Woodworking

HYDRO-GRIP

Get a grip

– quick, easy and precise

Product Catalogue
Sleeves

ETP Transmission AB has developed and manufactured hydraulic sleeves for more than 40 years under the brand name ETP HYDRO-GRIP for the woodworking industry.

We are a global company and our customers are the leaders within their respective segments. This is the way we like it, working with people that demand the absolute best from us means we are constantly developing and improving ourselves and our products. It is your challenges that drive us forward.

This catalogue covers our standard products for the woodworking industry and in addition to this we also manufacture customized designed products for all types of wood machining.

In need of hydraulic chucks?

See our separate CNC Catalogue!

Quick, easy and precise

It takes just a few seconds to get perfect centering and fastening of your tools when attached to an ETP HYDRO-GRIP. The extremely high precision achieved by using ETP HYDRO-GRIP results in minimal runout, unrivalled repeatability and the best possible surface finish at super high feed speeds.

Our customers and worldwide users can confirm what this means in terms of dramatically improved cost-effectiveness.

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qValify ISO 9001

Pressurizing

Set the pressure with the allen T-wrench
Place the tool and HYDRO-GRIP on the machine spindle. Turn the allen T-wrench a couple of turns and the tool is automatically centered and fastened. The whole process takes literally just a few seconds.

Set the pressure with the high pressure pump
Connect the pump to the HYDRO-GRIP, pressurize and check that the correct pressure of 400-450 bar has been reached. We strongly recommend the grease Blasolube 301, please see part Technical Specification.

Assembly

Permanent tool assembly
Permanent tool assembly means that the sleeve only expands against the machine spindle. Made in short versions to allow for a light press fit. The tool and HYDRO-GRIP should be bolted together.

Interchangeable tool assembly
Interchangeable tool assembly means that the sleeve expands, is centered and fixed in place in a matter of seconds, both against the tool and the machine spindle. The sleeve can easily be used with different tools.

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Sleeves for general woodworking pressurizing with allen T-wrench

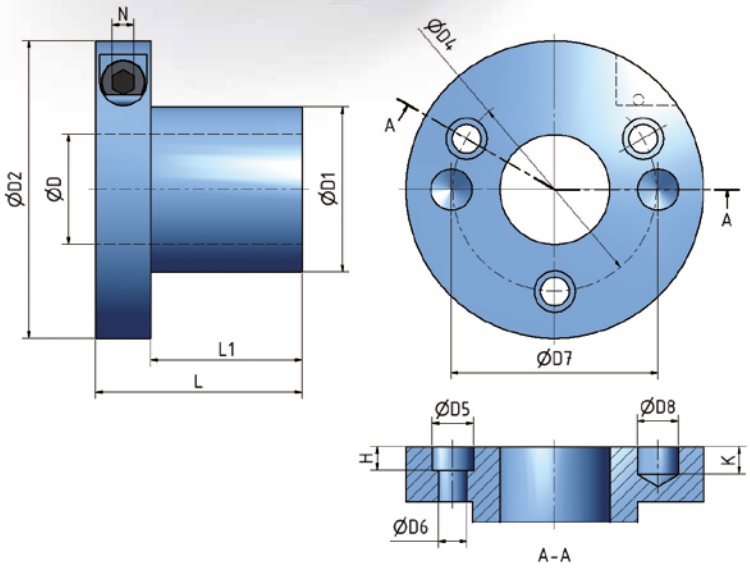
Photo courtesy of Drömtrappor®, Emma 4.G.1 from Trätrappor AB

Benefits and features

- **Fit your tools quick and easy**
- **Perfect centering and fastening with only an allen T-wrench**
- **Easy to operate**
- **Probably the most durable pressurizing mechanism on the market**

ETP HYDRO-GRIP® CI

Sleeve for **interchangeable tool assembly** that can be used with different tools. The tool should be bolted to the sleeve's collar. Several tools can be mounted simultaneously. Pressurizing is carried out with an allen T-wrench.



Technical specification ETP HYDRO-GRIP® CI

Type	D	D1	D2	D4	D5	D6	D7	D8	H	K	L	L1	N
CI-40/50-75	40	50	100	64	14	9.5	65	15	8.5	10	75	55	8
CI-40/60-55	40	60	102	74	14	9.5	75	15	8.5	10	55	35	8
CI-40/60-75	40	60	102	74	14	9.5	75	15	8.5	10	75	55	8
CI-40/60-95	40	60	108	74	14	9.5	75	15	8.5	10	95	75	8
CI-40/60-115	40	60	108	74	14	9.5	75	15	8.5	10	115	95	8
CI-40/60-140**	40	60	114	74	14	9.5	75	15	8.5	10	140	115	10
CI-50/60-75*	50	60	102	74	14	9.5	75	15	8.5	10	75	55	8
CI-50/60-95*	50	60	108	74	14	9.5	75	15	8.5	10	95	75	8
CI-50/60-115*	50	60	108	74	14	9.5	75	15	8.5	10	115	95	8
CI-50/60-140**	50	60	114	74	14	9.5	75	15	8.5	10	140	115	10

*) The CI Ø50 has two, threaded M8-holes for carrier pegs on a 70mm pitch diameter.
**) The sleeve has two, threaded M8-holes for carrier pegs on a 68 mm pitch diameter.
See section Technical Specification for more information.

Stainless steel

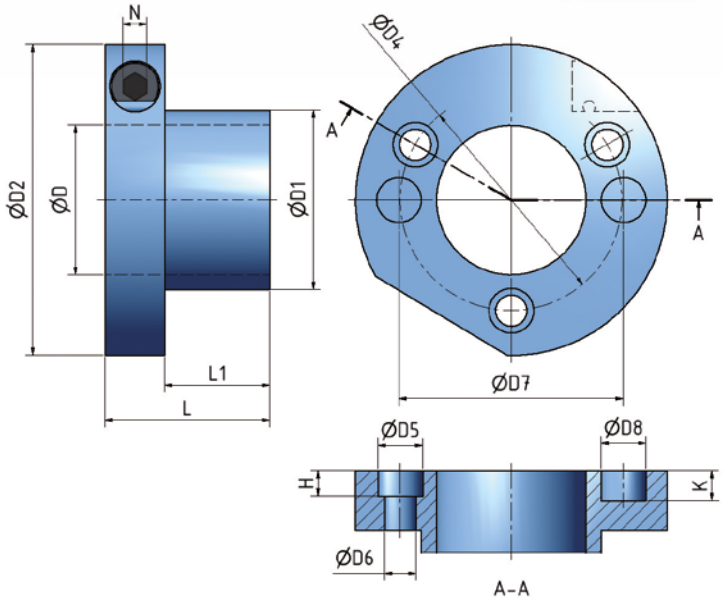
Benefits and features

- **Fit your tools quick and easy**
- **Stainless steel**
- **Can be ultrasonically cleaned**
- **Practical handling with flat balance surface**

ETP HYDRO-GRIP® CIR

ETP HYDRO-GRIP is manufactured in stainless steel and perfect for use in demanding environments.

Sleeve for **interchangeable tool assembly** that can be used with different tools. The tool should be bolted to the sleeve's collar. Several tools can be mounted simultaneously. Pressurizing is carried out with an allen T-wrench.



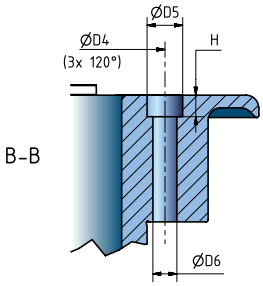
Technical specification ETP HYDRO-GRIP® CIR Stainless steel

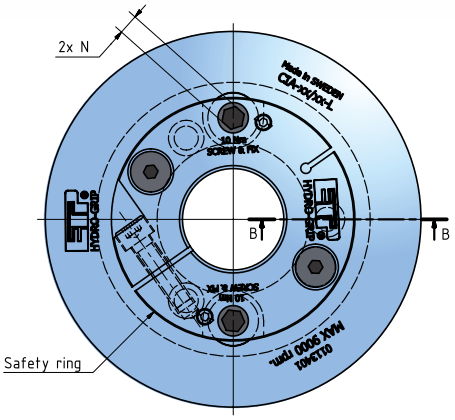
Type	D	D1	D2	D4	D5	D6	D7	D8	H	K	L	L1	N
CIR-50/60-75*	50	60	104	74	14	10.5	75	15	8.5	10	75	55	8
CIR 1 13/16"/60-75	1 13/16"	60	104	74	14	10.5	75	15	8.5	10	75	55	8

*) The CIR Ø50 has two, threaded M5-holes for carrier pegs, on a 70 mm pitch diameter.
See section Technical Specification for more information.

Benefits and features

- **Pressurizing is done in seconds with a Power Tool.**
- **Integrated safety collar with hydro sleeve.**
- **Ergonomic design for safe and easy handling.**





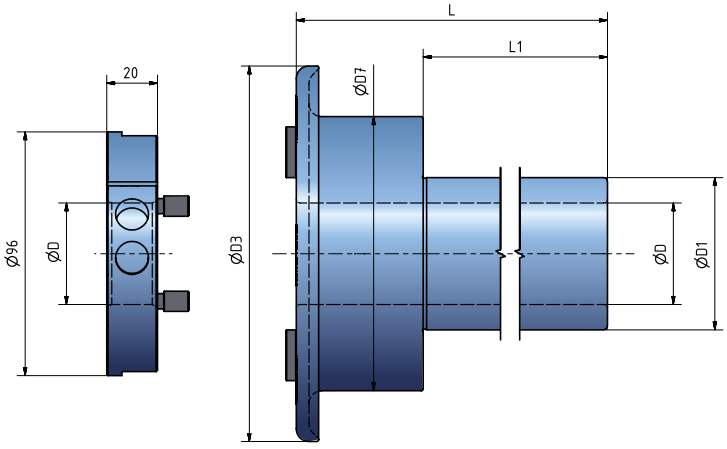
ETP HYDRO-GRIP® CIA

ETP HYDRO-GRIP CIA is the brand new hydro sleeve that will make your tool changes and -set up safer, easier and quicker than ever!

By using a Power Tool when pressurizing you can tighten it as much as you like, you are done in seconds and it is strong as an ox.

The integrated safety collar keep your precious fingers safe when handling sharp tools.

Sleeve for **interchangeable tool assembly** that can be used with different tools. The tool should be bolted to the sleeve's collar. Several tools can be mounted simultaneously.



Technical specification ETP HYDRO-GRIP® CIA

Type	D	D1	D3	D4	D5	D6	D7	H	L	L1
CIA-40/60-185	40	60	148	74	14	9.5	108	8.5	185	135
CIA-40/60-202	40	60	148	74	14	9.5	108	8.5	202	152
CIA-1 13/16"/60-185	1 13/16"	60	148	74	14	9.5	108	8.5	185	135

See section Technical Specification for more information.

Save time – Save money
No more trial and error!

By using the ETP CUBIT mini you literary make money by stop wasting your valuable time with tool changes and replacement of cumbersum shims. The adjustment of a tool set can be made in seconds thanks to the patented adjustable CUBIT system.

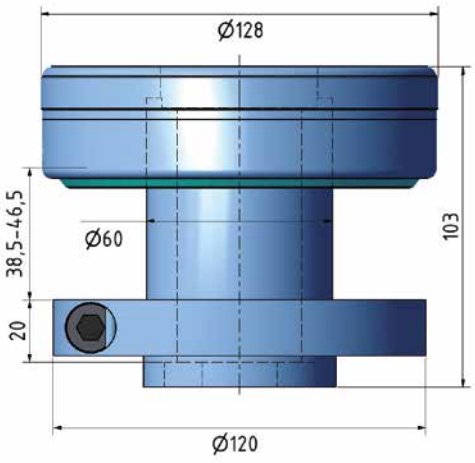
The CUBIT mini can be attached to a number of different ETP HYDRO-GRIP products each suitable for a vast number of woodworking applications.

Quick and easy to use

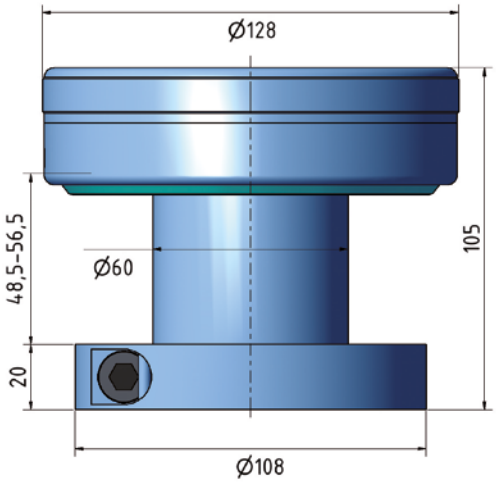
The adjustment is quickly and easily done in a few moments by turning the top cover. There is an indicating scale and a click function assisting you to notify the movement on the tool set. Each click is equal to a 0.025 mm movement and the total adjustment is 8 mm.

The adjusting device is completely covered in the CUBIT mini and there are no other small parts. Illustrated on this page is a combination with a HYDRO-GRIP type CI and EI2. Use your creativity and you will soon find several applications where to gain a lot by using a reliable and precise adjustable system.

Please contact ETP for more information: info@etp.se



CUBIT mini with EI2



CUBIT mini with CI

Available sleeves

- C-50/60-95
- CI-40/60-95
- CI-50/60-95
- EI2-40/60-93

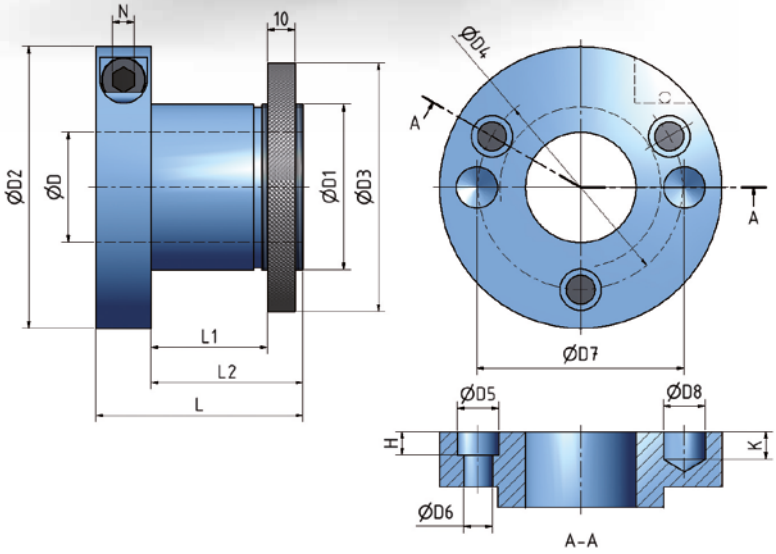
Multiple tools applications

Benefits and features

- **Fit your tools quick and easy**
- **Several tools can be mounted on the same sleeve**
- **Perfect centering and fastening with only an allen T-wrench**
- **Same durable pressurizing mechanism as CI**

ETP HYDRO-GRIP® BI

Sleeve for **interchangeable tool assembly,** the same basic construction as the CI but also has a thread and locking nut. This means the sleeve can be easily switched between different tools. Several tools can be mounted to the same sleeve.
Pressurizing is carried out with an allen T-wrench.



Technical specification ETP HYDRO-GRIP® BI

Type	D	D1	D2	D3	D4	D5	D6	D7	D8	H	K	L	L1	L2	N
BI-40/50-75	40	50	100	83	64	14	9.5	65	15	8.5	10	75	40	55	8
BI-40/60-75	40	60	102	90	74	14	9.5	75	15	8.5	10	75	40	55	8
BI-40/60-95	40	60	108	90	74	14	9.5	75	15	8.5	10	95	60	75	8
BI-40/60-115	40	60	108	90	74	14	9.5	75	15	8.5	10	115	80	95	8
BI-50/60-75*	50	60	102	90	74	14	9.5	75	15	8.5	10	75	40	55	8
BI-50/60-95*	50	60	108	90	74	14	9.5	75	15	8.5	10	95	60	75	8
BI-50/60-115*	50	60	108	90	74	14	9.5	75	15	8.5	10	115	80	95	8
BI-1 1/2"/50-85	1 1/2"	50	100	83	64	14	9.5	65	15	8.5	10	85	50	65	8
BI-1 1/2"/50-135	1 1/2"	50	106	83	64	14	9.5	65	15	8.5	10	135	100	115	8
BI-1 13/16"/60-75	1 13/16"	60	102	90	74	14	9.5	75	15	8.5	10	75	40	55	8
BI-1 13/16"/60-115	1 13/16"	60	108	90	74	14	9.5	75	15	8.5	10	115	80	95	8
BI-1 13/16"/60-140	1 13/16"	60	114	90	74	14	9.5	75	15	8.5	10	140	105	120	8
BI-1 13/16"/65-85	1 13/16"	65	108	98	80	14	9.5	80	15	8.5	10	85	50	65	8
BI-2 1/8"/65-85	2 1/8"	65	108	98	80	14	9.5	80	15	8.5	10	85	50	65	8

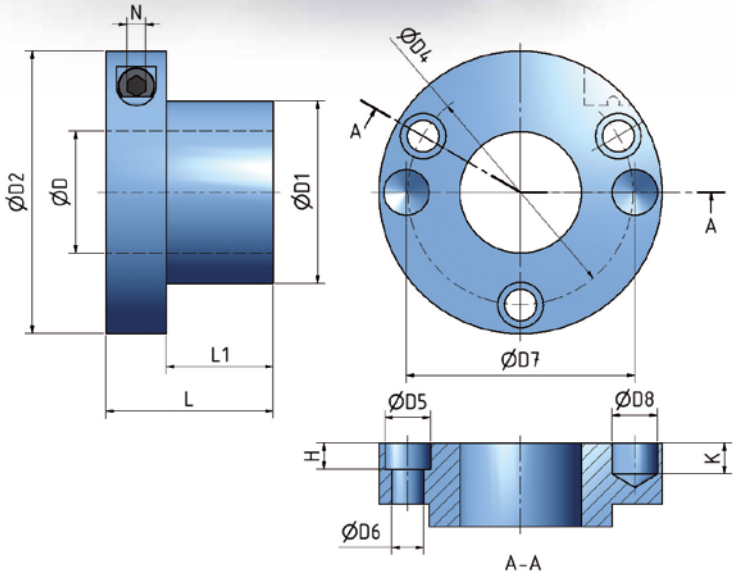
*) The BI Ø50 has two, threaded M8-holes for carrier pegs, on a 70 mm pitch diameter.
See section Technical Specification for more information.

Benefits and features

- **Made in short lengths**
- **Light press fit**
- **Pressurizing is carried out with an allen T-wrench**

ETP HYDRO-GRIP® AI

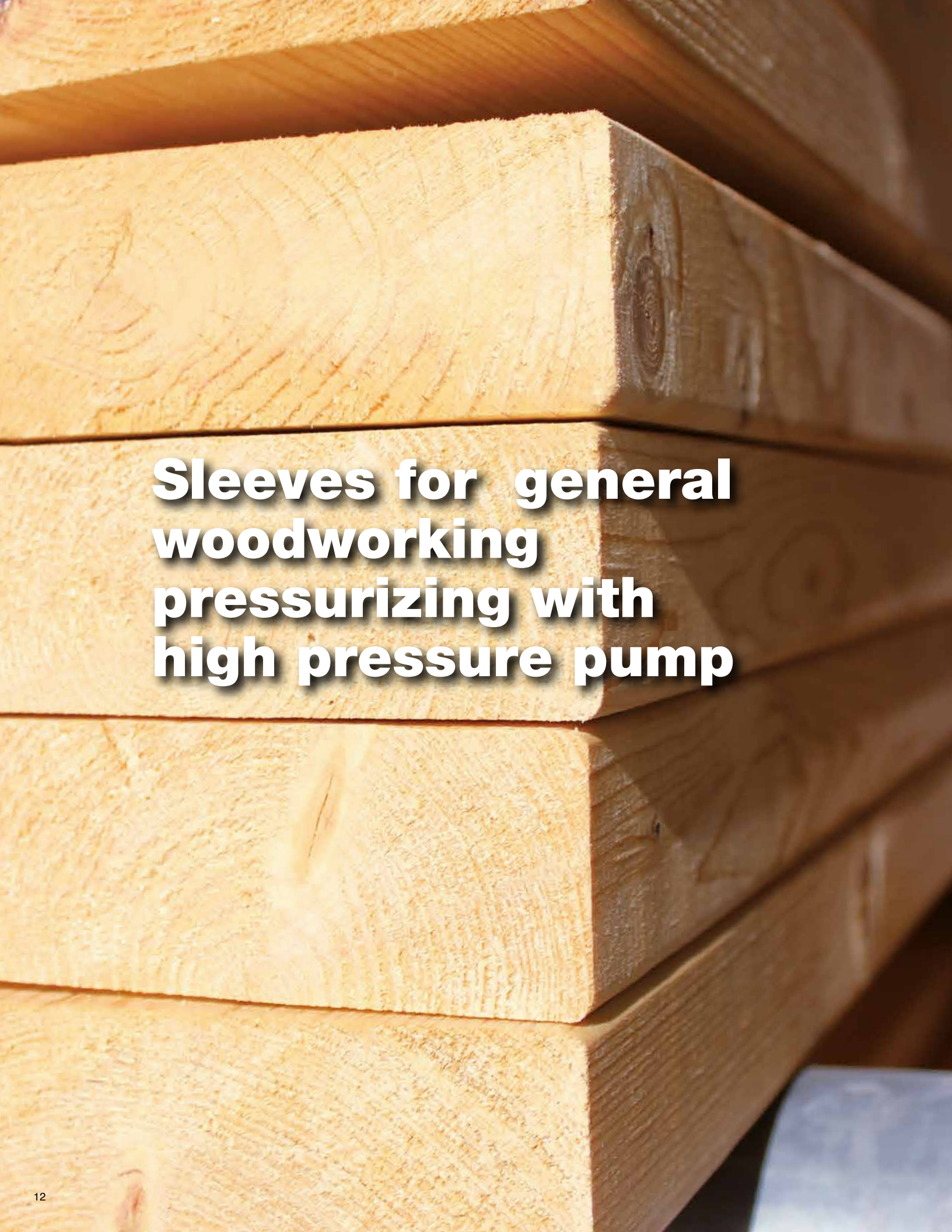
Sleeve for **permanent tool assembly.** Made in short lengths to allow for a light press fit. Heat up the tool before mounting. The tool and HYDRO-GRIP should be bolted together. Pressurizing is carried out with an allen T-wrench.



Technical specification ETP HYDRO-GRIP® AI

Type	D	D1	D2	D4	D5	D6	D7	D8	H	K	L	L1	N
AI-40/50-55	40	50	83	64	10	6	65	15	5.5	10	55	35	6
AI-40/60-55	40	60	93	74	14	9.5	75	15	8.5	10	55	35	6
AI-50/60-55*	50	60	93	74	14	9.5	75	15	8.5	10	55	35	6
AI-50/60-75*	50	60	93	74	14	9.5	75	15	8.5	10	75	55	6
AI-50/65-75*	50	65	98	80	14	9.5	80	15	8.5	10	75	55	6
AI-1 1/4”/40-55**	1 1/4”	40	83	55	14	9.5	55	15	8.5	10	55	35	6
AI-1 1/2”/50-55	1 1/2”	50	93	64	14	9.5	65	15	8.5	10	55	35	6
AI-1 13/16”/60-55	1 13/16”	60	93	74	14	9.5	75	15	8.5	10	55	35	6
AI-2 1/8”/65-55	2 1/8”	65	98	80	14	9.5	80	15	8.5	10	55	35	6

*) The AI Ø50 has two, threaded M8 holes for carrier pegs, on a 70 mm pitch diameter.
**) The AI-1 1/4”/40 has two tool fastening holes.
See section Technical Specification for more information.



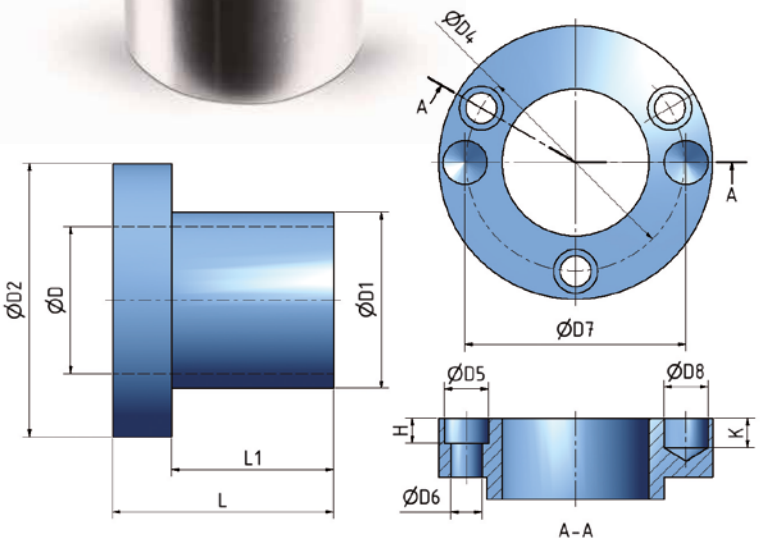
Sleeves for general woodworking pressurizing with high pressure pump

Benefits and features

- **Several tools can be mounted on the same sleeve**
- **Reduces set up time**
- **Pressurizing is carried out with a high pressure pump**
- **Allows design with longer sleeves**

ETP HYDRO-GRIP® C

Sleeve for **interchangeable tool assembly** which can easily be switched between different tools. The tool is fastened to the sleeve by bolts through the collar. Several tools can be mounted simultaneously on the same sleeve. Pressurizing is carried out with a high pressure grease pump. This allows the use of longer sleeves.



Technical specification ETP HYDRO-GRIP® C

Type	D	D1	D2	D4	D5	D6	D7	D8	H	K	L	L1
C-40/60-75	40	60	93	74	14	9.5	75	15	8.5	10	75	55
C-40/60-95	40	60	93	74	14	9.5	75	15	8.5	10	95	75
C-40/60-115	40	60	93	74	14	9.5	75	15	8.5	10	115	95
C-40/60-165	40	60	93	74	14	9.5	75	15	8.5	10	165	145
C-45/60-75*	45	60	93	74	14	9.5	70	M8	8.5		75	55
C-50/60-55*	50	60	93	74	14	9.5	75	15	8.5	10	55	35
C-50/60-75*	50	60	93	74	14	9.5	75	15	8.5	10	75	55
C-50/60-95*	50	60	93	74	14	9.5	75	15	8.5	10	95	75
C-50/60-115*	50	60	93	74	14	9.5	75	15	8.5	10	115	95
C-50/60-140*	50	60	93	74	14	9.5	75	15	8.5	10	140	120
C-50/60-190*	50	60	93	74	14	9.5	75	15	8.5	10	190	170
C-50/60-230*	50	60	93	74	14	9.5	75	15	8.5	10	230	210
C-60/70-75**	60	70	105	86	14	9.5	85	15	8.5	10	75	55
C-60/70-233	60	70	105	86	15	9.5	85	15	9	10	233	213
C-1 1/2"/50-85	1 1/2"	50	83	64	14	9.5	65	15	8.5	10	85	65
C-1 13/16"/60-75	1 13/16"	60	93	74	14	9.5	75	15	8.5	10	75	55
C-1 13/16"/65-85	1 13/16"	65	98	80	14	9.5	80	15	8.5	10	85	65
C-1 13/16"/65-135	1 13/16"	65	98	80	14	9.5	80	15	8.5	10	135	115

*) The sleeve has two, threaded M8-holes for carrier pegs, on a 70 mm pitch diameter.
**) The sleeve has two, threaded M8-holes for carrier pegs, on a 85 mm pitch diameter.
See section Technical Specification for more information.

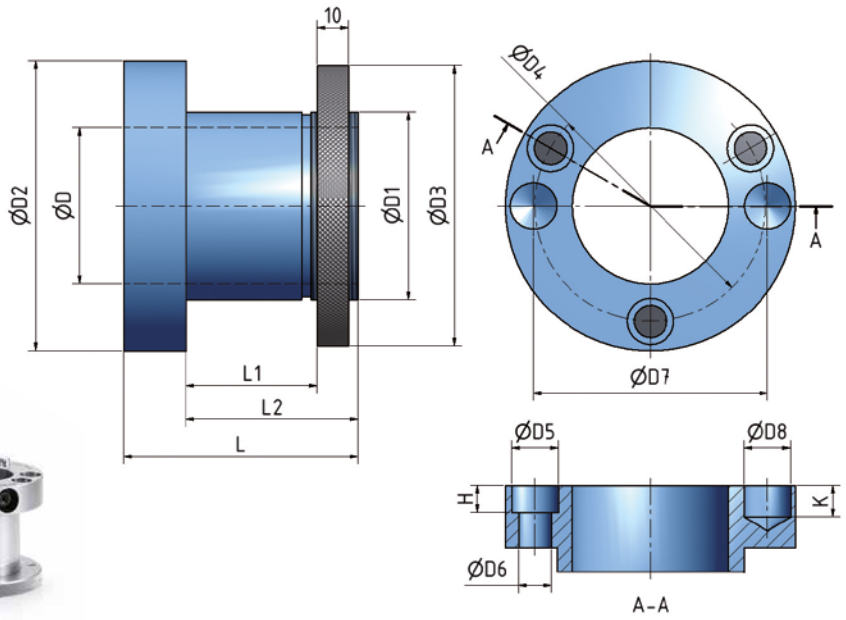
Traditionally wide range

ETP HYDRO-GRIP® B

Sleeve for **interchangeable tool assembly,** the same basic construction as the BI with a thread and locking nut. This means the sleeve can be easily switched between different tools. Several tools can be mounted to the same sleeve. Pressurizing is carried out with a high pressure grease pump. This allows the use of longer sleeves.

Benefits and features

- **Well establish design with thread and locking nut**
- **Several tools can be mounted on the same sleeve**
- **Perfect centering and fastening**
- **Pressurizing is carried out with a high pressure pump**



Technical specification ETP HYDRO-GRIP® B

Type	D	D1	D2	D3	D4	D5	D6	D7	D8	H	K	L	L1	L2
B-40/50-75	40	50	83	83	64	10	6	65	15	5.5	10	75	40	55
B-40/50-115	40	50	83	83	64	10	6	65	15	5.5	10	115	80	95
B-40/60-75	40	60	93	90	74	14	9.5	75	15	8.5	10	75	40	55
B-40/60-95	40	60	93	90	74	14	9.5	75	15	8.5	10	95	60	75
B-40/60-115	40	60	93	90	74	14	9.5	75	15	8.5	10	115	80	95
B-40/60-165	40	60	93	90	74	14	9.5	75	15	8.5	10	165	130	145
B-40/60-215	40	60	93	90	74	14	9.5	75	15	8.5	10	215	180	195
B-45/60-75*	45	60	93	90	74	14	9.5	70	M8	8.5		75	40	55
B-45/60-95*	45	60	93	90	74	14	9.5	70	M8	8.5		95	60	75
B-45/60-115*	45	60	93	90	74	14	9.5	70	M8	8.5		115	80	95
B-45/60-140*	45	60	93	90	74	14	9.5	70	M8	8.5		140	105	120
B-45/60-190*	45	60	93	90	74	14	9.5	70	M8	8.5		190	155	170
B-50/60-75*	50	60	93	90	74	14	9.5	75	15	8.5	10	75	40	55
B-50/60-95*	50	60	93	90	74	14	9.5	75	15	8.5	10	95	60	75
B-50/60-115*	50	60	93	90	74	14	9.5	75	15	8.5	10	115	80	95
B-50/60-140*	50	60	93	90	74	14	9.5	75	15	8.5	10	140	105	120
B-50/60-190*	50	60	93	90	74	14	9.5	75	15	8.5	10	190	155	170
B-50/60-240*	50	60	93	90	74	14	9.5	75	15	8.5	10	240	205	220
B-60/70-75**	60	70	105	105	86	14	9.5	85	15	8.5	10	75	40	55
B-60/70-140**	60	70	105	105	86	14	9.5	85	15	8.5	10	140	105	120
B-60/70-190**	60	70	105	105	86	14	9.5	85	15	8.5	10	190	155	170
B-1 1/2"/50-85	1 1/2"	50	83	83	64	14	9.5	65	15	8.5	10	85	50	65
B-1 1/2"/50-135	1 1/2"	50	83	83	64	14	9.5	65	15	8.5	10	135	100	115
B-1 1/2"/50-185	1 1/2"	50	83	83	64	14	9.5	65	15	8.5	10	185	150	165
B-1 13/16"/60-75	1 13/16"	60	93	90	74	14	9.5	75	15	8.5	10	75	40	55
B-1 13/16"/60-115	1 13/16"	60	93	90	74	14	9.5	75	15	8.5	10	115	80	95
B-1 13/16"/60-190	1 13/16"	60	93	90	74	14	9.5	75	15	8.5	10	190	155	170
B-1 13/16"/65-85	1 13/16"	65	98	98	80	14	9.5	80	15	8.5	10	85	50	65
B-1 13/16"/65-135	1 13/16"	65	98	98	80	14	9.5	80	15	8.5	10	135	100	115
B-1 13/16"/65-185	1 13/16"	65	98	98	80	14	9.5	80	15	8.5	10	185	150	165
B-2 1/8"/65-85	2 1/8"	65	98	98	80	14	9.5	80	15	8.5	10	85	50	65
B-2 1/8"/65-135	2 1/8"	65	98	98	80	14	9.5	80	15	8.5	10	135	100	115
B-2 1/8"/65-185	2 1/8"	65	98	98	80	14	9.5	80	15	8.5	10	185	150	165

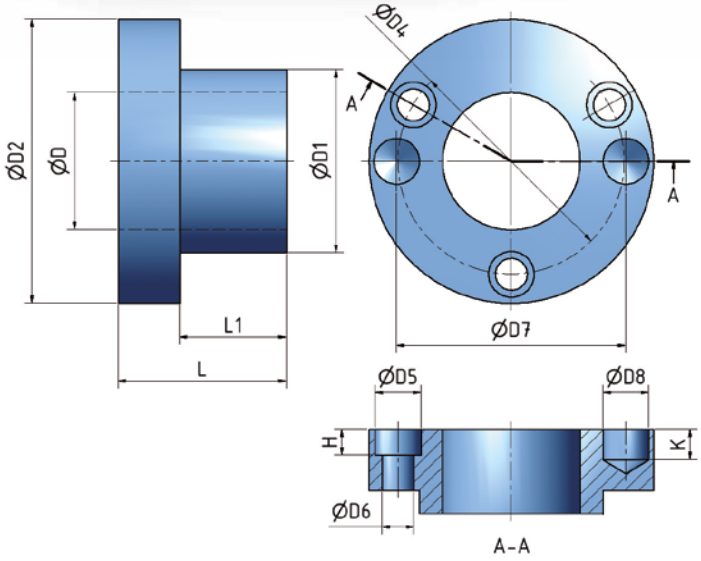
*) The sleeve has two, threaded M8-holes for carrier pegs on a 70 mm pitch diameter.
**) The sleeve has two, threaded M8-holes for carrier pegs on a 85 mm pitch diameter.
See section Technical Specification for more information.

Benefits and features

- **Made in short lengths**
- **Light press fit**
- **Pressurizing is carried out with a high pressure grease pump**

ETP HYDRO-GRIP® A

Sleeve for **permanent tool assembly.** Made in short lengths to allow for a light press fit. Heat up the tool before mounting. The tool and sleeve should be bolted together. Pressurizing is carried out with a high pressure grease pump.



Technical specification ETP HYDRO-GRIP® A

Type	D	D1	D2	D4	D5	D6	D7	D8	H	K	L	L1
A-40/60-55	40	60	93	74	14	9.5	75	15	8.5	10	55	35
A-45/60-55*	45	60	93	74	14	9.5	70	M8	8.5		55	35
A-45/60-75*	45	60	93	74	14	9.5	70	M8	8.5		75	55
A-50/60-55*	50	60	93	74	14	9.5	75	15	8.5	10	55	35
A-50/60-75*	50	60	93	74	14	9.5	75	15	8.5	10	75	55
A-60/70-55***	60	70	105	86	14	9.5	85	15	8.5	10	55	35
A-1 1/4"/40-55**	1 1/4"	40	75	55	14	9.5	55	14	8.5	10	55	35
A-1 13/16"/60-55	1 13/16"	60	93	74	14	9.5	75	15	8.5	10	55	35
A-1 13/16"/65-55	1 13/16"	65	98	80	14	9.5	80	15	8.5	10	55	35
A-2 1/8"/65-55	2 1/8"	65	98	80	14	9.5	80	15	8.5	10	55	35

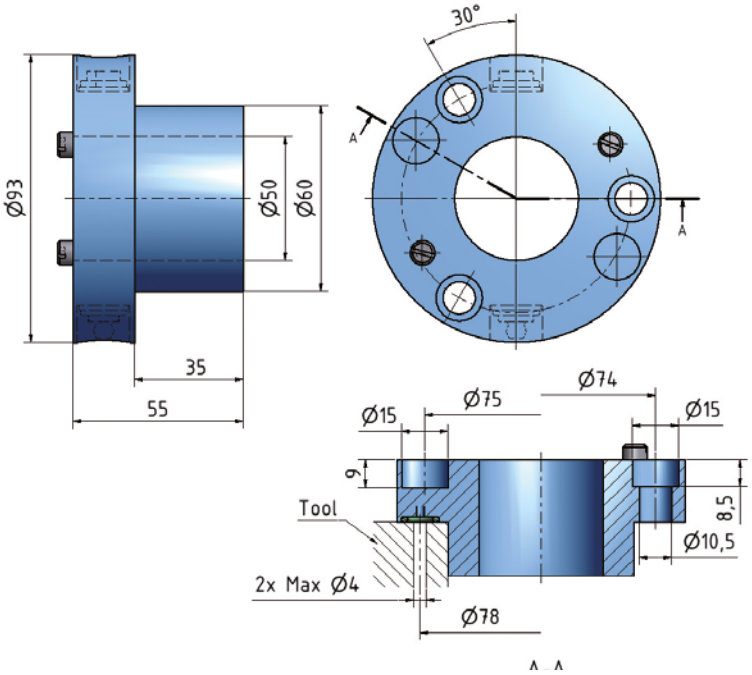
*) The A Ø45 and Ø50 has two, threaded M8-holes for carrier pegs, on a 70 mm pitch diameter.
**) The A-1 1/4"/40 has two tool fastening holes.
***) The A-60/70-55 has two, threaded M8-holes for carrier pegs, on a 85 mm pitch diameter.
See section Technical Specification for more information.

Benefits and features

- **Minimizing grease volume and leakage**
- **Axially or radially pressurizing**
- **Improved performance - minimal runout**
- **Pressurizing with a high pressure pump**

ETP HYDRO-GRIP® AH-50/60-55

A complete and totally sealed system for existing or new cutter tools. A hydraulic sleeve with a light press fit in each end of the tool are connected by a small channel in the body of the cutter. Heat up the tool before mounting. The tool and sleeve should be bolted together. Pressurization of the entire unit is carried out either axially or radially using a high pressure grease pump.



Sleeves for tools with large internal diameters

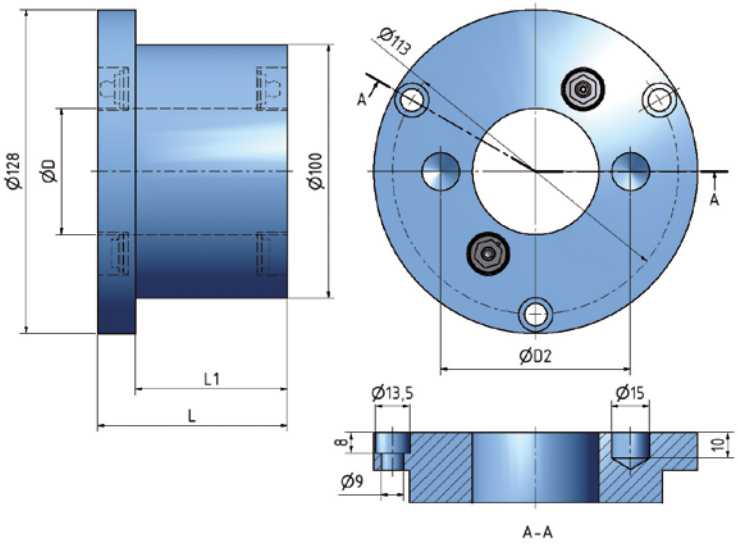
ETP HYDRO-GRIP® CL

CL is a sleeve for **interchangeable tool assembly.** This means the sleeve can be easily switched between different tools. Pressurizing is carried out with a high pressure grease pump, axially in the sleeve's flange.

Technical Specification

Type	D	D2	L	L1
CL-45/100-75*	45	-	75	60
CL-50/100-75**	50	75	75	60

*) The CL Ø45 sleeve has two carrier pegs, 8,5 x 5 mm on a 70 mm pitch diameter.
**) The CL Ø50 has two, threaded M5-holes for carrier pegs, on a 70 mm pitch diameter.
See section Technical Specification for more information.



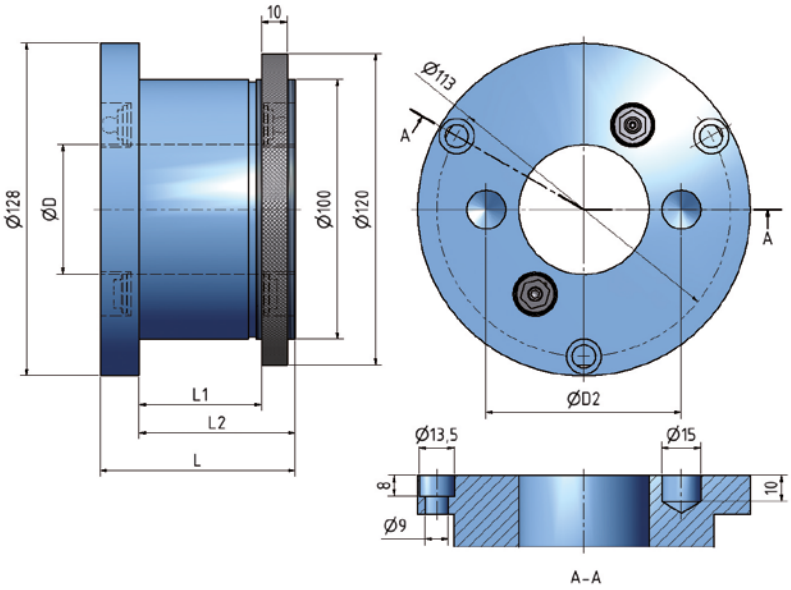
ETP HYDRO-GRIP® BL

BL is a sleeve for **interchangeable tool assembly** which has a thread and locking nut. This means the sleeve can be easily switched between different tools. Pressurizing is carried out with a high pressure grease pump, axially in the sleeve's flange.

Technical Specification

Type	D	D2	L	L1	L2
BL-45/100-75*	45	-	75	45	60
BL-50/100-75**	50	75	75	45	60
BL-50/100-115**	50	75	115	85	100

*) The BL-45 sleeve has two carrier pegs, 8,5 x 5 mm, on a 70 mm pitch diameter.
**) The BL Ø50 has two, threaded M5-holes for carrier pegs, on a 70 mm pitch diameter.
See section Technical Specification for more information.



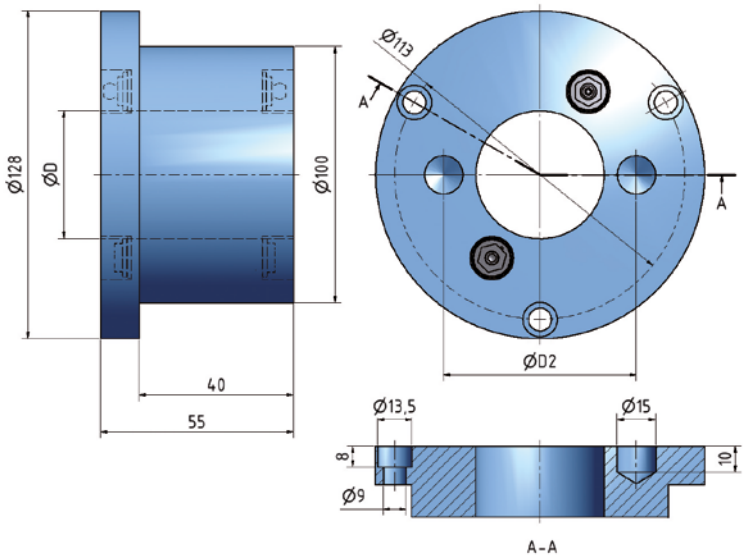
ETP HYDRO-GRIP® AL

AL is for **permanent assembly.** Made to allow for a light press fit. Heat up the tool before mounting. The tool and HYDRO-GRIP should be bolted together. Pressurizing is carried out with a high pressure grease pump, axially in the sleeve's flange.

Technical Specification

Type	D	D2
AL-45/100-55*	45	-
AL-50/100-55**	50	75

*) The AL-45 sleeve has two carrier pegs, 8,5 x 5 mm, on a 70 mm pitch diameter.
**) The AL-50 has two, threaded M5-holes for carrier pegs, on a 70 mm pitch diameter.
See section Technical Specification for more information.

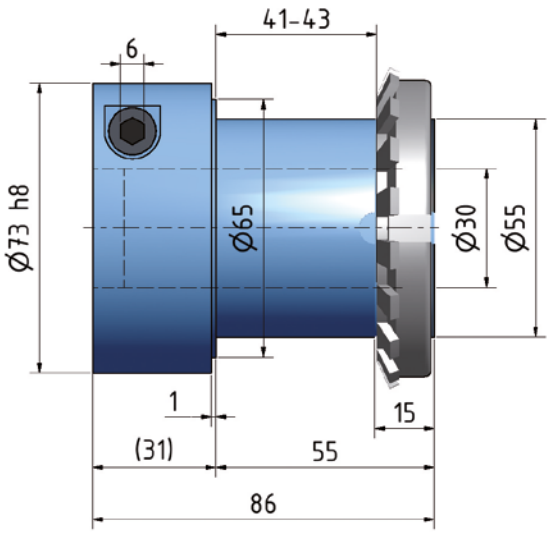


Sleeves for support bearings

ETP HYDRO-GRIP® DI

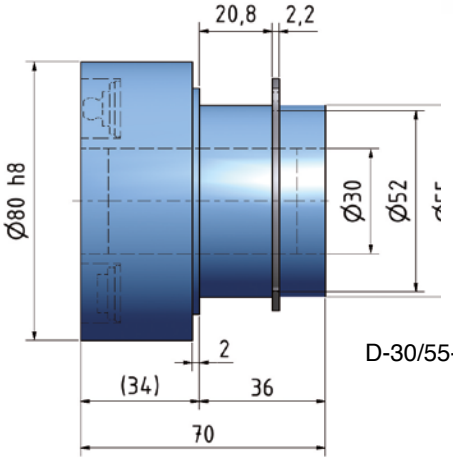
ETP HYDRO-GRIP® DI-30/55-86

Sleeves for quick and precise assembly of support bearings for machines with bearings at both ends of the spindle.
Pressurizing is carried out with an allen T-wrench.

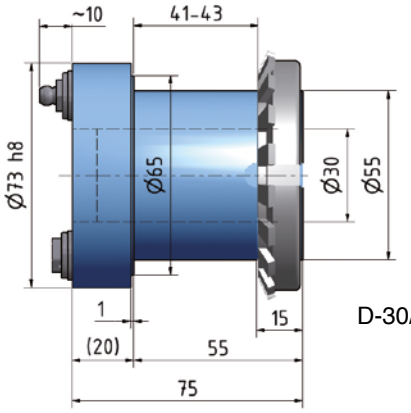


ETP HYDRO-GRIP® D

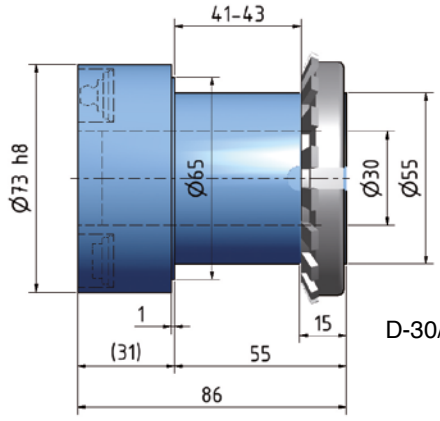
Sleeves for **quick and precise assembly** of support bearings for machines with bearings at both ends of the spindle. Pressurizing is carried out with a high pressure grease pump.



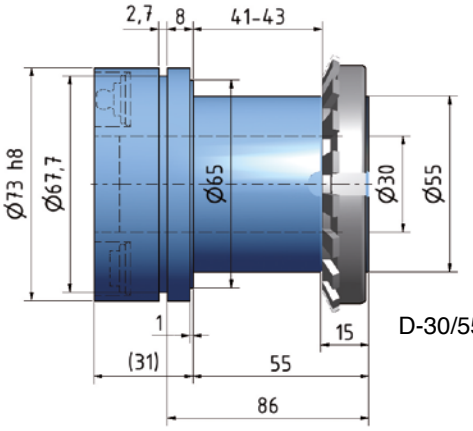
D-30/55-70



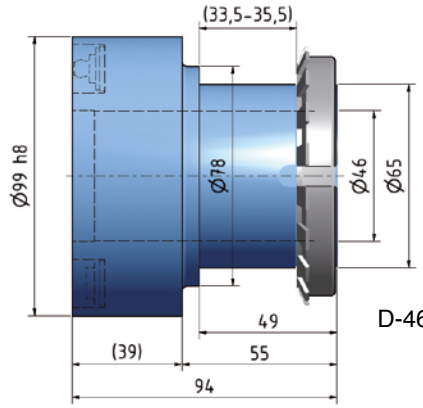
D-30/55-75



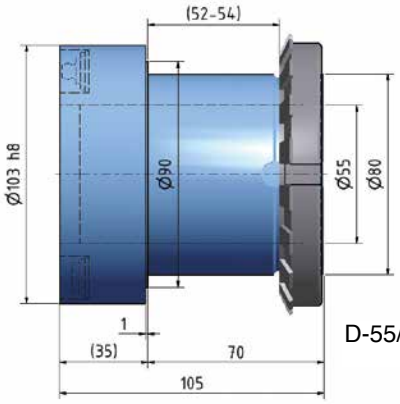
D-30/55-86



D-30/55-86, special



D-46/65-94



D-55/80-105

Sleeves for floor manufacturing and profiling

The ultimate way to profile precision within the flooring industry

ETP CUBIT

The patented ETP CUBIT is a complete new concept for adjustable systems. Profiling of the tongue and groove in the flooring industry can now efficiently be done with extreme precision and repeatability. Innovative and user-friendly design together with an extraordinary performance let you in just three easy steps reach profile success.

ETP CUBIT INT
Maximum Productivity

The new model CUBIT INT is developed and specially designed for combination tools placed on a horizontal or tilted motor spindle. CUBIT INT brings the set-up time down to an absolute minimum and assure maximum productivity.

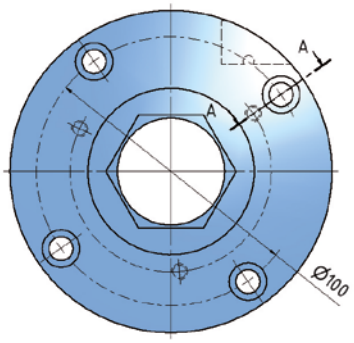
The CUBIT range of products include units for the most frequent size of machine shafts and versions for axially or radially pressurizing and adjustment. Please contact ETP for more information info@etp.se

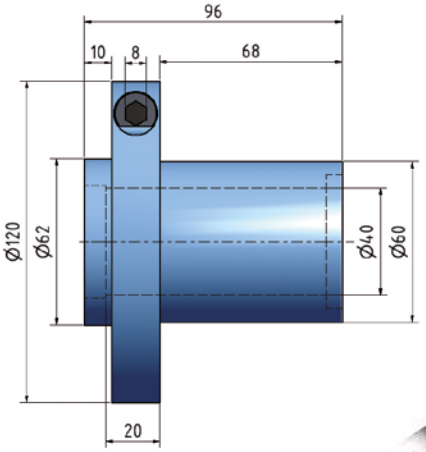
ETP HYDRO-GRIP® EI2-40/60-96

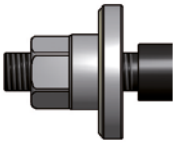
Sleeve for **interchangeable tool assembly** and machines with hexagonal spindle profile. The sleeve is adapted for the newest dust covers on the market. Safety disc is not included.

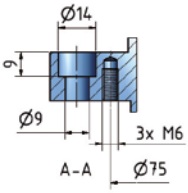
Benefits and features

- **Advanced hydro function**
  – Expands both against the tool and the machine spindle
- **Probably the most durable pressurizing mechanism on the market**
- **Stop pin at pressurizing screw**
- **Adapted for the new type of dust covers**
- **Can be used for all applications**
  – fixed or adjustable tools





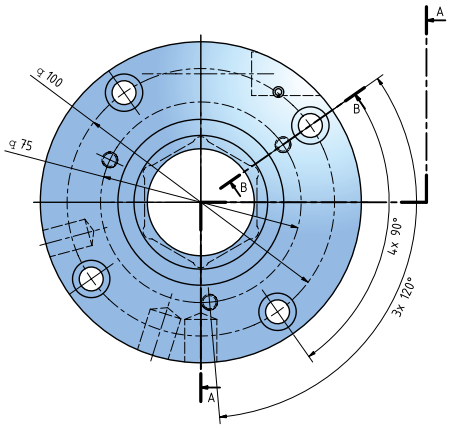


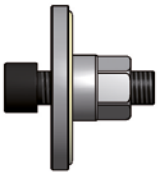


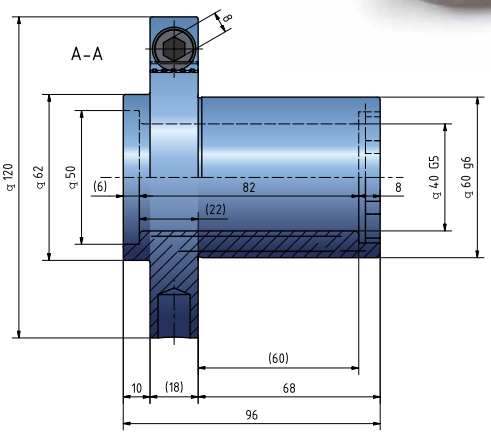
ETP HYDRO-GRIP® EIS2-40/60-96

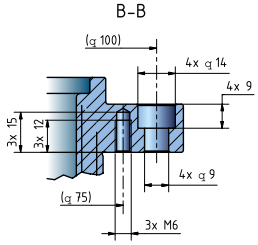
ETP HYDRO-GRIP® EIS2-40/60-96

Similar to the EI2 sleeve but with an internal hexagonal profile in its open side. Sleeve for **interchangeable tool assembly** and machines with hexagonal spindle profile. Safety disc is not included.



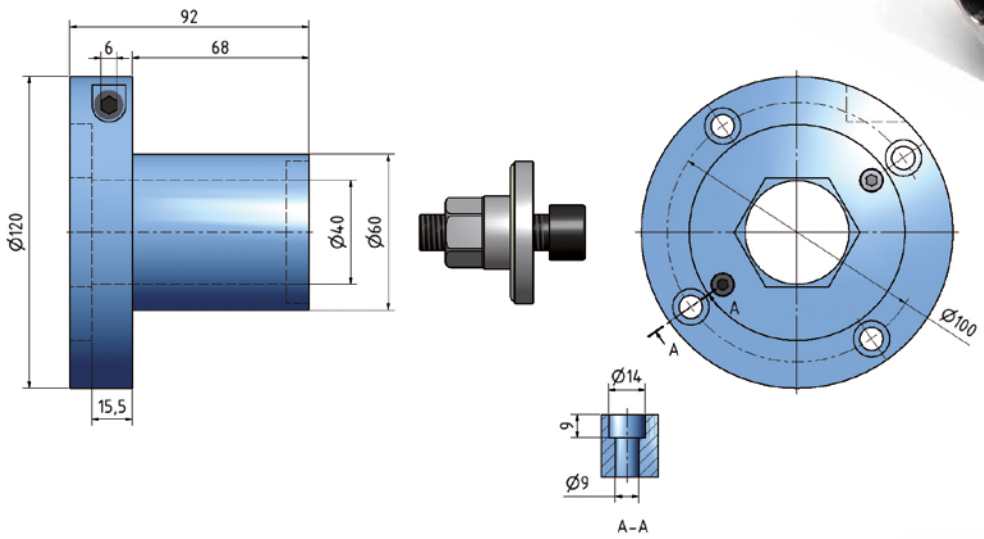






ETP HYDRO-GRIP® EI-40/60-92

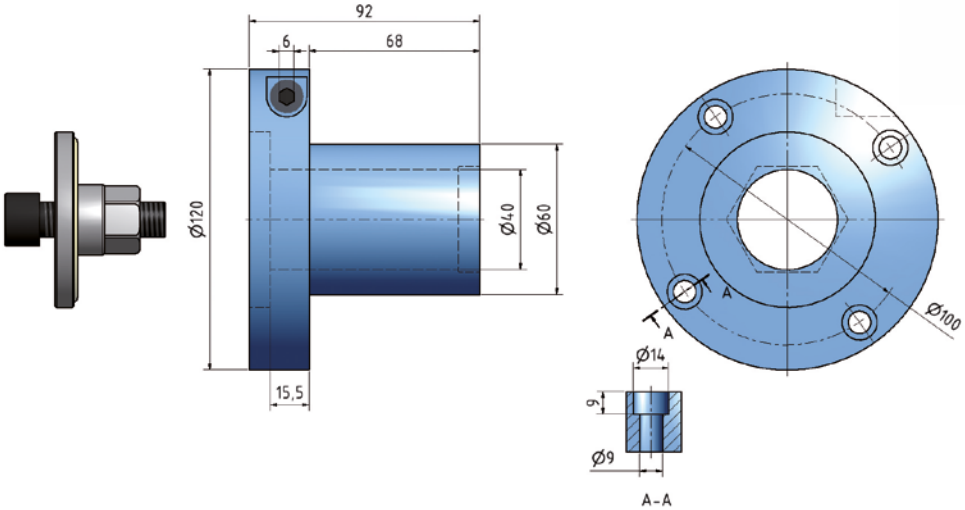
Sleeve for **interchangeable tool assembly** and machines with hexagonal spindle profile. The sleeve is supplied with an internal hexagonal insert in the collar of the sleeve.
Safety disc is not included.



ETP HYDRO-GRIP® EIS-40/60-92

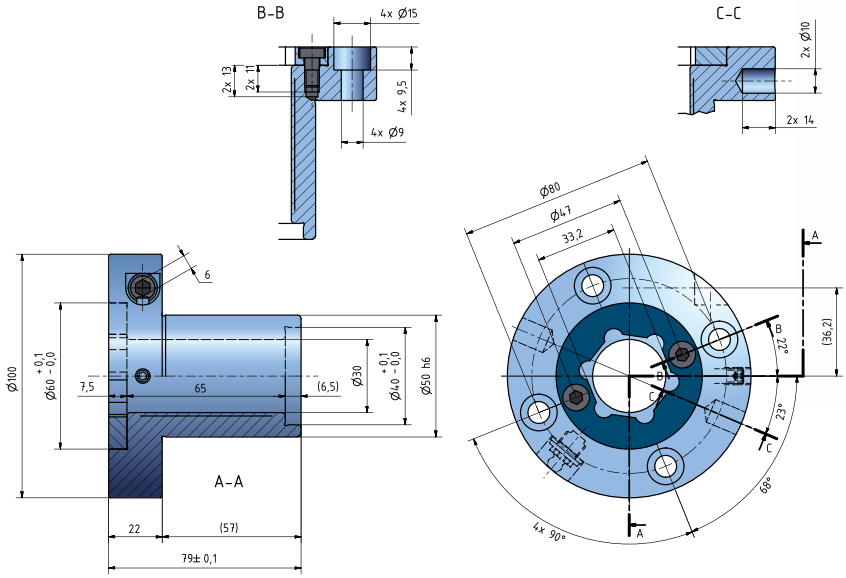
ETP HYDRO-GRIP® EIS-40/60-92

Similar to the EI sleeve but with an internal hexagonal profile in its open side. Sleeve for **interchangeable tool assembly** and machines with hexagonal spindle profile. Safety disc is not included.



ETP HYDRO-GRIP® EI-30/50-79

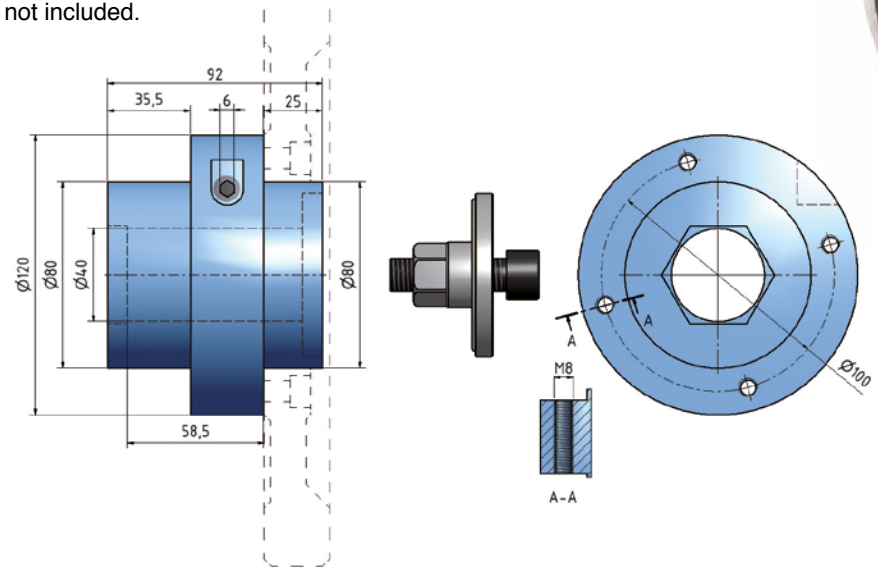
Sleeve for **permanent tool assembly** and machines with hexagonal spindle profile.



ETP HYDRO-GRIP® EI-40/80-92

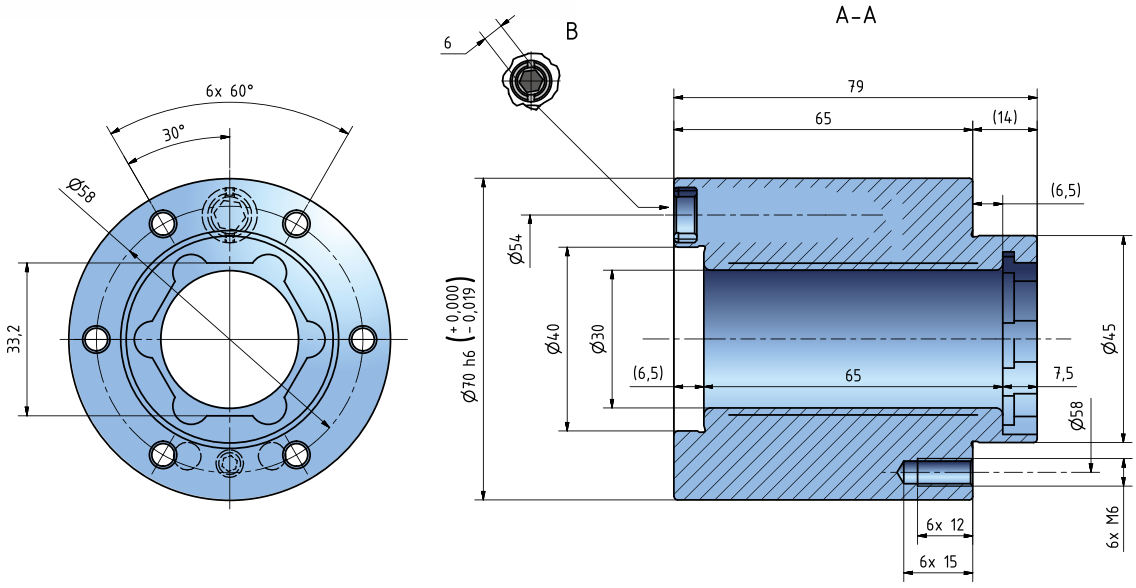
ETP HYDRO-GRIP® EI-40/80-92

Sleeve for **permanent tool assembly** and machines with hexagonal spindle profile. The sleeve is supplied with an internal hexagonal insert that can be used in either end of the sleeve. Safety disc is not included.



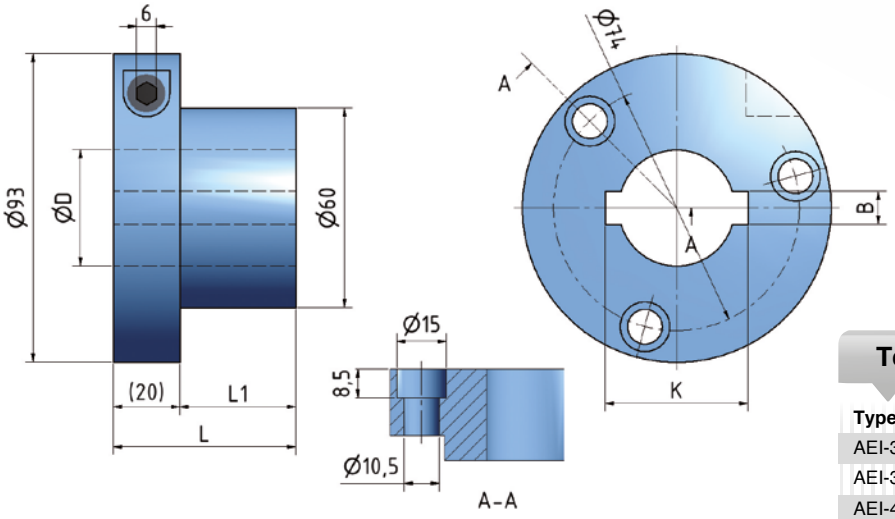
ETP HYDRO-GRIP®
EIS-30/70-79

Sleeve for **permanent tool assembly** and machines with hexagonalspindle profile.



ETP HYDRO-GRIP® AEI

Sleeve for **permanent tool assembly** and spindles with keys.



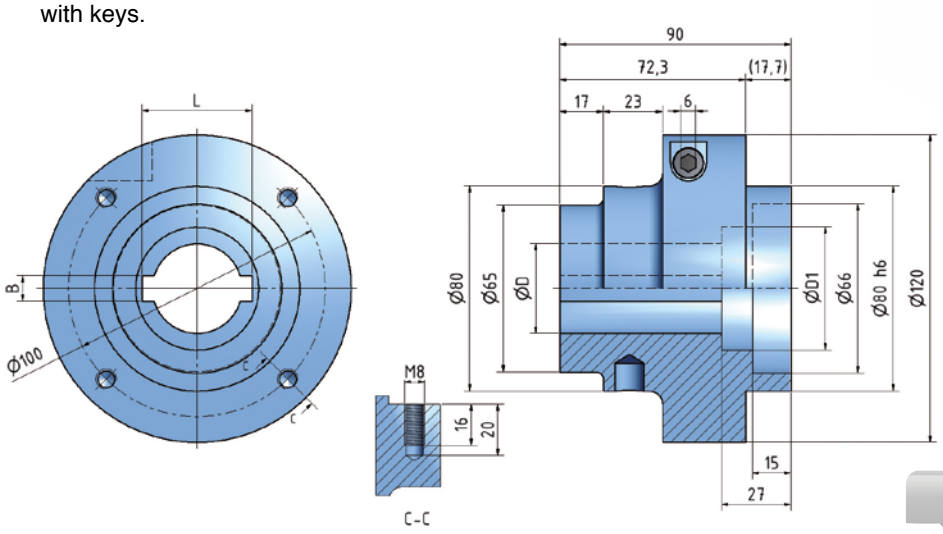
Technical Specification

Type	D	L	L1	B	K	N
AEI-35/60-55	35	55	35	10	43	6
AEI-35/60-70	35	70	50	10	43	6
AEI-40/60-55	40	55	35	12	47	6

ETP HYDRO-GRIP® EI

ETP HYDRO-GRIP® EI

Sleeve for **permanent tool assembly** and spindles with keys.

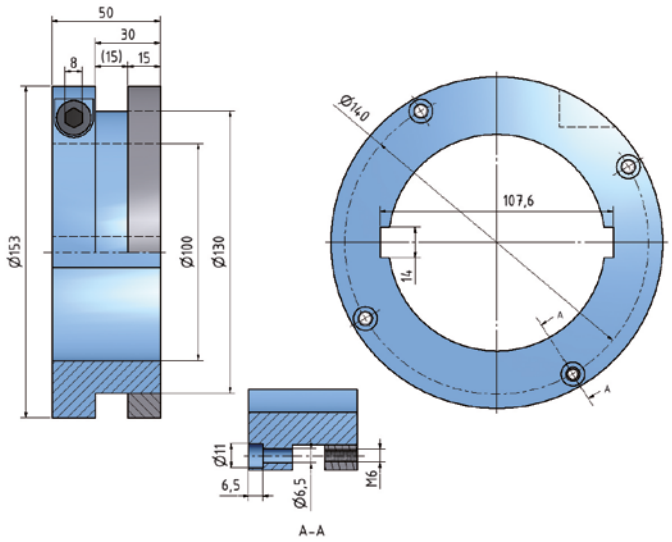


Technical Specification

Type	D	D1	B	L
EI-35/80-90	35	48	10	43
EI-40/80-90	40	53	12	47

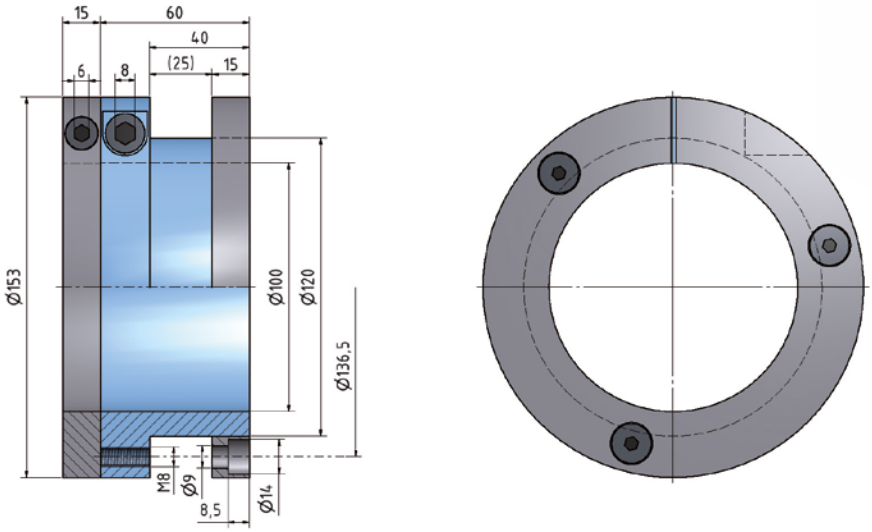
ETP HYDRO-GRIP® AEI-100/130-50

Sleeve for **permanent tool assembly** and spindles with keys.
Supplied with an aluminum tool ring.



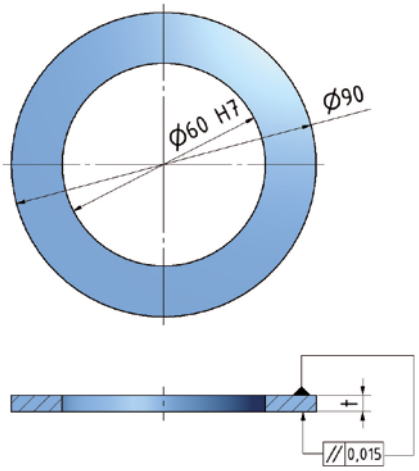
ETP HYDRO-GRIP® AI-100/120-60

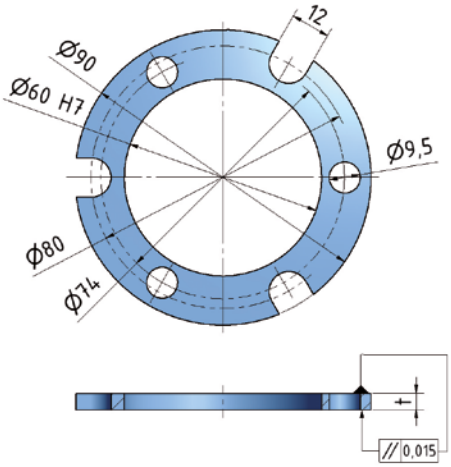
Sleeve for **permanent tool assembly** and spindles without keys.
Supplied with safety ring and tool ring in aluminium.



HYDRO-GRIP® Spacers

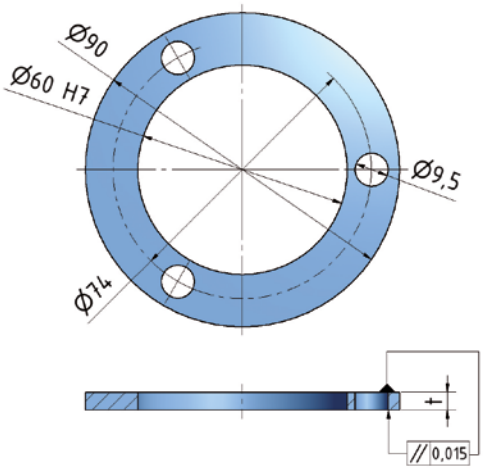
Type	D	D1	t
D-60/90-5	60	90	5
D-60/90-10	60	90	10
D-60/90-20	60	90	20
DH-60/90-3	60	90	3
DH-60/90-5	60	90	5
DH-60/90-10	60	90	10





HYDRO-GRIP® Complete spacer set DS-60/90

The set includes 5 spacers with three holes in the following thicknesses, mm:
0.1
0.2
0.3
0.5
1.0



HYDRO-GRIP® Grease nipples

Filler nipple and release nipple with steel rubber washer.

HYDRO-GRIP® High pressure pump M-08

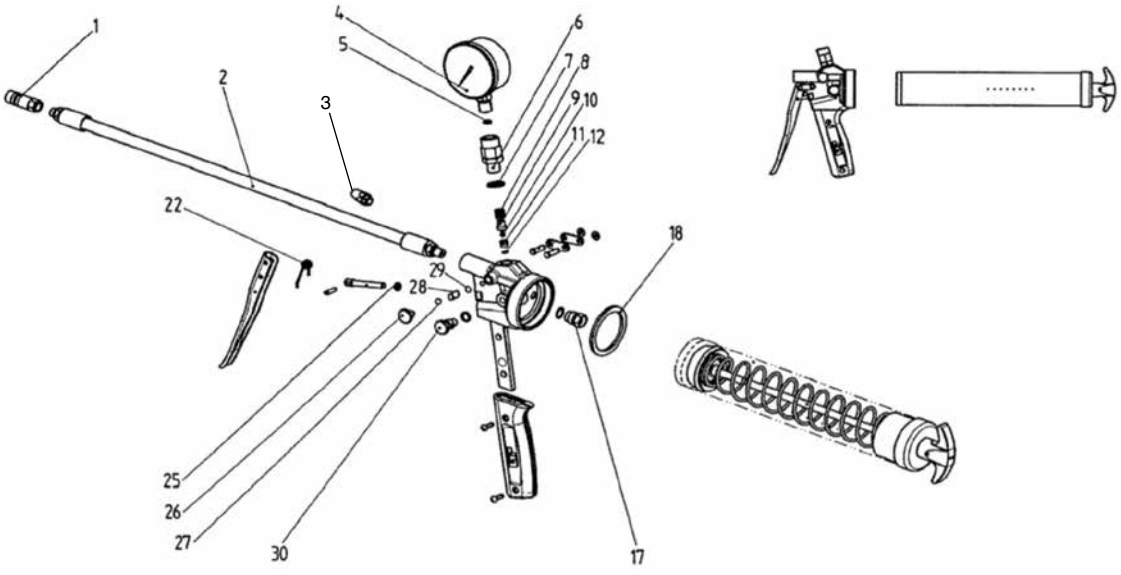
Grease pump M-08, manual **art. nr. 59800**
including 1 of Spare parts set
2 of Grease cartridges F-01 art. nr 49811

Grease cartridges can be ordered separately.
We strongly recommend Blasolube 301.
Please see section Technical Specification - Pressurizing medium.

Spare parts list

Item	Description	Art. no.
Pos 1	Hydraulic connector	49828
Pos 2	High pressure hose	49831
Gauge incl. washer		59864
Pos 4	Gauge, 0-600 bar, glycerin	
Pos 5	Washer	
Spare parts set		59862
Pos 1	Hydraulic connector	
Pos 5	Washer	
Pos 7	Washer	
Pos 10	Steel ball 4.8 mm	
Pos 18	Barrel seal	
Pos 22	Torsion spring	
Pos 25	X-ring	
Pos 26	Pressure release screw	
Pos 27	Steel ball 4.0 mm	
Pos 28	Valve seat	
Pos 29	O-ring	

Item	Description	Art. no.
Rotary coupling set		59863
Pos 5	Washer	
Pos 6	Rotary Coupling	
Pos 7	Washer	
Pos 8	Spring	
Pos 9	Valve pin	
Pos 10	Steel ball 4.8 mm	
Pos 11	Valve seat	
Pos 12	O-ring	
Valve kit		59865
Pos 17	Non-return valve incl.seal	
Pos 30	Air release valve incl. seal	



Quicker tool changes
By pre-assembling HYDRO-GRIP and the tool in the toolroom you minimize the adjustment time at the processing machine.

Advice for tool assembly
It is vital that HYDRO-GRIP is never pressurized without being assembled with a tool on a machine spindle.

NB! Both the tool and the machine spindle must cover the length of the sleeve. To achieve optimal stability you must ensure an even contact surface throughout the entire sleeve. More detailed instructions for HYDRO-GRIP are included in the assembly instructions which are included with every product.

Temperature
Thanks to the small volume of pressurizing medium used, HYDRO-GRIP is only minimally sensitive to temperature changes. Only if the temperature varies by as much as +/- 30°C do you need to adjust the pressure of the sleeve.

Repeatability
The incredible repeatability that HYDRO-GRIP gives you, within 0.002 mm, allows you to achieve the same precision even on your production machine as you achieve on your grinding machine.

Pressurizing medium
HYDRO-GRIP works at a relatively high pressure of (approx. 450 bar) and is pressurized with a small amount of grease. It is therefore very important that the correct type of pressurizing grease is used. **We strongly recommend Blasolube 301.** Tests have shown that use of other types of non-recommended soap based grease can cause deformation of the sleeve (similar to a permanent plastic deformation) when the pressure is reduced.

Power transfer
The tables indicate the guidelines for the power in Kw (hp) that can be transferred.

When using type A, AI, C and CI sleeves the tool should always be bolted to the flange. The bolts have the same function as the ring nut on the B and BI type sleeves.

Referring to the table below we get the multiplication factor of 2.3. Multiplying the tool width 22 by 2.3 gives us the transferable power of approximately 50 kW.

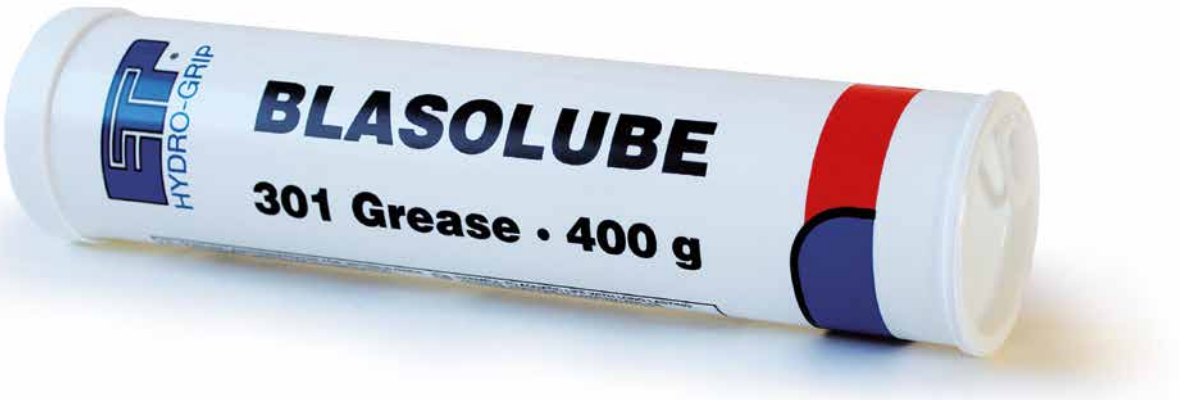
Example	
Tool width	22 (7/8”)
Tool internal diameter	60 H7
ETP HYDRO-GRIP	B-50/60-75
RPM	4500 rpm

ETP HYDRO-GRIP type C, CI, BI and B
Maximum transferable power (kW) per mm of contact surface length between HYDRO-GRIP and tool

Tool hole diameter tolerance H7	**kW per mm**	
	4500 rpm	**6000 rpm**
50	0.9	1.2
60	2.3	3.2
65	3.3	4.9

ETP HYDRO-GRIP type A and type AI
Maximum transferable power (kW)

Spindle mm	**Speed (rpm)**	
	4500	**6000**
1 1/4”	35	50
40 and 1 1/2”	58	75
1 13/16”	85	115
50 and 2 1/8”	122	165



Use of screws in the ring nut

(Type B, BI and BL). The knurled ring nut only needs to be lightly tightened so the tools are in contact with each other. Tightening the three screws in the ring nut ensures that the tools are safely and accurately fixed into position. This allows you to maintain the accuracy achieved on the grinding machine when you move the sleeve and tool assembly to the spindle on your production machine.

Tolerances

ETP HYDRO-GRIP is intended for machine spindle tolerance **g6** and tool tolerance **H7.** (See tables to right).

Permanent assembly

A tool with a hole tolerance of **H7** gives a light press fit on the sleeves meant for permanent assembly, type A and AI. When pressurized the sleeve expands against the spindle, thus eliminating any play between the sleeve and spindle.

Interchangeable assembly

A tool with a hole tolerance of **H7** gives an easy slip fit on sleeves meant for interchangeable tool assembly, type CIR, CI, C, BI and B. When pressurized the sleeve expands against the spindle, thus eliminating any play between the tool and spindle.

	Spindle, g6
Ø 30	-0.007 to -0.020 mm (-0.00028 to -0.00079 inch)
Ø 35 Ø 40 Ø 45 Ø 50 Ø 1 1/4” Ø 1 1/2” Ø 1 3/4” Ø 1 13/16”	-0.009 to -0.025 mm (-0.00035 to -0.00098 inch)
Ø 60 Ø 2 1/8” Ø 2 3/16”	-0.010 to -0.029 mm (-0.00039 to -0.0011 inch)

	Tool fastening hole, H7
Ø 20 Ø 25 Ø 30 Ø 3/4” Ø 1”	0 to +0.021 mm (0 to +0.00083 inch)
Ø 38 Ø 40 Ø 50 Ø 1 1/4”	0 to +0.025 mm (0 to +0.00098 inch)
Ø 60 Ø 65 Ø 70 Ø 80	0 to +0.030 mm (0 to +0.0012 inch)
Ø 100	0 to +0.035 mm (0 to +0.0014 inch)

	Router bit shank g6 (h7)
Ø 12 Ø 16 Ø 1/2” Ø 5/8”	0 to -0.018 mm (0 to -0.00071 inch)
Ø 20 Ø 25 Ø 3/4” Ø 1”	0 to -0.021 mm (0 to -0.00083 inch)

The Ø45 and Ø50 sleeves

The Ø45 and Ø50 have two, threaded M8-holes for carrier pegs on a 70 mm pitch diameter. Carrier pegs, 2 pcs, 8 x 5 mm are incl.

Larsson Offsettryck 2018-05

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