

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 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

- 316L stainless steel packed plunger ("N")
- Metallic diaphragm (single or double) ("M")
- 316L stainless steel ("H") or plastic ("P") with PTFE diaphragm ("HPD" patented design, life currently exceeding 20,000 hours)
- Special designs available (special materials, remote head, triple heating diaphragm, ...)

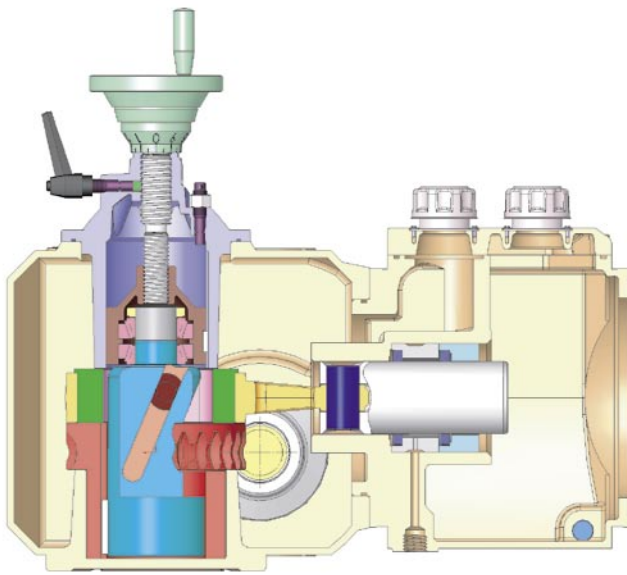
Main electrical characteristics

- Motor power supply: 400 V - 50 Hz - 3 phase as standard.
Other voltages/frequencies on request
- Servo-motor: 3 phase or 1 phase
- Electric equipment for non hazardous or hazardous area, large variety of protection and insulation
- Conforming to the European standards, Nema motors available

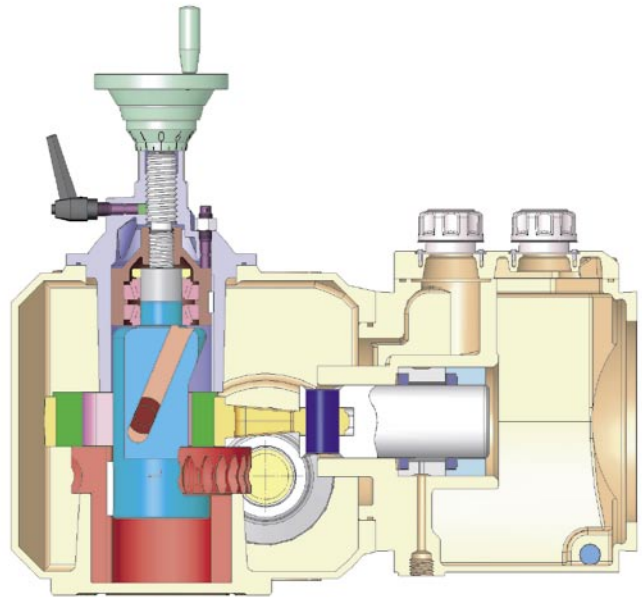
Options

- Double diaphragm
- Diaphragm failure detection
- Cooling/heating jacket
- Food grade design
- Slurry configuration
- Spring loaded valves
- Double check valves
- Flat valves

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 stainless steel packed plunger liquid end ("N")

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.		
16	10.05	149	86	71	439	1/2" - VV1 m
20	15.70	149	134	119	280	1/2" - VV1 m
25	24.54	149	210	195	178	1/2" - VV1 m
32	40.21	149	345	331	107	1/2" - VV1 m
40	62.83	149	539	526	68	1" - VV1 m
50	98.17	149	842	830	43	1" - VV1 m
63	155.86	149	1337	1328	26	1" - VV1 m
80	251.32	149	2156	2150	16	1 1/2" - VV1 m
100	392.69	149	3370		10	1 1/2" - 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")

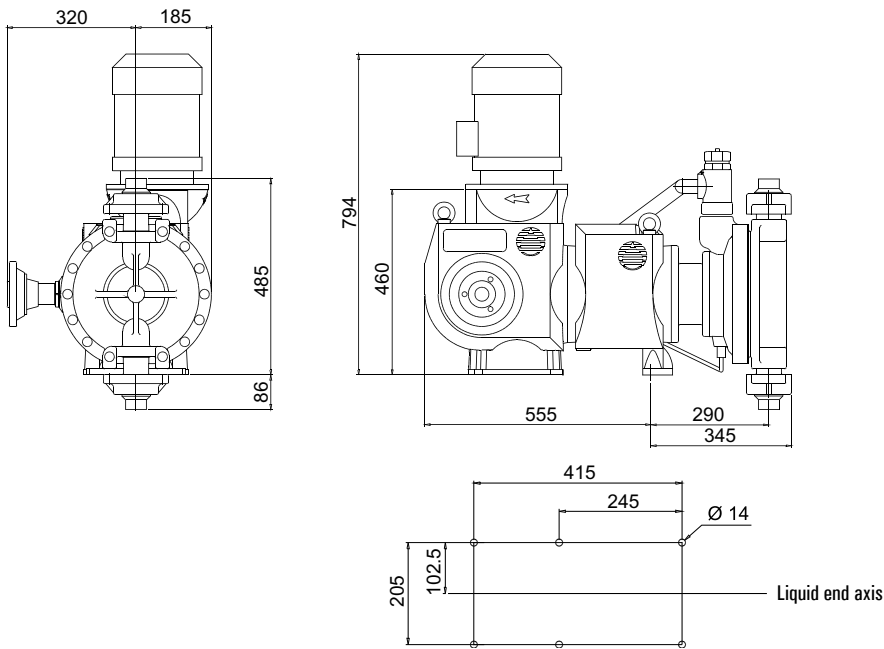
Ø Plunger (mm)	Swept volume (cm ³)	Ø Diaphragm (mm)	Stroke speed max. (spm) Motor speed 1500 rpm	Flow rate max. (l/h)		Pressure max. (bar)	Connections
				10 bar	P. max.		
20	15.70	106	149	133	81	286	1/2" - VV1 m
25	24.54	106	149	208	157	183	1/2" - VV1 m
32	40.21	106	149	341	292	111	1/2" - VV1 m
40	62.83	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

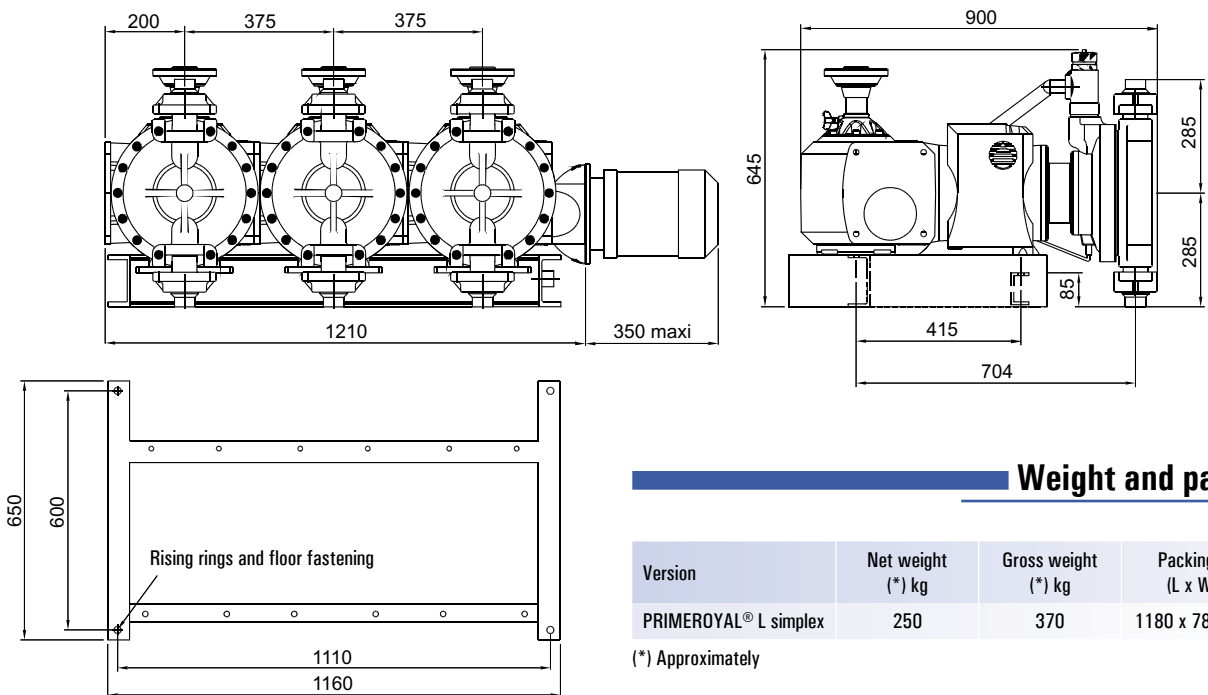
General dimensions (in mm)

• Diaphragm liquid end simplex configuration



The general dimensions are given as an indication only.
The dimensions given correspond to the maximum dimensions (largest liquid end, most powerful motor).

• 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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