

Flow rate

- From 0.6l/h to 10.08l/h

Pressure

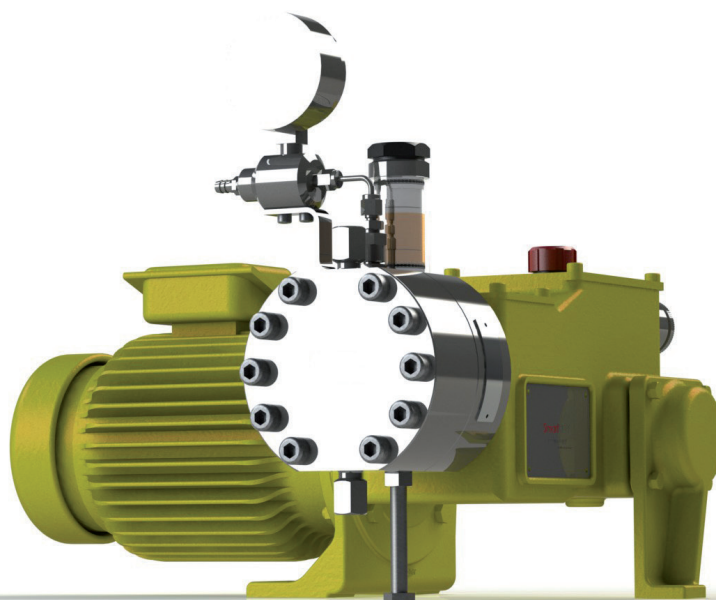
- 70 bar

Proposed materials

- 316L S.S.
- PVC or PVDF

PTFE diaphragm

API 675 compliant
CE, ATEX, NACE, ASME



DOSAPRO Pumps

Dosing pumps MILROYAL® D

Diaphragm liquid end | **Dynamic Stiffness Diaphragm** Technology

- Designed to protect the environment (in accordance with the REACH regulation)
- Reduces total pump life cycle costs
- API 675 compliant

TYPICAL APPLICATIONS

- **Gas treatment:** gas odorization, injection of mercaptan, or THT
- **Refineries:** injection of additives into fuel, injection of catalysts
- **Boiler water treatment:** treatment of make-up, circuit and discharge water (injection of corrosion inhibitor, biocides, anti-foaming agent, scale inhibitor, etc.)
- **Papermaking pulp coloring:** injection of dye ink

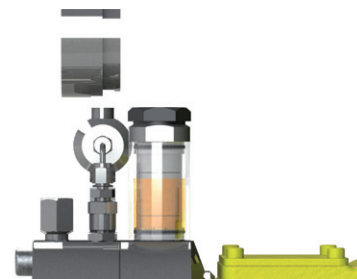
FEATURES AND BENEFITS

- **Designed to protect the environment (in accordance with the REACH regulation):**
 - > Low flow injection of highly concentrated chemicals
DSD® Technology
 - > Injection of viscous products
DSD® Technology
- **Reduced total cost:**
 - > Reduced maintenance costs: long service life rigid diaphragm
DSD® Technology
 - > Reduced maintenance operations: very few liquid end components
DSD® Technology
 - > Reduced consumables costs: just 40 ml of oil in liquid end
DSD® Technology
- **Compact footprint**
- **API 675 compliant**
- **Plastic liquid end: 35 bar**

Technical features

Main hydraulic characteristics

- Accuracy: +/- 1% over a range of 10 to 100% of nominal flow rate
- Internal six-function valve / *DSD® Technology*
 1. Safety valve
 2. Intake valve
 3. Air bleed
 4. Oil tank - just 40 ml
 5. Visual overpressure indication
 6. Visual oil level indication
- Dynamic Stiffness Diaphragm (DSD®): service life in excess of 25,000 hours - *DSD® Technology*
- Process fluid temperature: from -5°C to +70°C metallic version, up to +50°C plastic version



Materials in contact with the pumped liquid

	PLASTIC LIQUID END	S.S. 316L LIQUID END
Liquid end body	PVC or PVDF	316L
Check valve assembly	PVC or PVDF	316L
Balls	Hastelloy C	Hastelloy C
Seats	PEEK	316L
Diaphragm	PTFE 7A	PTFE 7A

Main mechanical characteristics

- Thrust 110 daN, 100% stroke = 25.4 mm
- Adjustment of flow rate while running or stopped from 0 to 100%
- Cast iron housing
- Multiplexable version up to 10 metering heads
- ATEX zone 1 and 2, T3 or T4 compliant
- Standard painting: RAL 1018, 100 µ

Specifications

Ø	FLOW (in l/h)		PRESSURE	STROKE FREQUENCY	VISCOSITY	PRESSURE AT SUCTION SIDE	CONNECTIONS	
	10 bar	P max	bar	spm	cP	bar	(Check valves) Seats / Balls	
XR71 - Stainless steel liquid end 316L								
6	0.93	0.79	70	23	60	21	1/4" NPTf (Ø 3,17mm-ND) 316L / Hastelloy C	Swept volume: 0,71 cm³ Diaphragm 71 Motor 0,25 kW
	1.86	1.58	70	46	50			
	3.77	3.2	70	93	40			
	5.67	4.82	70	140	30			
8	1.66	1.41	70	23	60		1/4" NPTf (Ø 3,17mm-ND) 316L / Hastelloy C	Swept volume: 1,27 cm³ Diaphragm 71 Motor 0,25 kW
	3.31	2.82	70	46	50			
	6.7	5.69	70	93	40			
	10.08	8.57	70	140	30			
CR71 - PVC liquid end								
6	0.93	0.85	25	23	60	7.5	1/4" Gas f (Ø 4mm-ND) PEEK / Hastelloy C	Swept volume: 0,71 cm³ Diaphragm 71 Motor 0,25 kW
	1.86	1.70	25	46	50			
	3.77	3.43	25	93	40			
	5.67	5.16	25	140	30			
8	1.66	1.51	25	23	60		1/4" Gas f (Ø 4 mm-ND) PEEK / Hastelloy C	Swept volume: 1,27 cm³ Diaphragm 71 Motor 0,25 kW
	3.31	3.01	25	46	50			
	6.7	6.09	25	93	40			
	10.08	9.17	25	140	30			
VR71 - PVDF liquid end								
6	0.93	0.79	35	23	60	10.5	1/4" Gas f (Ø 4mm-ND) PEEK / Hastelloy C	Swept volume: 0,71 cm³ Diaphragm 71 Motor 0,25 kW
	1.86	1.58	35	46	50			
	3.77	3.20	35	93	40			
	5.67	4.82	35	140	30			
8	1.66	1.41	35	23	60		1/4"Gas f (Ø 4mm-ND) PEEK / Hastelloy C	Swept volume: 1,27 cm³ Diaphragm 71 Motor 0,25 kW
	3.31	2.82	35	46	50			
	6.70	5.69	35	93	40			
	10.08	8.57	35	140	30			

The flow rates are given for 50 Hz and 1.500 rpm. The pump can be customized to your processes, for viscous products for example.

Coding | Standard & options

Standard

MILROYAL® D

MD MILROYAL® D

Stroke frequency in strokes/minute

23	See specifications table
46	
93	
140	

Motor power

Standard motor power of pump

F	0.25 kW
G	0.37 kW

Other powers

Reminder: Motor derating for multiplexing or frequency variation / Duplex = motor power x 1.2 / Triplex = motor power x 1.35

H	0.55 kW
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Pump without motor

S	Pump supplied without motor - Specify power of future motor
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PLUNGER

6	See specifications table
8	

Type of liquid end DSD®

CR	PVC liquid end
VR	PVDF liquid end
XR	S.S. 316L liquid end

Operating pressure

Indicate your operating pressure here.

The internal safety valve will be set according to this pressure.

If setting pressure ≤ 20 bar => setting pressure = working pressure + 8 bar

If setting pressure > 20 bar => setting pressure = working pressure + 8 bar + 0.7 bar per step of 10 bar

Multiplexing

-	Simplex
DX	Duplex
TX	Triplex
-	Multiplexing

MD	93	F	6	XR	70	-
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Options

Actuator	Electronic or pneumatic, ATEX zone 1-2-3 or otherwise • 4-20 mA/Profibus • 3-15 PSI
Motor	For frequency variation, ATEX, as per your specifications
Rupture detection	By pressure gauge, pressure controller or pressure switch
Special valves	Suitable for your application
Connections	NPT, GAS or ANSI or DIN flange connection, as per your specifications
Paint	As per your specifications
Housing	Low temperature

Accessories

Milton Roy Europe proposes a wide range of accessories to complete the installation of your pump.



Spare parts

Milton Roy Europe advises you on the essential wear parts to be kept on hand in order to optimize the performance of your equipment.



Packages

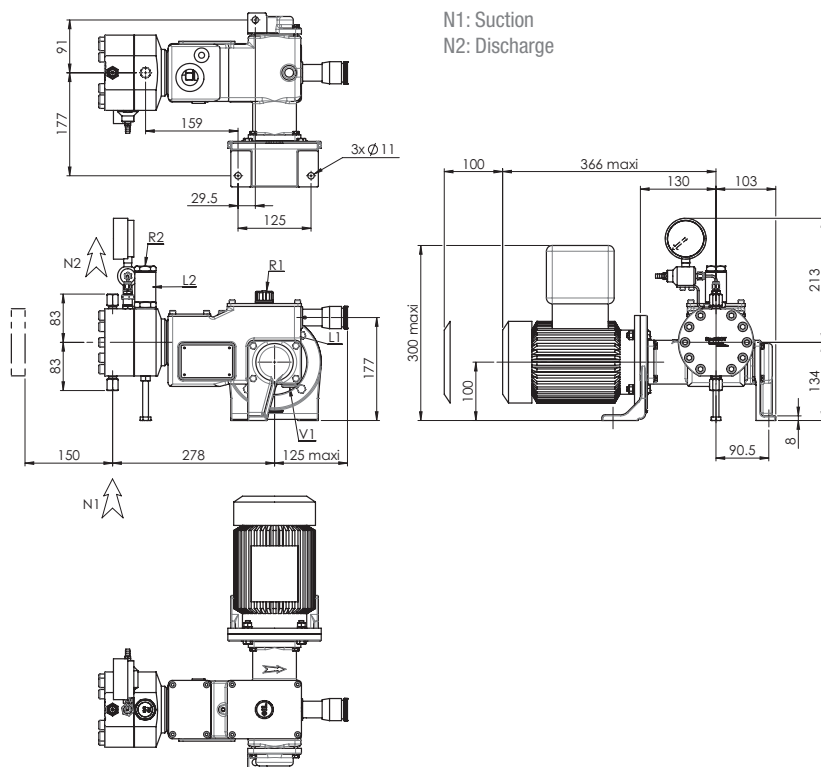
Milton Roy Europe can provide turnkey dosing solutions, from a skid-mounted pump to a complex, 100% customized package.



Dimensions and packing

VERSION	STANDARD PACKAGING	NET WEIGHT (*) kg	GROSS WEIGHT (*) kg	PACKING (mm) (L x l x h)
Simplex		30	47	810 x 560 x 560
Duplex	Full wooden box	50	74	800 x 800 x 590
Simplex + servomotor		35	59	800 x 800 x 590
Triplex		70	115	1.310 x 630 x 690

(*) Approximately



CONNECTION	
MATERIAL	STANDARD PACKAGING
N1	1/4" NPT - F
N2	1/4" NPT - F
L2	Hydraulic oil level
R2	Hydraulic oil drain
V1	Drain mechanic oil
L1	Mechanic oil level
R1	Mechanic oil drain
Motor weight	15 kg
Weight without motor	30 kg

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An outstanding team of engineers and technicians:

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- Provides you personalized project management
- Advises you on the optimum installation of your equipment
- Consults with your specialists to develop specific products and anticipate your future requirements

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