



Diemaster

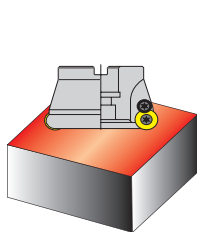
High Productivity Radius Tools

Predominantly for slot milling, ramp milling, pocket and copy milling.

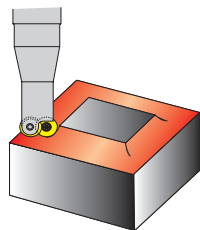
DIJET's Diemaster is designed to offer high productivity and security in die making, aerospace and automobile industries. Diemaster can be utilized on conventional, NC, CNC, and copy milling machines. These products are recommended for both shallow and deep forms.



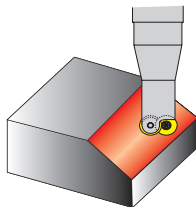
Versatility of Diemaster



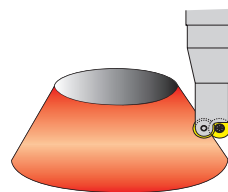
Facemilling



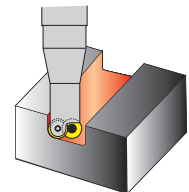
Peripheral milling



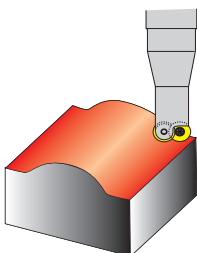
Ramp milling



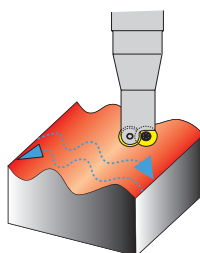
Contour milling



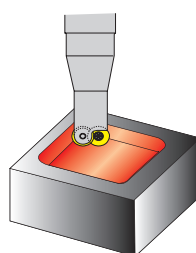
Slot milling



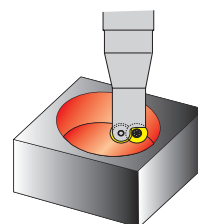
Profile milling



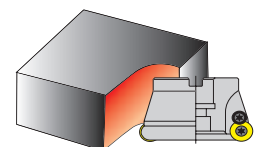
Copy milling



Pocket milling



Helical interpolation



Plunge milling



Diemaster

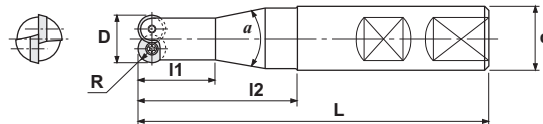
METRIC

END MILL DDM Type



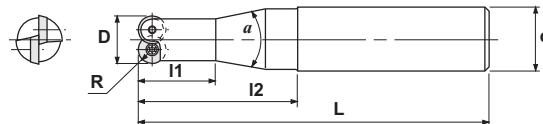
Weldon Shank

Fig. 1



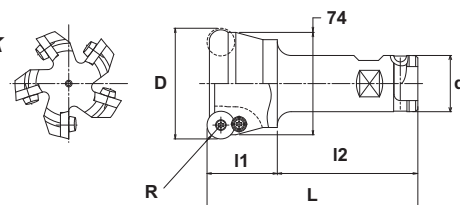
Straight Shank

Fig. 2



Small Shank

Fig. 3



Specifications

| CATALOG NUMBER | STK | DIMENSIONS | | | | | | | | INSERT | Q | PARTS | | |
|------------------|-----|------------|-----|-----|----|-------|----------|------|------|-------------|---|----------|--------|--------|
| | | D | R | L | I1 | I2 | α | d | FIG. | | | Screw | Wrench | Other |
| DDM-2120-40-W16 | • | 12 | 3.5 | 88 | 20 | 40 | 23° | 16 | 1 | RDHX0701MO* | 2 | CSW-2542 | A-07 | - |
| DDM-2120-60-W16 | • | 12 | 3.5 | 108 | 20 | 60 | 9° | 16 | 1 | | | | | |
| DDM-2120-80-W20 | • | 12 | 3.5 | 130 | 20 | 80 | 10° | 20 | 1 | | | | | |
| DDM-2150-80-S20 | ■ | 15 | 3.5 | 130 | 20 | 80 | 7°10' | 20 | 2 | RDHX0702MO* | 2 | CSW-2547 | A-07 | - |
| DDM-2160-40-W16 | • | 16 | 3.5 | 88 | 20 | 40 | - | 16 | 1 | RDHX0702MO* | 2 | CSW-2547 | A-07 | - |
| DDM-2160-60-W16 | • | 16 | 3.5 | 108 | 20 | 60 | 2°41' | 16 | 1 | | | | | |
| DDM-2160-80-W20 | • | 16 | 3.5 | 130 | 20 | 80 | 6°03' | 20 | 1 | | | | | |
| DDM-2160-100-W20 | • | 16 | 3.5 | 150 | 20 | 100 | 4°22' | 20 | 1 | | | | | |
| DDM-2200-40-W20 | • | 20 | 5 | 90 | 23 | 40 | - | 20 | 1 | RDHX1003MO* | 2 | CSW-3570 | A-15 | - |
| DDM-2200-60-W20 | • | 20 | 5 | 110 | 23 | 60 | 3°10' | 20 | 1 | | | | | |
| DDM-2200-80-W25 | • | 20 | 5 | 136 | 23 | 80 | 8° | 25 | 1 | | | | | |
| DDM-2200-100-W25 | • | 20 | 5 | 156 | 23 | 100 | 5°30' | 25 | 1 | | | | | |
| DDM-2200-120-W25 | • | 20 | 5 | 176 | 23 | 120 | 4°20' | 25 | 1 | | | | | |
| DDM-2250-70-W25 | • | 25 | 6 | 126 | 23 | 70 | 3°40' | 25 | 1 | RDHX12T3MO* | 2 | CSW-3595 | A-15 | CB3540 |
| DDM-2250-80-W25 | • | 25 | 6 | 136 | 23 | 80 | 2°55' | 25 | 1 | | | | | |
| DDM-2250-124-W25 | • | 25 | 6 | 180 | - | 124 | - | 25 | 1 | | | | | |
| DDM-2320-80-W32 | • | 32 | 6 | 140 | 30 | 80 | 3° | 32 | 1 | RDHX12T3MO* | 2 | CSW-3595 | A-15 | CB3540 |
| DDM-2320-140-W32 | • | 32 | 6 | 200 | - | 140 | - | 32 | 1 | | | | | |
| DDM-5080-50-S200 | | 80 | 10 | 152 | 51 | 101.6 | - | 50.8 | 3 | RDHX2006MO* | 2 | CSW-4510 | A-20 | CW-11 |

Note: All cutters are supplied without inserts.



METRIC

Diemaster

FACE MILL
DDM Type



| | |
|-----------------------|------------------|
| Entering Angle | A.R. : 0° |
| | ★ A.R. : 8° |
| | R.R. : 0° |
| Max. D.O.C. | 12mm insert: 4mm |
| | 16mm insert: 5mm |

Fig. 1

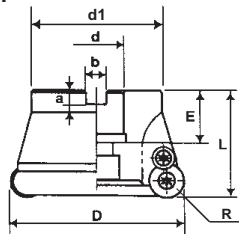
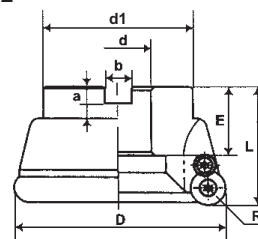


Fig. 2



Specifications

| CATALOG NUMBER | STK | DIMENSIONS | | | | | | | | | INSERT | Q | PARTS | | |
|----------------------|-----|------------|---|----|----|----|-----|------|----|------|-------------------------------------------|---|----------|--------|--------|
| | | D | R | L | d | d1 | a | b | E | FIG. | | | Screw | Wrench | Other |
| DDM-3040-16R-12 | • | 40 | 6 | 45 | 16 | 35 | 5.6 | 8.4 | 18 | 1 | RDHX12T3MO* RDMX12T3MOT | 3 | CSW-3595 | A-15T | CB3540 |
| DDM-5050-12 | ■ | 50 | 6 | 45 | 22 | 45 | 6.3 | 10.4 | 20 | 2 | RDHX12T3MO* RDMX12T3MOT | 5 | CSW-3595 | A-15T | CB3540 |
| DDM-4050-16 | ■ | 50 | 8 | 45 | 22 | 45 | 6.3 | 10.4 | 20 | 2 | RDHX1604MO* RDMX1604MOT RDMT1604MOT | 4 | CSW-4510 | A-20 | CW-11 |
| DDM-5052-22R-12 | • | 52 | 6 | 50 | 22 | 45 | 6.3 | 10.4 | 20 | 2 | RDHX12T3MO* RDMX12T3MOT | 5 | CSW-3595 | A-15T | CB3540 |
| DDM-5052-22R-12-AR8★ | ■ | 52 | 6 | 50 | 22 | 45 | 6.3 | 10.4 | 20 | 2 | RDHX12T3MO* RDMX12T3MOT | 5 | CSW-3595 | A-15T | CB3540 |
| DDM-4052-22R-16 | • | 52 | 8 | 45 | 22 | 50 | 6.3 | 10.4 | 20 | 2 | RDHX1604MO* RDMX1604MOT RDMT1604MOT | 4 | CSW-4510 | A-20 | CW-11 |
| DDM-3063-27R-12 | • | 63 | 6 | 50 | 27 | 50 | 7 | 12.4 | 22 | 2 | RD(M)HX12T3MO* | 3 | CSW-3595 | A-15T | CB3540 |
| DDM-6063-27R-12 | • | 63 | 6 | 50 | 27 | 50 | 7 | 12.4 | 20 | 2 | RD(M)HX12T3MO* | 6 | CSW-3595 | A-15T | CB3540 |
| DDM-5063-16 | ■ | 63 | 8 | 45 | 22 | 50 | 6.3 | 10.4 | 20 | 2 | RD(M)HX1604MO* | 5 | CSW-4510 | A-20 | CW-11 |
| DDM-5063-27R-16 | • | 63 | 8 | 50 | 27 | 50 | 7 | 12.4 | 20 | 2 | RD(M)HX1604MO* | 5 | CSW-4510 | A-20 | CW-11 |



Diemaster

METRIC

FACE MILL DDM Type



| | |
|----------------|------------------|
| Entering Angle | A.R. : 0° |
| | ★ A.R. : 6° |
| | R.R. : 0° |
| Max. D.O.C. | 12mm insert: 4mm |
| | 16mm insert: 5mm |

Fig. 1

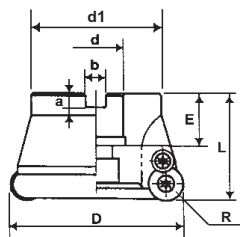
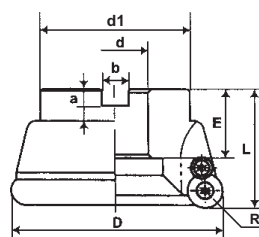


Fig. 2



Specifications

| CATALOG NUMBER | STK | DIMENSIONS | | | | | | | | | INSERT | Q | PARTS | | |
|------------------|-----|------------|----|------|-------|------|----|------|----|------|----------------|---|----------|--------|--------|
| | | D | R | L | d | d1 | a | b | E | FIG. | | | Screw | Wrench | Other |
| DDM-6066-27R-12 | • | 66 | 6 | 50 | 27 | 50 | 7 | 12.4 | 22 | 2 | RD(M)HX12T3MO* | 6 | CSW-3595 | A-15T | CB3540 |
| DDM-5066-27R-16 | • | 66 | 8 | 50 | 27 | 50 | 7 | 12.4 | 22 | 2 | RD(M)HX1604MO* | 5 | CSW-4510 | A-20 | CW-11 |
| DDM-4080-27R-12 | • | 80 | 6 | 55 | 27 | 60 | 7 | 12.4 | 22 | 3 | RD(M)HX12T3MO* | 4 | CSW-3595 | A-15T | CB3540 |
| DDM-7080-27R-12 | • | 80 | 6 | 55 | 27 | 60 | 7 | 12.4 | 22 | 3 | RD(M)HX12T3MO* | 7 | CSW-3595 | A-15T | CB3540 |
| DDM-6080-27R-16 | • | 80 | 8 | 55 | 27 | 60 | 7 | 12.4 | 22 | 3 | RD(M)HX1604MO* | 6 | CSW-4510 | A-20 | CW-11 |
| DDM-5080AR6-20★★ | | 80 | 10 | 50.8 | 25.4 | 63.5 | 8 | 12.7 | 19 | 2 | RDHX2006MO* | 5 | CSW-4510 | A-20 | CW-11 |
| DDM-7100-32R-16 | • | 100 | 8 | 55 | 32 | 70 | 8 | 14.4 | 32 | 3 | RD(M)HX1604MO* | 7 | CSW-4510 | A-20 | CW-11 |
| DDM-6100-20 | | 100 | 10 | 55 | 31.75 | 70 | 8 | 12.7 | 32 | 3 | RDHX2006MO* | 6 | CSW-4510 | A-20 | CW-11 |
| DDM-8125-40R-16 | • | 125 | 8 | 55 | 40 | 85 | 9 | 16.4 | 32 | 3 | RD(M)HX1604MO* | 8 | CSW-4510 | A-20 | CW-11 |
| DDM-9160-40R-16 | • | 160 | 8 | 55 | 40 | 120 | 9 | 16.4 | 32 | 3 | RD(M)HX1604MO* | 9 | CSW-4510 | A-20 | CW-11 |
| DDM-8160-20 | | 160 | 10 | 55 | 50.8 | 120 | 11 | 19 | 37 | 3 | RDHX2006MO* | 8 | CSW-4510 | A-20 | CW-11 |

Note: All cutters are supplied without inserts.



METRIC

Diemaster

MODULAR HEADS MDH Type



Fig. 1

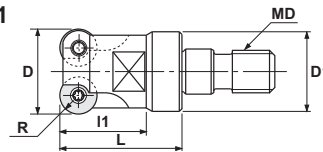


Fig. 2

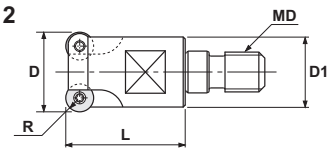
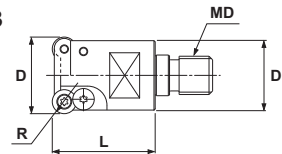


Fig. 3



Specifications

| CATALOG NUMBER | STK | DIMENSIONS | | | | | FIG. | HEAD TORQUE Nm | INSERT | Q | PARTS | | |
|------------------|-----|------------|-----|----|----|-----|------|----------------|-------------|---|----------|--------|--------|
| | | D | R | L | D1 | MD | | | | | Screw | Wrench | Other |
| MDH-2120-M8 | • | 12 | 3.5 | 23 | 15 | M8 | 1 | 16 | RDHX0701MO* | 2 | CSW-2542 | A-07 | - |
| MDH-2160-M8 | • | 16 | 3.6 | 23 | 15 | M8 | 1 | 16 | RDHX0702MO* | 2 | CSW-2547 | A-07 | - |
| MDH-2200-M10 | • | 20 | 5 | 30 | 19 | M10 | 1 | 16 | RDHX1003MO* | 2 | CSW-3570 | A-15 | - |
| MDH-2250-M12 | • | 25 | 5 | 35 | 21 | M12 | 2 | 20 | RDHX1003MO* | 2 | CSW-3570 | A-15 | - |
| MDH-3320-R10-M16 | • | 32 | 5 | 43 | 29 | M16 | 3 | 25 | RDHX1003MO* | 3 | CSW-3575 | A-15 | CB3540 |
| MDH-2320-R16-M16 | • | 32 | 8 | 43 | 29 | M16 | 2 | 25 | RDHX1604MO* | 2 | CSW-4510 | A-20 | - |
| MDH-4400-M16 | • | 40 | 6 | 42 | 29 | M16 | 3 | 25 | RDHX12TMO* | 4 | CSW-3595 | A-15 | CB3540 |

Note: All cutters are supplied without inserts.

Modular Heads for High Speed Cutting

Specifications

| CATALOG NUMBER | STK | DIMENSIONS | | | | | FIG. | HEAD TORQUE Nm | INSERT | Q | PARTS | | |
|----------------|-----|------------|-----|----|------|-----|------|----------------|-------------|---|----------|--------|-------|
| | | D | R | L | D1 | MD | | | | | Screw | Wrench | Other |
| MDH-3160-M8 | • | 16 | 3.5 | 23 | 15 | M8 | 1 | 16 | RDHX0701MOT | 3 | CSW-2542 | A-07 | - |
| MDH-4160-M8 | • | 16 | 2.5 | 23 | 13.7 | M8 | 2 | 16 | RDHX0501MOT | 4 | CSW-1838 | A-06 | - |
| MDH-4200-M10 | • | 20 | 3.5 | 30 | 17.6 | M10 | 2 | 16 | RDHX0702MOT | 4 | CSW-2547 | A-07 | - |
| MDH-5200-M10 | • | 20 | 2.5 | 30 | 17.8 | M10 | 2 | 16 | RDHX0501MOT | 5 | CSW-1838 | A-06 | - |
| MDH-5250-M12 | • | 25 | 3.5 | 35 | 20.8 | M12 | 2 | 20 | RDHX0702MOT | 5 | CSW-2547 | A-07 | - |
| MDH-6350-M16 | • | 35 | 3.5 | 43 | 29 | M16 | 2 | 25 | RDHX0702MOT | 6 | CSW-2547 | A-07 | - |

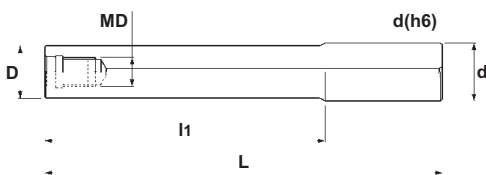
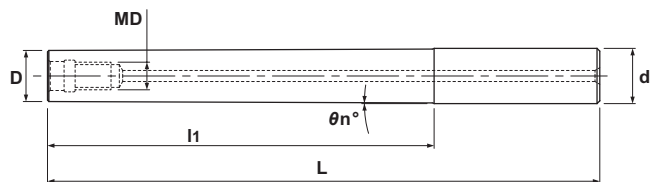
Note: All cutters are supplied without inserts.

Diemaster

METRIC

MODULAR HEAD HOLDER

(carbide with coolant hole)
MSN Type

Fig. 1

Fig. 2


Specifications

| CATALOG NUMBER | STK | DIMENSIONS | | | | | | FIG. | APPLICABLE HOLDERS |
|-------------------|-----|------------|-----|-----|----|------------------|-----|------|----------------------------------------------------------------------|
| | | D | l1 | L | d | θn° | MD | | |
| MSN-M8-20-S16C | • | 15.5 | 20 | 75 | 16 | - | M8 | 1 | MDH-2120-M8, MDH-2160-M8 MDH-3160-M8, MDH-4160-M8 |
| MSN-M8-40-S16C | • | 15.5 | 40 | 95 | 16 | - | M8 | 1 | |
| MSN-M8-80-S16C | • | 15.5 | 80 | 135 | 16 | - | M8 | 1 | |
| MSN-M8-120-S16C | • | 15.5 | 120 | 175 | 16 | - | M8 | 1 | |
| MSN-M10-20-S20C | • | 19.5 | 20 | 80 | 20 | - | M10 | 1 | MDH-2200-M10, MDH-4200-M10 MDH-5200-M10 |
| MSN-M10-40-S20C | • | 19.5 | 40 | 100 | 20 | - | M10 | 1 | |
| MSN-M10-40T-S20C | • | 19.5 | 40 | 100 | 20 | 0°29' | M10 | 2 | |
| MSN-M10-70-S20C | • | 19.5 | 70 | 130 | 20 | - | M10 | 1 | |
| MSN-M10-90-S20C | • | 19.5 | 90 | 150 | 20 | - | M10 | 1 | |
| MSN-M10-90T-S20C | • | 19.5 | 90 | 150 | 20 | 0°17' | M10 | 2 | |
| MSN-M10-140-S20C | • | 19.5 | 140 | 200 | 20 | - | M10 | 1 | |
| MSN-M10-140T-S20C | • | 19.5 | 140 | 200 | 20 | 0°12' | M10 | 2 | |
| MSN-M12-25-S25C | • | 24 | 25 | 90 | 25 | - | M12 | 1 | MDH-2250-M12, MDH-5250-M12 |
| MSN-M12-55-S25C | • | 24 | 55 | 120 | 25 | - | M12 | 1 | |
| MSN-M12-105-S25C | • | 24 | 105 | 170 | 25 | - | M12 | 1 | |
| MSN-M12-155-S25C | • | 24 | 155 | 220 | 25 | - | M12 | 1 | |
| MSN-M16-25-S32C | • | 29 | 25 | 90 | 32 | - | M16 | 1 | MDH-3320-R10-M16 MDH-2320-R16-M16 MDH-4400-M16 MDH-6350-M16 |
| MSN-M16-55-S32C | • | 29 | 55 | 120 | 32 | - | M16 | 1 | |
| MSN-M16-105-S32C | • | 29 | 105 | 170 | 32 | - | M16 | 1 | |
| MSN-M16-155-S32C | • | 29 | 155 | 220 | 32 | - | M16 | 1 | |
| MSN-M16-195-S32C | • | 29 | 195 | 260 | 32 | - | M16 | 1 | |
| MSN-M16-225-S32C | • | 29 | 225 | 290 | 32 | - | M16 | 1 | |
| MSN-M16-245-S32C | • | 29 | 245 | 310 | 32 | - | M16 | 1 | |
| MSN-M16-295-S32C | ■ | 29 | 295 | 360 | 32 | - | M16 | 1 | |

Note: See pages A-175 thru A-177 for weight and coolant hole size.



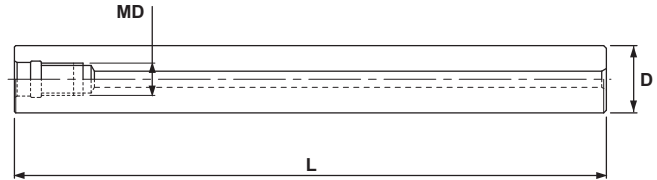
METRIC

Diemaster

MODULAR HEAD HOLDER

(carbide with coolant hole)

MSN Type - Straight



Specifications

| CATALOG NUMBER | STK | DIMENSIONS | | | APPLICABLE HOLDERS |
|-------------------|-----|------------|-----|-----|-------------------------------------------------------------------|
| | | D | L | MD | |
| MSN-M8-97S-S15C | • | 15 | 97 | M8 | MDH-2120-M8, MDH-2160-M8, MDH-3160-M8, MDH-4160-M8 |
| MSN-M8-147S-S15C | • | 15 | 147 | M8 | |
| MSN-M8-107S-S16C | • | 16 | 107 | M8 | |
| MSN-M8-157S-S16C | • | 16 | 157 | M8 | |
| MSN-M10-130S-S18C | • | 18 | 130 | M10 | MDH-2200-M10, MDH-4200-M10, MDH-5200-M10 |
| MSN-M10-190S-S18C | • | 18 | 190 | M10 | |
| MSN-M10-130S-S20C | • | 20 | 130 | M10 | |
| MSN-M10-190S-S20C | • | 20 | 190 | M10 | |
| MSN-M10-250S-S20C | • | 20 | 250 | M10 | |
| MSN-M12-185S-S23C | • | 23 | 185 | M12 | MDH-2250-M12, MDH-5250-M12 |
| MSN-M12-265S-S23C | • | 23 | 265 | M12 | |
| MSN-M12-145S-S25C | • | 25 | 145 | M12 | |
| MSN-M12-215S-S25C | • | 25 | 215 | M12 | |
| MSN-M12-285S-S25C | • | 25 | 285 | M12 | |
| MSN-M16-160S-S28C | • | 28 | 160 | M16 | MDH-3320-R10-M16, MDH-2320-R16-M16, MDH-4400-M16, MDH-6350-M16 |
| MSN-M16-230S-S28C | • | 28 | 230 | M16 | |
| MSN-M16-310S-S28C | • | 28 | 310 | M16 | |
| MSN-M16-157S-S32C | • | 32 | 157 | M16 | |
| MSN-M16-217S-S32C | • | 32 | 217 | M16 | |
| MSN-M16-287S-S32C | • | 32 | 287 | M16 | |
| MSN-M16-357S-S32C | • | 32 | 357 | M16 | |

Note: See pages A-175 thru A-177 for weight and coolant hole size.

NOTES ON MOUNTING HEADS:

Clean the contact surface of head and carbide holder. After tightening, confirm that there is no gap between head and holder.

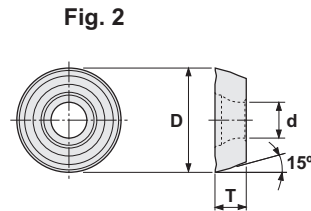
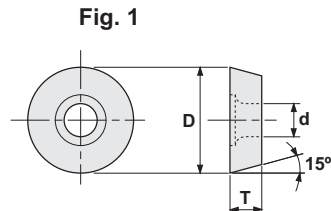
See Page A-177 for **G-Body** steel holder



Diemaster

METRIC

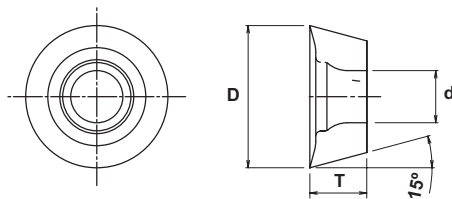
INSERTS



Specifications

| CATALOG NUMBER | IC TOLERANCE | DIMENSIONS | | | FIG. | COATED GRADES | | | | UNCOATED GRADES | |
|----------------|--------------|------------|------|-----|------|---------------|--------|--------|--------|-----------------|-----|
| | | D | T | d | | JC8003 | JC8015 | JC5030 | JC5040 | CX90 | KT9 |
| RDHX0501MOT | H | 5 | 1.5 | 2.0 | 1 | • | • | | | | |
| RDHX0701MOT | H | 7 | 1.99 | 2.8 | 1 | • | • | • | • | • | |
| RDHX0702MOT | H | 7 | 2.38 | 2.8 | 1 | • | • | • | • | • | |
| RDHX1003MOT | H | 10 | 3.18 | 3.9 | 1 | • | • | • | • | • | |
| RDHX12T3MOF | H | 12 | 3.97 | 3.9 | 1 | | | | | | • |
| RDHX12T3MOT | H | 12 | 3.97 | 3.9 | 1 | • | • | • | • | • | |
| RDMX12T3MOT | M | 12 | 3.97 | 3.9 | 1 | | | • | • | | |
| RDHX1604MOT | H | 16 | 4.76 | 5.0 | 1 | • | • | • | • | • | |
| RDMX1604MOT | M | 16 | 4.76 | 5.0 | 1 | | • | • | • | | |
| RDMT1604MOT | M | 16 | 4.76 | 5.5 | 2 | | | | • | | |
| RDHX2006MOT | H | 20 | 6.0 | 6.0 | 1 | | | • | | | |

INSERTS FOR ALUMINUM



Specifications

| CATALOG NUMBER | IC TOLERANCE | DIMENSIONS | | | COATED GRADES | | | | UNCOATED GRADES | |
|----------------|--------------|------------|------|-----|---------------|--------|--------|--------|-----------------|-----|
| | | D | T | d | JC8003 | JC8015 | JC5030 | JC5040 | CX90 | KT9 |
| RDHT0501MOF | H | 5 | 1.5 | 2 | | | | | | • |
| RDHT0701MOF | H | 7 | 1.99 | 2.8 | | | | | | • |
| RDHT0702MOF | H | 7 | 2.38 | 2.8 | | | | | | • |
| RDHT1003MOF | H | 10 | 3.18 | 3.9 | | | | | | • |
| RDHT12T3MOF | H | 12 | 3.97 | 3.9 | | | | | | • |
| RDHT1604MOF | H | 16 | 4.76 | 5 | | | | | | • |

**METRIC****Diemaster****CUTTING DATA****Recommended Cutting Data for End Mills & Modular Heads**

| Work Materials | Insert Grade | Tool Diameter | | | | | | | | | | | | | |
|-------------------------------|------------------|------------------------|-------------|------------------------|-------------|------------------------|-------------|------------------------|-------------|------------------------|-------------|------------------------|-------------|------------------------|-------------|
| | | ø12 | | ø15 | | ø16 | | ø20 | | ø25 | | ø32 | | ø40 | |
| | | Max. Ap= 0.5mm | | Max. Ap= 0.75mm | | Max. Ap= 1.0mm | | Max. Ap= 2.0mm | | Max. Ap= 2.5mm | | Max. Ap= 3.0mm | | Max. Ap= 3.5mm | |
| | | N (min ⁻¹) | Vf (mm/min) | N (min ⁻¹) | Vf (mm/min) | N (min ⁻¹) | Vf (mm/min) | N (min ⁻¹) | Vf (mm/min) | N (min ⁻¹) | Vf (mm/min) | N (min ⁻¹) | Vf (mm/min) | N (min ⁻¹) | Vf (mm/min) |
| Low Carbon Steel (125-180HB) | JC5030 JC5040 | 8,500 | 4,400 | 5,200 | 2,700 | 5,200 | 2,700 | 4,000 | 2,800 | 3,100 | 2,100 | 2,450 | 1,700 | 2,000 | 1,400 |
| Carbon Steel (170-220HB) | JC5030 JC5040 | 7,500 | 4,000 | 4,500 | 2,300 | 4,500 | 2,300 | 3,500 | 2,400 | 2,700 | 1,900 | 2,200 | 1,550 | 1,750 | 1,200 |
| Alloy Steel (200-260HB) | JC8015 | 5,200 | 2,700 | 3,200 | 1,800 | 3,200 | 1,800 | 2,500 | 1,700 | 2,200 | 1,400 | 1,700 | 1,100 | 1,400 | 900 |
| Tool & Die Steel (280-370HB) | JC5040 JC5030 | 4,500 | 2,300 | 2,700 | 1,400 | 2,700 | 1,400 | 2,200 | 1,500 | 1,900 | 1,200 | 1,500 | 1,000 | 1,200 | 800 |
| Stainless Steel (150-270HB) | JC8015 | 6,300 | 3,300 | 3,600 | 1,900 | 3,600 | 1,900 | 2,800 | 1,800 | 2,200 | 1,400 | 1,700 | 1,100 | 1,350 | 900 |
| Gray Cast Iron (200-250HB) | JC8015 | 6,500 | 3,900 | 3,850 | 2,700 | 3,850 | 2,700 | 3,000 | 2,500 | 2,400 | 2,000 | 1,900 | 1,500 | 1,500 | 1,200 |
| Nodular Cast Iron (180-250HB) | JC8015 | 5,100 | 3,000 | 3,000 | 2,500 | 3,600 | 2,500 | 2,400 | 2,000 | 1,900 | 1,600 | 1,500 | 1,250 | 1,200 | 1,000 |

H.S.C. Data Recommendations

| Work Materials | Hardness | Insert Grade | Cutting Speed Vc (m/min) | Feed Per Tooth fz (mm/tooth) | Depth of Cut Ap (mm) |
|-------------------------------------|-----------|------------------|--------------------------|------------------------------|----------------------|
| Gray Cast Iron (GG25, GG30) | 160-260HB | JC8003 JC8015 | 400 - 500 | 0.2 - 0.3 | 0.1 - 0.3 |
| Nodular Cast Iron (GGG60, GGG70) | 170-300HB | JC8003 JC8015 | 300 - 400 | 0.2 - 0.3 | 0.1 - 0.3 |
| Carbon Steel (C50, C55) | 180-280HB | JC8003 | 300 - 400 | 0.2 - 0.3 | 0.1 - 0.3 |
| Low Alloy Steel (1.7225) | 180-280HB | JC8003 | 250 - 350 | 0.2 - 0.3 | 0.1 - 0.3 |
| Mold Steel (1.2311, P20) | 280-400HB | JC8003 | 250 - 350 | 0.2 - 0.3 | 0.1 - 0.3 |
| Tool & Die Steel (1.2344, 1.2379) | 180-255HB | JC8003 | 250 - 350 | 0.2 - 0.3 | 0.1 - 0.3 |
| Hardened Die Steel (1.2344, 1.2379) | 40-55HRc | JC8003 | 200 - 300 | 0.1 - 0.25 | 0.1 - 0.2 |
| Hardened Die Steel (1.2344, 1.2379) | 55HRc - | JC8003 | 150 - 250 | 0.1 - 0.2 | 0.1 - 0.2 |
| Stainless Steel (1.4301, 1.4401) | 150-250HB | JC8003 JC8015 | 200 - 300 | 0.15 - 0.3 | 0.1 - 0.3 |



Diemaster

METRIC

FACE MILL - Cutting Data

Recommended Cutting Data

1. For 40mm Tool Diameter Series (3 teeth)

| Work Materials | Hardness (HB) | Typical Groups | Ap (mm) | Ae (mm) | N (min ⁻¹) | Vf (mm/min) | Insert | Z | Power (kw) |
|------------------|---------------|-----------------------|---------|---------|------------------------|-------------|--------|---|------------|
| Low Carbon Steel | 125-180 | C15, ST137, 1.0401 | 3 - 3.5 | 40 | 1,900 | 2,000 | 12T3 | 3 | 12 |
| Low Alloy Steel | 170-220 | CK45, 1.1231, 16MnCr5 | 3 - 3.5 | 40 | 1,750 | 1,850 | 12T3 | 3 | 12 |
| High Alloy Steel | 200-260 | X20Cr13, 1.4923 | 3 - 3.5 | 40 | 1,600 | 1,700 | 12T3 | 3 | 12 |
| Tool & Die Steel | 280-370 | 1.2379, 1.2311 | 3 - 3.5 | 40 | 1,450 | 1,300 | 12T3 | 3 | 10 |
| Stainless Steel | 150-270 | 1.4404, 316, 321 | 3 - 3.5 | 40 | 1,550 | 1,400 | 12T3 | 3 | 11 |
| Gray Cast Iron | 200-250 | GG25, GRADE220 | 3 - 3.5 | 40 | 1,700 | 1,550 | 12T3 | 3 | 5 |
| S.G. Iron | 180-250 | GGG60, SNG600/3 | 3 - 3.5 | 40 | 1,600 | 1,450 | 12T3 | 3 | 5 |

2. For 52mm Tool Diameter Series (5 teeth)

| Work Materials | Hardness (HB) | Typical Groups | Ap (mm) | Ae (mm) | N (min ⁻¹) | Vf (mm/min) | Insert | Z | Power (kw) |
|------------------|---------------|-----------------------|---------|---------|------------------------|-------------|--------|---|------------|
| Low Carbon Steel | 125-180 | C15, ST137, 1.0401 | 3 - 4 | 52 | 1,400 | 2,100 | 12T3 | 5 | 16 |
| Low Alloy Steel | 170-220 | CK45, 1.1231, 16MnCr5 | 3 - 4 | 52 | 1,250 | 1,875 | 12T3 | 5 | 16 |
| High Alloy Steel | 200-260 | X20Cr13, 1.4923 | 3 - 4 | 52 | 900 | 1,350 | 12T3 | 5 | 13 |
| Tool & Die Steel | 280-370 | 1.2379, 1.2311 | 3 - 4 | 52 | 750 | 1,125 | 12T3 | 5 | 12 |
| Stainless Steel | 150-270 | 1.4404, 316, 321 | 3 - 4 | 52 | 1,050 | 1,575 | 12T3 | 5 | 17 |
| Gray Cast Iron | 200-250 | GG25, GRADE220 | 3 - 4 | 52 | 1,080 | 2,160 | 12T3 | 5 | 9 |
| S.G. Iron | 180-250 | GGG60, SNG600/3 | 3 - 4 | 52 | 900 | 1,800 | 12T3 | 5 | 8 |

3. For 52mm Tool Diameter Series (4 teeth)

| Work Materials | Hardness (HB) | Typical Groups | Ap (mm) | Ae (mm) | N (min ⁻¹) | Vf (mm/min) | Insert | Z | Power (kw) |
|------------------|---------------|-----------------------|---------|---------|------------------------|-------------|--------|---|------------|
| Low Carbon Steel | 125-180 | C15, ST137, 1.0401 | 3 - 4 | 52 | 1,400 | 1,680 | 1604 | 4 | 13 |
| Low Alloy Steel | 170-220 | CK45, 1.1231, 16MnCr5 | 3 - 4 | 52 | 1,250 | 1,500 | 1604 | 4 | 13 |
| High Alloy Steel | 200-260 | X20Cr13, 1.4923 | 3 - 4 | 52 | 900 | 1,080 | 1604 | 4 | 10 |
| Tool & Die Steel | 280-370 | 1.2379, 1.2311 | 3 - 4 | 52 | 750 | 900 | 1604 | 4 | 9.5 |
| Stainless Steel | 150-270 | 1.4404, 316, 321 | 3 - 4 | 52 | 1,050 | 1,260 | 1604 | 4 | 13 |
| Gray Cast Iron | 200-250 | GG25, GRADE220 | 3 - 4 | 52 | 1,080 | 1,728 | 1604 | 4 | 7 |
| S.G. Iron | 180-250 | GGG60, SNG600/3 | 3 - 4 | 52 | 900 | 1,440 | 1604 | 4 | 6.5 |

4. For 63-66mm Tool Diameter Series (6 teeth)

| Work Materials | Hardness (HB) | Typical Groups | Ap (mm) | Ae (mm) | N (min ⁻¹) | Vf (mm/min) | Insert | Z | Power (kw) |
|------------------|---------------|-----------------------|---------|---------|------------------------|-------------|--------|---|------------|
| Low Carbon Steel | 125-180 | C15, ST137, 1.0401 | 3 - 4 | 63 - 66 | 1,090 | 1,960 | 12T3 | 6 | 19 |
| Low Alloy Steel | 170-220 | CK45, 1.1231, 16MnCr5 | 3 - 4 | 63 - 66 | 950 | 1,700 | 12T3 | 6 | 19 |
| High Alloy Steel | 200-260 | X20Cr13, 1.4923 | 3 - 4 | 63 - 66 | 670 | 1,200 | 12T3 | 6 | 14 |
| Tool & Die Steel | 280-370 | 1.2379, 1.2311 | 3 - 4 | 63 - 66 | 580 | 1,050 | 12T3 | 6 | 14 |
| Stainless Steel | 150-270 | 1.4404, 316, 321 | 3 - 4 | 63 - 66 | 820 | 1,450 | 12T3 | 6 | 19 |
| Gray Cast Iron | 200-250 | GG25, GRADE220 | 3 - 4 | 63 - 66 | 850 | 2,040 | 12T3 | 6 | 10.5 |
| S.G. Iron | 180-250 | GGG60, SNG600/3 | 3 - 4 | 63 - 66 | 700 | 1,700 | 12T3 | 6 | 9.5 |

5. For 63-66mm Tool Diameter Series (5 teeth)

| Work Materials | Hardness (HB) | Typical Groups | Ap (mm) | Ae (mm) | N (min ⁻¹) | Vf (mm/min) | Insert | Z | Power (kw) |
|------------------|---------------|-----------------------|---------|---------|------------------------|-------------|--------|---|------------|
| Low Carbon Steel | 125-180 | C15, ST137, 1.0401 | 4 - 5 | 63 - 66 | 1,090 | 1,600 | 1604 | 5 | 19 |
| Low Alloy Steel | 170-220 | CK45, 1.1231, 16MnCr5 | 4 - 5 | 63 - 66 | 950 | 1,400 | 1604 | 5 | 19 |
| High Alloy Steel | 200-260 | X20Cr13, 1.4923 | 4 - 5 | 63 - 66 | 670 | 1,000 | 1604 | 5 | 15 |
| Tool & Die Steel | 280-370 | 1.2379, 1.2311 | 4 - 5 | 63 - 66 | 580 | 870 | 1604 | 5 | 14 |
| Stainless Steel | 150-270 | 1.4404, 316, 321 | 4 - 5 | 63 - 66 | 820 | 1,200 | 1604 | 5 | 20 |
| Gray Cast Iron | 200-250 | GG25, GRADE220 | 4 - 5 | 63 - 66 | 850 | 1,250 | 1604 | 5 | 8 |
| S.G. Iron | 180-250 | GGG60, SNG600/3 | 4 - 5 | 63 - 66 | 700 | 1,070 | 1604 | 5 | 7.5 |

**METRIC****Diemaster****FACE MILL - Cutting Data****Recommended Cutting Data****6. For 80mm Tool Diameter Series (7 teeth)**

| Work Materials | Hardness (HB) | Typical Groups | Ap (mm) | Ae (mm) | N (min ⁻¹) | Vf (mm/min) | Insert | Z | Power (kw) |
|------------------|---------------|-----------------------|---------|---------|------------------------|-------------|--------|---|------------|
| Low Carbon Steel | 125-180 | C15, ST137, 1.0401 | 3 - 4 | 80 | 900 | 1,800 | 12T3 | 7 | 22 |
| Low Alloy Steel | 170-220 | CK45, 1.1231, 16MnCr5 | 3 - 4 | 80 | 750 | 1,500 | 12T3 | 7 | 21 |
| High Alloy Steel | 200-260 | X20Cr13, 1.4923 | 3 - 4 | 80 | 500 | 1,050 | 12T3 | 7 | 16 |
| Tool & Die Steel | 280-370 | 1.2379, 1.2311 | 3 - 4 | 80 | 450 | 950 | 12T3 | 7 | 16 |
| Stainless Steel | 150-270 | 1.4404, 316, 321 | 3 - 4 | 80 | 650 | 1,350 | 12T3 | 7 | 23 |
| Gray Cast Iron | 200-250 | GG25, GRADE220 | 3 - 4 | 80 | 700 | 1,950 | 12T3 | 7 | 13 |
| S.G. Iron | 180-250 | GGG60, SNG600/3 | 3 - 4 | 80 | 600 | 1,660 | 12T3 | 7 | 12 |

7. For 80mm Tool Diameter Series (6 teeth)

| Work Materials | Hardness (HB) | Typical Groups | Ap (mm) | Ae (mm) | N (min ⁻¹) | Vf (mm/min) | Insert | Z | Power (kw) |
|------------------|---------------|-----------------------|---------|---------|------------------------|-------------|--------|---|------------|
| Low Carbon Steel | 125-180 | C15, ST137, 1.0401 | 4 - 5 | 80 | 900 | 1,620 | 1604 | 6 | 25 |
| Low Alloy Steel | 170-220 | CK45, 1.1231, 16MnCr5 | 4 - 5 | 80 | 750 | 1,350 | 1604 | 6 | 23 |
| High Alloy Steel | 200-260 | X20Cr13, 1.4923 | 4 - 5 | 80 | 500 | 900 | 1604 | 6 | 17 |
| Tool & Die Steel | 280-370 | 1.2379, 1.2311 | 4 - 5 | 80 | 450 | 810 | 1604 | 6 | 17 |
| Stainless Steel | 150-270 | 1.4404, 316, 321 | 4 - 5 | 80 | 650 | 1,170 | 1604 | 6 | 25 |
| Gray Cast Iron | 200-250 | GG25, GRADE220 | 4 - 5 | 80 | 700 | 1,680 | 1604 | 6 | 14 |
| S.G. Iron | 180-250 | GGG60, SNG600/3 | 4 - 5 | 80 | 600 | 1,440 | 1604 | 6 | 13 |

8. For 100mm Tool Diameter Series (7 teeth)

| Work Materials | Hardness (HB) | Typical Groups | Ap (mm) | Ae (mm) | N (min ⁻¹) | Vf (mm/min) | Insert | Z | Power (kw) |
|------------------|---------------|-----------------------|---------|---------|------------------------|-------------|--------|---|------------|
| Low Carbon Steel | 125-180 | C15, ST137, 1.0401 | 4 - 5 | 100 | 720 | 1,960 | 1604 | 7 | 38 |
| Low Alloy Steel | 170-220 | CK45, 1.1231, 16MnCr5 | 4 - 5 | 100 | 610 | 1,700 | 1604 | 7 | 37 |
| High Alloy Steel | 200-260 | X20Cr13, 1.4923 | 4 - 5 | 100 | 400 | 1,200 | 1604 | 7 | 29 |
| Tool & Die Steel | 280-370 | 1.2379, 1.2311 | 4 - 5 | 100 | 350 | 1,050 | 1604 | 7 | 28 |
| Stainless Steel | 150-270 | 1.4404, 316, 321 | 4 - 5 | 100 | 520 | 1,450 | 1604 | 7 | 38 |
| Gray Cast Iron | 200-250 | GG25, GRADE220 | 4 - 5 | 100 | 560 | 2,040 | 1604 | 7 | 21 |
| S.G. Iron | 180-250 | GGG60, SNG600/3 | 4 - 5 | 100 | 460 | 1,700 | 1604 | 7 | 19 |

9. For 125mm Tool Diameter Series (8 teeth)

| Work Materials | Hardness (HB) | Typical Groups | Ap (mm) | Ae (mm) | N (min ⁻¹) | Vf (mm/min) | Insert | Z | Power (kw) |
|------------------|---------------|-----------------------|---------|---------|------------------------|-------------|--------|---|------------|
| Low Carbon Steel | 125-180 | C15, ST137, 1.0401 | 4 - 5 | 125 | 570 | 1,350 | 1604 | 8 | 32 |
| Low Alloy Steel | 170-220 | CK45, 1.1231, 16MnCr5 | 4 - 5 | 125 | 500 | 1,200 | 1604 | 8 | 33 |
| High Alloy Steel | 200-260 | X20Cr13, 1.4923 | 4 - 5 | 125 | 350 | 840 | 1604 | 8 | 25 |
| Tool & Die Steel | 280-370 | 1.2379, 1.2311 | 4 - 5 | 125 | 300 | 700 | 1604 | 8 | 23 |
| Stainless Steel | 150-270 | 1.4404, 316, 321 | 4 - 5 | 125 | 400 | 900 | 1604 | 8 | 30 |
| Gray Cast Iron | 200-250 | GG25, GRADE220 | 4 - 5 | 125 | 450 | 1,400 | 1604 | 8 | 18 |
| S.G. Iron | 180-250 | GGG60, SNG600/3 | 4 - 5 | 125 | 370 | 1,150 | 1604 | 8 | 16 |

10. For 160mm Tool Diameter Series (9 teeth)

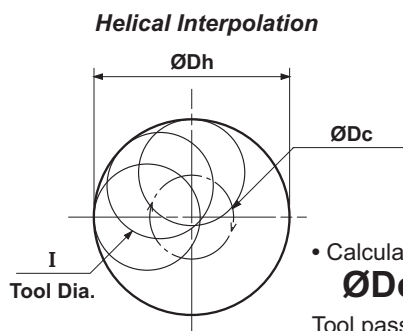
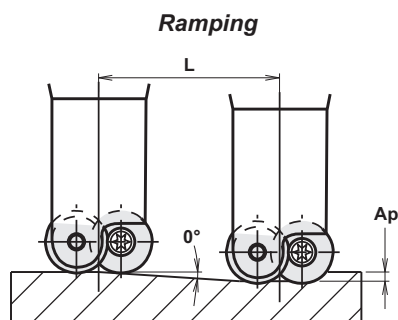
| Work Materials | Hardness (HB) | Typical Groups | Ap (mm) | Ae (mm) | N (min ⁻¹) | Vf (mm/min) | Insert | Z | Power (kw) |
|------------------|---------------|-----------------------|---------|---------|------------------------|-------------|--------|---|------------|
| Low Carbon Steel | 125-180 | C15, ST137, 1.0401 | 4 - 5 | 160 | 450 | 1,600 | 1604 | 9 | 49 |
| Low Alloy Steel | 170-220 | CK45, 1.1231, 16MnCr5 | 4 - 5 | 160 | 400 | 1,400 | 1604 | 9 | 49 |
| High Alloy Steel | 200-260 | X20Cr13, 1.4923 | 4 - 5 | 160 | 280 | 1,000 | 1604 | 9 | 38 |
| Tool & Die Steel | 280-370 | 1.2379, 1.2311 | 4 - 5 | 160 | 200 | 870 | 1604 | 9 | 37 |
| Stainless Steel | 150-270 | 1.4404, 316, 321 | 4 - 5 | 160 | 320 | 1,200 | 1604 | 9 | 51 |
| Gray Cast Iron | 200-250 | GG25, GRADE220 | 4 - 5 | 160 | 360 | 1,250 | 1604 | 9 | 20 |
| S.G. Iron | 180-250 | GGG60, SNG600/3 | 4 - 5 | 160 | 300 | 1,130 | 1604 | 9 | 20 |



Diemaster

METRIC

HELICAL INTERPOLATION CUTTING DATA



- Calculation of tool pass dia.

$$\text{ØDc} = \text{ØDh} - I$$

Tool pass dia. Bore dia. Tool Dia.

- Down cutting is recommended, tool pass rotation should be counterclockwise.
- Depth of cut per one circuit should not exceed max. depth of cut A_p .
- In case of ramping and helical interpolation, apply 70% or less feed (F) from standard cutting condition table.

| TOOL DIAMETER I | INSERT DIA. | EFFECTIVE CUTTING DIA. | RAMPING | | HELICAL INTERPOLATION | | MAXIMUM DEPTH OF CUT: A_p |
|-----------------|-------------|------------------------|-----------------|---------------------------------------|---------------------------------------|---------------------------|-----------------------------|
| | | | MAX. RAMP ANGLE | TOTAL CUTTING LENGTH AT MAX A_p : L | MIN. BORE DIAMETER: $D_h \text{ min}$ | TOOL PASS DIAMETER: D_c | |
| 12 | 7 | 5 | 2°30' | 11.40 | 16 | 4 | .5 |
| 15 | 7 | 8 | 3°30' | 16.35 | 22 | 7 | 1 |
| 20 | 10 | 10 | 5°30' | 20.70 | 29 | 9 | 2 |
| 50 | 12 | 38 | 5° | 51.40 | 77 | 27 | 4.5 |
| 50 | 16 | 34 | 7° | 52.90 | 69 | 19 | 6.5 |
| 63 | 12 | 51 | 4° | 64.30 | 103 | 40 | 4.5 |
| 63 | 16 | 47 | 5°36' | 66.20 | 95 | 32 | 6.5 |
| 80 | 12 | 68 | 3° | 85.80 | 137 | 57 | 4.5 |
| 80 | 16 | 64 | 4°30' | 82.50 | 129 | 49 | 6.5 |
| 100 | 16 | 84 | 3°24' | 100.90 | 169 | 69 | 6 |
| 125 | 16 | 109 | 2°30' | 137.40 | 219 | 90 | 6 |
| 160 | 16 | 144 | 1°30' | 171.80 | 289 | 130 | 6 |



METRIC

Diemaster

CUTTING CONDITION ADJUSTMENTS

1. Shoulder cutting adjustments.

When shoulder cutting where “Ae” is below half the tool diameter, increase feed rate to keep chip thickness “Hm” constant.



Apply corrected feed rate below to standard cutting condition table.

| Ae / D % | 100% | 50% | 25% | 15% | 10% | 5% | 2% |
|----------------------|------|------|-----|------|-----|------|----|
| Additional Feed Rate | 1X | 1.5X | 2X | 2.5X | 3X | 4.5X | 7X |

2. Longer tool adjustments.

| TOOL DIAMETER D (mm) | OVERHUNG LENGTH L (mm) | SPINDLE SPEED (%) | | FEED SPEED (%) | | L / D |
|-------------------------|------------------------------|-------------------|-----------|----------------|-----------|-------|
| | | STEEL | CAST IRON | STEEL | CAST IRON | |
| 12 | 40 | 100 | 100 | 100 | 100 | 3.3 |
| | 60 | 75 | 80 | 75 | 100 | 5.0 |
| | 80 | 60 | 70 | 65 | 75 | 6.6 |
| 15 | 40 | 100 | 100 | 100 | 100 | 2.6 |
| | 60 | 100 | 100 | 100 | 100 | 4.0 |
| | 80 | 70 | 75 | 80 | 90 | 5.3 |
| | 100 | 65 | 70 | 75 | 80 | 6.6 |
| | 120 | 60 | 60 | 60 | 65 | 8.0 |
| 20 | 40 | 100 | 100 | 100 | 100 | 2.0 |
| | 60 | 100 | 100 | 100 | 100 | 3.0 |
| | 80 | 100 | 100 | 100 | 100 | 4.0 |
| | 100 | 75 | 85 | 90 | 75 | 5.0 |
| | 120 | 70 | 80 | 75 | 75 | 6.0 |

ERROR: undefined
OFFENDING COMMAND: limitcheck

STACK:

32
-dictionary-