

Symbols Used

DANGER
Information on preventing any kind of physical injury.

WARNING
Information on preventing extensive equipment and environmental damage.

Caution
Information on correct handling or use. Disregard can lead to malfunctions or minor equipment damage.

Personnel Qualifications

Skilled personnel
All work described in this document may only be carried out by persons who have suitable technical training and the necessary experience or who have been instructed by the end-user of the product.

General Safety Instructions

- Adhere to the applicable regulations and take the necessary precautions for all work you are going to do and consider the safety instructions in this document.
- Before you begin to work, find out whether any vacuum components are contaminated. Adhere to the relevant regulations and take the necessary precautions when handling contaminated parts.

Communicate the safety instructions to all other users.

Liability and Warranty

Inficon assumes no liability and the warranty becomes null and void if the end-user or third parties

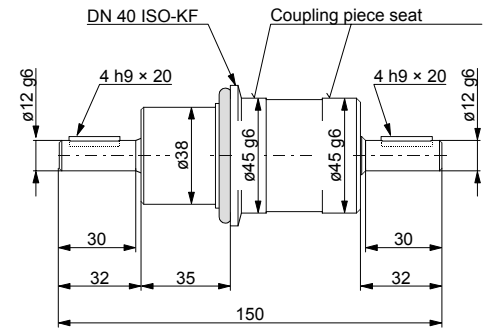
- disregard the information in this document
- use the product in a non-conforming manner
- make any kind of changes (modifications, alterations etc.) to the product
- use the product with accessories not listed in the corresponding product documentation.

The end-user assumes the responsibility in conjunction with the process media used.

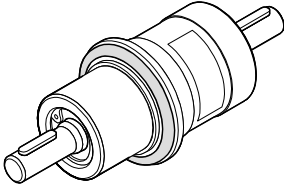
Technical Data

Connection flange	DN 40 ISO-KF
Mounting orientation	any
Tightness static dynamic	1×10 ⁻⁹ mbar l/s 1×10 ⁻⁹ mbar l/s 5×10 ⁻⁷ mbar l/s
Pressure range	1×10 ⁻⁸ mbar 1 bar (absolute)
Service life to first overhaul	20,000,000 rotations
Transferable torque	25 Nm
Shaft load radial axial	250 N 60 N
Elasticity with maximum torque	1°
Rotational speed	750 ¹⁾ rpm
Temperatures operation bakeout storage	50 °C 110 °C -15 °C ... +60 °C
Materials housing shaft seal	Al alloy, coated stainless steel, magnetic, coated FPM
Weight	0.60 kg

¹⁾ If a reduced service life is acceptable, the rotational speed can be increased by up to a factor of two.

Dimensions

Rotary feedthrough

DN 40 ISO-KF
FRH040-H



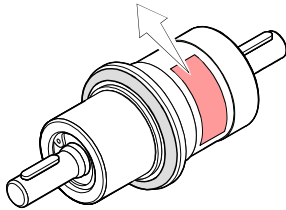
Operating Manual
incl. Manufacturer's Declaration

rina04e1 (0004)

Product Identification

In all communications with Inficon, please specify the information on the product nameplate. For convenient reference copy that information into the space provided below.

INFICON, FL-9496 Balzers
Typ: FRH040-H
No: 214-304
F-No: _____


Validity

This document applies to products with part number 214-304. The part number can be taken from the product nameplate.

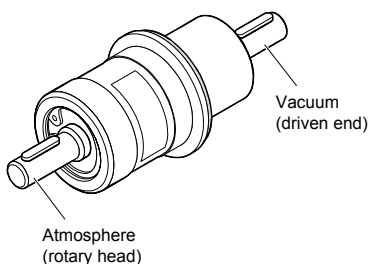
We reserve the right to make technical changes without prior notice.

Intended Use

The mechanic rotary feedthrough FRH040-H is used for transferring rotary movements into vacuum systems.

Functional Principle

The motions performed at atmosphere are transferred directly to the vacuum system.



Installation

Vacuum Connection

Caution

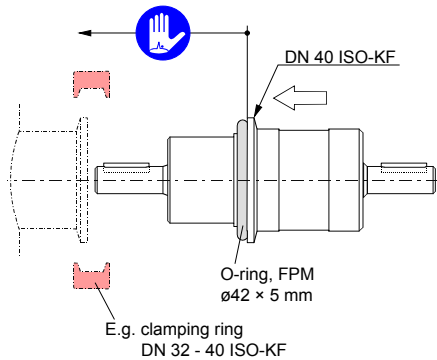


Caution: vacuum component
Dirt and damages impair the function of the vacuum component.
When handling vacuum components, take appropriate measures to ensure cleanliness and prevent damages.

Caution



Caution: dirt sensitive area
Touching the product or parts thereof with one's bare hands increases the desorption rate.
Always wear clean, lint-free gloves and use clean tools when working in this area.



Connecting the Shaft

Caution



When designing a rotary drive, take care that the rotary feedthrough is not the weakest component of the assembly.

WARNING



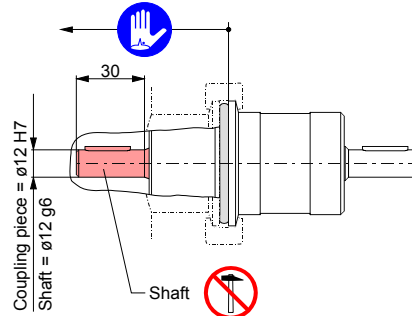
Caution: stress on the rotary feedthrough
Inadmissible loads damage the rotary feedthrough.
Do not apply force when sliding the coupling pieces over the shaft. Consider the admissible levels of axial and radial force (→ "Technical data").

Vacuum

Caution



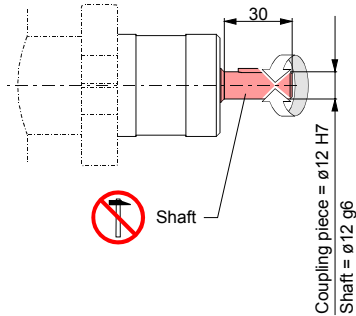
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Atmosphere

Actuation possibilities:

- manually driven
- motor driven



Operation

The rotary feedthrough is ready for operation as soon as it has been installed.

Deinstallation

DANGER



Caution: contaminated parts
Contaminated parts can be detrimental to health and environment.
Before beginning to work, find out whether any parts are contaminated. Adhere to the relevant regulations and take the necessary precautions when handling contaminated parts.

Caution



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Dirt and damages impair the function of the vacuum component.
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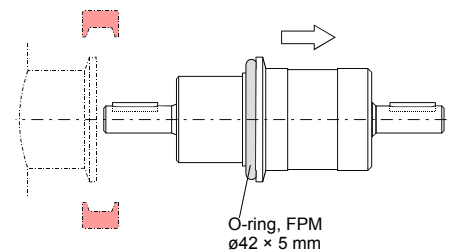
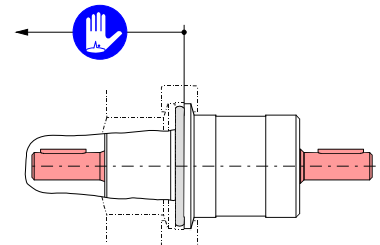
Caution



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Touching the product or parts thereof with one's bare hands increases the desorption rate.
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Procedure

- 1 Vent the vacuum system.
- 2 Loosen the coupling pieces on both, the vacuum and atmospheric side.
- 3 Detach the vacuum connection.



Maintenance

Under clean operating conditions, the product requires no maintenance during the rated service life (→ "Technical data").

We recommend returning the product to your nearest Inficon-Service Center for service.


Inficon assumes no liability and the warranty becomes null and void if any service work is carried out by the end-user or third parties.


Repair

We recommend returning the product to your nearest Inficon-Service Center for repair.

Inficon assumes no liability and the warranty becomes null and void if any repair work is carried out by the end-user or third parties.


Storage


 **Caution**



Caution: vacuum component
Inappropriate storage leads to an increase of the desorption rate and/or may result in mechanical damage of the product.
Cover the side of the product which is going to be exposed to the vacuum with grease free aluminum foil. Do not exceed the admissible storage temperature range (→ "Technical data").

Returning the Product

 **WARNING**





Caution: forwarding contaminated products
Contaminated parts (e.g. radioactive, toxic, caustic or microbiological) can be detrimental to health and environment.
Products returned to Inficon should preferably be free of harmful substances. Adhere to the forwarding regulations of all involved countries and forwarding companies and enclose a duly completed declaration of contamination.

Products that are not clearly declared as "free of harmful substances" are decontaminated at the expense of the customer.


Products not accompanied by a duly completed declaration of contamination are returned to the sender at his own expense.


Disposal

 **DANGER**



Caution: contaminated parts
Contaminated parts can be detrimental to health and environment.
Before beginning to work, find out whether any parts are contaminated. Adhere to the relevant regulations and take the necessary precautions when handling contaminated parts.

 **WARNING**



Caution: substances detrimental to the environment
Products or parts thereof (mechanical and electric components, operating fluids etc.) can be detrimental to the environment.
Dispose of such substances in accordance with the relevant local regulations.

Separating the components

After disassembling the product, separate its components according to the following criteria:

- Contaminated components
Contaminated components (radioactive, toxic, caustic, or biological hazard etc.) must be decontaminated in accordance with the relevant national regulations, separated according to their materials, and recycled.
- Other components
Such components must be separated according to their materials and recycled.

