

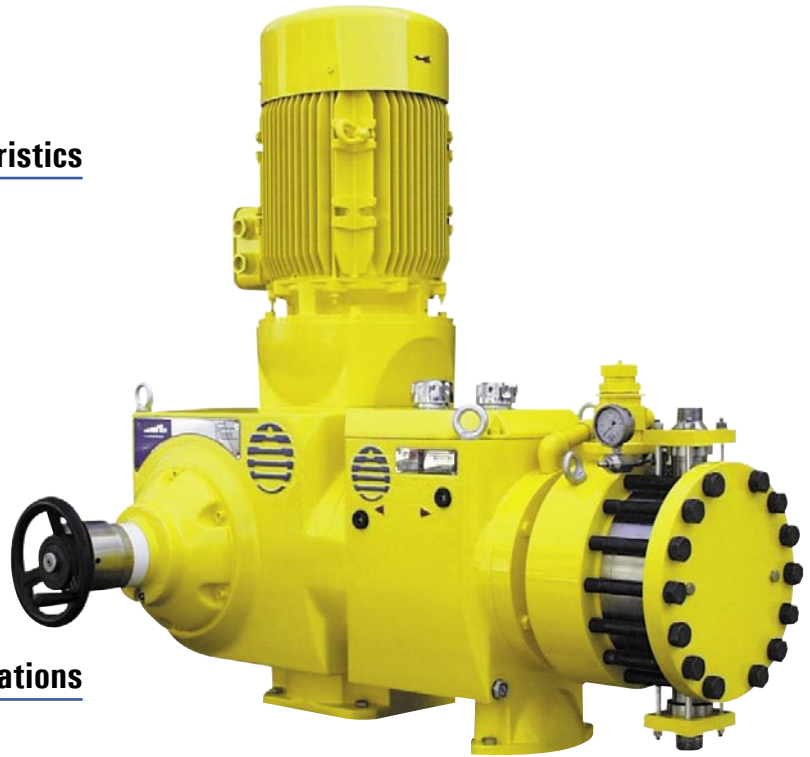
PRIMEROYAL[®] P and R dosing pumps

Hydraulically actuated diaphragm liquid end • Packed plunger liquid end • PRIMEROYAL[®] P: flow rate up to 12681 l/h - pressure up to 306 bar • PRIMEROYAL[®] R: flow rate up to 15882 l/h - pressure up to 500 bar



Main mechanical characteristics

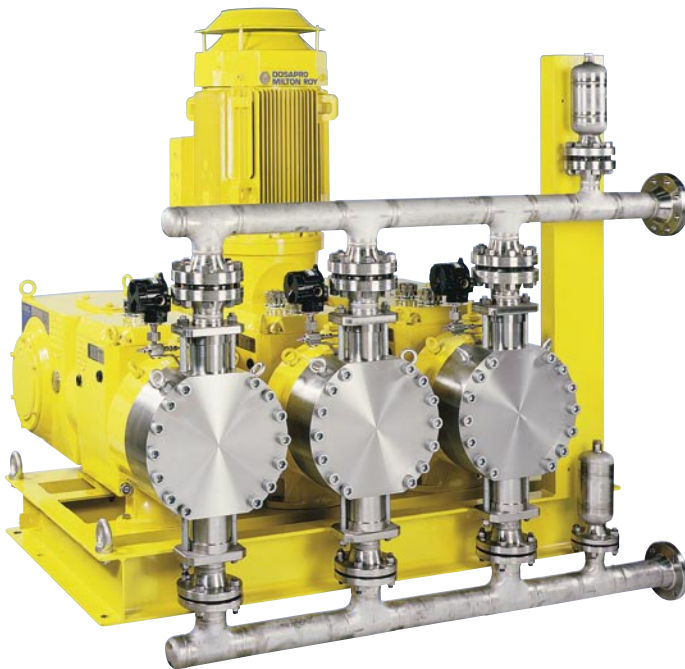
- Reciprocating dosing pumps with variable stroke length
- Stroke adjustment while running or stopped
- Fixed stroke version available
- Multiplexing capability up to 2x3 heads
- Maximum stroke length: 75 mm
- Stroke speeds at 50 Hz - 1500 rpm:
48, 73, 93, 117, 146 and 175 spm
- Design end loads:
 - PRIMEROYAL[®] P: 2500 daN
 - PRIMEROYAL[®] R: from 4600 to 5000 daN



*PRIMEROYAL[®] R dosing pump, Simplex version
equipped with a diaphragm liquid end*

Main liquid end configurations

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



PRIMEROYAL[®] R dosing pump, Triplex - Version with fixed stroke

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 protection and insulation
- Conforming to the European standards, Nema motors available

Options

- Electric servo-motor: 3 phase
- Pneumatic servo-motor
- Double diaphragm
- Diaphragm failure detection
- Cooling/heating jacket
- Food grade design
- Slurry configuration
- Spring loaded valves
- Double check valves
- Flat valves

Performance

- Conformity to API 675 for adjustable stroke version
- Conformity to API 674 for fixed stroke version
- In accordance with ATEX CE EX II 2G/D c T3 or T4 on request

PRIMEROYAL® P

316L stainless steel packed plunger liquid end ("N")

| Ø Plunger (mm) | Swept volume (cm³) | Stroke speed max. (spm) Motor speed 1500 rpm | Flow rate max. (l/h) | | Pressure max. (bar) | Connections |
|----------------|--------------------|---|----------------------|---------|---------------------|--------------------|
| | | | 10 bar | P. max. | | |
| 32 | 60.31 | 146 | 507 | 446 | 306 | 1" - VV1 m |
| 40 | 94.24 | 146 | 792 | 733 | 195 | 1" - VV1 m |
| 50 | 147.26 | 146 | 1238 | 1181 | 124 | 1" 1/2 - VV1 m |
| 55 | 178.18 | 146 | 1498 | 1442 | 102 | 1" 1/2 - VV1 m |
| 63 | 233.79 | 146 | 1966 | 1912 | 78 | 1" 1/2 - VV1 m |
| 70 | 288.63 | 146 | 2427 | 2375 | 63 | 1" 1/2 - VV1 m |
| 80 | 376.99 | 146 | 3170 | 3121 | 48 | 1" 1/2 - VV1 m |
| 90 | 477.12 | 146 | 4012 | 3968 | 37 | 1" 1/2 - VV1 m |
| 100 | 589.04 | 146 | 4953 | 4913 | 30 | 3" - VV3 - 600 lbs |
| 125 | 920.38 | 146 | 7740 | 7712 | 19 | 3" - VV3 - 300 lbs |
| 160 | 1507.96 | 146 | 12681 | | 11 | 4" - VV3 - 150 lbs |

HPD diaphragm and metallic liquid end ("H")

| | 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 | 50 | 147.26 | 166 | 146 | 1225 | 1096 | 85 | 1" - VV1 m |
| | 55 | 178.18 | 166 | 146 | 1482 | 1326 | 85 | 1" - VV1 m |
| | 145 | 1238.47 | 366 | 117 | 8259 | 8201 | 15 | 3" - VH3 - 300 lbs |
| | 160 | 1507.96 | 366 | 117 | 10056 | 10027 | 12 | 3" - VH3 - 300 lbs |
| Double diaphragm | 32 | 60.31 | 168 | 175 | 601 | 461 | 300 | 1" - VV1 m |
| | 40 | 94.24 | 168 | 175 | 940 | 798 | 198 | 1" - VV1 m |
| | 50 | 147.26 | 168 | 175 | 1468 | 1330 | 127 | 1" 1/2 - VV1 m |
| | 55 | 178 | 168 | 175 | 1777 | 1641 | 105 | 1" 1/2 - VV1 m |
| | 63 | 233.79 | 268 | 175 | 2332 | 2202 | 80 | 2" - VV1 m |
| | 70 | 288.63 | 268 | 175 | 2879 | 2736 | 64 | 2" - VV1 m |
| | 80 | 376.99 | 268 | 175 | 3760 | 3631 | 49 | 2" - VV1 m |
| | 90 | 477.12 | 268 | 146 | 3970 | 3824 | 35 | 2" - VV1 m |
| | 100 | 589.04 | 268 | 146 | 4902 | 4819 | 31 | 2" - VV1 m |
| | 115 | 779.01 | 308 | 146 | 6482 | 6409 | 24 | 3" - VV3 - 300 lbs |
| | 125 | 920.38 | 308 | 146 | 7659 | 7597 | 20 | 3" - VV3 - 300 lbs |
| 130 | 994.98 | 308 | 146 | 8284 | 8218 | 18 | 3" - VV3 - 300 lbs | |



Performance

- Conformity to API 675 for adjustable stroke version
- Conformity to API 674 for fixed stroke version
- In accordance with ATEX CE EX II 2G/D c T3 or T4 on request

PRIMEROYAL® R

316L stainless steel packed plunger liquid end ("N")

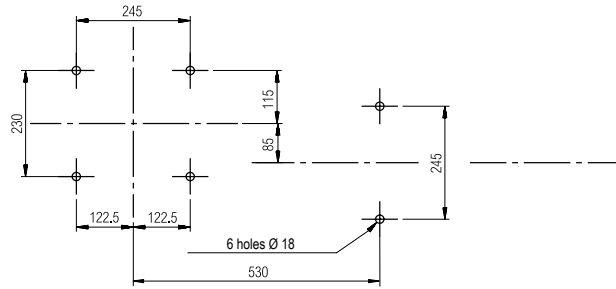
| Ø Plunger (mm) | Swept volume (cm ³) | Stroke speed max. (spm) Motor speed 1500 rpm | Flow rate max. (l/h) | | Pressure max. (bar) | Connections |
|----------------|---------------------------------|---|----------------------|---------|---------------------|--------------------|
| | | | 10 bar | P. max. | | |
| 32 | 60.31 | 146 | 507 | 407 | 500 | 1" - VV1 m |
| 40 | 94.24 | 146 | 792 | 680 | 394 | 1" - VV1 m |
| 50 | 147.26 | 146 | 1238 | 1128 | 252 | 1" 1/2 - VV1 m |
| 55 | 178.18 | 146 | 1498 | 1389 | 208 | 1" 1/2 - VV1 m |
| 63 | 233.79 | 146 | 1966 | 1859 | 158 | 1" 1/2 - VV1 m |
| 70 | 288.63 | 146 | 2427 | 2323 | 128 | 1" 1/2 - VV1 m |
| 80 | 376.99 | 146 | 3170 | 3069 | 97 | 1" 1/2 - VV1 m |
| 90 | 477.12 | 146 | 4012 | 3915 | 77 | 1" 1/2 - VV1 m |
| 100 | 589.04 | 146 | 4953 | 4859 | 62 | 3" - VV3 - 600 lbs |
| 125 | 920.38 | 146 | 7740 | 7659 | 39 | 3" - VV3 - 300 lbs |
| 145 | 1238.47 | 146 | 10415 | 10348 | 29 | 4" - VV3 - 300 lbs |
| 170 | 1702.35 | 146 | 14316 | 14264 | 21 | 4" - VV3 - 300 lbs |

HPD diaphragm and metallic liquid end ("H")

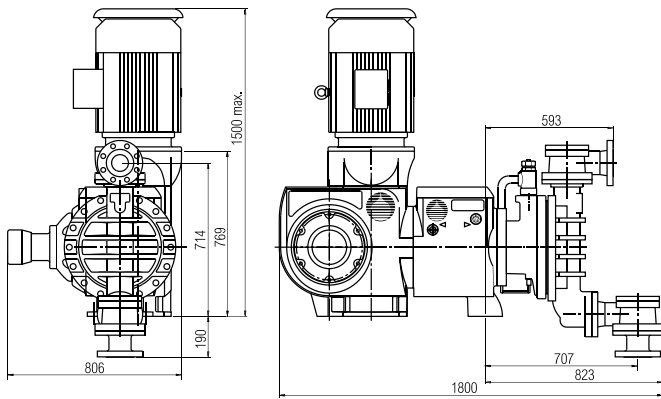
| | Ø Plunger (mm) | Swept volume (cm ³) | Ø Diaphragm (mm) | Stroke speed max. (spm) Motor speed 1500 rpm | Flow rate max. (l/h) | | Pressure max. (bar) | Connections |
|------------------|----------------|---------------------------------|------------------|---|----------------------|---------|---------------------|--------------------|
| | | | | | 10 bar | P. max. | | |
| Single diaphragm | 145 | 1238.47 | 366 | 146 | 10306 | 10089 | 25 | 4" - VV3 - 300 lbs |
| | 160 | 1507.96 | 366 | 146 | 12549 | 12338 | 24 | 4" - VV3 - 300 lbs |
| | 180 | 1908.51 | 366 | 146 | 15882 | 15704 | 19 | 4" - VV3 - 300 lbs |
| Double diaphragm | 40 | 94.24 | 168 | 175 | 940 | 721 | 300 | 1" - VV1 m |
| | 50 | 147.26 | 168 | 175 | 1468 | 1229 | 254 | 1" 1/2 - VV1 m |
| | 55 | 178.18 | 168 | 175 | 1777 | 1541 | 210 | 1" 1/2 - VV1 m |
| | 63 | 233.79 | 268 | 175 | 2332 | 2108 | 160 | 2" - VV1 m |
| | 70 | 288.63 | 268 | 175 | 2879 | 2648 | 129 | 2" - VV1 m |
| | 80 | 376.99 | 268 | 175 | 3760 | 3519 | 99 | 2" - VV1 m |
| | 90 | 477.12 | 268 | 146 | 3970 | 3811 | 78 | 2" - VV1 m |
| | 100 | 589.04 | 268 | 146 | 4902 | 4705 | 63 | 2" - VV1 m |
| | 115 | 779.01 | 308 | 146 | 6482 | 6305 | 48 | 3" - VV3 - 600 lbs |
| | 125 | 920.38 | 308 | 146 | 7659 | 7493 | 40 | 3" - VV3 - 600 lbs |
| | 130 | 994.98 | 308 | 146 | 8284 | 8134 | 37 | 3" - VV3 - 600 lbs |

General dimensions (in mm)

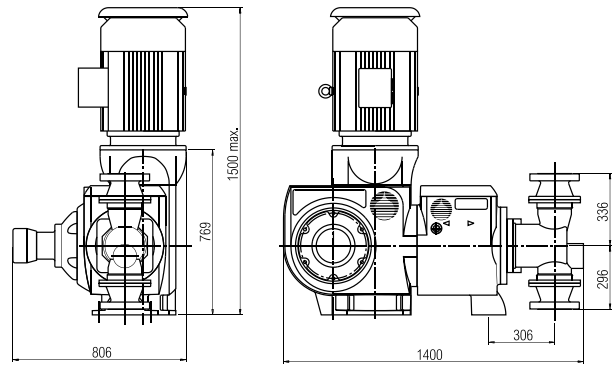
The general dimensions are given as an indication only.
The dimensions given correspond to the maximum dimensions (largest liquid end, most powerful motor).



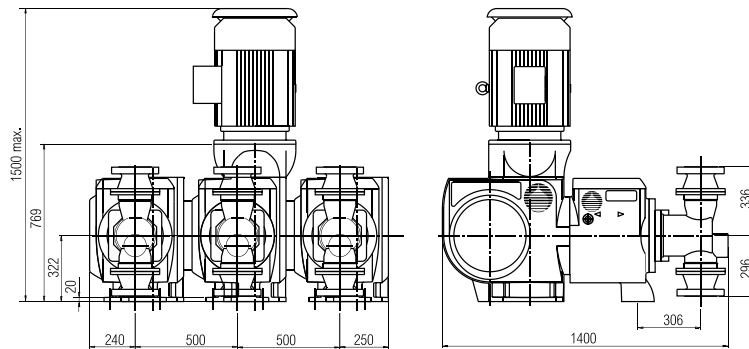
**PRIMEROYAL® P and PRIMEROYAL® R
Diaphragm liquid end simplex configuration**



**PRIMEROYAL® P and PRIMEROYAL® R
Packed plunger liquid end simplex configuration**



**PRIMEROYAL® P and PRIMEROYAL® R
Packed plunger liquid end triplex power pump configuration**



Weight and packing

Adjustable stroke

| Version | Net Weight (*) kg | Gross Weight (*) kg | Packing (mm) (L x W x H) |
|-------------------------|----------------------|------------------------|-----------------------------|
| PRIMEROYAL® P/R simplex | 900 | 1100 | 1650 x 1500 x 1400 |
| PRIMEROYAL® P/R duplex | 1800 | 2055 | 2250 x 1500 x 1400 |
| PRIMEROYAL® P/R triplex | 2400 | 2700 | 2950 x 1500 x 1400 |

(*) Approximately

Fixed stroke

| Version | Net Weight (*) kg | Gross Weight (*) kg | Packing (mm) (L x W x H) |
|-------------------------|----------------------|------------------------|-----------------------------|
| PRIMEROYAL® P/R simplex | 1000 | 1180 | 1600 x 1000 x 1700 |
| PRIMEROYAL® P/R duplex | 2050 | 2300 | 1500 x 1250 x 2300 |
| PRIMEROYAL® P/R triplex | 3300 | 3600 | 1500 x 1700 x 2300 |

(*) Approximately



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