

COMBAT Z DRILL

Cost down can be achieved by improvement of drilling operation.



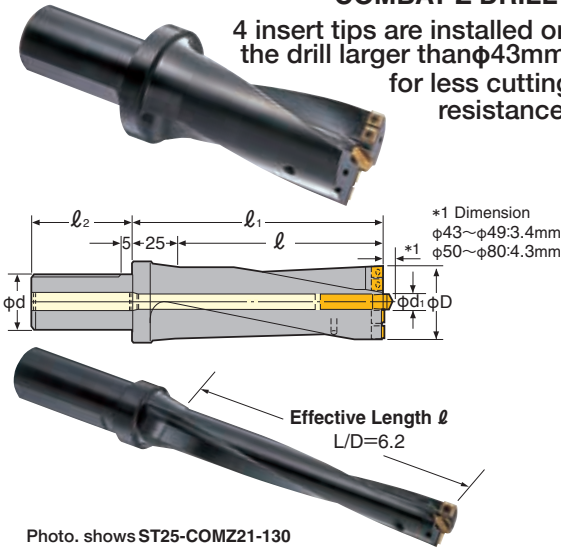
φ39~φ49 L/D=2, 3 or 4

Drill Dia.	2D Series				3D Series				4D Series				2D,3D,4D				
	Code No.	ℓ	ℓ ₁	Code No.	ℓ	ℓ ₁	Code No.	ℓ	ℓ ₁	φ _d	ℓ ₂	Pilot Drill	Insert Tip	Clamp Screw	Tip Clamp Handle		
																φ _d -φD -ℓ	φ _d -φD -ℓ
39	ST32-COMZ39- 80	80	105	ST32-COMZ39-120	120	145	ST32-COMZ39-160	160	185	32	58	9CMD10 d ₁ =φ10	9CMT9 (2 pcs)	M4090	T-15		
40	-COMZ40- 80																
41	-COMZ41- 80																
42	-COMZ42- 80																
43	-COMZ43- 80																
44	-COMZ44- 80																
45	-COMZ45- 80																
46	-COMZ46- 80																
47	-COMZ47- 80																
48	-COMZ48- 80																
49	-COMZ49- 80			-COMZ49-120			-COMZ49-160					9CMT6 (4 pcs)	M2560	T-8			

Dimensions of φ43mm or larger

COMBAT Z DRILL

4 insert tips are installed on the drill larger than φ43mm for less cutting resistance.



The extended drill longer than L/D=5 or with chamfering tool are available as an option.
Minimum. order quantity of special drill is 2 off.

φ50~φ80 L/D=2

Drill Dia.	2D Series				φ _d	ℓ ₂	Pilot Drill	Insert Tip	Clamp Screw	Tip Clamp Handle
	Code No.	ℓ	ℓ ₁	φ _d						
50	ST32-COMZ50-100	100	125	32	58	9CMD12 d ₁ =φ12	9CMT6 (4 pcs)	M2560	T-8	
51	-COMZ51-100									
52	-COMZ52-100									
53	-COMZ53-100									
54	-COMZ54-100									
55	-COMZ55-100									
56	-COMZ56-110									
57	-COMZ57-110									
58	-COMZ58-110									
59	-COMZ59-110									
60	ST40-COMZ60-120	120	145	40	68	9CMD12 d ₁ =φ12	9CMT7 (4 pcs)	M3070	T-10	
65	-COMZ65-120									
70	-COMZ70-130									
75	-COMZ75-130									
80	-COMZ80-150									
150	175									

★Two Pilot Drills, a pair of insert tips and Insert Clamp Handle are supplied as standard.
★Please refer P.60 for Centre Through Side Lock Holder, P.60 for Flange Through Side Lock Holder and P.139 for Oil Hole Holder for COMBAT Z Drill on M/C.

Insert Tip for COMBAT Z DRILL

Code No.	Insert Tip					ISO Code No.	Grade	Material	Applicable Drill	
	Dimensions	φD	T	φ _d	Nose Radius					
9CMT4		4.76	1.98	1.9	0.4	MPMT04T104	Coated (PR630)	Steel Cast Iron	COMZ16~20.5	
9CMT6		6.35	2.38	2.8					COMZ21~26 COMZ43~55	
9CMT7		7.94	3.18	3.4	0.8				MPMT070308	COMZ26.5~35 COMZ56~65
9CMT9		9.525		4.4					MPMT090308	COMZ36~42 COMZ66~80

★The Rhomboid insert tips are installed on the drill. Total 4 corners at 2 external and 2 internal diameters can be used. Please pay attention to install the insert into the pockets correctly.
★The spare Insert Tips are available per a box (10 off).

COMBAT Z DRILL Economical Cutting Condition

- For Steel/Cast Iron
"40,000" is the basic figure for cutting speed, and the rotation speed could be obtained by dividing above figure by the drill diameter.
e.g. for φ32mm diameter drill: 40,000 ÷ 32 = 1,250 (r/min)
- For Stainless Steel/Steel Plate SS41
"25,000" is the basic figure for cutting speed, and the rotation speed could be obtained by dividing above figure by the drill diameter.
e.g. for φ32mm diameter drill: 25,000 ÷ 32 = 780 (r/min)
- Feed Rate

Drill Dia	φ16~φ26	φ26.5~φ42	φ43~φ85
Mild Steel Feed per rev.	0.1~0.15	0.1~0.2	0.15~0.2
Cast Iron Feed per rev.	0.15~0.2	0.2~0.3	0.2~0.35

★How to install Insert Tips

★Coolant pressure more than 0.5MPa must be supplied.

★For Stainless Steel/Steel Plate, even the cutting speed is reduced to meet with the materials, please do not reduce the feed rate and keep it as for steel.

★For tough materials, e.g. steel plate, please use stepped feed (G73) for breaking the swarf.

★This drill is suitable for offset hole, or inter-merged twin bore, but not suitable for stacked plate drilling.