

# MAGIC DRILL SERIES



# HSD Magic Drill

## Product Feature

Force balanced design.

The inner and outer cutting edges are made of double materials, HPA025B is black, HPA225B is yellow, And it is easier to identify by using of inner and outer cutting edges.

(Inner edge is made of HPA025B, outer edge is made of HPA225B)

Excellent the chips removal.

Good processing surface.

4 corner cutting edge, reduce the tool cost.

Realize the diversity of processing.

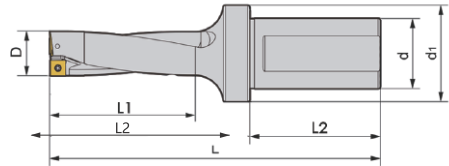
Length of drill hole L/D: 2-5 times of diameter

Cooling system: inner cooling structure

Range of diameter:  $\Phi 12.5$ - $\Phi 50$ mm



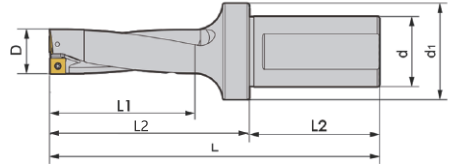
# HSD20 Magic Drill Specification



| Part number        | Size |    |    |     |    |    | Insert     | Screw | Wrench |
|--------------------|------|----|----|-----|----|----|------------|-------|--------|
|                    | D    | d  | d1 | L   | L1 | L2 |            |       |        |
| HSD20-C20-125-SP05 | 12.5 | 20 | 25 | 94  | 26 | 50 | SP**050204 | T2040 | TIP6   |
| HSD20-C20-130-SP05 | 13   | 20 | 25 | 94  | 26 | 50 |            |       |        |
| HSD20-C20-135-SP05 | 13.5 | 20 | 25 | 96  | 28 | 50 |            |       |        |
| HSD20-C20-140-SP05 | 14   | 20 | 25 | 96  | 28 | 50 |            |       |        |
| HSD20-C20-145-SP05 | 14.5 | 20 | 25 | 99  | 30 | 50 |            |       |        |
| HSD20-C20-150-SP05 | 15   | 20 | 25 | 99  | 30 | 50 |            |       |        |
| HSD20-C25-160-SP06 | 16   | 25 | 32 | 108 | 32 | 56 | SP**060204 | T2250 | TIP6   |
| HSD20-C25-165-SP06 | 16.5 | 25 | 32 | 110 | 34 | 56 |            |       |        |
| HSD20-C25-170-SP06 | 17   | 25 | 32 | 110 | 34 | 56 |            |       |        |
| HSD20-C25-175-SP06 | 17.5 | 25 | 32 | 113 | 36 | 56 |            |       |        |
| HSD20-C25-180-SP06 | 18   | 25 | 32 | 115 | 38 | 56 |            |       |        |
| HSD20-C25-185-SP06 | 18.5 | 25 | 32 | 115 | 38 | 56 |            |       |        |
| HSD20-C25-190-SP06 | 19   | 25 | 32 | 116 | 38 | 56 |            |       |        |
| HSD20-C25-195-SP06 | 19.5 | 25 | 32 | 119 | 40 | 56 |            |       |        |
| HSD20-C25-200-SP06 | 20   | 25 | 32 | 119 | 40 | 56 |            |       |        |
| HSD20-C25-210-SP06 | 21   | 25 | 32 | 121 | 42 | 56 |            |       |        |
| HSD20-C25-215-SP06 | 21.5 | 25 | 32 | 123 | 44 | 56 | SP**07T308 | T2560 | TIP8   |
| HSD20-C25-220-SP07 | 22   | 25 | 32 | 123 | 44 | 56 |            |       |        |
| HSD20-C25-225-SP07 | 22.5 | 25 | 32 | 127 | 46 | 56 |            |       |        |
| HSD20-C25-230-SP07 | 23   | 25 | 45 | 127 | 46 | 56 |            |       |        |
| HSD20-C25-235-SP07 | 23.5 | 25 | 45 | 130 | 48 | 56 |            |       |        |
| HSD20-C25-240-SP07 | 24   | 25 | 45 | 130 | 48 | 56 |            |       |        |
| HSD20-C25-245-SP07 | 24.5 | 25 | 45 | 133 | 50 | 56 |            |       |        |
| HSD20-C25-250-SP07 | 25   | 25 | 45 | 133 | 50 | 56 |            |       |        |
| HSD20-C25-255-SP07 | 25.5 | 25 | 45 | 135 | 52 | 56 |            |       |        |
| HSD20-C25-260-SP07 | 26   | 25 | 45 | 135 | 52 | 56 |            |       |        |
| HSD20-C25-265-SP07 | 26.5 | 25 | 45 | 137 | 54 | 56 | SP**090408 | T3590 | TIP15  |
| HSD20-C32-280-SP09 | 28   | 32 | 45 | 144 | 56 | 60 |            |       |        |
| HSD20-C32-285-SP09 | 28.5 | 32 | 45 | 146 | 58 | 60 |            |       |        |
| HSD20-C32-290-SP09 | 29   | 32 | 45 | 146 | 58 | 60 |            |       |        |
| HSD20-C32-295-SP09 | 29.5 | 32 | 55 | 151 | 60 | 60 |            |       |        |
| HSD20-C32-300-SP09 | 30   | 32 | 55 | 151 | 60 | 60 |            |       |        |
| HSD20-C32-310-SP09 | 31   | 32 | 55 | 154 | 62 | 60 |            |       |        |
| HSD20-C32-320-SP09 | 32   | 32 | 55 | 156 | 64 | 60 |            |       |        |
| HSD20-C32-330-SP09 | 33   | 32 | 55 | 158 | 66 | 60 |            |       |        |

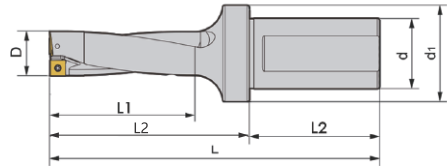
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## HSD20 Magic Drill Specification



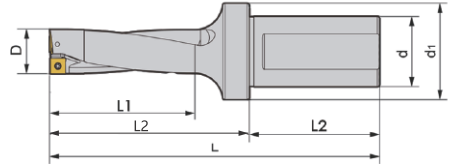
| Part number        | Size |    |    |     |     |    | Insert     | Screw | Wrench |
|--------------------|------|----|----|-----|-----|----|------------|-------|--------|
|                    | D    | d  | d1 | L   | L1  | L2 |            |       |        |
| HSD20-C40-340-SP11 | 34   | 40 | 55 | 173 | 68  | 70 | SP**110408 | T4090 | TIP15  |
| HSD20-C40-350-SP11 | 35   | 40 | 55 | 175 | 70  | 70 |            |       |        |
| HSD20-C40-360-SP11 | 36   | 40 | 55 | 177 | 72  | 70 |            |       |        |
| HSD20-C40-370-SP11 | 37   | 40 | 55 | 179 | 74  | 70 |            |       |        |
| HSD20-C40-380-SP11 | 38   | 40 | 55 | 183 | 76  | 70 |            |       |        |
| HSD20-C40-385-SP11 | 38.5 | 40 | 55 | 185 | 78  | 70 |            |       |        |
| HSD20-C40-390-SP11 | 39   | 40 | 55 | 185 | 78  | 70 |            |       |        |
| HSD20-C40-400-SP11 | 40   | 40 | 60 | 189 | 80  | 70 |            |       |        |
| HSD20-C40-410-SP11 | 41   | 40 | 60 | 191 | 82  | 70 |            |       |        |
| HSD20-C40-420-SP14 | 42   | 40 | 60 | 193 | 84  | 70 |            |       |        |
| HSD20-C40-430-SP14 | 43   | 40 | 60 | 196 | 86  | 70 |            |       |        |
| HSD20-C40-440-SP14 | 44   | 40 | 60 | 198 | 88  | 70 |            |       |        |
| HSD20-C40-450-SP14 | 45   | 40 | 60 | 202 | 90  | 70 |            |       |        |
| HSD20-C40-460-SP14 | 46   | 40 | 60 | 204 | 92  | 70 |            |       |        |
| HSD20-C40-470-SP14 | 47   | 40 | 60 | 206 | 94  | 70 |            |       |        |
| HSD20-C40-480-SP14 | 48   | 40 | 60 | 209 | 96  | 70 |            |       |        |
| HSD20-C40-490-SP14 | 49   | 40 | 60 | 212 | 98  | 70 |            |       |        |
| HSD20-C40-500-SP14 | 50   | 40 | 60 | 215 | 100 | 70 |            |       |        |

# HSD30 Magic Drill Specification



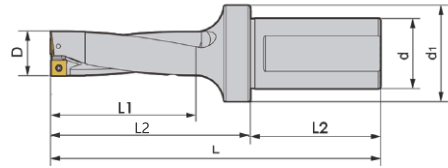
| Part number        | Size |    |    |     |    |    | Insert     | Screw | Wrench |
|--------------------|------|----|----|-----|----|----|------------|-------|--------|
|                    | D    | d  | d1 | L   | L1 | L2 |            |       |        |
| HSD30-C20-125-SP05 | 12.5 | 20 | 25 | 107 | 39 | 50 | SP**050204 | T2040 | TIP6   |
| HSD30-C20-130-SP05 | 13   | 20 | 25 | 107 | 39 | 50 |            |       |        |
| HSD30-C20-135-SP05 | 13.5 | 20 | 25 | 110 | 42 | 50 |            |       |        |
| HSD30-C20-140-SP05 | 14   | 20 | 25 | 110 | 42 | 50 |            |       |        |
| HSD30-C20-145-SP05 | 14.5 | 20 | 25 | 114 | 45 | 50 |            |       |        |
| HSD30-C20-150-SP05 | 15   | 20 | 25 | 114 | 45 | 50 | SP**060204 | T2250 | TIP6   |
| HSD30-C25-155-SP06 | 15.5 | 25 | 32 | 124 | 48 | 56 |            |       |        |
| HSD30-C25-160-SP06 | 16   | 25 | 32 | 124 | 48 | 56 |            |       |        |
| HSD30-C25-165-SP06 | 16.5 | 25 | 32 | 127 | 51 | 56 |            |       |        |
| HSD30-C25-175-SP06 | 17.5 | 25 | 32 | 130 | 54 | 56 |            |       |        |
| HSD30-C25-185-SP06 | 18.5 | 25 | 32 | 134 | 57 | 56 |            |       |        |
| HSD30-C25-190-SP06 | 19   | 25 | 32 | 134 | 57 | 56 |            |       |        |
| HSD30-C25-195-SP06 | 19.5 | 25 | 32 | 138 | 60 | 56 |            |       |        |
| HSD30-C25-200-SP06 | 20   | 25 | 32 | 138 | 60 | 56 |            |       |        |
| HSD30-C25-205-SP06 | 20.5 | 25 | 32 | 142 | 63 | 56 |            |       |        |
| HSD30-C25-210-SP06 | 21   | 25 | 32 | 142 | 63 | 56 | SP**07T308 | T2560 | TIP8   |
| HSD30-C25-215-SP06 | 21.5 | 25 | 32 | 145 | 66 | 56 |            |       |        |
| HSD30-C25-220-SP07 | 22   | 25 | 32 | 145 | 66 | 56 |            |       |        |
| HSD30-C25-225-SP07 | 22.5 | 25 | 45 | 154 | 69 | 60 |            |       |        |
| HSD30-C25-230-SP07 | 23   | 25 | 45 | 150 | 69 | 56 |            |       |        |
| HSD30-C25-235-SP07 | 23.5 | 25 | 45 | 154 | 72 | 56 | SP**07T308 | T2560 | TIP8   |
| HSD30-C25-240-SP07 | 24   | 25 | 45 | 154 | 72 | 56 |            |       |        |
| HSD30-C25-245-SP07 | 24.5 | 25 | 45 | 158 | 75 | 56 |            |       |        |
| HSD30-C32-230-SP07 | 23   | 32 | 45 | 154 | 69 | 60 |            |       |        |
| HSD30-C32-240-SP07 | 24   | 32 | 45 | 158 | 72 | 60 |            |       |        |
| HSD30-C32-250-SP07 | 25   | 32 | 45 | 161 | 75 | 60 | SP**090408 | T3590 | TIP15  |
| HSD30-C32-255-SP07 | 25.5 | 32 | 45 | 165 | 78 | 60 |            |       |        |
| HSD30-C32-260-SP07 | 26   | 32 | 45 | 165 | 78 | 60 |            |       |        |
| HSD30-C32-265-SP07 | 26.5 | 32 | 45 | 168 | 81 | 60 |            |       |        |
| HSD30-C32-280-SP09 | 28   | 32 | 45 | 172 | 84 | 60 |            |       |        |
| HSD30-C32-285-SP09 | 28.5 | 32 | 45 | 175 | 87 | 60 | SP**090408 | T3590 | TIP15  |
| HSD30-C32-290-SP09 | 29   | 32 | 45 | 175 | 87 | 60 |            |       |        |
| HSD30-C32-295-SP09 | 29.5 | 32 | 55 | 181 | 90 | 60 |            |       |        |
| HSD30-C32-300-SP09 | 30   | 32 | 55 | 181 | 90 | 60 |            |       |        |
| HSD30-C32-305-SP09 | 30.5 | 32 | 55 | 185 | 93 | 60 |            |       |        |

# HSD30 Magic Drill Specification



| Part number        | Size |    |    |     |     |    | Insert     | Screw | Wrench |
|--------------------|------|----|----|-----|-----|----|------------|-------|--------|
|                    | D    | d  | d1 | L   | L1  | L2 |            |       |        |
| HSD30-C32-310-SP09 | 31   | 32 | 55 | 185 | 93  | 60 | SP**090408 | T3590 | TIP15  |
| HSD30-C32-320-SP09 | 32   | 32 | 55 | 188 | 96  | 60 |            |       |        |
| HSD30-C32-325-SP09 | 32.5 | 32 | 55 | 192 | 99  | 60 |            |       |        |
| HSD30-C32-330-SP09 | 33   | 32 | 55 | 192 | 99  | 60 |            |       |        |
| HSD30-C32-350-SP11 | 35   | 32 | 55 | 199 | 105 | 60 | SP**110408 | T4090 | TIP15  |
| HSD30-C32-360-SP11 | 36   | 32 | 55 | 203 | 108 | 60 |            |       |        |
| HSD30-C40-340-SP11 | 34   | 40 | 55 | 205 | 102 | 70 | SP**110408 | T4090 | TIP15  |
| HSD30-C40-350-SP11 | 35   | 40 | 55 | 209 | 105 | 70 |            |       |        |
| HSD30-C40-360-SP11 | 36   | 40 | 55 | 213 | 108 | 70 |            |       |        |
| HSD30-C40-380-SP11 | 38   | 40 | 55 | 220 | 114 | 70 |            |       |        |
| HSD30-C40-390-SP11 | 39   | 40 | 55 | 224 | 117 | 70 |            |       |        |
| HSD30-C40-400-SP11 | 40   | 40 | 60 | 228 | 120 | 70 |            |       |        |
| HSD30-C40-405-SP11 | 40.5 | 40 | 60 | 231 | 123 | 70 |            |       |        |
| HSD30-C40-410-SP11 | 41   | 40 | 60 | 232 | 123 | 70 |            |       |        |
| HSD30-C40-420-SP14 | 42   | 40 | 60 | 235 | 126 | 70 |            |       |        |
| HSD30-C40-430-SP14 | 43   | 40 | 60 | 239 | 129 | 70 |            |       |        |
| HSD30-C40-440-SP14 | 44   | 40 | 60 | 242 | 132 | 70 | SP**140512 | T5013 | TIP20  |
| HSD30-C40-450-SP14 | 45   | 40 | 60 | 247 | 135 | 70 |            |       |        |
| HSD30-C40-460-SP14 | 46   | 40 | 60 | 251 | 138 | 70 |            |       |        |
| HSD30-C40-470-SP14 | 47   | 40 | 60 | 254 | 141 | 70 |            |       |        |
| HSD30-C40-480-SP14 | 48   | 40 | 60 | 258 | 144 | 70 |            |       |        |
| HSD30-C40-490-SP14 | 49   | 40 | 60 | 261 | 147 | 70 |            |       |        |
| HSD30-C40-500-SP14 | 50   | 40 | 60 | 265 | 150 | 70 |            |       |        |

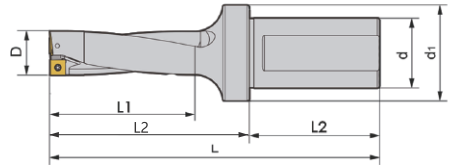
# HSD40 Magic Drill Specification



| Part number        | Size |    |    |     |     |    | Insert     | Screw | Wrench |
|--------------------|------|----|----|-----|-----|----|------------|-------|--------|
|                    | D    | d  | d1 | L   | L1  | L2 |            |       |        |
| HSD40-C20-125-SP05 | 12.5 | 20 | 25 | 120 | 52  | 50 | SP**050204 | T2040 | TIP6   |
| HSD40-C20-130-SP05 | 13   | 20 | 25 | 120 | 52  | 50 |            |       |        |
| HSD40-C20-135-SP05 | 13.5 | 20 | 25 | 124 | 56  | 50 |            |       |        |
| HSD40-C20-140-SP05 | 14   | 20 | 25 | 124 | 56  | 50 |            |       |        |
| HSD40-C20-145-SP05 | 14.5 | 20 | 25 | 129 | 60  | 50 |            |       |        |
| HSD40-C20-150-SP05 | 15   | 20 | 25 | 129 | 60  | 50 |            |       |        |
| HSD40-C25-155-SP06 | 15.5 | 25 | 32 | 140 | 64  | 56 | SP**060204 | T2250 | TIP6   |
| HSD40-C25-160-SP06 | 16   | 25 | 32 | 140 | 64  | 56 |            |       |        |
| HSD40-C25-165-SP06 | 16.5 | 25 | 32 | 144 | 68  | 56 |            |       |        |
| HSD40-C25-170-SP06 | 17   | 25 | 32 | 144 | 68  | 56 |            |       |        |
| HSD40-C25-175-SP06 | 17.5 | 25 | 32 | 149 | 72  | 56 |            |       |        |
| HSD40-C25-180-SP06 | 18   | 25 | 32 | 149 | 72  | 56 |            |       |        |
| HSD40-C25-185-SP06 | 18.5 | 25 | 32 | 153 | 76  | 56 |            |       |        |
| HSD40-C25-190-SP06 | 19   | 25 | 32 | 153 | 76  | 56 |            |       |        |
| HSD40-C25-195-SP06 | 19.5 | 25 | 32 | 159 | 80  | 56 |            |       |        |
| HSD40-C25-200-SP06 | 20   | 25 | 32 | 159 | 80  | 56 |            |       |        |
| HSD40-C25-205-SP06 | 20.5 | 25 | 32 | 163 | 84  | 56 |            |       |        |
| HSD40-C25-210-SP06 | 21   | 25 | 32 | 163 | 84  | 56 |            |       |        |
| HSD40-C25-215-SP06 | 21.5 | 25 | 32 | 167 | 88  | 56 | SP**07T308 | T2560 | TIP8   |
| HSD40-C25-220-SP07 | 22   | 25 | 32 | 167 | 88  | 56 |            |       |        |
| HSD40-C25-225-SP07 | 22.5 | 25 | 32 | 173 | 92  | 56 |            |       |        |
| HSD40-C25-230-SP07 | 23   | 25 | 45 | 173 | 92  | 56 |            |       |        |
| HSD40-C25-235-SP07 | 23.5 | 25 | 45 | 177 | 96  | 56 |            |       |        |
| HSD40-C25-240-SP07 | 24   | 25 | 45 | 177 | 96  | 56 |            |       |        |
| HSD40-C25-245-SP07 | 24.5 | 25 | 45 | 183 | 100 | 56 |            |       |        |
| HSD40-C25-250-SP07 | 25   | 25 | 45 | 183 | 100 | 56 |            |       |        |
| HSD40-C25-255-SP07 | 25.5 | 25 | 45 | 187 | 104 | 56 | SP**07T308 | T2560 | TIP8   |
| HSD40-C25-265-SP07 | 26.5 | 25 | 45 | 191 | 108 | 56 |            |       |        |
| HSD40-C25-275-SP07 | 27.5 | 25 | 45 | 195 | 112 | 56 |            |       |        |
| HSD40-C32-260-SP07 | 26   | 32 | 45 | 191 | 104 | 60 | SP**07T308 | T2560 | TIP8   |
| HSD40-C32-270-SP07 | 27   | 32 | 45 | 195 | 108 | 60 |            |       |        |
| HSD40-C32-280-SP09 | 28   | 32 | 45 | 200 | 112 | 60 | SP**090408 | T3590 | TIP15  |
| HSD40-C32-285-SP09 | 28.5 | 32 | 45 | 204 | 116 | 60 |            |       |        |
| HSD40-C32-290-SP09 | 29   | 32 | 45 | 204 | 116 | 60 |            |       |        |
| HSD40-C32-295-SP09 | 29.5 | 32 | 55 | 212 | 120 | 60 |            |       |        |

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D  
E

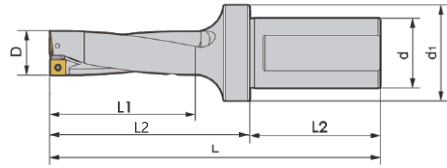
# HSD40 Magic Drill Specification



| Part number        | Size |    |    |     |     |    | Insert     | Screw | Wrench |
|--------------------|------|----|----|-----|-----|----|------------|-------|--------|
|                    | D    | d  | d1 | L   | L1  | L2 |            |       |        |
| HSD40-C32-300-SP09 | 30   | 32 | 55 | 212 | 120 | 60 | SP**090408 | T3590 | TIP15  |
| HSD40-C32-305-SP09 | 30.5 | 32 | 55 | 216 | 124 | 60 |            |       |        |
| HSD40-C32-310-SP09 | 31   | 32 | 55 | 216 | 124 | 60 |            |       |        |
| HSD40-C32-315-SP09 | 31.5 | 32 | 55 | 220 | 128 | 60 |            |       |        |
| HSD40-C32-320-SP09 | 32   | 32 | 55 | 220 | 128 | 60 |            |       |        |
| HSD40-C32-325-SP09 | 32.5 | 32 | 55 | 224 | 132 | 60 |            |       |        |
| HSD40-C32-330-SP09 | 33   | 32 | 55 | 224 | 132 | 60 |            |       |        |
| HSD40-C40-340-SP11 | 34   | 40 | 55 | 239 | 136 | 70 | SP**110408 | T4090 | TIP15  |
| HSD40-C40-350-SP11 | 35   | 40 | 55 | 244 | 140 | 70 |            |       |        |
| HSD40-C40-360-SP11 | 36   | 40 | 55 | 249 | 144 | 70 |            |       |        |
| HSD40-C40-370-SP11 | 37   | 40 | 55 | 254 | 148 | 70 |            |       |        |
| HSD40-C40-380-SP11 | 38   | 40 | 55 | 259 | 152 | 70 |            |       |        |
| HSD40-C40-390-SP11 | 39   | 40 | 55 | 263 | 156 | 70 |            |       |        |
| HSD40-C40-400-SP11 | 40   | 40 | 60 | 269 | 160 | 70 |            |       |        |
| HSD40-C40-410-SP11 | 41   | 40 | 60 | 273 | 164 | 70 | SP**140512 | T5013 | TIP20  |
| HSD40-C40-420-SP14 | 42   | 40 | 60 | 277 | 168 | 70 |            |       |        |
| HSD40-C40-430-SP14 | 43   | 40 | 60 | 281 | 172 | 70 |            |       |        |
| HSD40-C40-440-SP14 | 44   | 40 | 60 | 285 | 176 | 70 |            |       |        |
| HSD40-C40-450-SP14 | 45   | 40 | 60 | 289 | 180 | 70 |            |       |        |
| HSD40-C40-460-SP14 | 46   | 40 | 60 | 293 | 184 | 70 |            |       |        |
| HSD40-C40-470-SP14 | 47   | 40 | 60 | 297 | 188 | 70 |            |       |        |
| HSD40-C40-480-SP14 | 48   | 40 | 60 | 301 | 192 | 70 |            |       |        |
| HSD40-C40-490-SP14 | 49   | 40 | 60 | 305 | 196 | 70 |            |       |        |
| HSD40-C40-500-SP14 | 50   | 40 | 60 | 309 | 200 | 70 |            |       |        |



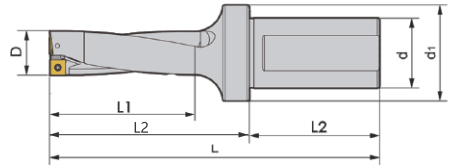
# HSD50 Magic Drill Specification



| Part number        | Size |    |    |     |     |    | Insert     | Screw | Wrench |
|--------------------|------|----|----|-----|-----|----|------------|-------|--------|
|                    | D    | d  | d1 | L   | L1  | L2 |            |       |        |
| HSD50-C20-125-SP05 | 12.5 | 20 | 25 | 133 | 65  | 50 | SP**050204 | T2040 | TIP6   |
| HSD50-C20-130-SP05 | 13   | 20 | 25 | 133 | 65  | 50 |            |       |        |
| HSD50-C20-135-SP05 | 13.5 | 20 | 25 | 138 | 70  | 50 |            |       |        |
| HSD50-C20-140-SP05 | 14   | 20 | 25 | 138 | 70  | 50 |            |       |        |
| HSD50-C20-145-SP05 | 14.5 | 20 | 25 | 144 | 75  | 50 |            |       |        |
| HSD50-C20-150-SP05 | 15   | 20 | 25 | 144 | 75  | 50 |            |       |        |
| HSD50-C25-155-SP06 | 15.5 | 25 | 32 | 156 | 80  | 56 | SP**060204 | T2250 | TIP6   |
| HSD50-C25-160-SP06 | 16   | 25 | 32 | 156 | 80  | 56 |            |       |        |
| HSD50-C25-170-SP06 | 17   | 25 | 32 | 161 | 85  | 56 |            |       |        |
| HSD50-C25-175-SP06 | 17.5 | 25 | 32 | 167 | 90  | 56 |            |       |        |
| HSD50-C25-180-SP06 | 18   | 25 | 32 | 167 | 90  | 56 |            |       |        |
| HSD50-C25-185-SP06 | 18.5 | 25 | 32 | 172 | 95  | 56 |            |       |        |
| HSD50-C25-190-SP06 | 19   | 25 | 32 | 172 | 95  | 56 |            |       |        |
| HSD50-C25-195-SP06 | 19.5 | 25 | 32 | 179 | 100 | 56 |            |       |        |
| HSD50-C25-200-SP06 | 20   | 25 | 32 | 179 | 100 | 56 |            |       |        |
| HSD50-C25-205-SP06 | 20.5 | 25 | 32 | 184 | 105 | 56 |            |       |        |
| HSD50-C25-210-SP06 | 21   | 25 | 32 | 184 | 105 | 56 | SP**07T308 | T2560 | TIP8   |
| HSD50-C25-215-SP06 | 21.5 | 25 | 32 | 189 | 110 | 56 |            |       |        |
| HSD50-C25-220-SP07 | 22   | 25 | 32 | 189 | 110 | 56 | SP**090408 | T3590 | TIP15  |
| HSD50-C32-280-SP09 | 28   | 32 | 45 | 228 | 140 | 60 |            |       |        |
| HSD50-C32-290-SP09 | 29   | 32 | 45 | 233 | 145 | 60 |            |       |        |
| HSD50-C32-300-SP09 | 30   | 32 | 45 | 241 | 150 | 60 |            |       |        |
| HSD50-C32-310-SP09 | 31   | 32 | 45 | 246 | 155 | 60 |            |       |        |
| HSD50-C32-330-SP09 | 33   | 32 | 55 | 258 | 165 | 60 |            |       |        |
| HSD50-C40-340-SP11 | 34   | 40 | 55 | 275 | 170 | 70 | SP**140512 | T4090 | TIP15  |
| HSD50-C40-350-SP11 | 35   | 40 | 55 | 280 | 175 | 70 |            |       |        |
| HSD50-C40-360-SP11 | 36   | 40 | 55 | 285 | 180 | 70 |            |       |        |
| HSD50-C40-380-SP11 | 38   | 40 | 55 | 296 | 190 | 70 |            |       |        |
| HSD50-C40-390-SP11 | 39   | 40 | 55 | 302 | 195 | 70 |            |       |        |
| HSD50-C40-400-SP11 | 40   | 40 | 60 | 308 | 200 | 70 |            |       |        |
| HSD50-C40-410-SP11 | 41   | 40 | 60 | 314 | 205 | 70 | SP**140512 | T5013 | TIP20  |
| HSD50-C40-420-SP14 | 42   | 40 | 60 | 320 | 210 | 70 |            |       |        |
| HSD50-C40-440-SP14 | 44   | 40 | 60 | 331 | 220 | 70 |            |       |        |
| HSD50-C40-450-SP14 | 45   | 40 | 60 | 337 | 225 | 70 |            |       |        |
| HSD50-C40-460-SP14 | 46   | 40 | 60 | 343 | 230 | 70 |            |       |        |
| HSD50-C40-480-SP14 | 48   | 40 | 60 | 354 | 240 | 70 | SP**140512 | T5013 | TIP20  |
| HSD50-C40-500-SP14 | 50   | 40 | 60 | 365 | 250 | 70 |            |       |        |

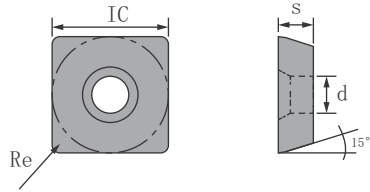
A  
B  
C  
D  
E

## HSD60 Magic Drill Specification



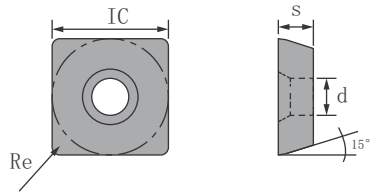
| Part number        | Size |    |    |     |     |    | Insert     | Screw | Wrench |
|--------------------|------|----|----|-----|-----|----|------------|-------|--------|
|                    | D    | d  | d1 | L   | L1  | L2 |            |       |        |
| HSD60-C25-230-SP07 | 23   | 25 | 45 | 219 | 138 | 56 | SP**07T308 | T2560 | TIP8   |
| HSD60-C25-240-SP07 | 24   | 25 | 45 | 226 | 144 | 56 |            |       |        |
| HSD60-C32-260-SP07 | 26   | 32 | 45 | 243 | 156 | 60 | SP**07T308 | T2560 | TIP8   |
| HSD60-C32-270-SP07 | 27   | 32 | 45 | 249 | 162 | 60 |            |       |        |
| HSD60-C32-280-SP09 | 28   | 32 | 45 | 256 | 168 | 60 | SP**090408 | T3590 | TIP15  |
| HSD60-C32-290-SP09 | 29   | 32 | 45 | 262 | 174 | 60 |            |       |        |
| HSD60-C32-300-SP09 | 30   | 32 | 55 | 271 | 180 | 60 |            |       |        |

# HSD Magic Drill Insert Specification



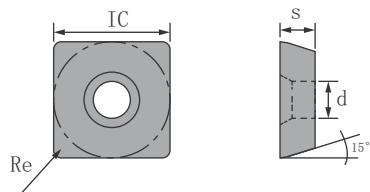
| Part number   | Material |         |         | Size  |      |     |      |
|---------------|----------|---------|---------|-------|------|-----|------|
|               | HPA025B  | HPA225B | HPA325B | IC    | s    | Re  | d    |
| SPMG050204-UM | ●        | ●       | ●       | 5.00  | 2.38 | 0.4 | 2.25 |
| SPMG060204-UM | ●        | ●       | ●       | 6.00  | 2.38 | 0.4 | 2.61 |
| SPMG07T308-UM | ●        | ●       | ●       | 7.94  | 3.97 | 0.8 | 2.85 |
| SPMG090408-UM | ●        | ●       | ●       | 9.80  | 4.30 | 0.8 | 4.05 |
| SPMG110408-UM | ●        | ●       | ●       | 11.50 | 4.80 | 0.8 | 4.45 |
| SPMG140512-UM | ●        | ●       | ●       | 14.30 | 5.20 | 1.2 | 5.75 |

Note: ● have stock ○ for reservation



| Part number  | Material | Size  |      |     |      |
|--------------|----------|-------|------|-----|------|
|              | HPA325B  | IC    | s    | Re  | d    |
| SPGG050204-M | ●        | 5.00  | 2.38 | 0.4 | 2.25 |
| SPGG060204-M | ●        | 6.00  | 2.38 | 0.4 | 2.61 |
| SPGG07T308-M | ●        | 7.94  | 3.97 | 0.8 | 2.85 |
| SPGG090408-M | ●        | 9.80  | 4.30 | 0.8 | 4.05 |
| SPGG110408-M | ●        | 11.50 | 4.80 | 0.8 | 4.45 |
| SPGG140512-M | ●        | 14.30 | 5.20 | 1.2 | 5.75 |

Note: ● have stock ○ for reservation



| Part number   | Material | Size |      |     |      |
|---------------|----------|------|------|-----|------|
|               | HWK001B  | IC   | s    | Re  | D    |
| SPGT050204-DA | ●        | 5.00 | 2.38 | 0.4 | 2.25 |
| SPGT060204-DA | ●        | 6.00 | 2.38 | 0.4 | 2.61 |
| SPGT07T308-DA | ●        | 7.94 | 3.97 | 0.8 | 2.85 |
| SPGT090408-DA | ●        | 9.8  | 4.3  | 0.8 | 4.05 |
| SPGT110408-DA | ●        | 11.5 | 4.8  | 0.8 | 4.45 |
| SPGT140512-DA | ●        | 14.3 | 5.2  | 1.2 | 5.75 |

Note: ● have stock ○ for reservation

A  
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E

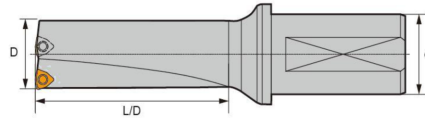
## Recommended cutting conditions

| Workpiece material | Hardness   | Insert material          | Φ17-Φ19.5             |                  |                     |                     | Φ20-Φ23.5             |                  |                     |                     |                     |
|--------------------|--|--------------------------|-----------------------|------------------|---------------------|---------------------|-----------------------|------------------|---------------------|---------------------|---------------------|
|                    |  |                          | Cutting speed (m/min) | Feed(mm/rev)     |                     |                     | Cutting speed (m/min) | Feed(mm/rev)     |                     |                     |                     |
|                    |  |                          |                       | 1/d=2-6          | 1/d=2,3             | 1/d=4,5             |                       | 1/d=6            | 1/d=2-6             | 1/d=2,3             | 1/d=4,5             |
| P                  | Mild steel (SS400, S10C, etc.)   | ≤HB200                   | HPA025B               | 180<br>(160-200) | 0.05<br>(0.04-0.06) | 0.05<br>(0.04-0.06) | 0.04<br>(0.04-0.05)   | 200<br>(180-235) | 0.06<br>(0.04-0.08) | 0.06<br>(0.04-0.07) | 0.04<br>(0.04-0.05) |
|                    | Carbon steel Alloy steel (S45C, SCM440, etc.)                            | HB180-280                | HPA025B               | 140<br>(115-180) | 0.08<br>(0.06-0.14) | 0.08<br>(0.06-0.09) | 0.05<br>(0.04-0.06)   | 140<br>(115-180) | 0.10<br>(0.06-0.18) | 0.09<br>(0.06-0.12) | 0.07<br>(0.06-0.08) |
|                    | Carbon steel Alloy steel (SNCM439, etc.)                                 | HB280-350                | HPA025B               | 100<br>(75-140)  | 0.08<br>(0.06-0.14) | 0.08<br>(0.06-0.09) | 0.05<br>(0.04-0.06)   | 100<br>(75-140)  | 0.10<br>(0.06-0.18) | 0.09<br>(0.06-0.12) | 0.07<br>(0.06-0.08) |
|                    | Alloy tool steel (SKD, SKT, etc.)  | ≤HB350                   | HPA025B               | 135<br>(100-170) | 0.08<br>(0.06-0.14) | 0.08<br>(0.06-0.09) | 0.05<br>(0.04-0.06)   | 135<br>(100-170) | 0.10<br>(0.06-0.18) | 0.09<br>(0.06-0.12) | 0.07<br>(0.06-0.08) |
| M                  | Austenitic stainless steel (SUS304, SUS316, etc.)                        | ≤HB200                   | HPA225B               | 140<br>(115-180) | 0.06<br>(0.04-0.08) | 0.05<br>(0.04-0.06) | 0.04<br>(0.04-0.05)   | 140<br>(115-180) | 0.08<br>(0.06-0.12) | 0.07<br>(0.06-0.08) | 0.06<br>(0.06-0.07) |
|                    | Austenitic stainless steel (SUS304LN, SUS316LN, etc.)                    | >HB200                   | HPA225B               | 140<br>(115-180) | 0.06<br>(0.04-0.08) | 0.05<br>(0.04-0.06) | 0.04<br>(0.04-0.05)   | 140<br>(115-180) | 0.08<br>(0.06-0.12) | 0.07<br>(0.06-0.08) | 0.06<br>(0.06-0.07) |
|                    | Ferritic, precipitation hardening stainless steel (SUS410, SUS430, etc.) | ≤HB200                   | HPA225B               | 140<br>(115-180) | 0.06<br>(0.04-0.08) | 0.05<br>(0.04-0.06) | 0.04<br>(0.04-0.05)   | 140<br>(115-165) | 0.09<br>(0.06-0.14) | 0.07<br>(0.06-0.09) | 0.06<br>(0.06-0.07) |
|                    | Ferritic, precipitation hardening stainless steel                        | >HB200                   | HPA225B               | 140<br>(115-165) | 0.06<br>(0.04-0.08) | 0.05<br>(0.04-0.06) | 0.04<br>(0.04-0.05)   | 140<br>(115-165) | 0.09<br>(0.06-0.14) | 0.07<br>(0.06-0.09) | 0.06<br>(0.06-0.07) |
| K                  | Grey cast iron (FC300 and so on)   | Tensile strength ≤350Mpa | HPA225B               | 140<br>(130-195) | 0.11<br>(0.08-0.14) | 0.09<br>(0.08-0.10) | 0.05<br>(0.04-0.06)   | 160<br>(130-195) | 0.13<br>(0.10-0.16) | 0.10<br>(0.10-0.12) | 0.07<br>(0.06-0.08) |
|                    | Nodular cast iron (FCD450 and so on)                                     | Tensile strength ≤450MPa | HPA225B               | 100<br>(80-135)  | 0.11<br>(0.08-0.14) | 0.09<br>(0.08-0.10) | 0.05<br>(0.04-0.06)   | 100<br>(80-135)  | 0.13<br>(0.10-0.16) | 0.10<br>(0.10-0.11) | 0.07<br>(0.06-0.08) |
|                    | Nodular cast iron (FCD700 and so on)                                     | Tensile strength ≤800MPa | HPA225B               | 100<br>(70-125)  | 0.11<br>(0.08-0.14) | 0.09<br>(0.08-0.10) | 0.05<br>(0.04-0.06)   | 100<br>(70-125)  | 0.13<br>(0.10-0.16) | 0.10<br>(0.10-0.11) | 0.07<br>(0.06-0.08) |
| N                  | Titanium alloy   | -                        | HWK001B               | 30-80            | 0.06-0.12           | 0.06-0.12           | 0.06-0.12             | 30-80            | 0.12-0.2            | 0.12-0.2            | 0.12-0.2            |
|                    | cooper alloy   | -                        | HWK001B               | 150-230          | 0.06-0.14           | 0.06-0.14           | 0.06-0.14             | 150-230          | 0.12-0.18           | 0.12-0.18           | 0.12-0.18           |
|                    | non-metal  | -                        | HWK001B               | 150-230          | 0.06-0.13           | 0.06-0.13           | 0.06-0.13             | 150-230          | 0.08-0.13           | 0.08-0.13           | 0.08-0.13           |

# Recommended cutting conditions

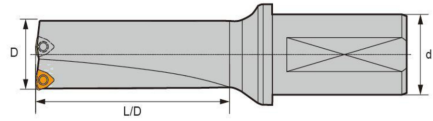
| Workpiece material | Hardness  | Insert material          | Φ24-Φ33               |                  |                     |                     | Φ34-Φ50               |                  |                     |                     |                     |
|--------------------|---|--------------------------|-----------------------|------------------|---------------------|---------------------|-----------------------|------------------|---------------------|---------------------|---------------------|
|                    |   |                          | Cutting speed (m/min) | Feed(mm/rev)     |                     |                     | Cutting speed (m/min) | Feed(mm/rev)     |                     |                     |                     |
|                    |   |                          |                       | 1/d=2-6          | 1/d=2,3             | 1/d=4,5             |                       | 1/d=6            | 1/d=2-6             | 1/d=2,3             | 1/d=4,5             |
| P                  | Mild steel (SS400·S10C, etc.)   | ≤HB200                   | HPA025B               | 200<br>(180-235) | 0.07<br>(0.04-0.08) | 0.06<br>(0.04-0.07) | 0.05<br>(0.04-0.06)   | 200<br>(180-235) | 0.08<br>(0.06-0.10) | 0.07<br>(0.06-0.08) | 0.06<br>(0.06-0.07) |
|                    | Carbon steel Alloy steel (S45C, SCM440, etc.)                             | HB180-280                | HPA025B               | 140<br>(115-180) | 0.12<br>(0.08-0.18) | 0.10<br>(0.08-0.12) | 0.09<br>(0.08-0.10)   | 140<br>(115-180) | 0.14<br>(0.08-0.24) | 0.12<br>(0.08-0.16) | 0.11<br>(0.10-0.12) |
|                    | Carbon steel Alloy steel (SNCM439, etc.)                                  | HB280-350                | HPA025B               | 100<br>(75-140)  | 0.12<br>(0.08-0.18) | 0.10<br>(0.08-0.12) | 0.09<br>(0.08-0.10)   | 100<br>(75-140)  | 0.14<br>(0.08-0.24) | 0.12<br>(0.08-0.16) | 0.11<br>(0.10-0.12) |
|                    | Alloy tool steel (SKD, SKT, etc.)   | ≤HB350                   | HPA025B               | 135<br>(100-170) | 0.12<br>(0.08-0.18) | 0.10<br>(0.08-0.12) | 0.09<br>(0.08-0.10)   | 135<br>(100-170) | 0.14<br>(0.08-0.24) | 0.12<br>(0.08-0.16) | 0.10<br>(0.08-0.12) |
| M                  | Austenitic stainless steel (SUS304, SUS316, etc.)                         | ≤HB200                   | HPA225B               | 140<br>(115-180) | 0.09<br>(0.06-0.12) | 0.08<br>(0.06-0.09) | 0.07<br>(0.06-0.08)   | 140<br>(115-180) | 0.11<br>(0.06-0.16) | 0.08<br>(0.06-0.11) | 0.07<br>(0.06-0.10) |
|                    | Austenitic stainless steel (SUS304LN, SUS316LN, etc.)                     | >HB200                   | HPA225B               | 140<br>(115-180) | 0.09<br>(0.06-0.12) | 0.08<br>(0.06-0.09) | 0.07<br>(0.06-0.08)   | 140<br>(115-180) | 0.11<br>(0.06-0.16) | 0.08<br>(0.06-0.11) | 0.07<br>(0.06-0.10) |
|                    | Ferritic, precipitation hardening stainless steel (SUS410, SUS430, etc.)  | ≤HB200                   | HPA225B               | 140<br>(115-180) | 0.10<br>(0.06-0.14) | 0.05<br>(0.04-0.06) | 0.07<br>(0.06-0.08)   | 140<br>(115-165) | 0.11<br>(0.06-0.16) | 0.09<br>(0.06-0.11) | 0.08<br>(0.06-0.10) |
|                    | Ferritic, precipitation hardening stainless steel (SUS431, SUS20J2, etc.) | >HB200                   | HPA225B               | 140<br>(115-165) | 0.10<br>(0.06-0.14) | 0.05<br>(0.04-0.06) | 0.07<br>(0.06-0.08)   | 140<br>(115-165) | 0.11<br>(0.06-0.16) | 0.09<br>(0.06-0.11) | 0.08<br>(0.06-0.10) |
| K                  | Grey cast iron (FC300 and so on)  | Tensile strength ≤350Mpa | HPA225B               | 160<br>(130-195) | 0.14<br>(0.10-0.18) | 0.11<br>(0.10-0.12) | 0.09<br>(0.08-0.10)   | 160<br>(130-195) | 0.15<br>(0.10-0.20) | 0.12<br>(0.11-0.13) | 0.11<br>(0.10-0.12) |
|                    | Nodular cast iron (FCD450 and so on)                                      | Tensile strength ≤450MPa | HPA225B               | 100<br>(80-135)  | 0.14<br>(0.10-0.18) | 0.11<br>(0.10-0.12) | 0.09<br>(0.08-0.10)   | 160<br>(130-195) | 0.15<br>(0.10-0.20) | 0.12<br>(0.11-0.13) | 0.11<br>(0.10-0.12) |
|                    | Nodular cast iron (FCD700 and so on)                                      | Tensile strength ≤800MPa | HPA225B               | 100<br>(70-125)  | 0.14<br>(0.10-0.18) | 0.11<br>(0.10-0.12) | 0.09<br>(0.08-0.10)   | 160<br>(130-195) | 0.15<br>(0.10-0.20) | 0.12<br>(0.11-0.13) | 0.11<br>(0.10-0.12) |
| N                  | -   | -                        | HWK001B               | 30-80            | 0.12-0.2            | 0.12-0.2            | 0.12-0.2              | 30-80            | 0.14-0.24           | 0.14-0.24           | 0.14-0.24           |
|                    | cooper alloy  | -                        | HWK001B               | 150-230          | 0.12-0.18           | 0.12-0.18           | 0.12-0.18             | 150-230          | 0.14-0.24           | 0.14-0.24           | 0.14-0.24           |
|                    | non-metal   | -                        | HWK001B               | 150-230          | 0.08-0.13           | 0.08-0.13           | 0.08-0.13             | 150-230          | 0.08-0.14           | 0.08-0.14           | 0.08-0.14           |

# HWD02 Magic Drill



| Part number        | size |    |     | Inserts    | stock |
|--------------------|------|----|-----|------------|-------|
|                    | D    | d  | L/D |            |       |
| HWD02-C20-180-WC03 | 18   | 20 | 2   | WCMX030208 | ●     |
| HWD02-C20-190-WC03 | 19   | 20 | 2   | WCMX030208 | ●     |
| HWD02-C25-195-WC03 | 19.5 | 25 | 2   | WCMX030208 | ●     |
| HWD02-C25-210-WC04 | 21   | 25 | 2   | WCMX040208 | ●     |
| HWD02-C25-215-WC04 | 21.5 | 25 | 2   | WCMX040208 | ●     |
| HWD02-C25-220-WC04 | 22   | 25 | 2   | WCMX040208 | ●     |
| HWD02-C25-230-WC04 | 23   | 25 | 2   | WCMX040208 | ●     |
| HWD02-C25-235-WC04 | 23.5 | 25 | 2   | WCMX040208 | ●     |
| HWD02-C25-245-WC04 | 24.5 | 25 | 2   | WCMX040208 | ●     |
| HWD02-C25-250-WC04 | 25   | 25 | 2   | WCMX040208 | ●     |
| HWD02-C32-255-WC05 | 25.5 | 32 | 2   | WCMX050308 | ●     |
| HWD02-C32-260-WC05 | 26   | 32 | 2   | WCMX050308 | ●     |
| HWD02-C32-265-WC05 | 26.5 | 32 | 2   | WCMX050308 | ●     |
| HWD02-C32-270-WC05 | 27   | 32 | 2   | WCMX050308 | ●     |
| HWD02-C32-275-WC05 | 27.5 | 32 | 2   | WCMX050308 | ●     |
| HWD02-C32-280-WC05 | 28   | 32 | 2   | WCMX050308 | ●     |
| HWD02-C32-290-WC05 | 29   | 32 | 2   | WCMX050308 | ●     |
| HWD02-C32-295-WC05 | 29.5 | 32 | 2   | WCMX050308 | ●     |
| HWD02-C32-300-WC05 | 30   | 32 | 2   | WCMX050308 | ●     |
| HWD02-C32-310-WC05 | 31   | 32 | 2   | WCMX050308 | ●     |
| HWD02-C32-320-WC06 | 32   | 32 | 2   | WCMX06T308 | ●     |
| HWD02-C32-330-WC06 | 33   | 32 | 2   | WCMX06T308 | ●     |
| HWD02-C32-340-WC06 | 34   | 32 | 2   | WCMX06T308 | ●     |
| HWD02-C32-350-WC06 | 35   | 32 | 2   | WCMX06T308 | ●     |
| HWD02-C32-360-WC06 | 36   | 32 | 2   | WCMX06T308 | ●     |
| HWD02-C32-370-WC06 | 37   | 32 | 2   | WCMX06T308 | ●     |
| HWD02-C32-380-WC06 | 38   | 32 | 2   | WCMX06T308 | ●     |
| HWD02-C32-390-WC06 | 39   | 32 | 2   | WCMX06T308 | ●     |
| HWD02-C32-400-WC06 | 40   | 32 | 2   | WCMX06T308 | ●     |
| HWD02-C32-410-WC06 | 41   | 32 | 2   | WCMX06T308 | ●     |

## HWD02 Magic Drill



| Part number        | size |    |     | Inserts    | stock |
|--------------------|------|----|-----|------------|-------|
|                    | D    | d  | L/D |            |       |
| HWD02-C40-420-WC08 | 42   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-430-WC08 | 43   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-440-WC08 | 44   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-450-WC08 | 45   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-460-WC08 | 46   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-470-WC08 | 47   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-480-WC08 | 48   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-490-WC08 | 49   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-500-WC08 | 50   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-510-WC08 | 51   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-530-WC08 | 53   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-550-WC08 | 55   | 40 | 2   | WCMX080412 | ●     |
| HWD02-C40-560-WC08 | 56   | 40 | 2   | WCMX080412 | ●     |

Note: ● have stock ○ for reservation

A

B

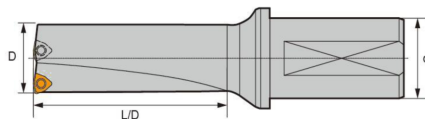
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D

E

A  
B  
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E

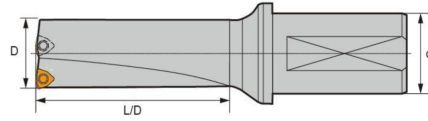
# HWD03 Magic Drill



| Part number        | size |    |     | Inserts    | stock |
|--------------------|------|----|-----|------------|-------|
|                    | D    | d  | L/D |            |       |
| HWD03-C20-180-WC03 | 18   | 20 | 3   | WCMX030208 | ●     |
| HWD03-C25-155-WC03 | 15.5 | 25 | 3   | WCMX030208 | ●     |
| HWD03-C25-165-WC03 | 16.5 | 25 | 3   | WCMX030208 | ●     |
| HWD03-C25-175-WC03 | 17.5 | 25 | 3   | WCMX030208 | ●     |
| HWD03-C25-180-WC03 | 18   | 25 | 3   | WCMX030208 | ●     |
| HWD03-C25-185-WC03 | 18.5 | 25 | 3   | WCMX030208 | ●     |
| HWD03-C25-195-WC03 | 19.5 | 25 | 3   | WCMX030208 | ●     |
| HWD03-C25-200-WC04 | 20   | 25 | 3   | WCMX040208 | ●     |
| HWD03-C25-205-WC04 | 20.5 | 25 | 3   | WCMX040208 | ●     |
| HWD03-C25-210-WC04 | 21   | 25 | 3   | WCMX040208 | ●     |
| HWD03-C25-220-WC04 | 22   | 25 | 3   | WCMX040208 | ●     |
| HWD03-C25-230-WC04 | 23   | 25 | 3   | WCMX040208 | ●     |
| HWD03-C25-235-WC04 | 23.5 | 25 | 3   | WCMX040208 | ●     |
| HWD03-C25-240-WC04 | 24   | 25 | 3   | WCMX040208 | ●     |
| HWD03-C25-245-WC04 | 24.5 | 25 | 3   | WCMX040208 | ●     |
| HWD03-C32-255-WC05 | 25.5 | 32 | 3   | WCMX050308 | ●     |
| HWD03-C32-260-WC05 | 26   | 32 | 3   | WCMX050308 | ●     |
| HWD03-C32-265-WC05 | 26.5 | 32 | 3   | WCMX050308 | ●     |
| HWD03-C32-270-WC05 | 27   | 32 | 3   | WCMX050308 | ●     |
| HWD03-C32-275-WC05 | 27.5 | 32 | 3   | WCMX050308 | ●     |
| HWD03-C32-280-WC05 | 28   | 32 | 3   | WCMX050308 | ●     |
| HWD03-C32-290-WC05 | 29   | 32 | 3   | WCMX050308 | ●     |
| HWD03-C32-300-WC05 | 30   | 32 | 3   | WCMX050308 | ●     |
| HWD03-C32-310-WC05 | 31   | 32 | 3   | WCMX050308 | ●     |
| HWD03-C32-330-WC06 | 33   | 32 | 3   | WCMX06T308 | ●     |
| HWD03-C32-340-WC06 | 34   | 32 | 3   | WCMX06T308 | ●     |
| HWD03-C32-350-WC06 | 35   | 32 | 3   | WCMX06T308 | ●     |
| HWD03-C32-360-WC06 | 36   | 32 | 3   | WCMX06T308 | ●     |
| HWD03-C32-370-WC06 | 37   | 32 | 3   | WCMX06T308 | ●     |
| HWD03-C32-380-WC06 | 38   | 32 | 3   | WCMX06T308 | ●     |



# HWD03 Magic Drill



| Part number        | size |    |     | Inserts    | stock |
|--------------------|------|----|-----|------------|-------|
|                    | D    | d  | L/D |            |       |
| HWD03-C32-390-WC06 | 39   | 32 | 3   | WCMX06T308 | ●     |
| HWD03-C32-410-WC06 | 41   | 32 | 3   | WCMX06T308 | ●     |
| HWD03-C40-420-WC08 | 42   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-430-WC08 | 43   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-440-WC08 | 44   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-450-WC08 | 45   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-460-WC08 | 46   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-470-WC08 | 47   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-480-WC08 | 48   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-490-WC08 | 49   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-500-WC08 | 50   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-510-WC08 | 51   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-530-WC08 | 53   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-550-WC08 | 55   | 40 | 3   | WCMX080412 | ●     |
| HWD03-C40-560-WC08 | 56   | 40 | 3   | WCMX080412 | ●     |

Note: ● have stock ○ for reservation

A

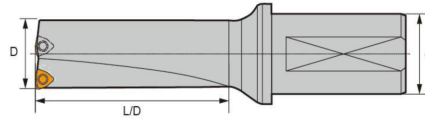
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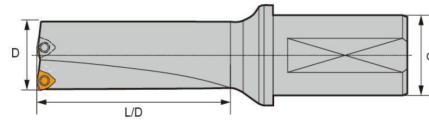
E

# HWD04 Magic Drill



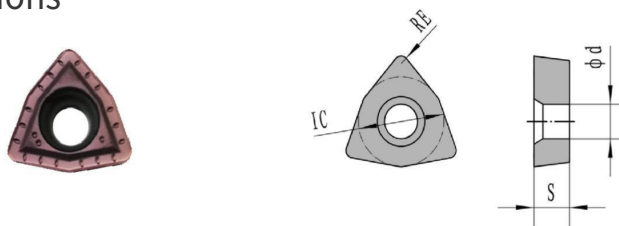
| Part number        | size |    |     | Inserts    | stock |
|--------------------|------|----|-----|------------|-------|
|                    | D    | d  | L/D |            |       |
| HWD04-C20-150-WC03 | 15   | 20 | 4   | WCMX030208 | ●     |
| HWD04-C20-160-WC03 | 16   | 20 | 4   | WCMX030208 | ●     |
| HWD04-C25-140-WC03 | 14   | 25 | 4   | WCMX030208 | ●     |
| HWD04-C25-145-WC03 | 14.5 | 25 | 4   | WCMX030208 | ●     |
| HWD04-C25-155-WC03 | 15.5 | 25 | 4   | WCMX030208 | ●     |
| HWD04-C25-165-WC03 | 16.5 | 25 | 4   | WCMX030208 | ●     |
| HWD04-C25-170-WC03 | 17   | 25 | 4   | WCMX030208 | ●     |
| HWD04-C25-180-WC03 | 18   | 25 | 4   | WCMX030208 | ●     |
| HWD04-C25-190-WC03 | 19   | 25 | 4   | WCMX030208 | ●     |
| HWD04-C25-195-WC03 | 19.5 | 25 | 4   | WCMX030208 | ●     |
| HWD04-C25-200-WC04 | 20   | 25 | 4   | WCMX040208 | ●     |
| HWD04-C25-205-WC04 | 20.5 | 25 | 4   | WCMX040208 | ●     |
| HWD04-C25-210-WC04 | 21   | 25 | 4   | WCMX040208 | ●     |
| HWD04-C25-215-WC04 | 21.5 | 25 | 4   | WCMX040208 | ●     |
| HWD04-C25-220-WC04 | 22   | 25 | 4   | WCMX040208 | ●     |
| HWD04-C25-225-WC04 | 22.5 | 25 | 4   | WCMX040208 | ●     |
| HWD04-C25-230-WC04 | 23   | 25 | 4   | WCMX040208 | ●     |
| HWD04-C25-235-WC04 | 23.5 | 25 | 4   | WCMX040208 | ●     |
| HWD04-C25-240-WC04 | 24   | 25 | 4   | WCMX040208 | ●     |
| HWD04-C25-245-WC04 | 24.5 | 25 | 4   | WCMX040208 | ●     |
| HWD04-C25-250-WC04 | 25   | 25 | 4   | WCMX040208 | ●     |
| HWD04-C32-250-WC05 | 25   | 32 | 4   | WCMX050308 | ●     |
| HWD04-C32-255-WC05 | 25.5 | 32 | 4   | WCMX050308 | ●     |
| HWD04-C32-265-WC05 | 26.5 | 32 | 4   | WCMX050308 | ●     |
| HWD04-C32-270-WC05 | 27   | 32 | 4   | WCMX050308 | ●     |
| HWD04-C32-275-WC05 | 27.5 | 32 | 4   | WCMX050308 | ●     |
| HWD04-C32-280-WC05 | 28   | 32 | 4   | WCMX050308 | ●     |
| HWD04-C32-290-WC05 | 29   | 32 | 4   | WCMX050308 | ●     |
| HWD04-C32-340-WC06 | 34   | 32 | 4   | WCMX06T308 | ●     |
| HWD04-C32-360-WC06 | 36   | 32 | 4   | WCMX06T308 | ●     |

# HWD04 Magic Drill



| Part number        | size |    |     | Inserts    | stock |
|--------------------|------|----|-----|------------|-------|
|                    | D    | d  | L/D |            |       |
| HWD04-C32-370-WC06 | 37   | 32 | 4   | WCMX06T308 | ●     |
| HWD04-C32-380-WC06 | 38   | 32 | 4   | WCMX06T308 | ●     |
| HWD04-C32-410-WC06 | 41   | 32 | 4   | WCMX06T308 | ●     |
| HWD04-C40-420-WC08 | 42   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-430-WC08 | 43   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-440-WC08 | 44   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-450-WC08 | 45   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-460-WC08 | 46   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-470-WC08 | 47   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-480-WC08 | 48   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-490-WC08 | 49   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-500-WC08 | 50   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-510-WC08 | 51   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-550-WC08 | 55   | 40 | 4   | WCMX080412 | ●     |
| HWD04-C40-560-WC08 | 56   | 40 | 4   | WCMX080412 | ●     |

## Inserts specifications



| Part number  | Applicable to processed materials | Size  |      |     |     |
|--------------|-----------------------------------|-------|------|-----|-----|
|              | material (PCD)                    | IC    | S    | Re  | d   |
|              |                                   |       |      |     |     |
| WCMX030208-U | ●                                 | 5.56  | 2.38 | 0.8 | 2.8 |
| WCMX040208-U | ●                                 | 6.35  | 2.38 | 0.8 | 3.1 |
| WCMX050308-U | ●                                 | 7.94  | 3.18 | 0.8 | 3.2 |
| WCMX06T308-U | ●                                 | 9.525 | 3.97 | 0.8 | 3.7 |
| WCMX080412-U | ●                                 | 12.7  | 4.76 | 1.2 | 4.3 |

Note: ● have stock ○ for reservation

# Double-side chamfering short-hole drill

## Product feature

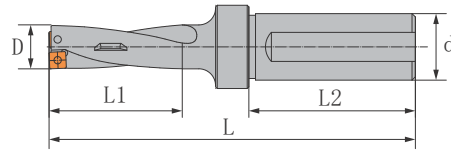
Using elastic floating insert to complete the positive and negative chamfering of the through-hole, and the chamfer uniformly. Drilling and chamfering can be completed at one time, which greatly improves production efficiency.

It is used for one-time drilling and chamfering bolt holes of railway trunk rail, switch rail and rut rail.

Good processing quality, simple process and low processing cost.



## Tool specification

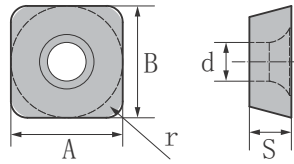


| Part number      | D  | d  | L1  | L2 | L   | Central insert | Perlpheral insert | Chamfer insert | Cylindrical pin | Inventory |
|------------------|----|----|-----|----|-----|----------------|-------------------|----------------|-----------------|-----------|
| SCP22.5-CED-XP25 | 22 | 25 | 88  | 56 | 174 | SPGX0703       | SCGX060204        | CED45-22.5     | DS4025-SR1.5    | ●         |
| SCP23.5-CED-XP25 | 23 | 25 | 92  | 56 | 178 | SPGX0703       | SCGX070308        | CED45-23.5     |                 | ●         |
| SCP24.5-CED-XP25 | 24 | 25 | 96  | 56 | 182 | SPGX0703       | SCGX070308        | CED45-24.5     |                 | ●         |
| SCP25.5-CED-XP32 | 25 | 32 | 100 | 60 | 190 | SPGX0703       | SCGX070308        | CED45-25.5     |                 | ●         |
| SCP26.5-CED-XP32 | 26 | 32 | 104 | 60 | 194 | SPGX0903       | SCGX070308        | CED45-26.5     |                 | ●         |
| SCP27.5-CED-XP32 | 27 | 32 | 108 | 60 | 198 | SPGX0903       | SCGX070308        | CED45-27.5     |                 | ●         |
| SCP28.5-CED-XP32 | 28 | 32 | 112 | 60 | 202 | SPGX0903       | SCGX09T308        | CED45-28.5     |                 | ●         |
| SCP29.5-CED-XP32 | 29 | 32 | 116 | 60 | 206 | SPGX0903       | SCGX09T308        | CED45-29.5     | DS4925-SR1.5    | ●         |
| SCP30.5-CED-XP32 | 30 | 32 | 120 | 60 | 210 | SPGX0903       | SCGX09T308        | CED45-30.5     |                 | ●         |
| SCP31.5-CED-XP32 | 31 | 32 | 124 | 60 | 214 | SPGX0903       | SCGX09T308        | CED45-31.5     |                 | ●         |
| SCP32.5-CED-XP32 | 32 | 40 | 128 | 70 | 226 | SPGX11T3       | SCGX09T308        | CED45-32.5     |                 | ●         |
| SCP33.5-CED-XP32 | 33 | 40 | 132 | 70 | 230 | SPGX11T3       | SCGX09T308        | CED45-33.5     |                 | ●         |
| SCP34.5-CED-XP32 | 34 | 40 | 136 | 70 | 234 | SPGX11T3       | SCGX09T308        | CED45-34.5     |                 | ●         |

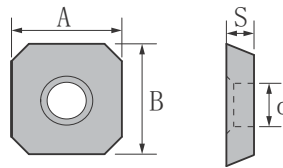
Note: ● have stock, ○ for reservation

| Central insert | Screw for central insert | Wrench | Perlpheral insert | Pcrew for perlpheral insert | Wrench |
|----------------|--------------------------|--------|-------------------|-----------------------------|--------|
| SPGX0703       | S2506                    | T8     | SCGX060204        | S2506                       | T8     |
| SPGX0903       | S3008                    | T8     | SCGX070308        | S3006                       | T8     |
| SPGX11T3       | S35085                   | T10    | SCGX09T308        | S4009                       | T15    |

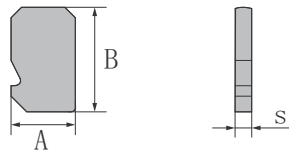
## Insert specification



| Part number | Material (PVD) | Size |      |     |      |     |
|-------------|----------------|------|------|-----|------|-----|
|             | HPP025D        | A    | B    | s   | d    | r   |
| SCGX060204  | ●              | 6.35 | 6.35 | 2.8 | 2.38 | 0.4 |
| SCGX070308  | ●              | 7.94 | 7.94 | 3.5 | 3.18 | 0.8 |
| SCGX09T308  | ●              | 9.53 | 9.53 | 4.5 | 3.97 | 0.8 |



| Part number | Material (PVD) | Size |      |     |      |
|-------------|----------------|------|------|-----|------|
|             | HPP025D        | A    | B    | s   | d    |
| SPGX0703    | ●              | 7.94 | 7.94 | 2.8 | 3.18 |
| SPGX0903    | ●              | 9.53 | 9.53 | 3.4 | 3.18 |
| SPGX11T3    | ●              | 11.5 | 11.5 | 3.8 | 3.97 |



| Part number | Material (PVD) | Size |      |     |
|-------------|----------------|------|------|-----|
|             | HPP125D        | A    | B    | s   |
| CED45-22.5  | ●              | 12.3 | 17.5 | 3.2 |
| CED45-23.5  | ●              | 12.3 | 18   | 3.2 |
| CED45-24.5  | ●              | 12.3 | 18.5 | 3.2 |
| CED45-25.5  | ●              | 12.3 | 20   | 3.2 |
| CED45-26.5  | ●              | 12.3 | 20.5 | 3.2 |
| CED45-27.5  | ●              | 12.3 | 21   | 3.2 |
| CED45-28.5  | ●              | 12.3 | 21.5 | 3.2 |
| CED45-29.5  | ●              | 12.3 | 22   | 3.2 |
| CED45-30.5  | ●              | 12.3 | 23.5 | 3.2 |
| CED45-31.5  | ●              | 12.3 | 24   | 3.2 |
| CED45-32.5  | ●              | 12.3 | 24.5 | 3.2 |
| CED45-33.5  | ●              | 12.3 | 25   | 3.2 |
| CED45-34.5  | ●              | 12.3 | 25.5 | 3.2 |

Note: ● have stock, ○ for reservation



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