

Pressure gauges KFM, RFM Manual cock DH Pressure gauge shut-off valve MH 15 Positive pressure protection UDS

OPERATING INSTRUCTIONS

· Edition 11.23 · EN · 34414600



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1 SAFETY

1.1 Please read and keep in a safe place



Please read through these instructions carefully before installing or operating. Following the installation, pass the instructions on to the operator. This unit must be installed and commissioned in accordance with the regulations and standards in force. These instructions can also be found at www.docuthek.com.

1.2 Explanation of symbols

1, 2, 3, a, b, c = Action

→ = Instruction

1.3 Liability

We will not be held liable for damage resulting from non-observance of the instructions and non-compliant use.

1.4 Safety instructions

Information that is relevant for safety is indicated in the instructions as follows:

DANGER

Indicates potentially fatal situations.

WARNING

Indicates possible danger to life and limb.

CAUTION

Indicates possible material damage.

All interventions may only be carried out by qualified gas technicians. Electrical interventions may only be carried out by qualified electricians.

1.5 Conversion, spare parts

All technical changes are prohibited. Only use OEM spare parts.

2 CHECKING THE USAGE

KFM, RFM

Pressure gauge with capsule element KFM, in accordance with EN 837, Part 3, and pressure gauge with Bourdon tube RFM, in accordance with EN 837, Part 1, for indication of static gas and air pressures. Pressure gauge with Bourdon tube RFM..100 (scale diameter 100 mm), in accordance with EN 837, Part 2, with discharge bore on the housing rear side. The pressure gauges may be used only for indication and may not be used as a part of a safety device for protection against exceeding permitted limits (safety accessories).

DH, MH 15

The pressure gauge is protected against pressure fluctuations provided that the manual cock DH and the pressure gauge shut-off valve MH remain closed.

UDS

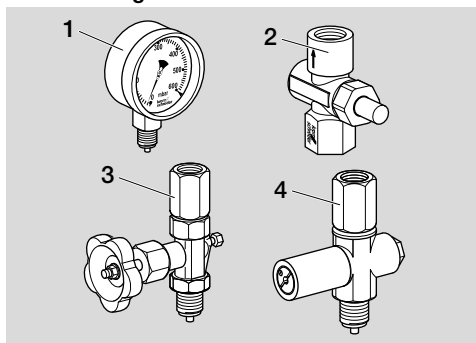
The positive pressure protection UDS closes and protects the pressure gauge against damage as soon as excess pressures exceed the set lock-up pressure on the UDS.

This function is only guaranteed when used within the specified limits – see page 4 (7 Technical data). Any other use is considered as non-compliant.

2.1 Type code

KFM	Pressure gauge with capsule element
RFM	Pressure gauge with Bourdon tube
0.6–16	Measuring range on RFM in bar
2500	Measuring range on KFM in Pa
25–400	Measuring range on KFM in mbar
P0,6–P5,0	Measuring range on KFM in psi
P10–P230	Measuring range on RFM in psi
T	T-product
R	Connection pin with cylindrical pipe thread
N	NPT external thread
B	Positive pressure
U	Positive pressure and negative pressure
63	63 mm visible scale diameter
100	100 mm visible scale diameter
M	Chemical-industry version

2.2 Part designations



- 1 KFM, RFM
- 2 Manual cock DH
- 3 Pressure gauge shut-off valve MH 15
- 4 Positive pressure protection UDS

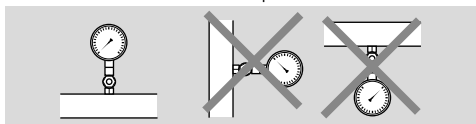
3 INSTALLATION

⚠ CAUTION

Please observe the following to ensure that the unit is not damaged during installation and operation:

- Mount the pressure gauge in a location not subject to vibration and so as to provide easy read-off. Parallax error during read-off must be avoided.
- Use approved sealing material only.
- Sealing material and dirt, e.g. thread cuttings, must not be allowed to get into the housing.
- Do not use the pressure gauge as a lever during installation and removal – use appropriate spanners.
- Dropping the device can cause permanent damage. In this event, replace the entire device and associated modules before use.

→ Installation in the vertical position.



→ Note wall clearance and turning radius – min. 60 mm (2.36").

⚠ CAUTION

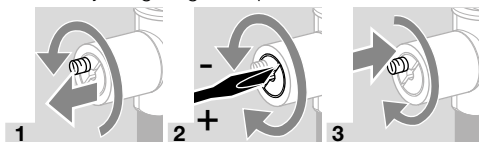
Note the flow direction on the manual cock DH and the positive pressure protection UDS.



→ Fit a copper seal between pressure gauge and manual cock or pressure gauge shut-off valve, see page 3 (6 Accessories).

3.1 Setting the lock-up pressure on the UDS

- The positive pressure protection UDS is set to the adjusting range mid-point at the works.



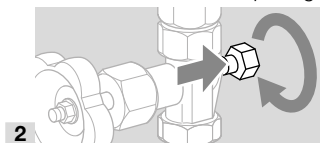
3.2 Venting on the MH

⚠ WARNING

When releasing the pressure, ensure that no-one is put at risk from the escaping medium.

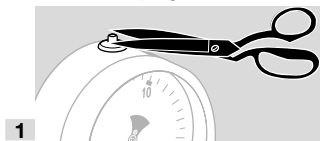
When setting the pressure gauge to zero, the confined pressure between the valve and pressure gauge must first be released using the vent screw.

- 1 Close the valve before opening the vent screw.



3.3 Venting on the RFM..100

- To avoid pressure building up outside of the pressure gauge with Bourdon tube, cut off the nipple on the filler plug.



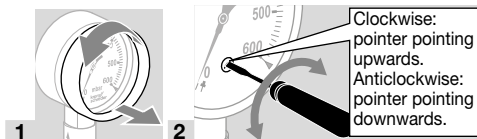
3.4 Zero point correction

⚠ WARNING

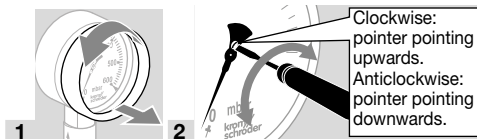
Apply pressure slowly to measuring instruments. Open the upstream shut-off valve slowly. Avoid pressure surges and temperature fluctuations.

- If the bayonet ring cannot be unscrewed easily from the housing, use a belt spanner.

KFM

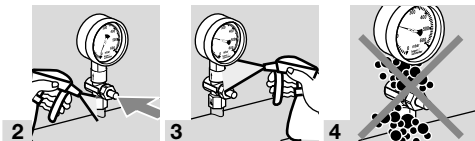


RFM



4 TIGHTNESS TEST

- The test pressure must not exceed the full scale value of the pressure gauge.
- 1 Pressurize the pressure gauge carefully.
- DH: press push-button.
- MH, UDS: slowly turn the hand wheel anticlockwise.



5 MAINTENANCE

- Pressure gauges, manual cock, pressure gauge shut-off valve and positive pressure protection require no maintenance.
- An annual function check, including check of the indicated pressure, is recommended.
- Repairs may be carried out only by the manufacturer.
- Relieve the pressure before removing the pressure gauge.

6 ACCESSORIES

6.1 Pressure gauge seal

A seal must be inserted between the pressure gauge and manual cock DH or pressure gauge shut-off valve MH.

¼" connection, Cu: Order No. 03110617.

½" connection, Cu: Order No. 03110615.

Biogas, ½" connection, PTFE: Order No. 03110711.

7 TECHNICAL DATA

7.1 KFM, RFM

Mechanical data

Gas types: natural gas, LPG (gaseous) or clean air; other gases on request. The gas must be clean and dry in all temperature conditions and must not contain condensate.

KFM..M, RFM..M

Ammonia and hydrogen (chemical-industry version): wetted parts must be made of stainless steel.

Scope of application in accordance with EN 837-2: the medium pressure to be measured may exceed the full scale value of the pressure gauge only as the result of brief pressure surges.

	Load type		
	Steady state	Alternating	Brief duration
KFM, RFM	0.75 x full scale value	0.67 x full scale value	1.3 x full scale value

Indicating accuracy

	Class	Indicating error (standard temp. + 20°C (68°F))
KFM	1.6	± 0.6% of full scale value per 10°C (50°F) temperature fluctuation
RFM..63	1.6	± 0.4% of full scale value per 10°C (50°F) temperature fluctuation
RFM..100	1.0	± 0.4% of full scale value per 10°C (50°F) temperature fluctuation

Safety pattern version to EN 837-2

Medium	Gas (not for oxygen and acetylene)	
Housing	not filled with fluid	
Type	KFM..63, RFM..63	KFM..100, RFM..100
Indicating range	≤ 25 bar (363 psi)	≤ 25 bar (363 psi)
Safety pattern version*	0	S1

Connection

	Brass connection	EN 837	A/F
KFM..100	G ½B	Part 3	A/F 22
KFM..63	G ¼B	Part 3	A/F 14
RFM..100	G ½B	Part 1	A/F 22
RFM..63	G ¼B	Part 1	A/F 14

Housing: stainless steel.

Weight:

KFM..63: 189 g (0.416 lbs),

KFM..100: 474 g (1.04 lbs),

RFM..63: 136 g (0.299 lbs),

RFM..100: 531 g (1.17 lbs).

Ambient conditions

Medium and ambient temperatures:

-20 to +60°C (-4 to +140°F).

Storage temperature: -20 to +40°C (-4 to +104°F).

Enclosure:

KFM..63, RFM..63: IP 32,

KFM..100, RFM..100: IP 54.

7.2 DH, MH 15

Mechanical data

Gas types: natural gas, town gas, LPG (gaseous) and air.

MH..M: biogas.

Max. inlet pressure p_U :

DH: 5 bar (72.5 psi),

MH: 100 bar (1450 psi).

Connection:

DH 8R50: Rp ¼,

DH 15R50: Rp ½,

MH 15: G ½, DIN ISO 228, Part 1.

DH 8R50, Rp ¼: Order No. 03152141,

DH 15R50, Rp ½: Order No. 03152149,

MH 15, G ½: Order No. 03150191,

MH 15M, G ½, for aggressive media: Order No. 03150192.

Ambient conditions

Ambient temperature:

DH: -20 to +60°C (-4 to +140°F),

MH: -10 to +70°C (50 to 158°F).

7.3 UDS

Mechanical data

For natural gas, town gas, LPG (gaseous) and air.

UDS..M: biogas.

Connection: G ½, DIN ISO 228, Part 1.

Max. inlet pressure p_U	Adjusting range
2.5 bar (36.3 psi)	0.4–2.5 bar (5.8–36.3 psi)
6 bar (87 psi)	2–6 bar (29–87 psi)
25 bar (363 psi)	5–25 bar (72.5–363 psi)

UDS 2,5: Order No. 03150621,

UDS 6,0: Order No. 03150623,

UDS 25: Order No. 03150625.

For aggressive media:

UDS 2,5M: Order No. 03150622,

UDS 6,0M: Order No. 03150624,

UDS 25M: Order No. 03150626.

The UDS is set to the adjusting range mid-point at the works.

Ambient conditions

Ambient temperature:

UDS: -10 to +60°C (50 to 140°F).

Storage temperature (for all):

-20 to +40°C (-4 to +104°F).

8 DESIGNED LIFETIME

This information on the designed lifetime is based on using the product in accordance with these operating instructions. Once the designed lifetime has been reached, safety-relevant products must be replaced.

Designed lifetime (based on date of manufacture): 10 years.

You can find further explanations in the applicable rules and regulations and on the afecor website (www.afecor.org).

This procedure applies to heating systems. For thermoprocessing equipment, observe local regulations.

9 LOGISTICS

Transport

Protect the unit from external forces (blows, shocks, vibration).

Transport temperature: see page 4 (7 Technical data).

Transport is subject to the ambient conditions described.

Report any transport damage on the unit or packaging without delay.

Check that the delivery is complete.

Storage

Storage temperature: see page 4 (7 Technical data).

Storage is subject to the ambient conditions described.

Storage time: 6 months in the original packaging before using for the first time. If stored for longer than this, the overall service life will be reduced by the corresponding amount of extra storage time.

Packaging

The packaging material is to be disposed of in accordance with local regulations.

Disposal

Components are to be disposed of separately in accordance with local regulations.

10 CERTIFICATION

Certificates – see www.docuthek.com

Under the Pressure Equipment Directive 2014/68/EU, Article 3 and Annex II, Diagram 1, pressure measuring instruments with a display range of ≤ 200 bar come under Article 3.3 of the Directive and must not bear a CE mark.

DH: EU certified



– (EU) 2016/426 (GAR), Gas Appliances Regulation

DH, MH:

– DVGW VP 308:2004

Eurasian Customs Union



The products DH, MH 15 and UDS meet the technical specifications of the Eurasian Customs Union.

FOR MORE INFORMATION

The Honeywell Thermal Solutions family of products includes Honeywell Combustion Safety, Eclipse, Exothermics, Hauck, Kromschöder and Maxon. To learn more about our products, visit ThermalSolutions.honeywell.com or contact your Honeywell Sales Engineer.

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Translation from the German
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KFM, RFM, DH, MH 15, UDS · Edition 11.23