

NEMESYS[®] DOSING UNIT

High Precision Syringe pump

Features

The dosing module is a pulsation-free dosing unit for high-precision dosing of fluid streams in the range of microlitres and nanolitres. Connect up to 12 of these modules to a BASE-module.



Mechanical Data

Weight 1,3 kg
Dimensions (L x W x H) 310 x 47 x 56 mm

Electrical Data

Power Supply Voltage 24 VDC
Dosing Unit Current typical at 24 VDC 0,3 A
Dosing Unit Current peak at 24 VDC 0,6 A

Environment

Operating Temperature 0°C to 45°C
Storage Temperature -40°C to 75°C
Operating Humidity 20% to 80%, non-condens.
Storage Humidity 20% to 80%, non-condens.

Interfaces

CAN max. 1 Mbit / s
RS-232 max. 115200 bit/s

Configuration

Gear 14,1 (optional 1 / 23,7 / 29,2)
Syringes outer diameter 6 to 30 mm
Syringes stroke 62 mm

Valve

Body material PEEK
Seal material FFPM (EPDM, FPM)
Temperature media 10 to +40°C
Viscosity max. 20 mm²/s
Internal Volume < 13 µl
Orifice DN 0.6 mm or 1,35 mm
Port connection Flange, UNF 1/4"-28

Dosing Performance

Gear	1,0	14,1*	23,7	29,2
Pusher Velocity min (nm/s)	383,333	27,259	16,190	13,146
Pusher Velocity max (mm/s)	89,000	6,329	3,759	3,052
Pusher Force max. (N)	40	390	660	815
Syringe 0,5 µl / 60 mm stroke				
Flow Rate min (pl/min)	191,667	13,630	8,095	6,573
Flow Rate max (µl/min)	44,500	3,164	1,879	1,526
Dosing Vol. min (pl) = 1 step	4,100	0,289	0,172	0,140
Syringe 100 µl / 60 mm stroke				
Flow Rate min (nl/min)	38,333	2,726	1,619	1,315
Flow Rate max (ml/min)	8,900	0,633	0,376	0,305
Dosing Vol. min (pl) = 1 step	8,138	0,579	0,344	0,279
Syringe 2,5 ml / 60 mm stroke				
Flow Rate min (µl/min)	0,958	0,068	0,040	0,033
Flow Rate max (ml/min)	222,500	15,822	9,397	7,630
Dosing Vol. min (pl) = 1 step	203,450	14,468	8,593	6,977
Syringe 25 ml / 60 mm stroke				
Flow Rate min (µl/min)	9,583	0,681	0,405	0,329
Flow Rate max (ml/min)	2225,000	158,222	93,973	76,303
Dosing Vol. min (pl) = 1 step	406,900	28,936	17,186	13,954

*standard configuration



Valve options

Orifice	Working Pressure (max)	Materials
DN 0.60 mm*	3 bar	FFPM / EPDM / FPM
DN 1.35 mm	1 bar	FFPM / EPDM / FPM

*standard configuration

Mechanical Drawing

