

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

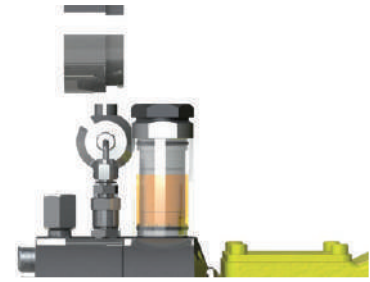
### FEATURES AND BENEFITS

- **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 bar	STROKE FREQUENCY spm	VISCOSITY cP	PRESSURE AT SUCTION SIDE bar	CONNECTIONS	
	10 bar	P max					(Check valves) Seats / Balls	
<b>XR71 - Stainless steel liquid end 316L</b>								
6	0.93	0.79	70	23	60	21	1/4" NPTf (Ø 3,17mm-ND) 316L / Hastelloy C	Swept volume: 0,71 cm <sup>3</sup> 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 cm <sup>3</sup> 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			
<b>CR71 - PVC liquid end</b>								
6	0.93	0.85	25	23	60	7.5	1/4" Gas f (Ø 4mm-ND) PEEK / Hastelloy C	Swept volume: 0,71 cm <sup>3</sup> 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 4mm-ND) PEEK / Hastelloy C	Swept volume: 1,27 cm <sup>3</sup> 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			
<b>VR71 - PVDF liquid end</b>								
6	0.93	0.79	35	23	60	10.5	1/4" Gas f (Ø 4mm-ND) PEEK / Hastelloy C	Swept volume: 0,71 cm <sup>3</sup> 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 cm <sup>3</sup> 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					
	<i>Reminder: Motor derating for multiplexing or frequency variation / Duplex = motor power x 1.2 / Triplex = motor power x 1.35</i>					
	H	0.55 kW				
	Pump without motor					
	S	Pump supplied without motor - Specify power of future motor				
	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	-

## 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

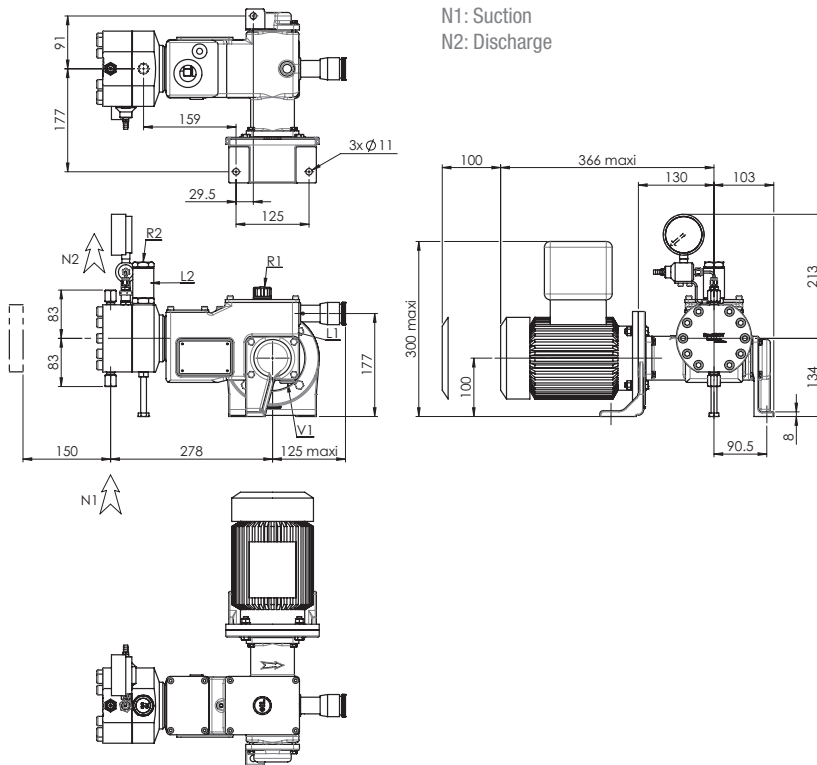
Milton Roy Europe can provide turnkey dosing solutions, from a skid-mounted pump to a complex, 100% customized package.



# 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

(\*) Approximatively



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