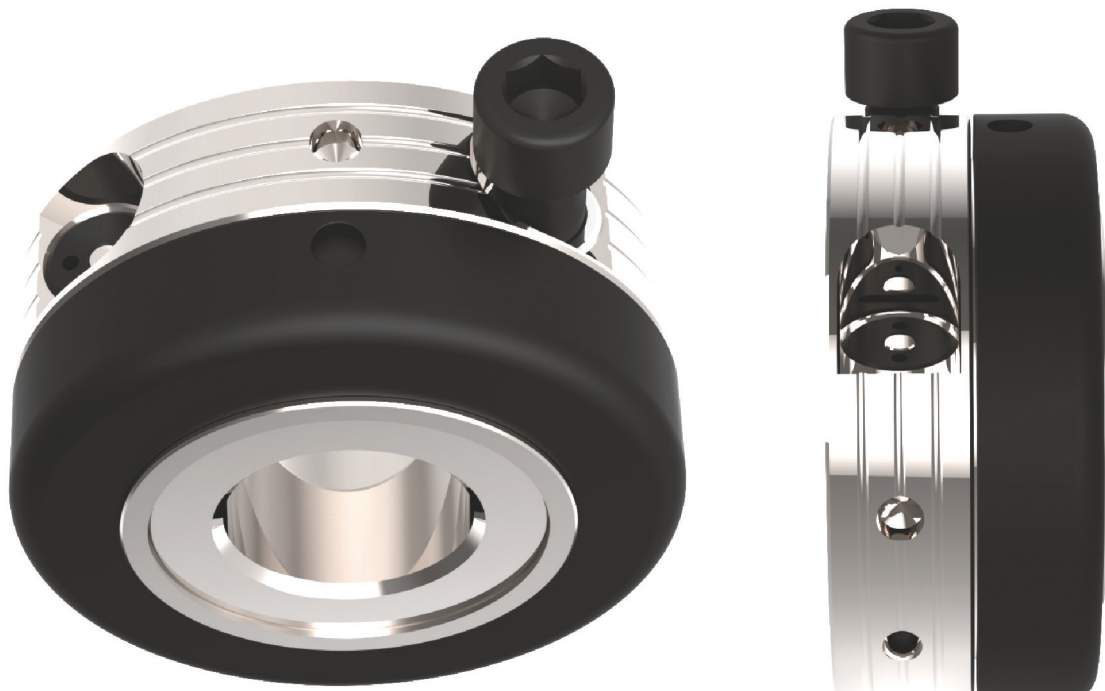


ADDUCO

Hydraulic Clamping Nut

Assembly and Operating Manual



Imprint

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Technical changes:

We reserve the right to make alterations for the purpose of technical improvement.

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Dear customer,

congratulations on choosing a SCHUNK product. By choosing SCHUNK, you have opted for the highest precision, top quality and best service.

You are going to increase the process reliability of your production and achieve best machining results – to the customer's complete satisfaction.

SCHUNK products are inspiring.

Our detailed assembly and operation manual will support you.

Do you have further questions? You may contact us at any time – even after purchase.

Kindest Regards

Yours SCHUNK GmbH & Co. KG

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1 General

1.1 About this manual

This manual contains important information for a safe and appropriate use of the product.

This manual is an integral part of the product and must be kept accessible for the personnel at all times.





Before starting work, the personnel must have read and understood this operating manual. Prerequisite for safe working is the observance of all safety instructions in this manual.

Illustrations in this manual are provided for basic understanding and may differ from the actual product design.

In addition to these instructions, the documents listed under [\(☞ 1.1.2, Page 5\)](#) are applicable.

1.1.1 Presentation of Warning Labels

To make risks clear, the following signal words and symbols are used for safety notes.

	<p>⚠ DANGER</p> <p>Danger for persons! Non-observance will inevitably cause irreversible injury or death.</p>
	<p>⚠ WARNING</p> <p>Dangers for persons! Non-observance can lead to irreversible injury and even death.</p>
	<p>⚠ CAUTION</p> <p>Dangers for persons! Non-observance can cause minor injuries.</p>
	<p>NOTICE</p> <p>Material damage! Information about avoiding material damage.</p>

1.1.2 Applicable documents

- General terms of business *
- Contractual agreements
- Approval drawing

The documents marked with an asterisk (*) can be downloaded on our homepage www.schunk.com.

1.2 Warranty

The warranty period is 12 months after delivery date from factory or 500 cycles*, if it is used as intended, under the following conditions:

- Observe the applicable documents ([👉 1.1.2, Page 5](#))
- Observe the ambient conditions and operating conditions ([👉 2.4, Page 6](#))
- Observe the specified maintenance and lubrication intervals ([👉 5, Page 12](#))

Parts touching the workpiece and wearing parts (actuating screw and seal) are not part of the warranty.

* One cycle comprises one complete clamping procedure ("clamping" and "unclamping").

1.3 Scope of delivery

The scope of delivery includes

1 Hydraulic Clamping Nut M18-LH
optionally M20 to M30

1 Assembly and Operating Manual (Id-No. 0289046)

1.4 Accessories

- **Hinged hook wrench**
(Id-No. 9966296)
- **Ratchet**
(Id-No. 9955348)
- **Screwdriver bit**
(Id-No. 9966291)

2 Basic safety notes

2.1 Appropriate use

The hydraulic clamping nut is intended for clamping tools, workpieces or devices. It may only be used on the basis of its technical data. The maximum technical specifications must not be exceeded!

The product is intended for industrial use.

Intended use also means that the user has read and understood this operating manual in its entirety, especially the chapter "Basic safety notes".

2.2 Inappropriate use

The hydraulic clamping nut is not being used as intended if, for example:

It is used for shrinking.

The technical data is exceeded when using the hydraulic clamping nut.

2.3 Constructional changes

Making constructional changes

Modifications, constructional changes and subsequent work, e.g. additional threads, drill holes and safety devices may impair the operation and safety or damage the product.

- Constructional changes may only be done with SCHUNK's permission.

2.4 Environmental and operating conditions

Required ambient conditions and operating conditions

Incorrect ambient and operating conditions can make the product unsafe, leading to the risk of serious injuries, considerable material damage and/or a significant reduction to the product's life span.

- Make sure that the product is used only in the context of its defined application parameters, ([👉 3, Page 9](#)).
- Use of the product in corrosive media is strictly forbidden.

- The workpieces must be chamfered, have no sharp contours and be free of oil, grease and dirt.
- The maximum temperature of 40°C must not be exceeded during workpiece clamping.
- The optimum operating temperature is between +15°C and +30°C.

2.5 Personal protective equipment

Using personal protective equipment

Not wearing personal protective equipment while working with the product, may result in dangers that impact the personnel's safety and health.

- While working with the product, observe the health and safety regulations and wear the required personal safety equipment.
- Observe the valid safety and accident prevention regulations.
- In case of sharp edges and corners and rough surfaces, wear protection gloves.
- In case of hot surfaces, wear heat-resistant protection gloves.
- When dealing with hazardous substances, wear protection gloves and goggles.
- In case of moving parts, wear tight protection clothes.





2.6 Disposal

Handling of disposal

The incorrect handling of disposal may impair the product's safety and cause serious injuries as well as considerable material and environmental harm.

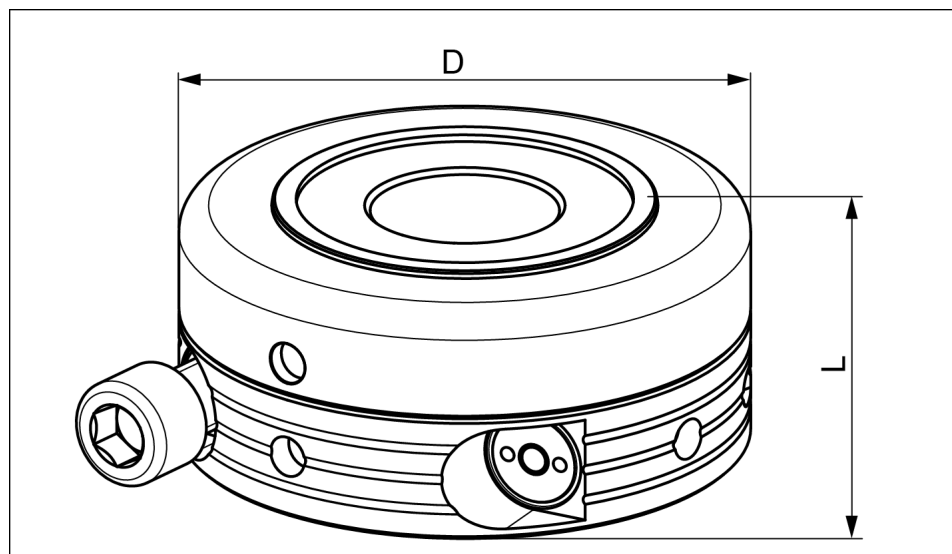
- Follow local regulations on dispatching product components for recycling or proper disposal.

2.7 Notes on particular risks


	<p>! WARNING</p> <p>Risk of injury from parts being thrown out if the technical data is exceeded.</p> <p>If the technical data of the hydraulic clamping nut is exceeded during rotation, this poses a risk of injury from parts being thrown out.</p> <ul style="list-style-type: none"> • Always screw on and tighten the hydraulic clamping nut by hand and screw in the actuating screw as far as the block (breakaway torque approx. 12 Nm). • It is vital that the technical data is adhered to. • Fit protection covers in accordance with the EC Machinery Directive.
	<p>NOTICE</p> <p>Risk of damage to the hydraulic clamping nut due to sharp contours and dirt</p> <ul style="list-style-type: none"> • All parts to be clamped must be deburred and free of dirt.
	<p>NOTICE</p> <p>Risk of damage to the hydraulic clamping nut due to recesses in the part to be clamped.</p> <ul style="list-style-type: none"> • The counter clamping face of the part to be clamped must not have any recesses and must be at least as big as the contact surface of the ring piston.
	<p>NOTICE</p> <p>Risk of damage to the arbor due to axial forces.</p> <p>In the case of insufficient rigidity, the arbor may bend due to axial forces.</p> <ul style="list-style-type: none"> • The rigidity of the arbor must be sufficient.


3 Technical data

Type	ADDUCO
Thread size standard	M18 x 1.5-LH
Thread size special	optionally M20 to M30
Ring piston contact surface	$\varnothing 52 / \varnothing 45.5$
Outer- \varnothing [D]	77 mm
Length [L]	35 mm
Max. clamping force	60 kN
Max. tightening torque for actuating screw	approx. 12 Nm
Tightening torque for ring piston on counter contact surface	2 Nm
Max. speed	6000 min^{-1}
Balancing quality	G 2.5 bei 6000 min^{-1}
Operating temperature	+ 20 °C to + 40 °C
Relative air humidity	20 - 80 %
Weight	< 1 kg



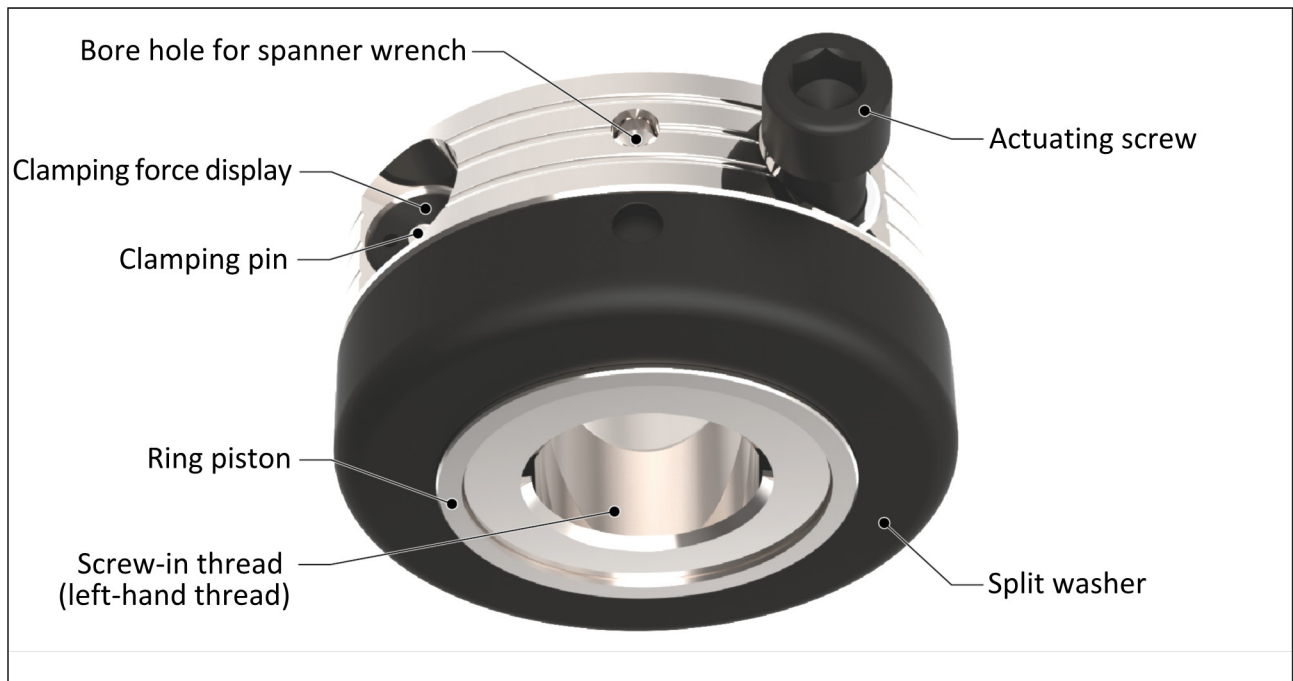
4 Functional description

	NOTICE
	<p>The vent screw of the hydraulic system is protected with a pin or resin. Don't remove it!</p>

	NOTICE
	<p>Do not use force when clamping or unclamping!</p>

	NOTICE
	<p>All parts to be clamped must be free of burrs and dirt!</p>

When using a spanner wrench, place a suitable hinged hook wrench (accessory, ID no. 9966296) on the bore holes on the circumference of the clamping nut.



4.1 Clamping the clamping nut

NOTE

- The actuating screw is not safeguarded from falling out!
 - Observe the direction of rotation of the screw-in thread (lefthand thread)!
 - The counter clamping face of the part to be clamped must not have any recesses and must be at least the same size as the contact surface of the ring piston.
- 1 Screw on and tighten the hydraulic clamping nut by hand until all the parts are flush.



NOTICE

Damage to the actuating screw or the split washer possible
If the actuating screw is actuated when the hydraulic clamping nut is not flush with the counter contact surface, the split washer may be destroyed!

- Only actuate the actuating screw when the hydraulic clamping nut is screwed on and flush with the counter contact surface!
- Never actuate the actuation screw with a power screwdriver!

- 2 Screw in the actuating screw **manually** as far as it will go using a hexagon socket wrench (breakaway torque approx. 12 Nm).
 - ⇒ The clamping force display signalizes the clamping force (clamping pin stroke approx. 1.5 mm). The clamping force is marked on the hydraulic clamping nut.

4.2 Unclamping the clamping nut




NOTICE

Observe the direction of rotation of the screw-in thread (lefthand thread)!


- 1 Screw back the actuating screw.
- 2 Unscrew the clamping nut.

5 Care, Storage and Maintenance

The actuating screw needs to be cleaned and lubricated according to the ambient conditions, especially in the case of high clamping frequencies, high operating temperatures, or abrasive dirt or dust.

	NOTICE
	Regrease the actuating screw with LINOMAX every 500 clamping operations.

For optimum actuating screw lubrication, we recommend LINOMAX (1000 g tube, ID no. 0184211).

	CAUTION
	Allergic reactions due to grease in contact with skin! Wear gloves.

If the hydraulic clamping nut is to be stored for a long period of time:

- Clean the hydraulic clamping nut and lightly oil its entire surface.
- Only store the hydraulic clamping nut when it is not clamped and make sure to protect it from corrosion.

Repair work is only allowed to be carried out at a SCHUNK site.

For questions on service and repairs, contact our technical customer service during our business hours:

Service-Hotline: +49-7133-103-2840

Fax: +49-7133-103-942840