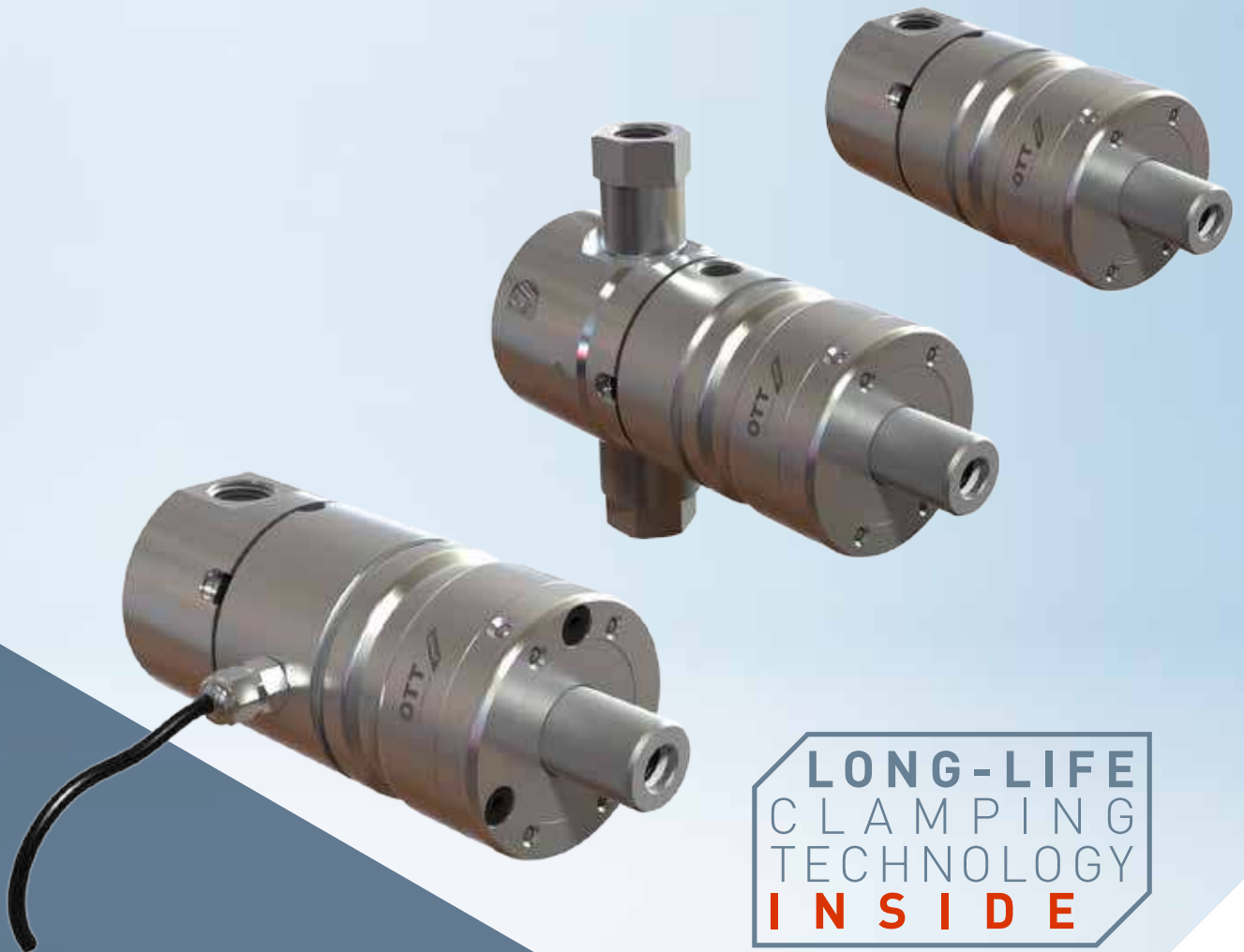


ROTARY UNIONS

CATALOGUE



LONG-LIFE
CLAMPING
TECHNOLOGY
INSIDE



INDIVIDUAL COMPLETE SOLUTIONS FROM ONE SOURCE.

For more than four decades, the name OTT-JAKOB has been standing for technically demanding solutions in the field of tool clamping technology. As a provider of complete systems and development partner of the world's leading spindle and machine tool manufacturers, we offer unique expertise in executing custom clamping system projects. The modular set up of our product range provides an almost unlimited variety of configuration possibilities. The result: custom-made clamping systems for all areas of application.

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SECURE TRANSFER OF ALL MEDIA

OTT-JAKOB rotary unions ensure the reliable transfer of cooling fluids and gases into the rotating spindle, from where they are passed through to the tool holder and directly to the cutting edge. Media typically used include hydraulics, air, coolant and MQL. Aside from that, OTT-JAKOB offers rotary unions for internal spindle cooling as well as for cryogenic machining.

With a product range consisting of more than 25 variants, we are able to provide solutions for the most common areas of application. In addition, 120 special rotary unions are available to meet special machining requirements. As part of the modular product range, our rotary unions perfectly harmonize with the power drawbar, thus allowing problem-free subsequent integration or retrofitting of existing applications.

OPTIMAL AVAILABILITY OF YOUR ROTARY UNION

Malfunction or failure of the rotary union can result in expensive total spindle failure. To prevent such situations, OTT-JAKOB provides different options to monitor the rotary union's function by using sensor technology. To learn more, see page 20 to 22.



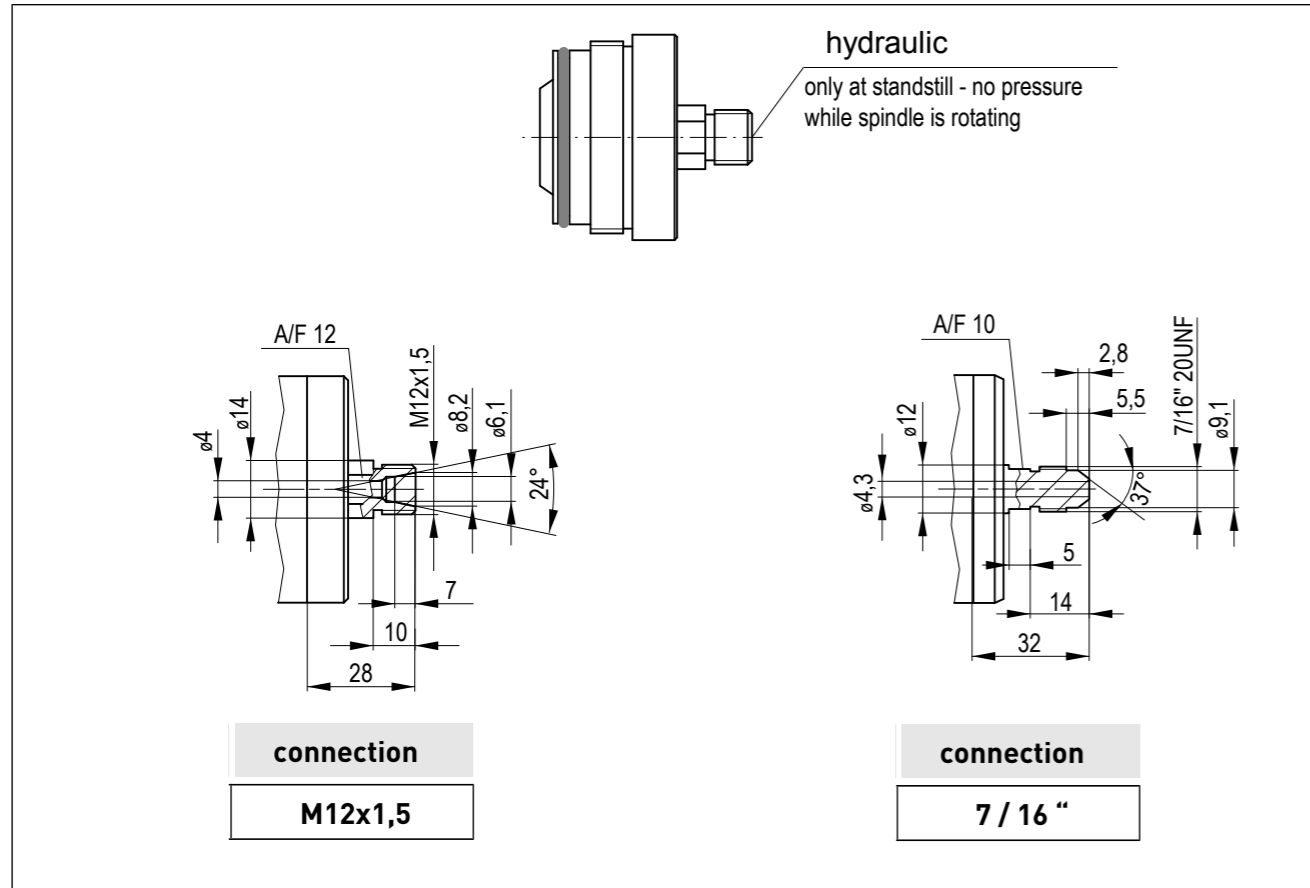
STANDARD VARIANTS

SINGLE-PASSAGE OIL / DUAL-PASSAGE



	1K-Oil	2KL	2KLR	2KA
Channels	1	2	2	2
Spindle Speed max. [min ⁻¹]	10,000	10,000	20,000	10,000
Hydraulic Unclamping Hydraulic Pressure [bar]	160	160	160	160
Cleaning Air Pressure: Air (min ⁻¹ =0) [bar]		10	10	10
Dry Operation				Yes
Pressure Air max. [bar]			10	
Coolant Pressure Pressure: KSM [bar] Passage Ø [mm]				80 5
Module	11 12	14	28	25
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DIMENSIONS



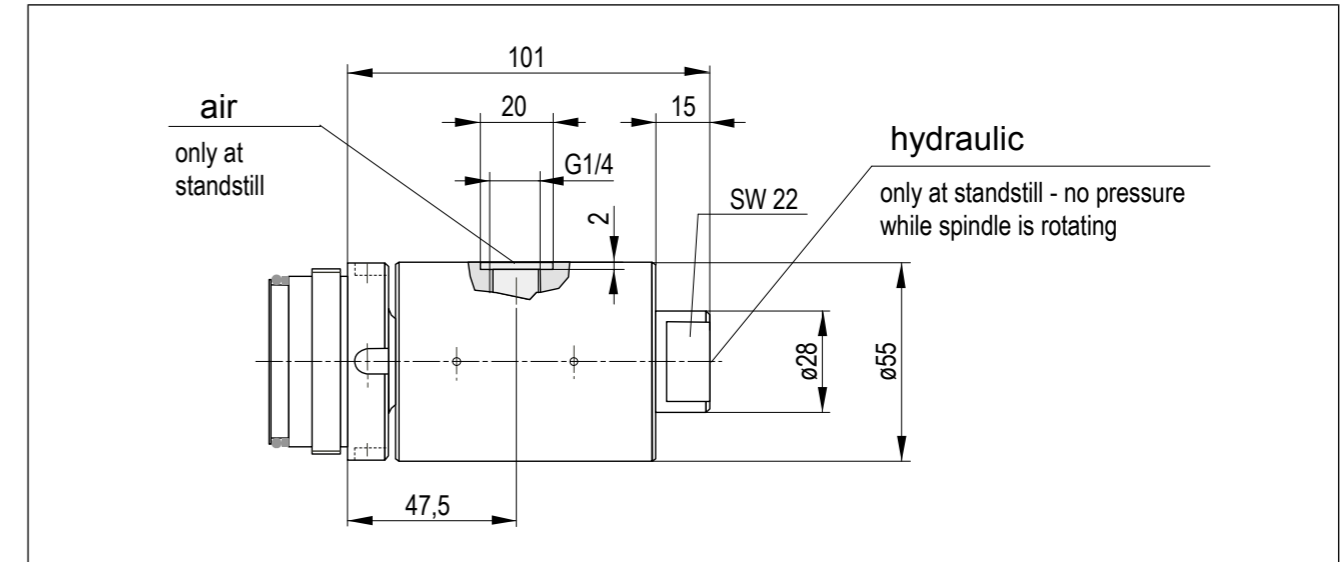
TECHNICAL DATA

spindle speed max.	10000	min ⁻¹
hydr. pressure max. n = 0 min ⁻¹	160	bar

FEATURES

- hydraulic unclamping of power drawbars

DIMENSIONS



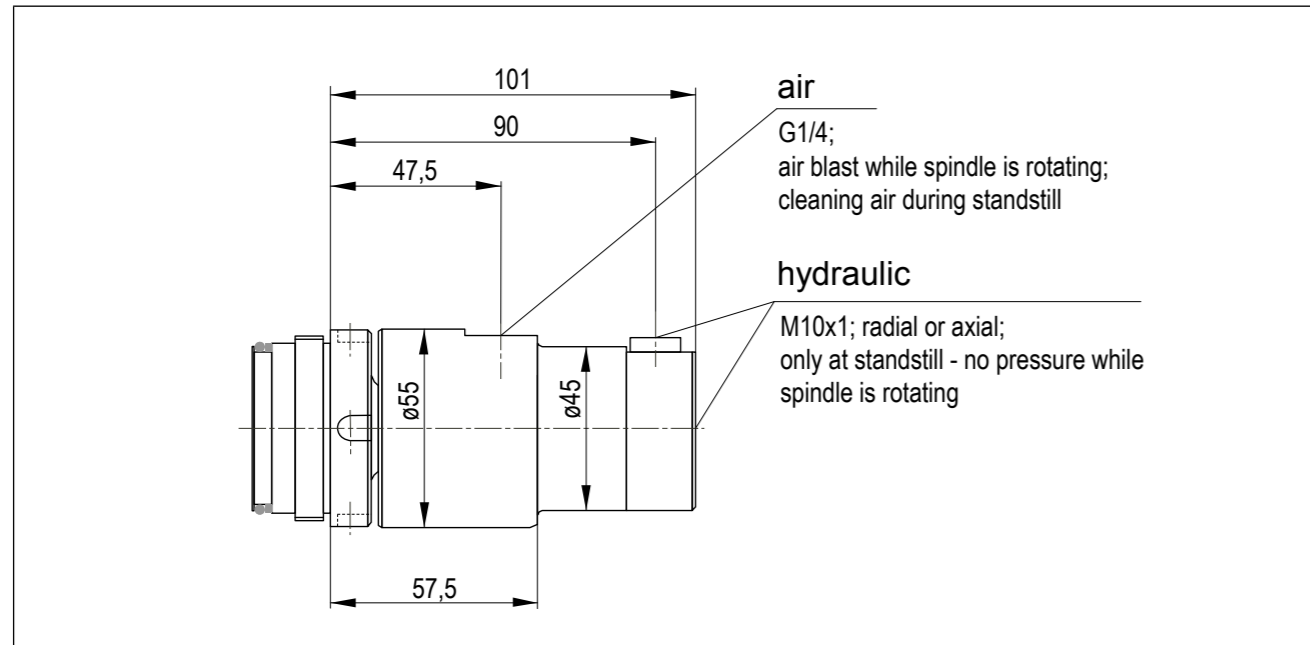
TECHNICAL DATA

spindle speed max.	10000	min ⁻¹
hydr. pressure max. n = 0 min ⁻¹	160	bar
air pressure max.; n = 0 min ⁻¹	10	bar

FEATURES

- hydraulic unclamping of power drawbars
- cleaning air during tool changing

DIMENSIONS



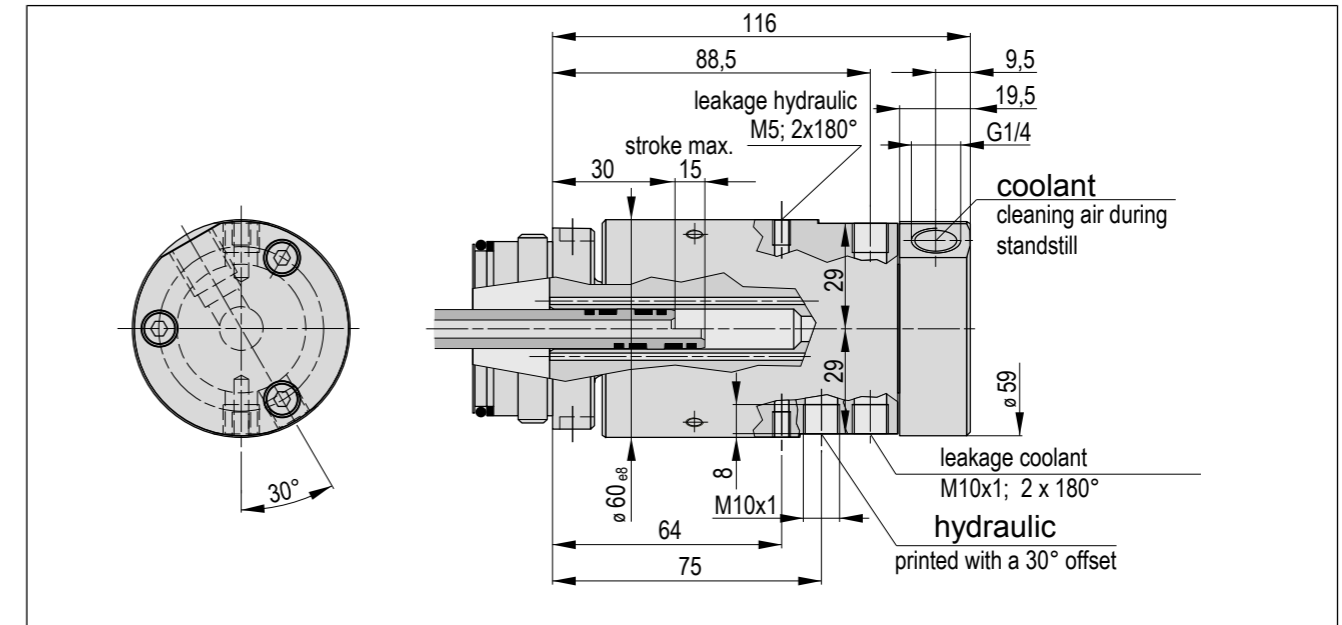
TECHNICAL DATA

spindle speed max.	20000	min ⁻¹
hydr. pressure max. n = 0 min ⁻¹	160	bar
air pressure max.	10	bar

FEATURES

- Due to aluminum housing, hybrid spindle bearing and air blast during rotations especially suitable for HSC-operations on wood, plastic, light alloy and other dry operations
- hydraulic unclamping of power drawbars

DIMENSIONS



TECHNICAL DATA

spindle speed max.	10000	min ⁻¹
coolant pressure max.	80	bar
hydr. pressure max. n = 0 min ⁻¹	160	bar
air pressure max.; n = 0 min ⁻¹	10	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	µm

FEATURES

- suitable for dry operation
- hydraulic unclamping of power drawbars
- central coolant supply
- cleaning air during tool changing



	GDR-LC -2L	GDR	GD	GD-ø8	GD-HD	GDV	SDR A-B	GDP-LC	GDP
Spindle Speed max. [min ⁻¹]	20,000	24,000	36,000	24,000	24,000	42,000	36,000	40,000	75,000
Coolant Pressure [bar] Passage ø [mm]	50 6	80 6	80 6	80 8	150 4	70 6	-	80 3.5	80 3.5
Minimum Volume Lubri- cation (mixed externally) p _{max} [bar]	5	5	5	5	5	8	-	5	5
Cleaning Air max. [bar] n = 0 min ⁻¹	10								
Pressure Air max. [bar] n < 10,000 min ⁻¹	5 (on consultation)					6	10	5 (on consultation)	
Dry Operation	Yes								
Required Media Purity according to ISO 4406	-/17/14						-	-/17/14	
Media Purity	< 50 μ								
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RADIAL

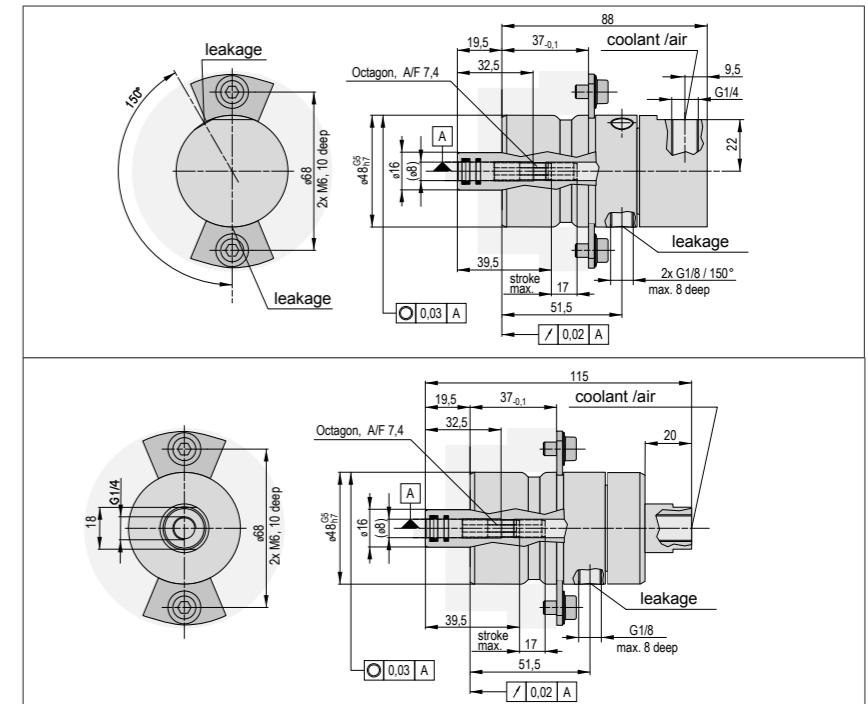
order number

95.250.065.2.0

AXIAL

order number

95.250.037.2.0



TECHNICAL DATA

spindle speed max.	20000	min ⁻¹
coolant pressure max.	50	bar
cleaning air max.; n = 0 min ⁻¹	10	bar
pressure air max.; n < 10000 min ⁻¹ (per discussion)	5	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	μm

FEATURES

- closed sealing surface
- coolant
- minimum volume lubrication (mixed externally) p_{max.} = 5 bar
- dry operation
- passage min. ø6 mm

NOTE: air seal not allowed

RADIAL

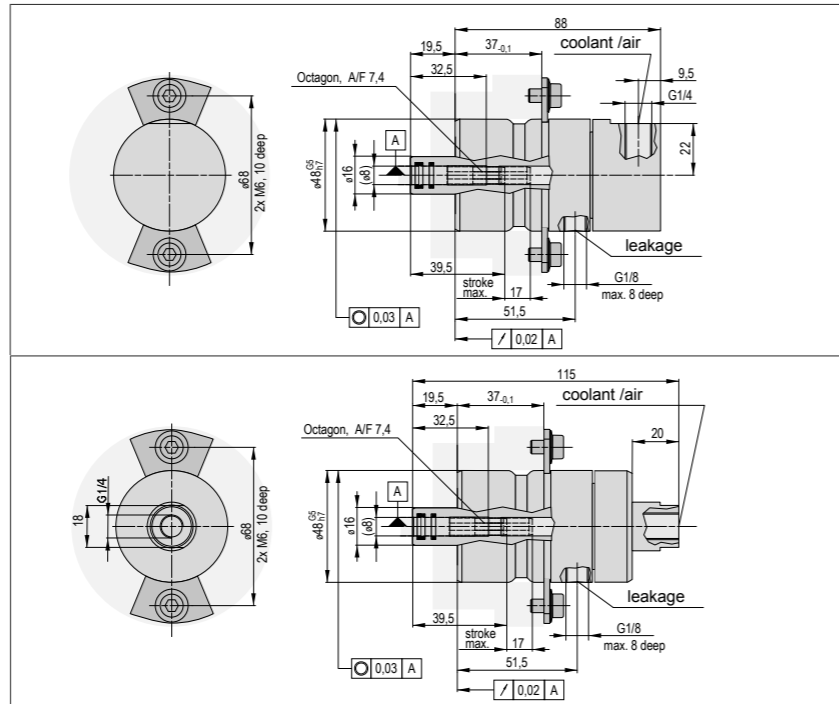
order number

95.250.023.3.0

AXIAL

order number

95.250.025.1.0



TECHNICAL DATA

spindle speed max.	24000	min ⁻¹
coolant pressure max.	80	bar
cleaning air max.; n = 0 min ⁻¹	10	bar
pressure air max.; n < 10000 min ⁻¹ (per discussion)	5	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	µm

FEATURES

- closed sealing surface
- coolant
- minimum volume lubrication (mixed externally) p_{max.} = 5 bar
- dry operation
- passage min. ø6 mm

RADIAL

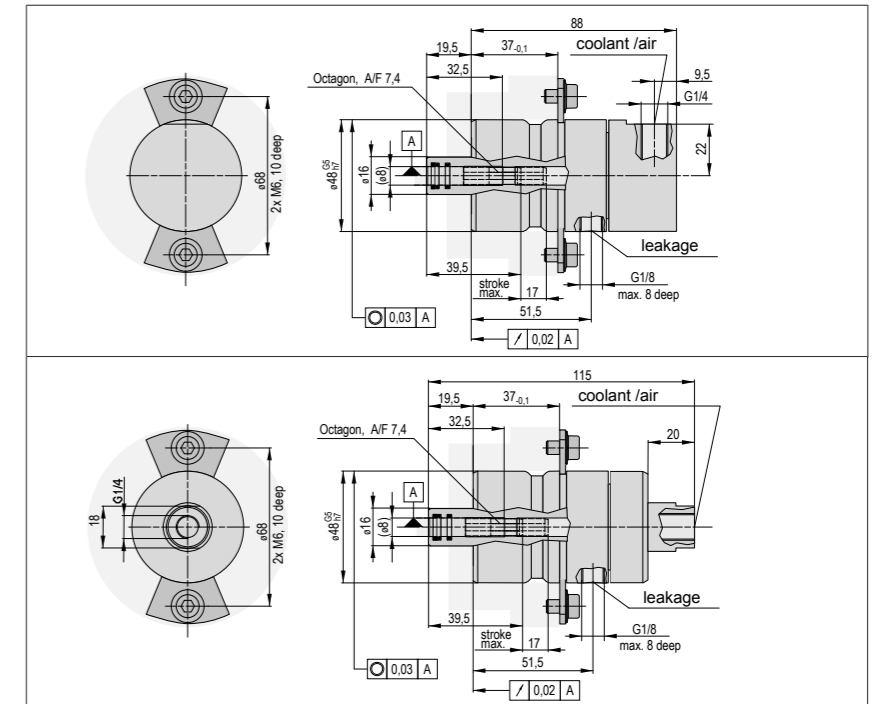
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AXIAL

order number

95.250.022.3.0



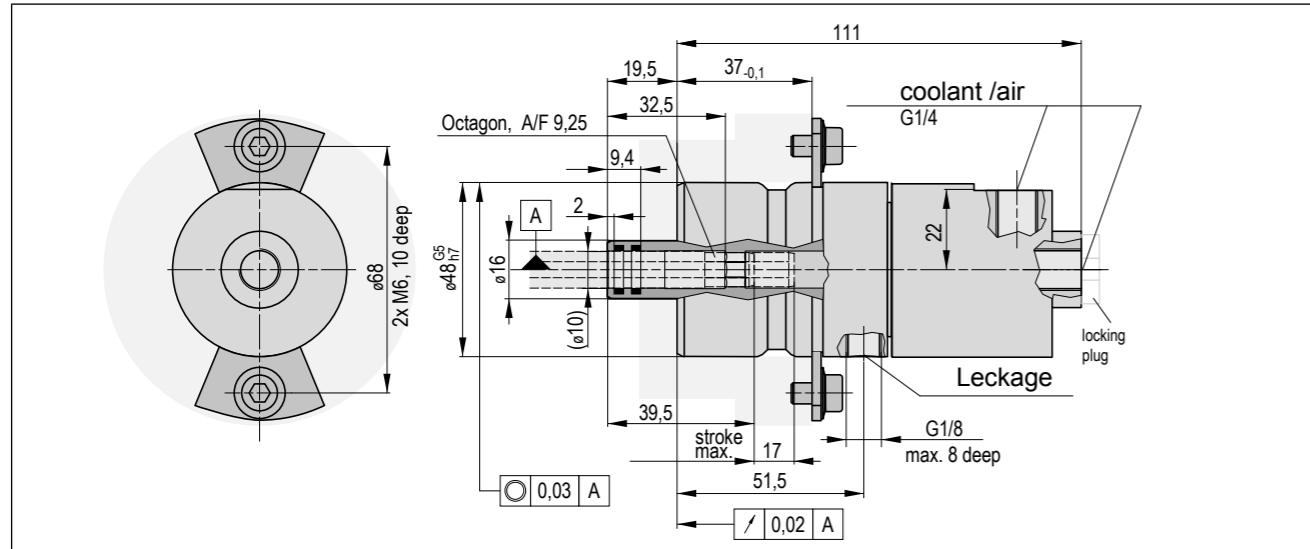
TECHNICAL DATA

spindle speed max.	36000	min ⁻¹
coolant pressure max.	80	bar
cleaning air max.; n = 0 min ⁻¹	10	bar
pressure air max.; n < 10000 min ⁻¹ (per discussion)	5	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	µm

FEATURES

- hybrid bearing
- balanced design
- closed sealing surface
- coolant
- minimum volume lubrication (mixed externally) p_{max.} = 5 bar
- dry operation

DIMENSIONS



TECHNICAL DATA

spindle speed max.	24000	min ⁻¹
coolant pressure max.	80	bar
cleaning air max.; n = 0 min ⁻¹	10	bar
pressure air max.; n < 10000 min ⁻¹ (per discussion)	5	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	µm

FEATURES

- hybrid bearing
- balanced design
- closed sealing surface
- coolant
- minimum volume lubrication (mixed externally) p_{max.} = 5 bar
- dry operation
- passage min. ø8 mm
- axial or radial connection

RADIAL

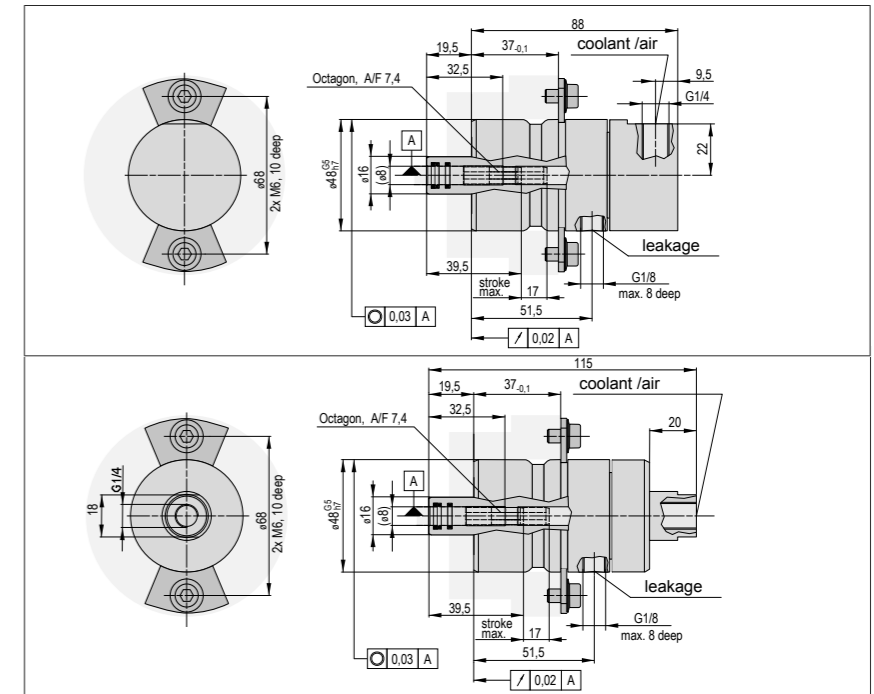
order number

95.250.028.2.0

AXIAL

order number

95.250.075.2.0



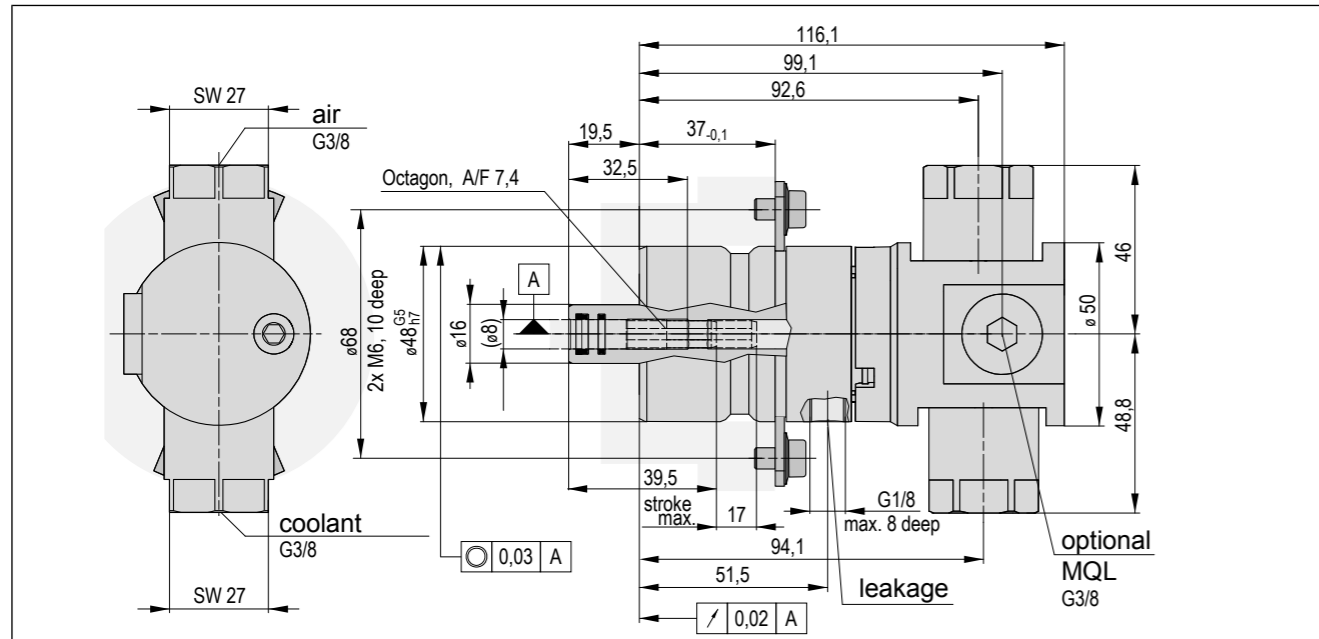
TECHNICAL DATA

spindle speed max.	24000	min ⁻¹
coolant pressure max.	150	bar
cleaning air max.; n = 0 min ⁻¹	10	bar
pressure air max.; n < 10000 min ⁻¹ (per discussion)	5	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	µm

FEATURES

- hybrid bearing
- balanced design
- closed sealing surface
- coolant
- minimum volume lubrication (mixed externally) p_{max.} = 5 bar
- dry operation
- passage min. ø4 mm

DIMENSIONS



TECHNICAL DATA

spindle speed max.	42000	min ⁻¹
coolant pressure max.	70	bar
minimum volume lubrication optional (mixed externally)	8	bar
pressure air max.	6	bar
cleaning air max.; n = 0 min ⁻¹	10	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	µm

FEATURES

- coolant
- minimum volume lubrication
- dry operation
- passage min. ø6 mm
- hybrid bearing
- balanced design
- closed sealing surface

RADIAL

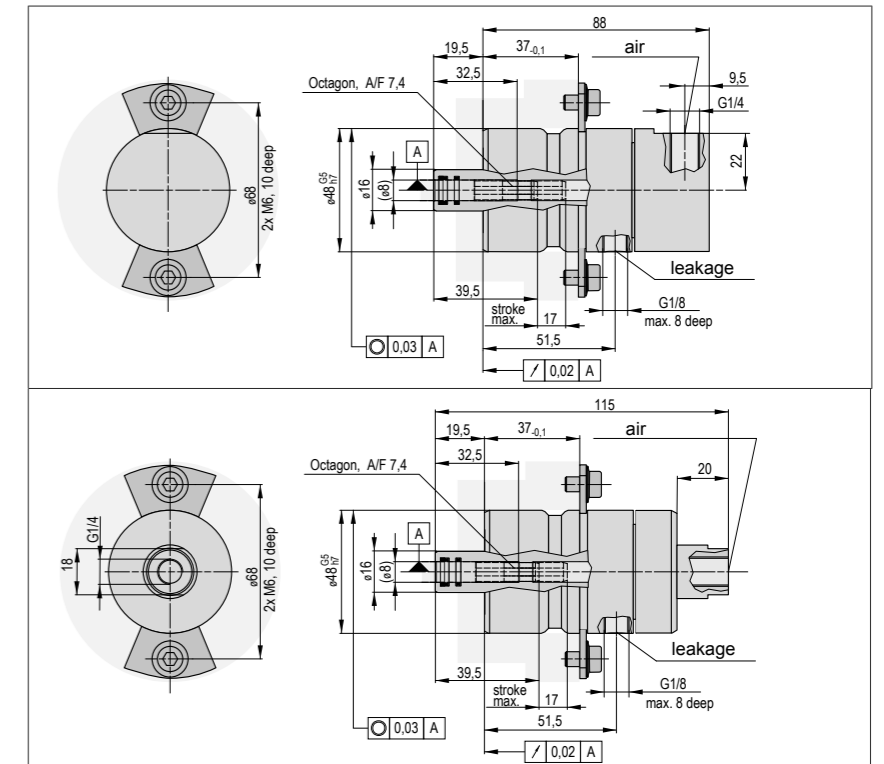
order number

95.250.049.2.0

AXIAL

order number

95.250.042.2.0



TECHNICAL DATA

spindle speed max.	36000	min ⁻¹
pressure air max.	10	bar
filter grade	< 50	µm

FEATURES

- air-gap seal
- dry operation

RADIAL

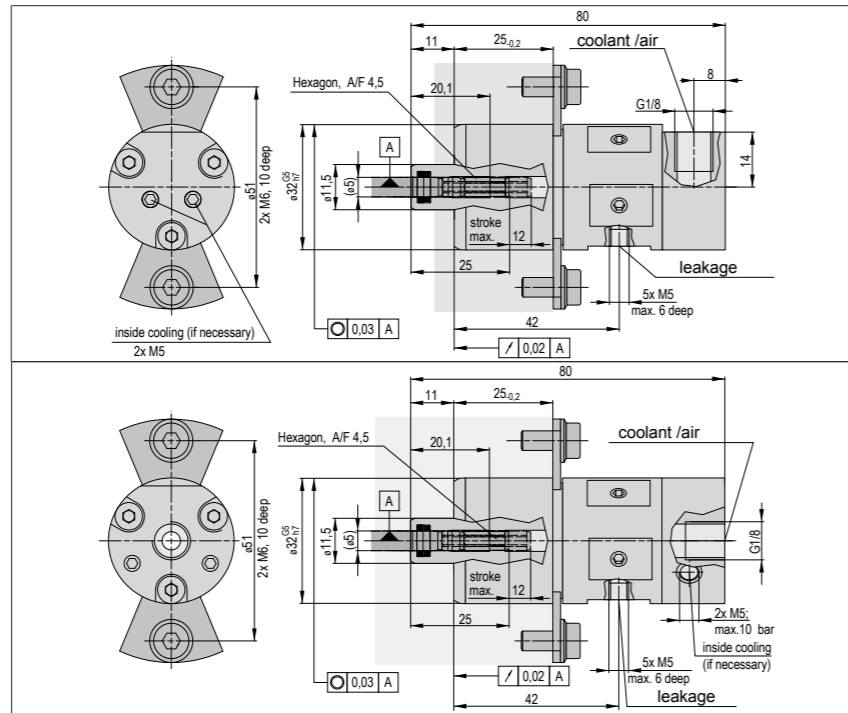
order number

95.250.068.2.0

AXIAL

order number

95.250.071.2.0



TECHNICAL DATA

spindle speed max.	40000	min ⁻¹
coolant pressure max.	80	bar
cleaning air max.; n = 0 min ⁻¹	10	bar
pressure air max.; n < 10000 min ⁻¹ (per discussion)	5	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	µm
inside cooling (housing); n > 30000 min ⁻¹		
flow volume min.	0,5	l / min
pressure cooling liquid max.	10	bar
temperature cooling liquid min.	20	°C
max.	40	°C

FEATURES

- closed sealing surface
- coolant
- minimum volume lubrication (mixed externally) p_{max.} = 5 bar
- dry operation
- passage min. ø3,5 mm

RADIAL

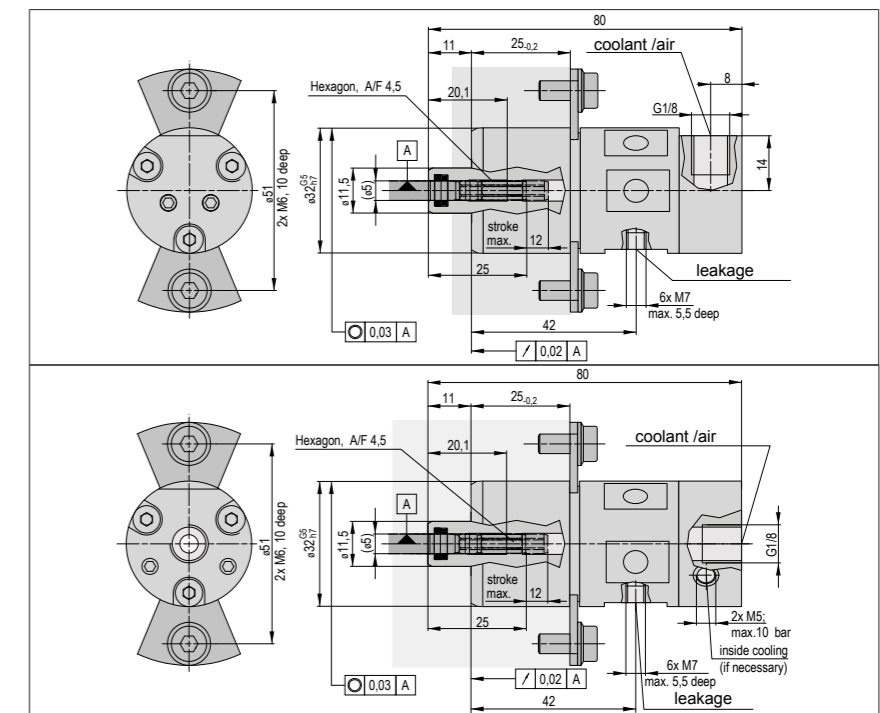
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95.250.142.2.0

AXIAL

order number

95.250.147.2.0



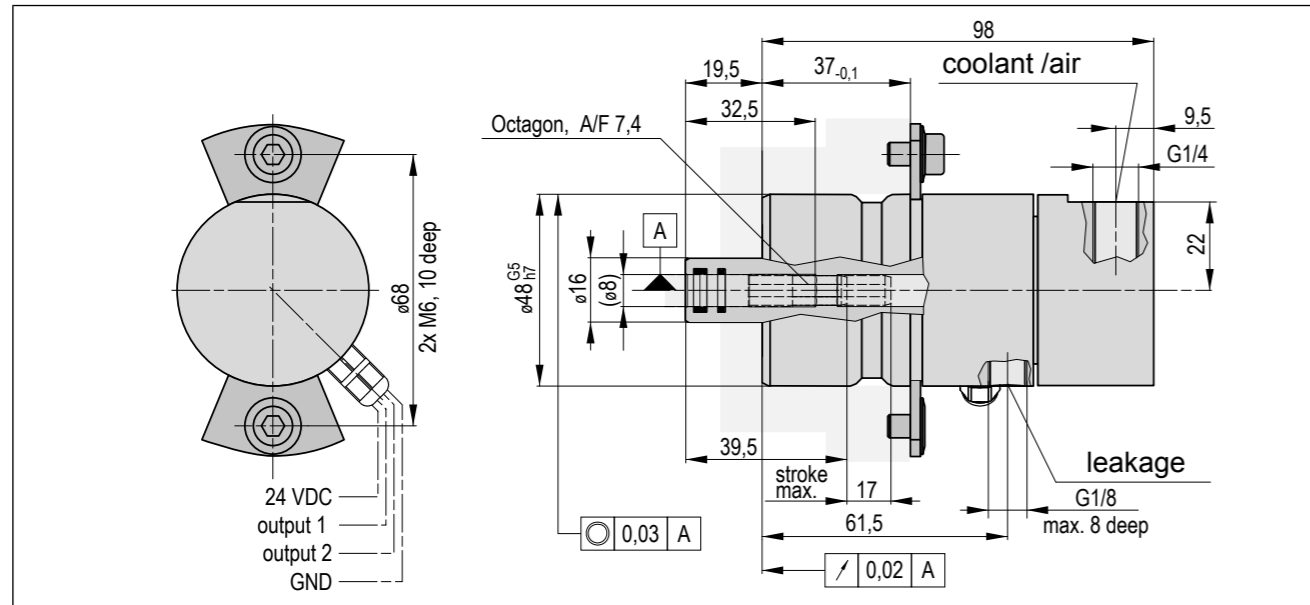
TECHNICAL DATA

spindle speed max.	75000	min ⁻¹
coolant pressure max.	80	bar
cleaning air max.; n = 0 min ⁻¹	10	bar
pressure air max.; n < 10000 min ⁻¹ (per discussion)	5	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	µm
inside cooling (housing); n > 42000 min ⁻¹		
flow volume min.	0,5	l / min
pressure cooling liquid max.	10	bar
temperature cooling liquid min.	20	°C
max.	40	°C

FEATURES

- hybrid bearing
- closed sealing surface
- coolant
- minimum volume lubrication (mixed externally) p_{max.} = 8 bar
- dry operation
- passage min. ø3,5 mm

ROTARY UNION WITH LEAKAGE MONITORING DIMENSIONS



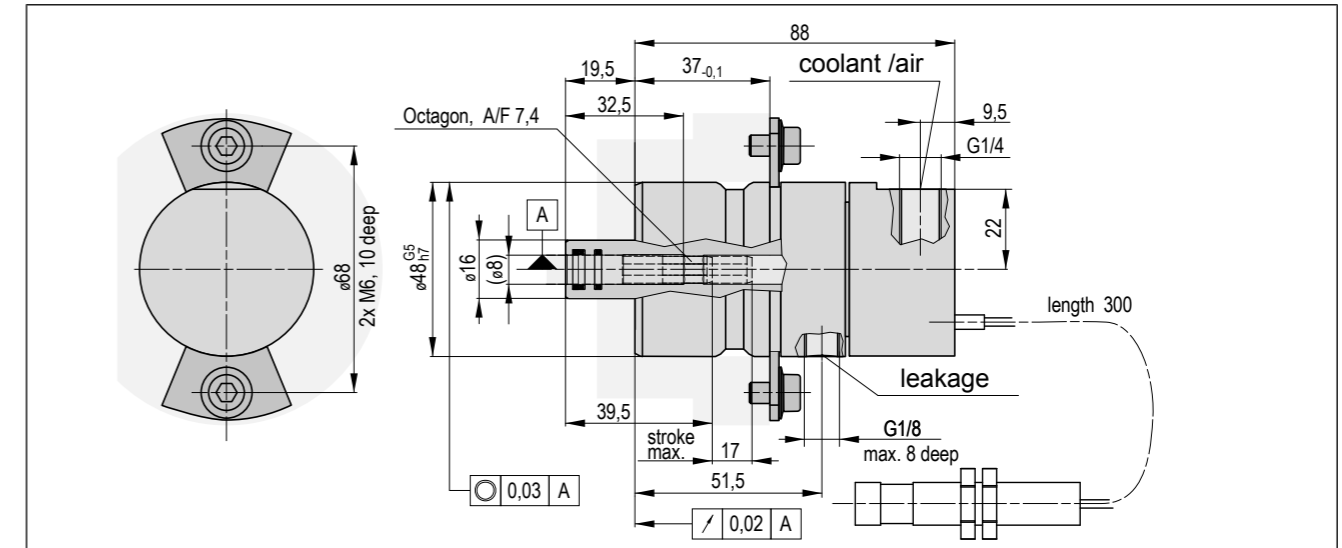
TECHNICAL DATA

spindle speed max.	36000	min ⁻¹
coolant pressure max.	80	bar
cleaning air max.; n = 0 min ⁻¹	10	bar
pressure air max.; n < 10000 min ⁻¹ (per discussion)	5	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	µm

FEATURES

- two-stage leakage monitoring
- two-stage temperature monitoring
- coolant
- minimum volume lubrication (mixed externally) p_{max.} = 5 bar
- dry operation
- passage min. ø6 mm
- hybrid bearing
- balanced design
- closed sealing surface

ROTARY UNION WITH WEAR MONITORING DIMENSIONS



TECHNICAL DATA

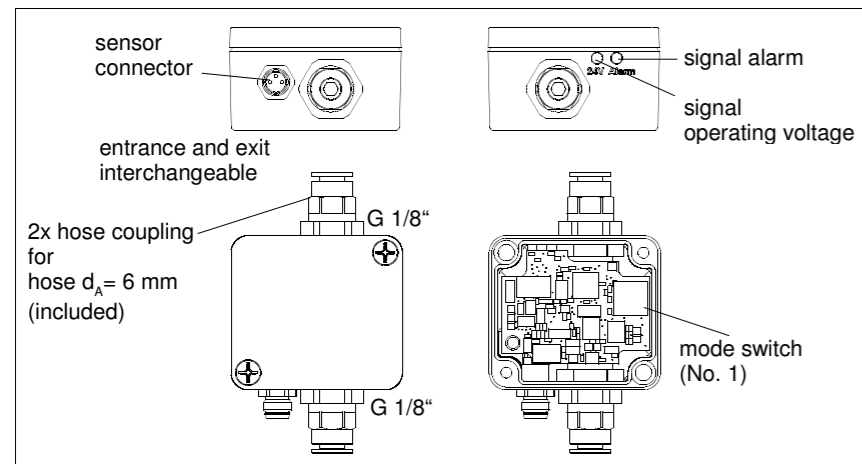
spindle speed max.	36000	min ⁻¹
coolant pressure max.	80	bar
cleaning air max.; n = 0 min ⁻¹	10	bar
pressure air max.; n < 10000 min ⁻¹ (per discussion)	5	bar
required media purity according ISO 4406	-/17/14	
filter grade	< 50	µm

FEATURES

- wear monitoring
- hybrid bearing
- balanced design
- closed sealing surface
- coolant
- minimum volume lubrication (mixed externally) p_{max.} = 5 bar
- dry operation
- passage min. ø6 mm

RELIABLE LEAKAGE DETECTION

With external leakage monitoring, the sensor is positioned in a measuring device connected to the rotary union by a tube. If the predefined flow limit is exceeded inside the tube, a signal is emitted which appears directly on the measuring device or which can be sent to the machine control system.



The external leakage monitoring can be added at a later date without replacing the rotary union and is also designed for use with rotary unions from third-party manufacturers.

FEATURES

- ▲ designed to detect leaking coolant, hydraulic oil and water.
- ▲ preset and calibrated for intended medium
- ▲ adjustable modes: wear detection or failure detection
- ▲ continuously monitoring of the flow rate
- ▲ wear-free operation
- ▲ no bottleneck and without backwash
- ▲ installation in any location (entrance and exit interchangeable)
- ▲ simple signal processing via 24 V switch output

SPECIAL ROTARY UNIONS

In addition to our standard rotary unions, our product range includes a huge number of rotary unions designed for special technical requirements, such as:

- ▲ For abrasive media (e. g. Al-Si alloys)
- ▲ For glass and stone processing
- ▲ For cryogenic machining (CO₂)
- ▲ For internal mixing MQL systems
- ▲ For higher pressure
- ▲ For higher speeds
- ▲ For special housing designs

Our team of experts is available to advise you on the optimal solution for your applications.

REPAIR

Rotary unions are high-tech clamping system components. In case of defect and wear, the OTT-JAKOB service team ensures with an individual range of repair services optimal availability and functionality of your rotary union. Repaired rotary unions are subject to the same warranty as new parts.



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