



## LIQUID METER TYPE FMO

INNOVATORS  
IN FLOW TECHNOLOGY

# FLUX LIQUID METER TYPE FMO OVAL ROTOR DESIGN



**FLUX liquid meters type FMO are positive displacement flowmeters according to the oval rotor design. They are suitable for measuring thin up to high viscosity substances of maximum 500.000 mPas (cP). Seven different models are available to cover a range of flowrates from 0,1 to 350 l/min.**


The meters are manufactured in PPS, aluminium and stainless steel, featuring a high measurement accuracy of  $\pm 0,5\%$ . By adaption of the oval rotors and seals, FLUX liquid meters type FMO suit a wide variety of applications. All models are certified for use in hazardous locations.

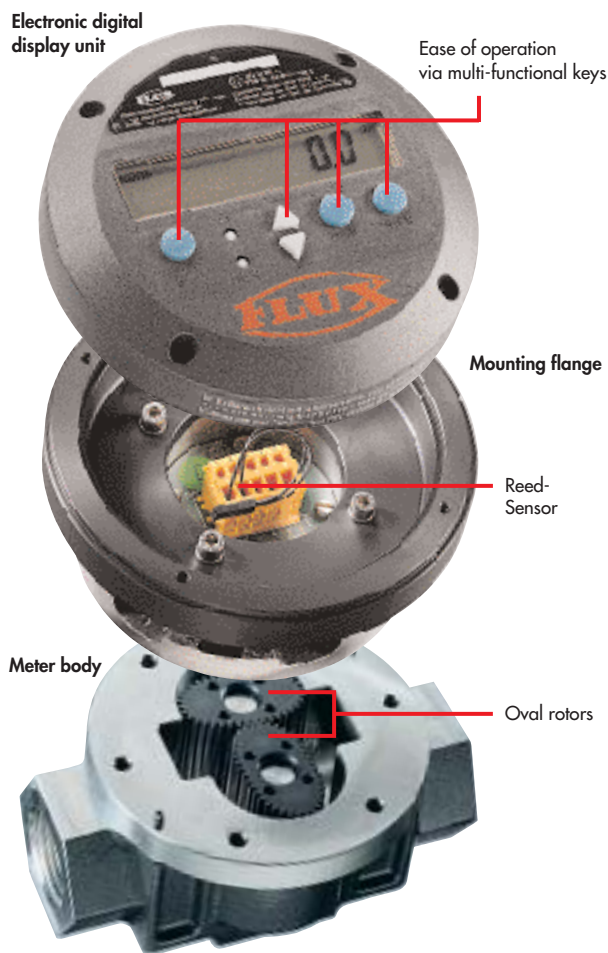
FLUX liquid meters type FMO can be used up to a maximum operating pressure of 55 bar and a maximum temperature of 80°C or 120°C, depending on the material of construction. An ease of operation is provided via multifunctional keys on a 7-digit LCD unit.

In conjunction with an interface amplifier, the FMO liquid meter can also be used as a pre-settable batch controller, actuating a magnetic valve or a pump. By the new FLUX Process Control System PCS a complete control system including an interface (RS 485/RS 232) for computerized liquid handling operations is now available.

Together with the liquid meters type FMC – nutating disc design – FLUX is offering a comprehensive range of flowmeters meeting almost every requirement.

## Features and benefits

- flowrate of 0,1 – 350 l/min
- temperature up to 120°C
- operating pressure up to 55 bar
- oval rotors in stainless steel or PPS
- low pressure drop
- modular design, measuring unit, amplifier and digital display unit either integrated or separate
- ease of operation via multifunctional keys
- easy-to-read 13 mm 7-digit LCD unit
- display of quantity per operation, totalizer or instantaneous flowrate per minute
- automatic control of magnetic valves or a pump by using an interface amplifier or FLUX Process Control System PCS
- pre-settable batch controller up to 9999 litres per operation
- direct or remote control service
- explosion-proof according to Directive 94/9/EC-  Type Examination Certificate No. PTB 03 ATEX 2014
- display in litres, Imperial gallons or US gallons
- protected to IP 54
- fixed installation into pipework systems or portable use with FLUX pumps



**Example of type code of liquid meter FMO**

**FMO 4/S/PV/1**

FMO 4/S/PV/1 = design

FMO 4/S/PV/1 = model

FMO 4/S/PV/1 = material meter body

FMO 4/S/PV/1 = material oval rotors up to 1000 mPas (cP)

FMO 4/S/PV/1 = material oval rotors as from 1000 mPas (cP)

FMO 4/S/PV/1 = Material seal

FMO 1 for flowrates 10 – 100 l/h with pulse outlet **4**

FMO 2 for flowrates of 30 – 500 l/h with pulse outlet **5**

FMO 4 for flowrates of 2 – 30 l/min with electronic LCD unit **6**

FMO 7 for flowrates of 3 – 80 l/min with electronic LCD unit **7**

FMO 10 for flowrates of 6 – 120 l/min with electronic LCD unit **8**

FMO 40 for flowrates of 10 – 240 l/min with electronic LCD unit **9**

FMO 40 and FMO 50 for 10 – 350 l/min with electronic LCD unit **10**

Version without electronic LCD unit **11**

Interface amplifiers for automatic mode **12**

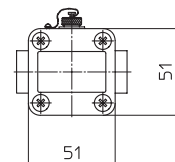
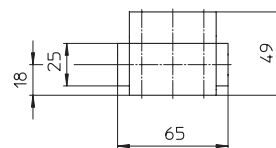
FLUX Process Control System PCS for computerized liquid handling operations **13**

Flowrates, Viscosity range Example of use **14**

The great range of FLUX pumps **15**

# FMO 1 IN PPS AND STAINLESS STEEL WITH PULSE OUTLET

Liquid meter for small flowrates with pulse outlet (Reed-Switch)\* and plug connector for electronic LCD unit. Flowrates of 10 – 100 Litres per hour. Very high accuracy. Vertical or horizontal use. Very low pressure drop. Will handle particle sizes to 0,12 mm. Protected to IP 54.



Type	FMO 1/P/P/.	FMO 1/P/S/.	FMO 1/S/S/.
Flowrate l/h at a viscosity of > 5 mPas (cP) < 5 mPas (cP)	10 – 100 15 – 100	10 – 100 15 – 100	10 – 100 15 – 100
Operating pressure**	5 bar	5 bar	10 bar
Viscosity	max. 1000 mPas (cP)	max. 1000 mPas (cP)	max. 1000 mPas (cP)
Operating temperature	max. 80 °C	max. 80 °C	max. 120 °C
Accuracy	± 1%	± 1%	± 1%
Pulses per litre	1000	1000	1000
Inlet/Outlet connection	G 1/4 (BSP 1/4" female)	G 1/4 (BSP 1/4" female)	G 1/4 (BSP 1/4" female)
Material: meter body	PPS (P)	PPS (P)	Stainless steel 316 (S)
Material: oval rotors	PPS (P)	Stainless steel 316 (S)	Stainless steel 316 (S)***
Material: shaft	Hastelloy (HC)	Stainless steel 316 (S)	Stainless steel 316 (S)
O-ring – optional	EPDM, FPM (Viton®), Kalrez	EPDM, FPM (Viton®), Kalrez	EPDM, FPM (Viton®), Kalrez
Weight	0,24 kg	0,24 kg	0,60 kg
<b>Part No.</b>			
<b>with o-ring EPDM (0)</b>	<b>A08 01 400</b>	<b>A08 01 100</b>	<b>A08 01 200</b>
<b>with o-ring FPM (1)</b>	<b>A08 01 410</b>	<b>A08 01 110</b>	<b>A08 01 210</b>
<b>with o-ring Kalrez (3)</b>	<b>A08 01 430</b>	<b>A08 01 130</b>	<b>A08 01 230</b>

\*Hall effect sensor on request

\*\*Version for higher operating pressure on request

\*\*\*also available in PPS

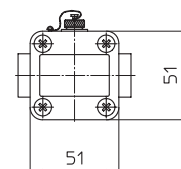
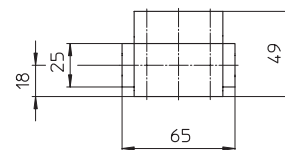
Electronic LCD unit for FMO 1 and FMO 2 smallest display in mode „NORMAL“ = 0,1 Liter smallest display in mode „AUTO“ = 0,01 Liter including 5 m connecting cable and plug, flange for wall mounting. Weight: 0,56 kg Part No. 001 42 016



# FMO 2 IN PPS AND STAINLESS STEEL WITH PULSE OUTLET



Liquid meter for small flowrates with pulse outlet (Reed-Switch)\* and plug connector for electronic LCD unit.  
 Flowrates of 30 - 500 Litres per hour.  
 Very high accuracy.  
 Vertical or horizontal use.  
 Very low pressure drop.  
 Will handle particle sizes to 0,12 mm.  
 Protected to IP 54.



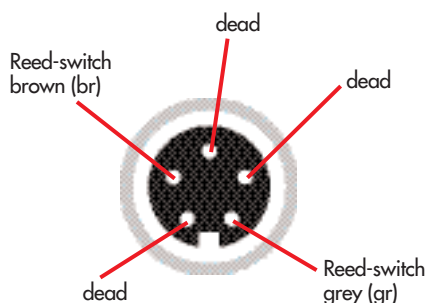
Type	FMO 2/P/P/.	FMO 2/P/S/.	FMO 2/S/S/.
Flowrate l/h at a viscosity of > 5 mPas (cP) < 5 mPas (cP)	30 – 500 40 – 500	30 – 500 40 – 500	30 – 500 40 – 500
Operating pressure**	5 bar	5 bar	10 bar
Viscosity	max. 1000 mPas (cP)	max. 1000 mPas (cP)	max. 1000 mPas (cP)
Operating temperature	max. 80 °C	max. 80 °C	max. 120 °C
Accuracy	± 1%	± 1%	± 1%
Pulses per litre	400	400	400
Inlet/Outlet connection	G 1/4 (BSP 1/4" female)	G 1/4 (BSP 1/4" female)	G 1/4 (BSP 1/4" female)
Material: meter body	PPS (P)	PPS (P)	Stainless steel 316 (S)
Material: oval rotors	PPS (P)	Stainless steel 316 (S)	Stainless steel 316 (S)***
Material: shaft	Hastelloy C (HC)	Stainless steel 316 (S)	Stainless steel 316 (S)
O-ring – optional	EPDM, FPM (Viton®), Kalrez	EPDM, FPM (Viton®), Kalrez	EPDM, FPM (Viton®), Kalrez
Weight	0,24 kg	0,24 kg	0,60 kg
<b>Part No.</b>			
<b>with o-ring EPDM (0)</b>	<b>A08 02 400</b>	<b>A08 02 100</b>	<b>A08 02 300</b>
<b>with o-ring FPM (1)</b>	<b>A08 02 410</b>	<b>A08 02 110</b>	<b>A08 02 310</b>
<b>with o-ring Kalrez (3)</b>	<b>A08 02 430</b>	<b>A08 02 130</b>	<b>A08 02 330</b>

\*Hall effect sensor on request

\*\*Version for higher operating pressure on request

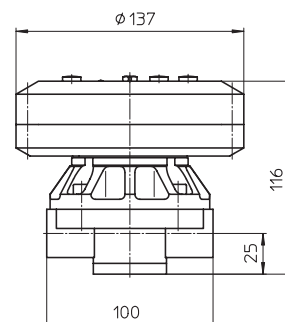
\*\*\*also available in PPS

Pin configuration on FMO 1 and FMO 2 pulse outlet socket:



# FMO 4 IN ALUMINIUM AND STAINLESS STEEL WITH ELECTRONIC LCD UNIT

**Universal application for thin up to high viscosity products.**  
**Flowrates of 2 – 30 l/min**  
**Very high accuracy.**  
**Vertical or horizontal use.**  
**Very low pressure drop.**  
**Will handle particle sizes to 0,28 mm.**  
**Protected to IP 54.**



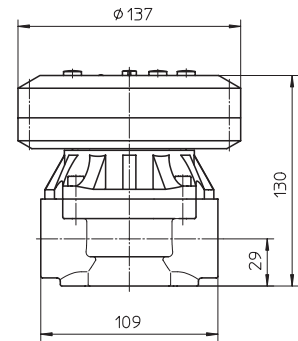
Type	FMO 4/AL/P/.	FMO 4/S/P/.	FMO 4/S/S/.
Flowrate l/min at a viscosity of > 5 mPas, < 1000 mPas < 5 mPas Flowrate at higher viscosities, see chart on page 14	2 – 30 4 – 25	2 – 30 4 – 25	2 – 30 4 – 25
Operating pressure	max. 55 bar	max. 55 bar	max. 55 bar
Viscosity	max. 500 000 mPas (cP)	max. 500 000 mPas (cP)	max. 500 000 mPas (cP)
Operating temperature	max. 80 °C	max. 80 °C	max. 120 °C
Accuracy	± 0,5%	± 0,5%	± 0,5%
Pulses per litre	112	112	112
Inlet/Outlet connection	G 1/2 (BSP 1/2" female)	G 1/2 (BSP 1/2" female)	G 1/2 (BSP 1/2" female)
Material: meter body	Aluminium (AL)	Stainless steel 316 (S)	Stainless steel 316 (S)
Material: oval rotors	PPS (P)	PPS (P)	Stainless steel 316 (S)
Material: shaft	Stainless steel 316 (S)	Stainless steel 316 (S)	Stainless steel 316 (S)
O-ring – optional	EPDM, FPM (Viton®), FEP	EPDM, FPM (Viton®), FEP	EPDM, FPM (Viton®), FEP
Weight	1,9 kg	3,0 kg	3,0 kg
<b>Part No. version up to 1000 mPas</b>			
<b>with o-ring EPDM (0)</b>	<b>A08 04 100</b>	<b>A08 04 200</b>	<b>A08 04 300</b>
<b>with o-ring FPM (1)</b>	<b>A08 04 110</b>	<b>A08 04 210</b>	<b>A08 04 310</b>
<b>with o-ring FEP (2)</b>	<b>A08 04 120</b>	<b>A08 04 220</b>	<b>A08 04 320</b>
<b>Part No. version as from 1000 mPas</b>			
<b>with o-ring EPDM (0)</b>	<b>A08 04 105</b>	<b>A08 04 205</b>	<b>A08 04 305</b>
<b>with o-ring FPM (1)</b>	<b>A08 04 115</b>	<b>A08 04 215</b>	<b>A08 04 315</b>
<b>with o-ring FEP (2)</b>	<b>A08 04 125</b>	<b>A08 04 225</b>	<b>A08 04 325</b>
<b>Accessories</b>			
Connecting piece in stainless steel (S) to FLUX barrel pump (G 1/2 A – G 1 1/4)			<b>959 06 143</b>
Connecting piece in stainless steel (S) to FLUX high viscosity liquid pump (G 1/2 A – G 1 1/2)			<b>959 06 134</b>

**NOTE** All models are also available as pulse version without electronic LCD unit under **Part No. AB8 .. ...** instead of A08 .. ... For detailed information please confer to page 11.  
 Version with Hall effect sensor on request.

# FMO 7 IN PPS WITH ELECTRONIC LCD UNIT



Liquid meter, oval rotor design, in plastic material for use with corrosive liquids.  
 Flowrates of 3 - 80 l/min  
 Very high accuracy.  
 Vertical or horizontal use.  
 Very low pressure drop.  
 Will handle particle sizes to 0,28 mm.  
 Protected to IP 54.

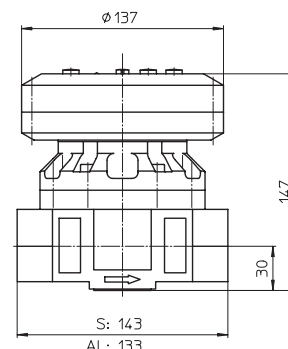


Type	FMO 7/P/P/.
Flowrate l/min at a viscosity of > 5 mPas < 5 mPas	3 - 80 8 - 70
Operating pressure	max. 10 bar
Viscosity	max. 1000 mPas (cP)
Operating temperature	max. 80 °C
Accuracy	± 0,5%
Pulses per litre	52
Inlet/Outlet connection	(BSP 1" female)
Material: meter body	PPS (P)
Material: oval rotors	PPS (P)
Material: shaft	Hastelloy C (HC)
O-ring - optional	EPDM, FPM (Viton®)
Weight	1,2 kg
Part No.	
<b>with o-ring EPDM (0)</b>	<b>A08 07 100</b>
<b>with o-ring FPM (1)</b>	<b>A08 07 110</b>
Accessories	
Connecting piece in stainless steel (S) to FLUX barrel pump (G 1 A - G 1 1/4)	<b>959 06 145</b>

**NOTE** All models are also available as pulse version without electronic LCD unit under **Part No. AB8 .. ...** instead of A08 .. ... For detailed information please confer to page 11.  
 Version with Hall effect sensor on request.

# FMO 10 IN ALUMINIUM AND STAINLESS STEEL WITH ELECTRONIC LCD UNIT

**Universal application for thin up to high viscosity products.**  
**Flowrates of 6 – 120 l/min**  
**Very high accuracy.**  
**Vertical or horizontal use.**  
**Very low pressure drop.**  
**Will handle particle sizes to 0,28 mm.**  
**Protected to IP 54.**



Type	FMO 10/AL/P/.	FMO 10/S/P/.	FMO 10/S/S/.
Flowrate l/min at a viscosity of > 5 mPas, < 1000 mPas < 5 mPas Flowrate at higher viscosities, see chart on page 14	6 – 120 10 – 100	6 – 120 10 – 100	6 – 120 10 – 100
Operating pressure	max. 55 bar	max. 55 bar	max. 55 bar
Viscosity	max. 500 000 mPas (cP)	max. 500 000 mPas (cP)	max. 500 000 mPas (cP)
Operating temperature	max. 80 °C	max. 80 °C	max. 120 °C
Accuracy	± 0,5%	± 0,5%	± 0,5%
Pulses per litre	36	36	36
Inlet/Outlet connection	G 1 (BSP 1" female)	G 1 (BSP 1" female)	G 1 (BSP 1" female)
Material: meter body	Aluminium (AL)	Stainless steel 316 (S)	Stainless steel 316 (S)
Material: oval rotors	PPS (P)	PPS (P)	Stainless steel 316 (S)
Material: shaft	Stainless steel 316 (S)	Stainless steel 316 (S)	Stainless steel 316 (S)
O-ring – optional	EPDM, FPM (Viton®), FEP	EPDM, FPM (Viton®), FEP	EPDM, FPM (Viton®), FEP
Weight	2,1 kg	4,7 kg	4,9 kg
<b>Part No. version up to 1000 mPas</b>			
<b>with o-ring EPDM (0)</b>	<b>A08 10 100</b>	<b>A08 10 200</b>	<b>A08 10 300</b>
<b>with o-ring FPM (1)</b>	<b>A08 10 110</b>	<b>A08 10 210</b>	<b>A08 10 310</b>
<b>with o-ring FEP (2)</b>	<b>A08 10 120</b>	<b>A08 10 220</b>	<b>A08 10 320</b>
<b>Part No. version as from 1000 mPas</b>			
<b>with o-ring EPDM (0)</b>	<b>A08 10 105</b>	<b>A08 10 205</b>	<b>A08 10 305</b>
<b>with o-ring FPM (1)</b>	<b>A08 10 115</b>	<b>A08 10 215</b>	<b>A08 10 315</b>
<b>with o-ring FEP (2)</b>	<b>A08 10 125</b>	<b>A08 10 225</b>	<b>A08 10 325</b>
<b>Accessories</b>			
Connecting piece in stainless steel (S) to FLUX barrel pump (G 1 A – G 1 1/4)			<b>959 06 144</b>
Connecting piece in stainless steel (S) to FLUX high viscosity liquid pump (G 1 A – G 1 1/2)			<b>959 06 122</b>

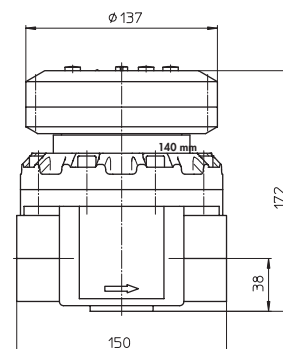
**NOTE** All models are also available as pulse version without electronic LCD unit under **Part No. AB8 .. ...** instead of A08 .. ... For detailed information please confer to page 11.  
 Version with Hall effect sensor on request.



# FMO 40 IN ALUMINIUM AND STAINLESS STEEL WITH ELECTRONIC LCD UNIT



**Universal application for thin up to high viscosity products.**  
**Flowrates of 10 – 240 l/min**  
**Very high accuracy.**  
**Vertical or horizontal use.**  
**Very low pressure drop.**  
**Will handle particle sizes to 0,28 mm.**  
**Protected to IP 54.**



Type	FMO 40/AL/P/.	FMO 40/S/P/.	FMO 40/S/S/.
Flowrate l/min at a viscosity of > 5 mPas, < 1000 mPas < 5 mPas Flowrate at higher viscosities, see chart on page 14	10 – 240 15 – 220	10 – 240 15 – 220	10 – 240 15 – 220
Operating pressure	max. 55 bar	max. 55 bar	max. 55 bar
Viscosity	max. 500 000 mPas (cP)	max. 500 000 mPas (cP)	max. 500 000 mPas (cP)
Operating temperature	max. 80 °C	max. 80 °C	max. 120 °C
Accuracy	± 0,5%	± 0,5%	± 0,5%
Pulses per litre	14,5	14,5	14,5
Inlet/Outlet connection	G 1 1/2 (BSP 1 1/2" female)	G 1 1/2 (BSP 1 1/2" female)	G 1 1/2 (BSP 1 1/2" female)
Material: meter body	Aluminium (AL)	Stainless steel 316 (S)	Stainless steel 316 (S)
Material: oval rotors	PPS (P)	PPS (P)	Stainless steel 316 (S)
Material: shaft	Stainless steel 316 (S)	Stainless steel 316 (S)	Stainless steel 316 (S)
O-ring – optional	EPDM, FPM (Viton®), FEP	EPDM, FPM (Viton®), FEP	EPDM, FPM (Viton®), FEP
Weight	4,5 kg	8,5 kg	9,5 kg
<b>Part No. version up to 1000 mPas</b>			
<b>with o-ring EPDM (0)</b>	<b>A08 40 100</b>	<b>A08 40 200</b>	<b>A08 40 300</b>
<b>with o-ring FPM (1)</b>	<b>A08 40 110</b>	<b>A08 40 210</b>	<b>A08 40 310</b>
<b>with o-ring FEP (2)</b>	<b>A08 40 120</b>	<b>A08 40 220</b>	<b>A08 40 320</b>
<b>Part No. version as from 1000 mPas</b>			
<b>with o-ring EPDM (0)</b>	<b>A08 40 105</b>	<b>A08 40 205</b>	<b>A08 40 305</b>
<b>with o-ring FPM (1)</b>	<b>A08 40 115</b>	<b>A08 40 215</b>	<b>A08 40 315</b>
<b>with o-ring FEP (2)</b>	<b>A08 40 125</b>	<b>A08 40 225</b>	<b>A08 40 325</b>

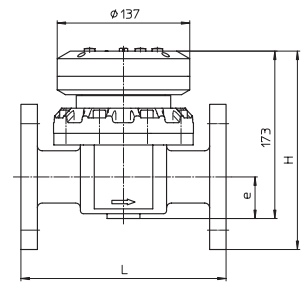
**NOTE** All models are also available as pulse version without electronic LCD unit under **Part No. AB8 .. ...** instead of A08 .. ... For detailed information please confer to page 11.  
 Version with Hall effect sensor on request.

# FMO 40 AND FMO 50 IN ALUMINIUM AND STAINLESS STEEL WITH ELECTRONIC LCD UNIT

Universal application with thin up to high viscosity products.  
 Flowrates from 10 – 350 l/min.  
 Very high accuracy.  
 Horizontal or vertical use.  
 Low pressure drop.  
 Will handle particle sizes to:  
**FMO 40:** max. 0,38 mm,  
**FMO 50:** max. 0,46 mm.  
 Protected to IP 54.



Flange connection according to DIN PN 16



	H	L	DN	e
<b>FMO 40</b>	180	212	40	40
<b>FMO 50</b>	213	270	50	55

DN 40 = o.d.150/p.c.d.110/4 bores 14 mm each  
 DN 50 = o.d.165/p.c.d.125/4 bores 18 mm each

Type	FMO 40/AL/P/.	FMO 50/AL/P/.	FMO 40/S/P/.	FMO 50/S/P/.	FMO 40/S/S/.
Flowrate l/min at a viscosity of > 5 mPas, < 1000 mPas < 5 mPas Flowrate at higher viscosities, see chart on page 14	10 – 240 15 – 220	15 – 350 30 – 300	10 – 240 15 – 220	15 – 350 30 – 300	10 – 240 15 – 220
Operating pressure	max. 16 bar		max. 16 bar		max. 16 bar
Viscosity	max. 500 000 mPas		max. 500 000 mPas		max. 500 000 mPas
Operating temperature	max. 80 °C		max. 80 °C		max. 120 °C
Accuracy	± 0,5%		± 0,5%		± 0,5%
Pulses per litre	14,5	6,8	14,5	6,8	14,5
Inlet/Outlet connection	Flange connection acc. to DIN PN 16, DN 40/50				
Material: meter body	Aluminium (AL)		Stainless steel 316 (S)		Stainless steel 316 (S)
Material: oval rotors	PPS (P)		PPS (P)		Stainless steel 316 (S)
Material: shaft	Stainless steel 316 (S)		Stainless steel 316 (S)		Stainless steel 316 (S)
O-ring – optional	EPDM, FPM (Viton®), FEP		EPDM, FPM (Viton®), FEP		EPDM, FPM (Viton®), FEP
Weight	6 kg	10 kg	13 kg	23 kg	15 kg
<b>Bestell-Nr. bis 1000 mPas</b>					
<b>with o-ring EPDM (0)</b>	<b>A08 40 101</b>	<b>A08 50 101</b>	<b>A08 40 201</b>	<b>A08 50 201</b>	<b>A08 40 301</b>
<b>with o-ring FPM (1)</b>	<b>A08 40 111</b>	<b>A08 50 111</b>	<b>A08 40 211</b>	<b>A08 50 211</b>	<b>A08 40 311</b>
<b>with o-ring FEP (2)</b>	<b>A08 40 121</b>	<b>A08 50 121</b>	<b>A08 40 221</b>	<b>A08 50 221</b>	<b>A08 40 321</b>
<b>Bestell-Nr. über 1000 mPas</b>					
<b>with o-ring EPDM (0)</b>	<b>A08 40 106</b>	<b>A08 50 106</b>	<b>A08 40 206</b>	<b>A08 50 206</b>	<b>A08 40 306</b>
<b>with o-ring FPM (1)</b>	<b>A08 40 116</b>	<b>A08 50 116</b>	<b>A08 40 216</b>	<b>A08 50 216</b>	<b>A08 40 316</b>
<b>with o-ring FEP (2)</b>	<b>A08 40 126</b>	<b>A08 50 126</b>	<b>A08 40 226</b>	<b>A08 50 226</b>	<b>A08 40 326</b>

**NOTE** All models are also available as pulse version without electronic LCD unit under **Part No. AB8 .. ...** instead of A08 .. ... For detailed information please confer to page 11.  
 Version with Hall effect sensor on request.

For pulse transmission to an external LCD unit, any other external system (like e.g. FLUX Process Control System on page 13) or SPS all models of FLUX liquid meters Type FMO 4 to FMO 50 are also available in pulse version without electronic LCD unit.



**FLUX Liquid Meter Type FMO in pulse version without electronic LCD unit**

Design and technical data correspond to standard versions on pages 6 to 10, but part no. of pulse version will change to

**Part No. AB8 .. ...**

**Cable**

shielded, for transmission of pulses from Reed-switch on FMO to external electronic LCD unit

**Part No.**

**934 08 032** 5 m long

**934 08 033** 10 m long

**934 08 034** 15 m long

other cable lengths on request

**External electronic LCD unit**

with mounting flange

**Part. 001 42 008**



**Optional 4 - 20 mA loop powered module to analogue converter on request.**

# INTERFACE AMPLIFIERS FOR PRE-SET BATCH CONTROL IN AUTO MODE



TYP FSV 100	TYP FSV 112	TYP FSV 121-1 Ex	TYP FSV 131 + TYP FSV 132
<p>Integral mounting onto FMO. Supply voltage 230 Volt, 50 Hz, protected to IP 54. With 5 m power supply cable. Two output signals for: main flow control for a pump and/or magnetic valve and secondary control for turn down controlling a magnetic valve or relay. Two output plugs for control features. Not explosion proof.</p>	<p>Complete with housing for wall mounting. Supply voltage 230 Volt, 50 Hz, protected to IP 54. Two output signals for: main flow control for a pump and/or magnetic valve and secondary control for turn down controlling a magnetic valve or relay. Input socket for power supply and two output plugs for control features.</p>	<p>Explosion-proof to II 2 G EEx ed (ia) IIC T6. Supply voltage 230 Volt, 50 Hz, protected to IP 54. One output signal for control of a pump and/or a magnetic valve.</p>	<p><b>FSV 131</b> without housing for mounting into a switchboard. Supply voltage 230 Volt, 50 Hz, protected to IP 20. One output signal for control of a pump and/or a magnetic valve.</p>
<b>Part No. 001 49 040</b>	<b>Part No. 001 49 041</b>	<b>Part No. 001 49 039</b>	<b>Part No. 940 04 017</b>
			<p><b>FSV 132</b> as above, but two output signals for control of a pump and two magnetic valves.</p>
<b>Part No. 001 49 040</b>	<b>Part No. 001 49 041</b>	<b>Part No. 001 49 039</b>	<b>Part No. 940 04 020</b>

Other voltages on request.

## POWER SUPPLY AND CONNECTING CABLES FOR FMO.



1	Power supply cable, 5 m, for use with FSV 112 <b>Part No. 934 08 037</b>
2	Connecting cable to motor, 0,5 m, for use with FSV 100 and FSV 112 <b>Part No. 934 08 035</b>
3	Connecting cable to magnetic valve, 5 m, for use with FSV 100 and FSV 112 <b>Part No. 934 08 036</b>
4	Connecting cable, 5 m, to transmit the pulses from FMO to FSV 112 <b>Part No. 934 08 039</b>
5	Connecting cable, to transmit the pulses from FMO to FSV 121-1 Ex, FSV 131 and FSV 132. <b>Part No. 934 08 038</b> 5 m long
	<b>Part No. 934 08 040</b> 10 m long

## PROTECTIVE BOOT



Protective boot for electronic LCD unit against impurities and corrosive vapours

**Part No. 001 42 017**

In conjunction with the new Process Control System PCS the Liquid Meter Type FMO in pulse version without electronic LCD unit can be used as a complete control system for computerized liquid handling operations. The process control module PCM together with the complementary software allows the use of any PC as a central control unit, without having to interfere into its hardware. All that is required is a free serial interface RS 232 on the PC as well as an interface converter PCC.

## TECHNICAL DATA

FLUX PROCESS CONTROL SYSTEM PCS COMPLETE, CONSISTING OF

### FLUX Process Control Module PCM

230 V, 50/60 Hz.

max. 2 counters per module, 2 potential-free relays per counter to control up to 4 output devices (230 VAC, 8 A; 24 VAC/VDC, 8 A; 12 VDC, 8 A).

Serial interface RS 485 with screw terminals.

Sensor input (1 per counter):  
potential-free mechanical contact (relay, conventional or Reed-type)  
electronic counter (Hall effect sensor, capacity switch).

Frequency on sensor input: 0–200 Hz

Relay connections: screw terminals for cable section 1,5 mm<sup>2</sup>

Temperature range: -20 °C to +70 °C

Easy mounting on DIN-bar.

Display of status via LED.

Dimensions: 50 x 128 x 192 mm



### Software on CD-ROM

System requirements:

Microsoft Windows 98 or higher.

Pentium Processor or higher.

32 MB RAM

Free harddisk space at least 6 MB.

Free interface RS 232.

CD-ROM-drive (for installation only).



### FLUX Interface Converter PCC

RS 232 to RS 485 converter.

Galvanic separation up to 3000 VDC.

Automatic setting of Baudrate and data transmission parameters.

Supply voltage 10 to 30 VDC.

Temperature range: -10 °C to +70 °C.

Easy mounting on DIN-bar.

Temperature range: -20 °C to +70 °C.

Easy mounting on DIN-bar.

Including connecting cable DB 9 to PC, 2 m long.



### Mains supply unit for PCC interface converter

230 V, 50 Hz

Output 12 VDC, 600 mA..

Including power supply cable.

### Connecting cable, 5m long (PCM module – PCC interface converter)

two-way, twisted pair cable

**Part No. A10 00 100**

## FMO – MAXIMUM FLOWRATE DEPENDING ON THE VISCOSITY AND A PRESSURE DROP OF MAX. 1 BAR

Type	FMO 4	FMO 10	FMO 40	FMO 50
Viscosity < 1 000 mPas	30,0 l/min	120 l/min	240 l/min	350 l/min
Viscosity < 3 000 mPas	27,0 l/min	108 l/min	215 l/min	312 l/min
Viscosity < 4 000 mPas	24,0 l/min	96 l/min	195 l/min	280 l/min
Viscosity < 5 000 mPas	21,0 l/min	84 l/min	170 l/min	245 l/min
Viscosity < 10 000 mPas	15,0 l/min	60 l/min	120 l/min	175 l/min
Viscosity < 25 000 mPas	12,0 l/min	48 l/min	95 l/min	140 l/min
Viscosity < 50 000 mPas	9,0 l/min	36 l/min	70 l/min	105 l/min
Viscosity < 100 000 mPas	6,0 l/min	24 l/min	45 l/min	70 l/min
Viscosity < 500 000 mPas	3,0 l/min	12 l/min	20 l/min	35 l/min

Values for viscosities exceeding 500 000 mPas ( $\approx$  cP) on request.

The performance data refers to liquids which are self-lubricating, non-adhesive or non-hardening.  
With all transfer mediums the FLUX Liquid meters FMO have to be calibrated for the application parameters.

### EXAMPLE

Stainless steel Liquid meters in combination with high viscosity pump F 560 S to transfer medium to high viscosity pasty substances.





# YES!

I am interested in top class pump technology.  
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| <input type="checkbox"/> FLUX CENTRIFUGAL IMMERSION PUMPS | <input type="checkbox"/> FLUX PROCESS CONTROL SYSTEM PCS   |

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## INNOVATORS IN FLOW TECHNOLOGY

All around the globe, FLUX is synonymous with top standards in pump technology. Whether it is barrel pumps, high viscosity liquid pumps, vertical centrifugal immersion pumps, air-operated diaphragm pumps, liquid meters, mixers or top class accessories – FLUX with its complete and comprehensive range is always the one to address to. Benefit from our competence. We look forward to hearing from you!

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