



Piston pump GMF-F

EUGEN WOERNER GmbH & Co. KG Hafenstraße 2 DE-97877 Wertheim +49 9342 803-0 info@woerner.de www.woerner.de Data sheet Replaces Page 1 of 14 **P9003.09.24 EN** P9003.08.24 EN





* more on request

Order example:

Piston pump GMF-F, reservoir 4 I, level monitoring C, filling connection B, drive type N, reduction 1250, with electrical function monitoring E, double row, 6 pump elements 8 and 10 pump elements 22, without outlet

Order designation:

GMF-F/00/4L/C/B/N/1250/E/26/0/ 6/10/0

¹⁾ Only with reservoir 4LA, 6LA, 5, 10, 30.
²⁾ Also available in stainless steel on request.
⇒ see data sheet P0520.

- ³⁾ Reduces the maximum selectable PE count by 1.
 - Special sensors on request.
- ⁴⁾ Not for plastic reservoir 2L, 2LA.
- ⁵⁾ Not for plastic reservoir 2L, 4L, 6L.

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The piston pump GMF-F can be driven externally via different variants. Inside there is a worm gear 1 which drives the eccentric shaft 2. When the eccentric shaft 2 rotates, the delivery piston 3.1 of every pump element 3 performs a suction and delivery stroke per rotation each, whilst delivering lubricant from the reservoir 4 to the lubrication points.

An agitator 5 with stripper 6 operates above the pump elements 3, which presses the lubricant to the pump elements 3 and breaks up air bubbles.

WOERNER Easy Lock eccentric: The piston pump **GMF-F** has a specially designed WOERNER Easy Lock eccentric 2, which guarantees simple and safe installation of the positively driven pump ele-ments **3**. For assembly, the pump elements 3 are simply screwed in and then hook in automatically with the first eccentric rotation.

For operation of pump elements, see data sheets rightarrow P0386 and rightarrow P0912.

Dimensions:

3

3.1



Dimensions of the reservoirs and the various attachments are listed on the following pages.

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Reservoir versions:

Reservoirs "2L", "4L", "6 ncl. screw cap with snaj Materials	SL" 204060 p-on function
Reservoir: Polypropy Cover:	lene translucent Polyamide
Veight without monitoring "2L": Reservoir capacity: "4L": Reservoir capacity: "6L": Reservoir capacity: "illing level visually visible	0,6 kg 2 l 0,7 kg 4 l 0,8 kg 4 l
Reservoirs "5", "10", "30 Naterials	5 10 30
Reservoir: Poly Cover: Follow-up piston (optio	ester/aluminium Aluminium onal): Aluminium
"5": Reservoir capacity: "10": Reservoir capacity: "30":	1,5 kg 5 l 1,95 kg 10 l 4 kg
Reservoir capacity: Veight follow-up piston without monitoring	301
for reservoir 5 and 10: for reservoir 30: "illing level visually visible a follower piston is used	0,8 kg 2,7 kg !
ne usable volume is reduc "5" and "10" by approx "30" by approx. 6 I	ced at: 2,51
Reservoirs "4V", "7V", "25 Aaterials	sv" 4V 7V 25V
Reservoir:	stainless steel

lenais	
Reservoir:	stainless stee
Cover:	stainless stee
"4V":	1,5 kg
Reservoir capacity:	4
"7V":	2,5 kg
Reservoir capacity:	7
"25V":	4,6 kg
Reservoir capacity:	25



(KX) 🔿 see data sheet P0915

Reservoir	Α	A1	A2	Н
Reservoir	mm	mm	mm	mm
2L	234	284	341	114
4L	310	353	417	190
6L	387	430	494	267
5	344	401	451	224
10	524	581	631	404
30	604	661	711	482 *
4V	292	335	399	171
7V	390	433	497	270
25V	507	550	614	419

When combining reservoir 30 and outlet variant 14, H and A1 increase by 33 mm.

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Level monitorings:

Simple minimum controls:

Level control "C": min. level monitoring for grease NLGI class 1 and 2



Remark on functional principle:

- 1 Actuating flap
- 2 Agitator blade
- 3 Proximity switch
- 4 Cable gland

The grease inside the reservoir causes to lift up the actuating flap (1) upon rotation of the pump driving shaft. No signal will be given.

(C)

In case of an empty reservoir and a rotating pump driving shaft the actuating flap (1) will intermittently attenuate the proximity switch (3).

In case of full reservoir, the actuating flap, depending on grease penetration, may fall during standstill and attenuate the proximity switch (3).

Therefore, when evaluating the proximity switch signal, it should be ensured that the proximity switch signal is evaluated delayed (by approx. 10 s).

The cable gland is fitted without specification at position "1L".

Electrical data level monitoring

by proximity switch with cable

Operating voltage:	10 30 VDC
Switching hysteresis:	≤10%
Switching current:	max. 150 mA
Inherentpower	
consumption:	approx.6mA
Potential drop:	~1 V
Protection class:	IP67
Cable length:	2 m

ATEX variant on request.

The "empty" signal will be intermittently.

The function of monitoring "C" has been tested with mineral oil-based lubricants successfully. In case of special lubricants, suitability needs to be tested.

The direction of rotation is predefined for monitoring "C" (counter-clockwise).

Circuit diagram:



(AK)

Level monitoring with ultrasonic sensor:

Distance measurement of the level by reflection of the medium surface enables longer switching distances than with level monitoring with KFA.

When checking the level of grease, the use of a follower piston is strongly recommended.

For more information 🔿 see P0920.



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Level control "D" / "DK": Ultrasonic sensor digital with two switching points for oil and grease

Technical data: Version digital Operating voltage: Output type:

Output current: Housing material:

Weight: SP1: SP2: Reservoir at approx. 25%



Level control "A" / "AK": Ultrasonic sensor analog for oil and grease

Technical data: Version analog

Operating voltage: Output type:

Output current: Housing material: Weight:





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10 ... 30 VDC

max. 100 mA

(DIN 1.4404)

PBT / AISI 316L

Reservoir empty

residual volume

NC

100 g

0





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Filling connector:



Filling connector "V" Closing nipple DN6 with dust cap



Technical data:

 (V)

1

Pump element 6

Material	
Filling connector "B":	Steel
Filling connector "V":	Steel / Cu

Suitable counterparts see accessories. Other filling connection variants are available on request.

Pump elements and outlet:



Identification: without marking adjustable 25 ... 100% max. 0,08 cm³/stroke Pump element 8 2 Identification: red marking adjustable 25 ... 100% max. 0,15 cm³/stroke Pump element 22 3 Identification: black marking adjustable 50 ... 100% max. 0,22 cm³/stroke Locking screw 4 with soft seal 5 Outlet (Ring piece) A = ø6 B = ≈44 (6) A = ø8 B = ≈46 8 A = ø10 B = ≈46 A = G 1/4 B = 39 (14)Outlet (0)6 (without ring piece) 7 Strainer for oil and fluid grease up to NLGI class 0 Pump elements 6 and 8 can be supplied set to defined delivery volumes. For more information rightarrow see B9003. Attachment parts and pressure limitations of the pump elements see 🔿 P0386!

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Drive types and reductions:

L M N Drive L/M/N	M N Drive M/N	L Drive L	
- ∅E -		Dimensions Drive	
		in mm "M" "N" "L"	
Angular gear and motors each rotatable l	by 90°.	A 315 335 215	
As standard, the angular gear units and n	notors are mounted as shown.	B 83 96 75	
may be necessary.	mp elements and piping, nonzontal installation	øC 125 145 90	
For more information 📫 see B9003.		D 101 111	
		øE 105 90	
Drive "M"	Drive "N"	Drive "L": with gear L and hydraulic motor	
Technical data motor:	Technical data motor:	Weight	
Assembly group: BG63 Type: DIN EN 60034-7 IM 3611 (V18) with canopy Flange: DIN EN 50347 FT 75 (C 90)	Assembly group: BG71 Type: DIN EN 60034-7 IM 3611 (V18) with canopy Flange: DIN EN 50347 FT 85 (C 105)	(pump body included): 7,7 kg Overall reduction same as with drives "M", "N"	
Electrical data motor:	Electrical data motor:	Technical data motor:	
Voltage at 50 Hz D/Y: 220 240/380 420 V at 60 Hz Y: 440 480 V Current at 50 Hz D/Y: 1 07/0 52 A	Voltage at 50 Hz D/Y: 220 240/380 420 V at 60 Hz Y: 440 480 V Current at 50 Hz D/Y: 1 77/4 02 A	With oil flow 3,5 l/min Power: 0,25 kW Speed of rotation: 400 min ⁻¹ Speed of rotation: max. 1950 min ⁻¹ Prossure inclination: may 100 box	
at 50 Hz D/ F. 1,0770,52A at 60 Hz Y: 0,60 A Power	at 50 Hz D/T. 1,777,02A at 60 Hz Y: 1,04A Power	Oil flow: max. 16 l/min mind permissible element stroke	
at 50 Hz: 0,18 kW at 60 Hz: 0,21 kW Speed of rotation	at 50 Hz: 0,37 kW at 60 Hz: 0,43 kW Speed of rotation	number!	
at 50 Hz: 1385 min ⁻¹ at 60 Hz: 1685 min ⁻¹ Protection class: DIN EN 60529 IP55 Insulation class: F	at 50 Hz: 1380 min ⁻¹ at 60 Hz: 1680 min ⁻¹ Protection class: DIN EN 60529 IP55 Insulation class: F		
Weight (pump body included): 12,5 kg	Weight (pump body included): 14,9 kg		

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Function:



8	Function monitoring optica	al EO
	Order no.	110.089-61

8.1 Optical function monitoring with sensor *

Operating voltage:	
Residual ripple:	
Switching function:	
Switching current:	
Protection class:	DI
Connection type:	Ν

10 ... 30 VDC ≤10% NO contact max. 150 mA IN EN 60529 IP67 Male, M12x1, 4-pin

Circuit diagram:

		1	+
Ι		4	\odot
\bigcirc	NO	3	

E

Function:

When the pump rotates, the indicator pin **8.2** of the function monitoring **8** moves in and out.

The proximity switch monitors the indicator pin and outputs a signal once per revolution.

* Special sensors on request

The function monitoring is attached without specification at position "13L".



Accessories: (please order no. specify)



Screwing material

Order no.

11.1	Outlet must be 10 !	
11.2	T-fitting L-T 10	950.401-09
11.3	Angle screw connection L-W 10	950.300-85
11.4	Cross screw connection L-K 10	950.500-59
11.5	Pipe, connection any place	112.585-43
11.6	Pipe, connection every 2nd place	112.585-44
11.7	Pipe, connection every 3rd place	112.585-45
11.8	Pipe, upper level	112.585-42
11.9	Pipe, lower level	112.585-41

The outlets of the pump unit can be combined in a simple way using the listed pipe and fitting sets. When ordering, it is necessary to specify which places are to be combined and where exactly the outlet(s) is/are to be placed. If two pump elements are to be combined, they must be mounted at adjacent positions (position 1 and 2 or position 2 and 3).

Pressure limitation:

Attachment parts for pump elements and pressure limitations of the pump elements see \Rightarrow P0386!



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Accessories for filling connector: Connecting cable for mon		or monitoring:	
for filling connector "V":	V	Operating voltage: Cable diameter: Protection class:	10 30 VDC 5x0,34 mm ²
(p _{max} = 200 bar)		Protection class: DIN EN 60529 IF Connection type: Fem M12x1, 5-pin	Female M12x1, 5-pin, 0°
Connection thread G 1/4i Order no.	110.135-66K		Order no.
Connection thread G 3/8i		Cable length 5 m: Cable length 10 m:	913.406-13 913.406-14
Order no.	110.135-65K	Cable length 15 m:	913.406-15

Mounting accessories:

Mounting bracket for wall mounting Installation space and possible c ing brackets must be checked in each individual case.

Mounting bracket with mounting material

ng with mounting material for pump.	Order no.	112.585-65K
combination of the customer-specific pump with the mount-	Order no.	112.585-66K

- Subject to modifications -





112.585-66K





Technical documents also valid for this product:

B9003 EN Operating instruction GMF-F

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