

# Assembly- and Operating Manual for 3-Jaws-Loading-Gripper Type UFG 26 / 32

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. You can reach us directly at the below mentioned addresses.

Kindest Regards,

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Reg. No. 003496 QM08



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## 1. Unpacking and Control

- 1) Carefully remove the packing without using sharp or peaked objects.
- 2) Check the gripper on transportation damages and if necessary, inform us immediately.

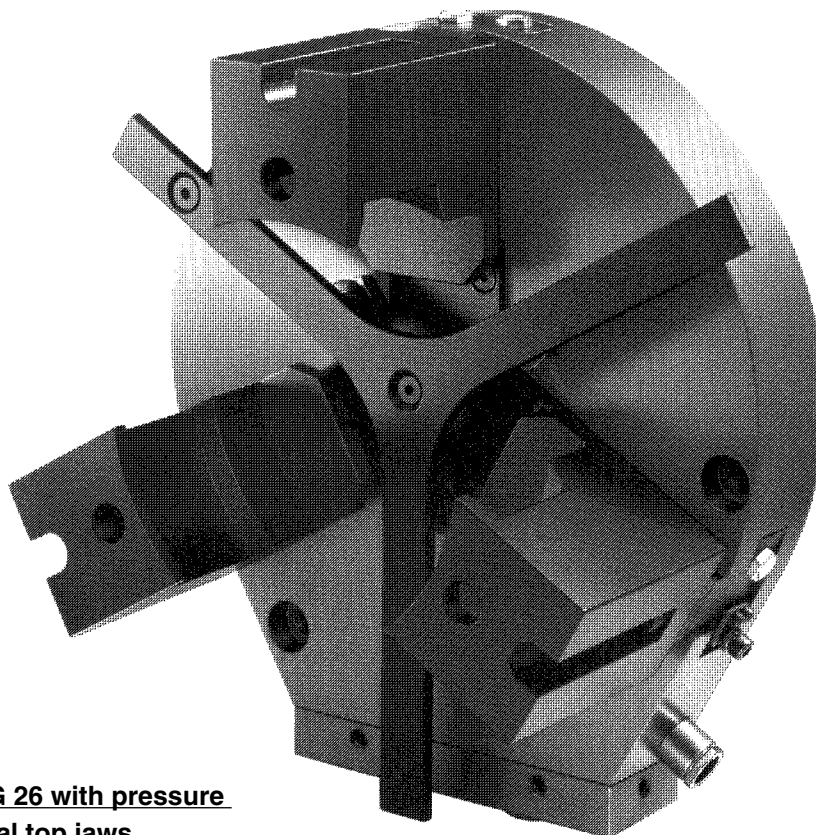
### Volume of Delivery:

- UFG (without top jaws and pressure piece)
- 2 O-Rings  $\varnothing$  6 x 2 mm
- 3 screws M 8 x 35 DIN EN ISO 4762 (UFG 26)
- 3 screws M 8 x 40 DIN EN ISO 4762 (UFG 32)

### **NOTE:**

For intermediate stocking please note:

- keep dry
- protect the unit against aggressive medias
- avoid strong fluctuations in temperature
- lubricate smooth surfaces
- seal connection bores



**Illustration: UFG 26 with pressure piece and special top jaws.**

## 2. Brief description and technical data

### 3-Jaw-Loading-Gripper Type UFG 26 / 32:

- broad clamping range
- flat design
- high clamping force
- versatile application (e.g. for loading of tooling machines)
- can be retrofitted as a double gripper without problems
- position of installation: application dependant
- stroke control can be continuously adjusted
- I.D. and O.D. clamping possible
- centrally gripping

### Accessories:

- proximity switch
- pressure piece
- top jaws (custom-made solutions available from SCHUNK)

### Technical Data:

	UFG 26	UFG 32
Actuation:	hydraulically	hydraulically
Range of operating temperature:	6...60 bars	6...70 bars
Opening stroke:	32 mm / jaw	54 mm / jaw
Gripping force:	at 40 bars 2300 N	at 50 bars 5200 N
Gripping force:	at 6 bars 350 N	at 6 bars 500 N
Operating temperature:	5 ʘC - 60 ʘC	5 ʘC - 60 ʘC
Oil volume: "open"	34 ccm	87 ccm
Oil volume: "closed"	29 ccm	78 ccm
Opening time:	0.9 sec.	2.1 sec.
Closing time:	0.85 sec.	2.0 sec.
Repeatability	0.05 mm	0.05 mm

## 3. Assembly and Connection

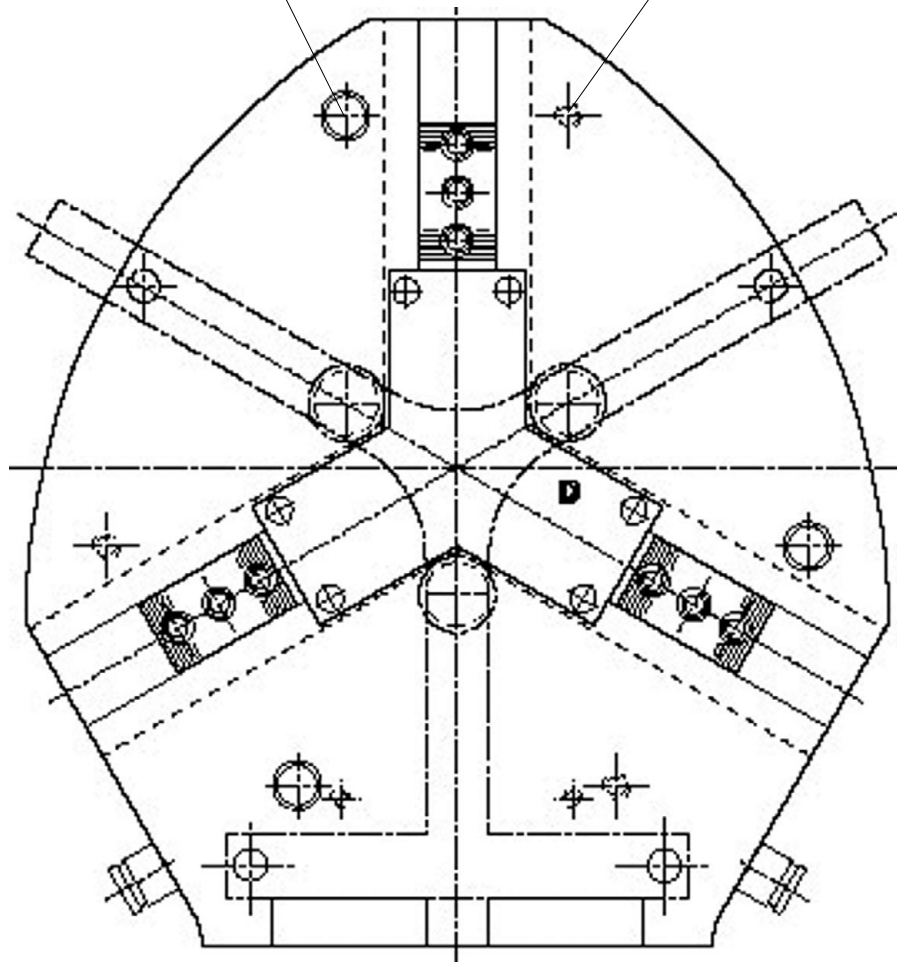
### 3.1 ASSEMBLY

**NOTE:**

The gripper must be aligned during assembly since it is not equipped with fixing bores.

3 Fastening bores  
for M8 DIN EN ISO 4762  
in the plastic bag

3 fastening threads  
UFG 26 M 8 x 17  
UFG 32 M 8 x 20



## 3. Assembly and Connection

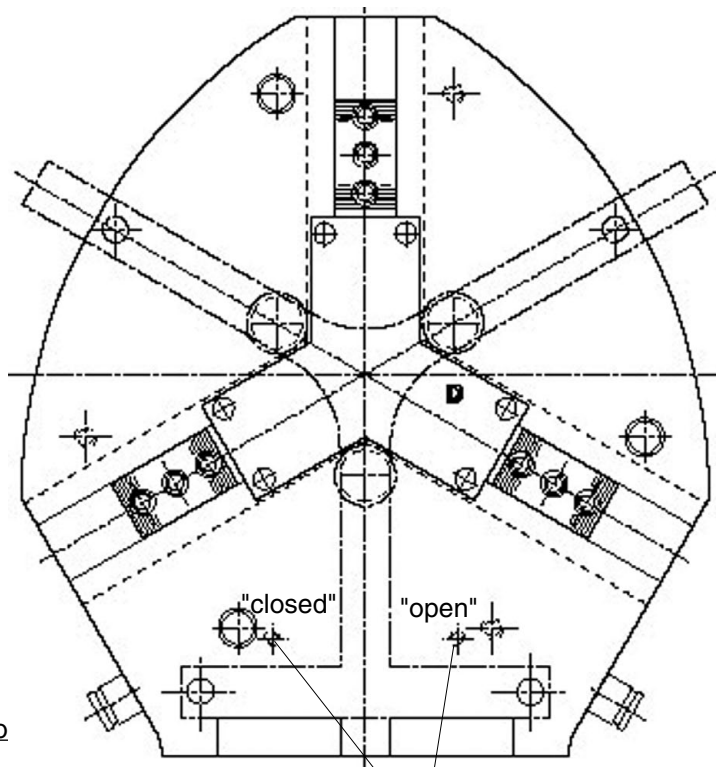
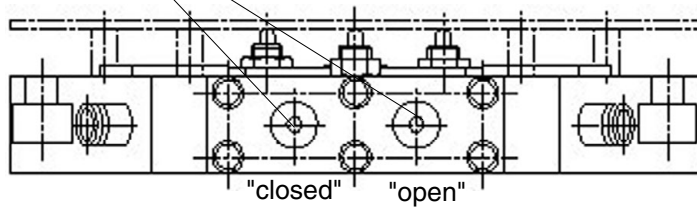
### 3.2 CONNECTION

**NOTE:**

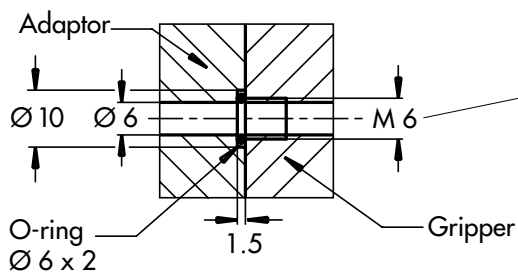
For assembly without hoses, please use two O-rings out of the little plastic bag to seal the oil feeding.

Close the oil feedings which you won't use with a suitable blind plug (M 6, R1/4").

2 x R1/4" for connection with threads



For direct connectio without hoses



2 x M 6 for direct connection without hoses

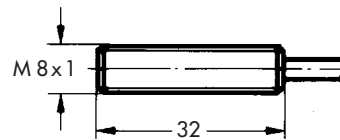
## 4. Proximity Switches

### 4.1 NOTES ON PROXIMITY SWITCHES

#### Technical Data:

- Supply voltage: 10 - 30 V DC
- Operation voltage: max. 15 %
- Max. load current: 200 mA
- Hysteresis: 15% of nominal sensing distance
- Range of temperature: - 25°C to + 70°C
- Max. operating frequency: 1000Hz
- Voltage drop: 1.5V
- Protection class as per DIN EN 60529: IP 67\*

\* only for concentric plug connector when fixed properly

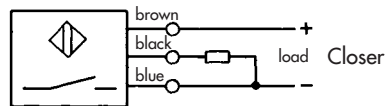


2 pieces

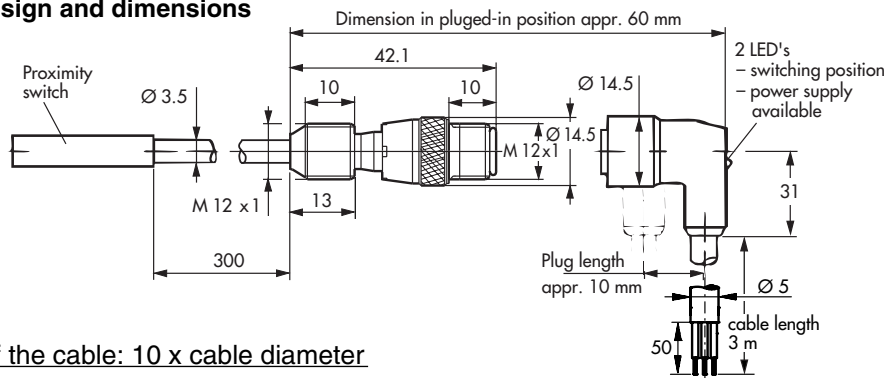
Type	Output	Id.-No.
INW 80/S	Closer	301 508

Sensing distance 1.5 mm

#### Output: shown in non-actuated condition



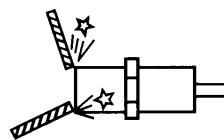
#### Principle design and dimensions



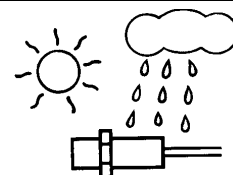
Bending radius of the cable: 10 x cable diameter



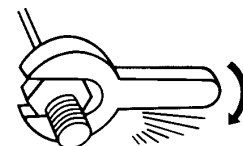
Do not swing the proximity switch by its cable.



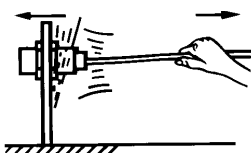
Do not allow the sensor to make contact with a detectable object of a hard substance or do not apply shock to the sensor



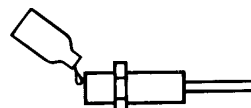
Avoid using the proximity switch in outdoor locations (subject to direct sunlight, rainwater, etc.)



Do not tighten the proximity switch excessively.



Do not pull the wire of the proximity switch with excessively large force.



Avoid using the proximity switch in an atmosphere of chemicals, especially strong alkali acid (such as nitric acid, chromic acid, hot concentrated sulfone acid, etc.)

## 4. Proximity Switches

### 4.2 INSTALLATION AND ADJUSTMENT OF PROXIMITY SWITCHES

**NOTE:**

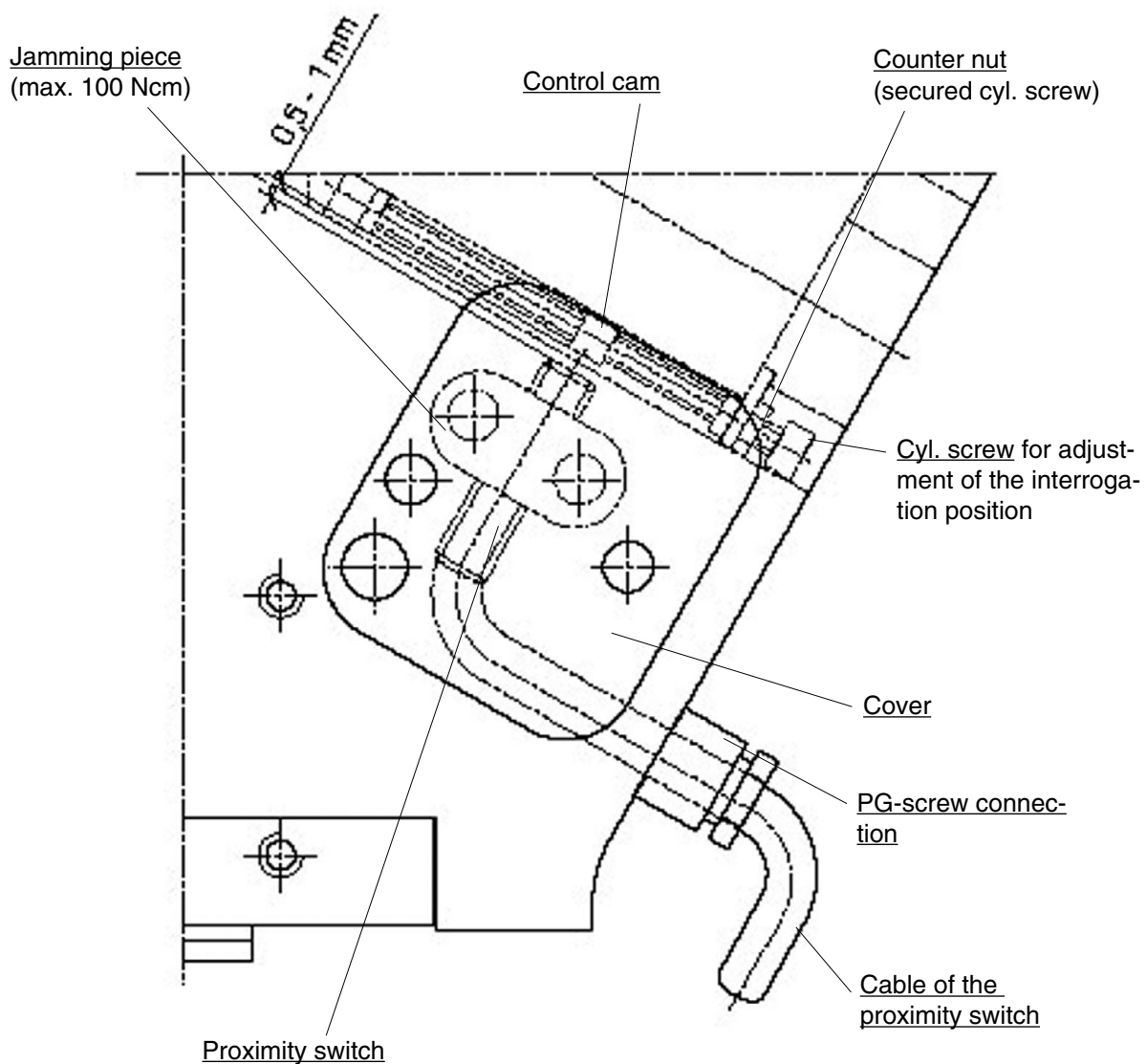
Proximity switches are accessories and have to be ordered separately.

The positions on the switch are freely chooseable.

are used, the PG-screw connections have to be disassembled and the components have to be pushed over the proximity switch onto the cable. Adjustment and interrogation of the position:

- a) Turn the cyl. screw clockwise:
  - The control cam is moving into the direction of the screw head.
- b) Turn the cyl. screw anti-clockwise:
  - The control cam is moving away from the screw head.

If SCHUNK proximity switches with plug-connectors





## 5. Maintenance

**NOTE:**

For exchange of components please return the complete gripper with a repair order to SCHUNK.

In order to achieve proper function of the grippers, please note the following:

- 1) Make sure that the blank steel components are lubricated or greased.
- 2) Lubrify the base jaws of the gripper every 500.000 cycles with Molykote BR2 plut, Metaflux-Gleitmetall or any equivalent lubricant. The funnel-type lubrication nipple DIN 3405 AM 8 x 1 are at the base jaws.

## 6. Trouble shooting

The jaws do not move:

- The hydraulic supply is interrupted.
- Break of screws at the connection between the piston bar and the base jaw.
- The connections are misaligned.

The clamping force reduces:

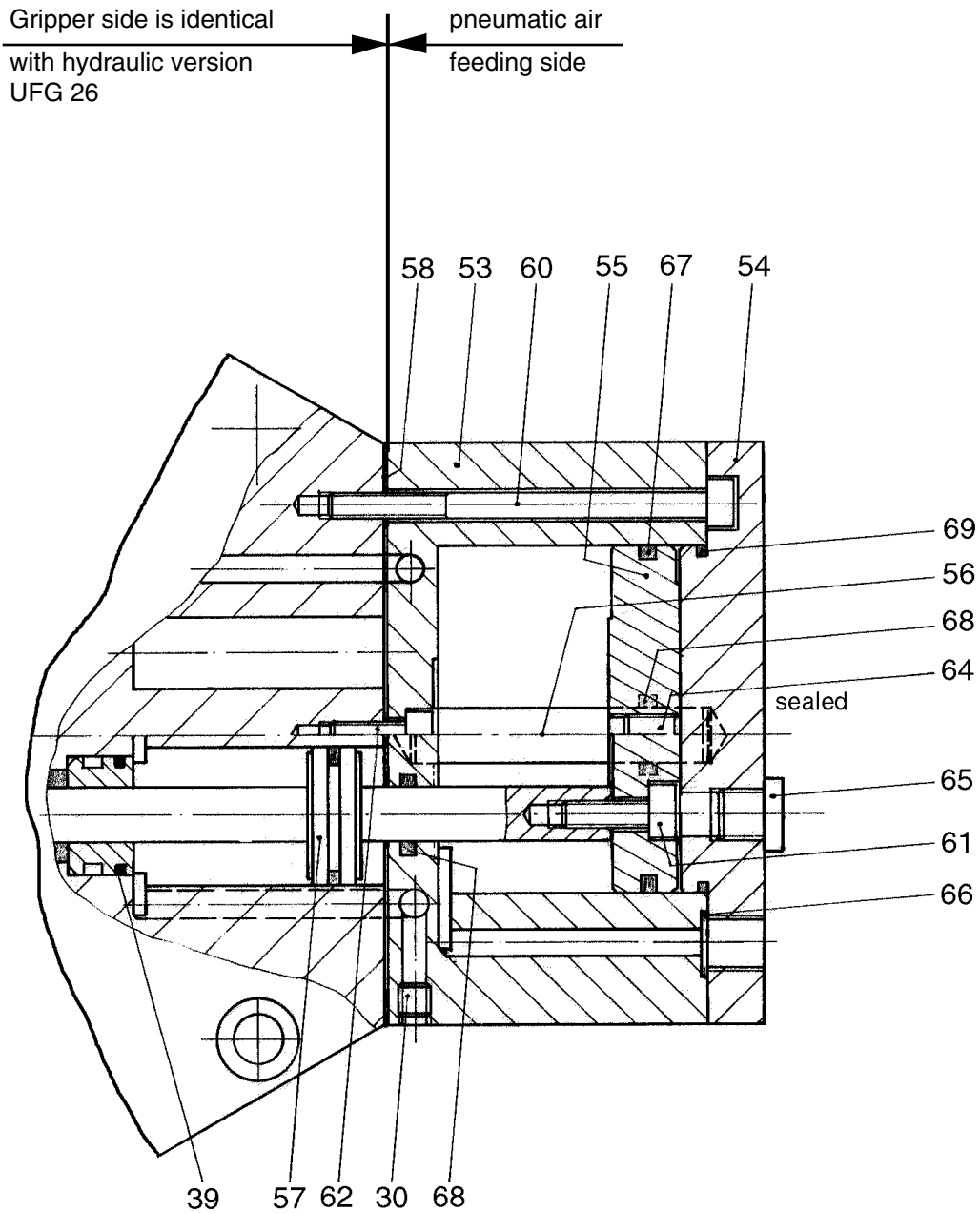
- Break of screws at the connection between the piston bar and base jaw.
- There is dirt and dust between the guidances of the base jaws.
- Internal oil leakage

Oil leakage at the bottom:

- Set-screw M 6 for direction connection without hoses is not sealed correctly (see page 5).

**7. Optional: with pneumatic actuation**

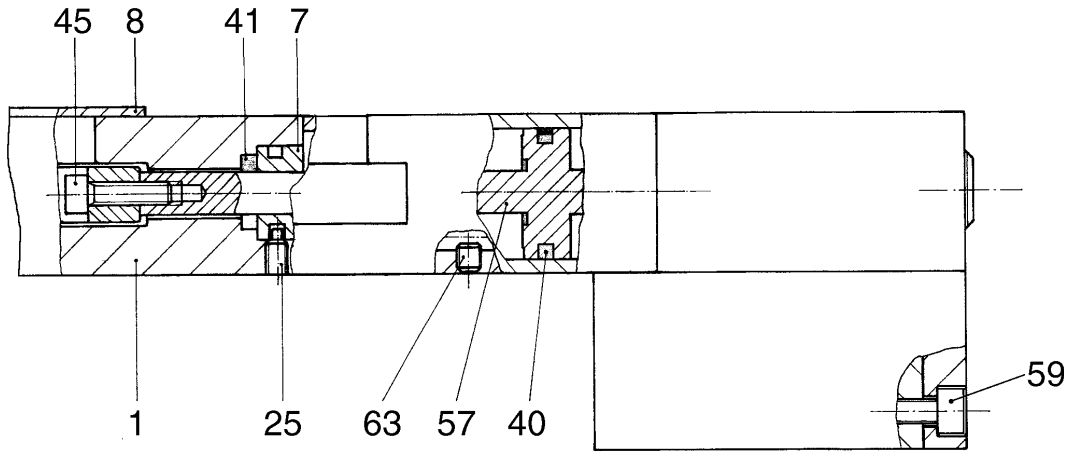
**Pneumatic actuation for UFG 26 = Type UFG-P 26**



**Note:** If requested, we can supply a spare-and wear-part list.

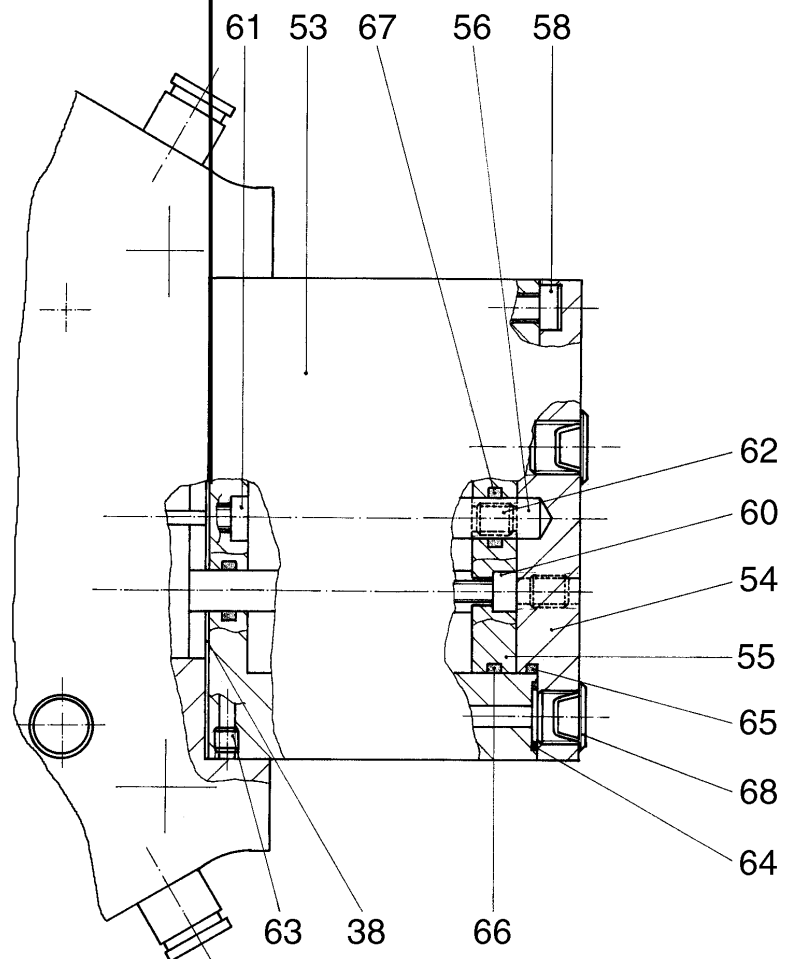
**7. Optional: with pneumatic actuation**

**Pneumatic actuation for UFG 32 = Type UFG-P 32**



Gripper side is identical  
with hydraulic version  
UFG 32

pneumatic air  
feeding side



**Note:** If requested, we can supply a spare-and wear-part list.

## EC declaration of incorporation

In terms of the EC Machinery Directive 2006/42/EC, annex II, Part B

Manufacturer/  
distributor                      SCHUNK GmbH & Co. KG.  
   Spann- und Greiftechnik  
   Bahnhofstr. 106 – 134  
   D-74348 Lauffen/Neckar

We hereby declare that the following product:

**Product designation**        3-Jaws-Loading-Gripper  
**Type designation:**        UFG 26, UFG 32  
**ID numbers:**                302715, 302716

meets the applicable basic requirements of the Directive **Machinery (2006/42/EC)**.

The incomplete machine may not be put into operation until conformity of the machine into which the incomplete machine is to be installed with the provisions of the Machinery Directive (2006/42/EC) is confirmed.

Applied harmonized standards, especially:

EN ISO 12100-1                Safety of machinery - Basic concepts, general principles for design  
   Part 1: Basic terminology, methodology  
EN ISO 12100-2                Safety of machinery - Basic concepts, general principles for design  
   Part 2: Technical principles

The manufacturer agrees to forward on demand the special technical documents for the incomplete machine to state offices.

The special technical documents according to Annex VII, Part B, belonging to the incomplete machine have been created.

Person responsible for documentation: Mr. Michael Eckert, ☎ +49-7133-103-2204

Location, date/signature:                      Lauffen, Germany, January 2011    p.p.

Title of the signatory                              Director for Development

