



ROEMHELD
HILMA ■ STARK

Media feedthrough NW 4

Operating Manual

WM-020-149-12-en BA Media feedthrough NW 4.doc



precise, fast and powerful

Media feedthrough NW 4

Art. no.: S704-200, S704-200-01, S704-201,
S704-201-01, S704-202, S704-203



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2 Identification of the partly completed machinery

Product:	Media feedthrough
Function:	Coupling of compressed air or hydraulic oil
Product group:	Media feedthrough NW4
Article numbers:	S704-200, S704-200-01, S704-201, S704-201-01, S704-202, S704-203
Trade name:	Corresponds to product group, see above

3 User Instructions

3.1 Purpose of the document

This operating manual

- describes the function, operation and maintenance of the media feedthrough
- gives important instructions for safe and efficient use of the media feedthrough

3.2 Presentation of safety instructions

Safety instructions are identified by a pictogram and a signal word. The signal word describes the severity of the impending risk.



DANGER

Immediate imminent risk to life and health of persons (serious injury or death). Be sure to follow these instructions!



CAUTION

Potentially dangerous situation (slight injuries or damage to property). Be sure to follow these instructions and the procedures described!



INFORMATION

Tips for use and particularly useful information.



INSTRUCTION

Obligation to follow the described procedure or method for the safe use of the machine.



4 Fundamental safety instructions

4.1 Intended use



The media feedthrough is used to couple compressed air or hydraulic oil to fast clamping devices.

- The intended use also presupposes:
- compliance with all the instructions in the operating manual
- observance of the inspection and maintenance intervals
- use of only OEM parts

4.2 Reasonably foreseeable misuse



Any use other than that specified under "Intended use" or use beyond this is considered improper use!

Risks may occur if the product is not used as intended. Improper uses include e.g.:

- exceeding the technical values specified for normal operation

The operating company bears sole responsibility for any injury or damage resulting from such improper use. The manufacturer assumes no liability.

4.3 Modifications or alterations



Unauthorised modifications or alterations of the media feedthrough will void any liability and warranty on the part of the manufacturer!

Therefore, do not make any changes or additions to the media feedthrough without consultation and written consent of the manufacturer.

4.4 Spare and wear parts and auxiliary materials



The use of spare and wear parts from third-party manufacturers can result in risks. Use only OEM parts or parts approved by the manufacturer. The manufacturer will assume no liability for any injury or damage resulting from the use of spare and wear parts and auxiliary materials not approved by the manufacturer.

4.5 Obligations of the operating company



- The operating company is obliged to only allow persons to work on or with the media feedthrough who
- are familiar with the fundamental occupational health & safety and accident prevention regulations
 - have been instructed in work on the media feedthrough and have read and understood this operating manual.

The requirements of EC Directive 2007/30/EC on the use of work equipment must be observed.

4.6 Residual risks



Attention must be paid to the existence of mechanical, hydraulic and pneumatic residual energies at the media feedthrough.

4.7 Pressure hazards

Lines or hoses bursting due to excessive pressures can endanger persons.

Measure:

- Protect hydraulic lines with pressure control valves
- Observe the specified pressure limits
- Pressure compensation in closed systems with temperature rise



5 Description of the media feedthrough

The media feedthrough is used to connect and disconnect pneumatic and hydraulic media.

The media feedthrough is only functional if the corresponding media feedthrough NW4 on the fast closing clamp side and media feedthrough NW4 on the pallet side are mounted on both coupling sides.



The media feedthrough cannot be disassembled into all individual parts.

5.1 Use

Media feedthroughs are used to transfer gaseous and liquid media such as compressed air or hydraulic oil, for example in machine tools with pallet changing systems, from the machine table to the device.

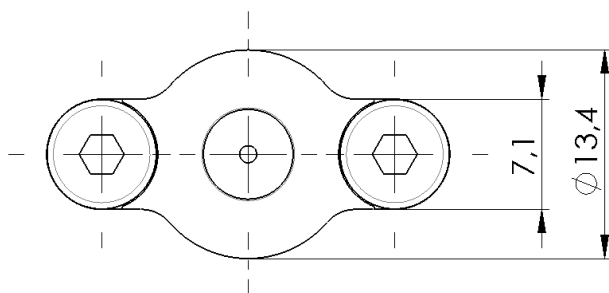
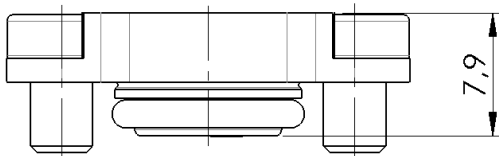
The media feedthroughs can also be used for vacuums (e.g. vacuum clamping technology).

5.2 Versions

Media feedthrough on fast closing clamp side

Order no S704-200

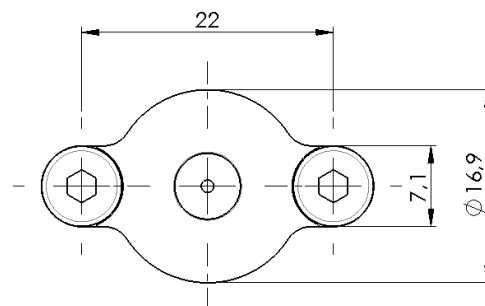
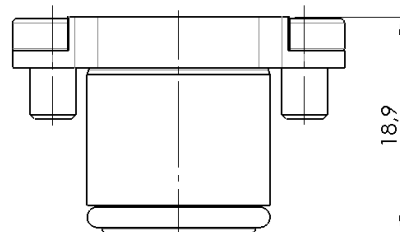
Installation contour according to data sheet D023



Media feedthrough on fast closing clamp side

Order no S704-200-01

Installation contour according to data sheet D025



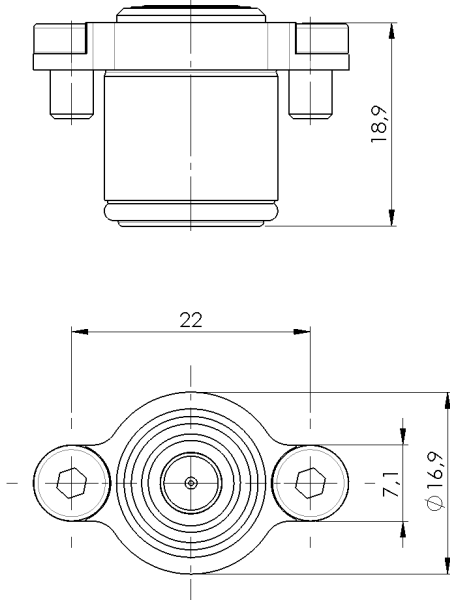


Media feedthrough, pallet side

Order no. S704-201 – standard

S704-201-01 – reduced spring force

Installation contour according to data sheet D025

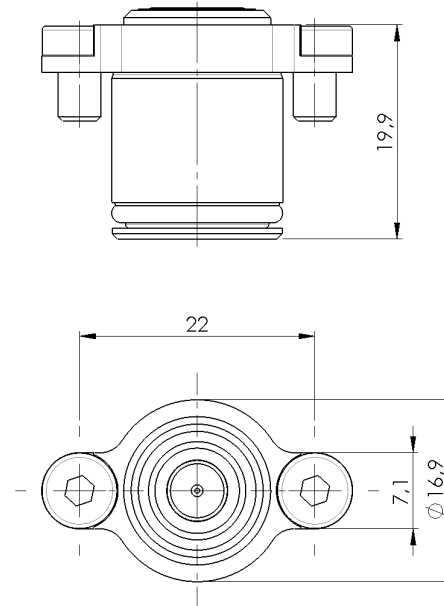


Media feedthrough, pallet side

Order no. S704-202 – with disc

(to be used for connection bores larger than $\varnothing 8$)

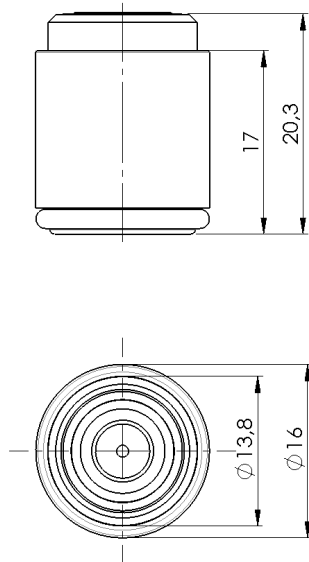
Installation contour according to data sheet D077



Media feedthrough, pallet side

Order no. S704-203 – plug-in version

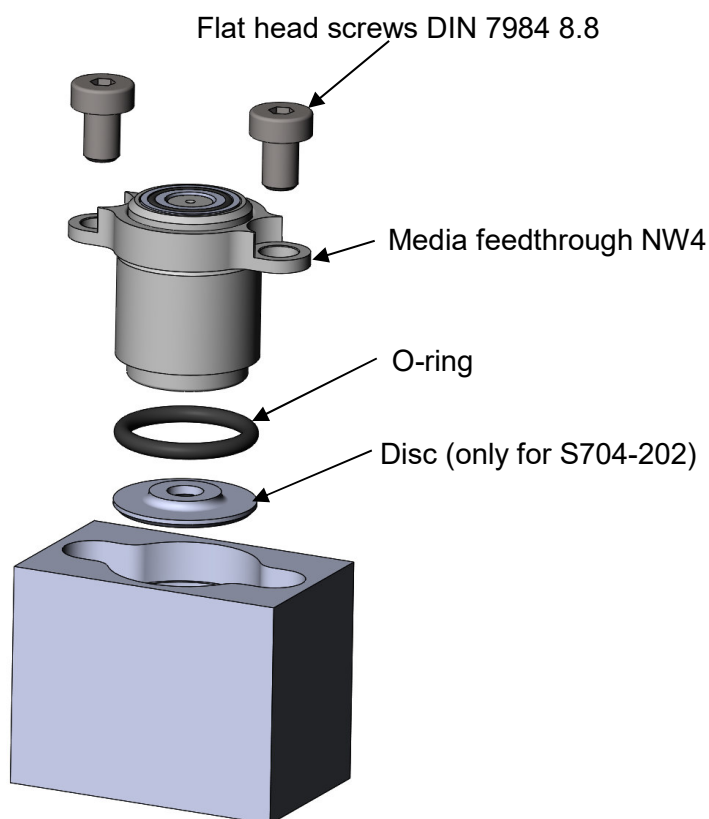
Installation contour according to data sheet D121





6 Assembly/disassembly

Assembly and disassembly for S704-200, S704-200-01, S704-201, S704-201-01, S704-2020 as shown.

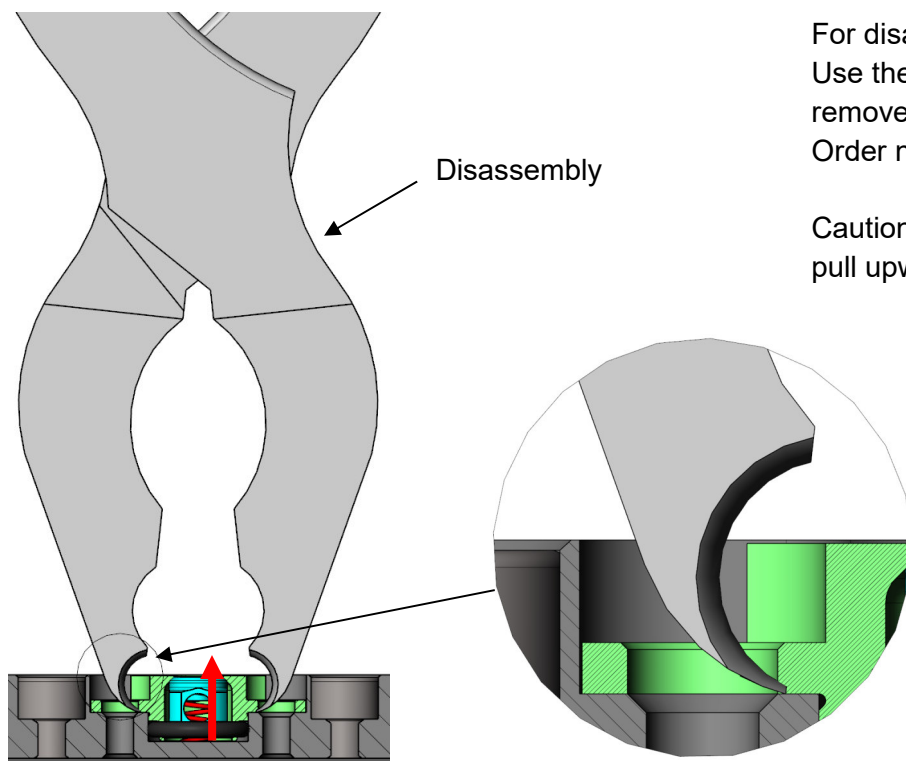


The media feedthrough on the fast closing clamp and pallet side is installed in the following order:

1. Disc (only for S704-202)
2. O-ring
3. Media feedthrough

Caution! Only install the media feedthrough by hand so as not to damage the seal.

Fastening using 2x flat head screws DIN 7984 8.8, tightening torque 2.5 Nm



For disassembly, first loosen the screws. Use the disassembly pliers provided to remove the media feedthrough. Order no.: S504-015.

Caution! Only grip at points shown and pull upwards.



7 Commissioning, handling and operation

7.1 During initial commissioning:

- Check the concentric pre-positioning of the two media feedthroughs in relation to each other so that a deviation of less than 0.2 mm is ensured.
- Check that the axial distance between the two media feedthroughs is 0.2 mm (+0 / -0.1).
- Perform a visual inspection of all connections.
- Check the max. media pressure.
- Check the system for hydraulic or pneumatic tightness.

7.2 Operation

- Set the overpressure safety valve of the media pressure of the media feedthrough to max. operating pressure (see chapter "9 Technical data").
- The media feedthroughs may only be coupled **without pressure**.
- Do not apply pressure to pallets with built-in media feedthrough when uncoupled.
- The media feedthroughs are to be treated as wear parts and the ambient conditions have a strong influence on the max. service life (such as dirt gradient, positioning accuracy, lack of cleaning device, cleanliness of the medium, etc.).
- Make sure that the media feedthrough is coupled only when it is clean.





8 Maintenance and repair

8.1 Maintenance work



Maintenance work only by trained personnel.

Carry out maintenance work only when in a depressurised state.

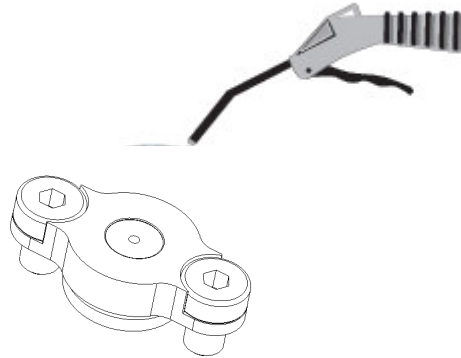
Regularly and as needed:

1. Check seal

Yearly:

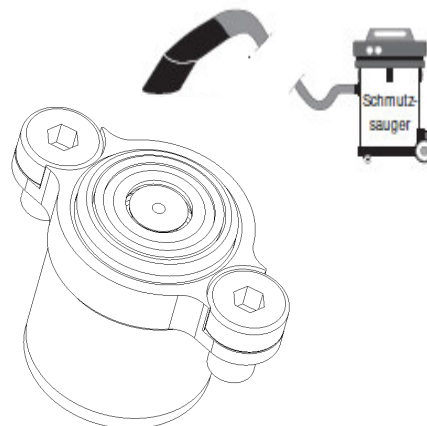
Check the safety valve overpressure.

8.2 Surface cleaning



Correct!

The media feedthrough may be blown off with compressed air.



Correct and improved!

Suction of the contamination



Damage to components!

The product may not be cleaned with:



- corrosive or caustic components or
- organic solvents such as halogenated or aromatic hydrocarbons and ketone (nitro thinner, acetone etc.), as this can destroy the seals.

The element must be cleaned at regular intervals. In particular, the area of the contact points must be cleaned of chips and other liquids.

In case of heavy contamination, cleaning must be carried out at shorter intervals.

Lubricants and oils (hydraulic oil)



Unsuitable lubricants and oils can damage the seals and will drastically shorten the service life.

CAUTION: Mixing of oils is not permitted.

Recommendation: Hydraulic oil Castrol Hyspin AWS 32 or Castrol Hyspin AWS 46

8.3 Storage

Until first use:

If you do not use the media feedthrough immediately, please store it dry and dust-free in its original packaging.

Long period of storage after use:

Before storage, clean the media feedthrough (see chapter "8.2 Surface cleaning") and perform corrosion protection measures

After a long period of storage:

After a long period of storage (approx. 3 years), replace the O-rings before use.

8.4 Disposal / recycling

All parts, auxiliary and operating materials of the media feedthrough must be separated according to type and disposed of in accordance with local regulations and guidelines.



9 Technical data

Article numbers:	S704-200, S704-200-01, S704-201, S704-201-01, S704-202, S704-203
Drawing number:	048-077 / 048-753 / 048-078 / 048-079 / 048-004
Designation:	Media feedthrough NW4
Max. operating pressure (hydraulic oil):	200 bar
Max. operating pressure (air):	10 bar
Temperature range:	+10 °C to +80 °C
Coupling operations:	150,000
Coupling force:	250 N (art. no. S704-201-01: 60N)
Concentric positioning tolerance	0.2 mm
Radial positioning tolerance	0.2 mm
Oil flow rate:	28 litres/minute at 90 bar with hydraulic oil, see below
Hydraulic oil:	According to DIN 51524 (HLP 32 or HLP 46)
Filter class:	Quality class 4
Sealing material:	NBR; other materials on request

Info: New order numbers!

In the course of a system adaptation within the ROEMHELD Group, the order numbers for STARK clamping systems have been adapted and standardised.

- NEW: All order numbers start with **S** **S5000-104** instead of 5000 104
- NEW: Hyphen - instead of blank space

Examples

New order numbers	Old order numbers	Modifications
S04342	S04342	<i>No modification</i>
S5000-104	5000 104	S prefix, hyphen - instead of blank space

