



Metalworking



# ETP HYDRO-GRIP®

Hydraulic high precision toolholders

Achieve  
Excellence  
through  
Simplicity



2018.2

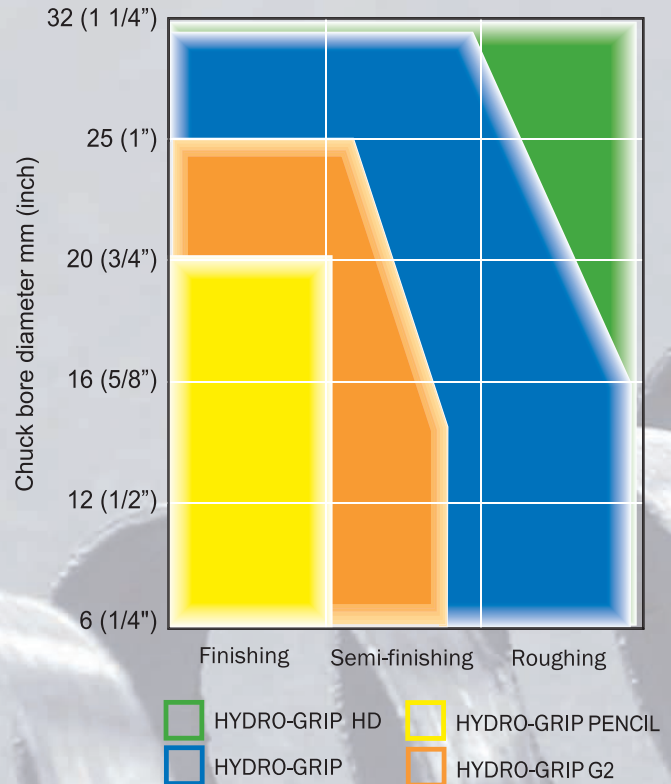
# ETP HYDRO-GRIP Hydraulic high precision toolholders



HYDRO-GRIP high precision tool holders are your guarantee of secure clamping for milling, drilling and reaming tools. Their unique strength provides precision and rigid-tool stability to improve machining performance for the largest number of applications. With the extensive range of HYDRO-GRIP® high precision toolholders all application areas, from finishing to heavy roughing, is covered. Bore diameters 6 - 32 mm and 1/4 - 1 1/4 inch available.

## HYDRO-GRIP Features and Benefits:

- Easy handling and tool change
- Minimum tool run-out ensures good surface and extends tool life
- High speed capability
- Dampens noise and vibration
- Length pre-setting possible to save time



## About ETP Transmission AB:

ETP Transmission AB, after being in business for more than 35 years, has successfully developed products for 3 business or application areas.

- Metalworking
  - Woodworking
  - Power Transmission
- under the registered trademarks ETP® and ETP HYDRO-GRIP®.

## ETP Transmission AB

– leader in hydraulic clamping and centering products

Our business concept and all products are based upon the hydraulic principle. The ETP high precision products offer quick assembly and disassembly. With other words, you can fit your tools or components quick, easy and precise and run at high speeds. Within a few seconds you achieve perfect centering and fastening, simply by tightening of only one screw. Saving you time and money.

We are a global company and our customers are the leaders within their segments. This is the way we like it, working with companies that expect the absolute best from us. Your challenges drive us forward!



## Key to symbols



Easy mounting  
with torque  
wrench



High clamping  
force



High runout  
accuracy



Vibration  
damping



Fast  
set-up time

### Delivery times

- From stock
- ⌚ Short delivery time
- On request

## Table of content

## Page

<b>The basic design</b> .....	4-5
<b>Systems comparison</b> .....	6-7
<b>HYDRO-GRIP® HD</b> .....	8-10
- Heavy Duty version	
<b>HYDRO-GRIP®</b>	
- Compact design .....	11-15
- Customized designs .....	16-17
<b>HYDRO-GRIP® G2</b> .....	18-19
- Tough and slender design	
<b>HYDRO-GRIP® PENCIL</b>	
- Pencil Design .....	20-25
- Customized Pencil Designs .....	26-27
<b>ECOGRIP™</b> .....	28-29
- For drilling and light machining	
<b>ECOGRIP™ ER</b> .....	30-31
- Make your ER holder hydraulic	
<b>HYDRO-FIX® / ECOGRIP™</b> .....	32-35
- For boring bars and driven tools	
<b>HYDRO-GRIP® Grinding holder</b> .....	36-37
<b>Accessories</b> .....	38-40
- Reduction sleeves	
<b>Technical information</b> .....	41-43

**Industry segments:** ETP HYDRO-GRIP has for many years enabled high quality machining within industry segment with high quality demands, such as: Aerospace, Automotive, Die & Mould, General Machining, Medical, Oil&Gas.

Aerospace



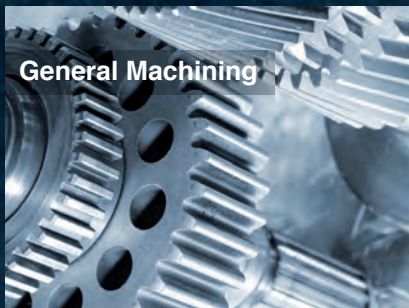
Automotive



Die & Mould



General Machining



Oil & Gas



Medical



# The basic design: ETP HYDRO-GRIP

## - Hydraulic high precision toolholder

### Features and Benefits:

- Easy handling and tool changes
- High clamping force
- Complete assortment, covering finishing to heavy roughing

### Pressure system:

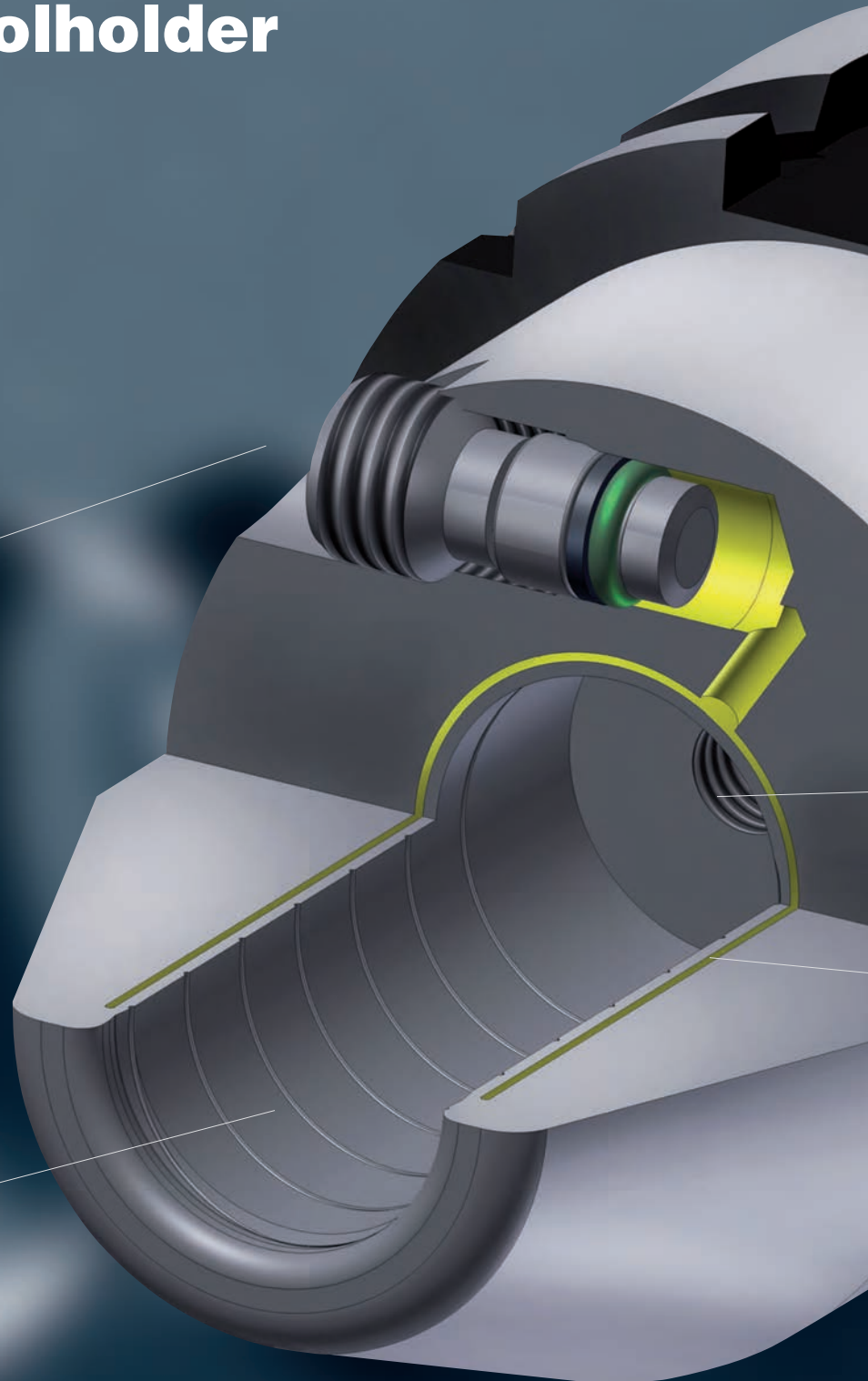
Pressure screw and piston with sealing system.

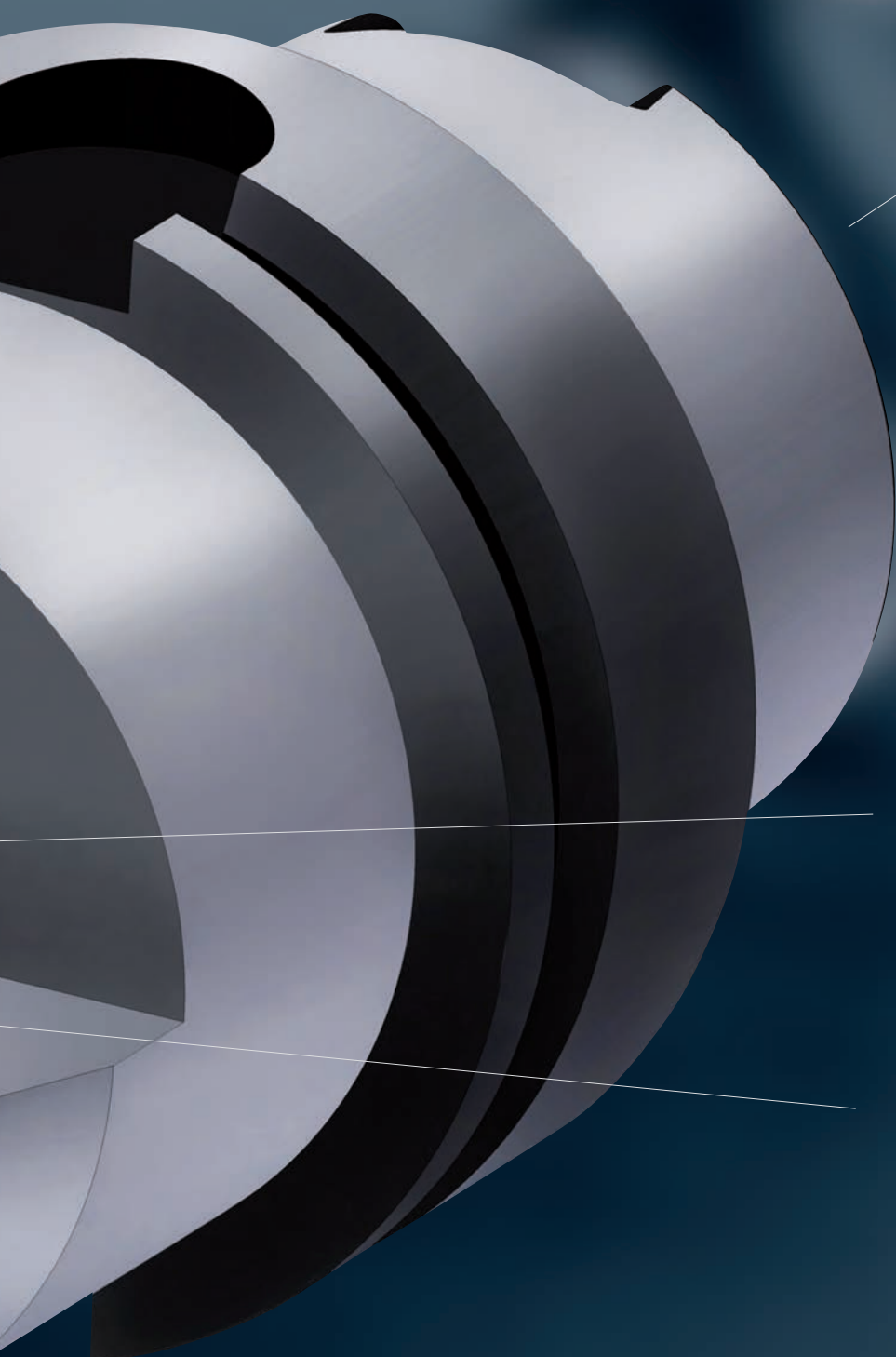
- Optimised for thousands of pressure settings.
- Low tightening torque, 6 or 10 Nm (4.4 or 7.4 ft · lb).
- Easy handling

### The groove:

The integral spiral groove ensures any residual oil or grease on the tool to be removed from the contact surface when mounting the tool.

- Ensures high gripping force at any time





**Toolholder shank:**

ETP HYDRO-GRIP is available in a large assortment of different machine interface shanks:

PSK – C4, C5, C6, C8

HSK – 63, 100

ISO – 30, 40, 50

BT – 30, 40, 50

CAT – 40, 50

**Length adjustment:**

For the possibility to add screw for easy length adjustment ETP HYDRO-GRIP toolholders are equipped with a center thread.

(Not valid for PENCIL design).

**Pressure chamber:**

- Secure clamping of any tool type.

A robust membrane and minimum amount of pressure media ensures a good temperature working range.

## Systems comparison

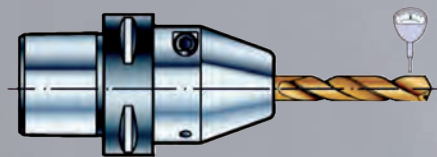
# ETP HYDRO-GRIP – Hydraulic high precision toolholder Longer tool life and higher surface quality

Today's toolholder market offers in addition to hydraulic types an array of different clamping technologies, such as basic Set screw holders and Collet chucks to Shrink fit and Power chucks. However no other fastening technology than hydraulic clamping offers you the highest precision, in terms of tool life and higher surface quality, in combination with a total concept of easy handling and flexibility in design.

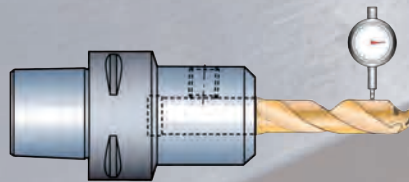
### Hydraulic holders – Feature and Benefits

- High runout accuracy.
- Increased tool life and surface quality.
- Easy handling and tool changes.

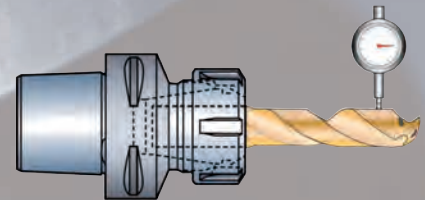
As a good rule of thumb: For every 10 microns increased runout, the tool life decreases by 50 %. This is important to bear in mind when choosing a Set screw or Collet chuck, which can have a runout of up to 0.04 mm (0.0016 inch)!



**Hydraulic type**  
runout  $\leq 0.004$  mm  
 $\leq 0.00016$  inch



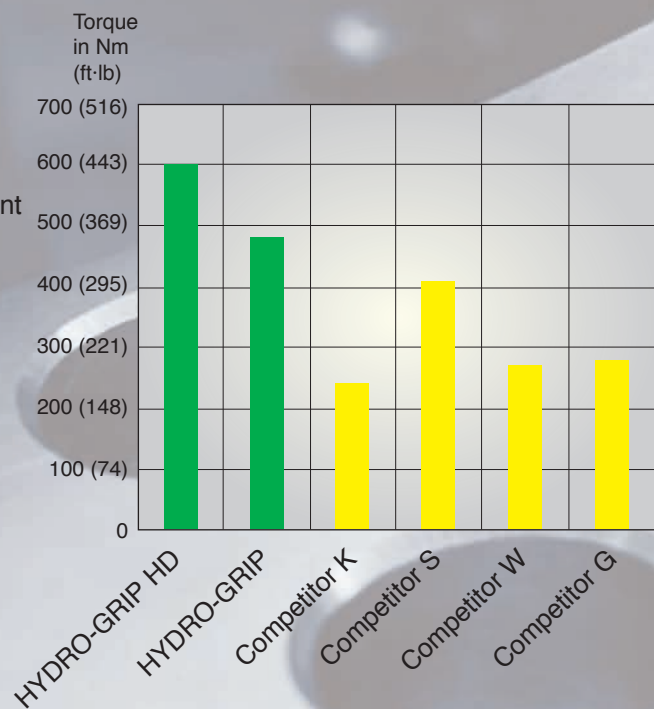
**Set screw types**  
runout 0.02 – 0.04 mm,  
0.0008 - 0.0016 inch








**Collet types**  
runout 0.01 – 0.03 mm,  
0.0004 - 0.001 inch




## Test of torque transmission

Summary of required torque to get a tool movement with different hydraulic toolholders. All toolholders have diameter 20 mm.



System comparison	Tool life			Concept		Total Score
	Precision	Balance	Damping	Flexibility	Accessories	
 Side-lock	●	●	●	●	●	●
 Collet chucks	●	●	●	●	●	●
 Shrink-fit	●	●	●	●	●	●
 Power chucks	●	●	●	●	●	●
 Hydraulic chucks	●	●	●	●	●	●

● Great   ● Average   ● Poor

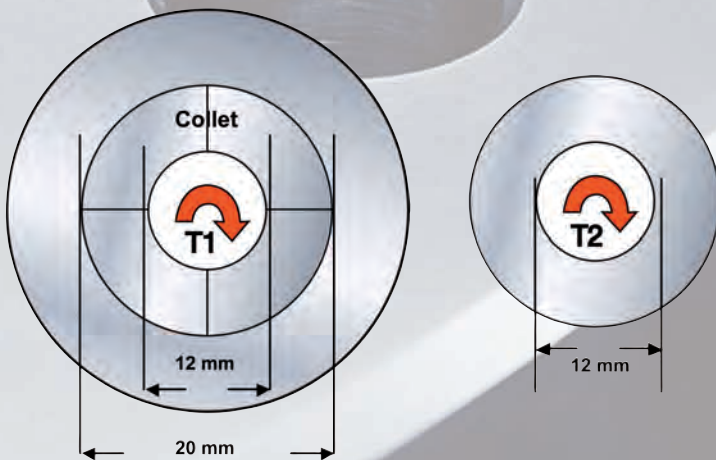
System comparison Hydraulic holders	Tool life						Total Score
	Precision	Balance	Robust	Maintainance	Modular	Portfolio	
 Low-cost versions	●	●	●	●	●	●	●
 Comparable	●	●	●	●	●	●	●
 HYDRO-GRIP®	●	●	●	●	●	●	●

The ETP HYDRO-GRIP high precision toolholders offers you the most complete advantages of any hydraulic holder available on the market today. Combining easy handling and low maintenance with

an extensive range. The modular design capability also increase your flexibility to offer any customized design needed.

Get additional information from our local partner.

## Increase the torque transmission even further? - Use reduction sleeves!



Influence on torque transmission and clamping force when using reduction sleeves  
T=Torque

T1 much higher than T2 - The clamping force generated on 20 mm is greater than on 12 mm due to the increased surface pressure and greater surface contact on tool shank. For transmittable torque of HYDRO-GRIP at direct tool clamping or with reducing sleeves see section "Technical information".

**HEAVY  
DUTY  
VERSION**



#### Benefits and features

- For heavy machining
- Extreme high clamping force
- Easy handling
- Rigid design

## ETP HYDRO-GRIP® HD

### Hydraulic high precision toolholder – Heavy Duty version Up to 1670 Nm holding torque!

ETP HYDRO-GRIP® HD, Heavy Duty, is the first hydraulic Power chuck available on the market. Here ETP combine all the positive benefits of hydraulic

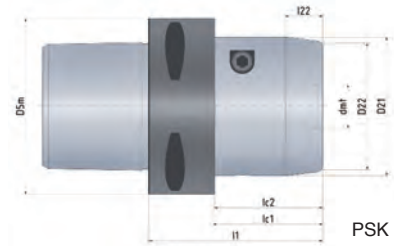
clamping, such as easy handling and precision, with an extreme high tool clamping force capability and rigid design. A high bending stiffness and the dampening

properties of the hydraulic pressure media makes ETP HYDRO-GRIP® HD the ideal holder for any machining, from heavy rough milling to finishing.



- Runout accuracy  $\leq 0.004$  mm at  $2.5 \times dm_t$  (max. 50 mm),  $\leq 0.00016$  inch at  $2.5 \times dmt$  (max. 1.969 inch)
- Balancing grade: G 2.5 at 25 000 rpm for PSK C5 – C6, HSK 63 and ISO40  
G 2.5 at 14 000 rpm for PSK C8, HSK 100 and ISO50
- Tool shank h6 or h7 can be used
- Can be used with reducing sleeve
- Center thread, M12x1, for axial length adjustment screw (screw not included)
- Coolant through on all holders
- Bore for data carrier – available on request

## METRIC RANGE



# ETP HYDRO-GRIP® HD

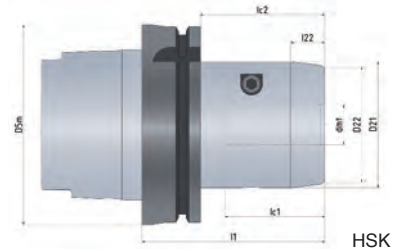
Hydraulic high precision toolholder  
– Heavy Duty version



### Technical Specification PSK form

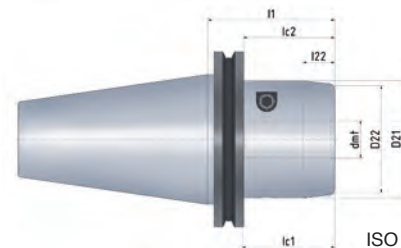
Coupling size	Part no.	Item description	Dimensions, mm							
			$D_{5m}$	$dm_t$	$D_{21}$	$D_{22}$	$I_1$	$I_{22}$	$I_{c1}$	$I_{c2}$
● C5	682040	HG HD-20/C5	50	20	63	59	79	17	52	
● C6	682050	HG HD-20/C6	63	20	63	59	73	17	52	
●	682060	HG HD-25/C6	63	25	74	70	80	17	56	
●	682070	HG HD-32/C6	63	32	80	76	86	17	60	
● C8	682080	HG HD-20/C8	80	20	63	59	79	17	52	49
●	682090	HG HD-25/C8	80	25	74	70	83	17	56	53
●	682100	HG HD-32/C8	80	32	80	76	87	17	60	

- From stock
- On request



### Technical Specification HSK A/C

HSK size	Part no.	Item description	Dimensions, mm							
			$D_{5m}$	$dm_t$	$D_{21}$	$D_{22}$	$I_1$	$I_{22}$	$I_{c1}$	$I_{c2}$
● 63	682150	HG HD-20/HSK63	63	20	63	59	96	17	52	70
● 100	682160	HG HD-20/HSK100	100	20	63	59	91	17	52	62
●	682170	HG HD-25/HSK100	100	25	74	70	95	17	56	66
●	682180	HG HD-32/HSK100	100	32	80	76	99	17	60	70



### Technical Specification ISO form AD (A/B coolant on all CAT40 and CAT50 holders)

Spindle design	Taper	Part no.	Item description	Dimensions, mm						
				$dm_t$	$D_{21}$	$D_{22}$	$I_1$	$I_{22}$	$I_{c1}$	$I_{c2}$
● Cat V	40	682110	HG HD-20/CAT40	20	63	59	90	17	90	70,95
	50	682120	HG HD-20/CAT50	20	63	59	68	17	68	48,95
		682130	HG HD-25/CAT50	25	74	70	92	17	92	72,95
		682140	HG HD-32/CAT50	32	80	76	97	17	97	77,95
● ISO 7388.1	40	682190	HG HD-20/ISO40	20	63	59	90	17	90	70,9
	50	682200	HG HD-20/ISO50	20	63	59	68	17	68	49
		682210	HG HD-25/ISO50	25	74	70	79	17	79	60
		682220	HG HD-32/ISO50	32	80	76	83	17	83	64
● MAS BT403	40	682000	HG HD-20/BT40	20	63	59	79	17	79	
	50	682010	HG HD-20/BT50	20	63	59	87	17	87	49
		682020	HG HD-25/BT50	25	74	70	91	17	91	53
●		682030	HG HD-32/BT50	32	80	76	95	17	95	57

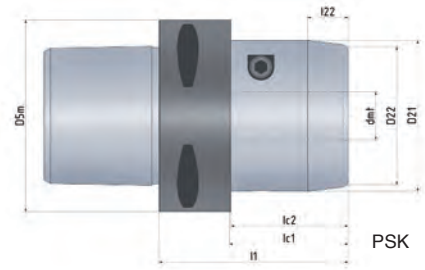
$I_1$  = programming length

- Runout accuracy  $\leq 0.004$  mm at  $2.5 \times dm_t$  (max. 50 mm),  $\leq 0.00016$  inch at  $2.5 \times dmt$  (max. 1.969 inch)
- Balancing grade: G 2.5 at 25 000 rpm for PSK C5 – C6, HSK 63 and ISO40  
G 2.5 at 14 000 rpm for PSK C8, HSK 100 and ISO50
- Tool shank h6 or h7 can be used
- Can be used with reducing sleeve
- Center thread, M12x1, for axial length adjustment screw (screw not included)
- Coolant through on all holders
- Bore for data carrier – available on request

## INCH RANGE

# ETP HYDRO-GRIP® HD

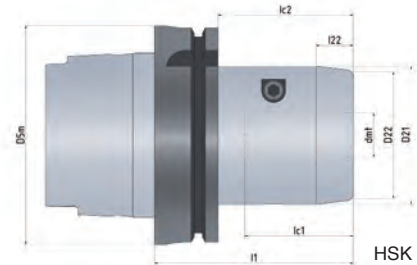
Hydraulic high precision toolholder  
– Heavy Duty version



### Technical Specification PSK form

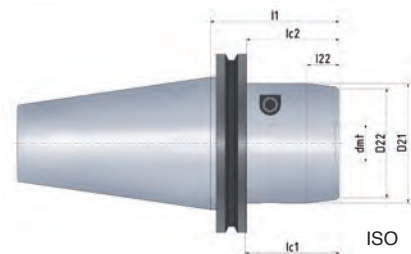
			Dimensions, inch							
Coupling size	Part no.	Item description	$D_{5m}$	$dm_t$	$D_{21}$	$D_{22}$	$l_1$	$l_{22}$	$l_{c1}$	$l_{c2}$
○ C5	682040-T	HG HD-3/4"/C5	1.969	0.750	2.480	2.323	3.110	0.669	2.047	
○ C6	682050-T	HG HD-3/4"/C6	2.480	0.750	2.480	2.323	2.874	0.669	2.047	
○	682060-T	HG HD-1"/C6	2.480	1.000	2.913	2.756	3.150	0.669	2.205	
○	682070-T	HG HD-1 1/4"/C6	2.480	1.250	3.150	2.992	3.386	0.669	2.362	
○ C8	682080-T	HG HD-3/4"/C8	3.150	0.750	2.480	2.323	3.110	0.669	2.047	1.929
○	682090-T	HG HD-1"/C8	3.150	1.000	2.913	2.756	3.268	0.669	2.205	2.087
○	682100-T	HG HD-1 1/4"/C8	3.150	1.250	3.150	2.992	3.425	0.669	2.362	

- From stock
- On request



### Technical Specification HSK A/C

			Dimensions, inch							
HSK size	Part no.	Item description	$D_{5m}$	$dm_t$	$D_{21}$	$D_{22}$	$l_1$	$l_{22}$	$l_{c1}$	$l_{c2}$
● 63	682150-T	HG HD-3/4"/HSK63	2.480	0.750	2.480	2.323	3.780	0.669	2.047	2.756
○ 100	682160-T	HG HD-3/4"/HSK100	3.937	0.750	2.480	2.323	3.583	0.669	2.047	2.441
○	682170-T	HG HD-1"/HSK100	3.937	1.000	2.913	2.756	3.740	0.669	2.205	2.598
●	682180-T	HG HD-1 1/4"/HSK100	3.937	1.250	3.150	2.992	3.898	0.669	2.362	2.756



### Technical Specification ISO form AD (A/B coolant on all CAT40 and CAT50 holders)

				Dimensions, inch						
Spindle design	Taper	Part no.	Item description	$dm_t$	$D_{21}$	$D_{22}$	$l_1$	$l_{22}$	$l_{c1}$	$l_{c2}$
● Cat V	40	682110-T	HG HD-3/4"/CAT40	0.750	2.480	2.323	3.543	0.669	3.543	2.793
●	50	682120-T	HG HD-3/4"/CAT50	0.750	2.480	2.323	2.677	0.669	2.677	1.927
●		682130-T	HG HD-1"/CAT50	1.000	2.913	2.756	3.622	0.669	3.622	2.872
●		682140-T	HG HD-1 1/4"/CAT50	1.250	3.150	2.992	3.819	0.669	3.819	3.069
○ ISO 7388.1	40	682190-T	HG HD-3/4"/ISO40	0.750	2.480	2.323	3.543	0.669	3.543	2.791
○	50	682200-T	HG HD-3/4"/ISO50	0.750	2.480	2.323	2.677	0.669	2.677	1.929
○		682210-T	HG HD-1"/ISO50	1.000	2.913	2.756	3.110	0.669	3.110	2.362
○		682220-T	HG HD-1 1/4"/ISO50	1.250	3.150	2.992	3.268	0.669	3.268	2.520
○ MAS BT403	40	682000-T	HG HD-3/4"/BT40	0.750	2.480	2.323	3.110	0.669	3.110	
○	50	682010-T	HG HD-3/4"/BT50	0.750	2.480	2.323	3.425	0.669	3.425	1.929
○		682020-T	HG HD-1"/BT50	1.000	2.913	2.756	3.583	0.669	3.583	2.087
○		682030-T	HG HD-1 1/4"/BT50	1.250	3.150	2.992	3.740	0.669	3.740	2.244

$l_1$  = programming length

**COMPACT  
DESIGN**



### Benefits and features

- For drilling to semi-roughing
- High clamping force
- Easy handling
- Short overhang
- Modular design possibility

# ETP HYDRO-GRIP®

## Hydraulic high precision toolholder

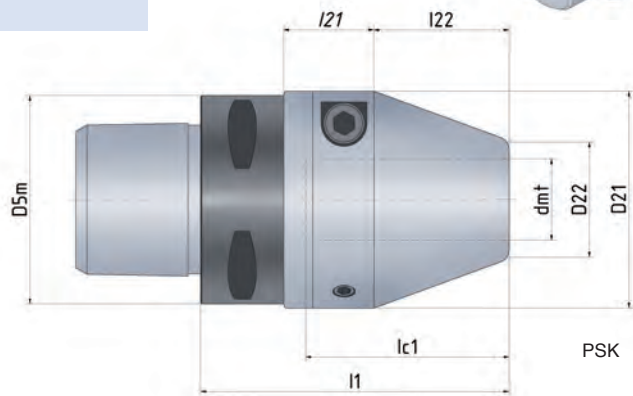
ETP HYDRO-GRIP® has a very compact and robust design. Tools changes are made quickly, easily and with a high level of precision. The high clamping force guarantees a secure clamping of

your milling, drilling and reaming tools. With a minimum tool runout a good surface finish is achieved along with an extended tool life. In addition to our extensive standard range,

ETP HYDRO-GRIP® can be made to your specific gauge line requirement, using our modular design possibility. *Also versions with radial length adjustment available.*

- Runout accuracy  $\leq 0.004$  mm at  $2.5 \times d_{m_t}$  (max. 50 mm),  $\leq 0.00016$  inch at  $2.5 \times d_{m_t}$  (max. 1.969 inch)
- Balancing grade: G 2.5 at 25 000 rpm for PSK C4 – C6, HSK 63 and ISO40  
G 2.5 at 14 000 rpm for PSK C8, HSK 100 and ISO50
- Tool shank h6 or h7 can be used
- Can be used with reducing sleeve
- Center thread, M8, for axial length adjustment screw (screw not included)  
Exception: PSK C4 - thread is M6!
- Coolant through on all holders
- Bore for data carrier – available on request

## METRIC RANGE



# ETP HYDRO-GRIP®

## Hydraulic high precision toolholder

### Technical Specification PSK form

			Dimensions, mm								
Coupling size	Part no.	Item description	$D_{5m}$	$d_{m_t}$	$D_{21}$	$D_{22}$	$l_1$	$l_{21}$	$l_{22}$	$l_{c1}$	
●	*) C3	701558	HG-12/C3 (no gripper)	32	12	43,5	22	50	25	18	40
●	*) C4	703430	HG-12/C4 (no gripper)	40	12	43,5	22	50	25	18	40
●	C4	685160	HG-12/C4	40	12	43,5	22	62	25	18	40
●		685170	HG-12x100/C4	40	12	43,5	22	100	25	18	40
○		685180	HG-16/C4	40	16	48	26	72	24	28	50
○		685190	HG-16x125/C4	40	16	48	26	125	24	28	50
●		685200	HG-20/C4	40	20	52	30	75	25	30	52
●		685210	HG-20x125/C4	40	20	52	30	125	25	30	52
●	C5	685220	HG-12/C5	50	12	43,5	22	62	24	18	40
●		685230	HG-12x100/C5	50	12	43,5	22	100	62	18	40
○		685240	HG-16/C5	50	16	48	26	72	24	28	50
○		685250	HG-16x125/C5	50	16	48	26	125	77	28	50
●		685260	HG-20/C5	50	20	52	30	74	24	30	52
●		685270	HG-20x125/C5	50	20	52	30	125	24	30	52
●		685280	HG-25/C5	50	25	59	35	79	25	34	56
●	C6	685290	HG-12/C6	63	12	43,5	22	64	24	18	40
●		685300	HG-12x100/C6	63	12	43,5	22	100	60	18	40
○		685310	HG-16/C6	63	16	48	26	74	24	28	50
○		685320	HG-16x125/C6	63	16	48	26	125	75	28	50
●		685330	HG-20/C6	63	20	52	30	76	24	30	52
●		685340	HG-20x150/C6	63	20	52	30	150	98	30	52
●		685350	HG-25/C6	63	25	59	35	80	24	34	56
●		685360	HG-25x150/C6	63	25	59	35	150	94	34	56
●		685370	HG-32/C6	63	32	69,5	42	84	24	38	60
○	C8	685380	HG-12/C8	80	12	43,5	22	67	19	18	40
○		685390	HG-12x100/C8	80	12	43,5	22	100	52	18	40
○		685400	HG-16/C8	80	16	48	26	77	19	28	50
○		685410	HG-16x125/C8	80	16	48	26	125	67	28	50
●		685420	HG-20/C8	80	20	52	30	79	19	30	52
●		685430	HG-20x150/C8	80	20	52	30	150	90	30	52
●		685440	HG-25/C8	80	25	59	35	83	19	34	56
●		685450	HG-25x150/C8	80	25	59	35	150	86	34	56
●		685460	HG-32/C8	80	32	69,5	42	87	19	38	60

● From stock

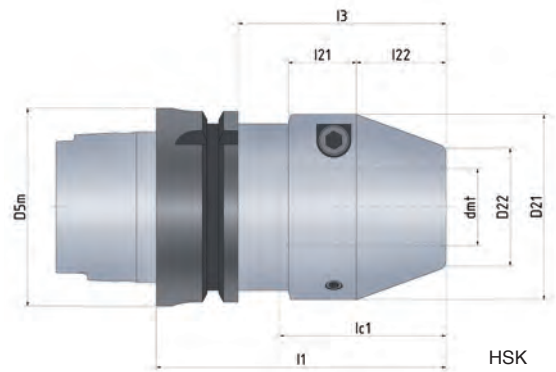
○ On request - PSK Inch equivalents add " -T" to metric part no.

$l_1$  = programming length

\*) Short version with no gripper grooves.

# ETP HYDRO-GRIP®

Hydraulic high precision toolholder



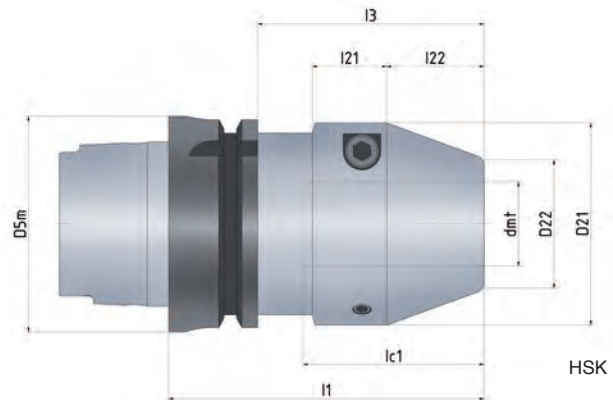
## Technical Specification HSK form A/C

Dimensions, mm

HSK size	Part no.	Item description	$D_{5m}$	$dm_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{c1}$
● 63	685630	HG-12/HSK63	63	12	43,5	22	76	50		18	40
● 63	685640	HG-12x100/HSK63	63	12	43,5	22	100	74		18	40
○ 63	685650	HG-16/HSK63	63	16	48	26	86	60		28	50
○ 63	685660	HG-16x125/HSK63	63	16	48	20	125	99		28	50
● 63	685670	HG-20/HSK63	63	20	52	30	88	62		30	52
● 63	685680	HG-20x150/HSK63	63	20	52	30	150	124		30	52
● 63	685690	HG-25/HSK63	63	25	59	35	100	74	24	34	56
● 63	685700	HG-25x150/HSK63	63	25	59	35	150	124	74	34	56
● 63	685710	HG-32/HSK63	63	32	69,5	42	105	79	25	38	60
● 100	685720	HG-12/HSK100	100	12	43,5	22	79	50		18	40
● 100	685730	HG-12x100/HSK100	100	12	43,5	22	100	71		18	40
○ 100	685740	HG-16/HSK100	100	16	48	26	89	60		28	50
○ 100	685750	HG-16x125/HSK100	100	16	48	26	125	96		28	50
● 100	685760	HG-20/HSK100	100	20	52	30	91	62		30	52
● 100	685770	HG-20x150/HSK100	100	20	52	30	150	121		30	52
● 100	685780	HG-25/HSK100	100	25	59	35	95	66		34	56
● 100	685790	HG-25x150/HSK100	100	25	59	35	150	121		34	56
● 100	685800	HG-32/HSK100	100	32	69,5	42	99	70		38	60

$l_1$  = programming length

- From stock
- On request



## INCH RANGE

# ETP HYDRO-GRIP®

Hydraulic high precision toolholder

## Technical Specification HSK form A/C

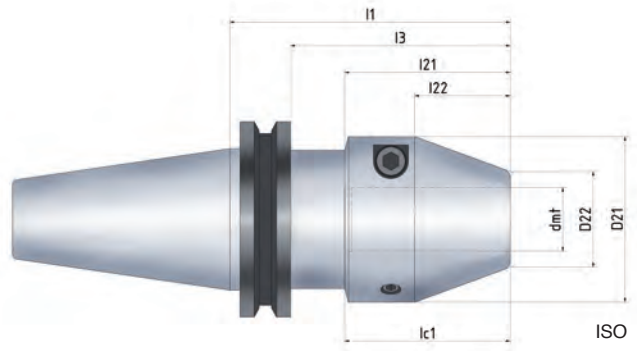
Dimensions, inch

HSK size	Part no.	Item description	$D_{5m}$	$dm_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{c1}$
● 63	685630-T	HG-1/2"/HSK63	2.480	0.500	1.713	0.866	2.992	1.969		0.709	1.575
○ 63	685640-T	HG-1/2"x100/HSK63	2.480	0.500	1.713	0.866	3.937	2.913		0.709	1.575
● 63	685670-T	HG-3/4"/HSK63	2.480	0.750	2.047	1.181	3.465	2.441		1.181	2.047
○ 63	685680-T	HG-3/4"x150/HSK63	2.480	0.750	2.047	1.181	5.906	4.882		1.181	2.047
● 63	685690-T	HG-1"/HSK63	2.480	1.000	2.323	1.378	3.937	2.913	0.945	1.339	2.205
○ 63	685700-T	HG-1"x150/HSK63	2.480	1.000	2.323	1.378	5.906	4.882	2.913	1.339	2.205
● 63	685710-T	HG-1 1/4"/HSK63	2.480	1.250	2.736	1.654	4.134	3.110	0.984	1.496	2.362
○ 100	685720-T	HG-1/2"/HSK100	3.937	0.500	1.713	0.866	3.110	1.969		0.709	1.575
○ 100	685730-T	HG-1/2"x100/HSK100	3.937	0.500	1.713	0.866	3.937	2.795		0.709	1.575
● 100	685760-T	HG-3/4"/HSK100	3.937	0.750	2.047	1.181	3.583	2.441		1.181	2.047
○ 100	685770-T	HG-3/4"x150/HSK100	3.937	0.750	2.047	1.181	5.906	4.764		1.181	2.047
● 100	685780-T	HG-1"/HSK100	3.937	1.000	2.323	1.378	3.740	2.598		1.339	2.205
○ 100	685790-T	HG-1"x150/HSK100	3.937	1.000	2.323	1.378	5.906	4.764		1.339	2.205
● 100	685800-T	HG-1 1/4"/HSK100	3.937	1.250	2.736	1.654	3.898	2.756		1.496	2.362

$l_1$  = programming length

# ETP HYDRO-GRIP®

## Hydraulic high precision toolholder

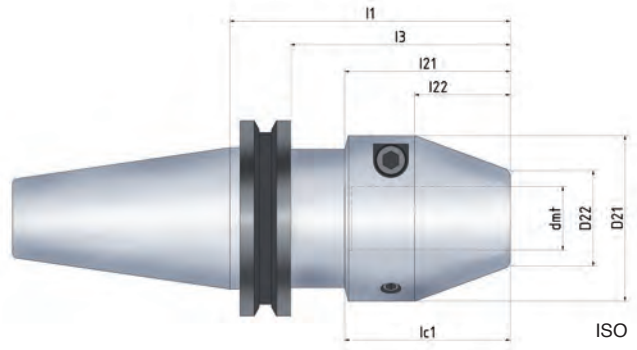


**Technical Specification ISO form AD (A/B coolant on all CAT40 and CAT50 holders)**

Dimensions, mm

Spindle design	Taper	Part no.	Item description	$dm_t$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{c1}$	
●	ISO 7388/1	40	685810	HG-12/ISO40	12	43,5	22	56	36,9	18	40	
●			685820	HG-12x100/ISO40	12	43,5	22	100	80,9	18	40	
○			685830	HG-16/ISO40	16	48	26	73	53,9	28	50	
○			685840	HG-16x125/ISO40	16	48	26	125	105,9	28	50	
●			685850	HG-20/ISO40	20	52	30	88	68,9	52,9	30	52
●			685860	HG-20x125/ISO40	20	52	30	125	105,9	89,9	30	52
●			685870	HG-25/ISO40	25	59	35	93	73,9	57,9	34	56
○	ISO 7388/1	50	685880	HG-12/ISO50	12	43,5	22	56	36,9	18	40	
○			685890	HG-12x100/ISO50	12	43,5	22	100	80,9	18	40	
○			685900	HG-16/ISO50	16	48	26	66	46,9	28	50	
○			685910	HG-16x125/ISO50	16	48	26	125	105,9	28	50	
●			685920	HG-20/ISO50	20	52	30	68	48,9	30	52	
●			685930	HG-20x150/ISO50	20	52	30	150	130,9	30	52	
●			685940	HG-25/ISO50	25	59	35	72	52,9	34	56	
●			685950	HG-25x150/ISO50	25	59	35	150	130,9	34	56	
●			685960	HG-32/ISO50	32	69,5	42	77	57,9	38	60	
●	MAS-BT 403	30	685970	HG-12/BT30	12	43,5	22	59	37	18	40	
○			685980	HG-16/BT30	16	48	26	69	47	28	50	
●			685990	HG-20/BT30	20	52	30	76	54	30	52	
●	MAS-BT 403	40	685000	HG-12/BT40	12	43,5	22	64	37	18	40	
●			685010	HG-12x100/BT40	12	43,5	22	100	73	18	40	
○			685020	HG-16/BT40	16	48	26	74	47	28	50	
○			685030	HG-16x125/BT40	16	48	26	125	98	28	50	
●			685040	HG-20/BT40	20	52	30	76	49	30	52	
●			685050	HG-20x125/BT40	20	52	30	125	98	30	52	
●			685060	HG-25/BT40	25	59	35	80	53	34	56	
○	MAS-BT 403	50	685070	HG-12/BT50	12	43,5	22	75	37	18	40	
○			685080	HG-12x100/BT50	12	43,5	22	100	62	18	40	
○			685090	HG-16/BT50	16	48	26	85	47	28	50	
○			685100	HG-16x125/BT50	16	48	26	125	87	28	50	
●			685110	HG-20/BT50	20	52	30	87	49	30	52	
●			685120	HG-20x150/BT50	20	52	30	150	112	30	52	
●			685130	HG-25/BT50	25	59	35	91	53	34	56	
●			685140	HG-25x150/BT50	25	59	35	150	112	34	56	
●			685150	HG-32/BT50	32	69,5	42	95	57	38	60	
●	Cat V	40	685470	HG-12/CAT40	12	43,5	22	56	36,95	18	40	
●			685480	HG-12x100/CAT40	12	43,5	22	100	80,95	18	40	
○			685490	HG-16/CAT40	16	48	26	86	66,95	51,05	28	50
○			685500	HG-16x125/CAT40	16	48	26	125	105,95	90,05	28	50
●			685510	HG-20/CAT40	20	52	30	88	68,95	53,05	30	52
●			685520	HG-20x125/CAT40	20	52	30	125	105,95	89,95	30	52
●			685530	HG-25/CAT40	25	59	35	93	73,95	58,05	34	56
○	Cat V	50	685540	HG-12/CAT50	12	43,5	22	56	36,95	18	40	
○			685550	HG-12x100/CAT50	12	43,5	22	100	80,95	18	40	
○			685560	HG-16/CAT50	16	48	26	66	46,95	28	50	
○			685570	HG-16x125/CAT50	16	48	26	125	105,95	28	50	
●			685580	HG-20/CAT50	20	52	30	68	48,95	30	52	
●			685590	HG-20x150/CAT50	20	52	30	150	130,95	30	52	
●			685600	HG-25/CAT50	25	59	35	72	52,95	34	56	
●			685610	HG-25x150/CAT50	25	59	35	150	130,95	34	56	
●			685620	HG-32/CAT50	32	69,5	42	77	57,95	38	60	

$l_1$  = programming length



**ETP HYDRO-GRIP®**

**Hydraulic high precision toolholder**

**Technical Specification ISO form AD (A/B coolant on all CAT40 and CAT50 holders)**

Dimensions, inch

Spindle design	Taper	Part no.	Item description	$dm_1$	$D_{21}$	$D_{22}$	$I_1$	$I_3$	$I_{21}$	$I_{22}$	$I_{c1}$
○ ISO 7388/1	40	685810-T	HG-1/2"/ISO40	0.500	1.713	0.866	2.205	1.453		0.709	1.575
○		685820-T	HG-1/2"x100/ISO40	0.500	1.713	0.866	3.937	3.185		0.709	1.575
○		685850-T	HG-3/4"/ISO40	0.750	2.047	1.181	3.465	2.713	2.083	1.181	2.047
○		685860-T	HG-3/4"x125/ISO40	0.750	2.047	1.181	4.921	4.169	3.539	1.181	2.047
○		685870-T	HG-1"/ISO40	1.000	2.323	1.378	3.661	2.909	2.280	1.339	2.205
○	50	685920-T	HG-3/4"/ISO50	0.750	2.047	1.181	2.677	1.925		1.181	2.047
○		685930-T	HG-3/4"x150/ISO50	0.750	2.047	1.181	5.906	5.154		1.181	2.047
○		685940-T	HG-1"/ISO50	1.000	2.323	1.378	2.835	2.083		1.339	2.205
○		685950-T	HG-1"x150/ISO50	1.000	2.323	1.378	5.906	5.154		1.339	2.205
○		685960-T	HG-1 1/4"/ISO50	1.250	2.736	1.654	3.031	2.280		1.496	2.362
● MAS-BT 403	30	685970-T	HG-1/2"/BT30	0.500	1.713	0.866	2.323	1.457		0.709	1.575
●		685990-T	HG-3/4"/BT30	0.750	2.047	1.181	2.992	2.126		1.181	2.047
○ MAS-BT 403	40	685000-T	HG-1/2"/BT40	0.500	1.713	0.866	2.520	1.457		0.709	1.575
○		685010-T	HG-1/2"x100/BT40	0.500	1.713	0.866	3.937	2.874		0.709	1.575
○		685040-T	HG-3/4"/BT40	0.750	2.047	1.181	2.992	1.929		1.181	2.047
○		685050-T	HG-3/4"x125/BT40	0.750	2.047	1.181	4.921	3.858		1.181	2.047
○		685060-T	HG-1"/BT40	1.000	2.323	1.378	3.150	2.087		1.339	2.205
○	50	685110-T	HG-3/4"/BT50	0.750	2.047	1.181	3.425	1.929		1.181	2.047
○		685120-T	HG-3/4"x150/BT50	0.750	2.047	1.181	5.906	4.409		1.181	2.047
○		685130-T	HG-1"/BT50	1.000	2.323	1.378	3.583	2.087		1.339	2.205
○		685140-T	HG-1"x150/BT50	1.000	2.323	1.378	5.906	4.409		1.339	2.205
○		685150-T	HG-1 1/4"/BT50	1.250	2.736	1.654	3.740	2.244		1.496	2.362
● Cat V	40	685470-T	HG-1/2"/CAT40	0.500	1.713	0.866	2.205	1.455		0.709	1.575
○		685480-T	HG-1/2"x100/CAT40	0.500	1.713	0.866	3.937	3.187		0.709	1.575
●		685510-T	HG-3/4"/CAT40	0.750	2.047	1.181	3.465	2.715	2.089	1.181	2.047
○		682410-T	HG-3/4"x4"/CAT40	0.750	2.047	1.181	4.000	3.250	2.636	1.181	2.047
●		685520-T	HG-3/4"x125/CAT40	0.750	2.047	1.181	4.921	4.171	3.541	1.181	2.047
○		682420-T	HG-3/4"x6"/CAT40	0.750	2.047	1.181	6.000	5.250	4.636	1.181	2.047
●		685530-T	HG-1"/CAT40	1.000	2.323	1.378	3.661	2.911	2.285	1.339	2.205
● Cat V	50	685580-T	HG-3/4"/CAT50	0.750	2.047	1.181	2.677	1.927		1.181	2.047
○		682460-T	HG-3/4"x4"/CAT50	0.750	2.047	1.181	4.000	3.250		1.181	2.047
○		682470-T	HG-3/4"x6"/CAT50	0.750	2.047	1.181	6.000	5.250		1.181	2.047
●		685600-T	HG-1"/CAT50	1.000	2.323	1.378	2.835	2.085		1.339	2.205
○		682480-T	HG-1"x4"/CAT50	1.000	2.323	1.378	4.000	3.250		1.339	2.205
○		682490-T	HG-1"x6"/CAT50	1.000	2.323	1.378	6.000	5.250		1.339	2.205
●		685620-T	HG-1 1/4"/CAT50	1.250	2.736	1.654	3.031	2.281		1.496	2.362

$I_1$  = programming length

- From stock
- Short delivery time
- On request



**Features and benefits**

- Maximum flexibility in your design
- Choose your required gauge line length
- Radial length adjustment module possible

# ETP HYDRO-GRIP® CUSTOMIZED DESIGN

## Design your own hydraulic precision toolholder - Online

ETP HYDRO-GRIP toolholders can be made to your specific gauge line length requirement, using our modular design possibility.

Combine any machine shank available in our assortment, with

any tool dimension 12 - 32 mm (1/2 - 1 1/4 inch). With an intermediate sleeve, ETP offers you your customized toolholder to any required gauge length (up to 250 mm).

These customized toolholders offer the same rigid solid design, dampening properties and high runout precision as our standard assortment.



# ETP HYDRO-GRIP®

Design your own hydraulic precision toolholder  
- Online

Visit [www.etp.se](http://www.etp.se) to design your own toolholder



Follow some easy steps on our online service  
to design your customized toolholder:

### Choose your shank:

- PSK – C4, C5, C6, C8
- HSK – 63, 100
- ISO – 40, 50
- BT – 30, 40, 50
- CAT – 40, 50

### Choose your tool diameter dmt (mm and inch)

- 12
- 16
- 20
- 25
- 32
- 1/2"
- 5/8"
- 3/4"
- 1"
- 1 1/4"

### Choose length (l1) mm.

Enter your details and  
create drawings and  
CAD-files.  
(pdf, dxf, stp)

Create drawings and send me a quote!  
Please fill out details below

**Name**

**Email address**

**Message**



**Required quantity**

Create drawings and send me a quote!  
Please fill out details below

Thank you for your request. Below you find design drawings for download.

Your request is being handled and we will return with our quotation shortly.  
Your ticket number is 807404.

Best regards / ETP Transmission AB

 807404/T807404 id//.pdf  807404/T807404 stp



**Tough  
and slender  
design**



**Benefits and features**

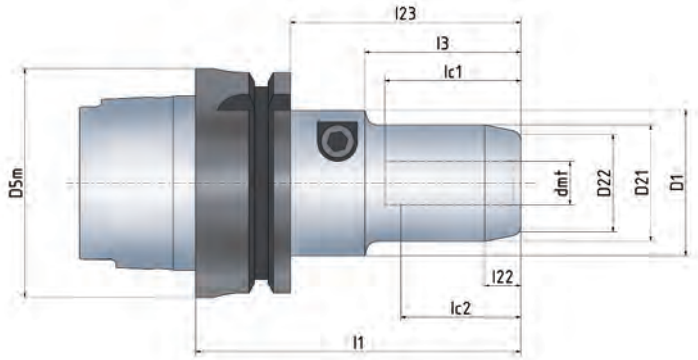
- Quick and easy tool change
- High performance
- Slender design
- Excellent runout

# **ETP HYDRO-GRIP® G2**

HYDRO-GRIP type G2 is extremely user friendly which means quick and easy tool changes. It has a tough and slender design.

- Runout accuracy  $\leq 0.004$  mm at  $2.5 \times d_{mt}$  (max. 50 mm),  $\leq 0.00016$  inch at  $2.5 \times d_{mt}$  (max. 1.969 inch)
- Balancing grade: G 2.5 at 25 000 rpm
- Tool shank h6 or h7 can be used
- Can be used with reducing sleeve

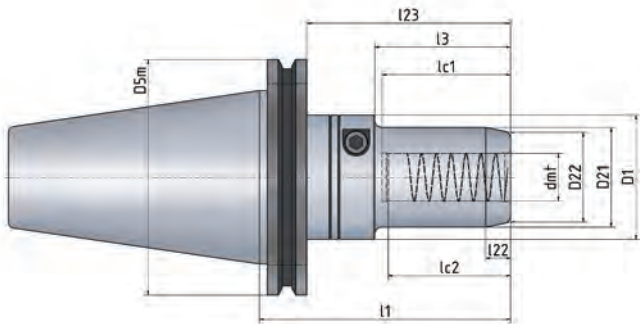
## METRIC RANGE INCH RANGE



### Technical Specification HSK form F

Dimensions, mm and inch

HSK size	Part nb:	Item description	$D_{5m}$	$d_{mt}$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{22}$	$l_{23}$	$l_{c1}$	$l_{c2}$
● 63	642680	HG G2-12/HSK63F	63	12	40	32	28	87	43	10	61	40	37
●	642690	HG G2-16/HSK63F	63	16	40	38	34	87	43	10	61	40	37
●	642700	HG G2-20/HSK63F	63	20	50	40	36	99	55	10	73	52	49
●	639130	HG G2-25/HSK63F	63	25	50	45	41	103	59	10	77	56	53
●	659400	HG G2-3/8"/HSK63F	2.480	0.375	1.575	1.260	1.102	3.425	1.693	0.394	2.402	1.575	1.457
●	642710	HG G2-1/2"HSK63F	2.480	0.500	1.575	1.260	1.339	3.425	1.693	0.394	2.402	1.575	1.457
●	642730	HG G2-3/4"/HSK63F	2.480	0.750	1.969	1.575	1.417	3.898	2.165	0.394	2.874	2.047	1.929
●	639140	HG G2-1"/HSK63F	2.480	1.000	1.969	1.772	1.614	4.055	2.323	0.394	3.031	2.205	2.087



- From stock
- ◐ Short delivery time
- On request

### Technical Specification CAT form A/B

Dimensions, mm and inch

Spindle design	Taper	Part no:	Item description	$D_{5m}$	$d_{mt}$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{22}$	$l_{23}$	$l_{c1}$	$l_{c2}$
○ Cat V	40	681600	HG G2-12x4"/CAT40	63.5	12	40	32	28	101,6	43	10	3.250	40	37
○		681610	HG G2-12x6"/CAT40	63.5	12	40	32	28	152,4	43	10	5.250	40	37
○		681620	HG G2-16x4"/CAT40	63.5	16	40	38	34	101,6	43	10	3.250	40	37
○		681630	HG G2-16x6"/CAT40	63.5	16	40	38	34	152,4	43	10	5.250	40	37
◐		681600-T	HG G2-1/2"x4"/CAT40	2.500	0.500	1.575	1.260	1.102	4.000	1.693	0.393	3.250	1.575	1.457
◐		681610-T	HG G2-1/2"x6"/CAT40	2.500	0.500	1.575	1.260	1.102	6.000	1.693	0.393	5.250	1.575	1.457
○		681620-T	HG G2-5/8"x4"/CAT40	2.500	0.625	1.575	1.496	1.339	4.000	1.693	0.393	3.250	1.575	1.457
○		681630-T	HG G2-5/8"x6"/CAT40	2.500	0.625	1.575	1.496	1.339	6.000	1.693	0.393	5.250	1.575	1.457
○ Cat V	50	681740-T	HG G2-3/4"x4"/CAT50	3.875	0.750	1.969	1.575	1.417	4.000	2.165	0.393	3.250	2.047	1.929
○		681750-T	HG G2-3/4"x6"/CAT50	3.875	0.750	1.969	1.575	1.417	6.000	2.165	0.393	5.250	2.047	1.929

# PENCIL DESIGN

## Benefits and features

- For drilling to finishing
- Pencil design enabling machining in deep cavities and complex components
- Special designs possibility
- High clamping force



# ETP HYDRO-GRIP® PENCIL

## Hydraulic high precision toolholder – Pencil version

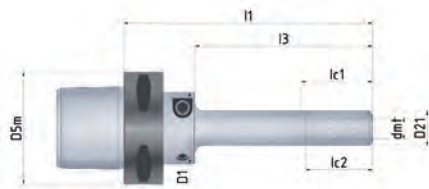
ETP HYDRO-GRIP® PENCIL is with its extreme slim design one of the most versatile holder on the market. An extensive range of

standard dimensions and lengths optimizes your productivity when machining deep cavities and complex components.

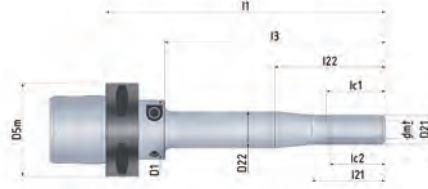
ETP HYDRO-GRIP® PENCIL can also be made to your specific gauge line requirement, using our Customized Designs possibility.

- Runout accuracy  $\leq 0.004$  mm at  $2.5 \times dm_t$  (max. 50 mm),  $\leq 0.00016$  inch at  $2.5 \times dmt$  (max. 1.969 inch)  
 $\leq 0.007$  mm at  $2.5 \times dm_t$  at length  $l_1 > 125$  mm,  $\leq 0.00028$  inch at  $2.5 \times dmt$  at length  $> 4.921$  inch
- Balancing grade: G 2.5 at corresponding rpm - see in table below
- Tool shank h6 or h7 can be used
- Can be used with reducing sleeve
- Coolant through on all holders
- Bore for data carrier – available on request

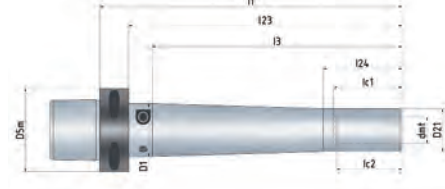
## METRIC RANGE



PSK form design 1



PSK form design 2



PSK form design 3

# ETP HYDRO-GRIP® PENCIL

## Hydraulic high precision toolholder – Pencil version

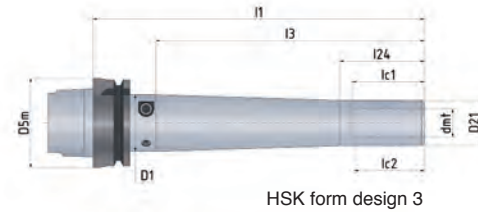
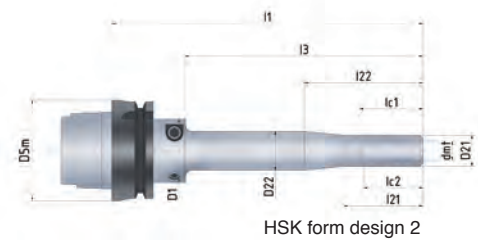
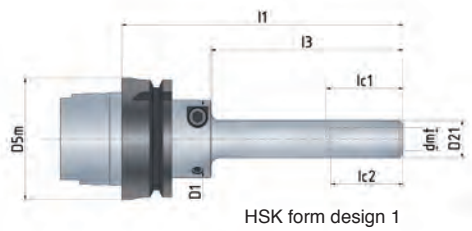
### Technical Specification PSK form

Dimensions, mm

Design	Coupling size	Part no.	Item description	$D_{5m}$	$dm_t$	$D_1$	$D_{21}$	$D_{22}$	$l_{c1}$	$l_{c2}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{23}$	$l_{24}$	G 2.5 at rpm
●	1	C4	683210	HG PENCIL-6x50/C4	40	6	40	12	40	30	88	50					25 000
○	1		683180	HG PENCIL-8x50/C4	40	8	40	14,5	40	30	88	50					25 000
○	1		683200	HG PENCIL-10x50/C4	40	10	40	17	40	37	88	50					25 000
○	1		683190	HG PENCIL-10x100/C4	40	10	40	17	40	37	138	100					15 000
●	1		683220	HG PENCIL-12x50/C4	40	12	40	19,5	40	37	88	50					25 000
●	1		683230	HG PENCIL-12x100/C4	40	12	40	19,5	40	37	138	100					15 000
●	2		683240	HG PENCIL-12x150/C4	40	12	40	19,5	24,5	40	37	188	150	50	75		10 000
●	1	C5	683310	HG PENCIL-6x50/C5	50	6	40	12	40	30	88	50			68		25 000
○	1		683250	HG PENCIL-8x50/C5	50	8	40	14,5	40	30	88	50			68		25 000
○	1		683270	HG PENCIL-10x50/C5	50	10	40	17	40	37	88	50			68		25 000
○	1		683260	HG PENCIL-10x100/C5	50	10	40	19,5	40	37	138	100			118		15 000
●	1		683320	HG PENCIL-12x50/C5	50	12	40	19,5	40	37	88	50			68		25 000
●	1		683330	HG PENCIL-12x100/C5	50	12	40	19,5	40	37	138	100			118		15 000
●	2		683300	HG PENCIL-12x150/C5	50	12	40	19,5	24,5	40	37	188	150	50	75	168	10 000
○	1		683290	HG PENCIL-16x75/C5	50	16	40	26	50	47	113	75			93		15 000
○	1		683280	HG PENCIL-16x125/C5	50	16	40	26	50	47	163	125			143		10 000
●	3		683340	HG PENCIL-20x110/C5	50	20	40	32	52	49	148	110			128	60	20 000
●	3		683350	HG PENCIL-20x190/C5	50	20	40	32	52	49	228	190			208	60	10 000
●	1	C6	683430	HG PENCIL-6x50/C6	63	6	40	12	40	30	90	50			68		25 000
○	1		683360	HG PENCIL-8x50/C6	63	8	40	14,5	40	30	90	50			68		25 000
○	1		683380	HG PENCIL-10x50/C6	63	10	40	17	40	37	90	50			68		25 000
○	1		683370	HG PENCIL-10x100/C6	63	10	40	17	40	37	140	100			118		15 000
●	1		683440	HG PENCIL-12x50/C6	63	12	40	19,5	40	37	90	50			68		25 000
●	1		683450	HG PENCIL-12x100/C6	63	12	40	19,5	40	37	140	100			118		15 000
●	2		683410	HG PENCIL-12x150/C6	63	12	40	19,5	24,5	40	37	190	150	50	75	168	10 000
○	1		683400	HG PENCIL-16x75/C6	63	16	40	26	50	47	115	75			93		15 000
○	1		683390	HG PENCIL-16x125/C6	63	16	40	26	50	47	165	125			143		10 000
●	3		683460	HG PENCIL-20x110/C6	63	20	40	32	52	49	150	110			128	60	20 000
●	3		683420	HG PENCIL-20x190/C6	63	20	40	32	52	49	230	190			208	60	10 000
○	1	C8	683480	HG PENCIL-10x50/C8	80	10	40	17	40	37	102	50			72		14 000
○	1		683470	HG PENCIL-10x100/C8	80	10	40	17	40	37	152	100			122		14 000
●	1		683510	HG PENCIL-12x50/C8	80	12	40	19,5	40	37	102	50			72		14 000
●	1		683520	HG PENCIL-12x100/C8	80	12	40	19,5	40	37	152	100			122		14 000
●	2		683540	HG PENCIL-12x150/C8	80	12	40	19,5	24,5	40	37	202	150	50	75	172	10 000
○	1		683500	HG PENCIL-16x75/C8	80	16	40	26	50	47	127	75			97		14 000
○	1		683490	HG PENCIL-16x125/C8	80	16	40	26	50	47	177	125			147		10 000
●	3		683530	HG PENCIL-20x110/C8	80	20	40	32	52	49	162	110			132	60	14 000
●	3		683550	HG PENCIL-20x190/C8	80	20	40	32	52	49	242	190			212	60	10 000

$l_1$  = programming length

- From stock
- On request - PSK Inch equivalents add "-T" to metric part no.



# ETP HYDRO-GRIP® PENCIL

Hydraulic high precision toolholder – Pencil version

## Technical Specification HSK form A/C

Dimensions, mm

Design	HSK size	Part no.	Item description	$D_{5m}$	$dm_t$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{24}$	$l_{c1}$	$l_{c2}$	G 2.5 at rpm
● 1	63	683810	HG PENCIL-6x50/HSK63	63	6	40	12		96,5	50				40	30	25 000
○ 1		683740	HG PENCIL-8x50/HSK63	63	8	40	14,5		96,5	50				40	30	25 000
○ 1		683760	HG PENCIL-10x50/HSK63	63	10	40	17		96,5	50				40	37	25 000
○ 1		683750	HG PENCIL-10x100/HSK63	63	10	40	17		146,5	100				40	37	15 000
● 1		683830	HG PENCIL-12x50/HSK63	63	12	40	19,5		96,5	50				40	37	25 000
● 1		683840	HG PENCIL-12x100/HSK63	63	12	40	19,5		146,5	100				40	37	15 000
● 2		683820	HG PENCIL-12x150/HSK63	63	12	40	19,5	24,5	196,5	150	50	75		40	37	10 000
○ 1		683780	HG PENCIL-16x75/HSK63	63	16	40	26		121,5	75				50	47	15 000
○ 1		683770	HG PENCIL-16x125/HSK63	63	16	40	26		171,5	125				50	47	10 000
● 3		683790	HG PENCIL-20x110/HSK63	63	20	40	32		156,5	110			60	52	49	20 000
● 3		683800	HG PENCIL-20x190/HSK63	63	20	40	32		236,5	190			60	52	49	10 000
○ 1	100	683860	HG PENCIL-10x50/HSK100	100	10	40	17		117	50				40	37	14 000
○ 1		683850	HG PENCIL-10x100/HSK100	100	10	40	17		167	100				40	37	14 000
● 1		683890	HG PENCIL-12x50/HSK100	100	12	40	19,5		117	50				40	37	14 000
● 1		683920	HG PENCIL-12x100/HSK100	100	12	40	19,5		167	100				40	37	14 000
● 2		683930	HG PENCIL-12x150/HSK100	100	12	40	19,5	24,5	217	150	50	75		40	37	10 000
○ 1		683880	HG PENCIL-16x75/HSK100	100	16	40	26		142	75				50	47	14 000
○ 1		683870	HG PENCIL-16x125/HSK100	100	16	40	26		192	125				50	47	10 000
● 3		683900	HG PENCIL-20x110/HSK100	100	20	40	32		177	110			60	52	49	14 000
● 3		683910	HG PENCIL-20x190/HSK100	100	20	40	32		257	190			60	52	49	10 000

## Technical Specification HSK form E

Dimensions, mm

Design	HSK size	Part no.	Item description	$D_{5m}$	$dm_t$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{c1}$	$l_{c2}$	G 2.5 at rpm	
○ 1	50	683670	HG PENCIL-6x50/HSK50	50	6	40	12		94	50				40	30	25 000
○ 1		683680	HG PENCIL-8x50/HSK50	50	8	40	14,5		94	50				40	30	25 000
○ 1		683700	HG PENCIL-10x50/HSK50	50	10	40	17		94	50				40	37	25 000
○ 1		683690	HG PENCIL-10x100/HSK50	50	10	40	17		144	100				40	37	15 000
○ 1		683730	HG PENCIL-12x50/HSK50	50	12	40	19,5		94	50				40	37	25 000
○ 1		683710	HG PENCIL-12x100/HSK50	50	12	40	19,5		144	100				40	37	15 000
○ 2		683720	HG PENCIL-12x150/HSK50	50	12	40	19,5	24,5	194	150	50	75		40	37	10 000

# ETP HYDRO-GRIP® PENCIL

## Cylindrical shank

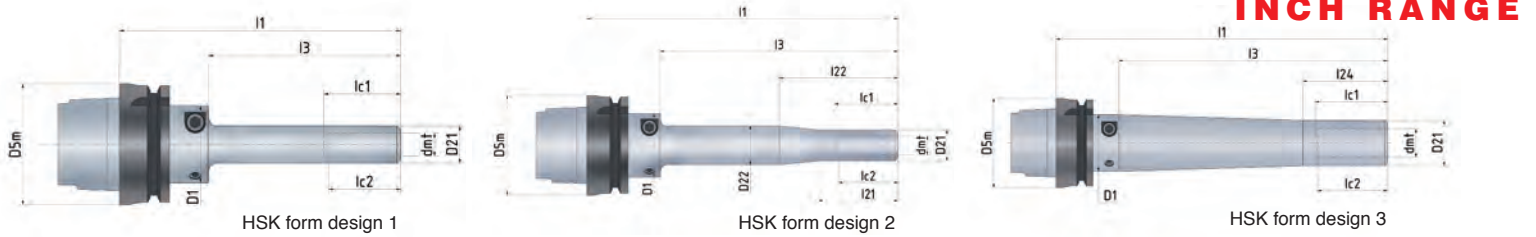


## Technical Specification

Dimensions, mm

Part no.	Item description	$dm_m$	$dm_t$	$l_c$	$l_1$	G 2.5 at rpm
● 336891	HG PENCIL-12/Rd20-150	20	12	40	150	15 000

$l_1$  = programming length



# ETP HYDRO-GRIP® PENCIL

## Hydraulic high precision toolholder – Pencil version

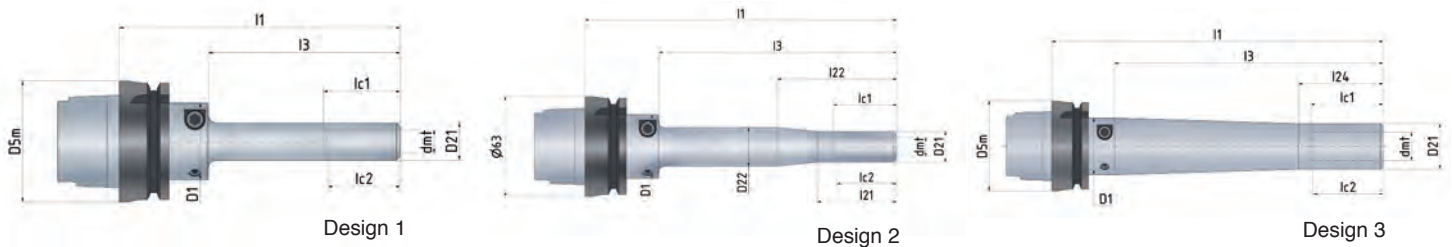
### Technical Specification HSK form A/C

Dimensions, inch

Design size	HSK	Part no.	Item description	$D_{5m}$	$dm_t$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{24}$	$l_{c1}$	$l_{c2}$	G 2.5 at rpm
● 1	63	683810-T	HG PENCIL-1/4"x50/HSK63	2.480	0.250	1.575	0.472		3.799	1.969				1.575	1.181	25 000
● 1		683830-T	HG PENCIL-1/2"x50/HSK63	2.480	0.500	1.575	0.768		3.799	1.969				1.575	1.457	25 000
● 1		683840-T	HG PENCIL-1/2"x100/HSK63	2.480	0.500	1.575	0.768		5.768	3.937				1.575	1.457	15 000
● 2		683820-T	HG PENCIL-1/2"x150/HSK63	2.480	0.500	1.575	0.768	0.965	7.736	5.906	1.969	2.953		1.575	1.457	10 000
● 3		683790-T	HG PENCIL-3/4"x110/HSK63	2.480	0.750	1.575	1.260		6.161	4.331			2.362	2.047	1.929	20 000
● 3		683800-T	HG PENCIL-3/4"x190/HSK63	2.480	0.750	1.575	1.260		9.311	7.480			2.362	2.047	1.929	10 000
● 1	100	683890-T	HG PENCIL-1/2"x50/HSK100	3.937	0.500	1.575	0.768		4.606	1.969				1.575	1.457	14 000
● 1		683920-T	HG PENCIL-1/2"x100/HSK100	3.937	0.500	1.575	0.768		6.575	3.937				1.575	1.457	14 000
● 2		683930-T	HG PENCIL-1/2"x150/HSK100	3.937	0.500	1.575	0.768	0.965	8.543	5.906	1.969	2.953		1.575	1.457	10 000
● 3		683900-T	HG PENCIL-3/4"x110/HSK100	3.937	0.750	1.575	1.260		6.969	4.331			2.362	2.047	1.929	14 000
● 3		683910-T	HG PENCIL-3/4"x190/HSK100	3.937	0.750	1.575	1.260		10.118	7.480			2.362	2.047	1.929	10 000

- Runout accuracy  $\leq 0.004$  mm at  $2.5 \times dm_t$  (max. 50 mm),  $\leq 0.00016$  inch at  $2.5 \times dmt$  (max. 1.969 inch)  
 $\leq 0.007$  mm at  $2.5 \times dm_t$  at length  $l_1 > 125$  mm,  $\leq 0.00028$  inch at  $2.5 \times dmt$  at length  $> 4.921$  inch.
- Balancing grade: G 2.5 at corresponding rpm - see in table below
- Tool shank h6 or h7 can be used
- Can be used with reducing sleeve

**METRIC RANGE**  
**INCH RANGE**



# ETP HYDRO-GRIP® PENCIL HSK 63F

## Hydraulic high precision toolholder – Pencil version

### Technical Specification HSK 63F

Dimensions, mm/inch

Design	Part no.	Item description	$D_{5m}$	$dm_t$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{24}$	$l_{c1}$	$l_{c2}$	G 2.5 at rpm
● 1	684400	HG PENCIL-6x50/HSK63F	63	6	40	12		94	50				40	30	25 000
● 1	684440	HG PENCIL-12x50/HSK63F	63	12	40	19,5		94	50				40	37	25 000
● 1	684450	HG PENCIL-12x100/HSK63F	63	12	40	19,5		144	100				40	37	15 000
● 2	684460	HG PENCIL-12x150/HSK63F	63	12	40	19,5	24,5	194	150	50	75		40	37	10 000
● 3	684490	HG PENCIL-20x110/HSK63F	63	20	40	32		154	110			60	52	49	20 000
● 3	684500	HG PENCIL-20x190/HSK63F	63	20	40	32		234	190			60	52	49	10 000
● 1	684540	HG PENCIL-1/2"x50/HSK63F	2.480	0.500	1.575	0.768		3.701	1.969				1.575	1.457	25 000
● 1	684550	HG PENCIL-1/2"x100/HSK63F	2.480	0.500	1.575	0.768		5.669	3.937				1.575	1.457	15 000
● 2	684560	HG PENCIL-1/2"x150/HSK63F	2.480	0.500	1.575	0.768	0.965	7.638	5.906	1.969	2.953		1.575	1.457	10 000
● 3	684590	HG PENCIL-3/4"x110/HSK63F	2.480	0.750	1.575	1.260		6.063	4.331			2.362	2.047	1.929	20 000
● 3	684600	HG PENCIL-3/4"x190/HSK63F	2.480	0.750	1.575	1.260		9.213	7.480			2.362	2.047	1.929	10 000

- From stock
- On request

$l_1$  = programming length

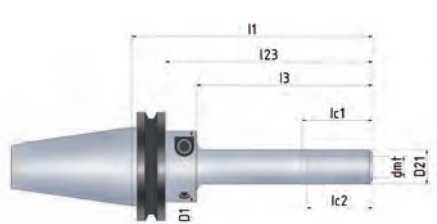
# ETP HYDRO-GRIP® PENCIL Hydraulic high precision toolholder – Pencil version

**Technical Specification ISO form AD (A/B coolant on all CAT40 and CAT50 holders)**

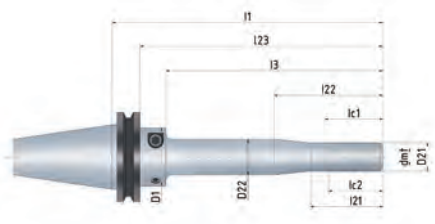
Design	Spindle design	Taper	Part no.	Item description	Dimensions, mm										G 2.5 at rpm			
					$dm_t$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{23}$	$l_{24}$		$l_{c1}$	$l_{c2}$	
● 1	ISO7388/1	40	683940	HG PENCIL-6x50/ISO40	6	40	12		87	50				67,9	40	30	25 000	
○ 1			683950	HG PENCIL-8x50/ISO40	8	40	14,5		87	50				67,9	40	30	25 000	
○ 1			683970	HG PENCIL-10x50/ISO40	10	40	17		87	50				67,9	40	37	25 000	
○ 1			683960	HG PENCIL-10x100/ISO40	10	40	17		137	100				117,9	40	37	15 000	
● 1			684000	HG PENCIL-12x50/ISO40	12	40	19,5		87	50				67,9	40	37	25 000	
● 1			684010	HG PENCIL-12x100/ISO40	12	40	19,5		137	100				117,9	40	37	15 000	
● 2			684030	HG PENCIL-12x150/ISO40	12	40	19,5	24,5	187	150	50	75	167,9	40	37	10 000		
○ 1			683990	HG PENCIL-16x75/ISO40	16	40	26		112	75				92,9	50	47	15 000	
○ 1			683980	HG PENCIL-16x125/ISO40	16	40	26		162	125				142,9	50	47	10 000	
● 3			684020	HG PENCIL-20x110/ISO40	20	40	32		147	110				127,9	60	52	49	20 000
● 3			684040	HG PENCIL-20x190/ISO40	20	40	32		227	190				207,9	60	52	49	10 000
● 1	ISO7388/1	50	684190	HG PENCIL 12x50/ISO50	12	40	19,5		87	50				67,9	40	37	14 000	
● 1			684200	HG PENCIL 12x100/ISO50	12	40	19,5		137	100				117,9	40	37	14 000	
● 2			684210	HG PENCIL 12x150/ISO50	12	40	19,5	24,5	187	150	50	75	167,9	40	37	10 000		
● 3			684240	HG PENCIL 20x110/ISO50	20	40	32		147	110				127,9	60	52	49	14 000
● 3			684250	HG PENCIL 20x190/ISO50	20	40	32		227	190				207,9	60	52	49	10 000
● 1	MAS-BT403	30	683000	HG PENCIL-6x50/BT30	6	40	12		90	50				68	40	30	25 000	
○ 1			683010	HG PENCIL-8x50/BT30	8	40	14,5		90	50				68	40	30	25 000	
○ 1			683030	HG PENCIL-10x50/BT30	10	40	17		90	50				68	40	37	25 000	
○ 1			683020	HG PENCIL-10x100/BT30	10	40	17		140	100				118	40	37	15 000	
● 1			683060	HG PENCIL-12x50/BT30	12	40	19,5		90	50				68	40	37	25 000	
● 1			683040	HG PENCIL-12x100/BT30	12	40	19,5		140	100				118	40	37	15 000	
● 2			683050	HG PENCIL-12x150/BT30	12	40	19,5	24,5	190	150	50	75	168	40	37	10 000		
○ 3			684360	HG PENCIL-20x110/BT30	20	40	32		150	110				128	60	52	49	20 000
○ 3			684370	HG PENCIL-20x190/BT30	20	40	32		230	190				208	60	52	49	10 000
● 1	MAS-BT403	40	683070	HG PENCIL-6x50/BT40	6	40	12		95	50				68	40	30	25 000	
○ 1			683080	HG PENCIL-8x50/BT40	8	40	14,5		95	50				68	40	30	25 000	
○ 1			683100	HG PENCIL-10x50/BT40	10	40	17		95	50				68	40	37	25 000	
○ 1			683090	HG PENCIL-10x100/BT40	10	40	17		145	100				118	40	37	15 000	
● 1			683160	HG PENCIL-12x50/BT40	12	40	19,5		95	50				68	40	37	25 000	
● 1			683170	HG PENCIL-12x100/BT40	12	40	19,5		145	100				118	40	37	15 000	
● 2			683110	HG PENCIL-12x150/BT40	12	40	19,5	24,5	195	150	50	75	168	40	37	10 000		
○ 1			683130	HG PENCIL-16x75/BT40	16	40	26		120	75				93	50	47	15 000	
○ 1			683120	HG PENCIL-16x125/BT40	16	40	26		170	125				143	50	47	10 000	
● 3			683150	HG PENCIL-20x110/BT40	20	40	32		155	110				128	60	52	49	20 000
● 3			683140	HG PENCIL-20x190/BT40	20	40	32		235	190				208	60	52	49	10 000
● 1	MAS-BT403	50	684090	HG PENCIL 12x50/BT50	12	40	19,5		106	50				68	40	37	14 000	
● 1			684100	HG PENCIL 12x100/BT50	12	40	19,5		156	100				118	40	37	14 000	
● 2			684110	HG PENCIL 12x150/BT50	12	40	19,5	24,5	206	150	50	75	168	40	37	10 000		
● 3			684140	HG PENCIL 20x110/BT50	20	40	32		166	110				128	60	52	49	14 000
● 3			684150	HG PENCIL 20x190/BT50	20	40	32		246	190				206,5	60	52	49	10 000
● 1	CAT V	40	683560	HG PENCIL-6x50/CAT40	6	40	12		88	50				68,95	40	30	25 000	
○ 1			683570	HG PENCIL-8x50/CAT40	8	40	14,5		88	50				68,95	40	30	25 000	
○ 1			683590	HG PENCIL-10x50/CAT40	10	40	17		88	50				68,95	40	37	25 000	
○ 1			683580	HG PENCIL-10x100/CAT40	10	40	17		138	100				118,95	40	37	15 000	
● 1			683650	HG PENCIL-12x50/CAT40	12	40	19,5		88	50				68,95	40	37	25 000	
● 1			683600	HG PENCIL-12x100/CAT40	12	40	19,5		138	100				118,95	40	37	15 000	
● 2			683610	HG PENCIL-12x150/CAT40	12	40	19,5	24,5	188	150	50	75	168,95	40	37	10 000		
○ 1			683630	HG PENCIL-16x75/CAT40	16	40	26		113	75				93,95	50	47	15 000	
○ 1			683620	HG PENCIL-16x125/CAT40	16	40	26		163	125				143,95	50	47	10 000	
● 3			683660	HG PENCIL-20x110/CAT40	20	40	32		148	110				128,95	60	52	49	20 000
● 3			683640	HG PENCIL-20x190/CAT40	20	40	32		228	190				208,95	60	52	49	10 000
● 1	CAT V	50	684290	HG PENCIL 12x50/CAT50	12	40	19,5		88	50				68,95	40	37	14 000	
● 1			684300	HG PENCIL 12x100/CAT50	12	40	19,5		138	100				118,95	40	37	14 000	
● 2			684310	HG PENCIL 12x150/CAT50	12	40	19,5	24,5	188	150	50	75	168,95	40	37	10 000		
● 3			684340	HG PENCIL 20x110/CAT50	20	40	32		148	110				128,95	60	52	49	14 000
● 3			684350	HG PENCIL 20x190/CAT50	20	40	32		228	190				208,95	60	52	49	10 000

l<sub>1</sub> = programming length

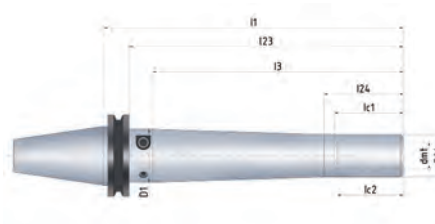




ISO form design 1



ISO form design 2



ISO form design 3

## ETP HYDRO-GRIP® PENCIL Hydraulic high precision toolholder – Pencil version

**Technical Specification** ISO form AD (A/B coolant on all CAT40 and CAT50 holders)

Design	Spindle design	Taper	Part no.	Item description	Dimensions, inch												G 2.5 at rpm
					$dm_1$	$D_1$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{21}$	$l_{22}$	$l_{23}$	$l_{24}$	$lc_1$	$lc_2$	
○ 1	ISO7388/1	40	683940-T	HG PENCIL-1/4"x50/ISO40	0.250	1.575	0.472		3.425	1.969			2.673		1.575	1.181	25 000
○ 1			684000-T	HG PENCIL-1/2"x50/ISO40	0.500	1.575	0.768		3.425	1.969			2.673		1.575	1.457	25 000
○ 1			684010-T	HG PENCIL-1/2"x100/ISO40	0.500	1.575	0.768		5.394	3.937			4.642		1.575	1.457	15 000
○ 2			684030-T	HG PENCIL-1/2"x150/ISO40	0.500	1.575	0.768	0.965	7.362	5.906	1.969	2.953	6.610		1.575	1.457	10 000
○ 3			684020-T	HG PENCIL-3/4"x110/ISO40	0.750	1.575	1.260		5.787	4.331			5.035	2.362	2.047	1.929	20 000
○ 3			684040-T	HG PENCIL-3/4"x190/ISO40	0.750	1.575	1.260		8.937	7.480			8.185	2.362	2.047	1.929	10 000
○ 1	ISO7388/1	50	684190-T	HG PENCIL 1/2"x50/ISO50	0.500	1.575	0.768		3.425	1.969			2.673		1.575	1.457	14 000
○ 1			684200-T	HG PENCIL 1/2"x100/ISO50	0.500	1.575	0.768		5.394	3.937			4.642		1.575	1.457	14 000
○ 2			684210-T	HG PENCIL 1/2"x150/ISO50	0.500	1.575	0.768	0.965	7.362	5.906	1.969	2.953	6.610		1.575	1.457	10 000
○ 3			684240-T	HG PENCIL 3/4"x110/ISO50	0.750	1.575	1.260		5.787	4.331			5.035	2.362	2.047	1.929	14 000
○ 3			684250-T	HG PENCIL 3/4"x190/ISO50	0.750	1.575	1.260		8.937	7.480			8.185	2.362	2.047	1.929	10 000
○ 1	MAS-BT403	30	683000-T	HG PENCIL-1/4"x50/BT30	0.250	1.575	0.472		3.543	1.969			2.677		1.575	1.181	25 000
● 1			683060-T	HG PENCIL-1/2"x50/BT30	0.500	1.575	0.768		3.543	1.969			2.677		1.575	1.457	25 000
● 1			683040-T	HG PENCIL-1/2"x100/BT30	0.500	1.575	0.768		5.512	3.937			4.646		1.575	1.457	15 000
○ 2			683050-T	HG PENCIL-1/2"x150/BT30	0.500	1.575	0.768	0.965	7.480	5.906	1.969	2.953	6.614		1.575	1.457	10 000
○ 1	MAS-BT403	40	683070-T	HG PENCIL-1/4"x50/BT40	0.250	1.575	0.472		3.740	1.969			2.677		1.575	1.181	25 000
○ 1			683160-T	HG PENCIL-1/2"x50/BT40	0.500	1.575	0.768		3.740	1.969			2.677		1.575	1.457	25 000
○ 1			683170-T	HG PENCIL-1/2"x100/BT40	0.500	1.575	0.768		5.709	3.937			4.646		1.575	1.457	15 000
○ 2			683110-T	HG PENCIL-1/2"x150/BT40	0.500	1.575	0.768	0.965	7.677	5.906	1.969	2.953	6.614		1.575	1.457	10 000
○ 3			683150-T	HG PENCIL-3/4"x110/BT40	0.750	1.575	1.260		6.102	4.331			5.039	2.362	2.047	1.929	20 000
○ 3			683140-T	HG PENCIL-3/4"x190/BT40	0.750	1.575	1.260		9.252	7.480			8.189	2.362	2.047	1.929	10 000
○ 1	MAS-BT403	50	684090-T	HG PENCIL 1/2"x50/BT50	0.500	1.575	0.768		4.173	1.969			2.677		1.575	1.457	14 000
○ 1			684100-T	HG PENCIL 1/2"x100/BT50	0.500	1.575	0.768		6.142	3.937			4.646		1.575	1.457	14 000
○ 2			684110-T	HG PENCIL 1/2"x150/BT50	0.500	1.575	0.768	0.965	8.110	5.906	1.969	2.953	6.614		1.575	1.457	10 000
○ 3			684140-T	HG PENCIL 3/4"x110/BT50	0.750	1.575	1.260		6.535	4.331			5.039	2.362	2.047	1.929	14 000
○ 3			684150-T	HG PENCIL 3/4"x190/BT50	0.750	1.575	1.260		9.685	7.480			8.130	2.362	2.047	1.929	10 000
● 1	CAT V	40	683560-T	HG PENCIL-1/4"x50/CAT40	0.250	1.575	0.472		3.465	1.969			2.715		1.575	1.181	25 000
● 1			683650-T	HG PENCIL-1/2"x50/CAT40	0.500	1.575	0.768		3.465	1.969			2.715		1.575	1.457	25 000
● 1			683600-T	HG PENCIL-1/2"x100/CAT40	0.500	1.575	0.768		5.433	3.937			4.683		1.575	1.457	15 000
● 2			683610-T	HG PENCIL-1/2"x150/CAT40	0.500	1.575	0.768	0.965	7.402	5.906	1.969	2.953	6.652		1.575	1.457	10 000
● 3			683660-T	HG PENCIL-3/4"x110/CAT40	0.750	1.575	1.260		5.827	4.331			5.077	2.362	2.047	1.929	20 000
● 3			683640-T	HG PENCIL-3/4"x190/CAT40	0.750	1.575	1.260		8.976	7.480			8.226	2.362	2.047	1.929	10 000
● 1	CAT V	50	684290-T	HG PENCIL 1/2"x50/CAT50	0.500	1.575	0.768		3.465	1.969			2.715		1.575	1.457	14 000
● 1			684300-T	HG PENCIL 1/2"x100/CAT50	0.500	1.575	0.768		5.433	3.937			4.683		1.575	1.457	14 000
● 2			684310-T	HG PENCIL 1/2"x150/CAT50	0.500	1.575	0.768	0.965	7.402	5.906	1.969	2.953	6.652		1.575	1.457	10 000
● 3			684340-T	HG PENCIL 3/4"x110/CAT50	0.750	1.575	1.260		5.827	4.331			5.077	2.362	2.047	1.929	14 000
● 3			684350-T	HG PENCIL 3/4"x190/CAT50	0.750	1.575	1.260		8.976	7.480			8.226	2.362	2.047	1.929	10 000

$l_1$  = programming length

- From stock
- On request



### Features and benefits

- Maximum flexibility in your design
- Freely choose your required machining depth (L3)
- Drawings and CAD-files of your design available for download instantly

# ETP HYDRO-GRIP® PENCIL

Design your own hydraulic high precision toolholder – Online

ETP HYDRO-GRIP PENCIL can be made to your specific length requirement, using our online design feature. Simply choose any machine shank available in our assortment, with any tool

dimension 6 - 20 mm (1/4 - 3/4 inch). Specify your required design type (1 – 3) and machining depth (L3). Our online programme will check the design possibility.

Enter your details and quantity request and proceed to download complete drawings and CAD-files. Our sales department will shortly contact you with a quotation.

# ETP HYDRO-GRIP® PENCIL

Design your own hydraulic high precision toolholder – Online



Visit [www.etp.se](http://www.etp.se) to design your own toolholder

Follow some easy steps on our online service to design your customized toolholder:

### Choose your shank:

PSK – C4, C5, C6, C8

HSK – 63, 100

ISO – 40, 50

BT – 30, 40, 50

CAT – 40, 50

### Choose front design type

1, 2 or 3.

### Choose your

### tool diameter dmt (mm and inch):

6

8

10

12

16

20

1/4"

5/16"

3/8"

1/2"

5/8"

3/4"

### Choose length (l3) mm.

Enter your details and create drawings and CAD-f files. (pdf, dxf, stp)

HYDRO-GRIP Customized designs

Choose Type

Choose coupling type

Choose front design

Choose diameter (dmt)

Choose length (mm)

Design choices completed.

Create drawings and send me a quote!

Please fill out details below

Name

Enter name

Email address

Enter email

Message

Enter message

Required quantity

Enter quantity

Send

Create drawings and send me a quote!

Please fill out details below

Thank you for your request. Below you find design drawings for download.

Your request is being handled and we will return with our quotation shortly.

Your ticket number is 807404.

Best regards / ETP Transmission AB

807404-T807404.idw.pdf

807404-T807404.stp



### Benefits and features

- For drilling and light machining
- Easy handling
- Short overhang

# ETP ECOGRIP™

With the new ECOGRIP range ETP sets a new standard of hydraulic toolholders.

ETP ECOGRIP has a very

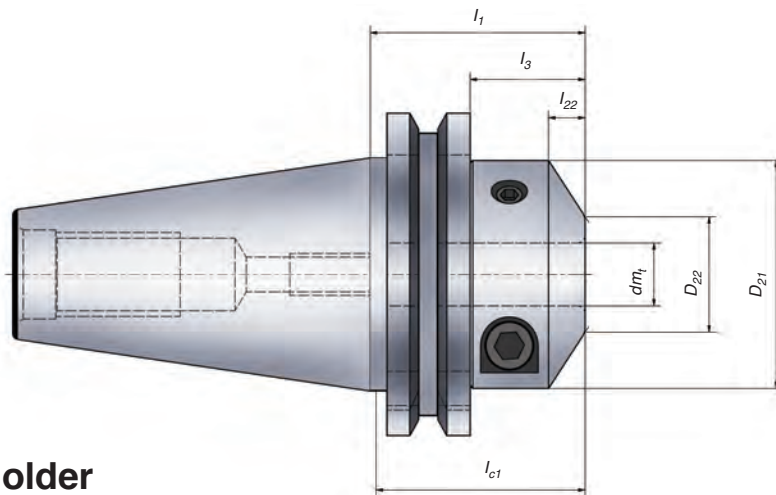
compact and robust design. Tool changes are made quickly, easily and with high level of precision.

With the minimum tool runout a

good surface quality is achieved along with extended tool life.

- Runout accuracy  $\leq 0.004$  mm at  $2.5 \times dm_t$  (max. 50 mm),  $\leq 0.00016$  inch at  $2.5 \times dmt$  (max. 1.969 inch)
- Balancing grade: G 6.3 at 15 000 rpm
- Tool shank h6 or h7 can be used
- Can be used with reducing sleeve
- Center thread, M8, for axial length adjustment screw (screw not included)
- Coolant through on all holders
- Bore for data carrier – available on request

**METRIC RANGE**  
**INCH RANGE**



## ETP ECOGRIP™

### Hydraulic high precision toolholder

#### Technical Specification ISO form AD

				Dimensions, mm and inch						
Spindle design	Taper	Part no.	Item description	$dm_t$	$D_{21}$	$D_{22}$	$l_1$	$l_3$	$l_{22}$	$l_{c1}$
● ISO 7388/1	40	686660	ECOGRIP-12/ISO40	12	43,5	22	41,1	22	7	40
●		686670	ECOGRIP-20/ISO40	20	52	30	58	38,9	7	52
● ISO 7388/1	50	686680	ECOGRIP-20/ISO50	20	52	30	41,1	22	7	52
●		686690	ECOGRIP-32/ISO50	32	69,5	42	41,1	22	7	60
● MAS-BT 403	30	686600	ECOGRIP-12/BT30	12	43,5	22	44	22	7	40
●		686610	ECOGRIP-20/BT30	20	52	30	51	22	7	52
● MAS-BT 403	40	686620	ECOGRIP-12/BT40	12	43,5	22	49	22	7	40
●		686630	ECOGRIP-20/BT40	20	52	30	49	22	7	52
● MAS-BT 403	50	686640	ECOGRIP-20/BT50	20	52	30	60	22	7	52
●		686650	ECOGRIP-32/BT50	32	69,5	42	60	22	7	60
● Cat V	40	686780	ECOGRIP 12/CAT40	12	43,5	22	41,05	22	7	40
●		686700	ECOGRIP-20/CAT40	20	52	30	58	22	7	52
● Cat V	50	686710	ECOGRIP-20/CAT50	20	52	30	41,05	22	7	52
●		686720	ECOGRIP-32/CAT50	32	69,5	42	41,05	22	7	60
● Cat V	40	686780-T	ECOGRIP-1/2"/CAT40	0.500	1.713	0.866	1.616	0.866	0.276	1.575
●		686700-T	ECOGRIP-3/4"/CAT40	0.750	2.047	1.181	2.283	0.866	0.276	2.047
● Cat V	50	686710-T	ECOGRIP-3/4"/CAT50	0.750	2.047	1.181	1.616	0.866	0.276	2.047
●		686720-T	ECOGRIP-1 1/4"/CAT50	1.250	2.736	1.654	1.616	0.866	0.276	2.362

$l_1$  = programming length

- From stock
- On request

## Benefits and features

- Turning ER holders hydraulic
- Easy handling and precision
- Adjustability of run-out



ECOGRIP ER



# ETP ECOGRIP™ ER

## Make your ER holder hydraulic and enjoy multiple benefits

With the ETP ECOGRIP ER hydraulic sleeves you can easily turn your standard ER collet holder into a high precision hydraulic holder. Thus you can easily enjoy all the positive

benefits of hydraulic clamping such as easy handling and precision, at an impressive competitive price level. This enables more users to benefit from decrease tool wear and

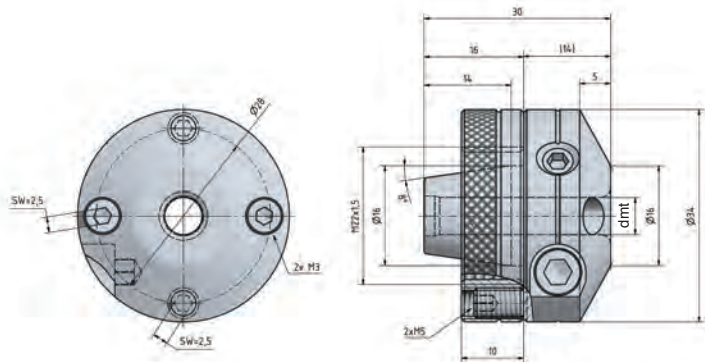
increase productivity compared to using ER collet holders. With the use of the three axial screws an adjustability of the runout is achieved.

# Instruction:

Simply replace the collet and nut from your existing ER holder with our ECOGRIP ER and you have a hydraulic holder ready for use. Complete instructions available to download at [www.etp.se](http://www.etp.se)

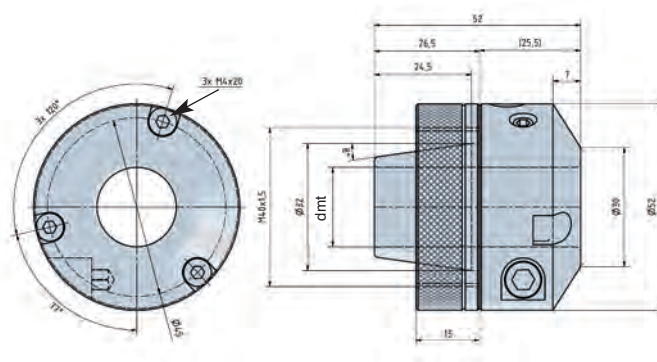
## ETP ECOGRIP™ ER16

Item description	With nut Part no.	dmf
● ECOGRIP 6/ER16	686845	6
● ECOGRIP 1/4"/ER16	686945	1/4"



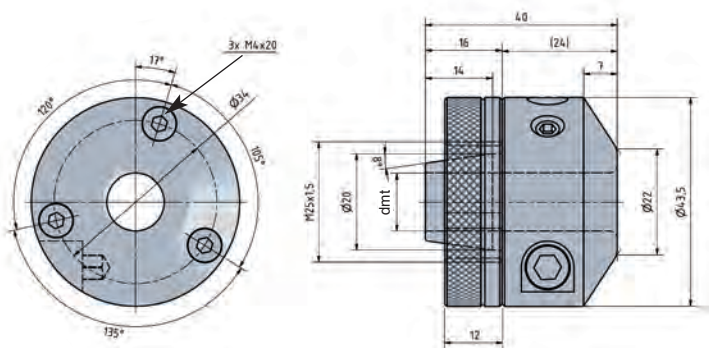
## ETP ECOGRIP™ ER32

Item description	With nut Part no.	dmf
● ECOGRIP 20/ER32	686865	20
● ECOGRIP 3/4"/ER32	686965	3/4"



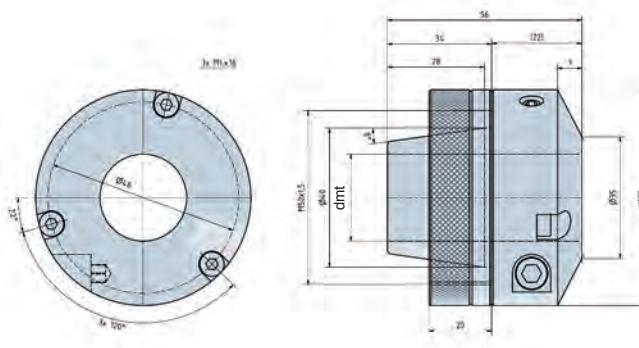
## ETP ECOGRIP™ ER20

Item description	With nut Part no.	dmf
● ECOGRIP 12/ER20	686855	12
● ECOGRIP 1/2"/ER20	686955	1/2"



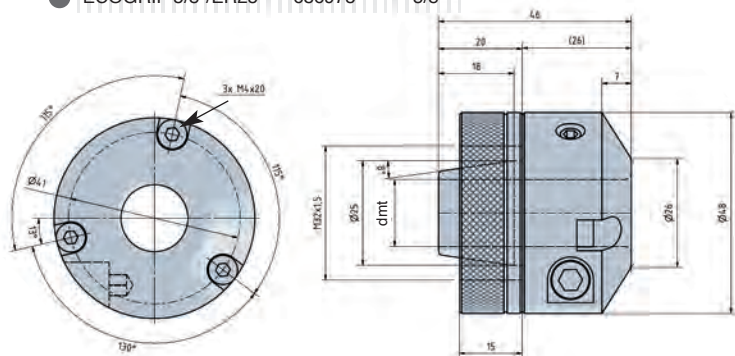
## ETP ECOGRIP™ ER40

Item description	With nut Part no.	dmf
● ECOGRIP 25/ER40	686885	25
● ECOGRIP 1"/ER40	686985	1"



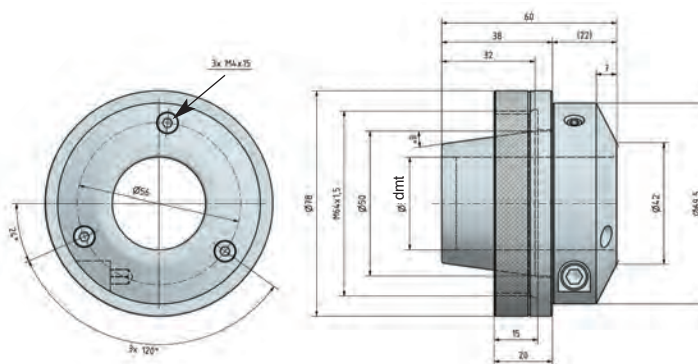
## ETP ECOGRIP™ ER25

Item description	With nut Part no.	dmf
● ECOGRIP 12/ER25	686905	12
● ECOGRIP 16/ER25	686875	16
● ECOGRIP 1/2"/ER25	687005	1/2"
● ECOGRIP 5/8"/ER25	686975	5/8"



## ETP ECOGRIP™ ER50

Item description	With nut Part no.	dmf
● ECOGRIP 32/ER50	686895	32
○ ECOGRIP 1 1/4"/ER50	686995	1 1/4"



- From stock
- On request

**Improve your productivity  
with ETP HYDRO-FIX® and ECOGRIP™**





**REDUCED VIBRATIONS**



**For boring bars and driven tools**

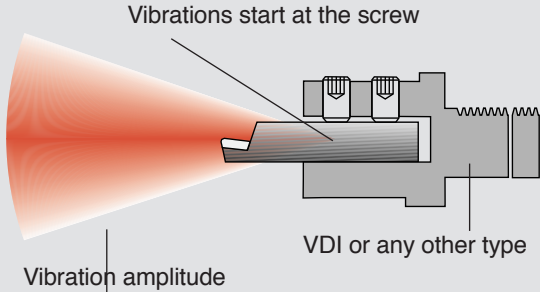
ETP HYDRO-FIX and ECOGRIP hydraulic clamping system has successfully been used for over 15 years.

The clamping system is excellent for boring bars for internal and

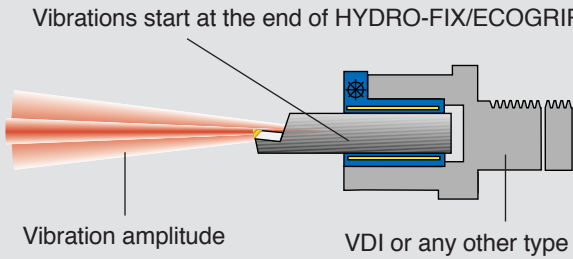
external turning, driven toolholders and fine boring heads. With the one screw fix system it is quick and easy to handle. The clamping is uniform around the tool and therefore the tool life is improved.

The clamping system absorbs and reduces vibration, improves surface quality and best of all increases your productivity!

**The old way**



**The new way with ETP HYDRO-FIX/ECOGRIP**



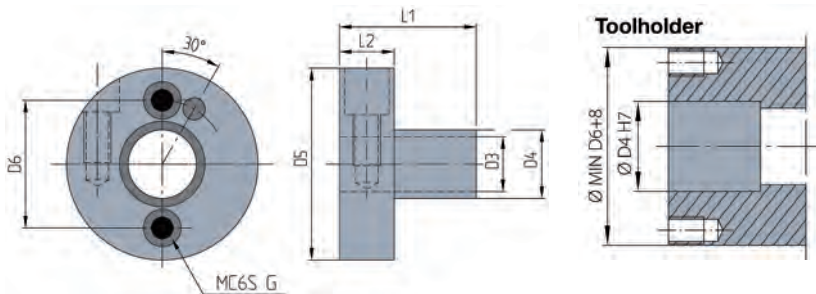
The vibration amplitude is greatly reduced by the uniform clamping around the boring bar. HYDRO-FIX/ECOGRIP expands towards **both** the boring bar and the tool holder.

• Runout accuracy  $\leq 0.006$  mm,  $\leq 0.00024$  inch

\*  $D_3$  = Toolbar (tolerance h7) or collet dimension to be used.

•  $D_4$  = Toolholder bore tolerance H7

• We recommend the use of cylindrical toolbars. For non-cylindrical toolbars always use a reducing sleeve to avoid plastic deformation of ETP HYDRO-FIX.



## ETP HYDRO-FIX® NBC

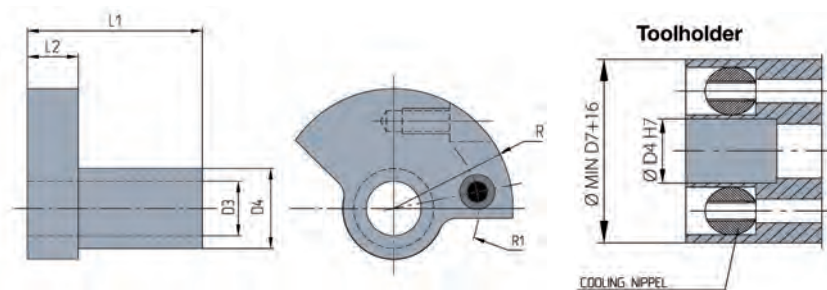
Hydraulic high precision clamping system

### Benefits and features

- For boring bars and driven tools
- Reduced vibrations
- Increased overhang of boring bar with 60%
- Increased speed and/or feed = Higher productivity
- Improved surface quality
- Increased tool life
- Quick and easy to handle with the one screw fix system

### Technical Specification

Part no.	Item description	Dimensions, mm							Screw DIN 915, 12.9	
		$D_3^*$	$D_4$	$D_5$	$l_1$	$l_2$	$V^\circ$	G	$D_6$	
851210	NBC-12/16-40	12	16	57	40	16	60	M5	28	
851610	NBC-16/20-46	16	20	59	46	16	30	M5	36	
852010	NBC-20/25-46	20	25	59	46	16	30	M6	36	
852510	NBC-25/32-50	25	32	67	50	16	30	M6	44	
853210	NBC-32/40-55	32	40	75	55	16	30	M6	52	
854010	NBC-40/50-62	40	50	94	62	18	30	M6	62	
854210	NBC-42/50-62	42	50	94	62	18	30	M6	62	
855010	NBC-50/60-70	50	60	100	70	18	30	M6	76	
856010	NBC-60/80-100	60	80	117	100	20	30	2 X M6	98	
858010	NBC-80/100-120	80	100	142	120	20	30	2 X M6	118	



## ETP HYDRO-FIX® NBE

Hydraulic high precision clamping system



### Technical Specification

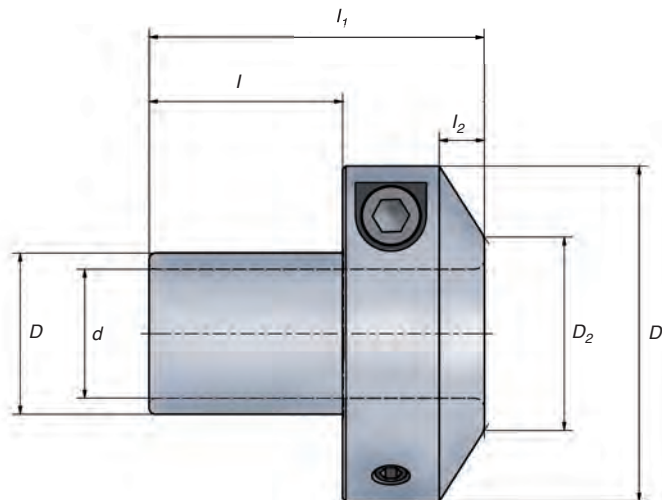
Part no.	Item description	Dimensions, mm					Screw DIN 915, 12.9	
		$D_3^*$	$D_4$	R	$l_1$	$l_2$	G	R1
852030	NBE-20/25-46	20	25	36	46	16	M6	18
852530	NBE-25/32-50	25	32	44	50	16	M6	22
853230	NBE-32/40-55	32	40	52	55	16	M6	26
854230	NBE-42/50-62	42	50	62	62	18	M6	31

Runout accuracy  $\leq 0.015$  mm,  $\leq 0.0006$  inch

\* d = Toolbar (tolerance h7) or reducing sleeve dimension to be used.

• D = Toolholder bore tolerance H7

• We recommend the use of cylindrical toolbars. For non-cylindrical toolbars we recommend the use of a reducing sleeve to avoid plastic deformation of ETP ECOGRIP.



## ETP ECOGRIP®

### Hydraulic high precision clamping system

#### Technical Specification

Dimensions, mm and inch

Part no.	Item description	d	D	D <sub>1</sub>	D <sub>2</sub>	l	l <sub>1</sub>	l <sub>2</sub>
● 686820	ECOGRIP-20/25-52	20	25	52	30	30	52	7
● 686825	ECOGRIP-25/32-56	25	32	59	35	34	56	7
● 686832	ECOGRIP-32/40-60	32	40	69,5	42	38	60	7
● 686819	ECOGRIP-3/4"/1"-52	0.750	1.000	2.047	1.181	1.181	2.047	0.276
● 686826	ECOGRIP-1"/1 1/4"-56	1.000	1.250	2.323	1.378	1.339	2.205	0.276



#### Accessories

##### Digital Spirit level

For easy toolbar alignment use the ETP Digital Spirit level.

Most NC operated turret lathes have a slide tilting 30 to 45 degrees. When the lathe is in operation the turret will move along its slide. Thus, if the turret is tilting 40 degrees, then the milled down reference surface of the tool bar must have the same tilt angle.

For this reason a quick and reliable method using the ETP Digital Spirit level equipped with a strong magnet, has been developed.

Item description	Part no.
● ETP Digital Spirit level*	885010

\*) 3x CR2032 battery - not included.

- From stock
- On request

# ETP HYDRO-GRIP® Grinding holder



## Benefits and features

- High run-out accuracy  $\leq 0,004$  mm ( $\leq 0.00016$  inch).
- Easy handling and tool change.
- High clamping force.
- Vibration dampening.
- Flexibility in clamping range – use of reducing sleeves possible.

**Grinding  
holder**

We are happy to introduce our newest addition to the range of high quality hydraulic toolholders – **HYDRO-GRIP Grinding holder**. With the combination of extreme

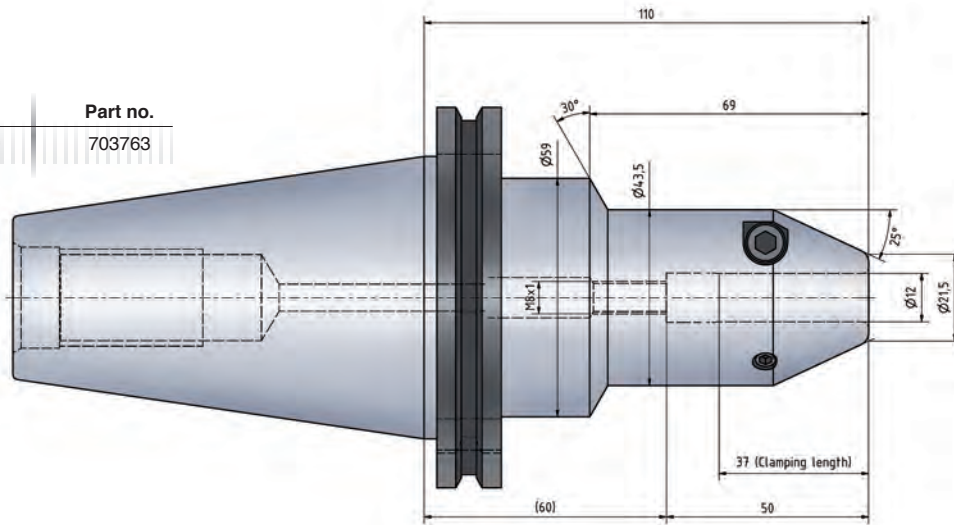
high precision and easy handling and tool change a massive improvement in productivity can be reached. Quicker set-up times and improved repeat accuracy during

sharpening of tools will save you time and money. The possibility to use reduction sleeves in the hydraulic holder also increases your flexibility.

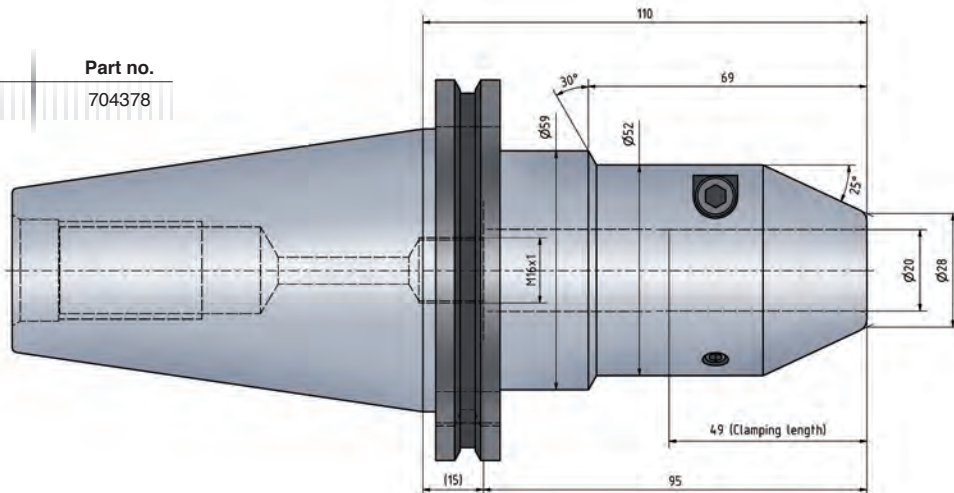
# ETP HYDRO-GRIP® Grinding holder

## Technical specification

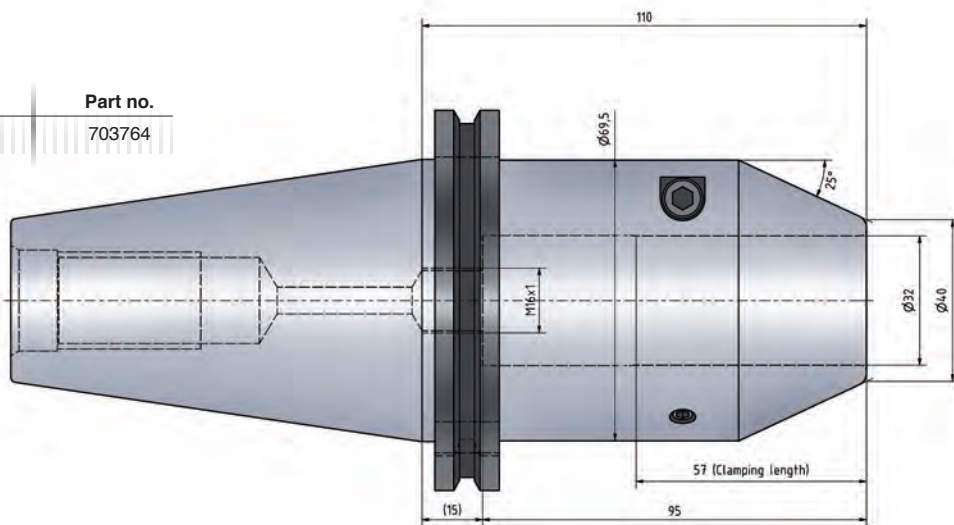
Item description	Part no.
● ETP HGS-12x110/ISO50	703763



Item description	Part no.
● ETP HGS-20x110/ISO50	704378



Item description	Part no.
● ETP HGS-32x110/ISO50	703764



For more information and to receive your quote, contact ETP.

Additional shank types available on request.

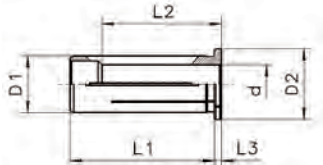
# Accessories

## Reduction Sleeves for ETP Toolholders

The reduction sleeves are designed to fit with the ETP Toolholders. They are specially suited for high precision clamping of cylindrical tool shanks per DIN 6335 form HA, HB and HE, as well as tool shanks per DIN 1835 form B, C, D and E.

The special design of the reduction sleeves allows an efficient use of coolant through cutting tools.

Outer-Ø of reduction sleeve corresponds to the type.  
 HS12 = Ø 12 mm  
 HS20 = Ø 20 mm  
 HS25 = Ø 25 mm  
 HS32 = Ø 32 mm



### Benefits and features

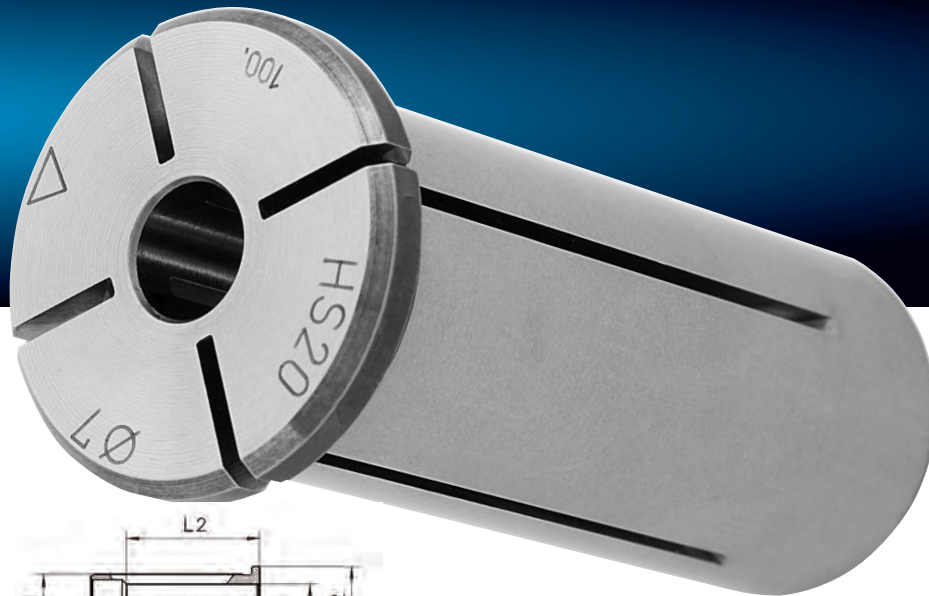
- Standard version HS suited for internal cooling**  
 Metal-to-metal seal for cutting tools with internal coolant channels.
- HS-CF version suited for peripheral cooling**  
 The coolant flush reduction sleeves HS-CF can be used for peripheral cooling due to their coolant channels.
- Accurate precision**  
 High runout accuracy  $\leq 3 \mu\text{m}$  (0.00012 inch).
- High flexibility**  
 Clamping of different tool shank diameters. 12, 20, 25, 32 mm and 1/2", 3/4", 1", 1 1/4".
- Power increase**  
 When using reduction sleeves the transmittable torque is increased.

### Reduction Sleeves mm to mm

Item description	d [mm]	Part no.	D1 [mm]	D2 [mm]	L1 [mm]	L2 [mm]	L3 [mm]
<b>Reduction Sleeves HS 12-MB (Micro Bore)</b>							
○ HS 12-MB / 1 mm	1.000	R1912.01009	12	16	40	20	4
○ HS 12-MB / 1,5 mm	1.500	R1912.01509	12	16	40	20	4
○ HS 12-MB / 2 mm	2.000	R1912.02009	12	16	40	20	4
○ HS 12-MB / 2,5 mm	2.500	R1912.02509	12	16	40	20	4
<b>Reduction Sleeves HS 12</b>							
● HS 12 / 3 mm	3.000	R1912.03000	12	16	40	29	4
● HS 12 / 4 mm	4.000	R1912.04000	12	16	40	29	4
● HS 12 / 5 mm	5.000	R1912.05000	12	16	40	29	4
● HS 12 / 6 mm	6.000	R1912.06000	12	16	40	36	4
○ HS 12 / 7 mm	7.000	R1912.07000	12	16	40	37	4
● HS 12 / 8 mm	8.000	R1912.08000	12	16	40	37	4
○ HS 12 / 9 mm	9.000	R1912.09000	12	16	40	37	4
● HS 12 / 10 mm	10.000	R1912.10000	12	16	40	40	4

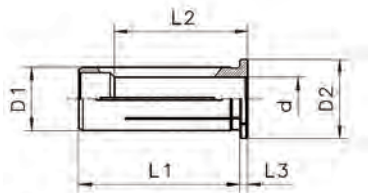
### Reduction Sleeves mm to mm

Item description	d [mm]	Part no.	D1 [mm]	D2 [mm]	L1 [mm]	L2 [mm]	L3 [mm]
<b>Reduction Sleeves HS 12-CF</b>							
○ HS 12-CF / 3 mm	3.000	R1912.03002	12	16	40	29	4
● HS 12-CF / 4 mm	4.000	R1912.04002	12	16	40	29	4
○ HS 12-CF / 5 mm	5.000	R1912.05002	12	16	40	29	4
● HS 12-CF / 6 mm	6.000	R1912.06002	12	16	40	36	4
○ HS 12-CF / 8 mm	8.000	R1912.08002	12	16	40	37	4
<b>Reduction Sleeves HS 20</b>							
● HS 20 / 3 mm	3.000	R1920.03000	20	25	50	28	4
● HS 20 / 4 mm	4.000	R1920.04000	20	25	50	28	4
● HS 20 / 5 mm	5.000	R1920.05000	20	25	50	28	4
● HS 20 / 6 mm	6.000	R1920.06000	20	25	50	36	4
○ HS 20 / 7 mm	7.000	R1920.07000	20	25	50	38	4
● HS 20 / 8 mm	8.000	R1920.08000	20	25	50	37	4
○ HS 20 / 9 mm	9.000	R1920.09000	20	25	50	38	4
● HS 20 / 10 mm	10.000	R1920.10000	20	25	50	40	4
○ HS 20 / 11 mm	11.000	R1920.11000	20	25	50	40	4
● HS 20 / 12 mm	12.000	R1920.12000	20	25	50	45	4
○ HS 20 / 13 mm	13.000	R1920.13000	20	25	50	45	4
○ HS 20 / 14 mm	14.000	R1920.14000	20	25	50	45	4
● HS 20 / 15 mm	15.000	R1920.15000	20	25	50	45	4
● HS 20 / 16 mm	16.000	R1920.16000	20	25	50	48	4
● HS 20 / 18 mm	18.000	R1920.18000	20	25	50	48	4
<b>Reduction Sleeves HS 20-CF</b>							
○ HS 20-CF / 3 mm	3.000	R1920.03002	20	25	50	28	4
○ HS 20-CF / 4 mm	4.000	R1920.04002	20	25	50	28	4
○ HS 20-CF / 5 mm	5.000	R1920.05002	20	25	50	28	4
○ HS 20-CF / 6 mm	6.000	R1920.06002	20	25	50	36	4
○ HS 20-CF / 8 mm	8.000	R1920.08002	20	25	50	37	4
○ HS 20-CF / 10 mm	10.000	R1920.10002	20	25	50	40	4
● HS 20-CF / 12 mm	12.000	R1920.12002	20	25	50	45	4
○ HS 20-CF / 14 mm	14.000	R1920.14002	20	25	50	45	4
○ HS 20-CF / 16 mm	16.000	R1920.16002	20	25	50	48	4
<b>Reduction Sleeves HS 25</b>							
● HS 25 / 3 mm	3.000	R1925.03000	25	30	56	29	4
● HS 25 / 4 mm	4.000	R1925.04000	25	30	56	29	4
● HS 25 / 5 mm	5.000	R1925.05000	25	30	56	29	4
● HS 25 / 6 mm	6.000	R1925.06000	25	30	56	37	4
○ HS 25 / 7 mm	7.000	R1925.07000	25	30	56	37	4
● HS 25 / 8 mm	8.000	R1925.08000	25	30	56	37	4
○ HS 25 / 9 mm	9.000	R1925.09000	25	30	56	38	4
● HS 25 / 10 mm	10.000	R1925.10000	25	30	56	40	4
● HS 25 / 12 mm	12.000	R1925.12000	25	30	56	46	4
● HS 25 / 14 mm	14.000	R1925.14000	25	30	56	47	4
● HS 25 / 16 mm	16.000	R1925.16000	25	30	56	48	4
● HS 25 / 18 mm	18.000	R1925.18000	25	30	56	48	4
● HS 25 / 20 mm	20.000	R1925.20000	25	30	56	50	4
<b>Reduction Sleeves HS 32</b>							
○ HS 32 / 3 mm	3.000	R1932.03000	32	36	60	29	4
○ HS 32 / 4 mm	4.000	R1932.04000	32	36	60	29	4
○ HS 32 / 5 mm	5.000	R1932.05000	32	36	60	29	4
● HS 32 / 6 mm	6.000	R1932.06000	32	36	60	36	4
○ HS 32 / 7 mm	7.000	R1932.07000	32	36	60	37	4
● HS 32 / 8 mm	8.000	R1932.08000	32	36	60	36	4
○ HS 32 / 9 mm	9.000	R1932.09000	32	36	60	37	4
● HS 32 / 10 mm	10.000	R1932.10000	32	36	60	40	4
○ HS 32 / 11 mm	11.000	R1932.11000	32	36	60	40	4
● HS 32 / 12 mm	12.000	R1932.12000	32	36	60	45	4
○ HS 32 / 13 mm	13.000	R1932.13000	32	36	60	45	4
● HS 32 / 14 mm	14.000	R1932.14000	32	36	60	46	4
○ HS 32 / 15 mm	15.000	R1932.15000	32	36	60	46	4
● HS 32 / 16 mm	16.000	R1932.16000	32	36	60	48	4
○ HS 32 / 17 mm	17.000	R1932.17000	32	36	60	48	4
● HS 32 / 18 mm	18.000	R1932.18000	32	36	60	49	4
○ HS 32 / 19 mm	19.000	R1932.19000	32	36	60	49	4
● HS 32 / 20 mm	20.000	R1932.20000	32	36	60	50	4
● HS 32 / 22 mm	22.000	R1932.22000	32	36	60	50	4
● HS 32 / 25 mm	25.000	R1932.25000	32	36	60	56	4
<b>Reduction Sleeves HS 32-CF</b>							
○ HS 32-CF / 6 mm	6.000	R1932.06002	32	36	60	36	4
○ HS 32-CF / 8 mm	8.000	R1932.08002	32	36	60	36	4
○ HS 32-CF / 10 mm	10.000	R1932.10002	32	36	60	40	4
○ HS 32-CF / 12 mm	12.000	R1932.12002	32	36	60	45	4
○ HS 32-CF / 14 mm	14.000	R1932.14002	32	36	60	46	4
○ HS 32-CF / 16 mm	16.000	R1932.16002	32	36	60	48	4
○ HS 32-CF / 18 mm	18.000	R1932.18002	32	36	60	49	4
○ HS 32-CF / 20 mm	20.000	R1932.20002	32	36	60	50	4
○ HS 32-CF / 25 mm	25.000	R1932.25002	32	36	60	56	4



Outer-Ø of reduction sleeve corresponds to the type.

- HS 1/2" = Ø 1/2"
- HS 3/4" = Ø 3/4"
- HS 1" = Ø 1"
- HS 1 1/4" = Ø 1 1/4"



### Reduction Sleeves inch to inch

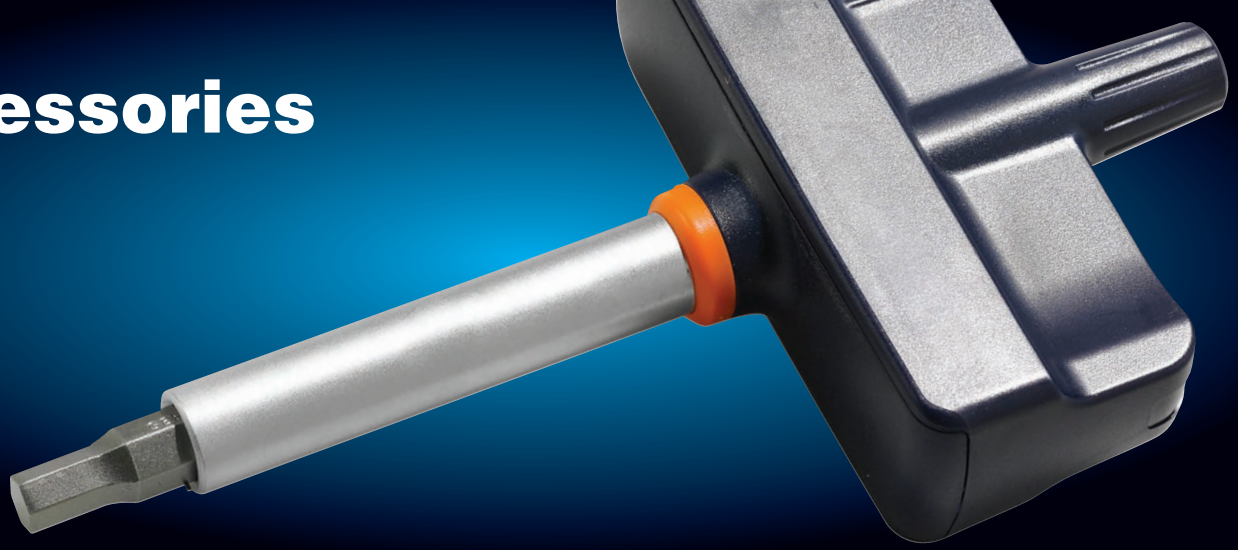
Item description	d [inch"]	Part no.	D1 [inch"]	D2 [inch"]	L1 [inch"]	L2 [inch"]	L3 [inch"]
<b>Reduction Sleeves HS 1/2"</b>							
● HS 1/2" / 1/8"	0.1250	R1913.03182	0.500	0.630	1.575	1.142	0.157
● HS 1/2" / 3/16"	0.1875	R1913.04762	0.500	0.630	1.575	1.142	0.157
● HS 1/2" / 1/4"	0.2500	R1913.06352	0.500	0.630	1.575	1.417	0.157
● HS 1/2" / 5/16"	0.3125	R1913.07942	0.500	0.630	1.575	1.457	0.157
● HS 1/2" / 3/8"	0.3750	R1913.09522	0.500	0.630	1.575	1.575	0.157
<b>Reduction Sleeves HS 3/4"</b>							
● HS 3/4" / 1/8"	0.1250	R1919.03182	0.750	0.984	1.969	1.102	0.157
● HS 3/4" / 3/16"	0.1875	R1919.04762	0.750	0.984	1.969	1.102	0.157
● HS 3/4" / 1/4"	0.2500	R1919.06352	0.750	0.984	1.969	1.417	0.157
● HS 3/4" / 5/16"	0.3125	R1919.07942	0.750	0.984	1.969	1.457	0.157
● HS 3/4" / 3/8"	0.3750	R1919.09522	0.750	0.984	1.969	1.417	0.157
● HS 3/4" / 7/16"	0.4375	R1919.11112	0.750	0.984	1.969	1.575	0.157
● HS 3/4" / 1/2"	0.5000	R1919.12702	0.750	0.984	1.969	1.772	0.157
● HS 3/4" / 9/16"	0.5625	R1919.14292	0.750	0.984	1.969	1.772	0.157
● HS 3/4" / 5/8"	0.6250	R1919.15882	0.750	0.984	1.969	1.890	0.157
<b>Reduction Sleeves HS 1"</b>							
● HS 1" / 1/8"	0.1250	R1926.03182	1.000	1.181	2.205	1.142	0.157
○ HS 1" / 3/16"	0.1875	R1926.04762	1.000	1.181	2.205	1.142	0.157
● HS 1" / 1/4"	0.2500	R1926.06352	1.000	1.181	2.205	1.457	0.157
○ HS 1" / 5/16"	0.3125	R1926.07942	1.000	1.181	2.205	1.457	0.157
● HS 1" / 3/8"	0.3750	R1926.09522	1.000	1.181	2.205	1.496	0.157
○ HS 1" / 7/16"	0.4375	R1926.11112	1.000	1.181	2.205	1.575	0.157
● HS 1" / 1/2"	0.5000	R1926.12702	1.000	1.181	2.205	1.811	0.157
○ HS 1" / 9/16"	0.5625	R1926.14292	1.000	1.181	2.205	1.850	0.157
● HS 1" / 5/8"	0.6250	R1926.15882	1.000	1.181	2.205	1.890	0.157
○ HS 1" / 11/16"	0.6875	R1926.17462	1.000	1.181	2.205	1.890	0.157
● HS 1" / 3/4"	0.7500	R1926.19052	1.000	1.181	2.205	1.890	0.157
<b>Reduction Sleeves HS 1 1/4"</b>							
○ HS 1 1/4" / 3/16"	0.1875	R1931.04762	1.250	1.417	2.362	1.142	0.157
○ HS 1 1/4" / 1/4"	0.2500	R1931.06352	1.250	1.417	2.362	1.417	0.157
○ HS 1 1/4" / 5/16"	0.3125	R1931.07942	1.250	1.417	2.362	1.417	0.157
● HS 1 1/4" / 3/8"	0.3750	R1931.09522	1.250	1.417	2.362	1.457	0.157
○ HS 1 1/4" / 7/16"	0.4375	R1931.11112	1.250	1.417	2.362	1.772	0.157
● HS 1 1/4" / 1/2"	0.5000	R1931.12702	1.250	1.417	2.362	1.772	0.157
○ HS 1 1/4" / 9/16"	0.5625	R1931.14292	1.250	1.417	2.362	1.811	0.157
● HS 1 1/4" / 5/8"	0.6250	R1931.15882	1.250	1.417	2.362	1.811	0.157
○ HS 1 1/4" / 11/16"	0.6875	R1931.17462	1.250	1.417	2.362	1.890	0.157
● HS 1 1/4" / 3/4"	0.7500	R1931.19052	1.250	1.417	2.362	1.969	0.157
● HS 1 1/4" / 1"	1.000	R1931.25402	1.250	1.417	2.362	2.205	0.157

- From stock
- On request

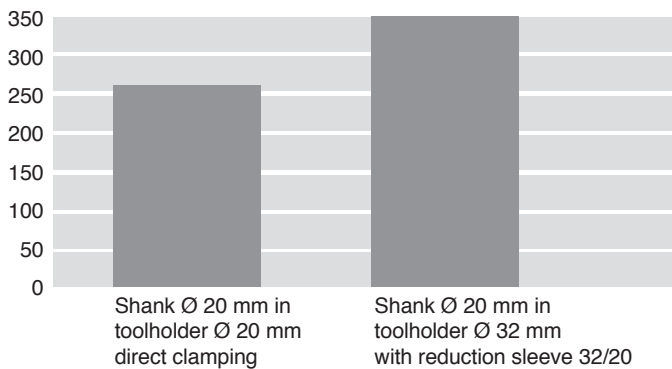
### Reduction Sleeves mm to inch

Item description	d [inch"]	Part no.	D1 [mm]	D2 [mm]	L1 [mm]	L2 [mm]	L3 [mm]
<b>Reduction Sleeves HS 12</b>							
● HS 12 / 1/8"	0.1250	R1912.03181	12	16	40	29	4
● HS 12 / 3/16"	0.1875	R1912.04761	12	16	40	29	4
● HS 12 / 1/4"	0.2500	R1912.06351	12	16	40	29	4
● HS 12 / 5/16"	0.3125	R1912.07941	12	16	40	36	4
● HS 12 / 3/8"	0.3750	R1912.09521	12	16	40	37	4
<b>Reduction Sleeves HS 20</b>							
● HS 20 / 1/8"	0.1250	R1920.03181	20	25	50	28	4
● HS 20 / 3/16"	0.1875	R1920.04761	20	25	50	28	4
● HS 20 / 1/4"	0.2500	R1920.06351	20	25	50	36	4
● HS 20 / 5/16"	0.3125	R1920.07941	20	25	50	37	4
● HS 20 / 3/8"	0.3750	R1920.09521	20	25	50	36	4
● HS 20 / 7/16"	0.4375	R1920.11111	20	25	50	40	4
● HS 20 / 1/2"	0.5000	R1920.12701	20	25	50	45	4
● HS 20 / 9/16"	0.5625	R1920.14291	20	25	50	45	4
● HS 20 / 5/8"	0.6250	R1920.15881	20	25	50	48	4
<b>Reduction Sleeves HS 25</b>							
● HS 25 / 1/8"	0.1250	R1925.03181	25	30	56	29	4
○ HS 25 / 3/16"	0.1875	R1925.04761	25	30	56	29	4
● HS 25 / 1/4"	0.2500	R1925.06351	25	30	56	37	4
○ HS 25 / 5/16"	0.3125	R1925.07941	25	30	56	37	4
● HS 25 / 3/8"	0.3750	R1925.09521	25	30	56	38	4
○ HS 25 / 7/16"	0.4375	R1925.11111	25	30	56	40	4
● HS 25 / 1/2"	0.5000	R1925.12701	25	30	56	46	4
○ HS 25 / 9/16"	0.5625	R1925.14291	25	30	56	47	4
● HS 25 / 5/8"	0.6250	R1925.15881	25	30	56	48	4
○ HS 25 / 11/16"	0.6875	R1925.17461	25	30	56	48	4
● HS 25 / 3/4"	0.7500	R1925.19051	25	30	56	48	4
○ HS 25 / 13/16"	0.8125	R1925.20631	25	30	56	50	4
<b>Reduction Sleeves HS 32</b>							
○ HS 32 / 3/16"	0.1875	R1932.04761	32	36	60	29	4
○ HS 32 / 1/4"	0.2500	R1932.06351	32	36	60	36	4
○ HS 32 / 5/16"	0.3125	R1932.07941	32	36	60	36	4
● HS 32 / 3/8"	0.3750	R1932.09521	32	36	60	37	4
○ HS 32 / 7/16"	0.4375	R1932.11111	32	36	60	45	4
● HS 32 / 1/2"	0.5000	R1932.12701	32	36	60	45	4
○ HS 32 / 9/16"	0.5625	R1932.14291	32	36	60	46	4
● HS 32 / 5/8"	0.6250	R1932.15881	32	36	60	46	4
○ HS 32 / 11/16"	0.6875	R1932.17461	32	36	60	48	4
● HS 32 / 3/4"	0.7500	R1932.19051	32	36	60	50	4
○ HS 32 / 13/16"	0.8125	R1932.20631	32	36	60	50	4
● HS 32 / 7/8"	0.8750	R1932.22221	32	36	60	50	4
○ HS 32 / 15/16"	0.9375	R1932.23811	32	36	60	52	4
● HS 32 / 1"	1.000	R1932.25401	32	36	60	56	4

# Accessories



## Comparison of Transmittable Torque at Ø 20 mm



## HYDRO-GRIP Torque wrench

Use torque wrench to ensure correct tightening independent on user. Should be used with all HYDRO-GRIP® holders.

Torque: 6 Nm (4.4 ft · lb):

HYDRO-GRIP, HYDRO-GRIP PENCIL, ECOGRIP.

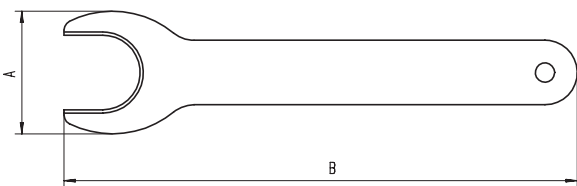
Torque: 10 Nm (7.4 ft · lb):

HYDRO-GRIP HD, HYDRO-FIX.



## Extractor

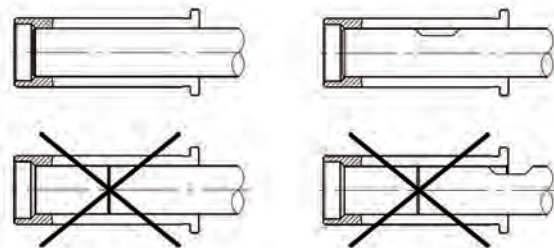
Item description	Part no.	For Sizes	A	B
			[mm]	[mm]
● EHS 12 - 1/2"	E7321.12000	HS 12	24.6	100
● EHS 20 - 3/4"	E7321.20000	HS 20	38.0	160
● EHS 25 - 1"	E7321.25000	HS 25	51.0	180
● EHS 32 - 1 1/4"	E7321.32000	HS 32	63.0	200



The extractor helps to remove the reduction sleeve from the toolholder.

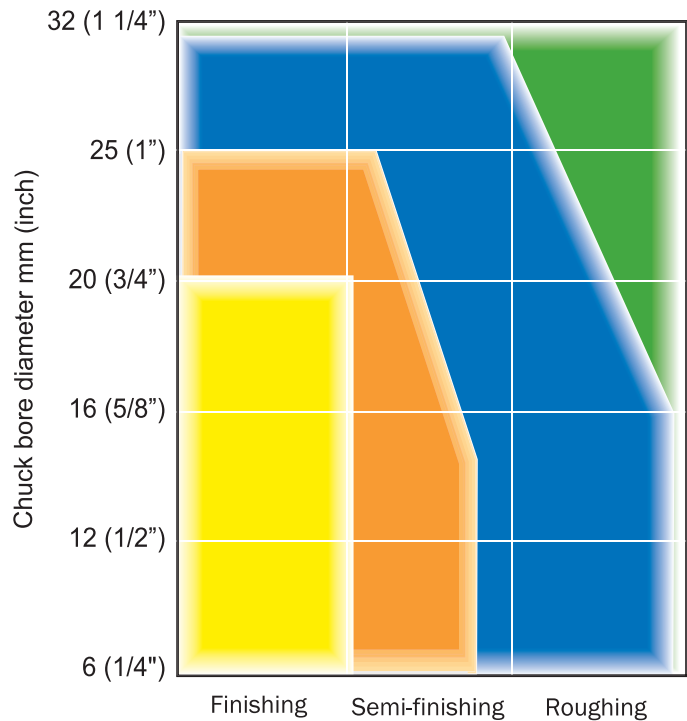
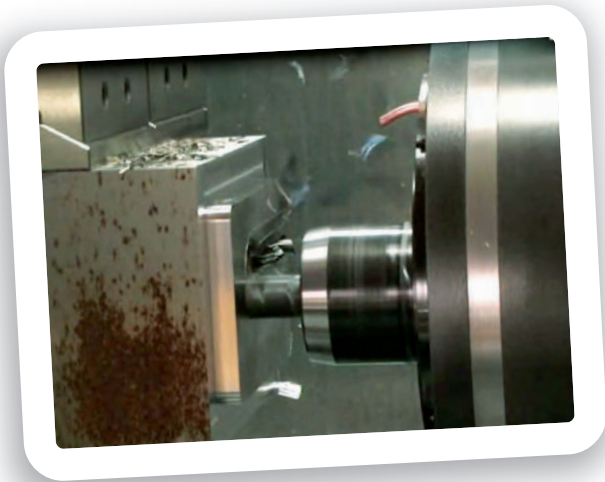
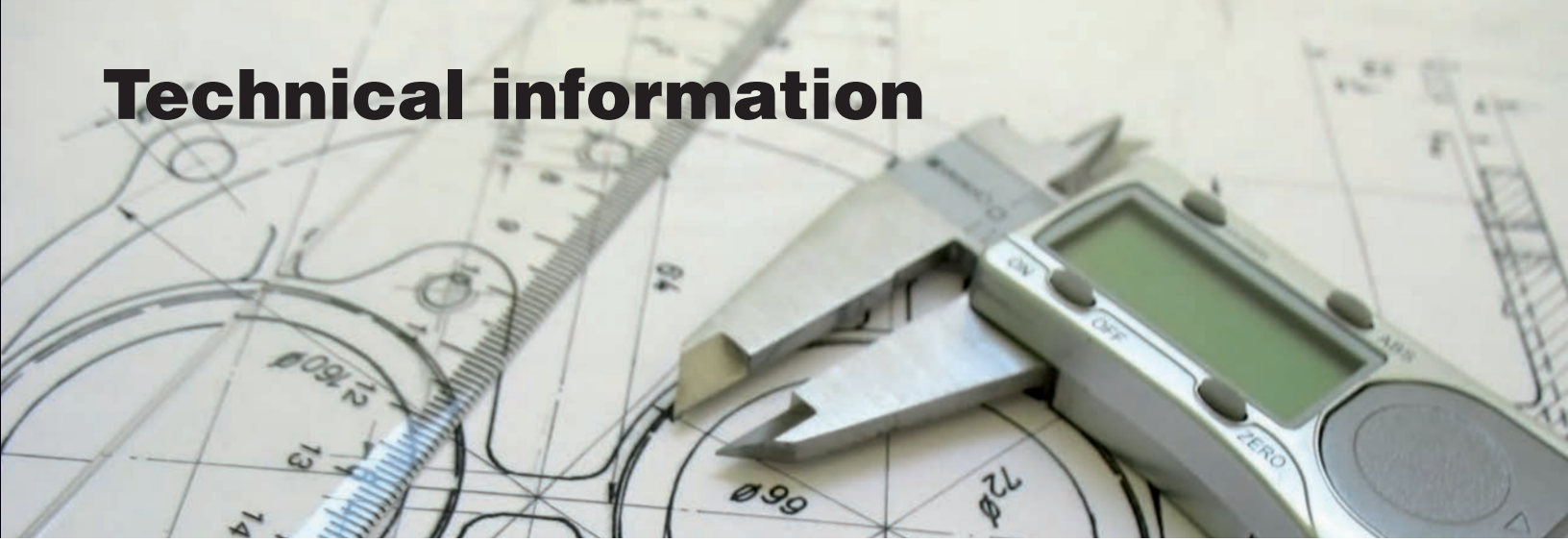
Item description	Tightening torque:	Part no.
● HYDRO-GRIP Torque wrench (5 mm Hex)	6 Nm (4.4 ft · lb)	19050
● HYDRO-GRIP HD Torque wrench (5 mm Hex)	10 Nm (7.4 ft · lb)	19052
● HYDRO-FIX Torque wrench (6 mm Hex)	10 Nm (7.4 ft · lb)	19053

- ! Improper assembly can damage the concentricity of the reduction sleeve.
- ! Insert tools the full length of the reduction sleeve.
- ! Tool shank h6 or h7 can be used.
- ! Do not clamp reduction sleeve without a tool. Reduction Sleeve will be damaged.





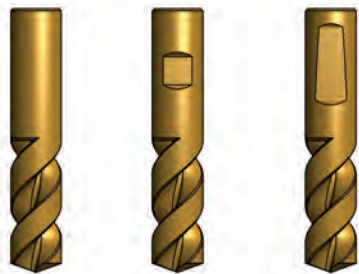
# Technical information



- HYDRO-GRIP HD
- HYDRO-GRIP PENCIL
- HYDRO-GRIP
- HYDRO-GRIP G2

## Application areas

With the extensive range of HYDRO-GRIP® high precision toolholders all application areas, from finishing to heavy roughing, is covered. Bore diameters 6 - 32 mm and 1/4 - 1 1/4" inch available.



$d_{mt}$  12 – 32 mm (1/2 - 1 1/4 inch)



$d_{mt}$  6 – 10 mm (1/4 - 3/8 inch)

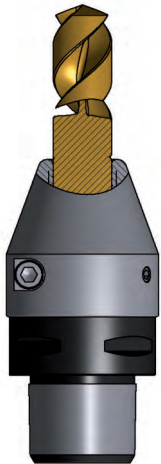
## Fastening of all types of tool shanks

We recommend the use of cylindrical tools for optimal performance and precision. However, all types of tools such as Weldon, Whistle Notch can be clamped. **Note:** exclusive of dimension 6 - 10 mm (1/4 - 3/8 inch)!

# Transmittable torque

The tables gives the minimum transmittable torque depending on the tool diameter and tolerance.

For optimal performance and precision we recommend the use of h6-tools. Also tools with h7 tolerance can be used, however the transmittable torque will decrease, see tables:



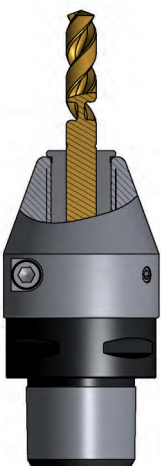
- at direct tool clamping

### HYDRO-GRIP torque transmission capacity at different tool tolerances

Tool diameter in mm (inches)		6 (1/4")	12 (1/2")	20 (3/4")	25 (1")	32 (1 1/4")
Tol. h6 min.	Nm (ft·lb)	6 (4.4)	60 (44)	260 (192)	480 (354)	820 (605)
Tol. h7 min.	Nm (ft·lb)	3 (2.2)	30 (22)	175 (129)	350 (258)	630 (465)
Tol. Max (0)	Nm (ft·lb)	14 (10)	110 (81)	425 (314)	710 (524)	1250 (922)

### HYDRO-GRIP HD torque transmission capacity at different tool tolerances

Tool diameter in mm (inches)		6 (1/4")	12 (1/2")	20 (3/4")	25 (1")	32 (1 1/4")
Tol. h6 min.	Nm (ft·lb)	-	-	400 (295)	740 (546)	1325 (977)
Tol. h7 min.	Nm (ft·lb)	-	-	330 (243)	630 (465)	1140 (841)
Tol. Max (0)	Nm (ft·lb)	-	-	535 (395)	940 (693)	1670 (1232)



- at clamping with reducing sleeve

“By reducing the tool clamping length, an increase accessibility can be reached when machining. Below table indicates the reduction in torque capacity in such a case. For short time use only!”

### ETP ECOGRIP torque transmission capacity at different tool tolerances

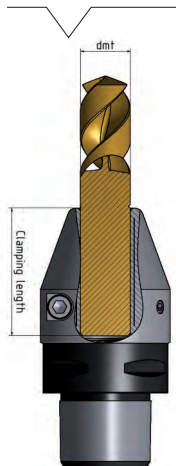
Tool diameter in mm (inches)		6 (1/4")	12 (1/2")	20 (3/4")	25 (1")	32 (1 1/4")
Tol. h6 min.	Nm (ft·lb)	-	50 (37)	230 (170)	420 (310)	660 (487)
Tol. h7 min.	Nm (ft·lb)	-	25 (18)	160 (118)	320 (236)	520 (384)
Tol. Max (0)	Nm (ft·lb)	-	100 (74)	350 (258)	590 (435)	950 (701)

### HYDRO-GRIP torque transmission capacity using reducing sleeves

Holder mm (inch)	Tool with reducing sleeve in mm (inches)							
	12 (1/2")	20 (3/4")	25 (1")	32 (1 1/4")				
12 (1/2")	60 (44)	-	-	-				
20 (3/4")	95 (70)	260 (192)	-	-				
25 (1")	140 (103)	235 (173)	480 (354)	-				
32 (1 1/4")	190 (140)	350 (258)	520 (384)	820 (605)				

### HYDRO-GRIP HD torque transmission capacity using reducing sleeves

Holder mm (inch)	Tool with reducing sleeve in mm (inches)							
	12 (1/2")	20 (3/4")	25 (1")	32 (1 1/4")				
12 (1/2")	-	-	-	-				
20 (3/4")	170 (125)	400 (295)	-	-				
25 (1")	260 (192)	470 (347)	740 (546)	-				
32 (1 1/4")	340 (251)	640 (472)	950 (701)	1325 (977)				



- at reduced clamping length

### HYDRO-GRIP torque transmission capacity at different clamping lengths

Holder mm (inches)	Clamping length X diameter dmt									
	1,0		1,5		2,00		2,50		3,00	
12 (1/2")	5 (3.7)	15 (11)	25 (18)	40 (30)	60 (44)	35 (1.378)				
20 (3/4")	45 (33)	100 (74)	175 (129)	260 (192)	260 (192)	46,5 (1.831)				
25 (1")	110 (81)	235 (173)	440 (325)	480 (354)	480 (354)	50,5 (1.988)				
32 (1 1/4")	260 (192)	585 (431)	820 (605)	820 (605)	820 (605)	53,5 (2.106)				

\*) Min. length = recommended min. clamping length

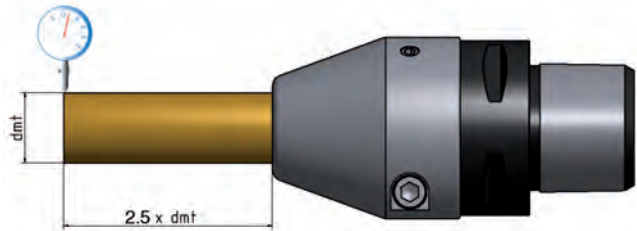
## Balancing:

All holders are dynamically balanced.  
See corresponding product pages for details.

## Runout:

All ETP holders are delivered with a high runout accuracy at time of delivery. The runout value is measured at  $2.5 \times d_{mt}$

See corresponding product pages for details.

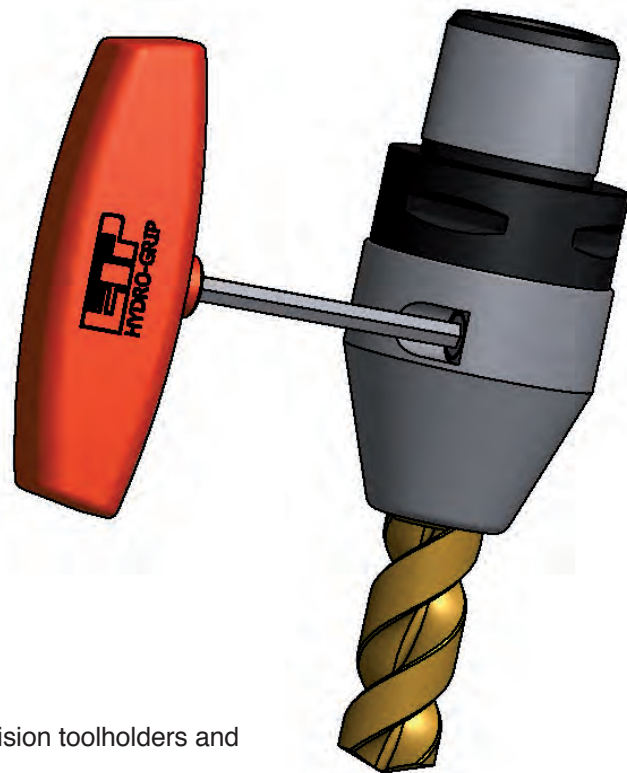


## Recommended tightening torque:

- HYDRO-GRIP 6 Nm (4.4 ft · lb)
- HYDRO-GRIP HD 10 Nm (7.4 ft · lb)
- ECOGRIP 6 Nm (4.4 ft · lb)

Always use a torque wrench for best chuck performance and repeatability.

- **Torque too high**  
may cause screw damage.
- **Torque too low**  
may cause tool vibration,  
tool movement, affects surface  
and tool accuracy, balancing.



## Handling:

ETP HYDRO-GRIP and ETP ECOGRIP are high precision toolholders and should be handled with care for optimal performance.

- **Before inserting tool, check for damages on tool and holder.**
- **Tools should be of correct dimension and tolerance (h6 or h7), and cleaned**
- **Do not use force to insert tool, it should easily slide in position**
- **Mount the tool by tightening the pressure screw to the recommended tightening torque, marked on the holder. Use a fixed torque wrench.**
- **When stored lubricate the holder with a thin oil for corrosion resistance.**
- **Do not use HYDRO-GRIP/ECOGRIP at working temperatures above 85 degrees C / 185 degrees F. Do not use HYDRO-GRIP HD at working temperatures above 70 degrees C / 158 degrees F. (This may increase the pressure in the holder and influence it negatively)**

ETP Transmission Inc.  
125 Old Gate Lane. Milford, CT 06460. US  
Phone: +1 203 877 8289 . Fax: +1 203 877 2348  
E-mail: [info@etpinc.com](mailto:info@etpinc.com), Internet: [www.etp.se](http://www.etp.se)



**ETP Transmission AB**

Box 1120, SE-581 11 Linköping, Sweden  
Tel. +46 (0)13 24 71 00, Fax +46 (0)13 24 71 90  
E-mail: [info@etp.se](mailto:info@etp.se), Internet: [www.etp.se](http://www.etp.se)