

1.6 ProMinent® DULCO®flex Pumps

1.6.1

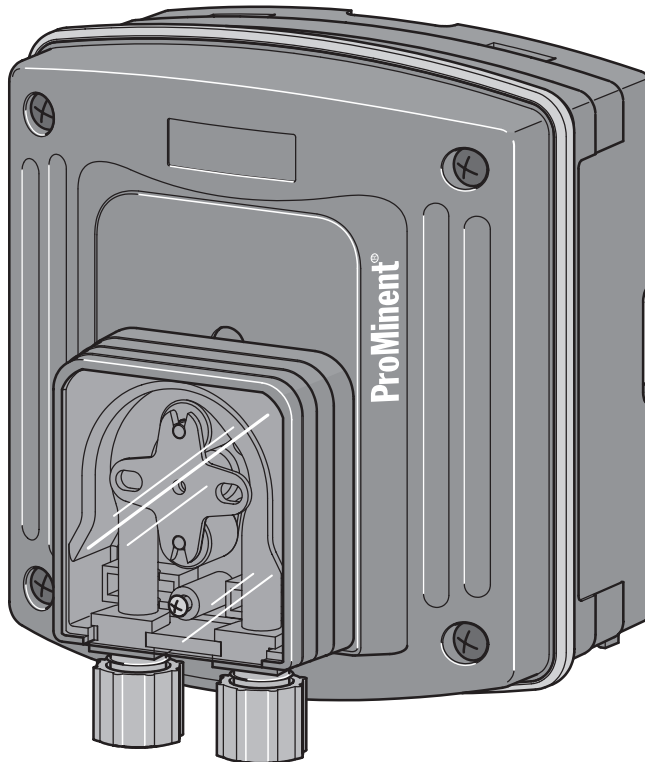
ProMinent® DULCO®flex Pumps

- Performance range 0.4-2.4 l/h at max. 1.5 bar back pressure
- Hose material: PharMed® or Viton® (special applications)
- Suitable for continuous operation
- Control and/or quantity control via mains ON/OFF
- Practically silent operation
- Self-priming against max. 1.5 bar
- Gentle metering
- Optional in built pulse duration (10:1 manual adjustment)
- Timer Pump refer Page 1.11

The ProMinent® DULCO®flex is a peristaltic pump. The metering chemical is displaced in the direction of flow as a rotor squeezes the hose. No valves are required which ensures that the chemical is treated extremely gently.

Typical applications are processes in which only a limited feed pressure is required such as the metering of conditioning agents in private pools, belt lubricants in bottling machines or the metering of cleaning agents in rinsing machines.

The robust, chemical-resistant PPE housing is protected on all sides from spray (IP 65), which guarantees its universal application capability. OEM versions are available on request.



1.6.2 ProMinent® DULCO®flex Pumps

1.6.2 Identcode

DF2a

DULCO®flex System, Version a

Type	Capacity:
0204	1.5 bar: 0.4 l/h ParMed® supplied as standard
0208	1.5 bar: 0.8 l/h ParMed® supplied as standard
0216	1.5 bar: 1.6 l/h ParMed® supplied as standard
0224	1.5 bar: 2.4 l/h ParMed® supplied as standard
P	Hose material:
V	ParMed®
	Viton® for fragrances (special version)
0	Version:
1	With ProMinent® label
	No ProMinent® label
0	Hydraulic connection:
9	Connector for hose 6/4 mm priming and discharge side
	Connector for hose 10/4 mm discharge side only
A	Electrical connection:
B	230 V ±10 %, 50/60 Hz
	115 V ±10 %, 50/60 Hz
0	Lead and plug:
1	No mains lead
	With 2 m mains lead, open ended
0	Drive:
	Mains ON/OFF
W	Assembly type:
	Wall mounted
0	Accessories:
1	No accessories
	With weight held in place tube nozzle & clamp ring
	1/4" Dosing Valve, 2 m suction and 5 m discharge tubing
0	Control Type
T	No Control
	Mounted on Board with 240 volt 7-day Timer

PharMed® and Viton® are registered trademarks.

DF2a 204 P 0 0 A 0 0 W 0 T

Technical Data

Pump type DULCO®flex	Feed rate/Frequency			Connector size ext. dia. x int. dia	Suction Lift mWG	Priming Lift mWG
	bar	l/h	rpm			
0204	1.5	0.4	5	6x4	4	3
0208	1.5	0.8	10	6x4	4	3
0212	1.5	1.6	20	6x4	4	3
0224	1.5	2.4	30	6x4	4	3

Admissible ambient temperature: 10-45 °C
 Power consumption approx.: 5 W
 Switching duration: 100 %
 Enclosure rating: IP 65

Spare Hose Set PharMed® 1009480.
 Spare Hose Set Viton® 1023842.

1.6.3 ProMinent® DULCO® flex Pumps

1.6.3

ProMinent® DULCO® flex DF4a Pumps

- Capacity range 0.4 - 12 l/h at max. 4-12 bar
- Hose material Pharmed® and Tygon®
- Powerful stepper motor, controlled speed
- Infinite adjustment of metering rate, manually or externally via contacts or 0/4-20mA analogue signal
- Intake function (high speed)
- Sprung rollers for constant rolling pressure and extended service life of hose
- Metering rate displayed in l/h
- Direction of rotation reversible e.g. for backflush
- Enclosure type of protection IP65 in accordance with DIN EN 60529

The DULCO®flex DF4a was specifically developed for metering chemicals in swimming pool applications.

It is available in three versions with the system control menu as well as the inputs and outputs adapted to the respective application:

- 1 "Metering of activated carbon" with reversible direction of rotation for backflushing the hose over the entire output range.
- 2 "Metering of flocculants" with a continuous metering rate as from 5 ml/h. Up to two auxiliary inputs can be configured to realise an increase in the metering rate in line with sudden increased load and a reduction in the metering rate for night-time operation.
- 3 "Standard pump" as a volume-controlled metering pump for general applications. The metered quantity can be set either in l/h in the display or via external control signals. The pump can process contact signals as well as analogue signals, e.g. 0/4 - 20 mA or 0 - 10 V

Thanks to its universal operability and the three output stages, the pump can be used for a wide range of metering tasks. Pharmed® and Tygon® are used as the hose materials.



Dulcoflex DF4a

1.6.4 ProMinent® DULCO® flex Pumps

1.6.4 Identcode

DF4a Application

0	Standard Pump
A	Activated carbon metering
F	Flocculant metering
Installation	
W	Wall mounting
Version	
0	with ProMinent® logo
1	without ProMinent® logo
Type bar l/h	
04004	4.0 0.4
04015	4.0 1.5
03060	2.5 6.0
02120	2.0 12.0
Hose material	
P	PharMed® <i>Note: PharMed® Not suitable for some liquid polymers</i>
T	Tygon® <i>Note: Tygon® Not available for 04004</i>
Hydraulic connectors	
0	Standard
9	Special connection 10x4 pressure side
Power supply	
U	100-240 V, 50/60 Hz
Cable and plug	
0	Without cable
C	With Australian Plug
Accessories	
0	Without accessories
1	Injection valve, suction weight, suction & discharge tube
Main material	
0	None
Language	
00	Language neutral
Relay	
1	Fault indicating relay NC
3	Fault indicating relay NO
Control Variants	
0	Manual + external contact
2	Manual + external contact + 0/4-20 mA
8	Manual + external contact + 0/4-20 mA / 0-10 V
Additional Inputs	
1	Pause + 2 stage level + AUX 1
2	Pause + 2 stage level + AUX 1 + AUX 2
Pause/level	
0	Pause break contact + level break contact
Approvals	
01	CE-Symbol

DF4aF W 0 04015 P 0 U C 1 0 00 3 2 2 0 01 Tygon® and PharMed® registered trademarks.

SPARE PARTS	Part No	Description	Size	Material	Model
	1034997	tube cpl.	0.8 x 4.0	PharMed®	DF4a04004
	1030722	tube cpl.	1.6 x 4.8	PharMed®	DF4a04015
	1030775	tube cpl.	1,6 x 4.8	Tygon®	DF4a04015
	1030723	tube cpl.	3,2 x 6.4	PharMed®	DF4a03060
	1030776	tube cpl.	3.2 x 6.4	Tygon®	DF4a03060
	1030774	tube cpl.	4.8 x 8.0	PharMed®	DF4a02120
	1030777	tube cpl.	4.8 x 8.0	Tygon®	DF4a02120
	1030778	Rotor cpl.	size 1	black	DF4a04015P, DF4a04004P
	1031750	Rotor cpl.	size 2	grey	DF4a04015T, DF4a03060P, DF4a02120P
	1031153	Rotor cpl.	size 3	blue	DF4a03060T
	1031164	Rotor cpl.	size 4	orange	DF4a02120T

The colour for the rotors denotes spring tension and relates to the expected life of the Tygon tubes

Black	= PharMed® 1.6x4.8 and 0.8x4.0	Grey	= Tygon® 1.6 x 4.8
Grey	= PharMed® 3.2x6.4	Blue	= Tygon® 3.2 x 6.4
Grey	= PharMed® 4.8x8.0	Orange	= Tygon® 4.8 x 8.0