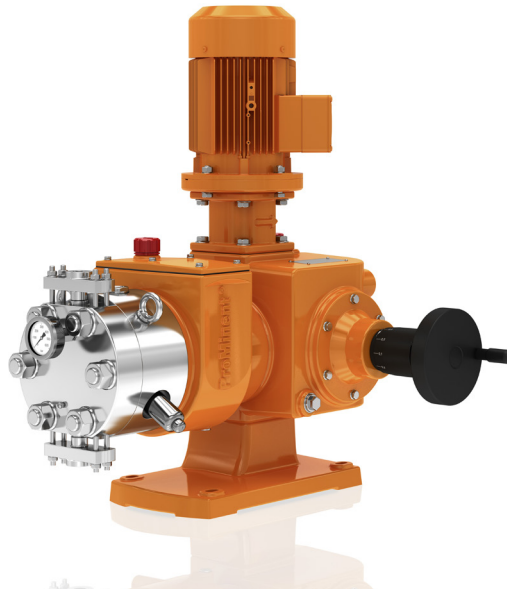


Hydraulic Diaphragm Metering Pump Orlita® Evolution 3

Maximum process reliability and flexibility

ProMinent®



Capacity range of single pump: 21 – 1,330 l/h, 400 – 18 bar

The Orlita® Evolution hydraulic diaphragm metering pump range of EF1a, EF2a, EF3a and EF4a form an integrated product range with stroke lengths of 15 to 40 mm. This covers the capacity range of 3 to 7,400 l/h at 400 – 10 bar. A wide range of drive versions is available, including some with ATEX certification for use in Zone 1 or Zone 2 areas at risk from explosion. The Orlita® Evolution product range is designed to comply with API 675.

Your benefits

Maximum process reliability:

- PTFE multi-layer diaphragm with integral diaphragm rupture warning system
- Integral hydraulic relief valve
- The new diaphragm layer control protects against impermissible operating statuses (e.g. no damage in the event of a blockage on the suction or discharge side)
- Continuous bleeding of the oil chamber ensures reliable operation

Excellent flexibility:

- The modular construction with single and multiple pump versions permits a wide range of applications. In multiple pump systems up to 5 metering units can be combined, including units with different pump capacities
- 7 different gear ratios are available; in single pumps the drive arrangement can be either vertical or horizontal
- Customised designs are available on request

Field of application

- Oil and gas industry
- Volume-proportional metering of chemicals/ additives in the treatment of boiler feed water
- Metering of reactants and catalysts in the chemical industry
- Level-dependent metering of auxiliary agents in industrial production engineering, for instance hot wax metering in the production of adhesive strips



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Technical data for EF2a single pump 50 Hz SST

| Plunger Ø | Stroke volume | Theoretical pump capacity in l/h at strokes/min (50 Hz) | | | | | | | Max. pressure | Efficiency at 100% pressure | Efficiency at 50% pressure | Standard type of valve |
|-----------|---------------|---|--------|---------|---------|---------|---------|---------|---------------|-----------------------------|----------------------------|------------------------|
| | | 73 [2] | 97 [3] | 116 [4] | 145 [5] | 165 [6] | 181 [7] | 201 [8] | | | | |
| mm | ml/stroke | l/h | l/h | l/h | l/h | l/h | l/h | l/h | bar | | | |
| 17 | 5.67 | 24 | 32 | 39 | 49 | 56 | 61 | 68 | 352 | 0.68 | 0.83 | DN 6 |
| 22 | 9.50 | 41 | 55 | 66 | 82 | 93 | 103 | 114 | 210 | 0.87 | 0.93 | DN 6 |
| 25 | 12.27 | 53 | 71 | 85 | 106 | 121 | 133 | 148 | 163 | 0.86 | 0.92 | DN 10 |
| 30 | 17.67 | 77 | 102 | 123 | 174 | 192 | 192 | 213 | 113 | 0.92 | 0.95 | DN 10 |
| 34 | 22.70 | 99 | 132 | 158 | 197 | 225 | 247 | 274 | 88 | 0.90 | 0.94 | DN 16 |
| 38 | 28.35 | 123 | 164 | 197 | 247 | 280 | 308 | 343 | 71 | 0.93 | 0.95 | DN 16 |
| 44 | 38.01 | 165 | 220 | 265 | 331 | 376 | 413 | 459 | 53 | 0.95 | 0.97 | DN 20 |
| 50 | 49.09 | 214 | 285 | 342 | 427 | 485 | 534 | 593 | 41 | 0.97 | 0.98 | DN 20 |
| 58 | 66.05 | 287 | 383 | 460 | 575 | 653 | 718 | 798 | 30 | 0.98 | 0.99 | DN 20 |
| 63 | 77.93 | 341 | 454 | 542 | 678 | 772 | 846 | 940 | 26 | 0.97 | 0.98 | DN 25 |
| 70 | 96.21 | 419 | 558 | 670 | 837 | 951 | 1,046 | 1,163 | 21 | 0.98 | 0.98 | DN 25 |
| 75 | 110.45 | 480 | 640 | 768 | 960 | 1,091 | 1,201 | 1,334 | 18 | 0.98 | 0.98 | DN 25 |

Technical data for EF3a single pump 60 Hz SST

| Plunger Ø | Stroke volume | Theoretical pump capacity in l/h at strokes/min (50 Hz) | | | | | Max. pressure | Efficiency at 100% pressure | Efficiency at 50% pressure | Standard type of valve |
|-----------|---------------|---|---------|---------|---------|---------|---------------|-----------------------------|----------------------------|------------------------|
| | | 88 [2] | 117 [3] | 140 [4] | 175 [5] | 199 [6] | | | | |
| mm | ml/stroke | l/h | l/h | l/h | l/h | l/h | bar | | | |
| 17 | 5.67 | 29 | 39 | 47 | 59 | 67 | 352 | 0.68 | 0.83 | DN 6 |
| 22 | 9.50 | 50 | 67 | 80 | 100 | 113 | 210 | 0.87 | 0.93 | DN 6 |
| 25 | 12.27 | 64 | 86 | 103 | 129 | 146 | 163 | 0.86 | 0.92 | DN 10 |
| 30 | 17.67 | 93 | 124 | 148 | 186 | 211 | 113 | 0.92 | 0.95 | DN 10 |
| 34 | 22.70 | 120 | 159 | 191 | 238 | 271 | 88 | 0.90 | 0.94 | DN 16 |
| 38 | 28.35 | 149 | 198 | 238 | 298 | 338 | 71 | 0.93 | 0.95 | DN 16 |
| 44 | 38.01 | 200 | 266 | 319 | 399 | 454 | 53 | 0.95 | 0.97 | DN 20 |
| 50 | 49.09 | 258 | 344 | 412 | 515 | 585 | 41 | 0.97 | 0.98 | DN 20 |
| 58 | 66.05 | 347 | 462 | 555 | 694 | 788 | 30 | 0.98 | 0.99 | DN 20 |
| 63 | 77.93 | 411 | 547 | 655 | 818 | 930 | 26 | 0.97 | 0.98 | DN 25 |
| 70 | 96.21 | 505 | 673 | 808 | 1,010 | 1,148 | 21 | 0.98 | 0.98 | DN 25 |
| 75 | 110.45 | 580 | 773 | 927 | 1,159 | 1,317 | 18 | 0.98 | 0.98 | DN 25 |



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Materials in Contact With the Medium

Dosing head complete

| Dosing head | Diaphragm retaining screw | Diaphragm |
|------------------------|---------------------------|----------------------------|
| Stainless steel 1.4404 | Stainless steel 1.4462 | PTFE multi-layer diaphragm |

Ball valve DN 6 – DN 10

| | Suction/ pressure connector | Valve/head seal | Valve ball | Valve seat | Valve housing | Clamp ring |
|----------------------------|-----------------------------|------------------------|--|------------------------|------------------------|--------------|
| DN 6 (double ball) | Stainless steel 1.4404 | Stainless steel 1.4404 | SiN ceramic | Stainless steel 1.4404 | Stainless steel 1.4404 | Hastelloy C4 |
| DN 10 (single ball) | Stainless steel 1.4404 | Stainless steel 1.4404 | Al ₂ O ₃ ceramic | Stainless steel 1.4404 | Stainless steel 1.4404 | Hastelloy C4 |

Plate valve DN 16 - DN 20

| | Suction/pressure connector | Valve/head seal | Valve plate | Valve seat | Valve housing |
|--------------------|----------------------------|------------------------|------------------------|------------------------|------------------------|
| DN 16/DN 20 | Stainless steel 1.4404 | Stainless steel 1.4571 | Stainless steel 1.4462 | Stainless steel 1.4404 | Stainless steel 1.4404 |

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