- 7.7 F-DLC	△	7.7						
- 7.8 F-DLC	△	7.8						
- 7.9 F-DLC	△	7.9						
- 7.97F-DLC	△	7.97						
- 7.98F-DLC	△	7.98						
- 7.99F-DLC	△	7.99						
- 8.0 F-DLC	△	8.0						
- 8.01F-DLC	△	8.01	125	8	0.6	4.0	25	85
- 8.02F-DLC	△	8.02						
- 8.03F-DLC	△	8.03						
- 8.04F-DLC	△	8.04						
- 8.05F-DLC	△	8.05						
- 8.1 F-DLC	△	8.1						
- 8.2 F-DLC	△	8.2						
- 8.3 F-DLC	△	8.3	135	10	0.6	4.5	25	90
- 8.4 F-DLC	△	8.4						
- 8.5 F-DLC	△	8.5						
- 8.6 F-DLC	△	8.6						
- 8.7 F-DLC	△	8.7						
- 8.8 F-DLC	△	8.8						
- 8.9 F-DLC	△	8.9						
- 8.97F-DLC	△	8.97						
- 8.98F-DLC	△	8.98						
- 8.99F-DLC	△	8.99						
- 9.0 F-DLC	△	9.0						
- 9.01F-DLC	△	9.01	135	10	0.6	4.5	25	90
- 9.02F-DLC	△	9.02						
- 9.03F-DLC	△	9.03						
- 9.04F-DLC	△	9.04						

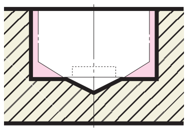
★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

Next page

NIKKEN CARBIDE MILL REAMER DLC COATING RIGHT HAND HELICAL NIKKEN

RXS-F-DLC

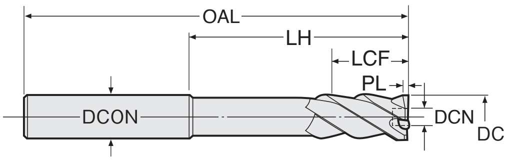
RIGHT HAND HELICAL For BLIND HOLE
Mill Reamer (DLC Coating)



Explanation of the Code No.

RXS - 10.0 - F - DLC

- DLC COATING
- FOR BLIND HOLE
- DIAMETER
- **MILLREAMER SERIES**
  RXS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30° | DLC COAT | P.136 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ **LCF must be longer than hole depth**

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS- 9.05F-DLC	△	9.05	135	10	0.6	4.5	25	90
- 9.1 F-DLC	△	9.1						
- 9.2 F-DLC	△	9.2						
- 9.3 F-DLC	△	9.3	150	10	0.6	5.0	29	100
- 9.4 F-DLC	△	9.4						
- 9.5 F-DLC	△	9.5						
- 9.6 F-DLC	△	9.6						
- 9.7 F-DLC	△	9.7						
- 9.8 F-DLC	△	9.8						
- 9.9 F-DLC	△	9.9						
- 9.97F-DLC	△	9.97						
- 9.98F-DLC	△	9.98						
- 9.99F-DLC	△	9.99						
-10.0 F-DLC	△	10.0						
-10.01F-DLC	△	10.01	150	10	0.6	5.0	29	100
-10.02F-DLC	△	10.02						
-10.03F-DLC	△	10.03						
-10.04F-DLC	△	10.04						
-10.05F-DLC	△	10.05						
-10.1 F-DLC	△	10.1						
-10.2 F-DLC	△	10.2						
-10.3 F-DLC	△	10.3	155	12	0.6	5.0	29	105
-10.4 F-DLC	△	10.4						
-10.5 F-DLC	△	10.5						
-10.6 F-DLC	△	10.6						
-10.7 F-DLC	△	10.7						
-10.8 F-DLC	△	10.8						
-10.9 F-DLC	△	10.9						
-10.97F-DLC	△	10.97						
-10.98F-DLC	△	10.98						
-10.99F-DLC	△	10.99						
-11.0 F-DLC	△	11.0						
-11.01F-DLC	△	11.01	155	12	0.6	5.0	29	105
-11.02F-DLC	△	11.02						
-11.03F-DLC	△	11.03						
-11.04F-DLC	△	11.04						
-11.05F-DLC	△	11.05						
-11.1 F-DLC	△	11.1						
-11.2 F-DLC	△	11.2						
-11.3 F-DLC	△	11.3	160	12	0.6	6.0	29	105
-11.4 F-DLC	△	11.4						
-11.5 F-DLC	△	11.5						
-11.6 F-DLC	△	11.6						
-11.7 F-DLC	△	11.7						
-11.8 F-DLC	△	11.8						
-11.9 F-DLC	△	11.9						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RXS-11.97F-DLC	△	11.97	160	12	0.6	6.0	29	105
-11.98F-DLC	△	11.98						
-11.99F-DLC	△	11.99						
-12.0 F-DLC	△	12.0						
-12.01F-DLC	△	12.01	160	12	0.6	6.0	29	105
-12.02F-DLC	△	12.02						
-12.03F-DLC	△	12.03						
-12.04F-DLC	△	12.04						
-12.05F-DLC	△	12.05						
-12.1 F-DLC	△	12.1						
-12.2 F-DLC	△	12.2						
-12.3 F-DLC	△	12.3	165	12	0.6	6.0	29	110
-12.4 F-DLC	△	12.4						
-12.5 F-DLC	△	12.5						
-12.6 F-DLC	△	12.6						
-12.7 F-DLC	△	12.7						
-12.8 F-DLC	△	12.8						
-12.9 F-DLC	△	12.9						
-12.97F-DLC	△	12.97						
-12.98F-DLC	△	12.98						
-12.99F-DLC	△	12.99						
-13.0 F-DLC	△	13.0						
-13.01F-DLC	△	13.01	165	12	0.6	6.0	29	110
-13.02F-DLC	△	13.02						
-13.03F-DLC	△	13.03						
-13.04F-DLC	△	13.04						
-13.05F-DLC	△	13.05						
-13.1 F-DLC	△	13.1						
-13.2 F-DLC	△	13.2						
-13.3 F-DLC	△	13.3	170	16	0.6	7.0	29	115
-13.4 F-DLC	△	13.4						
-13.5 F-DLC	△	13.5						
-13.6 F-DLC	△	13.6						
-13.7 F-DLC	△	13.7						
-13.8 F-DLC	△	13.8						
-13.9 F-DLC	△	13.9						
-13.97F-DLC	△	13.97						
-13.98F-DLC	△	13.98						
-13.99F-DLC	△	13.99						
-14.0 F-DLC	△	14.0						
-14.01F-DLC	△	14.01	170	16	0.6	7.0	29	115
-14.02F-DLC	△	14.02						
-14.03F-DLC	△	14.03						
-14.04F-DLC	△	14.04						
-14.05F-DLC	△	14.05						

★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★**When chips may be tagled, we recommend Right-Handed Helix Mill Reamer with OH.**
★This is not suitable to use on drilling machine due to tensile force of right-handed. Please use on machining center, NC lathe and milling machine.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

⚠ DLC coating reamer is for aluminium and non-ferrous metals reaming. Please select most suitable reamer for the other materials. ☞ **P.5, P.6**

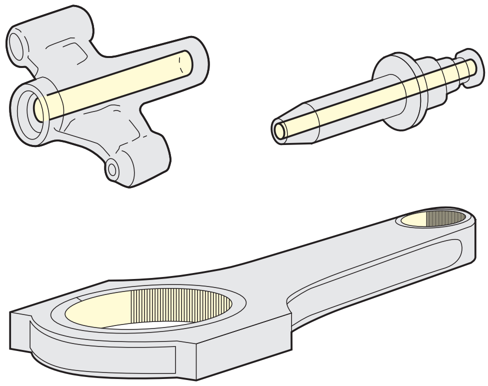
NIKKEN CARBIDE BROACH REAMER

NIKKEN

Photo shows Broach Reamer SX

■Features

- ●The heavy-duty machinability of broach and the better finished surface of reamer are incorporated, and machining speed can be increasecl significantly as well.
- ●Better surface roughness for aluminum and castings in particular.
- ●The spiral angle exceed 60 degrees will be reduced cutting resistance, then the reaming and burnishing are performed without chattering.



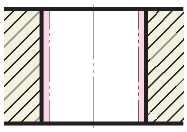
CARBIDE

FOR THROUGH HOLE

NIKKEN CARBIDE BROACH REAMER

NIKKEN

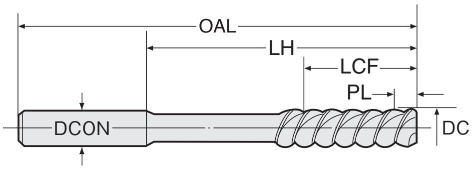
SX Carbide Broach Reamer (Straight Shank)



Explanation of the Code No.

SX - 6.0

- DIAMETER
- BROACH REAMER SERIES
  SX : STRAIGHT SHANK FOR THROUGH HOLE



LH-HELIX 60° P.137 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SX- 1.94	△	1.94	55	2	4.6	16	35
- 1.95	△	1.95					
- 1.96	△	1.96					
- 1.97	△	1.97					
- 1.98	△	1.98					
- 1.99	△	1.99					
- 2.0	●	2.0					
- 2.01	△	2.01	55	2	4.6	16	35
- 2.02	△	2.02					
- 2.03	△	2.03					
- 2.04	△	2.04					
- 2.05	△	2.05					
- 2.06	△	2.06					
- 2.07	△	2.07					
- 2.08	△	2.08					
- 2.09	△	2.09					
- 2.1	△	2.1					
- 2.2	△	2.2					
- 2.3	△	2.3	60	3	4.6	16	35
- 2.4	△	2.4					
- 2.5	△	2.5					
- 2.6	△	2.6					
- 2.7	△	2.7					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SX- 2.8	△	2.8	60	3	4.6	16	35
- 2.9	△	2.9					
- 3.0	●	3.0					
- 3.01	△	3.01	60	3	4.6	16	35
- 3.02	△	3.02					
- 3.03	△	3.03					
- 3.04	△	3.04					
- 3.05	△	3.05					
- 3.06	△	3.06					
- 3.07	△	3.07					
- 3.08	△	3.08					
- 3.09	△	3.09					
- 3.1	△	3.1					
- 3.2	△	3.2					
- 3.3	△	3.3	60	4	4.6	18	35
- 3.4	△	3.4					
- 3.5	△	3.5					
- 3.6	△	3.6					
- 3.7	△	3.7					
- 3.8	△	3.8					
- 3.9	△	3.9					
- 4.0	●	4.0					
- 4.01	△	4.01	60	4	4.6	18	35

★PL means chamfering length to ΦDC.

■Next page

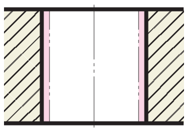
NIKKEN CARBIDE BROACH REAMER

NIKKEN

CARBIDE

FOR THROUGH HOLE

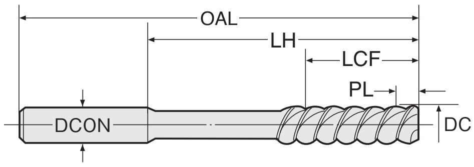
SX Carbide Broach Reamer (Straight Shank)



Explanation of the Code No.

SX - 6.0

- DIAMETER
- BROACH REAMER SERIES
  SX : STRAIGHT SHANK FOR THROUGH HOLE



LH-HELIX 60° P.137 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SX- 4.02	△	4.02	60	4	4.6	18	35
- 4.03	△	4.03					
- 4.04	△	4.04					
- 4.05	△	4.05					
- 4.06	△	4.06					
- 4.07	△	4.07					
- 4.08	△	4.08					
- 4.09	△	4.09					
- 4.1	△	4.1					
- 4.2	△	4.2					
- 4.3	△	4.3	75	5	5.7	22	45
- 4.4	△	4.4					
- 4.5	△	4.5					
- 4.6	△	4.6					
- 4.7	△	4.7					
- 4.8	△	4.8					
- 4.9	△	4.9					
- 5.0	●	5.0					
- 5.01	△	5.01	75	5	5.7	22	45
- 5.02	△	5.02					
- 5.03	△	5.03					
- 5.04	△	5.04					
- 5.05	△	5.05					
- 5.06	△	5.06					
- 5.07	△	5.07					
- 5.08	△	5.08					
- 5.09	△	5.09					
- 5.1	△	5.1					
- 5.2	△	5.2					
- 5.3	△	5.3	100	6	5.7	25	65
- 5.4	△	5.4					
- 5.5	△	5.5					
- 5.6	△	5.6					
- 5.7	△	5.7					
- 5.8	△	5.8					
- 5.9	△	5.9					
- 6.0	●	6.0					
- 6.01	△	6.01	100	6	5.7	25	65
- 6.02	△	6.02					
- 6.03	△	6.03					
- 6.04	△	6.04					
- 6.05	△	6.05					
- 6.06	△	6.06					
- 6.07	△	6.07					
- 6.08	△	6.08					
- 6.09	△	6.09					
- 6.1	△	6.1					
- 6.2	△	6.2					
- 6.3	△	6.3	110	8	7	25	70
- 6.4	△	6.4					
- 6.5	△	6.5					
- 6.6	△	6.6					
- 6.7	△	6.7					
- 6.8	△	6.8					
- 6.9	△	6.9					
- 7.0	●	7.0					
- 7.01	△	7.01	110	8	7	25	70
- 7.02	△	7.02					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SX- 7.03	△	7.03	110	8	7	25	70
- 7.04	△	7.04					
- 7.05	△	7.05					
- 7.06	△	7.06					
- 7.07	△	7.07					
- 7.08	△	7.08					
- 7.09	△	7.09					
- 7.1	△	7.1					
- 7.2	△	7.2					
- 7.3	△	7.3	125	8	7	25	85
- 7.4	△	7.4					
- 7.5	△	7.5					
- 7.6	△	7.6					
- 7.7	△	7.7					
- 7.8	△	7.8					
- 7.9	△	7.9					
- 8.0	●	8.0					
- 8.01	△	8.01	125	8	7	25	85
- 8.02	△	8.02					
- 8.03	△	8.03					
- 8.04	△	8.04					
- 8.05	△	8.05					
- 8.06	△	8.06					
- 8.07	△	8.07					
- 8.08	△	8.08					
- 8.09	△	8.09					
SX- 8.1	△	8.1					
- 8.2	△	8.2					
- 8.3	△	8.3	135	10	7	25	90
- 8.4	△	8.4					
- 8.5	△	8.5					
- 8.6	△	8.6					
- 8.7	△	8.7					
- 8.8	△	8.8					
- 8.9	△	8.9					
- 9.0	●	9.0					
- 9.01	△	9.01	135	10	7	25	90
- 9.02	△	9.02					
- 9.03	△	9.03					
- 9.04	△	9.04					
- 9.05	△	9.05					
- 9.06	△	9.06					
- 9.07	△	9.07					
- 9.08	△	9.08					
- 9.09	△	9.09					
- 9.1	△	9.1					
- 9.2	△	9.2					
- 9.3	△	9.3	150	10	7	29	100
- 9.4	△	9.4					
- 9.5	△	9.5					
- 9.6	△	9.6					
- 9.7	△	9.7					
- 9.8	△	9.8					
- 9.9	△	9.9					
-10.0	●	10.0					
-10.01	△	10.01	150	10	7	29	100
-10.02	△	10.02					
-10.03	△	10.03					

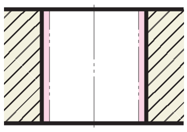
★PL means chamfering length to ΦDC.

Next page

NIKKEN CARBIDE BROACH REAMER

NIKKEN

SX Carbide Broach Reamer (Straight Shank)

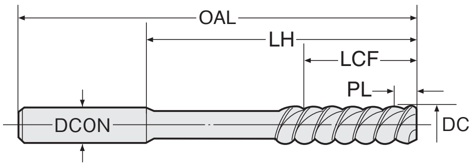


Explanation of the Code No.

SX - 6.0

DIAMETER

BROACH REAMER SERIES
SX : STRAIGHT SHANK FOR THROUGH HOLE



LH-HELIX 60° P.137 ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SX-10.04	△	10.04	150	10	7	29	100
-10.05	△	10.05					
-10.06	△	10.06					
-10.07	△	10.07					
-10.08	△	10.08					
-10.09	△	10.09					
-10.1	△	10.1					
-10.2	△	10.2					
-10.3	△	10.3	155	12	7	29	105
-10.4	△	10.4					
-10.5	△	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8					
-10.9	△	10.9					
-11.0	●	11.0					
-11.01	△	11.01	155	12	7	29	105
-11.02	△	11.02					
-11.03	△	11.03					
-11.04	△	11.04					
-11.05	△	11.05					
-11.06	△	11.06					
-11.07	△	11.07					
-11.08	△	11.08					
-11.09	△	11.09					
-11.1	△	11.1					
-11.2	△	11.2					
-11.3	△	11.3	160	12	7	29	105
-11.4	△	11.4					
-11.5	△	11.5					
-11.6	△	11.6					
-11.7	△	11.7					
-11.8	△	11.8					
-11.9	△	11.9					
-12.0	●	12.0					
-12.01	△	12.01	160	12	7	29	105
-12.02	△	12.02					
-12.03	△	12.03					
-12.04	△	12.04					
-12.05	△	12.05					
-12.06	△	12.06					
-12.07	△	12.07					
-12.08	△	12.08					
-12.09	△	12.09					
-12.1	△	12.1					
-12.2	△	12.2					
-12.3	△	12.3	165	12	7	29	110

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SX-12.4	△	12.4	165	12	7	29	110
-12.5	△	12.5					
-12.6	△	12.6					
-12.7	△	12.7					
-12.8	△	12.8					
-12.9	△	12.9					
-13.0	●	13.0					
-13.01	△	13.01	165	12	7	29	110
-13.02	△	13.02					
-13.03	△	13.03					
-13.04	△	13.04					
-13.05	△	13.05					
-13.06	△	13.06					
-13.07	△	13.07					
-13.08	△	13.08					
-13.09	△	13.09					
-13.1	△	13.1					
-13.2	△	13.2					
-13.3	△	13.3	170	16	7	29	115
-13.4	△	13.4					
-13.5	△	13.5					
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8					
-13.9	△	13.9					
-14.0	●	14.0					
-14.01	△	14.01	170	16	7	29	115
-14.02	△	14.02					
-14.03	△	14.03					
-14.04	△	14.04					
-14.05	△	14.05					
-15.0	△	15.0	180	16	7	29	120
-16.0	△	16.0	185	16	7	30	125
-17.0	△	17.0					
-18.0	△	18.0	195	20	7	30	130
-19.0	△	19.0					
-20.0	△	20.0	205	20	7	30	140
-21.0	△	21.0	215	20	8	33.5	150
-22.0	△	22.0					
-23.0	△	23.0	230	25	8	33.5	160
-24.0	△	24.0					
-25.0	△	25.0					
-26.0	△	26.0					
-27.0	△	27.0					
-28.0	△	28.0	240	32	8	39	160
-29.0	△	29.0					
-30.0	△	30.0					

★PL means chamfering length to φDC.

NIKKEN CARBIDE BROACH REAMER

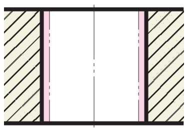
NIKKEN

CARBIDE

FOR THROUGH HOLE

MX

Carbide Broach Reamer (Morse Taper Shank)

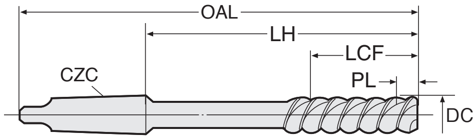


Explanation of the Code No.

MX - 20.0

DIAMETER

● MILLREAMER SERIES
MX : MORSE TAPER SHANK FOR THROUGH HOLE



LH-HELIX 60° P.137 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
MX- 5.0	△	5.0	130	MT1	5.7	22	64.5
- 5.1	△	5.1	130	MT1	5.7	25	64.5
- 5.2	△	5.2					
- 5.3	△	5.3					
- 5.4	△	5.4					
- 5.5	△	5.5					
- 5.6	△	5.6					
- 5.7	△	5.7					
- 5.8	△	5.8					
- 5.9	△	5.9					
- 6.0	●	6.0					
- 6.1	△	6.1	130	MT1	5.7	25	64.5
- 6.2	△	6.2					
- 6.3	△	6.3	140	MT1	7.0	25	74.5
- 6.4	△	6.4					
- 6.5	△	6.5					
- 6.6	△	6.6					
- 6.7	△	6.7					
- 6.8	△	6.8					
- 6.9	△	6.9					
- 7.0	●	7.0					
- 7.1	△	7.1	140	MT1	7.0	25	74.5
- 7.2	△	7.2					
- 7.3	△	7.3	150	MT1	7.0	25	84.5
- 7.4	△	7.4					
- 7.5	△	7.5					
- 7.6	△	7.6					
- 7.7	△	7.7					
- 7.8	△	7.8					
- 7.9	△	7.9					
- 8.0	●	8.0					
- 8.1	△	8.1	150	MT1	7.0	25	84.5
- 8.2	△	8.2					
- 8.3	△	8.3	165	MT1	7.0	25	99.5
- 8.4	△	8.4					
- 8.5	△	8.5					
- 8.6	△	8.6					
- 8.7	△	8.7					
- 8.8	△	8.8					
- 8.9	△	8.9					
- 9.0	●	9.0					
- 9.1	△	9.1	165	MT1	7.0	29	99.5
- 9.2	△	9.2					
- 9.3	△	9.3					
- 9.4	△	9.4					
- 9.5	△	9.5					
- 9.6	△	9.6					
- 9.7	△	9.7					
- 9.8	△	9.8					
- 9.9	△	9.9					
-10.0	●	10.0					
-10.1	△	10.1	165	MT1	7.0	29	99.5
-10.2	△	10.2					
-10.3	△	10.3	170	MT1	7.0	29	104.5
-10.4	△	10.4					
-10.5	△	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
MX-10.8	△	10.8	170	MT1	7.0	28	104.5
-10.9	△	10.9					
-11.0	●	11.0					
-11.1	△	11.1	170	MT1	7.0	28	104.5
-11.2	△	11.2					
-11.3	△	11.3	170	MT1	7.0	29	109.5
-11.4	△	11.4					
-11.5	△	11.5					
-11.6	△	11.6					
-11.7	△	11.7					
-11.8	△	11.8					
-11.9	△	11.9					
-12.0	●	12.0					
-12.1	△	12.1	170	MT1	7.0	29	109.5
-12.2	△	12.2					
-12.3	△	12.3	180	MT1	7.0	29	114.5
-12.4	△	12.4					
-12.5	△	12.5					
-12.6	△	12.6					
-12.7	△	12.7					
-12.8	△	12.8					
-12.9	△	12.9					
-13.0	●	13.0					
-13.1	△	13.1	180	MT1	7.0	29	114.5
-13.2	△	13.2					
-13.3	△	13.3					
-13.4	△	13.4					
-13.5	△	13.5					
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8					
-13.9	△	13.9					
-14.0	●	14.0					
-14.1	△	14.1	180	MT1	7.0	29	114.5
-14.2	△	14.2					
-14.3	△	14.3	200	MT2	7.0	29	120
-14.4	△	14.4					
-14.5	△	14.5					
-14.6	△	14.6					
-14.7	△	14.7					
-14.8	△	14.8					
-14.9	△	14.9					
-15.0	●	15.0					
-15.1	△	15.1	200	MT2	7.0	29	120
-15.2	△	15.2					
-15.3	△	15.3	205	MT2	7.0	30	125
-15.4	△	15.4					
-15.5	△	15.5					
-15.6	△	15.6					
-15.7	△	15.7					
-15.8	△	15.8					
-15.9	△	15.9					
-16.0	●	16.0					
-16.1	△	16.1	205	MT2	7.0	30	125
-16.2	△	16.2					
-16.3	△	16.3					
-16.4	△	16.4					
-16.5	△	16.5					

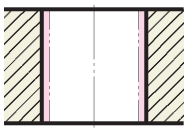
★PL means chamfering length to ΦDC.

Next page

NIKKEN CARBIDE BROACH REAMER

NIKKEN

MX Carbide Broach Reamer (Morse Taper Shank)

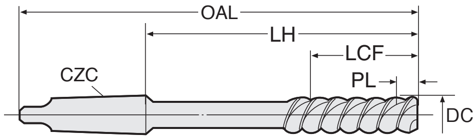


Explanation of the Code No.

MX - 20.0

DIAMETER

MILLREAMER SERIES
MX : MORSE TAPER SHANK FOR THROUGH HOLE



CARBIDE

FOR THROUGH HOLE

LH-HELIX 60° P.137 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
MX-16.6	△	16.6	205	MT2	7.0	30	125
-16.7	△	16.7					
-16.8	△	16.8					
-16.9	△	16.9					
-17.0	●	17.0					
-17.1	△	17.1	205	MT2	7.0	30	125
-17.2	△	17.2					
-17.3	△	17.3	210	MT2	7.0	30	130
-17.4	△	17.4					
-17.5	△	17.5					
-17.6	△	17.6					
-17.7	△	17.7					
-17.8	△	17.8					
-17.9	△	17.9					
-18.0	●	18.0					
-18.1	△	18.1	210	MT2	7.0	30	130
-18.2	△	18.2					
-18.3	△	18.3					
-18.4	△	18.4					
-18.5	△	18.5					
-18.6	△	18.6					
-18.7	△	18.7					
-18.8	△	18.8					
-18.9	△	18.9					
-19.0	●	19.0					
-19.1	△	19.1	210	MT2	7.0	30	130
-19.2	△	19.2					
-19.3	△	19.3	220	MT2	7.0	30	140
-19.4	△	19.4					
-19.5	△	19.5					
-19.6	△	19.6					
-19.7	△	19.7					
-19.8	△	19.8					
-19.9	△	19.9					
-20.0	●	20.0					
-20.1	△	20.1	220	MT2	7.0	30	140
-20.2	△	20.2					
-20.3	△	20.3	230	MT2	8.0	33.5	150
-20.4	△	20.4					
-20.5	△	20.5					
-20.6	△	20.6					
-20.7	△	20.7					
-20.8	△	20.8					
-20.9	△	20.9					
-21.0	●	21.0					
-21.1	△	21.1	230	MT2	8.0	33.5	150
-21.2	△	21.2					
-21.3	△	21.3					
-21.4	△	21.4					
-21.5	△	21.5					
-21.6	△	21.6					
-21.7	△	21.7					
-21.8	△	21.8					
-21.9	△	21.9					
-22.0	●	22.0					
-22.1	△	22.1	240	MT2	8.0	33.5	160
-22.2	△	22.2					
-22.3	△	22.3	240	MT2	8.0	33.5	160

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
MX-22.4	△	22.4	240	MT2	8.0	33.5	160
-22.5	△	22.5					
-22.6	△	22.6					
-22.7	△	22.7					
-22.8	△	22.8					
-22.9	△	22.9					
-23.0	●	23.0					
-23.1	△	23.1	240	MT2	8.0	33.5	160
-23.2	△	23.2					
-23.3	△	23.3	250	MT3	8.0	33.5	151
-23.4	△	23.4					
-23.5	△	23.5					
-23.6	△	23.6					
-23.7	△	23.7					
-23.8	△	23.8					
-23.9	△	23.9					
-24.0	●	24.0					
-24.1	△	24.1	250	MT3	8.0	33.5	151
-24.2	△	24.2					
-24.3	△	24.3	255	MT3	8.0	33.5	156
-24.4	△	24.4					
-24.5	△	24.5					
-24.6	△	24.6					
-24.7	△	24.7					
-24.8	△	24.8					
-24.9	△	24.9					
-25.0	●	25.0					
-25.1	△	25.1	255	MT3	8.0	33.5	156
-25.2	△	25.2					
-25.3	△	25.3					
-25.4	△	25.4					
-25.5	△	25.5					
-25.6	△	25.6					
-25.7	△	25.7					
-25.8	△	25.8					
-25.9	△	25.9					
-26.0	●	26.0					
-26.1	△	26.1	255	MT3	8.0	33.5	156
-26.2	△	26.2					
-26.3	△	26.3					
-26.4	△	26.4					
-26.5	△	26.5					
-26.6	△	26.6					
-26.7	△	26.7					
-26.8	△	26.8					
-26.9	△	26.9					
-27.0	●	27.0					
-27.1	△	27.1	255	MT3	8.0	33.5	156
-27.2	△	27.2					
-27.3	△	27.3	260	MT3	8.0	39	161
-27.4	△	27.4					
-27.5	△	27.5					
-27.6	△	27.6					
-27.7	△	27.7					
-27.8	△	27.8					
-27.9	△	27.9					
-28.0	●	28.0					
-28.1	△	28.1	260	MT3	8.0	39	161

★PL means chamfering length to ΦDC.

Next page

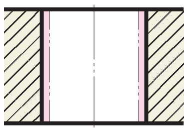
NIKKEN CARBIDE BROACH REAMER

NIKKEN

CARBIDE

FOR THROUGH HOLE

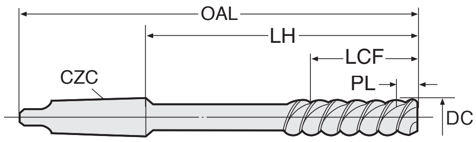
MX Carbide BROACH Reamer (Morse Taper Shank)



Explanation of the Code No.

MX - 20.0

- 20.0: DIAMETER
- MX: MORSE TAPER SHANK FOR THROUGH HOLE



LH-HELIX 60° P.137 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
MX-28.2	△	28.2	260	MT3	8.0	39	161
-28.3	△	28.3	260	MT3	8.0	39	161
-28.4	△	28.4					
-28.5	△	28.5					
-28.6	△	28.6					
-28.7	△	28.7					
-28.8	△	28.8					
-28.9	△	28.9					
-29.0	●	29.0					
-29.1	△	29.1	260	MT3	8.0	39	161
-29.2	△	29.2					
-29.3	△	29.3					
-29.4	△	29.4					
-29.5	△	29.5					
-29.6	△	29.6					
-29.7	△	29.7					
-29.8	△	29.8					
-29.9	△	29.9					
-30.0	●	30.0					
-30.5	△	30.5	300	MT3	9.0	39	201
-31.0	●	31.0					
-31.5	△	31.5					
-32.0	●	32.0					
-32.5	△	32.5	325	MT4	9.0	39	201
-33.0	●	33.0					
-33.5	△	33.5	325	MT4	9.0	41	201
-34.0	●	34.0					
-34.5	△	34.5					
-35.0	●	35.0					
-35.5	△	35.5	330	MT4	9.0	41	206
-36.0	●	36.0					
-36.5	△	36.5	330	MT4	9.0	46	206
-37.0	●	37.0					
MX-37.5	△	37.5	330	MT4	9.0	46	206
-38.0	●	38.0					
-38.5	△	38.5					
-39.0	●	39.0					
-39.5	△	39.5					
-40.0	●	40.0					
-40.5	△	40.5	330	MT4	9.0	46	206
-41.0	●	41.0					
-41.5	△	41.5	335	MT4	10.3	49	211
-42.0	●	42.0					
-42.5	△	42.5					
-43.0	●	43.0					
-43.5	△	43.5					
-44.0	●	44.0					
-44.5	△	44.5					
-45.0	●	45.0					
-45.5	△	45.5	340	MT4	10.3	51	216
-46.0	●	46.0					
-46.5	△	46.5					
-47.0	●	47.0					
-47.5	△	47.5	350	MT4	10.3	51	226
-48.0	●	48.0					
-48.5	△	48.5				56	
-49.0	●	49.0					
-49.5	△	49.5	385	MT4	10.3	56	261
-50.0	●	50.0					
-51.0	△	51.0	385	MT4	10.3	50	261
-52.0	△	52.0					
-53.0	△	53.0					
-54.0	△	54.0					
-55.0	△	55.0					
-60.0	△	60.0					

★PL means chamfering length to ΦDC.

★MT size is determined by reamer dia：～φ14：MT1, φ15～φ23：MT2, φ24～φ32：MT3, φ33～φ62：MT4, φ63～：MT5

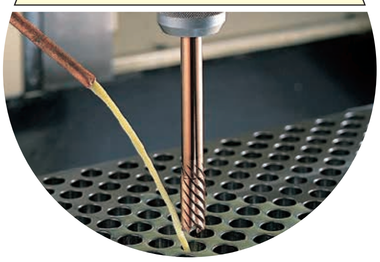
NIKKEN


Photo shows NC Sensor Reamer NCS

Features

- This is a reamer especially for outstanding surface roughness and durability.
- It performs the same function as plug gauge, the credibility will be increased to the level of which you will be able to omit the inspection process.
- It is particularly effective on stainless steel, die steel and hardened steel.
- It has titanium nitride (TiN)-coated for all sizes.
- It has major effect on burnishing.
- It can be used with water-soluble coolant.

With water-soluble coolant

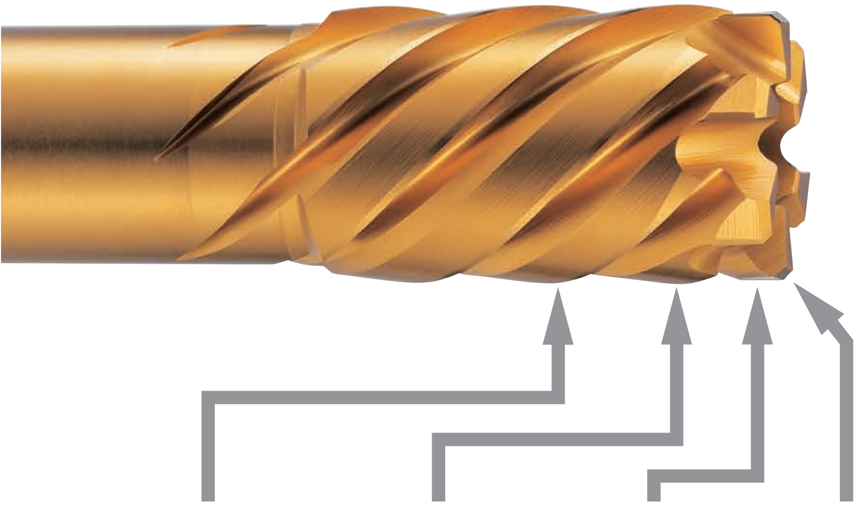


Un manded machining on M/C

- Reaming can be performed in combination with inspection.
- There is no variation in hole diameter.
  - The quality of cylindricity and straightness is same as those of fine boring.

●Hole accuracy is not required for inspection (finished hole tolerance within H7)

●Outstanding surface roughness and durability (surface roughness within 3S)



Burnishing

This is a polishing section without a cutting edge to cleans up the roughness of the finished surface.

Reamer blade (finishing)

Smooth finish is achieved by reamer blade for the optimal finishing removal from milling blade.

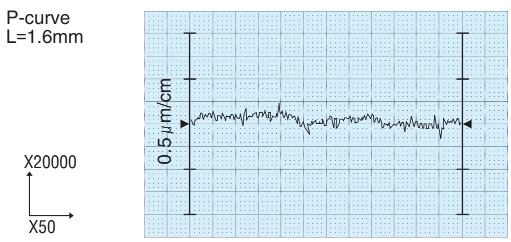
Pilot part

NC sensor reamer moves forward guiding the pilot hole machined by milling blade.

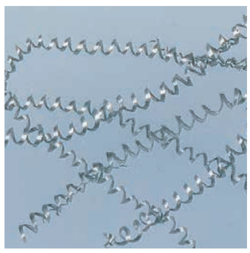
Milling blade (Semi-Finish)

Semi-finish (Optimal finishing removal) is achived by milling blade from dnilled hole variation.

Plane roughness data of NCS-16.0



Material : S45C
Cutting speed : 14.5m/min
Feed rate : 0.35mm/rev.
Drilled hole : ϕ15.5（ϕ0.5 stock removal）


Swarf by milling blade


Swarf by reaming blade

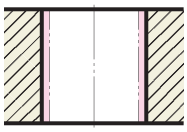
NIKKEN NC SENSOR REAMER

NIKKEN

HSS

FOR THROUGH HOLE

NCS NC Sensor Reamer (Straight Shank)



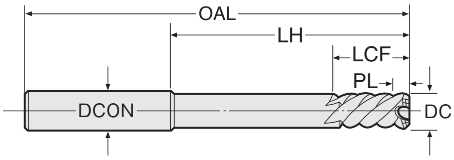
Explanation of the Code No.

NCS - 10.0

DIAMETER

NC SENSOR SERIES

NCS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | TiN COAT | P.138 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCS- 2.97	△	2.97	70	3	4.0	20	45
- 2.98	△	2.98					
- 2.99	△	2.99					
- 3.0	△	3.0					
- 3.01	△	3.01	70	3	4.0	20	45
- 3.02	△	3.02					
- 3.03	△	3.03					
- 3.04	△	3.04					
- 3.05	△	3.05					
- 3.1	△	3.1					
- 3.2	△	3.2					
- 3.3	△	3.3	80	4	4.0	22	53
- 3.4	△	3.4					
- 3.5	△	3.5					
- 3.6	△	3.6					
- 3.7	△	3.7					
- 3.8	△	3.8					
- 3.9	△	3.9					
- 3.97	△	3.97					
- 3.98	△	3.98					
- 3.99	△	3.99					
- 4.0	△	4.0					
- 4.01	△	4.01	80	4	4.0	22	53
- 4.02	△	4.02					
- 4.03	△	4.03					
- 4.04	△	4.04					
- 4.05	△	4.05					
- 4.1	△	4.1					
- 4.2	△	4.2					
- 4.3	△	4.3	90	5	4.0	24	60
- 4.4	△	4.4					
- 4.5	△	4.5					
- 4.6	△	4.6					
- 4.7	△	4.7					
- 4.8	△	4.8					
- 4.9	△	4.9					
- 4.97	△	4.97					
- 4.98	△	4.98					
- 4.99	△	4.99					
- 5.0	△	5.0					
- 5.01	△	5.01	90	5	4.0	24	60
- 5.02	△	5.02					
- 5.03	△	5.03					
- 5.04	△	5.04					
- 5.05	△	5.05					
- 5.1	△	5.1					
- 5.2	△	5.2					
- 5.3	△	5.3	100	6	4.2	25	65
- 5.4	△	5.4					
- 5.5	△	5.5					
- 5.6	△	5.6					
- 5.7	△	5.7					
- 5.8	△	5.8					
- 5.9	△	5.9					
- 5.97	△	5.97					
- 5.98	△	5.98					
- 5.99	△	5.99					
- 6.0	●	6.0					

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCS- 6.01	△	6.01	100	6	4.2	25	65
- 6.02	△	6.02					
- 6.03	△	6.03					
- 6.04	△	6.04					
- 6.05	△	6.05					
- 6.1	△	6.1					
- 6.2	△	6.2					
- 6.3	△	6.3	100	8	4.4	25	70
- 6.4	△	6.4					
- 6.5	●	6.5					
- 6.6	△	6.6					
- 6.7	△	6.7	110	8	4.7	25	70
- 6.8	△	6.8					
- 6.9	△	6.9					
- 6.97	△	6.97					
- 6.98	△	6.98					
- 6.99	△	6.99					
- 7.0	●	7.0					
- 7.01	△	7.01	110	8	4.7	25	70
- 7.02	△	7.02					
- 7.03	△	7.03					
- 7.04	△	7.04					
- 7.05	△	7.05					
- 7.1	△	7.1					
- 7.2	△	7.2					
- 7.3	△	7.3	110	8	5.0	25	70
- 7.4	△	7.4					
- 7.5	●	7.5					
- 7.6	△	7.6					
- 7.7	△	7.7	125	8	5.3	25	85
- 7.8	△	7.8					
- 7.9	△	7.9					
- 7.97	△	7.97					
- 7.98	△	7.98					
- 7.99	△	7.99					
- 8.0	●	8.0					
- 8.01	△	8.01	125	8	5.3	25	85
- 8.02	△	8.02					
- 8.03	△	8.03					
- 8.04	△	8.04					
- 8.05	△	8.05					
- 8.1	△	8.1					
- 8.2	△	8.2					
- 8.3	△	8.3	135	10	5.6	30	90
- 8.4	△	8.4					
- 8.5	●	8.5					
- 8.6	△	8.6					
- 8.7	△	8.7	135	10	5.8	30	90
- 8.8	△	8.8					
- 8.9	△	8.9					
- 8.97	△	8.97					
- 8.98	△	8.98					
- 8.99	△	8.99					
- 9.0	●	9.0					
- 9.01	△	9.01	135	10	5.8	30	90
- 9.02	△	9.02					
- 9.03	△	9.03					
- 9.04	△	9.04					

★PL means chamfering length to ΦDC.

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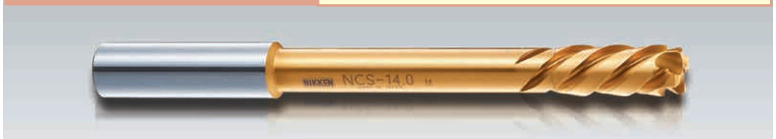
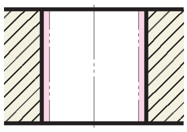
NIKKEN NC SENSOR REAMER

NIKKEN

NCS NC Sensor Reamer (Straight Shank)





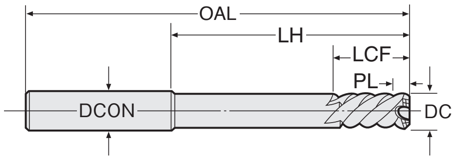
Explanation of the Code No.

NCS - 10.0

•DIAMETER

•NC SENSOR SERIES

NCS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | TiN COAT | P.138 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCS- 9.05	△	9.05	135	10	5.8	30	90
- 9.1	△	9.1					
- 9.2	△	9.2					
- 9.3	△	9.3	150	10	6.6	30	100
- 9.4	△	9.4					
- 9.5	●	9.5					
- 9.6	△	9.6					
- 9.7	△	9.7					
- 9.8	△	9.8	150	10	6.8	30	100
- 9.9	△	9.9					
- 9.97	△	9.97					
- 9.98	△	9.98					
- 9.99	△	9.99					
-10.0	●	10.0					
-10.01	△	10.01	150	10	6.8	30	100
-10.02	△	10.02					
-10.03	△	10.03					
-10.04	△	10.04					
-10.05	△	10.05					
-10.1	△	10.1					
-10.2	△	10.2					
-10.3	△	10.3	155	12	7.1	30	105
-10.4	△	10.4					
-10.5	●	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8	155	12	7.3	30	105
-10.9	△	10.9					
-10.97	△	10.97					
-10.98	△	10.98					
-10.99	△	10.99					
-11.0	●	11.0					
-11.01	△	11.01	155	12	7.3	30	105
-11.02	△	11.02					
-11.03	△	11.03					
-11.04	△	11.04					
-11.05	△	11.05					
-11.1	△	11.1					
-11.2	△	11.2					
-11.3	△	11.3	160	12	7.5	30	105
-11.4	△	11.4					
-11.5	●	11.5					
-11.6	△	11.6					
-11.7	△	11.7					
-11.8	△	11.8					
-11.9	△	11.9					
-11.97	△	11.97					
-11.98	△	11.98					
-11.99	△	11.99					
-12.0	●	12.0					
-12.01	△	12.01	160	12	7.7	30	105
-12.02	△	12.02					
-12.03	△	12.03					
-12.04	△	12.04					
-12.05	△	12.05					
-12.1	△	12.1					
-12.2	△	12.2					
-12.3	△	12.3	165	12	7.7	30	110

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCS-12.4	△	12.4	165	12	7.7	30	110
-12.5	●	12.5					
-12.6	△	12.6					
-12.7	△	12.7					
-12.8	△	12.8					
-12.9	△	12.9					
-12.97	△	12.97					
-12.98	△	12.98					
-12.99	△	12.99					
-13.0	●	13.0					
-13.01	△	13.01	165	12	7.7	30	110
-13.02	△	13.02					
-13.03	△	13.03					
-13.04	△	13.04					
-13.05	△	13.05					
-13.1	△	13.1					
-13.2	△	13.2					
-13.3	△	13.3	170	16	7.9	35	115
-13.4	△	13.4					
-13.5	●	13.5					
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8					
-13.9	△	13.9					
-13.97	△	13.97					
-13.98	△	13.98					
-13.99	△	13.99					
-14.0	●	14.0					
-14.01	△	14.01	170	16	7.9	35	115
-14.02	△	14.02					
-14.03	△	14.03					
-14.04	△	14.04					
-14.05	△	14.05					
-14.1	△	14.1					
-14.2	△	14.2					
-14.3	△	14.3	180	16	8.1	35	120
-14.4	△	14.4					
-14.5	△	14.5					
-14.6	△	14.6					
-14.7	△	14.7					
-14.8	△	14.8	180	16	8.3	35	120
-14.9	△	14.9					
-14.97	△	14.97					
-14.98	△	14.98					
-14.99	△	14.99					
-15.0	●	15.0					
-15.01	△	15.01	180	16	8.3	35	120
-15.02	△	15.02					
-15.03	△	15.03					
-15.04	△	15.04					
-15.05	△	15.05					
-15.1	△	15.1					
-15.2	△	15.2					
-15.3	△	15.3	185	16	9.4	35	125
-15.4	△	15.4					
-15.5	△	15.5					
-15.6	△	15.6					
-15.7	△	15.7					

★PL means chamfering length to ΦDC.

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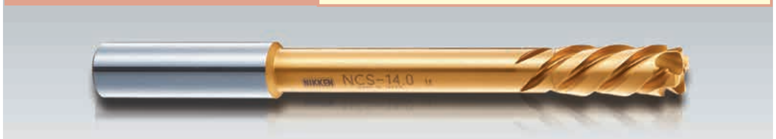
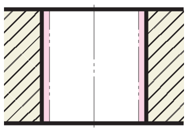
NIKKEN NC SENSOR REAMER

NIKKEN

NCS NC Sensor Reamer (Straight Shank)

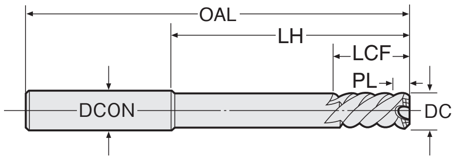




Explanation of the Code No.

NCS - 10.0

- DIAMETER
- NC SENSOR SERIES
  NCS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | TiN COAT | P.138 *See P.4 for icons.

HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCS- 15.8	△	15.8	185	16	9.6	35	125
- 15.9	△	15.9					
- 15.97	△	15.97					
- 15.98	△	15.98					
- 15.99	△	15.99					
- 16.0	●	16.0					
- 16.01	△	16.01	185	16	9.6	35	125
- 16.02	△	16.02					
- 16.03	△	16.03					
- 16.04	△	16.04					
- 16.05	△	16.05					
- 16.1	△	16.1					
- 16.2	△	16.2					
- 16.3	△	16.3					
- 16.4	△	16.4					
- 16.5	△	16.5					
- 16.6	△	16.6					
- 16.7	△	16.7					
- 16.8	△	16.8	185	16	9.9	35	125
- 16.9	△	16.9					
- 16.97	△	16.97					
- 16.98	△	16.98					
- 16.99	△	16.99					
- 17.0	●	17.0					
- 17.01	△	17.01	185	16	9.9	35	125
- 17.02	△	17.02					
- 17.03	△	17.03					
- 17.04	△	17.04					
- 17.05	△	17.05					
- 17.1	△	17.1					
- 17.2	△	17.2					
- 17.3	△	17.3	195	20	10.2	40	130
- 17.4	△	17.4					
- 17.5	△	17.5					
- 17.6	△	17.6					
- 17.7	△	17.7					
- 17.8	△	17.8	195	20	10.6	40	130
- 17.9	△	17.9					
- 17.97	△	17.97					
- 17.98	△	17.98					
- 17.99	△	17.99					
- 18.0	●	18.0					
- 18.01	△	18.01	195	20	10.6	40	130
- 18.02	△	18.02					
- 18.03	△	18.03					
- 18.04	△	18.04					
- 18.05	△	18.05					
- 18.1	△	18.1					
- 18.2	△	18.2					
- 18.3	△	18.3	195	20	10.8	40	130
- 18.4	△	18.4					
- 18.5	△	18.5					
- 18.6	△	18.6					
- 18.7	△	18.7					
- 18.8	△	18.8	195	20	11.0	40	130
- 18.9	△	18.9					
- 18.97	△	18.97					
- 18.98	△	18.98					

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCS- 18.99	△	18.99	195	20	11.0	40	130
- 19.0	●	19.0					
- 19.01	△	19.01	195	20	11.0	40	130
- 19.02	△	19.02					
- 19.03	△	19.03					
- 19.04	△	19.04					
- 19.05	△	19.05					
- 19.1	△	19.1					
- 19.2	△	19.2					
- 19.3	△	19.3	205	20	11.0	40	140
- 19.4	△	19.4					
- 19.5	△	19.5					
- 19.6	△	19.6					
- 19.7	△	19.7					
- 19.8	△	19.8					
- 19.9	△	19.9					
- 19.97	△	19.97					
- 19.98	△	19.98					
- 19.99	△	19.99					
- 20.0	●	20.0					
- 20.01	△	20.01	205	20	11.0	40	140
- 20.02	△	20.02					
- 20.03	△	20.03					
- 20.04	△	20.04					
- 20.05	△	20.05					
- 20.5	△	20.5	215	20	11.0	40	150
- 21.0	●	21.0					
- 21.5	△	21.5	215	20	11.2	40	150
- 22.0	●	22.0					
- 22.5	△	22.5	230	25	11.2	40	160
- 23.0	●	23.0	230	25	11.4	40	160
- 23.5	△	23.5	230	25	11.6	40	160
- 24.0	●	24.0	230	25	11.8	40	160
- 24.5	△	24.5					
- 25.0	●	25.0					
- 25.5	△	25.5	230	25	12.5	40	160
- 26.0	●	26.0					
- 26.5	△	26.5					
- 27.0	●	27.0					
- 27.5	△	27.5	240	32	12.5	45	160
- 28.0	●	28.0					
- 28.5	△	28.5					
- 29.0	●	29.0					
- 29.5	△	29.5					
- 30.0	●	30.0					
- 31.0	●	31.0	280	32	12.5	45	200
- 32.0	●	32.0					
- 33.0	●	33.0					
- 34.0	●	34.0	280	32	13.5	48	200
- 35.0	●	35.0					
- 36.0	●	36.0	285	32	13.5	48	205
- 37.0	●	37.0	285	32	13.5	52	205
- 38.0	●	38.0					
- 39.0	●	39.0					
- 40.0	●	40.0					
- 41.0	●	41.0	285	32	14.0	55	205
- 42.0	●	42.0	290	32	14.0	55	210
- 43.0	●	43.0					

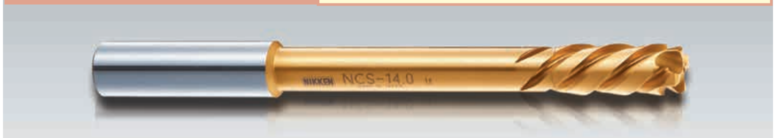
★PL means chamfering length to ΦDC.

NIKKEN NC SENSOR REAMER

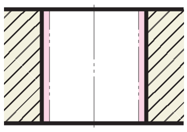
NIKKEN

NCS

NC Sensor Reamer (Straight Shank)



MILLING BLADE | LH-HELIX 45° | UNEQUAL | TiN COAT | P.138 *See P.4 for icons.



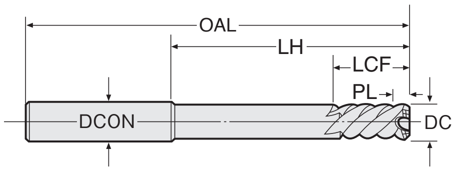
Explanation of the Code No.

NCS - 10.0

•DIAMETER

•NC SENSOR SERIES

NCS : STRAIGHT SHANK



STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCS- 44.0	●	44.0	290	32	14.0	55	210
- 45.0	●	45.0					
- 46.0	●	46.0	295	32	14.5	60	215
- 47.0	●	47.0					
- 48.0	●	48.0	310	32	14.5	60	230
- 49.0	●	49.0					
- 50.0	●	50.0	310	32	15.0	60	230
- 51.0	●	51.0	310	32	15.0	60	230
- 52.0	●	52.0					
- 53.0	●	53.0					
- 54.0	●	54.0					
- 55.0	●	55.0	320	32	15.0	60	240
- 56.0	●	56.0					
- 57.0	●	57.0					
- 58.0	●	58.0					
- 59.0	●	59.0					
- 60.0	●	60.0					
- 61.0	●	61.0	320	32	15.0	60	240
- 62.0	●	62.0					
- 63.0	●	63.0					
- 64.0	●	64.0					
- 65.0	●	65.0	320	42	15.0	65	240
- 66.0	●	66.0					
- 67.0	●	67.0					
- 68.0	●	68.0					
- 69.0	●	69.0					
- 70.0	●	70.0					
- 71.0	●	71.0	320	42	15.0	65	240
- 72.0	●	72.0					

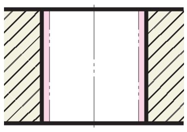
Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCS- 73.0	●	73.0	320	42	15.0	65	240
- 74.0	●	74.0					
- 75.0	●	75.0	330	42	15.5	65	240
- 76.0	●	76.0					
- 77.0	●	77.0					
- 78.0	●	78.0					
- 79.0	●	79.0					
- 80.0	●	80.0					
- 81.0	●	81.0	330	42	15.5	65	240
- 82.0	●	82.0					
- 83.0	●	83.0					
- 84.0	●	84.0					
- 85.0	●	85.0					
- 86.0	●	86.0					
- 87.0	●	87.0					
- 88.0	●	88.0					
- 89.0	●	89.0					
- 90.0	●	90.0					
- 91.0	●	91.0	330	42	15.5	65	240
- 92.0	●	92.0					
- 93.0	●	93.0					
- 94.0	●	94.0					
- 95.0	●	95.0					
- 96.0	●	96.0					
- 97.0	●	97.0					
- 98.0	●	98.0					
- 99.0	●	99.0					
-100.0	●	100.0					

★PL means chamfering length to ΦDC.

NIKKEN NC SENSOR REAMER

NIKKEN

NCM NC Sensor Reamer (Mores Taper Shank)



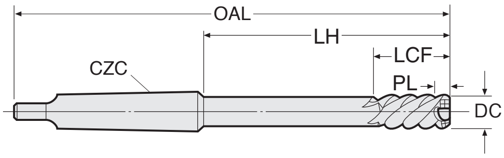
Explanation of the Code No.

NCM - **10.0**

●DIAMETER

●NC SENSOR SERIES

NCS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | TiN COAT | P.138 *See P.4 for icons.

HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCM- 3.0	△	3.0	110	MT1	4.0	20	44.5
- 3.5	△	3.5	115	MT1	4.0	22	49.5
- 4.0	△	4.0					
- 4.5	△	4.5	120	MT1	4.0	24	54.5
- 5.0	△	5.0					
- 5.5	△	5.5	130	MT1	4.2	25	64.5
- 6.0	●	6.0					
- 6.5	●	6.5	140	MT1	4.4	25	74.5
- 7.0	●	7.0	140	MT1	4.7	25	74.5
- 7.5	●	7.5	150	MT1	5.0	25	84.5
- 8.0	●	8.0	150	MT1	5.3	25	84.5
- 8.5	●	8.5	160	MT1	5.6	30	94.5
- 9.0	●	9.0	160	MT1	5.8	30	99.5
- 9.5	●	9.5	165	MT1	6.6	30	99.5
- 10.0	●	10	165	MT1	6.8	30	99.5
- 10.5	●	10.5	170	MT1	7.1	30	104.5
- 11.0	●	11.0	170	MT1	7.3	30	104.5
- 11.5	●	11.5	175	MT1	7.5	30	109.5
- 12.0	●	12.0					
- 12.5	●	12.5	180	MT1	7.7	30	114.5
- 13.0	●	13.0					
- 13.5	●	13.5	180	MT1	7.9	35	114.5
- 14.0	●	14.0					
- 14.5	●	14.5	200	MT2	8.1	35	120
- 15.0	●	15.0	200	MT2	8.3	35	120
- 15.5	●	15.5	205	MT2	9.4	35	125
- 16.0	●	16.0	205	MT2	9.6	35	125
- 16.5	●	16.5					
- 17.0	●	17.0	205	MT2	9.9	35	125
- 17.5	●	17.5	210	MT2	10.2	40	130
- 18.0	●	18.0	210	MT2	10.6	40	130
- 18.5	●	18.5	210	MT2	10.8	40	130
- 19.0	●	19.0	210	MT2	11.0	40	130
- 19.5	●	19.5	220	MT2	11.0	40	140
- 20.0	●	20.0					
- 20.5	●	20.5	230	MT2	11.0	40	150
- 21.0	●	21.0					
- 21.5	●	21.5	230	MT2	11.2	40	150
- 22.0	●	22.0					
- 22.5	●	22.5	240	MT2	11.2	40	160
- 23.0	●	23.0	240	MT2	11.4	40	160
- 23.5	●	23.5	250	MT3	11.6	40	151
- 24.0	●	24.0	250	MT3	11.8	40	151
- 24.5	●	24.5	255	MT3	11.8	40	156
- 25.0	●	25.0					
- 25.5	●	25.5	255	MT3	12.5	40	156
- 26.0	●	26.0					
- 26.5	●	26.5					
- 27.0	●	27.0					
- 27.5	●	27.5	260	MT3	12.5	45	161
- 28.0	●	28.0					
- 28.5	●	28.5					
- 29.0	●	29.0					
- 29.5	●	29.5					
- 30.0	●	30.0					
- 30.5	●	30.5	300	MT3	12.5	45	201
- 31.0	●	31.0					
- 31.5	●	31.5					

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCM- 32.0	●	32.0	300	MT3	12.5	45	201
- 32.5	●	32.5	325	MT4	12.5	45	201
- 33.0	●	33.0					
- 33.5	●	33.5	325	MT4	13.0	48	201
- 34.0	●	34.0					
- 34.5	●	34.5					
- 35.0	●	35.0					
- 35.5	●	35.0	330	MT4	13.5	48	206
- 36.0	●	36.0					
- 36.5	●	36.5	330	MT4	13.5	52	206
- 37.0	●	37.0					
- 37.5	●	37.5					
- 38.0	●	38.0					
- 38.5	●	38.5					
- 39.0	●	39.0					
- 39.5	●	39.5					
- 40.0	●	40.0					
- 40.5	●	40.5	330	MT4	14.0	55	206
- 41.0	●	41.0					
- 41.5	●	41.5	335	MT4	14.0	55	211
- 42.0	●	42.0					
- 42.5	●	42.5					
- 43.0	●	43.0					
- 43.5	●	43.5					
- 44.0	●	44.0					
- 44.5	●	44.5					
- 45.0	●	45.0					
- 45.5	●	45.5	340	MT4	14.5	60	216
- 46.0	●	46.0					
- 46.5	●	46.5					
- 47.0	●	47.0					
- 47.5	●	47.5	350	MT4	14.5	60	226
- 48.0	●	48.0					
- 48.5	●	48.5					
- 49.0	●	49.0					
- 49.5	●	49.5	385	MT5	15.0	60	229
- 50.0	●	50.0					
- 51.0	●	51.0	385	MT5	15.0	60	229
- 52.0	●	52.0					
- 53.0	●	53.0					
- 54.0	●	54.0					
- 55.0	●	55.0	400	MT5	15.0	60	244
- 56.0	●	56.0					
- 57.0	●	57.0					
- 58.0	●	58.0					
- 59.0	●	59.0					
- 60.0	●	60.0					
- 61.0	●	61.0	400	MT5	15.0	60	244
- 62.0	●	62.0					
- 63.0	●	63.0					
- 64.0	●	64.0					
- 65.0	●	65.0	400	MT5	15.0	65	244
- 66.0	●	66.0					
- 67.0	●	67.0					
- 68.0	●	68.0					
- 69.0	●	69.0					
- 70.0	●	70.0					
- 71.0	●	71.0	400	MT5	15.0	65	244

★PL means chamfering length to ΦDC.

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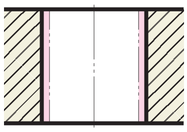
NIKKEN NC SENSOR REAMER

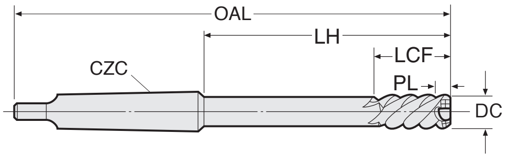
NIKKEN

NCM　NC Sensor Reamer (Mores Taper Shank)



Explanation of the Code No.

NCM - 10.0
- DIAMETER
- NC SENSOR SERIES
  NCS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | TiN COAT | P.138 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN)　△=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCM- 72.0	●	72.0	400	MT5	15.0	65	244
- 73.0	●	73.0					
- 74.0	●	74.0					
- 75.0	●	75.0	400	MT5	15.5	65	244
- 76.0	●	76.0					
- 77.0	●	77.0					
- 78.0	●	78.0					
- 79.0	●	79.0					
- 80.0	●	80.0					
- 81.0	●	81.0	400	MT5	15.5	65	244
- 82.0	●	82.0					
- 83.0	●	83.0					
- 84.0	●	84.0					
- 85.0	●	85.0					
- 86.0	●	86.0					

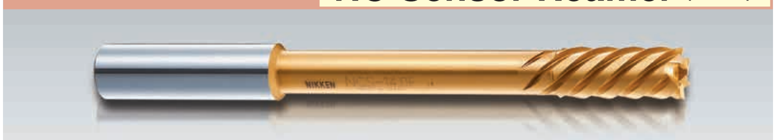
Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
NCM- 87.0	●	87.0	400	MT5	15.5	65	244
- 88.0	●	88.0					
- 89.0	●	89.0					
- 90.0	●	90.0					
- 91.0	●	91.0	400	MT5	15.5	65	244
- 92.0	●	92.0					
- 93.0	●	93.0					
- 94.0	●	94.0					
- 95.0	●	95.0					
- 96.0	●	96.0					
- 97.0	●	97.0					
- 98.0	●	98.0					
- 99.0	●	99.0					
-100.0	●	100.0					

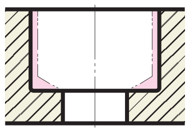
★PL means chamfering length to ΦDC.
★Straight shank NC sensor reamer is highly recommended.

NIKKEN NC SENSOR REAMER

NIKKEN

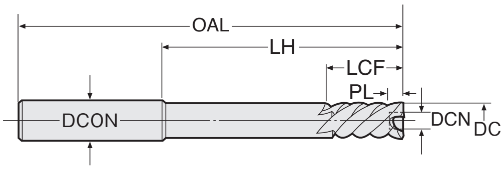
NCS-F　For STEPPED HOLE NC Sensor Reamer (Straight Shank)





Explanation of the Code No.

NCS - 10.0 - F
- FOR STEPPED HOLE
- DIAMETER
- NC SENSOR SERIES
  NCS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | TiN COAT | P.138 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN)　△=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
NCS- 2.97F	△	2.97	70	3	0.6	1.5	20	45
- 2.98F	△	2.98						
- 2.99F	△	2.99						
- 3.0 F	△	3.0						
- 3.1 F	△	3.1	70	3	0.6	1.5	20	45
- 3.2 F	△	3.2						
- 3.3 F	△	3.3	80	4	0.6	1.5	22	53
- 3.4 F	△	3.4						
- 3.5 F	△	3.5						
- 3.6 F	△	3.6						
- 3.7 F	△	3.7						
- 3.8 F	△	3.8						
- 3.9 F	△	3.9						
- 3.97F	△	3.97						
- 3.98F	△	3.98						
- 3.99F	△	3.99						
- 4.0 F	△	4.0						
- 4.01F	△	4.01	80	4	0.6	1.5	22	53
- 4.02F	△	4.02						
- 4.03F	△	4.03						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
NCS- 4.04F	△	4.04	80	4	0.6	1.5	22	53
- 4.05F	△	4.05						
- 4.1 F	△	4.1						
- 4.2 F	△	4.2						
- 4.3 F	△	4.3	90	5	0.6	2.0	24	60
- 4.4 F	△	4.4						
- 4.5 F	△	4.5						
- 4.6 F	△	4.6						
- 4.7 F	△	4.7						
- 4.8 F	△	4.8						
- 4.9 F	△	4.9						
- 4.97F	△	4.97						
- 4.98F	△	4.98						
- 4.99F	△	4.99						
- 5.0 F	△	5.0						
- 5.01F	△	5.01	90	5	0.6	2.0	24	60
- 5.02F	△	5.02						
- 5.03F	△	5.03						
- 5.04F	△	5.04						
- 5.05F	△	5.05						

★PL means chamfering length to ΦDC.

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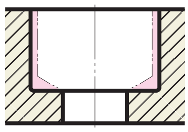
NIKKEN NC SENSOR REAMER

NIKKEN

NCS-F

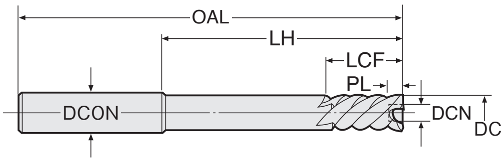
For STEPPED HOLE
NC Sensor Reamer (Straight Shank)



Explanation of the Code No.

NCS - 10.0 - F

- F: FOR STEPPED HOLE
- 10.0: DIAMETER
- NCS: NC SENSOR SERIES
  NCS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | TiN COAT | P.138 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
NCS- 5.1 F	△	5.1	90	5	0.6	2.0	24	60
- 5.2 F	△	5.2						
- 5.3 F	△	5.3	100	6	0.6	3.3	25	65
- 5.4 F	△	5.4						
- 5.5 F	△	5.5						
- 5.6 F	△	5.6						
- 5.7 F	△	5.7						
- 5.8 F	△	5.8						
- 5.9 F	△	5.9						
- 5.97F	△	5.97						
- 5.98F	△	5.98						
- 5.99F	△	5.99						
- 6.0 F	●	6.0						
- 6.01F	△	6.01	100	6	0.6	3.3	25	65
- 6.02F	△	6.02						
- 6.03F	△	6.03						
- 6.04F	△	6.04						
- 6.05F	△	6.05						
- 6.1 F	△	6.1						
- 6.2 F	△	6.2						
- 6.3 F	△	6.3	110	8	0.6	3.3	25	70
- 6.4 F	△	6.4						
- 6.5 F	●	6.5						
- 6.6 F	△	6.6						
- 6.7 F	△	6.7						
- 6.8 F	△	6.8						
- 6.9 F	△	6.9						
- 6.97F	△	6.97						
- 6.98F	△	6.98						
- 6.99F	△	6.99						
- 7.0 F	●	7.0						
- 7.01F	△	7.01	110	8	0.6	3.3	25	70
- 7.02F	△	7.02						
- 7.03F	△	7.03						
- 7.04F	△	7.04						
- 7.05F	△	7.05						
- 7.1 F	△	7.1						
- 7.2 F	△	7.2						
- 7.3 F	△	7.3						
- 7.4 F	△	7.4						
- 7.5 F	●	7.5						
- 7.6 F	△	7.6						
- 7.7 F	△	7.7						
- 7.8 F	△	7.8	125	8	0.6	3.5	25	85
- 7.9 F	△	7.9						
- 7.97F	△	7.97						
- 7.98F	△	7.98						
- 7.99F	△	7.99						
- 8.0 F	●	8.0						
- 8.01F	△	8.01	125	8	0.6	3.5	25	85
- 8.02F	△	8.02						
- 8.03F	△	8.03						
- 8.04F	△	8.04						
- 8.05F	△	8.05						
- 8.1 F	△	8.1						
- 8.2 F	△	8.2						
- 8.3 F	△	8.3	135	10	0.6	4.0	30	90
- 8.4 F	△	8.4						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
NCS- 8.5 F	●	8.5	135	10	0.6	4.0	30	90
- 8.6 F	△	8.6						
- 8.7 F	△	8.7						
- 8.8 F	△	8.8						
- 8.9 F	△	8.9						
- 8.97F	△	8.97						
- 8.98F	△	8.98						
- 8.99F	△	8.99						
- 9.0 F	●	9.0						
- 9.01F	△	9.01	135	10	0.6	4.0	30	90
- 9.02F	△	9.02						
- 9.03F	△	9.03						
- 9.04F	△	9.04						
- 9.05F	△	9.05						
- 9.1 F	△	9.1						
- 9.2 F	△	9.2						
- 9.3 F	△	9.3	150	10	0.6	4.5	30	100
- 9.4 F	△	9.4						
- 9.5 F	●	9.5						
- 9.6 F	△	9.6						
- 9.7 F	△	9.7						
- 9.8 F	△	9.8						
- 9.9 F	△	9.9						
- 9.97F	△	9.97						
- 9.98F	△	9.98						
- 9.99F	△	9.99						
-10.0 F	●	10.0						
-10.01F	△	10.01	150	10	0.6	4.5	30	100
-10.02F	△	10.02						
-10.03F	△	10.03						
-10.04F	△	10.04						
-10.05F	△	10.05						
-10.1 F	△	10.1						
-10.2 F	△	10.2						
-10.3 F	△	10.3	155	12	0.6	4.5	30	105
-10.4 F	△	10.4						
-10.5 F	●	10.5						
-10.6 F	△	10.6						
-10.7 F	△	10.7						
-10.8 F	△	10.8						
-10.9 F	△	10.9						
-10.97F	△	10.97						
-10.98F	△	10.98						
-10.99F	△	10.99						
-11.0 F	●	11.0						
-11.01F	△	11.01	155	12	0.6	4.5	30	105
-11.02F	△	11.02						
-11.03F	△	11.03						
-11.04F	△	11.04						
-11.05F	△	11.05						
-11.1 F	△	11.1						
-11.2 F	△	11.2						
-11.3 F	△	11.3	160	12	0.6	5.5	30	105
-11.4 F	△	11.4						
-11.5 F	●	11.5						
-11.6 F	△	11.6						
-11.7 F	△	11.7						
-11.8 F	△	11.8						

★PL means chamfering length to φDC.

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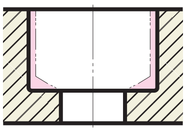
NIKKEN

NCS-F

For STEPPED HOLE

NC Sensor Reamer (Straight Shank)

MILLING BLADE | LH-HELIX 45° | TiN COAT | P.138 *See P.4 for icons.



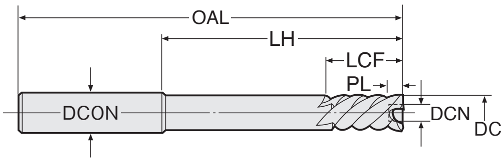
Explanation of the Code No.

NCS - 10.0 - F

●FOR STEPPED HOLE

●DIAMETER

●NC SENSOR SERIES
NCS : STRAIGHT SHANK



STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
NCS-11.9 F	△	11.9						
-11.97F	△	11.97						
-11.98F	△	11.98	160	12	0.6	5.5	30	105
-11.99F	△	11.99						
-12.0 F	●	12.0						
-12.01F	△	12.01						
-12.02F	△	12.02						
-12.03F	△	12.03						
-12.04F	△	12.04	160	12	0.6	5.5	30	105
-12.05F	△	12.05						
-12.1 F	△	12.1						
-12.2 F	△	12.2						
-12.3 F	△	12.3						
-12.4 F	△	12.4						
-12.5 F	●	12.5						
-12.6 F	△	12.6						
-12.7 F	△	12.7						
-12.8 F	△	12.8	165	12	0.6	5.5	30	110
-12.9 F	△	12.9						
-12.97F	△	12.97						
-12.98F	△	12.98						
-12.99F	△	12.99						
-13.0 F	●	13.0						
-13.01F	△	13.01						
-13.02F	△	13.02						
-13.03F	△	13.03						
-13.04F	△	13.04	165	12	0.6	5.5	30	110
-13.05F	△	13.05						
-13.1 F	△	13.1						
-13.2 F	△	13.2						
-13.3 F	△	13.3						
-13.4 F	△	13.4						
-13.5 F	●	13.5						
-13.6 F	△	13.6						
-13.7 F	△	13.7						
-13.8 F	△	13.8	170	16	0.6	6.5	35	115
-13.9 F	△	13.9						
-13.97F	△	13.97						
-13.98F	△	13.98						
-13.99F	△	13.99						
-14.0 F	●	14.0						
-14.01F	△	14.01						
-14.02F	△	14.02						
-14.03F	△	14.03						
-14.04F	△	14.04	170	16	0.6	6.5	35	115
-14.05F	△	14.05						
-14.1 F	△	14.1						
-14.2 F	△	14.2						
-14.3 F	△	14.3						
-14.4 F	△	14.4						
-14.5 F	△	14.5						
-14.6 F	△	14.6						
-14.7 F	△	14.7						
-14.8 F	△	14.8	180	16	0.6	6.5	35	120
-14.9 F	△	14.9						
-14.97F	△	14.97						
-14.98F	△	14.98						
-14.99F	△	14.99						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
NCS-15.0 F	●	15.0	180	16	0.6	6.5	35	120
-15.01F	△	15.01						
-15.02F	△	15.02						
-15.03F	△	15.03						
-15.04F	△	15.04	180	16	0.6	6.5	35	120
-15.05F	△	15.05						
-15.1 F	△	15.1						
-15.2 F	△	15.2						
-15.3 F	△	15.3						
-15.4 F	△	15.4						
-15.5 F	△	15.5						
-15.6 F	△	15.6						
-15.7 F	△	15.7						
-15.8 F	△	15.8	185	16	0.6	6.5	35	125
-15.9 F	△	15.9						
-15.97F	△	15.97						
-15.98F	△	15.98						
-15.99F	△	15.99						
-16.0 F	●	16.0						
-16.01F	△	16.01						
-16.02F	△	16.02						
-16.03F	△	16.03						
-16.04F	△	16.04	185	16	0.6	6.5	35	125
-16.05F	△	16.05						
-16.1 F	△	16.1						
-16.2 F	△	16.2						
-16.3 F	△	16.3						
-16.4 F	△	16.4						
-16.5 F	△	16.5						
-16.6 F	△	16.6						
-16.7 F	△	16.7						
-16.8 F	△	16.8	185	16	0.6	7.0	35	125
-16.9 F	△	16.9						
-16.97F	△	16.97						
-16.98F	△	16.98						
-16.99F	△	16.99						
-17.0 F	●	17.0						
-17.01F	△	17.01						
-17.02F	△	17.02						
-17.03F	△	17.03						
-17.04F	△	17.04	185	16	0.6	7.0	35	125
-17.05F	△	17.05						
-17.1 F	△	17.1						
-17.2 F	△	17.2						
-17.3 F	△	17.3						
-17.4 F	△	17.4						
-17.5 F	△	17.5						
-17.6 F	△	17.6						
-17.7 F	△	17.7						
-17.8 F	△	17.8	195	20	0.6	8.0	40	130
-17.9 F	△	17.9						
-17.97F	△	17.97						
-17.98F	△	17.98						
-17.99F	△	17.99						
-18.0 F	●	18.0						
-18.01F	△	18.01						
-18.02F	△	18.02	195	20	0.6	8.0	40	130
-18.03F	△	18.03						

★PL means chamfering length to φDC.

Next page

HSS

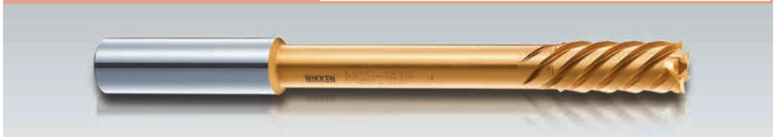
FOR STEPPED HOLE

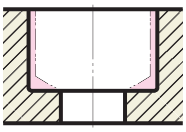
NIKKEN NC SENSOR REAMER

NIKKEN

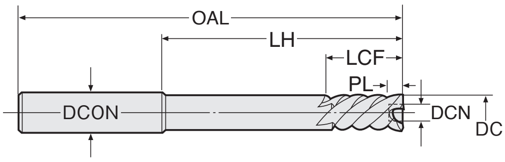
NCS-F

For STEPPED HOLE
NC Sensor Reamer (Straight Shank)





Explanation of the Code No.
NCS - 10.0 - F
- F: FOR STEPPED HOLE
- 10.0: DIAMETER
- NCS: NC SENSOR SERIES
  NCS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | TiN COAT | P.138 | *See P.4 for icons.

HSS

FOR STEPPED HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
NCS-18.04F	△	18.04	195	20	0.6	8.0	40	130
-18.05F	△	18.05						
-18.1 F	△	18.1						
-18.2 F	△	18.2						
-18.3 F	△	18.3						
-18.4 F	△	18.4						
-18.5 F	△	18.5						
-18.6 F	△	18.6						
-18.7 F	△	18.7						
-18.8 F	△	18.8						
-18.9 F	△	18.9						
-18.97F	△	18.97						
-18.98F	△	18.98						
-18.99F	△	18.99						
-19.0 F	●	19.0						
-19.01F	△	19.01	195	20	0.6	8.0	40	130
-19.02F	△	19.02						
-19.03F	△	19.03						
-19.04F	△	19.04						
-19.05F	△	19.05						
-19.1 F	△	19.1						
-19.2 F	△	19.2						
-19.3 F	△	19.3	205	20	0.6	9.0	40	140
-19.4 F	△	19.4						
-19.5 F	△	19.5						
-19.6 F	△	19.6						
-19.7 F	△	19.7						
-19.8 F	△	19.8						
-19.9 F	△	19.9						
-19.97F	△	19.97						
-19.98F	△	19.98						
-19.99F	△	19.99						
-20.0 F	●	20.0						
-20.01F	△	20.01	205	20	0.6	9.0	40	140
-20.02F	△	20.02						
-20.03F	△	20.03						
-20.04F	△	20.04						
-20.05F	△	20.05						
-20.5 F	△	20.5	215	20	0.6	9.0	40	150
-21.0 F	●	21.0						
-21.5 F	△	21.5	215	20	0.6	10.0	40	150
-22.0 F	●	22.0						
-22.5 F	△	22.5	230	25	0.6	11.0	40	160
-23.0 F	●	23.0						
-23.5 F	△	23.5						
-24.0 F	●	24.0						
-24.5 F	△	24.5	230	25	0.6	12.0	40	160
-25.0 F	●	25.0						
-25.5 F	△	25.5	230	25	0.6	13.0	40	160
-26.0 F	●	26.0						
-26.5 F	△	26.5						
-27.0 F	●	27.0						
-27.5 F	△	27.5	240	32	0.6	14.0	45	160
-28.0 F	●	28.0						
-28.5 F	△	28.5	240	32	1.0	15.0	45	160
-29.0 F	●	29.0						
-29.5 F	△	29.5						
-30.0 F	●	30.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
NCS- 31.0 F	●	31.0	280	32	1.0	16	45	200
- 32.0 F	●	32.0	280	32	1.0	17	45	200
- 33.0 F	●	33.0						
- 34.0 F	●	34.0	280	32	1.0	18	48	200
- 35.0 F	●	35.0	280	32	1.0	19	48	200
- 36.0 F	●	36.0	285	32	1.0	19	48	205
- 37.0 F	●	37.0	285	32	1.0	20	52	205
- 38.0 F	●	38.0	285	32	1.0	21	52	205
- 39.0 F	●	39.0						
- 40.0 F	●	40.0	285	32	1.0	22	52	205
- 41.0 F	●	41.0	285	32	1.5	23	55	205
- 42.0 F	●	42.0	290	32	1.5	23	55	210
- 43.0 F	●	43.0	290	32	1.5	24	55	210
- 44.0 F	●	44.0	290	32	1.5	25	55	210
- 45.0 F	●	45.0						
- 46.0 F	●	46.0	295	32	1.5	26	60	215
- 47.0 F	●	47.0	295	32	1.5	27	60	215
- 48.0 F	●	48.0	310	32	1.5	27	60	230
- 49.0 F	●	49.0	310	32	1.5	28	60	230
- 50.0 F	●	50.0	310	32	1.5	29	60	230
- 51.0 F	●	51.0	310	32	1.5	30	60	230
- 52.0 F	●	52.0						
- 53.0 F	●	53.0	310	32	1.5	32	60	230
- 54.0 F	●	54.0	310	32	1.5	33	60	230
- 55.0 F	●	55.0	320	32	1.5	34	60	240
- 56.0 F	●	56.0	320	32	1.5	35	60	240
- 57.0 F	●	57.0	320	32	1.5	36	60	240
- 58.0 F	●	58.0	320	32	1.5	37	60	240
- 59.0 F	●	59.0	320	32	1.5	38	60	240
- 60.0 F	●	60.0	320	32	1.5	39	60	240
- 61.0 F	●	61.0	320	32	1.5	39	60	240
- 62.0 F	●	62.0	320	32	1.5	40	60	240
- 63.0 F	●	63.0	320	32	1.5	41	60	240
- 64.0 F	●	64.0	320	32	1.5	42	60	240
- 65.0 F	●	65.0	320	42	1.5	45	65	240
- 66.0 F	●	66.0	330	42	1.5	45	65	240
- 67.0 F	●	67.0						
- 68.0 F	●	68.0	330	42	1.5	48	65	240
- 69.0 F	●	69.0						
- 70.0 F	●	70.0						
- 71.0 F	●	71.0	330	42	1.5	50	65	240
- 72.0 F	●	72.0						
- 73.0 F	●	73.0	330	42	1.5	52	65	240
- 74.0 F	●	74.0						
- 75.0 F	●	75.0						
- 76.0 F	●	76.0						
- 77.0 F	●	77.0	330	42	1.5	55	65	240
- 78.0 F	●	78.0						
- 79.0 F	●	79.0						
- 80.0 F	●	80.0						
- 81.0 F	●	81.0	330	42	1.5	58	65	240
- 82.0 F	●	82.0						
- 83.0 F	●	83.0						
- 84.0 F	●	84.0	330	42	1.5	60	65	240
- 85.0 F	●	85.0						
- 86.0 F	●	86.0						
- 87.0 F	●	87.0						
- 88.0 F	●	88.0						

★PL means chamfering length to ΦDC.

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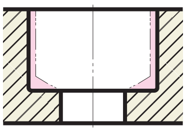
NIKKEN NC SENSOR REAMER

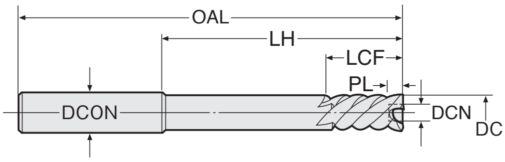
NIKKEN

NCS-F

For STEPPED HOLE
NC Sensor Reamer (Straight Shank)



Explanation of the Code No.
NCS - 10.0 - F
●FOR STEPPED HOLE
●DIAMETER
●NC SENSOR SERIES
NCS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | TiN COAT | P.138 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
NCS-89.0F	●	89.0	330	42	1.5	60	65	240
- 90.0F	●	90.0	330	42	1.5	62	65	240
- 91.0F	●	91.0	330	42	1.5	62	65	240
- 92.0F	●	92.0						
- 93.0F	●	93.0	330	42	1.5	65	65	240
- 94.0F	●	94.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
NCS-95.0F	●	95.0	330	42	1.5	65	65	240
- 96.0F	●	96.0	330	42	1.5	68	65	240
- 97.0F	●	97.0						
- 98.0F	●	98.0						
- 99.0F	●	99.0	330	42	1.5	70	65	240
- 100.0F	●	100.0						

PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Please Use Right-Handed Helix Reamer When There Are Not Enough Space For The Chips. For Stepped Hole ☞ P.81
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

HSS

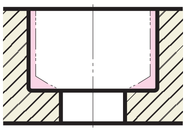
FOR STEPPED HOLE

NIKKEN NC SENSOR REAMER

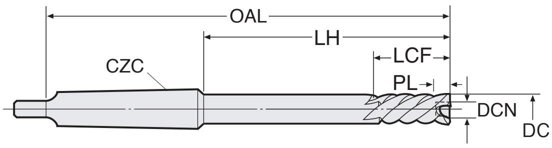
NIKKEN

NCM-F

For STEPPED HOLE
NC Sensor Reamer (Morse Taper Shank)



Explanation of the Code No.
NCM - 10.0 - F
●FOR STEPPED HOLE
●DIAMETER
●NC SENSOR SERIES
NCM : MORSE TAPER SHANK



MILLING BLADE | LH-HELIX 45° | TiN COAT | P.138 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	DCN	LCF	LH
NCM- 6.0F	△	6.0	130	MT1	0.6	3.0	25	64.5
- 7.0F	△	7.0	140	MT1	0.6	3.0	25	74.5
- 8.0F	△	8.0	150	MT1	0.6	3.5	25	84.5
- 9.0F	△	9.0	165	MT1	0.6	4.0	30	99.5
-10.0F	△	10.0	165	MT1	0.6	4.5	30	99.5
-11.0F	△	11.0	170	MT1	0.6	4.5	30	104.5
-12.0F	△	12.0	175	MT1	0.6	5.5	30	109.5
-13.0F	△	13.0	180	MT1	0.6	5.5	30	114.5
-14.0F	△	14.0	180	MT1	0.6	6.5	35	114.5
-15.0F	△	15.0	200	MT2	0.6	6.5	35	120
-16.0F	△	16.0	205	MT2	0.6	6.5	35	125
-17.0F	△	17.0	205	MT2	0.6	7.0	35	125
-18.0F	△	18.0	210	MT2	0.6	8.0	40	130
-19.0F	△	19.0						
-20.0F	△	20.0	220	MT2	0.6	9.0	40	140
-21.0F	△	21.0	230	MT2	0.6	9.0	40	150

Code No.	STOCK	DC H7	OAL	CZC	PL	DCN	LCF	LH
NCM-22.0F	△	22.0	230	MT2	0.6	10.0	40	150
-23.0F	△	23.0	240	MT2	0.6	11.0	40	160
-24.0F	△	24.0	250	MT3	0.6	11.0	40	151
-25.0F	△	25.0	255	MT3	0.6	12.0	40	156
-26.0F	△	26.0	255	MT3	0.6	13.0	40	156
-27.0F	△	27.0						
-28.0F	△	28.0	260	MT3	0.6	14.0	45	161
-29.0F	△	29.0	260	MT3	1.0	15.0	45	161
-30.0F	△	30.0						
-32.0F	△	32.0	300	MT3	1.0	17.0	45	201
-35.0F	△	35.0	325	MT4	1.0	19.0	48	201
-36.0F	△	36.0	330	MT4	1.0	19.0	48	206
-40.0F	△	40.0	330	MT4	1.0	22.0	52	206
-42.0F	△	42.0	335	MT4	1.5	23.0	55	211
-45.0F	△	45.0	335	MT4	1.5	25.0	55	211
-50.0F	△	50.0	385	MT5	1.5	29.0	60	229

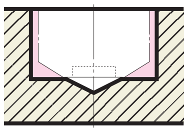
★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Please use Right-Handed Helix Reamer when there are not enough space for the chips. ☞ P.81
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN NC SENSOR REAMER

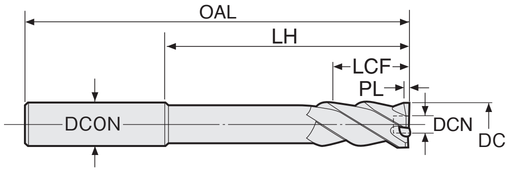
NIKKEN

RNS-F

RIGHT HAND HELICAL For BLIND HOLE
NC Sensor Reamer (Straight Shank)



Explanation of the Code No.
RNS - 10.0 - F
●FOR BLIND HOLE
●DIAMETER
●NC CENSER REAMER SERIES
RRSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30-40° | TiN COAT | P.138 ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RNS- 2.97F	△	2.97						
- 2.98F	△	2.98	70	3	0.6	1.5	20	45
- 2.99F	△	2.99						
- 3.0 F	△	3.0						
- 3.01F	△	3.01						
- 3.02F	△	3.02						
- 3.03F	△	3.03						
- 3.04F	△	3.04	70	3	0.6	1.5	20	45
- 3.05F	△	3.05						
- 3.1 F	△	3.1						
- 3.2 F	△	3.2						
- 3.3 F	△	3.3						
- 3.4 F	△	3.4						
- 3.5 F	△	3.5						
- 3.6 F	△	3.6						
- 3.7 F	△	3.7						
- 3.8 F	△	3.8	80	4	0.6	1.5	22	53
- 3.9 F	△	3.9						
- 3.97F	△	3.97						
- 3.98F	△	3.98						
- 3.99F	△	3.99						
- 4.0 F	△	4.0						
- 4.01F	△	4.01						
- 4.02F	△	4.02						
- 4.03F	△	4.03						
- 4.04F	△	4.04	80	4	0.6	1.5	22	53
- 4.05F	△	4.05						
- 4.1 F	△	4.1						
- 4.2 F	△	4.2						
- 4.3 F	△	4.3						
- 4.4 F	△	4.4						
- 4.5 F	△	4.5	90	5	0.6	2.0	22	60
- 4.6 F	△	4.6						
- 4.7 F	△	4.7						
- 4.8 F	△	4.8						
- 4.9 F	△	4.9						
- 4.97F	△	4.97	90	5	0.6	3.0	24	60
- 4.98F	△	4.98						
- 4.99F	△	4.99						
- 5.0 F	●	5.0						
- 5.01F	△	5.01						
- 5.02F	△	5.02						
- 5.03F	△	5.03						
- 5.04F	△	5.04	90	5	0.6	3.0	24	60
- 5.05F	△	5.05						
- 5.1 F	△	5.1						
- 5.2 F	△	5.2						
- 5.3 F	△	5.3						
- 5.4 F	△	5.4						
- 5.5 F	△	5.5						
- 5.6 F	△	5.6						
- 5.7 F	△	5.7						
- 5.8 F	△	5.8	100	6	0.6	3.0	25	65
- 5.9 F	△	5.9						
- 5.97F	△	5.97						
- 5.98F	△	5.98						
- 5.99F	△	5.99						
- 6.0 F	●	6.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RNS- 6.01F	△	6.01						
- 6.02F	△	6.02						
- 6.03F	△	6.03						
- 6.04F	△	6.04	100	6	0.6	3.0	25	65
- 6.05F	△	6.05						
- 6.1 F	△	6.1						
- 6.2 F	△	6.2						
- 6.3 F	△	6.3						
- 6.4 F	△	6.4						
- 6.5 F	△	6.5						
- 6.6 F	△	6.6						
- 6.7 F	△	6.7						
- 6.8 F	△	6.8	110	8	0.6	3.0	25	70
- 6.9 F	△	6.9						
- 6.97F	△	6.97						
- 6.98F	△	6.98						
- 6.99F	△	6.99						
- 7.0 F	●	7.0						
- 7.01F	△	7.01						
- 7.02F	△	7.02						
- 7.03F	△	7.03						
- 7.04F	△	7.04						
- 7.05F	△	7.05						
- 7.1 F	△	7.1	110	8	0.6	3.0	25	70
- 7.2 F	△	7.2						
- 7.3 F	△	7.3						
- 7.4 F	△	7.4						
- 7.5 F	△	7.5						
- 7.6 F	△	7.6						
- 7.7 F	△	7.7						
- 7.8 F	△	7.8						
- 7.9 F	△	7.9						
- 7.97F	△	7.97	125	8	0.6	3.5	25	85
- 7.98F	△	7.98						
- 7.99F	△	7.99						
- 8.0 F	●	8.0						
- 8.01F	△	8.01						
- 8.02F	△	8.02						
- 8.03F	△	8.03						
- 8.04F	△	8.04	125	8	0.6	3.5	25	85
- 8.05F	△	8.05						
- 8.1 F	△	8.1						
- 8.2 F	△	8.2						
- 8.3 F	△	8.3						
- 8.4 F	△	8.4						
- 8.5 F	△	8.5						
- 8.6 F	△	8.6						
- 8.7 F	△	8.7						
- 8.8 F	△	8.8	135	10	0.6	4.0	30	90
- 8.9 F	△	8.9						
- 8.97F	△	8.97						
- 8.98F	△	8.98						
- 8.99F	△	8.99						
- 9.0 F	●	9.0						
- 9.01F	△	9.01						
- 9.02F	△	9.02	135	10	0.6	4.0	30	90
- 9.03F	△	9.03						
- 9.04F	△	9.04						

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

■Next page

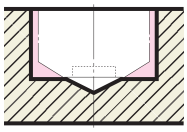
NIKKEN NC SENSOR REAMER

NIKKEN

RNS-F

RIGHT HAND HELICAL For BLIND HOLE
NC Sensor Reamer (Straight Shank)

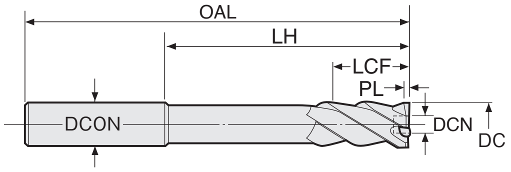
MILLING BLADE | RH-HELIX 30° | TiN COAT | P.138 | *See P.4 for icons.



Explanation of the Code No.

RNS - 10.0 - F

- F: FOR BLIND HOLE
- 10.0: DIAMETER
- RNS: NC CENSER REAMER SERIES
  RRSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RNS- 9.05F	△	9.05	135	10	0.6	4.0	30	90
- 9.1 F	△	9.1						
- 9.2 F	△	9.2						
- 9.3 F	△	9.3	150	10	0.6	4.5	30	100
- 9.4 F	△	9.4						
- 9.5 F	△	9.5						
- 9.6 F	△	9.6						
- 9.7 F	△	9.7						
- 9.8 F	△	9.8						
- 9.9 F	△	9.9						
- 9.97F	△	9.97						
- 9.98F	△	9.98						
- 9.99F	△	9.99						
-10.0 F	●	10.0						
-10.01F	△	10.01	150	10	0.6	4.5	30	100
-10.02F	△	10.02						
-10.03F	△	10.03						
-10.04F	△	10.04						
-10.05F	△	10.05						
-10.1 F	△	10.1						
-10.2 F	△	10.2						
-10.3 F	△	10.3	155	12	0.6	4.5	30	105
-10.4 F	△	10.4						
-10.5 F	△	10.5						
-10.6 F	△	10.6						
-10.7 F	△	10.7						
-10.8 F	△	10.8						
-10.9 F	△	10.9						
-10.97F	△	10.97						
-10.98F	△	10.98						
-10.99F	△	10.99						
-11.0 F	●	11.0						
-11.01F	△	11.01	155	12	0.6	4.5	30	105
-11.02F	△	11.02						
-11.03F	△	11.03						
-11.04F	△	11.04						
-11.05F	△	11.05						
-11.1 F	△	11.1						
-11.2 F	△	11.2						
-11.3 F	△	11.3	160	12	0.6	5.5	30	105
-11.4 F	△	11.4						
-11.5 F	△	11.5						
-11.6 F	△	11.6						
-11.7 F	△	11.7						
-11.8 F	△	11.8						
-11.9 F	△	11.9						
-11.97F	△	11.97						
-11.98F	△	11.98						
-11.99F	△	11.99						
-12.0 F	●	12.0						
-12.01F	△	12.01	160	12	0.6	5.5	30	105
-12.02F	△	12.02						
-12.03F	△	12.03						
-12.04F	△	12.04						
-12.05F	△	12.05						
-12.1 F	△	12.1						
-12.2 F	△	12.2						
-12.3 F	△	12.3	165	12	0.6	5.5	30	110

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RNS-12.4 F	△	12.4	165	12	0.6	5.5	30	110
-12.5 F	△	12.5						
-12.6 F	△	12.6						
-12.7 F	△	12.7						
-12.8 F	△	12.8						
-12.9 F	△	12.9						
-12.97F	△	12.97						
-12.98F	△	12.98						
-12.99F	△	12.99						
-13.0 F	●	13.0						
-13.01F	△	13.01	165	12	0.6	5.5	30	110
-13.02F	△	13.02						
-13.03F	△	13.03						
-13.04F	△	13.04						
-13.05F	△	13.05						
-13.1 F	△	13.1						
-13.2 F	△	13.2						
-13.3 F	△	13.3	170	16	0.6	6.5	35	115
-13.4 F	△	13.4						
-13.5 F	△	13.5						
-13.6 F	△	13.6						
-13.7 F	△	13.7						
-13.8 F	△	13.8						
-13.9 F	△	13.9						
-13.97F	△	13.97						
-13.98F	△	13.98						
-13.99F	△	13.99						
-14.0 F	●	14.0						
-14.01F	△	14.01	170	16	0.6	6.5	35	115
-14.02F	△	14.02						
-14.03F	△	14.03						
-14.04F	△	14.04						
-14.05F	△	14.05						
-15.0 F	●	15.0	180	16	0.6	6.5	35	120
-15.5 F	△	15.5	185	16	0.6	6.5	35	125
-16.0 F	●	16.0						
-16.5 F	△	16.5	185	16	0.6	7.0	35	125
-17.0 F	●	17.0						
-17.5 F	△	17.5	195	20	0.6	8.0	40	130
-18.0 F	●	18.0						
-18.5 F	△	18.5						
-19.0 F	●	19.0						
-19.5 F	△	19.5	205	20	0.6	9.0	40	140
-20.0 F	●	20.0						
-21.0 F	●	21.0	215	20	0.6	9.0	40	150
-22.0 F	●	22.0	215	20	0.6	10.0	40	150
-23.0 F	●	23.0	230	25	0.6	11.0	40	160
-24.0 F	●	24.0						
-25.0 F	●	25.0	230	25	0.6	12.0	40	160
-26.0 F	●	26.0	230	25	0.6	13.0	40	160
-27.0 F	●	27.0						
-28.0 F	●	28.0	240	32	0.6	14.0	45	160
-29.0 F	●	29.0	240	32	0.9	15.0	45	160
-30.0 F	●	30.0						
-31.0 F	●	31.0	280	32	0.9	16.0	45	160
-32.0 F	●	32.0	280	32	0.9	17.0	45	200
-33.0 F	●	33.0						
-34.0 F	●	34.0	280	32	0.9	18.0	48	200

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

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HSS

FOR BLIND HOLE

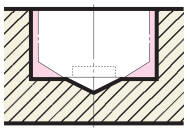
NIKKEN NC SENSOR REAMER

NIKKEN

RNS-F

RIGHT HAND HELICAL For BLIND HOLE
NC Sensor Reamer (Straight Shank)

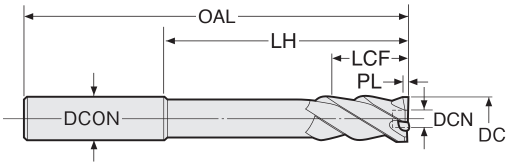
MILLING BLADE | RH-HELIX 30° | TiN COAT | P.138 | *See P.4 for icons.



Explanation of the Code No.

RNS - 10.0 - F

- F: FOR BLIND HOLE
- 10.0: DIAMETER
- RNS: **NC CENSER REAMER SERIES**
  RRSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ **LCF must be longer than hole depth**

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RNS- 35.0F	●	35.0	280	32	0.9	19.0	48	200
- 36.0F	●	36.0	285	32	0.9	19.0	48	205
- 37.0F	●	37.0	285	32	0.9	20.0	52	205
- 38.0F	●	38.0	285	32	0.9	21.0	52	205
- 39.0F	●	39.0						
- 40.0F	●	40.0	285	32	0.9	22.0	52	205
- 41.0F	●	41.0	285	32	1.2	23.0	55	205
- 42.0F	●	42.0	290	32	1.2	23.0	55	210
- 43.0F	●	43.0	290	32	1.2	24.0	55	210
- 44.0F	●	44.0	290	32	1.2	25.0	55	210
- 45.0F	●	45.0						
- 46.0F	●	46.0	295	32	1.2	26.0	60	215
- 47.0F	●	47.0	295	32	1.2	27.0	60	215
- 48.0F	●	48.0	310	32	1.2	27.0	60	230
- 49.0F	●	49.0	310	32	1.2	28.0	60	230
- 50.0F	●	50.0	310	32	1.2	29.0	60	230
- 51.0F	●	51.0	310	32	1.2	30.0	60	230
- 52.0F	●	52.0						
- 53.0F	●	53.0	310	32	1.2	32.0	60	230
- 54.0F	●	54.0	310	32	1.2	33.0	60	230
- 55.0F	●	55.0	320	32	1.2	34.0	60	240
- 56.0F	●	56.0	320	32	1.2	35.0	60	240
- 57.0F	●	57.0	320	32	1.2	36.0	60	240
- 58.0F	●	58.0	320	32	1.2	37.0	60	240
- 59.0F	●	59.0	320	32	1.2	38.0	60	240
- 60.0F	●	60.0	320	32	1.2	39.0	60	240
- 61.0F	●	61.0						
- 62.0F	●	62.0	320	32	1.2	40.0	60	240
- 63.0F	●	63.0	320	32	1.2	41.0	60	240
- 64.0F	●	64.0	320	32	1.2	42.0	60	240
- 65.0F	●	65.0	320	42	1.2	45.0	65	240
- 66.0F	●	66.0	330	42	1.2	45.0	65	240
- 67.0F	●	67.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RNS- 68.0F	●	68.0	330	42	1.2	48.0	65	240
- 69.0F	●	69.0						
- 70.0F	●	70.0						
- 71.0F	●	71.0	330	42	1.2	50.0	65	240
- 72.0F	●	72.0						
- 73.0F	●	73.0	330	42	1.2	52.0	65	240
- 74.0F	●	74.0						
- 75.0F	●	75.0						
- 76.0F	●	76.0						
- 77.0F	●	77.0	330	42	1.2	55.0	65	240
- 78.0F	●	78.0						
- 79.0F	●	79.0						
- 80.0F	●	80.0						
- 81.0F	●	81.0	330	42	1.2	58.0	65	240
- 82.0F	●	82.0						
- 83.0F	●	83.0	330	42	1.2	60.0	65	240
- 84.0F	●	84.0						
- 85.0F	●	85.0						
- 86.0F	●	86.0						
- 87.0F	●	87.0						
- 88.0F	●	88.0						
- 89.0F	●	89.0						
- 90.0F	●	90.0	330	42	1.2	62.0	65	240
- 91.0F	●	91.0	330	42	1.2	62.0	65	240
- 92.0F	●	92.0						
- 93.0F	●	93.0	330	42	1.2	65.0	65	240
- 94.0F	●	94.0						
- 95.0F	●	95.0						
- 96.0F	●	96.0	330	42	1.2	68.0	65	240
- 97.0F	●	97.0						
- 98.0F	●	98.0						
- 99.0F	●	99.0	330	42	1.2	70.0	65	240
-100.0F	●	100.0						

★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★**When chips may be tangled, we recommend Right-Handed Helix Mill Reamer with OH.** ☞ **P.27,P.101**
★This is not suitable to use on drilling machine due to tensile force of right-handed. Please use on machining center, NC lathe and milling machine.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN


Photo shows Tough-cut skill Reamer SRS

Features

- HSS tool with less heat generation, which is important to mantain finished hole diameter dimensions.
- When machining on steel, wearness of cutting edge due to heat generation is also low, and HSS reamer is better cutting ability then carbide reamer in some cases.
- This has outstanding features both for finished hole diameter dimensions and for surface roughness.
- There is good control of hole diameter dimensions, allowing to use on machining centers.
- Milling blade with positive rake angle will correct drilled hole to obtain suitable removal for following reaming.
- It can be used with water-soluble coolant.

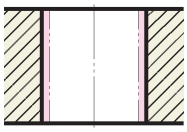

PLAZMA NITRIDING

This is nitriding by a sputtering operation, along with a glow discharge being produced and the workpiece being heated in an atmosphere of a gas mixture with nitrogen in vacuum.

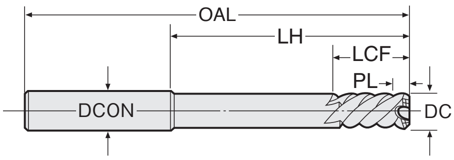
NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRS Tough-Cut Skill Reamer (Straight Shank)



Explanation of the Code No.
SRS - 10.0
DIAMETER
TOUGH-CUT SKILL REAMER SERIES
SRS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 2.95	△	2.95	70	3	4	20	45
- 2.96	△	2.96					
- 2.97	△	2.97					
- 2.98	△	2.98					
- 2.99	△	2.99					
- 3.0	△	3.0					
- 3.01	△	3.01	70	3	4	20	45
- 3.02	△	3.02					
- 3.03	△	3.03					
- 3.04	△	3.04					
- 3.05	△	3.05					
- 3.06	△	3.06					
- 3.07	△	3.07					
- 3.08	△	3.08					
- 3.09	△	3.09					
- 3.1	△	3.1					
- 3.11	△	3.11	70	3	4	20	45
- 3.12	△	3.12					
- 3.13	△	3.13					
- 3.14	△	3.14					
- 3.15	△	3.15					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 3.16	△	3.16	70	3	4	20	45
- 3.17	△	3.17					
- 3.175	△	3.175(1/8)					
- 3.18	△	3.18					
- 3.19	△	3.19					
- 3.2	△	3.2					
- 3.21	△	3.21	80	4	4	22	53
- 3.22	△	3.22					
- 3.23	△	3.23					
- 3.24	△	3.24					
- 3.25	△	3.25					
- 3.26	△	3.26					
- 3.27	△	3.27					
- 3.28	△	3.28					
- 3.29	△	3.29					
- 3.3	△	3.3					
- 3.31	△	3.31	80	4	4	22	53
- 3.32	△	3.32					
- 3.33	△	3.33					
- 3.34	△	3.34					
- 3.35	△	3.35					

★PL means chamfering length to ΦDC.

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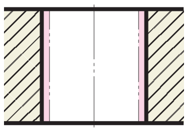
NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRS Tough-Cut Skill Reamer (Straight Shank)



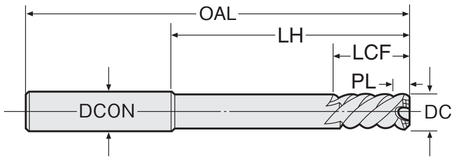
Explanation of the Code No.

SRS - 10.0

●DIAMETER

●TOUGH-CUT SKILL REAMER SERIES

SRS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 3.36	△	3.36					
- 3.37	△	3.37					
- 3.38	△	3.38	80	4	4	22	53
- 3.39	△	3.39					
- 3.4	△	3.4					
- 3.41	△	3.41					
- 3.42	△	3.42					
- 3.43	△	3.43					
- 3.44	△	3.44					
- 3.45	△	3.45	80	4	4	22	53
- 3.46	△	3.46					
- 3.47	△	3.47					
- 3.48	△	3.48					
- 3.49	△	3.49					
- 3.5	△	3.5					
- 3.51	△	3.51					
- 3.52	△	3.52					
- 3.53	△	3.53					
- 3.54	△	3.54					
- 3.55	△	3.55	80	4	4	22	53
- 3.56	△	3.56					
- 3.57	△	3.57					
- 3.58	△	3.58					
- 3.59	△	3.59					
- 3.6	△	3.6					
- 3.61	△	3.61					
- 3.62	△	3.62					
- 3.63	△	3.63					
- 3.64	△	3.64					
- 3.65	△	3.65	80	4	4	22	53
- 3.66	△	3.66					
- 3.67	△	3.67					
- 3.68	△	3.68					
- 3.69	△	3.69					
- 3.7	△	3.7					
- 3.71	△	3.71					
- 3.72	△	3.72					
- 3.73	△	3.73					
- 3.74	△	3.74					
- 3.75	△	3.75	80	4	4	22	53
- 3.76	△	3.76					
- 3.77	△	3.77					
- 3.78	△	3.78					
- 3.79	△	3.79					
- 3.8	△	3.8					
- 3.81	△	3.81					
- 3.82	△	3.82					
- 3.83	△	3.83					
- 3.84	△	3.84					
- 3.85	△	3.85	80	4	4	22	53
- 3.86	△	3.86					
- 3.87	△	3.87					
- 3.88	△	3.88					
- 3.89	△	3.89					
- 3.9	△	3.9					
- 3.91	△	3.91					
- 3.92	△	3.92	80	4	4	22	53
- 3.93	△	3.93					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 3.94	△	3.94					
- 3.95	△	3.95					
- 3.96	△	3.96					
- 3.97	△	3.97	80	4	4	22	53
- 3.98	△	3.98					
- 3.99	△	3.99					
- 4.0	△	4.0					
- 4.01	△	4.01					
- 4.02	△	4.02					
- 4.03	△	4.03					
- 4.04	△	4.04					
- 4.05	△	4.05	80	4	4	22	53
- 4.06	△	4.06					
- 4.07	△	4.07					
- 4.08	△	4.08					
- 4.09	△	4.09					
- 4.1	△	4.1					
- 4.11	△	4.11					
- 4.12	△	4.12					
- 4.13	△	4.13					
- 4.14	△	4.14					
- 4.15	△	4.15	80	4	4	22	53
- 4.16	△	4.16					
- 4.17	△	4.17					
- 4.18	△	4.18					
- 4.19	△	4.19					
- 4.2	△	4.2					
- 4.21	△	4.21					
- 4.22	△	4.22					
- 4.23	△	4.23					
- 4.24	△	4.24					
- 4.25	△	4.25	90	5	4	24	60
- 4.26	△	4.26					
- 4.27	△	4.27					
- 4.28	△	4.28					
- 4.29	△	4.29					
- 4.3	△	4.3					
- 4.31	△	4.31					
- 4.32	△	4.32					
- 4.33	△	4.33					
- 4.34	△	4.34					
- 4.35	△	4.35	90	5	4	24	60
- 4.36	△	4.36					
- 4.37	△	4.37					
- 4.38	△	4.38					
- 4.39	△	4.39					
- 4.4	△	4.4					
- 4.41	△	4.41					
- 4.42	△	4.42					
- 4.43	△	4.43					
- 4.44	△	4.44					
- 4.45	△	4.45					
- 4.46	△	4.46	90	5	4	24	60
- 4.47	△	4.47					
- 4.48	△	4.48					
- 4.49	△	4.49					
- 4.5	△	4.5					
- 4.51	△	4.51					

★PL means chamfering length to ΦDC.

Next page

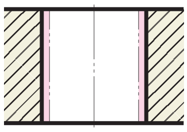
HSS

FOR THROUGH HOLE

NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRS Tough-Cut Skill Reamer (Straight Shank)



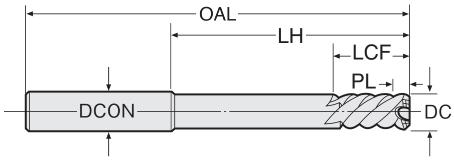
Explanation of the Code No.

SRS - 10.0

●DIAMETER

●**TOUGH-CUT SKILL REAMER SERIES**

SRS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 4.52	△	4.52	90	5	4	24	60
- 4.53	△	4.53					
- 4.54	△	4.54					
- 4.55	△	4.55					
- 4.56	△	4.56					
- 4.57	△	4.57					
- 4.58	△	4.58					
- 4.59	△	4.59					
- 4.6	△	4.6					
- 4.61	△	4.61	90	5	4	24	60
- 4.62	△	4.62					
- 4.63	△	4.63					
- 4.64	△	4.64					
- 4.65	△	4.65					
- 4.66	△	4.66					
- 4.67	△	4.67					
- 4.68	△	4.68					
- 4.69	△	4.69					
- 4.7	△	4.7					
- 4.71	△	4.71	90	5	4	24	60
- 4.72	△	4.72					
- 4.73	△	4.73					
- 4.74	△	4.74					
- 4.75	△	4.75					
- 4.76	△	4.76					
- 4.763	△	4.763 (3/16)					
- 4.77	△	4.77					
- 4.78	△	4.78					
- 4.79	△	4.79					
- 4.8	△	4.8					
- 4.81	△	4.81	90	5	4	24	60
- 4.82	△	4.82					
- 4.83	△	4.83					
- 4.84	△	4.84					
- 4.85	△	4.85					
- 4.86	△	4.86					
- 4.87	△	4.87					
- 4.88	△	4.88					
- 4.89	△	4.89					
- 4.9	△	4.9					
- 4.91	△	4.91	90	5	4	24	60
- 4.92	△	4.92					
- 4.93	△	4.93					
- 4.94	△	4.94					
- 4.95	△	4.95					
- 4.96	△	4.96					
- 4.97	△	4.97					
- 4.98	△	4.98					
- 4.99	△	4.99					
- 5.0	△	5.0					
- 5.01	△	5.01	90	5	4	24	60
- 5.02	△	5.02					
- 5.03	△	5.03					
- 5.04	△	5.04					
- 5.05	△	5.05					
- 5.06	△	5.06					
- 5.07	△	5.07					
- 5.08	△	5.08					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 5.09	△	5.09	90	5	4	24	60
- 5.1	△	5.1					
- 5.11	△	5.11	90	5	4	24	60
- 5.12	△	5.12					
- 5.13	△	5.13					
- 5.14	△	5.14					
- 5.15	△	5.15					
- 5.16	△	5.16					
- 5.17	△	5.17					
- 5.18	△	5.18					
- 5.19	△	5.19					
- 5.2	△	5.2					
- 5.21	△	5.21	90	5	4	24	60
- 5.22	△	5.22					
- 5.23	△	5.23					
- 5.24	△	5.24					
- 5.25	△	5.25					
- 5.26	△	5.26					
- 5.27	△	5.27					
- 5.28	△	5.28					
- 5.29	△	5.29					
- 5.3	△	5.3					
- 5.31	△	5.31	90	5	4	24	60
- 5.32	△	5.32					
- 5.33	△	5.33					
- 5.34	△	5.34					
- 5.35	△	5.35					
- 5.36	△	5.36					
- 5.37	△	5.37					
- 5.38	△	5.38					
- 5.39	△	5.39					
- 5.4	△	5.4					
- 5.41	△	5.41	100	6	4.2	25	65
- 5.42	△	5.42					
- 5.43	△	5.43					
- 5.44	△	5.44					
- 5.45	△	5.45					
- 5.46	△	5.46					
- 5.47	△	5.47					
- 5.48	△	5.48					
- 5.49	△	5.49					
- 5.5	△	5.5					
- 5.51	△	5.51	100	6	4.2	25	65
- 5.52	△	5.52					
- 5.53	△	5.53					
- 5.54	△	5.54					
- 5.55	△	5.55					
- 5.56	△	5.56					
- 5.57	△	5.57					
- 5.58	△	5.58					
- 5.59	△	5.59					
- 5.6	△	5.6					
- 5.61	△	5.61	100	6	4.2	25	65
- 5.62	△	5.62					
- 5.63	△	5.63					
- 5.64	△	5.64					
- 5.65	△	5.65					
- 5.66	△	5.66					

★PL means chamfering length to ΦDC.

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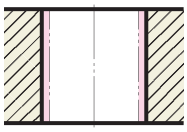
NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRS Tough-Cut Skill Reamer (Straight Shank)



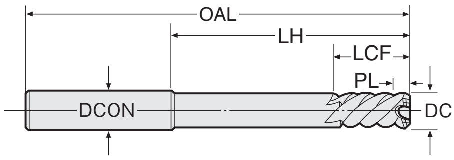
Explanation of the Code No.

SRS - 10.0

●DIAMETER

●TOUGH-CUT SKILL REAMER SERIES

SRS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 5.67	△	5.67	100	6	4.2	25	65
- 5.68	△	5.68					
- 5.69	△	5.69					
- 5.7	△	5.7					
- 5.71	△	5.71	100	6	4.2	25	65
- 5.72	△	5.72					
- 5.73	△	5.73					
- 5.74	△	5.74					
- 5.75	△	5.75					
- 5.76	△	5.76					
- 5.77	△	5.77					
- 5.78	△	5.78					
- 5.79	△	5.79					
- 5.8	△	5.8					
- 5.81	△	5.81	100	6	4.2	25	65
- 5.82	△	5.82					
- 5.83	△	5.83					
- 5.84	△	5.84					
- 5.85	△	5.85					
- 5.86	△	5.86					
- 5.87	△	5.87					
- 5.88	△	5.88					
- 5.89	△	5.89					
- 5.9	△	5.9					
- 5.91	△	5.91	100	6	4.2	25	65
- 5.92	△	5.92					
- 5.93	△	5.93					
- 5.94	△	5.94					
- 5.95	△	5.95					
- 5.96	△	5.96					
- 5.97	△	5.97					
- 5.98	△	5.98					
- 5.99	△	5.99					
- 6.0	●	6.0					
- 6.01	△	6.01	100	6	4.2	25	65
- 6.02	△	6.02					
- 6.03	△	6.03					
- 6.04	△	6.04					
- 6.05	△	6.05					
- 6.06	△	6.06					
- 6.07	△	6.07					
- 6.08	△	6.08					
- 6.09	△	6.09					
- 6.1	△	6.1					
- 6.11	△	6.11	100	6	4.2	25	65
- 6.12	△	6.12					
- 6.13	△	6.13					
- 6.14	△	6.14					
- 6.15	△	6.15					
- 6.16	△	6.16					
- 6.17	△	6.17					
- 6.18	△	6.18					
- 6.19	△	6.19					
- 6.2	△	6.2					
- 6.21	△	6.21	110	8	4.4	25	70
- 6.22	△	6.22					
- 6.23	△	6.23					
- 6.24	△	6.24					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 6.25	△	6.25	110	8	4.4	25	70
- 6.26	△	6.26					
- 6.27	△	6.27					
- 6.28	△	6.28					
- 6.29	△	6.29					
- 6.3	△	6.3					
- 6.31	△	6.31	110	8	4.4	25	70
- 6.32	△	6.32					
- 6.33	△	6.33					
- 6.34	△	6.34					
- 6.35	△	6.35(1/4)					
- 6.36	△	6.36					
- 6.37	△	6.37					
- 6.38	△	6.38					
- 6.39	△	6.39					
- 6.4	△	6.4					
- 6.41	△	6.41	110	8	4.4	25	70
- 6.42	△	6.42					
- 6.43	△	6.43					
- 6.44	△	6.44					
- 6.45	△	6.45					
- 6.46	△	6.46					
- 6.47	△	6.47					
- 6.48	△	6.48					
- 6.49	△	6.49					
- 6.5	●	6.5					
- 6.51	△	6.51	110	8	4.4	25	70
- 6.52	△	6.52					
- 6.53	△	6.53					
- 6.54	△	6.54					
- 6.55	△	6.55					
- 6.56	△	6.56					
- 6.57	△	6.57					
- 6.58	△	6.58					
- 6.59	△	6.59					
- 6.6	△	6.6					
- 6.61	△	6.61	110	8	4.4	25	70
- 6.62	△	6.62					
- 6.63	△	6.63					
- 6.64	△	6.64					
- 6.65	△	6.65					
- 6.66	△	6.66					
- 6.67	△	6.67					
- 6.68	△	6.68					
- 6.69	△	6.69					
- 6.7	△	6.7					
- 6.71	△	6.71	110	8	4.7	25	70
- 6.72	△	6.72					
- 6.73	△	6.73					
- 6.74	△	6.74					
- 6.75	△	6.75					
- 6.76	△	6.76					
- 6.77	△	6.77					
- 6.78	△	6.78					
- 6.79	△	6.79					
- 6.8	△	6.8					
- 6.81	△	6.81	110	8	4.7	25	70
- 6.82	△	6.82					

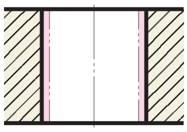
★PL means chamfering length to φDC.

Next page

NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRS Tough-Cut Skill Reamer (Straight Shank)

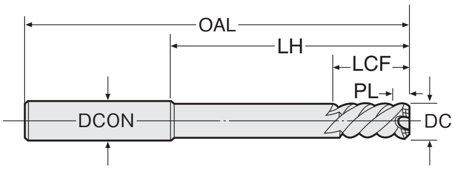


Explanation of the Code No.

SRS - 10.0

●DIAMETER

●TOUGH-CUT SKILL REAMER SERIES
SRS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139 ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 6.83	△	6.83	110	8	4.7	25	70
- 6.84	△	6.84					
- 6.85	△	6.85					
- 6.86	△	6.86					
- 6.87	△	6.87					
- 6.88	△	6.88					
- 6.89	△	6.89					
- 6.9	△	6.9					
- 6.91	△	6.91	110	8	4.7	25	70
- 6.92	△	6.92					
- 6.93	△	6.93					
- 6.94	△	6.94					
- 6.95	△	6.95					
- 6.96	△	6.96					
- 6.97	△	6.97					
- 6.98	△	6.98					
- 6.99	△	6.99					
- 7.0	●	7.0					
- 7.01	△	7.01	110	8	4.7	25	70
- 7.02	△	7.02					
- 7.03	△	7.03					
- 7.04	△	7.04					
- 7.05	△	7.05					
- 7.06	△	7.06					
- 7.07	△	7.07					
- 7.08	△	7.08					
- 7.09	△	7.09					
- 7.1	△	7.1					
- 7.11	△	7.11	110	8	4.7	25	70
- 7.12	△	7.12					
- 7.13	△	7.13					
- 7.14	△	7.14					
- 7.15	△	7.15					
- 7.16	△	7.16					
- 7.17	△	7.17					
- 7.18	△	7.18					
- 7.19	△	7.19					
- 7.2	△	7.2					
- 7.21	△	7.21	110	8	5.0	25	70
- 7.22	△	7.22					
- 7.23	△	7.23					
- 7.24	△	7.24					
- 7.25	△	7.25					
- 7.26	△	7.26					
- 7.27	△	7.27					
- 7.28	△	7.28					
- 7.29	△	7.29					
- 7.3	△	7.3					
- 7.31	△	7.31	110	8	5.0	25	70
- 7.32	△	7.32					
- 7.33	△	7.33					
- 7.34	△	7.34					
- 7.35	△	7.35					
- 7.36	△	7.36					
- 7.37	△	7.37					
- 7.38	△	7.38					
- 7.39	△	7.39					
- 7.4	△	7.4					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 7.41	△	7.41	110	8	5.0	25	70
- 7.42	△	7.42					
- 7.43	△	7.43					
- 7.44	△	7.44					
- 7.45	△	7.45					
- 7.46	△	7.46					
- 7.47	△	7.47					
- 7.48	△	7.48					
- 7.49	△	7.49					
- 7.5	●	7.5					
- 7.51	△	7.51	110	8	5.0	25	70
- 7.52	△	7.52					
- 7.53	△	7.53					
- 7.54	△	7.54					
- 7.55	△	7.55					
- 7.56	△	7.56					
- 7.57	△	7.57					
- 7.58	△	7.58					
- 7.59	△	7.59					
- 7.6	△	7.6					
- 7.61	△	7.61	110	8	5.0	25	70
- 7.62	△	7.62					
- 7.63	△	7.63					
- 7.64	△	7.64					
- 7.65	△	7.65					
- 7.66	△	7.66					
- 7.67	△	7.67					
- 7.68	△	7.68					
- 7.69	△	7.69					
- 7.7	△	7.7					
- 7.71	△	7.71	125	8	5.3	25	85
- 7.72	△	7.72					
- 7.73	△	7.73					
- 7.74	△	7.74					
- 7.75	△	7.75					
- 7.76	△	7.76					
- 7.77	△	7.77					
- 7.78	△	7.78					
- 7.79	△	7.79					
- 7.8	△	7.8					
- 7.81	△	7.81	125	8	5.3	25	85
- 7.82	△	7.82					
- 7.83	△	7.83					
- 7.84	△	7.84					
- 7.85	△	7.85					
- 7.86	△	7.86					
- 7.87	△	7.87					
- 7.88	△	7.88					
- 7.89	△	7.89					
- 7.9	△	7.9					
- 7.91	△	7.91	125	8	5.3	25	85
- 7.92	△	7.92					
- 7.93	△	7.93					
- 7.938	△	7.938(5/16)					
- 7.94	△	7.94					
- 7.95	△	7.95					
- 7.96	△	7.96					
- 7.97	△	7.97					

★PL means chamfering length to ΦDC.

Next page

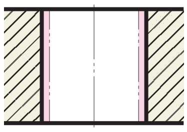
HSS

FOR THROUGH HOLE

NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRS Tough-Cut Skill Reamer (Straight Shank)



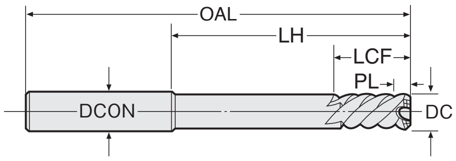
Explanation of the Code No.

SRS - 10.0

●DIAMETER

●TOUGH-CUT SKILL REAMER SERIES

SRS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139 *See P.4 for icons.

HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

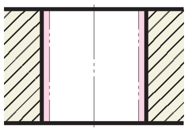
Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 7.98	△	7.98	125	8	5.3	25	85
- 7.99	△	7.99					
- 8.0	●	8.0					
- 8.01	△	8.01	125	8	5.3	25	85
- 8.02	△	8.02					
- 8.03	△	8.03					
- 8.04	△	8.04					
- 8.05	△	8.05					
- 8.06	△	8.06					
- 8.07	△	8.07					
- 8.08	△	8.08					
- 8.09	△	8.09					
- 8.1	△	8.1					
- 8.11	△	8.11	125	8	5.3	25	85
- 8.12	△	8.12					
- 8.13	△	8.13					
- 8.14	△	8.14					
- 8.15	△	8.15					
- 8.16	△	8.16					
- 8.17	△	8.17					
- 8.18	△	8.18					
- 8.19	△	8.19					
- 8.2	△	8.2					
- 8.21	△	8.21	135	10	5.6	30	90
- 8.22	△	8.22					
- 8.23	△	8.23					
- 8.24	△	8.24					
- 8.25	△	8.25					
- 8.26	△	8.26					
- 8.27	△	8.27					
- 8.28	△	8.28					
- 8.29	△	8.29					
- 8.3	△	8.3					
- 8.31	△	8.31	135	10	5.6	30	90
- 8.32	△	8.32					
- 8.33	△	8.33					
- 8.34	△	8.34					
- 8.35	△	8.35					
- 8.36	△	8.36					
- 8.37	△	8.37					
- 8.38	△	8.38					
- 8.39	△	8.39					
- 8.4	△	8.4					
- 8.41	△	8.41	135	10	5.6	30	90
- 8.42	△	8.42					
- 8.43	△	8.43					
- 8.44	△	8.44					
- 8.45	△	8.45					
- 8.46	△	8.46					
- 8.47	△	8.47					
- 8.48	△	8.48					
- 8.49	△	8.49					
- 8.5	●	8.5					
- 8.51	△	8.51	135	10	5.6	30	90
- 8.52	△	8.52					
- 8.53	△	8.53					
- 8.54	△	8.54					
- 8.55	△	8.55					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 8.56	△	8.56	135	10	5.6	30	90
- 8.57	△	8.57					
- 8.58	△	8.58					
- 8.59	△	8.59					
- 8.6	△	8.6					
- 8.61	△	8.61	135	10	5.6	30	90
- 8.62	△	8.62					
- 8.63	△	8.63					
- 8.64	△	8.64					
- 8.65	△	8.65					
- 8.66	△	8.66					
- 8.67	△	8.67					
- 8.68	△	8.68					
- 8.69	△	8.69					
- 8.7	△	8.7					
- 8.71	△	8.71	135	10	5.6	30	90
- 8.72	△	8.72					
- 8.73	△	8.73					
- 8.74	△	8.74					
- 8.75	△	8.75					
- 8.76	△	8.76					
- 8.77	△	8.77					
- 8.78	△	8.78					
- 8.79	△	8.79					
- 8.8	△	8.8					
- 8.81	△	8.81	135	10	5.8	30	90
- 8.82	△	8.82					
- 8.83	△	8.83					
- 8.84	△	8.84					
- 8.85	△	8.85					
- 8.86	△	8.86					
- 8.87	△	8.87					
- 8.88	△	8.88					
- 8.89	△	8.89					
- 8.9	△	8.9					
- 8.91	△	8.91	135	10	5.8	30	90
- 8.92	△	8.92					
- 8.93	△	8.93					
- 8.94	△	8.94					
- 8.95	△	8.95					
- 8.96	△	8.96					
- 8.97	△	8.97					
- 8.98	△	8.98					
- 8.99	△	8.99					
- 9.0	●	9.0					
- 9.01	△	9.01	135	10	5.8	30	90
- 9.02	△	9.02					
- 9.03	△	9.03					
- 9.04	△	9.04					
- 9.05	△	9.05					
- 9.06	△	9.06					
- 9.07	△	9.07					
- 9.08	△	9.08					
- 9.09	△	9.09					
- 9.1	△	9.1					
- 9.11	△	9.11	135	10	5.8	30	90
- 9.12	△	9.12					
- 9.13	△	9.13					

★PL means chamfering length to φDC.

Next page

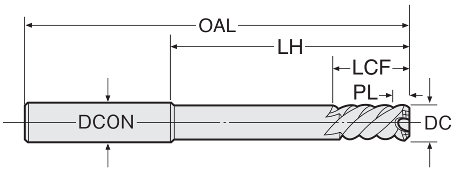
SRS Tough-Cut Skill Reamer (Straight Shank)



Explanation of the Code No.

SRS - 10.0

- DIAMETER
- TOUGH-CUT SKILL REAMER SERIES
  SRS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 9.14	△	9.14	135	10	5.8	30	90
- 9.15	△	9.15					
- 9.16	△	9.16					
- 9.17	△	9.17					
- 9.18	△	9.18					
- 9.19	△	9.19					
- 9.2	△	9.2					
- 9.21	△	9.21	150	10	6.6	30	100
- 9.22	△	9.22					
- 9.23	△	9.23					
- 9.24	△	9.24					
- 9.25	△	9.25					
- 9.26	△	9.26					
- 9.27	△	9.27					
- 9.28	△	9.28					
- 9.29	△	9.29					
- 9.3	△	9.3					
- 9.31	△	9.31	150	10	6.6	30	100
- 9.32	△	9.32					
- 9.33	△	9.33					
- 9.34	△	9.34					
- 9.35	△	9.35					
- 9.36	△	9.36					
- 9.37	△	9.37					
- 9.38	△	9.38					
- 9.39	△	9.39					
- 9.4	△	9.4					
- 9.41	△	9.41	150	10	6.6	30	100
- 9.42	△	9.42					
- 9.43	△	9.43					
- 9.44	△	9.44					
- 9.45	△	9.45					
- 9.46	△	9.46					
- 9.47	△	9.47					
- 9.48	△	9.48					
- 9.49	△	9.49					
- 9.5	●	9.5					
- 9.51	△	9.51	150	10	6.6	30	100
- 9.52	△	9.52					
- 9.525	△	9.525(3/8)					
- 9.53	△	9.53					
- 9.54	△	9.54					
- 9.55	△	9.55					
- 9.56	△	9.56					
- 9.57	△	9.57					
- 9.58	△	9.58					
- 9.59	△	9.59					
- 9.6	△	9.6					
- 9.61	△	9.61	150	10	6.6	30	100
- 9.62	△	9.62					
- 9.63	△	9.63					
- 9.64	△	9.64					
- 9.65	△	9.65					
- 9.66	△	9.66					
- 9.67	△	9.67					
- 9.68	△	9.68					
- 9.69	△	9.69					
- 9.7	△	9.7					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 9.71	△	9.71	150	10	6.8	30	100
- 9.72	△	9.72					
- 9.73	△	9.73					
- 9.74	△	9.74					
- 9.75	△	9.75					
- 9.76	△	9.76					
- 9.77	△	9.77					
- 9.78	△	9.78					
- 9.79	△	9.79					
- 9.8	△	9.8					
- 9.81	△	9.81	150	10	6.8	30	100
- 9.82	△	9.82					
- 9.83	△	9.83					
- 9.84	△	9.84					
- 9.85	△	9.85					
- 9.86	△	9.86					
- 9.87	△	9.87					
- 9.88	△	9.88					
- 9.89	△	9.89					
- 9.9	△	9.9					
- 9.91	△	9.91	150	10	6.8	30	100
- 9.92	△	9.92					
- 9.93	△	9.93					
- 9.94	△	9.94					
- 9.95	△	9.95					
- 9.96	△	9.96					
- 9.97	△	9.97					
- 9.98	△	9.98					
- 9.99	△	9.99					
-10.0	●	10.0					
-10.01	△	10.01	150	10	6.8	30	100
-10.02	△	10.02					
-10.03	△	10.03					
-10.04	△	10.04					
-10.05	△	10.05					
-10.1	△	10.1					
-10.2	△	10.2					
-10.3	△	10.3	155	12	7.1	30	105
-10.4	△	10.4					
-10.5	●	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8	155	12	7.3	30	105
-10.9	△	10.9					
-10.97	△	10.97					
-10.98	△	10.98					
-10.99	△	10.99					
-11.0	●	11.0					
-11.01	△	11.01	155	12	7.3	30	105
-11.02	△	11.02					
-11.03	△	11.03					
-11.04	△	11.04					
-11.05	△	11.05					
-11.1	△	11.1					
-11.2	△	11.2					
-11.3	△	11.3					
-11.4	△	11.4	160	12	7.5	30	105
-11.5	●	11.5					

★PL means chamfering length to φDC.

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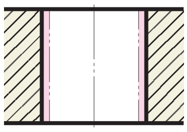
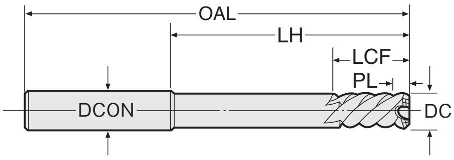
NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRS Tough-Cut Skill Reamer (Straight Shank)



Explanation of the Code No.
SRS 10.0
- DIAMETER
- TOUGH-CUT SKILL REAMER SERIES
  SRS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS-11.6	△	11.6	160	12	7.5	30	105
-11.7	△	11.7					
-11.8	△	11.8					
-11.9	△	11.9					
-11.97	△	11.97					
-11.98	△	11.98					
-11.99	△	11.99					
-12.0	●	12.0					
-12.01	△	12.01	160	12	7.5	30	105
-12.02	△	12.02					
-12.03	△	12.03					
-12.04	△	12.04					
-12.05	△	12.05					
-12.1	△	12.1					
-12.2	△	12.2					
-12.3	△	12.3	165	12	7.7	30	110
-12.4	△	12.4					
-12.5	●	12.5					
-12.6	△	12.6					
-12.7	△	12.7(1/2)					
-12.8	△	12.8					
-12.9	△	12.9					
-12.97	△	12.97					
-12.98	△	12.98					
-12.99	△	12.99					
-13.0	●	13.0					
-13.01	△	13.01	165	12	7.7	30	110
-13.02	△	13.02					
-13.03	△	13.03					
-13.04	△	13.04					
-13.05	△	13.05					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS-13.1	△	13.1	165	12	7.7	30	110
-13.2	△	13.2					
-13.3	△	13.3	170	16	7.9	35	115
-13.4	△	13.4					
-13.5	●	13.5					
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8					
-13.9	△	13.9					
-13.97	△	13.97					
-13.98	△	13.98					
-13.99	△	13.99					
-14.0	●	14.0					
-14.01	△	14.01	170	16	7.9	35	115
-14.02	△	14.02					
-14.03	△	14.03					
-14.04	△	14.04					
-14.05	△	14.05					
-14.5	△	14.5	180	16	8.1	35	120
-15.0	△	15.0	180	16	8.3	35	120
-15.5	△	15.5	185	16	9.4	35	125
-16.0	△	16.0	185	16	9.6	35	125
-16.5	△	16.5					
-17.0	△	17.0	185	16	9.9	35	125
-17.5	△	17.5	195	20	10.2	40	130
-18.0	△	18.0	195	20	10.6	40	130
-18.5	△	18.5	195	20	10.8	40	130
-19.0	△	19.0	195	20	11.0	40	130
-19.5	△	19.5	205	20	11.0	40	140
-20.0	△	20.0					

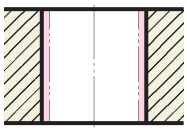
★PL means chamfering length to ΦDC.

NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRM

Tough-Cut Skill Reamer (Morse Taper Shank)



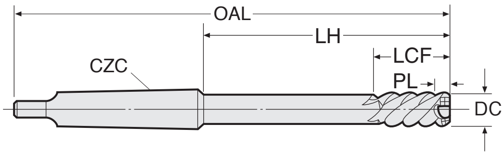
Explanation of the Code No.

SRM - 10.0

●DIAMETER

●TOUGH-CUT SKILL REAMER SERIES

SRM : MORSE TAPER SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139

*See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
SRM- 3.0	△	3.0	110	MT1	4.0	20	44.5
- 3.5	△	3.5	115	MT1	4.0	22	49.5
- 4.0	△	4.0					
- 4.5	△	4.5	120	MT1	4.0	24	54.5
- 5.0	△	5.0					
- 5.5	△	5.5	130	MT1	4.2	25	64.5
- 6.0	●	6.0					
- 6.1	△	6.1	130	MT1	4.2	25	64.5
- 6.2	△	6.2					
- 6.3	△	6.3	140	MT1	4.4	25	74.5
- 6.35	△	6.35(1/4)					
- 6.4	△	6.4					
- 6.5	●	6.5					
- 6.6	△	6.6					
- 6.7	△	6.7					
- 6.8	△	6.8	140	MT1	4.7	25	74.5
- 6.9	△	6.9					
- 7.0	●	7.0					
- 7.1	△	7.1	140	MT1	4.7	25	74.5
- 7.2	△	7.2					
- 7.3	△	7.3	150	MT1	5.0	25	84.5
- 7.4	△	7.4					
- 7.5	●	7.5					
- 7.6	△	7.6					
- 7.7	△	7.7					
- 7.8	△	7.8	150	MT1	5.3	25	84.5
- 7.9	△	7.9					
- 8.0	●	8.0					
- 8.1	△	8.1	150	MT1	5.3	25	84.5
- 8.2	△	8.2					
- 8.3	△	8.3	160	MT1	5.6	30	94.5
- 8.4	△	8.4					
- 8.5	●	8.5					
- 8.6	△	8.6					
- 8.7	△	8.7					
- 8.8	△	8.8	165	MT1	5.8	30	99.5
- 8.9	△	8.9					
- 9.0	●	9.0					
- 9.1	△	9.1	165	MT1	5.8	30	99.5
- 9.2	△	9.2					
- 9.3	△	9.3	165	MT1	6.6	30	99.5
- 9.4	△	9.4					
- 9.5	●	9.5					
- 9.525	△	9.525(3/8)					
- 9.6	△	9.6					
- 9.7	△	9.7					
- 9.8	△	9.8	165	MT1	6.8	30	99.5
- 9.9	△	9.9					
-10.0	●	10.0					
-10.1	△	10.1	165	MT1	6.8	30	99.5
-10.2	△	10.2					
-10.3	△	10.3	170	MT1	7.1	30	104.5
-10.4	△	10.4					
-10.5	●	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8	170	MT1	7.3	30	104.5
-10.9	△	10.9					

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
SRM-11.0	●	11.0	170	MT1	7.3	30	104.5
-11.1	△	11.1	170	MT1	7.3	30	104.5
-11.2	△	11.2					
-11.3	△	11.3	175	MT1	7.5	30	109.5
-11.4	△	11.4					
-11.5	●	11.5					
-11.6	△	11.6					
-11.7	△	11.7					
-11.8	△	11.8	175	MT1	7.5	30	109.5
-11.9	△	11.9					
-12.0	●	12.0					
-12.1	△	12.1	175	MT1	7.5	30	109.5
-12.2	△	12.2					
-12.3	△	12.3	180	MT1	7.7	30	114.5
-12.4	△	12.4					
-12.5	●	12.5					
-12.6	△	12.6					
-12.7	△	12.7(1/2)					
-12.8	△	12.8	180	MT1	7.7	30	114.5
-12.9	△	12.9					
-13.0	●	13.0					
-13.1	△	13.1	180	MT1	7.7	30	114.5
-13.2	△	13.2					
-13.3	△	13.3	180	MT1	7.9	35	114.5
-13.4	△	13.4					
-13.5	●	13.5					
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8	180	MT1	7.9	35	114.5
-13.9	△	13.9					
-14.0	●	14.0					
-14.1	△	14.1	180	MT1	7.9	35	114.5
-14.2	△	14.2					
-14.3	△	14.3	200	MT2	8.1	35	120
-14.4	△	14.4					
-14.5	●	14.5					
-14.6	△	14.6					
-14.7	△	14.7					
-14.8	△	14.8	200	MT2	8.3	35	120
-14.9	△	14.9					
-15.0	●	15.0					
-15.1	△	15.1	200	MT2	8.3	35	120
-15.2	△	15.2					
-15.3	△	15.3	205	MT2	9.4	35	125
-15.4	△	15.4					
-15.5	●	15.5					
-15.6	△	15.6					
-15.7	△	15.7					
-15.8	△	15.8	205	MT2	9.6	35	125
-15.875	△	15.875(5/8)					
-15.9	△	15.9					
-16.0	●	16.0					
-16.1	△	16.1	205	MT2	9.6	35	125
-16.2	△	16.2					
-16.3	△	16.3					
-16.4	△	16.4					
-16.5	●	16.5					
-16.6	△	16.6					

★PL means chamfering length to φDC.

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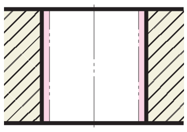
NIKKEN

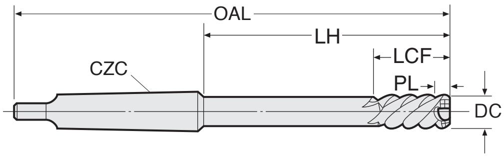
SRM Tough-Cut Skill Reamer (Morse Taper Shank)



Explanation of the Code No.

SRM - 10.0

- DIAMETER
- TOUGH-CUT SKILL REAMER SERIES
  SRM : MORSE TAPER SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139 *See P.4 for icons.

HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
SRM- 16.7	△	16.7	205	MT2	9.6	35	125
- 16.8	△	16.8	205	MT2	9.9	35	125
- 16.9	△	16.9					
- 17.0	●	17.0					
- 17.1	△	17.1	205	MT2	9.9	35	125
- 17.2	△	17.2					
- 17.3	△	17.3	210	MT2	10.2	40	130
- 17.4	△	17.4					
- 17.5	●	17.5					
- 17.6	△	17.6					
- 17.7	△	17.7					
- 17.8	△	17.8	210	MT2	10.6	40	130
- 17.9	△	17.9					
- 18.0	●	18.0					
- 18.1	△	18.1	210	MT2	10.6	40	130
- 18.2	△	18.2					
- 18.3	△	18.3	210	MT2	10.8	40	130
- 18.4	△	18.4					
- 18.5	●	18.5					
- 18.6	△	18.6					
- 18.7	△	18.7					
- 18.8	△	18.8	210	MT2	11.0	40	130
- 18.9	△	18.9					
- 19.0	●	19.0					
- 19.05	△	19.05(3/4)	210	MT2	11.0	40	130
- 19.1	△	19.1					
- 19.2	△	19.2					
- 19.3	△	19.3	220	MT2	11.0	40	140
- 19.4	△	19.4					
- 19.5	●	19.5					
- 19.6	△	19.6					
- 19.7	△	19.7					
- 19.8	△	19.8	220	MT2	11.0	40	140
- 19.9	△	19.9					
- 20.0	●	20.0					
- 20.1	△	20.1	220	MT2	11.0	40	140
- 20.2	△	20.2					
- 20.3	△	20.3	230	MT2	11.0	40	150
- 20.4	△	20.4					
- 20.5	●	20.5					
- 20.6	△	20.6					
- 20.7	△	20.7					
- 20.8	△	20.8	230	MT2	11.0	40	150
- 20.9	△	20.9					
- 21.0	●	21.0					
- 21.1	△	21.1	230	MT2	11.0	40	150
- 21.2	△	21.2					
- 21.3	△	21.3	230	MT2	11.2	40	150
- 21.4	△	21.4					
- 21.5	●	21.5					
- 21.6	△	21.6					
- 21.7	△	21.7					
- 21.8	△	21.8	230	MT2	11.2	40	150
- 21.9	△	21.9					
- 22.0	●	22.0					
- 22.1	△	22.1	230	MT2	11.2	40	150
- 22.2	△	22.2					
- 22.225	△	22.225(7/8)	240	MT2	11.2	40	160

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
SRM- 22.3	△	22.3	240	MT2	11.2	40	160
- 22.4	△	22.4					
- 22.5	●	22.5					
- 22.6	△	22.6					
- 22.7	△	22.7					
- 22.8	△	22.8	240	MT2	11.4	40	160
- 22.9	△	22.9					
- 23.0	●	23.0					
- 23.1	△	23.1	240	MT2	11.4	40	160
- 23.2	△	23.2					
- 23.3	△	23.3	250	MT3	11.6	40	151
- 23.4	△	23.4					
- 23.5	●	23.5					
- 23.6	△	23.6					
- 23.7	△	23.7					
- 23.8	△	23.8					
- 23.9	△	23.9					
- 24.0	●	24.0					
- 24.1	△	24.1	250	MT3	11.8	40	151
- 24.2	△	24.2					
- 24.3	△	24.3	255	MT3	11.8	40	156
- 24.4	△	24.4					
- 24.5	●	24.5					
- 24.6	△	24.6					
- 24.7	△	24.7					
- 24.8	△	24.8					
- 24.9	△	24.9					
- 25.0	●	25.0					
- 25.1	△	25.1	255	MT3	11.8	40	156
- 25.2	△	25.2					
- 25.3	△	25.3					
- 25.4	△	25.4(1")	255	MT3	12.5	40	156
- 25.5	●	25.5					
- 25.6	△	25.6					
- 25.7	△	25.7					
- 25.8	△	25.8					
- 25.9	△	25.9					
- 26.0	●	26.0					
- 26.1	△	26.1	255	MT3	12.5	40	156
- 26.2	△	26.2					
- 26.3	△	26.3					
- 26.4	△	26.4					
- 26.5	●	26.5					
- 26.6	△	26.6					
- 26.7	△	26.7					
- 26.8	△	26.8					
- 26.9	△	26.9					
- 27.0	●	27.0					
- 27.1	△	27.1	255	MT3	12.5	40	156
- 27.2	△	27.2					
- 27.3	△	27.3	260	MT3	12.5	45	161
- 27.4	△	27.4					
- 27.5	●	27.5					
- 27.6	△	27.6					
- 27.7	△	27.7					
- 27.8	△	27.8	260	MT3	12.5	45	161
- 27.9	△	27.9					
- 28.0	●	28.0					

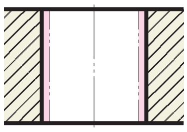
★PL means chamfering length to ΦDC.

Next page

NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRM Tough-Cut Skill Reamer (Morse Taper Shank)

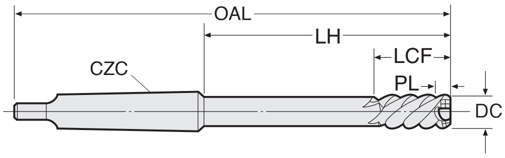


Explanation of the Code No.

SRM - 10.0

●DIAMETER

●TOUGH-CUT SKILL REAMER SERIES
SRM : MORSE TAPER SHANK



MILLING BLADE | LH-HELIX 45° | UNEQUAL | PN | P.139

*See P.4 for icons.

HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
SRM- 28.1	△	28.1	260	MT3	12.5	45	161
- 28.2	△	28.2					
- 28.3	△	28.3					
- 28.4	△	28.4					
- 28.5	●	28.5					
- 28.6	△	28.6					
- 28.7	△	28.7					
- 28.8	△	28.8					
- 28.9	△	28.9					
- 29.0	●	29.0					
- 29.1	△	29.1	260	MT3	12.5	45	161
- 29.2	△	29.2					
- 29.3	△	29.3					
- 29.4	△	29.4					
- 29.5	●	29.5					
- 29.6	△	29.6					
- 29.7	△	29.7					
- 29.8	△	29.8					
- 29.9	△	29.9					
- 30.0	●	30.0					
- 30.5	●	30.5	300	MT3	12.5	45	201
- 31.0	●	31.0					
- 31.5	●	31.5					
- 31.75	△	31.75(1"1/4)					
- 32.0	●	32.0					
- 32.5	●	32.5	325	MT4	12.5	45	201
- 33.0	●	33.0	325	MT4	13	48	201
- 33.5	●	33.5					
- 34.0	●	34.0					
- 34.5	●	34.5					
- 35.0	●	35.0					
- 35.5	●	35.5	330	MT4	13.5	48	206
- 36.0	●	36.0					
- 36.5	●	36.5	330	MT4	13.5	52	206
- 37.0	●	37.0					
- 37.5	●	37.5					
- 38.0	●	38.0					
- 38.5	●	38.5					
- 39.0	●	39.0					
- 39.5	●	39.5					
- 40.0	●	40.0					
- 40.5	●	40.5	330	MT4	14	55	206
- 41.0	●	41.0					
- 41.5	●	41.5	335	MT4	14	55	211
- 42.0	●	42.0					
- 42.5	●	42.5					
- 43.0	●	43.0					
- 43.5	●	43.5					
- 44.0	●	44.0					
- 44.5	●	44.5					
- 45.0	●	45.0					
- 45.5	●	45.5	340	MT4	14.5	60	216
- 46.0	●	46.0					
- 46.5	●	46.5					
- 47.0	●	47.0					
- 47.5	●	47.5	350	MT4	14.5	60	226

Code No.	STOCK	DC H7	OAL	CZC	PL	LCF	LH
SRM- 48.0	●	48.0	350	MT4	14.5	60	226
- 48.5	●	48.5					
- 49.0	●	49.0					
- 49.5	●	49.5	385	MT5	15	60	229
- 50.0	●	50.0					
- 51.0	●	51.0	385	MT5	15	60	229
- 52.0	●	52.0					
- 53.0	●	53.0					
- 54.0	●	54.0					
- 55.0	●	55.0	400	MT5	15	60	244
- 56.0	●	56.0					
- 57.0	●	57.0					
- 58.0	●	58.0					
- 59.0	●	59.0					
- 60.0	●	60.0					
- 61.0	●	61.0	400	MT5	15	60	244
- 62.0	●	62.0					
- 63.0	●	63.0					
- 64.0	●	64.0					
- 65.0	●	65.0	400	MT5	15	65	244
- 66.0	●	66.0					
- 67.0	●	67.0					
- 68.0	●	68.0					
- 69.0	●	69.0					
- 70.0	●	70.0					
- 71.0	●	71.0	400	MT5	15	65	244
- 72.0	●	72.0					
- 73.0	●	73.0					
- 74.0	●	74.0					
- 75.0	●	75.0					
- 76.0	●	76.0					
- 77.0	●	77.0					
- 78.0	●	78.0					
- 79.0	●	79.0					
- 80.0	●	80.0					
- 81.0	●	81.0	400	MT5	15.5	65	244
- 82.0	●	82.0					
- 83.0	●	83.0					
- 84.0	●	84.0					
- 85.0	●	85.0					
- 86.0	●	86.0					
- 87.0	●	87.0					
- 88.0	●	88.0					
- 89.0	●	89.0					
- 90.0	●	90.0					
- 91.0	●	91.0	400	MT5	15.5	65	244
- 92.0	●	92.0					
- 93.0	●	93.0					
- 94.0	●	94.0					
- 95.0	●	95.0					
- 96.0	●	96.0					
- 97.0	●	97.0					
- 98.0	●	98.0					
- 99.0	●	99.0					
-100.0	●	100.0					

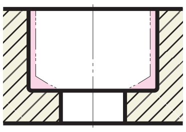
★PL means chamfering length to ΦDC.

NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRS-F

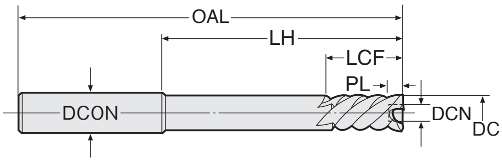
For STEPPED HOLE
Tough-Cut Skill Reamer (Straight Shank)



Explanation of the Code No.

SRS - 10.0 - F

- F: FOR STEPPED HOLE
- 10.0: DIAMETER
- SRS: **TOUGH-CUT SKILL REAMER SERIES**
  SRS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | PN | P.139 | *See P.4 for icons.

HSS

FOR STEPPED HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRS- 2.97F	△	2.97						
- 2.98F	△	2.98	70	3	0.6	1.5	20	45
- 2.99F	△	2.99						
- 3.0 F	△	3.0						
- 3.01F	△	3.01						
- 3.02F	△	3.02						
- 3.03F	△	3.03	70	3	0.6	1.5	20	45
- 3.1 F	△	3.1						
- 3.2 F	△	3.2						
- 3.3 F	△	3.3						
- 3.4 F	△	3.4						
- 3.5 F	△	3.5						
- 3.6 F	△	3.6						
- 3.7 F	△	3.7						
- 3.8 F	△	3.8	80	4	0.6	1.5	22	53
- 3.9 F	△	3.9						
- 3.97F	△	3.97						
- 3.98F	△	3.98						
- 3.99F	△	3.99						
- 4.0 F	△	4.0						
- 4.01F	△	4.01						
- 4.02F	△	4.02						
- 4.03F	△	4.03						
- 4.04F	△	4.04	80	4	0.6	1.5	22	53
- 4.05F	△	4.05						
- 4.1 F	△	4.1						
- 4.2 F	△	4.2						
- 4.3 F	△	4.3						
- 4.4 F	△	4.4						
- 4.5 F	△	4.5						
- 4.6 F	△	4.6						
- 4.7 F	△	4.7						
- 4.8 F	△	4.8	90	5	0.6	2.0	24	60
- 4.9 F	△	4.9						
- 4.97F	△	4.97						
- 4.98F	△	4.98						
- 4.99F	△	4.99						
- 5.0 F	●	5.0						
- 5.01F	△	5.01						
- 5.02F	△	5.02						
- 5.03F	△	5.03						
- 5.04F	△	5.04	90	5	0.6	2.0	24	60
- 5.05F	△	5.05						
- 5.1 F	△	5.1						
- 5.2 F	△	5.2						
- 5.3 F	△	5.3						
- 5.4 F	△	5.4						
- 5.5 F	△	5.5						
- 5.6 F	△	5.6						
- 5.7 F	△	5.7						
- 5.8 F	△	5.8	100	6	0.6	3.0	25	65
- 5.9 F	△	5.9						
- 5.97F	△	5.97						
- 5.98F	△	5.98						
- 5.99F	△	5.99						
- 6.0 F	●	6.0						
- 6.01F	△	6.01	100	6	0.6	3.0	25	65
- 6.02F	△	6.02						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRS- 6.03F	△	6.03						
- 6.04F	△	6.04						
- 6.05F	△	6.05	100	6	0.6	3.0	25	65
- 6.1 F	△	6.1						
- 6.2 F	△	6.2						
- 6.3 F	△	6.3						
- 6.4 F	△	6.4						
- 6.5 F	●	6.5						
- 6.6 F	△	6.6						
- 6.7 F	△	6.7						
- 6.8 F	△	6.8	110	8	0.6	3.0	25	70
- 6.9 F	△	6.9						
- 6.97F	△	6.97						
- 6.98F	△	6.98						
- 6.99F	△	6.99						
- 7.0 F	●	7.0						
- 7.01F	△	7.01						
- 7.02F	△	7.02						
- 7.03F	△	7.03						
- 7.04F	△	7.04						
- 7.05F	△	7.05						
- 7.1 F	△	7.1	110	8	0.6	3.0	25	70
- 7.2 F	△	7.2						
- 7.3 F	△	7.3						
- 7.4 F	△	7.4						
- 7.5 F	●	7.5						
- 7.6 F	△	7.6						
- 7.7 F	△	7.7						
- 7.8 F	△	7.8						
- 7.9 F	△	7.9						
- 7.97F	△	7.97	125	8	0.6	3.5	25	85
- 7.98F	△	7.98						
- 7.99F	△	7.99						
- 8.0 F	●	8.0						
- 8.01F	△	8.01						
- 8.02F	△	8.02						
- 8.03F	△	8.03						
- 8.04F	△	8.04	125	8	0.6	3.5	25	85
- 8.05F	△	8.05						
- 8.1 F	△	8.1						
- 8.2 F	△	8.2						
- 8.3 F	△	8.3						
- 8.4 F	△	8.4						
- 8.5 F	●	8.5						
- 8.6 F	△	8.6						
- 8.7 F	△	8.7						
- 8.8 F	△	8.8	135	10	0.6	4.0	30	90
- 8.9 F	△	8.9						
- 8.97F	△	8.97						
- 8.98F	△	8.98						
- 8.99F	△	8.99						
- 9.0 F	●	9.0						
- 9.01F	△	9.01						
- 9.02F	△	9.02						
- 9.03F	△	9.03	135	10	0.6	4.0	30	90
- 9.04F	△	9.04						
- 9.05F	△	9.05						
- 9.1 F	△	9.1						

★PL means chamfering length to ΦDC.

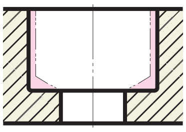
Next page

NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRS-F

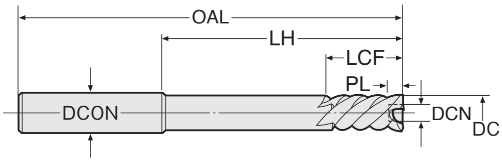
For STEPPED HOLE
Tough-Cut Skill Reamer (Straight Shank)



Explanation of the Code No.

SRS - 10.0 - F

- F: FOR STEPPED HOLE
- 10.0: DIAMETER
- SRS: TOUGH-CUT SKILL REAMER SERIES
  SRS : STRAIGHT SHANK



MILLING BLADE | LH-HELIX 45° | PN | P.139 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRS- 9.2 F	△	9.2	135	10	0.6	4.0	30	90
- 9.3 F	△	9.3						
- 9.4 F	△	9.4						
- 9.5 F	●	9.5						
- 9.6 F	△	9.6						
- 9.7 F	△	9.7						
- 9.8 F	△	9.8	150	10	0.6	4.5	30	100
- 9.9 F	△	9.9						
- 9.97F	△	9.97						
- 9.98F	△	9.98						
- 9.99F	△	9.99						
-10.0 F	●	10.0						
-10.01F	△	10.01						
-10.02F	△	10.02						
-10.03F	△	10.03						
-10.04F	△	10.04	150	10	0.6	4.5	30	100
-10.05F	△	10.05						
-10.1 F	△	10.1						
-10.2 F	△	10.2						
-10.3 F	△	10.3						
-10.4 F	△	10.4						
-10.5 F	●	10.5						
-10.6 F	△	10.6						
-10.7 F	△	10.7						
-10.8 F	△	10.8	155	12	0.6	4.5	30	105
-10.9 F	△	10.9						
-10.97F	△	10.97						
-10.98F	△	10.98						
-10.99F	△	10.99						
-11.0 F	●	11.0						
-11.01F	△	11.01						
-11.02F	△	11.02						
-11.03F	△	11.03						
-11.04F	△	11.04	155	12	0.6	4.5	30	105
-11.05F	△	11.05						
-11.1 F	△	11.1						
-11.2 F	△	11.2						
-11.3 F	△	11.3						
-11.4 F	△	11.4						
-11.5 F	●	11.5						
-11.6 F	△	11.6						
-11.7 F	△	11.7						
-11.8 F	△	11.8	160	12	0.6	5.5	30	105
-11.9 F	△	11.9						
-11.97F	△	11.97						
-11.98F	△	11.98						
-11.99F	△	11.99						
-12.0 F	●	12.0						
-12.01F	△	12.01						
-12.02F	△	12.02						
-12.03F	△	12.03						
-12.04F	△	12.04	160	12	0.6	5.5	30	105
-12.05F	△	12.05						
-12.1 F	△	12.1						
-12.2 F	△	12.2						
-12.3 F	△	12.3	165	12	0.6	5.5	30	110

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRS-12.4 F	△	12.4						
-12.5 F	●	12.5						
-12.6 F	△	12.6						
-12.7 F	△	12.7						
-12.8 F	△	12.8	165	12	0.6	5.5	30	110
-12.9 F	△	12.9						
-12.97F	△	12.97						
-12.98F	△	12.98						
-12.99F	△	12.99						
-13.0 F	●	13.0						
-13.01F	△	13.01						
-13.02F	△	13.02						
-13.03F	△	13.03						
-13.04F	△	13.04	165	12	0.6	5.5	30	110
-13.05F	△	13.05						
-13.1 F	△	13.1						
-13.2 F	△	13.2						
-13.3 F	△	13.3						
-13.4 F	△	13.4						
-13.5 F	●	13.5						
-13.6 F	△	13.6						
-13.7 F	△	13.7						
-13.8 F	△	13.8	170	16	0.6	6.5	35	115
-13.9 F	△	13.9						
-13.97F	△	13.97						
-13.98F	△	13.98						
-13.99F	△	13.99						
-14.0 F	●	14.0						
-14.01F	△	14.01						
-14.02F	△	14.02						
-14.03F	△	14.03	170	16	0.6	6.5	35	115
-14.04F	△	14.04						
-14.05F	△	14.05						
-14.5 F	△	14.5	180	16	0.6	6.5	35	120
-15.0 F	△	15.0						
-15.5 F	△	15.5	185	16	0.6	6.5	35	125
-16.0 F	△	16.0						
-16.5 F	△	16.5	185	16	0.6	7.0	35	125
-17.0 F	△	17.0						
-17.5 F	△	17.5						
-18.0 F	△	18.0	195	20	0.6	8.0	40	130
-18.5 F	△	18.5						
-19.0 F	△	19.0						
-19.5 F	△	19.5	205	20	0.6	9.0	40	140
-20.0 F	△	20.0						
-21.0 F	△	21.0	215	20	0.6	9.0	40	150
-22.0 F	△	22.0	215	20	0.6	10.0	40	150
-23.0 F	△	23.0	230	25	0.6	11.0	40	160
-24.0 F	△	24.0						
-25.0 F	△	25.0	230	25	0.6	12.0	40	160
-26.0 F	△	26.0	230	25	0.6	13.0	40	160
-27.0 F	△	27.0						
-28.0 F	△	28.0	240	32	0.6	14.0	45	160
-29.0 F	△	29.0	240	32	0.6	15.0	45	160
-30.0 F	△	30.0						

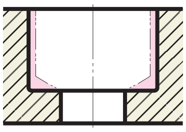
★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Please use right-hand helix reamer when there are not enough space for the chips. P.98～P.101
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN TOUGH-CUT SKILL REAMER

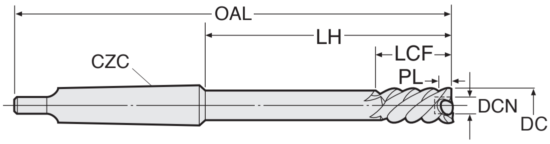
NIKKEN

SRM-F

For STEPPED HOLE
Tough-Cut Skill Reamer (Morse Taper Shank)



Explanation of the Code No.
SRM - 10.0 - F
- F: FOR STEPPED HOLE
- 10.0: DIAMETER
- SRM: TOUGH-CUT SKILL REAMER SERIES, SRM : MORSE TAPER SHANK



MILLING BLADE | LH-HELIX 45° | PN | P.139 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	DCN	LCF	LH
SRM- 4.0F	△	4.0	115	MT1	0.6	1.5	22	49.5
- 4.5F	△	4.5	120	MT1	0.6	2.0	24	54.5
- 5.0F	△	5.0						
- 5.5F	△	5.5	130	MT1	0.6	3.0	25	64.5
- 6.0F	△	6.0						
- 6.5F	△	6.5	140	MT1	0.6	3.0	25	74.5
- 7.0F	●	7.0						
- 7.5F	△	7.5	150	MT1	0.6	3.0	25	84.5
- 8.0F	●	8.0	150	MT1	0.6	3.5	25	84.5
- 8.5F	△	8.5	160	MT1	0.6	4.0	30	94.5
- 9.0F	●	9.0	160	MT1	0.6	4.0	30	99.5
- 9.5F	△	9.5	165	MT1	0.6	4.5	30	99.5
- 10.0F	●	10.0						
- 10.5F	△	10.5	170	MT1	0.6	4.5	30	104.5
- 11.0F	●	11.0						
- 11.5F	△	11.5	175	MT1	0.6	5.5	30	109.5
- 12.0F	●	12.0						
- 12.5F	△	12.5	180	MT1	0.6	5.5	30	114.5
- 13.0F	●	13.0						
- 13.5F	△	13.5	180	MT1	0.6	6.5	35	114.5
- 14.0F	●	14.0						
- 14.5F	△	14.5	200	MT2	0.6	6.5	35	120
- 15.0F	●	15.0						
- 15.5F	△	15.5	205	MT2	0.6	6.5	35	125
- 16.0F	●	16.0	205	MT2	0.6	7.0	35	125
- 16.5F	△	16.5						
- 17.0F	●	17.0						
- 17.5F	△	17.5	210	MT2	0.6	8.0	40	130
- 18.0F	●	18.0						
- 18.5F	△	18.5						
- 19.0F	●	19.0						
- 19.5F	△	19.5	220	MT2	0.6	9.0	40	140
- 20.0F	●	20.0						
- 20.5F	△	20.5	230	MT2	0.6	9.0	40	150
- 21.0F	●	21.0						
- 21.5F	△	21.5	230	MT2	0.6	10.0	40	150
- 22.0F	●	22.0						
- 22.5F	△	22.5	240	MT2	0.6	11.0	40	160
- 23.0F	●	23.0						
- 23.5F	△	23.5	250	MT3	0.6	11.0	40	151
- 24.0F	●	24.0						
- 24.5F	△	24.5	255	MT3	0.6	12.0	40	156
- 25.0F	●	25.0						
- 25.5F	△	25.5	255	MT3	0.6	13.0	40	156
- 26.0F	●	26.0						
- 26.5F	△	26.5						
- 27.0F	●	27.0						
- 27.5F	△	27.5	260	MT3	0.6	14.0	45	161
- 28.0F	●	28.0						
- 28.5F	△	28.5	260	MT3	1.0	15.0	45	161
- 29.0F	●	29.0						
- 29.5F	△	29.5						
- 30.0F	●	30.0						
- 30.5F	△	30.5	300	MT3	1.0	16.0	45	201
- 31.0F	●	31.0						
- 31.5F	△	31.5	300	MT4	1.0	17.0	45	201
- 32.0F	●	32.0						
- 32.5F	△	32.5	325	MT4	1.0	17.0	45	201

Code No.	STOCK	DC H7	OAL	CZC	PL	DCN	LCF	LH
SRM- 33.0F	●	33.0	325	MT4	1.0	17.0	45	201
- 33.5F	△	33.5	325	MT4	1.0	18.0	48	201
- 34.0F	●	34.0						
- 34.5F	△	34.5	325	MT4	1.0	19.0	48	201
- 35.0F	●	35.0						
- 35.5F	△	35.5	330	MT4	1.0	19.0	48	206
- 36.0F	●	36.0						
- 36.5F	△	36.5	330	MT4	1.0	20.0	52	206
- 37.0F	●	37.0						
- 37.5F	△	37.5	330	MT4	1.0	21.0	52	206
- 38.0F	●	38.0						
- 38.5F	△	38.5						
- 39.0F	●	39.0						
- 39.5F	△	39.5	330	MT4	1.0	22.0	52	206
- 40.0F	●	40.0						
- 40.5F	△	40.5	330	MT4	1.5	23.0	55	206
- 41.0F	●	41.0						
- 41.5F	△	41.5	335	MT4	1.5	23.0	55	206
- 42.0F	●	42.0						
- 42.5F	△	42.5	335	MT4	1.5	24.0	55	211
- 43.0F	●	43.0						
- 43.5F	△	43.5	335	MT4	1.5	25.0	55	211
- 44.0F	●	44.0						
- 44.5F	△	44.5						
- 45.0F	●	45.0						
- 45.5F	△	45.5	340	MT4	1.5	26.0	60	216
- 46.0F	●	46.0						
- 46.5F	△	46.5	340	MT4	1.5	27.0	60	216
- 47.0F	●	47.0						
- 47.5F	△	47.5	350	MT4	1.5	27.0	60	226
- 48.0F	●	48.0						
- 48.5F	△	48.5	350	MT4	1.5	28.0	60	226
- 49.0F	●	49.0						
- 49.5F	△	49.5	385	MT5	1.5	29.0	60	229
- 50.0F	●	50.0						
- 51.0F	△	51.0	385	MT5	1.5	30.0	60	229
- 52.0F	●	52.0						
- 53.0F	△	53.0	385	MT5	1.5	32.0	60	229
- 54.0F	●	54.0	385	MT5	1.5	33.0	60	229
- 55.0F	△	55.0	400	MT5	1.5	34.0	60	244
- 56.0F	●	56.0	400	MT5	1.5	35.0	60	244
- 57.0F	△	57.0	400	MT5	1.5	36.0	60	244
- 58.0F	●	58.0	400	MT5	1.5	37.0	60	244
- 59.0F	△	59.0	400	MT5	1.5	38.0	60	244
- 60.0F	●	60.0	400	MT5	1.5	39.0	60	244
- 61.0F	●	61.0	400	MT5	1.5	39.0	60	244
- 62.0F	●	62.0	400	MT5	1.5	40.0	60	244
- 63.0F	●	63.0	400	MT5	1.5	41.0	60	244
- 64.0F	●	64.0	400	MT5	1.5	42.0	60	244
- 65.0F	●	65.0	400	MT5	1.5	45.0	65	244
- 66.0F	●	66.0						
- 67.0F	●	67.0						
- 68.0F	●	68.0						
- 69.0F	●	69.0	400	MT5	1.5	48.0	65	244
- 70.0F	●	70.0						
- 71.0F	●	71.0	400	MT5	1.5	50.0	65	244
- 72.0F	●	72.0						
- 73.0F	●	73.0	400	MT5	1.5	52.0	65	244

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

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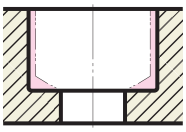
NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

SRM-F

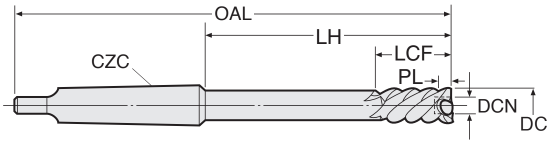
For STEPPED HOLE
Tough-Cut Skill Reamer (Morse Taper Shank)



Explanation of the Code No.

SRM - **10.0** - **F**

- F: FOR STEPPED HOLE
- 10.0: DIAMETER
- SRM: **TOUGH-CUT SKILL REAMER SERIES** — SRM : MORSE TAPER SHANK



MILLING BLADE | LH-HELIX 45° | PN | P.139 ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	CZC	PL	DCN	LCF	LH
SRM- 74.0F	●	74.0	400	MT5	1.5	52.0	65	244
- 75.0F	●	75.0						
- 76.0F	●	76.0						
- 77.0F	●	77.0	400	MT5	1.5	55.0	65	244
- 78.0F	●	78.0						
- 79.0F	●	79.0						
- 80.0F	●	80.0						
- 81.0F	●	81.0	400	MT5	1.5	58.0	65	244
- 82.0F	●	82.0						
- 83.0F	●	83.0	400	MT5	1.5	60.0	65	244
- 84.0F	●	84.0						
- 85.0F	●	85.0						
- 86.0F	●	86.0						
- 87.0F	●	87.0						

Code No.	STOCK	DC H7	OAL	CZC	PL	DCN	LCF	LH
SRM- 88.0F	●	88.0	400	MT5	1.5	60.0	65	244
- 89.0F	●	89.0						
- 90.0F	●	90.0	400	MT5	1.5	62.0	65	244
- 91.0F	●	91.0	400	MT5	1.5	62.0	65	244
- 92.0F	●	92.0						
- 93.0F	●	93.0	400	MT5	1.5	65.0	65	244
- 94.0F	●	94.0						
- 95.0F	●	95.0						
- 96.0F	●	96.0	400	MT5	1.5	68.0	65	244
- 97.0F	●	97.0						
- 98.0F	●	98.0						
- 99.0F	●	99.0	400	MT5	1.5	70.0	65	244
-100.0F	●	100.0						

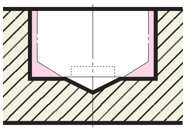
★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Please use right-handed helix reamer when there are not enough space for the chips. ☞ P.98~101
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

RSS-F

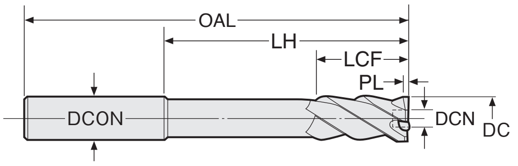
RIGHT HAND HELICAL For BLIND HOLE
Tough-Cut Skill Reamer (Straight Shank)



Explanation of the Code No.

RSS - **10.0** - **F**

- F: FOR BLIND HOLE
- 10.0: DIAMETER
- RSS: **TOUGH-CUT SKILL REAMER SERIES** — RSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30-40° | PN | P.139 ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSS- 2.97F	△	2.97	70	3	0.6	1.5	20	45
- 2.98F	△	2.98						
- 2.99F	△	2.99						
- 3.0 F	△	3.0						
- 3.01F	△	3.01	70	3	0.6	1.5	20	45
- 3.02F	△	3.02						
- 3.03F	△	3.03						
- 3.04F	△	3.04						
- 3.05F	△	3.05						
- 3.1 F	△	3.1						
- 3.2 F	△	3.2						
- 3.3 F	△	3.3	80	4	0.6	1.5	22	53
- 3.4 F	△	3.4						
- 3.5 F	△	3.5						
- 3.6 F	△	3.6						
- 3.7 F	△	3.7						
- 3.8 F	△	3.8						
- 3.9 F	△	3.9						
- 3.97F	△	3.97						
- 3.98F	△	3.98						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSS- 3.99F	△	3.99	80	4	0.6	1.5	22	53
- 4.0 F	△	4.0						
- 4.01F	△	4.01	80	4	0.6	1.5	22	53
- 4.02F	△	4.02						
- 4.03F	△	4.03						
- 4.04F	△	4.04						
- 4.05F	△	4.05						
- 4.1 F	△	4.1						
- 4.2 F	△	4.2						
- 4.3 F	△	4.3	90	5	0.6	2.0	22	60
- 4.4 F	△	4.4						
- 4.5 F	△	4.5						
- 4.6 F	△	4.6						
- 4.7 F	△	4.7						
- 4.8 F	△	4.8	90	5	0.6	2.0	24	60
- 4.9 F	△	4.9						
- 4.97F	△	4.97						
- 4.98F	△	4.98						
- 4.99F	△	4.99						
- 5.0 F	●	5.0						

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

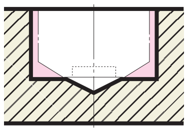
Next page

NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

RSS-F

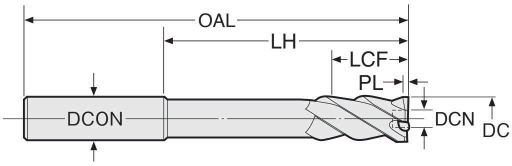
RIGHT HAND HELICAL For BLIND HOLE
Tough-Cut Skill Reamer (Straight Shank)



Explanation of the Code No.

RSS - 10.0 - F

- FOR BLIND HOLE
- DIAMETER
- **TOUGH-CUT SKILL REAMER SERIES**
  RSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30° | PN | P.139 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ **LCF must be longer than hole depth**

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSS- 5.01F	△	5.01	90	5	0.6	2.0	24	60
- 5.02F	△	5.02						
- 5.03F	△	5.03						
- 5.04F	△	5.04						
- 5.05F	△	5.05						
- 5.1 F	△	5.1						
- 5.2 F	△	5.2						
- 5.3 F	△	5.3	100	6	0.6	3.0	25	65
- 5.4 F	△	5.4						
- 5.5 F	△	5.5						
- 5.6 F	△	5.6						
- 5.7 F	△	5.7						
- 5.8 F	△	5.8						
- 5.9 F	△	5.9						
- 5.97F	△	5.97						
- 5.98F	△	5.98						
- 5.99F	△	5.99						
- 6.0 F	●	6.0						
- 6.01F	△	6.01	100	6	0.6	3.0	25	65
- 6.02F	△	6.02						
- 6.03F	△	6.03						
- 6.04F	△	6.04						
- 6.05F	△	6.05						
- 6.1 F	△	6.1						
- 6.2 F	△	6.2						
- 6.3 F	△	6.3	110	8	0.6	3.0	25	70
- 6.4 F	△	6.4						
- 6.5 F	△	6.5						
- 6.6 F	△	6.6						
- 6.7 F	△	6.7						
- 6.8 F	△	6.8						
- 6.9 F	△	6.9						
- 6.97F	△	6.97						
- 6.98F	△	6.98						
- 6.99F	△	6.99						
- 7.0 F	●	7.0						
- 7.01F	△	7.01	110	8	0.6	3.0	25	70
- 7.02F	△	7.02						
- 7.03F	△	7.03						
- 7.04F	△	7.04						
- 7.05F	△	7.05						
- 7.1 F	△	7.1						
- 7.2 F	△	7.2						
- 7.3 F	△	7.3						
- 7.4 F	△	7.4						
- 7.5 F	△	7.5						
- 7.6 F	△	7.6						
- 7.7 F	△	7.7						
- 7.8 F	△	7.8	125	8	0.6	3.5	25	85
- 7.9 F	△	7.9						
- 7.97F	△	7.97						
- 7.98F	△	7.98						
- 7.99F	△	7.99						
- 8.0 F	●	8.0						
- 8.01F	△	8.01	125	8	0.6	3.5	25	85
- 8.02F	△	8.02						
- 8.03F	△	8.03						
- 8.04F	△	8.04						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSS- 8.05F	△	8.05	125	8	0.6	3.5	25	85
- 8.1 F	△	8.1						
- 8.2 F	△	8.2						
- 8.3 F	△	8.3	135	10	0.6	4.0	30	90
- 8.4 F	△	8.4						
- 8.5 F	△	8.5						
- 8.6 F	△	8.6						
- 8.7 F	△	8.7						
- 8.8 F	△	8.8						
- 8.9 F	△	8.9						
- 8.97F	△	8.97						
- 8.98F	△	8.98						
- 8.99F	△	8.99						
- 9.0 F	●	9.0						
- 9.01F	△	9.01	135	10	0.6	4.0	30	90
- 9.02F	△	9.02						
- 9.03F	△	9.03						
- 9.04F	△	9.04						
- 9.05F	△	9.05						
- 9.1 F	△	9.1						
- 9.2 F	△	9.2						
- 9.3 F	△	9.3	150	10	0.6	4.5	30	100
- 9.4 F	△	9.4						
- 9.5 F	△	9.5						
- 9.6 F	△	9.6						
- 9.7 F	△	9.7						
- 9.8 F	△	9.8						
- 9.9 F	△	9.9						
- 9.97F	△	9.97						
- 9.98F	△	9.98						
- 9.99F	△	9.99						
-10.0 F	●	10.0						
-10.01F	△	10.01	150	10	0.6	4.5	30	100
-10.02F	△	10.02						
-10.03F	△	10.03						
-10.04F	△	10.04						
-10.05F	△	10.05						
-10.1 F	△	10.1						
-10.2 F	△	10.2						
-10.3 F	△	10.3	155	12	0.6	4.5	30	105
-10.4 F	△	10.4						
-10.5 F	△	10.5						
-10.6 F	△	10.6						
-10.7 F	△	10.7						
-10.8 F	△	10.8						
-10.9 F	△	10.9						
-10.97F	△	10.97						
-10.98F	△	10.98						
-10.99F	△	10.99						
-11.0 F	●	11.0						
-11.01F	△	11.01	155	12	0.6	4.5	30	105
-11.02F	△	11.02						
-11.03F	△	11.03						
-11.04F	△	11.04						
-11.05F	△	11.05						
-11.1 F	△	11.1						
-11.2 F	△	11.2						
-11.3 F	△	11.3	160	12	0.6	5.5	30	105

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

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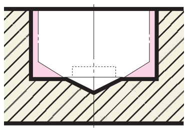
NIKKEN TOUGH-CUT SKILL REAMER

NIKKEN

RSS-F

RIGHT HAND HELICAL For BLIND HOLE
Tough-Cut Skill Reamer (Straight Shank)

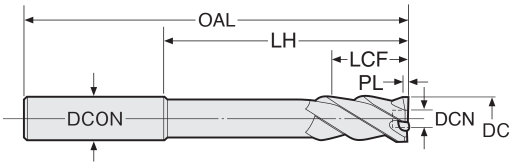
MILLING BLADE | RH-HELIX 30° | PN | P.139 *See P.4 for icons.



Explanation of the Code No.

RSS - 10.0 - F

- F: FOR BLIND HOLE
- 10.0: DIAMETER
- RSS: TOUGH-CUT SKILL REAMER SERIES
  RSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSS-11.4 F	△	11.4	160	12	0.6	5.5	30	105
-11.5 F	△	11.5						
-11.6 F	△	11.6						
-11.7 F	△	11.7						
-11.8 F	△	11.8						
-11.9 F	△	11.9						
-11.97F	△	11.97						
-11.98F	△	11.98						
-11.99F	△	11.99						
-12.0 F	●	12.0						
-12.01F	△	12.01	160	12	0.6	5.5	30	105
-12.02F	△	12.02						
-12.03F	△	12.03						
-12.04F	△	12.04						
-12.05F	△	12.05						
-12.1 F	△	12.1						
-12.2 F	△	12.2						
-12.3 F	△	12.3	165	12	0.6	5.5	30	110
-12.4 F	△	12.4						
-12.5 F	△	12.5						
-12.6 F	△	12.6						
-12.7 F	△	12.7						
-12.8 F	△	12.8						
-12.9 F	△	12.9						
-12.97F	△	12.97						
-12.98F	△	12.98						
-12.99F	△	12.99						
-13.0 F	●	13.0						
-13.01F	△	13.01	165	12	0.6	5.5	30	110
-13.02F	△	13.02						
-13.03F	△	13.03						
-13.04F	△	13.04						
-13.05F	△	13.05						
-13.1 F	△	13.1						
-13.2 F	△	13.2						
-13.3 F	△	13.3	170	16	0.6	6.5	35	115
-13.4 F	△	13.4						
-13.5 F	△	13.5						
-13.6 F	△	13.6						
-13.7 F	△	13.7						
-13.8 F	△	13.8						
-13.9 F	△	13.9						
-13.97F	△	13.97						
-13.98F	△	13.98						
-13.99F	△	13.99						
-14.0 F	●	14.0						
-14.01F	△	14.01	170	16	0.6	6.5	35	115
-14.02F	△	14.02						
-14.03F	△	14.03						
-14.04F	△	14.04						
-14.05F	△	14.05						
-14.5 F	△	14.5	180	16	0.6	6.5	35	120
-15.0 F	●	15.0						
-15.5 F	△	15.5	185	16	0.6	6.5	35	125
-16.0 F	●	16.0						
-16.5 F	△	16.5	185	16	0.6	7.0	35	125
-17.0 F	●	17.0						
-17.5 F	△	17.5	195	20	0.6	8.0	40	130

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSS-18.0 F	●	18.0	195	20	0.6	8.0	40	130
-18.5 F	△	18.5						
-19.0 F	●	19.0						
-19.5 F	△	19.5	205	20	0.6	9.0	40	140
-20.0 F	●	20.0						
-20.5 F	△	20.5	215	20	0.6	9.0	40	150
-21.0 F	●	21.0						
-21.5 F	△	21.5	215	20	0.6	10.0	40	150
-22.0 F	●	22.0						
-22.5 F	△	22.5	230	25	0.6	11.0	40	160
-23.0 F	●	23.0						
-23.5 F	△	23.5						
-24.0 F	●	24.0						
-24.5 F	△	24.5	230	25	0.6	12.0	40	160
-25.0 F	●	25.0						
-25.5 F	△	25.5	230	25	0.6	13.0	40	160
-26.0 F	●	26.0						
-26.5 F	△	26.5						
-27.0 F	●	27.0						
-27.5 F	△	27.5	240	32	0.9	14.0	45	160
-28.0 F	●	28.0						
-28.5 F	△	28.5	240	32	0.9	15.0	45	160
-29.0 F	●	29.0						
-29.5 F	△	29.5						
-30.0 F	●	30.0						
-31.0 F	●	31.0	280	32	0.9	16	45	200
-32.0 F	●	32.0	280	32	0.9	17	45	200
-33.0 F	●	33.0						
-34.0 F	●	34.0	280	32	0.9	18	48	200
-35.0 F	●	35.0	280	32	0.9	19	48	200
-36.0 F	●	36.0	285	32	0.9	19	48	205
-37.0 F	●	37.0	285	32	0.9	20	52	205
-38.0 F	●	38.0	285	32	0.9	21	52	205
-39.0 F	●	39.0						
-40.0 F	●	40.0	285	32	0.9	22	52	205
-41.0 F	●	41.0	285	32	1.2	23	55	205
-42.0 F	●	42.0	290	32	1.2	23	55	210
-43.0 F	●	43.0	290	32	1.2	24	55	210
-44.0 F	●	44.0	290	32	1.2	25	55	210
-45.0 F	●	45.0						
-46.0 F	●	46.0	295	32	1.2	26	60	215
-47.0 F	●	47.0	295	32	1.2	27	60	215
-48.0 F	●	48.0	310	32	1.2	27	60	230
-49.0 F	●	49.0	310	32	1.2	28	60	230
-50.0 F	●	50.0	310	32	1.2	29	60	230
-51.0 F	●	51.0	310	32	1.2	30	60	230
-52.0 F	●	52.0						
-53.0 F	●	53.0	310	32	1.2	32	60	230
-54.0 F	●	54.0	310	32	1.2	33	60	230
-55.0 F	●	55.0	320	32	1.2	34	60	240
-56.0 F	●	56.0	320	32	1.2	35	60	240
-57.0 F	●	57.0	320	32	1.2	36	60	240
-58.0 F	●	58.0	320	32	1.2	37	60	240
-59.0 F	●	59.0	320	32	1.2	38	60	240
-60.0 F	●	60.0	320	32	1.2	39	60	240
-61.0 F	●	61.0	320	32	1.2	39	60	240
-62.0 F	●	62.0	320	32	1.2	40	60	240
-63.0 F	●	63.0	320	32	1.2	41	60	240

★PL means chamfering length to ΦDC.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

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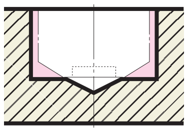
NIKKEN TOUGH-CUT SKILL REAMER

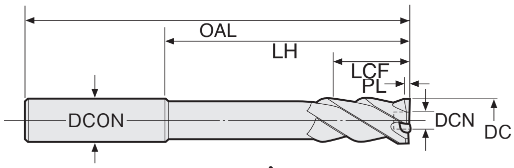
NIKKEN

RSS-F

RIGHT HAND HELICAL For BLIND HOLE
Tough-Cut Skill Reamer (Straight Shank)



Explanation of the Code No.
RSS - 10.0 - F
●FOR BLIND HOLE
●DIAMETER
●TOUGH-CUT SKILL REAMER SERIES
RSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30° | PN | P.139 ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSS- 64.0F	●	64.0	320	32	1.2	42	60	240
- 65.0F	●	65.0	320	42	1.2	45	65	240
- 66.0F	●	66.0	330	42	1.2	45	65	240
- 67.0F	●	67.0						
- 68.0F	●	68.0	330	42	1.2	48	65	240
- 69.0F	●	69.0						
- 70.0F	●	70.0						
- 71.0F	●	71.0	330	42	1.2	50	65	240
- 72.0F	●	72.0						
- 73.0F	●	73.0	330	42	1.2	52	65	240
- 74.0F	●	74.0						
- 75.0F	●	75.0						
- 76.0F	●	76.0	330	42	1.2	52	65	240
- 77.0F	●	77.0	330	42	1.2	55	65	240
- 78.0F	●	78.0						
- 79.0F	●	79.0						
- 80.0F	●	80.0						
- 81.0F	●	81.0	330	42	1.2	58	65	240
- 82.0F	●	82.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSS- 83.0F	●	83.0	330	42	1.2	58	65	240
- 84.0F	●	84.0	330	42	1.2	60	65	240
- 85.0F	●	85.0						
- 86.0F	●	86.0	330	42	1.2	60	65	240
- 87.0F	●	87.0						
- 88.0F	●	88.0						
- 89.0F	●	89.0						
- 90.0F	●	90.0	330	42	1.2	62	65	240
- 91.0F	●	91.0	330	42	1.2	62	65	240
- 92.0F	●	92.0						
- 93.0F	●	93.0	330	42	1.2	65	65	240
- 94.0F	●	94.0						
- 95.0F	●	95.0						
- 96.0F	●	96.0	330	42	1.2	68	65	240
- 97.0F	●	97.0						
- 98.0F	●	98.0						
- 99.0F	●	99.0	330	42	1.2	70	65	240
-100.0F	●	100.0						

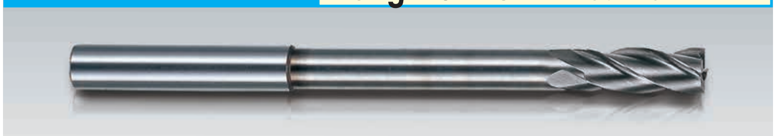
★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★**Depending on the material, the chips may be tangled. When the hole depth is more then twice of the hole diameter, we recommend Right-Handed Helix Radical Reamer with OH.** ☞**Please see below.**
★This is not suitable to use on drilling machine due to tensile force of right-handed. Please use on machining center, NC lathe and milling machine.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

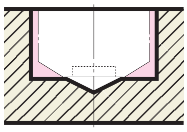
NIKKEN TOUGH-CUT SKILL REAMER WITH OH

NIKKEN

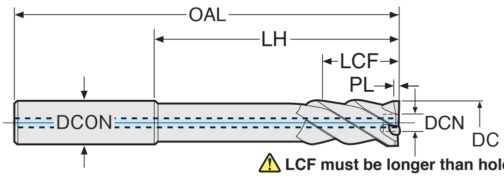
RSS-F-OH

RIGHT HAND HELICAL For BLIND HOLE
Tough-Cut Skill Reamer (Oil Hoal)





Explanation of the Code No.
RSS - 10.0 - F - OH
●FOR BLIND HOLE
●FOR BLIND HOLE
●DIAMETER
●TOUGH-CUT SKILL REAMER SERIES
RSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | RH-HELIX 30° | PN | P.139 ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

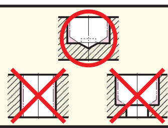
⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSS- 5.0F-OH	△	5.0	90	5	0.6	2.0	24	60
- 6.0F-OH	△	6.0	100	6	0.6	3.0	25	65
- 6.5F-OH	△	6.5	110	8	0.6	3.0	25	70
- 7.0F-OH	△	7.0	110	8	0.6	3.0	25	70
- 7.5F-OH	△	7.5	110	8	0.6	3.0	25	70
- 8.0F-OH	△	8.0	125	8	0.6	3.5	25	85
- 8.5F-OH	△	8.5	135	10	0.6	4.0	30	90
- 9.0F-OH	△	9.0						
- 9.5F-OH	△	9.5	150	10	0.6	4.5	30	100
-10.0F-OH	△	10.0						
-10.5F-OH	△	10.5	155	12	0.6	4.5	30	105
-11.0F-OH	△	11.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSS-11.5F-OH	△	11.5	160	12	0.6	5.5	30	105
-12.0F-OH	△	12.0						
-12.5F-OH	△	12.5	165	12	0.6	5.5	30	110
-13.0F-OH	△	13.0						
-13.5F-OH	△	13.5	170	16	0.6	6.5	35	115
-14.0F-OH	△	14.0						
-15.0F-OH	△	15.0	180	16	0.6	6.5	35	120
-16.0F-OH	△	16.0	185	16	0.6	6.5	35	125
-17.0F-OH	△	17.0	185	16	0.6	7.0	35	125
-18.0F-OH	△	18.0	195	20	0.6	8.0	40	130
-19.0F-OH	△	19.0	195	20	0.6	8.0	40	130
-20.0F-OH	△	20.0	205	20	0.6	9.0	40	140

★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★This is not suitable to use on drilling machine due to tensile force of right-handed. Please use on machining center, NC lathe and milling machine.
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

⚠
·This is for blind hole. Please do not use for through hole or stepped hole. Radical mill reamer with OH for blind hole is also available. ☞ **P.27**
·High pressure coolant is not eltective. The guide line of the coolant pressure is around 0.5-2.0Mpa.

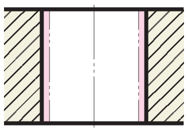


NIKKEN TOUGH-CUT SKILL REAMER LONG TYPE

NIKKEN

SRS-L

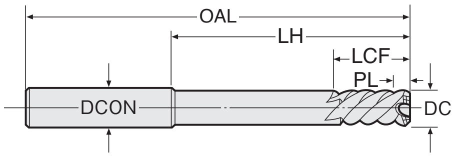
Tough-Cut Skill Reamer Long Type (Straight Shank)



Explanation of the Code No.

SRS - 10.0 - 230L

- OAL
- DIAMETER
- TOUGH-CUT SKILL REAMER SERIES
  SRS : STRAIGHT SHANK LONG TYPE



MILLING BLADE | LH-HELIX 30-45° | PN | P.139 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 2.98-110L	△	2.98	110	3	4.7	20	85
- 2.99-110L	△	2.99					
- 3.0 -110L	△	3.0					
- 3.01-110L	△	3.01	110	3	4.7	20	85
- 3.02-110L	△	3.02					
- 3.03-110L	△	3.03					
- 3.05-110L	△	3.05					
- 2.98-125L	△	2.98	125	3	4.7	20	100
- 2.99-125L	△	2.99					
- 3.0 -125L	△	3.0					
- 3.01-125L	△	3.01	125	3	4.7	20	100
- 3.02-125L	△	3.02					
- 3.03-125L	△	3.03					
- 3.05-125L	△	3.05					
- 3.98-120L	△	3.98	120	4	5.4	22	93
- 3.99-120L	△	3.99					
- 4.0 -120L	△	4.0					
- 4.01-120L	△	4.01	120	4	5.4	22	93
- 4.02-120L	△	4.02					
- 4.03-120L	△	4.03					
- 4.05-120L	△	4.05					
- 3.98-135L	△	3.98	135	4	5.4	22	108
- 3.99-135L	△	3.99					
- 4.0 -135L	△	4.0					
- 4.01-135L	△	4.01	135	4	5.4	22	108
- 4.02-135L	△	4.02					
- 4.03-135L	△	4.03					
- 4.05-135L	△	4.05					
- 4.98-130L	△	4.98	130	5	5.4	24	100
- 4.99-130L	△	4.99					
- 5.0 -130L	△	5.0					
- 5.01-130L	△	5.01	130	5	5.4	24	100
- 5.02-130L	△	5.02					
- 5.03-130L	△	5.03					
- 5.05-130L	△	5.05					
- 4.98-150L	△	4.98	150	5	5.4	24	120
- 4.99-150L	△	4.99					
- 5.0 -150L	△	5.0					
- 5.01-150L	△	5.01	150	5	5.4	24	120
- 5.02-150L	△	5.02					
- 5.03-150L	△	5.03					
- 5.05-150L	△	5.05					
- 5.98-140L	△	5.98	140	6	6.0	25	105
- 5.99-140L	△	5.99					
- 6.0 -140L	△	6.0					
- 6.01-140L	△	6.01	140	6	6.0	25	105
- 6.02-140L	△	6.02					
- 6.03-140L	△	6.03					
- 6.05-140L	△	6.05					
- 5.98-170L	△	5.98	170	6	6.0	25	135
- 5.99-170L	△	5.99					
- 6.0 -170L	△	6.0					
- 6.01-170L	△	6.01	170	6	6.0	25	135
- 6.02-170L	△	6.02					
- 6.03-170L	△	6.03					
- 6.05-170L	△	6.05					
- 6.98-160L	△	6.98	160	8	6.6	25	120
- 6.99-160L	△	6.99					

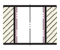
Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS- 7.0 -160L	△	7.0	160	8	6.6	25	120
- 7.01-160L	△	7.01	160	8	6.6	25	120
- 7.02-160L	△	7.02					
- 7.03-160L	△	7.03					
- 7.05-160L	△	7.05					
- 6.98-190L	△	6.98	190	8	6.6	25	150
- 6.99-190L	△	6.99					
- 7.0 -190L	△	7.0					
- 7.01-190L	△	7.01	190	8	6.6	25	150
- 7.02-190L	△	7.02					
- 7.03-190L	△	7.03					
- 7.05-190L	△	7.05					
- 7.98-165L	△	7.98	165	8	7.2	25	125
- 7.99-165L	△	7.99					
- 8.0 -165L	△	8.0					
- 8.01-165L	△	8.01	165	8	7.2	25	125
- 8.02-165L	△	8.02					
- 8.03-165L	△	8.03					
- 8.05-165L	△	8.05					
- 7.98-200L	△	7.98	200	8	7.2	25	160
- 7.99-200L	△	7.99					
- 8.0 -200L	△	8.0					
- 8.01-200L	△	8.01	200	8	7.2	25	160
- 8.02-200L	△	8.02					
- 8.03-200L	△	8.03					
- 8.05-200L	△	8.05					
- 8.98-185L	△	8.98	185	10	7.6	30	140
- 8.99-185L	△	8.99					
- 9.0 -185L	△	9.0					
- 9.01-185L	△	9.01	185	10	7.6	30	140
- 9.02-185L	△	9.02					
- 9.03-185L	△	9.03					
- 9.05-185L	△	9.05					
- 8.98-220L	△	8.98	220	10	7.6	30	175
- 8.99-220L	△	8.99					
- 9.0 -220L	△	9.0					
- 9.01-220L	△	9.01	220	10	7.6	30	175
- 9.02-220L	△	9.02					
- 9.03-220L	△	9.03					
- 9.05-220L	△	9.05					
- 9.98-200L	△	9.98	200	10	7.8	30	150
- 9.99-200L	△	9.99					
-10.0 -200L	△	10.0					
-10.01-200L	△	10.01	200	10	7.8	30	150
-10.02-200L	△	10.02					
-10.03-200L	△	10.03					
-10.05-200L	△	10.05					
- 9.98-230L	△	9.98	230	10	7.8	30	180
- 9.99-230L	△	9.99					
-10.0 -230L	△	10.0					
-10.01-230L	△	10.01	230	10	7.8	30	180
-10.02-230L	△	10.02					
-10.03-230L	△	10.03					
-10.05-230L	△	10.05					
-10.98-205L	△	10.98	205	12	8.5	30	155
-10.99-205L	△	10.99					
-11.0 -205L	△	11.0					
-11.01-205L	△	11.01	205	12	8.5	30	155

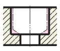
★PL means chamfering length to ΦDC. (pink) = Long type, (blue) = Semi long type

HSS

FOR THROUGH HOLE

Next page



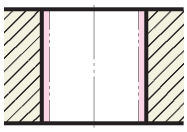


NIKKEN TOUGH-CUT SKILL REAMER LONG TYPE

NIKKEN

SRS-L

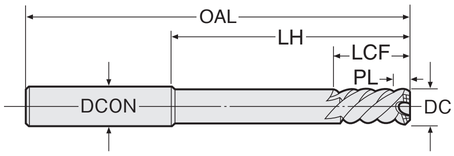
Tough-Cut Skill Reamer Long Type (Straight Shank)



Explanation of the Code No.

SRS - 10.0 - 230L

- OAL
- DIAMETER
- TOUGH-CUT SKILL REAMER SERIES
  SRS : STRAIGHT SHANK LONG TYPE



MILLING BLADE | LH-HELIX 30-45° | PN | P.139 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS-11.02-205L	△	11.02					
-11.03-205L	△	11.03	205	12	8.5	30	155
-11.05-205L	△	11.05					
-10.98-235L	△	10.98					
-10.99-235L	△	10.99	235	12	8.5	30	185
-11.0 -235L	△	11.0					
-11.01-235L	△	11.01					
-11.02-235L	△	11.02	235	12	8.5	30	185
-11.03-235L	△	11.03					
-11.05-235L	△	11.05					
-11.98-210L	△	11.98					
-11.99-210L	△	11.99	210	12	8.5	30	155
-12.0 -210L	△	12.0					
-12.01-210L	△	12.01					
-12.02-210L	△	12.02	210	12	8.5	30	155
-12.03-210L	△	12.03					
-12.05-210L	△	12.05					
-11.98-245L	△	11.98					
-11.99-245L	△	11.99	245	12	8.5	30	190
-12.0 -245L	△	12.0					
-12.01-245L	△	12.01					
-12.02-245L	△	12.02	245	12	8.5	30	190
-12.03-245L	△	12.03					
-12.05-245L	△	12.05					
-12.98-215L	△	12.98	215	12	8.8	30	160
-12.99-215L	△	12.99					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
SRS-13.0 -215L	△	13.0	215	12	8.8	30	160
-13.01-215L	△	13.01					
-13.02-215L	△	13.02	215	12	8.8	30	160
-13.03-215L	△	13.03					
-13.05-215L	△	13.05					
-12.98-245L	△	12.98					
-12.99-245L	△	12.99	245	12	8.8	30	190
-13.0 -245L	△	13.0					
-13.01-245L	△	13.01					
-13.02-245L	△	13.02	245	12	8.8	30	190
-13.03-245L	△	13.03					
-13.05-245L	△	13.05					
-14.0 -220L	△	14.0	220	16	9.5	35	165
-14.0 -250L	△	14.0	250	16	9.5	35	195
-15.0 -240L	△	15.0	240	16	9.5	35	180
-15.0 -270L	△	15.0	270	16	9.5	35	210
-16.0 -245L	△	16.0	245	16	10.0	35	185
-16.0 -280L	△	16.0	280	16	10.0	35	220
-17.0 -245L	△	17.0	245	16	10.0	35	185
-17.0 -280L	△	17.0	280	16	10.0	35	220
-18.0 -255L	△	18.0	255	20	10.0	40	190
-18.0 -290L	△	18.0	290	20	10.0	40	225
-19.0 -255L	△	19.0	255	20	10.0	40	190
-19.0 -300L	△	19.0	300	20	10.0	40	235
-20.0 -265L	△	20.0	265	20	10.5	40	200
-20.0 -300L	△	20.0	300	20	10.5	40	235

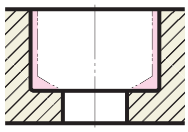
★PL means chamfering length to ΦDC. = Long type, = Semi long type

NIKKEN TOUGH-CUT SKILL REAMER LONG TYPE

NIKKEN

SRS-F-L

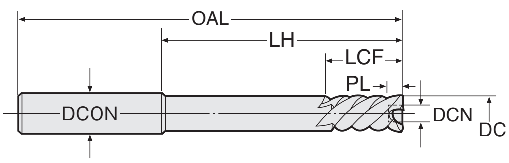
For STEPPED HOLE
Tough-Cut Skill Reamer Long Type (Straight Shank)



Explanation of the Code No.

SRS - 10.0 - F - 230L

- OAL
- FOR STEPPED HOLE
- DIAMETER
- TOUGH-CUT SKILL REAMER SERIES
  SRS : STRAIGHT SHANK LONG TYPE



MILLING BLADE | LH-HELIX 30° | PN | P.139 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRS- 2.98F-110L	△	2.98						
- 2.99F-110L	△	2.99	110	3	0.6	1.3	20	85
- 3.0 F-110L	△	3.0						
- 3.01F-110L	△	3.01						
- 3.02F-110L	△	3.02	110	3	0.6	1.3	20	85
- 3.03F-110L	△	3.03						
- 3.05F-110L	△	3.05						
- 2.98F-125L	△	2.98						
- 2.99F-125L	△	2.99	125	3	0.6	1.3	20	100
- 3.0 F-125L	△	3.0						
- 3.01F-125L	△	3.01	125	3	0.6	1.3	20	100

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRS- 3.02F-125L	△	3.02						
- 3.03F-125L	△	3.03	125	3	0.6	1.3	20	100
- 3.05F-125L	△	3.05						
- 3.98F-120L	△	3.98						
- 3.99F-120L	△	3.99	120	4	0.6	1.5	22	93
- 4.0 F-120L	△	4.0						
- 4.01F-120L	△	4.01						
- 4.02F-120L	△	4.02	120	4	0.6	1.5	22	93
- 4.03F-120L	△	4.03						
- 4.05F-120L	△	4.05						
- 3.98F-135L	△	3.98	135	4	0.6	1.5	22	108

★PL means chamfering length to ΦDC. = Long type, = Semi long type

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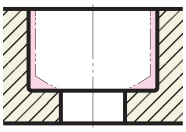
NIKKEN TOUGH-CUT SKILL REAMER LONG TYPE

NIKKEN

SRS-F-L

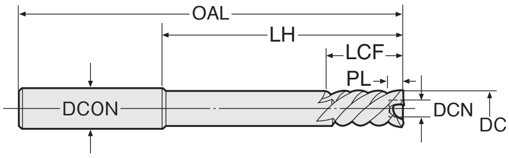
For STEPPED HOLE
Tough-Cut Skill Reamer Long Type (Straight Shank)



Explanation of the Code No.

SRS - 10.0 - F - 230L

- OAL
- FOR STEPPED HOLE
- DIAMETER
- TOUGH-CUT SKILL REAMER SERIES
  SRS : STRAIGHT SHANK LONG TYPE



MILLING BLADE | LH-HELIX 30° | PN | P.139 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRS- 3.99F-135L	△	3.99	135	4	0.6	1.5	22	108
- 4.0 F-135L	△	4.0						
- 4.01F-135L	△	4.01	135	4	0.6	1.5	22	108
- 4.02F-135L	△	4.02						
- 4.03F-135L	△	4.03						
- 4.05F-135L	△	4.05						
- 4.98F-130L	△	4.98	130	5	0.6	2.0	24	100
- 4.99F-130L	△	4.99						
- 5.0 F-130L	△	5.0						
- 5.01F-130L	△	5.01	130	5	0.6	2.0	24	100
- 5.02F-130L	△	5.02						
- 5.03F-130L	△	5.03						
- 5.05F-130L	△	5.05						
- 4.98F-150L	△	4.98	150	5	0.6	2.0	24	120
- 4.99F-150L	△	4.99						
- 5.0 F-150L	△	5.0						
- 5.01F-150L	△	5.01	150	5	0.6	2.0	24	120
- 5.02F-150L	△	5.02						
- 5.03F-150L	△	5.03						
- 5.05F-150L	△	5.05						
- 5.98F-140L	△	5.98	140	6	0.6	3.0	25	105
- 5.99F-140L	△	5.99						
- 6.0 F-140L	△	6.0						
- 6.01F-140L	△	6.01	140	6	0.6	3.0	25	105
- 6.02F-140L	△	6.02						
- 6.03F-140L	△	6.03						
- 6.05F-140L	△	6.05						
- 5.98F-170L	△	5.98	170	6	0.6	3.0	25	135
- 5.99F-170L	△	5.99						
- 6.0 F-170L	△	6.0						
- 6.01F-170L	△	6.01	170	6	0.6	3.0	25	135
- 6.02F-170L	△	6.02						
- 6.03F-170L	△	6.03						
- 6.05F-170L	△	6.05						
- 6.98F-160L	△	6.98	160	8	0.6	3.0	25	120
- 6.99F-160L	△	6.99						
- 7.0 F-160L	△	7.0						
- 7.01F-160L	△	7.01	160	8	0.6	3.0	25	120
- 7.02F-160L	△	7.02						
- 7.03F-160L	△	7.03						
- 7.05F-160L	△	7.05						
- 6.98F-190L	△	6.98	190	8	0.6	3.0	25	150
- 6.99F-190L	△	6.99						
- 7.0 F-190L	△	7.0						
- 7.01F-190L	△	7.01	190	8	0.6	3.0	25	150
- 7.02F-190L	△	7.02						
- 7.03F-190L	△	7.03						
- 7.05F-190L	△	7.05						
- 7.98F-165L	△	7.98	165	8	0.6	3.5	25	125
- 7.99F-165L	△	7.99						
- 8.0 F-165L	△	8.0						
- 8.01F-165L	△	8.01	165	8	0.6	3.5	25	125
- 8.02F-165L	△	8.02						
- 8.03F-165L	△	8.03						
- 8.05F-165L	△	8.05						
- 7.98F-200L	△	7.98	200	8	0.6	3.5	25	160
- 7.99F-200L	△	7.99						
- 8.0 F-200L	△	8.0						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRS- 8.01F-200L	△	8.01	200	8	0.6	3.5	25	160
- 8.02F-200L	△	8.02						
- 8.03F-200L	△	8.03						
- 8.05F-200L	△	8.05						
- 8.98F-185L	△	8.98	185	10	0.6	4.0	30	140
- 8.99F-185L	△	8.99						
- 9.0 F-185L	△	9.0						
- 9.01F-185L	△	9.01	185	10	0.6	4.0	30	140
- 9.02F-185L	△	9.02						
- 9.03F-185L	△	9.03						
- 9.05F-185L	△	9.05						
- 8.98F-220L	△	8.98	220	10	0.6	4.0	30	175
- 8.99F-220L	△	8.99						
- 9.0 F-220L	△	9.0						
- 9.01F-220L	△	9.01	220	10	0.6	4.0	30	175
- 9.02F-220L	△	9.02						
- 9.03F-220L	△	9.03						
- 9.05F-220L	△	9.05						
- 9.98F-200L	△	9.98	200	10	0.6	4.5	30	150
- 9.99F-200L	△	9.99						
-10.0 F-200L	△	10.0						
-10.01F-200L	△	10.01	200	10	0.6	4.5	30	150
-10.02F-200L	△	10.02						
-10.03F-200L	△	10.03						
-10.05F-200L	△	10.05						
- 9.98F-230L	△	9.98	230	10	0.6	4.5	30	180
- 9.99F-230L	△	9.99						
-10.0 F-230L	△	10.0						
-10.01F-230L	△	10.01	230	10	0.6	4.5	30	180
-10.02F-230L	△	10.02						
-10.03F-230L	△	10.03						
-10.05F-230L	△	10.05						
-10.98F-205L	△	10.98	205	12	0.6	4.5	30	155
-10.99F-205L	△	10.99						
-11.0 F-205L	△	11.0						
-11.01F-205L	△	11.01	205	12	0.6	4.5	30	155
-11.02F-205L	△	11.02						
-11.03F-205L	△	11.03						
-11.05F-205L	△	11.05						
-10.98F-235L	△	10.98	235	12	0.6	4.5	30	185
-10.99F-235L	△	10.99						
-11.0 F-235L	△	11.0						
-11.01F-235L	△	11.01	235	12	0.6	4.5	30	185
-11.02F-235L	△	11.02						
-11.03F-235L	△	11.03						
-11.05F-235L	△	11.05						
-11.98F-210L	△	11.98	210	12	0.6	5.5	30	155
-11.99F-210L	△	11.99						
-12.0 F-210L	△	12.0						
-12.01F-210L	△	12.01	210	12	0.6	5.5	30	155
-12.02F-210L	△	12.02						
-12.03F-210L	△	12.03						
-12.05F-210L	△	12.05						
-11.98F-245L	△	11.98	245	12	0.6	5.5	30	190
-11.99F-245L	△	11.99						
-12.0 F-245L	△	12.0						
-12.01F-245L	△	12.01	245	12	0.6	5.5	30	190
-12.02F-245L	△	12.02						

★PL means chamfering length to ΦDC. (pink) = Long type, (blue) = Semi long type

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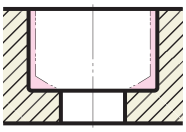
NIKKEN TOUGH-CUT SKILL REAMER LONG TYPE

NIKKEN

SRS-F-L

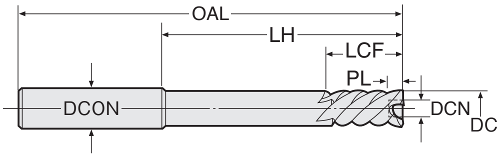
For STEPPED HOLE
Tough-Cut Skill Reamer (Straight Shank)



Explanation of the Code No.

SRS - 10.0 F - 230L

- OAL
- FOR STEPPED HOLE
- DIAMETER
- **TOUGH-CUT SKILL REAMER SERIES**
  SRS : STRAIGHT SHANK LONG TYPE



MILLING BLADE | LH-HELIX 30°-40° | PN | P.139 ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

HSS

FOR STEPPED HOLE

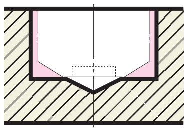
Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRS--12.03F-245L	△	12.03	245	12	0.6	5.5	30	190
-12.05F-245L	△	12.05						
-12.98F-215L	△	12.98	215	12	0.6	5.5	30	160
-12.99F-215L	△	12.99						
-13.0 F-215L	△	13.0						
-13.01F-215L	△	13.01	215	12	0.6	5.5	30	160
-13.02F-215L	△	13.02						
-13.03F-215L	△	13.03						
-13.05F-215L	△	13.05						
-12.98F-245L	△	12.98	245	12	0.6	5.5	30	190
-12.99F-245L	△	12.99						
-13.0 F-245L	△	13.0						
-13.01F-245L	△	13.01	245	12	0.6	5.5	30	190
-13.02F-245L	△	13.02						
-13.03F-245L	△	13.03						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRS-13.05F-245L	△	13.05	245	12	0.6	5.5	30	190
-14.0 F-220L	△	14.0	220	16	0.6	6.5	35	165
-14.0 F-250L	△	14.0	250	16	0.6	6.5	35	195
-15.0 F-240L	△	15.0	240	16	0.6	6.5	35	180
-15.0 F-270L	△	15.0	270	16	0.6	6.5	35	210
-16.0 F-245L	△	16.0	245	16	0.6	6.5	35	185
-16.0 F-280L	△	16.0	280	16	0.6	6.5	35	220
-17.0 F-245L	△	17.0	245	16	0.6	7.0	35	185
-17.0 F-280L	△	17.0	280	16	0.6	7.0	35	220
-18.0 F-255L	△	18.0	255	20	0.6	8.0	40	190
-18.0 F-290L	△	18.0	290	20	0.6	8.0	40	225
-19.0 F-255L	△	19.0	255	20	0.6	8.0	40	190
-19.0 F-300L	△	19.0	300	20	0.6	8.0	40	235
-20.0 F-265L	△	20.0	265	20	0.6	9.0	40	200
-20.0 F-300L	△	20.0	300	20	0.6	9.0	40	235

★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Please use right-handed helix reamer when there are not enough space for the chips. ☞ P.98~101
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.
= Long type, = Semi long type

RSST-F

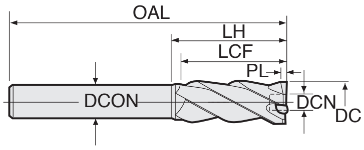
RIGHT HAND HELICAL For BLIND HOLE Turning skill Reamer (Short Shank)



Explanation of the Code No.

RSST - 10.0 - F

- F: FOR BLIND HOLE
- 10.0: DIAMETER
- RSST: TURNING SKILL REAMER SERIES
  - RSS : STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | LH-HELIX 30°-40° | PN | P.140 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSST-2.98F	△	2.98						
-2.99F	△	2.99	60	3	0.6	1.5	20	35
-3.0 F	●	3.0						
-3.01F	△	3.01						
-3.02F	△	3.02						
-3.03F	△	3.03						
-3.04F	△	3.04	60	3	0.6	1.5	20	35
-3.05F	△	3.05						
-3.1 F	△	3.1						
-3.2 F	△	3.2						
-3.3 F	△	3.3						
-3.4 F	△	3.4						
-3.5 F	△	3.5						
-3.6 F	△	3.6						
-3.7 F	△	3.7						
-3.8 F	△	3.8						
-3.9 F	△	3.9	60	3	0.6	1.5	20	20
-3.95F	△	3.95						
-3.96F	△	3.96						
-3.97F	△	3.97						
-3.98F	△	3.98						
-3.99F	△	3.99						
-4.0 F	●	4.0						
-4.01F	△	4.01						
-4.02F	△	4.02						
-4.03F	△	4.03						
-4.04F	△	4.04	60	3	0.6	1.5	20	20
-4.05F	△	4.05						
-4.1 F	△	4.1						
-4.2 F	△	4.2						
-4.3 F	△	4.3						
-4.4 F	△	4.4						
-4.5 F	△	4.5						
-4.6 F	△	4.6						
-4.7 F	△	4.7						
-4.8 F	△	4.8						
-4.9 F	△	4.9	65	4	0.6	2	25	25
-4.95F	△	4.95						
-4.96F	△	4.96						
-4.97F	△	4.97						
-4.98F	△	4.98						
-4.99F	△	4.99						
-5.0 F	●	5.0						
-5.01F	△	5.01						
-5.02F	△	5.02						
-5.03F	△	5.03						
-5.04F	△	5.04	65	4	0.6	2	25	25
-5.05F	△	5.05						
-5.1 F	△	5.1						
-5.2 F	△	5.2						
-5.3 F	△	5.3						
-5.4 F	△	5.4						
-5.5 F	△	5.5						
-5.6 F	△	5.6	65	5	0.6	3	25	25
-5.7 F	△	5.7						
-5.8 F	△	5.8						
-5.9 F	△	5.9						
-5.95F	△	5.95						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSST-5.96F	△	5.96						
-5.97F	△	5.97						
-5.98F	△	5.98	65	5	0.6	3	25	25
-5.99F	△	5.99						
-6.0 F	●	6.0						
-6.01F	△	6.01						
-6.02F	△	6.02						
-6.03F	△	6.03						
-6.04F	△	6.04	65	5	0.6	3	25	25
-6.05F	△	6.05						
-6.1 F	△	6.1						
-6.2 F	△	6.2						
-6.3 F	△	6.3						
-6.35F	△	6.35						
-6.4 F	△	6.4						
-6.5 F	△	6.5						
-6.6 F	△	6.6						
-6.7 F	△	6.7						
-6.8 F	△	6.8	70	6	0.6	3	25	25
-6.9 F	△	6.9						
-6.95F	△	6.95						
-6.96F	△	6.96						
-6.97F	△	6.97						
-6.98F	△	6.98						
-6.99F	△	6.99						
-7.0 F	●	7.0						
-7.01F	△	7.01						
-7.02F	△	7.02						
-7.03F	△	7.03						
-7.04F	△	7.04	70	6	0.6	3	25	25
-7.05F	△	7.05						
-7.1 F	△	7.1						
-7.2 F	△	7.2						
-7.3 F	△	7.3						
-7.4 F	△	7.4						
-7.5 F	△	7.5						
-7.6 F	△	7.6						
-7.7 F	△	7.7						
-7.8 F	△	7.8						
-7.9 F	△	7.9	70	6	0.6	3.5	25	25
-7.95F	△	7.95						
-7.96F	△	7.96						
-7.97F	△	7.97						
-7.98F	△	7.98						
-7.99F	△	7.99						
-8.0 F	●	8.0						
-8.01F	△	8.01						
-8.02F	△	8.02						
-8.03F	△	8.03						
-8.04F	△	8.04	70	6	0.6	3.5	25	25
-8.05F	△	8.05						
-8.1 F	△	8.1						
-8.2 F	△	8.2						
-8.3 F	△	8.3						
-8.4 F	△	8.4						
-8.5 F	△	8.5	70	8	0.6	4	25	25
-8.6 F	△	8.6						
-8.7 F	△	8.7						

★PL means chamfering length to φDC.
★Turning skill reamer is recommended to use on NC Lathe. ☞P.142

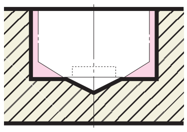
Next page

NIKKEN TURNING SKILL REAMER FOR CNC AUTOMATIC TURNING MACHINE

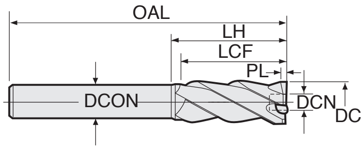
NIKKEN

RSST-F

RIGHT HAND HELICAL For BLIND HOLE
Turning skill Reamer (Short Shank)



Explanation of the Code No.
RSST - 10.0 - F
- F: FOR BLIND HOLE
- 10.0: DIAMETER
- RSST: TURNING SKILL REAMER SERIES
  RSST: STRAIGHT SHANK RIGHT HAND HELICAL FOR BLIND HOLE



MILLING BLADE | LH-HELIX 30°-40° | PN | P.140 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

⚠ LCF must be longer than hole depth

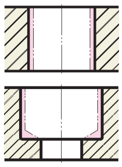
Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSST-8.8 F	△	8.8	70	8	0.6	4	25	25
-8.9 F	△	8.9						
-8.95 F	△	8.95						
-8.96 F	△	8.96						
-8.97 F	△	8.97						
-8.98 F	△	8.98						
-8.99 F	△	8.99						
-9.0 F	●	9.0						
-9.01 F	△	9.01	70	8	0.6	4	25	25
-9.02 F	△	9.02						
-9.03 F	△	9.03						
-9.04 F	△	9.04						
-9.05 F	△	9.05						
-9.1 F	△	9.1						
-9.2 F	△	9.2						
-9.3 F	△	9.3	70	8	0.6	4.5	25	25
-9.4 F	△	9.4						
-9.5 F	△	9.5						
-9.52 F	△	9.52						
-9.6 F	△	9.6						
-9.7 F	△	9.7						
-9.8 F	△	9.8						
-9.9 F	△	9.9						
-9.98 F	△	9.98						
-9.99 F	△	9.99						
-10.0 F	●	10.0						
-10.01F	△	10.01	70	8	0.6	4.5	25	25
-10.02F	△	10.02						
-10.03F	△	10.03						
-10.04F	△	10.04						
-10.05F	△	10.05						
-10.1 F	△	10.1						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
RSST-10.2 F	△	10.2	70	8	0.6	4.5	25	25
-10.3 F	△	10.3	80	10	0.6	4.5	30	30
-10.4 F	△	10.4						
-10.5 F	△	10.5						
-10.6 F	△	10.6						
-10.7 F	△	10.7						
-10.8 F	△	10.8						
-10.9 F	△	10.9						
-11.0 F	●	11.0						
-11.01F	△	11.01	80	10	0.6	4.5	30	30
-11.02F	△	11.02						
-11.03F	△	11.03						
-11.04F	△	11.04						
-11.05F	△	11.05						
-11.1 F	△	11.1						
-11.2 F	△	11.2						
-11.3 F	△	11.3	80	10	0.6	5.5	30	30
-11.4 F	△	11.4						
-11.5 F	△	11.5						
-11.6 F	△	11.6						
-11.7 F	△	11.7						
-11.8 F	△	11.8						
-11.9 F	△	11.9						
-11.98F	△	11.98						
-11.99F	△	11.99						
-12.0 F	●	12.0						
-12.01F	△	12.01	80	10	0.6	5.5	30	30
-12.02F	△	12.02						
-12.03F	△	12.03						
-12.04F	△	12.04						
-12.05F	△	12.05						

★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Turning skill reamer is recommended to use on NC Lathe. ☞ P.142
★**OH Type is also available.**
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

SRST-F

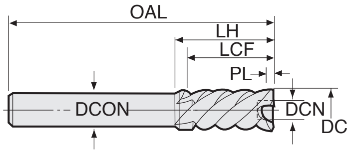
For THROGH HOLE, STEPPED HOLE
Turning skill Reamer (Short Shank)



Explanation of the Code No.

SRST - 10.0 - F

- FOR STEPPED HOLE
- DIAMETER
- **TURNING SKILL REAMER SERIES**
  SRST : STRAIGHT SHANK SHORT



MILLING BLADE | LH-HELIX 45° | PN | P.140 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRST-2.98F	△	2.98						
-2.99F	△	2.99	60	3	0.6	1.5	20	35
-3.0 F	●	3.0						
-3.01F	△	3.01						
-3.02F	△	3.02						
-3.03F	△	3.03						
-3.04F	△	3.04	60	3	0.6	1.5	20	35
-3.05F	△	3.05						
-3.1 F	△	3.1						
-3.2 F	△	3.2						
-3.3 F	△	3.3						
-3.4 F	△	3.4						
-3.5 F	△	3.5						
-3.6 F	△	3.6						
-3.7 F	△	3.7						
-3.8 F	△	3.8						
-3.9 F	△	3.9	60	3	0.6	1.5	20	20
-3.95F	△	3.95						
-3.96F	△	3.96						
-3.97F	△	3.97						
-3.98F	△	3.98						
-3.99F	△	3.99						
-4.0 F	●	4.0						
-4.01F	△	4.01						
-4.02F	△	4.02						
-4.03F	△	4.03						
-4.04F	△	4.04	60	3	0.6	1.5	20	20
-4.05F	△	4.05						
-4.1 F	△	4.1						
-4.2 F	△	4.2						
-4.3 F	△	4.3						
-4.4 F	△	4.4						
-4.5 F	△	4.5						
-4.6 F	△	4.6						
-4.7 F	△	4.7						
-4.8 F	△	4.8						
-4.9 F	△	4.9	65	4	0.6	2	25	25
-4.95F	△	4.95						
-4.96F	△	4.96						
-4.97F	△	4.97						
-4.98F	△	4.98						
-4.99F	△	4.99						
-5.0 F	●	5.0						
-5.01F	△	5.01						
-5.02F	△	5.02						
-5.03F	△	5.03						
-5.04F	△	5.04	65	4	0.6	2	25	25
-5.05F	△	5.05						
-5.1 F	△	5.1						
-5.2 F	△	5.2						
-5.3 F	△	5.3						
-5.4 F	△	5.4						
-5.5 F	△	5.5						
-5.6 F	△	5.6	65	5	0.6	3	25	25
-5.7 F	△	5.7						
-5.8 F	△	5.8						
-5.9 F	△	5.9						
-5.95F	△	5.95						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRST-5.96F	△	5.96						
-5.97F	△	5.97						
-5.98F	△	5.98	65	5	0.6	3	25	25
-5.99F	△	5.99						
-6.0 F	●	6.0						
-6.01F	△	6.01						
-6.02F	△	6.02						
-6.03F	△	6.03						
-6.04F	△	6.04	65	5	0.6	3	25	25
-6.05F	△	6.05						
-6.1 F	△	6.1						
-6.2 F	△	6.2						
-6.3 F	△	6.3						
-6.35F	△	6.35						
-6.4 F	△	6.4						
-6.5 F	△	6.5						
-6.6 F	△	6.6						
-6.7 F	△	6.7						
-6.8 F	△	6.8	70	6	0.6	3	25	25
-6.9 F	△	6.9						
-6.95F	△	6.95						
-6.96F	△	6.96						
-6.97F	△	6.97						
-6.98F	△	6.98						
-6.99F	△	6.99						
-7.0 F	●	7.0						
-7.01F	△	7.01						
-7.02F	△	7.02						
-7.03F	△	7.03						
-7.04F	△	7.04	70	6	0.6	3	25	25
-7.05F	△	7.05						
-7.1 F	△	7.1						
-7.2 F	△	7.2						
-7.3 F	△	7.3						
-7.4 F	△	7.4						
-7.5 F	△	7.5						
-7.6 F	△	7.6						
-7.7 F	△	7.7						
-7.8 F	△	7.8						
-7.9 F	△	7.9	70	6	0.6	3.5	25	25
-7.95F	△	7.95						
-7.96F	△	7.96						
-7.97F	△	7.97						
-7.98F	△	7.98						
-7.99F	△	7.99						
-8.0 F	●	8.0						
-8.01F	△	8.01						
-8.02F	△	8.02						
-8.03F	△	8.03						
-8.04F	△	8.04	70	6	0.6	3.5	25	25
-8.05F	△	8.05						
-8.1 F	△	8.1						
-8.2 F	△	8.2						
-8.3 F	△	8.3						
-8.4 F	△	8.4						
-8.5 F	△	8.5	70	8	0.6	4	25	25
-8.6 F	△	8.6						
-8.7 F	△	8.7						

★PL means chamfering length to ΦDC.
★Turning skill reamer is recommended to use on NC Lathe. P.142

Next page

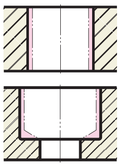
NIKKEN TURNING SKILL REAMER FOR CNC AUTOMATIC TURNING MACHINE

NIKKEN

SRST-F

For THROGH HOLE, STEPPED HOLE

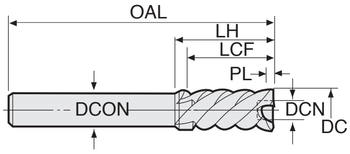
Turning skill Reamer (Short Shank)



Explanation of the Code No.

SRST - 10.0 - F

- F: FOR STEPPED HOLE
- 10.0: DIAMETER
- SRST: **TURNING SKILL REAMER SERIES**, SRST : STRAIGHT SHANK SHORT



MILLING BLADE | LH-HELIX 45° | PN | P.140 ∗See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

HSS

FOR THROUGH HOLE

FOR STEPPED HOLE

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRST-8.8 F	△	8.8	70	8	0.6	4	25	25
-8.9 F	△	8.9						
-8.95 F	△	8.95						
-8.96 F	△	8.96						
-8.97 F	△	8.97						
-8.98 F	△	8.98						
-8.99 F	△	8.99						
-9.0 F	●	9.0						
-9.01 F	△	9.01	70	8	0.6	4	25	25
-9.02 F	△	9.02						
-9.03 F	△	9.03						
-9.04 F	△	9.04						
-9.05 F	△	9.05						
-9.1 F	△	9.1						
-9.2 F	△	9.2						
-9.3 F	△	9.3	70	8	0.6	4.5	25	25
-9.4 F	△	9.4						
-9.5 F	△	9.5						
-9.52 F	△	9.52						
-9.6 F	△	9.6						
-9.7 F	△	9.7						
-9.8 F	△	9.8						
-9.9 F	△	9.9						
-9.98 F	△	9.98						
-9.99 F	△	9.99						
-10.0 F	●	10.0						
-10.01F	△	10.01	70	8	0.6	4.5	25	25
-10.02F	△	10.02						
-10.03F	△	10.03						
-10.04F	△	10.04						
-10.05F	△	10.05						
-10.1 F	△	10.1						

Code No.	STOCK	DC H7	OAL	DCON	PL	DCN	LCF	LH
SRST-10.2 F	△	10.2	70	8	0.6	4.5	25	25
-10.3 F	△	10.3	80	10	0.6	4.5	30	30
-10.4 F	△	10.4						
-10.5 F	△	10.5						
-10.6 F	△	10.6						
-10.7 F	△	10.7						
-10.8 F	△	10.8						
-10.9 F	△	10.9						
-11.0 F	●	11.0						
-11.01F	△	11.01	80	10	0.6	4.5	30	30
-11.02F	△	11.02						
-11.03F	△	11.03						
-11.04F	△	11.04						
-11.05F	△	11.05						
-11.1 F	△	11.1						
-11.2 F	△	11.2						
-11.3 F	△	11.3	80	10	0.6	5.5	30	30
-11.4 F	△	11.4						
-11.5 F	△	11.5						
-11.6 F	△	11.6						
-11.7 F	△	11.7						
-11.8 F	△	11.8						
-11.9 F	△	11.9						
-11.98F	△	11.98						
-11.99F	△	11.99						
-12.0 F	●	12.0						
-12.01F	△	12.01	80	10	0.6	5.5	30	30
-12.02F	△	12.02						
-12.03F	△	12.03						
-12.04F	△	12.04						
-12.05F	△	12.05						

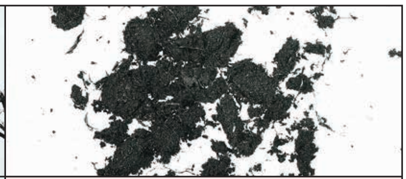
★PL means chamfering length to ΦDC.
★DCN is the front end bore diameter without bottom teeth, thus please make sure predrilled hole should be larger than ΦDCN.
★Turning skill reamer is recommended to use on NC Lathe. ☞ **P.142**
★**OH Type is also available.**
★Please slightly decrease feed rate before reaching the bottom of the hole without using G86.

NIKKEN BROACH REAMER

NIKKEN

Features

- The heavy-duty machinability of broach and the better finished surface of spiral reamer are incorporated. The reaming speed will be also increased as drilling speed.
- Long tool life with Ion Nitro Processing on reamer blades.
- The surface roughness within Rz6.3μm, even longer stock removal as 0.4mm/dia.
- The spiral angle exceeded 60 degrees will be reduced cutting resistance, then the reaming and burnishing are performed without chattering.



Nikken Broach Reamer		Machine Reamer	
Material	S45C	Material	S45C
Broach reamer dia.	φ8mm	Machine reamer dia.	φ8mm
Rotation speed	650min⁻¹	Rotation speed	240min⁻¹
Feed rate	0.25mm/rev	Feed rate	0.1mm/rev
Stock removal／φ	0.3mm	Stock removal／φ	0.1mm

NIKKEN BROACH REAMER

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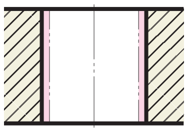
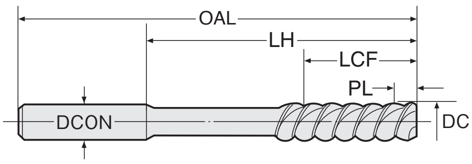
BRS Broach Reamer (Straight Shank)



Explanation of the Code No.

BRS - 10.0

- DIAMETER
- BROACH REAMER SERIES
  BRS : STRAIGHT SHANK



LH-HELIX 60° PN P.141 ✻See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 1.94	△	1.94	60	3	5.7	15	35
- 1.95	△	1.95					
- 1.96	△	1.96					
- 1.97	△	1.97					
- 1.98	△	1.98					
- 1.99	△	1.99					
- 2.0	△	2.0					
- 2.01	△	2.01	60	3	5.7	15	35
- 2.02	△	2.02					
- 2.03	△	2.03					
- 2.04	△	2.04					
- 2.05	△	2.05					
- 2.06	△	2.06					
- 2.07	△	2.07					
- 2.08	△	2.08					
- 2.09	△	2.09					
- 2.1	△	2.1					
- 2.11	△	2.11	60	3	5.7	15	35
- 2.12	△	2.12					
- 2.13	△	2.13					
- 2.14	△	2.14					
- 2.15	△	2.15					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 2.16	△	2.16	60	3	5.7	15	35
- 2.17	△	2.17					
- 2.18	△	2.18					
- 2.19	△	2.19					
- 2.2	△	2.2					
- 2.21	△	2.21	60	3	5.7	15	35
- 2.22	△	2.22					
- 2.23	△	2.23					
- 2.24	△	2.24					
- 2.25	△	2.25					
- 2.26	△	2.26					
- 2.27	△	2.27					
- 2.28	△	2.28					
- 2.29	△	2.29					
- 2.3	△	2.3					
- 2.31	△	2.31	60	3	5.7	15	35
- 2.32	△	2.32					
- 2.33	△	2.33					
- 2.34	△	2.34					
- 2.35	△	2.35					
- 2.36	△	2.36					
- 2.37	△	2.37					

★PL means chamfering length to φDC.

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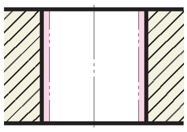
NIKKEN BROACH REAMER

NIKKEN

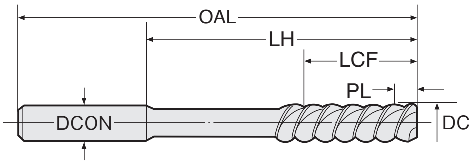
BRS Broach Reamer (Straight Shank)



Explanation of the Code No.

BRS - 10.0

- DIAMETER
- BROACH REAMER SERIES
  BRS : STRAIGHT SHANK SHORT



LH-HELIX 60° PN P.141 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 2.38	△	2.38	60	3	5.7	15	35
- 2.39	△	2.39					
- 2.4	△	2.4					
- 2.41	△	2.41	60	3	5.7	15	35
- 2.42	△	2.42					
- 2.43	△	2.43					
- 2.44	△	2.44					
- 2.45	△	2.45					
- 2.46	△	2.46					
- 2.47	△	2.47					
- 2.48	△	2.48					
- 2.49	△	2.49					
- 2.5	△	2.5					
- 2.51	△	2.51	60	3	5.7	15	35
- 2.52	△	2.52					
- 2.53	△	2.53					
- 2.54	△	2.54					
- 2.55	△	2.55					
- 2.56	△	2.56					
- 2.57	△	2.57					
- 2.58	△	2.58					
- 2.59	△	2.59					
- 2.6	△	2.6					
- 2.61	△	2.61	60	3	5.7	15	35
- 2.62	△	2.62					
- 2.63	△	2.63					
- 2.64	△	2.64					
- 2.65	△	2.65					
- 2.66	△	2.66					
- 2.67	△	2.67					
- 2.68	△	2.68					
- 2.69	△	2.69					
- 2.7	△	2.7					
- 2.71	△	2.71	60	3	5.7	15	35
- 2.72	△	2.72					
- 2.73	△	2.73					
- 2.74	△	2.74					
- 2.75	△	2.75					
- 2.76	△	2.76					
- 2.77	△	2.77					
- 2.78	△	2.78					
- 2.79	△	2.79					
- 2.8	△	2.8					
- 2.81	△	2.81	60	3	5.7	15	35
- 2.82	△	2.82					
- 2.83	△	2.83					
- 2.84	△	2.84					
- 2.85	△	2.85					
- 2.86	△	2.86					
- 2.87	△	2.87					
- 2.88	△	2.88					
- 2.89	△	2.89					
- 2.9	△	2.9					
- 2.91	△	2.91	60	3	5.7	15	35
- 2.92	△	2.92					
- 2.93	△	2.93					
- 2.94	△	2.94	70	3	5.7	22	45
- 2.95	△	2.95					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 2.96	△	2.96	70	3	5.7	22	45
- 2.97	△	2.97					
- 2.98	△	2.98					
- 2.99	△	2.99					
- 3.0	●	3.0					
- 3.01	△	3.01	70	3	5.7	22	45
- 3.02	△	3.02					
- 3.03	△	3.03					
- 3.04	△	3.04	70	3.1	5.7	22	45
- 3.05	△	3.05					
- 3.06	△	3.06					
- 3.07	△	3.07					
- 3.08	△	3.08					
- 3.09	△	3.09					
- 3.1	●	3.1					
- 3.11	△	3.11	70	3.1	5.7	22	45
- 3.12	△	3.12					
- 3.13	△	3.13					
- 3.14	△	3.14	70	3.2	5.7	22	45
- 3.15	△	3.15					
- 3.16	△	3.16					
- 3.17	△	3.17					
- 3.175	△	3.175(1/8)					
- 3.18	△	3.18					
- 3.19	△	3.19					
- 3.2	●	3.2					
- 3.21	△	3.21	70	3.2	5.7	22	45
- 3.22	△	3.22					
- 3.23	△	3.23					
- 3.24	△	3.24	70	3.3	5.7	22	45
- 3.25	△	3.25					
- 3.26	△	3.26					
- 3.27	△	3.27					
- 3.28	△	3.28					
- 3.29	△	3.29					
- 3.3	●	3.3					
- 3.31	△	3.31	70	3.3	5.7	22	45
- 3.32	△	3.32					
- 3.33	△	3.33					
- 3.34	△	3.34	70	3.4	5.7	22	45
- 3.35	△	3.35					
- 3.36	△	3.36					
- 3.37	△	3.37					
- 3.38	△	3.38					
- 3.39	△	3.39					
- 3.4	●	3.4					
- 3.41	△	3.41	70	3.4	5.7	22	45
- 3.42	△	3.42					
- 3.43	△	3.43					
- 3.44	△	3.44	80	3.5	5.7	24	53
- 3.45	△	3.45					
- 3.46	△	3.46					
- 3.47	△	3.47					
- 3.48	△	3.48					
- 3.49	△	3.49					
- 3.5	●	3.5					
- 3.51	△	3.51	80	3.5	5.7	24	53
- 3.52	△	3.52					

★PL means chamfering length to ΦDC.

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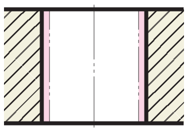
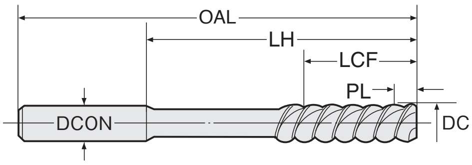
BRS Broach Reamer (Straight Shank)



Explanation of the Code No.

BRS - 10.0
- DIAMETER
- BROACH REAMER SERIES
  BRS : STRAIGHT SHANK SHORT



LH-HELIX 60° | PN | P.141 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 3.53	△	3.53	80	3.5	5.7	24	53
- 3.54	△	3.54	80	3.6	5.7	24	53
- 3.55	△	3.55					
- 3.56	△	3.56					
- 3.57	△	3.57					
- 3.58	△	3.58					
- 3.59	△	3.59					
- 3.6	●	3.6					
- 3.61	△	3.61	80	3.6	5.7	24	53
- 3.62	△	3.62					
- 3.63	△	3.63					
- 3.64	△	3.64	80	3.7	5.7	24	53
- 3.65	△	3.65					
- 3.66	△	3.66					
- 3.67	△	3.67					
- 3.68	△	3.68					
- 3.69	△	3.69					
- 3.7	●	3.7					
- 3.71	△	3.71	80	3.7	5.7	24	53
- 3.72	△	3.72					
- 3.73	△	3.73					
- 3.74	△	3.74	80	3.8	5.7	24	53
- 3.75	△	3.75					
- 3.76	△	3.76					
- 3.77	△	3.77					
- 3.78	△	3.78					
- 3.79	△	3.79					
- 3.8	●	3.8					
- 3.81	△	3.81	80	3.8	5.7	24	53
- 3.82	△	3.82					
- 3.83	△	3.83					
- 3.84	△	3.84	80	3.9	5.7	24	53
- 3.85	△	3.85					
- 3.86	△	3.86					
- 3.87	△	3.87					
- 3.88	△	3.88					
- 3.89	△	3.89					
- 3.9	●	3.9					
- 3.91	△	3.91	80	3.9	5.7	24	53
- 3.92	△	3.92					
- 3.93	△	3.93					
- 3.94	△	3.94	80	4	6.5	24	53
- 3.95	△	3.95					
- 3.96	△	3.96					
- 3.97	△	3.97					
- 3.98	△	3.98					
- 3.99	△	3.99					
- 4.0	●	4.0					
- 4.01	△	4.01	80	4	6.5	24	53
- 4.02	△	4.02					
- 4.03	△	4.03					
- 4.04	△	4.04	80	4.1	7.6	24	53
- 4.05	△	4.05					
- 4.06	△	4.06					
- 4.07	△	4.07					
- 4.08	△	4.08					
- 4.09	△	4.09					
- 4.1	●	4.1					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 4.11	△	4.11	80	4.1	7.6	24	53
- 4.12	△	4.12					
- 4.13	△	4.13					
- 4.14	△	4.14	80	4.2	7.6	24	53
- 4.15	△	4.15					
- 4.16	△	4.16					
- 4.17	△	4.17					
- 4.18	△	4.18					
- 4.19	△	4.19					
- 4.2	●	4.2					
- 4.21	△	4.21	80	4.2	7.6	24	53
- 4.22	△	4.22					
- 4.23	△	4.23					
- 4.24	△	4.24	80	4.3	7.6	24	53
- 4.25	△	4.25					
- 4.26	△	4.26					
- 4.27	△	4.27					
- 4.28	△	4.28					
- 4.29	△	4.29					
- 4.3	●	4.3					
- 4.31	△	4.31	80	4.3	7.6	24	53
- 4.32	△	4.32					
- 4.33	△	4.33					
- 4.34	△	4.34	80	4.4	7.6	24	53
- 4.35	△	4.35					
- 4.36	△	4.36					
- 4.37	△	4.37					
- 4.38	△	4.38					
- 4.39	△	4.39					
- 4.4	●	4.4					
- 4.41	△	4.41	80	4.4	7.6	24	53
- 4.42	△	4.42					
- 4.43	△	4.43					
- 4.44	△	4.44	90	4.5	7.6	25	60
- 4.45	△	4.45					
- 4.46	△	4.46					
- 4.47	△	4.47					
- 4.48	△	4.48					
- 4.49	△	4.49					
- 4.5	●	4.5					
- 4.51	△	4.51	90	4.5	7.6	25	60
- 4.52	△	4.52					
- 4.53	△	4.53					
- 4.54	△	4.54	90	4.6	7.6	25	60
- 4.55	△	4.55					
- 4.56	△	4.56					
- 4.57	△	4.57					
- 4.58	△	4.58					
- 4.59	△	4.59					
- 4.6	●	4.6					
- 4.61	△	4.61	90	4.6	7.6	25	60
- 4.62	△	4.62					
- 4.63	△	4.63					
- 4.64	△	4.64	90	4.7	7.6	25	60
- 4.65	△	4.65					
- 4.66	△	4.66					
- 4.67	△	4.67					
- 4.68	△	4.68					

★PL means chamfering length to φDC.

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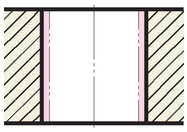
NIKKEN

BRS Broach Reamer (Straight Shank)

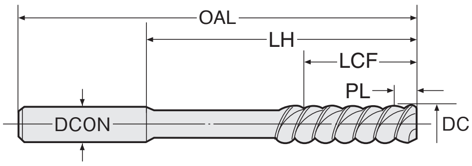


Explanation of the Code No.

BRS - 10.0

●DIAMETER

●BROACH REAMER SERIES
BRS : STRAIGHT SHANK



LH-HELIX 60° | PN | P.141

*See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 4.69	△	4.69	90	4.7	7.6	25	60
- 4.7	●	4.7					
- 4.71	△	4.71	90	4.7	7.6	25	60
- 4.72	△	4.72					
- 4.73	△	4.73					
- 4.74	△	4.74	90	4.8	7.6	25	60
- 4.75	△	4.75					
- 4.76	△	4.76					
- 4.763	△	4.763(3/16)					
- 4.77	△	4.77					
- 4.78	△	4.78					
- 4.79	△	4.79					
- 4.8	●	4.8					
- 4.81	△	4.81	90	4.8	7.6	25	60
- 4.82	△	4.82					
- 4.83	△	4.83					
- 4.84	△	4.84	90	4.9	7.6	25	60
- 4.85	△	4.85					
- 4.86	△	4.86					
- 4.87	△	4.87					
- 4.88	△	4.88					
- 4.89	△	4.89					
- 4.9	●	4.9					
- 4.91	△	4.91	90	4.9	7.6	25	60
- 4.92	△	4.92					
- 4.93	△	4.93					
- 4.94	△	4.94	90	5	7.6	25	60
- 4.95	△	4.95					
- 4.96	△	4.96					
- 4.97	△	4.97					
- 4.98	△	4.98					
- 4.99	△	4.99					
- 5.0	●	5.0					
- 5.01	△	5.01	90	5	7.6	25	60
- 5.02	△	5.02					
- 5.03	△	5.03					
- 5.04	△	5.04	90	5.1	7.6	25	60
- 5.05	△	5.05					
- 5.06	△	5.06					
- 5.07	△	5.07					
- 5.08	△	5.08					
- 5.09	△	5.09					
- 5.1	●	5.1					
- 5.11	△	5.11	90	5.1	7.6	25	60
- 5.12	△	5.12					
- 5.13	△	5.13					
- 5.14	△	5.14	90	5.2	7.6	25	60
- 5.15	△	5.15					
- 5.16	△	5.16					
- 5.17	△	5.17					
- 5.18	△	5.18					
- 5.19	△	5.19					
- 5.2	●	5.2					
- 5.21	△	5.21	90	5.2	7.6	25	60
- 5.22	△	5.22					
- 5.23	△	5.23					
- 5.24	△	5.24	90	5.3	7.6	25	60
- 5.25	△	5.25					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 5.26	△	5.26	90	5.3	7.6	25	60
- 5.27	△	5.27					
- 5.28	△	5.28					
- 5.29	△	5.29					
- 5.3	●	5.3					
- 5.31	△	5.31	90	5.3	7.6	25	60
- 5.32	△	5.32					
- 5.33	△	5.33					
- 5.34	△	5.34	90	5.4	7.6	25	60
- 5.35	△	5.35					
- 5.36	△	5.36					
- 5.37	△	5.37					
- 5.38	△	5.38					
- 5.39	△	5.39					
- 5.4	●	5.4					
- 5.41	△	5.41	90	5.4	7.6	25	60
- 5.42	△	5.42					
- 5.43	△	5.43					
- 5.44	△	5.44	100	5.5	7.6	30	65
- 5.45	△	5.45					
- 5.46	△	5.46					
- 5.47	△	5.47					
- 5.48	△	5.48					
- 5.49	△	5.49					
- 5.5	●	5.5					
- 5.51	△	5.51	100	5.5	7.6	30	65
- 5.52	△	5.52					
- 5.53	△	5.53					
- 5.54	△	5.54	100	5.6	7.6	30	65
- 5.55	△	5.55					
- 5.56	△	5.56					
- 5.57	△	5.57					
- 5.58	△	5.58					
- 5.59	△	5.59					
- 5.6	●	5.6					
- 5.61	△	5.61	100	5.6	7.6	30	65
- 5.62	△	5.62					
- 5.63	△	5.63					
- 5.64	△	5.64	100	5.7	7.6	30	65
- 5.65	△	5.65					
- 5.66	△	5.66					
- 5.67	△	5.67					
- 5.68	△	5.68					
- 5.69	△	5.69					
- 5.7	●	5.7					
- 5.71	△	5.71	100	5.7	7.6	30	65
- 5.72	△	5.72					
- 5.73	△	5.73					
- 5.74	△	5.74	100	5.8	7.6	30	65
- 5.75	△	5.75					
- 5.76	△	5.76					
- 5.77	△	5.77					
- 5.78	△	5.78					
- 5.79	△	5.79					
- 5.8	●	5.8					
- 5.81	△	5.81	100	5.8	7.6	30	65
- 5.82	△	5.82					
- 5.83	△	5.83					

★PL means chamfering length to ΦDC.

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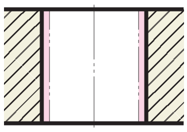
NIKKEN BROACH REAMER

NIKKEN

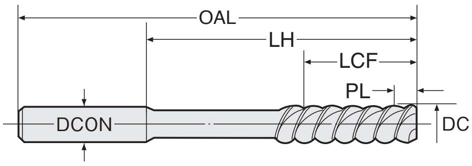
BRS Broach Reamer (Straight Shank)



Explanation of the Code No.

BRS - 10.0

- DIAMETER
- BROACH REAMER SERIES
  BRS : STRAIGHT SHANK



LH-HELIX 60° | PN | P.141 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 5.84	△	5.84	100	5.9	7.6	30	65
- 5.85	△	5.85					
- 5.86	△	5.86					
- 5.87	△	5.87					
- 5.88	△	5.88					
- 5.89	△	5.89					
- 5.9	●	5.9					
- 5.91	△	5.91	100	5.9	7.6	30	65
- 5.92	△	5.92					
- 5.93	△	5.93					
- 5.94	△	5.94	100	6	7.6	30	65
- 5.95	△	5.95					
- 5.96	△	5.96					
- 5.97	△	5.97					
- 5.98	△	5.98					
- 5.99	△	5.99					
- 6.0	●	6.0					
- 6.01	△	6.01	100	6	7.6	30	65
- 6.02	△	6.02					
- 6.03	△	6.03					
- 6.04	△	6.04	100	6.1	9.5	30	65
- 6.05	△	6.05					
- 6.06	△	6.06					
- 6.07	△	6.07					
- 6.08	△	6.08					
- 6.09	△	6.09					
- 6.1	●	6.1					
- 6.11	△	6.11	100	6.1	9.5	30	65
- 6.12	△	6.12					
- 6.13	△	6.13					
- 6.14	△	6.14	100	6.2	9.5	30	65
- 6.15	△	6.15					
- 6.16	△	6.16					
- 6.17	△	6.17					
- 6.18	△	6.18					
- 6.19	△	6.19					
- 6.2	●	6.2					
- 6.21	△	6.21	100	6.2	9.5	30	65
- 6.22	△	6.22					
- 6.23	△	6.23					
- 6.24	△	6.24	100	6.3	9.5	30	65
- 6.25	△	6.25					
- 6.26	△	6.26					
- 6.27	△	6.27					
- 6.28	△	6.28					
- 6.29	△	6.29					
- 6.3	●	6.3					
- 6.31	△	6.31	100	6.3	9.5	30	65
- 6.32	△	6.32					
- 6.33	△	6.33					
- 6.34	△	6.34	100	6.4	9.5	30	65
- 6.35	△	6.35(1/4)					
- 6.36	△	6.36					
- 6.37	△	6.37					
- 6.38	△	6.38					
- 6.39	△	6.39					
- 6.4	●	6.4					
- 6.41	△	6.41	100	6.4	9.5	30	65

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 6.42	△	6.42	100	6.4	9.5	30	65
- 6.43	△	6.43					
- 6.44	△	6.44	110	6.5	9.5	30	70
- 6.45	△	6.45					
- 6.46	△	6.46					
- 6.47	△	6.47					
- 6.48	△	6.48					
- 6.49	△	6.49					
- 6.5	●	6.5					
- 6.51	△	6.51	110	6.5	9.5	30	70
- 6.52	△	6.52					
- 6.53	△	6.53					
- 6.54	△	6.54	110	6.6	9.5	30	70
- 6.55	△	6.55					
- 6.56	△	6.56					
- 6.57	△	6.57					
- 6.58	△	6.58					
- 6.59	△	6.59					
- 6.6	●	6.6					
- 6.61	△	6.61	110	6.6	9.5	30	70
- 6.62	△	6.62					
- 6.63	△	6.63					
- 6.64	△	6.64	110	6.7	9.5	30	70
- 6.65	△	6.65					
- 6.66	△	6.66					
- 6.67	△	6.67					
- 6.68	△	6.68					
- 6.69	△	6.69					
- 6.7	●	6.7					
- 6.71	△	6.71	110	6.7	9.5	30	70
- 6.72	△	6.72					
- 6.73	△	6.73					
- 6.74	△	6.74	110	6.8	9.5	30	70
- 6.75	△	6.75					
- 6.76	△	6.76					
- 6.77	△	6.77					
- 6.78	△	6.78					
- 6.79	△	6.79					
- 6.8	●	6.8					
- 6.81	△	6.81	110	6.8	9.5	30	70
- 6.82	△	6.82					
- 6.83	△	6.83					
- 6.84	△	6.84	110	6.9	9.5	30	70
- 6.85	△	6.85					
- 6.86	△	6.86					
- 6.87	△	6.87					
- 6.88	△	6.88					
- 6.89	△	6.89					
- 6.9	●	6.9					
- 6.91	△	6.91	110	6.9	9.5	30	70
- 6.92	△	6.92					
- 6.93	△	6.93					
- 6.94	△	6.94	110	7	9.5	30	70
- 6.95	△	6.95					
- 6.96	△	6.96					
- 6.97	△	6.97					
- 6.98	△	6.98					
- 6.99	△	6.99					

★PL means chamfering length to φDC.

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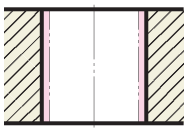
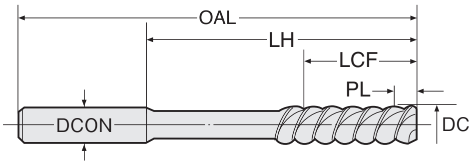
NIKKEN BROACH REAMER

NIKKEN

BRS Broach Reamer (Straight Shank)



Explanation of the Code No.
BRS - 10.0
DIAMETER
BROACH REAMER SERIES
BRS : STRAIGHT SHANK



LH-HELIX 60° | PN | P.141 | ＊See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 7.0	●	7.0	110	7	9.5	30	70
- 7.01	△	7.01	110	7	9.5	30	70
- 7.02	△	7.02					
- 7.03	△	7.03					
- 7.04	△	7.04	110	7.1	9.5	30	70
- 7.05	△	7.05					
- 7.06	△	7.06					
- 7.07	△	7.07					
- 7.08	△	7.08					
- 7.09	△	7.09					
- 7.1	●	7.1					
- 7.11	△	7.11	110	7.1	9.5	30	70
- 7.12	△	7.12					
- 7.13	△	7.13					
- 7.14	△	7.14	110	7.2	9.5	30	70
- 7.15	△	7.15					
- 7.16	△	7.16					
- 7.17	△	7.17					
- 7.18	△	7.18					
- 7.19	△	7.19					
- 7.2	●	7.2					
- 7.21	△	7.21	110	7.2	9.5	30	70
- 7.22	△	7.22					
- 7.23	△	7.23					
- 7.24	△	7.24	110	7.3	9.5	30	70
- 7.25	△	7.25					
- 7.26	△	7.26					
- 7.27	△	7.27					
- 7.28	△	7.28					
- 7.29	△	7.29					
- 7.3	●	7.3					
- 7.31	△	7.31	110	7.3	9.5	30	70
- 7.32	△	7.32					
- 7.33	△	7.33					
- 7.34	△	7.34	110	7.4	9.5	30	70
- 7.35	△	7.35					
- 7.36	△	7.36					
- 7.37	△	7.37					
- 7.38	△	7.38					
- 7.39	△	7.39					
- 7.4	●	7.4					
- 7.41	△	7.41	110	7.4	9.5	30	70
- 7.42	△	7.42					
- 7.43	△	7.43					
- 7.44	△	7.44	110	7.5	9.5	30	70
- 7.45	△	7.45					
- 7.46	△	7.46					
- 7.47	△	7.47					
- 7.48	△	7.48					
- 7.49	△	7.49					
- 7.5	●	7.5					
- 7.51	△	7.51	110	7.5	9.5	30	70
- 7.52	△	7.52					
- 7.53	△	7.53					
- 7.54	△	7.54	110	7.6	9.5	30	70
- 7.55	△	7.55					
- 7.56	△	7.56					
- 7.57	△	7.57					

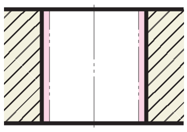
Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 7.58	△	7.58	110	7.6	9.5	30	70
- 7.59	△	7.59					
- 7.6	●	7.6					
- 7.61	△	7.61	110	7.6	9.5	30	70
- 7.62	△	7.62					
- 7.63	△	7.63					
- 7.64	△	7.64	110	7.7	9.5	30	70
- 7.65	△	7.65					
- 7.66	△	7.66					
- 7.67	△	7.67					
- 7.68	△	7.68					
- 7.69	△	7.69					
- 7.7	●	7.7					
- 7.71	△	7.71	110	7.7	9.5	30	70
- 7.72	△	7.72					
- 7.73	△	7.73					
- 7.74	△	7.74	110	7.8	9.5	30	70
- 7.75	△	7.75					
- 7.76	△	7.76					
- 7.77	△	7.77					
- 7.78	△	7.78					
- 7.79	△	7.79					
- 7.8	●	7.8					
- 7.81	△	7.81	110	7.8	9.5	30	70
- 7.82	△	7.82					
- 7.83	△	7.83					
- 7.84	△	7.84	110	7.9	9.5	30	70
- 7.85	△	7.85					
- 7.86	△	7.86					
- 7.87	△	7.87					
- 7.88	△	7.88					
- 7.89	△	7.89					
- 7.9	●	7.9					
- 7.91	△	7.91	110	7.9	9.5	30	70
- 7.92	△	7.92					
- 7.93	△	7.93					
- 7.938	△	7.938(5/16)	125	8	9.5	35	85
- 7.94	△	7.94					
- 7.95	△	7.95					
- 7.96	△	7.96					
- 7.97	△	7.97					
- 7.98	△	7.98					
- 7.99	△	7.99					
- 8.0	●	8.0					
- 8.01	△	8.01	125	8	9.5	35	85
- 8.02	△	8.02					
- 8.03	△	8.03					
- 8.04	△	8.04	125	8.1	9.5	35	85
- 8.05	△	8.05					
- 8.06	△	8.06					
- 8.07	△	8.07					
- 8.08	△	8.08					
- 8.09	△	8.09					
- 8.1	●	8.1					
- 8.11	△	8.11	125	8.1	9.5	35	85
- 8.12	△	8.12					
- 8.13	△	8.13					
- 8.14	△	8.14	125	8.2	9.5	35	85

★PL means chamfering length to ΦDC.

Next page

NIKKEN

BRS Broach Reamer (Straight Shank)

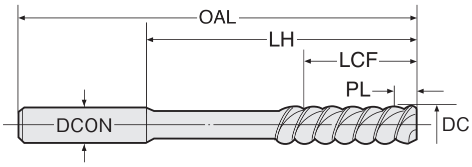


Explanation of the Code No.

BRS - 10.0

●DIAMETER

●BROACH REAMER SERIES
BRS : STRAIGHT SHANK



LH-HELIX 60° | PN | P.141

*See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 8.15	△	8.15	125	8.2	9.5	35	85
- 8.16	△	8.16					
- 8.17	△	8.17					
- 8.18	△	8.18					
- 8.19	△	8.19					
- 8.2	●	8.2					
- 8.21	△	8.21	125	8.2	9.5	35	85
- 8.22	△	8.22					
- 8.23	△	8.23					
- 8.24	△	8.24	125	8.3	9.5	35	85
- 8.25	△	8.25					
- 8.26	△	8.26					
- 8.27	△	8.27					
- 8.28	△	8.28					
- 8.29	△	8.29					
- 8.3	●	8.3					
- 8.31	△	8.31	125	8.3	9.5	35	85
- 8.32	△	8.32					
- 8.33	△	8.33					
- 8.34	△	8.34	125	8.4	9.5	35	85
- 8.35	△	8.35					
- 8.36	△	8.36					
- 8.37	△	8.37					
- 8.38	△	8.38					
- 8.39	△	8.39					
- 8.4	●	8.4					
- 8.41	△	8.41	125	8.4	9.5	35	85
- 8.42	△	8.42					
- 8.43	△	8.43					
- 8.44	△	8.44	135	8.5	9.5	35	90
- 8.45	△	8.45					
- 8.46	△	8.46					
- 8.47	△	8.47					
- 8.48	△	8.48					
- 8.49	△	8.49					
- 8.5	●	8.5					
- 8.51	△	8.51	135	8.5	9.5	35	90
- 8.52	△	8.52					
- 8.53	△	8.53					
- 8.54	△	8.54	135	8.6	9.5	35	90
- 8.55	△	8.55					
- 8.56	△	8.56					
- 8.57	△	8.57					
- 8.58	△	8.58					
- 8.59	△	8.59					
- 8.6	●	8.6					
- 8.61	△	8.61	135	8.6	9.5	35	90
- 8.62	△	8.62					
- 8.63	△	8.63					
- 8.64	△	8.64	135	8.7	9.5	35	90
- 8.65	△	8.65					
- 8.66	△	8.66					
- 8.67	△	8.67					
- 8.68	△	8.68					
- 8.69	△	8.69					
- 8.7	●	8.7					
- 8.71	△	8.71	135	8.7	9.5	35	90
- 8.72	△	8.72					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 8.73	△	8.73	135	8.7	9.5	35	90
- 8.74	△	8.74	135	8.8	9.5	35	90
- 8.75	△	8.75					
- 8.76	△	8.76					
- 8.77	△	8.77					
- 8.78	△	8.78					
- 8.79	△	8.79					
- 8.8	●	8.8					
- 8.81	△	8.81	135	8.8	9.5	35	90
- 8.82	△	8.82					
- 8.83	△	8.83					
- 8.84	△	8.84	135	8.9	9.5	35	90
- 8.85	△	8.85					
- 8.86	△	8.86					
- 8.87	△	8.87					
- 8.88	△	8.88					
- 8.89	△	8.89					
- 8.9	●	8.9					
- 8.91	△	8.91	135	8.9	9.5	35	90
- 8.92	△	8.92					
- 8.93	△	8.93					
- 8.94	△	8.94	135	9	9.5	35	90
- 8.95	△	8.95					
- 8.96	△	8.96					
- 8.97	△	8.97					
- 8.98	△	8.98					
- 8.99	△	8.99					
- 9.0	●	9.0					
- 9.01	△	9.01	135	9	9.5	35	90
- 9.02	△	9.02					
- 9.03	△	9.03					
- 9.04	△	9.04	135	9.1	9.5	35	90
- 9.05	△	9.05					
- 9.06	△	9.06					
- 9.07	△	9.07					
- 9.08	△	9.08					
- 9.09	△	9.09					
- 9.1	●	9.1					
- 9.11	△	9.11	135	9.1	9.5	35	90
- 9.12	△	9.12					
- 9.13	△	9.13					
- 9.14	△	9.14	135	9.2	9.5	35	90
- 9.15	△	9.15					
- 9.16	△	9.16					
- 9.17	△	9.17					
- 9.18	△	9.18					
- 9.19	△	9.19					
- 9.2	●	9.2					
- 9.21	△	9.21	135	9.2	9.5	35	90
- 9.22	△	9.22					
- 9.23	△	9.23					
- 9.24	△	9.24	135	9.3	9.5	35	90
- 9.25	△	9.25					
- 9.26	△	9.26					
- 9.27	△	9.27					
- 9.28	△	9.28					
- 9.29	△	9.29					
- 9.3	●	9.3					

★PL means chamfering length to ΦDC.

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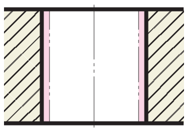
NIKKEN BROACH REAMER

NIKKEN

BRS Broach Reamer (Straight Shank)

LH-HELIX 60° PN P.141 ＊See P.4 for icons.



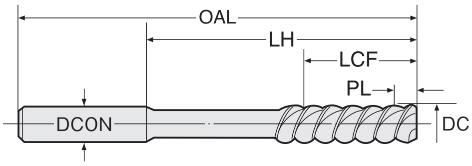
Explanation of the Code No.

BRS - 10.0

●DIAMETER

●BROACH REAMER SERIES

BRS：STRAIGHT SHANK



HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 9.31	△	9.31	135	9.3	9.5	35	90
- 9.32	△	9.32					
- 9.33	△	9.33					
- 9.34	△	9.34	135	9.4	9.5	35	90
- 9.35	△	9.35					
- 9.36	△	9.36					
- 9.37	△	9.37					
- 9.38	△	9.38					
- 9.39	△	9.39					
- 9.4	●	9.4					
- 9.41	△	9.41	135	9.4	9.5	35	90
- 9.42	△	9.42					
- 9.43	△	9.43					
- 9.44	△	9.44	150	9.5	9.5	40	100
- 9.45	△	9.45					
- 9.46	△	9.46					
- 9.47	△	9.47					
- 9.48	△	9.48					
- 9.49	△	9.49					
- 9.5	●	9.5					
- 9.51	△	9.51	150	9.5	9.5	40	100
- 9.52	△	9.52					
- 9.525	△	9.525(3/8)					
- 9.53	△	9.53					
- 9.54	△	9.54	150	9.6	9.5	40	100
- 9.55	△	9.55					
- 9.56	△	9.56					
- 9.57	△	9.57					
- 9.58	△	9.58					
- 9.59	△	9.59					
- 9.6	●	9.6					
- 9.61	△	9.61	150	9.6	9.5	40	100
- 9.62	△	9.62					
- 9.63	△	9.63					
- 9.64	△	9.64	150	9.7	9.5	40	100
- 9.65	△	9.65					
- 9.66	△	9.66					
- 9.67	△	9.67					
- 9.68	△	9.68					
- 9.69	△	9.69					
- 9.7	●	9.7					
- 9.71	△	9.71	150	9.7	9.5	40	100
- 9.72	△	9.72					
- 9.73	△	9.73					
- 9.74	△	9.74	150	9.8	9.5	40	100
- 9.75	△	9.75					
- 9.76	△	9.76					
- 9.77	△	9.77					
- 9.78	△	9.78					
- 9.79	△	9.79					
- 9.8	●	9.8					
- 9.81	△	9.81	150	9.8	9.5	40	100
- 9.82	△	9.82					
- 9.83	△	9.83					
- 9.84	△	9.84	150	9.9	9.5	40	100
- 9.85	△	9.85					
- 9.86	△	9.86					
- 9.87	△	9.87					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 9.88	△	9.88	150	9.9	9.5	40	100
- 9.89	△	9.89					
- 9.9	●	9.9					
- 9.91	△	9.91	150	9.9	9.5	40	100
- 9.92	△	9.92					
- 9.93	△	9.93					
- 9.94	△	9.94	150	10	9.5	40	100
- 9.95	△	9.95					
- 9.96	△	9.96					
- 9.97	△	9.97					
- 9.98	△	9.98					
- 9.99	△	9.99					
-10.0	●	10.0					
-10.01	△	10.01	150	10	9.5	40	100
-10.02	△	10.02					
-10.03	△	10.03					
-10.04	△	10.04	150	10.1	9.5	40	100
-10.05	△	10.05					
-10.06	△	10.06					
-10.07	△	10.07					
-10.08	△	10.08					
-10.09	△	10.09					
-10.1	●	10.1					
-10.11	△	10.11	150	10.1	9.5	40	100
-10.12	△	10.12					
-10.13	△	10.13					
-10.14	△	10.14	150	10.2	9.5	40	100
-10.15	△	10.15					
-10.16	△	10.16					
-10.17	△	10.17					
-10.18	△	10.18					
-10.19	△	10.19					
-10.2	●	10.2					
-10.21	△	10.21	150	10.2	9.5	40	100
-10.22	△	10.22					
-10.23	△	10.23					
-10.24	△	10.24	150	10.3	9.5	40	100
-10.25	△	10.25					
-10.26	△	10.26					
-10.27	△	10.27					
-10.28	△	10.28					
-10.29	△	10.29					
-10.3	●	10.3					
-10.31	△	10.31	150	10.3	9.5	40	100
-10.32	△	10.32					
-10.33	△	10.33					
-10.34	△	10.34	150	10.4	9.5	40	100
-10.35	△	10.35					
-10.36	△	10.36					
-10.37	△	10.37					
-10.38	△	10.38					
-10.39	△	10.39					
-10.4	●	10.4					
-10.41	△	10.41	150	10.4	9.5	40	105
-10.42	△	10.42					
-10.43	△	10.43					
-10.44	△	10.44	155	10.5	9.5	40	105
-10.45	△	10.45					

★PL means chamfering length to φDC.

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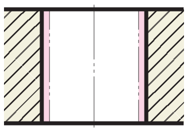
NIKKEN

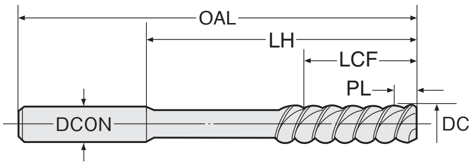
BRS Broach Reamer (Straight Shank)



Explanation of the Code No.

BRS - 10.0

- DIAMETER
- BROACH REAMER SERIES
  BRS : STRAIGHT SHANK



LH-HELIX 60° | PN | P.141

*See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS-10.46	△	10.46	155	10.5	9.5	40	105
-10.47	△	10.47					
-10.48	△	10.48					
-10.49	△	10.49					
-10.5	●	10.5					
-10.51	△	10.51	155	10.5	9.5	40	105
-10.52	△	10.52					
-10.53	△	10.53					
-10.54	△	10.54	155	10.6	9.5	40	105
-10.55	△	10.55					
-10.56	△	10.56					
-10.57	△	10.57					
-10.58	△	10.58					
-10.59	△	10.59					
-10.6	●	10.6					
-10.61	△	10.61	155	10.6	9.5	40	105
-10.62	△	10.62					
-10.63	△	10.63					
-10.64	△	10.64	155	10.7	9.5	40	105
-10.65	△	10.65					
-10.66	△	10.66					
-10.67	△	10.67					
-10.68	△	10.68					
-10.69	△	10.69					
-10.7	●	10.7					
-10.71	△	10.71	155	10.7	9.5	40	105
-10.72	△	10.72					
-10.73	△	10.73					
-10.74	△	10.74	155	10.8	9.5	40	105
-10.75	△	10.75					
-10.76	△	10.76					
-10.77	△	10.77					
-10.78	△	10.78					
-10.79	△	10.79					
-10.8	●	10.8					
-10.81	△	10.81	155	10.8	9.5	40	105
-10.82	△	10.82					
-10.83	△	10.83					
-10.84	△	10.84	155	10.9	9.5	40	105
-10.85	△	10.85					
-10.86	△	10.86					
-10.87	△	10.87					
-10.88	△	10.88					
-10.89	△	10.89					
-10.9	●	10.9					
-10.91	△	10.91	155	10.9	9.5	40	105
-10.92	△	10.92					
-10.93	△	10.93					
-10.94	△	10.94	155	11	9.5	40	105
-10.95	△	10.95					
-10.96	△	10.96					
-10.97	△	10.97					
-10.98	△	10.98					
-10.99	△	10.99					
-11.0	●	11.0					
-11.01	△	11.01	155	11	9.5	40	105
-11.02	△	11.02					
-11.03	△	11.03					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS-11.04	△	11.04	155	11.1	9.5	40	105
-11.05	△	11.05					
-11.06	△	11.06					
-11.07	△	11.07					
-11.08	△	11.08					
-11.09	△	11.09					
-11.1	●	11.1					
-11.11	△	11.11	155	11.1	9.5	40	105
-11.113	△	11.113(7/16)					
-11.12	△	11.12					
-11.13	△	11.13					
-11.14	△	11.14	155	11.2	9.5	40	105
-11.15	△	11.15					
-11.16	△	11.16					
-11.17	△	11.17					
-11.18	△	11.18					
-11.19	△	11.19					
-11.2	●	11.2					
-11.21	△	11.21	155	11.2	9.5	40	105
-11.22	△	11.22					
-11.23	△	11.23					
-11.24	△	11.24	155	11.3	9.5	40	105
-11.25	△	11.25					
-11.26	△	11.26					
-11.27	△	11.27					
-11.28	△	11.28					
-11.29	△	11.29					
-11.3	●	11.3					
-11.31	△	11.31	155	11.3	9.5	40	105
-11.32	△	11.32					
-11.33	△	11.33					
-11.34	△	11.34	155	11.4	9.5	40	105
-11.35	△	11.35					
-11.36	△	11.36					
-11.37	△	11.37					
-11.38	△	11.38					
-11.39	△	11.39					
-11.4	●	11.4					
-11.41	△	11.41	155	11.4	9.5	40	105
-11.42	△	11.42					
-11.43	△	11.43					
-11.44	△	11.44	160	11.5	9.5	40	105
-11.45	△	11.45					
-11.46	△	11.46					
-11.47	△	11.47					
-11.48	△	11.48					
-11.49	△	11.49					
-11.5	●	11.5					
-11.51	△	11.51	160	11.5	9.5	40	105
-11.52	△	11.52					
-11.53	△	11.53					
-11.54	△	11.54	160	11.6	9.5	40	105
-11.55	△	11.55					
-11.56	△	11.56					
-11.57	△	11.57					
-11.58	△	11.58					
-11.59	△	11.59					
-11.6	●	11.6					

★PL means chamfering length to ΦDC.

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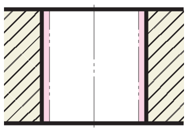
NIKKEN BROACH REAMER

NIKKEN

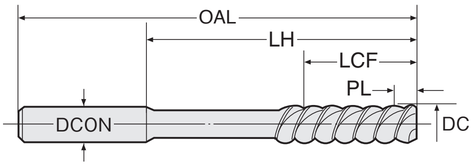
BRS Broach Reamer (Straight Shank)



Explanation of the Code No.

BRS - 10.0

- DIAMETER
- BROACH REAMER SERIES
  BRS : STRAIGHT SHANK



LH-HELIX 60° | PN | P.141 *See P.4 for icons.

HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS-11.61	△	11.61	160	11.6	9.5	40	105
-11.62	△	11.62					
-11.63	△	11.63					
-11.64	△	11.64	160	11.7	9.5	40	105
-11.65	△	11.65					
-11.66	△	11.66					
-11.67	△	11.67					
-11.68	△	11.68					
-11.69	△	11.69					
-11.7	●	11.7					
-11.71	△	11.71	160	11.7	9.5	40	105
-11.72	△	11.72					
-11.73	△	11.73					
-11.74	△	11.74	160	11.8	9.5	40	105
-11.75	△	11.75					
-11.76	△	11.76					
-11.77	△	11.77					
-11.78	△	11.78					
-11.79	△	11.79					
-11.8	●	11.8					
-11.81	△	11.81	160	11.8	9.5	40	105
-11.82	△	11.82					
-11.83	△	11.83					
-11.84	△	11.84	160	11.9	9.5	40	105
-11.85	△	11.85					
-11.86	△	11.86					
-11.87	△	11.87					
-11.88	△	11.88					
-11.89	△	11.89					
-11.9	●	11.9					
-11.91	△	11.91	160	11.9	9.5	40	105
-11.92	△	11.92					
-11.93	△	11.93					
-11.94	△	11.94	160	12	9.5	40	105
-11.95	△	11.95					
-11.96	△	11.96					
-11.97	△	11.97					
-11.98	△	11.98					
-11.99	△	11.99					
-12.0	●	12.0					
-12.01	△	12.01	160	12	9.5	40	105
-12.02	△	12.02					
-12.03	△	12.03					
-12.04	△	12.04	160	12.1	9.5	40	105
-12.05	△	12.05					
-12.06	△	12.06					
-12.07	△	12.07					
-12.08	△	12.08					
-12.09	△	12.09					
-12.1	●	12.1					
-12.11	△	12.11	160	12.1	9.5	40	105
-12.12	△	12.12					
-12.13	△	12.13					
-12.14	△	12.14	160	12.2	9.5	40	105
-12.15	△	12.15					
-12.16	△	12.16					
-12.17	△	12.17					
-12.18	△	12.18					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS-12.19	△	12.19	160	12.2	9.5	40	105
-12.2	●	12.2					
-12.21	△	12.21	160	12.2	9.5	40	105
-12.22	△	12.22					
-12.23	△	12.23					
-12.24	△	12.24	160	12.3	9.5	40	105
-12.25	△	12.25					
-12.26	△	12.26					
-12.27	△	12.27					
-12.28	△	12.28					
-12.29	△	12.29					
-12.3	●	12.3					
-12.31	△	12.31	160	12.3	9.5	40	105
-12.32	△	12.32					
-12.33	△	12.33					
-12.34	△	12.34	160	12.4	9.5	40	105
-12.35	△	12.35					
-12.36	△	12.36					
-12.37	△	12.37					
-12.38	△	12.38					
-12.39	△	12.39					
-12.4	●	12.4					
-12.41	△	12.41	160	12.4	9.5	40	105
-12.42	△	12.42					
-12.43	△	12.43					
-12.44	△	12.44	165	12.5	9.5	45	110
-12.45	△	12.45					
-12.46	△	12.46					
-12.47	△	12.47					
-12.48	△	12.48					
-12.49	△	12.49					
-12.5	●	12.5					
-12.51	△	12.51	165	12.5	9.5	45	110
-12.52	△	12.52					
-12.53	△	12.53					
-12.54	△	12.54	165	12.6	9.5	45	110
-12.55	△	12.55					
-12.56	△	12.56					
-12.57	△	12.57					
-12.58	△	12.58					
-12.59	△	12.59					
-12.6	●	12.6					
-12.61	△	12.61	165	12.6	9.5	45	110
-12.62	△	12.62					
-12.63	△	12.63					
-12.64	△	12.64	165	12.7	9.5	45	110
-12.65	△	12.65					
-12.66	△	12.66					
-12.67	△	12.67					
-12.68	△	12.68					
-12.69	△	12.69					
-12.7	●	12.7(1/2)					
-12.71	△	12.71	165	12.7	9.5	45	110
-12.72	△	12.72					
-12.73	△	12.73					
-12.74	△	12.74	165	12.8	9.5	45	110
-12.75	△	12.75					
-12.76	△	12.76					

★PL means chamfering length to φDC.

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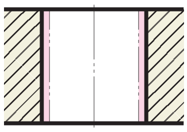
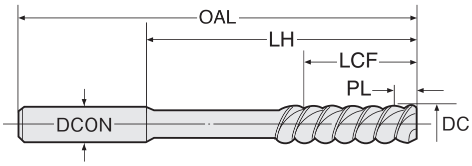
NIKKEN

BRS Broach Reamer (Straight Shank)



Explanation of the Code No.

BRS - 10.0
- DIAMETER
- BROACH REAMER SERIES
  BRS : STRAIGHT SHANK



LH-HELIX 60° | PN | P.141 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 12.77	△	12.77	165	12.8	9.5	45	110
- 12.78	△	12.78					
- 12.79	△	12.79					
- 12.8	●	12.8					
- 12.81	△	12.81	165	12.8	9.5	45	110
- 12.82	△	12.82					
- 12.83	△	12.83					
- 12.84	△	12.84	165	12.9	9.5	45	110
- 12.85	△	12.85					
- 12.86	△	12.86					
- 12.87	△	12.87					
- 12.88	△	12.88					
- 12.89	△	12.89					
- 12.9	●	12.9					
- 12.91	△	12.91	165	12.9	9.5	45	110
- 12.92	△	12.92					
- 12.93	△	12.93					
- 12.94	△	12.94	165	13	9.5	45	110
- 12.95	△	12.95					
- 12.96	△	12.96					
- 12.97	△	12.97					
- 12.98	△	12.98					
- 12.99	△	12.99					
- 13.0	●	13.0					
- 13.01	△	13.01	165	13	9.5	45	110
- 13.02	△	13.02					
- 13.03	△	13.03					
- 13.04	△	13.04	165	13.1	9.5	45	110
- 13.05	△	13.05					
- 13.06	△	13.06					
- 13.07	△	13.07					
- 13.08	△	13.08					
- 13.09	△	13.09					
- 13.1	●	13.1					
- 13.11	△	13.11	165	13.1	9.5	45	110
- 13.12	△	13.12					
- 13.13	△	13.13					
- 13.14	△	13.14	165	13.2	9.5	45	110
- 13.15	△	13.15					
- 13.16	△	13.16					
- 13.17	△	13.17					
- 13.18	△	13.18					
- 13.19	△	13.19					
- 13.2	●	13.2					
- 13.21	△	13.21	165	13.2	9.5	45	110
- 13.22	△	13.22					
- 13.23	△	13.23					
- 13.24	△	13.24	165	13.3	9.5	45	110
- 13.25	△	13.25					
- 13.26	△	13.26					
- 13.27	△	13.27					
- 13.28	△	13.28					
- 13.29	△	13.29					
- 13.3	●	13.3					
- 13.31	△	13.31	165	13.3	9.5	45	110
- 13.32	△	13.32					
- 13.33	△	13.33					
- 13.34	△	13.34	165	13.4	9.5	45	110

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 13.35	△	13.35	165	13.4	9.5	45	110
- 13.36	△	13.36					
- 13.37	△	13.37					
- 13.38	△	13.38					
- 13.39	△	13.39					
- 13.4	●	13.4					
- 13.41	△	13.41	165	13.4	9.5	45	110
- 13.42	△	13.42					
- 13.43	△	13.43					
- 13.44	△	13.44	170	13.5	9.5	45	115
- 13.45	△	13.45					
- 13.46	△	13.46					
- 13.47	△	13.47					
- 13.48	△	13.48					
- 13.49	△	13.49					
- 13.5	●	13.5					
- 13.51	△	13.51	170	13.5	9.5	45	115
- 13.52	△	13.52					
- 13.53	△	13.53					
- 13.54	△	13.54	170	13.6	9.5	45	115
- 13.55	△	13.55					
- 13.56	△	13.56					
- 13.57	△	13.57					
- 13.58	△	13.58					
- 13.59	△	13.59					
- 13.6	●	13.6					
- 13.61	△	13.61	170	13.6	9.5	45	115
- 13.62	△	13.62					
- 13.63	△	13.63					
- 13.64	△	13.64	170	13.7	9.5	45	115
- 13.65	△	13.65					
- 13.66	△	13.66					
- 13.67	△	13.67					
- 13.68	△	13.68					
- 13.69	△	13.69					
- 13.7	●	13.7					
- 13.71	△	13.71	170	13.7	9.5	45	115
- 13.72	△	13.72					
- 13.73	△	13.73					
- 13.74	△	13.74	170	13.8	9.5	45	115
- 13.75	△	13.75					
- 13.76	△	13.76					
- 13.77	△	13.77					
- 13.78	△	13.78					
- 13.79	△	13.79					
- 13.8	●	13.8					
- 13.81	△	13.81	170	13.8	9.5	45	115
- 13.82	△	13.82					
- 13.83	△	13.83					
- 13.84	△	13.84	170	13.9	9.5	45	115
- 13.85	△	13.85					
- 13.86	△	13.86					
- 13.87	△	13.87					
- 13.88	△	13.88					
- 13.89	△	13.89					
- 13.9	●	13.9					
- 13.91	△	13.91	170	13.9	9.5	45	115
- 13.92	△	13.92					

★PL means chamfering length to φDC.

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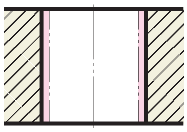
NIKKEN

BRS Broach Reamer (Straight Shank)

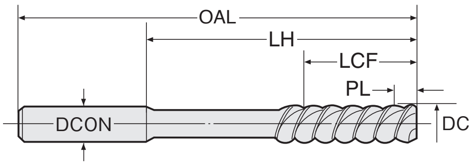


Explanation of the Code No.

BRS - 10.0

●DIAMETER

●BROACH REAMER SERIES
BRS : STRAIGHT SHANK



LH-HELIX 60° PN P.141 *See P.4 for icons.

HSS
FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS-13.93	△	13.93	170	13.9	9.5	45	115
-13.94	△	13.94	170	14	9.5	45	115
-13.95	△	13.95					
-13.96	△	13.96					
-13.97	△	13.97					
-13.98	△	13.98					
-13.99	△	13.99					
-14.0	●	14.0					
-14.01	△	14.01	170	14	9.5	45	115
-14.02	△	14.02					
-14.03	△	14.03					
-14.04	△	14.04					
-14.05	△	14.05					
-14.1	△	14.1					
-14.2	△	14.2					
-14.4	△	14.4	180	16	9.5	45	120
-14.5	△	14.5					
-14.6	△	14.6					
-14.7	△	14.7					
-14.8	△	14.8					
-14.9	△	14.9					
-14.97	△	14.97					
-14.98	△	14.98					
-14.99	△	14.99					
-15.0	△	15.0					
-15.01	△	15.01	180	16	9.5	45	120
-15.02	△	15.02					
-15.03	△	15.03					
-15.04	△	15.04					
-15.05	△	15.05					
-15.1	△	15.1					
-15.2	△	15.2					
-15.3	△	15.3	185	16	11.5	45	125
-15.4	△	15.4					
-15.5	△	15.5					
-15.6	△	15.6					
-15.7	△	15.7					
-15.8	△	15.8					
-15.875	△	15.875(5/8)					
-15.9	△	15.9					
-15.97	△	15.97					
-15.98	△	15.98					
-15.99	△	15.99					
-16.0	△	16.0					
-16.01	△	16.01	185	16	11.5	45	125
-16.02	△	16.02					
-16.03	△	16.03					
-16.04	△	16.04					
-16.05	△	16.05					
-16.1	△	16.1					
-16.2	△	16.2					
-16.3	△	16.3	185	16	11.5	50	125
-16.4	△	16.4					
-16.5	△	16.5					
-16.6	△	16.6					
-16.7	△	16.7					
-16.8	△	16.8					
-16.9	△	16.9					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS-16.97	△	16.97	185	16	11.5	50	125
-16.98	△	16.98					
-16.99	△	16.99					
-17.0	△	17.0					
-17.01	△	17.01	185	16	11.5	50	125
-17.02	△	17.02					
-17.03	△	17.03					
-17.04	△	17.04					
-17.05	△	17.05					
-17.1	△	17.1					
-17.2	△	17.2					
-17.3	△	17.3	195	20	11.5	50	130
-17.4	△	17.4					
-17.5	△	17.5					
-17.6	△	17.6					
-17.7	△	17.7					
-17.8	△	17.8					
-17.9	△	17.9					
-17.97	△	17.97					
-17.98	△	17.98					
-17.99	△	17.99					
-18.0	△	18.0					
-18.01	△	18.01	195	20	11.5	50	130
-18.02	△	18.02					
-18.03	△	18.03					
-18.04	△	18.04					
-18.05	△	18.05					
-18.1	△	18.1					
-18.2	△	18.2					
-18.3	△	18.3					
-18.4	△	18.4					
-18.5	△	18.5					
-18.6	△	18.6					
-18.7	△	18.7					
-18.8	△	18.8					
-18.9	△	18.9					
-18.97	△	18.97					
-18.98	△	18.98					
-18.99	△	18.99					
-19.0	△	19.0					
-19.01	△	19.01	195	20	11.5	50	130
-19.02	△	19.02					
-19.03	△	19.03					
-19.04	△	19.04					
-19.05	△	19.05(3/4)					
-19.1	△	19.1					
-19.2	△	19.2					
-19.3	△	19.3	205	20	11.5	55	140
-19.4	△	19.4					
-19.5	△	19.5					
-19.6	△	19.6					
-19.7	△	19.7					
-19.8	△	19.8					
-19.9	△	19.9					
-19.97	△	19.97					
-19.98	△	19.98					
-19.99	△	19.99					
-20.0	△	20.0					

★PL means chamfering length to φDC.

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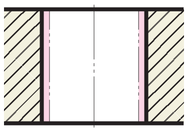
NIKKEN BROACH REAMER

NIKKEN

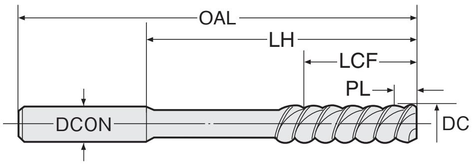
BRS Broach Reamer (Straight Shank)



Explanation of the Code No.

BRS - 10.0

- DIAMETER
- BROACH REAMER SERIES
  BRS : STRAIGHT SHANK



LH-HELIX 60° | PN | P.141 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS-20.01	△	20.01	205	20	11.5	55	140
-20.02	△	20.02					
-20.03	△	20.03					
-20.04	△	20.04					
-20.05	△	20.05					
-20.1	△	20.1					
-20.2	△	20.2					
-20.3	△	20.3	215	20	11.5	55	150
-20.4	△	20.4					
-20.5	△	20.5					
-20.99	△	20.99					
-21.0	△	21.0					
-21.99	△	21.99	215	20	11.5	55	150
-22.0	△	22.0					
-22.01	△	22.01	215	20	11.5	55	150
-22.02	△	22.02					
-22.03	△	22.03					
-22.04	△	22.04					
-22.05	△	22.05					
-22.225	△	22.225(7/8)	230	25	11.5	60	160
-23.0	△	23.0					
-23.01	△	23.01	230	25	11.5	60	160
-23.02	△	23.02					
-23.03	△	23.03					
-23.04	△	23.04					
-23.05	△	23.05					
-23.99	△	23.99					
-24.0	△	24.0					
-24.01	△	24.01	230	25	11.5	60	160
-24.02	△	24.02					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS-24.03	△	24.03	230	25	11.5	60	160
-24.04	△	24.04					
-24.05	△	24.05					
-24.99	△	24.99					
-25.0	△	25.0					
-25.01	△	25.01	230	25	11.5	60	160
-25.02	△	25.02					
-25.03	△	25.03					
-25.04	△	25.04					
-25.05	△	25.05					
-25.1	△	25.1					
-26.0	△	26.0					
-27.0	△	27.0					
-28.0	△	28.0	240	32	11.5	60	160
-29.0	△	29.0					
-30.0	△	30.0					
-30.1	△	30.1	240	32	11.5	60	160
-30.5	△	30.5	280	32	15	60	200
-31.0	△	31.0					
-31.5	△	31.5					
-32.0	△	32.0					
-33.0	△	33.0					
-34.0	△	34.0					
-35.0	△	35.0					
-36.0	△	36.0	285	32	15	60	205
-37.0	△	37.0					
-38.0	△	38.0					
-39.0	△	39.0					
-40.0	△	40.0					

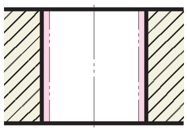
★PL means chamfering length to ϕDC.

· When the incremental of the reamer diameter is 0.1mm for the straight shank broach reamer, the shank diameter of the reamer from ϕ3mm to ϕ14mm is the same diameter of the reamer.
When the incremental of the reamer diameter is 0.01mm for the straight shank broach reamer;
If the decimal two columns of the reamer diameter is lower equal to 3, the shank diameter is lower diameter of 0.1mm incremental.
If the decimal two columns of the reamer diameter is higher equal to 4, the shank diameter is higher diameter of 0.1mm incremental.
e.g. Shank diameter of BRS-3.1: ϕ3.1mm, Shank diameter of BRS-3.13: ϕ3.1mm, Shank diameter of BRS-3.14: ϕ3.2mm

NIKKEN BROACH REAMER

NIKKEN

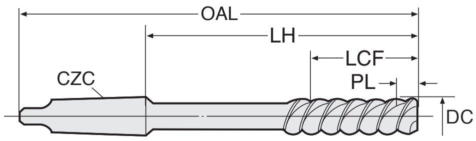
BRM Broach Reamer (Morse Taper Shank)



Explanation of the Code No.

BRS - 10.0

- DIAMETER
- BROACH REAMER SERIES
  BRS : MORSE TAPER SHANK



LH-HELIX 60° | PN | P.141

*See P.4 for icons.

HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM- 2.95	△	2.95	115	MT1	5.7	24	49.5
- 2.96	△	2.96					
- 2.97	△	2.97					
- 2.98	△	2.98					
- 2.99	△	2.99					
- 3.0	●	3.0					
- 3.01	△	3.01	115	MT1	5.7	24	49.5
- 3.02	△	3.02					
- 3.03	△	3.03					
- 3.04	△	3.04					
- 3.05	△	3.05					
- 3.1	△	3.1					
- 3.2	△	3.2					
- 3.3	△	3.3					
- 3.4	△	3.4					
- 3.5	●	3.5					
- 3.6	△	3.6					
- 3.7	△	3.7					
- 3.8	△	3.8					
- 3.9	△	3.9					
- 3.95	△	3.95	115	MT1	6.5	24	49.5
- 3.96	△	3.96					
- 3.97	△	3.97					
- 3.98	△	3.98					
- 3.99	△	3.99					
- 4.0	●	4.0					
- 4.01	△	4.01	115	MT1	6.5	24	49.5
- 4.02	△	4.02					
- 4.03	△	4.03					
- 4.04	△	4.04	115	MT1	7.6	24	49.5
- 4.05	△	4.05					
- 4.1	△	4.1					
- 4.2	△	4.2					
- 4.3	△	4.3	120	MT1	7.6	25	54.5
- 4.4	△	4.4					
- 4.5	●	4.5					
- 4.6	△	4.6					
- 4.7	△	4.7					
- 4.8	△	4.8					
- 4.9	△	4.9					
- 4.95	△	4.95					
- 4.96	△	4.96					
- 4.97	△	4.97					
- 4.98	△	4.98					
- 4.99	△	4.99					
- 5.0	●	5.0					
- 5.01	△	5.01	120	MT1	7.6	25	54.5
- 5.02	△	5.02					
- 5.03	△	5.03					
- 5.04	△	5.04					
- 5.05	△	5.05					
- 5.1	△	5.1					
- 5.2	△	5.2					
- 5.3	△	5.3	130	MT1	7.6	30	64.5
- 5.4	△	5.4					
- 5.5	●	5.5					
- 5.6	△	5.6					
- 5.7	△	5.7					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM- 5.8	△	5.8	130	MT1	7.6	30	64.5
- 5.9	△	5.9					
- 5.95	△	5.95					
- 5.96	△	5.96					
- 5.97	△	5.97					
- 5.98	△	5.98					
- 5.99	△	5.99					
- 6.0	●	6.0					
- 6.01	△	6.01	130	MT1	7.6	30	64.5
- 6.02	△	6.02					
- 6.03	△	6.03					
- 6.04	△	6.04					
- 6.05	△	6.05					
- 6.1	△	6.1					
- 6.2	△	6.2					
- 6.3	△	6.3	140	MT1	9.5	35	74.5
- 6.4	△	6.4					
- 6.5	●	6.5					
- 6.6	△	6.6					
- 6.7	△	6.7					
- 6.8	△	6.8					
- 6.9	△	6.9					
- 6.95	△	6.95					
- 6.96	△	6.96					
- 6.97	△	6.97					
- 6.98	△	6.98					
- 6.99	△	6.99					
- 7.0	●	7.0					
- 7.01	△	7.01	140	MT1	9.5	35	74.5
- 7.02	△	7.02					
- 7.03	△	7.03					
- 7.04	△	7.04					
- 7.05	△	7.05					
- 7.1	△	7.1					
- 7.2	△	7.2					
- 7.3	△	7.3	150	MT1	9.5	40	84.5
- 7.4	△	7.4					
- 7.5	●	7.5					
- 7.6	△	7.6					
- 7.7	△	7.7					
- 7.8	△	7.8					
- 7.9	△	7.9					
- 7.95	△	7.95					
- 7.96	△	7.96					
- 7.97	△	7.97					
- 7.98	△	7.98					
- 7.99	△	7.99					
- 8.0	●	8.0					
- 8.01	△	8.01	150	MT1	9.5	40	84.5
- 8.02	△	8.02					
- 8.03	△	8.03					
- 8.04	△	8.04					
- 8.05	△	8.05					
- 8.1	△	8.1					
- 8.2	△	8.2					
- 8.3	△	8.3	165	MT1	9.5	40	99.5
- 8.4	△	8.4					
- 8.5	●	8.5					

★PL means chamfering length to φDC.

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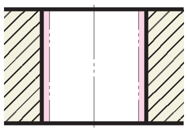
NIKKEN BROACH REAMER

NIKKEN

BRM Broach Reamer (Morse Taper Shank)



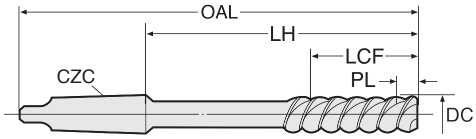
Explanation of the Code No.

BRS - 10.0

DIAMETER

BROACH REAMER SERIES

BRS : MORSE TAPER SHANK



LH-HELIX 60° | PN | P.141 *See P.4 for icons.

HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM- 8.6	△	8.6	165	MT1	9.5	40	99.5
- 8.7	△	8.7					
- 8.8	△	8.8					
- 8.9	△	8.9					
- 8.95	△	8.95					
- 8.96	△	8.96					
- 8.97	△	8.97					
- 8.98	△	8.98					
- 8.99	△	8.99					
- 9.0	●	9.0					
- 9.01	△	9.01	165	MT1	9.5	40	99.5
- 9.02	△	9.02					
- 9.03	△	9.03					
- 9.04	△	9.04					
- 9.05	△	9.05					
- 9.1	△	9.1					
- 9.2	△	9.2					
- 9.3	△	9.3					
- 9.4	△	9.4					
- 9.5	●	9.5					
- 9.525	△	9.525(3/8)					
- 9.6	△	9.6					
- 9.7	△	9.7					
- 9.8	△	9.8					
- 9.9	△	9.9					
- 9.95	△	9.95					
- 9.96	△	9.96					
- 9.97	△	9.97					
- 9.98	△	9.98					
- 9.99	△	9.99					
-10.0	●	10.0					
-10.01	△	10.01	165	MT1	9.5	40	99.5
-10.02	△	10.02					
-10.03	△	10.03					
-10.04	△	10.04					
-10.05	△	10.05					
-10.1	△	10.1					
-10.2	△	10.2					
-10.3	△	10.3	170	MT1	9.5	40	104.5
-10.4	△	10.4					
-10.5	●	10.5					
-10.6	△	10.6					
-10.7	△	10.7					
-10.8	△	10.8					
-10.9	△	10.9					
-10.95	△	10.95					
-10.96	△	10.96					
-10.97	△	10.97					
-10.98	△	10.98					
-10.99	△	10.99					
-11.0	●	11.0					
-11.01	△	11.01	170	MT1	9.5	40	104.5
-11.02	△	11.02					
-11.03	△	11.03					
-11.04	△	11.04					
-11.05	△	11.05					
-11.1	△	11.1					
-11.2	△	11.2					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM-11.3	△	11.3	175	MT1	9.5	40	109.5
-11.4	△	11.4					
-11.5	●	11.5					
-11.6	△	11.6					
-11.7	△	11.7					
-11.8	△	11.8					
-11.9	△	11.9					
-11.95	△	11.95					
-11.96	△	11.96					
-11.97	△	11.97					
-11.98	△	11.98					
-11.99	△	11.99					
-12.0	●	12.0					
-12.01	△	12.01	175	MT1	9.5	40	109.5
-12.02	△	12.02					
-12.03	△	12.03					
-12.04	△	12.04					
-12.05	△	12.05					
-12.1	△	12.1					
-12.2	△	12.2					
-12.3	△	12.3	180	MT1	9.5	40	114.5
-12.4	△	12.4					
-12.5	●	12.5					
-12.6	△	12.6					
-12.7	△	12.7(1/2)					
-12.8	△	12.8					
-12.9	△	12.9					
-12.95	△	12.95					
-12.96	△	12.96					
-12.97	△	12.97					
-12.98	△	12.98					
-12.99	△	12.99					
-13.0	●	13.0					
-13.01	△	13.01	180	MT1	9.5	40	114.5
-13.02	△	13.02					
-13.03	△	13.03					
-13.04	△	13.04					
-13.05	△	13.05					
-13.1	△	13.1					
-13.2	△	13.2					
-13.3	△	13.3	180	MT1	9.5	45	114.5
-13.4	△	13.4					
-13.5	●	13.5					
-13.6	△	13.6					
-13.7	△	13.7					
-13.8	△	13.8					
-13.9	△	13.9					
-13.95	△	13.95					
-13.96	△	13.96					
-13.97	△	13.97					
-13.98	△	13.98					
-13.99	△	13.99					
-14.0	●	14.0					
-14.01	△	14.01	180	MT1	9.5	45	114.5
-14.02	△	14.02					
-14.03	△	14.03					
-14.04	△	14.04					
-14.05	△	14.05					

★PL means chamfering length to φDC.

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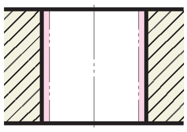
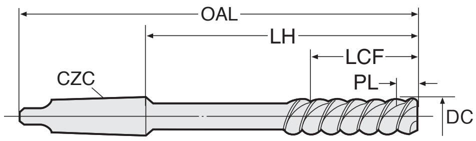
BRM Broach Reamer (Morse Taper Shank)



Explanation of the Code No.

BRS - 10.0

- DIAMETER
- BROACH REAMER SERIES
  BRS : MORSE TAPER SHANK



LH-HELIX 60° | PN | P.141 *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM-14.1	△	14.1	180	MT1	9.5	45	114.5
-14.2	△	14.2					
-14.3	△	14.3	200	MT2	9.5	45	120
-14.4	△	14.4					
-14.5	●	14.5					
-14.6	△	14.6					
-14.7	△	14.7					
-14.8	△	14.8					
-14.9	△	14.9					
-14.95	△	14.95					
-14.96	△	14.96					
-14.97	△	14.97					
-14.98	△	14.98					
-14.99	△	14.99					
-15.0	●	15.0					
-15.01	△	15.01	200	MT2	9.5	45	120
-15.02	△	15.02					
-15.03	△	15.03					
-15.04	△	15.04					
-15.05	△	15.05					
-15.1	△	15.1					
-15.2	△	15.2					
-15.3	△	15.3	205	MT2	11.5	45	125
-15.4	△	15.4					
-15.5	●	15.5					
-15.6	△	15.6					
-15.7	△	15.7					
-15.8	△	15.8					
-15.875	△	15.875(5/8)					
-15.9	△	15.9					
-15.95	△	15.95					
-15.96	△	15.96					
-15.97	△	15.97					
-15.98	△	15.98					
-15.99	△	15.99					
-16.0	●	16.0					
-16.01	△	16.01	205	MT2	11.5	45	125
-16.02	△	16.02					
-16.03	△	16.03					
-16.04	△	16.04					
-16.05	△	16.05					
-16.1	△	16.1					
-16.2	△	16.2					
-16.3	△	16.3	205	MT2	11.5	50	125
-16.4	△	16.4					
-16.5	●	16.5					
-16.6	△	16.6					
-16.7	△	16.7					
-16.8	△	16.8					
-16.9	△	16.9					
-16.95	△	16.95					
-16.96	△	16.96					
-16.97	△	16.97					
-16.98	△	16.98					
-16.99	△	16.99					
-17.0	●	17.0					
-17.01	△	17.01	205	MT2	11.5	50	125
-17.02	△	17.02					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM-17.03	△	17.03	205	MT2	11.5	50	125
-17.04	△	17.04					
-17.05	△	17.05					
-17.1	△	17.1					
-17.2	△	17.2					
-17.3	△	17.3	210	MT2	11.5	50	130
-17.4	△	17.4					
-17.5	●	17.5					
-17.6	△	17.6					
-17.7	△	17.7					
-17.8	△	17.8					
-17.9	△	17.9					
-17.95	△	17.95					
-17.96	△	17.96					
-17.97	△	17.97					
-17.98	△	17.98					
-17.99	△	17.99					
-18.0	●	18.0					
-18.01	△	18.01	210	MT2	11.5	50	130
-18.02	△	18.02					
-18.03	△	18.03					
-18.04	△	18.04					
-18.05	△	18.05					
-18.1	△	18.1					
-18.2	△	18.2					
-18.3	△	18.3					
-18.4	△	18.4					
-18.5	●	18.5					
-18.6	△	18.6					
-18.7	△	18.7					
-18.8	△	18.8					
-18.9	△	18.9					
-18.95	△	18.95					
-18.96	△	18.96					
-18.97	△	18.97					
-18.98	△	18.98					
-18.99	△	18.99					
-19.0	●	19.0					
-19.01	△	19.01	210	MT2	11.5	50	130
-19.02	△	19.02					
-19.03	△	19.03					
-19.04	△	19.04					
-19.05	△	19.05(3/4)					
-19.1	△	19.1					
-19.2	△	19.2					
-19.3	△	19.3	220	MT2	11.5	55	140
-19.4	△	19.4					
-19.5	●	19.5					
-19.6	△	19.6					
-19.7	△	19.7					
-19.8	△	19.8					
-19.9	△	19.9					
-19.95	△	19.95					
-19.96	△	19.96					
-19.97	△	19.97					
-19.98	△	19.98					
-19.99	△	19.99					
-20.0	●	20.0					

★PL means chamfering length to ΦDC.

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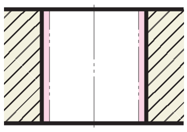
NIKKEN

BRM Broach Reamer (Morse Taper Shank)

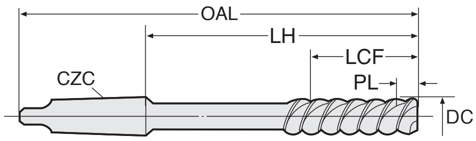
LH-HELIX 60° | PN | P.141 | *See P.4 for icons.



Explanation of the Code No.

BRS - 10.0

- DIAMETER
- BROACH REAMER SERIES
  BRS : MORSE TAPER SHANK



STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM-20.01	△	20.01	220	MT2	11.5	55	140
-20.02	△	20.02					
-20.03	△	20.03					
-20.04	△	20.04					
-20.05	△	20.05					
-20.1	△	20.1					
-20.2	△	20.2					
-20.3	△	20.3	230	MT2	11.5	55	150
-20.4	△	20.4					
-20.5	●	20.5					
-20.6	△	20.6					
-20.7	△	20.7					
-20.8	△	20.8					
-20.9	△	20.9					
-20.95	△	20.95					
-20.96	△	20.96					
-20.97	△	20.97					
-20.98	△	20.98					
-20.99	△	20.99					
-21.0	●	21.0					
-21.01	△	21.01	230	MT2	11.5	55	150
-21.02	△	21.02					
-21.03	△	21.03					
-21.04	△	21.04					
-21.05	△	21.05					
-21.1	△	21.1					
-21.2	△	21.2					
-21.3	△	21.3					
-21.4	△	21.4					
-21.5	●	21.5					
-21.6	△	21.6					
-21.7	△	21.7					
-21.8	△	21.8					
-21.9	△	21.9					
-21.95	△	21.95					
-21.96	△	21.96					
-21.97	△	21.97					
-21.98	△	21.98					
-21.99	△	21.99					
-22.0	●	22.0					
-22.01	△	22.01	230	MT2	11.5	55	150
-22.02	△	22.02					
-22.03	△	22.03					
-22.04	△	22.04					
-22.05	△	22.05					
-22.1	△	22.1					
-22.2	△	22.2					
-22.225	△	22.225(7/8)	240	MT2	11.5	60	150
-22.3	△	22.3					
-22.4	△	22.4					
-22.5	●	22.5					
-22.6	△	22.6					
-22.7	△	22.7					
-22.8	△	22.8					
-22.9	△	22.9					
-22.95	△	22.95					
-22.96	△	22.96					
-22.97	△	22.97					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM-22.98	△	22.98	240	MT2	11.5	60	150
-22.99	△	22.99					
-23.0	●	23.0					
-23.01	△	23.01	240	MT2	11.5	60	150
-23.02	△	23.02					
-23.03	△	23.03					
-23.04	△	23.04					
-23.05	△	23.05					
-23.1	△	23.1					
-23.2	△	23.2					
-23.3	△	23.3	250	MT3	11.5	60	151
-23.4	△	23.4					
-23.5	●	23.5					
-23.6	△	23.6					
-23.7	△	23.7					
-23.8	△	23.8					
-23.9	△	23.9					
-23.95	△	23.95					
-23.96	△	23.96					
-23.97	△	23.97					
-23.98	△	23.98					
-23.99	△	23.99					
-24.0	●	24.0					
-24.01	△	24.01	250	MT3	11.5	60	151
-24.02	△	24.02					
-24.03	△	24.03					
-24.04	△	24.04					
-24.05	△	24.05					
-24.1	△	24.1					
-24.2	△	24.2					
-24.3	△	24.3	255	MT3	11.5	60	156
-24.4	△	24.4					
-24.5	●	24.5					
-24.6	△	24.6					
-24.7	△	24.7					
-24.8	△	24.8					
-24.9	△	24.9					
-24.95	△	24.95					
-24.96	△	24.96					
-24.97	△	24.97					
-24.98	△	24.98					
-24.99	△	24.99					
-25.0	●	25.0					
-25.01	△	25.01	255	MT3	11.5	60	156
-25.02	△	25.02					
-25.03	△	25.03					
-25.04	△	25.04					
-25.05	△	25.05					
-25.1	△	25.1					
-25.2	△	25.2					
-25.3	△	25.3					
-25.4	△	25.4(1")					
-25.5	●	25.5					
-25.6	△	25.6					
-25.7	△	25.7					
-25.8	△	25.8					
-25.9	△	25.9					
-25.95	△	25.95					

★PL means chamfering length to φDC.

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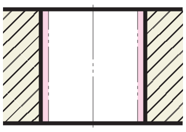
HSS

FOR THROUGH HOLE

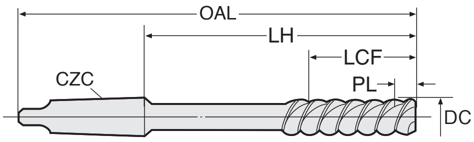
NIKKEN BROACH REAMER

NIKKEN

BRM Broach Reamer (Morse Taper Shank)



Explanation of the Code No.
BRS - 10.0
●DIAMETER
●BROACH REAMER SERIES
BRS : MORSE TAPER SHANK



LH-HELIX 60° | PN | P.141 *See P.4 for icons.

HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM- 25.96	△	25.96	255	MT3	11.5	60	156
- 25.97	△	25.97					
- 25.98	△	25.98					
- 25.99	△	25.99					
- 26.0	●	26.0					
- 26.01	△	26.01	255	MT3	11.5	60	156
- 26.02	△	26.02					
- 26.03	△	26.03					
- 26.04	△	26.04					
- 26.05	△	26.05					
- 26.1	△	26.1					
- 26.2	△	26.2					
- 26.3	△	26.3					
- 26.4	△	26.4					
- 26.5	●	26.5					
- 26.6	△	26.6					
- 26.7	△	26.7					
- 26.8	△	26.8					
- 26.9	△	26.9					
- 26.95	△	26.95					
- 26.96	△	26.96					
- 26.97	△	26.97					
- 26.98	△	26.98					
- 26.99	△	26.99					
- 27.0	●	27.0					
- 27.01	△	27.01	255	MT3	11.5	60	156
- 27.02	△	27.02					
- 27.03	△	27.03					
- 27.04	△	27.04					
- 27.05	△	27.05					
- 27.1	△	27.1					
- 27.2	△	27.2					
- 27.3	△	27.3	260	MT3	11.5	60	161
- 27.4	△	27.4					
- 27.5	●	27.5					
- 27.6	△	27.6					
- 27.7	△	27.7					
- 27.8	△	27.8					
- 27.9	△	27.9					
- 27.95	△	27.95					
- 27.96	△	27.96					
- 27.97	△	27.97					
- 27.98	△	27.98					
- 27.99	△	27.99					
- 28.0	●	28.0					
- 28.01	△	28.01	260	MT3	11.5	60	161
- 28.02	△	28.02					
- 28.03	△	28.03					
- 28.04	△	28.04					
- 28.05	△	28.05					
- 28.1	△	28.1					
- 28.2	△	28.2					
- 28.3	△	28.3					
- 28.4	△	28.4					
- 28.5	●	28.5					
- 28.6	△	28.6					
- 28.7	△	28.7					
- 28.8	△	28.8					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM- 28.9	△	28.9	260	MT3	11.5	60	161
- 28.95	△	28.95					
- 28.96	△	28.96					
- 28.97	△	28.97					
- 28.98	△	28.98					
- 28.99	△	28.99					
- 29.0	●	29.0					
- 29.01	△	29.01	260	MT3	11.5	60	161
- 29.02	△	29.02					
- 29.03	△	29.03					
- 29.04	△	29.04					
- 29.05	△	29.05					
- 29.1	△	29.1					
- 29.2	△	29.2					
- 29.3	△	29.3					
- 29.4	△	29.4					
- 29.5	●	29.5					
- 29.6	△	29.6					
- 29.7	△	29.7					
- 29.8	△	29.8					
- 29.9	△	29.9					
- 29.95	△	29.95					
- 29.96	△	29.96					
- 29.97	△	29.97					
- 29.98	△	29.98					
- 29.99	△	29.99					
- 30.0	●	30.0					
- 30.01	△	30.01	260	MT3	11.5	60	161
- 30.02	△	30.02					
- 30.03	△	30.03					
- 30.04	△	30.04					
- 30.05	△	30.05					
- 30.5	△	30.5	300	MT3	15	60	201
- 31.0	●	31.0					
- 31.5	△	31.5					
- 32.0	●	32.0					
- 32.5	△	32.5	325	MT4	15	60	201
- 33.0	●	33.0					
- 33.5	△	33.5					
- 34.0	●	34.0					
- 34.5	△	34.5					
- 35.0	●	35.0					
- 35.5	△	35.5	330	MT4	15	60	206
- 36.0	●	36.0					
- 36.5	△	36.5					
- 37.0	●	37.0					
- 37.5	△	37.5					
- 38.0	●	38.0					
- 38.5	△	38.5					
- 39.0	●	39.0					
- 39.5	△	39.5					
- 40.0	●	40.0					
- 40.5	△	40.5					
- 41.0	●	41.0					
- 41.5	△	41.5	335	MT4	15	60	211
- 42.0	●	42.0					
- 42.5	△	42.5					
- 43.0	●	43.0					

★PL means chamfering length to ΦDC.

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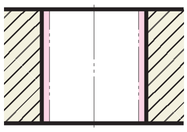
NIKKEN BROACH REAMER

NIKKEN

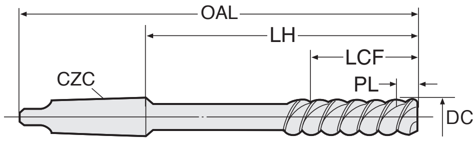
BRM Broach Reamer (Morse Taper Shank)



Explanation of the Code No.

BRS - 10.0

- DIAMETER
- BROACH REAMER SERIES
  BRS : MORSE TAPER SHANK



LH-HELIX 60° | PN | P.141

*See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM- 43.5	△	43.5	335	MT4	15	60	211
- 44.0	●	44.0					
- 44.5	△	44.5					
- 45.0	●	45.0					
- 45.5	△	45.5	340	MT4	15	60	216
- 46.0	●	46.0					
- 46.5	△	46.5					
- 47.0	●	47.0					
- 47.5	△	47.5	350	MT4	15	60	226
- 48.0	●	48.0					
- 48.5	△	48.5					
- 49.0	●	49.0					
- 49.5	△	49.5	385	MT5	15	70	229
- 50.0	●	50.0					
- 50.5	△	50.5					
- 51.0	△	51.0					
- 51.5	△	51.5					
- 52.0	△	52.0					
- 52.5	△	52.5					
- 53.0	△	53.0					
- 53.5	△	53.5					
- 54.0	△	54.0					
- 54.5	△	54.5	400	MT5	15	70	244
- 55.0	●	55.0					
- 55.5	△	55.5					
- 56.0	△	56.0					
- 56.5	△	56.5					
- 57.0	△	57.0					
- 57.5	△	57.5					
- 58.0	△	58.0					
- 58.5	△	58.5					

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM- 59.0	△	59.0	400	MT5	15	70	244
- 59.5	△	59.5					
- 60.0	●	60.0					
- 60.5	△	60.5	400	MT5	15	70	244
- 61.0	△	61.0					
- 61.5	△	61.5					
- 62.0	△	62.0					
- 62.5	△	62.5					
- 63.0	△	63.0					
- 63.5	△	63.5					
- 64.0	△	64.0					
- 64.5	△	64.5					
- 65.0	●	65.0					
- 65.5	△	65.5	400	MT5	15	70	244
- 66.0	△	66.0					
- 66.5	△	66.5					
- 67.0	△	67.0					
- 67.5	△	67.5					
- 68.0	△	68.0					
- 68.5	△	68.5					
- 69.0	△	69.0					
- 69.5	△	69.5					
- 70.0	●	70.0					
- 75.0	●	75.0	400	MT5	15	70	244
- 80.0	●	80.0					
- 85.0	●	85.0					
- 90.0	●	90.0					
- 95.0	●	95.0					
-100.0	●	100.0					

★PL means chamfering length to ΦDC.

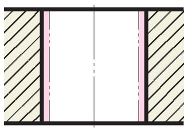
★MT size is determined by reamer dia. : ~φ14:MT1, φ15 ~φ23 : MT2, φ24 ~ φ32 : MT3, φ33 ~ φ49 : MT4, φ50 ~ : MT5

NIKKEN BROACH REAMER LONG TYPE

NIKKEN

BRS-L

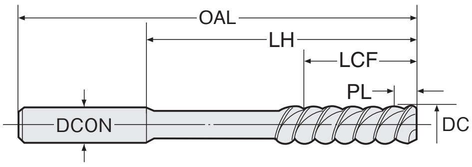
Broach Reamer Long Type (Straight Shank)



Explanation of the Code No.

BRS - 10.0 - 250L

- OAL
- DIAMETER
- BROACH REAMER LONG TYPE
  BRS : STRAIGHT SHANK LONG



LH-HELIX 60° PN P.141 *See P.4 for icons.

HSS

FOR THROUGH HOLE

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 3.0 -100L	●	3.0	100	3	5.7	22	75
- 2.98-150L	△	2.98	150	3	5.7	22	125
- 2.99-150L	△	2.99					
- 3.0 -150L	●	3.0					
- 3.01-150L	△	3.01	150	3	5.7	22	125
- 3.02-150L	△	3.02					
- 3.03-150L	△	3.03					
- 3.1 -150L	△	3.1	150	3.1	5.7	22	125
- 3.2 -150L	△	3.2	150	3.2	5.7	22	125
- 3.3 -150L	△	3.3	150	3.3	5.7	22	125
- 3.4 -150L	△	3.4	150	3.4	5.7	22	125
- 3.5 -150L	△	3.5	150	3.5	5.7	24	123
- 3.6 -200L	△	3.6	200	3.6	5.7	24	173
- 3.7 -200L	△	3.7	200	3.7	5.7	24	173
- 3.8 -200L	△	3.8	200	3.8	5.7	24	173
- 3.9 -200L	△	3.9	200	3.9	5.7	24	173
- 4.0 -150L	●	4.0	150	4	6.5	24	123
- 3.98-200L	△	3.98	200	4	6.5	24	173
- 3.99-200L	△	3.99					
- 4.0 -200L	●	4.0					
- 4.01-200L	△	4.01	200	4	6.5	24	173
- 4.02-200L	△	4.02					
- 4.03-200L	△	4.03					
- 4.1 -200L	△	4.1	200	4.1	7.6	24	173
- 4.2 -200L	△	4.2	200	4.2	7.6	24	173
- 4.3 -200L	△	4.3	200	4.3	7.6	24	173
- 4.4 -200L	△	4.4	200	4.4	7.6	24	173
- 4.5 -200L	△	4.5	200	4.5	7.6	25	170
- 4.6 -200L	△	4.6	200	4.6	7.6	25	170
- 4.7 -200L	△	4.7	200	4.7	7.6	25	170
- 4.8 -200L	△	4.8	200	4.8	7.6	25	170
- 4.9 -200L	△	4.9	200	4.9	7.6	25	170
- 4.98-200L	△	4.98	200	5	7.6	25	170
- 4.99-200L	△	4.99					
- 5.0 -200L	●	5.0					
- 5.01-200L	△	5.01	200	5	7.6	25	170
- 5.02-200L	△	5.02					
- 5.03-200L	△	5.03					
- 5.1 -200L	△	5.1	200	5.1	7.6	25	170
- 5.2 -200L	△	5.2	200	5.2	7.6	25	170
- 5.3 -200L	△	5.3	200	5.3	7.6	25	170
- 5.4 -200L	△	5.4	200	5.4	7.6	25	170
- 5.5 -200L	△	5.5	200	5.5	7.6	30	165
- 5.6 -250L	△	5.6	250	5.6	7.6	30	215
- 5.7 -250L	△	5.7	250	5.7	7.6	30	215
- 5.8 -250L	△	5.8	250	5.8	7.6	30	215
- 5.9 -250L	△	5.9	250	5.9	7.6	30	215
- 6.0 -200L	●	6.0	200	6	7.6	30	165
- 5.98-250L	△	5.98	250	6	7.6	30	215
- 5.99-250L	△	5.99					
- 6.0 -250L	●	6.0					
- 6.01-250L	△	6.01	250	6	7.6	30	215
- 6.02-250L	△	6.02					
- 6.03-250L	△	6.03					
- 6.1 -250L	△	6.1	250	6.1	9.5	30	215
- 6.2 -250L	△	6.2	250	6.2	9.5	30	215
- 6.3 -250L	△	6.3	250	6.3	9.5	30	215
- 6.4 -250L	△	6.4	250	6.4	9.5	30	215

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS- 6.5 -250L	△	6.5	250	6.5	9.5	30	210
- 6.6 -250L	△	6.6	250	6.6	9.5	30	210
- 6.7 -250L	△	6.7	250	6.7	9.5	30	210
- 6.8 -250L	△	6.8	250	6.8	9.5	30	210
- 6.9 -250L	△	6.9	250	6.9	9.5	30	210
- 6.98-250L	△	6.98	250	7	9.5	30	210
- 6.99-250L	△	6.99					
- 7.0 -250L	●	7.0					
- 7.01-250L	△	7.01	250	7	9.5	30	210
- 7.02-250L	△	7.02					
- 7.03-250L	△	7.03					
- 7.1 -250L	△	7.1	250	7.1	9.5	30	210
- 7.2 -250L	△	7.2	250	7.2	9.5	30	210
- 7.3 -250L	△	7.3	250	7.3	9.5	30	210
- 7.4 -250L	△	7.4	250	7.4	9.5	30	210
- 7.5 -250L	△	7.5	250	7.5	9.5	30	210
- 7.6 -250L	△	7.6	250	7.6	9.5	30	210
- 7.7 -250L	△	7.7	250	7.7	9.5	30	210
- 7.8 -250L	△	7.8	250	7.8	9.5	30	210
- 7.9 -250L	△	7.9	250	7.9	9.5	30	210
- 7.98-250L	△	7.98	250	8	9.5	35	210
- 7.99-250L	△	7.99					
- 8.0 -250L	●	8.0					
- 8.01-250L	△	8.01	250	8	9.5	35	210
- 8.02-250L	△	8.02					
- 8.03-250L	△	8.03					
- 8.1 -250L	△	8.1	250	8.1	9.5	35	210
- 8.2 -250L	△	8.2	250	8.2	9.5	35	210
- 8.3 -250L	△	8.3	250	8.3	9.5	35	210
- 8.4 -250L	△	8.4	250	8.4	9.5	35	210
- 8.5 -250L	△	8.5	250	8.5	9.5	35	205
- 8.6 -250L	△	8.6	250	8.6	9.5	35	205
- 8.7 -250L	△	8.7	250	8.7	9.5	35	205
- 8.8 -250L	△	8.8	250	8.8	9.5	35	205
- 8.9 -250L	△	8.9	250	8.9	9.5	35	205
- 8.98-250L	△	8.98	250	9	9.5	35	205
- 8.99-250L	△	8.99					
- 9.0 -250L	●	9.0					
- 9.01-250L	△	9.01	250	9	9.5	35	205
- 9.02-250L	△	9.02					
- 9.03-250L	△	9.03					
- 9.1 -250L	△	9.1	250	9.1	9.5	35	205
- 9.2 -250L	△	9.2	250	9.2	9.5	35	205
- 9.3 -250L	△	9.3	250	9.3	9.5	35	205
- 9.4 -250L	△	9.4	250	9.4	9.5	35	205
- 9.5 -250L	△	9.5	250	9.5	9.5	40	200
- 9.6 -250L	△	9.6	250	9.6	9.5	40	200
- 9.7 -250L	△	9.7	250	9.7	9.5	40	200
- 9.8 -250L	△	9.8	250	9.8	9.5	40	200
- 9.9 -250L	△	9.9	250	9.9	9.5	40	200
- 9.98-250L	△	9.98	250	10	9.5	40	200
- 9.99-250L	△	9.99					
-10.0 -250L	●	10.0					
-10.01-250L	△	10.01	250	10	9.5	40	200
-10.02-250L	△	10.02					
-10.03-250L	△	10.03					
-10.1 -250L	△	10.1	250	10.1	9.5	40	200
-10.2 -250L	△	10.2	250	10.2	9.5	40	200

★PL means chamfering length to ΦDC.

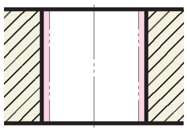
Next page

NIKKEN BROACH REAMER LONG TYPE

NIKKEN

BRS-L

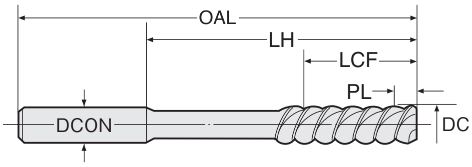
Broach Reamer Long Type (Straight Shank)



Explanation of the Code No.

BRS - 10.0 - 250L

- OAL
- DIAMETER
- BROACH REAMER LONG TYPE
  BRS : STRAIGHT SHANK LONG



LH-HELIX 60° | PN | P.141 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS-10.3 -250L	△	10.3	250	10.3	9.5	40	200
-10.4 -250L	△	10.4	250	10.4	9.5	40	200
-10.5 -250L	△	10.5	250	10.5	9.5	40	200
-10.6 -250L	△	10.6	250	10.6	9.5	40	200
-10.7 -250L	△	10.7	250	10.7	9.5	40	200
-10.8 -250L	△	10.8	250	10.8	9.5	40	200
-10.9 -250L	△	10.9	250	10.9	9.5	40	200
-10.98-250L	△	10.98					
-10.99-250L	△	10.99	250	11	9.5	40	200
-11.0 -250L	●	11.0					
-11.01-250L	△	11.01					
-11.02-250L	△	11.02	250	11	9.5	40	200
-11.03-250L	△	11.03					
-11.1 -250L	△	11.1	250	11.1	9.5	40	200
-11.2 -250L	△	11.2	250	11.2	9.5	40	200
-11.3 -250L	△	11.3	250	11.3	9.5	40	200
-11.4 -250L	△	11.4	250	11.4	9.5	40	200
-11.5 -250L	△	11.5	250	11.5	9.5	40	195
-11.6 -250L	△	11.6	250	11.6	9.5	40	195
-11.7 -250L	△	11.7	250	11.7	9.5	40	195
-11.8 -250L	△	11.8	250	11.8	9.5	40	195
-11.9 -250L	△	11.9	250	11.9	9.5	40	195
-11.98-250L	△	11.98					
-11.99-250L	△	11.99	250	12	9.5	40	195
-12.0 -250L	●	12.0					
-12.01-250L	△	12.01					
-12.02-250L	△	12.02	250	12	9.5	40	195
-12.03-250L	△	12.03					
-12.1 -250L	△	12.1	250	12.1	9.5	40	195

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRS-12.2 -250L	△	12.2	250	12.2	9.5	40	195
-12.3 -250L	△	12.3	250	12.3	9.5	40	195
-12.4 -250L	△	12.4	250	12.4	9.5	40	195
-12.5 -250L	△	12.5	250	12.5	9.5	45	195
-12.6 -250L	△	12.6	250	12.6	9.5	45	195
-12.7 -250L	△	12.7	250	12.7	9.5	45	195
-12.8 -250L	△	12.8	250	12.8	9.5	45	195
-12.9 -250L	△	12.9	250	12.9	9.5	45	195
-12.98-250L	△	12.98					
-12.99-250L	△	12.99	250	13	9.5	45	195
-13.0 -250L	●	13.0					
-13.01-250L	△	13.01					
-13.02-250L	△	13.02	250	13	9.5	45	195
-13.03-250L	△	13.03					
-13.1 -250L	△	13.1	250	13.1	9.5	45	195
-13.2 -250L	△	13.2	250	13.2	9.5	45	195
-13.3 -250L	△	13.3	250	13.3	9.5	45	195
-13.4 -250L	△	13.4	250	13.4	9.5	45	195
-13.5 -250L	△	13.5	250	13.5	9.5	45	195
-13.6 -250L	△	13.6	250	13.6	9.5	45	195
-13.7 -250L	△	13.7	250	13.7	9.5	45	195
-13.8 -250L	△	13.8	250	13.8	9.5	45	195
-13.9 -250L	△	13.9	250	13.9	9.5	45	195
-13.98-250L	△	13.98					
-13.99-250L	△	13.99	250	14	9.5	45	195
-14.0 -250L	●	14.0					
-14.01-250L	△	14.01					
-14.02-250L	△	14.02	250	14	9.5	45	195
-14.03-250L	△	14.03					

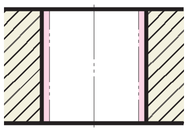
★PL means chamfering length to ΦDC.

NIKKEN BROACH REAMER LONG TYPE

NIKKEN

BRM-L

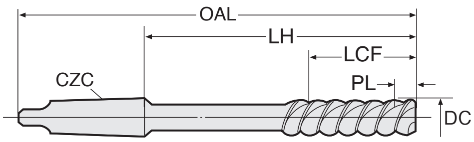
Broach Reamer Long Type (Morse Taper Shank)



Explanation of the Code No.

BRM - 15.0 - 280L

- OAL
- DIAMETER
- BROACH REAMER LONG TYPE
  BRM : MORSE TAPER SHANK



LH-HELIX 60° | PN | P.141 | *See P.4 for icons.

STOCK: ●=STANDARD STOCK ITEM(IN JAPAN) △=PRODUCTION BY ORDER

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM-14.0-250L	●	14.0	250	MT1	9.5	45	184.5
BRM-15.0-280L	●	15.0	280	MT2	9.5	45	200
BRM-16.0-300L	●	16.0	300	MT2	11.5	50	220
BRM-17.0-300L	●	17.0	300	MT2	11.5	50	220

Code No.	STOCK	DC H7	OAL	DCON	PL	LCF	LH
BRM-18.0-300L	●	18.0	300	MT2	11.5	50	220
BRM-19.0-300L	●	19.0	300	MT2	11.5	50	220
BRM-20.0-300L	●	20.0	300	MT2	11.5	55	220
	–	–	–	–	–	–	–

★PL means chamfering length to ΦDC.

HSS

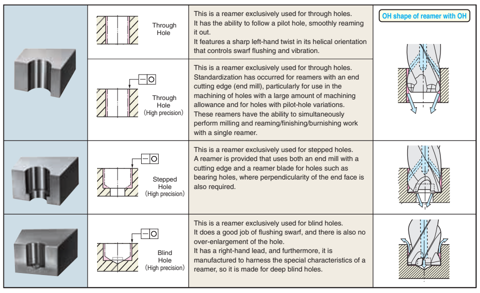
FOR THROUGH HOLE

NIKKEN REAMER TECNICAL DATA PREPARATION

NIKKEN

■Preparation for machining and cutting conditions

•Check whether your reamer selection is correct on **P.5** and **P.147**.

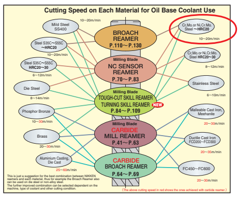


	Through Hole	This is a reamer exclusively used for through holes. It has the ability to follow a pilot hole, smoothly reaming it out. It features a sharp left-hand twist in its helical orientation that controls swarf flushing and vibration.	OH shape of reamer with OH
	Through Hole (High precision)	This is a reamer exclusively used for through holes. Standardization has occurred for reamers with an end cutting edge (end mill), particularly for use in the machining of holes with a large amount of machining allowance and for holes with pilot-hole variations. These reamers have the ability to simultaneously perform milling and reaming/finishing/burnishing work with a single reamer.	
	Stepped Hole (High precision)	This is a reamer exclusively used for stepped holes. A reamer is provided that uses both an end mill with a cutting edge and a reamer blade for holes such as bearing holes, where perpendicularity of the end face is also required.	
	Blind Hole (High precision)	This is a reamer exclusively used for blind holes. It does a good job of flushing swarf, and there is also no over-enlargement of the hole. It has a right-hand lead, and furthermore, it is manufactured to harness the special characteristics of a reamer, so it is made for deep blind holes.	

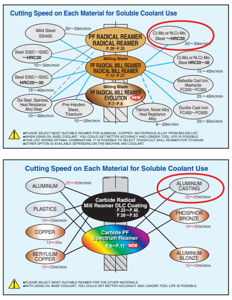
Cutting fluid	material	Soluble reamer
Oil base	Steel in general	Tough cut skill reamer, NC sensor reamer, Broach reamer, (Carbide reamer)
	SKD Stainless,Heat resisting steel	Tough cut skill reamer, NC sensor reamer, Carbide Mill reamer, EVO reamer
	Non ferrousmetal(Aluminium,Brass)	DLC coating reamer, Carbide Mill reamer, Carbide Broach reamer, Spectum reamer
	Castilon · Ductile	Carbide Mill reamer, Carbide Broach reamer, Tough cut skill reamer
Soluble coolant	Steel in general	Carbide (PF)Radical(Mill)reamer, Tough cut skill reamer NC sensor reamer, EVO reamer
	SKD Stainless,Heat resisting steel	
	Non ferrousmetal(Aluminium,Brass)	DLC coating reamer, Carbide Mill reamer, Spectum reamer
	Castilon · Ductile	Carbide Radical Mill reamer, Carbide Mill reamer, Carbide Broach reamer

•Verify your material and hardness and choose the cutting speed using the tables on **P.5**, **P.6**, **P.132-P.141**, **P.153** and **P.154**.

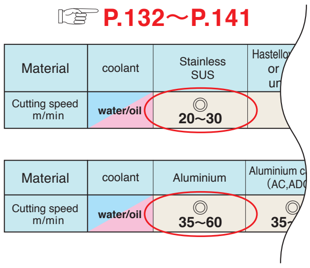
☞P.5



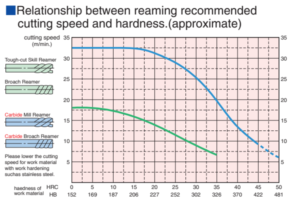
☞P.6

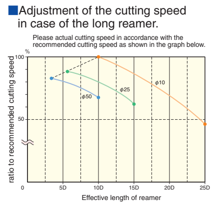


☞P.132～P.141



☞P.154





•Choose stock removal (Drilled hole diameter) and feed rate from the page of the selected reamer.

(PF-) RMSS-SPX		
Reamer dia	Feed per revolution mm/rev	Removal / diameter mm
～φ4.7	0.1 ～0.15	0.1 ～0.3
φ4.8～φ6.2	0.15～0.2	0.1 ～0.7
φ6.3～φ16.2	0.15～0.3	0.15～0.7
φ16.3～φ20.2	0.15～0.3	0.15～0.7

SRS,SRM		
Reamer dia	Feed per revolution mm/rev	Removal / diameter mm
～φ5.2	0.1～0.3	0.1～0.3
φ5.3～φ7.2	0.1～0.3	0.2～0.5
φ7.3～φ8.2	0.1～0.3	0.2～0.6
～φ11.2	0.15～	0.6

Feed per revolution and stock removal (Drilled hole diameter)

Removal / diameter mm
0.15～0.7

•The number on the left shows the minimum amount of stock removal. If you are concerned about drilled hole quality (strightness, off-center), please increase the stock removal.
•The number on the right shows the structural limit of the blade. Please avoid this for high precision machining.

Feed per revolution mm/rev
0.15～0.3

0.05mm of feed is optimal for single blade.It will be the value in middle, when converting to feed per revolution (0.05 X Numer of blades).
Please use the value in right side, when the material on which the performing edge is likely to perform, or the material which gets harden after machining.(Low speed and high feed)
Please use the value in left side, when the surface roughness is highly required.

＊The method for calculating the data values on NC program.

Obtain rotation speed S from cutting speed.

$$S = \frac{\text{Cutting speed(m/min.)}\times 1000}{3.14\times\text{reamer dia. (mm)}}$$

ex.) φ10mm reamer with cutting speed of 12m/min.

$$\frac{12\times 1000}{3.14\times 10} = 382 \rightarrow 380\text{min}^{-1} = \boxed{\text{S380}}$$

Obtain feed rate from feed per revolution

$$F = f(\text{mm/rev.})\times S(\text{min}^{-1})$$

ex.) Feed per revolution 0.2(mm/rev.) is chosen.

Assuming S = 380

$$F = 0.2\times 380 = 76 \rightarrow \boxed{\text{F76}}$$

Please command S380 F76 on NC program.

•The run-out accuracy of cutting edges should be within 0.01mm. Please use NIKKEN Slim Chuck or Milling Chuck for NIKKEN reamers.
•NIKKEN Zero Fit Holder cou be adjusted the run-out accuracy of cutting edges on the machine spindle.

NIKKEN REAMER SERIES CUTTING CONDITION

NIKKEN

■Apitude for material

◎ : Optimal ○ : Suitable

■Spindle speed **S** (min^{-1})

Determine material and cutting speed.

Stainless SUS
10~30

The value in left side is minimum condition.
Please use the valu in middle.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{Reamer dia. (mm)}}$$

■Coolant

Recommend JIS A1 no.1(former W1 no.2) with dilution ratio of 5 to 10.

■Feed rate **F** (mm/min.)

Determine the feed per revolution.

Feed per revolution mm/rev
0.2~0.3

Please use the value in middle.

$$F = \text{Feed per revolution (mm/rev)} \times S(min^{-1})$$

■Drilled hole

Removal / diameter mm
0.15~0.3

The value in left side is minimum condition.
When the quality of the drilled hole (Straightness) is not so good, please increase the stock removal.

Please refer **P.131** for more details.

■Carbide PF Radical Mill Reamer EVO

Material	Coolant	Stainless SUS	Hastelloy®, waspaloy® or equivalent under HB200	Inconel® or equivalent under HB280	Pre-hardened steel (HRC40)	Titan, Titan alloy under HB280
Cutting speed m/min	water/oil	◎ 10~30	◎ 8~20*	◎ 8~15*	○ 10~25	◎ 6~20*

(PF-) RMSS-EVO

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ4.7	0.1 ~0.12	0.1 ~0.2
φ4.8~φ6.2	0.15~0.2	0.1 ~0.3
φ6.3~φ16.2	0.15~0.2	0.15~0.3
φ16.3~φ20.2	0.2 ~0.3	0.2 ~0.3

(PF-) RFSS-EVO

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.07~0.12	0.1~0.2
φ5.3~φ6.2	0.1 ~0.2	0.1~0.3
φ6.3~φ8.2	0.1 ~0.3	0.1~0.3
φ8.3~φ20.2	0.1 ~0.2	0.1~0.3

*The hardness of the material with heat treatment is harder than the above figure, cutting condition must be reduced.
*Please confirm the run-out accuracy of the reamer must be within 0.005mm at the spindle.
*Please reduce feed rete just before the bottom of the stepped hole, when the bottom surface will be finished together.

■Carbide PF Spectrum Reamer SPX

Material	Coolant	Aluminium	Aluminium casting (AC,ADC)	Plastics	Copper Copper berylium	Phosphor bronze Phosphor bronze casting	Aluminium bronze Aluminium bronze casting
Cutting speed m/min	water/oil	◎ 25~60	◎ 25~60	◎ 15~35	○ 15~35	○ 15~35	○ 15~35

(PF-) RMSS-SPX

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ4.7	0.1 ~0.15	0.1 ~0.3
φ4.8~φ6.2	0.15~0.2	0.1 ~0.7
φ6.3~φ16.2	0.15~0.3	0.15~0.7
φ16.3~φ20.2	0.15~0.3	0.15~0.7

(PF-) RFSS-SPX

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.07~0.15	0.1~0.3
φ5.3~φ6.2	0.1 ~0.2	0.1~0.5
φ6.3~φ8.2	0.1 ~0.3	0.1~0.5
φ8.3~φ20.2	0.1 ~0.3	0.1~0.6

*Please confirm the run-out accuracy of the reamer must be within 0.005mm at the spindle.
*Please reduce feed rete just before the bottom of the stepped hole, when the bottom surface will be finished together.

■Carbide PF Radical Mill Reamer

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS
Cutting speed m/min	water/oil	◎ 20~50	◎ 15~50	◎ 15~40	◎ 15~50	◎ 20~50	◎ 10~30	◎ 10~30

(PF-) RDSS, RDS

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ4.2	0.1 ~0.15	0.1 ~0.2
φ4.3~φ5.2	0.1 ~0.15	0.15~0.2
φ5.3~φ6.2	0.12~0.2	0.15~0.2
φ6.3~φ6.7	0.12~0.2	0.2 ~0.3

(PF-) RDSS, RDS

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
φ6.8~φ20.2	0.2~0.3	0.2~0.3
φ20.3~φ27.2	0.2~0.3	0.3~0.5
φ27.3~φ30.2	0.3~0.4	0.3~0.5
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NIKKEN REAMER SERIES CUTTING CONDITION

NIKKEN

Apitude for material

◎ : Optimal ○ : Suitable

Spindle speed S (min^{-1})

Determine material and cutting speed.

Stainless SUS
10~30

The value in left side is minimum condition.
Please use the valu in middle.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{Reamer dia. (mm)}}$$

Coolant

Recommend JIS A1 no.1(former W1 no.2) with dilution ratio of 5 to 10.

Feed rate F (mm/min.)

Determine the feed per revolution.

Feed per revolution mm/rev
0.2~0.3

Please use the value in middle.

$$F = \text{Feed per revolution (mm/rev)} \times S(min^{-1})$$

Drilled hole

Removal / diameter mm
0.15~0.3

The value in left side is minimum condition.
When the quality of the drilled hole (Straightness) is not so good, please increase the stock removal.

Please refer P.131 for more details.

Carbide PF Radical Mill Reamer

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS	Pre-hardened steel (HRC40)	Titan alloy	Castiron Ductile FC·FCD
Cutting speed m/min	water/oil	◎ 20~50	◎ 15~50	◎ 15~40	◎ 15~50	◎ 20~50	◎ 10~35	◎ 10~30	○ 10~25	○ 6~20	○ 25~40

(PF-) RMSS, OH, RMS, PF-RMMS

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ4.2	0.1 ~0.15	0.1 ~0.3
φ4.3~φ4.7	0.1 ~0.15	0.1 ~0.7
φ4.8~φ5.7	0.15~0.2	0.1 ~0.7
φ5.8~φ16.2	0.15~0.3	0.15~0.7
φ16.3~φ17.2	0.2 ~0.3	0.15~0.7
φ17.3~φ20.2	0.2 ~0.3	0.2 ~0.7
φ20.3~φ27.2	0.2 ~0.3	0.2 ~0.8
φ27.3~φ30.2	0.25~0.4	0.2 ~0.8

(PF-) RFSS, RFS

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.07~0.15	0.1~0.3
φ5.3~φ6.2	0.1 ~0.2	0.1~0.5
φ6.3~φ7.2	0.1 ~0.3	0.1~0.5
φ7.3~φ20.2	0.1 ~0.3	0.1~0.6
φ20.3~φ27.2	0.1 ~0.3	0.1~0.8
φ27.3~φ28.2	0.15~0.4	0.1~0.8
φ28.3~φ30.2	0.15~0.4	0.2~0.8
–	–	–

Carbide Right Hand Helical Radical Mill Reamer

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS	Pre-hardened steel (HRC40)	Titan alloy	Castiron Ductile FC·FCD
Cutting speed m/min	water/oil	◎ 20~50	◎ 15~50	◎ 15~40	◎ 15~50	◎ 20~50	◎ 10~35	◎ 10~30	○ 10~25	○ 6~20	○ 25~40

RRSS-F, RRSS-F-OH

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.1 ~0.3	0.1~0.3
φ5.3~φ7.2	0.15~0.4	0.1~0.6
φ7.3~φ9.2	0.15~0.4	0.1~0.8
φ9.3~φ12.2	0.15~0.4	0.1~1.0
φ12.3~φ13.2	0.15~0.4	0.1~1.2

RRSS-F, RRSS-F-OH

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
φ13.3~φ15.2	0.15~0.4	0.1~1.5
φ15.3~φ22.2	0.2 ~0.5	0.1~2.0
φ22.3~φ27.2	0.2 ~0.5	0.1~3.0
φ27.3~φ30.2	0.25~0.7	0.1~3.0
–	–	–

NIKKEN REAMER SERIES CUTTING CONDITION

NIKKEN

■Apitude for material

◎ : Optimal ○ : Suitable

■Spindle speed **S** (min^{-1})

Determine material and cutting speed.

Alminium
25~60

The value in left side is minimum condition.
Please use the valu in middle.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{Reamer dia. (mm)}}$$

■Coolant

Recommend JIS A1 no.1(former W1 no.2) with dilution ratio of 5 to 10.

■Feed rate **F** (mm/min.)

Determine the feed per revolution.

Feed per revolution mm/rev
0.2~0.3

Please use the value in middle.

$$F = \text{Feed per revolution (mm/rev)} \times S(min^{-1})$$

■Drilled hole

Removal / diameter mm
0.1~0.7

The value in left side is minimum condition.
When the quality of the drilled hole (Straightness) is not so good, please increase the stock removal.

Please refer P.131 for more details.

■Carbide PF Radical Mill Reamer DLC Coating

Material	Coolant	Aluminium	Aluminium casting (AC,ADC)	Plastics	Copper Copper berylium	Phosphor bronze Phosphor bronze casting	Alminium bronze Aluminium bronze casting
Cutting speed m/min	water/oil	◎ 25~60	◎ 25~60	◎ 15~35	○ 15~35	○ 15~35	○ 15~35

RMSS-DLC

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ4.2	0.1 ~0.15	0.1 ~0.3
φ4.3~φ4.7	0.1 ~0.15	0.1 ~0.7
φ4.8~φ5.7	0.15~0.2	0.1 ~0.7
φ5.8~φ16.2	0.15~0.3	0.15~0.7
φ16.3~φ17.2	0.2 ~0.3	0.15~0.7
φ17.3~φ20.2	0.2 ~0.3	0.2 ~0.7
φ20.3~φ27.2	0.2 ~0.3	0.2 ~0.8
φ27.3~φ30.2	0.25~0.4	0.2 ~0.8

RFSS-DLC

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.07~0.15	0.1~0.3
φ5.3~φ6.2	0.1 ~0.2	0.1~0.5
φ6.3~φ7.2	0.1 ~0.3	0.1~0.5
φ7.3~φ20.2	0.1 ~0.3	0.1~0.6
φ20.3~φ27.2	0.1 ~0.3	0.1~0.8
φ27.3~φ28.2	0.15~0.4	0.1~0.8
φ28.3~φ30.2	0.15~0.4	0.2~0.8
–	–	–

■Carbide Right Hand Helical Radical Mill Reamer DLC Coating

Material	Coolant	Aluminium	Aluminium casting (AC,ADC)	Plastics	Copper Copper berylium	Phosphor bronze Phosphor bronze casting	Alminium bronze Aluminium bronze casting
Cutting speed m/min	water/oil	◎ 25~60	◎ 25~60	◎ 15~35	○ 15~35	○ 15~35	○ 15~35

RRSS-F-DLC

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.1 ~0.3	0.1~0.3
φ5.3~φ7.2	0.15~0.4	0.1~0.6
φ7.3~φ9.2	0.15~0.4	0.1~0.8
φ9.3~φ12.2	0.15~0.4	0.1~1.0
φ12.3~φ13.2	0.15~0.4	0.1~1.2

RRSS-F-DLC

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
φ13.3~φ15.2	0.15~0.4	0.1~1.5
φ15.3~φ22.2	0.2 ~0.5	0.1~2.0
φ22.3~φ27.2	0.2 ~0.5	0.1~3.0
φ27.3~φ30.2	0.25~0.7	0.1~3.0
–	–	–

NIKKEN REAMER SERIES CUTTING CONDITION

NIKKEN

■Apitude for material
◎ : Optimal ○ : Suitable

■Coolant
Recommend JIS A1 no.1(former W1 no.2) with dilution ratio of 5 to 10.

■Spindle speed **S** (min^{-1})
Determine material and cutting speed.

Stainless SUS
15~25

The value in left side is minimum condition.
Please use the valu in middle.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{Reamer dia. (mm)}}$$

■Feed rate **F** (mm/min.)
Determine the feed per revolution.

Feed per revolution mm/rev
0.2~0.5

Please use the value in middle.

$$F = \text{Feed per revolution (mm/rev)} \times S\,(min^{-1})$$

■Drilled hole

Removal / diameter mm
0.15~0.9

The value in left side is minimum condition.
When the quality of the drilled hole (Straightness) is not so good, please increase the stock removal.

Please refer P.131 for more details.

■Carbide Mill Reamer

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS	Heat-resiting steel SUH	Brass Phos phor bronze	Castiron Ductile FC FCD	Cast steel Malleable	Aluminium ALcasting Diecast
Cutting speed m/min	Oil	○ 25~35	○ 25~35	○ 25~35	○ 25~35	○ 25~35	○ 25~35	○ 15~25	○ 15~25	◎ 25~45	◎ 20~35	◎ 20~30	◎ 25~60

HMS, HMM

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ4.2	0.1 ~0.3	0.1 ~0.3
φ4.3~φ4.7	0.15~0.3	0.1 ~0.7
φ4.8~φ5.7	0.15~0.3	0.1 ~0.7
φ5.8~φ7.2	0.15~0.3	0.15~0.9
φ7.3~φ11.2	0.15~0.3	0.15~1.0
φ11.3~φ16.2	0.15~0.3	0.15~1.0
φ16.3~φ17.2	0.2 ~0.5	0.2 ~1.5
φ17.3~φ22.2	0.2 ~0.5	0.2 ~1.8
φ22.3~φ25.2	0.2 ~0.5	0.2 ~1.8
φ25.3~φ27.2	0.2 ~0.5	0.2 ~1.8
φ27.3~φ30.2	0.25~0.6	0.2 ~1.8
φ30.3~φ42.2	0.25~0.6	0.2 ~2.0
φ42.3~φ47.2	0.25~0.6	0.2 ~2.2
φ47.3~φ50.2	0.4 ~0.7	0.2 ~2.2
φ50.3~φ53.2	0.4 ~0.7	0.25~2.2
φ53.3~φ100.0	0.4 ~0.7	0.25~3.0

FMS, FMM

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.07~0.2	0.1~0.3
φ5.3~φ7.2	0.1 ~0.3	0.1~0.5
φ7.3~φ11.2	0.1 ~0.3	0.1~0.6
φ11.3~φ14.2	0.1 ~0.3	0.1~0.8
φ14.3~φ19.2	0.1 ~0.3	0.1~1.0
φ19.3~φ22.2	0.1 ~0.3	0.1~1.5
φ22.3~φ24.2	0.1 ~0.3	0.1~1.8
φ24.3~φ28.2	0.15~0.4	0.1~1.8
φ28.3~φ32.2	0.15~0.4	0.2~1.8
φ32.3~φ44.2	0.15~0.4	0.2~2.0
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—	—	—
—	—	—
—	—	—

■Carbide Right Hand Helical Mill Reamer

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS	Heat-resiting steel SUH	Brass Phos phor bronze	Castiron Ductile FC FCD	Cast steel Malleable	Aluminium ALcasting Diecast
Cutting speed m/min	Oil	○ 25~35	○ 25~35	○ 25~35	○ 25~35	○ 25~35	○ 25~35	○ 15~25	○ 15~25	◎ 25~45	◎ 20~35	◎ 20~30	◎ 25~60

RXS-F, RXS-F-OH

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.1 ~0.3	0.1~0.3
φ5.3~φ7.2	0.15~0.4	0.1~0.6
φ7.3~φ9.2	0.15~0.4	0.1~0.8
φ9.3~φ11.2	0.15~0.4	0.1~1.0
φ11.3~φ13.2	0.15~0.4	0.1~1.2
φ13.2~φ16.2	0.15~0.4	0.1~1.5

RXS-F, RXS-F-OH

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
φ16.3~φ22.2	0.2 ~0.5	0.1 ~2.0
φ22.3~φ27.2	0.2 ~0.5	0.1 ~3.0
φ27.3~φ28.2	0.25~0.7	0.1 ~3.0
φ28.3~φ40.2	0.25~0.7	0.2 ~3.0
φ40.3~φ50.2	0.4 ~0.7	0.25~3.0
—	—	—

NIKKEN REAMER SERIES CUTTING CONDITION

NIKKEN

■Apitude for material

◎ : Optimal ○ : Suitable

■Spindle speed S (min⁻¹)

Determine material and cutting speed.

Alminium
25~60

The value in left side is minimum condition.
Please use the valu in middle.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{Reamer dia. (mm)}}$$

■Coolant

Recommend JIS A1 no.1(former W1 no.2) with dilution ratio of 5 to 10.

■Feed rate F (mm/min.)

Determine the feed per revolution.

Feed per revolution mm/rev
0.15~0.3

Please use the value in middle.

F = Feed per revolution (mm/rev)×S(min^{-1})

■Drilled hole

Removal / diameter mm
0.15~1.0

The value in left side is minimum condition.
When the quality of the drilled hole (Straightness) is not so good, please increase the stock removal.

Please refer P.131 for more details.

■Carbide Mill Reamer DLC Coating

Material	Coolant	Aluminium	Aluminium casting (AC,ADC)	Plastics	Copper Copper berylium	Phosphor bronze Phosphor bronze casting	Aluminium bronze Aluminium bronze casting
切削速度 m/min	water/oil	◎ 25~60	◎ 25~60	◎ 15~35	○ 15~35	○ 15~35	○ 15~35

HMS-DLC

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ4.2	0.1 ~0.3	0.1 ~0.3
φ4.3~φ4.7	0.15~0.3	0.1 ~0.7
φ4.8~φ5.7	0.15~0.3	0.1 ~0.7
φ5.8~φ7.2	0.15~0.3	0.15~0.9
φ7.3~φ11.2	0.15~0.3	0.15~1.0
φ11.3~φ16.2	0.15~0.3	0.15~1.0
φ16.3~φ17.2	0.2 ~0.5	0.2 ~1.5
φ17.3~φ22.2	0.2 ~0.5	0.2 ~1.8
φ22.3~φ25.2	0.2 ~0.5	0.2 ~1.8
φ25.3~φ30.2	0.2 ~0.5	0.2 ~1.8
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—	—	—
—	—	—
—	—	—
—	—	—

FMS-DLC

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.07~0.2	0.1~0.3
φ5.3~φ7.2	0.1 ~0.3	0.1~0.5
φ7.3~φ11.2	0.1 ~0.3	0.1~0.6
φ11.3~φ14.2	0.1 ~0.3	0.1~0.8
φ14.3~φ19.2	0.1 ~0.3	0.1~1.0
φ19.3~φ22.2	0.1 ~0.3	0.1~1.5
φ22.3~φ24.2	0.1 ~0.3	0.1~1.8
φ24.3~φ28.2	0.15~0.4	0.1~1.8
φ28.3~φ32.2	0.15~0.4	0.2~1.8
φ32.3~φ44.2	0.15~0.4	0.2~2.0
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—	—	—
—	—	—
—	—	—
—	—	—

■Carbide Right Hand Helical Mill Reamer DLC Coating

Material	Coolant	Aluminium	Aluminium casting (AC,ADC)	Plastics	Copper Copper berylium	Phosphor bronze Phosphor bronze casting	Aluminium bronze Aluminium bronze casting
Cutting speed m/min	water/oil	◎ 25~60	◎ 25~60	◎ 15~35	○ 15~35	○ 15~35	○ 15~35

RXS-F-DLC

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.1 ~0.3	0.1~0.3
φ5.3~φ7.2	0.15~0.4	0.1~0.6
φ7.3~φ9.2	0.15~0.4	0.1~0.8
φ9.3~φ11.2	0.15~0.4	0.1~1.0
φ11.3~φ13.2	0.15~0.4	0.1~1.2
φ13.3~φ16.2	0.15~0.4	0.1~1.5

RXS-F-DLC

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
φ16.3~φ22.2	0.2 ~0.5	0.1 ~2.0
φ22.3~φ27.2	0.2 ~0.5	0.1 ~3.0
φ27.3~φ28.2	0.25~0.7	0.1 ~3.0
φ28.3~φ40.2	0.25~0.7	0.2 ~3.0
φ40.3~φ50.2	0.4 ~0.7	0.25~3.0
—	—	—

NIKKEN REAMER SERIES CUTTING CONDITION

NIKKEN

■Apitude for material

◎ : Optimal ○ : Suitable

■Spindle speed **S** (min^{-1})

Determine material and cutting speed.

Mild steel SS
25~35

The value in left side is minimum condition.
Please use the valu in middle.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{Reamer dia. (mm)}}$$

■Coolant

Recommend JIS A1 no.1(former W1 no.2) with dilution ratio of 5 to 10.

■Feed rate **F** (mm/min.)

Determine the feed per revolution.

Feed per revolution mm/rev
0.2~0.3

Please use the value in middle.

$$F = \text{Feed per revolution (mm/rev)} \times S(min^{-1})$$

■Drilled hole

Removal / diameter mm
0.15~0.3

The value in left side is minimum condition.
When the quality of the drilled hole (Straightness) is not so good, please increase the stock removal.

Please refer P.131 for more details.

■Carbide Broach Reamer

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Brass Phos phor bronze	Castiron Ductile FC FCD	Cast steel Malleable	Aluminium ALcasting Diecast
Cutting speed m/min	Oil	○ 25~35	○ 25~35	○ 25~35	○ 25~35	○ 25~35	○ 25~35	◎ 25~45	◎ 20~35	◎ 20~30	◎ 25~60

SX, MX

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ3.2	0.1 ~0.2	0.1~0.3
φ3.3~φ4.2	0.15~0.2	0.1~0.3
φ4.3~φ5.2	0.15~0.2	0.2~0.4
φ5.3~φ14.2	0.15~0.3	0.2~0.4
φ14.3~φ15.2	0.15~0.3	0.2~0.5
φ15.3~φ17.2	0.2 ~0.3	0.2~0.5

SX, MX

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
φ17.2~φ30.2	0.2~0.4	0.2~0.5
φ30.2~φ31.2	0.2~0.4	0.2~0.6
φ31.2~φ42.2	0.2~0.6	0.2~0.6
φ42.2~φ47.2	0.2~0.6	0.3~0.8
φ47.2~φ100.0	0.3~0.6	0.3~0.8
–	–	–

NIKKEN REAMER SERIES CUTTING CONDITION

NIKKEN

Apitude for material

◎ : Optimal ○ : Suitable

Coolant

Recommend JIS A1 no.1(former W1 no.2) with dilution ratio of 5 to 10.

Spindle speed **S** (min^{-1})

Determine material and cutting speed.

Stainless SUS
6~10

The value in left side is minimum condition.
Please use the valu in middle.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{Reamer dia. (mm)}}$$

Feed rate **F** (mm/min.)

Determine the feed per revolution.

Feed per revolution mm/rev
0.2~0.5

Please use the value in middle.

$$F = \text{Feed per revolution (mm/rev)} \times S\,(min^{-1})$$

Drilled hole

Removal / diameter mm
0.1~0.3

The value in left side is minimum condition.
When the quality of the drilled hole (Straightness) is not so good, please increase the stock removal.

Please refer P.131 for more details.

NC Sensor Reamer

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS	Heat-resiting steel SUH	Cast steel Malleable
Cutting speed m/min	Oil	◎ 10~20	◎ 10~20	◎ 8~12	◎ 10~20	◎ 10~20	◎ 8~14	◎ 6~10	○ 6~10	○ 12~18

NCS,NCM

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
～φ5.2	0.1 ～0.3	0.1 ～0.3
φ5.3～φ7.2	0.1 ～0.3	0.2 ～0.5
φ7.3～φ8.2	0.1 ～0.3	0.2 ～0.6
φ8.3～φ11.2	0.15～0.3	0.2 ～0.6
φ11.3～φ15.2	0.15～0.5	0.2 ～0.8
φ15.3～φ17.2	0.15～0.5	0.2 ～1.0
φ17.3～φ18.2	0.15～0.5	0.2 ～1.0
φ18.3～φ23.2	0.15～0.5	0.2 ～1.2
φ23.3～φ25.2	0.15～0.5	0.2 ～1.2
φ25.3～φ27.2	0.2 ～0.5	0.25～1.5
φ27.3～φ39.2	0.2 ～0.5	0.25～1.5
φ39.3～φ53.2	0.2 ～0.5	0.25～1.5
φ53.3～φ61.2	0.25～0.6	0.25～1.5
φ61.3～φ100.0	0.4 ～0.6	0.25～2.0

NCS-F, NCM-F

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
～φ5.2	0.07～0.2	0.1～0.3
φ5.3～φ6.2	0.07～0.2	0.1～0.5
φ6.3～φ7.2	0.1 ～0.3	0.1～0.5
φ7.3～φ11.2	0.1 ～0.3	0.1～0.6
φ11.3～φ17.2	0.1 ～0.3	0.1～0.8
φ17.3～φ21.2	0.1 ～0.3	0.1～1.0
φ21.3～φ24.2	0.1 ～0.3	0.1～1.2
φ24.3～φ28.2	0.15～0.4	0.1～1.2
φ28.3～φ33.2	0.15～0.4	0.2～1.2
φ33.3～φ40.2	0.15～0.4	0.2～1.5
φ40.3～φ44.2	0.15～0.4	0.2～2.0
φ44.3～φ79.2	0.2 ～0.6	0.2～2.0
φ79.3～φ100.0	0.25～0.6	0.2～2.0
—	—	—

NC Sensor Reamer Right Hand Helical

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS	Heat-resiting steel SUH	Cast steel Malleable
Cutting speed m/min	Oil	◎ 10~20	◎ 10~20	◎ 8~12	◎ 10~20	◎ 10~20	◎ 8~14	◎ 6~10	○ 6~10	○ 12~18

RNS-F

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
～φ5.2	0.1 ～0.3	0.1～0.3
φ5.3～φ7.2	0.15～0.4	0.1～0.6
φ7.3～φ9.2	0.15～0.4	0.1～0.8
φ9.3～φ11.2	0.15～0.4	0.1～1.0
φ11.3～φ13.2	0.15～0.4	0.1～1.2
φ13.3～φ15.2	0.15～0.4	0.1～1.5

RNS-F

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
φ15.3～φ22.2	0.2 ～0.5	0.1 ～2.0
φ22.3～φ27.2	0.2 ～0.5	0.1 ～3.0
φ27.3～φ28.2	0.25～0.7	0.1 ～3.0
φ28.3～φ40.2	0.25～0.7	0.2 ～3.0
φ40.3～φ50.2	0.25～0.7	0.25～3.0
φ50.3～φ100.0	0.4 ～0.7	0.25～3.0

NIKKEN REAMER SERIES CUTTING CONDITION

NIKKEN

■Apitude for material

◎ : Optimal ○ : Suitable

■Coolant

Recommend JIS A1 no.1(former W1 no.2) with dilution ratio of 5 to 10.

■Spindle speed S (min^{-1})

Determine material and cutting speed.

Stainless SUS
6~10

The value in left side is minimum condition.
Please use the valu in middle.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{Reamer dia. (mm)}}$$

■Feed rate F (mm/min.)

Determine the feed per revolution.

Feed per revolution mm/rev
0.15~0.5

Please use the value in middle.

$$F = \text{Feed per revolution (mm/rev)} \times S(min^{-1})$$

■Drilled hole

Removal / diameter mm
0.2~0.5

The value in left side is minimum condition.
When the quality of the drilled hole (Straightness) is not so good, please increase the stock removal.

Please refer P.131 for more details.

■Tough-Cut Skill Reamer

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS	Heat-resiting steel SUH	Brass Phos phor bronze	Castiron Ductile FC FCD	Cast steel Malleable	Aluminium ALcasting Diecast
Cutting speed m/min	Oil	◎ 10~20	◎ 10~20	◎ 8~12	○ 10~20	◎ 10~20	◎ 8~14	○ 6~10	○ 6~10	○ 12~18	○ 12~18	○ 12~18	○ 18~22

SRS,SRM

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.1 ~0.3	0.1 ~0.3
φ5.3~φ7.2	0.1 ~0.3	0.2 ~0.5
φ7.3~φ8.2	0.1 ~0.3	0.2 ~0.6
φ8.3~φ11.2	0.15~0.3	0.2 ~0.6
φ11.3~φ15.2	0.15~0.5	0.2 ~0.8
φ15.3~φ17.2	0.15~0.5	0.2 ~1.0
φ17.3~φ18.2	0.15~0.5	0.2 ~1.0
φ18.3~φ23.2	0.15~0.5	0.2 ~1.2
φ23.3~φ25.2	0.2 ~0.5	0.2 ~1.2
φ25.3~φ27.2	0.2 ~0.5	0.25~1.5
φ27.3~φ39.2	0.2 ~0.5	0.25~1.5
φ39.3~φ53.2	0.25~0.6	0.25~1.5
φ53.3~φ61.2	0.4 ~0.6	0.25~1.5
φ61.3~φ100.0	0.4 ~0.6	0.25~2.0

SRS-F,SRM-F

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.07~0.2	0.1~0.3
φ5.3~φ6.2	0.07~0.2	0.1~0.5
φ6.3~φ7.2	0.1 ~0.3	0.1~0.5
φ7.3~φ11.2	0.1 ~0.3	0.1~0.6
φ11.3~φ17.2	0.1 ~0.3	0.1~0.8
φ17.3~φ21.2	0.1 ~0.3	0.1~1.0
φ21.3~φ24.2	0.1 ~0.3	0.1~1.2
φ24.3~φ28.2	0.15~0.4	0.1~1.2
φ28.3~φ33.2	0.15~0.4	0.2~1.2
φ33.3~φ40.2	0.15~0.4	0.2~1.5
φ40.3~φ44.2	0.15~0.4	0.2~2.0
φ44.3~φ79.2	0.2 ~0.6	0.2~2.0
φ79.3~φ100.0	0.25~0.6	0.2~2.0
—	—	—

■Tough-Cut Skill Reamer Right Hand Helical

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS	Heat-resiting steel SUH	Brass Phos phor bronze	Castiron Ductile FC FCD	Cast steel Malleable	Aluminium ALcasting Diecast
Cutting speed m/min	Oil	◎ 10~20	◎ 10~20	◎ 8~12	○ 10~20	◎ 10~20	◎ 8~14	○ 6~10	○ 6~10	○ 12~18	○ 12~18	○ 12~18	○ 18~22

RSS-F,RSS-F-OH

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.2	0.1 ~0.3	0.1~0.3
φ5.3~φ7.2	0.15~0.4	0.1~0.6
φ7.3~φ9.2	0.15~0.4	0.1~0.8
φ9.3~φ11.2	0.15~0.4	0.1~1.0
φ11.3~φ13.2	0.15~0.4	0.1~1.2
φ13.2~φ15.2	0.15~0.4	0.1~1.5

RSS-F,RSS-F-OH

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
φ15.3~φ22.2	0.2 ~0.5	0.1 ~2.0
φ22.3~φ27.2	0.2 ~0.5	0.1 ~3.0
φ27.3~φ28.2	0.25~0.7	0.1 ~3.0
φ28.3~φ40.2	0.25~0.7	0.2 ~3.0
φ40.3~φ50.2	0.25~0.7	0.25~3.0
φ50.3~φ100.0	0.4 ~0.7	0.25~3.0

NIKKEN REAMER SERIES CUTTING CONDITION

NIKKEN

■Apitude for material

◎ : Optimal ○ : Suitable

■Spindle speed **S** (min^{-1})

Determine material and cutting speed.

Mildsteelss SS
10~16

The value in left side is minimum condition.
Please use the valu in middle.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{Reamer dia. (mm)}}$$

■Drilled hole

Removal / diameter mm
0.1~0.3

The value in left side is minimum condition.
When the quality of the drilled hole (Straightness) is not so good, please increase the stock removal.

Please refer P.131 for more details.

■Coolant

Recommend JIS A1 no.1(former W1 no.2) with dilution ratio of 5 to 10.

■Feed rate **F** (mm/min.)

Determine the feed per revolution.

Feed per revolution mm/rev
0.15~0.4

Please use the value in middle.

$$F = \text{Feed per revolution (mm/rev)} \times S (min^{-1})$$

■Turning Skill Reamer

Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS	Brass Phos phor bronze	Castiron Ductile FC FCD	Aluminium ALcasting Diecast
Cutting speed m/min	water/oil	◎ 10~16	◎ 10~16	◎ 10~14	○ 10~16	◎ 10~16	◎ 8~14	○ 6~10	○ 10~18	○ 10~18	○ 12~22

RSST-F

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~ϕ5.2	0.1 ~ 0.3	0.1~0.3
ϕ5.3~ϕ7.2	0.15~0.4	0.1~0.6
ϕ7.3~ϕ9.2	0.15~0.4	0.1~0.8
ϕ9.3~ϕ11.2	0.15~0.4	0.1~1.0
ϕ11.3~ϕ13.2	0.15~0.4	0.1~1.2

SRST-F

Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~ϕ5.2	0.07~0.2	0.1~0.3
ϕ5.3 ~ϕ6.2	0.07~0.2	0.1~0.5
ϕ6.3 ~ϕ8.2	0.1~0.3	0.1~0.5
ϕ9.3 ~ϕ11.2	0.1~0.3	0.1~0.6
ϕ11.3~ϕ13.2	0.1~0.3	0.1~0.8

*Please don't use fixed cycle and reduce feed rate just before reaching bottom surface, when the bottom surface will be finished by NIKKEN reamer for blind hole.

■The best tool holder for NIKKEN turnibg skill reamer

If you have problems that reaming can't be done well on NC lathe, due to the run-out of front reamer blade or off-center between work piece and the reamer, from that the run-out accuracy of the tool holder is not so good, Please use NIKKEN Mini-Mini chuck or slim chuck for NC lathe.

SLIM CHUCK

Mini-Mini CHUCK

The tool holder must be conpact and the prolong length of reamer must be shorten, because there is limited small space inside NC lathe. The combination of NiIKKEN Slim Chuck or Mini-Mini Chuck and NIKKEN turning skill reamer, are the best solution for NC lathe.

NIKKN Slim Chuck or Mini-Mini Chuck can also be used for the other cutting tool such as drill or chamfering tool. ☞ P.142

NIKKEN REAMER SERIES CUTTING CONDITION

NIKKEN

■Apitude for material

◎ : Optimal ○ : Suitable

■Coolant

Recommend JIS A1 no.1(former W1 no.2) with dilution ratio of 5 to 10.

■Spindle speed **S** (min^{-1})

Determine material and cutting speed.

Carbon steel (Annealed) S55C
10~20

The value in left side is minimum condition.
Please use the valu in middle.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{Reamer dia. (mm)}}$$

■Feed rate **F** (mm/min.)

Determine the feed per revolution.

Feed per revolution mm/rev
0.1~0.3

Please use the value in middle.

$$F = \text{Feed per revolution (mm/rev)} \times S\,(min^{-1})$$

■Drilled hole

Removal / diameter mm
0.15~0.3

The value in left side is minimum condition.
When the quality of the drilled hole (Straightness) is not so good, please increase the stock removal.

Please refer **P.131** for more details.

■Broach Reamer

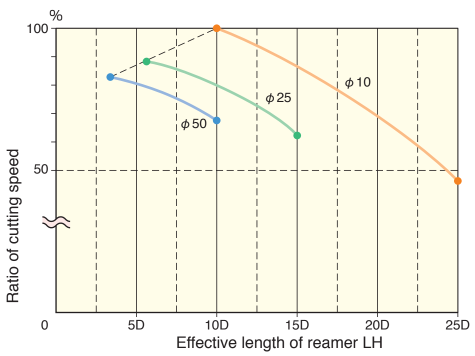
Material	Coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Brass Phos phor bronze	Castiron Ductile FC FCD	Cast steel Malleable
Cutting speed m/min	Oil	◎ 10~20	◎ 10~20	○ 8~12	○ 10~20	○ 10~20	○ 8~14	○ 12~18	○ 12~18	○ 12~18

BRS,BRM			BRS,BRM		
Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm	Reamer dia.	Feed per revolution mm/rev	Removal / diameter mm
~φ5.0	0.07~0.2	0.1~0.3	φ26.3~φ30.2	0.2~0.5	0.2~0.5
φ5.1~φ6.0	0.1 ~0.3	0.1~0.3	φ30.3~φ44.2	0.2~0.6	0.3~0.5
φ6.1~φ15.2	0.1 ~0.3	0.2~0.4	φ44.3~φ65.2	0.3~0.8	0.3~0.5
φ15.3~φ16.2	0.1 ~0.3	0.2~0.5	φ65.3~φ100.0	0.4~0.9	0.3~0.5
φ16.3~φ26.2	0.15~0.4	0.2~0.5	–	–	–

■Long type tough-cut skill reamer

Please refer the right fifure for cutting speed for long type tough-cut skill reamer, SRS-L and SRS-F-L, find the ratio (Percentage) of the cutting speed according to the effective length of the reamer (LH), and reduce the cutting speed.

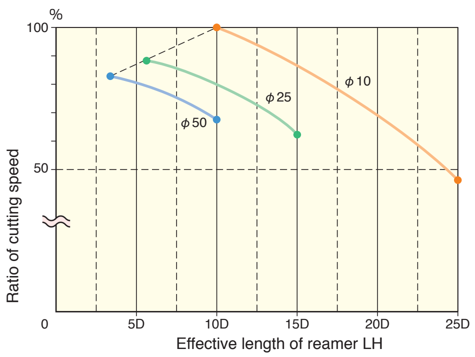
Adjustment of the cutting speed



■Long type broach reamer

Please refer the right fifure for cutting speed for long type broach reamer, BRS-L and BRM, find the ratio (Percentage) of the cutting speed according to the effective length of the reamer (LH), and reduce the cutting speed.

Adjustment of the cutting speed

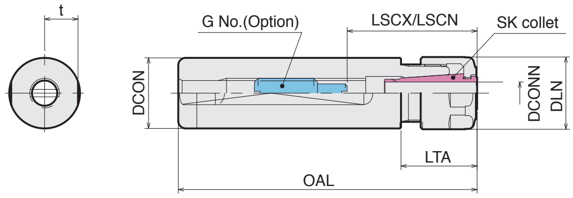


NIKKEN HIGH PRECISION SLEEVE For NC Lathe

NIKKEN

The tool holder with good run-out accuracy is essential for high precision hole machining on NC lathe. Please use NIKKEN Slim Chuck or Mini-Mini Chuck.

SLIMCHUCK for NC Lathe



Reaming can be successfully performed by using high precision tool holder.
*The chuck is holding the **RSST-6.OF** in the picture.

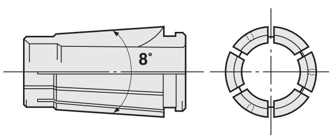
Code. No.	DCON	t	DCONN~DCONX	OAL	LTA	DLN	LSCN~LSCX	G No. (Option)	Weight (kg)	SK Collet	Spanner (Option)
ST3/4(20)-SK 6 - 81	19.05(20)	9	0.7~6.0	80.5	20.5	19.5	21~35	SKG-8	0.14	SK6	SKL-6W (SKL-6WS)
ST3/4(20)-SK 6 -141				140.5					0.26		
ST3/4CM-SK 6 - 97				96.5		19.0			0.17		
ST 1(25) -SK10- 82	25.4(25)	11	1.75~10.0	82.1	22.1	27.5	30~57	SKG-12L	0.23	SK10	SKL-10
ST 1(25) -SK10-142				142.1					0.40		
ST 1CM -SK10- 97	25.4			97.1			30~60		0.30		

★The products come with nut(s). ★Please use **SKL-6WS** spanner in case of narrow space. ★Collet is not in cluded.
★There are also shank diameters of φ22 and φ15.875. EX: **S22-SK6-141**.

SK COLLETS

Reamer shank	SK COLLET		Chucking dia
	SK6	SK10	
Φ 3.0	SK6-3,SK6-3A*	SK10- 3,SK10- 3A*	2.75~3.0
Φ 4.0	SK6-4,SK6-4A*	SK10- 4,SK10- 4A*	3.5~4.0
Φ 5.0	SK6-5,SK6-5A*	SK10- 5,SK10- 5A*	4.5~5.0
Φ 6.0	SK6-6,SK6-6A*	SK10- 6,SK10- 6A*	5.5~6.0
Φ 8.0	——	SK10- 8,SK10- 8A*	7.5~8.0
Φ10.0	——	SK10-10,SK10-10A*	9.5~10.0

***Type A collect** : Endmill shank size only. Chucking range : h8

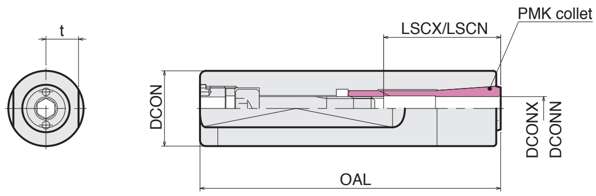


Explanation of the Code No.

SK 10 – 6 P

- P — Non: Standard; P:P class(Run-out Accuracy=3 μm); A:A type (for End Mill Shank)
- 6 — MAX.Chucking Dia.
- 10 — Style No.
- SK — Symbol of SK Collet

Mini-MiniCHUCK for NC Lathe



Clamp / Unclump from backside with only I wrench.
*The chuck is holding the **SRST-6.OF** in the picture.

Code. No.	DCON	t	DCONN~DCONX	OAL	LSCN~LSCX	COLLET	Wrench (Option)
K5/8CM-MMC4- 50	15.875	7	1.0~4.0	52.0	16~24	MPK4	Allen Key 4mm
K3/4CM-MMC8- 80	19.05	9	1.8~8.0	81.5	22~41	PMK8	Allen Key 6mm or EA573KL-6
K20CM -MMC8-100	20.0			101.5			
K1CM -MMC8-100	25.4	11		101.5			

★Collets and wpeches are not included.

Collet which fits : PMK COLLET

Reamer shank	COLLET		Chucking dia
	MMC4	MMC8	
φ3.0	MPK4-3*	PMK8-3	2.8~3.0
φ4.0	MPK4-4*	PMK8-4	3.8~4.0
φ5.0	——	PMK8-5	4.8~5.0
φ6.0	——	PMK8-6	5.8~6.0
φ8.0	——	PMK8-8	7.8~8.0

***MPK collet** chucking renge : h6

Explanation of the Code No.

PMK 8 – 2

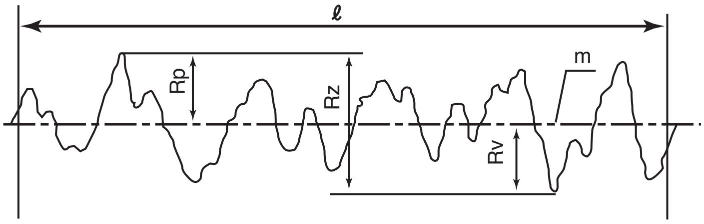
- 2 — ID of Collet
- 8 — Style No.
- PMK — Symbol of SK Collet

Technical data

SURFACE ROUGHNESS

- Some parameters indicate the surface roughness (roughness of the finished surface). Rz (maximum hight roughness) and Ra (arithmetical mean roughness) are generally used. (Refer to JIS B0601:2001.)

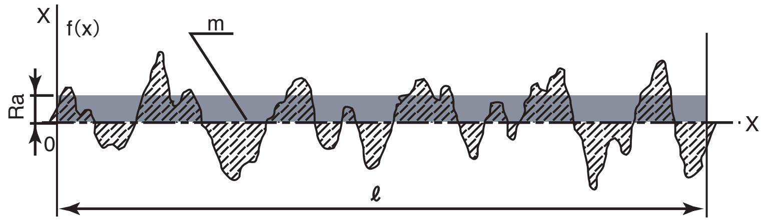
Maximum hight roughness **Rz(JIS B0601:2001)**



The sum of the value of the height of the highest peak Rp, and the value of the depth of the lowest valley Rv, for the contour curve at the reference length

$$Rz = Rp + Rv$$

Arithmetic mean estimation **Ra(JIS B0601:2001)**



The mean of the absolute values, f(x), at the reference length

$$Ra = \frac{1}{\ell}\int_0^{\ell} |f(x)|\,dx$$

Changes in the methods for indicating surface roughness

The parameters and graphic representations have been changed.

	1952	1970	1982	1994	2001
Maximum hight roughness	~0.8S ▽▽▽▽ 1.5S~6S ▽▽▽ 12S~25S ▽▽ 35S~ ▽	3.2S	Rmax=3.2	Ry 3.2	Rz 3.2
	Hmax(S)	Rmax(S)	Rmax	Ry	Rz
Arithmetic mean estimation (Center line average roughness)	—	0.2a~ ▽▽▽▽ 0.4a~1.6a ▽▽▽ 3.2a~6.3a ▽▽ 12.5a~25a ▽	1.6	1.6	Ra 1.6
		Center line average roughness Ra(a)	Center line average roughness Ra	Ra	Ra

The Rz value in 2001 standard shown here is the maximum peak to valley, which is different from the ten-points mean roughness for the Rz value in 1994 standard (2001 appendix RzJIS).

- Guide line between Rz and Ra

In case of turning,milling	In case of reaming	In case of grinding
Rz = 4Ra	Rz = 8~10Ra	Rz = 6~8Ra

- About surface roughness

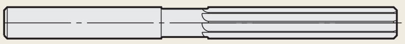
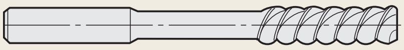
This is not defined in general. Ra value of 6.3 is sometimes allowable for the specific hole. However the surface roughness demanding for recentry seems to be Rz value of 12.5.
This table shows the guide line of surface roughness (Rz) for the material, NIKKEN reamer series and the type of coolant.

Rz(μm)	Steel		Cating・FCD		Alminium	
	Broach・skill	NC sensor・Radical	Mill Reamer	Radical Mill	Mill Reamer	Mill Reamer・DLC
Oil base	3.2~ 6.3	2.5~3.2	3.2~ 6.3	2.5~3.2	1.6~3.2	1.2~1.6
Soluble coolant	6.3~12.5	3.2~6.3	6.3~12.5	3.2~6.3	1.6~6.3	1.2~1.6

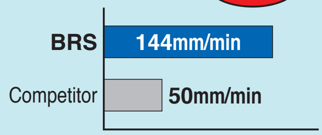
NIKKEN REAMER SERIES PRODUCTIVITY COMPARISON NIKKEN

Reamer Revolution ··· NIKKEN reamer series 5 times productivity compared to straight blade reamer.

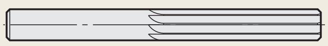
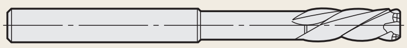
■Productivity comparison of **BRS(M)**

Material	Carbon steel(S50C)	Coolant = Oil base
Processing diameter φ10H7	H.S.S. Straight Reamer	**BRS(M)** NIKKEN H.S.S. Broach Reamer
		
Prepared hole	φ9.8～φ9.9	φ9.6～φ9.9
Ratation speed	160min^{-1}	480min^{-1}
feed	50 mm/min	◎ **144** mm/min
roughness	4.2μm	◎ 0.8μm

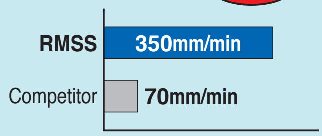
Reamer:**BRS-10.0**
Material:**S50C**
Cutting flud:**Oil**
PRODUCTIVITY 2.9times



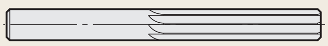
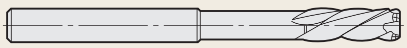
■Productivity comparison of **RMSS**

Material	Casting(FC250)	Coolant = Soluble coolant
Processing diameter φ10H7	Carbide Straight Reamer	**RMSS** NIKKEN carbide Radical mill reamer
		
Prepared hole	Φ9.8～Φ9.9	φ9.5～φ9.8
Ratation speed	390min^{-1}	1,150min^{-1}
feed	70 Mm/min	◎ **350** mm/min
roughness	3.5μM	◎ 1.0μm

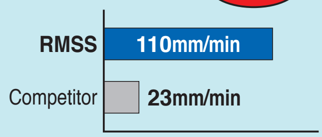
Reamer:**RMSS-10.0**
Material:**Casting(FC250)**
Cutting flud:**Water**
PRODUCTIVITY 5times



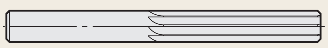
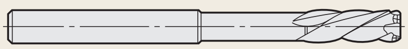
■Productivity comparison of **RMSS**

Material	Prehardened steel(NAK80)HRC45	Coolant = Soluble coolant
Processing diameter φ10H7	Carbide Straight Reamer	**RMSS** NIKKEN carbide Radical mill reamer
		
Prepared hole	φ9.8～φ9.9	φ9.7～φ9.9
Ratation speed	230min^{-1}	470min^{-1}
feed	23 mm/min	◎ **110** mm/min
roughness	6.5μm	◎ 0.8μm

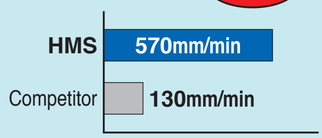
Reamer:**RMSS-10.0**
Material:**Prehardened steel(NAK80)HRC45**
Cutting flud:**Oil**
PRODUCTIVITY 4.8times



■Productivity comparison of **HMS(M)**

Material	Aluminium alloy(A7075, ADC)	Coolant = Soluble coolant
Processing diameter φ10H7	Carbide Straight Reamer	**HMS(M)** NIKKEN mill reamer
		
Prepared hole	φ9.8～φ9.9	φ9.5～φ9.8
Ratation speed	640min^{-1}	1,900min^{-1}
feed	130 mm/min	◎ **570** mm/min
roughness	3.3μm	◎ 0.6μm

Reamer:**HMS-10.0**
Material:**Aluminium alloy(A7075)**
Cutting flud:**water**
PRODUCTIVITY 4.3times



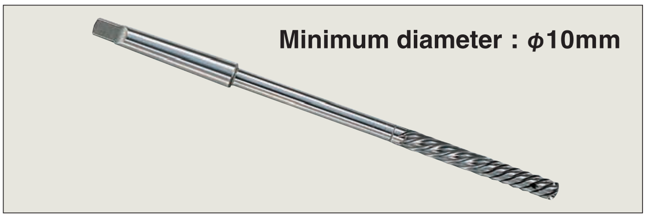
∗This data is data obtained under a specific processing environment.
Please choose better cutting condition depending on the combination of machining condition and machining environment.
Detailed cutting conditions ☞ P.132～P.142

NIKKEN SPECIAL REAMER

NIKKEN

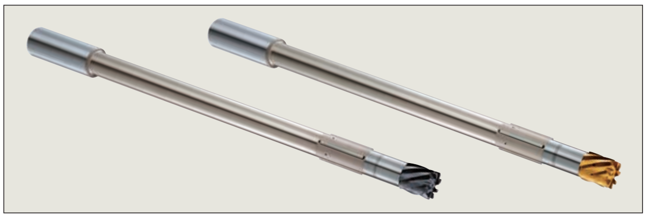
■Reamer with oil groove

●Ideal for deep hole difficult to flow cutting oil.



■Reamer with guide

●Ideal for deep hole required straightness.



■Guide line of long reamer

In addition, when ordering long reamer, coolant through type is highly recommended.
Also, if straightness of the finished hole is required, reamer with guide is highly recommended.

★Broach Reamer	: MAX. 600mm
★For through hole with milling-blade	: MAX. 570mm
★For stepped hole, blind hole	: MAX. 500mm

Technical data

Long type tough-cut skill reamer

Long type tough-cut skill reamer is available as semi standard.

ex.) For through hole	ex.) For stepped hole
SRS- 3.0 -125L	SRS- 3.0 -125L
- 5.0 -150L	- 5.0 -150L
- 8.0 -200L	- 8.0 -200L
-10.0 -230L	-10.0 -230L
-12.0 -245L	-12.0 -245L
-15.0 -270L	-15.0 -270L
-20.0 -300L	-20.0 -300L

Long type broach reamer

Long type broach reamer is available as semi standard.

ex.) Straight shank	ex.) Morse taper shank
BRS- 3.0 -150L	BRM-14.0 -250L
- 5.0 -200L	-15.0 -280L
- 8.0 -250L	-16.0 -300L
-10.0 -250L	-18.0 -300L
-14.0 -250L	-20.0 -300L

Turning Skill Reamer
Turning Sensor Reamer

Short type for NC Lathe is also available.

SLIMCHUCK for NC Lathe

ex.) Turning Sensor Reamer
SRST- 3.0 (60L)
- 6.0 (65L)

Turning Sensor Reamer
NCST- 8.0 (70L)
-10.0 (70L)

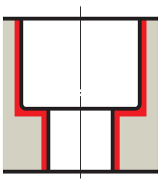
*Short type is available for all the other reamer types.

■Work sample (Please contact for difficult and different shapes)

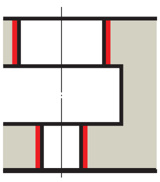
Stepped hole

Tapered hole

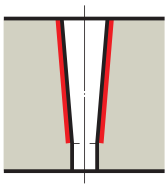
DLC coated reamer with oil groove and guide.



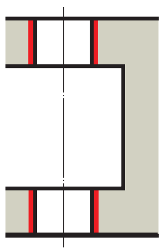
Stepped hole with bottom



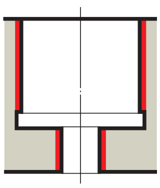
Cutout hole with bottom



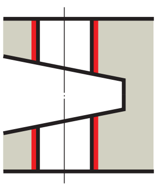
Taperd hole



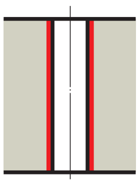
Cut out hole



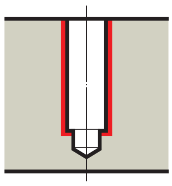
Stepped hole



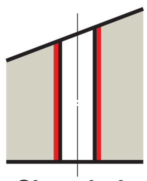
Cutout hole



Deep hole



Deep hole with bottom



Slope hole

NIKKEN REAMER TECHNICAL DATA

NIKKEN

Hole tolerance

The reamer, which diameter of 0.01mm incremental, can be supplied depending on the reamer type. Please select reamer diameter for your hole tolerance from table 1.

Table 1

Reference size()		Class of hole tolerance																					
beyond	less equal	D8	D9	E7	E8	F6	F7	F8	G6	G7	H6	H7	H8	JS6	JS7	K6	K7	M6	M7	N6	N7	P6	P7
–	3	+34 +20	+45 +20	+24 +14	+28 +14	+12 +6	+16 +6	+20 +6	+8 +2	+12 +2	+6 0	+10 0	+14 0	±3	±5	0 -6	0 -10	-2 -8	-2 -12	-4 -10	-4 -14	-6 -12	-6 -16
3	6	+48 +30	+60 +30	+32 +20	+38 +20	+18 +10	+22 +10	+28 +10	+12 +4	+16 +4	+8 0	+12 0	+18 0	±4	±6	+2 -6	+3 -9	-1 -9	0 -12	-5 -13	-4 -16	-9 -17	-8 -20
6	10	+62 +40	+76 +40	+40 +25	+47 +25	+22 +13	+28 +13	+35 +13	+14 +5	+20 +5	+9 0	+15 0	+22 0	±4.5	±7	+2 -7	+5 -10	-3 -12	0 -15	-7 -16	-4 -19	-12 -21	-9 -24
10	18	+77 +50	+93 +50	+50 +32	+59 +32	+27 +16	+34 +16	+43 +16	+17 +6	+24 +6	+11 0	+18 0	+27 0	±5.5	±9	+2 -9	+6 -12	-4 -15	0 -18	-9 -20	-5 -23	-15 -26	-11 -29
18	30	+98 +65	+117 +65	+61 +40	+73 +40	+33 +20	+41 +20	+53 +20	+20 +7	+28 +7	+13 0	+21 0	+33 0	±6.5	±10	+2 -11	+6 -15	-4 -17	0 -21	-11 -24	-7 -28	-18 -31	-14 -35
30	50	+119 +80	+142 +80	+75 +50	+89 +50	+41 +25	+50 +25	+64 +25	+25 +9	+34 +9	+16 0	+25 0	+39 0	±8	±12	+3 -13	+7 -18	-4 -20	0 -25	-12 -28	-8 -33	-21 -37	-17 -42
50	80	+146 +100	+174 +100	+90 +60	+106 +60	+49 +30	+60 +30	+76 +30	+29 +10	+40 +10	+19 0	+30 0	+46 0	±9.5	±15	+4 -15	+9 -21	-5 -24	0 -30	-14 -33	-9 -39	-26 -45	-21 -51
80	100	+174 +120	+207 +120	+107 +72	+126 +72	+58 +36	+71 +36	+90 +36	+34 +12	+47 +12	+22 0	+35 0	+54 0	±11	±17	+4 -18	+10 -25	-6 -28	0 -35	-16 -38	-10 -45	-30 -52	-24 -59

★Upper : Hole tolerance of upper limit   Lower : Hole tolerance of lower limit

Guide line of special reamer

Chamfering length for stepped hole and blind hole

The optimal chamfreing length is designed on the reamer for stepped hole and blind hole. Minimum chamfering length is 0.4mm

Chromium nitride (CrN)-coated reamer

CrN-coated reamer for copper and copper alloys are available.

Special purpose reamer

The reamer example for health care and the special tool for the reamer are available. Please contact us for details.

SUS420J2 Reamer

Reamer for semi dry cutting

The reamer for semi dry cutting better for enviornment is also available. Please contact us for details.

Cutter to correct drilled hole

When the drilled hole is bended, this cutter works effectively to correct hole straightness.

The picture shows reamer with oil hole

Shell type reamer

The reamer head and tool shank are separeted.
This can be used for large diameter and deep hole (with long tool shank).

Broach reamer φ20~φ100mm
Code No.
BRC-20

Bore best reamer φ50~φ200mm
Code No.
LRC-50

Caution when order the special reamer

- **For repeat order, please order the reamer with dimensional drawing or drawing number, not by code number only.**
- **For the tolerance, please specify the tolerance of the reamer diameter. If the tolerance of the machined hole diameter is specified, please note "The tolerance of the machined hole".**

NIKKEN REAMER TECHNICAL DATA & INSTRUCTION

Please refer to the following flow chart to select the optimal NIKKEN reamer for your hole finishing.

Select the reamer type from your material and cutting fluid. → Select the reamer shape from hole shape. → Determine the reamer diameter from the tolerance of your hole diameter.

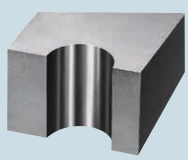
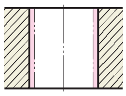
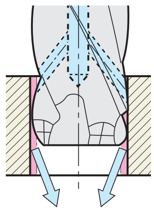
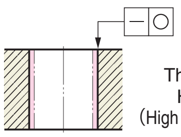
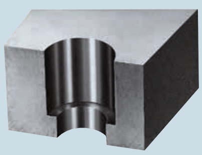
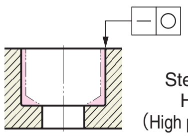
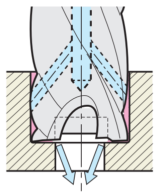
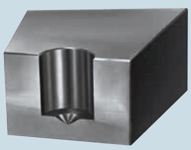
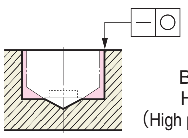
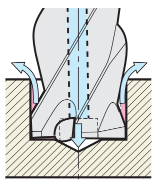
■Select the reamer type from your material and cutting fluid.

Cutting fluid	Material	Suitable reamer
Oil base	Steel in general	Tough cut skill reamer, NC sensor reamer, Broach reamer, (Carbide reamer)
	SKD Stainless,Heat resisting steel	Tough cut skill reamer, NC sensor reamer, Carbide Mill reamer, EVO reamer
	Non ferrousmetal(Aluminium,Brass)	DLC coating reamer, Carbide Mill reamer, Carbide Broach reamer, Spectum reamer
	Castilon・Ductile	Carbide Mill reamer, Carbide Broach reamer, Tough cut skill reamer
Soluble coolant	Steel in general	Carbide (PF)Radical(Mill)reamer, Tough cut skill reamer NC sensor reamer, EVO reamer
	SKD Stainless,Heat resisting steel	
	Non ferrousmetal(Aluminium,Brass)	DLC coating reamer, Carbide Mill reamer, Spectum reamer
	Castilon・Ductile	Carbide Radical Mill reamer, Carbide Mill reamer, Carbide Broach reamer

Please select the reamer from the left side in the table, even many types of reamers are selected from your material and cutting fluid.
Please narrow down the reamer according to cutting condition on **P.5〜P.6** and **P.131-P.141**.
Please select the reamer shape after selecting of the reamer type.

■Select the reamer shape

Hole shapes include through holes, stepped holes and blind holes.

	 Through Hole	This is the reamer exclusively used for through hole. Smooth reaming can be done following the drilled hole. This reamer has left-handed blade to push the swarf forward and prevent vibration.	OH shape of reamer with OH 
	 Through Hole (High precision)	This is a reamer with milling blade exclusively used for the through hole, which drilled hole diameter is varied. It performs milling (semi-finishing), reaming (finishing) and burnishing the hole with a single reamer.	
	 Stepped Hole (High precision)	This is a reamer with milling blade exclusively used for the stepped hole such as bearing hole. It performs milling, reaming the hole and facing the end face with a single reamer.	
	 Blind Hole (High precision)	This is a reamer with milling blade exclusively used for the blind hole. It has right-handed blade to push the swarf up. Please used the reamer with oil hole, when the hole depth exceeds 2D (Reamer diameter).	

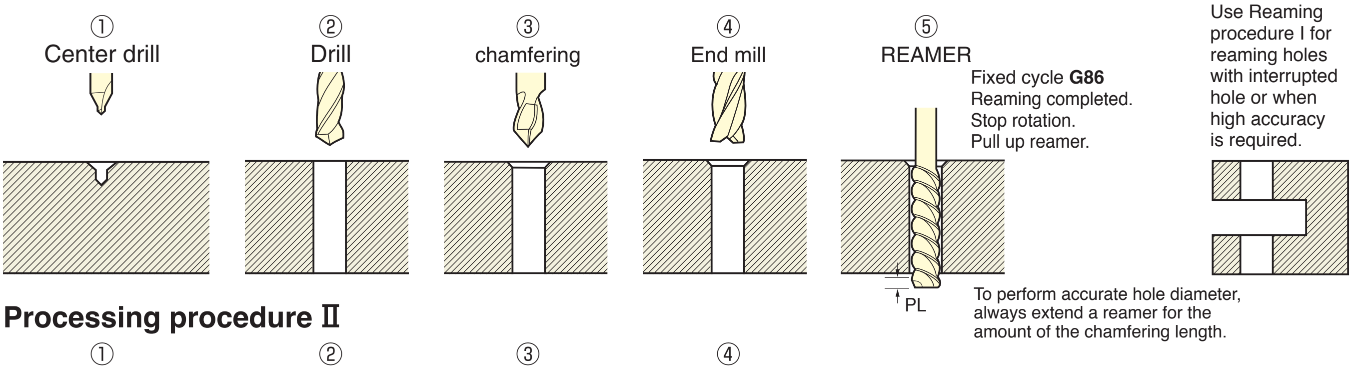
■Select the reamer diameter from the tolerance of your hole diameter.

Verify the reamer diameter from the line-up on the page of the reamer you have been selected based on the conditions above.
The Nikken Reamer Series essentially performs finishing the hole with H7 tolerances for nominal dimensions.

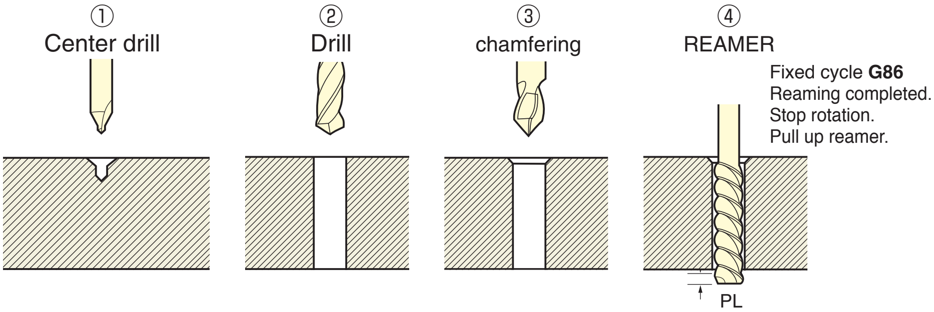
Reaming procedure

Reaming procedure I

This procedure is recommended.



Processing procedure Ⅱ



Note : Broach reamer may follow the drilled hole, so procedure ④ of I, should be done to correct hole straightness.

Reaming with facing end surface

Please slow down feed rate just before end surface, without using fixed cycle.

Reaming on deep hole with small diameter.

Please use step cycle (Fixed cycle G83) in case which hole diameter is less equal to φ6mm and hole depth exceeds 4D.

Please reduce stock removal and feed rate also.

Reaming on harden steel

When knock pin hole is machined on die stell, reamer may be used to correct displacement and straightness caused by distortion from heat treatment. Since the workpiece is very hard, please use the Carbide Radical Mill Reamer Series ☞ (**P.12** to **P.33**). When the steel hardness is 55 HRC or higher, boring by NIKKEN DJ head with CBN insert tip is recommended.

Procedure Center drill→Drill→End mill→Hardening→End mill→CARBIDE PF RADICAL MILL REAMER
(correcting hole position) (correcting straightness after hardening)
→CBN BORING

Use the NIKKEN DJ boring head for CBN boring.
☞Refer to **P.81** in the NIKKEN NC TOTAL TOOLING SYSTEM.

About the cutting fluid

- Use oil-based cutting fluid or cutting fluid with extreme pressure additive as much as possible.
- When you must use water-based cutting fluid, use fluid with an extreme pressure additive with at dilution ratios of 5 to 10 times, equivalent to emulsion-type cutting fluid specified in JIS A1-1 (formerly W1-2).
  *In this case, reduce cutting speed about 25% to 30% lower than the speed used with oil-based cutting fluid.
- Spray generous amount of cutting fluid from the shank toward the blade so that the blade is thoroughly soaked in fluid.
  (Avoid using high-pressure coolant since it may produce an adverse effect. The coolant pressure between 0.5-2.0 MPa will be recommended.)

Precaution on pulling up a reamer

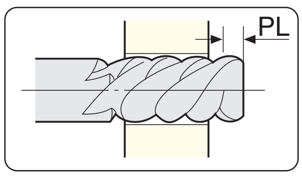
As a basic rule, we recommend using fixed cycle G86 (stop rotation and then pull up the reamer).
In the following cases, however, pull up reamer without stopping rotation.

- When the workpiece is not firmly held or when the workpiece lifts up together with the reamer
- When there is a situation in which a reamer is stuck in a workpiece due to the properties of the cutting fluid or workpiece material

When a reamer is pulled up without stopping rotation, it may cause spiral feed scar on the hole.
If it's happened, please check cutting condition and the displacement of drilled hole and reamer position.

Axial reaming length

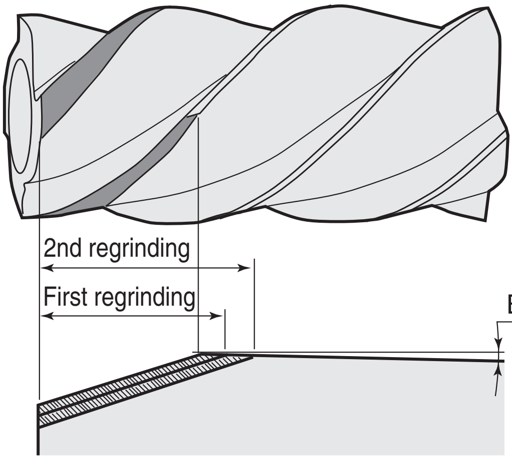
Reamer for through hole has chamfering lengh(PL), which portion is not complete reaming diameter.
Please put out reamer from workpiece at least by PL.
Otherwise, complete hole diameter can not be performed.



The reamer diameter will not change even after re-grinding*1.

Shape and portions of reamer to be re-ground

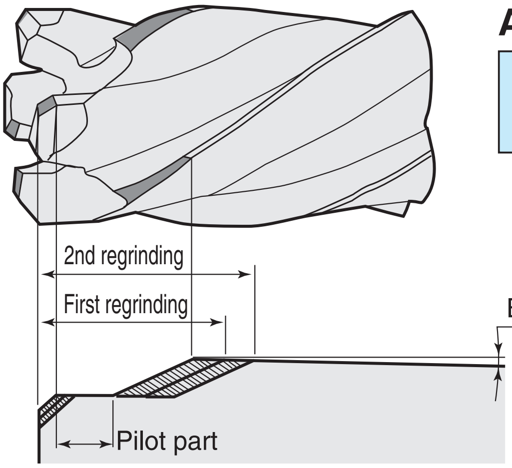
■Reamer without milling blade



Applicable reamers

Broach Reamer, Carbide Broach Reamer
Carbide Radical Reamer

■Reamer with milling blade



Applicable reamers

Tough-cut Skill Reamer, NC Sensor Reamer
Carbide (PF) Radical (Mill) Reamer

*1 When reamer is re-ground, the chamfering flank portion is re-grinding. Therefore, the outer dimension will not be changed and only chamfering length will be longer. The outer diameter will be smaller by 01.5 - 3.0 μm per axial length 10mm of re-grinding. (Bacause the back taper of the reamer is 0.015 - 0.030 mm per length 100mm.)
So, reamer diameter will be still within tolerance after 2 - 3 times of re-grinding.
*2 The coating portion of the coated reamer is removed after re-grinding, and then it will be coated again. Therefore, the diameter of the reamer will not be increased after re-grinding.

Possible concerns caused by re-grinding

Shorter tool life

1) Re-grinding cannot restore all reamers to the original condition of the new reamer. The worn portion such as outer margin portion cannot be re-ground.
2) The ion nitriding treatment is ordinary applied to HSS reamers. The nitride layer of the cutting edge will be lost by re-grinding.
3) Run-out accuracy of the reamer may not be returened to the run-out accuracy of the new reamer.
4) The adhesion strength of the coating of the reamer after re-grinding may not be strong as the strength of the new reamer due to coating process.

Due to the above reasons, the tool life of reamer after re-grinding will be about 60% to 70% that of new reamer.

Lower surface roughness

Due to similar reasons such as the above, the finish surface roughness of the reamer after re-grinding will be slightly lower than the new reamer.

Finished diameter

Although the change of the reamer diameter after re-grinding is extremely small, the finished diameter after re-grinding may become smaller. Because the cutting performance may become slightly lower or the forming edge may be occured at the worn portion. In some cases, the reamer may not be restored to the original condition of the new reamer after re-grinding.

Other

When the reamer with milling blade is re-ground, the accuracy of its performance such as correction capability, straightness, and circularity may deteriorate because the pilot portion will be shortened by re-grinding and the self-guide function becomes less effective. (At least 1mm of the pilot portion is required, but if it will be come shorter, the reamer is returned without re-grinding.)

Technical Support

For questions or consultations about special reamer or machining conditions, please contact the nearest sales office, or NIKKEN / Reamer Engineering Department in Japan.

TEL : (+81)72-869-5830
FAX : (+81)72-869-6230
e-mail : design@nikken-kosakusho.co.jp

Inspection and filling the repoert

If there are problems for machining, cutting result or tool life,the inspection of the reamer is acceptable with basic charge. If the detail inspection with report is required, the cost of filling the report will be added.

Re-grinding and inspection

Re-grinding and inspection of the reamer is acceptable at all NIKKEN overseas branches.
Please don't send the reamer directly to NIKKEN Japan.

⚠ Precautions

Risks	Measures
◎Because the reamer is the cutting tool with sharp blades, it may cause injuries, when touch the blades.	*Please always wear the necessary safety gear, such as protective gloves.
◎When the reamer is used unproper or incorrect condition, the breakage or scattering of the reamer may be occured. It may cause injuries.	*Please do not rotate the reamer in the opposite direction. *Please do not touch the reamer while rotating. *Please use the reamer within the recommended conditions. *Please use protective gear, such as safety cover or protective glasses.
◎When the cutting resistance will be increased excessively due to too much wear, the breakage or scattering of the reamer may be occured. It may cause injuries.	*Please use protective gear, such as a safety cover or protective glasses. *Please change the reamer early for best performances.
◎Heat generation of the tool breakage or cutting swarf may cause ignition or fire.	*Please do not use the reamer in locations where there is a danger of fire or explosions. *When using oil-based cutting fluid, please be sure to take fire-prevention measures. *Please change the reamer early for best performances.
◎Unpredictable decrease of the strength of the reamer may cause tool breakage. It may cause injuries.	*Please use protective gear, such as a safety cover or protective glasses. *Please do not nodify the geometry of reamer.
◎When the reamer is sliped from the tool holder, it may be scattered. It may cause injuries.	*Please use protective gear, such as a safety cover or protective glasses. *Please use correct holder for the reamer. *Please wipe excess oil off from shank before holding.
Preservation of precision	**Measures**
◎Unsuitable reamer selection may cause the machined hole out of tolrance.	*Reaming is a finishing process, and so it is recommended to make trial cut first, using on same material. *Please consider the reamer with special diameter.
◎Rust occured on the blade, or on the shank, may cause the lack of precision when the reamer is used again.	*Please store it wrapped in a soft rag to prevent rust after using.
◎Fine damage of the blade edge may cause to loose precision.	*When using an MT shank, please do not use a hammer to attach the reamer. *Please be very careful not to damage the cutting blade when handling.
◎Depending on how re-grinding is performed, it may cause to loose precision.	*Please ask NIKKEN Japan for re-grinding.

NIKKEN REAMER TECHNICAL DATA CHECK POINT(1) NIKKEN

■Check list

Couse and checkpoint / Defect	Selection of reamers				Cutting condition			Machine and chucking		
	Reamer shape	Reamer Material	Cutting edge damage	Chucking	Drilled hole ☞P. 152	Cutting speed (V) ☞P. 132	Feed rate (F) ☞P. 132	*1 Cutting fluid ☞P. 153	Power rigidity of machine	Work clamping
Broken	Reamer shape?		Incorrect chucking or damage?		Vnproper drilled hole?	Check V and F (Too high of both)?		Sufficient coolant?		
Short tool life	Reamer shape or material?			Incorrect chucking or removal?		Check V and F (Too high of V)?		Apply coolant to cutting edge Clean? Is the liquidtype appropriate ? Is the concentration appropriate ? Use oil base fuid as much as possible	Sufficient machine power?	
Smaller diameter			Reamer wear			Check V and F (Too high of F)?				
Larger diameter			Damage?	Incorrect chucking or removal?		Check V and F (Too low of both)?			Misallignmente of center (NC Lathe) ☞P.158	Clamping of work piece?
Diameter variation	Reamer material?			Incorrect chucking, removal orof drilled hole?		Check V and F (Too high of V, Too low of F)?			Spindle?	
No good surface roughness	Reamer shape or material?			Incorrect chucking, removal or drilled hole condition?		Check V and F (Too high of V)?				
No good straightness	Reamer shape?			Incorrect chucking, removal ordrilled hole condition?						
No good circularity cylindricality				Incorrect chucking or removal?		Check V and F?			Spindle?	
Chattering vibration	Reamer material?		Damage?	Run-out or removal?		Check V (Too high)?		※2 Use oil base cutting fluid	Sufficient machine power?	

***1 For radical reamer use walter-soluble fluid, for other reamers use only oilbased cutting fluid.**
Refer to ☞ P.132,133 for cuting condition of radical reamers.
***2 Except radical reamer.**

Check points

Once the check points on the check list are understood, please reconfirm and readjust the specific following items.

Reamer shape and material

①Through-hole reamer will be damaged when using on blind hole.In the case that if there ia not enough space for swarf discharging, please use the right-handed reamer.

②Spectrum reamer, DLC-coating remer mill reamer and carbide broach reamer are the best for aluminium and similar materials. But when the reamer is machined with high speed, the helical mark may be left on the surface.

③It is not recommendable to use NC sensor reamer on aluminium, cast iron or non-ferrous alloy.

④It is natural that reamer follows the bending of the drilled hole. If this is not suitable, please select the reamers with milling blade.

⑤It is the best combination to use NC sensor reamer on steel or stainless, when the surface roughness is highly required.

⑥It is recommendable to use radical mill sensor reamer, when using with water soluble cutting fluid.

Cutting edge damage

①Please check the damage of cutting edges pediodically to keep hole accuracy.

Understanding Reamers and Pilot Holes

①Please check the run-out of reamer before machining. It is recommendable to use **NIKKEN Zero Fit Holder** to adjust run-out accuracy on the spindle. ☞ P.155 , 156.

②Please check the drilled hole diameter large enough so that the reamer portion without cutting blade should not be touched, for broach reamer. (Fig.2)

③Please check enough space for swarf discharging.

④Please check the drilled hole just smaller than the front milling blade diameter, for the reamers with milling blade. (Fig.3)

⑤It is highly recommendable to use right-handed reamer with oil hole, for blind hole or stepped hole without space of swarf discharging. (Fig.4)

⑥Please chamfer before reaming. ☞ P.148.

⑦Please manage the drilled hole diameter to keep stock removal conatant.

⑧It is recommendable to use step machining as fixed cycle G83 for the deep hole with small hole diameter (ex, φ6mm X depth 4D or longer)

Machine power and chucking

①Please use the rigid machine with enough power for accurate reaming. (Fig. 5)

②Rigid and accurate clamping must be required for accurate reaming. Please be careful to prevent the harmonic vibration from the different shape of work piece. (Fig. 6)

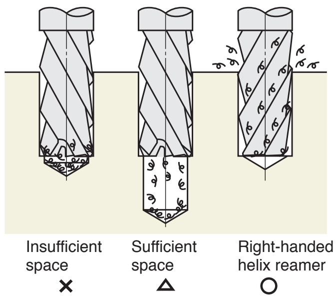


Fig.1 Blind hole machining

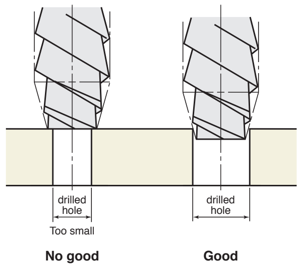


Fig.2 Suitable stock removal of broach reamer

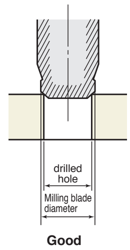


Fig.3 Milling blade diameter and drilled hole

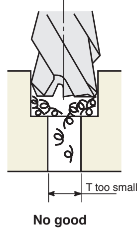


Fig.4 Stepped holes

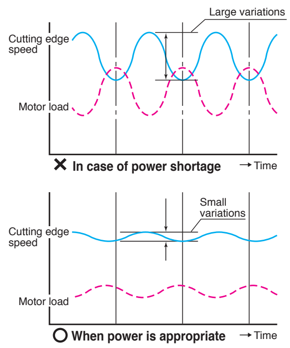


Fig.5 The influence of machine power

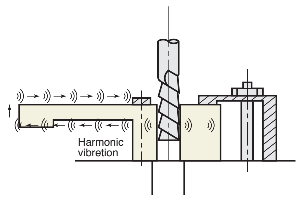
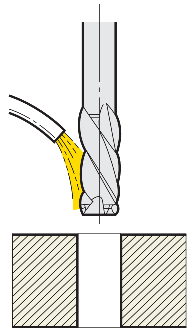


Fig.6 The influence of chucking

■Cutting fluid



①It is ideal for the reamers except radical reamer or spectrum reamer to use oil-base cutting fluid with extreme pressure additives such as sulfur and chlorine. Always pay attention to clean the culling fluid with filter without contamination.

＊When using oil-base cutting fluid on aluminium, the reamer may stuck in the work piece. If it7s happened, please use water-base cutting fluig.

②Please apply plenty of cutting fuid to the machining portion of the reamer continously. In paticularly for deep hole, please adjust the nozzle position to apply the cutting fluid completely until the bottom of the hole.

③For cast iron, reaming can be done without cutting fluid. however, if the surface roughness is not satisfied or the machined diameter become larger, please use cutting fluid.

④It is recommendable for radical reamer to use water-base cutting fluid such as JIS A1-1 (formerly W1-2) with dilution ratio of 5 - 10 times. The lower dilution ratio, the longer tool life of the reamer ☞P.12-33

■Reamer type and appropriate cutting speed

◎:Optimal ○:Suitable —:Please select another reamer

reamer kind	Recommended coolant	Mild steel SS	Carbon steel (Annealed) S55C	Carbon steel (Tempered) S55C	Free-cutting steel	Alloy steel SUJ SCM	Tool steel SKH SKD	Stainless SUS	Heat-resiting steel	Brass Phos phor bronze	Castiron Ductile FC FCD	Cast steel Malleable	Aluminium ALcasting Diecast
Broach reamer	Oil based	◎ ~15~	◎ ~15~	○ ~10~	○ ~15~	○ ~12~	○ ~10~	—	—	○ ~15~	○ ~15~	○ ~15~	—
SQ reamer		◎ ~15~	◎ ~15~	○ ~10~	○ ~15~	○ ~12~	○ ~10~	○ ~6~	—	—	—	—	—
NC-sensor reamer (Include RNS-F)		◎ ~15~	◎ ~15~	◎ ~12~	◎ ~15~	◎ ~15~	◎ ~12~	◎ ~8~	○ ~8~	—	—	○ ~15~	—
Tough-cut skill reamer (RSS-F include)		◎ ~15~	◎ ~15~	◎ ~12~	○ ~15~	◎ ~15~	◎ ~12~	○ ~6~	○ ~6~	○ ~15~	○ ~15~	○ ~15~	○ ~20~
Carbide Broach reamer		○ ~30~	○ ~30~	○ ~30~	○ ~30~	○ ~30~	○ ~30~	—	—	◎ ~35~	◎ ~35~	◎ ~30~	◎ ~35~
Carbide Mill reamer (RXS-F include)		○ ~30~	○ ~30~	○ ~30~	○ ~30~	○ ~30~	○ ~30~	○ ~20~	○ ~20~	◎ ~35~	◎ ~35~	◎ ~30~	◎ ~35~

★In case of the surface roughness is important, please use NC sensor remaer on steel, carbide mill reamer on aluminium and cast iron.
★This is the guide line of the cutting speed, so please adjust the cutting speed within ±25%. If using the reamers except radical reamer with water-soluble cutting fluid, please reduce cutting speed by 25% from the guide line.
★The cutting speed is influenced not only the work piece material but also the hardnedss of the material, please adjust the cutting speed refering "Relation between cutting sppeed and hardness". ☞P.154
★When the material, on which the forming edge is likely to perform, or the material which gets harden after machining, please adjust to "Low speed and high feed".
★For cast iron, "Low speed " may be better cutting performance.

■Cutting Condition

●Please check the reamer selection.
●Please decide cutting speed according to the work piece material and hardnedss from P.5, P.6, P.131~141, and P.154.
●Please decide the stock removal and feed rate according to cutting condition of the selected reamer.

How to check removal / feed

Removal / diameter mm
0.15~0.7

•The number on the left shows the minimum amount of stock removal. If you are concerned about drilled hole quolity (strightness, otl-center), please increase the stock removal.
•The number on the right shows the structural limit of the blade. Please avoid this drilled hole diameter in high precision machining.

Feed per revolution mm/rev
0.15~0.3

0.05mm of feed is optimal for single blade.It will be the value in middle, when converting to feed per revolution (0.05 X Numer of blades).
Please use the value in right side, when the material, on which the performing edge is likely to perform, or the material which gets harden after machining.(Low speed and high feed)
Please use the value in left side, when the surface roughness is highly required.

＊The method for calculating the data values on NC program.

Obtain rotation speed S from cutting speed.

$$S = \frac{\text{Cutting speed (m/min.)} \times 1000}{3.14 \times \text{reamer dia. (mm)}}$$

ex.) ϕ10mm reamer with cutting speed of 12m/min.

$$\frac{12 \times 1000}{3.14 \times 10} = 382 \rightarrow 380\,\text{min}^{-1} = \boxed{\text{S380}}$$

Obtain feed rate from feed per revolution

$$F = f(\text{mm/rev.}) \times S(\text{min}^{-1})$$

f : feed per revolution

ex.) Feed per revolution 0.2(mm/rev.) is chosen.

Assuming S = 380

$$F = 0.2 \times 380 = 76 \rightarrow \boxed{\text{F76}}$$

Please command S380 F76 on NC program.

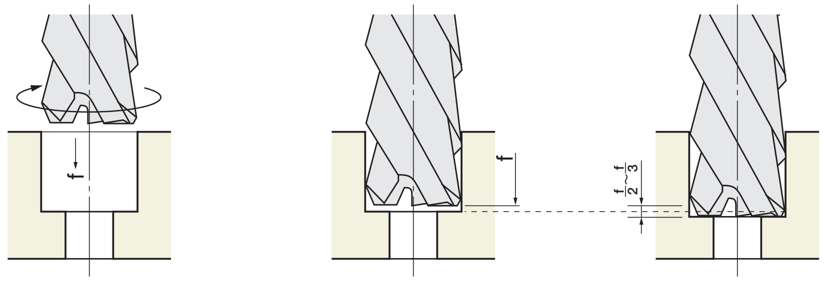
•The run-out accuracy of cutting edges should be within 0.01mm. Please use NIKKEN Slim Chuck or Milling Chuck for NIKKEN reamers.
•NIKKEN Zero Fit Holder cou be adjusted the run-out accuracy of cutting edges on the machine spindle.

NIKKEN REAMER TECHNICAL DATA CUTTING CONDITIONS

NIKKEN

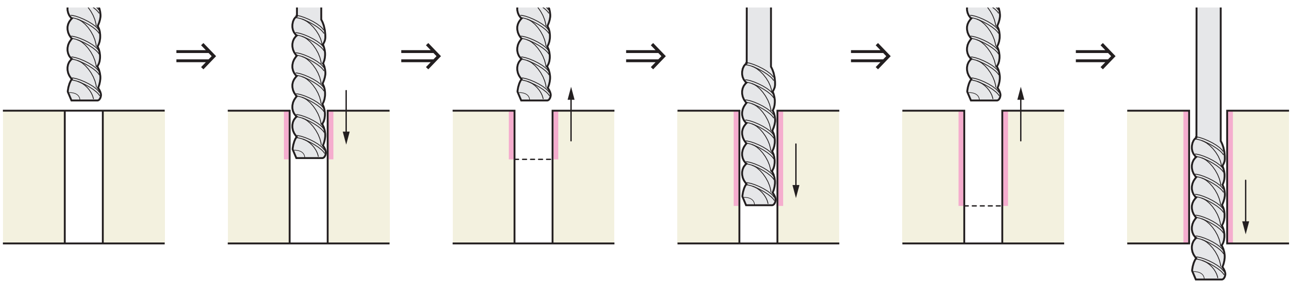
Using on machining center

- It is recommendable to use fixed cycle G86, which the reamer stops rotation at the bottom of the hole and then moves upward.
- Please remove the reamer without stopping rotation in following cases; If the chucking of the reamer can not be strong enough. When stopping rotation, the reamer will be remained or stucked in the work piece.
- Please make program which feed rete will be reduced by 1/2 ~1/3 just before the bottom of the stepped hole (seating surface), in case of the reamer for stepped hole. If same feed rate is processed, the vibration or chipping may be happened.



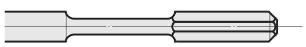
Process by normal feed. Process by normal feed. Lower the feed just before the end blade of the reamer hits the seating surface.

- When the reamer with small diameter is machined in deep hole depth (φ3mm X 5D or deeper), please use the stepped cutting cycle for smooth swarf discharging.

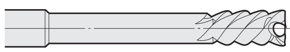


Relation ship between various reamers and cutting torque.

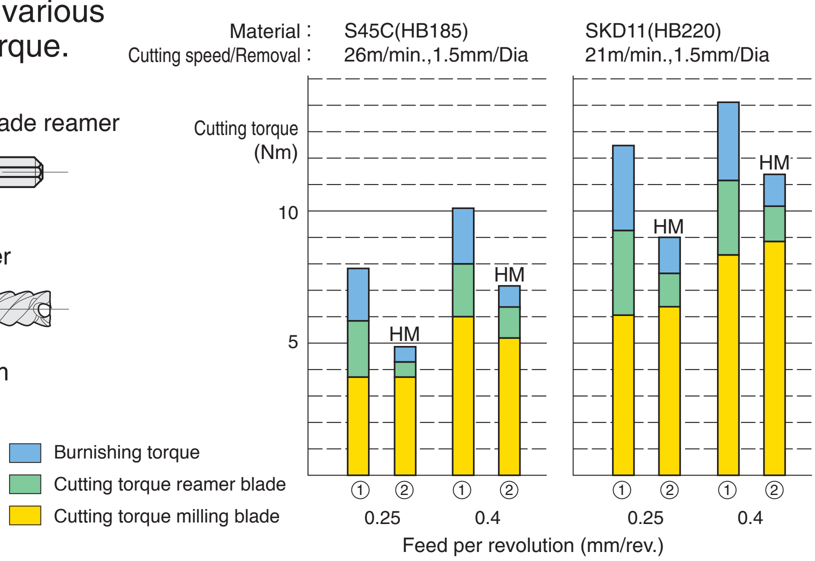
① Carbide straight blade reamer



② Carbide Mill reamer

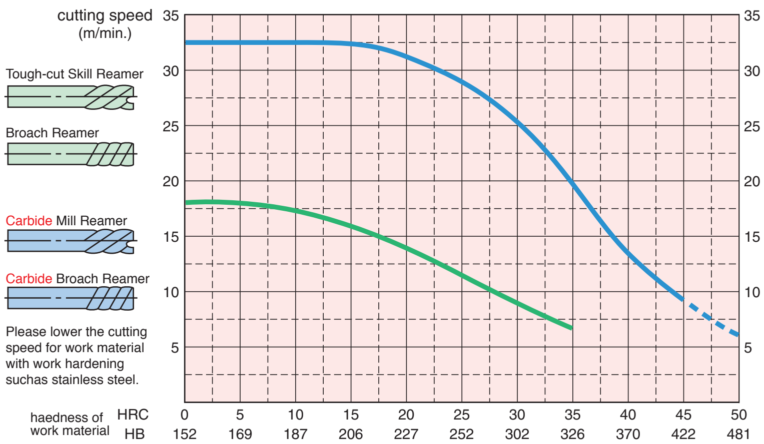


Diameter : ϕ18mm



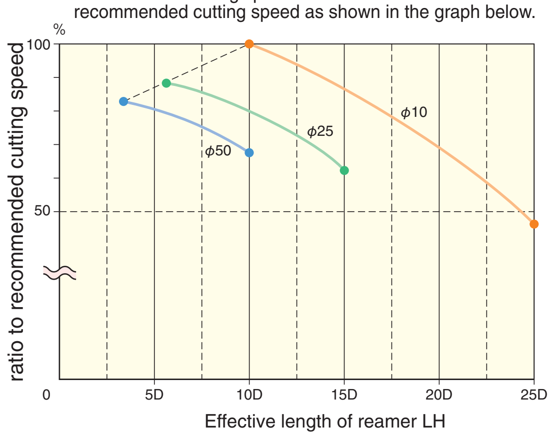
The uppergraph shows HM Mill Reamer has a smoller cutting torque and smoother cutting than a straight blade reamer.

Relationship between cutting speed and hardness.



Adjustment of the cutting speed.

Please actual cutting speed in accordance with the recommended cutting speed as shown in the graph below.



ZERO FIT TYPE MILLING CHUCK

NIKKEN

CZF

Fig.1

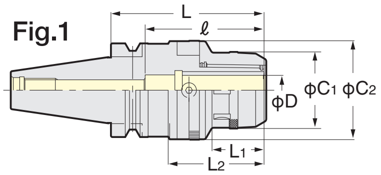
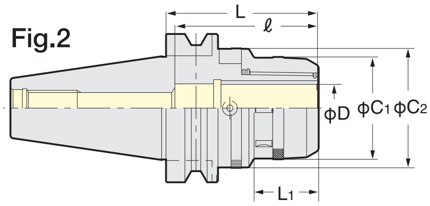


Fig.2



Explanation of the Code No.

BT40 **CZF32** – **120**

- Nominal Gauge Length
- Chucking Capacity
- Zero Fit Type Milling Chuck
- Shank No.

MAX. run-out at 100mm	
CZF20	0.050mm/dia.
CZF25	0.050mm/dia.
CZF32	0.030mm/dia.

PAT.

TAPER	Code No.	C_1	C_2	L	L_1	L_2	ℓ	Weight (Kg)	Fig.	Collet
No.30	BT30-CZF20-100	51.5	66.5	100	35	68	80	1.5	1	KM20 CCK20
	-CZF25-100	59.5	74.5					1.6		KM25 CCK25
No.40	BT40-CZF20-105	51.5	66.5	105	35	64.5	80	2.1		KM20 CCK20
	-120			120				2.5		
	-CZF25-105	59.5	74.5	105		68		2.4		KM25 CCK25
	-120			120				2.9		
	-CZF32-120	69	80.5	120	42	78	105	2.8		KM32 CCK32
No.50	BT50-CZF20-105	51.5	66.5	105	35	-	80	4.6	2	KM20 CCK20
	-165			165				6.0		
	-CZF25-105	59.5	74.5	105				5.0		KM25 CCK25
	-165			165				6.8		
	-CZF32-105	69	80.5	105	42		105	5.3		KM32 CCK32
	-165			165				7.4		

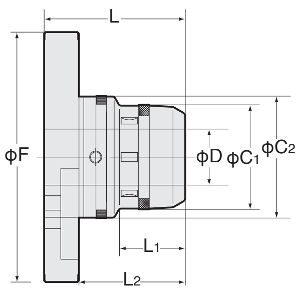
★Spanner is available as an option. **CZF20 type : 9HC22, CZF25 type : 9HC25, CZF32 type : 9HC32**
★Wrench to adjust run-out (**9ZFL**) is available as an option.
★Please refer ☞ **NC TOTAL TOOLING SYSTEM P.31**, **P.32** for **KM**, **CCK** collet.
★When direct chucking of centre through tool coolant, please use **CKFN-D** nut.
When using collet, please use **CCK collet** and **CKFN nut**. **NC TOTAL TOOLING SYSTEM** ☞ **P.32**
★Please note the acceptable shank tolerance is h7.
★Multi-Cam style is available. **e.g. BT40-CZF32-120-C3.** (3 Cams) Please contact us for more detail.

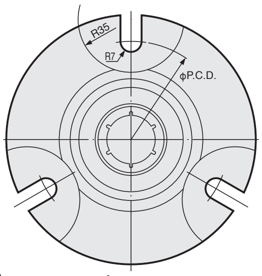
Wrench to adjust
9ZFL

FLANGE STYLE ZERO FIT TYPE MILLING CHUCK

NIKKEN

F-CZF





Explanation of the Code No.

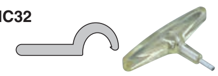
F – **CZF32**

- Chucking Capacity
- Zero Fit Type Milling Chuck
- Symbol of Flange Style

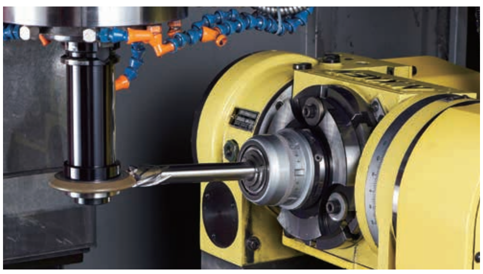
A holder for gripping the cutter on a tool-grinding machine and adjusting run-out.

Style	Code No.	φF	φD	$φC_1$	$φC_2$	L	L_1	L_2	Width of groove for fixing bolts	φP,C,D
32	F-CZF32	165	32	69	80.5	93.2	43.5	70.2	14mm (three places)	130
42	F-CZF42	175	42	86	98.2	95	46	72		140

★Spanner is available as an option. **CZF20 type : 9HC22, CZF25 type : 9HC25, CZF32 type : 9HC32**
★Wrench to adjust run-out (**9ZFL**) is available as an option.
★Please refer ☞ **NC TOTAL TOOLING SYSTEM P.31**, **P.32** for **KM**, **CCK** collet.
★When direct chucking of centre through tool coolant, please use **CKFN-D** nut.
When using collet, please use **CCK collet** and **CKFN nut**.
☞ **NC TOTAL TOOLING SYSTEMP .P.32**
★Please note the acceptable shank tolerance is h7.



Wrench to adjust
9ZFL



- Ideal for adjusting cutter run-out on an NC grinding machine or universal grinding machine.
- 3-point cam as a standard feature makes it easy to adjust run-out on a grinding machine.

⚠
- In case of CZF (Milling Chuck) style, please rotate the Adjust Cam to the free position. Then, tighten the nose ring until face contact. If the face contact is not completed, the Adjust Cam can not function. (Free run) If the Adjust Cam is not at the free position before tightening, you can not tighten the nose ring until face contact correctly.
- For the safety reason, the Cam Ring Lock Screws can not be loosen to remove to the outside. Please loose the Cam Ring Lock Screws slightly to rotate the Cam Ring.

Technical data

ZERO FIT TYPE SLIM CHUCK

NIKKEN

SZF

Fig.1

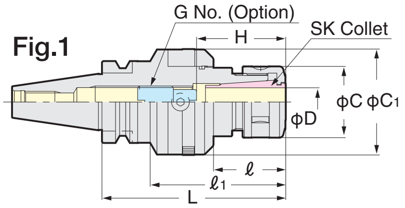
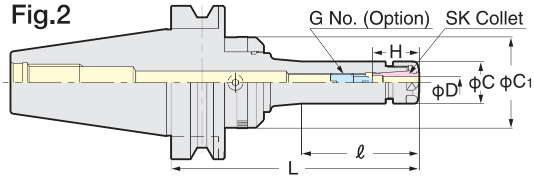


Fig.2



Explanation of the Code No.

BT40 SZF10 – 90

- Nominal Gauge Length
- Chucking Capacity
- Zero Fit Type Slim Chuck
- Shank No.

MAX. run-out at 100mm		
SZF 6	L<150	0.050mm/dia.
	L≧150	0.040mm/dia.
SZF10		0.050mm/dia.
SZF16		0.040mm/dia.
SZF25		0.025mm/dia.

PAT.

TAPER	Code No.	D	L	ℓ	ℓ1	C	C1	H	G No. (Option)	Weight (Kg)	Fig.	Collet
No.30	BT30-SZF 6- 90	0.7~6.0	90	42	-	19.5	40.5	21~35	SKG- 8	0.9	2	SK 6
	-SZF10- 90	1.75~10.0		35	61	27.5	48.5	30~50	SKG-12L	1.3	1	SK10
	-SZF16-105	2.75~16.0	105	40	76	40	59.5	45~65	SKG-18L	1.6		SK16
No.40	BT40-SZF 6- 90	0.7~6.0	90	37	-	19.5	40.5	21~35	SKG- 8	1.3	2	SK 6
	-150		150	60			48.5			1.7		
	BT40-SZF10- 90	1.75~10.0	90	37		27.5	48.5	30~50	SKG-12L	1.5		SK10
	-150		150	97						1.9		
	BT40-SZF16- 90	2.75~16.0	90	37		40	59.5	40~70	SKG-18L	1.8		SK16
	-150		150	97						2.2		
	-SZF25-120	7.5~25.4	120	55	84	55	66.5	55~85	SKG-28	2.4	1	SK25
	-150		150	86	114					2.9		
No.50	BT50-SZF 6-105	0.7~6.0	105	41	-	19.5	40.5	21~35	SKG- 8	4.0	2	SK 6
	-165		165	63			59.5			4.2		
	-SZF10-105	1.75~10.0	105	41		27.5	48.5	30~50	SKG-12L	4.5		SK10
	-165		165	101						4.9		
	-SZF16-105	2.75~16.0	105	41		40	59.5	40~70	SKG-18L	5.0		SK16
	-165		165	101						5.4		
	-SZF25-135	7.5~25.4	135	71		55	66.5	55~85	SKG-28	5.8		SK25
	-165		165	101						6.0		

★Adjust screw (G No.), wrench to adjust run-out (**9ZFL**) and **SKL** spanner are available as an option. **SZF6: SKL-6W, SZF10: SKL-10, SZF16: 9HC16, SZF25: 9HC25**

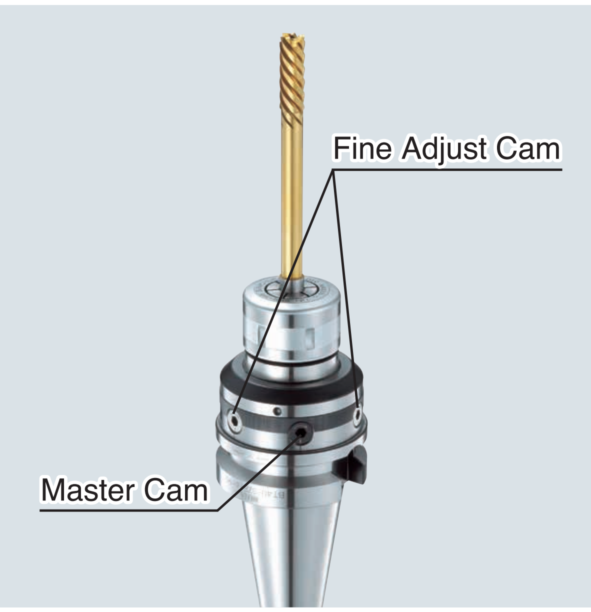
★**Please use "P" class or "A" type SK collet.** ☞ **P.39**

★For centre through coolant application please use **SK J** type nut and cap for your preference. Please note that the length of **J** type nut is 6mm longer than the standard **SK** nut. ☞ **NC TOTAL TOOLING SYSTEM P.43**

★For High Speed type, Code No. is **"SZF-P"**. **e.g. BT40-SZF10-90P**
GH handle ☞ **NC TOTAL TOOLING SYSTEM P.30** is necessary for High Speed Milling Chuck.

★Multi-Cam style is available. **e.g. BT40-SZF16-90-C3**. (3 Cams) Please contact us for more detail.

Wrench to adjust
9ZFL



Multi-Cam Style

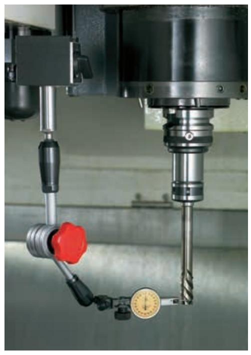
The minute run-out after adjusting by a master cam can be adjusted by fine adjust cams at the same position.
e.g. BT40-SZF16-90-C3 (3 Cams)
The multi-cam style can not be made for all zero fit holders.

Technical data

Using on machining center

• NIKKEN Zero Fit Holder

When the machine has been used for 2～3 years, the run-out accuracy of the spindle may be got worse as 0.01～0.04mm at 100mm from **the gauge line. Then, NIKKEN Zero Fit Holder can adjust the run-out accuracy of the tool to 0.001～0.002mm at the spindle.**

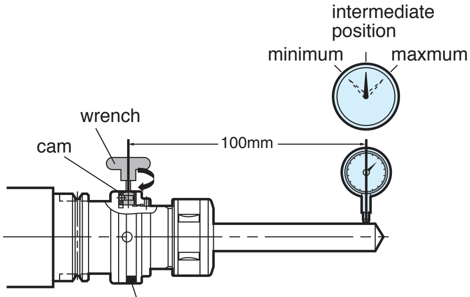


Please refer Zero Fit Holder catalogue

• How to adjust

Rotate the cam ring to bring the cam position to where run-out is the greatest.

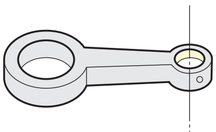
Rotate the cam in clockwise direction to the middle position of run-out between the greatest and least.

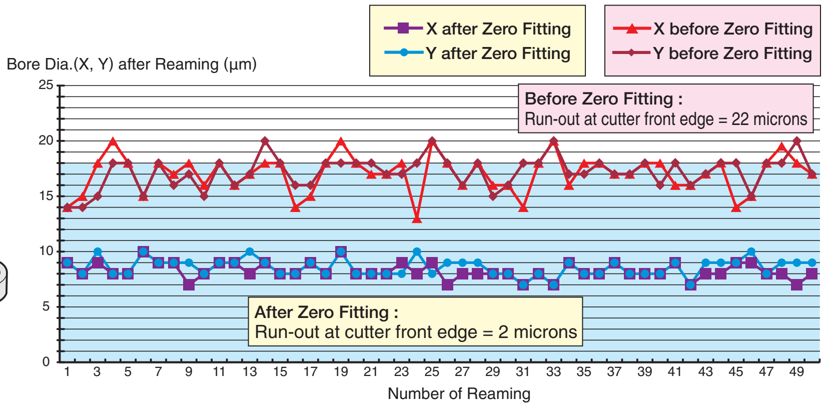


For better and stable finishing

…The variation of the finished hole diameter can be minimized to reduce the expansion of the hole diameter to minimize the run-out.

Materials : Tempered Steel (HRC25～30)
Tool : φ13mm CBN Reamer
Cutting Speed : V=80m/min
Spindle Rotation : S=2,000min-1
Feed per tooth : f=0.1mm/min
Feed : F=200mm/min
External coolant supply : Water soluble





• Increasing cutting tool life

Fig. 1 is a graph of the relationship between runout accuracy and cutting tool life. When runout accuracy changes from 21 μm to 3 μm, cutting tool life improves by 500%.

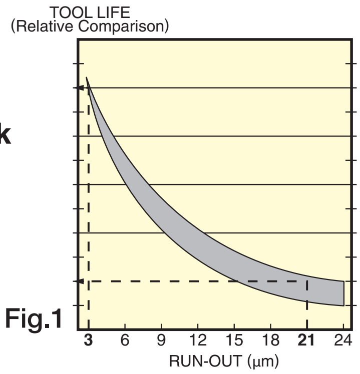


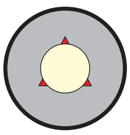
Fig.1

• The Zero Fit Holder is a mechanism with an adjustment range that is broad compared with ranges of similar products, and is simple, quick and reliable.

• The Slim Chuck model, "SZF", and the Milling Chuck, "CZF", can be selected depending on the cutting tool.

• Jet Coolant with standard reamer

If NIKKEN Multi-Lock Milling Chuck + **CCK** collet, or a NIKKEN Slim Chuck + **J**-Type Nut is used, cutting fluid will cover up to the cutting edge in a precise manner, even with standard reamers. By all means, use the Multi Oil Hole Holder in the case of a machine without a through-spindle coolant system.


Jet Coolant Groove

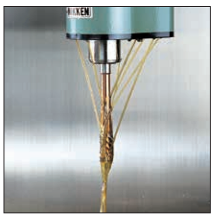
CCK Collet



Cap
J type Nut

However, in the case of a deep hole, we recommend a reamer with an oil hole.



multi oil hole holder

Please refer Jet Coolant Series catalogue

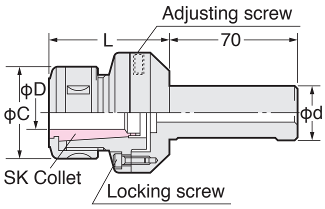
Using on NC lathe

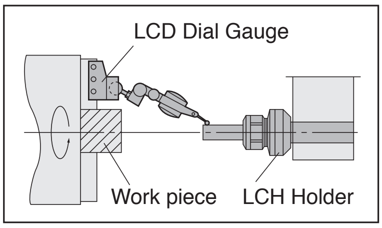
• Adjust Type Centering Holder & Centering Dial Gauge

The run-out of the reamer with respect to the center of the chuck must be within 0.015mm. If the center of the turret head has misallignment with respect to the chuck center, please use NIKKEN LCH Centering Holder and LCD centering Dial Guage to adjust the center within 0.01mm.

LCH

The phase angle of the flat surface of the straight shank with respect to the adjusting screw is 45°.Please contact us incase of different angle.





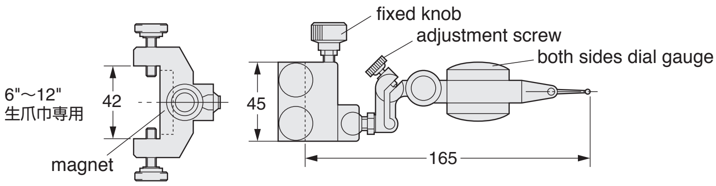
- Moves 0.5 mm in any radial direction.
- Misalignment of the chuck and turret head is adjusted to within ±0.01 mm.
- At the time of center drilling and reaming, finishing is safe and reliable.
- Drill life be comes longer, and operation is highly precise/ unmanned.
- This is particularly useful to carbide center.

Code No.	D	d	L	C	G No.(Option)	SK Collet
LCH16-SK10	1.75~10	16	46	27.5	–	**SK 10**
LCH20-SK16	2.75~16	20	58	40		**SK 16**
LCH25-SK16		25			**SKG-18A**	
LCH32-SK16		32				
LCH40-SK16		40				

- Jaws for any size of chuck from 6” to 12” are okay.
- This is a special dial gauge that is mounted on the jaw(s) of the lathe chuck and has the ability to directly measure the turret head runout.
- Has dial gages on both faces, with dial-gauge needles that are easy to see.

LCD

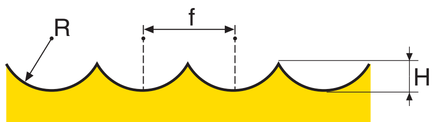
(with a magnet inside)
Alignment is easily



Convenience reference

• Cusp height of boring

$$\text{Cusp height} = \frac{(\text{Feed / rev})^2}{8 \times \text{Nose R}}$$



• Formula of the balance quality

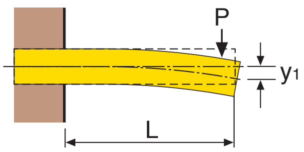
$$\text{Balance quality } G = \frac{\varepsilon \cdot N}{9550} \quad ※\ \varepsilon = \frac{m \cdot r}{M}$$

$$\Rightarrow \frac{m \cdot r \cdot N}{9550 \cdot M}$$

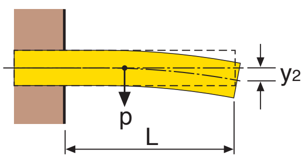
ε = Eccentricity

m : Unrbalance weight(g)
r : Radius of correction(mm)
M : Weight of the object(kg)
N : Rotation speed(min^{-1})

• Deflection of cantilever



Deflection of load (P) $y_1 = \dfrac{P \cdot L^3}{3 \cdot E \cdot I}$



Deflection of its own weight $y_2 = \dfrac{p \cdot L^4}{8 \cdot E \cdot I}$

$I = \dfrac{\pi d^4}{64}$ (The moment of inertia of round bar)

E = 21000kg/mm² (Young’s modulus : STEEL)
63000kg/mm² (Young’s modulus : CARBIDE)

P = Load (kg)

p = Weight of contilever per 1mm(kg)

*Total deflection $y = y_1 + y_2$