

Honeywell

krom
schroder

Filter module VMF

Technical Information · GB
3 Edition 12.18

- Safe gas cleaning using filter pad and strainer
- Easy installation into a system in conjunction with valVario valves and regulators
- Installation in any position, even with optional pressure switch



valVario[®]

EAC CE

Contents

Filter module VMF	1
Contents	2
1 Application	3
1.1 Examples of application	4
1.1.1 valVario double block valve with pressure regulator VCD and VMF fitted to a forced draught burner	4
1.1.2 valVario double block valve with variable air/gas ratio control VCV and VMF fitted to a forced draught burner.....	4
1.1.3 Industrial burner with staged control	5
1.1.4 Industrial burner with continuous control.....	5
2 Certification	6
3 Function	7
4 Flow rate	8
5 Selection	9
5.1 Type code	9
6 Project planning information	10
6.1 Installation.....	10
7 Accessories	11
7.1 Seal set VA 1 – 3	11
7.2 Filter pad set.....	11
8 Technical data	12
8.1 Dimensions	13
8.1.1 VMF.R	13
8.1.2 VMF.N	14
8.1.3 VCX with VMF	15
8.1.4 VMF 240F	16
9 Maintenance	17
Feedback	18
Contact	18

1 Application



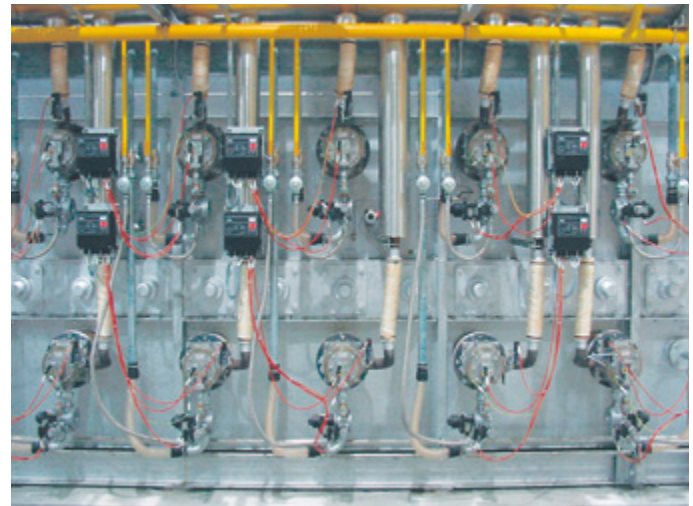
VMF 3..R..M

The filter module VMF is designed for cleaning the gas and air flow to gas burners or gas appliances. It is suitable for use in gas control and safety systems in all sectors of the iron, steel, glass and ceramics industries, and also in all areas of private and commercial heat generation.

It can easily be adapted to different pipes thanks to various flange shapes for the individual valVario valve sizes. Its modular design allows assembly with valVario valves or regulators making it possible to construct space-saving gas systems.



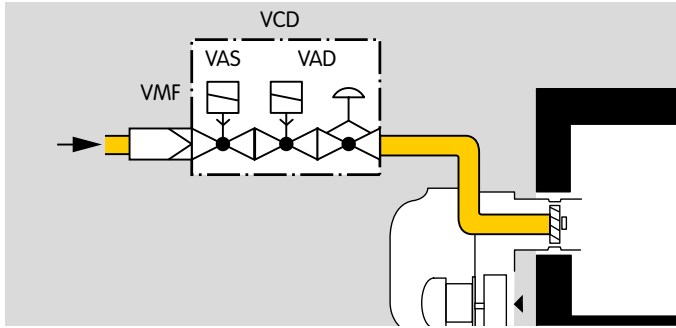
Forced draught gas burner with valVario controls



Roller hearth furnace

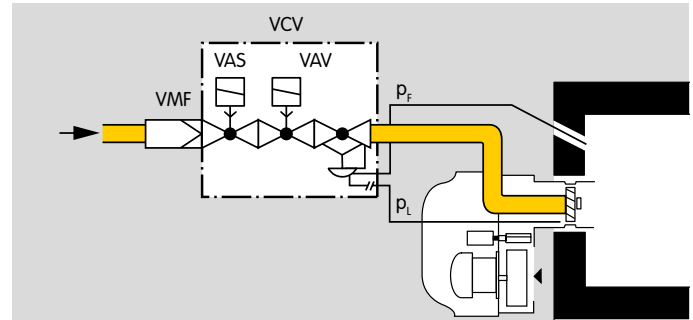
1.1 Examples of application

1.1.1 valVario double block valve with pressure regulator VCD and VMF fitted to a forced draught burner



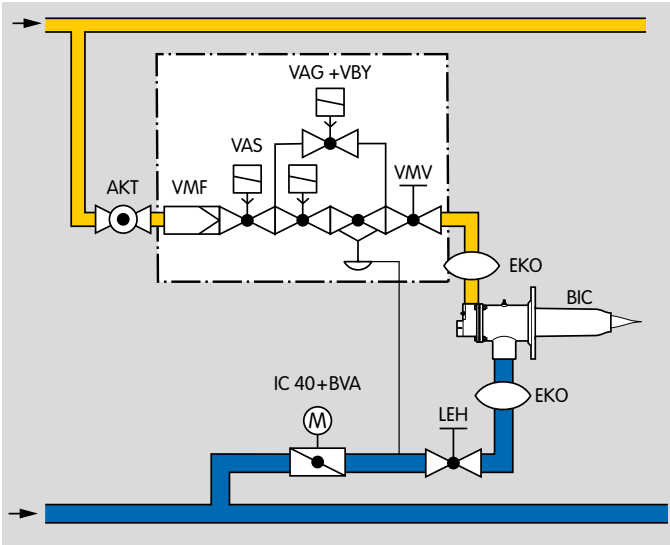
This type of control is used on one-stage forced draught burners or in one-stage boilers, it is also suitable for use with a mechanical or electronic air/gas ratio control system.

1.1.2 valVario double block valve with variable air/gas ratio control VCV and VMF fitted to a forced draught burner



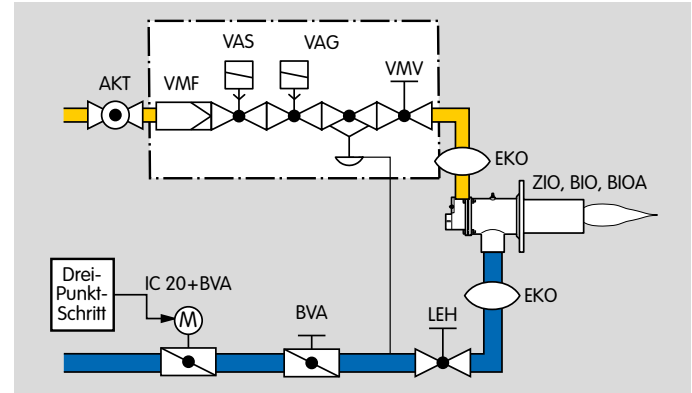
With this type of continuous control, the mixture setting is maintained over a wide control range while at the same time preventing air deficiency.

1.1.3 Industrial burner with staged control



The high output impulse at the burner generated by this type of control produces a uniform temperature distribution and good circulation of the furnace or kiln atmosphere, e.g. in heat treatment furnaces in the iron and non-ferrous metal industries or kilns for heavy clay and fine ceramics. The required lambda value can be set using the fine-adjusting valve VMV and the air adjusting cock LEH. Using the filter module VMF, the gas flow upstream of the gas valve VAS is cleaned.

1.1.4 Industrial burner with continuous control



Using the filter module VMF, the gas flow upstream of the gas valve VAS and the air/gas ratio control VAG is cleaned. The gas/air mixture is set using the fine-adjusting valve VMV. A constant mixture setting is maintained over a wide control range while at the same time preventing air deficiency. This type of control is used on boilers with multi-stage or infinitely adjustable forced draught burners.

2 Certification

EU certified pursuant to



Meets the requirements of the

- Low Voltage Directive (2014/35/EU),
- EMC Directive (2014/30/EU).

Regulation:

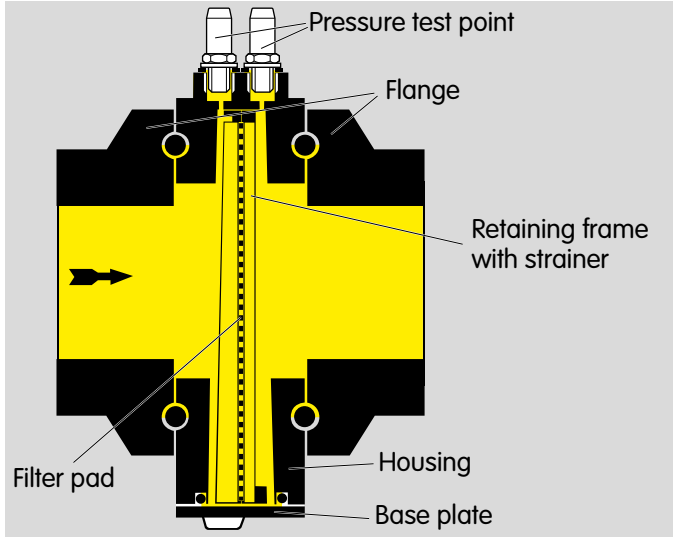
- Gas Appliances Regulation (EU) 2016/426

Eurasian Customs Union



The product VMF meets the technical specifications of the Eurasian Customs Union.

3 Function



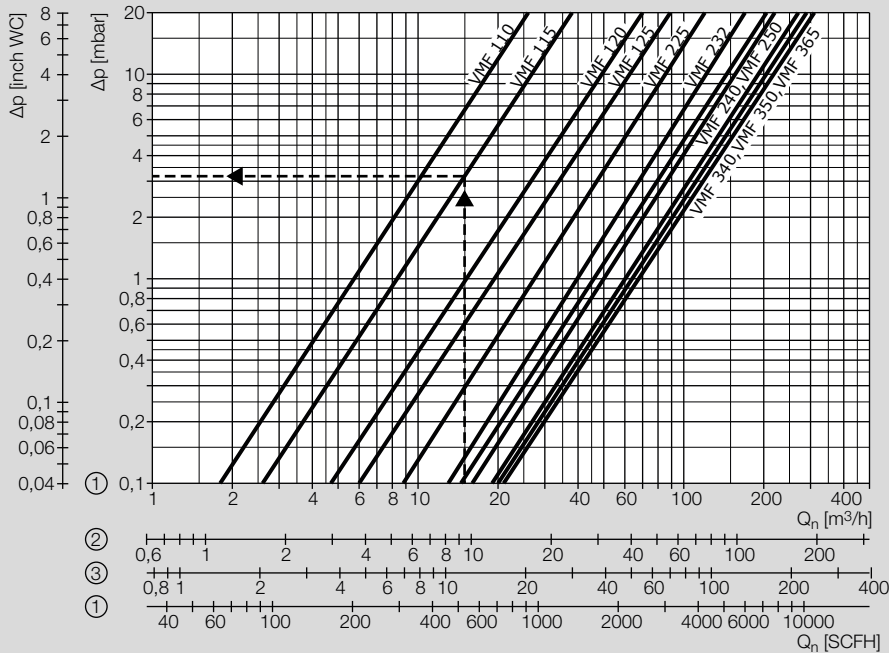
VMF..M with test points

There is a retaining frame with an integrated strainer and filter pad in the housing of the VMF. The filter pad is supported by the strainer. The filter pad and the strainer rid the gas of coarse as well as fine impurities.

In order to replace the filter pad, the two retaining screws are undone and the base plate removed. The retaining frame with the filter pad is pulled out. The retaining frame is opened and the filter pad can be taken out.

The VMF is delivered with two test points for pressure measurement as standard. The VMF can also optionally be delivered with two 1/8" screw plugs.

4 Flow rate



① = natural gas ($\rho = 0.80$ kg/m^3)

② = propane ($\rho = 2.01$ kg/m^3)

③ = air ($\rho = 1.29$ kg/m^3)

The characteristic curves are measured at 15°C (59°F) with a measurement set-up in accordance with the standards EN 13611/EN 161.

This involves measuring the pressure 5 x DN upstream and downstream of the unit under test. The pressure drop of the pipe is also measured but is not compensated for.

A pressure loss of 10 mbar must not be exceeded.

Reading instructions:

Should operating cubic metres (Q_b) have been used in the flow rate diagram, instead of standard cubic metres (Q_n), then the pressure loss read must be multiplied by the absolute inlet pressure in bar (1 + positive pressure in bar).

Example:

inlet pressure p_u (positive pressure) = 0.4 bar,
 gas type: natural gas,
 operating flow rate $Q_b = 15$ m^3/h ,
 selected filter module: VMF 120
 Δp from diagram = 3.1 mbar,
 $\Delta p = 3.1$ mbar $\times (1 + 0.4) = 4.5$ mbar.
 The VMF 120 has been selected correctly.

For calculating the nominal size,
 see www.adlatus.org

5 Selection

Typ	-	10	15	20	25	32	40	50	65	/-*	/10*	/15*	/20*	/25*	/32*	/40*	/50*	/65*	R	N	F ¹⁾	05	M	P
VMF 1	●	●	●	●	●					●	●	●	●	●					●	○		●	○	●
VMF 2	●				●	●	●	●		●			●	●	●	●			●	○	○	●	○	●
VMF 3	●						●	●	●	●						●	●	●	●	○	○	●	○	●

Order example
VMF 125/-R05M

● = standard, ○ = available

* Specification omitted, if the nominal diameter of the inlet and outlet flanges is the same.

1) Only available for VMF 240/VMF 350.

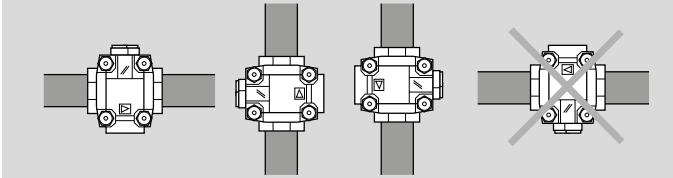
5.1 Type code

Code	Description
VMF	Filter module
1 - 3	Size
-	Without inlet flange
10 - 65	Nominal inlet diameter
/-	Without outlet flange*
/10 - /65	Nominal outlet diameter
R	Rp internal thread
N	NPT internal thread
F	Flange to ISO 7005
05	$p_{u \max}$ 500 mbar
M	With pressure test points
P	With screw plugs

* Specification omitted, if the nominal diameter of the inlet and outlet flanges is the same.

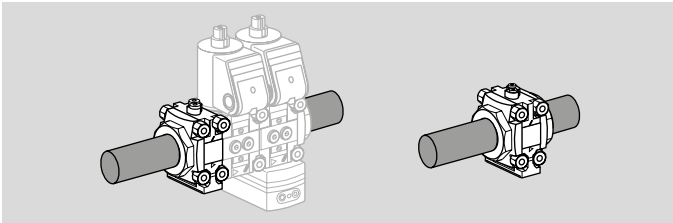
6 Project planning information

6.1 Installation



Installation position: VMF can be installed as required.

We recommend installation with the base plate pointing downwards or sideways so that dirt can be removed from the housing more easily.

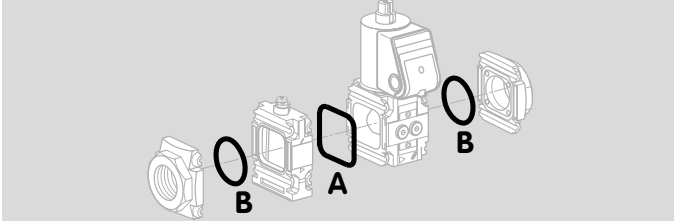


Installation position when using valVario valves and regulators: the VMF is fitted upstream of the valVario control.

The VMF can be installed as a standalone device in the pipe.

7 Accessories

7.1 Seal set VA 1 – 3



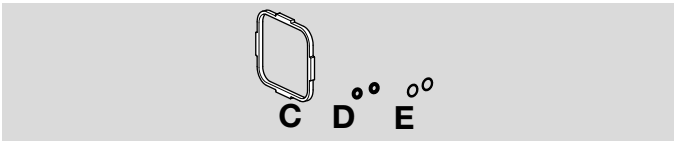
The seal set VA is available for retrofitting the VMF to a valVario control.

Seal set for size 1: Order No. 74921988,
 seal set for size 2: Order No. 74921989,
 seal set for size 3: Order No. 74921990.

Scope of delivery:

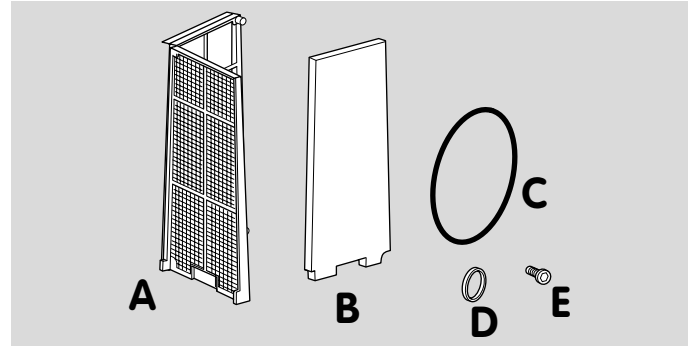
- A** 1 x double block seal,
- B** 2 x shaped rings (VA 1) for flange or
 2 x O-rings (VA 2 – 3) for flange.

The following components are not necessary when mounting the VMF:



- C** 1 x retaining frame,
- D** 2 x O-rings (pressure switch),
- E** 2 x sealing rings (flat sealing), 2 x profiled sealing rings.

7.2 Filter pad set



Filter pad set for size 1: Order No. 74923800,
 filter pad set for size 2: Order No. 74923801,
 filter pad set for size 3: Order No. 74926023.

Scope of delivery:

VMF 1 – 2:

- A** 1 x retaining frame with strainer,
- B** 10 x filter pads,
- C** 10 x seals for the base plate,
- D** 2 x profiled sealing rings for 1/8" test point,
- E** 2 x screws for securing the base plate.

VMF 3:

- A** 1 x filter frame,
- B** 10 x filter pads,
- C** 10 x 61x2 O-rings,
- D** 2 x profiled sealing rings for 1/8" test point,
- E** 4 x screws for securing the base plate.

8 Technical data

Gas types:

natural gas, LPG (gaseous), biologically produced methane (max. 0.1 %-by-vol. H₂S) or air; other gas types on request.

The gas must be dry in all conditions and must not contain condensate.

Max. inlet pressure p_u :

max. 500 mbar (7.25 psig).

Medium and ambient temperatures:

-20 to +60°C (4 to 140°F),
no condensation permitted.

Storage temperature:

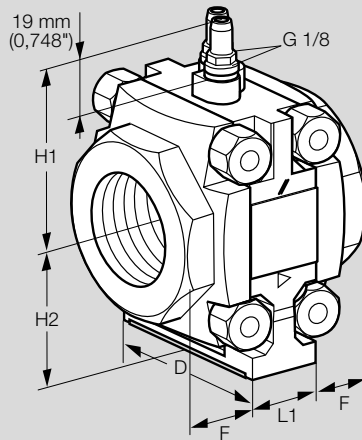
-10 to +60°C (14 to 140°F).

Housing: aluminium.

Connection flanges:

with internal thread: Rp to ISO 7-1, NPT to ANSI/ASME,
with ISO flange: DN 40 and DN 50 to ISO 7005..

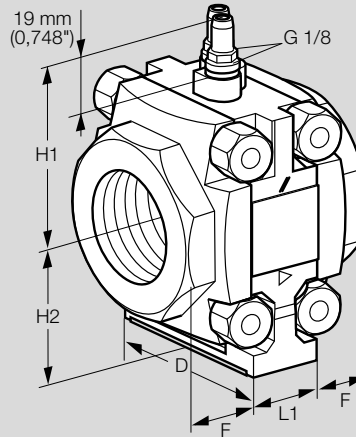
8.1 Dimensions



8.1.1 VMF..R

Type	Connection		Dimensions					Weight	
			L1	F	D	H1	H2	VMF..R..P*, VMF..R..M*	Flange
	Rp	DN	mm	mm	mm	mm	mm	kg	kg
VMF 110	3/8	10	30	15	62.7	69.1	44.2	0.34	0.07
VMF 115	1/2	15	30	15	62.7	69.1	44.2	0.34	0.06
VMF 120	3/4	20	30	23	62.7	69.1	44.2	0.34	0.11
VMF 125	1	25	30	23	62.7	69.1	44.2	0.34	0.09
VMF 225	1	25	34	29	88	82.8	64.6	0.76	0.29
VMF 232	1¼	32	34	29	88	82.8	64.6	0.76	0.26
VMF 240	1½	40	34	29	88	82.8	64.6	0.76	0.29
VMF 250	2	50	34	29	88	82.8	64.6	0.76	0.22
VMF 340	1½	40	36	36	106	94.6	77.5	1.3	0.66
VMF 350	2	50	36	36	106	94.6	77.5	1.3	0.576
VMF 365	2½	65	36	36	106	94.6	77.5	1.3	0.428

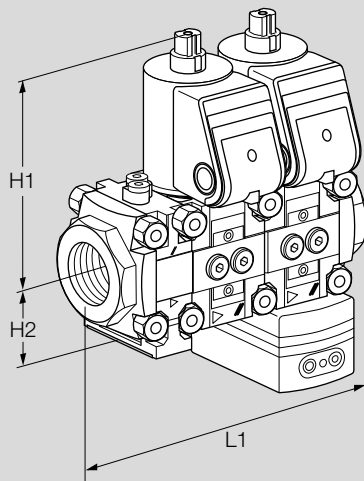
* Without flanges.



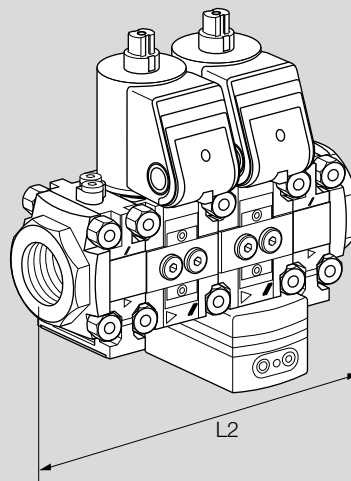
8.1.2 VMF..N

Type	Connection		Dimensions					Weight	
			L1	F	D	H1	H2	VMF..N..P* VMF..N..M*	Flange
	NPT	DN	inch	inch	inch	inch	inch	lbs	lbs
VMF 110	3/8	10	1.18	0.59	2.47	2.72	1.74	0.75	0.15
VMF 115	1/2	15	1.18	0.59	2.47	2.72	1.74	0.75	0.14
VMF 120	3/4	20	1.18	0.91	2.47	2.72	1.74	0.75	0.23
VMF 125	1	25	1.18	0.91	2.47	2.72	1.74	0.75	0.20
VMF 225	1	25	1.34	1.14	3.46	3.26	2.54	1.66	0.64
VMF 232	1¼	32	1.34	1.14	3.46	3.26	2.54	1.66	0.57
VMF 240	1½	40	1.34	1.14	3.46	3.26	2.54	1.66	0.65
VMF 250	2	50	1.34	1.14	3.46	3.26	2.54	1.66	0.49
VMF 340	1½	40	1.42	1.42	4.17	3.72	3.05	2.86	1.45
VMF 350	2	50	1.42	1.42	4.17	3.72	3.05	2.86	1.27
VMF 365	2½	64	1.42	1.42	4.17	3.72	3.05	2.86	0.94

* Without flanges.



VCx with VMF

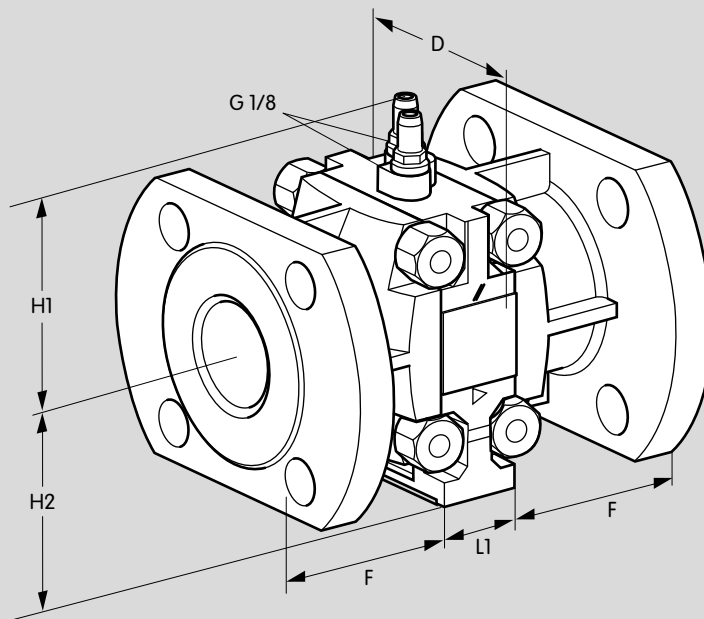


VCx with VMF and VMV

8.1.3 VCX with VMF

	Dimensions [mm]		
	L	H1	H2
VMF 110	150	143	32
VMF 115	150	143	32
VMF 120	166	143	32
VMF 125	166	143	32
VMF 225	230	170	47
VMF 232	230	170	47
VMF 240	230	170	47
VMF 250	230	170	47
VMF 340	274	180	59
VMF 350	274	180	59
VMF 365	274	180	59

	Dimensions [inch]		
	L	H1	H2
VMF 110	5.9	5.63	1.26
VMF 115	5.9	5.63	1.26
VMF 120	6.5	5.63	1.26
VMF 125	6.5	5.63	1.26
VMF 225	9.1	6.69	1.85
VMF 232	9.1	6.69	1.85
VMF 240	9.1	6.69	1.85
VMF 250	9.1	6.69	1.85
VMF 340	10.8	7.09	2.3
VMF 350	10.8	7.09	2.3
VMF 365	10.8	7.09	2.3



8.1.4 VMF 240F

Type	Connection	Dimensions					Weight	
		L1	F	D	H1	H2	VMF..F..P*, VMF..F..M*	Flange
		mm	mm	mm	mm	mm	kg	kg
VMF 240	40	34	66	88	81	65.2	0.76	1.04
VMF 350	50	36	74	106	94.6	77.5	1.30	1.62

* Without flanges and connection parts.

9 Maintenance

Check for external tightness at least once per annum, at least twice per annum for operation with biologically produced methane. Replace filter pad as required, see page 11 (Filter pad set).

Feedback

Finally, we are offering you the opportunity to assess this “Technical Information (TI)” and to give us your opinion, so that we can improve our documents further and suit them to your needs.

Clarity

- Found information quickly
- Searched for a long time
- Didn't find information
- What is missing?
- No answer

Comprehension

- Coherent
- Too complicated
- No answer

Scope

- Too little
- Sufficient
- Too wide
- No answer



Use

- To get to know the product
- To choose a product
- Planning
- To look for information

Navigation

- I can find my way around
- I got “lost”
- No answer

My scope of functions

- Technical department
- Sales
- No answer

Remarks

Contact

Elster GmbH
Postfach 2809 · 49018 Osnabrück
Strothweg 1 · 49504 Lotte (Büren)
Germany

Tel +49 541 1214-0
Fax +49 541 1214-370
hts.lotte@honeywell.com
www.kromschroeder.com

The current addresses of our international agents are available on the Internet:
www.kromschroeder.de/Weltweit.20.0.html?&L=1

We reserve the right to make technical modifications in the interests of progress.
Copyright © 2018 Elster GmbH
All rights reserved.

Honeywell

**krom
schroder**