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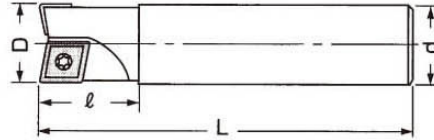
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CJU Drilling & Milling Endmill A001

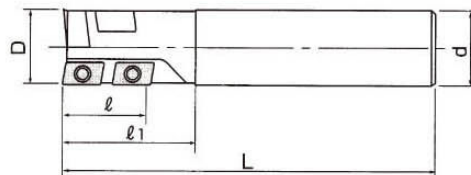


| ITEM | D | L | d | l | TEETH | INSERT | SCREW | WRENCH |
|--------------|----|-----|----|----|-------|---------------------------|--------------------------|---------|
| CJU-1010X130 | 10 | 130 | 10 | 30 | 1 | CCMT060204 | SCR-CJU2.5 | T8 |
| CJU-1012X130 | 10 | 130 | 12 | 35 | 1 | | | |
| CJU-1212X130 | 12 | 130 | 12 | 30 | 1 | | | |
| CJU-1616X120 | 16 | 120 | 16 | 30 | 2 | CCMT060204 CPMT080204Z | | |
| CJU-1616X150 | 16 | 150 | 16 | 40 | 2 | | | |
| CJU-1616X175 | 16 | 175 | 16 | 40 | 2 | | | |
| CJU-1616X200 | 16 | 200 | 16 | 40 | 2 | | | |
| CJU-1716X150 | 17 | 150 | 16 | 40 | 2 | | | |
| CJU-1716x175 | 17 | 175 | 16 | 40 | 2 | | | |
| CJU-1716x200 | 17 | 200 | 16 | 40 | 2 | | | |
| CJU-2020X130 | 20 | 130 | 20 | 30 | 2 | CCMT060204 CPMT090204Z | SCR-CJU2.5 SCR-CJU3.5 | T8, T15 |
| CJU-2020X150 | 20 | 150 | 20 | 40 | 2 | | | |
| CJU-2020X185 | 20 | 185 | 20 | 50 | 2 | | | |
| CJU-2020X210 | 20 | 210 | 20 | 50 | 2 | | | |
| CJU-2120X150 | 21 | 150 | 20 | 40 | 2 | | | |
| CJU-2120X200 | 21 | 200 | 20 | 40 | 2 | | | |
| CJU-2525X130 | 25 | 130 | 25 | 40 | 2 | CPMT090308 CPMT120308Z | SCR-CJU4 | T15 |
| CJU-2525X150 | 25 | 150 | 25 | 50 | 2 | | | |
| CJU-2525X220 | 25 | 220 | 25 | 70 | 2 | | | |
| CJU-2525X300 | 25 | 300 | 25 | 70 | 2 | | | |
| CJU-2625X200 | 26 | 200 | 25 | 50 | 2 | | | |
| CJU-2625X250 | 26 | 250 | 25 | 50 | 2 | | | |
| CJU-3232X170 | 32 | 170 | 32 | 50 | 2 | CPMT120408 CPMT160408Z | SCR-CJU5 | T20 |
| CJU-3232X250 | 32 | 250 | 32 | 80 | 2 | | | |
| CJU-3232X300 | 32 | 300 | 32 | 80 | 2 | | | |
| CJU-3232X350 | 32 | 350 | 32 | 80 | 2 | | | |
| CJU-3232X400 | 32 | 400 | 32 | 80 | 2 | | | |
| CJU-3332X200 | 33 | 200 | 32 | 50 | 2 | | | |
| CJU-3332X250 | 33 | 250 | 32 | 50 | 2 | | | |
| CJU-3332X300 | 33 | 300 | 32 | 50 | 2 | | | |

※Hitachi inserts recommended

CSJ Drilling & Milling Endmill

A002

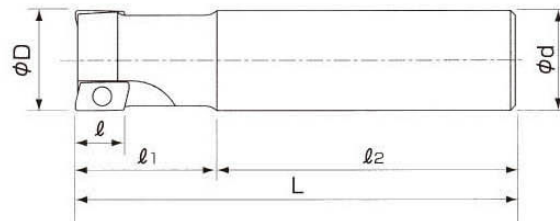


| ITEM | D | L | l | l ₁ | d | INSERT | PCS | INSERT | PCS | SCREW | WRENCH |
|--------------|----|-----|----|----------------|----|-----------------|-----|-----------------|-----|----------------|--------|
| CSJ-2020X130 | 20 | 130 | 20 | 35 | 20 | ADMT 100308L | 1 | ACMT 100308R | 3 | SCR- CSJ2.5 | T8 |
| CSJ-2020X185 | 20 | 185 | 20 | 60 | 20 | | | | | | |
| CSJ-2020X220 | 20 | 220 | 20 | 70 | 20 | | | | | | |
| CSJ-2120X185 | 21 | 185 | 20 | 40 | 20 | | | | | | |
| CSJ-2120X220 | 21 | 220 | 20 | 60 | 20 | | | | | | |
| CSJ-2525X140 | 25 | 140 | 25 | 40 | 25 | ADMT 12T308L | 1 | APMT 12T308R | 3 | SCR- CSJ3 | T10 |
| CSJ-2525X220 | 25 | 220 | 25 | 75 | 25 | | | | | | |
| CSJ-2525X270 | 25 | 270 | 25 | 75 | 25 | | | | | | |
| CSJ-2625X220 | 26 | 220 | 25 | 40 | 25 | | | | | | |
| CSJ-2625X270 | 26 | 270 | 25 | 40 | 25 | | | | | | |
| CSJ-2625X300 | 26 | 300 | 25 | 40 | 25 | | | | | | |
| CSJ-3232X150 | 32 | 150 | 32 | 50 | 32 | APMT 160408L | 1 | | | | |
| CSJ-3232X230 | 32 | 230 | 32 | 90 | 32 | | | | | | |
| CSJ-3232X280 | 32 | 280 | 32 | 90 | 32 | | | | | | |
| CSJ-3532X150 | 35 | 150 | 35 | 50 | 32 | APMT 170408L | 1 | APMT 150408R | 3 | SCR- CSJ4 | T15 |
| CSJ-3532X200 | 35 | 200 | 35 | 50 | 32 | | | | | | |
| CSJ-3532X250 | 35 | 250 | 35 | 50 | 32 | | | | | | |
| CSJ-3532X300 | 35 | 300 | 35 | 50 | 32 | | | | | | |
| CSJ-3532X350 | 35 | 350 | 35 | 50 | 32 | | | | | | |
| CSJ-3532X400 | 35 | 400 | 35 | 50 | 32 | | | | | | |

※Hitachi inserts recommended

EHU High-Speed Endmill

A003

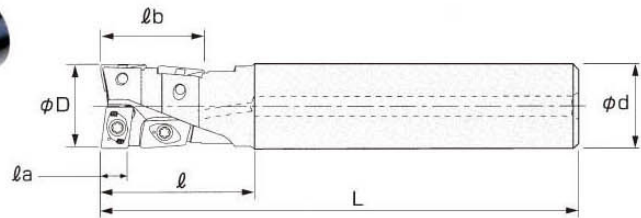


| ITEM | D | d | l ₁ | L | TEETH | INSERT | SCREW | WRENCH |
|----------------|----|----|----------------|-----|-------|----------|------------|--------|
| EHU10-1616X120 | 16 | 16 | 30 | 120 | 2 | JDMT1003 | SCR-EHU2.5 | T8 |
| EHU10-1616X150 | 16 | 16 | 50 | 150 | 2 | | | |
| EHU10-2020X130 | 20 | 20 | 30 | 130 | 3 | | | |
| EHU10-2020X150 | 20 | 20 | 50 | 150 | 3 | | | |
| EHU10-2525X150 | 25 | 25 | 40 | 150 | 4 | | | |
| EHU10-2525X200 | 25 | 25 | 60 | 200 | 4 | | | |
| EHU10-3025X150 | 30 | 25 | 40 | 150 | 5 | | | |
| EHU10-3025X200 | 30 | 25 | 40 | 200 | 5 | | | |
| EHU10-3232X150 | 32 | 32 | 40 | 150 | 5 | | | |
| EHU10-3232X200 | 32 | 32 | 60 | 200 | 5 | | | |
| EHU15-2525X150 | 25 | 25 | 40 | 150 | 2 | JDMT1505 | SCR-EHU4 | T15 |
| EHU15-2525X200 | 25 | 25 | 60 | 200 | 2 | | | |
| EHU15-3025X150 | 30 | 25 | 40 | 150 | 2 | | | |
| EHU15-3025X200 | 30 | 25 | 40 | 200 | 2 | | | |
| EHU15-3232X150 | 32 | 32 | 40 | 150 | 3 | | | |
| EHU15-3232X200 | 32 | 32 | 60 | 200 | 3 | | | |
| EHU15-3532X150 | 35 | 32 | 40 | 150 | 3 | | | |
| EHU15-3532X200 | 35 | 32 | 60 | 200 | 3 | | | |

※Hitachi inserts recommended

EHJ Drilling & Milling Endmill

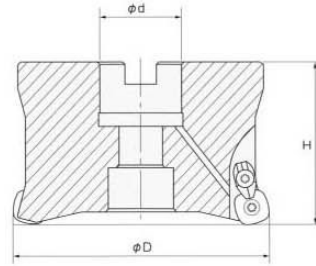
A004



| ITEM | D | L | la | lb | l | d | INSERT | PCS | INSERT | PCS | WRENCH |
|---------------|----|-----|-----|------|----|----|-----------------|-----|-----------------|-----|--------|
| EHJ2-1616X120 | 16 | 120 | 4.5 | 8.5 | 33 | 16 | JDMT 080308L | 1 | JDMT 090308R | 1 | T6 |
| EHJ2-1616X175 | 16 | 175 | 4.5 | 8.5 | 50 | 16 | | | | | |
| EHJ2-1716X120 | 17 | 120 | 4.5 | 8.5 | 33 | 16 | | | | | |
| EHJ2-1716X175 | 17 | 175 | 4.5 | 8.5 | 33 | 16 | | | | | |
| EHJ2-2020X130 | 20 | 130 | 5.5 | 9.5 | 35 | 20 | JDMT 100308L | 1 | JDMT 100308R | 1 | T8 |
| EHJ2-2020X185 | 20 | 185 | 5.5 | 9.5 | 60 | 20 | | | | | |
| EHJ2-2120X130 | 21 | 130 | 5.5 | 9.5 | 35 | 20 | | | | | |
| EHJ2-2120X185 | 21 | 185 | 5.5 | 9.5 | 35 | 20 | | | | | |
| EHJ2-2525X140 | 25 | 140 | 7 | 12.5 | 45 | 25 | JDMT 12T308L | 1 | JDMT 12T308R | 1 | T10 |
| EHJ2-2525X220 | 25 | 220 | 7 | 12.5 | 75 | 25 | | | | | |
| EHJ2-2625X140 | 26 | 140 | 7 | 12.5 | 45 | 25 | | | | | |
| EHJ2-2625X220 | 26 | 220 | 7 | 12.5 | 45 | 25 | | | | | |
| EHJ2-3232X150 | 32 | 150 | 8.5 | 14.5 | 50 | 32 | JDMT 160508L | 1 | JDMT 150508R | 1 | T15 |
| EHJ2-3232X230 | 32 | 230 | 8.5 | 14.5 | 90 | 32 | | | | | |
| EHJ2-3332X150 | 33 | 150 | 8.5 | 14.5 | 50 | 32 | | | | | |
| EHJ2-3332X230 | 33 | 230 | 8.5 | 14.5 | 50 | 32 | | | | | |

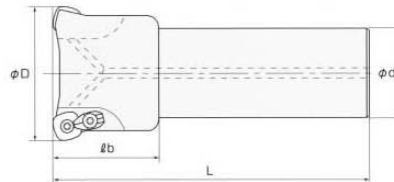
※Hitachi inserts recommended

ESRF High-Feed Milling Cutter A005



| ITEM | D | H | d | TEETH | INSERT | WRENCH |
|-------------|-----|----|-------|-------|--------------------------------------|--------|
| ESRF-50X3 | 50 | 50 | 22 | 3 | SDNW1205ZDTN-R15 SDNT1205ZDTN-R15 | T15 |
| ESRF-50X4 | 50 | 50 | 22 | 4 | | |
| ESRF-63X4M | 63 | 50 | 22 | 4 | | |
| ESRF-63X4 | 63 | 50 | 25.4 | 4 | | |
| ESRF-80X5M | 80 | 70 | 32 | 5 | | |
| ESRF-80X5 | 80 | 70 | 31.75 | 5 | | |
| ESRF-100X6M | 100 | 70 | 32 | 6 | | |
| ESRF-100X6 | 100 | 70 | 31.75 | 6 | | |

※Hitachi inserts recommended

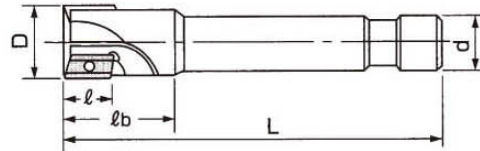


| ITEM | D | L | d | lb | TEETH | INSERT | WRENCH |
|---------------|----|-----|----|----|-------|--------------------------------------|--------|
| ESRF-3232X150 | 32 | 150 | 32 | 70 | 2 | SDNW1205ZDTN-R15 SDNT1205ZDTN-R15 | T15 |
| ESRF-3232X200 | 32 | 200 | 32 | 70 | 2 | | |
| ESRF-3232X250 | 32 | 250 | 32 | 70 | 2 | | |
| ESRF-4032X200 | 40 | 200 | 32 | 70 | 3 | | |
| ESRF-4032X250 | 40 | 250 | 32 | 70 | 3 | | |
| ESRF-4032X300 | 40 | 300 | 32 | 70 | 3 | | |

※Hitachi inserts recommended

CEX High-Speed Endmill

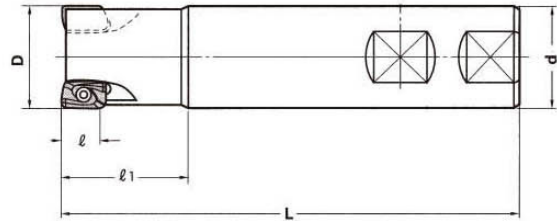
A006



| ITEM | D | L | d | l | lb | TEETH | INSERT | SCREW | WRENCH |
|--------------|----|-----|----|----|----|-------|----------------|----------------|--------|
| CEX-1212X120 | 12 | 120 | 12 | 12 | 25 | 1 | APET 120204 | SCR- CEX3.5 | T15 |
| CEX-1212X150 | 12 | 150 | 12 | 12 | 25 | 1 | | | |
| CEX-1616X120 | 16 | 120 | 16 | 12 | 30 | 1 | | | |
| CEX-1616X150 | 16 | 150 | 16 | 12 | 30 | 1 | | | |
| CEX-1616X180 | 16 | 180 | 16 | 12 | 30 | 1 | | | |
| CEX-2020X120 | 20 | 120 | 20 | 12 | 30 | 2 | | | |
| CEX-2020X150 | 20 | 150 | 20 | 12 | 30 | 2 | | | |
| CEX-2020X200 | 20 | 200 | 20 | 12 | 30 | 2 | | | |
| CEX-2525X130 | 25 | 130 | 25 | 15 | 35 | 2 | ADET 160304 | SCR- CEX4 | |
| CEX-2525X160 | 25 | 160 | 25 | 15 | 35 | 2 | | | |
| CEX-2525X200 | 25 | 200 | 25 | 15 | 35 | 2 | | | |
| CEX-2525X250 | 25 | 250 | 25 | 15 | 35 | 2 | | | |
| CEX-3025X150 | 30 | 150 | 25 | 15 | 45 | 2 | | | |
| CEX-3025X220 | 30 | 220 | 25 | 15 | 45 | 2 | | | |
| CEX-3232X150 | 32 | 150 | 32 | 15 | 45 | 3 | | | |
| CEX-3232X200 | 32 | 200 | 32 | 15 | 45 | 3 | | | |
| CEX-3232X250 | 32 | 250 | 32 | 15 | 45 | 3 | | | |
| CEX-3232X300 | 32 | 300 | 32 | 15 | 45 | 3 | | | |

※Hitachi inserts recommended

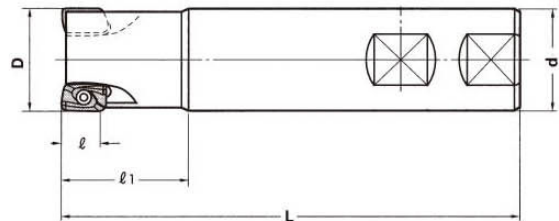
CAP300R High-Speed Rough Endmill A007



| ITEM | D | d | l ₁ | l | L | TEETH | INSERT | SCREW | WRENCH |
|------------------|----|----|----------------|---|-----|-------|------------------|------------|--------|
| CAP300R-1010X100 | 10 | 10 | 25 | 9 | 100 | 1 | APMT 1135PDER | SCR-CAP2.5 | T8 |
| CAP300R-1016X100 | 10 | 16 | 25 | 9 | 100 | 1 | | | |
| CAP300R-1212X100 | 12 | 12 | 25 | 9 | 100 | 1 | | | |
| CAP300R-1216X100 | 12 | 16 | 25 | 9 | 100 | 1 | | | |
| CAP300R-1616X120 | 16 | 16 | 25 | 9 | 120 | 2 | | | |
| CAP300R-1616X160 | 16 | 16 | 25 | 9 | 160 | 2 | | | |
| CAP300R-2020X120 | 20 | 20 | 30 | 9 | 120 | 2 | | | |
| CAP300R-2020X150 | 20 | 20 | 30 | 9 | 150 | 2 | | | |
| CAP300R-2020X200 | 20 | 20 | 30 | 9 | 200 | 2 | | | |
| CAP300R-2525X150 | 25 | 25 | 35 | 9 | 150 | 4 | | | |
| CAP300R-2525X200 | 25 | 25 | 35 | 9 | 200 | 4 | | | |

※Mitsubishi inserts recommended

CAP400R High-Speed Rough Endmill A008



| ITEM | D | d | l ₁ | l | L | TEETH | INSERT | SCREW | WRENCH |
|------------------|----|----|----------------|----|-----|-------|------------------|----------|--------|
| CAP400R-2525X150 | 25 | 25 | 35 | 14 | 150 | 2 | APMT 1604PDER | SCR-CAP4 | T15 |
| CAP400R-2525X200 | 25 | 25 | 35 | 14 | 200 | 2 | | | |
| CAP400R-3025X150 | 30 | 25 | 45 | 14 | 150 | 2 | | | |
| CAP400R-3025X200 | 30 | 25 | 45 | 14 | 200 | 2 | | | |
| CAP400R-3232X150 | 32 | 32 | 45 | 14 | 150 | 3 | | | |
| CAP400R-3232X200 | 32 | 32 | 60 | 14 | 200 | 3 | | | |
| CAP400R-3232X250 | 32 | 32 | 60 | 14 | 250 | 3 | | | |
| CAP400R-3232X300 | 32 | 32 | 60 | 14 | 300 | 3 | | | |
| CAP400R-3232X350 | 32 | 32 | 60 | 14 | 350 | 3 | | | |
| CAP400R-3532X150 | 35 | 32 | 45 | 14 | 150 | 3 | | | |
| CAP400R-3532X200 | 35 | 32 | 45 | 14 | 200 | 3 | | | |
| CAP400R-3532X250 | 35 | 32 | 45 | 14 | 250 | 3 | | | |
| CAP400R-3532X300 | 35 | 32 | 45 | 14 | 300 | 3 | | | |
| CAP400R-3532X350 | 35 | 32 | 45 | 14 | 350 | 3 | | | |
| CAP400R-3532X400 | 35 | 32 | 45 | 14 | 400 | 3 | | | |
| CAP400R-4032X150 | 40 | 32 | 45 | 14 | 150 | 3 | | | |
| CAP400R-4032X200 | 40 | 32 | 45 | 14 | 200 | 3 | | | |
| CAP400R-5032X150 | 50 | 32 | 45 | 14 | 150 | 4 | | | |
| CAP400R-5042X150 | 50 | 42 | 45 | 14 | 150 | 4 | | | |

※Mitsubishi inserts recommended

CAP400R Face Milling Cutter A009



Fig:1

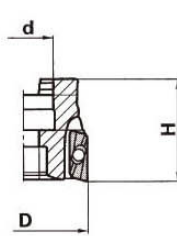
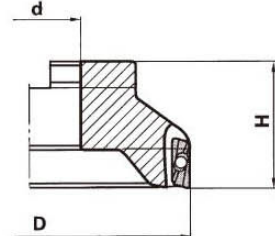


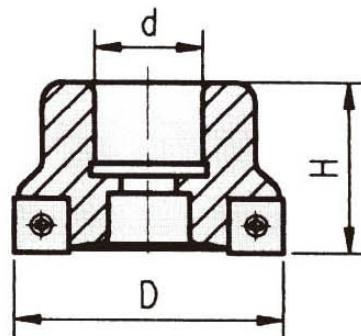
Fig:2



| ITEM | D | d | d* | H | TEETH | INSERT | SCREW | WRENCH | Fig |
|---------------|-----|-------|----|----|-------|----------|----------|--------|-----|
| CAP400R-FM50 | 50 | - | 22 | 40 | 4 | APMT1604 | SCR-CAP4 | T15 | 1 |
| CAP400R-FM63 | 63 | 25.4 | 22 | 40 | 5 | | | | |
| CAP400R-FM80 | 80 | 25.4 | 27 | 50 | 6 | | | | 2 |
| CAP400R-FM100 | 100 | 31.75 | 32 | 50 | 7 | | | | |
| CAP400R-FM125 | 125 | 38.1 | 40 | 50 | 8 | | | | |
| CAP400R-FM160 | 160 | 38.1 | 40 | 50 | 10 | | | | |

※Mitsubishi inserts recommended
 ※Metrics

SFM Shoulder Face Milling Cutter A010

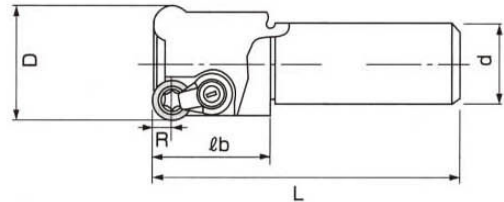


| ITEM | D | d | d* | H | TEETH | INSERT | SCREW | WRENCH |
|---------|-----|-------|----|----|-------|-----------|----------|--------|
| SFM-50 | 50 | - | 22 | 40 | 4 | SPLT 1204 | SCR-SFM5 | T20 |
| SFM-63 | 63 | 25.4 | 27 | 40 | 5 | | | |
| SFM-80 | 80 | 25.4 | 27 | 45 | 6 | | | |
| SFM-100 | 100 | 31.75 | 32 | 50 | 7 | | | |

※Metrics ※ISO Code

CRC Radius Endmill

A011

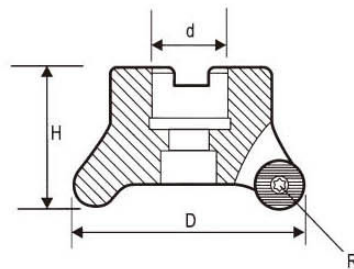


| ITEM | D | d | R | L | TEETH | INSERT | SCREW | WRENCH |
|----------------|----|----|---|-----|-------|----------|----------|--------|
| CRC-5R2520X150 | 25 | 20 | 5 | 150 | 2 | RCKT10T3 | SCR-CRC4 | T15 |
| CRC-6R3225X200 | 32 | 25 | 6 | 200 | 2 | RCKT1204 | | |
| CRC-6R3225X250 | 32 | 25 | 6 | 250 | 2 | | | |

※Sandvik inserts recommended

CRC Radius Face Milling Cutter

A012

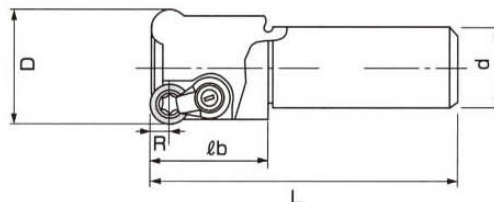


| ITEM | D | d | H | R | TEETH | INSERT | SCREW | WRENCH |
|----------|----|----|----|---|-------|----------|----------|--------|
| CRC-6R50 | 50 | 22 | 45 | 6 | 4 | RCKT1204 | SCR-CRC4 | T15 |
| CRC-6R63 | 63 | 22 | 50 | 6 | 4 | | | |
| CRC-8R63 | 63 | 22 | 50 | 8 | 4 | RCKT1606 | SCR-CRC5 | T20 |

※Sandvik inserts recommended

CRS Radius Endmill

A013

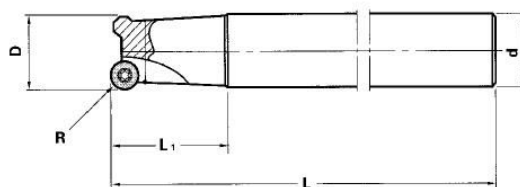


| ITEM | D | L | d | lb | R | T | INSERT | CLAMP | SCREW | WRENCH |
|--------------|----|-----|----|-----|---|-----|----------|-------|----------|--------|
| CRS-4R12X120 | 12 | 120 | 12 | 40 | 4 | 1 | RDMT0802 | CL-4R | SCR-CRS3 | T8 |
| CRS-4R12X150 | 12 | 150 | 12 | 70 | 4 | 1 | | | | |
| CRS-4R16X120 | 16 | 120 | 16 | 40 | 4 | 1/2 | | | | |
| CRS-4R16X150 | 16 | 150 | 16 | 70 | 4 | 1/2 | | | | |
| CRS-4R20X150 | 20 | 150 | 20 | 50 | 4 | 2 | | | | |
| CRS-4R20X200 | 20 | 200 | 20 | 70 | 4 | 2 | | | | |
| CRS-5R25X150 | 25 | 150 | 25 | 60 | 5 | 2 | RDMT10T3 | CL-5R | SCR-CRS4 | T15 |
| CRS-5R25X200 | 25 | 200 | 25 | 120 | 5 | 2 | | | | |
| CRS-5R25X250 | 25 | 250 | 25 | 120 | 5 | 2 | | | | |
| CRS-5R25X300 | 25 | 300 | 25 | 140 | 5 | 2 | | | | |
| CRS-5R30X150 | 30 | 150 | 25 | 50 | 5 | 2 | | | | |
| CRS-5R30X200 | 30 | 200 | 25 | 50 | 5 | 2 | | | | |
| CRS-5R30X250 | 30 | 250 | 25 | 50 | 5 | 2 | | | | |
| CRS-5R30X300 | 30 | 300 | 25 | 50 | 5 | 2 | | | | |
| CRS-5R32X150 | 32 | 150 | 32 | 70 | 5 | 3 | | | | |
| CRS-5R32X200 | 32 | 200 | 32 | 120 | 5 | 3 | | | | |
| CRS-5R32X250 | 32 | 250 | 32 | 140 | 5 | 3 | | | | |
| CRS-5R32X300 | 32 | 300 | 32 | 140 | 5 | 3 | | | | |
| CRS-5R35X150 | 35 | 150 | 32 | 50 | 5 | 3 | | | | |
| CRS-5R35X200 | 35 | 200 | 32 | 50 | 5 | 3 | | | | |
| CRS-5R35X250 | 35 | 250 | 32 | 50 | 5 | 3 | | | | |
| CRS-5R35X300 | 35 | 300 | 32 | 50 | 5 | 3 | | | | |
| CRS-5R35X350 | 35 | 350 | 32 | 50 | 5 | 3 | | | | |
| CRS-5R40X150 | 40 | 150 | 32 | 50 | 5 | 3 | | | | |
| CRS-5R40X200 | 40 | 200 | 32 | 50 | 5 | 3 | | | | |

※Hitachi inserts recommended

CRP Radius Endmill

A014

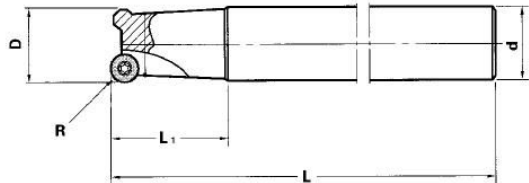


| ITEM | D | R | L | L ₁ | d | TEETH | INSERT | SCREW | WRENCH |
|--------------|----|---|-----|----------------|----|-------|-------------|------------------------|--------|
| CRP-4R16X150 | 16 | 4 | 150 | 40 | 16 | 2 | RPMW-0802MO | SCR-CRP3 SCR-M3U | T8 |
| CRP-4R20X150 | 20 | 4 | 150 | 40 | 20 | 2 | | | |
| CRP-4R20X200 | 20 | 4 | 200 | 60 | 20 | 2 | | | |
| CRP-5R25X150 | 25 | 5 | 150 | 40 | 25 | 2 | RPMW-1003MO | SCR-CRP4 SCR-W3/16S | T15 |
| CRP-5R25X200 | 25 | 5 | 200 | 60 | 25 | 2 | | | |
| CRP-5R25X250 | 25 | 5 | 250 | 60 | 25 | 2 | | | |
| CRP-5R25X300 | 25 | 5 | 300 | 60 | 25 | 2 | | | |
| CRP-5R30X150 | 30 | 5 | 150 | 45 | 25 | 2 | | | |
| CRP-5R30X200 | 30 | 5 | 200 | 45 | 25 | 2 | | | |
| CRP-5R30X250 | 30 | 5 | 250 | 45 | 25 | 2 | | | |
| CRP-5R30X300 | 30 | 5 | 300 | 45 | 25 | 2 | | | |
| CRP-5R35X150 | 35 | 5 | 150 | 45 | 32 | 3 | | | |
| CRP-5R35X200 | 35 | 5 | 200 | 45 | 32 | 3 | | | |
| CRP-5R35X250 | 35 | 5 | 250 | 45 | 32 | 3 | | | |
| CRP-5R35X300 | 35 | 5 | 300 | 45 | 32 | 3 | | | |
| CRP-5R40X150 | 40 | 5 | 150 | 45 | 32 | 3 | | | |
| CRP-5R40X200 | 40 | 5 | 200 | 45 | 32 | 3 | | | |
| CRP-5R40X250 | 40 | 5 | 250 | 45 | 32 | 3 | | | |
| CRP-6R35X150 | 35 | 6 | 150 | 45 | 32 | 3 | RPMW-1203MO | | |
| CRP-6R35X200 | 35 | 6 | 200 | 45 | 32 | 3 | | | |
| CRP-6R35X250 | 35 | 6 | 250 | 45 | 32 | 3 | | | |
| CRP-6R40X150 | 40 | 6 | 150 | 45 | 32 | 3 | | | |
| CRP-6R40X200 | 40 | 6 | 200 | 45 | 32 | 3 | | | |
| CRP-6R40X250 | 40 | 6 | 250 | 45 | 32 | 3 | | | |
| CRP-6R50X150 | 50 | 6 | 150 | 45 | 32 | 4 | | | |
| CRP-6R50X200 | 50 | 6 | 200 | 45 | 32 | 4 | | | |

※Mitsubishi inserts recommended

CRT Radius Endmill

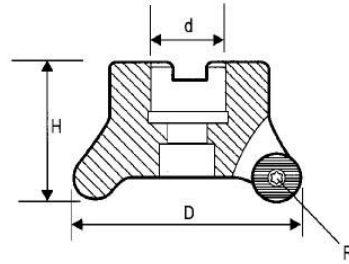
A015



| <i>ITEM</i> | <i>D</i> | <i>d</i> | <i>R</i> | <i>L</i> | <i>TEETH</i> | <i>INSERT</i> | <i>SCREW</i> | <i>WRENCH</i> |
|--------------|----------|----------|----------|----------|--------------|----------------|--------------------|---------------|
| CRT-6R32X150 | 32 | 32 | 6 | 150 | 2 | RPMT 1204MO | CL-CRT SCR-M3.5 | T15 |
| CRT-6R32X200 | 32 | 32 | 6 | 200 | 2 | | | |
| CRT-6R32X250 | 32 | 32 | 6 | 250 | 2 | | | |
| CRT-6R35X150 | 35 | 32 | 6 | 150 | 3 | | | |
| CRT-6R35X200 | 35 | 32 | 6 | 200 | 3 | | | |
| CRT-6R35X250 | 35 | 32 | 6 | 250 | 3 | | | |
| CRT-6R35X300 | 35 | 32 | 6 | 300 | 3 | | | |
| CRT-6R40X150 | 40 | 32 | 6 | 150 | 3 | | | |
| CRT-6R40X200 | 40 | 32 | 6 | 200 | 3 | | | |
| CRT-6R40X250 | 40 | 32 | 6 | 250 | 3 | | | |
| CRT-6R50X150 | 50 | 32 | 6 | 150 | 4 | | | |
| CRT-6R50X200 | 50 | 32 | 6 | 200 | 4 | | | |

※Mitsubishi inserts recommended

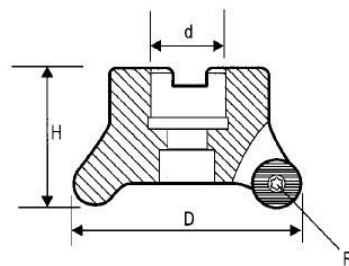
CRS Radius Face Milling Cutter **A016**



| ITEM | D | d | d* | H | R | TEETH | INSERT | SCREW | CLAMP | WRENCH |
|-----------|-----|-------|----|----|---|-------|----------|-----------|---------------|--------|
| CRS-5R50 | 50 | 25.4 | 22 | 45 | 5 | 4 | RDMT10T3 | SCR-CRS4 | CL-5R | T15 |
| CRS-5R63 | 63 | 25.4 | 22 | 50 | 5 | 5 | | | | |
| CRS-8R50 | 50 | 25.4 | 22 | 45 | 8 | 3 | RDMT1604 | SCR-CRS5 | SCR -W1/4S | T20 |
| CRS-8R63 | 63 | 25.4 | 22 | 50 | 8 | 3/4 | | | | |
| CRS-8R66 | 66 | 25.4 | 27 | 50 | 8 | 4/5 | | | | |
| CRS-8R80 | 80 | 25.4 | 27 | 50 | 8 | 5 | | | | |
| CRS-8R100 | 100 | 31.75 | 32 | 55 | 8 | 5 | | | | |
| CRS-8R116 | 116 | 31.75 | 32 | 60 | 8 | 6 | | CL-8R116H | T20/T25 | |

※ Hitachi inserts recommended
 ※ Metrics

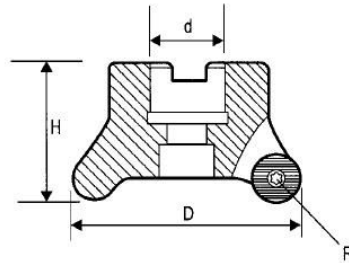
CRP Radius Face Milling Cutter **A017**



| ITEM | D | d | d* | H | TEETH | INSERT | SCREW | WRENCH |
|----------|----|------|----|----|-------|----------------|------------------------|--------|
| CRP-5R50 | 50 | 25.4 | 22 | 45 | 4 | RPMW 1003MO | SCR-CRP4 SCR-W3/16S | T15 |
| CRP-5R63 | 63 | 25.4 | 22 | 50 | 5 | | | |
| CRP-6R50 | 50 | 25.4 | 22 | 45 | 4 | RPMW 1203MO | | |
| CRP-6R63 | 63 | 25.4 | 22 | 50 | 5 | | | |

※ Mitsubishi inserts recommended
 ※ Metrics

CRT Radius Face Milling Cutter **A018**



| ITEM | D | d | d* | H | TEETH | INSERT | SCREW | WRENCH |
|-----------|-----|-------|----|----|-------|----------------|--------------------------------|--------|
| CRT-6R50 | 50 | 25.4 | 22 | 45 | 4 | RPMT 1204MO | SCR-CRT4 CL-CRT SCR-M3.5 | T15 |
| CRT-6R63 | 63 | 25.4 | 22 | 50 | 5 | | | |
| CRT-6R80 | 80 | 25.4 | 27 | 50 | 6 | | | |
| CRT-6R100 | 100 | 31.75 | 32 | 55 | 7 | | | |

※Mitsubishi inserts recommended
 ※Metrics

IMP Ball-Nose Endmill

A019

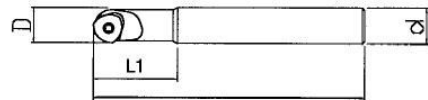


Fig.1

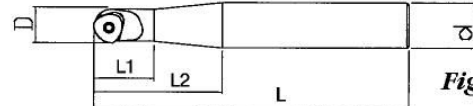


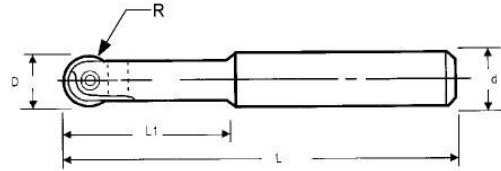
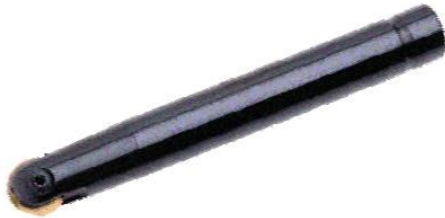
Fig.2

| ITEM | D | L | L ₁ | d | Fig | INSERT | SCREW | WRENCH |
|---------------|----|-----|----------------|----|-----|---------------------------------|----------|--------|
| IMP-6R12X150 | 12 | 150 | 30 | 12 | 1 | QPHW120903EW- QPMT120903EN21 | SCR-IMP3 | T10 |
| IMP-6R16X160 | 12 | 160 | 60 | 16 | 2 | | | |
| IMP-8R16X160 | 16 | 160 | 30 | 16 | 1 | QPHW1612J3EN- QPMT1612T3SN21 | SCR-IMP4 | T15 |
| IMP-8R16X200 | 16 | 200 | 30 | 16 | 1 | | | |
| IMP-8R20X200 | 16 | 200 | 70 | 20 | 2 | | | |
| IMP-10R20X170 | 20 | 170 | 35 | 20 | 1 | QPHW201504EN- QPMT201504SN21 | SCR-IMP4 | T15 |
| IMP-10R20X200 | 20 | 200 | 35 | 20 | 1 | | | |
| IMP-10R25X200 | 20 | 200 | 70 | 25 | 2 | | | |

※Imperial inserts recommended

C2139 Ball-Nose Endmill

A020

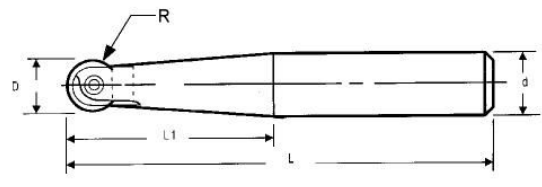
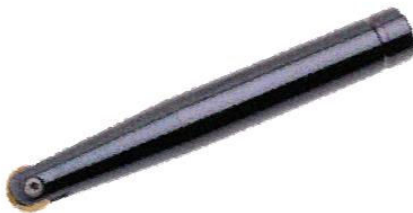


| ITEM | R | D | d | L | L ₁ | INSERT | SCREW | WRENCH |
|-------------------|------|----|----|-----|----------------|----------|------------|--------|
| C2139-4R8X130 | 4 | 8 | 8 | 130 | 30 | P3200D08 | SCR-CR4 | T8 |
| C2139-5R10X130 | 5 | 10 | 10 | 130 | 30 | P3200D10 | SCR-CR5 | T15 |
| C2139-5R12X130 | 5 | 10 | 12 | 130 | 30 | | | |
| C2139-6R12X130 | 6 | 12 | 12 | 130 | 32 | P3200D12 | SCR-CR6 | T20 |
| C2139-8R16X150 | 8 | 16 | 16 | 150 | 36 | P3200D16 | SCR-CR8 | |
| C2139-10R20X160 | 10 | 20 | 20 | 160 | 45 | P3200D20 | SCR-CR10 | |
| C2139-10R20X200 | 10 | 20 | 20 | 200 | 45 | | | |
| C2139-12.5R25X180 | 12.5 | 25 | 25 | 180 | 45 | P3200D25 | SCR-CR12.5 | L30 |

※Walter inserts recommended

C2139 Ball-Nose Endmill

A021

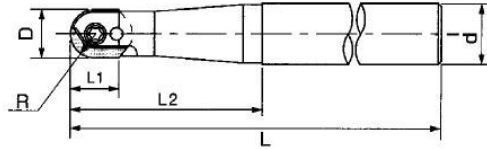


| ITEM | R | D | d | L | L ₁ | INSERT | SCREW | WRENCH |
|-------------------|------|----|----|-----|----------------|----------|------------|--------|
| C2139-4R12X140 | 4 | 8 | 12 | 140 | 45 | P3200D08 | SCR-CR4 | T8 |
| C2139-5R12X150 | 5 | 10 | 12 | 159 | 35 | P3200D10 | SCR-CR5 | T15 |
| C2139-6R16X160 | 6 | 12 | 16 | 160 | 58 | P3200D12 | SCR-CR6 | T20 |
| C2139-8R20X200 | 8 | 16 | 20 | 200 | 65 | P3200D16 | SCR-CR8 | |
| C2139-10R25X200 | 10 | 20 | 25 | 200 | 76 | P3200D20 | SCR-CR10 | |
| C2139-10R25X225 | 10 | 20 | 25 | 225 | 76 | | | |
| C2139-10R25X250 | 10 | 20 | 25 | 250 | 76 | | | |
| C2139-12.5R32X210 | 12.5 | 25 | 32 | 210 | 98 | P3200D25 | SCR-CR12.5 | L30 |

※Walter inserts recommended

CBP Ball-Nose Endmill

A022

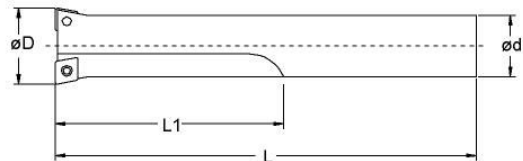


| ITEM | R | D | d | L | L ₁ | L ₂ | INSERT | SCREW (FRONT) | SCREW (REAR) | WRENCH |
|-----------------|------|----|----|-----|----------------|----------------|---------|---------------|--------------|--------|
| CBP-8R16X130 | 8 | 16 | 16 | 130 | 13 | 40 | ZPFW160 | SCR-AR8 | SCR-CBP3.5 | T15 |
| CBP-8R20X130 | 8 | 16 | 20 | 130 | 13 | 50 | | | | |
| CBP-8R20X160 | 8 | 16 | 20 | 160 | 13 | 65 | | | | |
| CBP-10R20X140 | 10 | 20 | 20 | 140 | 17 | 40 | ZPFW200 | SCR-AR10 | SCR-CBP5 | T20 |
| CBP-10R25X180 | 10 | 20 | 25 | 180 | 17 | 80 | | | | |
| CBP-10R25X250 | 10 | 20 | 25 | 250 | 17 | 80 | | | | |
| CBP-12.5R25X150 | 12.5 | 25 | 25 | 150 | 22 | 45 | ZPFW250 | SCR-AR12.5 | SCR-CBP5 | T20 |
| CBP-12.5R32X200 | 12.5 | 25 | 32 | 200 | 22 | 90 | | | | |
| CBP-12.5R32X300 | 12.5 | 25 | 32 | 300 | 22 | 90 | | | | |

※Hitachi inserts recommended

TB Twin-Blade Boring Bar

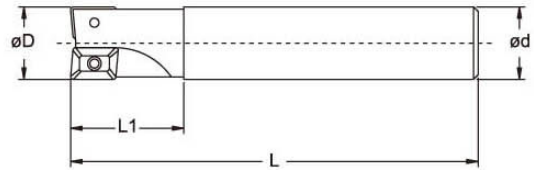
A023



| ITEM | D | d | L | L ₁ | INSERT | SCREW | WRENCH |
|-------------|------|----|-----|----------------|-------------|-----------|--------|
| TB-1516.98 | 14.7 | 16 | 98 | 50 | CCMT 060204 | SCR-TB2.5 | T8 |
| TB-1516.120 | 14.7 | 16 | 120 | 50 | | | |
| TB-1616.98 | 15.7 | 16 | 98 | 50 | | | |
| TB-1620.120 | 15.7 | 20 | 120 | 50 | | | |
| TB-1716.98 | 16.7 | 16 | 98 | 50 | | | |
| TB-1816.98 | 17.7 | 16 | 98 | 50 | | | |
| TB-2016.110 | 19.7 | 16 | 110 | 60 | | | |
| TB-2016.150 | 19.7 | 16 | 150 | 60 | | | |
| TB-2216.110 | 21.7 | 16 | 110 | 60 | | | |
| TB-2316.110 | 22.7 | 16 | 110 | 60 | | | |
| TB-2420.120 | 23.7 | 20 | 120 | 70 | | | |
| TB-2520.120 | 24.7 | 20 | 120 | 70 | | | |
| TB-2525.170 | 24.7 | 25 | 170 | 70 | CCMT 09T308 | SCR-TB3.5 | T15 |
| TB-3025.160 | 29.7 | 25 | 160 | 90 | | | |
| TB-3025.190 | 29.7 | 25 | 190 | 90 | | | |
| TB-3525.160 | 34.7 | 25 | 160 | 90 | | | |
| TB-3532.230 | 34.7 | 32 | 230 | 90 | | | |
| TB-4025.160 | 39.7 | 25 | 160 | 90 | | | |
| TB-4032.250 | 39.7 | 32 | 250 | 90 | | | |

※ISO Code

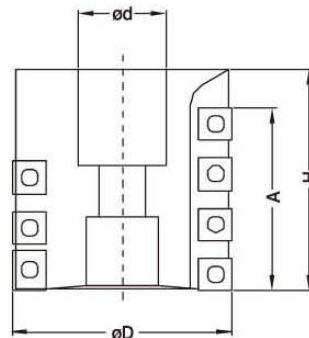
XEM High Efficiency Rough Endmill A024



| ITEM | D | d | L ₁ | L | TEETH | INSERT | SCREW | WRENCH |
|----------------|----|----|----------------|-----|-------|----------|------------|--------|
| XEM10-1012.100 | 10 | 12 | 20 | 100 | 1 | APMT1035 | SCR-XEM2.5 | T8 |
| XEM10-1212.100 | 12 | 12 | 25 | 100 | 1 | | | |
| XEM10-1416.80 | 14 | 16 | 25 | 80 | 1 | | | |
| XEM10-1616.100 | 16 | 16 | 25 | 100 | 2 | | | |
| XEM10-1816.90 | 18 | 16 | 25 | 90 | 2 | | | |
| XEM10-2020.110 | 20 | 20 | 30 | 110 | 3 | | | |
| XEM10-2020.150 | 20 | 20 | 50 | 150 | 3 | | | |
| XEM10-2525.120 | 25 | 25 | 35 | 120 | 4 | | | |
| XEM10-2525.150 | 25 | 25 | 60 | 150 | 4 | | | |
| XEM16-2525.120 | 25 | 25 | 35 | 120 | 2 | APMT1605 | SCR-XEM4 | T15 |
| XEM16-2525.150 | 25 | 25 | 60 | 150 | 2 | | | |
| XEM16-3232.120 | 32 | 32 | 35 | 120 | 3 | | | |
| XEM16-3232.150 | 32 | 32 | 35 | 150 | 3 | | | |
| XEM16-4032.125 | 40 | 32 | 40 | 125 | 4 | | | |
| XEM16-4032.200 | 40 | 32 | 100 | 200 | 4 | | | |
| XEM16-5032.125 | 50 | 32 | 40 | 125 | 5 | | | |

※Nachi or Sumitomo inserts recommended

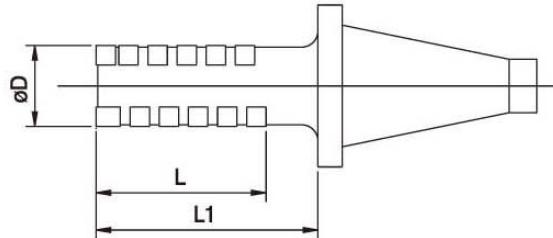
RGH Shell-Type Rough Milling Cutter A025



| ITEM | D | A | H | d | FLUTE | INSERT | PCS | INSERT | PCS | SCREW | WRENCH |
|--------------|----|----|----|-------|-------|-----------|-----|-----------|-----|----------|--------|
| RGH-80X31.75 | 80 | 67 | 80 | 31.75 | 6 | LPMT 1504 | 3 | SPMT 1204 | 18 | SCR-RGH5 | T20 |
| RGH-80X32 | 80 | 67 | 80 | 32 | | | | | | | |

※Walter inserts recommended

RGH BT50/NT50 Rough Milling Cutter A026



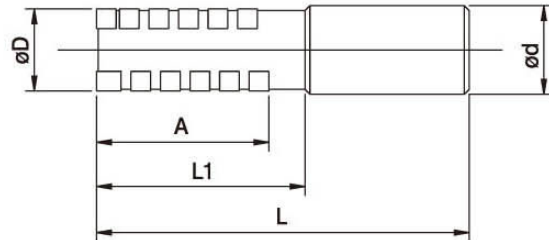
| ITEM | ARBOR | D | L | L ₁ | FLUTE | INSERT | PCS | INSERT | PCS | | |
|-----------------|-------|-----|-----|----------------|-------|--------------|-----|--------------|-----|---|----|
| BT50-RGH50.77 | BT50 | 50 | 77 | 117 | 4 | LPMT 1504 | 2 | SPMT 1204 | 14 | | |
| BT50-RGH50.97 | | 50 | 97 | 137 | | | | | 18 | | |
| BT50-RGH50.127 | | 50 | 127 | 167 | | | | | 24 | | |
| BT50-RGH50.157 | | 50 | 157 | 197 | | | | | 30 | | |
| BT50-RGH63.67 | | 63 | 67 | 107 | | | | | 12 | | |
| BT50-RGH63.87 | | 63 | 87 | 127 | | | | | 16 | | |
| BT50-RGH63.107 | | 63 | 107 | 147 | | | | | 20 | | |
| BT50-RGH63.158 | | 63 | 158 | 198 | | | | | 30 | | |
| BT50-RGH80.107 | | 80 | 107 | 147 | | | | | 6 | 3 | 30 |
| BT50-RGH100.107 | | 100 | 107 | 147 | | | | | 8 | 4 | 40 |
| NT50-RGH50.77 | NT50 | 50 | 77 | 117 | 4 | LPMT 1504 | 2 | SPMT 1204 | 14 | | |
| NT50-RGH50.97 | | 50 | 97 | 137 | | | | | 18 | | |
| NT50-RGH50.127 | | 50 | 127 | 167 | | | | | 24 | | |
| NT50-RGH50.157 | | 50 | 157 | 197 | | | | | 30 | | |
| NT50-RGH63.67 | | 63 | 67 | 107 | | | | | 12 | | |
| NT50-RGH63.87 | | 63 | 87 | 127 | | | | | 16 | | |
| NT50-RGH63.107 | | 63 | 107 | 147 | | | | | 20 | | |
| NT50-RGH63.158 | | 63 | 158 | 198 | | | | | 30 | | |
| NT50-RGH80.107 | | 80 | 107 | 147 | | | | | 6 | 3 | 30 |
| NT50-RGH100.107 | | 100 | 107 | 147 | | | | | 8 | 4 | 40 |

| SCREW | WRENCH |
|----------|--------|
| SCR-RGH5 | T20 |

※Walter inserts recommended

RGH Rough Milling Cutter

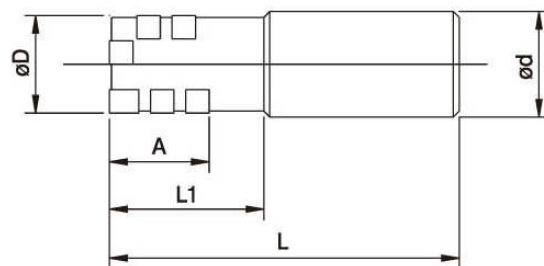
A027



| ITEM | D | d | A | L ₁ | L | FLUTE | INSERT | PCS | INSERT | PCS | SCREW | WRENCH |
|---------------|----|------|-----|----------------|-----|-------|----------------|-----|----------------|-----|------------|--------|
| RGH-2527X120 | 25 | 25 | 27 | 50 | 120 | 2 | LPMW0703 | 1 | SPNT0603 | 5 | SCR-RGH2.5 | T8 |
| RGH-3042X150 | 30 | 32 | 42 | 70 | 150 | 2 | LPMT 15T308 | 1 | SDNT 090308 | 5 | SCR-RGH4 | T15 |
| RGH-3242X150 | 32 | 32 | 42 | 70 | 150 | 2 | | 2 | | 12 | | |
| RGH-4050X155 | 40 | 32 | 50 | 75 | 155 | 4 | | 2 | | 30 | | |
| RGH-4056X175 | 40 | 42 | 56 | 90 | 175 | 2 | LPMT 1504 | 1 | SPMT 1204 | 5 | SCR-RGH5 | T20 |
| RGH-5077X205 | 50 | 50.8 | 77 | 115 | 205 | 4 | | 2 | | 14 | | |
| RGH-5097X225 | 50 | 50.8 | 97 | 135 | 225 | 4 | | 2 | | 18 | | |
| RGH-50127X255 | 50 | 50.8 | 127 | 165 | 255 | 4 | | 2 | | 24 | | |
| RGH-50157X285 | 50 | 50.8 | 157 | 195 | 285 | 4 | | 2 | | 30 | | |

※Walter inserts recommended

RGZ Vertical Rough Milling Cutter A028

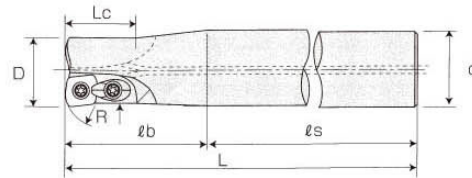


| ITEM | D | d | A | L ₁ | L | FLUTE | INSERT | PCS | INSERT | PCS | SCREW | WRENCH |
|--------------|----|----|----|----------------|-----|-------|----------------|-----|----------------|-----|----------|--------|
| RGZ-3042X150 | 30 | 32 | 42 | 70 | 150 | 2 | LPMT 15T308 | 1 | SDNT 090308 | 5 | SCR-RGZ4 | T15 |
| RGZ-3242X150 | 32 | 32 | 42 | 70 | 150 | 2 | | 1 | | 5 | SCR-RGZ5 | T20 |
| RGZ-4056X155 | 40 | 32 | 56 | 80 | 155 | 2 | | 1 | | 5 | | |

※Walter inserts recommended

ESR High-Efficiency Endmill

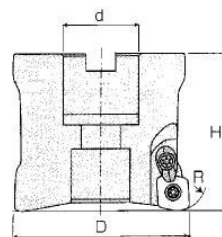
A029



| ITEM | D | L | R | lb | ls | lc | d | TEETH | INSERT | SCREW | CLAMP | WRENCH |
|--------------|----|-----|----|-----|-----|----|----|-------|--|----------------|-----------|--------|
| ESR-2020X130 | 20 | 130 | 10 | 50 | 80 | 20 | 20 | 2 | EPNW 0803TN-10 | SCR- ESR3.5 | CL-ESR3.5 | T15 |
| ESR-2020X180 | 20 | 180 | 10 | 100 | 80 | 20 | 20 | | | | | |
| ESR-2020X250 | 20 | 250 | 10 | 130 | 120 | 20 | 20 | | | | | |
| ESR-2525X140 | 25 | 140 | 10 | 60 | 80 | 25 | 25 | 2 | EPNW 10T3TN-10 | SCR- ESR4 | CL-ESR3.5 | T15 |
| ESR-2525X200 | 25 | 200 | 10 | 120 | 80 | 25 | 25 | | | | | |
| ESR-2525X300 | 25 | 300 | 10 | 180 | 120 | 25 | 25 | | | | | |
| ESR-3032X150 | 30 | 150 | 15 | 70 | 80 | 29 | 32 | 2 | EDNW 13T4TN-15 EDNW 13T4TN-10 | SCR- ESR5 | CL-ESR5 | T20 |
| ESR-3032X200 | 30 | 200 | 15 | 120 | 80 | 29 | 32 | | | | | |
| ESR-3032X300 | 30 | 300 | 15 | 180 | 120 | 29 | 32 | | | | | |
| ESR-3232X150 | 32 | 150 | 15 | 70 | 80 | 29 | 32 | | | | | |
| ESR-3232X200 | 32 | 200 | 15 | 120 | 80 | 29 | 32 | | | | | |
| ESR-3232X300 | 32 | 300 | 15 | 180 | 120 | 29 | 32 | | | | | |
| ESR-3532X150 | 35 | 150 | 15 | 50 | 100 | - | 32 | | | | | |
| ESR-3532X200 | 35 | 200 | 15 | 50 | 150 | - | 32 | | | | | |
| ESR-3532X250 | 35 | 250 | 15 | 50 | 200 | - | 32 | | | | | |
| ESR-3532X300 | 35 | 300 | 15 | 50 | 250 | - | 32 | | | | | |
| ESR-3532X350 | 35 | 350 | 15 | 50 | 300 | - | 32 | | | | | |
| ESR-4042X150 | 40 | 150 | 15 | 50 | 100 | 40 | 42 | | | | | |
| ESR-4042X250 | 40 | 250 | 15 | 50 | 200 | 40 | 42 | | | | | |
| ESR-4042X300 | 40 | 300 | 15 | 50 | 250 | 40 | 42 | | | | | |
| ESR-5042X250 | 50 | 250 | 15 | 50 | 200 | 50 | 42 | | | | | |
| ESR-6342X250 | 63 | 250 | 15 | 50 | 200 | 50 | 42 | | | | | |
| | | | | | | | | | EDNW15T4TN-15 EDNW15T4TN-10 | | | |

※ Hitachi inserts recommended

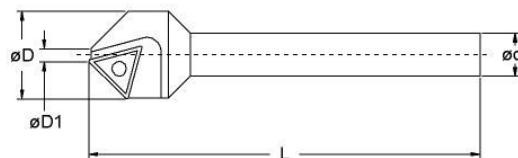
ESR High-Efficiency Milling Cutter A030



| ITEM | D | H | R | d | TEETH | INSERT | SCREW | CLAMP | WRENCH |
|---------|-----|----|--------|-------|-------|--------------------------------|----------|---------|--------|
| ESR-50 | 50 | 50 | 15(10) | 22 | 3 | EDNW13T4TN-15 EDNW13T4TN-10 | SCR-ESR5 | CL-ESR5 | T20 |
| ESR-63 | 63 | 50 | 15(10) | 25.4 | 4 | EDNW15T4TN-15 EDNW15T4TN-10 | | | |
| ESR-66 | 66 | 50 | 15(10) | 25.4 | 4 | | | | |
| ESR-80 | 80 | 70 | 15(10) | 25.4 | 5 | | | | |
| ESR-100 | 100 | 70 | 15(10) | 31.75 | 6 | | | | |

※Hitachi inserts recommended

TCM 45° Chamfering Endmill A031

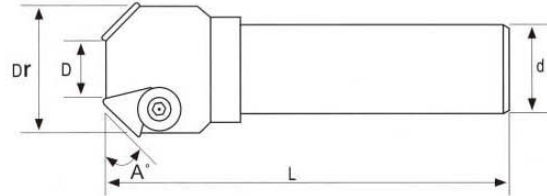


| ITEM | D | D ₁ | d | L | INSERT | SCREW | WRENCH |
|-----------|----|----------------|----|-----|------------|----------|--------|
| TCM-03-25 | 25 | 6 | 12 | 110 | TCMT16T304 | SCR-TCM4 | T15 |

※ISO Code

CM 45° Chamfering Endmill

A032

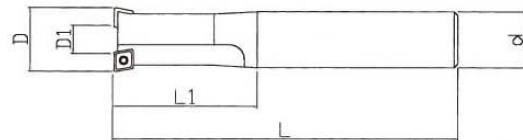


| ITEM | A° | D | Dr | d | L | TEETH | INSERT | SCREW | WRENCH |
|--------------|----|----|----|----|-----|-------|----------|-----------|---------|
| CM45-0521X16 | 45 | 5 | 21 | 16 | 120 | 1 | TPUN1603 | SCR-W1/4 | WRN-M4L |
| CM45-1031X20 | 45 | 10 | 31 | 20 | 120 | 2 | | | |
| CM45-2050X25 | 45 | 20 | 50 | 25 | 130 | 3 | TPUN2204 | SCR-W5/16 | WRN-M5L |
| CM45-0632X32 | 45 | 6 | 32 | 32 | 150 | 1 | | | |
| CM45-2050X32 | 45 | 20 | 50 | 32 | 150 | 3 | | | |
| CM45-3563X25 | 45 | 35 | 63 | 25 | 150 | 3 | | | |
| CM45-3563X32 | 45 | 35 | 63 | 32 | 150 | 3 | | | |

※ISO Code

CH Bolt Countersink Endmill

A033

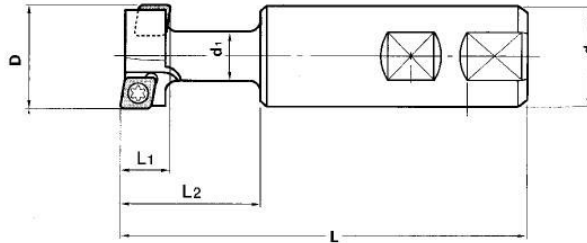


| ITEM | D | L | L1 | D1 | d | TEETH | INSERT | SCREW | WRENCH |
|---------------|------|-----|------|------|----|-------|----------------|----------------|--------|
| CH-8-14-25 | 14 | 108 | 21 | 2.9 | 25 | 1 | CCMT 060204 | SCR- CJU2.5 | T8 |
| CH-10-17.5-25 | 17.5 | 115 | 26 | 5.3 | 25 | 2 | | | |
| CH-12-20-25 | 20 | 120 | 30 | 7.8 | 25 | 2 | | | |
| CH-14-23-25 | 23 | 126 | 34.5 | 10.8 | 25 | 2 | | | |
| CH-16-26-32 | 26 | 132 | 39 | 8.5 | 32 | 2 | CPMT 090308 | SCR- CJU3.5 | T15 |
| CH-18-29-32 | 29 | 138 | 43.5 | 11.5 | 32 | 2 | | | |
| CH-20-32-32 | 32 | 144 | 59 | 14.5 | 32 | 2 | | | |

※Hitachi inserts recommended / ISO Code

TS T-Slot Endmill

A034

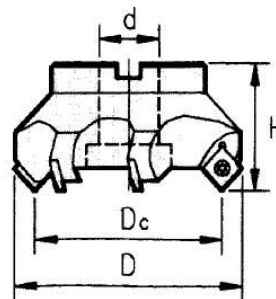


| ITEM | D | L ₁ | d | d ₁ | L ₂ | L | TEETH | INSERT | SCREW | WRENCH |
|-------------|----|----------------|----|----------------|----------------|-----|-------|--------------|-----------|--------|
| TS-24-11-20 | 24 | 11 | 20 | 12 | 29 | 90 | 4 | CCMT-060204 | SCR-TS2.5 | T8 |
| TS-31-14-25 | 31 | 14 | 25 | 15 | 42 | 110 | 4 | CPMT-080204Z | | |
| TS-39-18-32 | 39 | 18 | 32 | 19 | 49 | 120 | 4 | CPMT-090308 | SCR-TS4 | T15 |
| TS-49-22-32 | 49 | 22 | 32 | 25 | 60 | 140 | 4 | CPMT-120408 | SCR-TS5 | T20 |

※ISO Code

SE High-Speed Face Milling Cutter

A035

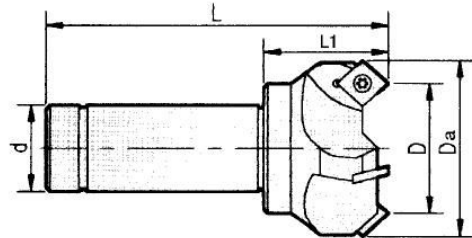


| ITEM | D _c | D | d | d* | H | TEETH | INSERT | SCREW | WRENCH |
|--------|----------------|-----|--------|----|----|-------|----------|---------|--------|
| SE-50 | 50 | 60 | 1" | 22 | 45 | 4 | SEKT1204 | SCR-SE5 | T20 |
| SE-63 | 63 | 75 | 1" | 27 | 50 | 5 | | | |
| SE-80 | 80 | 96 | 1" | 27 | 55 | 6 | | | |
| SE-100 | 100 | 116 | 1-1/4" | 32 | 55 | 6 | | | |
| SE-125 | 125 | 141 | 1-1/2" | 40 | 60 | 8 | | | |
| SE-150 | 150 | 158 | 2" | 40 | 60 | 10 | | | |
| SE-200 | 200 | 212 | 1-7/8" | 60 | 60 | 12 | | | |

※ISO Code

※Metrics

SE High-Speed Face Milling Cutter **A036**

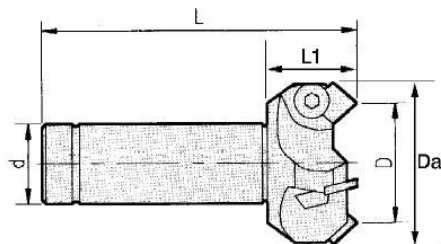


| ITEM | D | Da | d | L | L ₁ | TEETH | INSERT | SCREW | WRENCH |
|-------------|----|----|----|-----|----------------|-------|----------|---------|--------|
| SE-5032X150 | 50 | 62 | 32 | 150 | 45 | 4 | SEKT1204 | SCR-SE5 | T20 |
| SE-5025X120 | 50 | 62 | 25 | 120 | 45 | 4 | | | |
| SE-6332X150 | 63 | 74 | 32 | 150 | 45 | 5 | | | |
| SE-6325X120 | 63 | 74 | 25 | 120 | 45 | 5 | | | |

※ISO Code

SE445 Face Milling Cutter

A037

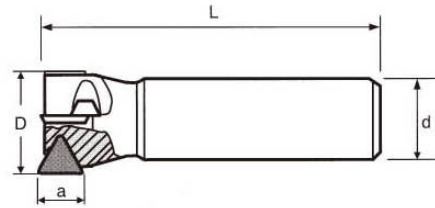


| ITEM | D | Da | d | L | L ₁ | TEETH | INSERT | SCREW | WRENCH |
|--------------|----|----|-------|-----|----------------|-------|----------|-----------|---------|
| SE445-50X150 | 50 | 62 | 32/25 | 150 | 45 | 3 | SEKN1203 | SCR-W1/4L | WRN-M4L |
| SE445-63X150 | 63 | 74 | 32/25 | 150 | 45 | 4 | | | |

※ISO Code

TPR Shoulder Endmill

A038

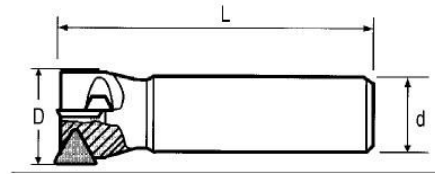


| ITEM | D | d | L | TEETH | INSERT | SCREW | WRENCH |
|---------------|----|----|-----|-------|------------|-----------|---------|
| TPR-1616X110 | 16 | 16 | 110 | 1 | TPMN110308 | SCR-W3/16 | WRN-M3L |
| TPR-2020X110S | 20 | 20 | 110 | 2 | TPMN110208 | | |
| TPR-2020X110 | 20 | 20 | 110 | 2 | TPMN110308 | | |
| TPR-2520X110S | 25 | 20 | 110 | 2 | TPMN110208 | | |
| TPR-2525X110 | 25 | 25 | 110 | 2 | TPMN110308 | | |
| TPR-3020X130 | 30 | 20 | 130 | 2 | TPMN160308 | SCR-W1/4 | WRN-M4L |
| TPR-3025X130 | 30 | 25 | 130 | 2 | | | |
| TPR-3220X130 | 32 | 20 | 130 | 2 | | | |
| TPR-3225X130 | 32 | 25 | 130 | 2 | | | |
| TPR-3232X150 | 32 | 32 | 150 | 2 | | | |
| TPR-3520X130 | 35 | 20 | 130 | 2 | | | |
| TPR-3525X130 | 35 | 25 | 130 | 2 | | | |
| TPR-3532X150 | 35 | 32 | 150 | 2 | | | |
| TPR-3532X200 | 35 | 32 | 200 | 2 | | | |
| TPR-3532X250 | 35 | 32 | 250 | 2 | | | |
| TPR-3532X300 | 35 | 32 | 300 | 2 | | | |
| TPR-3532X350 | 35 | 32 | 350 | 2 | | | |
| TPR-4020X130 | 40 | 20 | 130 | 3 | | | |
| TPR-4025X130 | 40 | 25 | 130 | 3 | | | |
| TPR-4032X150 | 40 | 32 | 150 | 3 | | | |
| TPR-4032X200 | 40 | 32 | 200 | 3 | | | |
| TPR-4032X250 | 40 | 32 | 250 | 3 | | | |
| TPR-4032X300 | 40 | 32 | 300 | 3 | | | |
| TPR-4032X350 | 40 | 32 | 350 | 3 | | | |
| TPR-4520X130 | 45 | 20 | 130 | 3 | | | |
| TPR-4525X130 | 45 | 25 | 130 | 3 | | | |
| TPR-4532X150 | 45 | 32 | 150 | 3 | | | |
| TPR-5020X130 | 50 | 20 | 130 | 3 | | | |
| TPR-5025X130 | 50 | 25 | 130 | 3 | | | |
| TPR-5032X150 | 50 | 32 | 150 | 3 | | | |
| TPR-5032X200 | 50 | 32 | 200 | 3 | | | |
| TPR-5032X250 | 50 | 32 | 250 | 3 | | | |
| TPR-5032X300 | 50 | 32 | 300 | 3 | | | |
| TPR-6332X150 | 63 | 32 | 150 | 4 | | | |
| TPR-6332X200 | 63 | 32 | 200 | 4 | | | |
| TPR-6332X250 | 63 | 32 | 250 | 4 | | | |
| TPR-6332X300 | 63 | 32 | 300 | 4 | | | |

※ISO Code

TPR22 Shoulder Endmill

A039

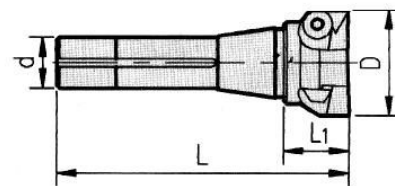


| ITEM | D | d | L | TEETH | INSERT | SCREW | WRENCH |
|----------------|----|----|-----|-------|-------------------------|-----------|---------|
| TPR22-5032X150 | 50 | 32 | 150 | 3 | TPMN2204 TPKN2204PPR | SCR-W5/16 | WRN-M5L |
| TPR22-5042X150 | 50 | 42 | 150 | 3 | | | |
| TPR22-5042X200 | 50 | 42 | 200 | 3 | | | |
| TPR22-6332X150 | 63 | 32 | 150 | 3 | | | |
| TPR22-6332X200 | 63 | 32 | 200 | 3 | | | |
| TPR22-6332X250 | 63 | 32 | 250 | 3 | | | |
| TPR22-6332X300 | 63 | 32 | 300 | 3 | | | |
| TPR22-6342X150 | 63 | 42 | 150 | 3 | | | |
| TPR22-6342X200 | 63 | 42 | 200 | 3 | | | |
| TPR22-6342X250 | 63 | 42 | 250 | 3 | | | |
| TPR22-6342X300 | 63 | 42 | 300 | 3 | | | |

※ISO Code

TPR R8-Shank Shoulder Endmill

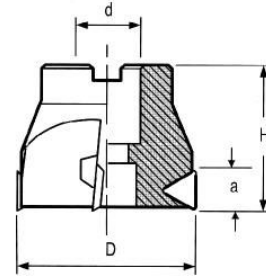
A040



| ITEM | D | L | L ₁ | TEETH | INSERT | SCREW | WRENCH |
|---------------|--------|-----|----------------|-------|----------|-----------|---------|
| TPR-R8X1" | 1" | 145 | 45 | 2 | TPMN1103 | SCR-W3/16 | WRN-M3L |
| TPR-R8X1-1/4" | 1-1/4" | 145 | 45 | 2 | TPMN1603 | SCR-W1/4 | WRN-M4L |
| TPR-R8X1-1/2" | 1-1/2" | 145 | 45 | 3 | | | |
| TPR-R8X1-3/4" | 1-3/4" | 145 | 45 | 3 | | | |
| TPR-R8X2" | 2" | 145 | 45 | 3 | | | |
| TPR-R8X2-1/2" | 2-1/2" | 145 | 45 | 4 | | | |
| TPR-R8X3" | 3" | 145 | 45 | 5 | | | |

※ISO Code

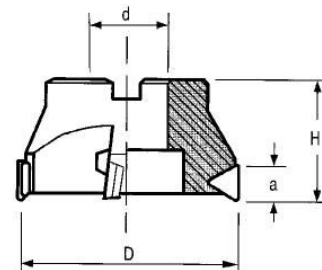
TPR Shoulder Face Milling Cutter A041



| ITEM | D | d | H | a | TEETH | INSERT | SCREW | WRENCH |
|-----------|----|------|----|----|-------|----------|----------|---------|
| TPR-50W/S | 50 | 22 | 50 | 16 | 3 | TPMN1603 | SCR-W1/4 | WRN-M4L |
| TPR-63W/S | 63 | 25.4 | 50 | 16 | 4 | | | |

※ISO Code

TPR Shoulder Face Milling Cutter A042

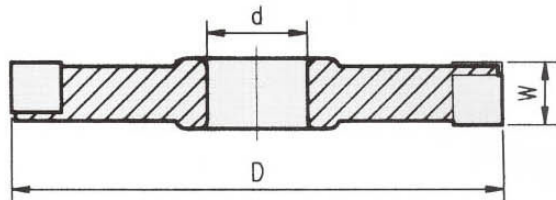


| ITEM | D | d | H | a | TEETH | INSERT | SHIM | CLAMP SCREW | WRENCH | SCREW |
|--------|-----|--------|----|----|-------|-------------------------|------|---------------|---------|---------------|
| TPR-63 | 63 | 25.4 | 50 | 22 | 3 | TPMN2204 TPKN2204PPR | ST-T | SCR- W5/16 | WRN-M5L | SCR- ST-T4 |
| TPR-3 | 80 | 25.4 | 50 | 22 | 4 | | | | WRN-M5T | |
| TPR-4 | 100 | 31.75 | 55 | 22 | 5 | | | | | |
| TPR-5 | 125 | 38.1 | 60 | 22 | 6 | | | | | |
| TPR-6 | 160 | 50.8 | 60 | 22 | 7 | | | | | |
| TPR-8 | 200 | 47.625 | 60 | 22 | 8 | | | | | |
| TPR-10 | 250 | 47.625 | 60 | 22 | 9 | | | | | |
| TPR-12 | 300 | 47.625 | 60 | 22 | 10 | | | | | |

※ISO Code

SC Side Milling Cutter

A043

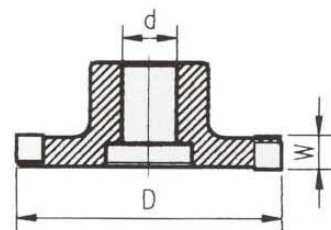


| ITEM | D | d | W | TEETH | INSERT | CLAMP | SCREW | WRENCH |
|-----------|-----|----|----|-------|----------------|---------------|----------------|---------|
| SC-100X16 | 100 | 1" | 16 | 10 | SPUN 120304 | CL-S CL-SL | SCR- CL5/16 | WRN-M4T |
| SC-125X16 | 125 | 1" | 16 | 14 | | | | |
| SC-150X16 | 150 | 1" | 16 | 16 | | | | |
| SC-200X16 | 200 | 1" | 16 | 20 | | | | |

※ISO Code

SCT T-Type Side Milling Cutter

A044

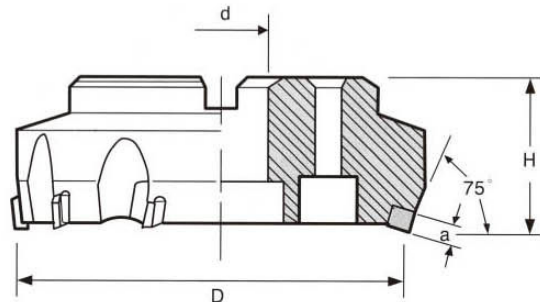


| ITEM | D | d | W | TEETH | INSERT | CLAMP | SCREW | WRENCH |
|------------|-----|--------|----|-------|-----------|---------------|----------------|---------|
| SCT-100X16 | 100 | 1" | 16 | 10 | SPUN-1203 | CL-S CL-SL | SCR- CL5/16 | WRN-M4T |
| SCT-125X16 | 125 | 1-1/4" | 16 | 14 | | | | |
| SCT-125X20 | 125 | 1-1/4" | 20 | 14 | SPUN-1504 | | | |
| SCT-150X16 | 150 | 1-1/4" | 16 | 16 | SPUN-1203 | | | |
| SCT-150X20 | 150 | 1-1/4" | 20 | 16 | SPUN-1504 | | | |
| SCT-200X20 | 200 | 1-1/4" | 20 | 20 | | | | |
| SCT-200X25 | 200 | 1-1/4" | 25 | 20 | | | | |

※ISO Code

FP 15° Face Milling Cutter

A045

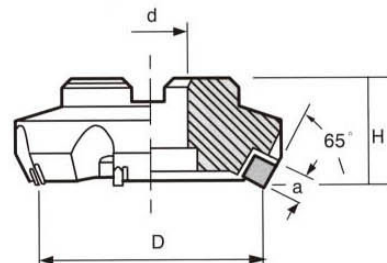


| ITEM | D | d | H | TEETH |
|-------|-----|--------|----|-------|
| FP-3 | 80 | 25.4 | 50 | 5 |
| FP-4 | 100 | 31.75 | 55 | 6 |
| FP-5 | 125 | 38.1 | 60 | 8 |
| FP-6 | 160 | 50.8 | 60 | 10 |
| FP-8 | 200 | 47.625 | 60 | 12 |
| FP-10 | 250 | 47.625 | 60 | 16 |
| FP-12 | 300 | 47.625 | 60 | 20 |

| INSERT | CLAMP SCREW | CLAMP | SHIM SCREW | SHIM | WRENCH |
|-----------------------------|-------------|-------|------------|------|---------|
| SPUN-120308 SPKN-1203EDR | SCR-CL5/16 | CL-S | SCR-ST-S4 | ST-S | WRN-M4T |

※ISO Code

535, 435 25° Face Milling Cutter A046.A047



| ITEM | D | d | H | TEETH |
|--------|-----|--------|----|-------|
| 535-3 | 80 | 25.4 | 50 | 5 |
| 535-4 | 100 | 31.75 | 55 | 5 |
| 535-5 | 125 | 38.1 | 60 | 6 |
| 535-6 | 160 | 50.8 | 60 | 8 |
| 535-8 | 200 | 47.625 | 60 | 10 |
| 535-10 | 250 | 47.625 | 60 | 12 |
| 535-12 | 300 | 47.625 | 60 | 14 |

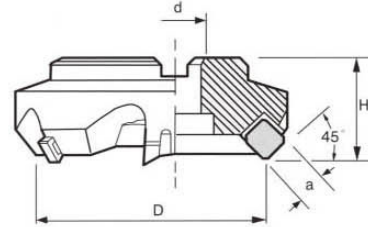
| ITEM | D | d | H | TEETH |
|--------|-----|--------|----|-------|
| 435-3 | 80 | 25.4 | 50 | 6/5 |
| 435-4 | 100 | 31.75 | 55 | 8/5 |
| 435-5 | 125 | 38.1 | 60 | 10/6 |
| 435-6 | 160 | 50.8 | 60 | 12/8 |
| 435-8 | 200 | 47.625 | 60 | 14/10 |
| 435-10 | 250 | 47.625 | 60 | 16/12 |
| 435-12 | 300 | 47.625 | 60 | 20/14 |

| CLAMP SCREW | CLAMP | SHIM SCREW | SHIM | WRENCH |
|-------------|-------|------------|------|---------|
| SCR-CL5/16 | CL-S | SCR-ST-S4 | ST-S | WRN-M4T |

| INSERT FOR 535 | INSERT FOR 435 |
|----------------|----------------|
| SPKN 1504 | SPKN 1204 |

※ISO Code



545, 445 45° Face Milling Cutter A048.A049



| ITEM | D | d | H | TEETH |
|--------|-----|--------|----|-------|
| 545-3 | 80 | 25.4 | 50 | 5 |
| 545-4 | 100 | 31.75 | 55 | 5 |
| 545-5 | 125 | 38.1 | 60 | 6 |
| 545-6 | 160 | 50.8 | 60 | 8 |
| 545-8 | 200 | 47.625 | 60 | 10 |
| 545-10 | 250 | 47.625 | 60 | 12 |
| 545-12 | 300 | 47.625 | 60 | 14 |

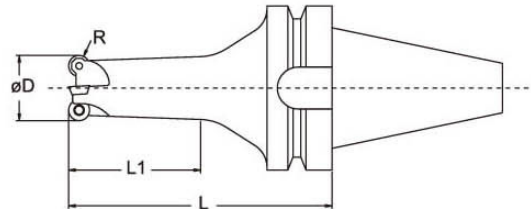
| ITEM | D | d | H | TEETH |
|--------|-----|--------|----|-------|
| 445-3 | 80 | 25.4 | 50 | 5 |
| 445-4 | 100 | 31.75 | 55 | 5 |
| 445-5 | 125 | 38.1 | 60 | 6 |
| 445-6 | 160 | 50.8 | 60 | 8 |
| 445-8 | 200 | 47.625 | 60 | 10 |
| 445-10 | 250 | 47.625 | 60 | 12 |
| 445-12 | 300 | 47.625 | 60 | 14 |

| CLAMP SCREW | CLAMP | SHIM SCREW | SHIM | WRENCH |
|-------------|-------|------------|------|---------|
| SCR-CL5/16 | CL-S | SCR-ST-S4 | ST-S | WRN-M4T |

| INSERT FOR 445 | | INSERT FOR 545 | |
|----------------|--|----------------|---|
| SEKN-1203 |  | SEKN-1504 |  |

※ISO Code

X-POWER Radius Milling Cutter A050

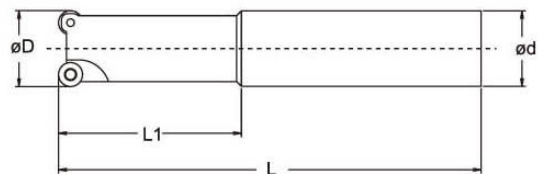


| ITEM | D | L | L ₁ | R | TEETH | INSERT | SCREW | WRENCH |
|--------------------|----|-----|----------------|---|-------|----------|-----------|--------|
| BT40-XQP0820.90.3 | 20 | 90 | 40 | 4 | 3 | QPMT0803 | SCR-QP3 | T8 |
| BT40-XQP0825.100.4 | 25 | 100 | 50 | 4 | 4 | | | |
| BT40-XQP0825.130.4 | 25 | 130 | 80 | 4 | 4 | | | |
| BT40-XQP1025.100.3 | 25 | 100 | 50 | 5 | 3 | QPMT10T3 | SCR-QP3.5 | T15 |
| BT40-XQP1032.100.4 | 32 | 100 | 50 | 5 | 4 | | | |
| BT40-XQP1032.130.4 | 32 | 130 | 80 | 5 | 4 | | | |

※Nachi or Sumitomo inserts recommended

C2334 Radius Endmill

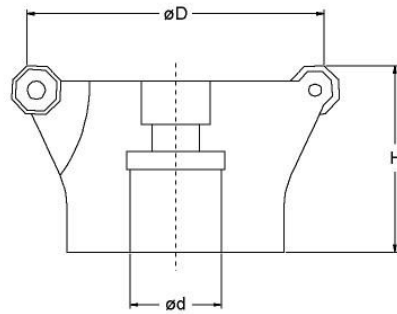
A051



| ITEM | D | d | L ₁ | L | TEETH | INSERT | SCREW | WRENCH |
|------------------|----|----|----------------|-----|-------|----------|---------|--------|
| C2334-4R2020.120 | 20 | 20 | 50 | 120 | 3 | ROMX0803 | SCR-RO3 | T10 |
| C2334-4R2525.140 | 25 | 25 | 60 | 140 | 3 | | | |
| C2334-4R3232.170 | 32 | 32 | 80 | 170 | 4 | | | |

※Walter inserts recommended

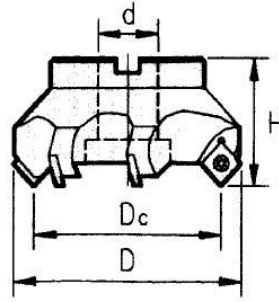
C2280 Octagon Face Milling Cutter A052



| ITEM | D | d | H | TEETH | INSERT | SCREW | WRENCH |
|------------------|-----|--------|----|-------|----------------------|-----------|--------|
| C2280-50X22 | 50 | 22 | 40 | 4 | ODMT0504 ODHT0504 | SCR-OD3.5 | T15 |
| C2280-63X25.4 | 63 | 25.4 | 40 | 6 | | | |
| C2280-63X22 | 63 | 22 | 40 | 6 | | | |
| C2280-80X25.4 | 80 | 25.4 | 50 | 7 | | | |
| C2280-80X27 | 80 | 27 | 50 | 7 | | | |
| C2280-100X31.75 | 100 | 31.75 | 50 | 8 | | | |
| C2280-100X32 | 100 | 32 | 50 | 8 | | | |
| C2280-125X38.1 | 125 | 38.1 | 63 | 10 | | | |
| C2280-125X40 | 125 | 40 | 63 | 10 | | | |
| C2280-160X50.8 | 160 | 50.8 | 63 | 12 | | | |
| C2280-160X40 | 160 | 40 | 63 | 12 | | | |
| C2280-200X47.625 | 200 | 47.625 | 63 | 14 | | | |
| C2280-200X60 | 200 | 60 | 63 | 14 | | | |

※Walter inserts recommended

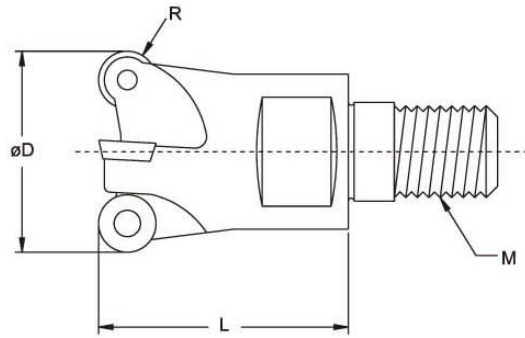
SE13 High Speed Face Milling Cutter A053



| <i>ITEM</i> | <i>D</i> | <i>d</i> | <i>H</i> | <i>TEETH</i> | <i>INSERT</i> | <i>SCREW</i> | <i>WRENCH</i> |
|----------------|----------|----------|----------|--------------|---------------|--------------|---------------|
| SE13-63X25.4 | 63 | 25.4 | 40 | 5 | SEMT13T3 | SCR-SE4 | T15 |
| SE13-63X22 | 63 | 22 | 40 | 5 | | | |
| SE13-80X25.4 | 80 | 25.4 | 50 | 6 | | | |
| SE13-80X27 | 80 | 27 | 50 | 6 | | | |
| SE13-100X31.75 | 100 | 31.75 | 50 | 6 | | | |
| SE13-100X32 | 100 | 32 | 50 | 6 | | | |
| SE13-125X38.1 | 125 | 38.1 | 63 | 8 | | | |
| SE13-125X40 | 125 | 40 | 63 | 8 | | | |
| SE13-150X50.8 | 160 | 50.8 | 63 | 10 | | | |
| SE13-150X40 | 150 | 40 | 63 | 10 | | | |
| SE13-200X47.62 | 200 | 47.625 | 63 | 12 | | | |
| SE13-200X60 | 200 | 60 | 63 | 12 | | | |

※Mitsubishi or Sandvik inserts recommended

RD Radius Corner Modular Endmill A054

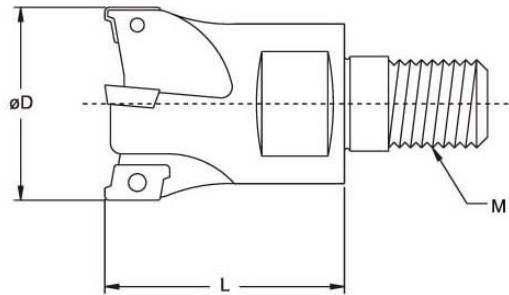


| <i>ITEM</i> | <i>D</i> | <i>L</i> | <i>M</i> | <i>R</i> | <i>TEETH</i> | <i>INSERT</i> | <i>SCREW</i> | <i>WRENCH</i> |
|---------------|----------|----------|----------|----------|--------------|---------------|--------------|---------------|
| RD05-1002M5 | 10 | 18 | M5 | 2.5 | 2 | RDHW0501 | SCR-RD2.0 | T6 |
| RD05-1102M5 | 11 | 18 | M5 | 2.5 | 2 | | | |
| RD05-1203M6 | 12 | 19 | M6 | 2.5 | 3 | | | |
| RD05-1303M6 | 13 | 19 | M6 | 2.5 | 3 | | | |
| RD07-1603M8 | 16 | 23 | M8 | 3.5 | 3 | RDMT0702 | SCR-RD2.5 | T8 |
| RD07-1703M8 | 17 | 23 | M8 | 3.5 | 3 | | | |
| RD07-2003M10 | 20 | 30 | M10 | 3.5 | 3 | | | |
| RD07-2103M10 | 21 | 30 | M10 | 3.5 | 3 | | | |
| RD07-2504M12 | 25 | 35 | M12 | 3.5 | 4 | | | |
| RD07-2505M12 | 25 | 35 | M12 | 3.5 | 5 | | | |
| RD07-2604M12 | 26 | 35 | M12 | 3.5 | 4 | | | |
| RD07-3505M16 | 35 | 43 | M16 | 3.5 | 5 | RDMT1003 | SCR-RD3.5 | T15 |
| RD10-35C03M16 | 35 | 43 | M16 | 5 | 3 | | | |
| RD10-35C04M16 | 35 | 43 | M16 | 5 | 4 | | | |

※ Safety inserts recommended

RT Lightning Modular Endmill

A055

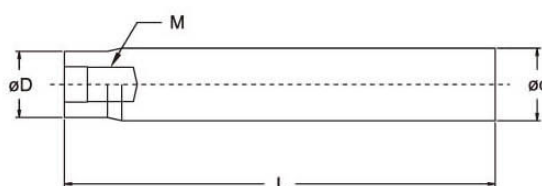


| <i>ITEM</i> | <i>D</i> | <i>L</i> | <i>M</i> | <i>TEETH</i> | <i>INSERT</i> | <i>SCREW</i> | <i>WRENCH</i> |
|------------------|----------|----------|----------|--------------|---------------|--------------|---------------|
| RT07-1002M5-KNS | 10 | 18 | M5 | 2 | RT0702 | SCR-RT2.0 | T6 |
| RT07-1102M5-KNS | 11 | 18 | M5 | 2 | | | |
| RT07-1202M6-KNS | 12 | 19 | M6 | 2 | | | |
| RT07-1302M6-KNS | 13 | 19 | M8 | 2 | | | |
| RT07-1603M8-KNS | 16 | 25 | M8 | 3 | | | |
| RT07-1703M8-KNS | 17 | 25 | M8 | 3 | | | |
| RT10-1602M8-KNS | 16 | 25 | M8 | 2 | RT1003 | SCR-RT2.5 | T8 |
| RT10-1702M8-KNS | 17 | 25 | M8 | 2 | | | |
| RT10-2003M10-KNS | 20 | 30 | M10 | 3 | | | |
| RT10-2103M10-KNS | 21 | 30 | M10 | 3 | | | |
| RT10-2503M12-KNS | 25 | 35 | M12 | 3 | | | |
| RT10-2603M12-KNS | 26 | 35 | M12 | 3 | | | |
| RT10-3504M16-KNS | 35 | 43 | M16 | 4 | | | |

※Safety inserts recommended

EXT Modular Extension Bar

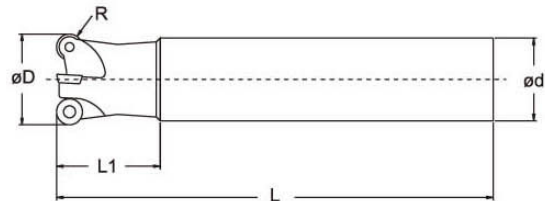
A056



| <i>ITEM</i> | <i>D</i> | <i>d</i> | <i>M</i> | <i>L</i> |
|----------------|----------|----------|----------|----------|
| EXT-D10M5-100 | 9.5 | 10 | M5 | 100 |
| EXT-D12M6-100 | 11.5 | 12 | M6 | 100 |
| EXT-D16M8-130 | 14 | 16 | M8 | 130 |
| EXT-D16M8-180 | 14 | 16 | M8 | 180 |
| EXT-D20M10-130 | 18 | 20 | M10 | 130 |
| EXT-D20M10-180 | 18 | 20 | M10 | 180 |
| EXT-D25M12-200 | 23 | 25 | M12 | 200 |
| EXT-D25M12-250 | 23 | 25 | M12 | 250 |
| EXT-D25M12-300 | 23 | 25 | M12 | 300 |
| EXT-D32M16-200 | 29 | 32 | M16 | 200 |
| EXT-D32M16-250 | 29 | 32 | M16 | 250 |
| EXT-D32M16-300 | 29 | 32 | M16 | 300 |
| EXT-D32M16-350 | 29 | 32 | M16 | 350 |

RD Radius Corner Endmill

A057

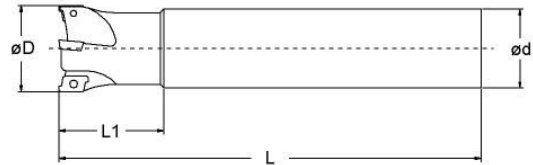


| ITEM | D | d | L | L ₁ | R | TEETH | INSERT | SCREW | WRENCH |
|----------------------|----|----|-----|----------------|-----|-------|----------|-----------|--------|
| RD05-1002.10X100KNS | 10 | 10 | 100 | 30 | 2.5 | 2 | RDWH0501 | SCR-RD2.0 | T6 |
| RD05-1102.10X100KNS | 11 | 10 | 100 | 30 | 2.5 | 2 | | | |
| RD05-1203.12X100KNS | 12 | 12 | 100 | 30 | 2.5 | 3 | | | |
| RD05-1303.12X100KNS | 13 | 12 | 100 | 30 | 2.5 | 3 | | | |
| RD07-1603.16X150KNS | 16 | 16 | 150 | 30 | 3.5 | 3 | RDWT0702 | SCR-RD2.5 | T8 |
| RD07-1703.16X150KNS | 17 | 16 | 150 | 30 | 3.5 | 3 | | | |
| RD07-1703.16X200KNS | 17 | 16 | 200 | 30 | 3.5 | 3 | | | |
| RD07-2003.20X150KNS | 20 | 20 | 150 | 30 | 3.5 | 3 | | | |
| RD07-2103.20X150KNS | 21 | 20 | 150 | 30 | 3.5 | 3 | | | |
| RD07-2103.20X200KNS | 21 | 20 | 200 | 30 | 3.5 | 3 | | | |
| RD07-2504.25X150KNS | 25 | 25 | 150 | 30 | 3.5 | 4 | | | |
| RD07-2604.25X150KNS | 26 | 25 | 150 | 30 | 3.5 | 4 | | | |
| RD07-2604.25X200KNS | 26 | 25 | 200 | 30 | 3.5 | 4 | | | |
| RD10-35C03.32X150KNS | 35 | 32 | 150 | 50 | 5 | 3 | RDWT1003 | SCR-RD3.5 | T15 |
| RD10-35C03.32X200KNS | 35 | 32 | 200 | 50 | 5 | 3 | | | |
| RD10-35C03.32X250KNS | 35 | 32 | 250 | 50 | 5 | 3 | | | |
| RD10-35C03.32X300KNS | 35 | 32 | 300 | 50 | 5 | 3 | | | |
| RD10-35C04.32X150KNS | 35 | 32 | 150 | 50 | 5 | 4 | | | |
| RD10-35C04.32X200KNS | 35 | 32 | 200 | 50 | 5 | 4 | | | |

※ Safety inserts recommended

RT Lightning Endmill

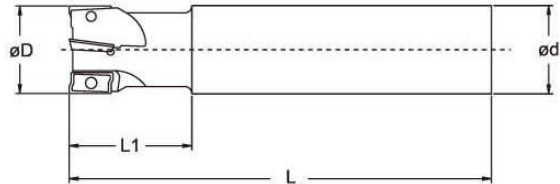
A058



| ITEM | D | d | L | L ₁ | TEETH | INSERT | SCREW | WRENCH |
|---------------------|----|----|-----|----------------|-------|--------|-----------|--------|
| RT07-1002.10X120KNS | 10 | 10 | 120 | 30 | 2 | RT0702 | SCR-RT2.0 | T6 |
| RT07-1102.10X120KNS | 11 | 10 | 120 | 30 | 2 | | | |
| RT07-1202.12X130KNS | 12 | 12 | 130 | 30 | 2 | | | |
| RT07-1302.12X130KNS | 13 | 12 | 130 | 30 | 2 | | | |
| RT07-1603.16X150KNS | 16 | 16 | 150 | 30 | 3 | | | |
| RT07-1703.16X150KNS | 17 | 16 | 150 | 30 | 3 | | | |
| RT10-1602.16X150KNS | 16 | 16 | 150 | 50 | 2 | RT1003 | SCR-RT2.5 | T8 |
| RT10-1702.16X150KNS | 17 | 16 | 150 | 50 | 2 | | | |
| RT10-1702.16X200KNS | 17 | 16 | 200 | 50 | 2 | | | |
| RT10-2003.20X150KNS | 20 | 20 | 150 | 50 | 3 | | | |
| RT10-2103.20X150KNS | 21 | 20 | 150 | 50 | 3 | | | |
| RT10-2103.20X200KNS | 21 | 20 | 200 | 50 | 3 | | | |
| RT10-2103.20X250KNS | 21 | 20 | 250 | 50 | 3 | | | |
| RT10-2503.25X200KNS | 25 | 25 | 200 | 50 | 3 | | | |
| RT10-2603.25X150KNS | 26 | 25 | 150 | 50 | 3 | | | |
| RT10-2603.25X200KNS | 26 | 25 | 200 | 50 | 3 | | | |
| RT10-2603.25X250KNS | 26 | 25 | 250 | 50 | 3 | | | |
| RT10-2603.25X300KNS | 26 | 25 | 300 | 50 | 3 | | | |
| RT10-3504.32X150KNS | 35 | 32 | 150 | 50 | 4 | | | |
| RT10-3504.32X200KNS | 35 | 32 | 200 | 50 | 4 | | | |
| RT10-3504.32X250KNS | 35 | 32 | 250 | 50 | 4 | | | |
| RT10-3504.32X300KNS | 35 | 32 | 300 | 50 | 4 | | | |

※ Safety inserts recommended

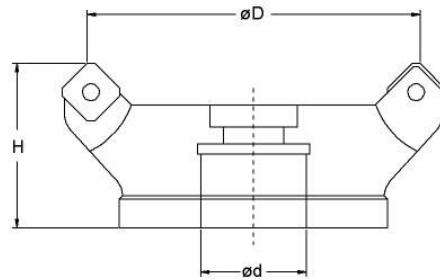
APX High-Speed Rough Endmill A059



| <i>ITEM</i> | <i>D</i> | <i>d</i> | <i>L</i> | <i>L₁</i> | <i>TEETH</i> | <i>INSERT</i> | <i>SCREW</i> | <i>WRENCH</i> |
|----------------|----------|----------|----------|----------------------|--------------|----------------|----------------|---------------|
| APX12-1616X120 | 16 | 16 | 120 | 24 | 2 | AOMT 123608 | SCR- APX2.5 | T8 |
| APX12-1616X150 | 16 | 16 | 150 | 24 | 2 | | | |
| APX12-1716X150 | 17 | 16 | 150 | 24 | 2 | | | |
| APX12-2020X150 | 20 | 20 | 150 | 29 | 3 | | | |
| APX12-2120X150 | 21 | 20 | 150 | 29 | 3 | | | |
| APX12-2120X200 | 21 | 20 | 200 | 29 | 3 | | | |
| APX12-2525X150 | 25 | 25 | 150 | 34 | 4 | | | |
| APX12-2525X200 | 25 | 25 | 200 | 34 | 4 | | | |
| APX12-2625X200 | 26 | 25 | 200 | 34 | 4 | | | |

※Mitsubishi inserts recommended

C4033 Powerful Face Milling Cutter A060

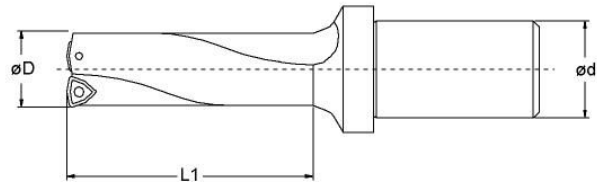


| <i>ITEM</i> | <i>D</i> | <i>d</i> | <i>H</i> | <i>TEETH</i> | <i>INSERT</i> | <i>SCREW</i> | <i>WRENCH</i> |
|------------------|----------|----------|----------|--------------|----------------------|--------------|---------------|
| C4033-50X22 | 50 | 22 | 40 | 4 | SNMX1205 SNGX1205 | SCR-SN4 | T15 |
| C4033-63X25.4 | 63 | 25.4 | 40 | 6 | | | |
| C4033-63X22 | 63 | 22 | 40 | 6 | | | |
| C4033-80X25.4 | 80 | 25.4 | 50 | 6 | | | |
| C4033-80X27 | 80 | 27 | 50 | 6 | | | |
| C4033-100X31.75 | 100 | 31.75 | 50 | 8 | | | |
| C4033-100X32 | 100 | 32 | 50 | 8 | | | |
| C4033-125X38.1 | 125 | 38.1 | 63 | 10 | | | |
| C4033-125X40 | 125 | 40 | 63 | 10 | | | |
| C4033-160X50.8 | 160 | 50.8 | 63 | 12 | | | |
| C4033-160X40 | 160 | 40 | 63 | 12 | | | |
| C4033-200X47.625 | 200 | 47.625 | 63 | 18 | | | |
| C4033-200X60 | 200 | 60 | 63 | 18 | | | |

※Walter inserts recommended

EXD Power Super Drill 2D

A061

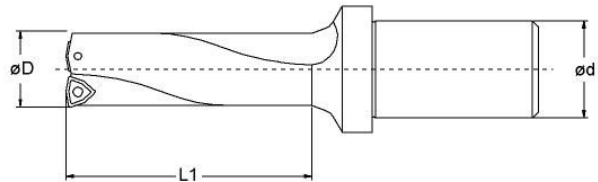


| ITEM | D | d | L ₁ | INSERT | SCREW | WRENCH |
|-------------|----|----|----------------|------------|------------|--------|
| EXD-15X2-25 | 15 | 25 | 30 | WCMX030208 | SCR-EXD2.5 | T8 |
| EXD-16X2-25 | 16 | 25 | 32 | | | |
| EXD-17X2-25 | 17 | 25 | 34 | | | |
| EXD-18X2-25 | 18 | 25 | 36 | | | |
| EXD-19X2-25 | 19 | 25 | 38 | | | |
| EXD-20X2-25 | 20 | 25 | 40 | | | |
| EXD-21X2-32 | 21 | 32 | 42 | WCMX040208 | SCR-EXD2.5 | T8 |
| EXD-22X2-32 | 22 | 32 | 44 | | | |
| EXD-23X2-32 | 23 | 32 | 46 | | | |
| EXD-24X2-32 | 24 | 32 | 48 | | | |
| EXD-25X2-32 | 25 | 32 | 50 | | | |
| EXD-26X2-32 | 26 | 32 | 52 | WCMX050308 | SCR-EXD3 | T8 |
| EXD-27X2-32 | 27 | 32 | 54 | | | |
| EXD-28X2-32 | 28 | 32 | 56 | | | |
| EXD-29X2-32 | 29 | 32 | 58 | | | |
| EXD-30X2-32 | 30 | 32 | 60 | | | |
| EXD-31X2-32 | 31 | 32 | 62 | WCMX06T308 | SCR-EXD3.5 | T15 |
| EXD-32X2-32 | 32 | 32 | 64 | | | |
| EXD-33X2-32 | 33 | 32 | 66 | | | |
| EXD-34X2-32 | 34 | 32 | 68 | | | |
| EXD-35X2-32 | 35 | 32 | 70 | | | |

※ ISO Code

EXD Power Super Drill 3D

A062

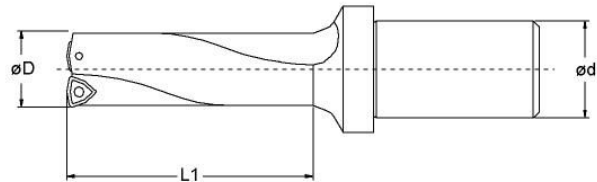


| <i>ITEM</i> | <i>D</i> | <i>d</i> | <i>L₁</i> | <i>INSERT</i> | <i>SCREW</i> | <i>WRENCH</i> |
|-------------|----------|----------|----------------------|---------------|--------------|---------------|
| EXD-14X3-25 | 14 | 25 | 42 | WCMX030208 | SCR-EXD2.5 | T8 |
| EXD-15X3-25 | 15 | 25 | 45 | | | |
| EXD-16X3-25 | 16 | 25 | 48 | | | |
| EXD-17X3-25 | 17 | 25 | 51 | | | |
| EXD-18X3-25 | 18 | 25 | 54 | | | |
| EXD-19X3-25 | 19 | 25 | 57 | | | |
| EXD-20X3-25 | 20 | 25 | 60 | | | |
| EXD-21X3-32 | 21 | 32 | 63 | WCMX040208 | SCR-EXD2.5 | T8 |
| EXD-22X3-32 | 22 | 32 | 66 | | | |
| EXD-23X3-32 | 23 | 32 | 69 | | | |
| EXD-24X3-32 | 24 | 32 | 72 | | | |
| EXD-25X3-32 | 25 | 32 | 75 | | | |
| EXD-26X3-32 | 26 | 32 | 78 | WCMX050308 | SCR-EXD3 | T8 |
| EXD-27X3-32 | 27 | 32 | 81 | | | |
| EXD-28X3-32 | 28 | 32 | 84 | | | |
| EXD-29X3-32 | 29 | 32 | 87 | | | |
| EXD-30X3-32 | 30 | 32 | 90 | | | |
| EXD-31X3-32 | 31 | 32 | 93 | WCMX06T308 | SCR-EXD3.5 | T15 |
| EXD-32X3-32 | 32 | 32 | 96 | | | |
| EXD-33X3-32 | 33 | 32 | 99 | | | |
| EXD-34X3-32 | 34 | 32 | 102 | | | |
| EXD-35X3-32 | 35 | 32 | 105 | | | |
| EXD-36X3-32 | 36 | 32 | 108 | | | |
| EXD-37X3-32 | 37 | 32 | 111 | | | |

※ISO Code

EXD Power Super Drill 3D

A062

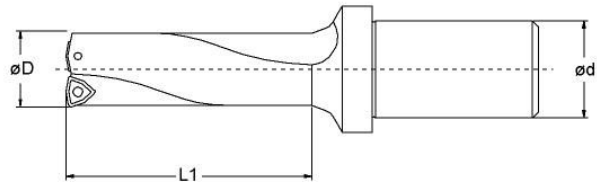


| ITEM | D | d | L ₁ | INSERT | SCREW | WRENCH |
|-------------|----|----|----------------|--------------|------------|--------|
| EXD-38X3-32 | 38 | 32 | 114 | WCMX06T308 | SCR-EXD3.5 | T15 |
| EXD-39X3-32 | 39 | 32 | 117 | | | |
| EXD-40X3-40 | 40 | 40 | 120 | | | |
| EXD-41X3-40 | 41 | 40 | 123 | | | |
| EXD-42X3-40 | 42 | 40 | 126 | | | |
| EXD-43X3-40 | 43 | 40 | 129 | WCMX080408 | SCR-EXD4 | T15 |
| EXD-44X3-40 | 44 | 40 | 132 | | | |
| EXD-45X3-40 | 45 | 40 | 135 | | | |
| EXD-46X3-40 | 46 | 40 | 138 | | | |
| EXD-47X3-40 | 47 | 40 | 141 | | | |
| EXD-48X3-40 | 48 | 40 | 144 | | | |
| EXD-49X3-40 | 49 | 40 | 147 | | | |
| EXD-50X3-40 | 50 | 40 | 150 | | | |
| EXD-51X3-40 | 51 | 40 | 153 | | | |
| EXD-52X3-40 | 52 | 40 | 156 | | | |
| EXD-53X3-40 | 53 | 40 | 159 | | | |
| EXD-54X3-40 | 54 | 40 | 162 | WCMX06T3084T | SCR-EXD3.5 | T15 |
| EXD-55X3-40 | 55 | 40 | 165 | | | |
| EXD-56X3-40 | 56 | 40 | 168 | | | |
| EXD-57X3-40 | 57 | 40 | 171 | | | |
| EXD-58X3-40 | 58 | 40 | 174 | | | |
| EXD-59X3-40 | 59 | 40 | 177 | | | |
| EXD-60X3-40 | 60 | 40 | 180 | | | |

※ISO Code

EXD Power Super Drill 4D

A063

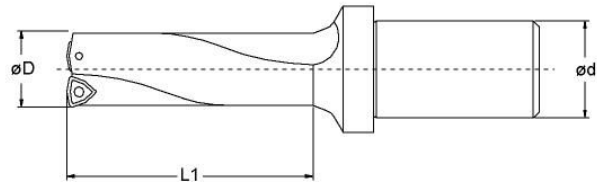


| <i>ITEM</i> | <i>D</i> | <i>d</i> | <i>L₁</i> | <i>INSERT</i> | <i>SCREW</i> | <i>WRENCH</i> |
|-------------|----------|----------|----------------------|---------------|--------------|---------------|
| EXD-15X4-25 | 15 | 25 | 60 | WCMX030208 | SCR-EXD2.5 | T8 |
| EXD-16X4-25 | 16 | 25 | 64 | | | |
| EXD-17X4-25 | 17 | 25 | 68 | | | |
| EXD-18X4-25 | 18 | 25 | 72 | | | |
| EXD-19X4-25 | 19 | 25 | 76 | | | |
| EXD-20X4-25 | 20 | 25 | 80 | | | |
| EXD-21X4-32 | 21 | 32 | 84 | WCMX040208 | SCR-EXD2.5 | T8 |
| EXD-22X4-32 | 22 | 32 | 88 | | | |
| EXD-23X4-32 | 23 | 32 | 92 | | | |
| EXD-24X4-32 | 24 | 32 | 96 | | | |
| EXD-25X4-32 | 25 | 32 | 100 | | | |
| EXD-26X4-32 | 26 | 32 | 104 | WCMX050308 | SCR-EXD3 | T8 |
| EXD-27X4-32 | 27 | 32 | 108 | | | |
| EXD-28X4-32 | 28 | 32 | 112 | | | |
| EXD-29X4-32 | 29 | 32 | 116 | | | |
| EXD-30X4-32 | 30 | 32 | 120 | | | |
| EXD-31X4-32 | 31 | 32 | 124 | WCMX06T308 | SCR-EXD3.5 | T15 |
| EXD-32X4-32 | 32 | 32 | 128 | | | |
| EXD-33X4-32 | 33 | 32 | 132 | | | |
| EXD-34X4-32 | 34 | 32 | 136 | | | |
| EXD-35X4-32 | 35 | 32 | 140 | | | |
| EXD-36X4-32 | 36 | 32 | 144 | | | |
| EXD-37X4-32 | 37 | 32 | 148 | | | |

※ISO Code

EXD Power Super Drill 4D

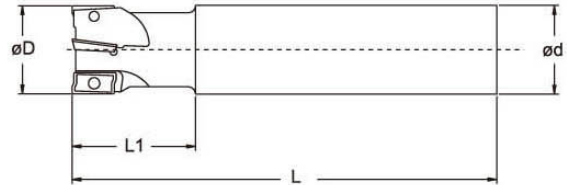
A063



| ITEM | D | d | L ₁ | INSERT | SCREW | WRENCH |
|-------------|----|----|----------------|------------|------------|--------|
| EXD-38X4-32 | 38 | 32 | 152 | WCMX06T308 | SCR-EXD3.5 | T15 |
| EXD-39X4-32 | 39 | 32 | 156 | | | |
| EXD-40X4-40 | 40 | 40 | 160 | | | |
| EXD-41X4-40 | 41 | 40 | 164 | | | |
| EXD-42X4-40 | 42 | 40 | 168 | | | |
| EXD-43X4-40 | 43 | 40 | 172 | WCMX080412 | SCR-EXD4 | T15 |
| EXD-44X4-40 | 44 | 40 | 176 | | | |
| EXD-45X4-40 | 45 | 40 | 180 | | | |
| EXD-46X4-40 | 46 | 40 | 184 | | | |
| EXD-47X4-40 | 47 | 40 | 188 | | | |
| EXD-48X4-40 | 48 | 40 | 192 | | | |
| EXD-49X4-40 | 49 | 40 | 196 | | | |
| EXD-50X4-40 | 50 | 40 | 200 | | | |
| EXD-51X4-40 | 51 | 40 | 204 | | | |
| EXD-52X4-40 | 52 | 40 | 208 | | | |
| EXD-53X4-40 | 53 | 40 | 212 | | | |
| EXD-54X4-40 | 54 | 40 | 216 | | | |
| EXD-55X4-40 | 55 | 40 | 220 | WCMX06T308 | SCR-EXD3.5 | T15 |
| EXD-56X4-40 | 56 | 40 | 224 | | | |
| EXD-57X4-40 | 57 | 40 | 228 | | | |
| EXD-58X4-40 | 58 | 40 | 232 | | | |
| EXD-59X4-40 | 59 | 40 | 236 | | | |
| EXD-60X4-40 | 60 | 40 | 240 | | | |

※ISO Code

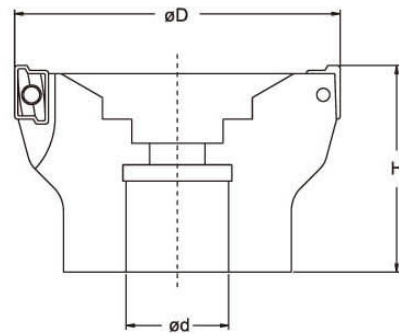
WEX High-Speed Rough Endmill A064



| ITEM | D | d | L | L ₁ | TEETH | INSERT | SCREW | WRENCH |
|----------------|----|----|-----|----------------|-------|----------|----------|--------|
| WEX12-1616X100 | 16 | 16 | 100 | 25 | 2 | AXMT1235 | SCR-WEX3 | T8 |
| WEX12-1816X100 | 18 | 16 | 100 | 25 | 2 | | | |
| WEX12-2020X110 | 20 | 20 | 110 | 30 | 3 | | | |
| WEX12-2020X150 | 20 | 20 | 150 | 40 | 3 | | | |
| WEX12-2220X110 | 22 | 20 | 110 | 30 | 3 | | | |
| WEX12-2525X120 | 25 | 25 | 120 | 35 | 4 | | | |
| WEX12-2525X170 | 25 | 25 | 170 | 50 | 4 | | | |
| WEX12-2825X120 | 28 | 25 | 120 | 35 | 4 | | | |
| WEX12-3232X130 | 32 | 32 | 130 | 40 | 5 | | | |
| WEX12-3232X180 | 32 | 32 | 180 | 60 | 5 | | | |
| WEX17-2525X120 | 25 | 25 | 120 | 35 | 2 | AXMT1705 | SCR-WEX4 | T15 |
| WEX17-2625X120 | 26 | 25 | 120 | 35 | 2 | | | |
| WEX17-2825X120 | 28 | 25 | 120 | 35 | 2 | | | |
| WEX17-3232X130 | 32 | 32 | 130 | 40 | 3 | | | |
| WEX17-3232X180 | 32 | 32 | 180 | 60 | 3 | | | |
| WEX17-3532X130 | 35 | 32 | 130 | 40 | 3 | | | |
| WEX17-4032X170 | 40 | 32 | 170 | 50 | 4 | | | |

※Nachi or Sumitomo inserts recommended

WEX High-Speed Rough Face Milling Cutter A065



| <i>ITEM</i> | <i>D</i> | <i>d</i> | <i>H</i> | <i>TEETH</i> | <i>INSERT</i> | <i>SCREW</i> | <i>WRENCH</i> |
|-----------------|----------|----------|----------|--------------|---------------|--------------|---------------|
| WEX12-50X22 | 50 | 22 | 40 | 7 | AXMT1235 | SCR-WEX3 | T8 |
| WEX12-63X22 | 63 | 22 | 40 | 8 | | | |
| WEX17-50X22 | 50 | 22 | 40 | 5 | AXMT1705 | SCR-WEX4 | T15 |
| WEX17-63X22 | 63 | 22 | 40 | 6 | | | |
| WEX17-80X25.4 | 80 | 25.4 | 50 | 7 | | | |
| WEX17-100X31.75 | 100 | 31.75 | 63 | 8 | | | |
| WEX17-125X38.1 | 125 | 38.1 | 63 | 9 | | | |

※Nachi or Sumitomo inserts recommended