

OTT

Spanntechnik

JAKOB

Product Information

MMKS unit

95.600.028.B.E / 1999-10

OTT-JAKOB GmbH & Co
Spanntechnik KG
Industriestraße 3 - 7
D-87663 Lengenwang

Phone: (+49) 08364 /98 21 -0
Fax: (+49) 08364 /98 21 -10
E-mail: TechDoku@Ott-Jakob.de
Service: (+49) 08364 /98 21 -59

JAKOB
GRUPPE

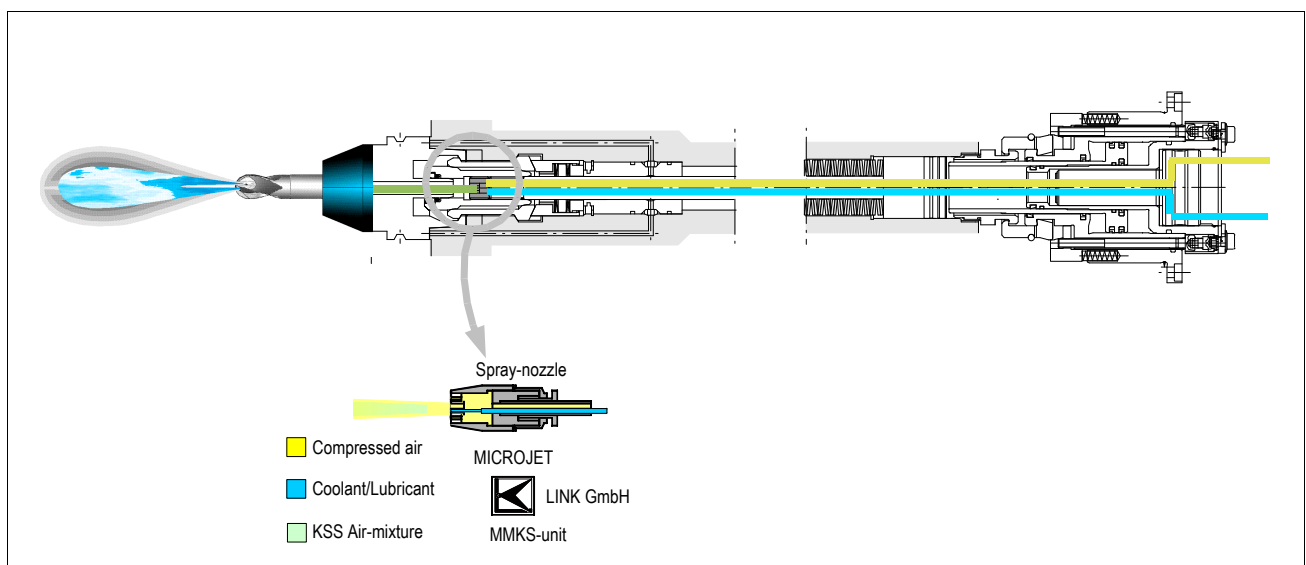
Table of contents

1	Product description.....	3
1.1	Inner minimum volume lubrication.....	3
1.2	Technical data.....	3
1.2.1	Flow volume.....	3
1.2.2	Interface dimensions pulling head	4
1.2.3	Interface dimensions rotary union.....	4
2	Assembly instructions.....	5
2.1	Preperation.....	5
2.2	Assembly of MMKS unit.....	5
2.2.1	Assembly of the removed parts.....	7
2.3	Rotary union MMKS.....	8
2.3.1	Assembly.....	8
2.3.2	Drainage port.....	8
2.3.3	Medium connections.....	9
3	Maintenance.....	10
3.1	Exchange of the capillary hose.....	10

1 Product description

1.1 Inner minimum volume lubrication

With the internal MMKS, the air-lubricant-mixture is generated within the machine spindle. Air and tiny lubricant quantities are channeled through the Ott-Jakob HSK-power drawbar into the spindle and are mixed before the tool-interface. The right portion of the aerosol mixture is reached quickly by changing the air-lubrication ratio.

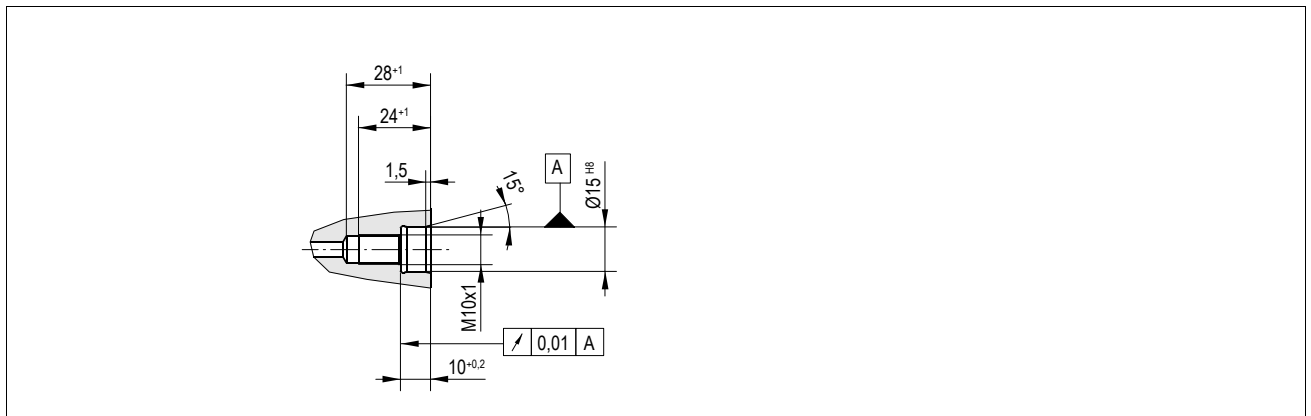


1.2 Technical data

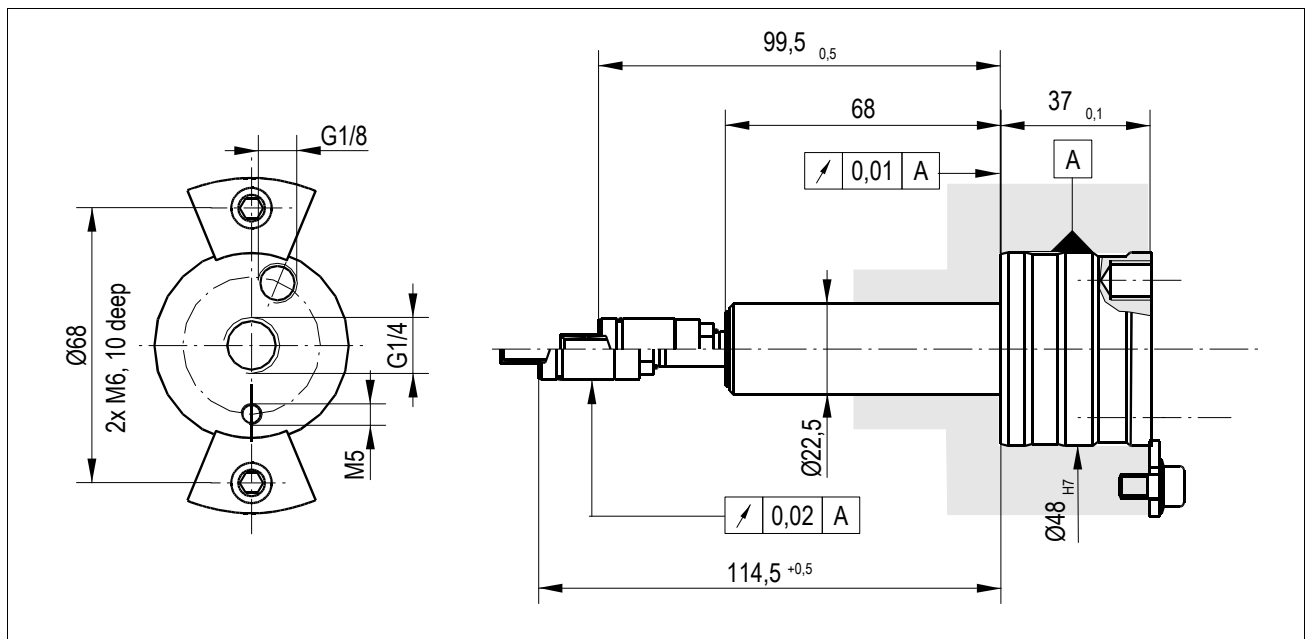
1.2.1 Flow volume

oil	max. 5 bar (72 psi).....	150	ml / h
air	max. 5 bar (72 psi).....	200	l / min

1.2.2 Interface dimensions pulling head



1.2.3 Interface dimensions rotary union



2 Assembly instructions

2.1 Preperation

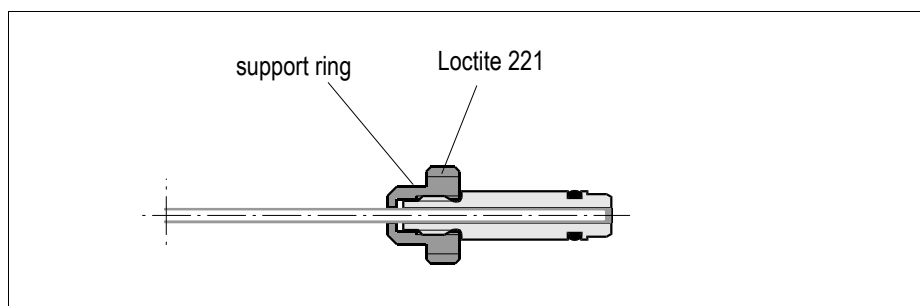
- Remove rotary unit, unclamp unit and drawbar connection
- Remove gripper and clamping cone
- Exchange existing counter screw of the clamping cone with counter screw with nozzle
- Parts and the threads of the pulling head must be undamaged, clean and free of grease

2.2 Assembly of MMKS unit

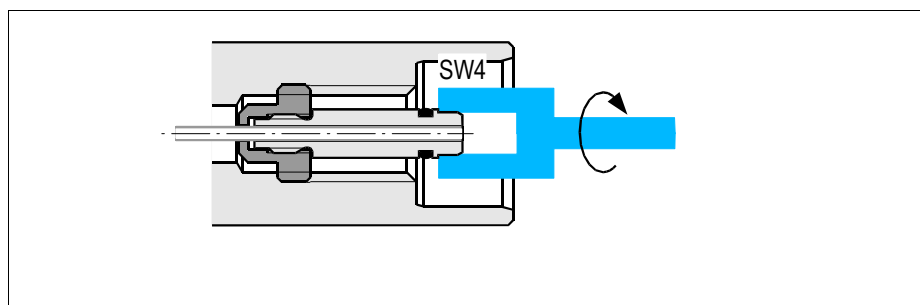
Important 

Do not kink or squeeze capillary hose

- Apply Loctite 221 on thread of support ring (follow instructions of manufacturer!)

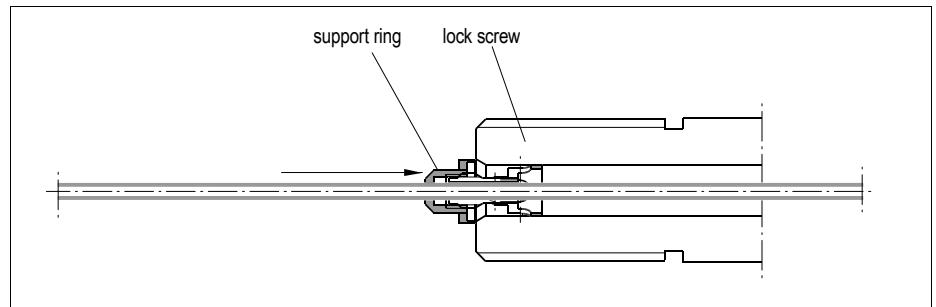


- Push semi-assembled parts through drawbar shaft
- Tighten lock screw until it bottoms out.

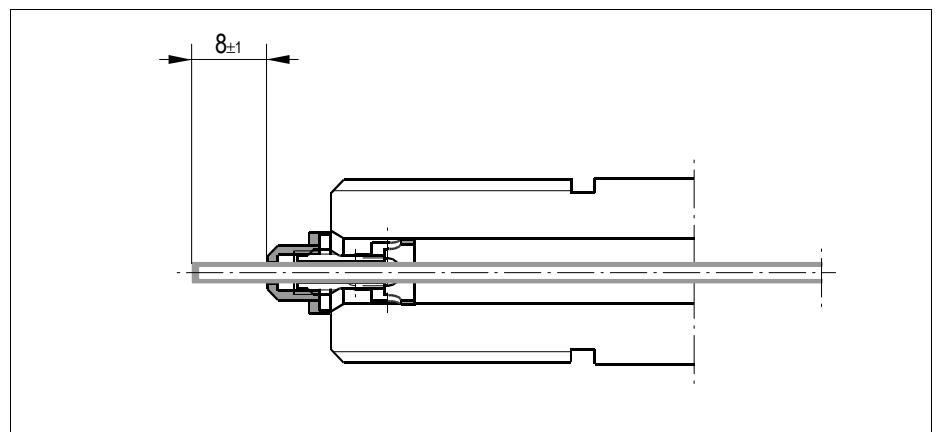


At pulling head

- Push pre-assembled support with lock screw over extended capillary hose, tighten by hand and push assembly inward until it bottoms out on the face of the drawbar shaft.

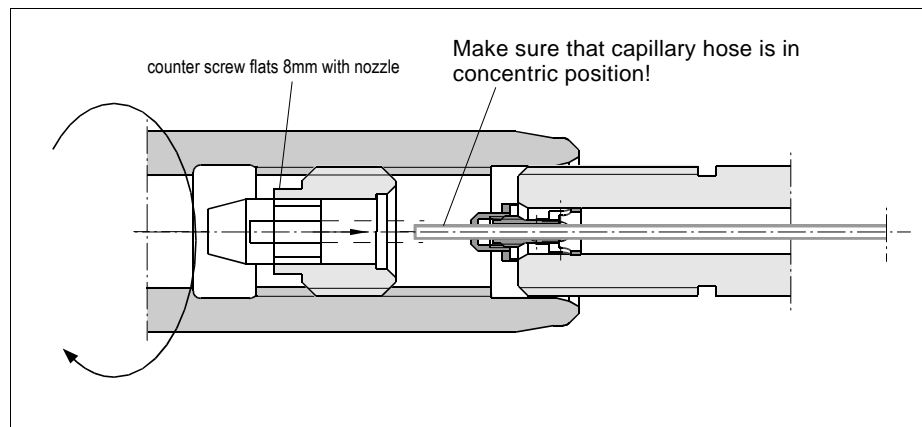


- Tighten capillary hose lightly and cut to length (see sketch); do not squeeze capillary hose
Recommendation: Use wire stripper pliers !

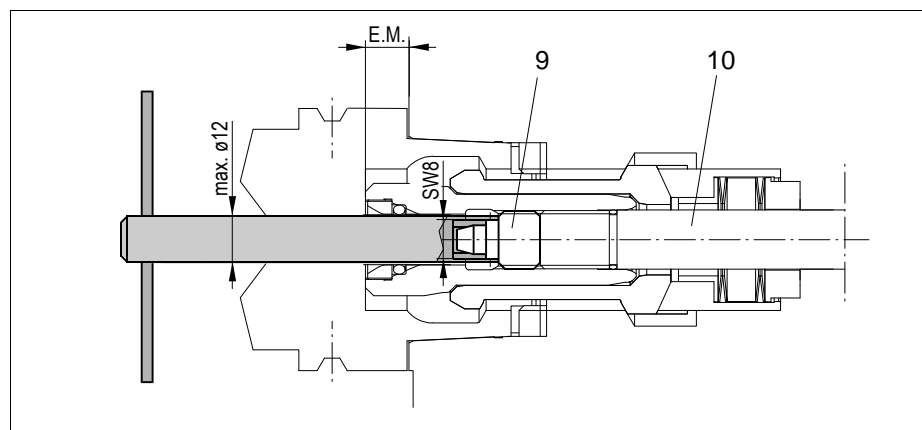


2.2.1 Assembly of the removed parts

- Mount drawbar shaft per instructions and check concentricity
- Assemble unclamp unit per instruction
- Assemble gripper per instruction
- Screw in clamping cone (counter screw with nozzle!)



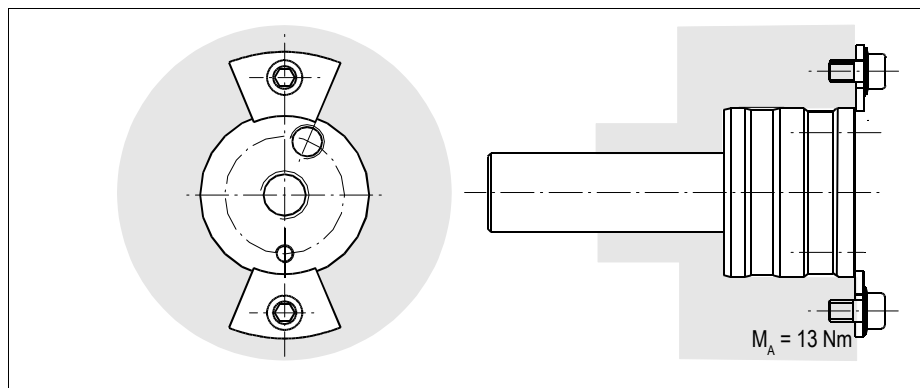
- In unclamp position: adjust per instruction and lock
Recommendation: Use special double socket wrench similar DIN 896, 8x9 (Hoffmann Order No. 62 050)



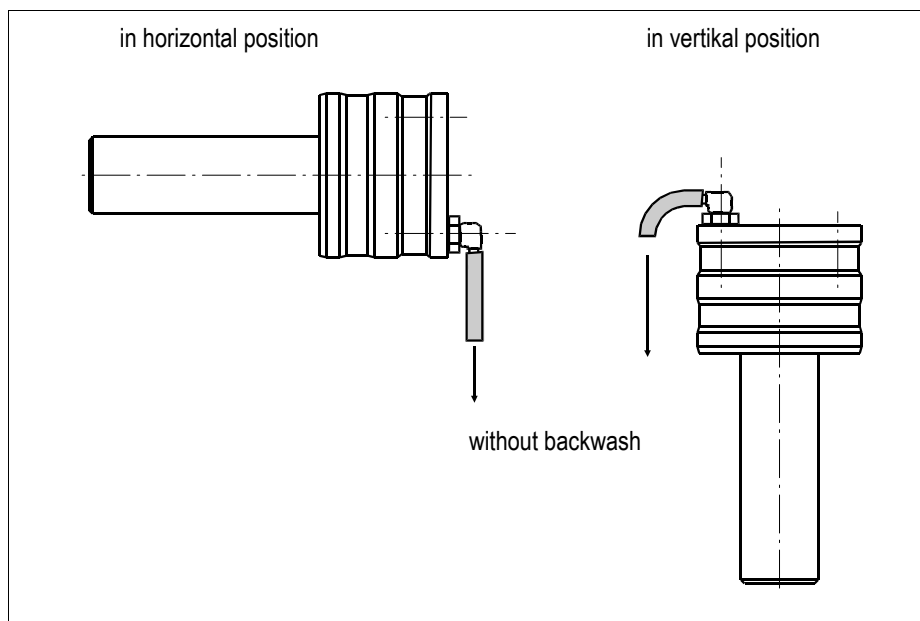
2.3 Rotary union MMKS

2.3.1 Assembly

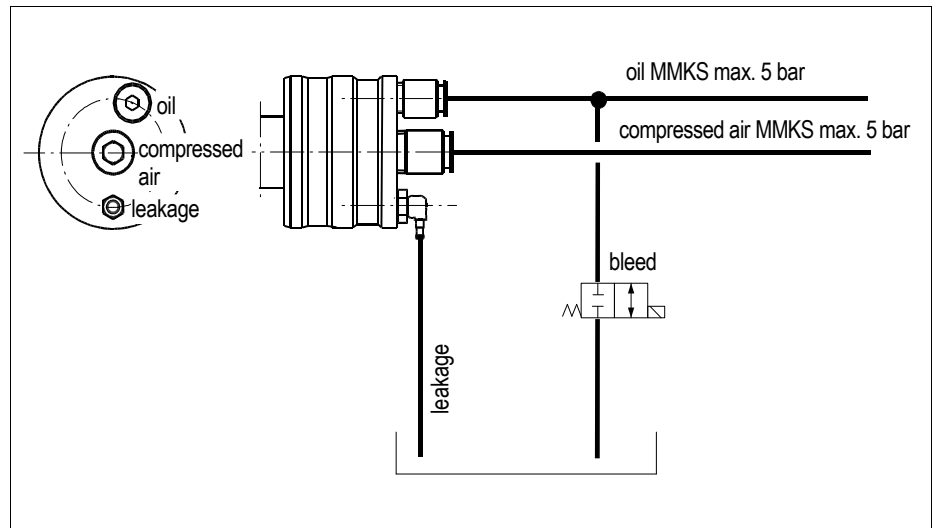
- Insert rotary union carefully into unclamp unit, slide lock into the groove and lock with screws (Torque setting: 13 Nm)



2.3.2 Drainage port



2.3.3 Medium connections



Important hints!

- After operating *with* MMKS and *during* operating *without* MMKS lines must be bled; no remaining pressure allowed
- When machining without coolant air pressure must be less than 5 bar (72 psi)

3 Maintenance

Pay attention to the following:

- Watch leakage of rotary union
If a continuous flow of leakage coolant is observed, remove unit and send to OTT-JAKOB for repair
- Check capillary hose for free flow
If plugged up:
Disconnect hose at the oil connection and blow out with compressed air.

3.1 Exchange of the capillary hose

- Remove rotary union, unclamp unit and drawbar connection
- Remove gripper and clamping cone
- Heat up lock screw at pulling head (to soften loctite) and unscrew
- Pull capillary hose out of clamping unit
- Clean thread
- Push new capillary hose with inside support wire from the pulling head through the drawbar shaft
- Apply Loctite 221 on thread of lock screw (follow instructions of manufacturer)
- Push lock screw over the end of the capillary hose and screw into the thread of the pulling head – do not tighten
- Push capillary hose flush to the lock screw
- Tighten lock screw
- Pull support wire out of clamping unit
- Next steps are described under "Assembly instructions"