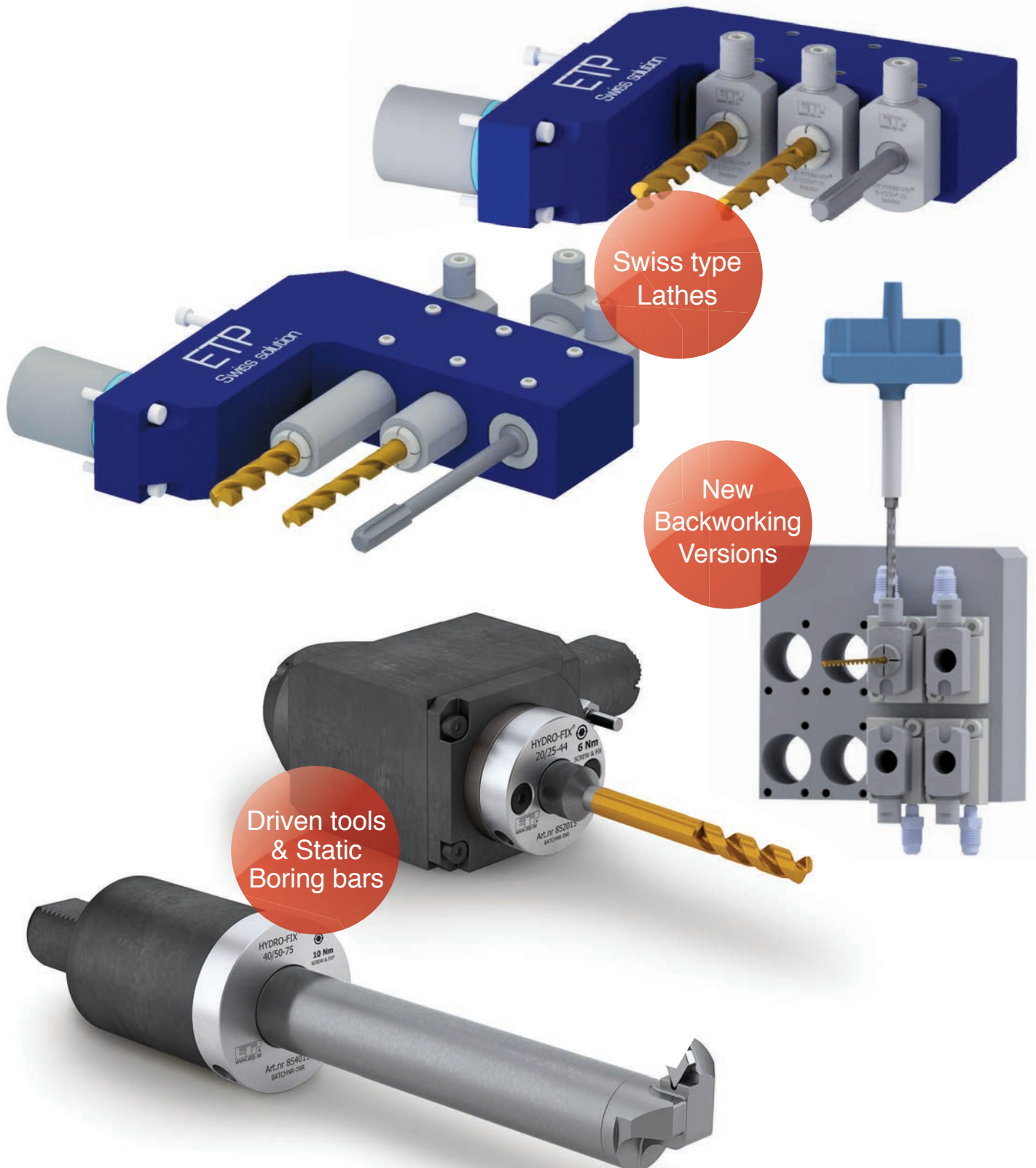


# ETP HYDRO-FIX®

Hydraulic high precision clamping holders



Swiss type  
Lathes

New  
Backworking  
Versions

Driven tools  
& Static  
Boring bars



# ETP HYDRO-FIX S<sup>®</sup>

Hydraulic high precision clamping holders

## Increases your productivity!



ETP HYDRO-FIX S clamping holders are excellent for static front and back operations such as drilling, reaming and boring. With the one screw fix system it is quick and easy to handle. Precision hydraulic tool centering is achieved and therefore the tool life and setup time is improved.

The clamping holders allows for larger/deeper drilling, quick tool changes, absorbs/reduces vibration, improves surface quality and best of all: increases your productivity!

### Static front & back working tools

#### BENEFITS & FEATURES

- Replaces ER11 – ER32 collet holders
- Use larger and longer tools
- Shank clamping range: 1 to 25 mm and 1/8" to 13/16" using reduction sleeves
- Quick and easy handling
- Reduced vibrations
- Improved surface quality
- Increased tool life

### Designs

#### Cylindrical

Hydraulic clamping on the tool shank and expansion of the holder inside the machine block!

Perfect centering



#### Flat

Hydraulic clamping on the tool shank!

Easy length adjustability





## What some of our clients say

”

*ETP Transmission has brought our deep hole drilling capabilities to a completely new level.*

**Nick Hamel**  
Computer Numerical Control  
Programmer at Mount Mfg.



### **ETP SWISS Toolholders - “a game changer” at Mount Mfg**

The medical device manufacturing company Mount MFG reached out to ETP Transmission with the hopes to streamline and improve their workflow within swiss turning.

A couple of months later the manufacturing company can say that the result is beyond their expectations.

”

*The versatility offered by ETP is amazing and from a safety perspective, these holders allow effortless tool changes in tight spaces without the wrenches slipping off. I can't wait to see what they produce next.*

**Seth Nickerson**  
Machine Technician Autocam Medical



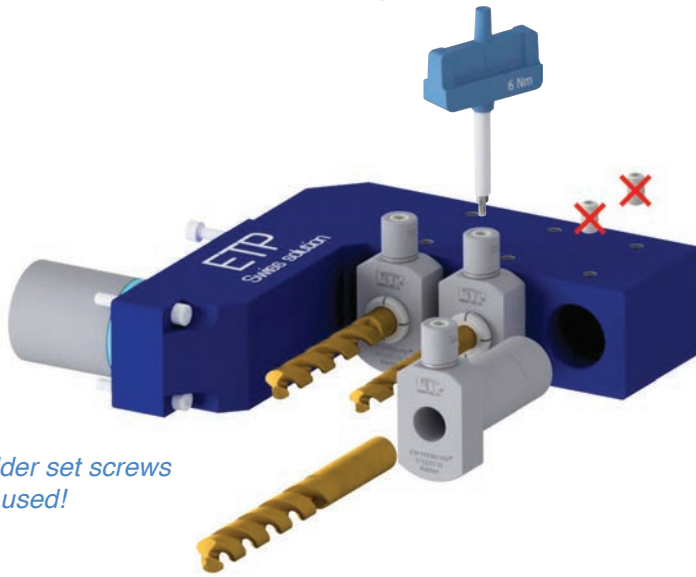
### **Medical Manufacturer Autocam Medical Chooses ETP – Requires the Best of the Best Tooling for Extremely Tight Tolerances**

The leading medical manufacturer, Autocam Medical, requires extreme precision to make their products, later used by a very demanding industry that performs life-changing

procedures. In February, the company made their first purchase of ETP HYDRO-FIX SWISS® and the versatility of the product makes them return, over and over again.

# ETP HYDRO-FIX SFC®

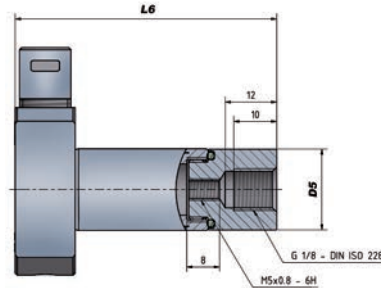
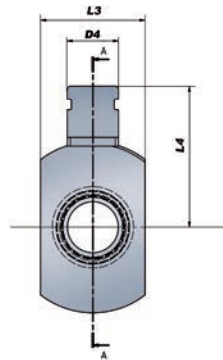
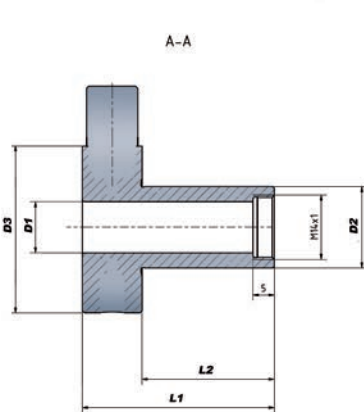
Front activation – Cylindrical design



Block/holder set screws are **NOT** used!



Perfect centering



Back stop/Coolant port G 1/8" – to be ordered separately

## Technical Specification

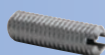
| Part no. | Item description            | Dimensions, mm |       |    |    |    |    |      |      | Dimensions with Back stop/Coolant port G 1/8" |       |  |
|----------|-----------------------------|----------------|-------|----|----|----|----|------|------|---|-------|--|
|          |                             | D1*            | D2**  | D3 | D4 | L1 | L2 | L3   | L4   | L6  | D5    | Part no. - Back stop/Coolant port G 1/8"<br>Includes adjustment screw M5x0.8-16*** |
| 670000   | HYDRO-FIX SFC-12/16-24      | 12             | 16    | 33 | 12 | 38 | 24 | 18.5 | 30.5 |   |       |  |
| 664090   | HYDRO-FIX SFC-12/3/4"-31    | 12             | 19.05 | 40 | 12 | 45 | 31 | 21.5 | 33   | 61  | 18.85 | 664000-10  |
| 664100   | HYDRO-FIX SFC-12/20-31      | 12             | 20    | 40 | 12 | 45 | 31 | 22.5 | 33   | 61  | 18.85 | 664000-10  |
| 663740   | HYDRO-FIX SFC-12/22-31      | 12             | 22    | 40 | 12 | 45 | 31 | 24.5 | 33   | 61  | 18.85 | 664000-10  |
| 664110   | HYDRO-FIX SFC-12/25-31      | 12             | 25    | 40 | 12 | 45 | 31 | 27.5 | 33   | 61  | 18.85 | 664000-10  |
| 664120   | HYDRO-FIX SFC-12/1"-31      | 12             | 25.4  | 40 | 12 | 45 | 31 | 27.5 | 33   | 61  | 18.85 | 664000-10  |
| 663750   | HYDRO-FIX SFC-20/25-30*     | 20             | 25    | 44 | 12 | 44 | 30 | 27.5 | 35   |   |       |  |
| 664130   | HYDRO-FIX SFC-20/1"-30*     | 20             | 25.4  | 44 | 12 | 44 | 30 | 27.5 | 35   |   |       |  |
| 664140   | HYDRO-FIX SFC-25/1 1/4"-34* | 25             | 31.75 | 50 | 12 | 48 | 34 | 34.5 | 38   |   |       |  |
| 663760   | HYDRO-FIX SFC-25/32-34*     | 25             | 32    | 50 | 12 | 48 | 34 | 34.5 | 38   |   |       |  |

\*) These sizes are **NOT** threaded with an M14x1 for a Back stop/coolant port. Pressure screw angled 15°.



### Information:

- \*) Tool/toolbar shank h6 or h7 can be used.
- \*\*) Recommended tolerance of toolholder bore - H7.
- \*\*\*) Adjustment screw M5x0.8-16 can also be ordered separately as spare part. Part no. S041



### Accessories:

Use preset Torque Wrench to ensure correct mounting of tools. 6 Nm - Part no. 19055

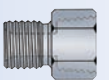


ETP HYDRO-FIX can be used with reduction sleeves. For additional information see section Accessories.

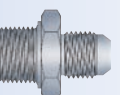


### Adaptors:

Male G 1/8" to Female 1/8" NPT Part no. 19151

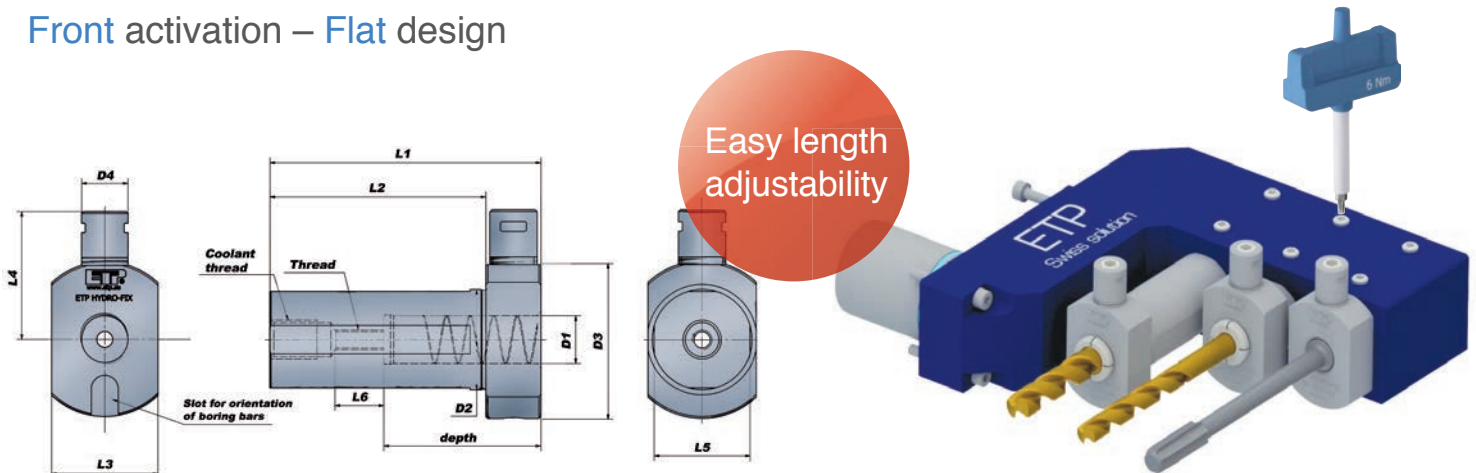


Male G 1/8" to Male 1/4" JIC Part no. 19150



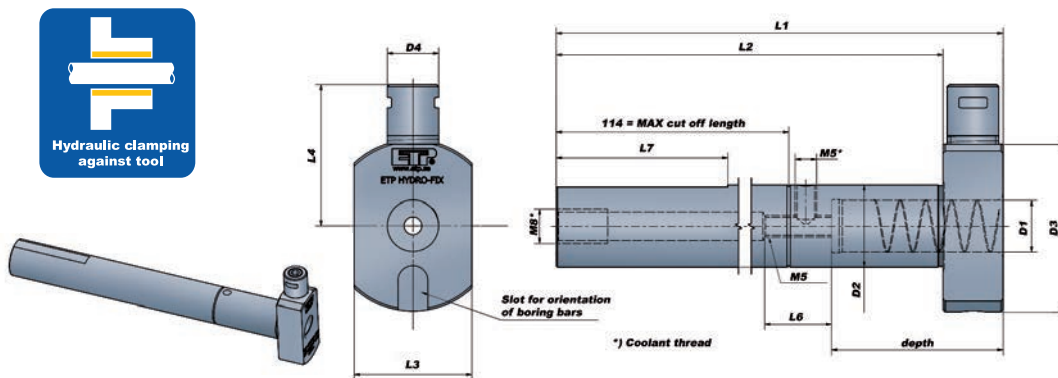
# ETP HYDRO-FIX SFF®

Front activation – Flat design



Set screws are used to clamp on the milled flat, after adjusting the length of the assembly.

| Technical Specification |                          | Dimensions, mm |       |    |    |     |     |       |      |    |       |             |    |                               |
|-------------------------|--------------------------|----------------|-------|----|----|-----|-----|-------|------|----|-------|-------------|----|-------------------------------|
| Part no.                | Item description         | D1             | D2    | D3 | D4 | L1  | L2  | depth | L3   | L4 | L5    | Thread      | L6 | Coolant thread<br>DIN ISO 228 |
| 706010                  | HYDRO-FIX SFF-12/3/4"-50 | 12             | 19.05 | 40 | 12 | 64  | 50  | 40    | 21.5 | 33 | 18.05 | M5x0.8 - 6H | 7  | G 1/8                         |
| 706158                  | HYDRO-FIX SFF-12/3/4"-75 | 12             | 19.05 | 40 | 12 | 89  | 75  | 40    | 21.5 | 33 | 18.05 | M5x0.8 - 6H | 16 | G 1/8                         |
| 706159                  | HYDRO-FIX SFF-12/20-75   | 12             | 20    | 40 | 12 | 89  | 75  | 40    | 22.5 | 33 | 19    | M5x0.8 - 6H | 16 | G 1/8                         |
| 706012                  | HYDRO-FIX SFF-12/25-150  | 12             | 25    | 40 | 12 | 164 | 150 | 40    | 27.5 | 33 | 24    | M5x0.8 - 6H | 16 | G 1/8                         |
| 706053                  | HYDRO-FIX SFF-12/1"-55   | 12             | 25.4  | 40 | 12 | 69  | 55  | 40    | 27.5 | 33 | 24.4  | M5x0.8 - 6H | 12 | G 1/8                         |
| 706011                  | HYDRO-FIX SFF-12/1"-100  | 12             | 25.4  | 40 | 12 | 114 | 100 | 40    | 27.5 | 33 | 24.4  | M5x0.8 - 6H | 16 | G 1/8                         |



Cut to length

With the below range of SFF versions you have the possibility to cut your holder to a desired length!

| Technical Specification |                           | Dimensions, mm |       |    |    |     |     |       |      |    |    |              |    |  |
|-------------------------|---------------------------|----------------|-------|----|----|-----|-----|-------|------|----|----|--------------|----|--|
| Part no.                | Item description          | D1             | D2    | D3 | D4 | L1  | L2  | depth | L3   | L4 | L7 | Thread       | L6 |  |
| 664200                  | HYDRO-FIX SFF-12/3/4"-150 | 12             | 19.05 | 40 | 12 | 164 | 150 | 40    | 19.5 | 33 | 40 | M5x0.8 - 6H  | 16 |  |
| 664210                  | HYDRO-FIX SFF-12/20-150   | 12             | 20    | 40 | 12 | 164 | 150 | 40    | 22.5 | 33 | 40 | M5x0.8 - 6H  | 16 |  |
| 664220                  | HYDRO-FIX SFF-12/22-150   | 12             | 22    | 40 | 12 | 164 | 150 | 40    | 24.5 | 33 | 40 | M5x0.8 - 6H  | 16 |  |
| 664230                  | HYDRO-FIX SFF-12/25-150   | 12             | 25    | 40 | 12 | 164 | 150 | 40    | 27.5 | 33 | 40 | M5x0.8 - 6H  | 16 |  |
| 664240                  | HYDRO-FIX SFF-12/1"-150   | 12             | 25.4  | 40 | 12 | 164 | 150 | 40    | 27.5 | 33 | 40 | M5 x0.8 - 6H | 16 |  |

**Information:**

\*) Tool/toolbar shank h6 or h7 can be used.  
 \*\*) Recommended tolerance of toolholder bore - H7.  
 Adjustment screw M5x0.8-16 included in shipment. It can also be ordered separately as spare part. Part no. S041

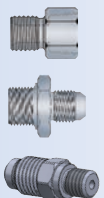
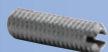
**Accessories:**

Use preset Torque Wrench to ensure correct mounting of tools. 6 Nm - Part no. 19055

ETP HYDRO-FIX can be used with reduction sleeves. For additional information see section Accessories.

**Adaptors:**

Male G 1/8" to Female 1/8" NPT Part no. 19151  
 Male G 1/8" to Male 1/4" JIC Part no. 19150  
 Male M8x1.25 to Male 1/4" JIC Part no. 19152



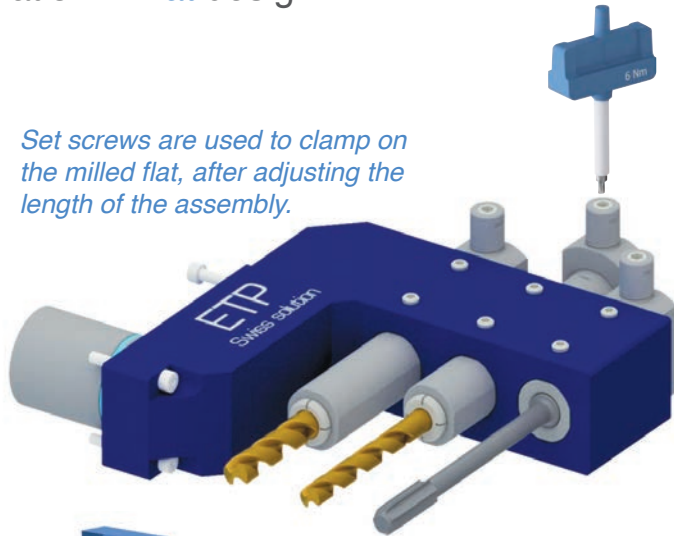


# ETP HYDRO-FIX SBF®

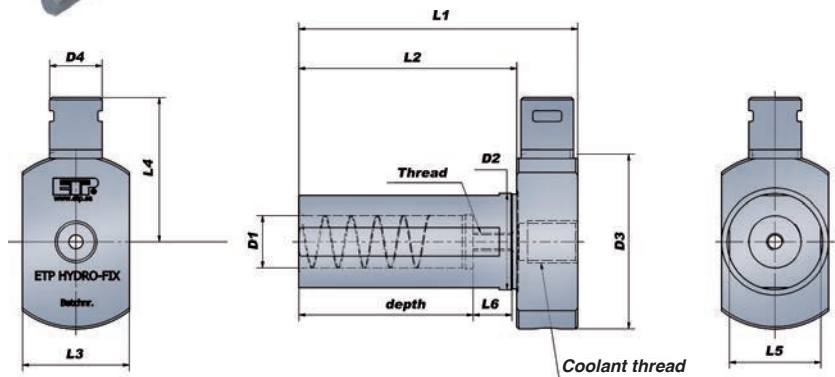
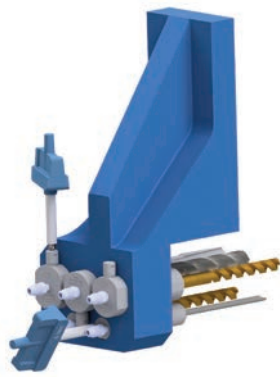
Back activation – Flat design



Set screws are used to clamp on the milled flat, after adjusting the length of the assembly.



Easy length adjustability



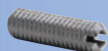
## Technical Specification

Dimensions, mm

| Part no. | Item description          | D1 | D2    | D3 | D4 | L1  | L2  | depth | L3   | L4 | L5   | Thread      | L6 | Coolant thread<br>DIN ISO 228 |
|----------|---------------------------|----|-------|----|----|-----|-----|-------|------|----|------|-------------|----|-------------------------------|
| 664000   | HYDRO-FIX SBF-12/3/4"-50  | 12 | 19.05 | 40 | 12 | 64  | 50  | 40    | 21.5 | 33 | 21   | M5x0.8 - 6H | 9  | G 1/8                         |
| 664010   | HYDRO-FIX SBF-12/3/4"-75  | 12 | 19.05 | 40 | 12 | 89  | 75  | 40    | 21.5 | 33 | 21   | M5x0.8 - 6H | 10 | G 1/8                         |
| 664020   | HYDRO-FIX SBF-12/3/4"-100 | 12 | 19.05 | 40 | 12 | 114 | 100 | 40    | 21.5 | 33 | 21   | M5x0.8 - 6H | 10 | G 1/8                         |
| 706337   | HYDRO-FIX SBF-12/20-50    | 12 | 20    | 40 | 12 | 64  | 50  | 40    | 22.5 | 33 | 19   | M5x0.8 - 6H | 7  | G 1/8                         |
| 664030   | HYDRO-FIX SBF-12/20-75    | 12 | 20    | 40 | 12 | 89  | 75  | 40    | 22.5 | 33 | 21   | M5x0.8 - 6H | 10 | G 1/8                         |
| 664040   | HYDRO-FIX SBF-12/20-100   | 12 | 20    | 40 | 12 | 114 | 100 | 40    | 22.5 | 33 | 21   | M5x0.8 - 6H | 10 | G 1/8                         |
| 663700   | HYDRO-FIX SBF-12/22-50    | 12 | 22    | 40 | 12 | 64  | 50  | 40    | 24.5 | 33 | 21   | M5x0.8 - 6H | 9  | G 1/8                         |
| 663770   | HYDRO-FIX SBF-12/22-75    | 12 | 22    | 40 | 12 | 89  | 75  | 40    | 24.5 | 33 | 21   | M5x0.8 - 6H | 10 | G 1/8                         |
| 663720   | HYDRO-FIX SBF-12/22-100   | 12 | 22    | 40 | 12 | 114 | 100 | 40    | 24.5 | 33 | 21   | M5x0.8 - 6H | 10 | G 1/8                         |
| 663780   | HYDRO-FIX SBF-12/22-115   | 12 | 22    | 40 | 12 | 129 | 115 | 40    | 24.5 | 33 | 21   | M5x0.8 - 6H | 10 | G 1/8                         |
| 663710   | HYDRO-FIX SBF-12/25-50    | 12 | 25    | 40 | 12 | 64  | 50  | 40    | 27.5 | 33 | 24   | M5x0.8 - 6H | 9  | G 1/8                         |
| 663790   | HYDRO-FIX SBF-12/25-75    | 12 | 25    | 40 | 12 | 89  | 75  | 40    | 27.5 | 33 | 24   | M5x0.8 - 6H | 10 | G 1/8                         |
| 663730   | HYDRO-FIX SBF-12/25-100   | 12 | 25    | 40 | 12 | 114 | 100 | 40    | 27.5 | 33 | 24   | M5x0.8 - 6H | 10 | G 1/8                         |
| 664050   | HYDRO-FIX SBF-12/1"-50    | 12 | 25.4  | 40 | 12 | 64  | 50  | 40    | 27.5 | 33 | 24   | M5x0.8 - 6H | 9  | G 1/8                         |
| 664060   | HYDRO-FIX SBF-12/1"-75    | 12 | 25.4  | 40 | 12 | 89  | 75  | 40    | 27.5 | 33 | 24   | M5x0.8 - 6H | 10 | G 1/8                         |
| 664070   | HYDRO-FIX SBF-12/1"-100   | 12 | 25.4  | 40 | 12 | 114 | 100 | 40    | 27.5 | 33 | 24   | M5x0.8 - 6H | 10 | G 1/8                         |
| 664080   | HYDRO-FIX SBF-20/32-50    | 20 | 32    | 40 | 12 | 64  | 50  | 52    | 34.5 | 33 | 30.8 | M5x0.8 - 6H | 9  | -                             |
| 663810   | HYDRO-FIX SBF-20/32-75    | 20 | 32    | 40 | 12 | 89  | 75  | 52    | 34.5 | 33 | 30.8 | M5x0.8 - 6H | 10 | G 1/8                         |
| 663820   | HYDRO-FIX SBF-20/32-100   | 20 | 32    | 40 | 12 | 114 | 100 | 52    | 34.5 | 33 | 30.8 | M5x0.8 - 6H | 10 | G 1/8                         |

### Information:

\*) Tool/toolbar shank h6 or h7 can be used.  
 \*\*) Recommended tolerance of toolholder bore - H7.  
 Adjustment screw included in shipment.  
 Can also be ordered separately as spare part.  
 M5x0.8-16 Part no. S041



### Accessories:

Use preset Torque Wrench to ensure correct mounting of tools.  
 6 Nm - Part no. 19055



ETP HYDRO-FIX can be used with reduction sleeves.  
 For additional information see section Accessories.



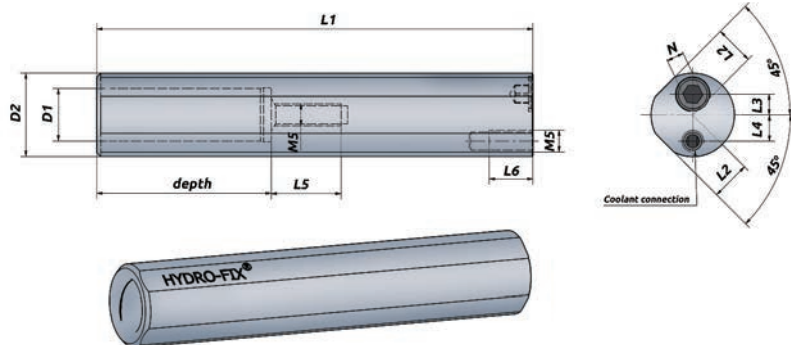
### Adaptors:

Male G 1/8" to Female 1/8" NPT  
 Part no. 19151  
 Male G 1/8" to Male 1/4" JIC  
 Part no. 19150  
 Male M5 to Male 1/4" JIC  
 Part no. 19153



# ETP HYDRO-FIX SP<sup>®</sup>

PENCIL – Back activation – Flat design



## Technical Specification

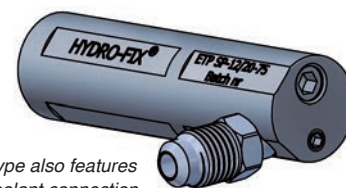
| Part no. | Item description           | Dimensions, mm |       |     |       |      |    |       |   | Center thread |    | Coolant connection |    |
|----------|----------------------------|----------------|-------|-----|-------|------|----|-------|---|---------------|----|--------------------|----|
|          |                            | D1             | D2    | L1  | L2    | L3   | L4 | depth | N | size          | L5 | size               | L6 |
| 665000   | HYDRO-FIX SP-6/16-65*      | 6              | 16    | 65  | 7.5** | 2.7  |    | 27    | 4 |               |    |                    |    |
| 665070   | HYDRO-FIX SP-12/3/4"-75*** | 12             | 19.05 | 75  | 9     | 4.75 | 6  | 40    | 4 | M5            | 8  | M5                 | 10 |
| 665010   | HYDRO-FIX SP-12/3/4"-100   | 12             | 19.05 | 100 | 9     | 4.75 | 6  | 40    | 4 | M5            | 16 | M5                 | 10 |
| 665080   | HYDRO-FIX SP-12/20-75***   | 12             | 20    | 75  | 9.5   | 4.75 | 6  | 40    | 4 | M5            | 8  | M5                 | 10 |
| 665020   | HYDRO-FIX SP-12/20-100     | 12             | 20    | 100 | 9.5   | 4.75 | 6  | 40    | 4 | M5            | 16 | M5                 | 10 |
| 665090   | HYDRO-FIX SP-12/22-75***   | 12             | 22    | 75  | 10.5  | 4.75 | 6  | 40    | 4 | M5            | 8  | M5                 | 10 |
| 665030   | HYDRO-FIX SP-12/22-100     | 12             | 22    | 100 | 10.5  | 4.75 | 6  | 40    | 4 | M5            | 16 | M5                 | 10 |
| 665040   | HYDRO-FIX SP-12/25-100     | 12             | 25    | 100 | 12    | 4.75 | 6  | 40    | 4 | M5            | 16 | M5                 | 10 |
| 665050   | HYDRO-FIX SP-12/1"-100     | 12             | 25.4  | 100 | 12.2  | 4.75 | 6  | 40    | 4 | M5            | 16 | M5                 | 10 |
| 665060   | HYDRO-FIX SP-20/32-100     | 20             | 32    | 100 | 15.5  | 8.5  | 7  | 52    | 4 | M8            | 25 | M8                 | 10 |

\*) No center thread or coolant connection.

\*\*) Only one flat surface.

## Application area

| Machine Mfg. | Machine type      | 665000 | 665010<br>665070 | 665020<br>665080 | 665030<br>665090 | 665040 | 665050 | 665060 |
|--------------|-------------------|--------|------------------|------------------|------------------|--------|--------|--------|
| CITIZEN      | C                 |        | •                |                  |                  |        | •      |        |
|              | L20               |        | •                |                  |                  |        |        |        |
|              | L32               |        |                  |                  |                  |        | •      |        |
|              | M                 |        |                  |                  |                  |        | •      |        |
|              | M16               |        | •                |                  |                  |        |        |        |
| STAR         | 12 SERIES         |        |                  |                  | •                |        |        |        |
|              | 20 SERIES         |        |                  |                  | •                |        |        |        |
| NOMURA       | NN-20 SERIES      |        |                  |                  | •                |        |        |        |
|              | NN-3X             | •      |                  |                  |                  |        |        |        |
| NEXTURN*     | -                 |        | •                |                  |                  | •      |        |        |
| TSUGAMI      | 20                |        |                  | •                |                  |        |        |        |
|              | B012              |        |                  | •                |                  |        |        |        |
|              | S20               |        |                  | •                |                  |        |        |        |
|              | 32 SERIES         |        |                  |                  |                  | •      |        |        |
| HANWHA       | SL 12H            |        |                  | •                |                  |        |        |        |
|              | 20 SERIES         |        |                  |                  |                  | •      |        |        |
|              | XD 38II           |        |                  |                  |                  |        |        | •      |
| TORNOS       | DELTA 20          |        |                  |                  | •                |        |        |        |
|              | GAMMA 20          |        |                  | •                | •                |        |        |        |
|              | DECO (7/19/13/20) |        |                  |                  |                  |        | •      |        |
|              | NANO              | •      |                  |                  |                  |        |        |        |



\*\*\*) This type also features a radial coolant connection.

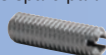
Easy length adjustability



\* depending on machine type

### Information:

\*) Tool/toolbar shank h6 or h7 can be used.  
 \*\*) Recommended tolerance of toolholder bore - H7.  
 Adjustment screw included in shipment.  
 Can also be ordered separately as spare part.  
 M5x0.8-16 Part no. S041



### Accessories:

Use preset Torque Wrench to ensure correct mounting of tools.  
 6 Nm - Part no. 19055



ETP HYDRO-FIX can be used with reduction sleeves.  
 For additional information see section Accessories.



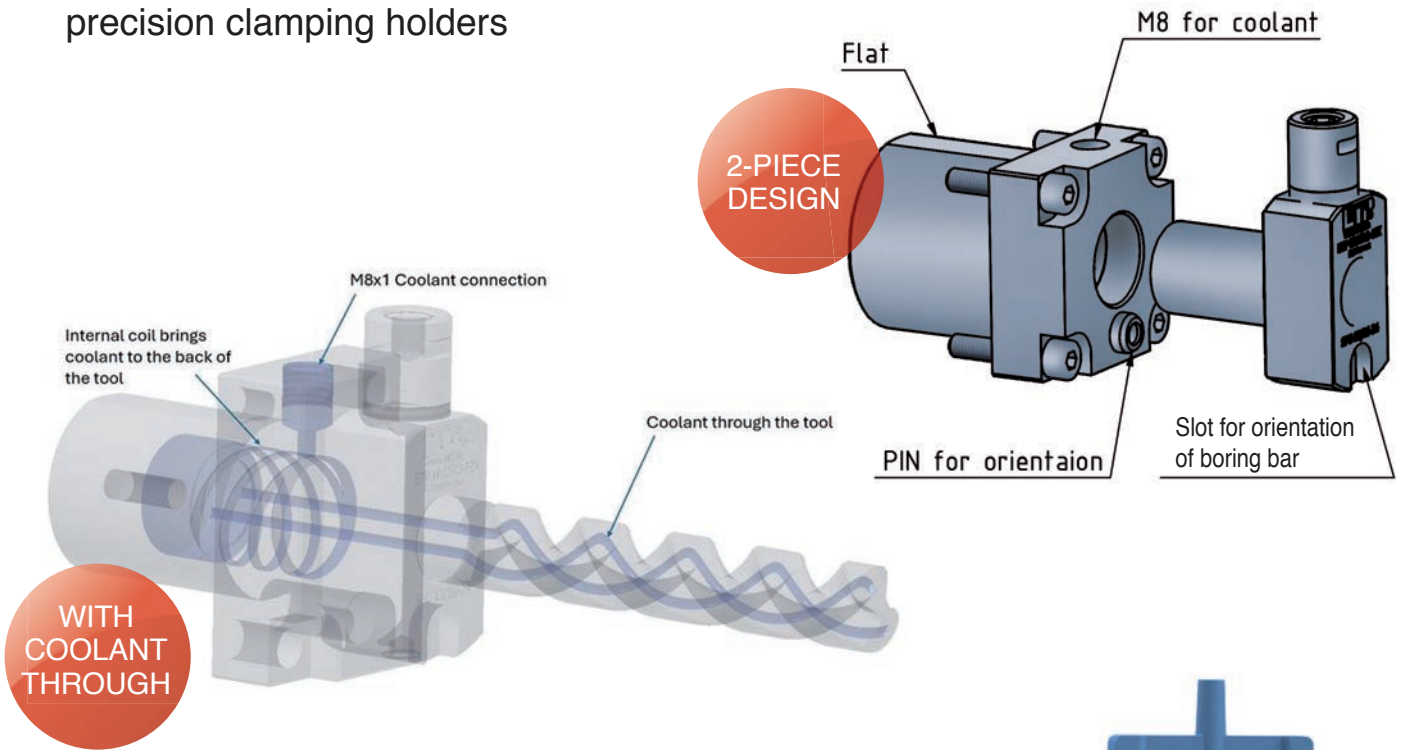
### Adaptors:

Male M8x1.25 to Male 1/4" JIC Part no. 19152  
 Male M5 to Male 1/4" JIC Part no. 19153



# ETP HYDRO-FIX SBW<sup>®</sup>

Hydraulic **Swiss Back-Working** precision clamping holders



## ETP SWISS backworking application

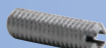
- 1 . FIND YOUR MACHINE
- 2 . CHOOSE SUITABLE ETP HYDRO-FIX HOLDER
- 3 . CHOOSE YOUR ACCESSORIES

| 1. MACHINE   |              | 2. CHOOSE ETP HYDRO-FIX HOLDER |        |        |        |        |        |        |
|--------------|--------------|--------------------------------|--------|--------|--------|--------|--------|--------|
| Machine Mfg. | Machine type | 670010                         | 670020 | 670030 | 670040 | 670050 | 670060 | 670070 |
| STAR         | SB20         | •                              | •      |        |        |        |        |        |
|              | SR20         | •                              | •      |        |        |        |        |        |
|              | SR20J        | •                              | •      |        |        |        |        |        |
|              | SR32J        | •                              | •      |        |        |        |        |        |
|              | SR32JII      | •                              | •      |        |        |        |        |        |
|              | SR38         | •                              | •      |        |        |        |        |        |
|              | SV-38R       |                                |        | •      |        |        |        |        |
| CITIZEN      | SX38         |                                |        | •      |        |        |        |        |
|              | L12          |                                |        |        | •      |        |        |        |
|              | L20          |                                |        |        |        | •      |        |        |
| MAZAK        | L32X         |                                |        |        |        |        | •      | •      |
|              | SYNCREX 20/8 |                                |        | •      |        |        |        |        |
|              | SYNCREX 25/8 |                                |        | •      |        |        |        |        |
|              | SYNCREX 38/8 |                                |        | •      |        |        |        |        |



### Additional information:

Tool/toolbar shank h6 or h7 can be used.  
Adjustment screw included in shipment. Can also be ordered separately as spare part.  
M5x0.8-16 Part no. S041  
or  
M8x1.25-25 Part no. S057



### Accessories:

Use a preset torque wrench to ensure correct mounting of tools.  
6 Nm - Part no. 19055



50mm long bit for wrench  
Part no. ETP-630



ETP HYDRO-FIX can be used with reduction sleeves.

R1912.\*\*\*\*  
R1920.\*\*\*\*  
R1925.\*\*\*\*



Extractors available for all sleeves  
E7321.12000 - 12mm  
E7321.20000 - 20mm  
E7321.25000 - 25mm

### Coolant adaptors:

Male M8x1.25 to Male 1/4" JIC  
Part no. 19152



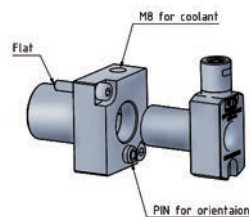
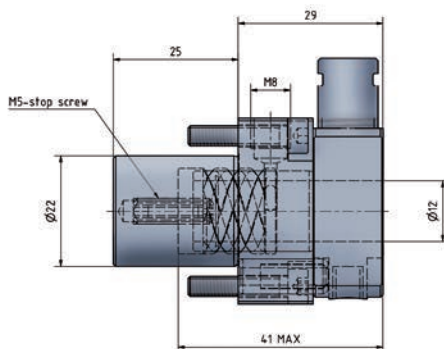
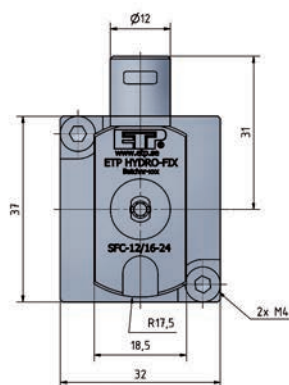
### Orientation kit

For quick and easy tool setting, see page 17-18.





## 670010 - ETP HYDRO-FIX SBW-12/22-25 F1

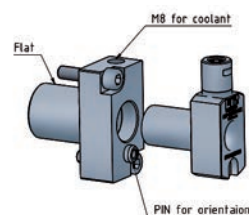
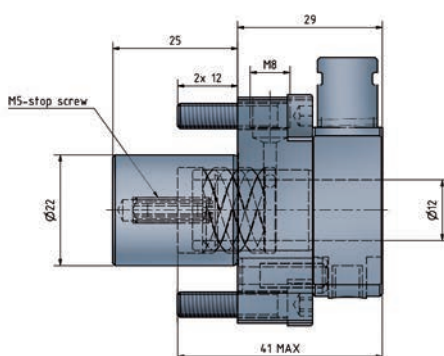
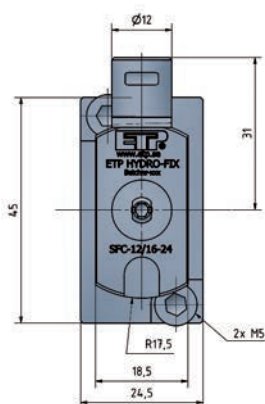


Machine type

- SB20
- SR20
- SR20J
- SR32J
- SR32JII
- SR38



## 670020 - ETP HYDRO-FIX SBW-12/22-25 F2

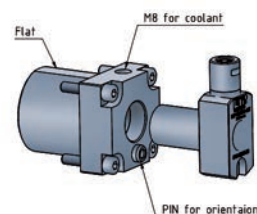
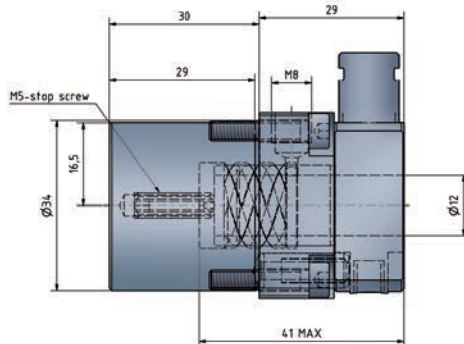
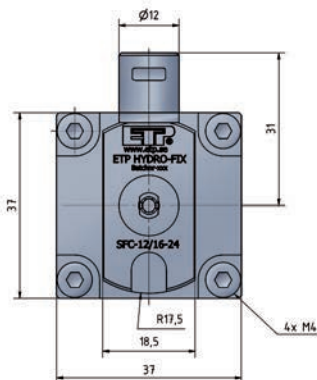


Machine type

- SB20
- SR20
- SR20J
- SR32J
- SR32JII
- SR38



## 670030 - ETP HYDRO-FIX SBW-12/34-30 F1



Machine type

- SYNCREX 20/8
- SYNCREX 25/8
- SYNCREX 38/8

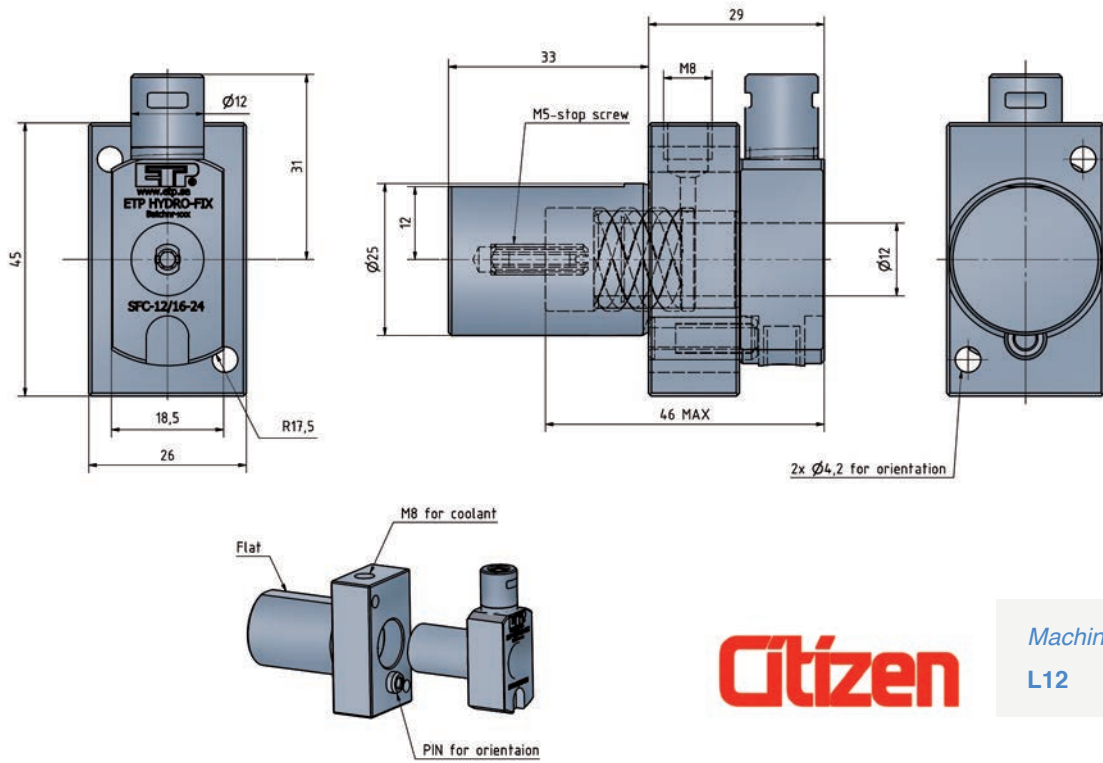


Machine type

- SV-38R
- SX38

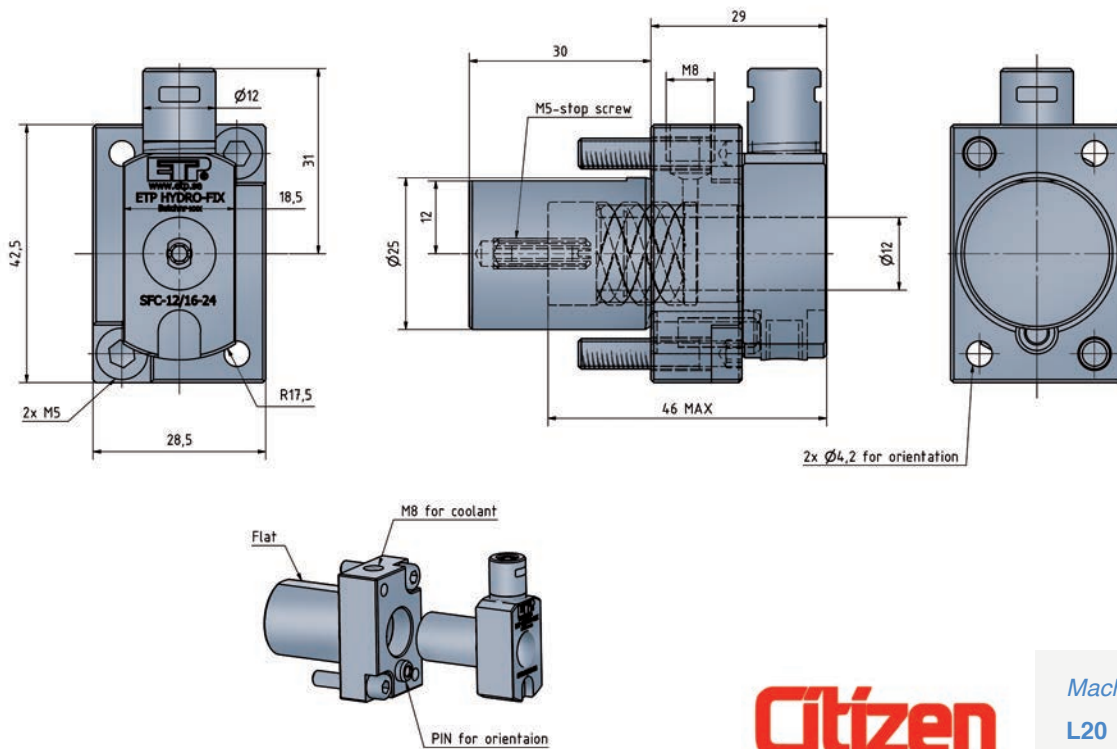


## 670040 - ETP HYDRO-FIX SBW-12/25-33 F1



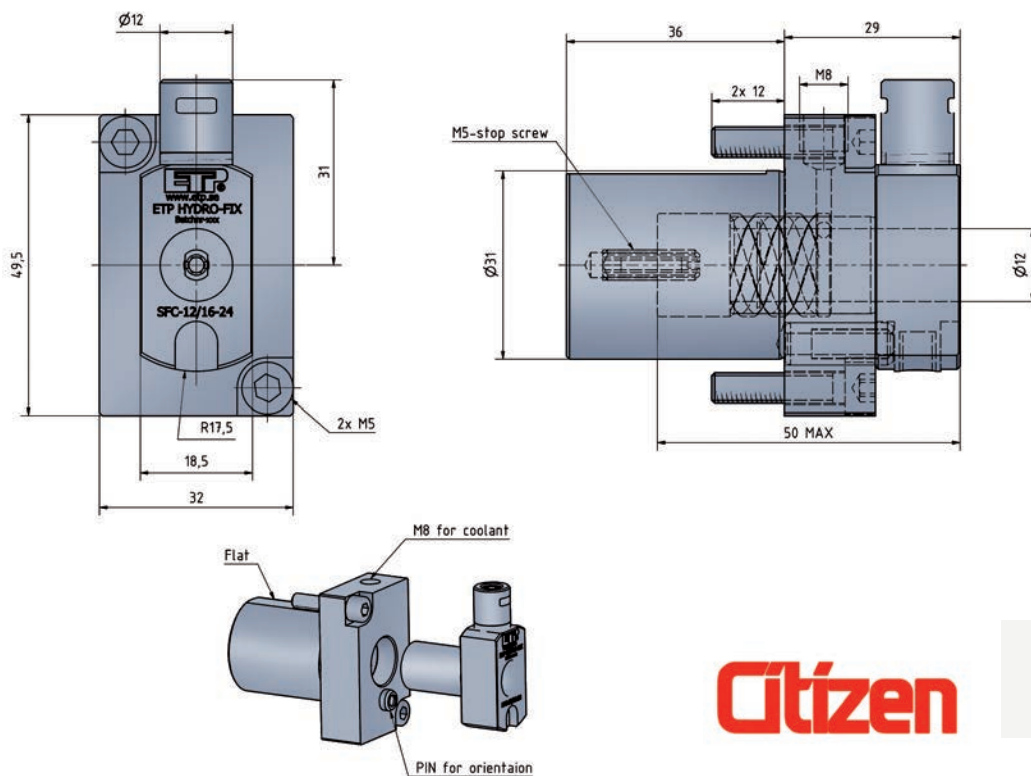
Machine type  
L12

## 670050 - ETP HYDRO-FIX SBW-12/25-30 F1



Machine type  
L20

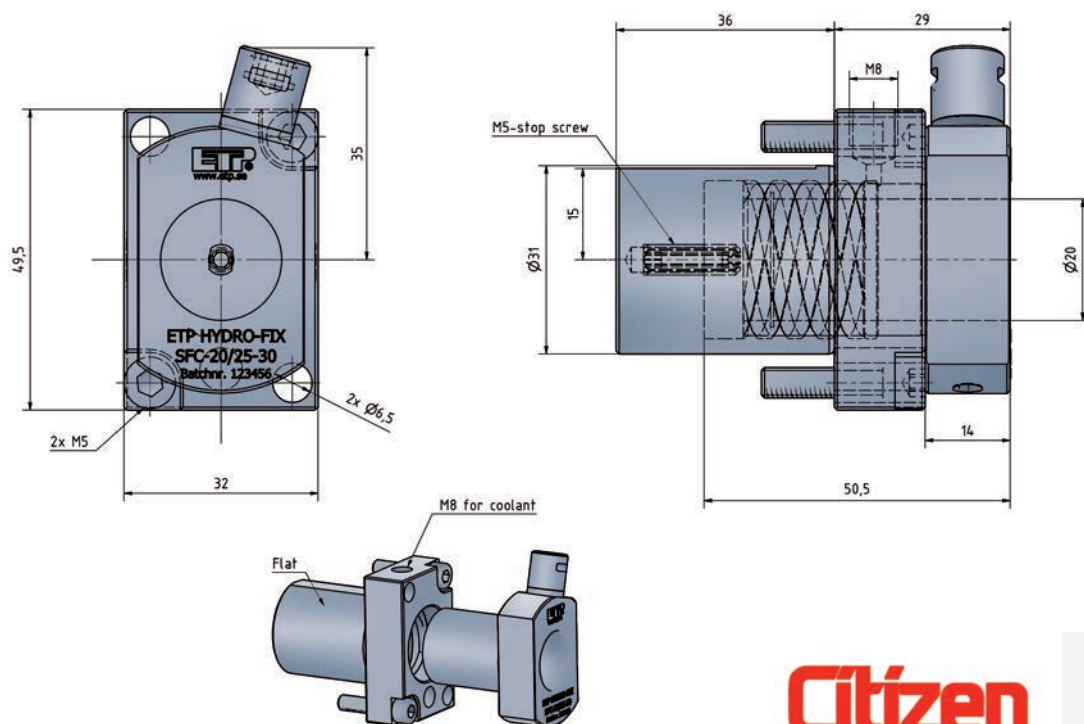
## 670060 - ETP HYDRO-FIX SBW-12/31-36 F1



**Citizen**

Machine type  
L32X

## 670070 - ETP HYDRO-FIX SBW-20/31-36 F1



**Citizen**

Machine type  
L32X



## Accessories ETP HYDRO-FIX Orientation kit

EASY  
TOOL  
SETTING



### BENEFITS & FEATURES

- Quick and Easy tool setting
- Less down-time
- Fits tools from 4 - 12 mm
- Pre-set your tools outside of machine
- Can be used for both round bars as well as Easy-Fix bars

## Quick and Easy tool setting with our Orientation kit!

With our new ETP HYDRO-FIX orientation kit you can now enjoy quick and easy tool setups even outside of your machine.

With our external orientation fixture

and the accompanying orientation discs, that come in all sizes ranging from 4 - 12 mm, allow you now to pre-set any tools and keep ready for installment. Both standard round tool

bars as well as Easy-Fix tool bars can be used!

**Start now and reduce your downtime!**

## Accessories ETP HYDRO-FIX Orientation kit



This orientation kit allows you to easily and with precision set your tool bar outside of the machine and transfer the settings to your installed ETP HYDRO-FIX clamping holder.

| Part no. | Description   |
|----------|---|
| 664180   | <b>ETP HYDRO-FIX Orientation kit</b>  |
|          | Fixture Ø 12 mm.<br>Incl. Stop plug with set screw  |
|          | <b>Orientation discs</b>  |
|          | Orientation disc Ø 4 mm.<br>Orientation disc Ø 6 mm.<br>Orientation disc Ø 8 mm.<br>Orientation disc Ø 12 mm. |
|          | <b>Reduction sleeves</b>  |
|          | HS 12 / 4 mm.<br>HS 12 / 6 mm.<br>HS 12 / 8 mm.   |
|          | <b>Wrenches &amp; Accessories</b>   |
|          | Torque wrench 0.45 Nm (2.5 mm Hex)<br>Allen key (1.5 mm)<br>Screw M3x8  |

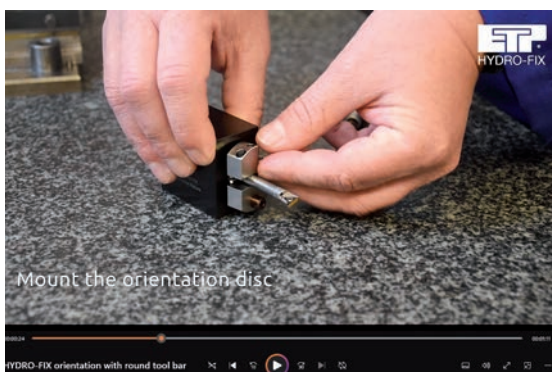


### Accessories/Spare parts

| Part no.  | Description               |
|-----------|---------------------------|
| 664180-4  | Orientation disc Ø 4 mm.  |
| 664180-5  | Orientation disc Ø 5 mm.  |
| 664180-6  | Orientation disc Ø 6 mm.  |
| 664180-7  | Orientation disc Ø 7 mm.  |
| 664180-8  | Orientation disc Ø 8 mm.  |
| 664180-10 | Orientation disc Ø 10 mm. |
| 664180-12 | Orientation disc Ø 12 mm. |

### View video instructions

Scan the codes to see the complete procedure on how to use your ETP HYDRO-FIX orientation kit!



### Using round bars

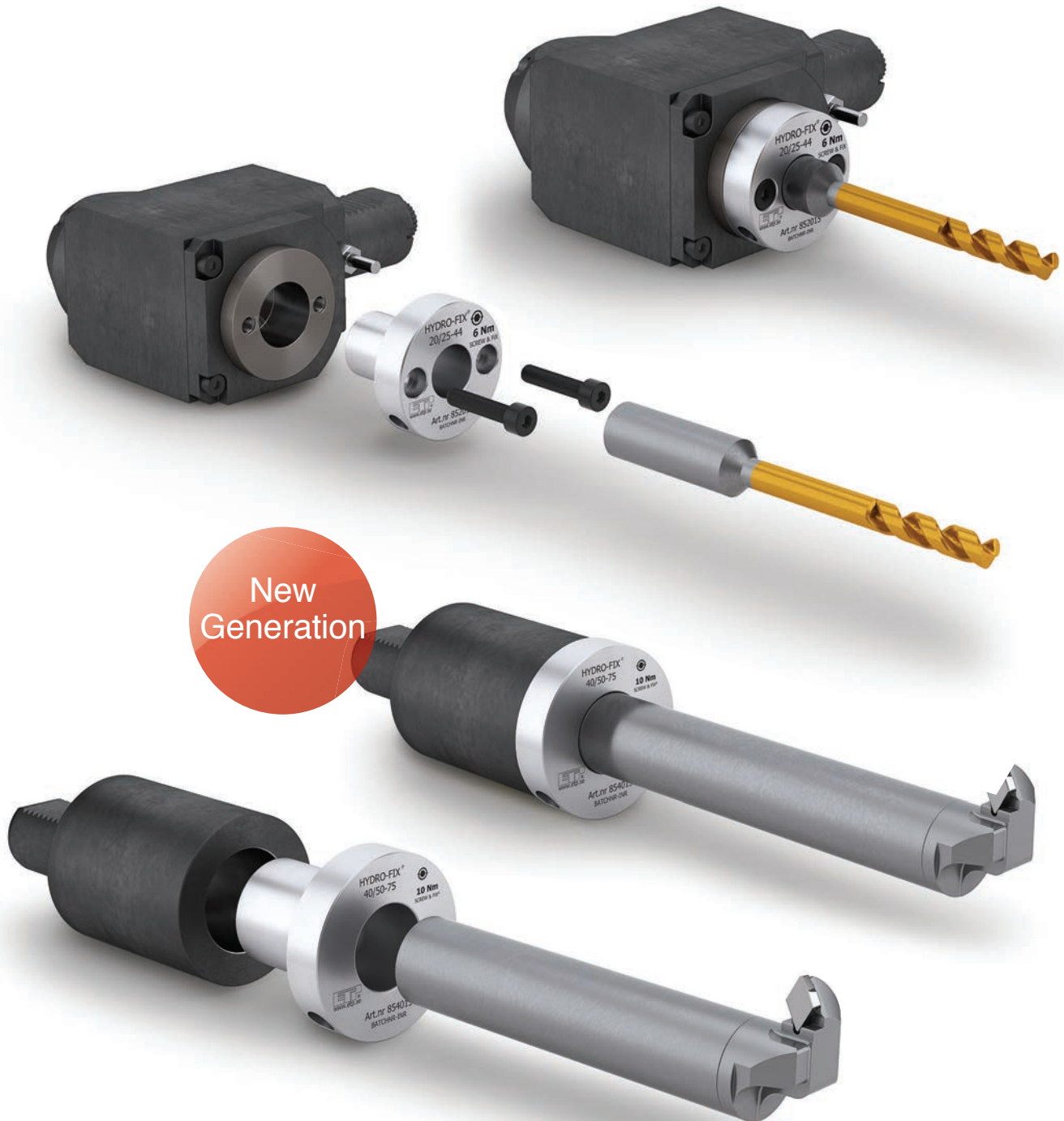


### Using Easy-Fix bars



# ETP HYDRO-FIX®

Hydraulic high precision clamping sleeve



ETP HYDRO-FIX clamping sleeves are excellent for boring bars for internal and external turning as well as in driven toolholders. 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!

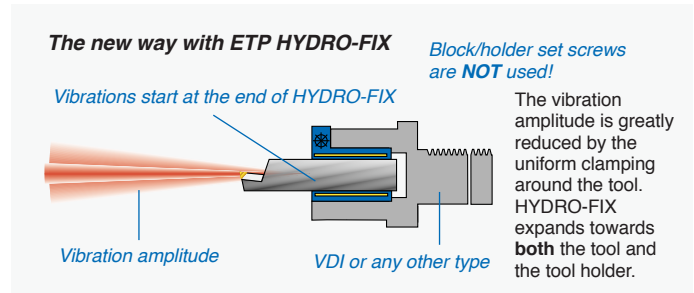
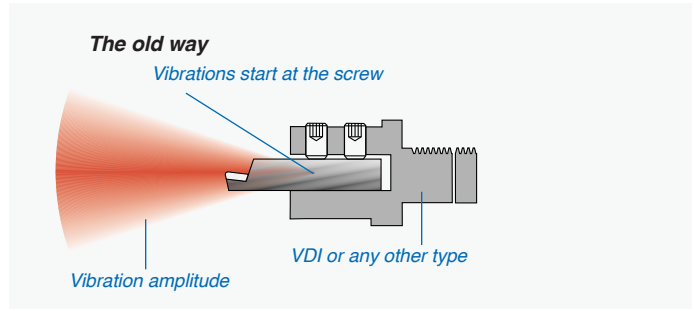
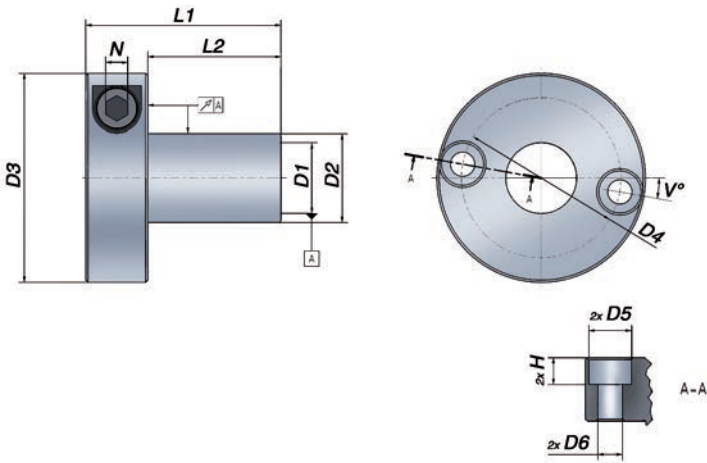
## BENEFITS & FEATURES

- Reduced vibrations
- Increased speed and/or feed
- Improved surface quality
- Increased tool life
- Quick and easy handling
- Increased overhang possible
- Safe clamping of solid carbide tools. No risk of damages



# ETP HYDRO-FIX®

For Driven tools & Static Boring bars



## Metric range

### Technical Specification

| Part no. | Item description   | Dimensions, mm |      |       |    |    | Recommended screws<br>DIN 915, 12.9 |     |     |   |    | Pressure screw |          | Runout mm | T* Nm | Weight kg |
|----------|--------------------|----------------|------|-------|----|----|-------------------------------------|-----|-----|---|----|----------------|----------|-----------|-------|-----------|
|          |                    | D1*            | D2** | D3    | L1 | L2 | D4                                  | D5  | D6  | H | V° | N              | Tt*** Nm |           |       |           |
| 851215   | HYDRO-FIX 12/16-38 | 12             | 16   | 43.5  | 38 | 24 | 28                                  | 9.5 | 5.5 | 6 | 5  | 5              | 6        | 0.006     | 60    | 0.15      |
| 851615   | HYDRO-FIX 16/20-44 | 16             | 20   | 47    | 44 | 30 | 36                                  | 9.5 | 5.5 | 6 | 10 | 5              | 6        | 0.006     | 165   | 0.17      |
| 852015   | HYDRO-FIX 20/25-44 | 20             | 25   | 52    | 44 | 30 | 36                                  | 11  | 6.5 | 7 |    | 5              | 6        | 0.006     | 260   | 0.21      |
| 852515   | HYDRO-FIX 25/32-48 | 25             | 32   | 59    | 48 | 34 | 44                                  | 11  | 6.5 | 7 |    | 5              | 6        | 0.010     | 350   | 0.30      |
| 853215   | HYDRO-FIX 32/40-53 | 32             | 40   | 69.5  | 53 | 39 | 52                                  | 11  | 6.5 | 7 |    | 5              | 6        | 0.010     | 630   | 0.43      |
| 854015   | HYDRO-FIX 40/50-69 | 40             | 50   | 79    | 69 | 55 |                                     |     |     |   |    | 5              | 6        | 0.015     | 320   | 0.96      |
| 854215   | HYDRO-FIX 42/50-76 | 42             | 50   | 89    | 76 | 56 |                                     |     |     |   |    | 8              | 10       | 0.015     | 800   | 0.94      |
| 855015   | HYDRO-FIX 50/60-80 | 50             | 60   | 98.5  | 80 | 60 |                                     |     |     |   |    | 8              | 10       | 0.015     | 800   | 1.23      |
| 856015   | HYDRO-FIX 60/80-90 | 60             | 80   | 115.5 | 90 | 70 |                                     |     |     |   |    | 8              | 10       | 0.015     | 800   | 2.34      |

## Inch range

### Technical Specification

| Part no. | Item description           | Dimensions, inch |       |       |       |       | Recommended screws<br>DIN 915, 12.9 |       |       |       |    | Pressure screw |          | Runout inch | T* ft-lb | Weight kg |
|----------|----------------------------|------------------|-------|-------|-------|-------|-------------------------------------|-------|-------|-------|----|----------------|----------|-------------|----------|-----------|
|          |                            | D1*              | D2**  | D3    | L1    | L2    | D4                                  | D5    | D6    | H     | V° | N              | Tt*** Nm |             |          |           |
| 851315   | HYDRO-FIX 1/2"/5/8"-38     | 0.500            | 0.625 | 1.713 | 1.496 | 0.945 | 1.102                               | 0.374 | 0.217 | 0.236 | 5  | 0.197          | 6        | 0.00024     | 44       | 0.15      |
| 851515   | HYDRO-FIX 5/8"/3/4"-44     | 0.625            | 0.750 | 1.850 | 1.732 | 1.181 | 1.417                               | 0.374 | 0.217 | 0.236 | 10 | 0.197          | 6        | 0.00024     | 121      | 0.17      |
| 851915   | HYDRO-FIX 3/4"/1"-44       | 0.750            | 1.000 | 2.047 | 1.732 | 1.181 | 1.417                               | 0.433 | 0.256 | 0.276 |    | 0.197          | 6        | 0.00039     | 191      | 0.21      |
| 852615   | HYDRO-FIX 1"/1 1/4"-48     | 1.000            | 1.250 | 2.323 | 1.890 | 1.339 | 1.732                               | 0.433 | 0.256 | 0.276 |    | 0.197          | 6        | 0.00039     | 258      | 0.30      |
| 853125   | HYDRO-FIX 32/1 1/2"-53     | 1.260            | 1.500 | 2.736 | 2.087 | 1.535 | 2.047                               | 0.433 | 0.256 | 0.276 |    | 0.197          | 6        | 0.00039     | 465      | 0.43      |
| 853115   | HYDRO-FIX 1 1/4"/1 1/2"-53 | 1.250            | 1.500 | 2.736 | 2.087 | 1.535 | 2.047                               | 0.433 | 0.256 | 0.276 |    | 0.197          | 6        | 0.00039     | 465      | 0.43      |
| 853351   | HYDRO-FIX-1 1/4"/2"-60     | 1.250            | 2.000 | 3.110 | 2.362 | 1.811 |                                     |       |       |       |    | 0.197          | 6        | 0.00039     | 465      | 0.90      |
| 853915   | HYDRO-FIX 1 1/2"/2"-69     | 1.500            | 2.000 | 3.110 | 2.717 | 2.165 |                                     |       |       |       |    | 0.197          | 6        | 0.00059     | 118      | 1.06      |
| 855115   | HYDRO-FIX 2"/2 1/2"-80     | 2.000            | 2.500 | 3.996 | 3.150 | 2.362 |                                     |       |       |       |    | 0.315          | 10       | 0.00059     | 590      | 1.42      |
| 856315   | HYDRO-FIX 2 1/2"/3"-93     | 2.500            | 3.000 | 4.685 | 3.661 | 2.874 |                                     |       |       |       |    | 0.315          | 10       | 0.00059     | 885      | 1.98      |

\*\*\*)  $T_t$  = Recommended tightening torque for the screw in Nm! Further tightening does not increase the pressure.

\*) T = Transmittable torque using a h6 cylindrical tool, full depth (L1) insert.

For dimensions 12 mm (1/2") - 20 mm (3/4"):

When using a non-cylindrical tool/toolbar - we recommend the use of a reduction sleeve to avoid plastic deformation of ETP HYDRO-FIX.

### Information:

\*) Tool/toolbar shank h6 or h7 can be used.

\*\*\*) Recommended tolerance of toolholder bore - H7.

Balanced by design. For use above

3 000 rpm - we recommend individual balancing.

### Accessories:

Use preset Torque Wrench to ensure correct mounting of tools.

6 Nm - Part no. 19050

10 Nm - Part no. 19054



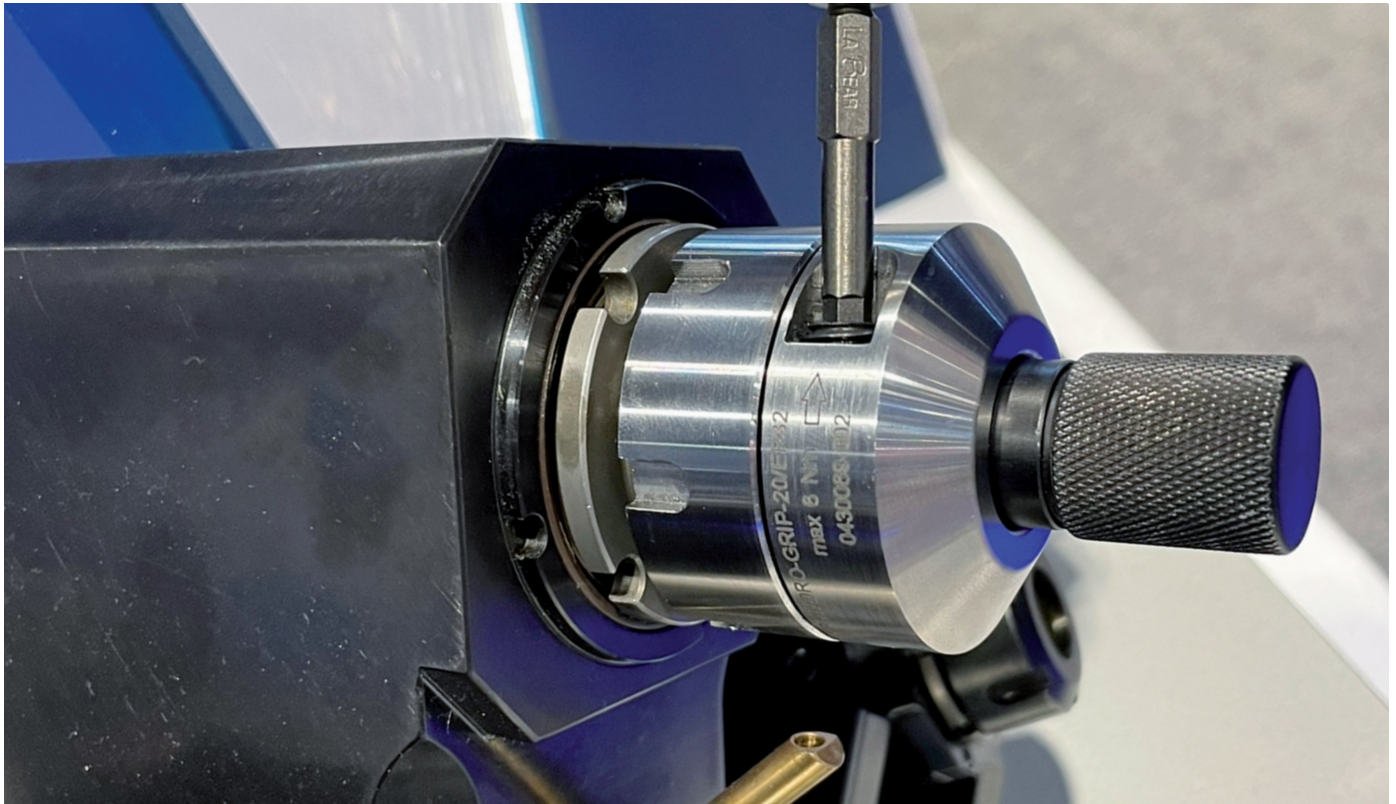
### Digital Spirit Level

For easy toolbar alignment use the ETP Digital Spirit Level \* Part no. 885010



\*) 3x CR2032 battery - not included.

# ETP ER PLUG & PLAY



## Turn your lathe live ER chucks into quick change hydraulic chucks

With ETP ER you can easily turn your standard ER collet driven tools into high precision hydraulic holders. 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 increased productivity, when compared to using ER collet holders. Simply put it, just **Plug & Play!**



### BENEFITS & FEATURES

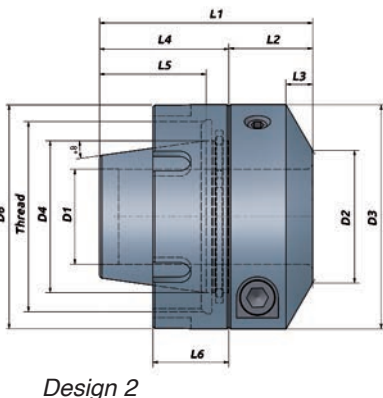
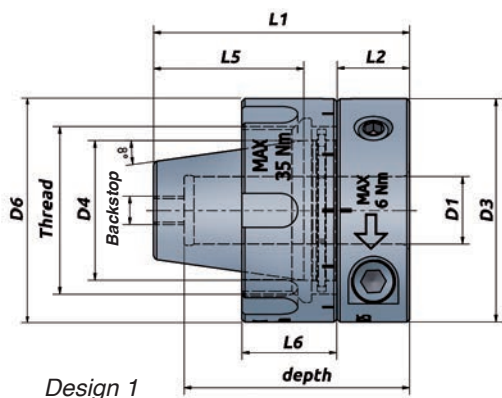
- Turn ER driven tools into hydraulic
- Easy handling and precision
- Excellent repeatability



### NO MORE:

- Time-consuming tool changes
- Runout issues
- Limited clamping force

# ETP ER PLUG & PLAY



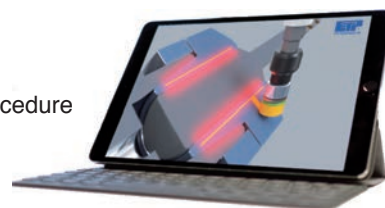
## Simple mounting procedure

1. Mount the ETP ER in the output shaft and twist to seal
2. Tighten the thread nut to the recommended tightening torque



## View video instruction

Scan the code to see the complete procedure how to mount your ETP ER holder!



## Metric range

| Technical Specification |         |          |                    | Dimensions, mm |    |    |    |    |      |    |      |      |       | Internal thread nut |    | Transmittable torque | Features |         | Use Torque wrench |          |          |          |
|-------------------------|---------|----------|--------------------|----------------|----|----|----|----|------|----|------|------|-------|---------------------|----|----------------------|----------|---------|-------------------|----------|----------|----------|
| Design                  | ER Size | Part no. | Description        | D1             | D2 | D3 | D4 | L1 | L2   | L3 | L4   | L5   | depth | D6                  | L6 | Thread               | Tt** Nm  | T* Nm   | Max.Runout mm     | Backstop | Part no. | Tt*** Nm |
| 1                       | 16      | 671115   | HYDRO-FIX-6/ER16   | 6              | -  | 25 | 16 | 30 | 8    | -  | -    | 16   | 27.5  | 28                  | 12 | M22x1,5              | 25       | 12-22   | 0.01              | M3       | 19070    | 2        |
| 1                       | 16      | 671116   | HYDRO-FIX-6/ERM16  | 6              | -  | 25 | 16 | 30 | 8    | -  | -    | 16   | 27.5  | 25                  | 12 | M19x1                | 25       | 12-22   | 0.01              | M3       | 19070    | 2        |
| 1                       | 20      | 671125   | HYDRO-FIX-6/ER20   | 6              | -  | 28 | 20 | 36 | 9    | -  | -    | 21   | 27.5  | 30                  | 12 | M25x1,5              | 30       | 12-22   | 0.01              | M3       | 19070    | 2        |
| 1                       | 20      | 671126   | HYDRO-FIX-6/ERM20  | 6              | -  | 28 | 20 | 36 | 9    | -  | -    | 21   | 27.5  | 28                  | 12 | M24x1                | 30       | 12-22   | 0.01              | M3       | 19070    | 2        |
| 1                       | 25      | 671135   | HYDRO-FIX-12/ER25  | 12             | -  | 40 | 25 | 46 | 13   | -  | -    | 27   | 40.5  | 42                  | 17 | M32x1,5              | 35       | 60-125  | 0.01              | M5       | 19055    | 6        |
| 1                       | 25      | 671136   | HYDRO-FIX-12/ERM25 | 12             | -  | 40 | 25 | 46 | 13   | -  | -    | 27   | 40.5  | 40                  | 17 | M30x1                | 35       | 60-125  | 0.01              | M5       | 19055    | 6        |
| 2                       | 25      | 671130   | HYDRO-GRIP-12/ER25 | 12             | 26 | 48 | 25 | 46 | 22   | 7  | 24   | 18   | -     | 48                  | 17 | M32x1,5              | 35       | 50-90   | 0.02              | No       | 19050    | 6        |
| 2                       | 32      | 671150   | HYDRO-GRIP-20/ER32 | 20             | 30 | 52 | 32 | 52 | 21.5 | 7  | 30.5 | 24.5 | -     | 52                  | 19 | M40x1,5              | 40       | 230-370 | 0.02              | No       | 19050    | 6        |
| 2                       | 40      | 671160   | HYDRO-GRIP-25/ER40 | 25             | 35 | 59 | 40 | 56 | 22   | 7  | 34   | 28   | -     | 59                  | 20 | M50x1,5              | 50       | 420-600 | 0.02              | No       | 19050    | 6        |

## Inch range

| Technical Specification |         |          |                      | Dimensions, inch |       |       |       |       |       |       |       |       |       | Internal thread nut |       | Transmittable torque | Features |           | Use Torque wrench |          |          |          |
|-------------------------|---------|----------|----------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------------|-------|----------------------|----------|-----------|-------------------|----------|----------|----------|
| Design                  | ER Size | Part no. | Description          | D1               | D2    | D3    | D4    | L1    | L2    | L3    | L4    | L5    | depth | D6                  | L6    | Thread               | Tt** Nm  | T* ft·lb  | Max.Runout mm     | Backstop | Part no. | Tt*** Nm |
| 1                       | 16      | 671210   | HYDRO-FIX-1/4"/ER16  | 0.250            | -     | 0.984 | 0.630 | 1.181 | 0.315 | -     | -     | 0.630 | 1.083 | 1.102               | 0.472 | M22x1.5              | 25       | 8.8 - 16  | 0.01              | M3       | 19070    | 2        |
| 1                       | 16      | 671216   | HYDRO-FIX-1/4"/ERM16 | 0.250            | -     | 0.984 | 0.630 | 1.181 | 0.315 | -     | -     | 0.630 | 1.083 | 0.984               | 0.472 | M19x1                | 25       | 8.8 - 16  | 0.01              | M3       | 19070    | 2        |
| 1                       | 25      | 671235   | HYDRO-FIX-1/2"/ER25  | 0.500            | -     | 1.575 | 0.984 | 1.811 | 0.512 | -     | -     | 1.063 | 1.594 | 1.654               | 0.669 | M32x1.5              | 35       | 37 - 66   | 0.01              | M5       | 19055    | 6        |
| 2                       | 25      | 671230   | HYDRO-GRIP-1/2"/ER25 | 0.500            | 1.024 | 1.575 | 0.984 | 1.811 | 0.512 | 0.276 | 1.063 | 1.063 | -     | 1.890               | 0.669 | M32x1.5              | 35       | 37 - 66   | 0.02              | No       | 19050    | 6        |
| 2                       | 32      | 671250   | HYDRO-GRIP-3/4"/ER32 | 0.750            | 1.181 | 2.047 | 1.260 | 2.047 | 0.846 | 0.276 | 1.201 | 1.201 | -     | 2.047               | 0.748 | M40x1.5              | 40       | 170 - 273 | 0.02              | No       | 19050    | 6        |
| 2                       | 40      | 671260   | HYDRO-GRIP-1"/ER40   | 1.000            | 1.378 | 2.323 | 1.575 | 2.205 | 0.866 | 0.276 | 1.339 | 1.339 | -     | 2.323               | 0.787 | M50x1.5              | 50       | 310 - 443 | 0.02              | No       | 19050    | 6        |

\*) T = Min. and Max transmittable torque using a h6 cylindrical tool, full depth insert.

\*\*\*) Tt = Recommended tightening torque of the thread nut.

\*\*\*\*) Tt = Recommended tightening torque of the pressure screw.

### Information:

- Tool shank h6 or h7 can be used.
- Balanced by design. Max. 25 000 rpm.

### Accessories:

Use preset torque wrench to ensure correct mounting of tools. See table above for Part no.

ETP ER can be used with reducing sleeves.





# ETP ECOGRIP™ ER

## For outer threaded toolholders and driven tools



### Metric range

| Technical Specification |          |                   |                |    |      |    |    |      |    |      |      |    |                   |        |     |      |                     |         |          |       |  |
|-------------------------|----------|-------------------|----------------|----|------|----|----|------|----|------|------|----|-------------------|--------|-----|------|---------------------|---------|----------|-------|--|
| ER size                 | Part no. | Item description  | Dimensions, mm |    |      |    |    |      |    |      |      |    | Adjustment screws |        |     |      | Internal thread nut |         |          | T* Nm |  |
|                         |          |                   | D1             | D2 | D3   | D4 | L1 | L2   | L3 | L4   | L5   | D5 | No.               | Dim.   | N   | D6   | L6                  | Thread  |          |       |  |
| 16                      | 686845   | ECOGRIP-6/ER16    | 6              | 16 | 34   | 16 | 30 | 14   | 5  | 16   | 14   | 28 | 2                 | M3x16* | 2.5 | 34   | 10                  | M22x1.5 | 6-14     |       |  |
|                         | 686846   | ECOGRIP-6/ERM16   | 6              | 16 | 34   | 16 | 30 | 14   | 5  | 16   | 14   | 28 | 2                 | M3x16* | 2.5 | 34   | 10                  | M19x1   | 6-14     |       |  |
|                         | 704952   | ECOGRIP-8/ER16    | 8              | 18 | 36   | 16 | 30 | 14   | 5  | 16   | 14   | 28 | 2                 | M3x16* | 2.5 | 36   | 10                  | M22x1.5 | 14 - 35  |       |  |
|                         | 705718   | ECOGRIP-8/ERM16   | 8              | 18 | 36   | 16 | 30 | 14   | 5  | 16   | 14   | 28 | 2                 | M3x16* | 2.5 | 34   | 10                  | M19x1   | 14 - 35  |       |  |
| 20                      | 686855   | ECOGRIP-12/ER20   | 12             | 22 | 43.5 | 20 | 40 | 24   | 7  | 16   | 14   | 34 | 3                 | M4x20  | 3   | 43.5 | 12                  | M25x1.5 | 50-90    |       |  |
|                         | 686856   | ECOGRIP-12/ERM20  | 12             | 22 | 43.5 | 20 | 40 | 24   | 7  | 16   | 14   | 34 | 3                 | M4x20  | 3   | 43.5 | 12                  | M24x1   | 50-90    |       |  |
| 25                      | 686905   | ECOGRIP-12/ER25   | 12             | 26 | 48   | 25 | 46 | 26   | 7  | 20   | 18   | 41 | 3                 | M4x20  | 3   | 48   | 13                  | M32x1.5 | 50-90    |       |  |
|                         | 686906   | ECOGRIP-12/ERM25  | 12             | 26 | 48   | 25 | 46 | 26   | 7  | 20   | 18   | 41 | 3                 | M4x20  | 3   | 48   | 13                  | M30x1   | 50-90    |       |  |
|                         | 686875   | ECOGRIP-16/ER25   | 16             | 26 | 48   | 25 | 46 | 26   | 7  | 20   | 18   | 41 | 3                 | M4x20  | 3   | 48   | 13                  | M32x1.5 | 120-200  |       |  |
|                         | 686876   | ECOGRIP-16/ERM25  | 16             | 26 | 48   | 25 | 46 | 26   | 7  | 20   | 18   | 41 | 3                 | M4x20  | 3   | 48   | 13                  | M30x1   | 120-200  |       |  |
| 32                      | 686865   | ECOGRIP-20/ER32   | 20             | 30 | 52   | 32 | 52 | 25.5 | 7  | 26.5 | 24.5 | 45 | 3                 | M4x20  | 3   | 52   | 15                  | M40x1.5 | 230-370  |       |  |
| 40                      | 686885   | ECOGRIP-25/ER40   | 25             | 35 | 59   | 40 | 56 | 22   | 7  | 34   | 28   | 46 | 3                 | M4x16  | 3   | 59   | 20                  | M50x1.5 | 420-600  |       |  |
| 50                      | 686895   | ECOGRIP-32/ER50** | 32             | 42 | 69.5 | 50 | 60 | 22   | 7  | 38   | 32   | 56 | 3                 | M4x15  | 3   | 78   | 20                  | M64x2   | 660-1000 |       |  |

### Inch range

| Technical Specification |          |                       |                  |       |       |       |       |       |       |       |       |       |                   |        |       |       |                     |         |         |          |  |
|-------------------------|----------|-----------------------|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------|--------|-------|-------|---------------------|---------|---------|----------|--|
| ER size                 | Part no. | Item description      | Dimensions, inch |       |       |       |       |       |       |       |       |       | Adjustment screws |        |       |       | Internal thread nut |         |         | T* ft-lb |  |
|                         |          |                       | D1               | D2    | D3    | D4    | L1    | L2    | L3    | L4    | L5    | D5    | No.               | Dim.   | N     | D6    | L6                  | Thread  |         |          |  |
| 16                      | 686945   | ECOGRIP-1/4"/ER16     | 0.250            | 0.630 | 1.339 | 0.630 | 1.181 | 0.551 | 0.197 | 0.630 | 0.551 | 1.102 | 2                 | M3x16* | 0.098 | 1.339 | 0.394               | M22x1.5 | 4.4-10  |          |  |
| 20                      | 686955   | ECOGRIP-1/2"/ER20     | 0.500            | 0.866 | 1.713 | 0.787 | 1.575 | 0.945 | 0.276 | 0.630 | 0.551 | 1.339 | 3                 | M4x20  | 0.118 | 1.713 | 0.472               | M25x1.5 | 37-66   |          |  |
|                         | 686956   | ECOGRIP-1/2"/ERM20    | 0.500            | 0.866 | 1.713 | 0.787 | 1.575 | 0.945 | 0.276 | 0.630 | 0.551 | 1.339 | 3                 | M4x20  | 0.118 | 1.713 | 0.472               | M24x1   | 37-66   |          |  |
| 25                      | 687005   | ECOGRIP-1/2"/ER25     | 0.500            | 1.024 | 1.890 | 0.984 | 1.811 | 1.024 | 0.276 | 0.787 | 0.709 | 1.614 | 3                 | M4x20  | 0.118 | 1.890 | 0.512               | M32x1.5 | 37-66   |          |  |
|                         | 686975   | ECOGRIP-5/8"/ER25     | 0.625            | 1.024 | 1.890 | 0.984 | 1.811 | 1.024 | 0.276 | 0.787 | 0.709 | 1.614 | 3                 | M4x20  | 0.118 | 1.890 | 0.512               | M32x1.5 | 89-148  |          |  |
| 32                      | 686965   | ECOGRIP-3/4"/ER32     | 0.750            | 1.181 | 2.047 | 1.260 | 2.047 | 1.004 | 0.276 | 1.043 | 0.965 | 1.772 | 3                 | M4x20  | 0.118 | 2.047 | 0.591               | M40x1.5 | 170-273 |          |  |
| 40                      | 686985   | ECOGRIP-1"/ER40       | 1.000            | 1.378 | 2.323 | 1.575 | 2.205 | 0.866 | 0.276 | 1.339 | 1.102 | 1.811 | 3                 | M4x16  | 0.118 | 2.323 | 0.787               | M50x1.5 | 310-443 |          |  |
| 50                      | 686995   | ECOGRIP-1 1/4"/ER50** | 1.250            | 1.654 | 2.736 | 1.969 | 2.362 | 0.866 | 0.276 | 1.496 | 1.260 | 2.205 | 3                 | M4x15  | 0.118 | 3.071 | 0.787               | M64x2   | 487-738 |          |  |

\*) This size ECOGRIP ER has 2x M3x16 adjustment screws located 180 degrees apart. It also has an additional 2x M5x8 adjustment screws, located 180 degrees apart, at the back of the thread nut.

\*\*) The thread nut width L6 of this size ECOGRIP ER is 20 mm. The thread depth is however only 15 mm.

\*) T = Min. and Max transmittable torque using a h6 cylindrical tool, full depth insert. For additional information see section Technical Information.

#### Information:

- Runout accuracy - adjustable!  
When mounted correctly, an initial runout of approx. 0.020 mm is achieved. Adjust runout further by lightly tightening on the adjustment screws until your desired runout is achieved.
- Tool shank h6 or h7 can be used
- Balanced by design. For use above 5 - 10 000 rpm – we recommend individual balancing.

#### Accessories:

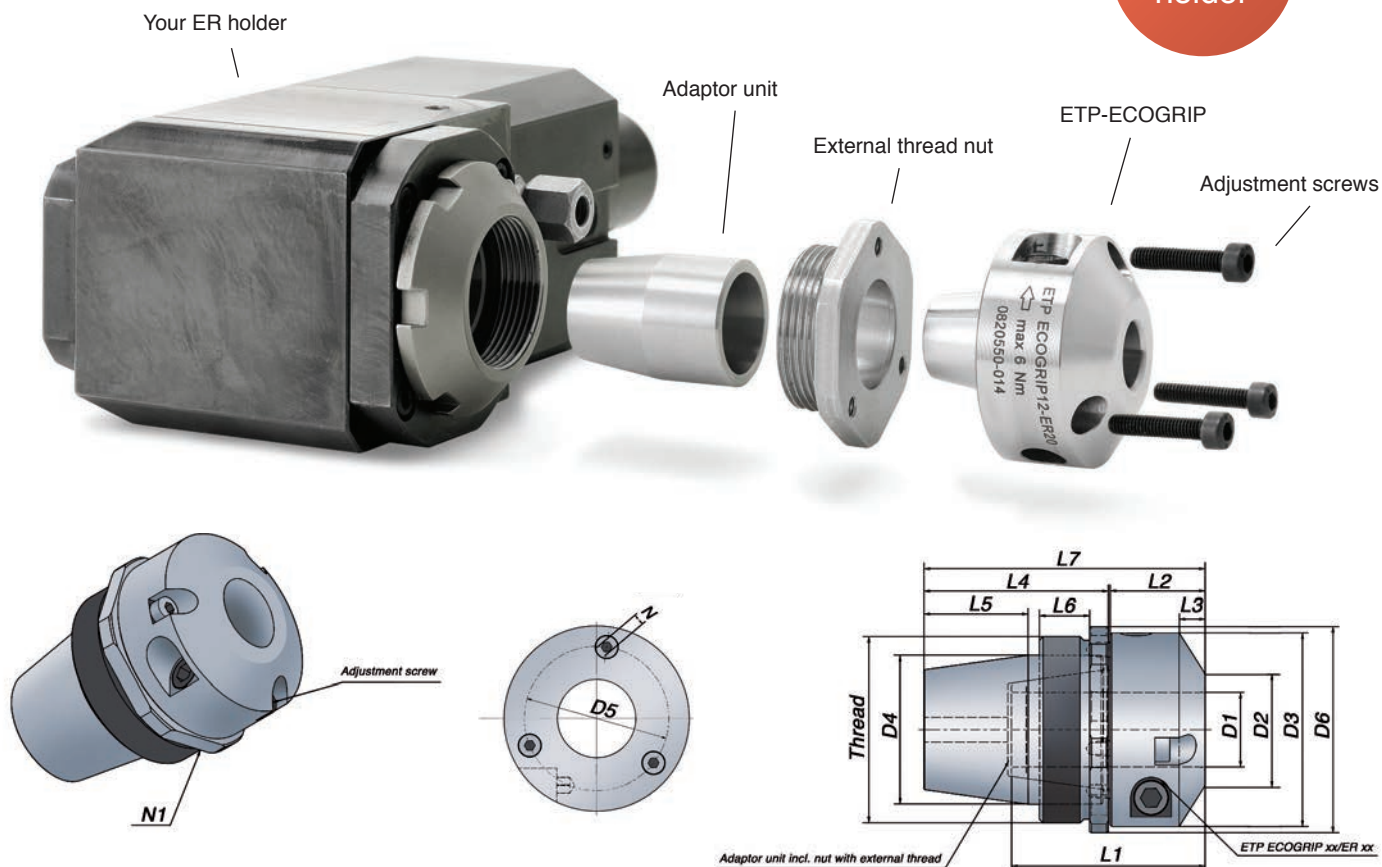
Use preset Torque Wrench, 6 Nm, to ensure correct mounting of tools. Part no. 19050. For ER16 Use Torque wrench Part no. 19055.

ETP ECOGRIP ER can be used with reducing sleeves. For additional information see section Accessories.



# ETP ECOGRIP™ ER

## For inner threaded driven tools



### Metric range

| Technical Specification |          | Dimensions, mm     |    |    |      |    |    |      |    |      |      |      | Adjustment screws |     |       |   | External thread nut |      |         |    |       |         |
|-------------------------|----------|--------------------|----|----|------|----|----|------|----|------|------|------|-------------------|-----|-------|---|---------------------|------|---------|----|-------|---------|
| ER size                 | Part no. | Item description   | D1 | D2 | D3   | D4 | L1 | L2   | L3 | L4   | L5   | L7   | D5                | No. | Dim.  | N | D6                  | L6   | Thread  | N1 | Tt Nm | T* Nm   |
| 25                      | 687310   | ECOGRIP-12/ER20-25 | 12 | 22 | 43.5 | 25 | 40 | 24   | 7  | 36   | 18   | 60.5 | 34                | 3   | M4x16 | 3 | 43.5                | 10   | M32x1.5 | 40 | 50    | 50-90   |
| 32                      | 687320   | ECOGRIP-12/ER25-32 | 12 | 26 | 48   | 32 | 46 | 26   | 7  | 44.5 | 24.5 | 71   | 41                | 3   | M4x16 | 3 | 48                  | 12   | M40x1.5 | 44 | 104   | 50-90   |
|                         | 687330   | ECOGRIP-16/ER25-32 | 16 | 26 | 48   | 32 | 46 | 26   | 7  | 44.5 | 24.5 | 71   | 41                | 3   | M4x16 | 3 | 48                  | 12   | M40x1.5 | 44 | 104   | 120-200 |
| 40                      | 687340   | ECOGRIP-20/ER32-40 | 20 | 30 | 52   | 40 | 52 | 25.5 | 7  | 49.5 | 28   | 75.5 | 45                | 3   | M4x16 | 3 | 56                  | 13.5 | M50x1.5 | 52 | 128   | 230-370 |

### Inch range

| Technical Specification |          | Dimensions, inch     |       |       |       |       |       |       |       |       |       |       | Adjustment screws |     |       |       | External thread nut |       |         |       |       |          |
|-------------------------|----------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------|-----|-------|-------|---------------------|-------|---------|-------|-------|----------|
| ER size                 | Part no. | Item description     | D1    | D2    | D3    | D4    | L1    | L2    | L3    | L4    | L5    | L7    | D5                | No. | Dim.  | N     | D6                  | L6    | Thread  | N1    | Tt Nm | T* ft-lb |
| 25                      | 687410   | ECOGRIP-1/2"/ER20-25 | 0.500 | 0.866 | 1.713 | 0.984 | 1.575 | 0.945 | 0.276 | 1.417 | 0.709 | 2.382 | 1.339             | 3   | M4x16 | 0.118 | 1.713               | 0.394 | M32x1.5 | 1.575 | 50    | 37-66    |
| 32                      | 687420   | ECOGRIP-1/2"/ER25-32 | 0.500 | 1.024 | 1.890 | 1.260 | 1.811 | 1.024 | 0.276 | 1.752 | 0.965 | 2.795 | 1.614             | 3   | M4x16 | 0.118 | 1.890               | 0.472 | M40x1.5 | 1.732 | 104   | 37-66    |
|                         | 687430   | ECOGRIP-5/8"/ER25-32 | 0.625 | 1.024 | 1.890 | 1.260 | 1.811 | 1.024 | 0.276 | 1.752 | 0.965 | 2.795 | 1.614             | 3   | M4x16 | 0.118 | 1.890               | 0.472 | M40x1.5 | 1.732 | 104   | 89-148   |
| 40                      | 687440   | ECOGRIP-3/4"/ER32-40 | 0.750 | 1.181 | 2.047 | 1.575 | 2.047 | 1.004 | 0.276 | 1.949 | 1.102 | 2.972 | 1.772             | 3   | M4x16 | 0.118 | 2.205               | 0.531 | M50x1.5 | 2.047 | 128   | 170-273  |

Tt: Recommended tightening torque in Nm for the External thread nut.

\*) T = Min. and Max transmittable torque using a h6 cylindrical tool, full depth insert. For additional information see section Technical Information.

Direct shank - Full insertion required.

#### Information:

- Runout accuracy - adjustable!
- When mounted correctly, an initial runout of approx. 0.020 mm is achieved. Adjust runout further by lightly tightening on the adjustment screws until your desired runout is achieved.
- Tool shank h6 or h7 can be used
- Balanced by design

#### Accessories:

Use preset Torque Wrench, 6 Nm, to ensure correct mounting of tools. Part no. 19050.

ETP ECOGRIP ER can be used with reducing sleeves.

When using reduction sleeves:

- ER16/ER20 an M3 plug can be used for a solid backstop
- ER25 an M5 adjustment screw can be used for a backstop



# Reduction Sleeves for ETP Clamping holders



## Reduction sleeve HS - for internal cooling

The reduction sleeves are designed to fit with the ETP clamping holders. 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.



## Reduction sleeve HS-CF - for peripheral cooling.

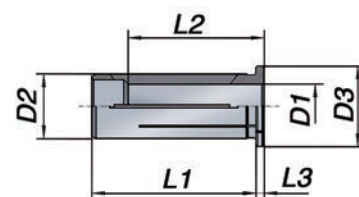
Outer-Ø of reduction sleeve corresponds to the type.

HS12 = Ø 12 mm

HS20 = Ø 20 mm

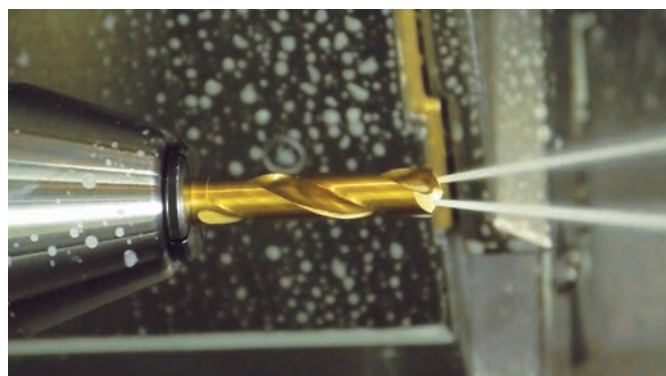
HS25 = Ø 25 mm

HS32 = Ø 32 mm

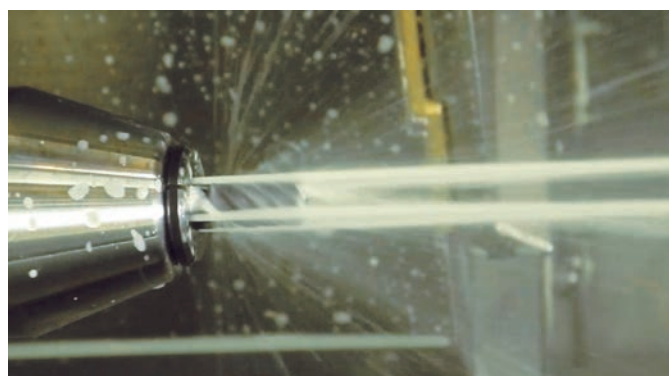


### BENEFITS & FEATURES

- 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 < 3 µm.
- 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.



Using Reduction sleeve HS - for internal cooling.



Using Reduction sleeve HS-CF - for peripheral cooling.



# Reduction Sleeves mm to mm

| Reduction Sleeves mm to mm  |                   |          |          |          |          |          |          |                               |
|---|-------------------|----------|----------|----------|----------|----------|----------|-------------------------------|
| Part no.  | Item description  | D2<br>mm | D1<br>mm | D3<br>mm | L1<br>mm | L2<br>mm | L3<br>mm | Min. tool<br>insert<br>depth* |
| Reduction Sleeves HS 6  |                   |          |          |          |          |          |          |                               |
| R1906.01000   | HS 6 / 1 mm       | 6        | 1        | 9        | 27       | 20       | 3        | 15.5                          |
| R1906.02000   | HS 6 / 2 mm       | 6        | 2        | 9        | 27       | 24       | 3        | 21                            |
| R1906.03000   | HS 6 / 3 mm       | 6        | 3        | 9        | 27       | 30       | 3        | 26                            |
| R1906.04000   | HS 6 / 4 mm       | 6        | 4        | 9        | 27       | 30       | 3        | 26                            |
| Reduction Sleeves HS 8  |                   |          |          |          |          |          |          |                               |
| R1908.06000   | HS 8 / 6 mm       | 8        | 6        | 11       | 27       | 30       | 3        | 26                            |
| Reduction Sleeves HS 12-MB (Micro Bore) <i>MB can not seal for coolant through tools.</i> |                   |          |          |          |          |          |          |                               |
| R1912.01009   | HS 12-MB / 1 mm   | 12       | 1.000    | 16       | 40       | 20       | 4        | 44                            |
| R1912.01509   | HS 12-MB / 1,5 mm | 12       | 1.500    | 16       | 40       | 20       | 4        | 44                            |
| R1912.02009   | HS 12-MB / 2 mm   | 12       | 2.000    | 16       | 40       | 20       | 4        | 44                            |
| R1912.02509   | HS 12-MB / 2,5 mm | 12       | 2.500    | 16       | 40       | 20       | 4        | 44                            |
| Reduction Sleeves HS 12   |                   |          |          |          |          |          |          |                               |
| R1912.03000   | HS 12 / 3 mm      | 12       | 3.000    | 16       | 40       | 29       | 4        | 25                            |
| R1912.04000   | HS 12 / 4 mm      | 12       | 4.000    | 16       | 40       | 29       | 4        | 27                            |
| R1912.05000   | HS 12 / 5 mm      | 12       | 5.000    | 16       | 40       | 30       | 4        | 28                            |
| R1912.06000   | HS 12 / 6 mm      | 12       | 6.000    | 16       | 40       | 36       | 4        | 34                            |
| R1912.07000   | HS 12 / 7 mm      | 12       | 7.000    | 16       | 40       | 37       | 4        | 34                            |
| R1912.08000   | HS 12 / 8 mm      | 12       | 8.000    | 16       | 40       | 37       | 4        | 34                            |
| R1912.09000   | HS 12 / 9 mm      | 12       | 9.000    | 16       | 40       | 37       | 4        | 34                            |
| R1912.10000   | HS 12 / 10 mm     | 12       | 10.000   | 16       | 40       | 40       | 4        | 37                            |
| Reduction Sleeves HS 12-CF  |                   |          |          |          |          |          |          |                               |
| R1912.03002   | HS 12-CF / 3 mm   | 12       | 3.000    | 16       | 40       | 29       | 4        | 25                            |
| R1912.04002   | HS 12-CF / 4 mm   | 12       | 4.000    | 16       | 40       | 29       | 4        | 27                            |
| R1912.05002   | HS 12-CF / 5 mm   | 12       | 5.000    | 16       | 40       | 30       | 4        | 28                            |
| R1912.06002   | HS 12-CF / 6 mm   | 12       | 6.000    | 16       | 40       | 36       | 4        | 34                            |
| R1912.08002   | HS 12-CF / 8 mm   | 12       | 8.000    | 16       | 40       | 37       | 4        | 34                            |
| Reduction Sleeves HS 20   |                   |          |          |          |          |          |          |                               |
| R1920.03000   | HS 20 / 3 mm      | 20       | 3.000    | 25       | 50       | 28       | 4        | 25                            |
| R1920.04000   | HS 20 / 4 mm      | 20       | 4.000    | 25       | 50       | 28       | 4        | 25                            |
| R1920.05000   | HS 20 / 5 mm      | 20       | 5.000    | 25       | 50       | 28       | 4        | 25                            |
| R1920.06000   | HS 20 / 6 mm      | 20       | 6.000    | 25       | 50       | 36       | 4        | 34                            |
| R1920.07000   | HS 20 / 7 mm      | 20       | 7.000    | 25       | 50       | 38       | 4        | 34                            |
| R1920.08000   | HS 20 / 8 mm      | 20       | 8.000    | 25       | 50       | 37       | 4        | 35                            |
| R1920.09000   | HS 20 / 9 mm      | 20       | 9.000    | 25       | 50       | 38       | 4        | 35                            |
| R1920.10000   | HS 20 / 10 mm     | 20       | 10.000   | 25       | 50       | 40       | 4        | 37                            |
| R1920.11000   | HS 20 / 11 mm     | 20       | 11.000   | 25       | 50       | 40       | 4        | 37                            |
| R1920.12000   | HS 20 / 12 mm     | 20       | 12.000   | 25       | 50       | 45       | 4        | 42                            |
| R1920.13000   | HS 20 / 13 mm     | 20       | 13.000   | 25       | 50       | 45       | 4        | 42                            |
| R1920.14000   | HS 20 / 14 mm     | 20       | 14.000   | 25       | 50       | 45       | 4        | 42                            |
| R1920.15000   | HS 20 / 15 mm     | 20       | 15.000   | 25       | 50       | 45       | 4        | 42                            |
| R1920.16000   | HS 20 / 16 mm     | 20       | 16.000   | 25       | 50       | 48       | 4        | 44                            |
| R1920.18000   | HS 20 / 18 mm     | 20       | 18.000   | 25       | 50       | 48       | 4        | 46                            |

| Reduction Sleeves mm to mm |                  |          |          |          |          |          |          |                               |
|----------------------------|------------------|----------|----------|----------|----------|----------|----------|-------------------------------|
| Part no.                   | Item description | D2<br>mm | D1<br>mm | D3<br>mm | L1<br>mm | L2<br>mm | L3<br>mm | Min. tool<br>insert<br>depth* |
| Reduction Sleeves HS 20-CF |                  |          |          |          |          |          |          |                               |
| R1920.03002                | HS 20-CF / 3 mm  | 20       | 3.000    | 25       | 50       | 28       | 4        | 25                            |
| R1920.04002                | HS 20-CF / 4 mm  | 20       | 4.000    | 25       | 50       | 28       | 4        | 25                            |
| R1920.05002                | HS 20-CF / 5 mm  | 20       | 5.000    | 25       | 50       | 28       | 4        | 25                            |
| R1920.06002                | HS 20-CF / 6 mm  | 20       | 6.000    | 25       | 50       | 36       | 4        | 34                            |
| R1920.08002                | HS 20-CF / 8 mm  | 20       | 8.000    | 25       | 50       | 37       | 4        | 35                            |
| R1920.10002                | HS 20-CF / 10 mm | 20       | 10.000   | 25       | 50       | 40       | 4        | 37                            |
| R1920.12002                | HS 20-CF / 12 mm | 20       | 12.000   | 25       | 50       | 45       | 4        | 42                            |
| R1920.14002                | HS 20-CF / 14 mm | 20       | 14.000   | 25       | 50       | 45       | 4        | 42                            |
| R1920.16002                | HS 20-CF / 16 mm | 20       | 16.000   | 25       | 50       | 48       | 4        | 44                            |
| Reduction Sleeves HS 25    |                  |          |          |          |          |          |          |                               |
| R1925.03000                | HS 25 / 3 mm     | 25       | 3.000    | 30       | 56       | 29       | 4        | 24                            |
| R1925.04000                | HS 25 / 4 mm     | 25       | 4.000    | 30       | 56       | 29       | 4        | 25                            |
| R1925.05000                | HS 25 / 5 mm     | 25       | 5.000    | 30       | 56       | 29       | 4        | 27                            |
| R1925.06000                | HS 25 / 6 mm     | 25       | 6.000    | 30       | 56       | 37       | 4        | 34                            |
| R1925.07000                | HS 25 / 7 mm     | 25       | 7.000    | 30       | 56       | 37       | 4        | 34                            |
| R1925.08000                | HS 25 / 8 mm     | 25       | 8.000    | 30       | 56       | 37       | 4        | 34                            |
| R1925.09000                | HS 25 / 9 mm     | 25       | 9.000    | 30       | 56       | 38       | 4        | 35                            |
| R1925.10000                | HS 25 / 10 mm    | 25       | 10.000   | 30       | 56       | 40       | 4        | 37                            |
| R1925.12000                | HS 25 / 12 mm    | 25       | 12.000   | 30       | 56       | 46       | 4        | 41                            |
| R1925.14000                | HS 25 / 14 mm    | 25       | 14.000   | 30       | 56       | 47       | 4        | 42                            |
| R1925.16000                | HS 25 / 16 mm    | 25       | 16.000   | 30       | 56       | 48       | 4        | 43                            |
| R1925.18000                | HS 25 / 18 mm    | 25       | 18.000   | 30       | 56       | 48       | 4        | 44                            |
| R1925.20000                | HS 25 / 20 mm    | 25       | 20.000   | 30       | 56       | 50       | 4        | 44                            |
| Reduction Sleeves HS 32    |                  |          |          |          |          |          |          |                               |
| R1932.03000                | HS 32 / 3 mm     | 32       | 3.000    | 36       | 60       | 29       | 4        | 25                            |
| R1932.04000                | HS 32 / 4 mm     | 32       | 4.000    | 36       | 60       | 29       | 4        | 26                            |
| R1932.05000                | HS 32 / 5 mm     | 32       | 5.000    | 36       | 60       | 29       | 4        | 26                            |
| R1932.06000                | HS 32 / 6 mm     | 32       | 6.000    | 36       | 60       | 36       | 4        | 34                            |
| R1932.07000                | HS 32 / 7 mm     | 32       | 7.000    | 36       | 60       | 37       | 4        | 34                            |
| R1932.08000                | HS 32 / 8 mm     | 32       | 8.000    | 36       | 60       | 36       | 4        | 35                            |
| R1932.09000                | HS 32 / 9 mm     | 32       | 9.000    | 36       | 60       | 37       | 4        | 35                            |
| R1932.10000                | HS 32 / 10 mm    | 32       | 10.000   | 36       | 60       | 40       | 4        | 36                            |
| R1932.11000                | HS 32 / 11 mm    | 32       | 11.000   | 36       | 60       | 40       | 4        | 36                            |
| R1932.12000                | HS 32 / 12 mm    | 32       | 12.000   | 36       | 60       | 45       | 4        | 41                            |
| R1932.13000                | HS 32 / 13 mm    | 32       | 13.000   | 36       | 60       | 45       | 4        | 41                            |
| R1932.14000                | HS 32 / 14 mm    | 32       | 14.000   | 36       | 60       | 46       | 4        | 43                            |
| R1932.15000                | HS 32 / 15 mm    | 32       | 15.000   | 36       | 60       | 46       | 4        | 43                            |
| R1932.16000                | HS 32 / 16 mm    | 32       | 16.000   | 36       | 60       | 48       | 4        | 44                            |
| R1932.17000                | HS 32 / 17 mm    | 32       | 17.000   | 36       | 60       | 48       | 4        | 44                            |
| R1932.18000                | HS 32 / 18 mm    | 32       | 18.000   | 36       | 60       | 49       | 4        | 44                            |
| R1932.19000                | HS 32 / 19 mm    | 32       | 19.000   | 36       | 60       | 49       | 4        | 44                            |
| R1932.20000                | HS 32 / 20 mm    | 32       | 20.000   | 36       | 60       | 50       | 4        | 45                            |
| R1932.22000                | HS 32 / 22 mm    | 32       | 22.000   | 36       | 60       | 50       | 4        | 45                            |
| R1932.25000                | HS 32 / 25 mm    | 32       | 25.000   | 36       | 60       | 56       | 4        | 52                            |
| Reduction Sleeves HS 32-CF |                  |          |          |          |          |          |          |                               |
| R1932.06002                | HS 32-CF / 6 mm  | 32       | 6.000    | 36       | 60       | 36       | 4        | 34                            |
| R1932.08002                | HS 32-CF / 8 mm  | 32       | 8.000    | 36       | 60       | 36       | 4        | 35                            |
| R1932.10002                | HS 32-CF / 10 mm | 32       | 10.000   | 36       | 60       | 40       | 4        | 36                            |
| R1932.12002                | HS 32-CF / 12 mm | 32       | 12.000   | 36       | 60       | 45       | 4        | 41                            |
| R1932.14002                | HS 32-CF / 14 mm | 32       | 14.000   | 36       | 60       | 46       | 4        | 43                            |
| R1932.16002                | HS 32-CF / 16 mm | 32       | 16.000   | 36       | 60       | 48       | 4        | 44                            |
| R1932.18002                | HS 32-CF / 18 mm | 32       | 18.000   | 36       | 60       | 49       | 4        | 44                            |
| R1932.20002                | HS 32-CF / 20 mm | 32       | 20.000   | 36       | 60       | 50       | 4        | 45                            |
| R1932.25002                | HS 32-CF / 25 mm | 32       | 25.000   | 36       | 60       | 56       | 4        | 52                            |

\*) Minimum tool insertion depth (in mm) to ensure correct sealing effect for HS sleeves or correct periphery cooling for HS-CF sleeves.

# Reduction Sleeves Inch to inch

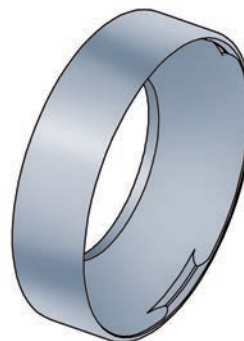
# mm to inch

| Reduction Sleeves inch to inch        |                     |         |         |         |         |         |         |                         |
|---------------------------------------|---------------------|---------|---------|---------|---------|---------|---------|-------------------------|
| Part no.                              | Item description    | D2 inch | D1 inch | D3 inch | L1 inch | L2 inch | L3 inch | Min. tool insert depth* |
| <b>Reduction Sleeves HS 1/2"</b>      |                     |         |         |         |         |         |         |                         |
| R1913.03182                           | HS 1/2" / 1/8"      | 0.500   | 0.1250  | 0.630   | 1.575   | 1.142   | 0.157   | 26                      |
| R1913.04762                           | HS 1/2" / 3/16"     | 0.500   | 0.1875  | 0.630   | 1.575   | 1.142   | 0.157   | 28                      |
| R1913.06352                           | HS 1/2" / 1/4"      | 0.500   | 0.2500  | 0.630   | 1.575   | 1.417   | 0.157   | 34                      |
| R1913.07942                           | HS 1/2" / 5/16"     | 0.500   | 0.3125  | 0.630   | 1.575   | 1.457   | 0.157   | 34                      |
| R1913.09522                           | HS 1/2" / 3/8"      | 0.500   | 0.3750  | 0.630   | 1.575   | 1.575   | 0.157   | 37                      |
| <b>Reduction Sleeves HS 1/2"-CF</b>   |                     |         |         |         |         |         |         |                         |
| R1913.03183                           | HS 1/2"-CF / 1/8"   | 0.500   | 0.1250  | 0.630   | 1.575   | 1.142   | 0.157   | 26                      |
| R1913.06353                           | HS 1/2"-CF / 1/4"   | 0.500   | 0.2500  | 0.630   | 1.575   | 1.417   | 0.157   | 26                      |
| R1913.09523                           | HS 1/2"-CF / 3/8"   | 0.500   | 0.3750  | 0.630   | 1.575   | 1.575   | 0.157   | 37                      |
| <b>Reduction Sleeves HS 3/4"</b>      |                     |         |         |         |         |         |         |                         |
| R1919.03182                           | HS 3/4" / 1/8"      | 0.750   | 0.1250  | 0.984   | 1.969   | 1.102   | 0.157   | 25                      |
| R1919.04762                           | HS 3/4" / 3/16"     | 0.750   | 0.1875  | 0.984   | 1.969   | 1.102   | 0.157   | 25                      |
| R1919.06352                           | HS 3/4" / 1/4"      | 0.750   | 0.2500  | 0.984   | 1.969   | 1.417   | 0.157   | 34                      |
| R1919.07942                           | HS 3/4" / 5/16"     | 0.750   | 0.3125  | 0.984   | 1.969   | 1.457   | 0.157   | 35                      |
| R1919.09522                           | HS 3/4" / 3/8"      | 0.750   | 0.3750  | 0.984   | 1.969   | 1.417   | 0.157   | 35                      |
| R1919.11112                           | HS 3/4" / 7/16"     | 0.750   | 0.4375  | 0.984   | 1.969   | 1.575   | 0.157   | 37                      |
| R1919.12702                           | HS 3/4" / 1/2"      | 0.750   | 0.5000  | 0.984   | 1.969   | 1.772   | 0.157   | 42                      |
| R1919.14292                           | HS 3/4" / 9/16"     | 0.750   | 0.5625  | 0.984   | 1.969   | 1.772   | 0.157   | 42                      |
| R1919.15882                           | HS 3/4" / 5/8"      | 0.750   | 0.6250  | 0.984   | 1.969   | 1.890   | 0.157   | 44                      |
| <b>Reduction Sleeves HS 3/4"-CF</b>   |                     |         |         |         |         |         |         |                         |
| R1919.06353                           | HS 3/4"-CF / 1/4"   | 0.750   | 0.2500  | 0.984   | 1.969   | 1.417   | 0.157   | 34                      |
| R1919.09523                           | HS 3/4"-CF / 3/8"   | 0.750   | 0.3750  | 0.984   | 1.969   | 1.417   | 0.157   | 35                      |
| R1919.12703                           | HS 3/4"-CF / 1/2"   | 0.750   | 0.5000  | 0.984   | 1.969   | 1.772   | 0.157   | 42                      |
| R1919.15883                           | HS 3/4"-CF / 5/8"   | 0.750   | 0.6250  | 0.984   | 1.969   | 1.890   | 0.157   | 44                      |
| <b>Reduction Sleeves HS 1"</b>        |                     |         |         |         |         |         |         |                         |
| R1926.03182                           | HS 1" / 1/8"        | 1.000   | 0.1250  | 1.181   | 2.205   | 1.142   | 0.157   | 26                      |
| R1926.04762                           | HS 1" / 3/16"       | 1.000   | 0.1875  | 1.181   | 2.205   | 1.142   | 0.157   | 27                      |
| R1926.06352                           | HS 1" / 1/4"        | 1.000   | 0.2500  | 1.181   | 2.205   | 1.457   | 0.157   | 34                      |
| R1926.07942                           | HS 1" / 5/16"       | 1.000   | 0.3125  | 1.181   | 2.205   | 1.457   | 0.157   | 34                      |
| R1926.09522                           | HS 1" / 3/8"        | 1.000   | 0.3750  | 1.181   | 2.205   | 1.496   | 0.157   | 35                      |
| R1926.11112                           | HS 1" / 7/16"       | 1.000   | 0.4375  | 1.181   | 2.205   | 1.575   | 0.157   | 37                      |
| R1926.12702                           | HS 1" / 1/2"        | 1.000   | 0.5000  | 1.181   | 2.205   | 1.811   | 0.157   | 41                      |
| R1926.14292                           | HS 1" / 9/16"       | 1.000   | 0.5625  | 1.181   | 2.205   | 1.850   | 0.157   | 42                      |
| R1926.15882                           | HS 1" / 5/8"        | 1.000   | 0.6250  | 1.181   | 2.205   | 1.890   | 0.157   | 43                      |
| R1926.17462                           | HS 1" / 11/16"      | 1.000   | 0.6875  | 1.181   | 2.205   | 1.890   | 0.157   | 44                      |
| R1926.19052                           | HS 1" / 3/4"        | 1.000   | 0.7500  | 1.181   | 2.205   | 1.890   | 0.157   | 44                      |
| <b>Reduction Sleeves HS 1"-CF</b>     |                     |         |         |         |         |         |         |                         |
| R1926.06353                           | HS 1"-CF / 1/4"     | 1.000   | 0.2500  | 1.181   | 2.205   | 1.457   | 0.157   | 34                      |
| R1926.09523                           | HS 1"-CF / 3/8"     | 1.000   | 0.3750  | 1.181   | 2.205   | 1.496   | 0.157   | 35                      |
| R1926.12703                           | HS 1"-CF / 1/2"     | 1.000   | 0.5000  | 1.181   | 2.205   | 1.811   | 0.157   | 41                      |
| R1926.15883                           | HS 1"-CF / 5/8"     | 1.000   | 0.6250  | 1.181   | 2.205   | 1.890   | 0.157   | 43                      |
| R1926.19053                           | HS 1"-CF / 3/4"     | 1.000   | 0.7500  | 1.181   | 2.205   | 1.890   | 0.157   | 44                      |
| <b>Reduction Sleeves HS 1 1/4"</b>    |                     |         |         |         |         |         |         |                         |
| R1931.04762                           | HS 1 1/4" / 3/16"   | 1.250   | 0.1875  | 1.417   | 2.362   | 1.142   | 0.157   | 26                      |
| R1931.06352                           | HS 1 1/4" / 1/4"    | 1.250   | 0.2500  | 1.417   | 2.362   | 1.417   | 0.157   | 34                      |
| R1931.07942                           | HS 1 1/4" / 5/16"   | 1.250   | 0.3125  | 1.417   | 2.362   | 1.417   | 0.157   | 35                      |
| R1931.09522                           | HS 1 1/4" / 3/8"    | 1.250   | 0.3750  | 1.417   | 2.362   | 1.457   | 0.157   | 35                      |
| R1931.11112                           | HS 1 1/4" / 7/16"   | 1.250   | 0.4375  | 1.417   | 2.362   | 1.772   | 0.157   | 36                      |
| R1931.12702                           | HS 1 1/4" / 1/2"    | 1.250   | 0.5000  | 1.417   | 2.362   | 1.772   | 0.157   | 42                      |
| R1931.14292                           | HS 1 1/4" / 9/16"   | 1.250   | 0.5625  | 1.417   | 2.362   | 1.811   | 0.157   | 43                      |
| R1931.15882                           | HS 1 1/4" / 5/8"    | 1.250   | 0.6250  | 1.417   | 2.362   | 1.811   | 0.157   | 44                      |
| R1931.17462                           | HS 1 1/4" / 11/16"  | 1.250   | 0.6875  | 1.417   | 2.362   | 1.890   | 0.157   | 44                      |
| R1931.19052                           | HS 1 1/4" / 3/4"    | 1.250   | 0.7500  | 1.417   | 2.362   | 1.969   | 0.157   | 44                      |
| R1931.25402                           | HS 1 1/4" / 1"      | 1.250   | 1.000   | 1.417   | 2.362   | 2.205   | 0.157   | 52                      |
| <b>Reduction Sleeves HS 1 1/4"-CF</b> |                     |         |         |         |         |         |         |                         |
| R1931.12703                           | HS 1 1/4"-CF / 1/2" | 1.250   | 0.5000  | 1.417   | 2.362   | 1.772   | 0.157   | 42                      |
| R1931.15883                           | HS 1 1/4"-CF / 5/8" | 1.250   | 0.6250  | 1.417   | 2.362   | 1.811   | 0.157   | 44                      |
| R1931.19053                           | HS 1 1/4"-CF / 3/4" | 1.250   | 0.7500  | 1.417   | 2.362   | 1.969   | 0.157   | 44                      |
| R1931.25403                           | HS 1 1/4"-CF / 1"   | 1.250   | 1.000   | 1.417   | 2.362   | 2.205   | 0.157   | 52                      |

| Reduction Sleeves mm to inch      |                  |       |         |       |       |       |       |                         |
|-----------------------------------|------------------|-------|---------|-------|-------|-------|-------|-------------------------|
| Part no.                          | Item description | D2 mm | D1 inch | D3 mm | L1 mm | L2 mm | L3 mm | Min. tool insert depth* |
| <b>Reduction Sleeves HS 12</b>    |                  |       |         |       |       |       |       |                         |
| R1912.03181                       | HS 12 / 1/8"     | 12    | 0.1250  | 16    | 40    | 29    | 4     | 25                      |
| R1912.04761                       | HS 12 / 3/16"    | 12    | 0.1875  | 16    | 40    | 30    | 4     | 28                      |
| R1912.06351                       | HS 12 / 1/4"     | 12    | 0.2500  | 16    | 40    | 36    | 4     | 34                      |
| R1912.07941                       | HS 12 / 5/16"    | 12    | 0.3125  | 16    | 40    | 36    | 4     | 34                      |
| R1912.09521                       | HS 12 / 3/8"     | 12    | 0.3750  | 16    | 40    | 37    | 4     | 37                      |
| <b>Reduction Sleeves HS 12-CF</b> |                  |       |         |       |       |       |       |                         |
| R1912.03183                       | HS 12-CF / 1/8"  | 12    | 0.1250  | 16    | 40    | 29    | 4     | 25                      |
| R1912.06353                       | HS 12-CF / 1/4"  | 12    | 0.2500  | 16    | 40    | 36    | 4     | 34                      |
| <b>Reduction Sleeves HS 20</b>    |                  |       |         |       |       |       |       |                         |
| R1920.03181                       | HS 20 / 1/8"     | 20    | 0.1250  | 25    | 50    | 28    | 4     | 22                      |
| R1920.04761                       | HS 20 / 3/16"    | 20    | 0.1875  | 25    | 50    | 28    | 4     | 25                      |
| R1920.06351                       | HS 20 / 1/4"     | 20    | 0.2500  | 25    | 50    | 36    | 4     | 34                      |
| R1920.07941                       | HS 20 / 5/16"    | 20    | 0.3125  | 25    | 50    | 37    | 4     | 35                      |
| R1920.09521                       | HS 20 / 3/8"     | 20    | 0.3750  | 25    | 50    | 36    | 4     | 35                      |
| R1920.11111                       | HS 20 / 7/16"    | 20    | 0.4375  | 25    | 50    | 40    | 4     | 37                      |
| R1920.12701                       | HS 20 / 1/2"     | 20    | 0.5000  | 25    | 50    | 45    | 4     | 42                      |
| R1920.14291                       | HS 20 / 9/16"    | 20    | 0.5625  | 25    | 50    | 45    | 4     | 42                      |
| R1920.15881                       | HS 20 / 5/8"     | 20    | 0.6250  | 25    | 50    | 48    | 4     | 44                      |
| <b>Reduction Sleeves HS 25</b>    |                  |       |         |       |       |       |       |                         |
| R1925.03181                       | HS 25 / 1/8"     | 25    | 0.1250  | 30    | 56    | 29    | 4     | 24                      |
| R1925.06351                       | HS 25 / 1/4"     | 25    | 0.2500  | 30    | 56    | 37    | 4     | 34                      |
| R1925.07941                       | HS 25 / 5/16"    | 25    | 0.3125  | 30    | 56    | 37    | 4     | 34                      |
| R1925.09521                       | HS 25 / 3/8"     | 25    | 0.3750  | 30    | 56    | 38    | 4     | 35                      |
| R1925.11111                       | HS 25 / 7/16"    | 25    | 0.4375  | 30    | 56    | 40    | 4     | 37                      |
| R1925.12701                       | HS 25 / 1/2"     | 25    | 0.5000  | 30    | 56    | 46    | 4     | 41                      |
| R1925.14291                       | HS 25 / 9/16"    | 25    | 0.5625  | 30    | 56    | 47    | 4     | 42                      |
| R1925.15881                       | HS 25 / 5/8"     | 25    | 0.6250  | 30    | 56    | 48    | 4     | 43                      |
| R1925.17461                       | HS 25 / 11/16"   | 25    | 0.6875  | 30    | 56    | 48    | 4     | 43                      |
| R1925.19051                       | HS 25 / 3/4"     | 25    | 0.7500  | 30    | 56    | 48    | 4     | 44                      |
| R1925.20631                       | HS 25 / 13/16"   | 25    | 0.8125  | 30    | 56    | 50    | 4     | 44                      |
| <b>Reduction Sleeves HS 32</b>    |                  |       |         |       |       |       |       |                         |
| R1932.04761                       | HS 32 / 3/16"    | 32    | 0.1875  | 36    | 60    | 29    | 4     | 26                      |
| R1932.06351                       | HS 32 / 1/4"     | 32    | 0.2500  | 36    | 60    | 36    | 4     | 34                      |
| R1932.07941                       | HS 32 / 5/16"    | 32    | 0.3125  | 36    | 60    | 36    | 4     | 35                      |
| R1932.09521                       | HS 32 / 3/8"     | 32    | 0.3750  | 36    | 60    | 37    | 4     | 35                      |
| R1932.11111                       | HS 32 / 7/16"    | 32    | 0.4375  | 36    | 60    | 45    | 4     | 36                      |
| R1932.12701                       | HS 32 / 1/2"     | 32    | 0.5000  | 36    | 60    | 45    | 4     | 42                      |
| R1932.14291                       | HS 32 / 9/16"    | 32    | 0.5625  | 36    | 60    | 46    | 4     | 43                      |
| R1932.15881                       | HS 32 / 5/8"     | 32    | 0.6250  | 36    | 60    | 46    | 4     | 44                      |
| R1932.17461                       | HS 32 / 11/16"   | 32    | 0.6875  | 36    | 60    | 48    | 4     | 44                      |
| R1932.19051                       | HS 32 / 3/4"     | 32    | 0.7500  | 36    | 60    | 50    | 4     | 44                      |
| R1932.20631                       | HS 32 / 13/16"   | 32    | 0.8125  | 36    | 60    | 50    | 4     | 45                      |
| R1932.22221                       | HS 32 / 7/8"     | 32    | 0.8750  | 36    | 60    | 50    | 4     | 45                      |
| R1932.23811                       | HS 32 / 15/16"   | 32    | 0.9375  | 36    | 60    | 52    | 4     | 45                      |
| R1932.25401                       | HS 32 / 1"       | 32    | 1.000   | 36    | 60    | 56    | 4     | 52                      |

\*) Minimum tool insertion depth (in mm) to ensure correct sealing effect for HS sleeves or correct periphery cooling for HS-CF sleeves.

# Chip covers for reduction sleeves CC



*Our chip cover is ideally suited for the removal of chips. The cover can simply be clicked-in at the head of our reduction sleeves.*

| Chip covers                                       |                             |                |       |            |
|---|-----------------------------|----------------|-------|------------|
| Part no.  | Type                        | Fits           | [mm]  | [inch]     |
| <b>Chip covers for reduction sleeves CC-HS 12</b> |                             |                |       |            |
| R7331.04200                                       | CC-HS 12 – 1/2" / Ø 4.0 mm  | HS 12, HS 1/2" | 3–4   | 1/8"       |
| R7331.06600                                       | CC-HS 12 – 1/2" / Ø 6.0 mm  | HS 12, HS 1/2" | 5–6   | 3/16"–1/4" |
| R7331.10200                                       | CC-HS 12 – 1/2" / Ø 10.0 mm | HS 12, HS 1/2" | 7–10  | 5/16"–3/8" |
| <b>Chip covers for reduction sleeves CC-HS 20</b> |                             |                |       |            |
| R7333.04200                                       | CC-HS 20 – 3/4" / Ø 4.0 mm  | HS 20, HS 3/4" | 3–4   | 1/8"       |
| R7333.06600                                       | CC-HS 20 – 3/4" / Ø 6.0 mm  | HS 20, HS 3/4" | 5–6   | 1/16"–1/4" |
| R7333.10200                                       | CC-HS 20 – 3/4" / Ø 10.0 mm | HS 20, HS 3/4" | 7–10  | 5/16"–3/8" |
| R7333.14200                                       | CC-HS 20 – 3/4" / Ø 14.0 mm | HS 20, HS 3/4" | 11–14 | 7/16"–1/2" |
| R7333.16200                                       | CC-HS 20 – 3/4" / Ø 16.0 mm | HS 20, HS 3/4" | 15–16 | 9/16"–5/8" |
| R7333.18200                                       | CC-HS 20 – 3/4" / Ø 18.0 mm | HS 20, HS 3/4" | 18    | –          |

**Assembly:** Assemble the sleeve and chip cover before inserting the tool and loading the sleeve into the holder. This ensures easier assembly and protects tools and fingers.

**Fit:** The chip cover allows a small gap between the holder face and sleeve lip, ensuring proper face contact without interference.

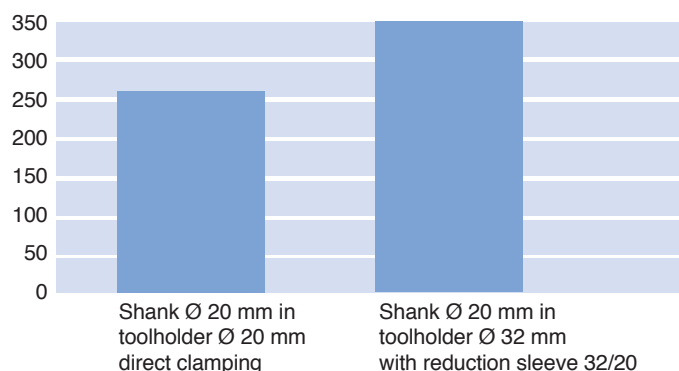
**Precision:** The cover's slightly larger hole does not affect runout or clamping force.

**Removal:** Use extractor wrench for easy disassembly, as removal may otherwise be difficult.

## Accessories Torque wrench and Extractor



### Comparison of Transmittable Torque at Ø 20 mm



### Torque wrench

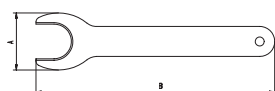
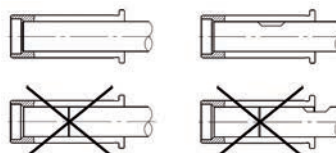
Use torque wrench to ensure correct tightening independent on user. Should be used with all HYDRO-FIX® holders.

| Item description         | Tightening torque: |         | Part no. |
|--------------------------|--------------------|---------|----------|
|                          | Nm                 | ft · lb |          |
| Torque wrench (3 mm Hex) | 1.8                | 1.3     | 19070    |
| Torque wrench (4 mm Hex) | 6                  | 4.4     | 19055    |
| Torque wrench (5 mm Hex) | 6                  | 4.4     | 19050    |
| Torque wrench (8 mm Hex) | 10                 | 7.4     | 19054    |

### 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  |

- 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.



The extractor helps to remove the reduction sleeve from the clamping unit.

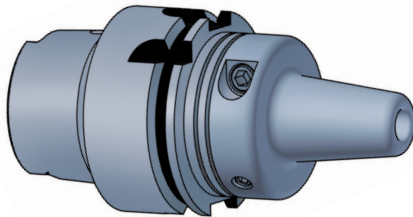




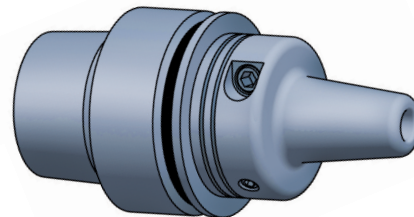
*More Hydraulic high  
precision toolholders  
- see our main catalogue*

*Examples: Holders for Small parts machining*

ETP HYDRO-GRIP®  
HSK40 Form A



ETP HYDRO-GRIP®  
HSK40 Form E



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