

NEMESYS SINGLE

High Precision Syringe Pump

Features

The SINGLE-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 STARTER-module or even up to 32 SINGLE-modules to a BASE-module.



Mechanical Data

Weight 1,8 kg
Dimensions (L x B x H) 310 x 56 x 126 mm

Electrical Data

Power Supply Voltage 9 – 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 -10°C to 45°C
Storage Temperature -40°C to 45°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)
3-Way-Valve optional
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)	833,33	59,26	35,20	28,58
Pusher Velocity max (mm/s)	16,67	5,93	3,52	2,86
Smallest step (µm)	0,488	0,035	0,021	0,017
Step Rate min. (step/sec)	1,71	1,71	1,71	1,71
Pusher Force max. (N)	25	290	290	290
Syringe 0,5 µl / 60 mm stroke				
Flow Rate min (pl/s)	6,944	0,494	0,293	0,238
Flow Rate pulsation-free min (nl/s)	0,139	0,010	0,006	0,005
Flow Rate max (µl/s)	0,139	0,049	0,029	0,024
Dosing Vol. min (nl) = 10 steps	0,041	0,003	0,002	0,001
Syringe 100 µl / 60 mm stroke				
Flow Rate min (nl/s)	1,389	0,099	0,059	0,048
Flow Rate pulsation-free min (nl/s)	27,778	1,975	1,173	0,953
Flow Rate max (µl/s)	27,778	9,877	5,866	4,763
Dosing Vol. min (nl) = 10 steps	8,138	0,579	0,344	0,279
Syringe 25 ml / 60 mm stroke				
Flow Rate min (µl/s)	0,347	0,025	0,015	0,012
Flow Rate pulsation-free min (µl/s)	6,944	0,494	0,293	0,238
Flow Rate max (ml/s)	6,944	2,469	1,467	1,191
Dosing Vol. min (µl) = 10 steps	2,035	0,145	0,086	0,070

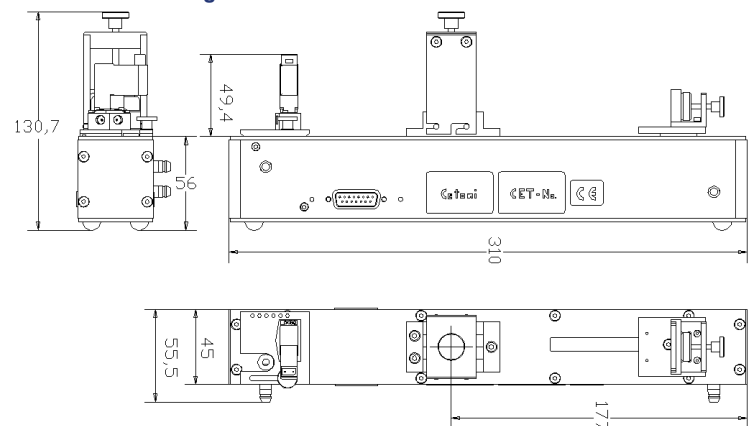
*standard configuration

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



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