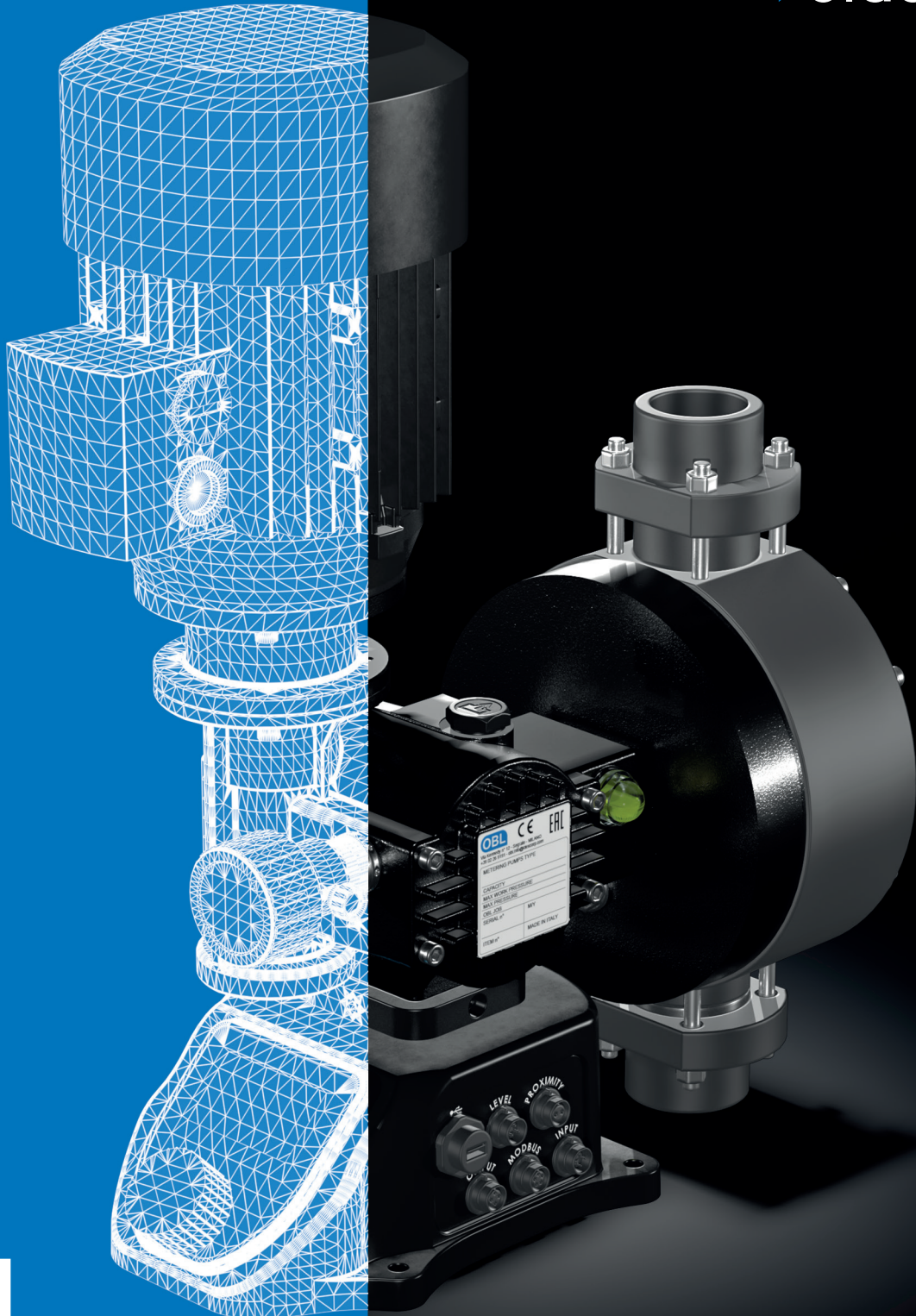


IDEX

OBL
▶ blackline ▶



M
SERIES

M SERIES

OBL Your trusted partner
in dosing pumps
METERING PUMPS

Motor UNEL-MEC:
Motor UNEL-MEC standard 3 phase, 50/60Hz. Single phase and ATEX options available. Promotes standardization and enables immediate motor availability on site.

3pcs threaded connector (PP models), Metric or Inch standard:
BSP or NPT thread allows easy and simple connection to pipeline. Reduces cost and time of installation and maintenance.

Increased number of pumphead locking screw (12 pcs in large models).
Reliable and effective sealing during operation.

Spring return mechanism with oversized bearing.
Extends pump life and lowers life-cycle cost.

Double check valves are standard on models with flowrates up to 50 l/h, optional on flows upto 155 l/h.
Increased accuracy when operating at low flow. Greater flexibility of applications.

Cataphoresis Aluminum Casing:
Improved corrosion resistance against aggressive fumes. Extends pump life and lowers life-cycle cost.

PVDF pumphead:
Combination of PVDF pumphead, PTFE seats and PYREX check valves provides broad chemical compatibility. Allows standardization on one configuration covering multiple liquids and applications.



ATEX



ALL models comply with ATEX (2014/34/CE) Group II, Category 3 (zone 2/22).

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METERING PUMPS

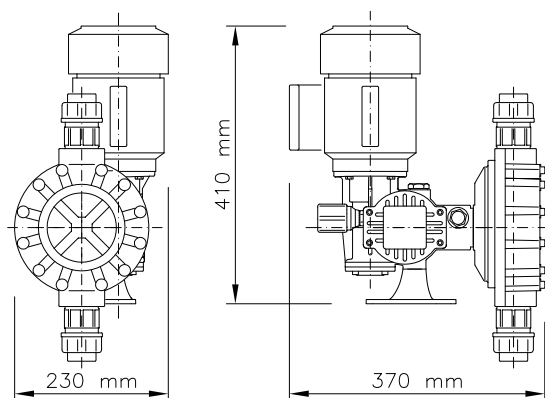
Technical data

| Ø DIAPH./ STROKE | 50 Hz | | | 60 Hz | | | MAX PRESS. bar |
|---------------------|--------|-------------|----------------------|--------|-------------|----------------------|----------------|
| | TYPE | STROKES / 1 | MAX FLOW RATE l/h | TYPE | STROKES / 1 | MAX FLOW RATE l/h | 3ph |
| 2 94 | 1M11 | 036 | 11 | 1M14 | 043 | 14 | 12 |
| | 1M23 | 070 | 23 | 1M28 | 084 | 28 | 10 |
| | 1M31 | 095 | 31 | 1M36 | 114 | 36 | 10 |
| | 1M50 | 155 | 50 | 1M45 | 138 | 45 | 10 |
| 4 108 | 1M75 | 070 | 75 | M 58 | 060 | 58 | 10 |
| | 1M101 | 095 | 101 | 1M90 | 084 | 90 | 10 |
| | 1M120 | 115 | 120 | 1M118 | 114 | 118 | 10 |
| | 1M155 | 155 | 155 | 1M145 | 138 | 145 | 10 |
| 6 138 | 1M131 | 050 | 132 | 1M158 | 060 | 158 | 8 |
| | 1M201 | 070 | 197 | 1M236 | 084 | 236 | 7 |
| | 1M261 | 095 | 260 | 1M312 | 114 | 312 | 7 |
| | 1M321 | 115 | 320 | 1M384 | 138 | 384 | 6 |
| | 1M421 | 155 | 420 | | | | 6 |
| 6 165 | M 521 | 115 | 520 | - | - | - | 5 |
| | 1M660 | 155 | 660 | 1M620 | 138 | 620 | 3,5 |
| 20 200 | 1M810 | 070 | 810 | 1M960 | 084 | 960 | 5* |
| | 1M1070 | 095 | 1070 | 1M1140 | 114 | 1140 | 5* |
| 20 200 | 1M1260 | 115 | 1260 | 1M1350 | 138 | 1350 | 5* |
| | 1M1500 | 155 | 1500 | - | - | - | 5* |

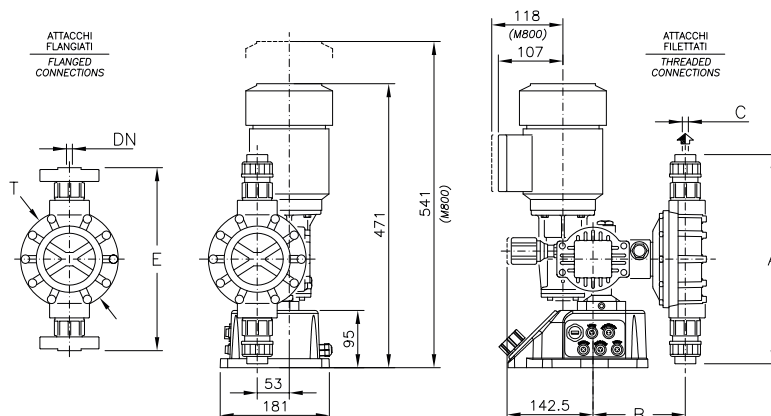
* with PRO MAX press 2 BARG

Overall dimensions

SINGLE PUMP - Manual Adjustment



SINGLE PUMP - Kit Pro Actuator Adjustment



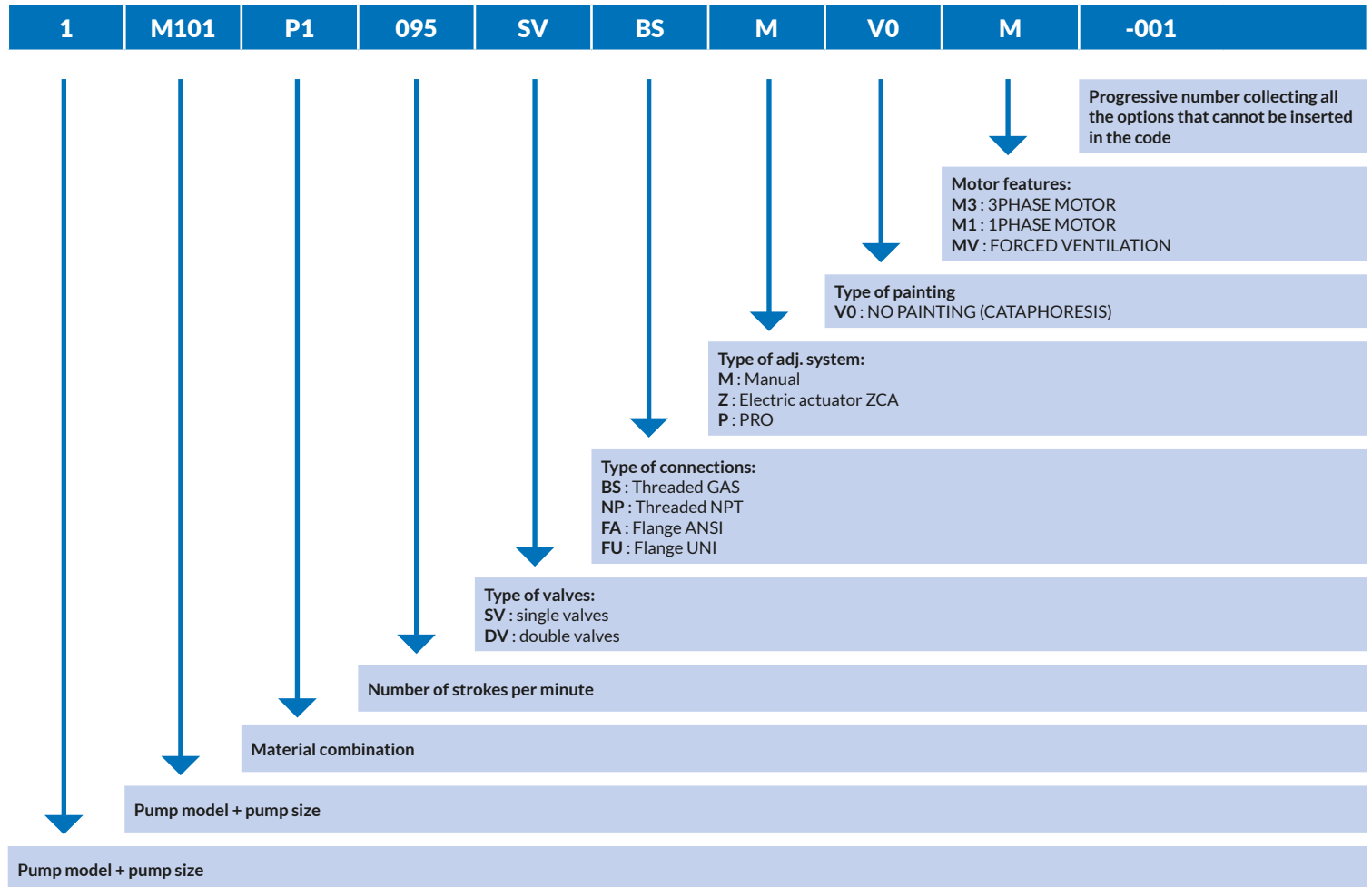
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METERING PUMPS

► BLACKLINE pumps: new codification



► Material of construction

| COMPONENTS | AA | AB | P1 | P2 | P3 | S6 |
|---------------|-----------|-----------|-------|-----------|-----------------|-------|
| Pump Head | AISI-316L | AISI-316L | PP | PP | PP | PVDF |
| Diaphragm | PTFE | PTFE | PTFE | PTFE | PTFE | PTFE |
| Valve Guide | PP | AISI-316L | PP | PP | PP | PP |
| Valve Seat | AISI-316L | AISI-316L | PVC | AISI-316L | INCOLOY-825 | PTFE |
| Valve (Ball) | AISI-316L | AISI-316L | PYREX | AISI-316L | HASTELLOY C-276 | PYREX |
| Valve Housing | AISI-316L | AISI-316L | PP | PP | PP | PP |
| Valve Seal | FPM | FPM | FPM | FPM | FPM | PTFE |
| Flange | AISI-316L | AISI-316L | PVC | PVC | PVC | PVC |

M SERIES

► Sectional view

THREADED CONNECTIONS

PP PP



A AISI-316L



FLANGED CONNECTIONS

PP PP



A AISI-316L



FEATURES & BENEFITS

Valve & Seat material options: Ceramic, Stainless Steel, Incoloy-825, Hastelloy C-276.

Increased performance when handling high density and viscous liquids as well as highly abrasive and aggressive fluids while minimizing cost impact.

Extends pump life and lowers life-cycle cost.

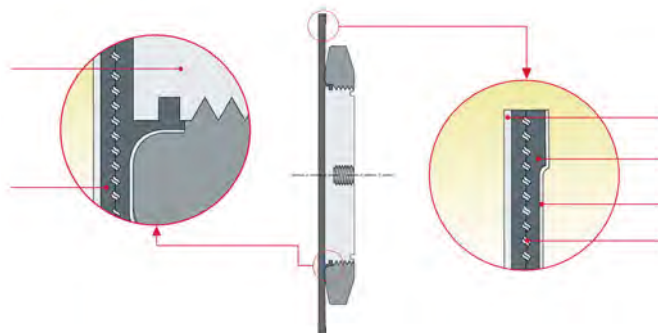
► Diaphragm Structure

OBL's mechanical diaphragm operates similar to a plunger by delivering the swept volume of the diaphragm whilst acting as a separating element between casing and liquid end. OBL's unique diaphragm design allows controlled volumetric displacement and ensures a linear proportional flowrate according to stroke length setting.

FEATURES & BENEFITS

PP diaphragm back-support ring: Protection against discharge overpressure.

Reduces downtime and cleanup, "minimizing" chemical exposure.



► Flowrate linearity

OBL mechanical diaphragm pumps operation reflects that of a plunger pump providing similar flowrate linearity. this peculiarity is highlighted in the diagram on the left. The progress of the flow lines is clearly linear and proportional to stroke length adjustment.

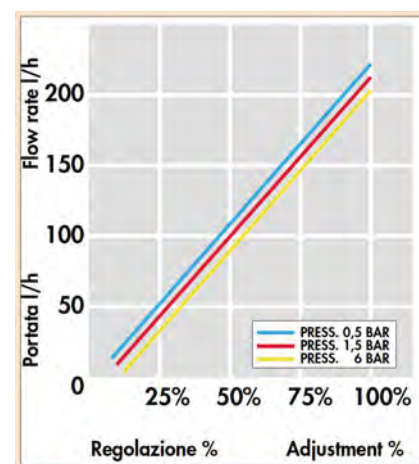
FEATURES & BENEFITS

Multiple layer PTFE diaphragm:

Flowrate is virtually unaffected by working pressure variations (1% less flow with every additional bar above 1,5 barg.)

- Protection against corrosive fumes entering the diaphragm chamber
- Reduced friction thanks to diaphragm supporting-ring
- Optimal leak-free seal thanks to stress-proof diaphragm

Extends pump life and lowers life-cycle cost.



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► Safe area

Kit PRO

Designed to suit the most critical applications with solid construction and a comprehensive control interface providing ease-of-process management" OBLs new flexible solution for remotely controlling your Blackline 2.0 metering pump.

High quality materials and enhanced user-friendly interface makes controlling your pump simple.

10 different operating modes to fit any type of dosing application: CONSTANT / BATCH / PAUSE-WORK / WEEKLY PROGRAM / ANALOG mA / ANALOG Volt / PPM PERCENTAGE / MLQ (millilitres per quintal) / PULSE.



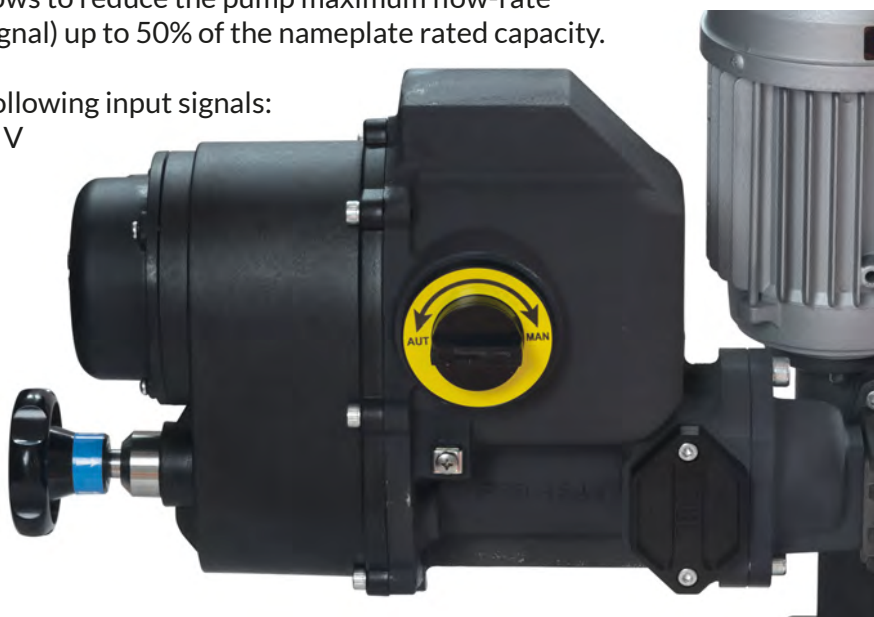
OBL Z type electric actuator, option available on all Blackline pump models M, R, XRN remotely controls the pumps flowrate via input signal.

ELECTRIC ACTUATOR CHARACTERISTICS

- IP 66 standard
- 115/230V - 1 - 50/60 Hz
- 4-20 mA feedback signal
- Manual emergency override
- Anticondensation heater (on demand)
- External automatic/manual selector (on demand)
- Flow-rate limiter (Q.max trimmer) allows to reduce the pump maximum flow-rate (corresponding to 20 mA command signal) up to 50% of the nameplate rated capacity.

The flowrate is adjusted according to following input signals:

- 4-20 mA, 0-20 mA, 20-4 mA and 0-10 V
- Pulses (0÷2 Hz - 0÷30 Hz)
- RS 485 communication protocol
- Profibus DP-V0



OBL DESIGN

M SERIES

▶ Markets & Applications

OBL pumps are designed to cover the needs of your system and other applications listed below:

WATER TREATMENT Chemical Additivation



- Odors Control (Hydrogen peroxide, Potassium permanganate, Activated carbon).
- Ph control (dosing of acids and caustics).
- Flotation and Clarification (Aluminium Sulfate, PAC, Ferric Chloride).
- Disinfection (Chlorine, Sodium Hypochlorite).

COOLING TOWERS Water Quality Control



- Corrosion Inhibitors, Anti-scaling reagents, pH control (acids and caustics).
- ORP (Oxidation-Reduction Potential) Anti-fouling and biological growth control (Biocides)

BOILERS Water Quality Control



- Corrosion Inhibitors (Oxygen scavengers, etc) Anti-scaling reagents.
- Conductivity control (chemistry adjustment) pH control (acids and caustics).
- ORP (Oxidation-Reduction Potential) Anti-fouling and biological growth control (Biocides).

CHEMICAL



- Various Additive and Reactors (Chemical Reaction Process).
- Drum / Tote.
- Injection, Mixing and much more.

PULP AND PAPER



- Whitening and Bleaching process (Hydrogen Peroxide, Hypochlorite, Chlorine).
- Sizing (fillers, e.g. starch, polymers), Strengthening (Urea based chemicals, etc.), Pigmentation (dyes, pigments, etc).
- De-inking chemicals in recycling paper process (Sodium silicates, Sodium Hydroxide, Lime, Calcium Chloride, etc.).

MINING



- Ore Separation: Leaching process (cyanides, sulphuric acid, solvents, etc.).
- Flotation collectors (polymers, etc). Defoamers emulsifiers. Depressants and Dispersant chemicals (Iron sulfide).
- Dust control (Dosing of wetting chemicals)

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in dosing pumps



► M - Maintenance Video

Maintenance video to offer a proper
step by step guidance procedures to
bring your Mechanical Diaphragm
pump back to as new state.



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