

# PRIMEROYAL<sup>®</sup> K dosing pump

Hydraulically actuated diaphragm liquid end • Packed plunger liquid end

• Flow rate up to 2062 l/h • Pressure up to 500 bar



 **DOSAPRO**

## Main mechanical characteristics

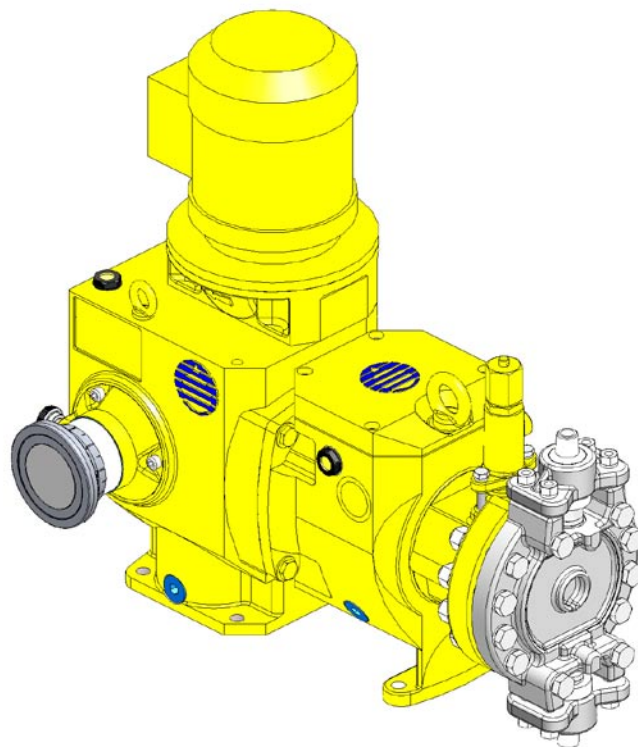
- Reciprocating dosing pump with variable stroke length
- Stroke micrometric adjustment while running or stopped
- Multiplexing capability up to 2x6 heads
- Maximum stroke length: 40 mm
- Stroke speeds at 50 Hz - 1000 rpm: 39 and 120 spm  
Stroke speeds at 50 Hz - 1500 rpm: 59, 100, 144 and 180 spm
- Design end load: 475 daN

## Main liquid end configurations

- Packed plunger liquid end ("UT"):
  - Liquid end body: 316L stainless steel
  - Plunger: 316L chromium oxide coated
  - Flushing ring
- Diaphragm liquid end ("M"):
  - Liquid end body: 316L stainless steel
  - Diaphragm: metallic, single or double
  - Hydraulically actuated diaphragm
- Diaphragm liquid end ("H") or ("P"):
  - Liquid end body: 316L stainless steel ("H") or plastic ("P")
  - Diaphragm: PTFE
  - Hydraulically actuated diaphragm
  - "HPD" patented design, life currently exceeding 20,000 hours

## Main electrical characteristics

- Motor power supply: 400 V - 50 Hz - 3 phase as standard. Other voltages/frequencies on request
- Electric equipment for non hazardous or hazardous area, large variety of protections and insulations
- Conforming to the European standards, Nema motors available

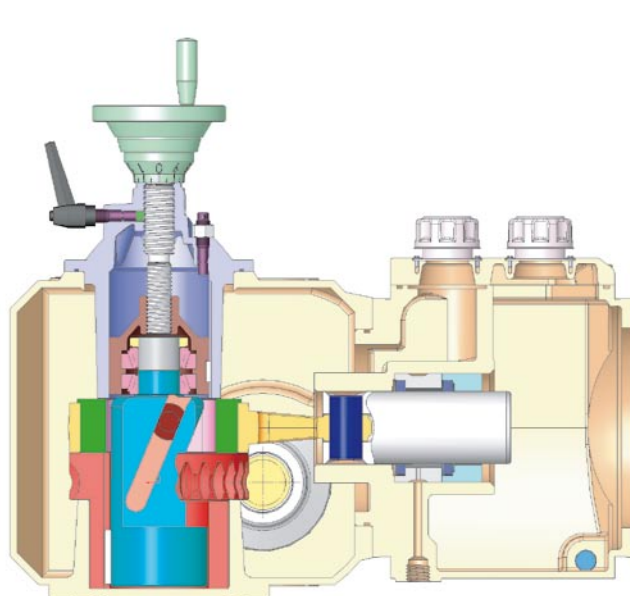


*PRIMEROYAL<sup>®</sup> K dosing pump, simplex version  
equipped with a diaphragm liquid end*

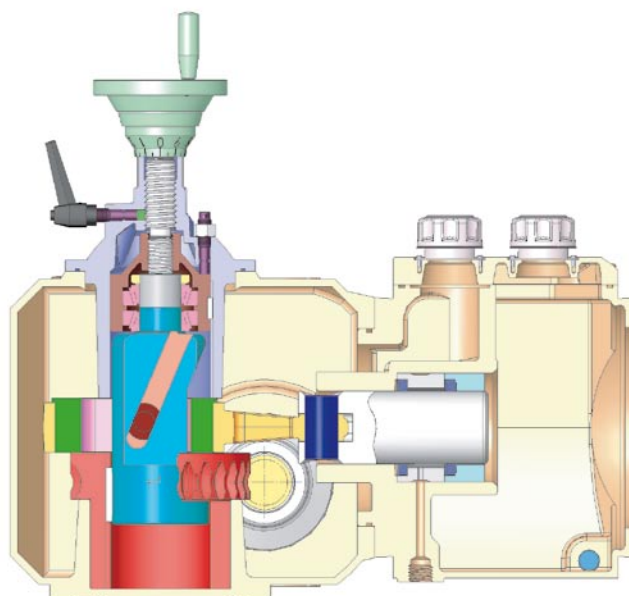
## Options

- Double or triple diaphragm
- Diaphragm failure detection
- Cooling/heating jacket
- Thermal barrier
- Special materials
- Food grade design
- Slurry configuration
- Special valves
- Automatic flow rate adjustment: electronic servomotor (waterproof or explosion-proof)
- Remote head
- Rev counter
- Low temperature
- Sand-proof
- Special designs available

## Principle



Stroke adjusted to 0%



Stroke adjusted to 100%

## Performance

- Conformity to API 675
- In accordance with ATEX CE EX II 2G/D c T3 or T4 on request

### 316L chromium oxide coated plunger and 316L stainless steel liquid end ("UT")

Ø Plunger (mm)	Swept volume (cm <sup>3</sup> )	Stroke speed max. (spm) Motor speed 1500 rpm	Flow rate max. (l/h)		Pressure max. (bar)	Connections
			10 bar	P. max.		
9.5	2.85	180	29.5	23.7	500	1/2" - VV1 m
12.7	5.07	180	52	44	364	1/2" - VV1 m
15.9	7.92	180	82	74	231	1/2" - VV1 m
19.1	11.40	180	118	110	159	1/2" - VV1 m
25.4	20.27	180	210	203	88	1/2" - VV1 m
31.8	31.67	180	328	322	55	1/2" - VV1 m
38.1	45.60	180	472	466	38	1" - VV1 m
44.5	62.07	180	643	638	27	1" - VV1 m
50.8	81.07	180	840	836	20	1" - VV1 m
57.2	102.61	180	1063	1060	16	1" - VV1 m
63.5	126.68	180	1313	1311	12	1" - VV1 m
69.9	153.28	180	1589	1589	10	2" - VV1 m
79.4	197.93	144		1642	7	2" - VV1 m
88.9	248.29	144		2062	6	2" - VV1 m

### HPD diaphragm and metallic liquid end ("H")

Ø Plunger (mm)	Swept volume (cm <sup>3</sup> )	Ø Diaphragm (mm)	Stroke speed max. (spm) Motor speed 1500 rpm	Flow rate max. (l/h)		Pressure max. (bar)	Connections
				10 bar	P. max.		
20	12.57	106	180	128	102	151	1/2" - VV1 m
25	19.63	106	180	201	176	96	1/2" - VV1 m
32	32.17	106	180	330	307	59	1/2" - VV1 m



## HPD diaphragm and plastic liquid end ("P")

Ø Plunger (mm)	Swept volume (cm³)	Ø Diaphragm (mm)	Stroke speed max. (spm) Motor speed 1500 rpm	Flow rate max. (l/h)	Pressure max. (bar)	Connections
32	32.17	106	180	330	10	1/2" - VV1 f

## Single or double metallic diaphragm liquid end ("M")

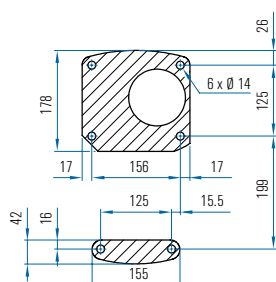
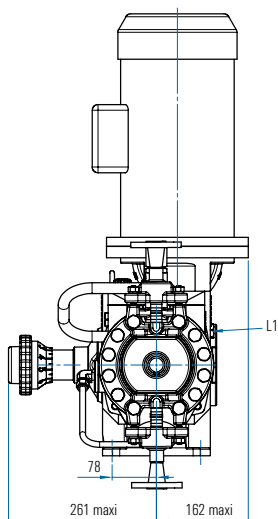
Ø Plunger (mm)	Swept volume (cm³)	Ø Diaphragm (mm)	Stroke speed max. (spm) Motor speed 1500 rpm	Flow rate max. (l/h)			Pressure max. (bar)		Connections
				10 bar	P. max. single diaphragm	P. max. double diaphragm	single diaphragm	double diaphragm	
8	2.01	92	180	20	14.1	13.2	500	350	1/2" - VV1 m
10	3.14	112	180	31	21	20	500	350	1/2" - VV1 m
12	4.52	112	180	44	33	29	419	350	1/2" - VV1 m
14	6.16	132	180	61	50	42	308	308	1/2" - VV1 m
16	8.04	132	180	79	68	61	236	236	1/2" - VV1 m
18	10.18	162	180	101	90	83	186	186	1/2" - VV1 m
20	12.57	162	180	124	113	106	151	151	1/2" - VV1 m
22	15.21	182	180	151	140	133	124	124	1" - VV1 m
25	19.63	182	180	195	184	178	96	96	1" - VV1 m

## General dimensions (in mm)

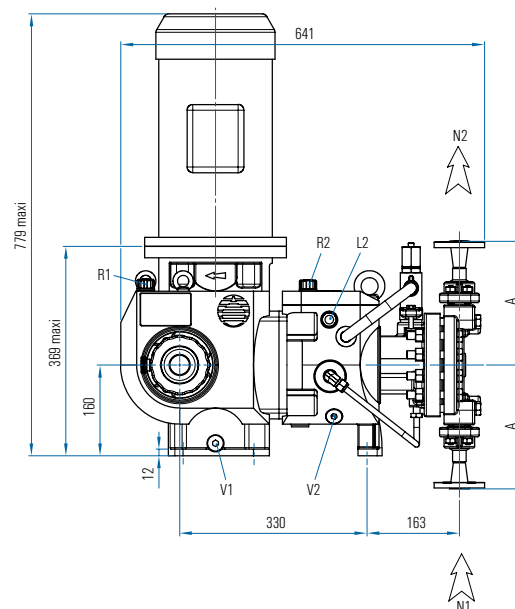
### HPD diaphragm liquid end simplex configuration

The general dimensions are given as an indication only.

The dimensions given correspond to the maximum dimensions (largest liquid end, most powerful motor).

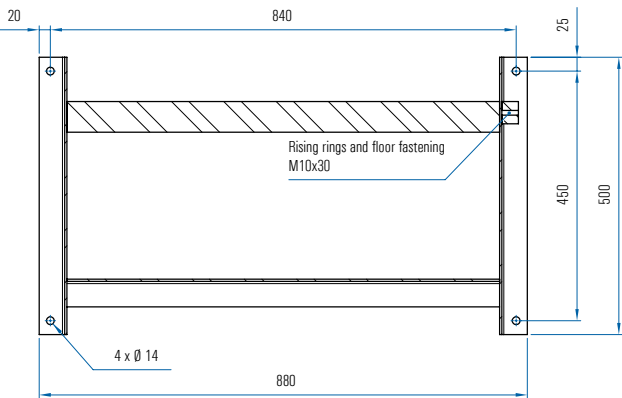
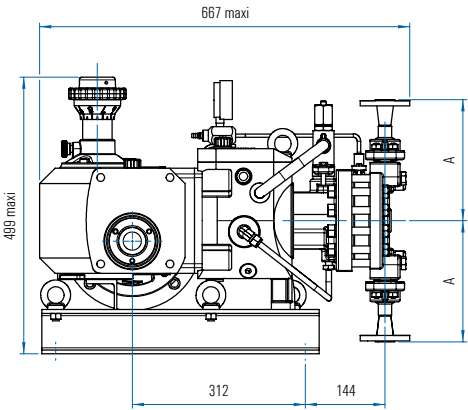
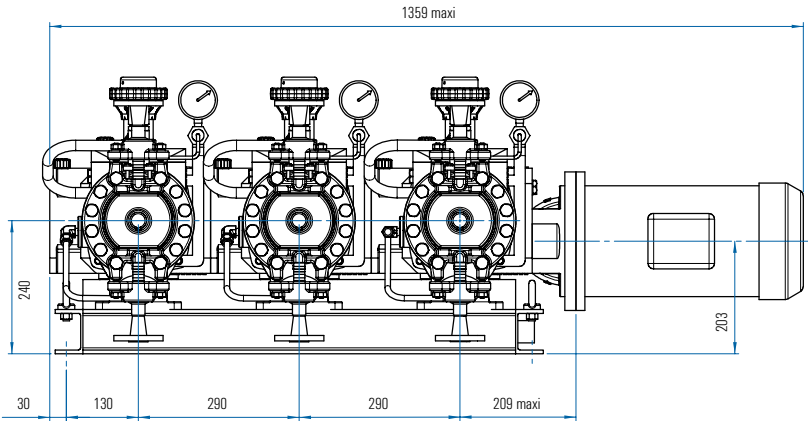


- N1: Suction
- N2: Discharge
- V2: Drain hydraulic oil
- L2: Hydraulic oil level
- R2: Hydraulic oil filling
- V1: Drain mechanic oil
- R1: Mechanic oil filling
- L1: Mechanic oil level



Model	Dimension (mm)	Connections
D20-25	A = 218	N1 = ANSI 1/2" 150 LBS RF / SF N2 = ANSI 1/2" 150 LBS RF / SF
D32	A = 239	N1 = ANSI 1/2" 150 LBS RF / SF N2 = ANSI 1/2" 150 LBS RF / SF

HPD diaphragm liquid end triplex configuration



Model	Dimension (mm)	Connections
D20-25	A = 218	N1 = ANSI 1/2" 150 LBS RF / SF
D32	A = 239	N2 = ANSI 1/2" 150 LBS RF / SF

Weight and packing

Version	Net weight (*) kg	Gross weight (*) kg	Packing (mm) (L x W x H)
PRIMEROYAL® K simplex	150	200	900 x 600 x 1050

(\*) Approximately



A network of over 100 distributors and sales and service offices.

To find your local representative, visit our website:

[www.miltonroy-europe.com](http://www.miltonroy-europe.com)