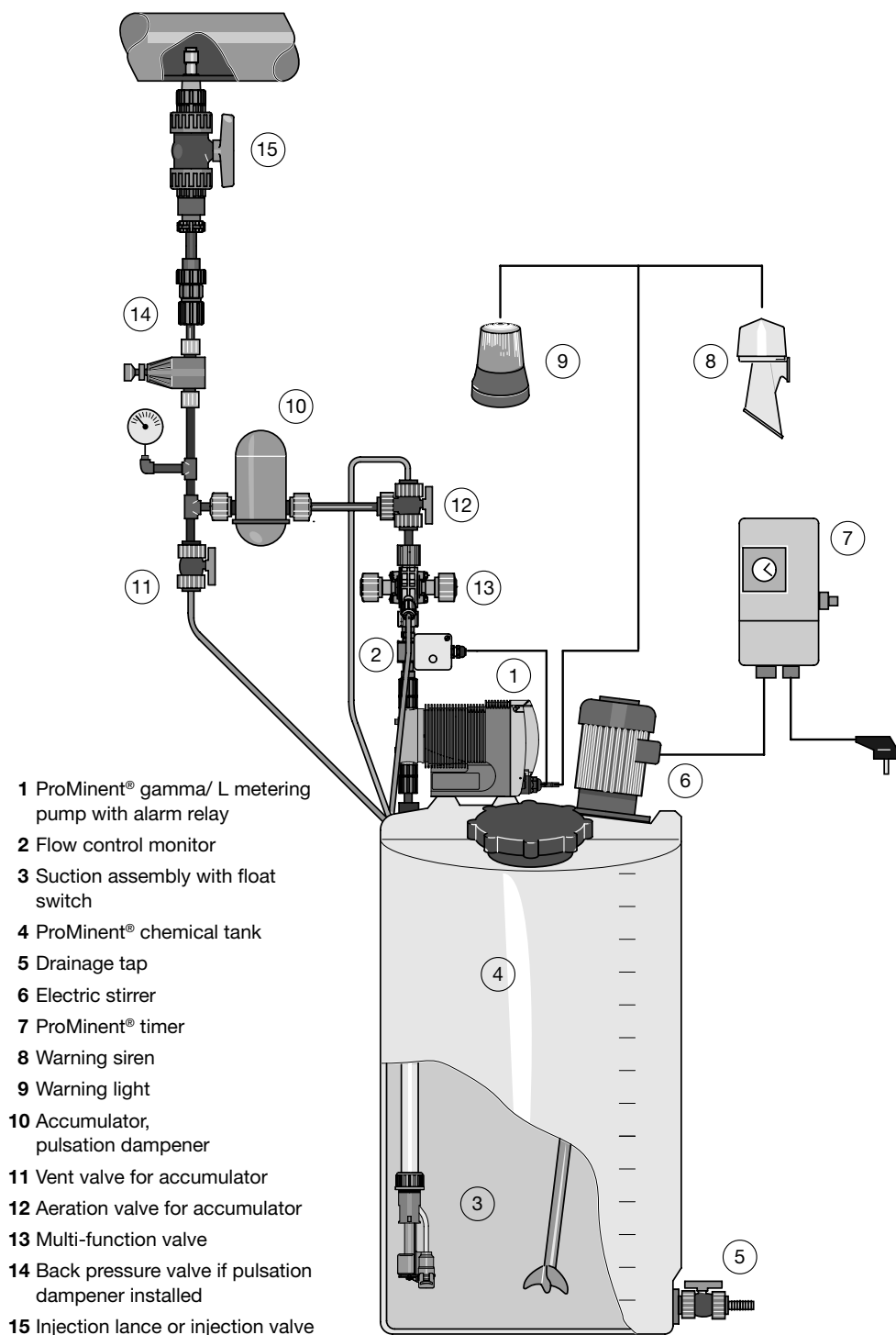


1.1 ProMinent: Innovations In Chemical Feed Technology

1.1.3 ProMinent® Dosing Station: Comprehensive Accessory Range Ensures Processing Safety

Note: Excessive pressure can built up if solenoid metering pumps are used where a discharge line is blocked, or a line is closed off via a stop valve. In these conditions, therefore, we strongly advise the use of a multifunction valve (13).

When metering at atmospheric pressure the pump can achieve several times the stated feed rate. For this reason we recommend installing a multi-function valve (13).



- 1 ProMinent® gamma/ L metering pump with alarm relay
- 2 Flow control monitor
- 3 Suction assembly with float switch
- 4 ProMinent® chemical tank
- 5 Drainage tap
- 6 Electric stirrer
- 7 ProMinent® timer
- 8 Warning siren
- 9 Warning light
- 10 Accumulator, pulsation dampener
- 11 Vent valve for accumulator
- 12 Aeration valve for accumulator
- 13 Multi-function valve
- 14 Back pressure valve if pulsation dampener installed
- 15 Injection lance or injection valve

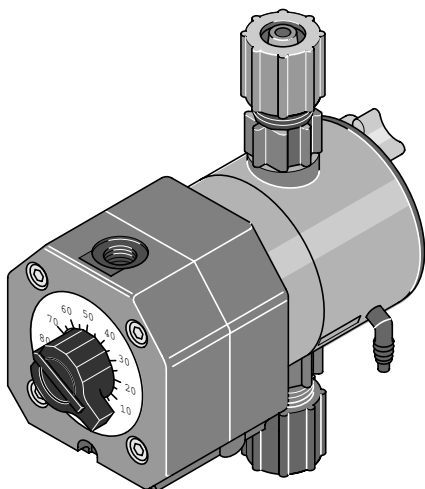
1.7 ProMinent® Pneumados Dosing Pumps

1.7.1 ProMinent® Pneumados Dosing Pumps

ProMinent® Pneumados is a newly developed pneumatically driven dosing pump operating in the capacity range of max. 0.9-15 l/h at a max. back pressure of 16-1.5 bar.

The Pneumados consists of a one way pneumatically driven power end and gamma/ 4 dosing pump liquid ends type 1601-0215. The pump capacity can be varied between 100-10 % by adjusting the stroke length and stroking rate. Externally activated electromagnetic or pneumatically actuated air valves allow frequency adjustment up to 120 dosing strokes/min. The dosing stroke is produced by compressed air, the suction stroke by a return spring. The compressed air requirement is approx. 25 l/min. at 6 bar. It may contain oil, or be oil filtered, oil filtered is preferred.

The Pneumados is very simple to set. The only requirement is compressed air matched to the stroking rate. The required ancillary equipment, such as pneumatic solenoid valve, electrical and pneumatic timers and connector parts are supplied to order.



pk_1_034

Typical applications of ProMinent® Pneumados:

Handling foodstuffs

- Dosing and spraying foodstuffs with flavourings

Coating processes

- Dosing coagulants

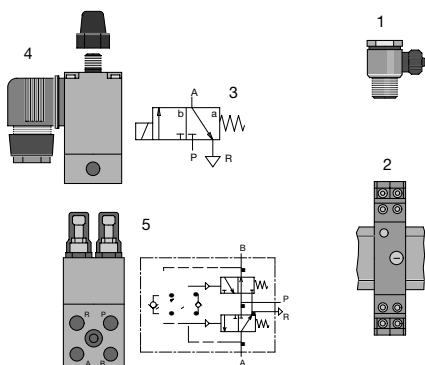
Agriculture

- Dosing of fertilisers and minerals

Car wash plant

- Dosing of cleaning agents, shampoos, brighteners, wax, drying agents and for treatment of recycling water with flocculants, pH correctors, de-foaming agents and de-emulsifiers.
- In all systems with central controllers (e.g. PLC) and compressed air supply.

Pneumatic Ancillary Equipment



pk_1_033

	Order No.
G 1/4 - 6 mm compressed air threaded connector in anodised aluminium with rotating seals; rapid quick release connector LCK 1/4" (fig. 1).	354641
G 1/8 A - 6 mm threaded connector for regulator valves with seal; threaded connector CK 1/8"	354635
G 1/8 blanking plug with seal for regulator valves; G 1/8 plug thread	467921
3/2 way pneumatic solenoid valve G 1/8 220 V 50 Hz 21 VA; solenoid valve 311 C 1/8" (fig. 3)	303054
Sound absorber in sintered bronze with M 1/8 internal thread for solenoid valve (fig 4)	303812
Electric pulse generator for assembly into protective housing on DN 50022 hat rail, adjustable stroking rate 30-120 strokes/min. Electrical connection 230 V 50-60 Hz 3.5 VA. Switch power max. 3A. Adjustable flash relay (fig. 2)	700984
For installation in Ex-protection zones, we recommend pneumatic pulse generator with mechanical regulator units, e.g. FESTO pulse generator Type 4025 VLG-41/8" (fig. 5)	303836
Wall/floor bracket in coated aluminium for wall or floor-mounting of Pneumados including fixtures and fittings Pneumados wall/floor bracket.	790605

All directives and regulations concerning use in hazardous location must be retained by the user.

1.7 ProMinent® Pneumados Dosing Pumps

Technical Data

Pump type Pneumados PND a	Max. Pump Capacity at Maximum Back Pressure			Max. Pump Capacity at Medium Back Pressure			Connector Sizes Outer Ø x Inner Ø	Suction Lift	Shipping Weight PP, NP, TT-SS
	bar	l/h	ml/stroke	bar	l/h	ml/stroke	mm	m WG	kg
1601	16	0.90	0.125	8	1.17	0.16	6 x 4	6	1.0 - 1.7
1201	12	1.55	0.215	6	1.80	0.25	6 x 4	6	1.0 - 1.7
0703	7	3.40	0.47	3.5	3.67	0.51	6 x 4	3	1.0 - 1.7
1002	10	2.09	0.29	5	2.81	0.39	8 x 5	6	1.2 - 2.4
0308	3	7.78	1.08	1.5	8.50	1.18	8 x 5	6	1.2 - 2.4
0215	1.5	14.80	2.05	1	15.80	2.20	12 x 9	1.5	1.4 - 3.0

Pneumados for highly viscous media

1002	10	2.09	0.29	5	2.81	0.39	DN 10	-	1.7
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Filtered compressed air 6 bar ±10 %, air requirement 25 l/min.

Impulse length 250 ms.

Max. Stroking rate 120 strokes per min.

Connectors

PP, NP, and TT	6, 8 and 12 mm	hose sleeve with clamping ring fitting
SS1 stainless steel	6, 8 and 12 mm	swagelok screw fitting system
SK1 stainless steel	6 mm	capillary connector 1/8" (3.2 mm)
SS2 stainless steel	6, 8 and 12 mm	internal thread 1/4" NPT
PP4	DN 10	hose sleeve d 16 - DN 10

Materials In Contact With Chemicals

	Liquid End	Suction/Discharge Connector	Seals	Balls (Connector 6 - 12 mm)	Balls (DN 10 Connector)
PP1	Polypropylene	Polypropylene	EPDM	ceramic	-
PP2	Polypropylene	Polypropylene	FPM A (Viton® A)	ceramic	-
PP4*	Polypropylene	Polypropylene	EPDM	-	ceramic
NP1	Acrylic	PVC	FPM A (Viton® A)	ceramic	-
TT1	PTFE with carbon	PTFE with carbon	PTFE	ceramic	-
SS..	stainless steel no. 1.4404	stainless steel no. 1.4404	PTFE	ceramic	-

* PP4 with Hastelloy C valve springs.

DEVELOPAN® Pump diaphragms with PTFE coating.

Viton® is a registered trademark of DuPont Dow Elastomers.

Reproducible metering accuracy ±2 % when correctly installed, refer to operating instructions manual. Permitted ambient temperature -10 °C to +50 °C.

1.7 ProMinent® Pneumados Dosing Pumps

1.7.2 Identcode Ordering System For Pneumados

PNDa	Pneumados, Version a														
	<p>Pump type:</p> <table> <tr><td>1601</td><td>Capacity: 10 bar; 0.90 l/h</td></tr> <tr><td>1201</td><td>12 bar; 1.55 l/h</td></tr> <tr><td>0703</td><td>7 bar; 3.40 l/h</td></tr> <tr><td>1002</td><td>10 bar; 2.09 l/h</td></tr> <tr><td>0308</td><td>3 bar; 7.78 l/h</td></tr> <tr><td>0215</td><td>1.5 bar; 14.80 l/h</td></tr> </table>	1601	Capacity: 10 bar; 0.90 l/h	1201	12 bar; 1.55 l/h	0703	7 bar; 3.40 l/h	1002	10 bar; 2.09 l/h	0308	3 bar; 7.78 l/h	0215	1.5 bar; 14.80 l/h		
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1002	10 bar; 2.09 l/h														
0308	3 bar; 7.78 l/h														
0215	1.5 bar; 14.80 l/h														
	<p>Liquid end material:</p> <table> <tr><td>PP1</td><td>Polypropylene with EPDM O-ring</td></tr> <tr><td>PP2</td><td>Polypropylene with FPM A (Viton® A) O-ring</td></tr> <tr><td>PP4</td><td>Polypropylene HV with EPDM O-ring, 1002 only</td></tr> <tr><td>NP1</td><td>Acrylic with FPM A (Viton® A) O-ring</td></tr> <tr><td>TT1</td><td>PTFE with carbon with PTFE seal</td></tr> <tr><td>SS1</td><td>Stainless steel, no. 1.4404, PTFE seal</td></tr> <tr><td>SS2</td><td>Stainless steel with R 1/4" NPT thread</td></tr> </table>	PP1	Polypropylene with EPDM O-ring	PP2	Polypropylene with FPM A (Viton® A) O-ring	PP4	Polypropylene HV with EPDM O-ring, 1002 only	NP1	Acrylic with FPM A (Viton® A) O-ring	TT1	PTFE with carbon with PTFE seal	SS1	Stainless steel, no. 1.4404, PTFE seal	SS2	Stainless steel with R 1/4" NPT thread
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	<p>Valve springs:</p> <table> <tr><td>0</td><td>No springs</td></tr> <tr><td>1</td><td>With 2 valve springs, 1.4571, 0.1 bar</td></tr> </table>	0	No springs	1	With 2 valve springs, 1.4571, 0.1 bar										
0	No springs														
1	With 2 valve springs, 1.4571, 0.1 bar														
	<p>Hydraulic connections:</p> <table> <tr><td>0</td><td>Standard according to technical data</td></tr> </table>	0	Standard according to technical data												
0	Standard according to technical data														
	<p>Version:</p> <table> <tr><td>0</td><td>German labels</td></tr> <tr><td>1</td><td>English labels</td></tr> </table>	0	German labels	1	English labels										
0	German labels														
1	English labels														
	<p>Power connector:</p> <table> <tr><td>0</td><td>G 1/4</td></tr> </table>	0	G 1/4												
0	G 1/4														
	<p>Controller type:</p> <table> <tr><td>0</td><td>Standard</td></tr> </table>	0	Standard												
0	Standard														
PNDa	1601 PP1 0 0 0 0 0														

Viton® is a registered trademark of DuPont Dow Elastomers.

1.7 ProMinent® Pneumados Dosing Pumps

1.7.3 Sample Order For Ancillary Equipment

	Order No.
1 x PVC foot valve with filter and Ø 6 back pressure ball	924557
1 x PVC dosing valve with Ø 6 - R 1/2 ball check valve	924680
5 m suction and discharge pipe as compressed air line, PE 6 x 4 mm	037205
1 x compressed air connector for Pneumados G 1/4 - 6 mm quick release connector LCK 1/4"	354641
1 x Pneumados wall/floor bracket	790605

For electrical controller

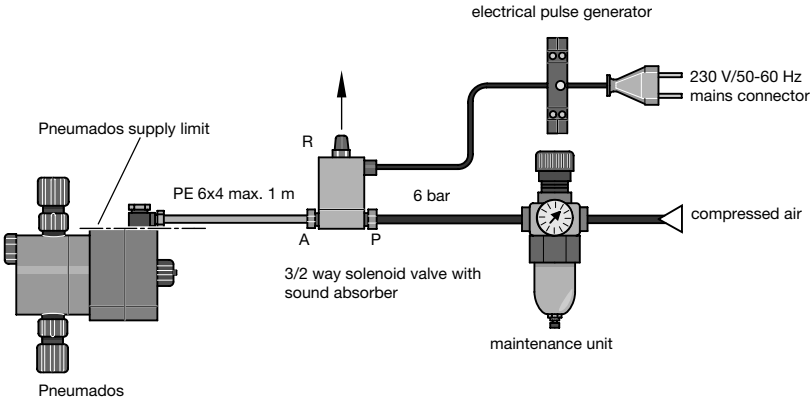
1 x 3/2 way solenoid valve 311C 1/8", 220 V	303054
2 x 1/8" threaded connector	354635
1 x 1/8" sound absorber	303812
1 x 230 V electric pulse generator	700984

For pneumatic controller

1 x pneumatic pulse generator	303836
2 x 1/8" unions	354635
1 x 1/8" blanking plug	467921

Electrical/Pneumatic controller

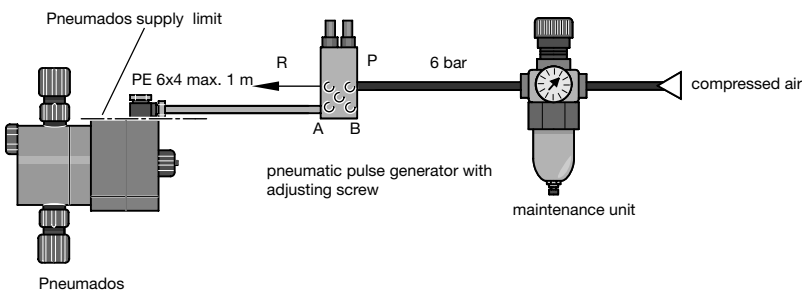
Schematic diagram



pk_1_035

Pneumatic controller

Schematic diagram



pk_1_036