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KENNAMETAL®

# MASTER CATALOG 2018

## VOLUME TWO | **ROTATING** TOOLS

HOLEMAKING | TAPPING | SOLID END MILLING | INDEXABLE MILLING

# HTS Series Indexable Deep-Hole Drilling System

## Primary Application

HTS series indexable drills are designed for deep-hole drilling up to 10 x D in steel, stainless steel, ductile iron, cast iron, and non-ferrous materials. The two HTS systems — HTS and HTS-R — cover a diameter range of 40–270mm (1.575–10.629").

## Features and Benefits

### HTS Indexable Drill System

- Large diameter range from 45–270mm (1.750–10.629") with standard drill heads.
- Drill Fix™ DFT™ trigon inserts as outboard and inboard insert offer the best centering capabilities; square-outboard insert cartridges offer increased surface and hole quality.
- Various insert geometries and grades available as standard.
- Adjust drilling depth and diameter range with suitable extensions and reducers.
- Diameter adjustment by shortening outer cartridge.
- Customized drilling heads up to 540mm (21.259").

## HTS-R Indexable Drill System

- Modular system uses drill heads equipped with DFR™ insert cartridges.
- Five drill heads cover the diameter range 40–55mm (1.575–2.165").
- Drill Fix™ DFR rectangular inboard and outboard inserts offer the highest feed rates at small diameters.
- Various insert geometries and grades available as standard.
- Adjust drilling depth and diameters by using extensions and reducers.
- Diameter adjustment by shortening outer cartridge.

# HTS Indexable Drill System

The HTS indexable drill system is one of the most reliable deep-hole drilling systems available. Drilling up to 10 x D can be easily achieved in materials like steel, stainless steel, ductile iron, cast iron, and non-ferrous materials. Various drilling heads cover the diameter range 45–270mm (1.77–10.63").

HTS drill heads are equipped with pilot drills and cartridges using trigon-shaped Drill Fix™ DFT™ inserts. Use HTS extensions and reducers to achieve various diameters and depths of drilling.

For improved surface qualities and increased reliability, finishing HTS cartridges with a squared-outboard insert are available as standard.

## Features and Benefits

### Productivity

- Achieve high hole accuracy by using pilot drills and trigon-shaped inserts.
- Benefit from improved surface qualities using finishing cartridges with squared-outboard inserts.
- Adjust outer cartridge to desired cutting diameter, reducing inventory.
- Same insert size is used in each insert cartridge, reducing inventory costs.

### Versatility

- Diameter range covering 45–270mm (1.77–10.63").
- L/D ratio up to 10 x D as standard.
- Inserts and pilot drills can be used with various heads and cartridges, covering various diameters.
- Large variety of DFT insert grades and geometries available.
- Finishing cartridge with squared-outboard insert offering four cutting edges for high process stability.
- Carbide pilot drills are available upon request.

# Use HTS extensions and reducers to achieve various diameters and depths of drilling.

## Customization

- Wear pads can be added for increased stability.
- Fully engineered solutions available.
- Custom solutions covering diameter range up to 540mm (21.259") are possible.

# HTS-R Indexable Drill System

HTS-R extends the HTS system by covering diameters between 40–55mm (1.575–2.165").

Up to 30% higher feed rates achievable with rectangular-shaped Drill Fix™ DFR™ inserts with the added benefit of improved chip control.

## Features and Benefits

### Productivity

- Benefit from better chip control and higher insert stability for longer tool body life.
- Same insert size is used in each insert cartridge.

### Versatility

- Diameter range covering 40–55mm (1.575–2.165") with five drilling heads.
- Large variety of DFR insert grades and geometries available.
- Outer cartridges can be adjusted to the desired cutting diameter.
- Extensions and reducers are available as standard.
- Solid carbide and HSS pilot drills are available to match the cutting conditions of specific applications.

# Benefit from better chip control and higher insert stability for longer tool body life.

Pilot drill should be installed and set to the proper length before installing the inner cartridge.

Install inner cartridge, then the outer insert.

Install inner insert into cartridge.

## Customization

- Wear pads can be added for increased stability.
- Fully engineered solutions available.

**HTS-R**


inner cartridge


pilot drill


outer cartridge

**HTS** Ø 1.77–4.02"/45–102mm


inner cartridge*


pilot drill


outer cartridge*

**HTS** Ø 4.02–6.69"/102–170mm


inner cartridge


pilot drill


outer cartridge

**HTS** Ø 7.68–10.63"/195–270mm


inner cartridge


pilot drill


outer cartridge

**HTS with SPHX outboard insert**


inner cartridge

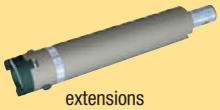

pilot drill

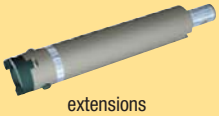

outer cartridge**

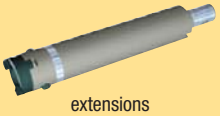
* for Ø 7.09–7.32"/180–186mm: 2 inner and outer cartridges are used

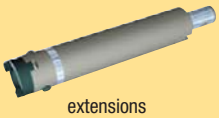
HTS-R head

HTS head


extensions


extensions


extensions


extensions


reducer


reducer

**WARNING**
- **DO NOT exceed 2 extensions or 1 extension plus reducer.**


DV


BT


CV with rotary ring


CV


HSK


KM™


HTS coolant coupling

** for Ø 4.02–6.69"/102–170mm & Ø 7.68–9.45"/195–240mm: the outer cartridge uses 3 inserts

**HTS-R**


inner cartridge


pilot drill


outer cartridge

HTS-R head

**HTS** Ø 1.77–4.02"/45–102mm


inner cartridge*


pilot drill


outer cartridge*

* for Ø 7.09–7.32"/180–186mm: 2 inner and outer cartridges are used

**HTS** Ø 4.02–6.69"/102–170mm


inner cartridge


pilot drill


outer cartridge

**HTS** Ø 7.68–10.63"/195–270mm


inner cartridge


pilot drill


outer cartridge

**HTS with SPHX outboard insert**


inner cartridge


pilot drill


outer cartridge**

** for Ø 4.02–6.69"/102–170mm & Ø 7.68–9.45"/195–240mm: the outer cartridge uses 3 inserts


extensions


reducer


extensions


reducer


basic shanks


DV


BT


BT with coolant ring

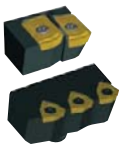
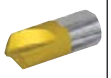

CV


CV with coolant ring

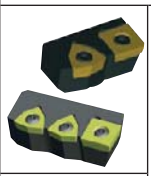
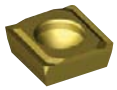
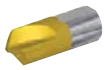

HSK

HTS head

To assemble your HTS(-R) head, choose the desired drill diameter range from the left-hand column.
Next, follow the columns to the right, and select the appropriate component from each column to complete your HTS(-R) head.

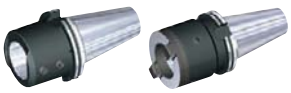
| | | | | | | HTS(-R) head with DFR™/DFT™ inserts | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | inner cartridge | | | | outer cartridge | | | | |
| | drilling range | |  | L1 | |  | |  | |  | |  | |  |
| | mm | in | HTS head | mm | in | cartridge | n | insert | n | cartridge | n | insert | n | pilot drill |
| HTS heads with DFR inserts | 40–43 | 1.57–1.69 | HTSR040R025M | 60 | 2.36 | HTSR10CI | 1 | DFR0302. | 2 | HTSR10CE | 1 | DFR0302. | 2 | B513S08. |
| | 43–46 | 1.69–1.81 | HTSR043R025M | 70 | 2.76 | HTSR11CI | 1 | DFR0302. | 2 | HTSR11CE | 1 | DFR0302. | 2 | B513S10. |
| | 46–49 | 1.81–1.93 | HTSR046R028M | | | HTSR12CI | 1 | DFR0403. | 2 | HTSR12CE | 1 | DFR0403. | 2 | B513S10. |
| | 49–52 | 1.93–2.05 | HTSR049R028M | | | HTSR13CI | 1 | DFR0403. | 2 | HTSR13CE | 1 | DFR0403.. | 2 | B513S10. |
| | 52–55 | 2.05–2.17 | HTSR052R028M | | | HTSR14CI | 1 | DFR0403. | 2 | HTSR14CE | 1 | DFR0403.. | 2 | B513S10. |
| HTS heads with DFT/SPHX inserts | 45–50 | 1.77–1.97 | 3.76045R028V | 50 | 1.97 | 3.77000R050V | 1 | DFT0303. | 2 | 3.77000R051V | 1 | DFT0303. | 2 | B510S08. |
| | 50–55 | 1.97–2.17 | 3.76050R028V | | | 3.77000R052V | 1 | DFT0303. | 2 | 3.77000R053V | 1 | DFT0303. | 2 | B510S08. |
| | 55–58 | 2.17–2.28 | 3.76055R032V | 60 | 2.36 | 3.77000R038V | 1 | DFT05T3. | 2 | 3.77000R039V | 1 | DFT05T3. | 2 | B510S08. |
| | 58–63 | 2.28–2.48 | 3.76058R032V | | | 3.77000R023V | 1 | DFT05T3. | 2 | 3.77000R024V | 1 | DFT05T3. | 2 | B510S10. |
| | 63–68 | 2.48–2.68 | 3.76063R032V | | | 3.77000R025V | 1 | DFT05T3. | 2 | 3.77000R024V | 1 | DFT05T3. | 2 | B510S10. |
| | 63–68 | 2.48–2.68 | **3.76063R040V*** | 70 | 2.76 | 3.77000R025V | 1 | DFT05T3. | 2 | 3.77000R024V | 1 | DFT05T3. | 2 | B510S10. |
| | 68–73 | 2.68–2.87 | 3.76068R040V | | | 3.77000R026V | 1 | DFT05T3. | 2 | 3.77000R027V | 1 | DFT05T3. | 2 | B510S10. |
| | 73–78 | 2.87–3.07 | 3.76073R040V | | | 3.77000R026V | 1 | DFT05T3. | 2 | 3.77000R027V | 1 | DFT05T3. | 2 | B510S15. |
| | 78–84 | 3.07–3.31 | 3.76078R040V | | | 3.77000R028V | 1 | DFT06T3. | 2 | 3.77000R029V | 1 | DFT06T3. | 2 | B510S15. |
| | 78–84 | 3.07–3.31 | **3.76078R048V*** | 70 | 2.76 | 3.77000R028V | 1 | DFT06T3. | 2 | 3.77000R029V | 1 | DFT06T3. | 2 | B510S15. |
| | 84–90 | 3.31–3.54 | 3.76084R048V | | | 3.77000R028V | 1 | DFT06T3. | 2 | 3.77000R029V | 1 | DFT06T3. | 2 | B510S15. |
| | 90–94° | 3.54–3.70 | 3.76090R048V | | | – | – | – | – | – | – | – | – | – |
| | 90–96 | 3.54–3.78 | 3.76090R048V | | | 3.77000R030V | 1 | DFT06T3. | 2 | 3.77000R031V | 1 | DFT06T3. | 2 | B510S15. |
| | 96–100° | 3.78–3.93 | 3.76096R048V | | | – | – | – | – | – | – | – | – | – |
| | 96–102 | 3.78–4.02 | 3.76096R048V | | | 3.77000R030V | 1 | DFT06T3. | 2 | 3.77000R031V | 1 | DFT06T3. | 2 | B510S20. |
| | 96–100° | 3.78–3.93 | **3.76096R058V*** | 80 | 3.15 | – | – | – | – | – | – | – | – | – |
| | 96–102 | 3.78–4.02 | **3.76096R058V*** | | | 3.77000R030V | 1 | DFT06T3. | 2 | 3.77000R031V | 1 | DFT06T3. | 2 | B510S20. |
| | 102–108 | 4.02–4.25 | 3.76102R058V | | | 3.77000R081V | 1 | DFT05T3. | 3 | 3.77000R082V | 1 | DFT05T3. | 3 | B510S20. |
| | 108–115 | 4.25–4.53 | 3.76108R058V | | | 3.77000R083V | 1 | DFT06T3. | 3 | 3.77000R084V | 1 | DFT06T3. | 3 | B510S20. |
| | 115–122 | 4.53–4.80 | 3.76115R070V | 90 | 3.54 | 3.77000R085V | 1 | DFT06T3. | 3 | 3.77000R086V | 1 | DFT06T3. | 3 | B510S25. |
| | 122–130 | 4.80–5.12 | 3.76122R070V | | | 3.77000R079V | 1 | DFT06T3. | 3 | 3.77000R080V | 1 | DFT06T3. | 3 | B510S25. |
| | 130–140 | 5.12–5.51 | 3.76130R070V | | | 3.77000R087V | 1 | DFT06T3. | 3 | 3.77000R088V | 1 | DFT06T3. | 3 | B510S25. |
| | 140–150 | 5.51–5.91 | 3.76140R080V | 100 | 3.94 | 3.77000R077V | 1 | DFT0704. | 3 | 3.77000R078V | 1 | DFT0704. | 3 | B510S25. |
| | 150–158 | 5.91–6.22 | 3.76150R080V | | | 3.77000R075V | 1 | DFT0704. | 3 | 3.77000R076V | 1 | DFT0704. | 3 | B510S25. |
| | 158–162 | 6.22–6.38 | 3.76158R080V | | | 3.77000R073V | 1 | DFT0704. | 3 | 3.77000R074V | 1 | DFT0704. | 3 | B510S25. |
| | 162–170 | 6.38–6.70 | 3.76162R080V | | | 3.77000R048V | 1 | DFT0704. | 3 | 3.77000R049V | 1 | DFT0704. | 3 | B510S30. |
| | 180–184° | 7.08–7.24 | 3.76180R110 | 125 | 4.92 | – | – | – | – | – | – | – | – | – |
| | 180–186 | 7.08–7.32 | 3.76180R110 | | | 3.77000R030V | 3 | DFT06T3. | 4 | 3.77000R031V | 1 | DFT06T3. | 4 | B510S30. |
| | 195–201 | 7.68–7.91 | 3.76195R110 | | | 3.77000R081V | 3 | DFT05T3. | 6 | 3.77000R082V | 1 | DFT05T3 | 6 | B510S30. |
| | 213–220 | 8.39–8.66 | 3.76213R125 | | | 3.77000R083V | 3 | DFT06T3. | 6 | 3.77000R084V | 1 | DFT06T3. | 6 | B510S30. |
| | 230–240 | 9.06–9.45 | 3.76230R160 | 150 | 5.91 | 3.77000R079V | 2 | DFT06T3. | 6 | 3.77000R080V | 2 | DFT06T3. | 6 | B510S30. |
| | 260–270 | 10.24–10.63 | 3.76260R160 | | | 3.77000R077V | 2 | DFT06T3. | 6 | 3.77000R078V | 2 | DFT06T3. | 6 | B510S30. |

° Decreased diameter range by using SPHX insert in exterior cartridge.
* Drill heads with reinforced body for short–chipping materials.
n = Required quantity.

| | HTS head with DFT™ inserts and SPHX outboard insert | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | inner cartridge | | | | | | outer cartridge | | | | | | |
| |  | |  | |  | |  | |  | |  | |  |
| | cartridge | n | cartridge | n | insert | n | cartridge | n | insert | n | insert | n | pilot drill |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3.77000R250V | 1 | – | – | DFT0303. | 2 | 3.77000R251V | 1 | DFT0303. | 1 | SPHX0703. | 1 | B510S08. |
| | 3.77000R252V | 1 | – | – | DFT0303. | 2 | 3.77000R253V | 1 | DFT0303. | 1 | SPHX0703. | 1 | B510S08. |
| | 3.77000R038V | 1 | – | – | DFT05T3. | 2 | 3.77000R239V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S08. |
| | 3.77000R023V | 1 | – | – | DFT05T3. | 2 | 3.77000R224V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S10. |
| | 3.77000R025V | 1 | – | – | DFT05T3. | 2 | 3.77000R224V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S10. |
| | 3.77000R025V | 1 | – | – | DFT05T3. | 2 | 3.77000R224V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S10. |
| | 3.77000R026V | 1 | – | – | DFT05T3. | 2 | 3.77000R227V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S10. |
| | 3.77000R026V | 1 | – | – | DFT05T3. | 2 | 3.77000R227V | 1 | DFT05T3. | 1 | SPHX0903. | 1 | B510S15. |
| | 3.77000R028V | 1 | – | – | DFT06T3. | 2 | 3.77000R229V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S15. |
| | 3.77000R028V | 1 | – | – | DFT06T3. | 2 | 3.77000R229V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S15. |
| | 3.77000R228V | 1 | – | – | DFT06T3. | 2 | 3.77000R229V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S15. |
| | 3.77000R230V | 1 | – | – | DFT06T3. | 2 | 3.77000R231V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S15. |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3.77000R230V | 1 | – | – | DFT06T3. | 2 | 3.77000R231V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S20. |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3.77000R230V | 1 | – | – | DFT06T3. | 2 | 3.77000R231V | 1 | DFT06T3. | 1 | SPHX0903. | 1 | B510S20. |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3.77000R081V | 1 | – | – | DFT05T3. | 3 | 3.77000R282V | 1 | DFT05T3. | 2 | SPHX0903. | 1 | B510S20. |
| | 3.77000R083V | 1 | – | – | DFT06T3. | 3 | 3.77000R284V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S20. |
| | 3.77000R085V | 1 | – | – | DFT06T3. | 3 | 3.77000R286V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S25. |
| | 3.77000R079V | 1 | – | – | DFT06T3. | 3 | 3.77000R280V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S25. |
| | 3.77000R087V | 1 | – | – | DFT06T3. | 3 | 3.77000R288V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S25. |
| | 3.77000R077V | 1 | – | – | DFT0704. | 3 | 3.77000R278V | 1 | DFT0704. | 2 | SPHX1505. | 1 | B510S25. |
| | 3.77000R075V | 1 | – | – | DFT0704. | 3 | 3.77000R276V | 1 | DFT0704. | 2 | SPHX1204. | 1 | B510S25. |
| | 3.77000R073V | 1 | – | – | DFT0704. | 3 | 3.77000R274V | 1 | DFT0704. | 2 | SPHX1204. | 1 | B510S25. |
| | 3.77000R248V | 1 | – | – | DFT0704. | 3 | 3.77000R249V | 1 | DFT0704. | 2 | SPHX1505. | 1 | B510S30. |
| | 3.77000R230V | 3 | – | – | DFT06T3. | 4 | 3.77000R231V | 1 | DFT06T3. | 3 | SPHX0903. | 1 | B510S30. |
| | – | – | – | – | – | – | – | – | – | – | – | – | – |
| | 3.77000R081V | 3 | – | – | DFT05T3. | 9 | 3.77000R282V | 1 | DFT05T3. | 2 | SPHX0903. | 1 | B510S30. |
| | 3.77000R083V | 3 | – | – | DFT06T3. | 9 | 3.77000R284V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S30. |
| | 3.77000R079V | 2 | 3.77000R080V | 1 | DFT06T3. | 9 | 3.77000R280V | 1 | DFT06T3. | 2 | SPHX1204. | 1 | B510S30. |
| | – | – | – | – | – | – | – | – | – | – | – | – | B510S30 |

## HTS Tool Assembly Combinations

- Select your appropriate drill diameter range.
- Choose the appropriate adapter and shank size.
- Follow the columns to the right, and select the appropriate components from each column to complete your HTS(-R) tool.

| | drilling range | | shank | | DV | | BT | | CV | | HSK | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | |  | |  | |  | |  | |
| | | | | | assembly details | | assembly details | | assembly details | | assembly details | |
| | mm | in | | D1 | 40 | 50 | 40 | 50 | 40 | 50 | 50/63/100 | |
| HTS heads with DFR™ inserts | 40–43<br>43–46 | 1.57–1.69<br>1.69–1.81 | WD/ WN | 32 | DV40BWD32075M<br>**DV40RMWD32115M**** | DV50BWD32060M<br>**DV50RMWD32140M**** | BT40BWD32070M | BT50BWD32080M | CV40BWD32M343<br>**CV40RMWD32M453**** | CV50BWD32M343<br>**CV50RMWD32M453**** | HSK50ASWN32110M<br>HSK63ASWN32090M<br>HSK100ASWN32100M | |
| | | | | 50 | – | DV50BWD50075M<br>**DV50RMWD50144M**** | – | BT50BWD50085M<br>**BT50RMWD50162M**** | – | CV50BWD50M343<br>**CV50RMWD50M472**** | – | |
| | | | SS(F) | 1.50 | – | – | – | – | CV40BSSF150575 | CV50SS150400 (AD)<br>CV50SS150600 (AD)<br>CV50SS150800 (AD)<br>CV50BSSF150450 | – | |
| | 46–49<br>49–52<br>52–55 | 1.81–1.93<br>1.93–2.05<br>2.05–2.17 | WD/ WN | 32 | DV40BWD32075M<br>**DV40RMWD32115M**** | DV50BWD32060M<br>**DV50RMWD32140M**** | – | BT50BWD32080M | CV40BWD32M343<br>**CV40RMWD32M453**** | CV50BWD32M343<br>**CV50RMWD32M453**** | – | |
| | | | | 50 | – | DV50BWD50075M<br>**DV50RMWD50144M**** | – | BT50BWD50085M<br>**BT50RMWD50162M**** | – | CV50BWD50M343<br>**CV50RMWD50M472**** | – | |
| | | | SS(F) | 2.00 | – | – | – | – | – | CV50SS200562 (AD)<br>CV50SS200762 (AD)<br>CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314<br>**CV50RMHTS50M413**** | – | |
| HTS heads with DFT™/SPHX inserts | 45–50<br>50–55 | 1.77–1.97<br>1.97–2.17 | WD/ WN | 32 | DV40BWD32075M<br>**DV40RMWD32115M**** | DV50BWD32060M<br>**DV50RMWD32140M**** | BT40BWD32070M | BT50BWD32080M | CV40BWD32M343<br>**CV40RMWD32M453**** | CV50BWD32M343<br>**CV50RMWD32M453**** | HSK50ASWN32110M<br>HSK63ASWN32090M<br>HSK100ASWN32100M | |
| | | | | 50 | – | DV50BWD50075M<br>**DV50RMWD50144M**** | – | BT50BWD50085M<br>**BT50RMWD50162M**** | – | CV50BWD50M343<br>**CV50RMWD50M472**** | HSK100ASWN50110M | |
| | | | SS(F) | 2.00 | – | – | – | – | – | CV50SS200562 (AD)<br>CV50SS200762 (AD)<br>CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314<br>**CV50RMHTS50M413**** | – | |
| | 55–58<br>58–63<br>63–68 | 2.17–2.28<br>2.28–2.48<br>2.48–2.68 | WD/ WN | 32 | DV40BWD32075M<br>**DV40RMWD32115M**** | DV50BWD32060M<br>**DV50RMWD32140M**** | BT40BWD32070 | BT50BWD32080M | CV40BWD32M343<br>**CV40RMWD32M453**** | CV50BWD32M343<br>**CV50RMWD32M453**** | HSK50ASWN32110M<br>HSK63ASWN32090M<br>HSK100ASWN32100M | |
| | | | | 50 | – | DV50BWD50075M<br>**DV50RMWD50144M**** | – | BT50BWD50085M<br>**BT50RMWD50162M**** | – | CV50BWD50M343<br>**CV50RMWD50M472**** | HSK100ASWN50110M | |
| | | | SS(F) | 2.00 | – | – | – | – | – | CV50SS200562 (AD)<br>CV50SS200762 (AD)<br>CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314<br>**CV50RMHTS50M413**** | – | |
| | **63–68*** 68–73 73–78 78–84 | 2.48–2.68<br>2.68–2.87<br>2.87–3.07<br>3.07–3.31 | WD/ WN | 50 | – | DV50BWD50075M<br>**DV50RMWD50144M**** | – | BT50BWD50085M<br>**BT50RMWD50162M**** | – | CV50BWD50M343<br>**CV50RMWD50M472**** | HSK100ASWN50110M | |
| | | | SS(F) | 2.00 | – | – | – | – | – | V50SS200562 (AD)<br>CV50SS200762 (AD)<br>CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314<br>**CV50RMHTS50M413**** | – | |

* HTS drilling head with reinforced body for short-chipping materials.
** Adapter with coolant ring.
The shown combinations are not complete. Ask your Kennametal representative to get the most reasonable solution for your application.
Please note that the assembled total length of the drilling tool is not necessarily the total achievable drilling depth.

| | KM | basic shank | | | | reducer | | | | | extension | | | HTS head |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| |  assembly details |  | L4 |  | L4 |  | L1 | |  for use with coolant adapter | |  | L1 | |  |
| | 80 | metric | mm | inch | in | | mm | in | coolant adapter | shell mill DV/BT | | mm | in | |
| | – | 5.34032–025115<br>5.34032–025200 | 110<br>195 | – | – | – | – | – | – | – | 5.34125R025150 | 160 | 6.30 | HTSR040R025M<br>HTSR043R025M |
| | – | 5.34050–025300<br>5.34050–025450 | 270<br>420 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF150HTS130239<br>SSF150HTS130664<br>SSF150HTS131114<br>SSF150HTS131764 | .39<br>4.65<br>9.14<br>15.64 | – | – | – | – | – | | | | |
| | – | 5.34032–028115<br>5.34032–028200 | 110<br>195 | – | – | – | – | – | – | – | 5.34128R028150 | 160 | 6.30 | HTSR046R028M<br>HTSR049R028M<br>HTSR052R028M |
| | – | 5.34050-028300<br>5.34050-028450 | 265<br>415 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF200HTS130239<br>SSF200HTS130664<br>SSF200HTS131114<br>SSF200HTS131764 | .39<br>4.65<br>9.14<br>15.64 | – | – | – | – | – | | | | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R028080 | 90 | 3.54 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |
| | – | 5.34032–025115<br>5.34032–025200 | 110<br>195 | – | – | – | – | – | – | – | 5.34128R028150 | 160 | 6.30 | 3.76045R028V<br>3.76050R028V |
| | – | 5.34050–028300<br>5.34050–028450 | 265<br>415 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF200HTS130239<br>SSF200HTS130664<br>SSF200HTS131114<br>SSF200HTS131764 | .39<br>4.65<br>9.14<br>15.64 | – | – | – | – | – | | | | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R028080 | 90 | 3.54 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |
| | – | 5.34032–032125 | 120 | – | – | – | – | – | – | – | 5.34132R032100<br>5.34132R032200 | 110<br>210 | 4.33<br>8.27 | 3.76055R032V<br>3.76058R032V<br>3.76063R032V |
| | – | 5.34050–032500<br>5.34050–032350<br>5.34050–032350 | 165<br>315<br>465 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF200HTS160239<br>SSF200HTS160714<br>SSF200HTS161214<br>SSF200HTS161964 | .39<br>5.14<br>10.14<br>17.64 | – | – | – | – | – | | | | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R032080 | 90 | 3.5 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |
| | – | 5.34050–040148<br>5.34050–040300<br>5.34050–040450<br>5.34050–040600 | 140<br>267<br>417<br>567 | – | – | – | – | – | – | – | 5.34140R040200 | 212 | 8.35 | 3.76063R040V*<br>3.76068R040V<br>3.76073R040V<br>3.76078R040V |
| | – | – | – | SSF200HTS220297<br>SSF200HTS220922<br>SSF200HTS221572<br>SSF200HTS222572 | .47<br>7.22<br>13.72<br>23.72 | – | – | – | – | – | | | | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R040080 | 90 | 3.62 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |

*(continued)*

*(HTS Tool Assembly Combinations — continued)*

## HTS Tool Assembly Combinations

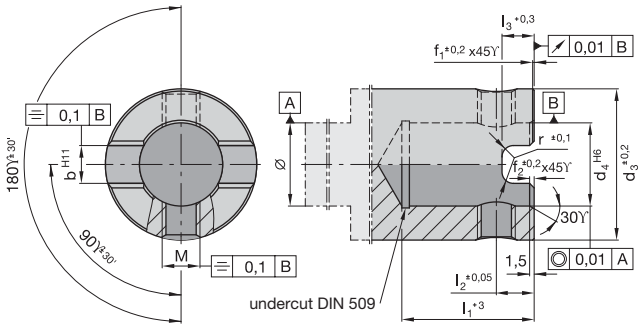
- Select your appropriate drill diameter range.
- Choose the appropriate adapter and shank size.
- Follow the columns to the right, and select the appropriate components from each column to complete your HTS(-R) tool.

| | drilling range | | shank | | DV assembly details | | BT assembly details | | CV assembly details | | HSK assembly details | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | in | | D1 | 40 | 50 | 40 | 50 | 40 | 50 | 50/63/100 | |
| HTS heads with DFT™/SPHX inserts | **78–84*** 84–90 90–96 96–102 | 3.07–3.31 3.31–3.54 3.54–3.70 3.78–4.02 | WD/ WN | 50 | – | DV50BWD50075M **DV50RMWD50144M**** | – | BT50BWD50085M **BT50RMWD50162M**** | – | CV50BWD50M343 **CV50RMWD50M472**** | HSK100ASWN50110M | |
| | | | SS(F) | 2.00 | – | – | – | – | – | CV50SS200562 (AD) CV50SS200762 (AD) CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314 CV50RMHTS50M413** | – | |
| | **96–102*** 102–108 108–115 | 3.78–4.02 4.02–4.25 4.25–4.53 | WD/ WN | 50 | – | DV50BWD50075M **DV50RMWD50144M**** | – | BT50BWD50085M **BT50RMWD50162M**** | – | CV50BWD50M343 **CV50RMWD50M472**** | HSK100ASWN50110M | |
| | | | SS(F) | 2.00 | – | – | – | – | – | CV50SS200562 (AD) CV50SS200762 (AD) CV50BSSF200550 | – | |
| | | | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314 **CV50RMHTS50M413**** | – | |
| | 115–122 122–130 130–140 | 4.53–4.80 4.80–5.12 5.12–5.51 | SS(F) | 40 | – | – | – | – | – | CV50SS250800 | – | |
| | | | HTS | 40 | 5.36050154040 | – | BT50BHTS40080M | – | CV50BHTS40M314 **CV50RMHTS40M412**** | – | HSK100AHTS40085M | |
| | | | | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314 **CV50RMHTS50M413**** | HSK100AHTS50090M | |
| | 140–150 150–158 158–162 162–170 | 5.51–5.91 5.91–6.22 6.22–6.38 6.38–6.70 | HTS | 50 | – | 5.36050–154050 | – | BT50BHTS50080M | – | CV50BHTS50M314 **CV50RMHTS50M413**** | HSK100AHTS50090M | |
| | 180–186 195–201 213–220 | 7.08–7.32 7.68–7.91 8.39–8.66 | customized solutions available upon request | | | | | | | | | |
| | 230–240 260–270 | 9.06–9.45 10.24–10.63 | customized solutions available upon request | | | | | | | | | |

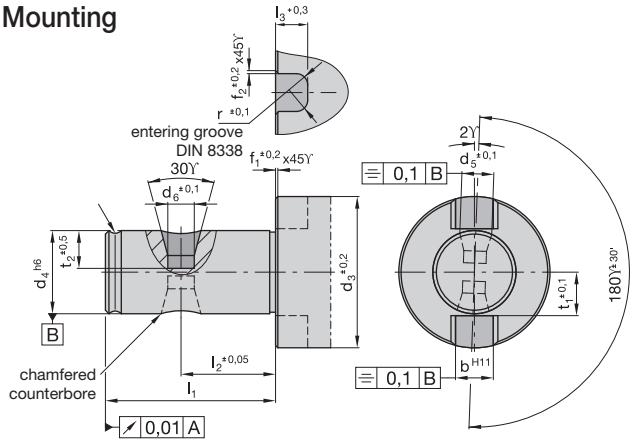
* HTS drilling head with reinforced body for short-chipping materials.
** Adapter with coolant ring.
The shown combinations are not complete. Ask your Kennametal representative to get the most reasonable solution for your application.
Please note that the assembled total length of the drilling tool is not necessarily the total achievable drilling depth.

| | KM | basic shank | | | | reducer | | | | | extension | | | HTS head |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| |  |  | |  | |  | |  | | |  | | |  |
| | assembly details | | L4 | | L4 | | L1 | | for use with coolant adapter | | | L1 | | |
| | 80 | metric | mm | inch | in | | mm | in | coolant adapter | shell mill DV/BT | | mm | in | |
| | – | 5.34050–048168<br>5.34050–048300<br>5.34050–048450<br>5.34050–048600 | 160<br>267<br>417<br>567 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF200HTS270297<br>SSF200HTS271122<br>SSF200HTS271922<br>SSF200HTS273122 | 1.47<br>9.22<br>17.22<br>29.22 | – | – | – | – | – | 5.34140R048200 | 212 | 8.35 | **3.76078R048V***<br>3.76084R048V<br>3.76090R048V<br>3.76096R048V |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R048080 | 92 | 3.62 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |
| | – | 5.34050–058186<br>5.34050–058300<br>5.34050–058450<br>5.34050–058600 | 180<br>254<br>404<br>554 | – | – | – | – | – | – | – | | | | |
| | – | – | – | SSF200HTS160239<br>SSF200HTS160714<br>SSF200HTS161214<br>SSF200HTS161964 | .39<br>5.14<br>10.14<br>17.64 | – | – | – | – | – | 5.34158R058300 | 314 | 12.36 | **3.76096R058V***<br>3.76102R058V<br>3.76108R058V |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | 5.34280R058080 | 94 | 3.70 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | | | | |
| | – | – | – | SSF250HTS400355<br>SSF250HTS401055<br>SSF250HTS401555<br>SSF250HTS402555 | 1.63<br>8.21<br>13.21<br>23.21 | – | – | – | – | – | – | – | – | 3.76115R070V<br>3.76122R070V<br>3.76130R070V |
| | KM80ATCHTS40085M<br>KM80ATCHTS40100M | – | – | – | – | 5.34280R070150 | 164 | 6.45 | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | 5.34170R070300<br>5.34170R070500 | 314<br>514 | 12.36<br>20.24 | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | – | – | – | – | – | – | – | | | | |
| | KM80ATCHTS50085M<br>KM80ATCHTS50100M | – | – | SSF300HTS500413<br>SSF300HTS501313<br>SSF300HTS502113<br>SSF300HTS503113 | 1.87<br>10.55<br>18.55<br>28.55 | – | – | – | 5.34350–090100 | DV50SM60070M<br>BT50SM60090M | 5.34180R080204<br>5.34180R080300<br>5.34180R080500 | 220<br>316<br>516 | 8.66<br>12.44<br>20.32 | 3.76140R080V<br>3.76150R080V<br>3.76158R080V<br>3.76162R080V |
| | customized solution available upon request | | | | | | | | | | | | | 3.76180R110<br>3.76195R110<br>3.76213R125 |
| | customized solution available upon request | | | | | | | | | | | | | 3.76230R160<br>3.76260R160 |

## Adapter




## Mounting



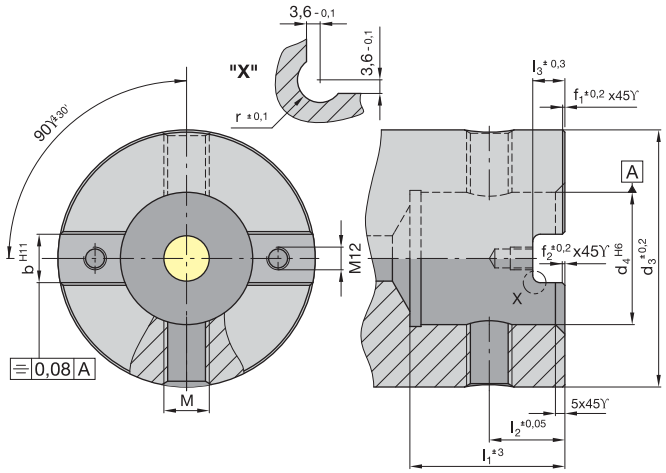

## Adapter Dimensions

| d3 | d4 | l1 | l2 | l3 | M | b | r | f1 | f2 | drive ring | clamping screw | thread | MAn* Nm | sliding block | clamping screw M 12 x 25 for sliding block |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 13 | 28 | 12,4 | 7,0 | M8 x 1,0 | 8,0 | 3 | 0,5 | 0,5 | **193.371** | **193.372** | M8 x 1,0 | 10 | – | – |
| 28 | 13 | 28 | 12,4 | 7,0 | M8 x 1,0 | 8,0 | 3 | 0,5 | 0,5 | **192.419** | **193.372** | M8 x 1,0 | 10 | – | – |
| 32 | 16 | 32 | 14,4 | 7,5 | M8 x 1,0 | 8,0 | 3 | 0,5 | 0,5 | **192.420** | **192.156** | M8 x 1,0 | 10 | – | – |
| 40 | 22 | 35 | 13,4 | 8,5 | M10 x 1,0 | 10,0 | 3 | 0,5 | 0,5 | **192.421** | **192.157** | M10 x 1,0 | 16 | – | – |
| 48 | 27 | 40 | 15,4 | 9,0 | M12 x 1,0 | 12,0 | 3 | 1,0 | 1,0 | **192.422** | **191.727** | M12 x 1,0 | 16 | – | – |
| 58 | 32 | 38 | 15,4 | 10,0 | M12 x 1,0 | 14,0 | 3 | 1,0 | 1,0 | **192.423** | **191.727** | M12 x 1,0 | 20 | – | – |
| 70 | 40 | 43 | 16,4 | 10,0 | M16 x 1,5 | 16,0 | 3 | 1,0 | 1,0 | **192.424** | **191.728** | M16 x 1,5 | 34 | – | – |
| 80 | 50 | 46 | 20,4 | 12,5 | M16 x 1,5 | 18,0 | 4 | 1,0 | 1,0 | **192.425** | **191.728** | M16 x 1,5 | 34 | – | – |
| 90 | 50 | 46 | 20,4 | 12,5 | M16 x 1,5 | 18,0 | 4 | 1,0 | 1,0 | **192.426** | **191.729** | M16 x 1,5 | 34 | – | – |
| 110 | 60 | 46 | 20,4 | 12,5 | M16 x 1,5 | 20,0 | 4 | 1,0 | 1,0 | **192.427** | **191.729** | M16 x 1,5 | 34 | – | – |
| 125 1) | 60 | 77 | 40,0 | 12,5 | M24 x 2,0 | 25,5 | 4 | 1,0 | 1,0 | – | **193.107** | M24 x 2,0 | 120 | **191.019** | **125.225** |
| 140 1) | 70 | 82 | 40,0 | 12,5 | M24 x 2,0 | 25,5 | 4 | 1,0 | 1,0 | – | **193.107** | M24 x 2,0 | 120 | **191.019** | **125.225** |
| 160 1) | 80 | 82 | 40,0 | 12,5 | M24 x 2,0 | 25,5 | 4 | 1,0 | 1,0 | – | **193.107** | M24 x 2,0 | 120 | **191.019** | **125.225** |

* MAn = Clamping torque of clamping screw in Nm.

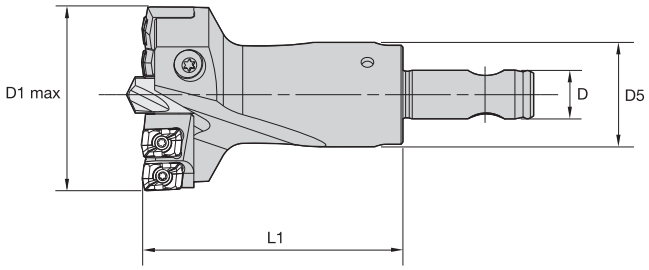
## Mounting Dimensions

| d3 | d4 | d5 | d6 | l1 | l2 | l3 | t1 | t2 | b | r | f1 | f2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 13 | 8,50 | 6,5 | 35 | 22,0 | 7,00 | 6,7 | 6,50 | 8,0 | 3 | 0,5 | 0,5 |
| 28 | 13 | 8,50 | 6,5 | 35 | 22,0 | 7,00 | 7,0 | 6,50 | 8,0 | 3 | 0,5 | 0,5 |
| 32 | 16 | 8,30 | 6,5 | 40 | 24,0 | 7,50 | 8,5 | 7,50 | 8,0 | 3 | 0,5 | 0,5 |
| 40 | 22 | 10,50 | 7,0 | 45 | 25,0 | 8,50 | 11,5 | 10,00 | 10,0 | 3 | 0,5 | 0,5 |
| 48 | 27 | 12,75 | 9,0 | 50 | 27,0 | 9,00 | 14,0 | 12,00 | 12,0 | 3 | 1,0 | 1,0 |
| 58 | 32 | 11,50 | 9,0 | 50 | 29,0 | 10,00 | 16,5 | 7,25 | 14,0 | 3 | 1,0 | 1,0 |
| 70 | 40 | 15,25 | 12,2 | 55 | 30,0 | 10,50 | 20,5 | 10,00 | 16,0 | 3 | 1,0 | 1,0 |
| 80 | 50 | 15,25 | 12,2 | 60 | 36,0 | 12,50 | 25,5 | 12,50 | 18,0 | 4 | 1,0 | 1,0 |
| 90 | 50 | 16,50 | 12,2 | 60 | 36,0 | 12,50 | 25,5 | 12,50 | 18,0 | 4 | 1,0 | 1,0 |
| 110 | 60 | 14,50 | 12,2 | 60 | 36,0 | 13,65 | 30,5 | 10,00 | 20,0 | 4 | 1,0 | 1,0 |
| 125 1) | 60 | 25,00 | 18,0 | 75 | 39,5 | 17,00 | 35,0 | 20,25 | 25,5 | 6 | 1,0 | 1,0 |
| 140 1) | 70 | 25,00 | 18,0 | 80 | 39,5 | 17,00 | 42,0 | 20,25 | 25,5 | 6 | 1,0 | 1,0 |
| 160 1) | 80 | 25,00 | 18,0 | 80 | 39,5 | 17,00 | 42,0 | 20,25 | 25,5 | 6 | 1,0 | 1,0 |




1) Adapter for d3 = 125, 140, and 160

- Head shipped with clamping and adjusting screws.
- Order pilot drill and cartridges separately; see page J76 for pilot drill.

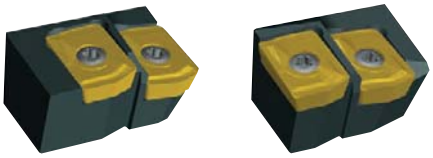



## HTS Adjustable Heads with DFR™ Inserts

| | D1 | | D1 max | | D5 | | | L1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | mm | in | D | mm | in | pilot drill HSS | pilot drill carbide | cartridge interior | n | cartridge exterior | n | gage insert | ni |
| **HTSR040R025M** | 40 | 1.57 | 43 | 1.69 | 25 | 0.98 | 13A | 60 | 2 | B513S08.. | B514S08.. | **HTSR10CI** | 1 | **HTSR10CE** | 1 | DFR0302.. | 4 |
| **HTSR043R025M** | 43 | 1.69 | 46 | 1.81 | 25 | 0.98 | 13A | 70 | 3 | B513S10.. | B514S10.. | **HTSR11CI** | 1 | **HTSR11CE** | 1 | DFR0302.. | 4 |
| **HTSR046R028M** | 46 | 1.81 | 49 | 1.93 | 28 | 1.10 | 13B | 70 | 3 | B513S10.. | B514S10.. | **HTSR12CI** | 1 | **HTSR12CE** | 1 | DFR0403.. | 4 |
| **HTSR049R028M** | 49 | 1.93 | 52 | 2.05 | 28 | 1.10 | 13B | 70 | 3 | B513S10.. | B514S10.. | **HTSR13CI** | 1 | **HTSR13CE** | 1 | DFR0403.. | 4 |
| **HTSR052R028M** | 52 | 2.05 | 55 | 2.17 | 28 | 1.10 | 13B | 70 | 3 | B513S10.. | B514S10.. | **HTSR14CI** | 1 | **HTSR14CE** | 1 | DFR0403.. | 4 |

NOTE: n: number of cartridges required by head.
ni: number of inserts required by head.

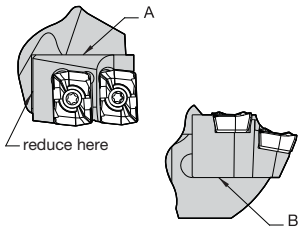
| D1 diameter | | | |
|---|---|---|---|
| mm | in | clamping screw | adjusting screw |
| 40–42 | 1.57–1.68 | **190.116** | **128.610** |
| 43–52 | 1.69 - 2.05 | **193.397** | **190.458** |



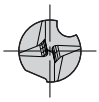
## HTS DFR Cartridges

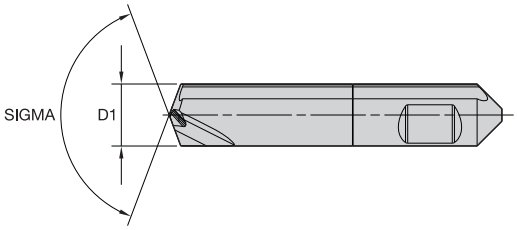
| catalog number | gage insert | Nm | ft. lbs. | insert screw | cartridge screw | washer |
|---|---|---|---|---|---|---|
| **HTSR10CE** | DFR0302.. | 5,0 | 3.69 | **192.416** | **192.592** | **192.902** |
| **HTSR10CI** | DFR0302.. | 5,0 | 3.69 | **192.416** | **192.592** | **192.902** |
| **HTSR11CE** | DFR0302.. | 5,0 | 3.69 | **192.416** | **192.592** | **192.902** |
| **HTSR11CI** | DFR0302.. | 5,0 | 3.69 | **192.416** | **192.592** | **192.902** |
| **HTSR12CE** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |
| **HTSR12CI** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |
| **HTSR13CE** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |
| **HTSR13CI** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |
| **HTSR14CE** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |
| **HTSR14CI** | DFR0403.. | 5,0 | 3.69 | **192.432** | **192.592** | **192.902** |

- Change drill diameter by shortening the outer cartridge.
- Shorten at 90° to the contact face A and the support face B.
- Shortening reduces the effective drill diameter by 2x the amount removed.



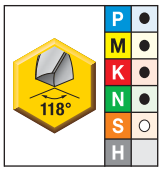
- Choose between HSS and solid carbide.

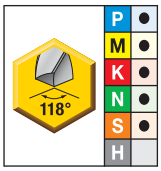


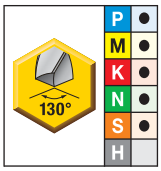





## HTS DFR™ • Pilot Drills

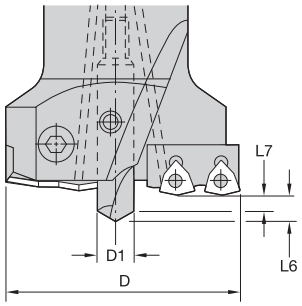



● first choice
○ alternate choice

| high-speed steel uncoated | high-speed steel coated | solid carbide coated | D1 | |
|---|---|---|---|---|
| A30 | AS3 | KC7030 | mm | in |
| B513S08000 A30 | B513S08000 AS3 | B514S08000 KC7030 | 8 | .32 |
| B513S10000 A30 | B513S10000 AS3 | B514S10000 KC7030 | 10 | .39 |




## HTS DFR • Pilot Drills

| | | 118° high-speed steel | | | | 130° solid carbide | | | |
|---|---|---|---|---|---|---|---|---|---|
| D1 | | L6 | | L7 | | L6 | | L7 | |
| mm | in | mm | in | mm | in | mm | in | mm | in |
| 8,00 | .315 | 4,14 | .163 | 1,73 | .068 | 3,61 | .142 | 1,73 | .068 |
| 10,00 | .394 | 4,88 | .192 | 1,88 | .074 | 4,19 | .165 | 1,88 | .074 |

## HTS DFR™ • Metric

| Metric | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | |
| | | | | | | min | Starting Value | max | Ø | DFR03... 40,00–46,00mm | DFR04 46,00–55,00mm |
| P | 1 | S | O | MD | KCU25 | 79 | **190** | 229 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | MD | KCU25 | | | | | | |
| | | U | O | MD | KCU40 | 71 | **130** | 171 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | MD | KCU40 | | | | | | |
| | | I | O | MD | KC7140 | 44 | **80** | 106 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | 2 | S | O | GD | KCU25 | 75 | **180** | 217 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 71 | **120** | 271 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 44 | **70** | 106 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KC7140 | | | | | | |
| | 3 | S | O | GD | KCU25 | 60 | **140** | 169 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 50 | **100** | 121 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 30 | **60** | 72 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KC7140 | | | | | | |
| | 4 | S | O | GD | KCU25 | 79 | **120** | 229 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 71 | **100** | 171 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 44 | **80** | 106 | mm/r | 0,10–0,14 | 0,12–0,18 |
| | | | I | GD | KC7140 | | | | | | |
| | 5 | S | O | GD | KCU40 | 62 | **100** | 190 | mm/r | 0,06–0,11 | 0,07–0,14 |
| | | | I | GD | KCU40 | | | | | | |
| | | U | O | GD | KC7140 | 47 | **60** | 114 | mm/r | 0,06–0,11 | 0,07–0,14 |
| | | | I | GD | KC7140 | | | | | | |
| | | I | O | GD | KC7140 | 31 | **40** | 76 | mm/r | 0,06–0,11 | 0,07–0,14 |
| | | | I | GD | KC7140 | | | | | | |
| | 6 | S | O | GD | KCU40 | 59 | **95** | 180 | mm/r | 0,07–0,11 | 0,08–0,13 |
| | | | I | GD | KCU40 | | | | | | |
| | | U | O | GD | KC7140 | 45 | **57** | 108 | mm/r | 0,07–0,11 | 0,08–0,13 |
| | | | I | GD | KC7140 | | | | | | |
| | | I | O | GD | KC7140 | 30 | **38** | 72 | mm/r | 0,07–0,11 | 0,08–0,13 |
| | | | I | GD | KC7140 | | | | | | |
| M | 1 | S | O | MD | KCU40 | 40 | **110** | 134 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 31 | **70** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 22 | **50** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | 2 | S | O | MD | KCU40 | 38 | **99** | 127 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 31 | **63** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 22 | **45** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | 3 | S | O | MD | KCU40 | 32 | **88** | 107 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 31 | **56** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 22 | **40** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 |
| | | | I | MD | KC7140 | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFR™ • Metric

| Metric | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | |
| | | | | | | min | Starting Value | max | Ø | DFR03... 40,00–46,00mm | DFR04... 46,00–55,00mm |
| K | 1 | S | O | GD | KCPK10 | 79 | **171** | 229 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | LD | KCU25 | 64 | **117** | 156 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | LD | KCU25 | | | | | | |
| | | I | O | LD | KCU40 | 40 | **72** | 96 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | LD | KCU40 | | | | | | |
| | 2 | S | O | GD | KCPK10 | 75 | **162** | 217 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | GD | KCU25 | 64 | **111** | 156 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCU25 | | | | | | |
| | | I | O | LD | KCU40 | 40 | **68** | 96 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | LD | KCU40 | | | | | | |
| | 3 | S | O | GD | KCPK10 | 68 | **146** | 195 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | GD | KCU25 | 59 | **100** | 144 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCU25 | | | | | | |
| | | I | O | GD | KCU40 | 35 | **62** | 84 | mm/r | 0,11–0,20 | 0,13–0,27 |
| | | | I | GD | KCU40 | | | | | | |
| N | 1 | S | O | ST | KD1425 | 128 | **240** | 358 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 102 | **160** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 67 | **104** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | 2 | S | O | ST | KD1425 | 119 | **223** | 333 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 102 | **149** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 67 | **97** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | 3 | S | O | ST | KD1425 | 110 | **206** | 308 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 102 | **138** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 67 | **89** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | 4 | S | O | ST | KD1425 | 119 | **223** | 333 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 102 | **149** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 67 | **97** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | 5 | S | O | ST | KD1425 | 92 | **220** | 262 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 72 | **140** | 167 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 46 | **90** | 107 | mm/r | 0,06–0,09 | 0,11–0,19 |
| | | | I | LD | KCU40 | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFR™ • Inch

| Inch | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | |
| | | | | | | min | Starting Value | max | Ø | DFR03... .688–.750" | DFR04... .813–1.00" |
| P | 1 | S | O | MD | KCU25 | 260 | **623** | 750 | IPR | .004–.006 | .005–.007 |
| | | | I | MD | KCU25 | | | | | | |
| | | U | O | MD | KCU40 | 231 | **427** | 561 | IPR | .004–.006 | .005–.007 |
| | | | I | MD | KCU40 | | | | | | |
| | | I | O | MD | KC7140 | 143 | **262** | 348 | IPR | .003–.006 | .004–.008 |
| | | | I | MD | KC7140 | | | | | | |
| | 2 | S | O | GD | KCU25 | 247 | **591** | 712 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 231 | **394** | 561 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 143 | **230** | 348 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KC7140 | | | | | | |
| | 3 | S | O | GD | KCU25 | 197 | **459** | 555 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 163 | **328** | 396 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 98 | **197** | 238 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KC7140 | | | | | | |
| | 4 | S | O | GD | KCU25 | 260 | **394** | 750 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU25 | | | | | | |
| | | U | O | GD | KCU40 | 231 | **328** | 561 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KCU40 | | | | | | |
| | | I | O | GD | KC7140 | 143 | **262** | 348 | IPR | .004–.006 | .005–.007 |
| | | | I | GD | KC7140 | | | | | | |
| | 5 | S | O | GD | KCU40 | 205 | **328** | 622 | IPR | .002–.004 | .003–.006 |
| | | | I | GD | KCU40 | | | | | | |
| | | U | O | GD | KC7140 | 154 | **197** | 373 | IPR | .002–.004 | .003–.006 |
| | | | I | GD | KC7140 | | | | | | |
| | | I | O | GD | KC7140 | 103 | **131** | 250 | IPR | .002–.004 | .003–.006 |
| | | | I | GD | KC7140 | | | | | | |
| | 6 | S | O | GD | KCU40 | 195 | **312** | 591 | IPR | .003–.004 | .003–.005 |
| | | | I | GD | KCU40 | | | | | | |
| | | U | O | GD | KC7140 | 146 | **187** | 355 | IPR | .003–.004 | .003–.005 |
| | | | I | GD | KC7140 | | | | | | |
| | | I | O | GD | KC7140 | 98 | **125** | 238 | IPR | .003–.004 | .003–.005 |
| | | | I | GD | KC7140 | | | | | | |
| M | 1 | S | O | MD | KCU40 | 130 | **361** | 439 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 101 | **230** | 281 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 72 | **164** | 199 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | 2 | S | O | MD | KCU40 | 124 | **325** | 417 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 101 | **207** | 281 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 72 | **148** | 199 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | 3 | S | O | MD | KCU40 | 104 | **289** | 351 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | U | O | MD | KC7140 | 101 | **184** | 281 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |
| | | I | O | MD | KC7140 | 72 | **131** | 199 | IPR | .003–.004 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFR™ • Inch

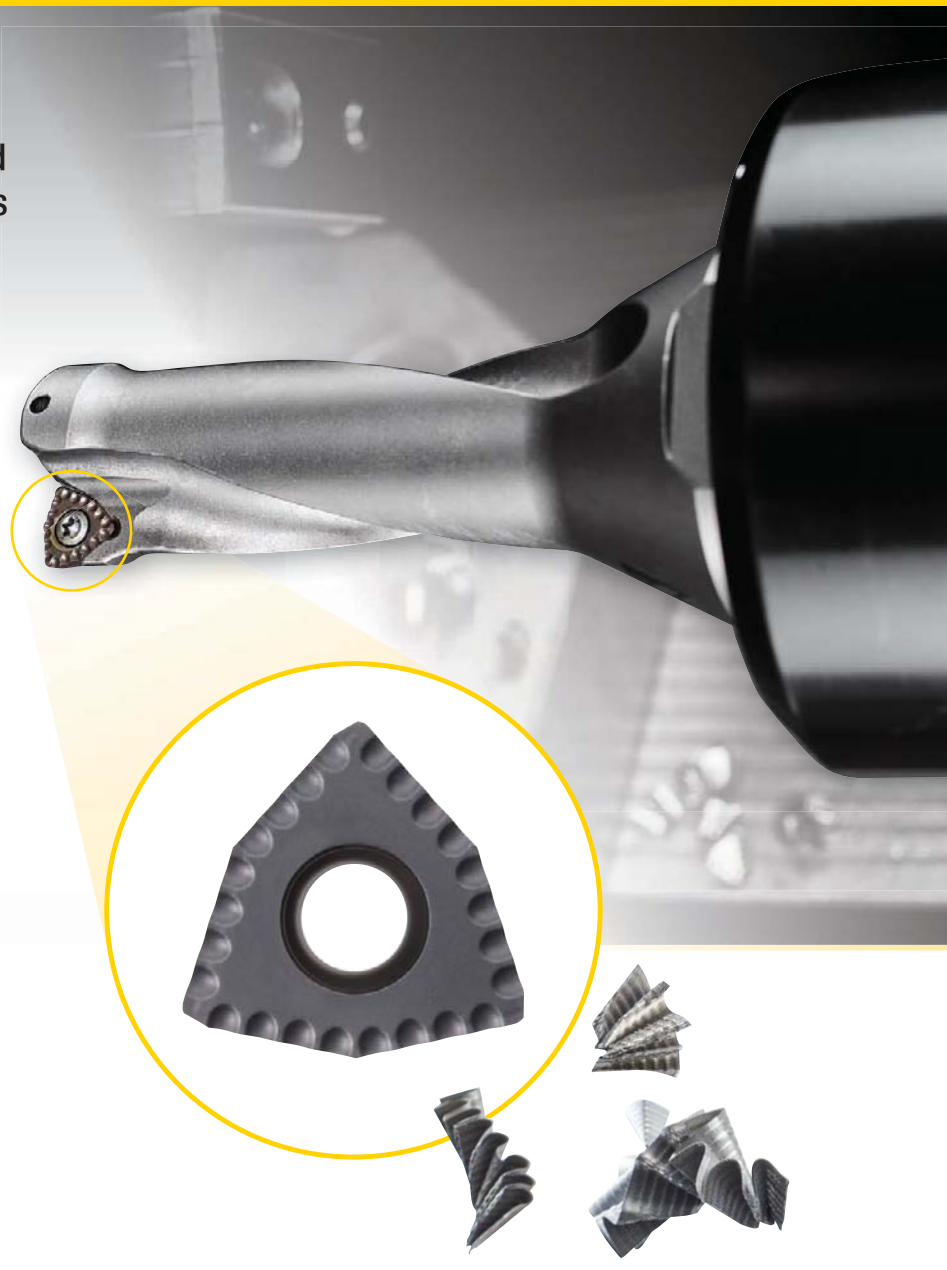
| Inch | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (fz) by Diameter | | |
| | | | | | | min | Starting Value | max | Ø | DFR03... .688–.750" | DFR04... .813–1.00" |
| K | 1 | S | O | GD | KCPK10 | 260 | **561** | 750 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | LD | KCU25 | 211 | **384** | 510 | IPR | .004–.008 | .005–.011 |
| | | | I | LD | KCU25 | | | | | | |
| | | I | O | LD | KCU40 | 131 | **236** | 316 | IPR | .004–.008 | .005–.011 |
| | | | I | LD | KCU40 | | | | | | |
| | 2 | S | O | GD | KCPK10 | 247 | **533** | 712 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | GD | KCU25 | 211 | **365** | 510 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCU25 | | | | | | |
| | | I | O | LD | KCU40 | 131 | **224** | 316 | IPR | .004–.008 | .005–.011 |
| | | | I | LD | KCU40 | | | | | | |
| | 3 | S | O | GD | KCPK10 | 222 | **480** | 641 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCPK10 | | | | | | |
| | | U | O | GD | KCU25 | 195 | **328** | 473 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCU25 | | | | | | |
| | | I | O | GD | KCU40 | 113 | **202** | 274 | IPR | .004–.008 | .005–.011 |
| | | | I | GD | KCU40 | | | | | | |
| N | 1 | S | O | ST | KD1425 | 420 | **787** | 1176 | IPR | .002–.004 | .004–.007 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 336 | **525** | 784 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 218 | **341** | 510 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | 2 | S | O | ST | KD1425 | 391 | **732** | 1094 | IPR | .002–.004 | .004–.007 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 336 | **488** | 784 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 218 | **317** | 510 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | 3 | S | O | ST | KD1425 | 361 | **677** | 1011 | IPR | .002–.004 | .004–.007 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 336 | **451** | 784 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 218 | **293** | 510 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | 4 | S | O | ST | KD1425 | 391 | **732** | 1094 | IPR | .002–.004 | .004–.007 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 336 | **488** | 784 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 218 | **317** | 510 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | 5 | S | O | ST | KD1425 | 302 | **722** | 858 | IPR | .002–.004 | .004–.007 |
| | | | I | ST | KD1425 | | | | | | |
| | | U | O | LD | KCU40 | 235 | **459** | 549 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |
| | | I | O | LD | KCU40 | 151 | **295** | 351 | IPR | .002–.004 | .004–.007 |
| | | | I | LD | KCU40 | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

# Difficult Applications Made Easy

Use DS and LP geometries to avoid bird nesting and long, stringy chips in low-carbon steel applications.



- The new DS insert style can be used on Drill Fix™ DFT™, HTS, and KSEM PLUS™ tooling systems.
- LP-style inserts can be used on Drill Fix DFSP™ as outboard inserts.
- Use the new geometries in all applications where long chips are an issue.



**See pages J4–J59 for Drill Fix indexable drills.**

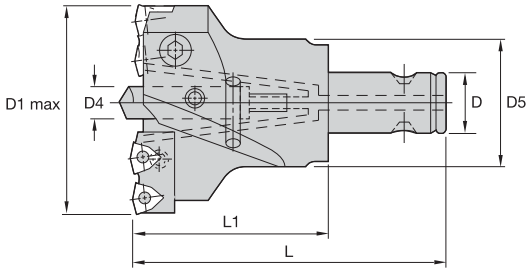
**See pages H102–H106, H108–H125, and H133 for KSEM PLUS A1 and B1 head systems.**

Experience the advantages at your Authorized Kennametal Distributor or at **kennametal.com**.

KENNAMETAL®

kennametal.com

- Head shipped with clamping and adjusting screws.
- Order pilot drill separately; see page J86.
- Order cartridges separately; see page J84.



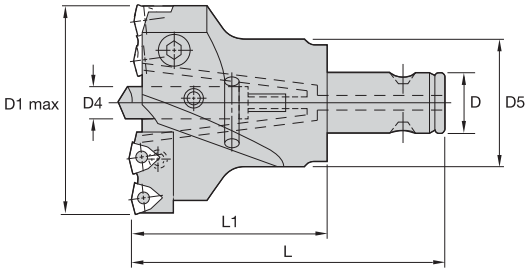



## HTS Adjustable Heads with DFT™ Inserts

| | D1 | | D1 max | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | mm | in | mm | in | D5 | D | L | L1 | pilot drill | cartridge interior | n | cartridge exterior | n | gage insert | ni | kg | lbs |
| **3.76045R028V** | 45 | 1.770 | 50 | 1.970 | 28 | 13 | 85 | 50 | B510S08. | 3.77000R050V | 1 | 3.77000R051V | 1 | DFT0303. | 4 | 0.3 | 0.66 |
| **3.76050R028V** | 50 | 1.970 | 55 | 2.170 | 28 | 13 | 85 | 50 | B510S08. | 3.77000R052V | 1 | 3.77000R053V | 1 | DFT0303. | 4 | 0.4 | 0.88 |
| **3.76055R032V** | 55 | 2.170 | 58 | 2.280 | 33 | 16 | 100 | 60 | B510S08. | 3.77000R038V | 1 | 3.77000R039V | 1 | DFT05T3. | 4 | 0.4 | 0.88 |
| **3.76058R032V** | 58 | 2.280 | 63 | 2.480 | 33 | 16 | 100 | 60 | B510S10. | 3.77000R023V | 1 | 3.77000R024V | 1 | DFT05T3. | 4 | 0.4 | 0.88 |
| **3.76063R032V** | 63 | 2.480 | 68 | 2.680 | 33 | 16 | 100 | 60 | B510S10. | 3.77000R025V | 1 | 3.77000R024V | 1 | DFT05T3. | 4 | 0.4 | 0.88 |
| **3.76063R040V** | 63 | 2.480 | 68 | 2.680 | 41 | 22 | 115 | 70 | B510S10. | 3.77000R025V | 1 | 3.77000R024V | 1 | DFT05T3. | 4 | 0.5 | 1.10 |
| **3.76068R040V** | 68 | 2.680 | 73 | 2.870 | 41 | 22 | 115 | 70 | B510S10. | 3.77000R026V | 1 | 3.77000R027V | 1 | DFT05T3. | 4 | 0.8 | 1.76 |
| **3.76073R040V** | 73 | 2.870 | 78 | 3.070 | 41 | 22 | 115 | 70 | B510S15. | 3.77000R026V | 1 | 3.77000R027V | 1 | DFT05T3. | 4 | 0.8 | 1.76 |
| **3.76078R040V** | 78 | 3.070 | 84 | 3.310 | 41 | 22 | 115 | 70 | B510S15. | 3.77000R028V | 1 | 3.77000R029V | 1 | DFT06T3. | 4 | 0.8 | 1.76 |
| **3.76078R048V** | 78 | 3.070 | 84 | 3.310 | 49 | 27 | 120 | 70 | B510S15. | 3.77000R028V | 1 | 3.77000R029V | 1 | DFT06T3. | 4 | 0.9 | 1.98 |
| **3.76084R048V** | 84 | 3.310 | 90 | 3.540 | 49 | 27 | 120 | 70 | B510S15. | 3.77000R028V | 1 | 3.77000R029V | 1 | DFT06T3. | 4 | 1.0 | 2.20 |
| **3.76090R048V** | 90 | 3.540 | 96 | 3.780 | 49 | 27 | 120 | 70 | B510S15. | 3.77000R030V | 1 | 3.77000R031V | 1 | DFT06T3. | 4 | 1.0 | 2.20 |
| **3.76096R048V** | 96 | 3.780 | 102 | 4.020 | 49 | 27 | 120 | 70 | B510S20. | 3.77000R030V | 1 | 3.77000R031V | 1 | DFT06T3. | 4 | 1.1 | 2.43 |
| **3.76096R058V** | 96 | 3.780 | 102 | 4.020 | 59 | 32 | 130 | 80 | B510S20. | 3.77000R030V | 1 | 3.77000R031V | 1 | DFT06T3. | 4 | 1.2 | 2.65 |
| **3.76102R058V** | 102 | 4.020 | 108 | 4.250 | 59 | 32 | 130 | 80 | B510S20. | 3.77000R081V | 1 | 3.77000R082V | 1 | DFT05T3. | 6 | 1.7 | 3.75 |
| **3.76108R058V** | 108 | 4.250 | 115 | 4.530 | 59 | 32 | 130 | 80 | B510S20. | 3.77000R083V | 1 | 3.77000R084V | 1 | DFT06T3. | 6 | 1.8 | 3.97 |
| **3.76115R070V** | 115 | 4.530 | 122 | 4.800 | 71 | 40 | 145 | 90 | B510S20. | 3.77000R085V | 1 | 3.77000R086V | 1 | DFT06T3. | 6 | 2.9 | 6.39 |
| **3.76122R070V** | 122 | 4.800 | 130 | 5.120 | 71 | 40 | 145 | 90 | B510S25. | 3.77000R079V | 1 | 3.77000R080V | 1 | DFT06T3. | 6 | 2.9 | 6.39 |
| **3.76130R070V** | 130 | 5.120 | 140 | 5.510 | 71 | 40 | 145 | 90 | B510S25. | 3.77000R087V | 1 | 3.77000R088V | 1 | DFT06T3. | 6 | 3.0 | 6.61 |
| **3.76140R080V** | 140 | 5.510 | 150 | 5.910 | 81 | 50 | 160 | 100 | B510S25. | 3.77000R077V | 1 | 3.77000R078V | 1 | DFT0704. | 6 | 4.3 | 9.48 |
| **3.76150R080V** | 150 | 5.910 | 158 | 6.220 | 81 | 50 | 160 | 100 | B510S25. | 3.77000R075V | 1 | 3.77000R076V | 1 | DFT0704. | 6 | 4.5 | 9.92 |
| **3.76158R080V** | 158 | 6.220 | 162 | 6.380 | 81 | 50 | 160 | 100 | B510S25. | 3.77000R073V | 1 | 3.77000R074V | 1 | DFT0704. | 6 | 4.5 | 9.92 |
| **3.76162R080V** | 162 | 6.380 | 170 | 6.690 | 80 | 50 | 160 | 100 | B510S30. | 3.77000R048V | 1 | 3.77000R049V | 1 | DFT0704. | 6 | 4.5 | 9.92 |
| **3.76180R110** | 180 | 7.090 | 186 | 7.320 | 110 | 60 | 185 | 125 | B510S30. | 3.77000R030V | 3 | 3.77000R031V | 1 | DFT06T3. | 8 | 6.0 | 13.23 |
| **3.76195R110** | 195 | 7.680 | 201 | 7.910 | 110 | 60 | 185 | 125 | B510S30. | 3.77000R081V | 3 | 3.77000R082V | 1 | DFT05T3. | 12 | 6.5 | 14.33 |
| **3.76213R125** | 213 | 8.390 | 220 | 8.660 | 125 | 60 | 200 | 125 | B510S30. | 3.77000R083V | 3 | 3.77000R084V | 1 | DFT06T3. | 12 | 7.5 | 16.53 |
| **3.76230R160** | 230 | 9.060 | 240 | 9.450 | 160 | 80 | 230 | 150 | B510S30. | 3.77000R079V | 2 | 3.77000R080V | 2 | DFT06T3. | 12 | 8.5 | 18.74 |
| **3.76260R160 *** | 260 | 10.240 | 270 | 10.630 | 160 | 80 | 230 | 150 | B510S30. | 3.77000R077V | 2 | 3.77000R078V | 2 | DFT06T3. | 12 | 9.0 | 19.84 |

NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
n: number of cartridges required by head.
ni: number of inserts required by head.

- Head shipped with clamping and adjusting screws.
- Order pilot drill separately; see page J86.
- Order cartridges separately; see pages J84–J85.



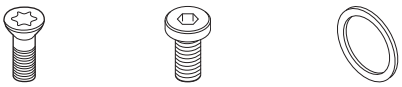

## HTS Adjustable Heads • DFT™ and SPHX Inserts

| catalog number | D1 mm | D1 in | D1 max mm | D1 max in | pilot drill | cartridge interior | n | cartridge interior 2 | n | gage insert | ni | cartridge exterior SPHX | n | gage insert | ni |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **3.76045R028V** | 45 | 1.770 | 50 | 1.970 | B510S08. | **3.77000R250V** | 1 | – | – | DFT0303. | 3 | 3.77000R251V | 1 | SPHX0703. | 1 |
| **3.76050R028V** | 50 | 1.970 | 55 | 2.170 | B510S08. | **3.77000R252V** | 1 | – | – | DFT0303. | 3 | 3.77000R253V | 1 | SPHX0703. | 1 |
| **3.76055R032V** | 55 | 2.170 | 58 | 2.280 | B510S08. | **3.77000R038V** | 1 | – | – | DFT05T3. | 3 | 3.77000R239V | 1 | SPHX0903. | 1 |
| **3.76058R032V** | 58 | 2.280 | 63 | 2.480 | B510S10. | **3.77000R023V** | 1 | – | – | DFT05T3. | 3 | 3.77000R224V | 1 | SPHX0903. | 1 |
| **3.76063R032V** | 63 | 2.480 | 68 | 2.680 | B510S10. | **3.77000R025V** | 1 | – | – | DFT05T3. | 3 | 3.77000R224V | 1 | SPHX0903. | 1 |
| **3.76063R040V** | 63 | 2.480 | 68 | 2.680 | B510S10. | **3.77000R025V** | 1 | – | – | DFT05T3. | 3 | 3.77000R224V | 1 | SPHX0903. | 1 |
| **3.76068R040V** | 68 | 2.680 | 73 | 2.870 | B510S10. | **3.77000R026V** | 1 | – | – | DFT05T3. | 3 | 3.77000R227V | 1 | SPHX0903. | 1 |
| **3.76073R040V** | 73 | 2.870 | 78 | 3.070 | B510S15. | **3.77000R026V** | 1 | – | – | DFT05T3. | 3 | 3.77000R227V | 1 | SPHX0903. | 1 |
| **3.76078R040V** | 78 | 3.070 | 84 | 3.310 | B510S15. | **3.77000R028V** | 1 | – | – | DFT06T3. | 3 | 3.77000R229V | 1 | SPHX0903. | 1 |
| **3.76078R048V** | 78 | 3.070 | 84 | 3.310 | B510S15. | **3.77000R028V** | 1 | – | – | DFT06T3. | 3 | 3.77000R229V | 1 | SPHX0903. | 1 |
| **3.76084R048V** | 84 | 3.310 | 90 | 3.540 | B510S15. | **3.77000R228V** | 1 | – | – | DFT06T3. | 3 | 3.77000R229V | 1 | SPHX0903. | 1 |
| **3.76090R048V** | 90 | 3.540 | 96 | 3.780 | B510S15. | **3.77000R230V** | 1 | – | – | DFT06T3. | 3 | 3.77000R231V | 1 | SPHX0903. | 1 |
| **3.76096R048V** | 96 | 3.780 | 102 | 4.020 | B510S20. | **3.77000R230V** | 1 | – | – | DFT06T3. | 3 | 3.77000R231V | 1 | SPHX0903. | 1 |
| **3.76096R058V** | 96 | 3.780 | 102 | 4.020 | B510S20. | **3.77000R230V** | 1 | – | – | DFT06T3. | 3 | 3.77000R231V | 1 | SPHX0903. | 1 |
| **3.76102R058V** | 102 | 4.020 | 108 | 4.250 | B510S20. | **3.77000R081V** | 1 | – | – | DFT05T3. | 5 | 3.77000R282V | 1 | SPHX0903. | 1 |
| **3.76108R058V** | 108 | 4.250 | 115 | 4.530 | B510S20. | **3.77000R083V** | 1 | – | – | DFT06T3. | 5 | 3.77000R284V | 1 | SPHX1204. | 1 |
| **3.76115R070V** | 115 | 4.530 | 122 | 4.800 | B510S20. | **3.77000R085V** | 1 | – | – | DFT06T3. | 5 | 3.77000R286V | 1 | SPHX1204. | 1 |
| **3.76122R070V** | 122 | 4.800 | 130 | 5.120 | B510S25. | **3.77000R079V** | 1 | – | – | DFT06T3. | 5 | 3.77000R280V | 1 | SPHX1204. | 1 |
| **3.76130R070V** | 130 | 5.120 | 140 | 5.510 | B510S25. | **3.77000R087V** | 1 | – | – | DFT06T3. | 5 | 3.77000R288V | 1 | SPHX1204. | 1 |
| **3.76140R080V** | 140 | 5.510 | 150 | 5.910 | B510S25. | **3.77000R077V** | 1 | – | – | DFT0704. | 5 | 3.77000R278V | 1 | SPHX1505. | 1 |
| **3.76150R080V** | 150 | 5.910 | 158 | 6.220 | B510S25. | **3.77000R075V** | 1 | – | – | DFT0704. | 5 | 3.77000R276V | 1 | SPHX1204. | 1 |
| **3.76158R080V** | 158 | 6.220 | 162 | 6.380 | B510S25. | **3.77000R073V** | 1 | – | – | DFT0704. | 5 | 3.77000R274V | 1 | SPHX1204. | 1 |
| **3.76162R08`0V** | 162 | 6.380 | 170 | 6.690 | B510S30. | **3.77000R248V** | 1 | – | – | DFT0704. | 5 | 3.77000R249V | 1 | SPHX1505. | 1 |
| **3.76180R110** | 180 | 7.090 | 186 | 7.320 | B510S30. | **3.77000R230V** | 3 | – | – | DFT06T3. | 7 | 3.77000R231V | 1 | SPHX0903. | 1 |
| **3.76195R110** | 195 | 7.680 | 201 | 7.910 | B510S30. | **3.77000R081V** | 3 | – | – | DFT05T3. | 11 | 3.77000R282V | 1 | SPHX0903. | 1 |
| **3.76213R125** | 213 | 8.390 | 220 | 8.660 | B510S30. | **3.77000R083V** | 3 | – | – | DFT06T3. | 11 | 3.77000R284V | 1 | SPHX1204. | 1 |
| **3.76230R160** | 230 | 9.060 | 240 | 9.450 | B510S30. | **3.77000R079V** | 2 | **3.77000R080V** | 1 | DFT06T3. | 11 | 3.77000R280V | 1 | SPHX1204. | 1 |
| **3.76260R160 *** | 260 | 10.240 | 270 | 10.630 | B510S30. | – | 2 | – | 1 | DFT06T3. | 11 | 3.77000R078V | 1 | SPHX1204. | 1 |

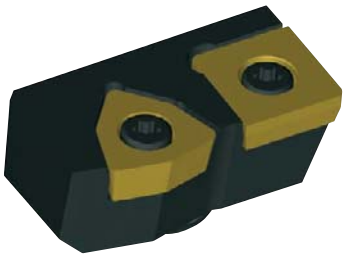
NOTE: *Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.
n: number of cartridges required by head.
ni: number of inserts required by head.

## HTS Interior and Exterior Cartridges • DFT™ Inserts





| catalog number | gage insert | number of inserts | insert screw | cartridge screw | fan washer | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|
| **3.77000R023V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R024V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R025V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R026V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R027V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R028V** | DFT06T3.. | 2 | **191.848** | **129.612** | **192.111** | 10,0 | 7.38 |
| **3.77000R029V** | DFT06T3.. | 2 | **191.848** | **129.612** | **192.111** | 10,0 | 7.38 |
| **3.77000R030V** | DFT06T3.. | 2 | **191.848** | **129.616** | **192.111** | 10,0 | 7.38 |
| **3.77000R031V** | DFT06T3.. | 2 | **191.848** | **129.616** | **192.111** | 10,0 | 7.38 |
| **3.77000R038V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R039V** | DFT05T3.. | 2 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R048V** | DFT0704.. | 3 | **191.698** | **125.830** | **192.112** | 35,0 | 25.81 |
| **3.77000R049V** | DFT0704.. | 3 | **191.698** | **125.830** | **192.112** | 35,0 | 25.81 |
| **3.77000R050V** | DFT0303.. | 2 | **192.432** | **192.592** | **192.902** | 5,0 | 3.69 |
| **3.77000R051V** | DFT0303.. | 2 | **192.432** | **192.592** | **192.902** | 5,0 | 3.69 |
| **3.77000R052V** | DFT0303.. | 2 | **192.432** | **192.592** | **192.902** | 5,0 | 3.69 |
| **3.77000R053V** | DFT0303.. | 2 | **192.432** | **192.592** | **192.902** | 5,0 | 3.69 |
| **3.77000R073V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R074V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R075V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R076V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R077V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R078V** | DFT0704.. | 3 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R079V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R080V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R081V** | DFT05T3.. | 3 | **191.924** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R082V** | DFT05T3.. | 3 | **191.924** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R083V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R084V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R085V** | DFT06T3.. | 3 | **191.848** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R086V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R087V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R088V** | DFT06T3.. | 3 | **191.848** | **125.820** | **192.112** | 35,0 | 25.81 |



## HTS Finishing Interior Cartridges • For Use with Exterior Cartridges Equipped with SPHX Inserts


| catalog number | gage insert | number of inserts | insert screw | washer | Nm | ft. lbs. |
|---|---|---|---|---|---|---|
| **3.77000R228V** | DFT06T3.. | 2 | **191.848** | **192.111** | 10,0 | 7.38 |
| **3.77000R230V** | DFT06T3.. | 2 | **191.848** | **192.111** | 10,0 | 7.38 |
| **3.77000R248V** | DFT0704.. | 3 | **191.698** | **192.112** | 35,0 | 25.81 |
| **3.77000R250V** | DFT0303.. | 2 | **192.432** | **192.902** | 5,0 | 3.69 |
| **3.77000R252V** | DFT0303.. | 2 | **192.432** | **192.902** | 5,0 | 3.69 |

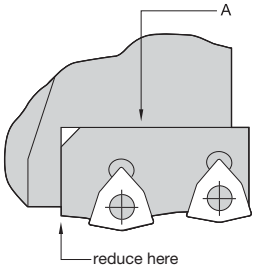
NOTE: Modified interior cartridges for use with SPHX-equipped exterior cartridges only.

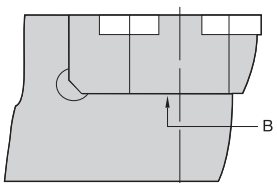
## HTS Finishing Exterior Cartridges • SPHX Inserts

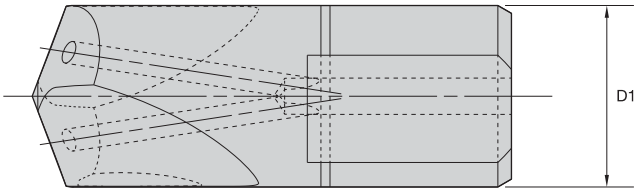


| catalog number | gage insert inside | number of inserts | gage insert outside | number of inserts | insert screw | screw | washer | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|
| **3.77000R224V** | DFT05T3.. | 2 | SPHX0903.. | 1 | **191.924** | **193.451** | **192.903** | 5,0 | 3.69 |
| **3.77000R227V** | DFT05T3.. | 2 | SPHX0903.. | 1 | **191.924** | **192.593** | **192.903** | 5,0 | 3.69 |
| **3.77000R229V** | DFT06T3.. | 2 | SPHX0903.. | 1 | **191.916** | **129.612** | **192.111** | 10,0 | 7.38 |
| **3.77000R231V** | DFT06T3.. | 2 | SPHX0903.. | 1 | **191.916** | **129.616** | **192.111** | 10,0 | 7.38 |
| **3.77000R239V** | DFT05T3.. | 2 | SPHX0903.. | 1 | **191.924** | **193.451** | **192.903** | 5,0 | 3.69 |
| **3.77000R249V** | DFT0704.. | 3 | SPHX1505.. | 1 | **191.698** | **125.830** | **192.112** | 35,0 | 25.81 |
| **3.77000R251V** | DFT0303.. | 2 | SPHX0703.. | 1 | **192.432** | **193.450** | **192.902** | 5,0 | 3.69 |
| **3.77000R253V** | DFT0303.. | 2 | SPHX0703.. | 1 | **192.432** | **193.450** | **192.902** | 5,0 | 3.69 |
| **3.77000R274V** | DFT0704.. | 3 | SPHX1505.. | 1 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R276V** | DFT0704.. | 3 | SPHX1505.. | 1 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R278V** | DFT0704.. | 3 | SPHX1505.. | 1 | **191.698** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R280V** | DFT06T3.. | 3 | SPHX1204.. | 1 | **191.916** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R282V** | DFT05T3.. | 3 | SPHX0903.. | 1 | **191.924** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R284V** | DFT06T3.. | 3 | SPHX1204.. | 1 | **191.916** | **125.820** | **192.112** | 35,0 | 25.81 |
| **3.77000R286V** | DFT06T3.. | 3 | SPHX1204.. | 1 | **191.916** | **–** | **192.112** | 35,0 | 25.81 |
| **3.77000R288V** | DFT06T3.. | 3 | SPHX1204.. | 1 | **191.916** | **125.820** | **192.112** | 35,0 | 25.81 |

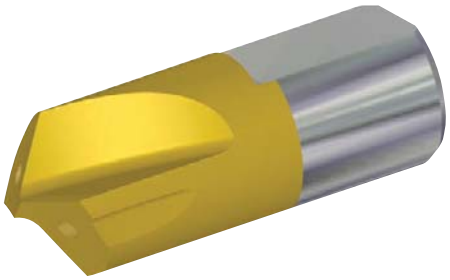
- Change drill diameter by shortening the outer cartridge.
- Shorten at 90° to the contact face A and the support face B.
- Shortening reduces the effective drill diameter by two times the amount removed.



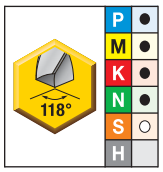


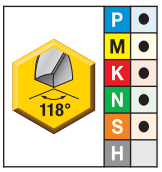

8–10mm sizes are without coolant.

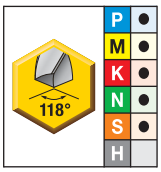




## HTS DFT™ • Pilot Drills

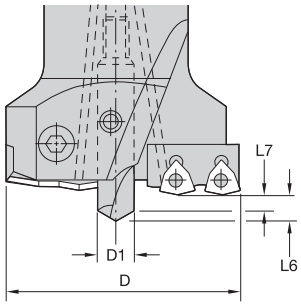



● first choice
○ alternate choice

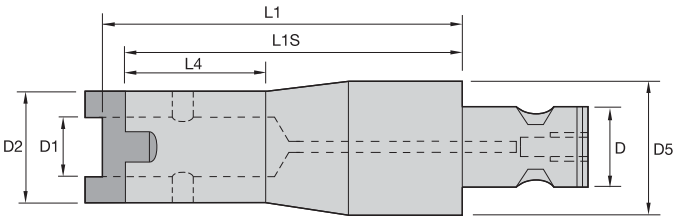
| high-speed steel uncoated | high-speed steel coated | carbide drills | D1 | |
|---|---|---|---|---|
| A30 | AS3 | KC7315 | mm | in |
| B510S08000 A30 | B510S08000 AS3 | B511S08000 KC7315 | 8,00 | 0.315 |
| B510S10000 A30 | B510S10000 AS3 | B511S10000 KC7315 | 10,00 | 0.394 |
| B510S15000 A30 | B510S15000 AS3 | B511S15000 KC7315 | 15,00 | 0.591 |
| B510S20000 A30 | B510S20000 AS3 | B511S20000 KC7315 | 20,00 | 0.787 |
| B510S25000 A30 | B510S25000 AS3 | B511S25000 KC7315 | 25,00 | 0.984 |
| B510S30000 A30 | B510S30000 AS3 | B511S30000 KC7315 | 30,00 | 1.181 |

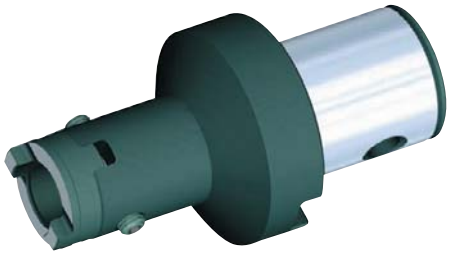



## Pilot Drill Setting Lengths

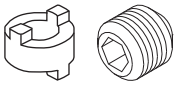
| D1 | | 2–4 x D | | | | 4–6 x D | | | | >6 x D | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | L6 | | L7 | | L6 | | L7 | | L6 | | L7 | |
| mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in |
| 8,00 | .315 | 3,00 | .118 | 0,80 | .032 | 3,40 | .134 | 1,20 | .047 | 3,80 | .150 | 1,60 | .063 |
| 10,00 | .394 | 4,00 | .158 | 1,30 | .051 | 4,30 | .169 | 1,60 | .063 | 4,60 | .181 | 1,90 | .075 |
| 15,00 | .591 | 6,20 | .244 | 2,10 | .083 | 6,50 | .256 | 2,40 | .095 | 6,80 | .268 | 2,70 | .106 |
| 20,00 | .787 | 8,10 | .319 | 2,60 | .102 | 8,40 | .331 | 2,90 | .114 | 8,70 | .343 | 3,20 | .126 |
| 25,00 | .984 | 10.50 | .413 | 3,50 | .138 | 7,40 | .429 | 3,90 | .154 | 11,30 | .445 | 4,30 | .169 |
| 30,00 | 1181 | 12,30 | .484 | 4,10 | .158 | 12,80 | .504 | 4,50 | .177 | 13,20 | .520 | 5,00 | .197 |

- Reducers are shipped with drive ring and clamping screws.



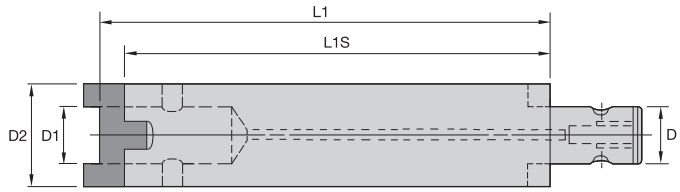
## Reducers



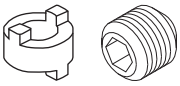
| | | | D2 | | D5 | | L1 | | L1S | | L4 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | D1 coupling size | D coupling size | mm | in | mm | in | mm | in | mm | in | mm | in | drive ring | clamping screw | Nm | ft. lbs. |
| **5.34280R028080** | 13B | 50 | 27,6 | 1.09 | 80,0 | 3.15 | 90,0 | 3.54 | 80,0 | 3.15 | 50,0 | 1.97 | **192.419** | **192.156** | 10,2 | 7.5 |
| **5.34280R032080** | 16 | 50 | 31,6 | 1.24 | 80,0 | 3.15 | 90,0 | 3.54 | 80,0 | 3.15 | 55,0 | 2.17 | **192.420** | **192.156** | 10,2 | 7.5 |
| **5.34280R040080** | 22 | 50 | 39,6 | 1.56 | 80,0 | 3.15 | 92,0 | 3.62 | 80,0 | 3.15 | 57,0 | 2.24 | **192.421** | **192.157** | 16,3 | 12.0 |
| **5.34280R048080** | 27 | 50 | 47,6 | 1.87 | 80,0 | 3.15 | 92,0 | 3.62 | 80,0 | 3.15 | 57,0 | 2.24 | **192.422** | **191.727** | 20,3 | 15.0 |
| **5.34280R058080** | 32 | 50 | 57,6 | 2.27 | 80,0 | 3.15 | 93,9 | 3.70 | 80,0 | 3.15 | 58,9 | 2.32 | **192.423** | **191.727** | 20,3 | 15.0 |
| **5.34240R032100** | 16 | 22 | 31,6 | 1.24 | 40,0 | 1.57 | 110,0 | 4.33 | 100,0 | 3.94 | 55,0 | 2.17 | **192.420** | **192.156** | 10,2 | 7.5 |
| **5.34248R040100** | 22 | 27 | 39,6 | 1.56 | 48,0 | 1.89 | 112,0 | 4.41 | 100,0 | 3.94 | 57,0 | 2.24 | **192.421** | **192.157** | 16,3 | 12.0 |
| **5.34258R048100** | 27 | 32 | 47,6 | 1.87 | 58,0 | 2.28 | 112,0 | 4.41 | 100,0 | 3.94 | 57,0 | 2.24 | **192.422** | **191.727** | 20,3 | 15.0 |
| **5.34270R058100** | 32 | 40 | 57,6 | 2.27 | 70,0 | 2.76 | 113,9 | 4.48 | 100,0 | 3.94 | 58,9 | 2.32 | **192.423** | **191.727** | 20,3 | 15.0 |
| **5.34280R070150** | 40 | 50 | 69,6 | 2.74 | 80,0 | 3.15 | 163,9 | 6.45 | 150,0 | 5.91 | 68,9 | 2.71 | **192.424** | **191.728** | 33,9 | 25.0 |

NOTE: Assemble components using recommended torque values.

- Extensions are shipped with drive ring and clamping screws.



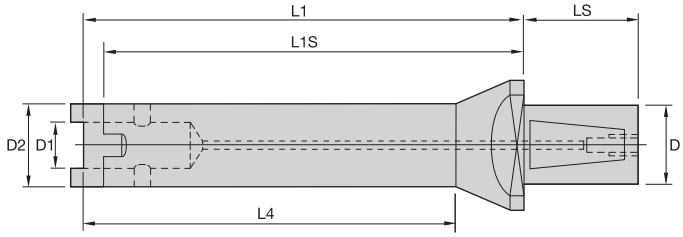

## Extensions



| | | | D2 | | L1 | | L1S | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| catalog number | D1 coupling size | D coupling size | mm | in | mm | in | mm | in | drive ring | clamping screw | Nm | ft. lbs. |
| **5.34132R032100** | 16 | 16 | 32,0 | 1.26 | 110,0 | 4.33 | 100,0 | 3.94 | **192.420** | **192.156** | 10,2 | 7.5 |
| **5.34125R025150** | 13A | 13A | 25,0 | 0.98 | 160,0 | 6.30 | 150,0 | 5.91 | **193.371** | **193.372** | 10,2 | 7.5 |
| **5.34128R028150** | 13B | 13B | 28,0 | 1.10 | 160,0 | 6.30 | 150,0 | 5.91 | **192.419** | **192.156** | 10,2 | 7.5 |
| **5.34170R070186** | 40 | 40 | 70,0 | 2.76 | 200,0 | 7.87 | 186,0 | 7.32 | **192.424** | **191.728** | 33,9 | 25.0 |
| **5.34132R032200** | 16 | 16 | 32,0 | 1.26 | 210,0 | 8.27 | 200,0 | 7.87 | **192.420** | **192.156** | 10,2 | 7.5 |
| **5.34140R040200** | 22 | 22 | 40,0 | 1.57 | 212,0 | 8.35 | 200,0 | 7.87 | **192.421** | **192.157** | 16,3 | 12.0 |
| **5.34148R048200** | 27 | 27 | 48,0 | 1.89 | 212,0 | 8.35 | 200,0 | 7.87 | **192.422** | **191.727** | 20,3 | 15.0 |
| **5.34180R080204** | 50 | 50 | 80,0 | 3.15 | 220,0 | 8.66 | 204,0 | 8.03 | **192.425** | **191.728** | 33,9 | 25.0 |
| **5.34158R058300** | 32 | 32 | 58,0 | 2.28 | 314,0 | 12.36 | 300,0 | 11.81 | **192.423** | **191.727** | 33,9 | 25.0 |
| **5.34170R070300** | 40 | 40 | 70,0 | 2.76 | 314,0 | 12.36 | 300,0 | 11.81 | **192.424** | **191.728** | 33,9 | 25.0 |
| **5.34180R080300** | 50 | 50 | 80,0 | 3.15 | 316,0 | 12.44 | 300,0 | 11.81 | **192.425** | **191.728** | 33,9 | 25.0 |
| **5.34170R070500** | 40 | 40 | 70,0 | 2.76 | 514,0 | 20.24 | 500,0 | 19.69 | **192.424** | **191.728** | 33,9 | 25.0 |
| **5.34180R080500** | 50 | 50 | 80,0 | 3.15 | 516,0 | 20.32 | 500,0 | 19.69 | **192.425** | **191.728** | 33,9 | 25.0 |

NOTE: Assemble components using recommended torque values.

- Shanks are shipped with drive ring and clamping screws.



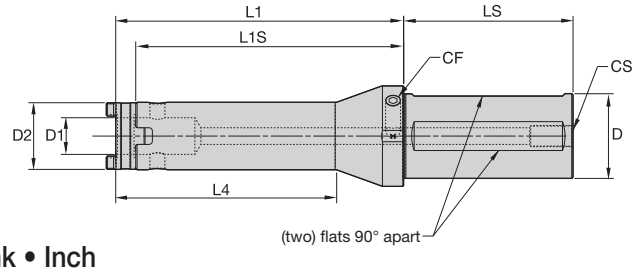



## Basic Shank WN/WD • Metric

| catalog number | D1 coupling size | D | D2 | L1 | L1S | L4 | LS | drive ring | clamping screw | Nm |
|---|---|---|---|---|---|---|---|---|---|---|
| **5.34032-025115** | 13A | 32,0 | 25,0 | 125,0 | 115,0 | 110,0 | 58,0 | **193.371** | **193.372** | 10,2 |
| **5.34032-028115** | 13B | 32,0 | 28,0 | 125,0 | 115,0 | 110,0 | 58,0 | **192.419** | **192.156** | 10,2 |
| **5.34032-032125** | 16 | 32,0 | 32,0 | 135,0 | 125,0 | 120,0 | 58,0 | **192.420** | **192.156** | 10,2 |
| **5.34050-040148** | 22 | 50,0 | 40,0 | 160,0 | 148,0 | 140,0 | 68,0 | **192.421** | **192.157** | 16,3 |
| **5.34050-048168** | 27 | 50,0 | 48,0 | 175,0 | 168,0 | 160,0 | 68,0 | **192.422** | **191.727** | 20,3 |
| **5.34050-058186** | 32 | 50,0 | 58,0 | 200,0 | 186,0 | 180,0 | 68,0 | **192.423** | **191.727** | 20,3 |
| **5.34032-025200** | 13A | 32,0 | 25,0 | 210,0 | 200,0 | 195,0 | 58,0 | **193.371** | **193.372** | 10,2 |
| **5.34032-028200** | 13B | 32,0 | 28,0 | 210,0 | 200,0 | 195,0 | 58,0 | **192.419** | **192.156** | 10,2 |
| **5.34050-032200** | 16 | 50,0 | 32,0 | 210,0 | 200,0 | 165,0 | 68,0 | **192.420** | **192.156** | 10,2 |
| **5.34050-025300** | 13A | 50,0 | 25,0 | 310,0 | 300,0 | 270,0 | 68,0 | **193.371** | **193.372** | 10,2 |
| **5.34050-028300** | 13B | 50,0 | 28,0 | 310,0 | 300,0 | 265,0 | 68,0 | **192.419** | **192.156** | 10,2 |
| **5.34050-040300** | 22 | 50,0 | 40,0 | 312,0 | 300,0 | 267,0 | 68,0 | **192.421** | **192.157** | 10,2 |
| **5.34050-048300** | 27 | 50,0 | 48,0 | 312,0 | 300,0 | 267,0 | 68,0 | **192.422** | **191.727** | 16,3 |
| **5.34050-058300** | 32 | 50,0 | 58,0 | 314,0 | 300,0 | 254,0 | 68,0 | **192.423** | **191.727** | 20,3 |
| **5.34050-032350** | 16 | 50,0 | 32,0 | 360,0 | 350,0 | 315,0 | 68,0 | **192.420** | **192.156** | 10,2 |
| **5.34050-025450** | 13A | 50,0 | 25,0 | 460,0 | 450,0 | 420,0 | 68,0 | **193.371** | **193.372** | 10,2 |
| **5.34050-028450** | 13B | 50,0 | 28,0 | 460,0 | 450,0 | 415,0 | 68,0 | **192.419** | **192.156** | 10,2 |
| **5.34050-040450** | 22 | 50,0 | 40,0 | 462,0 | 450,0 | 417,0 | 68,0 | **192.421** | **192.157** | 10,2 |
| **5.34050-048450** | 27 | 50,0 | 48,0 | 462,0 | 450,0 | 417,0 | 68,0 | **192.422** | **191.727** | 16,3 |
| **5.34050-058450** | 32 | 50,0 | 58,0 | 464,0 | 450,0 | 404,0 | 68,0 | **192.423** | **191.727** | 20,3 |
| **5.34050-032500** | 16 | 50,0 | 32,0 | 510,0 | 500,0 | 465,0 | 68,0 | **192.420** | **192.156** | 10,2 |
| **5.34050-040600** | 22 | 50,0 | 40,0 | 612,0 | 600,0 | 567,0 | 68,0 | **192.422** | **192.157** | 10,2 |
| **5.34050-048600** | 27 | 50,0 | 48,0 | 612,0 | 600,0 | 567,0 | 68,0 | **192.422** | **191.727** | 16,3 |
| **5.34050-058600** | 32 | 50,0 | 58,0 | 614,0 | 600,0 | 554,0 | 68,0 | **192.423** | **191.727** | 20,3 |

NOTE: Assemble components using recommended torque values.

- Shanks are shipped with drive ring and clamping screws.



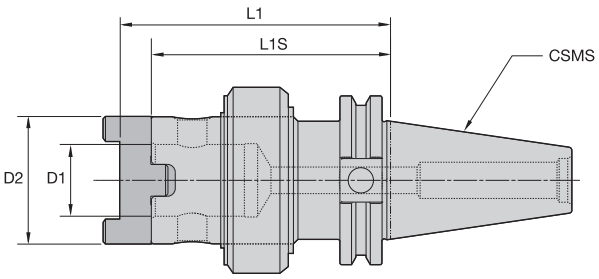

## Flanged Shank • Inch


| catalog number | D1 coupling size | D | D2 | L1 | L1S | L4 | LS | drive ring | clamping screw | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| **SSF150HTS130239 *** | 13A | 1.50 | 0.98 | 2.39 | 2.00 | 0.39 | 3.75 | **193.371** | **193.372** | 7.5 |
| **SSF150HTS130450** | 13A | 1.50 | 0.98 | 4.50 | 4.11 | 2.50 | 3.75 | **193.371** | **193.372** | 7.5 |
| **SSF150HTS130664** | 13A | 1.50 | 0.98 | 6.64 | 6.25 | 4.65 | 3.75 | **193.371** | **193.372** | 7.5 |
| **SSF150HTS131114** | 13A | 1.50 | 0.98 | 11.14 | 10.75 | 9.14 | 3.75 | **193.371** | **193.372** | 7.5 |
| **SSF150HTS131764** | 13A | 1.50 | 0.98 | 17.64 | 17.25 | 15.64 | 3.75 | **193.371** | **193.372** | 7.5 |
| **SSF200HTS130239** | 13B | 2.00 | 1.10 | 2.39 | 2.00 | 0.39 | 4.00 | **192.419** | **192.156** | 7.5 |
| **SSF200HTS130450 *** | 13B | 2.00 | 1.10 | 4.50 | 4.11 | 2.50 | 4.00 | **192.419** | **192.156** | 7.5 |
| **SSF200HTS130664** | 13B | 2.00 | 1.10 | 6.64 | 6.25 | 4.65 | 4.00 | **192.419** | **192.156** | 7.5 |
| **SSF200HTS131114** | 13B | 2.00 | 1.10 | 11.14 | 10.75 | 9.14 | 4.00 | **192.419** | **192.156** | 7.5 |
| **SSF200HTS131764** | 13B | 2.00 | 1.10 | 17.64 | 17.25 | 15.64 | 4.00 | **192.419** | **192.156** | 7.5 |
| **SSF200HTS160239** | 16 | 2.00 | 1.26 | 2.39 | 2.00 | 0.39 | 4.00 | **192.420** | **192.156** | 7.5 |
| **SSF200HTS160450 *** | 16 | 2.00 | 1.26 | 4.50 | 4.11 | 2.50 | 4.00 | **192.420** | **192.156** | 7.5 |
| **SSF200HTS160714** | 16 | 2.00 | 1.26 | 7.14 | 6.75 | 5.14 | 4.00 | **192.420** | **192.156** | 7.5 |
| **SSF200HTS161214** | 16 | 2.00 | 1.26 | 12.14 | 11.75 | 10.14 | 4.00 | **192.420** | **192.156** | 7.5 |
| **SSF200HTS161964** | 16 | 2.00 | 1.26 | 19.64 | 19.25 | 17.64 | 4.00 | **192.420** | **192.156** | 7.5 |
| **SSF200HTS220297** | 22 | 2.00 | 1.57 | 2.97 | 2.50 | 0.47 | 4.00 | **192.421** | **192.157** | 12.0 |
| **SSF200HTS220550** | 22 | 2.00 | 1.58 | 5.50 | 5.03 | 3.50 | 4.00 | **192.421** | **192.157** | 12.0 |
| **SSF200HTS220922** | 22 | 2.00 | 1.57 | 9.22 | 8.75 | 7.22 | 4.00 | **192.421** | **192.157** | 12.0 |
| **SSF200HTS221572** | 22 | 2.00 | 1.57 | 15.72 | 15.25 | 13.72 | 4.00 | **192.421** | **192.157** | 12.0 |
| **SSF200HTS222572** | 22 | 2.00 | 1.57 | 25.72 | 25.25 | 23.72 | 4.00 | **192.421** | **192.157** | 12.0 |
| **SSF200HTS270297** | 27 | 2.00 | 1.89 | 2.97 | 2.50 | 1.47 | 4.00 | **192.422** | **191.727** | 15.0 |
| **SSF200HTS270550** | 27 | 2.00 | 1.89 | 5.50 | 5.03 | 3.50 | 4.00 | **192.422** | **191.727** | 15.0 |
| **SSF200HTS271122** | 27 | 2.00 | 1.89 | 11.22 | 10.75 | 9.22 | 4.00 | **192.422** | **191.727** | 15.0 |
| **SSF200HTS271922** | 27 | 2.00 | 1.89 | 19.22 | 18.75 | 17.22 | 4.00 | **192.422** | **191.727** | 15.0 |
| **SSF200HTS273122** | 27 | 2.00 | 1.89 | 31.22 | 30.75 | 29.22 | 4.00 | **192.422** | **191.727** | 15.0 |
| **SSF200HTS320305 *** | 32 | 2.00 | 2.28 | 3.05 | 2.50 | 1.55 | 4.00 | **192.423** | **191.727** | 15.0 |
| **SSF200HTS320550** | 32 | 2.00 | 2.28 | 5.50 | 4.95 | 3.50 | 4.00 | **192.423** | **191.727** | 15.0 |
| **SSF200HTS320805** | 32 | 2.00 | 2.28 | 8.05 | 7.50 | 6.05 | 4.00 | **192.423** | **191.727** | 15.0 |
| **SSF200HTS321305** | 32 | 2.00 | 2.28 | 13.05 | 12.50 | 11.05 | 4.00 | **192.423** | **191.727** | 15.0 |
| **SSF200HTS321805** | 32 | 2.00 | 2.28 | 18.05 | 17.50 | 16.05 | 4.00 | **192.423** | **191.727** | 15.0 |
| **SSF250HTS400355** | 40 | 2.50 | 2.76 | 3.55 | 3.00 | 1.63 | 4.25 | **192.424** | **191.728** | 26.0 |
| **SSF250HTS400650 *** | 40 | 2.50 | 2.76 | 6.50 | 5.95 | 4.50 | 4.25 | **192.424** | **191.728** | 26.0 |
| **SSF250HTS401055** | 40 | 2.50 | 2.76 | 10.55 | 10.00 | 8.21 | 4.25 | **192.424** | **191.728** | 26.0 |
| **SSF250HTS401555** | 40 | 2.50 | 2.76 | 15.55 | 15.00 | 13.21 | 4.25 | **192.424** | **191.728** | 26.0 |
| **SSF250HTS402555** | 40 | 2.50 | 2.76 | 25.55 | 25.00 | 23.21 | 4.25 | **192.424** | **191.728** | 26.0 |
| **SSF300HTS500413 *** | 50 | 3.00 | 3.15 | 4.13 | 3.50 | 1.87 | 4.50 | **192.425** | **191.728** | 26.0 |
| **SSF300HTS500700 *** | 50 | 3.00 | 3.15 | 7.00 | 6.37 | 5.00 | 4.50 | **192.425** | **191.728** | 26.0 |
| **SSF300HTS501313** | 50 | 3.00 | 3.15 | 13.13 | 12.50 | 10.55 | 4.50 | **192.425** | **191.728** | 26.0 |
| **SSF300HTS502113** | 50 | 3.00 | 3.15 | 21.13 | 20.50 | 18.55 | 4.50 | **192.425** | **191.728** | 26.0 |
| **SSF300HTS503113** | 50 | 3.00 | 3.15 | 31.13 | 30.50 | 28.55 | 4.50 | **192.425** | **191.728** | 26.0 |

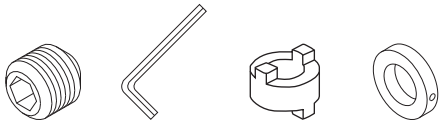
NOTE: Assemble components using recommended torque values.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

| D | CF | CS | side pipe plug |
|---|---|---|---|
| 1.500 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |
| 2.000 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |
| 2.500 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |
| 3.000 | 1/8-27 NPT | 1/4-18 NPT | **HSFS0125** |

- Shanks are shipped with drive ring and clamping screws.

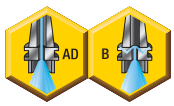

## CV Taper Shank • Form AD • Rotary Coolant Ring

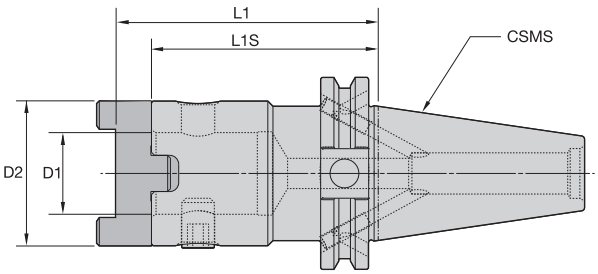


| catalog number | CSMS system size | D1 coupling size | D2 | L1 | L1S | clamping screw | hex wrench | drive ring | coolant ring | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|
| **CV50RMHTS13M394** | CV50 | 13B | 1.09 | 4.33 | 3.94 | **192.156** | **170.004** | **192.419** | **302.011** | 7.5 |
| **CV50RMHTS16M394** | CV50 | 16 | 1.25 | 4.33 | 3.94 | **192.156** | **170.004** | **192.420** | **302.011** | 7.5 |
| **CV50RMHTS22M394** | CV50 | 22 | 1.54 | 4.41 | 3.94 | **192.157** | **170.004** | **192.421** | **302.011** | 12.0 |
| **CV50RMHTS27M394** | CV50 | 27 | 1.88 | 4.41 | 3.94 | **191.727** | **170.006** | **192.422** | **302.011** | 15.0 |
| **CV50RMHTS32M394 *** | CV50 | 32 | 2.27 | 4.49 | 3.94 | **191.727** | **170.006** | **192.423** | **302.011** | 15.0 |
| **CV50RMHTS40M413** | CV50 | 40 | 2.74 | 4.69 | 4.13 | **191.728** | **170.008** | **192.424** | **302.009** | 26.0 |
| **CV50RMHTS50M413** | CV50 | 50 | 3.13 | 4.76 | 4.13 | **191.728** | **170.008** | **192.425** | **302.010** | 26.0 |

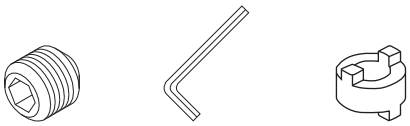
NOTE: Assemble components using recommended torque values.
*Made-to-order standard item. Standard pricing, manufacturing lead time, and minimum order quantity applies.

- Shanks are shipped with drive ring and clamping screws.



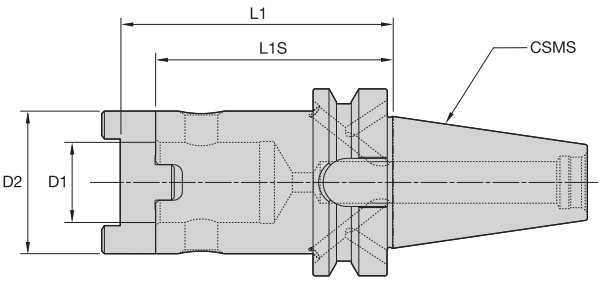

## CV Taper Shank • Form B/AD Coolant



| catalog number | CSMS system size | D1 coupling size | D2 | L1 | L1S | clamping screw | hex wrench | drive ring | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|
| **CV50BHTS13M295** | CV50 | 13B | 1.10 | 3.35 | 2.95 | **192.156** | **170.004** | **192.419** | 7.5 |
| **CV50BHTS16M295** | CV50 | 16 | 1.26 | 3.35 | 2.95 | **192.156** | **170.004** | **192.420** | 7.5 |
| **CV50BHTS22M295** | CV50 | 22 | 1.57 | 3.43 | 2.95 | **192.157** | **170.004** | **192.421** | 12.0 |
| **CV50BHTS27M295** | CV50 | 27 | 1.89 | 3.43 | 2.95 | **191.727** | **170.006** | **192.422** | 15.0 |
| **CV50BHTS32M314** | CV50 | 32 | 2.28 | 3.70 | 3.15 | **191.727** | **170.006** | **192.423** | 15.0 |
| **CV50BHTS40M314** | CV50 | 40 | 2.76 | 3.70 | 3.15 | **191.728** | **170.008** | **192.424** | 26.0 |
| **CV50BHTS50M314** | CV50 | 50 | 3.15 | 3.78 | 3.15 | **191.728** | **170.008** | **192.425** | 26.0 |

NOTE: Assemble components using recommended torque values.

- Shanks are shipped with drive ring and clamping screw.

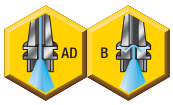



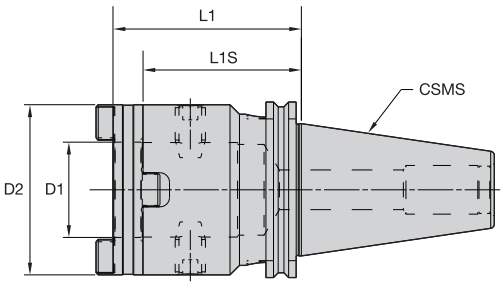

## BT Taper Shank • Form B/AD Coolant

| catalog number | CSMS system size | D1 coupling size | D2 | L1 mm | L1 in | L1S mm | L1S in | clamping screw | hex wrench | drive ring | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BT50BHTS22075M** | BT50 | 22 | 40,0 | 87,0 | 3.43 | 75,0 | 2.95 | **192.157** | **170.005** | **192.421** | 16,0 | 12.0 |
| **BT50BHTS32080M** | BT50 | 32 | 58,0 | 94,0 | 3.70 | 80,0 | 3.15 | **MS1276** | **170.006** | **192.423** | 20,0 | 15.0 |
| **BT50BHTS40080M** | BT50 | 40 | 70,0 | 94,0 | 3.70 | 80,0 | 3.15 | **191.728** | **170.008** | **192.424** | 34,0 | 26.0 |
| **BT50BHTS50080M** | BT50 | 50 | 80,0 | 96,0 | 3.78 | 80,0 | 3.15 | **191.728** | **170.008** | **192.425** | 34,0 | 26.0 |

NOTE: Assemble components using recommended torque values.

- Shanks are shipped with drive ring and clamping screw.

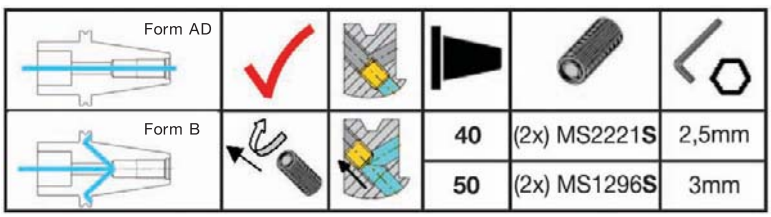


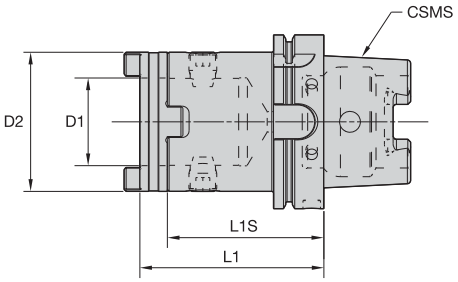

## DV Taper Shank • Form B/AD Coolant

| catalog number | CSMS system size | D1 coupling size | D2 | L1 mm | L1 in | L1S mm | L1S in | clamping screw | hex wrench | drive ring |
|---|---|---|---|---|---|---|---|---|---|---|
| **5.36050-154040** | DV50 | 40 | 70,0 | 100,0 | 3.94 | 84,0 | 3.31 | **191.728** | **170.008** | **192.424** |
| **5.36050-154050** | DV50 | 50 | 90,0 | 100,0 | 3.94 | 84,0 | 3.31 | **191.729** | **170.008** | **192.426** |

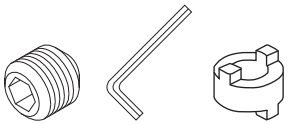
NOTE: Assemble components using recommended torque values.



- Shanks are shipped with drive ring and clamping screw.



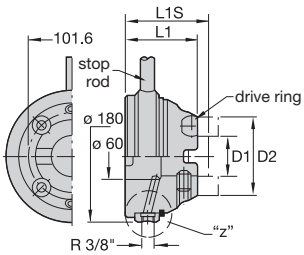

## HSK100A Taper Shank

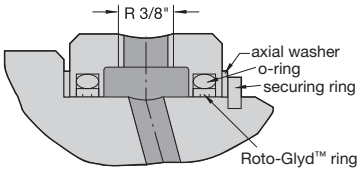


| catalog number | CSMS system size | D1 coupling size | D2 mm | D2 in | L1 mm | L1 in | L1S mm | L1S in | clamping screw | hex wrench | drive ring | Nm | ft. lbs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **HSK100AHTS40085M** | HSK100A | 40 | 70,0 | 2.8 | 99,0 | 3.9 | 85,0 | 3.3 | **191.728** | **170.008** | **192.424** | 35,0 | 25.0 |
| **HSK100AHTS50090M** | HSK100A | 50 | 80,0 | 3.1 | 106,0 | 4.2 | 90,0 | 3.5 | **191.728** | **170.008** | **192.425** | 35,0 | 25.0 |

NOTE: Assemble components using recommended torque values.

- Shanks are shipped with drive ring and clamping screws.




## Flanged Adapter (Including Drive Ring)

| catalog number | D1 | D2 mm | D2 in | L1 mm | L1 in | L1S mm | L1S in | kg | lbs |
|---|---|---|---|---|---|---|---|---|---|
| **5.34350-090100** | 50,00 | 90,0 | 3.54 | 116,0 | 4.57 | 100,0 | 3.94 | 10,0 | 21.94 |

NOTE: Adapter includes all items shown except the nipple. Nipple must be ordered separately.
If replacement becomes necessary, the nipple is manufactured with a predetermined breaking point for safety purposes.
Maximum RPM is 1500. Maximum pressure is 72 psi or 5 bar.

## Spare Parts

| catalog number | drive ring | clamping screw | coolant ring | O-ring | securing ring | axial washer | ROTO-GLYD ring | stop bar | nipple |
|---|---|---|---|---|---|---|---|---|---|
| **5.34350-090100** | **192.426** | **191.729** | **302.014** | **192.731** | **192.126** | **192.158** | **192.730** | **460.716** | **192.759** |

## HTS DFT™ • Metric

| Metric | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03... 45,00–55,00mm | DFT05... 55,00–78,00mm | DFT06... 78,00–140,00mm | DFT07... 140,00–270,00mm |
| P | 1 | S | O | MD | KCU25 | 94 | **190** | 229 | mm/r | 0,06–0,10 | 0,08–0,12 | 0,10–0,14 | 0,13–0,19 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 71 | **130** | 171 | mm/r | 0,06–0,10 | 0,08–0,12 | 0,10–0,14 | 0,13–0,19 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KCU40 | 44 | **80** | 106 | mm/r | 0,06–0,10 | 0,08–0,12 | 0,10–0,14 | 0,13–0,19 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 2 | S | O | HP | KCU25 | 94 | **180** | 229 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 71 | **120** | 1714 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 44 | **70** | 106 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 3 | S | O | HP | KCU25 | 70 | **140** | 169 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 50 | **100** | 121 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 30 | **60** | 72 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 4 | S | O | HP | KCU25 | 94 | **120** | 229 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 71 | **100** | 171 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 44 | **80** | 106 | mm/r | 0,10–0,14 | 0,12–0,18 | 0,12–0,18 | 0,12–0,20 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 5 | S | O | HP | KCU25 | 78 | **100** | 190 | mm/r | 0,05–0,07 | 0,06–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 47 | **60** | 114 | mm/r | 0,05–0,07 | 0,06–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 31 | **40** | 76 | mm/r | 0,05–0,07 | 0,06–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 6 | S | O | HP | KCU25 | 74 | **95** | 180 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 45 | **57** | 108 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 30 | **38** | 72 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,06–0,10 | 0,08–0,12 |
| | | | I | HP | KC7140 | | | | | | | | |
| M | 1 | S | O | MD | KCU25 | 48 | **110** | 134 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 31 | **70** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 22 | **50** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 2 | S | O | MD | KCU25 | 48 | **99** | 134 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 31 | **63** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 22 | **45** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 3 | S | O | MD | KCU25 | 48 | **88** | 134 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 31 | **56** | 86 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 22 | **40** | 61 | mm/r | 0,07–0,11 | 0,12–0,18 | 0,14–0,20 | 0,16–0,22 |
| | | | I | MD | KC7140 | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFT™ • Metric

| Metric | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — m/min | | | Recommended Feed Rate (f) by Diameter | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03... 45,00–55,00mm | DFT05... 55,00–78,00mm | DFT06... 78,00–140,00mm | DFT07... 140,00–270,00mm |
| K | 1 | S | O | HP | KCPK10 | 94 | **171** | 229 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 64 | **117** | 156 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 40 | **72** | 96 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 2 | S | O | HP | KCPK10 | 94 | **162** | 229 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 64 | **111** | 156 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 40 | **68** | 96 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,17–0,33 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 90 | **146** | 217 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,15–0,31 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 59 | **100** | 144 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,15–0,31 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 35 | **62** | 84 | mm/r | 0,11–0,20 | 0,13–0,27 | 0,15–0,31 | 0,15–0,31 |
| | | | I | HP | KCU40 | | | | | | | | |
| N | 1 | S | O | ST | KD1425 | 154 | **240** | 358 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KC7140 | 102 | **160** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 67 | **104** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 2 | S | O | ST | KD1425 | 154 | **223** | 358 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KCU40 | 102 | **149** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | I | O | HP | KCU40 | 67 | **97** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 3 | S | O | ST | KD1425 | 154 | **206** | 358 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KCU40 | 102 | **138** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | I | O | HP | KCU40 | 67 | **89** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 4 | S | O | ST | KD1425 | 154 | **223** | 358 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | LD | KC7140 | 102 | **149** | 239 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | LD | KC7140 | | | | | | | | |
| | | I | O | LD | KC7140 | 67 | **97** | 155 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | LD | KC7140 | | | | | | | | |
| | 5 | S | O | ST | KD1425 | 112 | **220** | 262 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KCU40 | 72 | **140** | 167 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | I | O | HP | KCU40 | 46 | **90** | 107 | mm/r | 0,06–0,09 | 0,11–0,19 | 0,12–0,20 | 0,14–0,25 |
| | | | I | HP | KCU40 | | | | | | | | |
| S | 1 | S | O | HP | KC7140 | 24 | **40** | 49 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | U | O | HP | KC7140 | 18 | **30** | 37 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 15 | **25** | 30 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 2 | S | O | HP | KC7140 | 25 | **35** | 48 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | U | O | HP | KC7140 | 18 | **25** | 34 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 14 | **20** | 27 | mm/r | 0,04–0,07 | 0,05–0,08 | 0,07–0,10 | 0,07–0,10 |
| | | | I | HP | KC7140 | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFT™ • Inch

| Inch | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (f) by Diameter | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03... 1.77–2.17" | DFT05... 2.17–3.07" | DFT06... 3.07–5.51" | DFT07... 5.51–10.63" |
| P | 1 | S | O | MD | KCU25 | 309 | **623** | 750 | IPR | .002–.004 | .003–.005 | .004–.006 | .005–.007 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 231 | **427** | 561 | IPR | .002–.004 | .003–.005 | .004–.006 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KCU40 | 143 | **262** | 348 | IPR | .002–.004 | .003–.005 | .004–.006 | .005–.007 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 2 | S | O | HP | KCU25 | 309 | **591** | 750 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 231 | **394** | 561 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 143 | **230** | 348 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 3 | S | O | HP | KCU25 | 229 | **459** | 555 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 163 | **328** | 396 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 98 | **197** | 238 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 4 | S | O | HP | KCU25 | 309 | **394** | 750 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 231 | **328** | 561 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 143 | **262** | 348 | IPR | .004–.006 | .005–.007 | .005–.007 | .005–.008 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 5 | S | O | HP | KCU25 | 257 | **328** | 622 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 154 | **197** | 373 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 103 | **131** | 250 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 6 | S | O | HP | KCU25 | 244 | **312** | 591 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | U | O | HP | KCU40 | 146 | **187** | 355 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KCU40 | 98 | **125** | 238 | IPR | .002–.003 | .002–.003 | .002–.004 | .003–.005 |
| | | | I | HP | KC7140 | | | | | | | | |
| M | 1 | S | O | MD | KCU25 | 159 | **361** | 439 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 101 | **230** | 281 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 72 | **164** | 199 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 2 | S | O | MD | KCU25 | 159 | **325** | 439 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 101 | **207** | 281 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 72 | **148** | 199 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |
| | 3 | S | O | MD | KCU25 | 159 | **289** | 439 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KCU40 | | | | | | | | |
| | | U | O | MD | KCU40 | 101 | **184** | 281 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |
| | | I | O | MD | KC7140 | 72 | **131** | 199 | IPR | .003–.004 | .005–.007 | .006–.008 | .006–.009 |
| | | | I | MD | KC7140 | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert

## HTS DFT™ • Inch

| Inch | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material Group | | Condition | Pocket Seat | Geometry | Grade | Cutting Speed — vc Range — SFM | | | Recommended Feed Rate (f) by Diameter | | | | |
| | | | | | | min | Starting Value | max | Ø | DFT03... 1.77–2.17" | DFT05... 2.17–3.07" | DFT06... 3.07–5.51" | DFT07... 5.51–10.63" |
| K | 1 | S | O | HP | KCPK10 | 309 | **561** | 750 | IPR | .004–.008 | .005–.011 | .006–.012 | .007–.013 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 211 | **384** | 510 | IPR | .004–.008 | .005–.011 | .006–.012 | .007–.013 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 131 | **236** | 316 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 2 | S | O | HP | KCPK10 | 309 | **533** | 750 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 211 | **365** | 510 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 131 | **224** | 316 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 3 | S | O | HP | KCPK10 | 294 | **480** | 712 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCPK10 | | | | | | | | |
| | | U | O | HP | KCU25 | 195 | **328** | 473 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCU25 | | | | | | | | |
| | | I | O | HP | KCU40 | 113 | **202** | 274 | IPR | .004–.008 | .005–.011 | .006–.012 | .007 –.013 |
| | | | I | HP | KCU40 | | | | | | | | |
| N | 1 | S | O | ST | KD1425 | 504 | **787** | 1176 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KC7140 | 336 | **525** | 784 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 218 | **341** | 510 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 2 | S | O | ST | KD1425 | 504 | **732** | 1176 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KCU40 | 336 | **488** | 784 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | I | O | HP | KCU40 | 218 | **317** | 510 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 3 | S | O | ST | KD1425 | 504 | **677** | 1176 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KCU40 | 336 | **451** | 784 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KCU40 | | | | | | | | |
| | | I | O | HP | KCU40 | 218 | **293** | 510 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KCU40 | | | | | | | | |
| | 4 | S | O | ST | KD1425 | 504 | **732** | 1176 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | LD | KC7140 | 336 | **488** | 784 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | | |
| | | I | O | LD | KC7140 | 218 | **317** | 510 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | LD | KC7140 | | | | | | | | |
| | 5 | S | O | ST | KD1425 | 368 | **722** | 858 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | ST | KD1425 | | | | | | | | |
| | | U | O | HP | KC7140 | 235 | **459** | 549 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 151 | **295** | 351 | IPR | .002–.004 | .004–.007 | .005–.008 | .006–.010 |
| | | | I | HP | KC7140 | | | | | | | | |
| S | 1 | S | O | HP | KC7140 | 80 | **131** | 160 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | U | O | HP | KC7140 | 60 | **98** | 120 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 50 | **82** | 100 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |
| | 2 | S | O | HP | KC7140 | 82 | **115** | 158 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | U | O | HP | KC7140 | 58 | **82** | 112 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |
| | | I | O | HP | KC7140 | 46 | **66** | 90 | IPR | .002–.003 | .002–.003 | .003–.004 | .003–.004 |
| | | | I | HP | KC7140 | | | | | | | | |

Condition: S = Stable cutting conditions;
U = Unstable cutting conditions;
I = Interrupted cutting conditions

Pocket seat: I = Inboard insert;
O = Outboard insert