

EVO 3 Syringe Pump

- Programmable, maintenance free, precision liquid metering device
- 30 mm stroke driven via stepper motor and precision lead screw
- Available in two mechanical resolutions: 3K, 24K
- Highly flexible and versatile to meet a variety of system configurations
- Exceptional precision, accuracy and lifetime performance
- Available with or without an advanced controller
- Can be used as a stand-alone controller or integrated into more complex systems



Technical features

Environmental

Operating Temperature:
15°C ... 40°C

Operating Humidity:
20% ... 80% Relative Humidity
at 5°C ... 30°C
and <50% at 31°C ... 40°C

Storage Temperature:
–33°C ... 71°C

Noise:
< 65dBA

Lifetime:
> 2 Million cycles
[1 cycle = 1 full dispense and aspirate move]

Mechanical

Operation:
Any orientation

Mounting Holes:
Top and bottom
Side

Resolutions:
3K, 24K steps

Performance Speed:
1.2s ... 20min per stroke

Precision:
0.50% CV at 1/10th dispense
0.05% CV at full stroke dispense

Accuracy:
< 1% at full stroke dispense

Electrical Connection:
15 pin DSUB "Power/COMM"

Communication Options:
RS-232, RS485

Power Requirements:
24VDC (± 5% allowance)

Power Consumption:
36 watts max

Rotary Valve Options:
Up to 12-way

Syringe Options:
50µl to 5mL

Compliance:
RoHS Compliant



EVO 3 Pump

All pumps are offered with a pre-assembled valve. Replacement valves and syringes (not included) may be purchased separately.

Valve Description	3K Resolution	24K Resolution
None (rotary valve feature)	300030	300240

See below for additional valve options.

Other combinations not shown in the table above are available upon request.

Rotary Ceramic Valves		
P/N	Orifice Size (in/mm)	Valve Type
30138	0.031	2-Way Distribution
30149	0.059	2-Way Distribution
30139	0.031	3-Way Distribution
30150	0.059	3-Way Distribution
30140	0.031	4-Way Distribution
30151	0.059	4-Way Distribution
30141	0.031	5-Way Distribution
30152	0.040	5-Way Distribution
30142	0.031	6-Way Distribution
30153	0.040	6-Way Distribution
101034	0.031	8-Way Distribution
101035	0.040	8-Way Distribution
101036	0.031	12-Way Distribution
101038	0.040	12-Way Distribution

Wetted Materials: PEEK, Alumina Ceramic, FFKM PTFE.

These valves are lubricated.

P/N	Orifice Size (in/mm)	Valve Type
30144	0.031	3-Way Non-Distribution
30155	0.059	3-Way Non-Distribution
30145	0.031	4-Way Non-Distribution
30156	0.059	4-Way Non-Distribution
30147	0.031	6-Way Non-Distribution
30158	0.040	6-Way Non-Distribution

Valve Description	3K Resolution	24K Resolution
30144	0.031	3-Way Non-Distribution
30155	0.059	3-Way Non-Distribution
30145	0.031	4-Way Non-Distribution
30156	0.059	4-Way Non-Distribution
30147	0.031	6-Way Non-Distribution
30158	0.040	6-Way Non-Distribution

Rotary Plug Valves		
P/N	Orifice Size (in/mm)	Valve Type
23272	0.059	2-Way Distribution
20051	0.031	2-Way Distribution
20052	0.059	3-Way Distribution
20053	0.076	3-Way Distribution
25393	0.031	4-Way Distribution
25394	0.059	4-Way Distribution
25395	0.076	5-Way Distribution
25396	0.031	5-Way Distribution
25397	0.059	6-Way Distribution
25398	0.076	6-Way Distribution
25399	0.031	8-Way Distribution
25400	1mm	8-Way Distribution
25401	0.031	12-Way Distribution
25402	1mm	12-Way Distribution

Wetted Materials: PCTFE, PTFE.

These valves are lubricated.

P/N	Orifice Size (in/mm)	Valve Type
28391	0.031	3-Way Non-Distribution
28393	0.059	3-Way Non-Distribution
28395	0.076	3-Way Non-Distribution
28397	0.031	4-Way Non-Distribution
28399	0.059	4-Way Non-Distribution
28401	0.076	4-Way Non-Distribution



PTFE Syringes			
Size	Standard Assy	ZDV Assy	Orifice Size (in)
50µL	23164	27960	0.023
100µL	23165	27961	0.023
250µL	23166	28006	0.031
500µL	23167	28007	0.031
1.0mL	23168	28008	0.073
2.5mL	23169	28009	0.073
5.0mL	23170	28010	0.073

Wetted materials: Borosilicate glass, PCTFE, PTFE

UHMW Syringes			
Size	Standard Assy	ZDV Assy	Orifice Size (in)
50µL	24411	27958	0.023
100µL	24412	27959	0.023
250µL	24413	28011	0.031
500µL	24414	28012	0.031
1.0mL	24415	28013	0.073
2.5mL	24416	28014	0.073
5.0mL	24417	28015	0.073

Wetted materials: Borosilicate glass, PCTFE, PTFE

Zero Dead Volume (ZDV) syringes have a pointed plunger tip to minimize carryover. All syringes are lubricated with Silicone oil. For more information on syringes please consult PSD-0006 or visit our website.

Rotary Face Valves		
P/N	Orifice Size (in/mm)	Valve Type
23324	0.059	3-Way Distribution
24643	0.020	4-Way Distribution
23325	0.059	4-Way Distribution
23326	1mm	5-Way Distribution
23327	1mm	6-Way Distribution

Wetted Materials: PPS, XP-113, PTFE. These valves are also lubricated.

P/N	Orifice Size (in/mm)	Valve Type
23562	0.059	3-Way Non-Distribution
23563	0.059	4-Way Non-Distribution

Option selector

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Resolution	Substitute
3K	03
24K	24

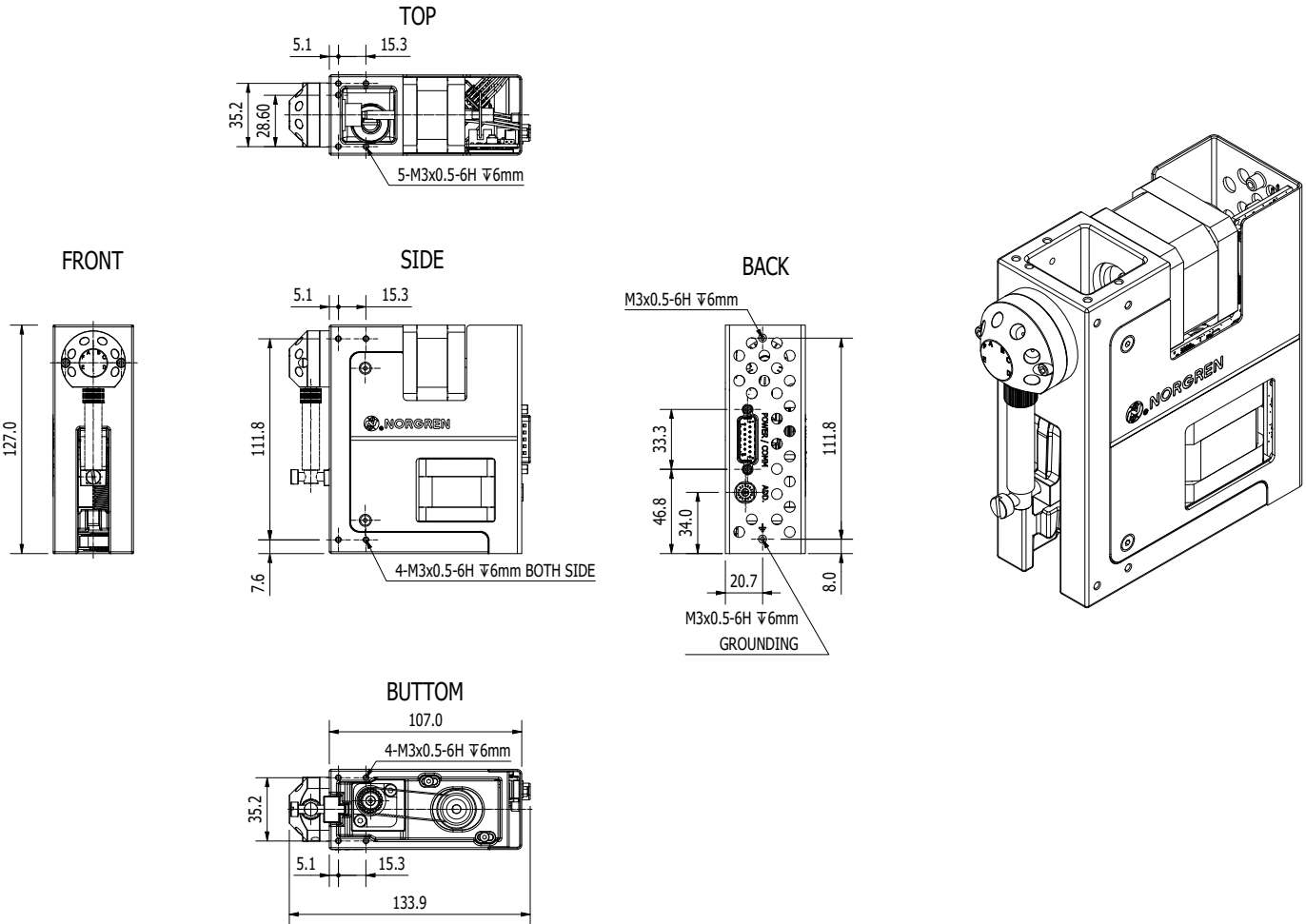
P/N	Substitute
Rotary Valves P/N	see P/N table

Valve Notes:

Port connection is 1/4-28 UNF. For more information on valves, consult PSD-0031 or visit our website. All valve ports are accessible when using syringes listed and spring-loaded fittings (recommended). Valve weep hole port connection is #6-40 UNF-2A. For use with 1/16" OD tubing.

Syringe Notes:

Please purchase separately.



Warning

Improper selection, misuse, age or malfunction of components used in systems can cause failure in various modes. The system designer is warned to consider the failure modes of all component parts and to provide adequate safeguards to prevent personal injury or damage to equipment or property in the event of such failure modes.

System designers and end-users are cautioned to consult instruction sheets and specifications available from the factory. The system designer/end-user is responsible for verifying that all requirements for the application are met.

Due to unlimited application, system conditions and chemistries, it is the buyers responsibility to validate the product within their specific application.