

BTA

Deep-Hole Drills

High performance drilling solutions
for deep, precise and accurate holes.



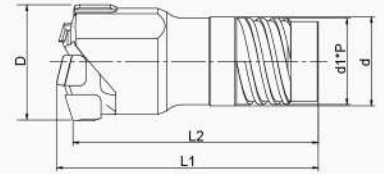
WELDED BTA DEEP HOLE DRILL

Drilling diameter: 15.6 mm - 36.2 mm.

Drilling accuracy: IT9 grade.

Hole wall roughness Ra3.2, non-ferrous Ra1.6.

Three sets of cutting edges.



(Unit): mm

MODEL	D(h7)	d	d1*P	L1	L2
B05-MPS-xx.xx	15.6 ≤ D ≤ 16.7	12.6	12.2*8 (P2)	43	40.3
B05-MPS-xx.xx	16.7 < D ≤ 17.7	13.6	13.2*8 (P2)	43	40.3
B05-MPS-xx.xx	17.7 < D ≤ 18.9	14.5	14*8 (P2)	47	44.2
B05-MPS-xx.xx	18.9 < D ≤ 20.0	15.5	15*8 (P2)	47	44
B05-MPS-xx.xx	20.0 < D ≤ 21.8	16	15.4*10 (P2.5)	52.5	49.3
B05-MPS-xx.xx	21.8 < D ≤ 24.1	18	17.4*12 (P3)	56	52.7
B05-MPS-xx.xx	24.1 < D ≤ 26.4	19.5	18.9*12 (P3)	57.5	54
B05-MPS-xx.xx	26.4 < D ≤ 28.7	21	20.4*12 (P3)	57.5	53.8
B05-MPS-xx.xx	28.7 < D ≤ 31	23.5	22.9*16 (P4)	63.5	59.4
B05-MPS-xx.xx	31.0 < D ≤ 33.3	25.5	24.9*16 (P4)	63.5	59.4
B05-MPS-xx.xx	33.3 < D ≤ 36.2	28	27.4*16 (P4)	63.5	59
B05-MPS-xx.xx	36.2 < D ≤ 39.6	30	29.2*20 (P5)	73.5	68.5
B05-MPS-xx.xx	39.6 < D ≤ 43	33	32.2*20 (P5)	73.5	68
B05-MPS-xx.xx	43 < D ≤ 47	36	35.2*20 (P5)	75	69.3
B05-MPS-xx.xx	47 < D ≤ 50.1	39	38.2*20 (P5)	75	68.8

APPLICABLE TABLE OF PROCESSED MATERIALS

ISO	P	P	P	P	M	K	K	N	N	N	S	S	H	H
WORKPIECE MATERIAL	MILD STEEL	STRUCTURAL STEEL	ALLOY STEEL	TOOL STEEL	STAINLESS STEEL	CAST IRON	MALLEABLE CAST IRON	ALUMINUM ALLOY	CAST ALUMINUM ALLOYS	COPPER ALLOYS	SUPER ALLOYS	TITANIUM ALLOYS	HARDENED STEEL	HARDENED STEEL
	<500N	<750N	<1400N	<1200N	<900N	<750N	<1100N	Si<12%	Si>12%	<750N	<1100N	<1100N	<1400N	<1600N
B05-MPS	●	●	●							○				
B05-MMS					●						○	○		

● VERY SUITABLE ○ SUITABLE

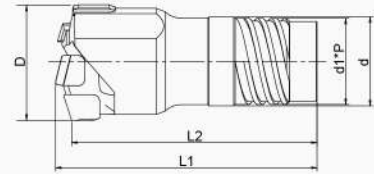
B05-MMS WELDED BTA DEEP HOLE DRILL

Drilling diameter: 15.6 mm - 36.2 mm.

Drilling accuracy: IT9 grade.

Hole wall roughness Ra3.2, non-ferrous Ra1.6.

Three sets of cutting edges.



(Unit): mm

MODEL	D(h7)	d	d1*P	L1	L2
B05-MMS-xx.xx	15.6 ≤ D ≤ 16.7	12.6	12.2*8 (P2)	43	40.3
B05-MMS-xx.xx	16.7 < D ≤ 17.7	13.6	13.2*8 (P2)	43	40.3
B05-MMS-xx.xx	17.7 < D ≤ 18.9	14.5	14*8 (P2)	47	44.2
B05-MMS-xx.xx	18.9 < D ≤ 20.0	15.5	15*8 (P2)	47	44
B05-MMS-xx.xx	20.0 < D ≤ 21.8	16	15.4*10 (P2.5)	52.5	49.3
B05-MMS-xx.xx	21.8 < D ≤ 24.1	18	17.4*12 (P3)	56	52.7
B05-MMS-xx.xx	24.1 < D ≤ 26.4	19.5	18.9*12 (P3)	57.5	54
B05-MMS-xx.xx	26.4 < D ≤ 28.7	21	20.4*12 (P3)	57.5	53.8
B05-MMS-xx.xx	28.7 < D ≤ 31	23.5	22.9*16 (P4)	63.5	59.4
B05-MMS-xx.xx	31.0 < D ≤ 33.3	25.5	24.9*16 (P4)	63.5	59.4
B05-MMS-xx.xx	33.3 < D ≤ 36.2	28	27.4*16 (P4)	63.5	59
B05-MPS-xx.xx	36.2 < D ≤ 39.6	30	29.2*20 (P5)	73.5	68.5
B05-MPS-xx.xx	39.6 < D ≤ 43	33	32.2*20 (P5)	73.5	68
B05-MPS-xx.xx	43 < D ≤ 47	36	35.2*20 (P5)	75	69.3
B05-MPS-xx.xx	47 < D ≤ 50.1	39	38.2*20 (P5)	75	68.8

APPLICABLE TABLE OF PROCESSED MATERIALS

ISO	P	P	P	P	M	K	K	N	N	N	S	S	H	H
WORKPIECE MATERIAL	MILD STEEL	STRUCTURAL STEEL	ALLOY STEEL	TOOL STEEL	STAINLESS STEEL	CAST IRON	MALLEABLE CAST IRON	ALUMINUM ALLOY	CAST ALUMINUM ALLOYS	COPPER ALLOYS	SUPER ALLOYS	TITANIUM ALLOYS	HARDENED STEEL	HARDENED STEEL
	<500N	<750N	<1400N	<1200N	<900N	<750N	<1100N	Si<12%	Si>12%	<750N	<1100N	<1100N	<1400N	<1600N
B05-MPS	●	●	●							○				
B05-MMS					●						○	○		

● VERY SUITABLE ○ SUITABLE

APPLICATION

APPLICATION EXAMPLE 1

Steam turbine comparison test:

Equipment: domestic NC horizontal
bi-spindle deep-hole drilling machine

Workpiece name and material: tube plate,
20MnMo+stainless steel surfacing

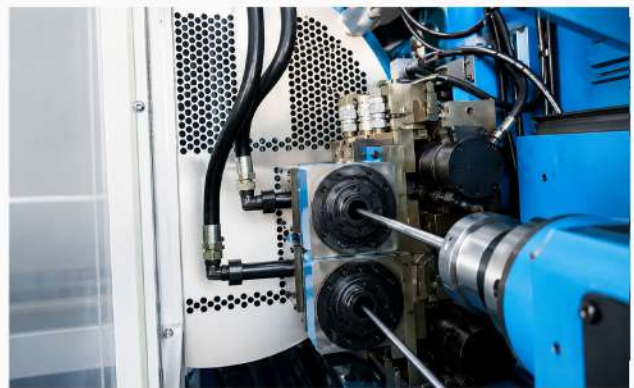
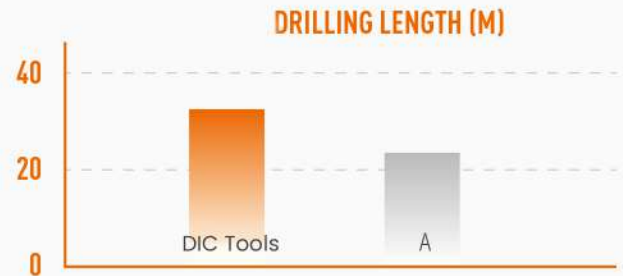
Spec.: plate thickness 310mm

Machining quality requirement:

hole diameter: $\varnothing 16.2 - \varnothing 16.3\text{mm}$;

roughness: Ra3.2 - 6.3

Machining parameters: 1600r/min, 130mm/min



APPLICATION EXAMPLE 2

Steam turbine comparison test:

Equipment: imported NC horizontal
tri-spindle deep hole drilling machine

Workpiece name and material: tube plate,
20MnMo+Stainless steel surfacing

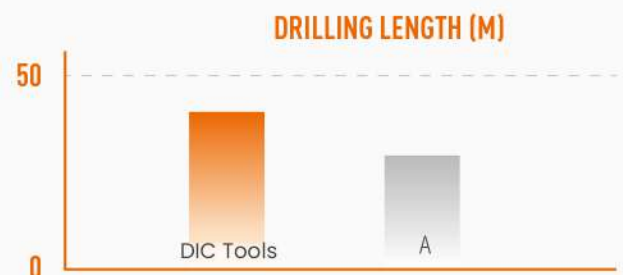
Spec.: plate thickness 200mm

Machining quality requirement: hole
diameter: $\varnothing 6.1 - \varnothing 16.15\text{mm}$; roughness:

Ra1.6-3.2

Machining parameters: 1600r/min,
100mm/min

Application result: service life of a conforming
product



APPLICATION EXAMPLE 3

Comparison test of a boiler factory:

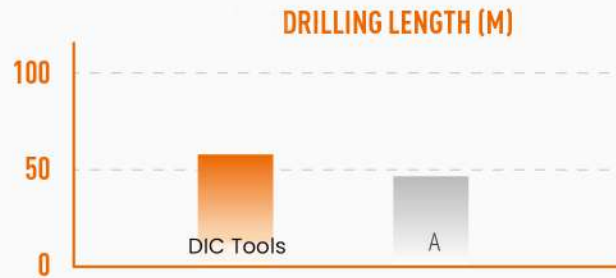
Equipment: domestic NC horizontal
bi-spindle deep-hole drilling machine

Workpiece name and material: tube plate,
20MnMoNb+stainless steel surfacing

Spec: plate thickness 498mm

Machining parameters: 1400r/min,
120mm/min

Application result: service life of a
conforming product



CUTTING PARAMETERS

ISO	WORKPIECE MATERIAL	HEAT TREATMENT	BRINELL HARDNESS HB	TENSILE STRENGTH N/mm ²	CUTTING SPEED (m/min)			Ø 15.6–20mm			Ø 20.01–30mm			Ø 30.01–40mm		
					MIN	REC	MAX	MIN	REC	MAX	MIN	REC	MAX	MIN	REC	MAX
P	NON-ALLOY STEEL	ANNEALED	100-150	370-500	55	75	95	0.05	0.10	0.15	0.10	0.14	0.18	0.10	0.15	0.20
	LOW CARBON STEEL	ANNEALED	175-225	600-775	55	75	95	0.05	0.10	0.15	0.10	0.14	0.18	0.10	0.15	0.20
		QUENCHED AND TEMPERED	225-275	775-940	50	70	90	0.05	0.10	0.15	0.08	0.12	0.16	0.10	0.15	0.20
	LOW ALLOY STEEL	ANNEALED	175-225	600-775	55	75	95	0.05	0.10	0.15	0.08	0.12	0.16	0.10	0.15	0.20
		ANNEALED	225-275	775-940	50	70	90	0.05	0.10	0.15	0.08	0.12	0.16	0.10	0.15	0.20
		TEMPERED	325-375	1190-1265	50	68	85	0.05	0.10	0.15	0.08	0.12	0.16	0.10	0.15	0.20
	HIGH ALLOY STEEL, TOOL STEEL, CAST STEEL	ANNEALED	225-300	600-1020	50	68	85	0.05	0.10	0.15	0.08	0.12	0.16	0.10	0.15	0.20
TEMPERED		300-350	1020-1180	50	68	85	0.05	0.10	0.15	0.08	0.12	0.16	0.10	0.15	0.20	
M	STAINLESS STEEL AUSTENITIC	MARTENSITIC	135-185	480-640	40	63	85	0.10	0.14	0.18	0.10	0.15	0.20	0.12	0.17	0.22
		AUSTENITIC	185-275	640-940	30	45	60	0.08	0.12	0.16	0.08	0.13	0.18	0.10	0.15	0.20
K	GREY CAST IRON	FERRITIC	120-150	430-500	60	80	100	0.08	0.12	0.16	0.08	0.13	0.18	0.10	0.15	0.20
	CAST IRON NODULAR	FERRITIC	200-220	700-775	50	75	100	0.08	0.12	0.16	0.08	0.13	0.18	0.10	0.15	0.20
N	ALUMINUM BRONZE > 1% PB	FREE CUTTING	100-200	370-670	50	80	110	0.08	0.12	0.16	0.08	0.13	0.18	0.10	0.15	0.20
			200-250	670-885	50	80	110	0.08	0.12	0.16	0.08	0.13	0.18	0.10	0.15	0.20
S	HIGH TEMP. ALLOY	ANNEALED	140-220	480-755	20	35	50	0.05	0.08	0.11	0.06	0.10	0.13	0.10	0.13	0.15
	HASTELLOY B, INCONEL 600, MONEL 400	ANNEALED	250	----	20	35	50	0.05	0.08	0.11	0.06	0.10	0.13	0.10	0.13	0.15



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