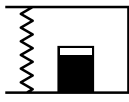




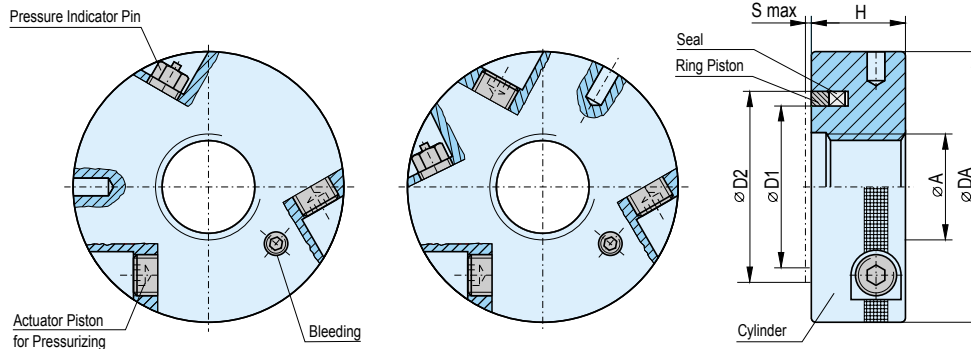
**SCHAAF®**

# Hydraulic Nut with integrated pressure source (tangential) and Pressure Indicator Pin



**PG 9**

**A 4501**



Article No.	Thread up to Ø A mm	Clamping Force max. kN	OD DA mm	Height H mm	Ring Piston		Stroke S <sub>max.</sub> mm	Qty. Actuator Pistons
					Ø D1 mm	Ø D2 mm		
A 4501.05	40	90	79	32	52	62	1,5	2
A 4501.06	42	84	92	32	55	65	2	2
A 4501.07	52	132	107	32	72	84	2	2
A 4501.08	68	123	118	35	82	92	2	2
A 4501.09	80	148	129	35	100	110	2	2
A 4501.10	100	166	160	40	110	125	2	2
A 4501.11	120	151	185	45	135	150	2	2
A 4501.12	140	233	205	45	155	175	2	2
A 4501.13	160	179	230	50	180	200	2	2
A 4501.14	180	200	245	50	202	222	2	2
A 4501.15	200	157	260	50	215	230	2	2
A 4501.16	220	218	280	50	235	254	2	3
A 4501.17	240	254	305	50	260	280	2	3
A 4501...	1 000	Any other design possible due to our own design department.						

The distinguishing feature of Hydraulic Nut **A 4501** is the self-contained system for pressurizing.  
**No** bleeding hydraulic medium (grease).  
**No** connecting and disconnecting to an external pressure source necessary. A simple Allen key is sufficient to produce high clamping forces. Operated from the OD.  
**Ready to use every time!**  
 The pressure indicator pin monitors the nominal clamping force achieved. Narrow profile.

**Example for ordering: SCHAAF-article No. A 4501.10 with thread M 72 x 4, Left Hand.**

Please let us know your requirements; we will be pleased to submit a quick quotation without obligation for you.

### How to select:

- The thread size must be covered by the type in consideration, e.g. M 72 x 4 LH requires at least A 4501.09.
- The Ring Piston must match the counterface. If, in the example of M 72 x 4 LH, the counterface has an ID of 105 mm, the next bigger type of Nut is required, i.e. A 4501.10.
- Please check all relevant dimensions. If they do not fit, ask SCHAAF's consulting service.

**www.schaaf-gmbh.com**

Visit us on the internet and convince yourself of our innovative services and products.

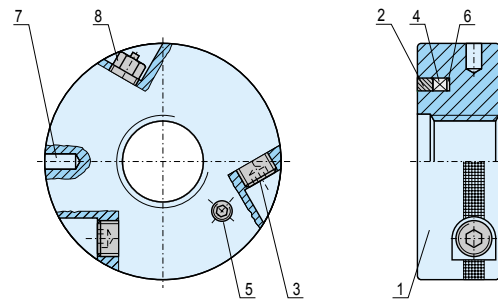
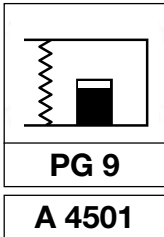
**SCHAAF has been developing and manufacturing high-pressure hydraulic tools since 1954.**





**SCHAAF®**

## Hydraulic High-Pressure Tools



### Functional Characteristics

A SCHAAF Hydraulic Nut of this design has a circular groove which is sealed to the exterior by an axially sliding ring piston and, thus, forms an annular hydraulic chamber. When pressurized, the ring piston is pushed out, contacts the counterface and generates an axial pressure force. Since the ring piston is self-aligning it can, within certain limits, adapt to errors in run-out and to an uneven counterface. This characteristic offers a great advantage, in a lot of applications.

In the case of the Hydraulic Nuts, type **A 4501**, the pressure is generated by turning an actuator screw with a simple Allen key which, in turn, displaces the actuator piston. The nominal clamping force has been achieved as soon as the Pressure Indicator Pin is flush with the face of its cartridge.

#### Advantages:

- torsion free, purely axial generation of the clamping force
- high clamping forces in compact design, accurate repeatability
- long service life without connecting to a pressure source
- due to leakproof seal systems pressure safe = autarkic system
- to use as a machine part i.e. on rotating arbours
- resulting clamping force is independent of the stroke
- no friction in the thread since the Hydraulic Nut is not turned under load (no thread wear)
- SCHAAF-Hydraulic Nuts can be serviced by the customer on site (overhaul by our service department on request)

#### Examples for Application:

- Fixing a milling cutter on the milling shaft
- Fixing the grinding wheel on the grinding arbour
- Fixing gear tools and components on gear cutting machines
- Fixing the forming rolls on roll forming lines
- Fixing the wheels on roll welding machines
- Fixing of components on the machine table

#### Note:

- Stroke limited to 2 mm max. (bigger stroke on request)

#### SCHAAF - Quality means:

- Components manufactured from high tensile materials (wear resisting)
- Constant monitoring to improve quality for all products
- Each Hydraulic Nut and other hydraulic accessories are tested to the operating pressure or higher
- All products are delivered ready for operation
- Detailed technical documentation are part of the delivery (operating manual, drawing and parts list)

### Standard Features

#### Standard SCHAAF Hydraulic Nuts, Type A 4501, consist of:

- Cylinder, knurled (1)
- Ring Piston (retained in the cylinder to prevent loss) (2)
- 2 or 3 Actuator Pistons resp. with Actuator Screw, tangential (3)
- High Pressure Seal Set for temperatures from -30°C through to +100°C (4)
- Bleeding Screw (5)
- Pressure medium (special high pressure grease) (6)
- Pressure Indicator Pin (8)

and are equipped with:

- radial tommy bar holes (7)
- thread recess for centering
- surface treatment (chemi-blackened)
- Allen key

#### Variations in equipment:

- **Material**
  - stainless and acidproof steel
  - aluminium alloys
  - various combinations of material
  - seals for elevated temperatures
- **Pressure control by**
  - pressure gauge
  - other methods
- **Locking of the hydraulically generated pre-tensioning force**
  - shims
- **Surface finish**
  - lacquered
  - chemi-nickel coating
  - on customer's request
- **Certificates and Approvals**
  - force characteristic curve
  - work's test certificate
  - approval to customer's specifications

#### Accessories (optional)

- **Assembly Tools**
  - guiding shaft
  - guiding sleeve
  - sling gear
  - auxiliaries to customer's requirements
- **Service Set for Maintenance by the Customer**

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