

PRIMEROYAL[®] L dosing pump

Hydraulically actuated diaphragm liquid end • Packed plunger liquid end
• Flow rate up to 4410 l/h • Pressure up to 500 bar



Main mechanical characteristics

- Reciprocating dosing pump with variable stroke length
- Stroke micrometric adjustment while running or stopped
- Multiplexing capability up to 2x3 heads
- Maximum stroke length: 50 mm
- Stroke speeds at 50 Hz - 1000 rpm: 64 and 80 spm
Stroke speeds at 50 Hz - 1500 rpm: 96, 120, 149 and 180 spm
- Design end load: 900 daN



*PRIMEROYAL[®] L dosing pump, simplex version
equipped with a diaphragm liquid end*

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

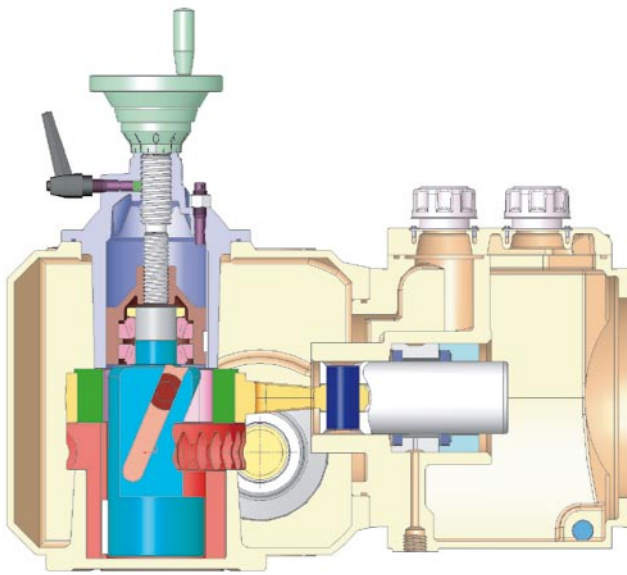
Main electrical characteristics

- 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

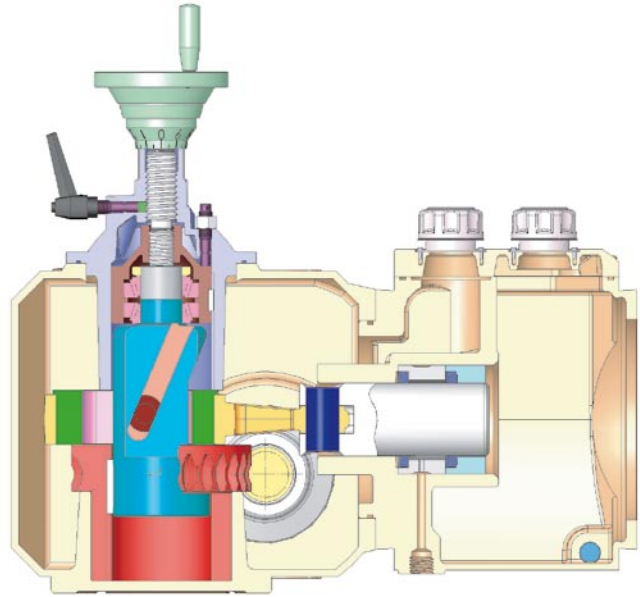
Options

- 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), pneumatic servomotor
- Remote head
- Stroke 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 ³)	Stroke speed max. (spm) Motor speed 1500 rpm	Flow rate max. (l/h)		Pressure max. (bar)	Connections
			10 bar	P. max.		
12.7	6.33	180	65	52	500	1/2" - VV1 m
15.9	9.90	180	102	84	446	1/2" - VV1 m
19.1	14.25	180	147	130	309	1/2" - VV1 m
25.4	25.34	180	262	245	172	1/2" - VV1 m
31.8	39.59	180	410	394	109	1/2" - VV1 m
38.1	57	180	591	576	75	1" - VV1 m
44.5	77.59	180	804	790	55	1" - VV1 m
50.8	101.34	180	1050	1037	41	1" - VV1 m
57.2	128.26	180	1329	1317	32	1" - VV1 m
63.5	158.35	180	1641	1631	26	2" - VV1 m
69.9	191.60	180	1986	1978	21	2" - VV1 m
79.4	247.42	180	2565	2560	16	2" - VV1 m
88.9	310.36	180	3217	3217	13	2" - VV1 m
101.6	405.37	149	3479	3480	9	2" - VV1 m



Metallic diaphragm liquid end ("M")

	Ø Plunger (mm)	Swept volume (cm ³)	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	10	3.92	112	180	39	27	500	1/2" - VV1 m
	12	5.65	132	180	56	39	500	1/2" - VV1 m
	14	7.69	132	180	76	53	500	1/2" - VV1 m
	16	10.05	162	180	99	73	447	1/2" - VV1 m
	18	12.72	162	180	126	100	353	1/2" - VV1 m
	20	15.70	182	180	156	130	286	1" - VV1 m
	22	19.00	212	180	188	162	236	1" - VV1 m
	25	24.5	212	180	242	220	183	1" - VV1 m
Double diaphragm	10	3.92	112	180	39	25	350	1/2" - VV1 m
	12	5.65	132	180	56	36	350	1/2" - VV1 m
	14	7.69	132	180	76	50	350	1/2" - VV1 m
	16	10.05	162	180	99	65	350	1/2" - VV1 m
	18	12.72	162	180	126	83	350	1/2" - VV1 m
	20	15.70	182	180	156	112	286	1" - VV1 m
	22	19.00	212	180	188	145	236	1" - VV1 m
	25	24.5	212	180	242	203	183	1" - VV1 m

HPD diaphragm and metallic liquid end ("H")

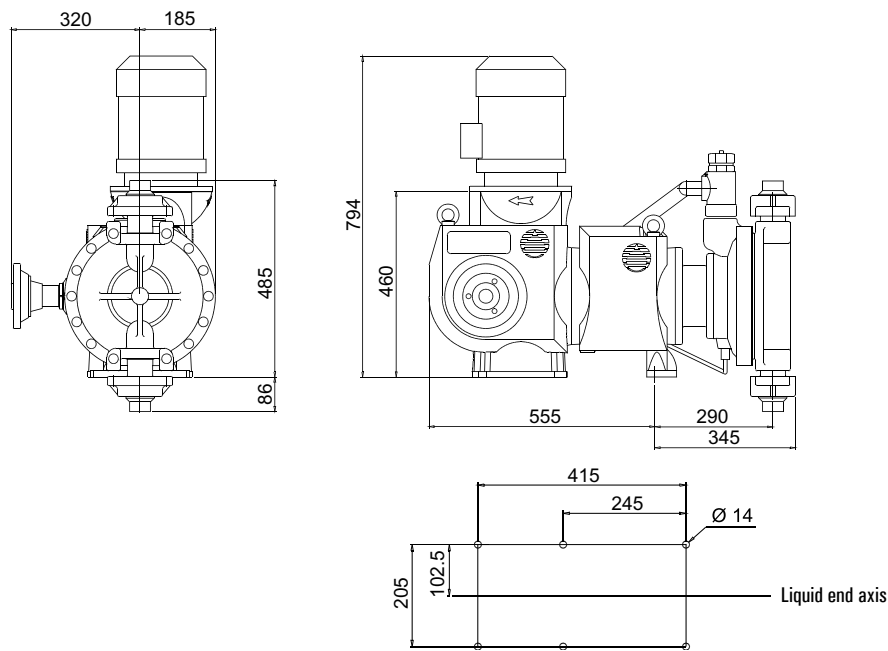
Ø Plunger (mm)	Swept volume (cm ³)	Ø Diaphragm (mm)	Stroke speed max. (spm) Motor speed 1500 rpm	Flow rate max. (l/h)		Pressure max. (bar)	Connections
				10 bar	P. max.		
20	15.70	106	149	133	81	286	1/2" - VV1 m
25	24.54	106	149	208	157	183	1/2" - VV1 m
32	40.21	106	149	341	292	111	1/2" - VV1 m
40	62.83	166	149	533	487	71	1" - VV1 m
50	98.17	166	149	833	792	45	1" - VV1 m
63	155.86	166	149	1323	1289	28	1" - VV1 m
70	192.42	266	149	1634	1604	23	1" 1/2 - VV1 m
80	251.32	266	149	2134	2113	17	1" 1/2 - VV1 m
90	318.08	266	149	2701	2685	14	1" 1/2 - VV1 m
100	392.69	266	149	3335		11	1" 1/2 - VV1 m
115	519.34	266	149		4410	8	1" 1/2 - VV1 m

HPD diaphragm and plastic liquid end ("P")

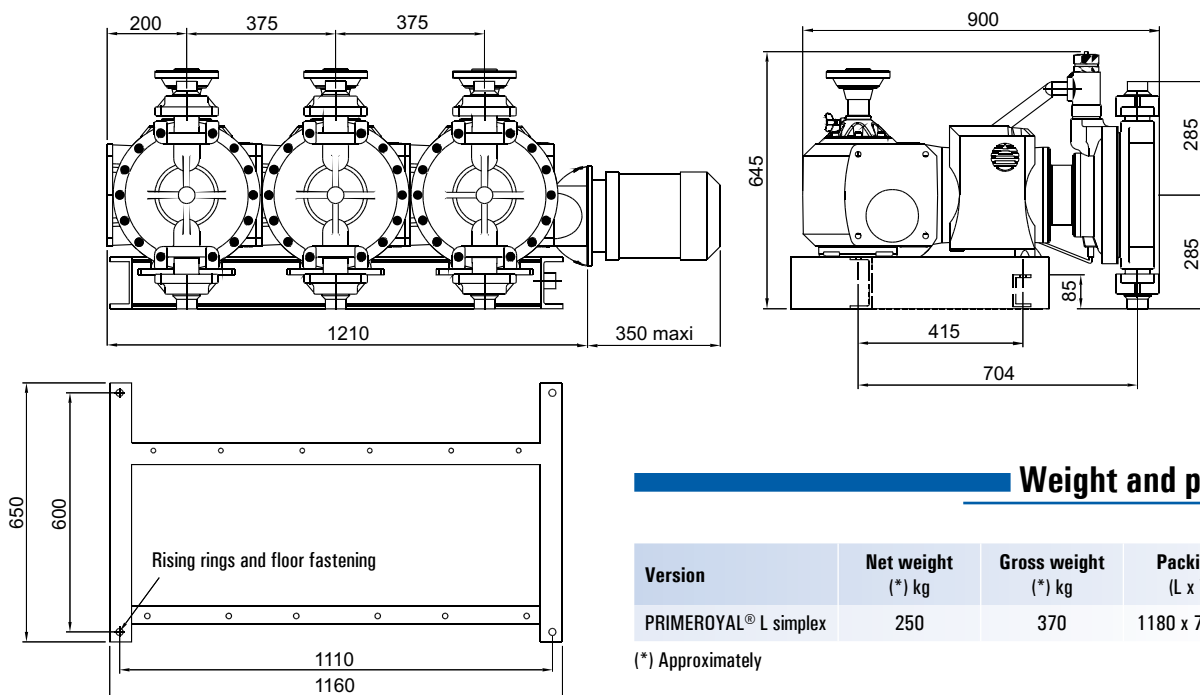
Ø Plunger (mm)	Swept volume (cm ³)	Ø Diaphragm (mm)	Stroke speed max. (spm) Motor speed 1500 rpm	Flow rate max. (l/h) P. max.	Pressure max. (bar)	Connections
50	98.17	166	149	833	10	1" - VV1 f
63	155.86	166	149	1323	10	1" - VV1 f
70	192.42	266	149	1634	10	1" 1/2 - VV1 f
80	251.32	266	149	2134	10	1" 1/2 - VV1 f
90	318.08	266	120	2175	10	1" 1/2 - VV1 f
100	392.69	266	120	2686	10	1" 1/2 - VV1 f
115	519.34	266	120	3561	8	1" 1/2 - VV1 f

General dimensions (in mm)

• Diaphragm liquid end simplex configuration



• Diaphragm liquid end triplex configuration



Weight and packing

Version	Net weight (*) kg	Gross weight (*) kg	Packing (mm) (L x W x H)
PRIMEROYAL® L simplex	250	370	1180 x 780 x 1250

(*) Approximately



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