

Drill Dia. D1 (mm)	Hole Depth (l/d)	Stock		Order Number	Dimensions (mm)				Type
		DP1021			L1	L3	L9	D4	
19.0	3	□		MPS1-1900S-DIN	131	79	50	20	4
	3	●		-1900S-DIN-C	131	79	50	20	2
	5	□		-1900L-DIN	153	101	50	20	4
	5	●		-1900L-DIN-C	153	101	50	20	2
19.5	3	□		-1950S-DIN	131	79	50	20	4
	3	●		-1950S-DIN-C	131	79	50	20	2
	5	□		-1950L-DIN	153	101	50	20	4
	5	●		-1950L-DIN-C	153	101	50	20	2
20.0	3	□		-2000S-DIN	131	79	50	20	4
	3	●		-2000S-DIN-C	131	79	50	20	2
	5	□		-2000L-DIN	153	101	50	20	4
	5	●		-2000L-DIN-C	153	101	50	20	2

RECOMMENDED CUTTING CONDITIONS

● MPS1 DRILL (3xD, 5xD)

Work Material	Drill Diameter	Conditions Hardness	φ3		φ4		φ5	
			Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel		≤180HB	100 (60–150)	0.15 (0.1–0.2)	120 (70–170)	0.19 (0.12–0.25)	130 (80–190)	0.23 (0.15–0.3)
		180–250HB	90 (60–140)	0.15 (0.1–0.19)	100 (70–160)	0.18 (0.12–0.24)	110 (80–180)	0.22 (0.15–0.29)
		280–350HB	80 (50–110)	0.12 (0.1–0.14)	90 (60–120)	0.15 (0.12–0.18)	90 (70–140)	0.19 (0.15–0.22)
M Stainless Steel		—	40 (20–50)	0.08 (0.06–0.12)	40 (30–50)	0.09 (0.07–0.13)	40 (30–50)	0.11 (0.08–0.16)
K Cast Iron		≤350MPa	90 (60–100)	0.15 (0.1–0.2)	100 (70–110)	0.21 (0.12–0.3)	110 (80–130)	0.25 (0.15–0.35)
		≤450MPa	80 (50–90)	0.12 (0.08–0.16)	90 (60–100)	0.17 (0.1–0.24)	90 (70–120)	0.21 (0.14–0.28)
		≤800MPa	60 (40–80)	0.09 (0.06–0.12)	70 (50–90)	0.13 (0.08–0.18)	70 (60–100)	0.17 (0.12–0.22)

Work Material	Drill Diameter	Conditions Hardness	φ6		φ8		φ10	
			Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel		≤180HB	140 (90–210)	0.27 (0.18–0.35)	160 (100–240)	0.3 (0.2–0.4)	170 (100–250)	0.33 (0.2–0.45)
		180–250HB	120 (90–190)	0.26 (0.18–0.33)	140 (100–220)	0.29 (0.2–0.38)	150 (100–230)	0.32 (0.2–0.43)
		280–350HB	100 (80–150)	0.22 (0.18–0.25)	120 (90–170)	0.24 (0.2–0.27)	130 (90–180)	0.25 (0.2–0.3)
M Stainless Steel		—	50 (40–70)	0.14 (0.11–0.18)	50 (40–70)	0.15 (0.12–0.2)	50 (40–70)	0.16 (0.12–0.22)
K Cast Iron		≤350MPa	120 (90–140)	0.29 (0.18–0.4)	140 (100–160)	0.33 (0.2–0.45)	150 (100–170)	0.35 (0.2–0.5)
		≤450MPa	100 (80–130)	0.25 (0.16–0.34)	120 (90–150)	0.28 (0.18–0.38)	130 (90–160)	0.29 (0.18–0.4)
		≤800MPa	80 (70–110)	0.2 (0.14–0.26)	100 (80–130)	0.23 (0.16–0.3)	110 (80–140)	0.24 (0.16–0.32)

Work Material	Drill Diameter	Conditions Hardness	φ12		φ16		φ20	
			Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P Mild Steel		≤180HB	180 (100–250)	0.35 (0.2–0.5)	180 (100–250)	0.38 (0.2–0.55)	180 (100–250)	0.4 (0.2–0.6)
		180–250HB	160 (100–230)	0.34 (0.2–0.48)	160 (100–230)	0.36 (0.2–0.52)	160 (100–230)	0.39 (0.2–0.57)
		280–350HB	140 (90–180)	0.27 (0.2–0.34)	140 (90–180)	0.28 (0.2–0.36)	140 (90–180)	0.3 (0.2–0.4)
M Stainless Steel		—	50 (40–70)	0.18 (0.14–0.24)	50 (40–70)	0.19 (0.15–0.26)	50 (40–70)	0.21 (0.16–0.28)
K Cast Iron		≤350MPa	160 (100–170)	0.4 (0.2–0.6)	160 (100–170)	0.43 (0.2–0.65)	160 (100–170)	0.45 (0.2–0.7)
		≤450MPa	140 (90–160)	0.31 (0.18–0.44)	140 (90–160)	0.33 (0.18–0.48)	140 (90–160)	0.35 (0.18–0.52)
		≤800MPa	110 (80–140)	0.25 (0.16–0.34)	110 (80–140)	0.27 (0.16–0.38)	110 (80–140)	0.28 (0.16–0.4)