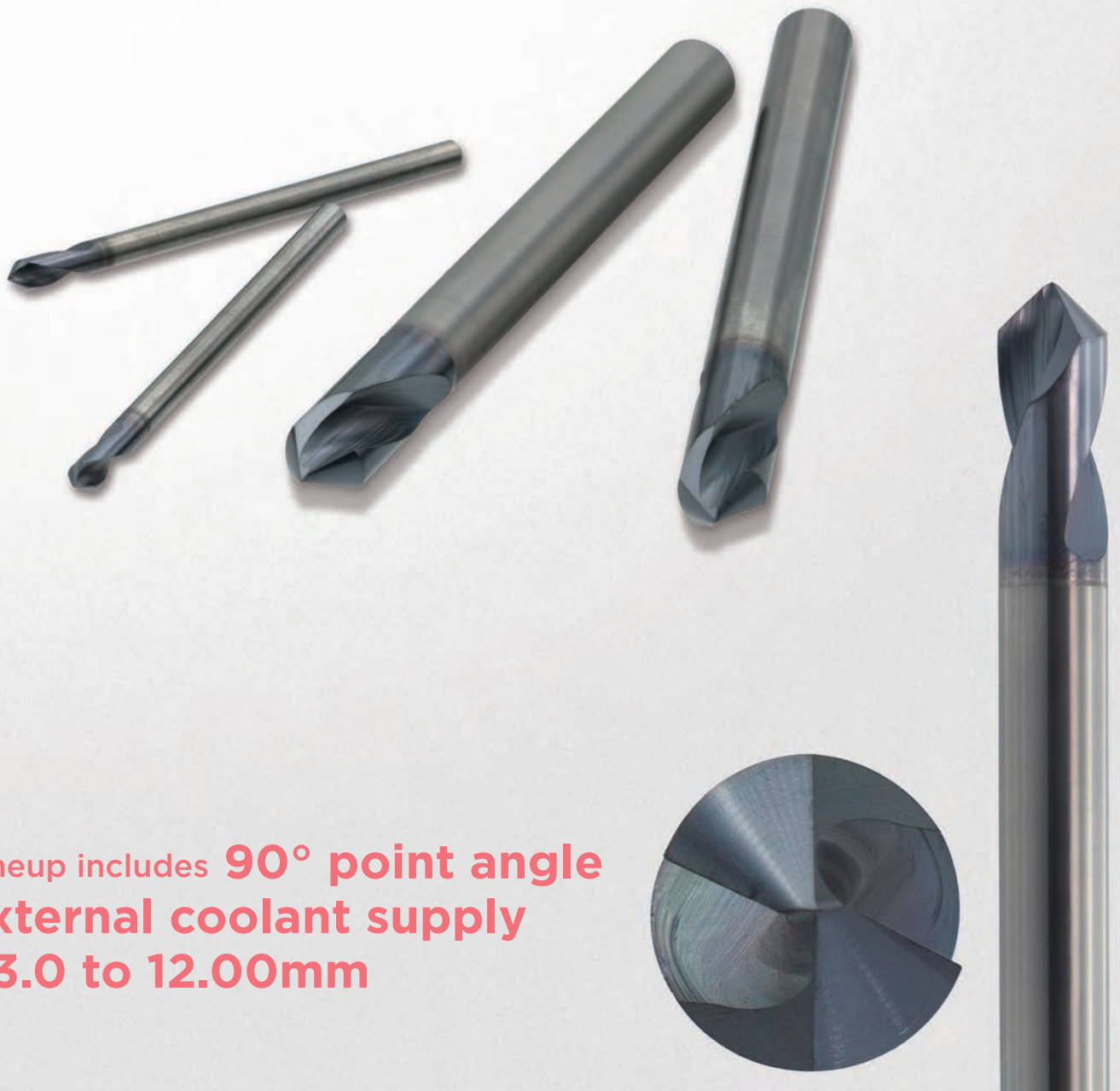


Solid carbide leading drill

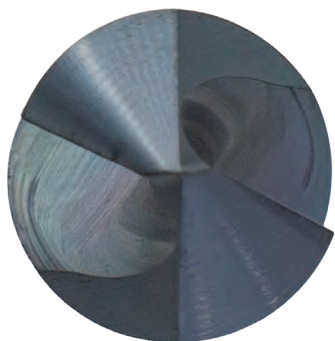
MULTIDRILL **MDC** series

Ideal for Chamfering on Small Lathes/Autolathes



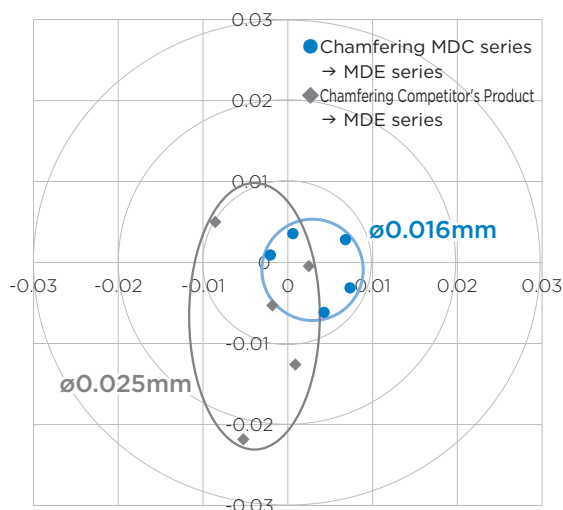
Lineup includes **90° point angle**
external coolant supply
ø3.0 to 12.00mm

High centering accuracy and low resistance

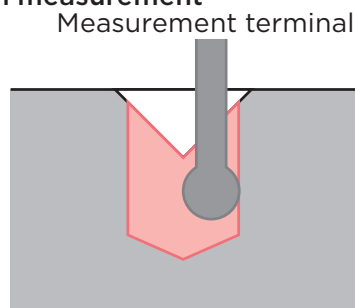


■ Cutting Performance

● Hole Position Accuracy



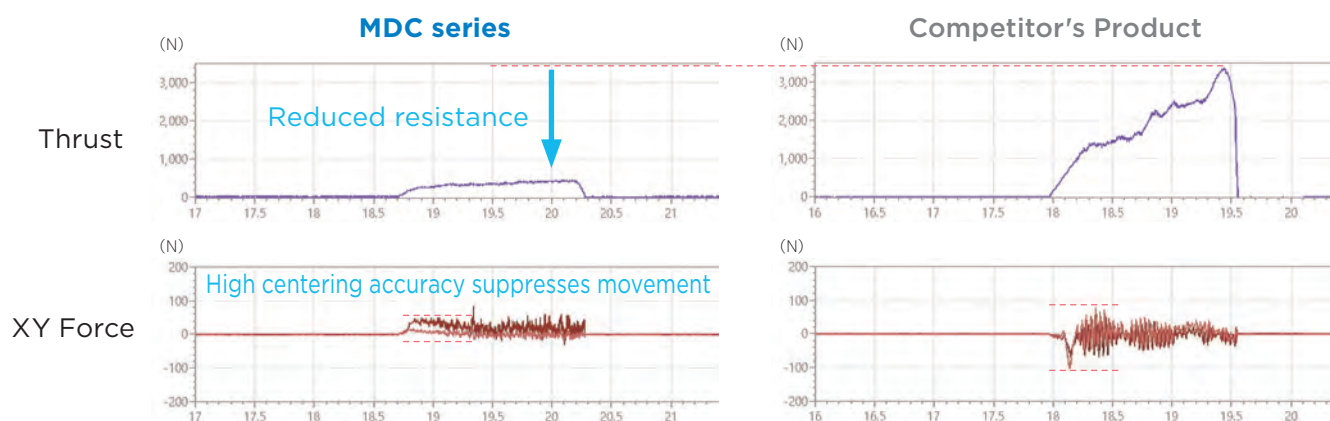
Hole position measurement



Cutting Conditions		Spindle Speed n (min ⁻¹)	Cutting Speed vc (m/min)	Feed Rate f (mm/rev)	Hole Depth H (mm)
Center Hole	ø8	1,700	42	0.08	3.5
Drilling	ø6	3,184	60	0.15	10.0

Center drilling with MDC series achieves excellent drilled hole positioning

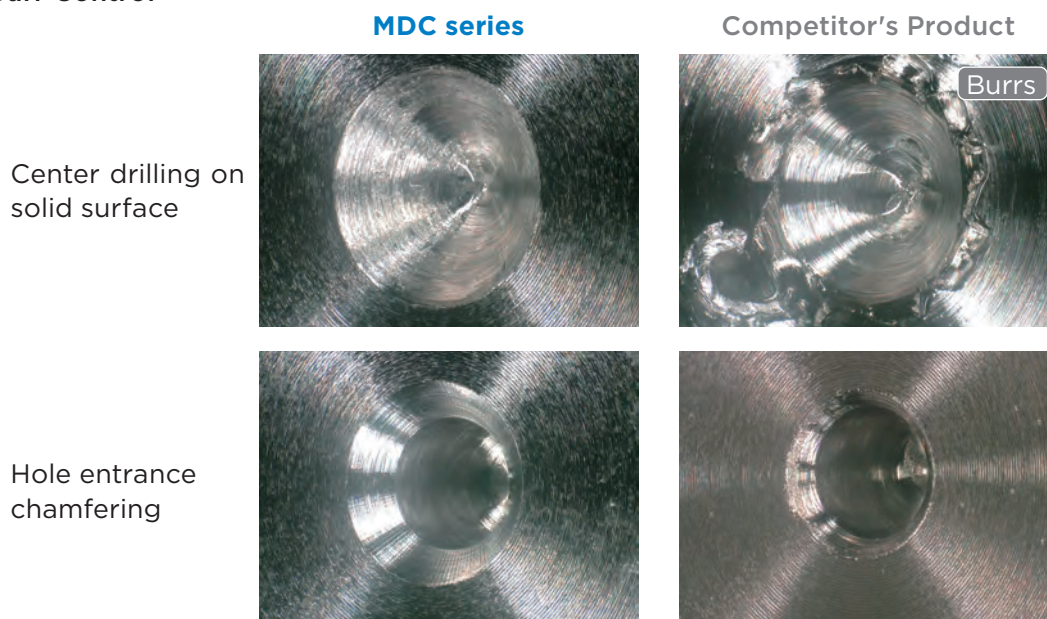
● Reduced Cutting Force



Work Material: S50C Machine: Vertical Machining Center BT30 Cutting Conditions: $n = 1,700\text{min}^{-1}$ $f = 0.08\text{mm/rev}$ External Coolant Supply (Water-soluble)

Sharp cutting edge keeps machining burrs small

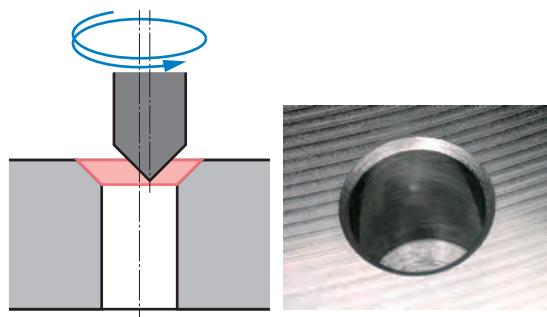
● Burr Control



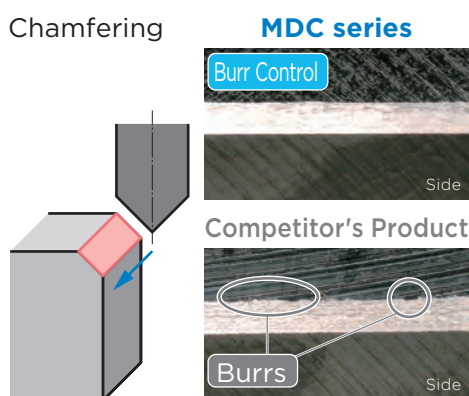
Work Material: SUS316L Machine: Autolathe Cutting Conditions: $n = 4,500\text{min}^{-1}$ $f = 0.04\text{mm/rev}$ External Coolant Supply (Oil-based)

● Also Supports Milling Applications

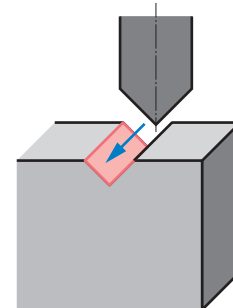
Contouring



Chamfering

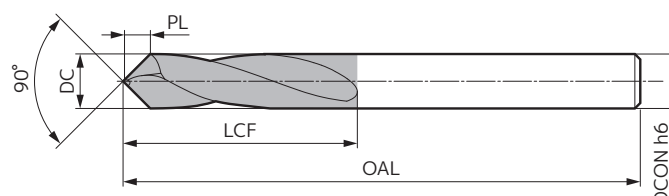


Groove Milling



For fitting tolerances, refer to the General Catalog [Chapter N References].

Fig 1



■ Body DC ø3.0 to 12.0mm

Dimensions (mm)

DC	Stock	Cat. No.	Flute Length LCF	Overall Length OAL	Shank Dia. DCON	Tip PL	Min.Prepared Hole Diameter	Fig
3.0	●	MDC 0300-90	9.0	50	3.0	1.5	1.0	1
4.0	●	MDC 0400-90	12.0	50	4.0	2.0	1.4	1
6.0	●	MDC 0600-90	15.0	70	6.0	3.0	1.9	1
8.0	●	MDC 0800-90	20.0	80	8.0	4.0	2.1	1
10.0	●	MDC 1000-90	24.0	90	10.0	5.0	2.5	1
12.0	●	MDC 1200-90	28.0	100	12.0	6.0	2.5	1

Grade: ACF75

■ Recommended Cutting Conditions

Center Drilling

(n: Spindle Speed min⁻¹ vc: Cutting Speed m/min f: Feed Rate mm/rev)

DC (mm)	Cutting Conditions	Mild Steel/General Steel (~250HB)	Alloy Steel (~300HB)	Stainless Steel (~200HB)	Gray Cast Iron FC250	Ductile Cast Iron FCD450	Aluminum Alloy ADC
ø3.0	n	7,500	4,600	2,000	7,500	6,000	7,500
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.03 - 0.05 - 0.07	0.03 - 0.05 - 0.07	0.03 - 0.05 - 0.07	0.03 - 0.05 - 0.07	0.03 - 0.05 - 0.07	0.08 - 0.10 - 0.12
ø4.0	n	5,500	3,600	1,600	6,000	4,500	5,500
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.04 - 0.06 - 0.08	0.03 - 0.05 - 0.07	0.04 - 0.06 - 0.08	0.04 - 0.06 - 0.08	0.04 - 0.06 - 0.08	0.08 - 0.10 - 0.12
ø6.0	n	3,800	2,400	1,200	4,500	3,000	3,800
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.05 - 0.07 - 0.09	0.04 - 0.06 - 0.08	0.04 - 0.06 - 0.08	0.05 - 0.07 - 0.09	0.05 - 0.07 - 0.09	0.08 - 0.12 - 0.15
ø8.0	n	2,800	1,800	1,000	3,000	2,200	2,800
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.05 - 0.08 - 0.10	0.04 - 0.06 - 0.08	0.04 - 0.06 - 0.08	0.05 - 0.08 - 0.10	0.05 - 0.07 - 0.09	0.10 - 0.14 - 0.18
ø10.0	n	2,300	1,400	800	2,500	1,800	2,300
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.05 - 0.09 - 0.11	0.04 - 0.07 - 0.09	0.04 - 0.06 - 0.08	0.05 - 0.09 - 0.11	0.05 - 0.08 - 0.10	0.12 - 0.16 - 0.20
ø12.0	n	1,800	1,200	800	2,500	1,500	1,800
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.05 - 0.09 - 0.11	0.04 - 0.07 - 0.09	0.04 - 0.06 - 0.08	0.05 - 0.09 - 0.11	0.05 - 0.08 - 0.10	0.15 - 0.20 - 0.25

Min. - **Optimum** - Max.

Chamfering

(n: Spindle Speed min⁻¹ vc: Cutting Speed m/min f: Feed Rate mm/rev)

DC (mm)	Cutting Conditions	Mild Steel/General Steel (~250HB)	Alloy Steel (~300HB)	Stainless Steel (~200HB)	Gray Cast Iron FC250	Ductile Cast Iron FCD450	Aluminum Alloy ADC
ø3.0	n	7,500	4,600	2,000	7,500	6,000	7,500
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.03 - 0.05 - 0.07	0.03 - 0.05 - 0.07	0.03 - 0.05 - 0.07	0.03 - 0.05 - 0.07	0.03 - 0.05 - 0.07	0.08 - 0.10 - 0.12
ø4.0	n	5,500	3,600	1,600	6,000	4,500	5,500
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.04 - 0.07 - 0.10	0.03 - 0.05 - 0.08	0.04 - 0.07 - 0.10	0.04 - 0.07 - 0.10	0.04 - 0.07 - 0.10	0.08 - 0.10 - 0.12
ø6.0	n	3,800	2,400	1,200	4,500	3,000	3,800
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.06 - 0.09 - 0.12	0.05 - 0.07 - 0.09	0.06 - 0.09 - 0.12	0.06 - 0.09 - 0.12	0.06 - 0.09 - 0.12	0.08 - 0.12 - 0.15
ø8.0	n	2,800	1,800	1,000	3,000	2,200	2,800
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.08 - 0.11 - 0.15	0.06 - 0.08 - 0.10	0.08 - 0.11 - 0.15	0.08 - 0.11 - 0.15	0.08 - 0.11 - 0.15	0.10 - 0.14 - 0.18
ø10.0	n	2,300	1,400	800	2,500	1,800	2,300
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.10 - 0.14 - 0.18	0.06 - 0.08 - 0.11	0.10 - 0.14 - 0.18	0.10 - 0.14 - 0.18	0.10 - 0.14 - 0.18	0.10 - 0.15 - 0.20
ø12.0	n	1,800	1,200	800	2,500	1,500	1,800
	vc	60 - 70 - 80	30 - 45 - 60	10 - 20 - 30	60 - 70 - 80	40 - 55 - 70	60 - 70 - 80
	f	0.10 - 0.15 - 0.20	0.07 - 0.09 - 0.12	0.10 - 0.15 - 0.20	0.10 - 0.15 - 0.20	0.10 - 0.15 - 0.20	0.15 - 0.20 - 0.25

Min. - **Optimum** - Max.



● Very hot or lengthy chips may be discharged while the machine is in operation. Therefore, machine guards, safety goggles or other protective covers must be used. Fire safety precautions must also be considered.

< SAFETY NOTES >

● Please handle with care as this product has sharp edges.
● Improper cutting conditions or mis-handling of the tool may result in breakages or projectiles. Therefore, please use the tool within its recommended conditions.

● When using non-water soluble cutting oil, precautions against fire must be taken and please ensure that a fire extinguisher is placed near the machine.

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