



Micro Dosing Unit

- Diaphragm Pump
- Self priming
- Precision Dosing
- Pumps in both Directions
- Integrated Electronics, easy to use



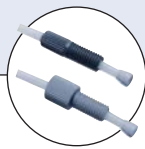
Type 6624 TwinPower

10 mm Rocker valve



Type 6626 TwinPower

16 mm Rocker valve



Type TVU003

Ferrules, Tubing

Bürkert's Micro Dosing Unit has been designed for precise dosing applications in the microliter range. It combines high dosing accuracy and precision with excellent chemical inertness. The unit is comprised of three valves which can be opened simultaneously for flushing. Active inlet and outlet valves enable the device to pump liquid in two directions. This feature can be used to mix fluids inside a tube or channel or to constantly keep them in motion. Reagents can be sucked back from the dispensing tip to prevent drying out after dosing. The integrated heating function heats up the valves and the media, and the unit comes along with dry running capabilities.

Applications

- Dosing applications in medical, analytical and biomedical applications
- Replacement of syringe pumps
- Pipetting of liquids
- Water analysis
- Lubricant dosing

Technical Data	
Body Material	PEEK
Seal Material	FFKM; EPDM on request
Fluids	Neutral and aggressive liquids (see Chemical Resistance Chart)
Fluid Temperatures	+15 to 60 °C (FFKM) +5 to 60 °C (EPDM) ¹⁾
Ambient Temperature	+10 to +55 °C ¹⁾
Dosing Quantity	Calibrated at 5 µl/stroke +/-1.5%; max. ca. 8ml/min; both directions ²⁾
Pump Frequency (Frequency Mode)	5Hz (Standard) 10Hz; 25Hz; 40Hz
Length of Voltage Impulse (Impulse Mode)	> 120 ms
Repetition accuracy	+/-2% ²⁾
Max. Outlet Pressure	1.0 bar ³⁾
Max. Suction Lift	> 2m (dry); > 4m (wet)
Duty Cycle	100%
Voltage	12 V/DC, 24 V/DC
Voltage Tolerance	± 10%
Power Consumption	11W (short term); 5W
Electrical Connection	e.g. suitable for connection to Molex plug no. 50-57-9404
Installation	Variable, unit with two holes for M3 fixing screws
Fluid Connection	Sub-base connection; UNF 1/4-28
Protection class	IP40
Lifetime	Approx. 20 Mio cycles (at 20 °C; 10 Hz; water)
Dimensions (L x W x H)	50 x 28.5 x 70mm (UNF 1/4-28) 44 x 39.5 x 70mm (sub-base)
Max. Viscosity	< 250 mm ² /s
Weight	ca. 120 g

¹⁾ For lower temperatures the unit can be electrically preheated.

²⁾ At 20°C ambient temperature, medium degassed DI water, 5 Hz, no backpressure

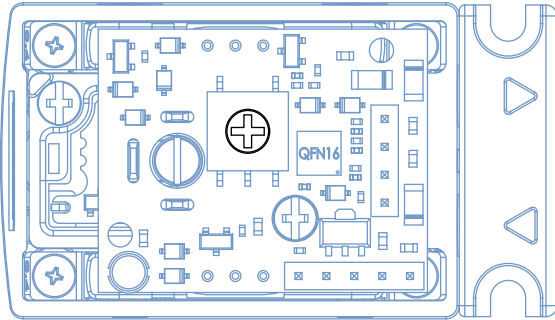
³⁾ Relative pressure

Function Mode

Different modes allow for a high level of customisation:

Impulse mode: An electrical power signal of 120ms length creates a dosing of 5µl at a time. Higher volumes can be dosed by repeating the signal.

Frequency mode: The unit runs with a predefined frequency. Frequencies between 5Hz and 40Hz can be selected. The standard setting is 5Hz.



Rotary Switch to select Mode

0 = Impulse Mode >120ms

1 = Frequency Mode 40 Hz

2 = Frequency Mode 25 Hz

3 = Frequency Mode 10Hz

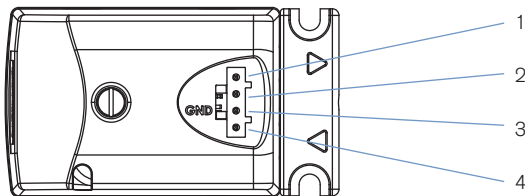
4 = Frequency Mode 5Hz (Standard)

5 = Service Mode 5Hz (pump stops after 100 cycles).

6 = Quick Impulse Mode, >50ms

Electrical Connection

PIN	Forward dosing	Reverse dosing	Flush Mode (all valves open)	Heating Up Mode (Heat up unit at low temperatures)
1 (Supply)	+	+	not connected	+
2 (Reverse)	not connected	+	+	+
3 (Ground)	-	-	-	-
4 (Forward)	+	not connected	+	+



Materials

Body:	PEEK
Seal material:	FFKM (EPDM on request)
Cover:	PPS
Ground plate, screws:	Stainless steel
Sub-base plate, threaded plate UNF 1/4-28:	PEEK

Dosing

Function mode	Dosing per stroke	Repetition accuracy	Max. possible dosing
0 = Impulse 120 ms	5 µl	+/- 2 %	2.4 ml/min
1 = Frequency 40 Hz	ca 3,8µl		> 8ml/min
2 = Frequency 25 Hz	4.6 µl	ca. +/- 5 %	7 ml/min
3 = Frequency 10 Hz	4.95 µl	< +/- 2.5 %	3.0 ml/min
4 = Frequency 5 Hz	5.0 µl	+/- 2 %	1.5 ml/min
5 = Service Mode 5 Hz	5.0 µl	+/- 2 %	500µl
6 = Impulse 50 ms	4.8 µl	+/- 2.5%	5.8 ml/min

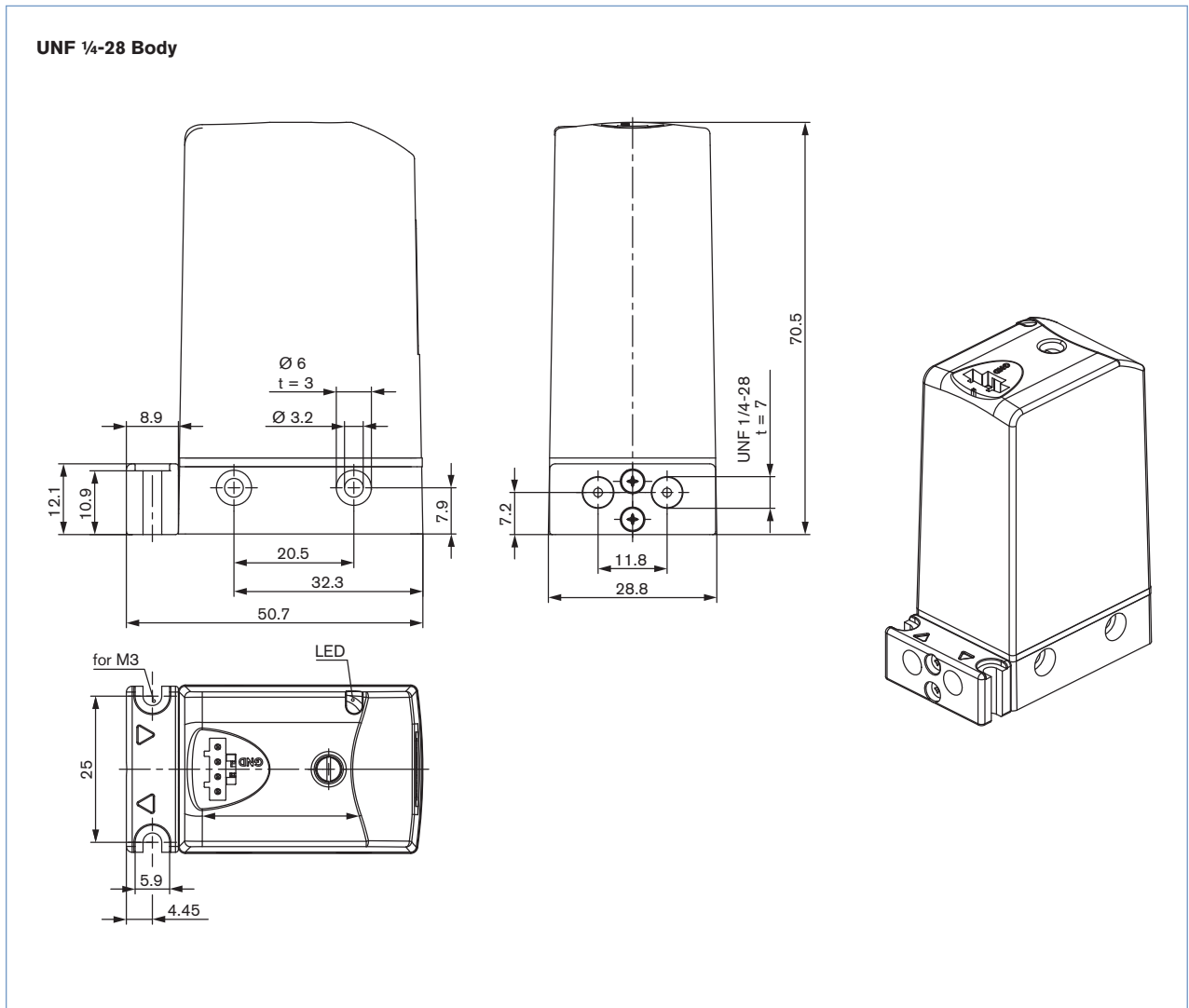
All values are indicative and may vary according to the conditions of use.

Ordering Chart

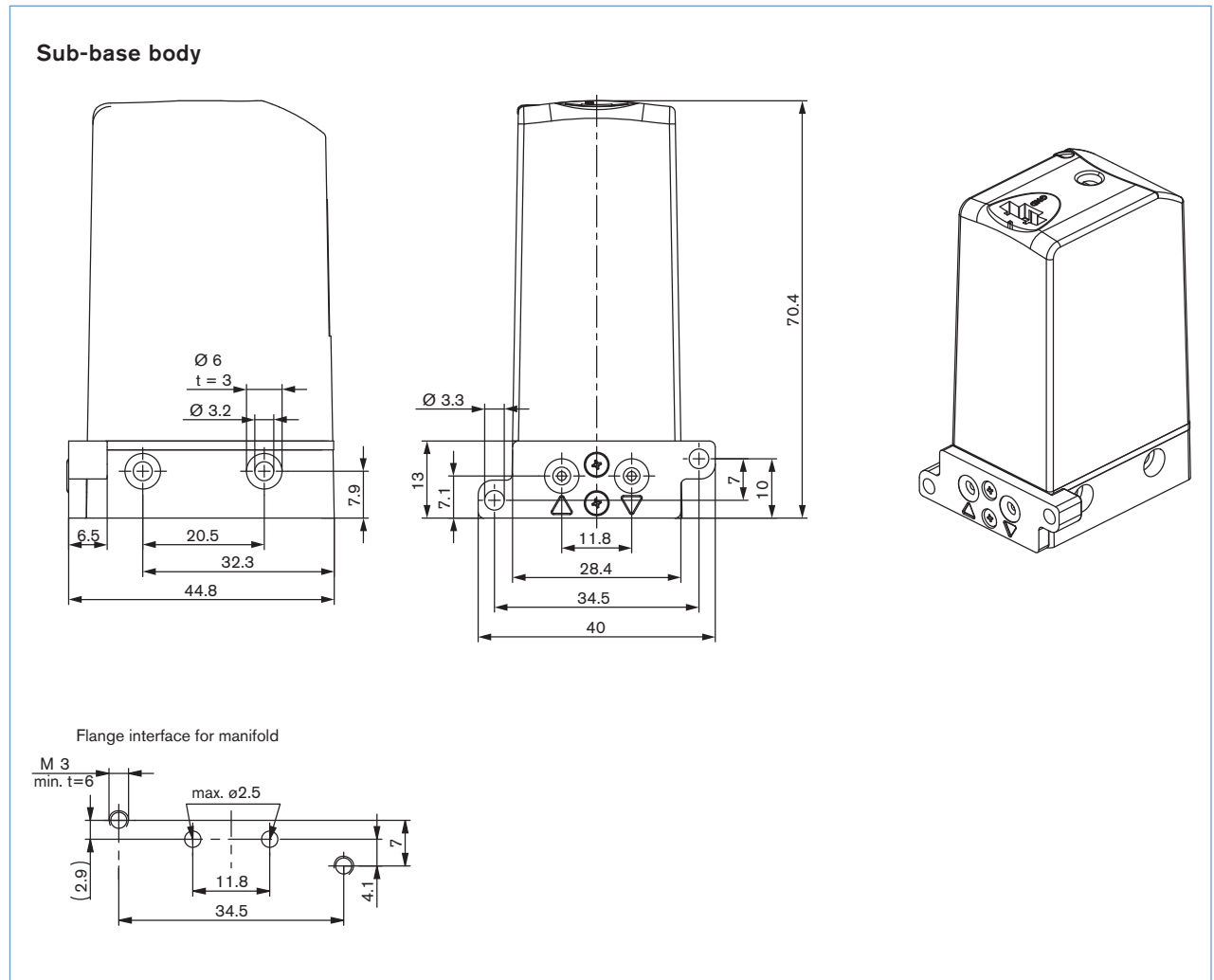
Version	Voltage	Connection	Seal material	Function mode ⁴⁾	Item no.
Standard	24V DC	Sub-base	FFKM	5 Hz (Frequency mode)	238 190
Standard	24V DC	UNF 1/4-28	FFKM	5 Hz	215 793
Standard	24V DC	Sub-base	FFKM/EPDM	5 Hz	238 193
Standard	24V DC	UNF 1/4-28	FFKM/EPDM	5 Hz	238 194
Standard	12V DC	UNF 1/4-28	FFKM/EPDM	5 Hz	238 195
FEP-Leads 500 mm with 4-pole connector	12-24V				683 613

⁴⁾ Mode can be changed please see manual

Dimensions [mm]



Dimensions [mm], continued



Patent pending.

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In case of special application conditions,
please consult for advice.

Subject to alteration.
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