SFEEDUP™ HIGH SPEED & FEED

INDUSTRY 4.0 PRODUCT ANNOUNCEMENT UPDATE 2022

# HIPOSTRIO™

MILLING PRODUCTS


**Cutter Series: (DOC)**
1KJ1B (.13")
1KJ1D, KJ5D, KJ6D (.27")
1KJ1G, KJ5G, KJ6G (.41")
1KJ1P, KJ5P, KJ6P (.57")
1K_1B Chamfer Mill (Modular)
1K_1D Chamfer Mill (Cyl.)

**Insert Series:**
THLS04, THES06, THLS06
THES10, THLS10, THES13, THLS13

**Adaptions**
Cylindrical, Weldon, Top-On, ChipSurfer, Face Mill

**Diameter Range:**
.312" - 6.500"

**Cutting Edge Angle:**
30°, 45°, 60°, 90°

**Corner Geometry**
.008R, .015R, .031R, .062R, .094R, .125R

**Materials:**
Cast Iron, Aluminum, Steel, Stainless Steel, Hard Steel, High-Temp Alloys, Titanium

## 3-Edged HiPosTrio inserts priced like 2-Edged HiPos product equals 1 free edge!

Ingersoll's HiPosTrio line has been expanded to include a new 04 IC size insert that accommodates smaller diameter and higher density end mills…making it a great solid carbide alternative. It compliments an already superb general purpose 90° Milling line that blends performance and economy.

**Features & Benefits:**

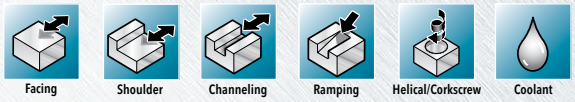
- High positive cutting geometry; ideal for small machines and gummy materials
- Four insert sizes for complete cutter diameter, depth & density coverage; New 4mm insert size
- Ramping capability for cutting versatility
- Inserts with integrated wiper flats typically produce surface finishes between 32-63 Ra
- All cutters with coolant thru up to 5.00" diameter
- New cutter and insert expansions to existing lines

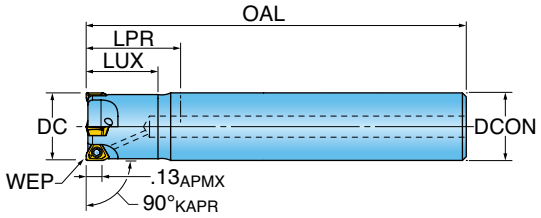
Member IMC Group Ingersoll Cutting Tools

NEW-339-8
(12/2022)
1/21

## HIPOSTRIO™ 04 SERIES: 1KJ1B (CYLINDRICAL SHANK)

### 90° END MILL (4MM INSERT)



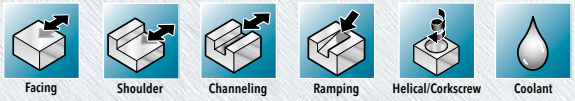

WEP - See insert drawing for wiper options.

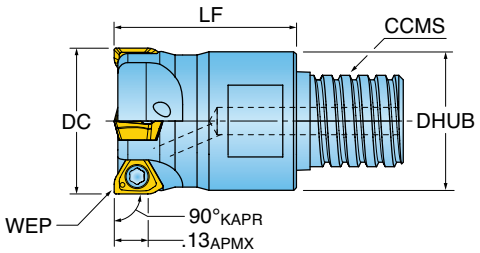
| Part Number | DC Cutting Diameter | LUX Usable Length Max. | LPR Protruding Length | OAL Overall Length | ZEFF Effective Teeth | DCON Shank Diameter | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|---|
| NEW 1KJ1B-03006R7R01 | 0.312 | 0.62 | 1.58 | 3.00 | 1 | 0.312 | 2.1 |
| NEW 1KJ1B-03007R8R01 | 0.375 | 0.75 | 1.58 | 3.00 | 1 | 0.375 | 2.1 |
| NEW 1KJ1B-04007S4R01 | 0.437 | 0.75 | 1.22 | 3.00 | 2 | 0.500 | 3.0 |
| NEW 1KJ1B-05008S4R01 | 0.500 | 0.87 | 1.72 | 3.50 | 3 | 0.500 | 2.5 |
| NEW 1KJ1B-05010S6R01 | 0.562 | 1.00 | 1.59 | 3.50 | 3 | 0.625 | 2.2 |
| NEW 1KJ1B-06010S6R01 | 0.625 | 1.00 | 1.59 | 3.50 | 4 | 0.625 | 1.6 |

*Designed with modification in mind. Extend usable length by turning back the neck diameter or shorten the overall length by cutting off back end.

## HIPOSTRIO™ 04 SERIES: 1KJ1B (CHIPSURFER STYLE)

### 90° MODULAR END MILL (4MM INSERT)



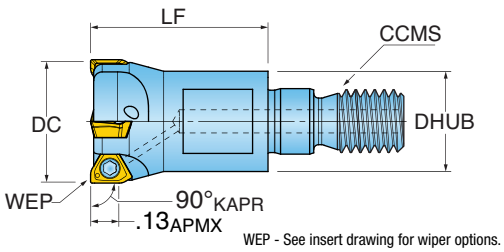

WEP - See insert drawing for wiper options.

| Part Number | DC Cutting Diameter | LF Functional Length | ZEFF Effective Teeth | CCMS Connection Code | DHUB Hub Diameter | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|
| NEW 1KJ1B-05006T8R01 | 0.500 | 0.65 | 3 | Chip Surfer T08 | 0.48 | 2.5 |
| NEW 1KJ1B-06008TRR01 | 0.625 | 0.80 | 4 | Chip Surfer T10 | 0.60 | 1.6 |

## HIPOSTRIO™ 04 SERIES: 1KJ1B (TOP•ON STYLE)

### 90° MODULAR END MILL (4MM INSERT)

Facing | Shoulder | Channeling | Ramping | Helical/Corkscrew | Coolant



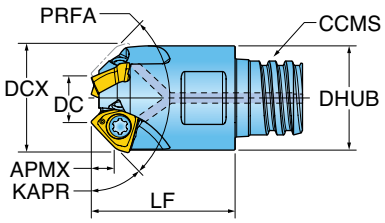

WEP - See insert drawing for wiper options.

| Part Number | DC Cutting Diameter | LF Functional Length | ZEFF Effective Teeth | CCMS Connection Code | DHUB Hub Diameter | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|
| NEW 1KJ1B-05075X4R01 | 0.500 | 0.75 | 3 | TopOn M06 | 0.46 | 2.5 |
| NEW 1KJ1B-06087X5R01 | 0.625 | 0.88 | 4 | TopOn M08 | 0.50 | 1.6 |

## HIPOSTRIO™ 04 SERIES: 1K_1B (CHIPSURFER STYLE)

### MODULAR CHAMFER MILL (4MM INSERT)

Lead Angle | Chamfer | Coolant

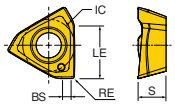



| Part Number | DC Cutting Diameter | DCX Cutting Diameter Max. | KAPR Cutting Edge Angle | PRFA Profile Angle | APMX Depth of Cut Max. | LF Functional Length | ZEFF Effective Teeth | CCMS Connection Code | DHUB Hub Diameter |
|---|---|---|---|---|---|---|---|---|---|
| NEW 1KM1B-03006T8R01 | 0.330 | 0.500 | 60 | 60 | 0.125 | 0.65 | 3 | Chip Surfer T08 | 0.48 |
| NEW 1KN1B-02006T8R01 | 0.236 | 0.490 | 45 | 90 | 0.098 | 0.65 | 3 | Chip Surfer T08 | 0.48 |
| NEW 1KP1B-02006T8R01 | 0.236 | 0.555 | 30 | 120 | 0.068 | 0.65 | 3 | Chip Surfer T08 | 0.48 |

## HIPOSTRIO™ 04 INSERTS

M

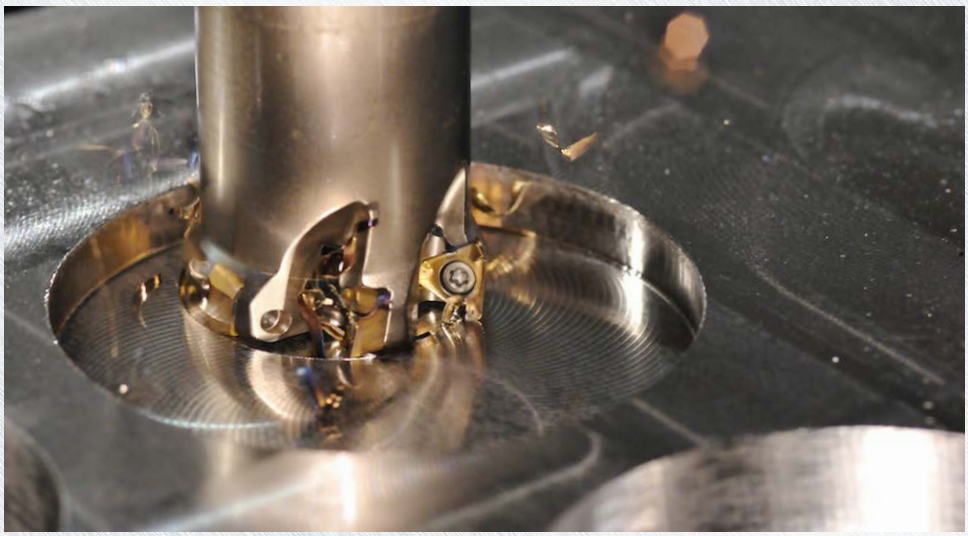
THLS04_M




| Part Number | Application | RE Corner Radius | BS Wiper Length | LE Cutting Edge Eff. Length | IC Inscribed Circle Dia. | S Thickness | IH Insert Hand | NOI Number of Indexes | Grade | IN2505 | IN2530 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NEW THLS040202R-M | Multi-Purpose | 0.008 | 0.027 | 0.130 | 0.153 | 0.083 | Right | 3 | | • | • |
| NEW THLS040204R-M | Multi-Purpose | 0.015 | 0.019 | 0.130 | 0.153 | 0.083 | Right | 3 | | • | • |

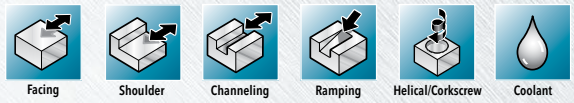
## HIPOSTRIO™ 04 HARDWARE

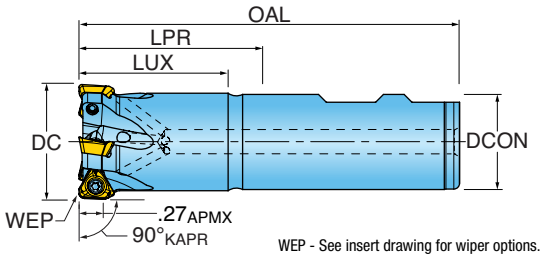
| | Insert Screw | Driver | **OPTIONAL** Wrench | **OPTIONAL** Thin Wrench | **OPTIONAL** Torque Wrench | **OPTIONAL** Torque Driver Handle | **OPTIONAL** Preset Torque Bit | **OPTIONAL** Torque Driver Bit |
|---|---|---|---|---|---|---|---|---|
| 1KJ1B-03006R7R01 | SM18-041-00 | DS-TP06S-NEU | - | - | - | DS-A00-.25-S | DT-05-.25 | DS-TP06B |
| 1KJ1B-03007R8R01 | SM18-041-00 | DS-TP06S-NEU | - | - | - | DS-A00-.25-S | DT-05-.25 | DS-TP06B |
| 1KJ1B-04007S4R01 | SM18-041-00 | DS-TP06S-NEU | - | - | - | DS-A00-.25-S | DT-05-.25 | DS-TP06B |
| 1KJ1B-05008S4R01 | SM18-041-00 | DS-TP06S-NEU | - | - | - | DS-A00-.25-S | DT-05-.25 | DS-TP06B |
| 1KJ1B-05010S6R01 | SM18-041-00 | DS-TP06S-NEU | - | - | - | DS-A00-.25-S | DT-05-.25 | DS-TP06B |
| 1KJ1B-06010S6R01 | SM18-041-00 | DS-TP06S-NEU | - | - | - | DS-A00-.25-S | DT-05-.25 | DS-TP06B |
| 1KJ1B-03006T6R01 | SM18-041-00 | DS-TP06S-NEU | - | WS-0029 | DT-90-08 | DS-A00-.25-S | DT-05-.25 | DS-TP06B |
| 1KJ1B-05006T8R01 | SM18-041-00 | DS-TP06S-NEU | - | WS-0030 | DT-130-10 | DS-A00-.25-S | DT-05-.25 | DS-TP06B |
| 1KJ1B-06008TRR01 | SM18-041-00 | DS-TP06S-NEU | - | WS-0044 | DT-250-13 | DS-A00-.25-S | DT-05-.25 | DS-TP06B |
| 1KJ1B-05075X4R01 | SM18-041-00 | DS-TP06S-NEU | - | - | - | DS-A00-.25-S | DT-05-.25 | DS-TP06B |
| 1KJ1B-06087X5R01 | SM18-041-00 | DS-TP06S-NEU | 610MM | - | - | DS-A00-.25-S | DT-05-.25 | DS-TP06B |



# HIPOSTRIO™ 06 SERIES: 1KJ1D (WELDON SHANK)

## 90° END MILL (6MM INSERT)



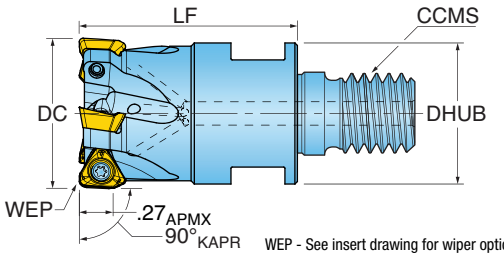

WEP - See insert drawing for wiper options.

| Part Number | DC Cutting Diameter | LUX Usable Length Max. | LPR Protruding Length | OAL Overall Length | ZEFF Effective Teeth | DCON Shank Diameter | CSP Coolant | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|---|---|
| 1KJ1D-0601279R01 | 0.625 | 1.22 | 1.25 | 3.25 | 1 | 0.625 | Yes | 4 |
| 1KJ1D-0702084R01 | 0.725 | 1.80 | 2.00 | 4.00 | 2 | 0.750 | Yes | 3.1 |
| 1KJ1D-0701184R01 | 0.750 | 1.05 | 1.25 | 3.25 | 2 | 0.750 | Yes | 3.1 |
| 1KJ1D-0701784R01 | 0.750 | 1.55 | 1.75 | 3.75 | 2 | 0.750 | Yes | 3.1 |
| 1KJ1D-0703084R01 | 0.750 | 2.80 | 3.00 | 5.00 | 2 | 0.750 | Yes | 3.1 |
| 1KJ1D-0801784R01 | 0.875 | 1.75 | 1.75 | 3.75 | 2 | 0.750 | Yes | 2.5 |
| 1KJ1D-1001780R01 | 1.000 | 1.55 | 1.75 | 4.00 | 3 | 1.000 | Yes | 2.1 |
| 1KJ1D-1001784R01 | 1.000 | 1.75 | 1.75 | 3.75 | 3 | 0.750 | Yes | 2.1 |
| 1KJ1D-1003780R01 | 1.000 | 3.38 | 3.75 | 6.00 | 3 | 1.000 | Yes | 2.1 |
| 1KJ1D-1003784R01 | 1.000 | 3.55 | 3.75 | 6.00 | 3 | 0.750 | Yes | 2.1 |
| 1KJ1D-1201780R01 | 1.250 | 1.75 | 1.75 | 4.00 | 5 | 1.000 | Yes | 1.5 |
| 1KJ1D-1201784R01 | 1.250 | 1.75 | 1.75 | 3.75 | 4 | 0.750 | Yes | 1.5 |
| 1KJ1D-1501780R01 | 1.500 | 1.75 | 1.75 | 4.00 | 6 | 1.000 | Yes | 1.3 |
| 1KJ1D-1501784R01 | 1.500 | 1.75 | 1.75 | 3.75 | 5 | 0.750 | Yes | 1.3 |
| 1KJ1D-1502281R01 | 1.500 | 2.25 | 2.25 | 4.50 | 6 | 1.250 | Yes | 1.3 |

## HIPOSTRIO™ 06 SERIES: 1KJ1D (TOPON M-ADAPTION)

### 90° MODULAR END MILL (6MM INSERT)

Facing | Shoulder | Channeling | Ramping | Helical/Corkscrew | Coolant



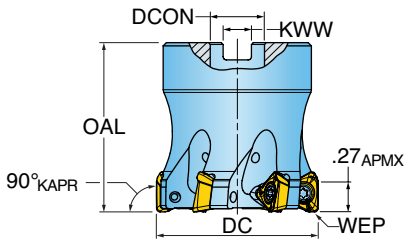

WEP - See insert drawing for wiper options.

| Part Number | DC Cutting Diameter | LF Functional Length | ZEFF Effective Teeth | CCMS Connection Code | DHUB Hub Diameter | CSP Coolant | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|---|
| 1KJ1D-07015X6R01 | 0.750 | 1.50 | 2 | TopOn M10 | .69 | Yes | 3.1 |
| 1KJ1D-10015X7R01 | 1.000 | 1.50 | 2 | TopOn M12 | .81 | Yes | 2.1 |
| 1KJ1D-10015X7R02 | 1.000 | 1.50 | 3 | TopOn M12 | .81 | Yes | 2.1 |
| 1KJ1D-12017X8R02 | 1.250 | 1.75 | 5 | TopOn M16 | 1.13 | Yes | 1.5 |
| 1KJ1D-15017X8R01 | 1.500 | 1.75 | 5 | TopOn M16 | 1.13 | Yes | 1.3 |

## HIPOSTRIO™ 06 SERIES: KJ5D, KJ6D

### 90° FACE MILL (6MM INSERT)

Facing | Shoulder | Channeling | Ramping | Helical/Corkscrew | Coolant



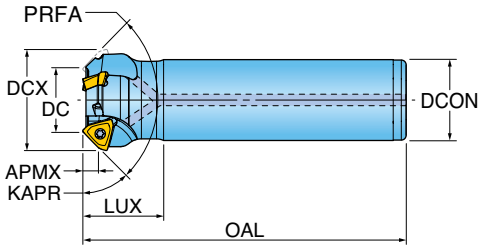

WEP - See insert drawing for wiper options.

| Part Number | DC Cutting Diameter | OAL Overall Length | ZEFF Effective Teeth | DCON Bore Diameter | KWW Keyway | CSP Coolant | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|---|
| KJ5D-15R01 | 1.500 | 1.57 | 6 | 0.500 | 0.250 | Yes | 1.3 |
| KJ5D-20R01 | 2.000 | 1.57 | 7 | 0.750 | 0.312 | Yes | 1.2 |
| KJ6D-30R01 | 3.000 | 1.75 | 9 | 1.000 | 0.375 | Yes | .4 |

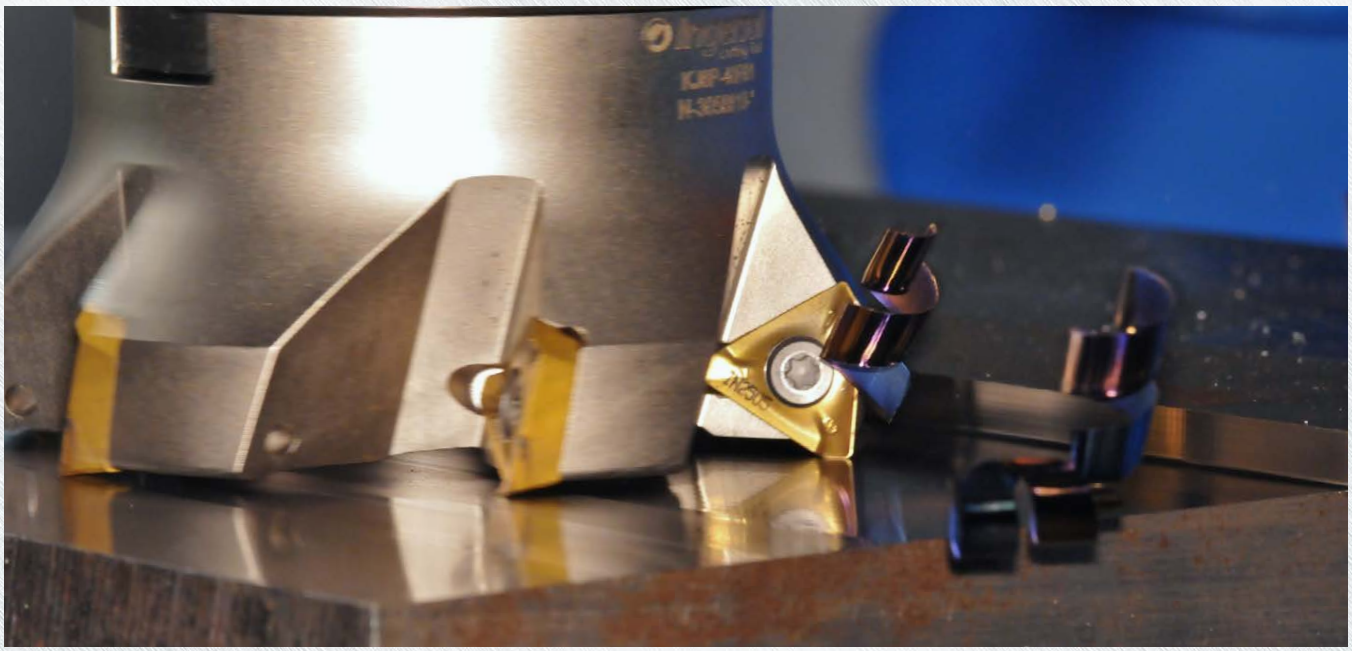
# HIPOSTRIO™ 06 SERIES: 1K_1D (CYLINDRICAL SHANK)

## CHAMFER MILL (6MM INSERT)

Lead Angle | Chamfer | Coolant



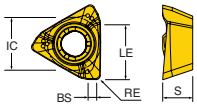

| Part Number | DC Cutting Diameter | DCX Cutting Diameter Max. | KAPR Cutting Edge Angle | PRFA Profile Angle | APMX Depth of Cut Max. | LUX Useable Length Max. | OAL Overall Length | ZEFF Effective Teeth | DCON Shank Diameter |
|---|---|---|---|---|---|---|---|---|---|
| NEW 1KM1D-07010S1R01 | 0.750 | 1.042 | 60 | 60 | 0.227 | 1.00 | 4.00 | 3 | 1.000 |
| NEW 1KN1D-07010S1R01 | 0.750 | 1.184 | 45 | 90 | 0.180 | 1.00 | 4.00 | 3 | 1.000 |
| NEW 1KP1D-07010S1R01 | 0.750 | 1.297 | 30 | 120 | 0.125 | 1.00 | 4.00 | 3 | 1.000 |



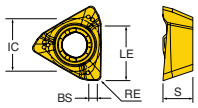
## HIPOSTRIO™ 06 INSERTS

R P HR

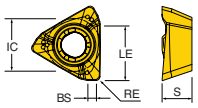
### THES06

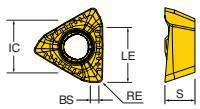

### THES06_P


### THLS06


### THLS06_HR

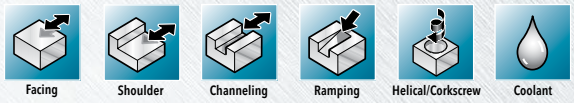

| Part Number | Application | RE Corner Radius | BS Wiper Length | LE Cutting Edge Length | IC Inscribed Circle Diameter | S Thickness | NOI Number of Indexes | Grade | IN10K | IN2035 | IN2504 | IN2505 | IN2510 | IN2530 | IN2540 | IN4030 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| THES060404R | Multi-Purpose; Ground Periphery | 0.015 R | 0.051 | 0.270 | 0.272 | 0.157 | 3 | | | | | • | | | | |
| THES060408R | Multi-Purpose; Ground Periphery | 0.031 R | 0.035 | 0.270 | 0.272 | 0.157 | 3 | | | | | • | | | | |
| THES060404FR-P | Grd/Pol for Al | 0.015 R | 0.051 | 0.270 | 0.272 | 0.157 | 3 | | • | | | | | | | |
| THES060408FR-P | Grd/Pol for Al | 0.031 R | 0.035 | 0.270 | 0.272 | 0.157 | 3 | | • | | | | | | | |
| THLS060404R | Multi-Purpose | 0.015 R | 0.051 | 0.270 | 0.272 | 0.157 | 3 | | | | • | • | • | • | | |
| THLS060408R | Multi-Purpose | 0.031 R | 0.035 | 0.270 | 0.272 | 0.157 | 3 | | | | • | • | • | • | • | • |
| THLS060416R | Multi-Purpose | 0.062 R | 0.022 | 0.270 | 0.272 | 0.157 | 3 | | | | • | • | | | | |
| NEW THLS060404R-HR | SS/Hi-Temp/Ti | 0.015 R | 0.051 | 0.270 | 0.272 | 0.157 | 3 | | | • | | • | | | | |
| NEW THLS060408R-HR | SS/Hi-Temp/Ti | 0.031 R | 0.035 | 0.270 | 0.272 | 0.157 | 3 | | | • | | • | | • | | |

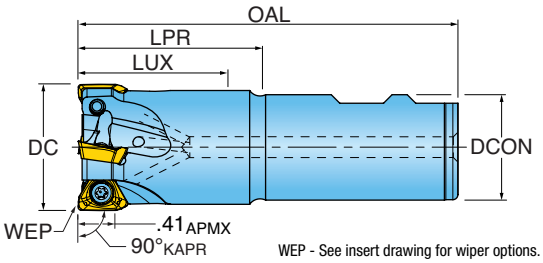
## HIPOSTRIO™ 06 HARDWARE

| | Insert Screw | Screw Driver | Retention Bolt | Retention Bolt w/Coolant | Wrench | **OPTIONAL** Torque Driver Handle | **OPTIONAL** Preset Torque Bit | **OPTIONAL** Torque Driver Bit |
|---|---|---|---|---|---|---|---|---|
| 1KJ1D-0601279R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-0702084R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-0701184R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-0701784R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-0703084R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-0801784R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-1001780R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-1001784R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-1003780R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-1003784R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-1201780R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-1201784R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-1501780R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-1501784R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-1502281R01 | SM25-065-R0 | DS-T08W | - | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-07015X6R01 | SM25-065-R0 | DS-T08W | - | - | 615MM | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-10015X7R01 | SM25-065-R0 | DS-T08W | - | - | 617MM | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-10015X7R02 | SM25-065-R0 | DS-T08W | - | - | 617MM | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-12017X8R02 | SM25-065-R0 | DS-T08W | - | - | 622MM | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| 1KJ1D-15017X8R01 | SM25-065-R0 | DS-T08W | - | - | 622MM | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| KJ5D-15R01 | SM25-065-R0 | DS-T08W | SD-04-46 | - | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| KJ5D-20R01 | SM25-065-R0 | DS-T08W | SD-06-46 | SD-06-89 | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |
| KJ6D-30R01 | SM25-065-R0 | DS-T08W | SD-08-46 | SD-08-92 | - | DS-A00-.25-S | DT-11-.25 | DS-TP08B |

# HIPOSTRIO™ 10 SERIES: 1KJ1G (WELDON SHANK)

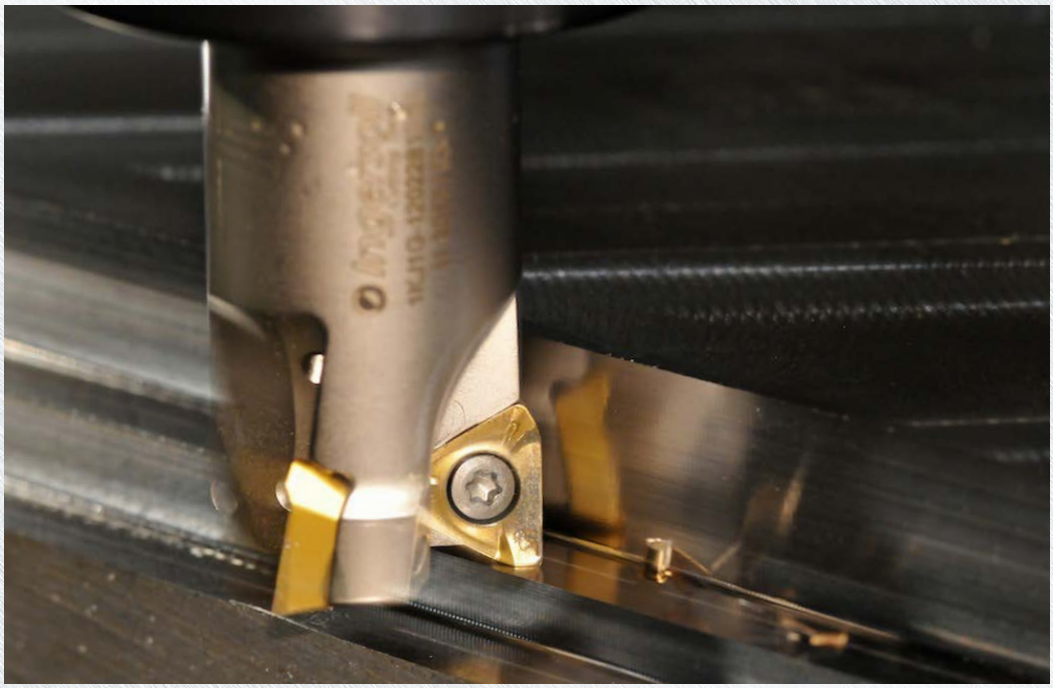
## 90° END MILL (10MM INSERT)




WEP - See insert drawing for wiper options.

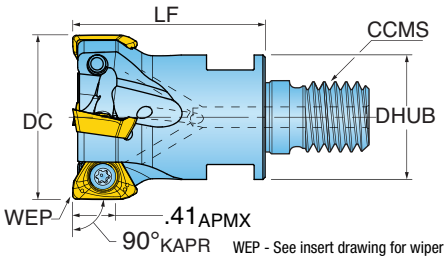
| Part Number | DC Cutting Diameter | LUX Usable Length Max. | LPR Protruding Length | OAL Overall Length | ZEFF Effective Teeth | DCON Shank Diameter | CSP Coolant | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|---|---|
| 1KJ1G-1201784R01 | 1.250 | 1.75 | 1.75 | 3.75 | 3 | 0.750 | Yes | 2.3 |
| 1KJ1G-1202281R01 | 1.250 | 2.05 | 2.25 | 4.50 | 2 | 1.250 | Yes | 2.3 |
| 1KJ1G-1202281R02 | 1.250 | 2.05 | 2.25 | 4.50 | 3 | 1.250 | Yes | 2.3 |
| 1KJ1G-1204281R01 | 1.250 | 4.05 | 4.25 | 6.50 | 3 | 1.250 | Yes | 0 |
| 1KJ1G-1502281R01 | 1.500 | 2.20 | 2.25 | 4.50 | 3 | 1.250 | Yes | 1.8 |
| 1KJ1G-1502281R02 | 1.500 | 2.20 | 2.25 | 4.50 | 4 | 1.250 | Yes | 1.8 |
| 1KJ1G-1504281R01 | 1.500 | 4.25 | 4.25 | 6.50 | 3 | 1.250 | Yes | 0 |
| 1KJ1G-2002281R01 | 2.000 | 2.25 | 2.25 | 4.50 | 5 | 1.250 | Yes | 1.5 |



## HIPOSTRIO™ 10 SERIES: 1KJ1G (TOPON M-ADAPTION)

### 90° MODULAR END MILL (10MM INSERT)

Facing | Shoulder | Channeling | Ramping | Helical/Corkscrew | Coolant



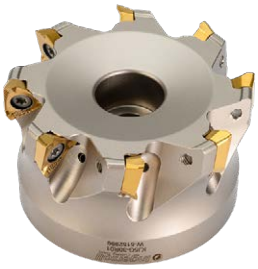

WEP - See insert drawing for wiper options.

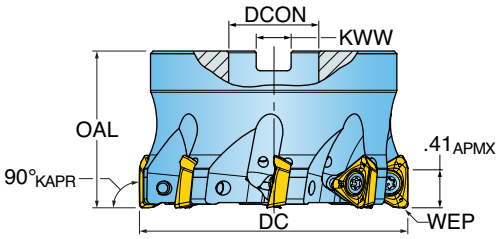
| Part Number | DC Cutting Diameter | LF Functional Length | ZEFF Effective Teeth | CCMS Connection Code | DHUB Hub Diameter | CSP Coolant | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|---|
| 1KJ1G-12017X8R01 | 1.250 | 1.50 | 3 | TopOn M16 | 1.13 | Yes | 2.3 |
| 1KJ1G-15017X8R01 | 1.500 | 1.75 | 4 | TopOn M16 | 1.13 | Yes | 1.8 |

## HIPOSTRIO™ 10 SERIES: KJ5G, KJ6G

### 90° FACE MILL (10MM INSERT)

Facing | Shoulder | Channeling | Ramping | Helical/Corkscrew | Coolant





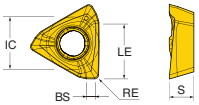

WEP - See insert drawing for wiper options.

| Part Number | DC Cutting Diameter | OAL Overall Length | ZEFF Effective Teeth | DCON Bore Diameter | KWW Keyway | CSP Coolant | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|---|
| KJ6G-15R01 | 1.500 | 1.375 | 4 | 0.500 | 0.250 | Yes | 1.4 |
| KJ5G-20R01 | 2.000 | 1.570 | 5 | 0.750 | 0.312 | Yes | 1.5 |
| KJ6G-20R01 | 2.000 | 1.570 | 3 | 0.750 | 0.312 | Yes | .8 |
| KJ5G-25R01 | 2.500 | 1.570 | 6 | 0.750 | 0.312 | Yes | 1.1 |
| KJ5G-30R01 | 3.000 | 1.750 | 8 | 1.000 | 0.375 | Yes | .8 |
| KJ6G-30R01 | 3.000 | 1.750 | 5 | 1.000 | 0.375 | Yes | .8 |
| NEW KJ6G-30R02 | 3.000 | 1.750 | 3 | 1.000 | 0.375 | Yes | .8 |
| NEW KJ5G-40R02 | 4.000 | 2.375 | 10 | 1.500 | 0.625 | Yes | .6 |
| NEW KJ6G-40R02 | 4.000 | 2.375 | 8 | 1.500 | 0.625 | Yes | .6 |
| NEW KJ6G-50R02 | 5.000 | 2.375 | 11 | 1.500 | 0.625 | Yes | .5 |

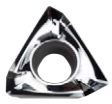
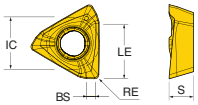
## HIPOSTRIO™ 10 INSERTS

R P HR

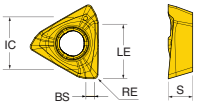
### THES10

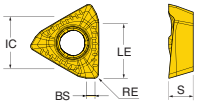

### THES10_P


### THLS10


### THLS10_HR


| Part Number | Application | RE Corner Radius | BS Wiper Length | LE Cutting Edge Length | IC Inscribed Circle Diameter | S Thickness | NOI No. of Indexes | Grade | IN10K | IN2035 | IN2504 | IN2505 | IN2510 | IN2530 | IN2540 | IN4030 | IN6537 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| THES100504R | Multi-Purpose; Ground Periphery | 0.015 R | 0.078 | 0.430 | 0.421 | 0.197 | 3 | | | | | • | | | | | |
| THES100508R | Multi-Purpose; Ground Periphery | 0.031 R | 0.062 | 0.430 | 0.421 | 0.197 | 3 | | | | | • | | | | | |
| THES100516R | Multi-Purpose; Ground Periphery | 0.062 R | 0.031 | 0.430 | 0.421 | 0.197 | 3 | | | | | • | | | | | |
| THES100504FR-P | Grd/Pol for Al | 0.015 R | 0.078 | 0.430 | 0.421 | 0.197 | 3 | | • | | | | | | | | |
| THES100508FR-P | Grd/Pol for Al | 0.031 R | 0.062 | 0.430 | 0.421 | 0.197 | 3 | | • | | | | | | | | |
| THLS100508R | Multi-Purpose | 0.031 R | 0.062 | 0.430 | 0.421 | 0.197 | 3 | | | • | • | • | • | • | • | • | • |
| THLS100516R | Multi-Purpose | 0.062 R | 0.031 | 0.430 | 0.421 | 0.197 | 3 | | | | • | • | | | | | |
| THLS100524R | Multi-Purpose | 0.094 R | 0.020 | 0.430 | 0.421 | 0.197 | 3 | | | | | • | | | | | |
| THLS100508R-HR | SS/Hi-Temp/Ti | 0.031 R | 0.062 | 0.430 | 0.421 | 0.197 | 3 | | | • | | • | | • | | | |

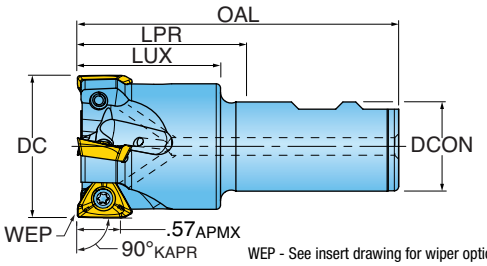
## HIPOSTRIO™ 10 HARDWARE

| |  |  |  |  |  |  |  **OPTIONAL** |  **OPTIONAL** |  **OPTIONAL** |
|---|---|---|---|---|---|---|---|---|---|
| | Insert Screw | Driver Handle | Torx Driver Blade | Retention Bolt | Retention Bolt w/Coolant | Wrench | Torque Driver Handle | Torque Driver Bit | Preset Torque Bit |
| 1KJ1G-1201784R01 | SM40-100-R0 | DS-A00T | DS-T156B | - | - | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| 1KJ1G-1202281R01 | SM40-100-R0 | DS-A00T | DS-T156B | - | - | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| 1KJ1G-1202281R02 | SM40-100-R0 | DS-A00T | DS-T156B | - | - | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| 1KJ1G-1204281R01 | SM40-100-R0 | DS-A00T | DS-T156B | - | - | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| 1KJ1G-1502281R01 | SM40-100-R0 | DS-A00T | DS-T156B | - | - | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| 1KJ1G-1502281R02 | SM40-100-R0 | DS-A00T | DS-T156B | - | - | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| 1KJ1G-1504281R01 | SM40-100-R0 | DS-A00T | DS-T156B | - | - | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| 1KJ1G-2002281R01 | SM40-100-R0 | DS-A00T | DS-T156B | - | - | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| 1KJ1G-12017X8R01 | SM40-100-R0 | DS-A00T | DS-T156B | - | - | 622MM | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| 1KJ1G-15017X8R01 | SM40-100-R0 | DS-A00T | DS-T156B | - | - | 622MM | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| KJ6G-15R01 | SM40-100-R0 | DS-A00T | DS-T156B | SE04-15 | - | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| KJ5G-20R01 | SM40-100-R0 | DS-A00T | DS-T156B | SD-06-46 | SD-06-89 | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| KJ6G-20R01 | SM40-100-R0 | DS-A00T | DS-T156B | SD-06-46 | SD-06-89 | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| KJ5G-25R01 | SM40-100-R0 | DS-A00T | DS-T156B | SD-06-46 | SD-06-89 | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| KJ5G-30R01 | SM40-100-R0 | DS-A00T | DS-T156B | SD-08-46 | SD-08-92 | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| KJ6G-30R01 | SM40-100-R0 | DS-A00T | DS-T156B | SD-08-46 | SD-08-92 | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| KJ6G-30R02 | SM40-100-R0 | DS-A00T | DS-T156B | SD-08-46 | SD-08-92 | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| KJ5G-40R01 | SM40-100-R0 | DS-A00T | DS-T156B | SD-12-89 | SD-12-99 | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| KJ6G-40R01 | SM40-100-R0 | DS-A00T | DS-T156B | SD-12-89 | SD-12-99 | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |
| KJ6G-50R01 | SM40-100-R0 | DS-A00T | DS-T156B | SD-12-89 | SD-12-99 | - | DS-A00-.25-T | DS-T15B1 | DT-35-.25 |

## HIPOSTRIO™ 13 SERIES: 1KJ1P (WELDON SHANK)

### 90° END MILL (13MM INSERT)

Facing | Shoulder | Channeling | Ramping | Helical/Corkscrew | Coolant



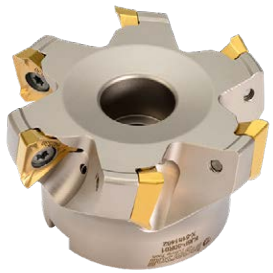

WEP - See insert drawing for wiper options.

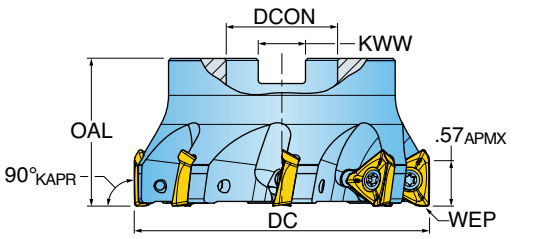
| Part Number | DC Cutting Diameter | LUX Usable Length Max. | LPR Protruding Length | OAL Overall Length | ZEFF Effective Teeth | DCON Shank Diameter | CSP Coolant | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|---|---|
| 1KJ1P-2002281R01 | 2.000 | 2.00 | 2.25 | 4.50 | 4 | 1.250 | Yes | 1.5 |

## HIPOSTRIO™ 13 SERIES: KJ5P, KJ6P

### 90° FACE MILL (13MM INSERT)

Facing | Shoulder | Channeling | Ramping | Helical/Corkscrew | Coolant






WEP - See insert drawing for wiper options.

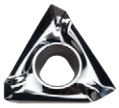
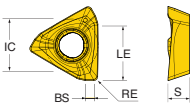
| Part Number | DC Cutting Diameter | OAL Overall Length | ZEFF Effective Teeth | DCON Bore Diameter | KWW Keyway | CSP Coolant | RMPX Ramp Angle Max. |
|---|---|---|---|---|---|---|---|
| NEW KJ5P-20R01 | 2.000 | 1.750 | 5 | .750 | 0.312 | Yes | 1.5 |
| NEW KJ6P-20R01 | 2.000 | 1.750 | 4 | .750 | 0.312 | Yes | 1.5 |
| NEW KJ5P-25R01 | 2.500 | 1.750 | 6 | .750 | 0.312 | Yes | 1.5 |
| KJ5P-30R01 | 3.000 | 1.750 | 7 | 1.000 | 0.375 | Yes | 1.0 |
| KJ6P-30R01 | 3.000 | 1.750 | 6 | 1.000 | 0.375 | Yes | 1.0 |
| NEW KJ5P-40R02 | 4.000 | 2.375 | 8 | 1.500 | 0.625 | Yes | .7 |
| NEW KJ6P-40R02 | 4.000 | 2.375 | 6 | 1.500 | 0.625 | Yes | .7 |
| NEW KJ6P-50R02 | 5.000 | 2.000 | 9 | 1.500 | 0.625 | Yes | .8 |
| KJ5P-60R01 | 6.000 | 2.000 | 12 | 1.500 | 0.625 | No | .6 |
| KJ6P-60R01 | 6.000 | 2.000 | 8 | 1.500 | 0.625 | No | .6 |
| NEW KJ6P-65R01* | 6.500 | 2.000 | 10 | 1.500 | 0.625 | No | .4 |

* Ideal for Boring Mills with a 6.0 Quill.

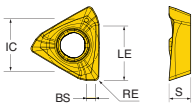
## HIPOSTRIO™ 13 INSERTS

R P HR

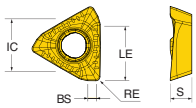
### THES13_P


### THLS13


### THLS13_HR


| Part Number | Application | RE Corner Radius | BS Wiper Length | LE Cutting Edge Length | IC Inscribed Circle Diameter | S Thickness | NOI No. of Indexes | Grade IN10K | IN2035 | IN2505 | IN2510 | IN2530 | IN2540 | IN4030 | IN6537 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| THES130604FR-P | Grd/Pol for Al | 0.015 R | 0.078 | 0.590 | 0.531 | 0.236 | 3 | • | | | | | | | |
| THES130608FR-P | Grd/Pol for Al | 0.031 R | 0.078 | 0.590 | 0.531 | 0.236 | 3 | • | | | | | | | |
| THLS130608R | Multi-Purpose | 0.031 R | 0.078 | 0.590 | 0.531 | 0.236 | 3 | | | • | • | • | • | • | • |
| THLS130616R | Multi-Purpose | 0.062 R | 0.047 | 0.590 | 0.531 | 0.236 | 3 | | | • | | • | | | |
| THLS130624R | Multi-Purpose | 0.094 R | 0.024 | 0.590 | 0.531 | 0.236 | 3 | | | • | | | | | |
| THLS130632R | Multi-Purpose | 0.125 R | 0.020 | 0.590 | 0.531 | 0.236 | 3 | | | • | | | | | |
| THLS130608R-HR | SS/Hi-Temp/Ti | 0.031 R | 0.078 | 0.590 | 0.531 | 0.236 | 3 | | • | • | | • | | | |
| THLS130616R-HR | SS/Hi-Temp/Ti | 0.062 R | 0.047 | 0.590 | 0.531 | 0.236 | 3 | | • | | | | | | |
| THLS130624R-HR | SS/Hi-Temp/Ti | 0.094 R | 0.024 | 0.590 | 0.531 | 0.236 | 3 | | • | | | | | | |
| THLS130632R-HR | SS/Hi-Temp/Ti | 0.125 R | 0.020 | 0.590 | 0.531 | 0.236 | 3 | | • | | | | | | |

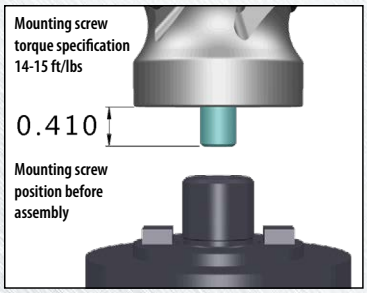
## HIPOSTRIO™ 13 HARDWARE

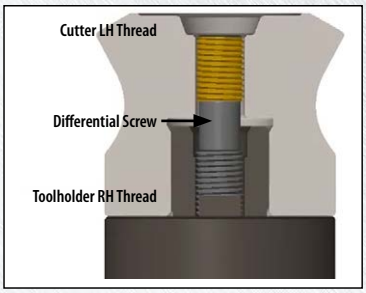
| | Insert Screw | Driver Handle | Torx Driver Blade | Differential Screw | Retention Bolt | Retention Bolt w/Coolant | **OPTIONAL** Torque Driver Handle | **OPTIONAL** Torque Driver Bit | **OPTIONAL** Preset Torque Bit |
|---|---|---|---|---|---|---|---|---|---|
| 1KJ1P-2002281R01 | SM45-120-R0 | DS-A00T | DS-T206B | - | - | - | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ5P-20R01 | SM45-100-R0 | DS-A00T | DS-T206B | SB-04-15 | - | - | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ6P-20R01 | SM45-100-R0 | DS-A00T | DS-T206B | SB-04-15 | - | - | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ5P-25R01 | SM45-120-R0 | DS-A00T | DS-T206B | - | SD-06-47 | SD-06-89 | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ5P-30R01 | SM45-120-R0 | DS-A00T | DS-T206B | - | SD-08-47 | SD-08-92 | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ6P-30R01 | SM45-120-R0 | DS-A00T | DS-T206B | - | SD-08-46 | SD-08-92 | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ5P-40R02 | SM45-120-R0 | DS-A00T | DS-T206B | - | - | SD-12-99 | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ6P-40R02 | SM45-120-R0 | DS-A00T | DS-T206B | - | - | SD-12-99 | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ6P-50R02 | SM45-120-R0 | DS-A00T | DS-T206B | - | - | SD-12-99 | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ5P-60R01 | SM45-120-R0 | DS-A00T | DS-T206B | - | - | - | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ6P-60R01 | SM45-120-R0 | DS-A00T | DS-T206B | - | - | - | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |
| KJ6P-65R01 | SM45-120-R0 | DS-A00T | DS-T206B | - | - | - | DS-A00-.25-T | DS-T20B1 | DT-44-.25 |

## HIPOSTRIO™ 13 KJ5P-20R01 & KJ6P-20R01 MOUNTING SCREW ASSEMBLY

**See link below for instructional video showing proper assembly:**

**https://youtu.be/fYQ1smLdYjo**

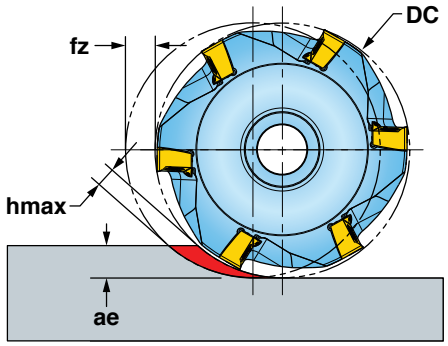



***Properly Assembled***

# HIPOSTRIO™ 04 OPERATING GUIDELINES

## Chip Thinning



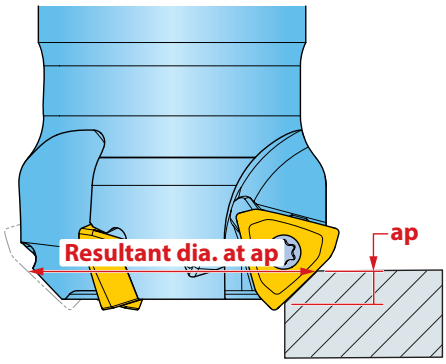

* When ae is less than 25% DC, recommend use of Chip Thinning Calculator to ensure hmax falls within fz range.

| Materials | | | | Vc Cutting Speed SFM | fz* Feed/Tooth (inch) | Harder..... Tougher | | Coolant |
|---|---|---|---|---|---|---|---|---|
| ISO | Mat'l Group #VDI 3323 | Type | Examples | | | IN2505 | IN2530 | |
| P | 1 thru 5 | Non-alloy Steel | 1018, A36, 1045, A572, 1070 | 400-1000 | .0015-.0030 | 2 | 1 | No |
| | 6 thru 9 | Low-alloy Steel | 4140, 4340, P20, 8620, 300M | 350-700 | | | | |
| | 10, 11 | High-alloy Steel | H13, A2, D2, M2, T1 | 300-600 | | | | |
| M | 12 thru 13 | Stainless Steel (Ferritic & Martensitic) | 410, 416, 440 | 350-600 | .0015-.0030 | 2 | 1 | Yes |
| | 14 | Stainless Steel (Austenitic) | 303, 304, 316, 15-5, 17-4 | 300-550 | | | | May not be required at high speeds |
| K | 15 thru 16 | Gray Cast Iron | CLS. 20, 30, 45 | 500-1000 | .0015-.0035 | 1 | | No |
| | 17 thru 20 | Nodular Cast Iron | 60-40-18, 100-70-03 | 400-800 | | | | |
| S | 31 thru 35 | High-Temp Alloys | Inconel, Hastelloy, Nimonic, Monel | 65-200 | .0015-.0030 | 1 | 2 | Yes |
| | 36 thru 37 | Titanium Alloys | 6Al-4V, 5Al-5Mo-5V-3Cr | 85-200 | | | | |

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.

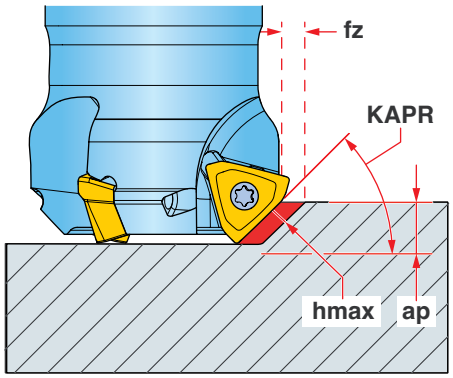
# HIPOSTRIO™ 04 OPERATING GUIDELINES - SERIES 1K_1B

## RPM Calculation




Calculation is to be made using the resultant diameter at ap.

## Chip Thinning



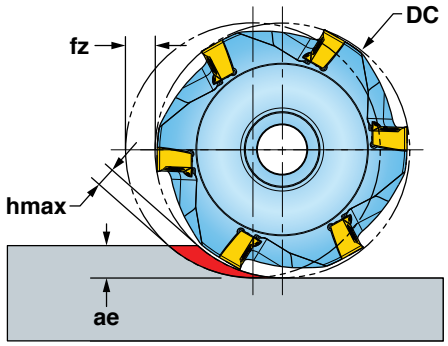

Chip Thinning calculator is recommended to ensure hmax falls within fz range

| Materials | | | | Vc Cutting Speed SFM | fz* Feed/Tooth (inch) | Harder.....Tougher | | Coolant |
|---|---|---|---|---|---|---|---|---|
| ISO | Mat'l Group #VDI 3323 | Type | Examples | | | IN2505 | IN2530 | |
| P | 1 thru 5 | Non-alloy Steel | 1018, A36, 1045, A572, 1070 | 400-1000 | .0015-.0030 | 2 | 1 | No |
| | 6 thru 9 | Low-alloy Steel | 4140, 4340, P20, 8620, 300M | 350-700 | | | | |
| | 10, 11 | High-alloy Steel | H13, A2, D2, M2, T1 | 300-600 | | | | |
| M | 12 thru 13 | Stainless Steel (Ferritic & Martensitic) | 410, 416, 440 | 400-700 | .0015-.0030 | 2 | 1 | May not be required at high speeds |
| | 14 | Stainless Steel (Austenitic) | 303, 304, 316, 15-5, 17-4 | 300-600 | | | | |
| K | 15 thru 16 | Gray Cast Iron | CLS. 20, 30, 45 | 500-1000 | .0015-.0035 | 1 | 2 | No |
| | 17 thru 20 | Nodular Cast Iron | 60-40-18, 100-70-03 | 400-800 | | | | |
| S | 31 thru 35 | High-Temp Alloys | Inconel, Hastelloy, Nimonic, Monel | 75-120 | .0015-.0030 | 2 | 1 | Yes |
| | 36 thru 37 | Titanium Alloys | 6Al-4V, 5Al-5Mo-5V-3Cr | 100-150 | | 1 | 2 | |

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.

# HIPOSTRIO™ 06 OPERATING GUIDELINES

## Chip Thinning



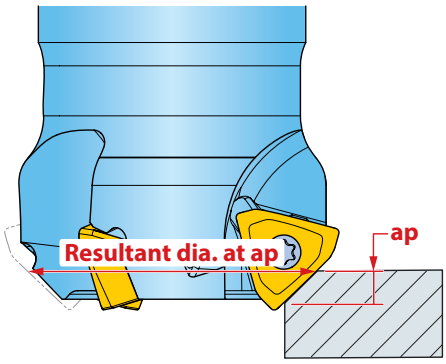

* When ae is less than 25% DC, recommend use of Chip Thinning Calculator to ensure hmax falls within fz range.

| Materials | | | | Vc Cutting Speed SFM | fz* Feed/Tooth (inch) | Harder.....Tougher | | | | | | | Coolant |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ISO | Mat'l Group #VDI 3323 | Type | Examples | | | IN2504 | IN2540 | IN10K | IN2510 | IN2505 | IN4030 IN2530 | IN2035 | |
| P | 1 thru 5 | Non-alloy Steel | 1018, A36, 1045, A572, 1070 | 400-1000 | .003-.006 | | 3 | | | 2 | 1 | | No |
| | 6 thru 9 | Low-alloy Steel | 4140, 4340, P20, 8620, 300M | 350-700 | | | | | | | | | |
| | 10, 11 | High-alloy Steel | H13, A2, D2, M2, T1 | 300-600 | | | | | | | | | |
| M | 12 thru 13 | Stainless Steel (Ferritic & Martensitic) | 410, 416, 440 | 350-600 | .003-.005 | | 4 | | | 3 | 2 | 1 | Yes |
| | 14 | Stainless Steel (Austenitic) | 303, 304, 316, 15-5, 17-4 | 300-550 | | | | | | | | | May not be required at high speeds |
| K | 15 thru 16 | Gray Cast Iron | CLS. 20, 30, 45 | 500-1000 | .003-.006 | 2 | | | 1 | 3 | | | No |
| | 17 thru 20 | Nodular Cast Iron | 60-40-18, 100-70-03 | 400-800 | | | | | | | | | |
| N | 21 - 30 | Aluminum | 7075, 6061 | 1000-3000 | .003-.007 | | | 1 | | | | | Yes |
| S | 31 thru 35 | High-Temp Alloys | Inconel, Hastelloy, Nimonic, Monel | 65-200 | .003-.005 | | | | | 2 | 3 | 1 | Yes |
| | 36 thru 37 | Titanium Alloys | 6Al-4V, 5Al-5Mo-5V-3Cr | 85-200 | | | | | | 3 | 2 | 1 | |
| H | 38 thru 39 | Hardened Steel >48 | A2, O1, D2 | 130-250 | .002-.004 | 1 | | | | 2 | | | No |

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.

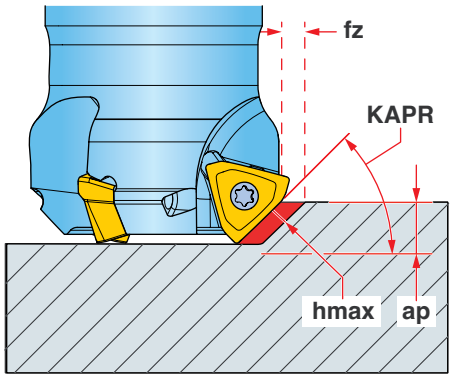
# HIPOSTRIO™ 06 OPERATING GUIDELINES - SERIES 1K_1D

## RPM Calculation




Calculation is to be made using the resultant diameter at ap.

## Chip Thinning



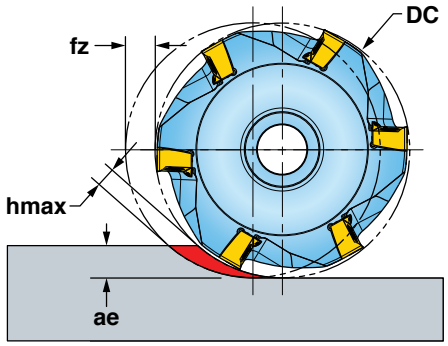

Chip Thinning calculator is recommended to ensure hmax falls within fz range

| Materials | | | | Vc Cutting Speed SFM | fz* Feed/Tooth (inch) | Harder.....Tougher | | | | | | | Coolant |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ISO | Mat'l Group #VDI 3323 | Type | Examples | | | IN2504 | IN2540 | IN10K | IN2510 | IN2505 | IN2530 IN4030 | IN2035 | |
| P | 1 thru 5 | Non-alloy Steel | 1018, A36, 1045, A572, 1070 | 400-1000 | .003-.006 | | 3 | | | 2 | 1 | | No |
| | 6 thru 9 | Low-alloy Steel | 4140, 4340, P20, 8620, 300M | 350-700 | | | | | | | | | |
| | 10, 11 | High-alloy Steel | H13, A2, D2, M2, T1 | 300-600 | | | | | | | | | |
| M | 12 thru 13 | Stainless Steel (Ferritic & Martensitic) | 410, 416, 440 | 350-600 | .003-.005 | | 4 | | | 3 | 2 | 1 | Yes |
| | 14 | Stainless Steel (Austenitic) | 303, 304, 316, 15-5, 17-4 | 300-550 | | | | | | | | | May not be required at high speeds |
| K | 15 thru 16 | Gray Cast Iron | CLS. 20, 30, 45 | 500-1000 | .003-.006 | 1 | | | 2 | 3 | 4 | | No |
| | 17 thru 20 | Nodular Cast Iron | 60-40-18, 100-70-03 | 400-800 | | | | | | | | | |
| N | 21 - 30 | Aluminum | 7075, 6061 | 1000-3000 | .003-.007 | | | 1 | | | | | Yes |
| S | 31 thru 35 | High-Temp Alloys | Inconel, Hastelloy, Nimonic, Monel | 65-200 | .003-.005 | | | | | 3 | 2 | 1 | Yes |
| | 36 thru 37 | Titanium Alloys | 6Al-4V, 5Al-5Mo-5V-3Cr | 85-200 | | | | | | 2 | 3 | 1 | |
| H | 38 thru 39 | Hardened Steel >48 | A2, O1, D2 | 130-250 | .002-.004 | 1 | | | | 2 | | | No |

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.

# HIPOSTRIO™ 10 OPERATING GUIDELINES

## Chip Thinning



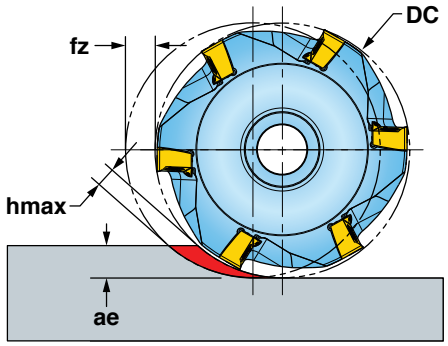

* When ae is less than 25% DC, recommend use of Chip Thinning Calculator to ensure hmax falls within fz range.

| Materials | | | | Vc Cutting Speed SFM | fz* Feed/Tooth (inch) | Harder.....Tougher | | | | | | | | Coolant |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ISO | Mat'l Group #VDI 3323 | Type | Examples | | | IN2504 | IN2540 | IN10K | IN2510 | IN2505 | IN4030 IN2530 | IN2035 | IN6537 | |
| P | 1 thru 5 | Non-alloy Steel | 1018, A36, 1045, A572, 1070 | 400-1000 | .003-.008 | | 4 | | | 3 | 2 | | 1 | No |
| | 6 thru 9 | Low-alloy Steel | 4140, 4340, P20, 8620, 300M | 350-700 | | | | | | | | | | |
| | 10, 11 | High-alloy Steel | H13, A2, D2, M2, T1 | 300-600 | | | | | | | | | | |
| M | 12 thru 13 | Stainless Steel (Ferritic & Martensitic) | 410, 416, 440 | 350-600 | .003-.006 | | 4 | | | 3 | 2 | 1 | | Yes |
| | 14 | Stainless Steel (Austenitic) | 303, 304, 316, 15-5, 17-4 | 300-550 | | | | | | | | | | May not be required at high speeds |
| K | 15 thru 16 | Gray Cast Iron | CLS. 20, 30, 45 | 500-1000 | .003-.008 | 2 | | | 1 | 3 | | | | No |
| | 17 thru 20 | Nodular Cast Iron | 60-40-18, 100-70-03 | 400-800 | | | | | | | | | | |
| N | 21 - 30 | Aluminum | 7075, 6061 | 1000-3000 | .003-.010 | | | 1 | | | | | | Yes |
| S | 31 thru 35 | High-Temp Alloys | Inconel, Hastelloy, Nimonic, Monel | 65-200 | .003-.005 | | | | | 2 | 3 | 1 | | Yes |
| | 36 thru 37 | Titanium Alloys | 6Al-4V, 5Al-5Mo-5V-3Cr | 85-200 | | | | | | 3 | 2 | 1 | | |
| H | 38 thru 39 | Hardened Steel >48 | A2, O1, D2 | 130-250 | .003-.005 | 1 | | | | 2 | | | | No |

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.

# HIPOSTRIO™ 13 OPERATING GUIDELINES

## Chip Thinning

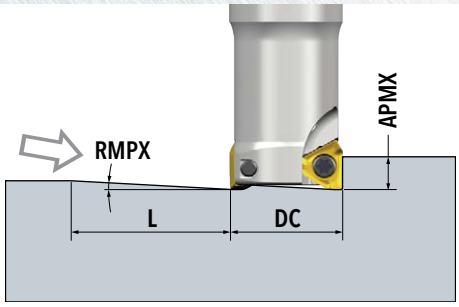


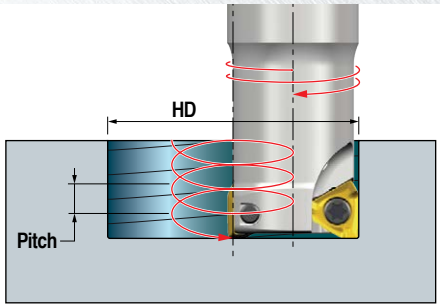

* When ae is less than 25% DC, recommend use of Chip Thinning Calculator to ensure hmax falls within fz range.

| Materials | | | | Vc Cutting Speed SFM | fz* Feed/Tooth (inch) | Harder.....Tougher | | | | | | | | Coolant |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ISO | Mat'l Group #VDI 3323 | Type | Examples | | | IN2504 | IN2540 | IN10K | IN2510 | IN2505 | IN4030 IN2530 | IN2035 | IN6537 | |
| P | 1 thru 5 | Non-alloy Steel | 1018, A36, 1045, A572, 1070 | 400-1000 | .003-.009 | | 4 | | | 3 | 2 | | 1 | No |
| | 6 thru 9 | Low-alloy Steel | 4140, 4340, P20, 8620, 300M | 350-700 | | | | | | | | | | |
| | 10, 11 | High-alloy Steel | H13, A2, D2, M2, T1 | 300-600 | | | | | | | | | | |
| M | 12 thru 13 | Stainless Steel (Ferritic & Martensitic) | 410, 416, 440 | 350-600 | .003-.007 | | 4 | | | 3 | 2 | 1 | | Yes |
| | 14 | Stainless Steel (Austenitic) | 303, 304, 316, 15-5, 17-4 | 300-550 | | | | | | | | | | May not be required at high speeds |
| K | 15 thru 16 | Gray Cast Iron | CLS. 20, 30, 45 | 500-1000 | .003-.010 | 2 | | | 1 | 3 | | | | No |
| | 17 thru 20 | Nodular Cast Iron | 60-40-18, 100-70-03 | 400-800 | | | | | | | | | | |
| N | 21 - 30 | Aluminum | 7075, 6061 | 1000-3000 | .003-.010 | | | 1 | | | | | | Yes |
| S | 31 thru 35 | High-Temp Alloys | Inconel, Hastelloy, Nimonic, Monel | 65-200 | .003-.006 | | | | | 2 | 3 | 1 | | Yes |
| | 36 thru 37 | Titanium Alloys | 6Al-4V, 5Al-5Mo-5V-3Cr | 85-200 | | | | | | 3 | 2 | 1 | | |
| H | 38 thru 39 | Hardened Steel >48 | A2, O1, D2 | 130-250 | .003-.005 | 1 | | | | 2 | | | | No |

Note: Feed and speed recommendations are starting operating parameters. They are only guidelines from which further optimization should take place. Operating parameters are influenced by many machining variables. These variables may cause for reductions in feeds and speed or dramatic increases. Additionally, DOC and WOC may need to be revised to optimize the tools performance.

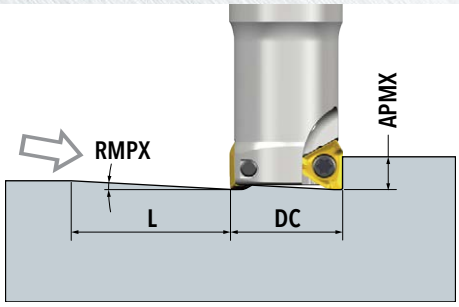
# HIPOSTRIO™ 04 RAMP DATA USING SERIES THLS04

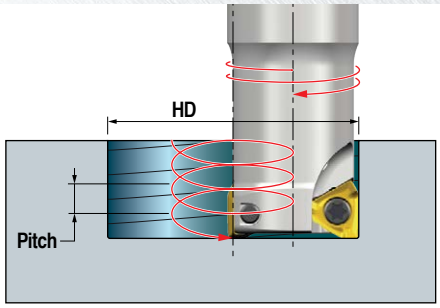



| DC Cutter Diameter | Straight Ramp | | | Helical Ramp | | |
|---|---|---|---|---|---|---|
| | RMPX Ramp Angle Max. | APMX Depth of Cut Max. | L Ramp Length Min. | HD Hole Diameter Min. | HD Hole Diameter Max. | Pitch Max. |
| **0.312** | 2.1 | 0.13 | 3.6 | 0.52 | | .023 |
| | | | | | 0.62 | .035 |
| **0.375** | 2.1 | 0.13 | 3.6 | 0.67 | | .031 |
| | | | | | 0.75 | .047 |
| **0.437** | 3.6 | 0.13 | 2.2 | 0.75 | | .062 |
| | | | | | 0.87 | .082 |
| **0.500** | 2.5 | 0.13 | 3.1 | 0.90 | | .055 |
| | | | | | 1.00 | .066 |
| **0.562** | 2.1 | 0.13 | 3.6 | 0.99 | | .051 |
| | | | | | 1.12 | .062 |
| **0.625** | 1.6 | 0.13 | 4.9 | 1.15 | | .043 |
| | | | | | 1.25 | .055 |

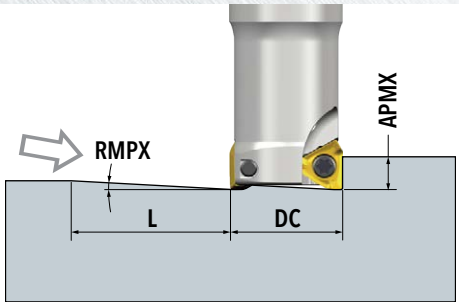
# HIPOSTRIO™ 06 RAMP DATA USING SERIES TH_S06

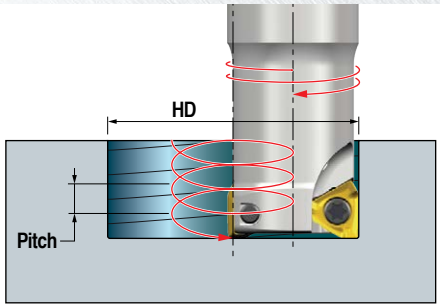



| DC Cutter Diameter | Straight Ramp | | | Helical Ramp | | |
|---|---|---|---|---|---|---|
| | RMPX Ramp Angle Max. | APMX Depth of Cut Max. | L Ramp Length Min. | HD Hole Diameter Min. | HD Hole Diameter Max. | Pitch Max. |
| **0.625** | 4.0 | 0.27 | 3.8 | 0.94 | | 0.080 |
| | | | | | 1.25 | 0.110 |
| **0.750** | 3.1 | 0.27 | 4.9 | 1.19 | | 0.080 |
| | | | | | 1.50 | 0.130 |
| **0.875** | 2.5 | 0.27 | 6.1 | 0.56 | | 0.090 |
| | | | | | 1.75 | 0.140 |
| **1.000** | 2.1 | 0.27 | 7.3 | 1.69 | | 0.100 |
| | | | | | 2.00 | 0.120 |
| **1.250** | 1.5 | 0.27 | 10.3 | 2.19 | | 0.090 |
| | | | | | 2.50 | 0.110 |
| **1.500** | 1.3 | 0.27 | 11.8 | 2.69 | | 0.090 |
| | | | | | 3.00 | 0.110 |
| **2.000** | 1.2 | 0.27 | 12.8 | 3.69 | | 0.100 |
| | | | | | 4.00 | 0.120 |
| **3.000** | 0.4 | 0.27 | 38.6 | 5.69 | | 0.100 |
| | | | | | 6.00 | 0.110 |

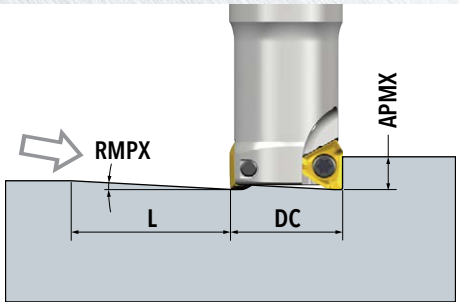
## HIPOSTRIO™ 10 RAMP DATA USING SERIES TH_S10

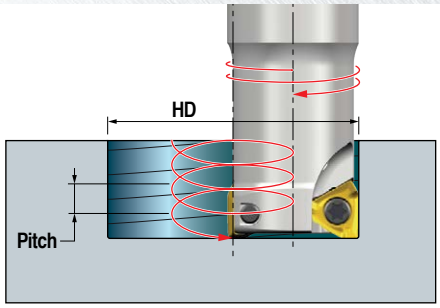



| DC Cutter Diameter | Straight Ramp | | | Helical Ramp | | |
|---|---|---|---|---|---|---|
| | RMPX Ramp Angle Max. | APMX Depth of Cut Max. | L Ramp Length Min. | HD Hole Diameter Min. | HD Hole Diameter Max. | Pitch Max. |
| **1.250** | 2.7 | 0.41 | 8.6 | 2.04 | | 0.120 |
| | | | | | 2.50 | 0.180 |
| **1.500** | 1.7 | 0.41 | 13.8 | 2.57 | | 0.100 |
| | | | | | 3.00 | 0.130 |
| **2.000** | 1.2 | 0.41 | 19.5 | 3.58 | | 0.100 |
| | | | | | 4.00 | 0.120 |
| **2.500** | 1.0 | 0.41 | 23.4 | 4.57 | | 0.110 |
| | | | | | 5.00 | 0.120 |
| **3.000** | 0.7 | 0.41 | 33.5 | 5.57 | | 0.110 |
| | | | | | 6.00 | 0.120 |
| **4.000** | 0.6 | 0.41 | 39.1 | 7.57 | | 0.110 |
| | | | | | 8.00 | 0.120 |
| **5.000** | 0.4 | 0.41 | 58.7 | 9.57 | | 0.110 |
| | | | | | 10.00 | 0.110 |

# HIPOSTRIO™ 13 RAMP DATA USING SERIES TH_S13




| DC Cutter Diameter | Straight Ramp | | | Helical Ramp | | |
|---|---|---|---|---|---|---|
| | RMPX Ramp Angle Max. | APMX Depth of Cut Max. | L Ramp Length Min. | HD Hole Diameter Min. | HD Hole Diameter Max. | Pitch Max. |
| **2.000** | 1.5 | 0.57 | 21.7 | 3.49 | | 0.140 |
| | | | | | 4.00 | 0.160 |
| **2.500** | 1.1 | 0.57 | 29.6 | 4.50 | | 0.130 |
| | | | | | 5.00 | 0.140 |
| **3.000** | 0.8 | 0.57 | 40.8 | 5.51 | | 0.130 |
| | | | | | 6.00 | 0.140 |
| **4.000** | 0.6 | 0.57 | 54.4 | 7.51 | | 0.120 |
| | | | | | 8.00 | 0.140 |
| **5.000** | 0.5 | 0.57 | 65.3 | 9.53 | | 0.120 |
| | | | | | 10.00 | 0.130 |
| **6.000** | 0.4 | 0.57 | 81.6 | 11.53 | | 0.120 |
| | | | | | 12.00 | 0.130 |
| **6.500** | 0.2 | 0.57 | 163.0 | 12.53 | | 0.120 |
| | | | | | 13.00 | 0.130 |