

▶ blackline ▶

an OBL brand



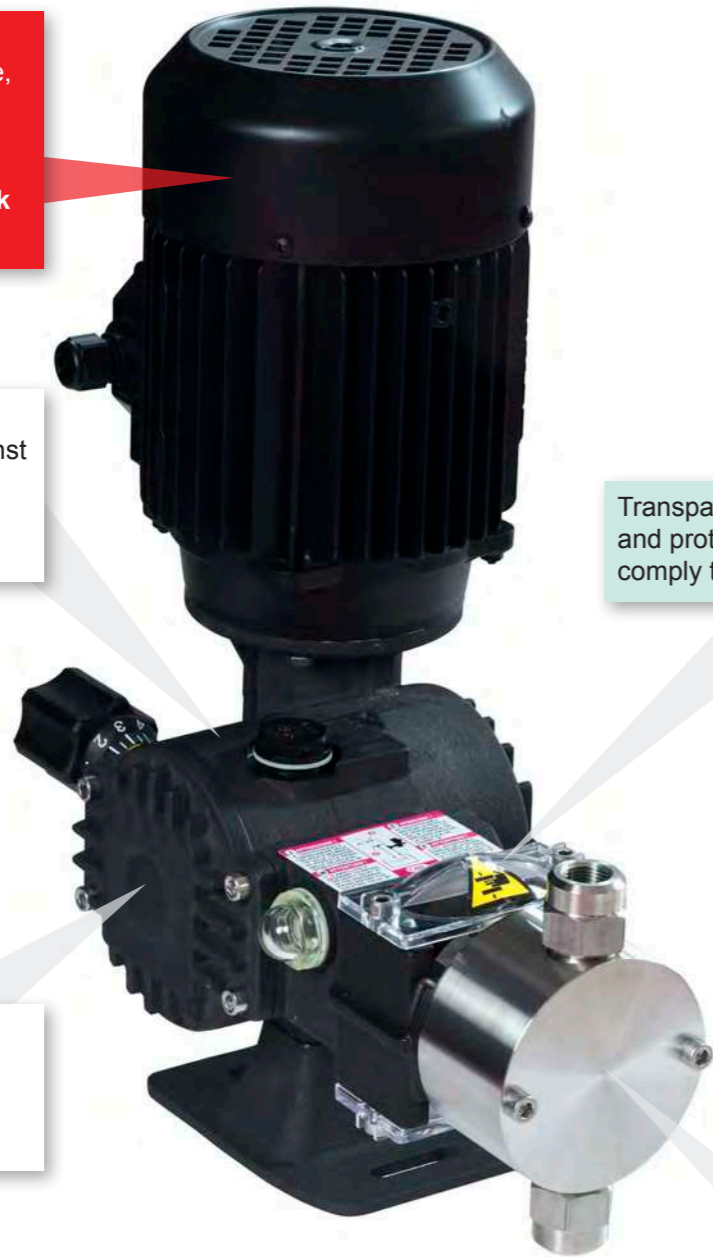
WATER DIVISION



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

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

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



Transparent covers and protection comply to EC directive.

Models with flowrate up to 18 l/h double valve standard, optional on request until 150 l/h (Ø43mm):
Increased accuracy when operating at low flow.
Enhance application flexibility.

Individual adjustment for each pumphead:
Manual adjustment standard via graduate knob or electric actuator as optional available.
Enhances application flexibility.

Individual gearbox reducer for each pumphead:
Now you can have pumpheads with different S.P.M.
Enhances application flexibility.

PTFE coated cast iron yoke:
Increased resistance in case of liquid spillage to reduce maintenance cost.
Extends pump life and lowers life-cycle cost.

Multiple unit:
All possible combination until 10 pumpheads



Multi headed option (limit according pump size):
- different materials (metallic and Non metallic)
- different duty points (max flow rates and pressure)
Enhances application flexibility.

STURDIER

NEW DESIGN

NEW DESIGN

ENHANCED FLEXIBILITY

ATEX



ALL models comply to ATEX (2014/34/CE) Group II, Category 2 (zone 1/21) and Group II, Category 3 (zone 2/22).

ATEX



ALL models comply to ATEX (2014/34/CE) Group II, Category 2 (zone 1/21) and Group II, Category 3 (zone 2/22).

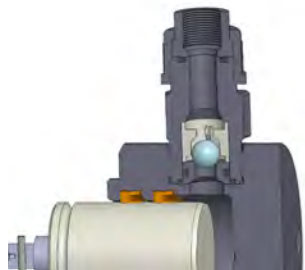
Duplex unit with manifolds:
To to have flowrate up to 600 l/h



Sectional view

THREADED CONNECTIONS

P PVC

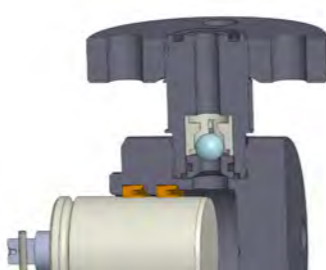


A AISI-316L



FLANGED CONNECTIONS

P PVC



A AISI-316L



FEATURE & BENEFITS

Single valves only available.

Very cost-effective solution and operating economy.

Plunger lip seal (OBL design) available in three different material to meet all dosing requirements.

Guarantees absence of leakage even in the dosage of solids in suspension.

Suitable for fluid dosing in temperature: +40°C for all types of seals.

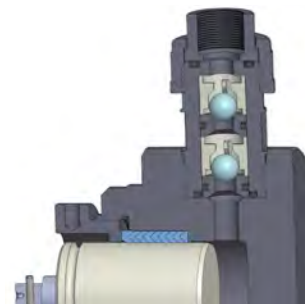
Plunger lip seal (OBL design) not adjustable.

Suitable for working pressure up to 10 bar.

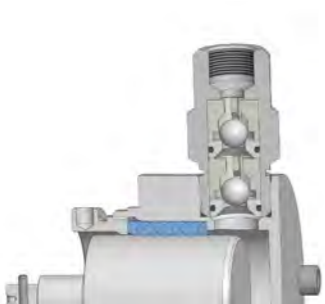
Sectional view

THREADED CONNECTIONS

P PVC

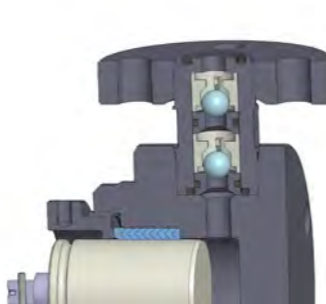


A AISI-316L

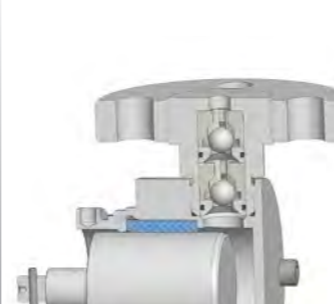


FLANGED CONNECTIONS

P PVC



A AISI-316L



FEATURE & BENEFITS

Double valves available.

High dosing accuracy.

Plunger pumphead with gland nut.

Adjustable plunger packing.

Adjustable plunger packing.

Longer working cycle and shorter down time for maintenance.

PTFE plunger packing rings with "V" profile (Chevron type).

Suitable for dosing high temperature fluid:

- AISI-316L pumphead: +90°C;

PVC pumphead: +40°C

Extra length pumphead with extended KEVLAR reinforced PTFE braid.

Suitable for working pressure up to max 100 bar.

Markets & Applications

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

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.

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).

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).

WATER TREATMENT Chemical Addition



- 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).

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.).

► Technical data

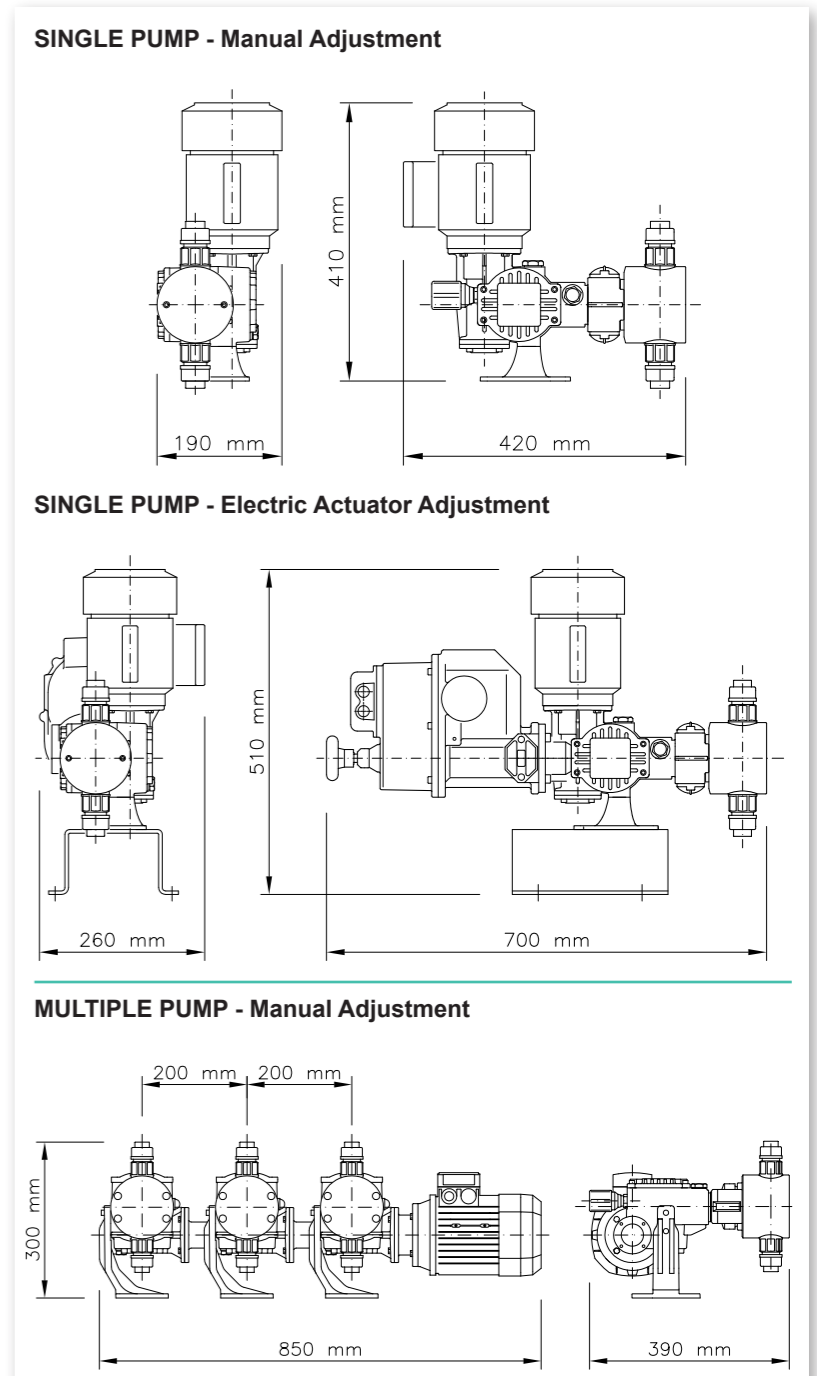
| TYPE | 50 Hz | | 60 Hz | | PUMPHEAD WITH GLAND NUT | | | | PUMPHEAD WITHOUT GLAND NUT | | | | MOTOR kW | | | | |
|------|-------------|------------------|-------------|------------------|-------------------------|------|-------------|------------|--|--------|----------------|---|----------|---|----------------------|---|---|
| | STROKES / 1 | MAX FLOW RATE /h | STROKES / 1 | MAX FLOW RATE /h | MAX PRESS. bar | | CONNECTIONS | | | | MAX PRESS. bar | | | | THREADED CONNECTIONS | | |
| | | | | | | | THREADED | | FLANGED | | | | | | | | |
| | | | | | A | A-TL | P | A/A-TL | P | A/A-TL | P | A | | | P | A | P |
| R 6 | 50 | 0,8 | 43 | 0,7 | / | 40 | ● | 1/4" BSP f | 1/4" BSP f DIRECT CONNECT. (NO RING NUT) | / | / | / | / | / | / | / | / |
| | 70 | 1,2 | 60 | 1 | | | | | | | | | | | | | |
| | 95 | 1,8 | 84 | 1,5 | | | | | | | | | | | | | |
| | 115 | 2,2 | 114 | 2,2 | | | | | | | | | | | | | |
| R 10 | 36 | 2 | 30 | 1,6 | 10 | 40 | ● | 1/4" BSP f | 1/4" BSP f DIRECT CONNECT. (NO RING NUT) | / | / | / | / | / | / | / | / |
| | 50 | 3 | 43 | 2,5 | | | | | | | | | | | | | |
| | 70 | 4 | 60 | 3,4 | | | | | | | | | | | | | |
| | 95 | 5,5 | 84 | 4,8 | | | | | | | | | | | | | |
| R 16 | 36 | 5 | 43 | 6 | 10 | 40 | 10 | 3/8" BSP f | 3/8" BSP f | / | / | / | / | / | / | / | / |
| | 50 | 7 | 60 | 9,5 | | | | | | | | | | | | | |
| | 70 | 11 | 84 | 13 | | | | | | | | | | | | | |
| | 95 | 15 | 114 | 18 | | | | | | | | | | | | | |
| R 25 | 36 | 15 | 43 | 16 | 10 | 40 | 10 | 3/8" BSP f | 3/8" BSP f | / | / | / | / | / | / | / | / |
| | 50 | 20 | 60 | 24 | | | | | | | | | | | | | |
| | 70 | 30 | 84 | 33 | | | | | | | | | | | | | |
| | 95 | 38 | 114 | 45 | | | | | | | | | | | | | |
| R 30 | 36 | 20 | 43 | 24 | 10 | 35 | 10 | 3/8" BSP f | 3/8" BSP f | / | / | / | / | / | / | / | / |
| | 50 | 30 | 60 | 34 | | | | | | | | | | | | | |
| | 70 | 40 | 84 | 48 | | | | | | | | | | | | | |
| | 95 | 55 | 114 | 65 | | | | | | | | | | | | | |
| R 43 | 36 | 40 | 43 | 50 | 10 | 12 | 10 | 3/8" BSP f | 3/8" BSP f | / | / | / | / | / | / | / | / |
| | 50 | 55 | 60 | 78 | | | | | | | | | | | | | |
| | 70 | 90 | 84 | 100 | | | | | | | | | | | | | |
| | 95 | 115 | 114 | 150 | | | | | | | | | | | | | |
| R 50 | 36 | 58 | 43 | 70 | 10 | / | 10 | 1/2" BSP f | 1/2" BSP f | / | / | / | / | / | / | / | / |
| | 50 | 80 | 60 | 102 | | | | | | | | | | | | | |
| | 70 | 120 | 84 | 140 | | | | | | | | | | | | | |
| | 95 | 160 | 114 | 200 | | | | | | | | | | | | | |
| R 62 | 36 | 90 | 43 | 105 | 10 | / | 10 | 3/4" BSP f | 3/4" BSP f | / | / | / | / | / | / | / | / |
| | 50 | 125 | 60 | 152 | | | | | | | | | | | | | |
| | 70 | 175 | 84 | 205 | | | | | | | | | | | | | |
| | 95 | 250 | 114 | 300 | | | | | | | | | | | | | |

► Identification code

R 16 A 70 DV TL FA ZC

| | |
|-----------|-----------------------------------|
| R | PUMP TYPE |
| 16 | PLUNGER DIAMETER |
| A | PUMPHEAD EXECUTION |
| ...A... | AISI-316L |
| ...P... | PVC |
| 70 | PLUNGER STROKER PER MINUTE |
| DV | VALVES EXECUTION |
| ...SV... | SINGLE VALVE |
| ...DV... | DOUBLE VALVE |
| TL | PUMPHEAD VERSION |
| "..." | WORKING PRESSURE UP TO 10 bar |
| ...TL... | WORKING PRESSURE UP TO 10+40 bar |
| ...TS... | WORKING PRESSURE UP TO 40+100 bar |
| ...RF... | FRONTAL HEATING JACKET |
| FA | CONNECTIONS |
| ...B... | THREADED BSP f |
| ...N... | THREADED NPT f |
| ...F... | FLANGED UNI-DIN |
| ...FA... | FLANGED ANSI |
| ZC | ADJUSTMENT |
| "..." | GRADUATE KNOB AND VERNIER |
| ...W... | PNEUMATIC ACTUATOR |
| ...Z... | ELECTRIC ACTUATOR |

► Overall dimensions



► Material of construction

| COMPONENTS | PUMPHEAD WITH GLAND NUT | | | | |
|-----------------|-------------------------|-----------|---------------|-----------|-----------|
| | A | A-TL | P | P11 | AC |
| PUMP HEAD | AISI-316L | AISI-316L | PVC | PVC | AISI-316L |
| PLUNGER | AISI-316L | AISI-316L | CERAMIC | CERAMIC | CERAMIC |
| PLUNGER PACKING | PTFE | PTFE | PTFE | PTFE | PTFE |
| VALVE GUIDE | PP/AISI-316L | AISI-316L | PP | PP | AISI-316L |
| VALVE SEAT | AISI-316L | AISI-316L | ● CERAMIC/PVC | AISI-316L | AISI-316L |
| VALVE (BALL) | AISI-316L | AISI-316L | ● CERAMIC/PVC | AISI-316L | AISI-316L |
| VALVE SEAL | FPM | FPM | FPM | FPM | FPM |

| COMPONENTS | PUMPHEAD WITHOUT GLAND NUT | | | | | | | |
|-----------------|----------------------------|---------|-----------|-----------|-----------|-----------|-----------|-----------|
| | PAE | PCF | PCV | AAF | AAE | ACE | ACV | ACF |
| PUMP HEAD | PVC | PVC | PVC | AISI-316L | AISI-316L | AISI-316L | AISI-316L | AISI-316L |
| PLUNGER | AISI-316L | CERAMIC | CERAMIC | AISI-316L | AISI-316L | CERAMIC | CERAMIC | CERAMIC |
| PLUNGER PACKING | EPDM | FPM | VULKOL. | FPM | EPDM | EPDM | VULKOL. | FPM |
| VALVE GUIDE | PP | PP | PP | PP | PP | PP | PP | PP |
| VALVE SEAT | AISI-316L | PVC | AISI-316L | AISI-316L | AISI-316L | AISI-316L | AISI-316L | AISI-316L |
| VALVE (BALL) | AISI-316L | PYREX | AISI-316L | AISI-316L | AISI-316L | AISI-316L | AISI-316L | AISI-316L |
| VALVE SEAL | FPM | FPM | FPM | FPM | FPM | FPM | FPM | FPM |

R-HV HIGH VISCOSITY DOSING

Technical data

| TYPE | 50 Hz | | 60 Hz | | MAX PRESS. bar | CONNECTIONS | MOTOR kW | |
|------|-------------|-------------------|-------------|-------------------|----------------|-------------|----------|---------|
| | STROKES / 1 | MAX FLOW RATE l/h | STROKES / 1 | MAX FLOW RATE l/h | | | 3ph | 1ph |
| R 10 | 36 | 2 | 30 | 1,6 | 10 | 1/2" BSP f | 0,25 kW | 0,25 kW |
| | 50 | 3 | 43 | 2,6 | | | | |
| R 16 | 36 | 4 | 30 | 3,3 | | | | |
| | 50 | 6 | 43 | 5,2 | | | | |
| R 25 | 36 | 12 | 30 | 10 | | | | |
| | 50 | 16 | 43 | 14 | | | | |
| R 30 | 36 | 18 | 30 | 15 | | | | |
| | 50 | 25 | 43 | 22 | | | | |
| R 43 | 36 | 42 | 30 | 35 | | | | |
| | 50 | 50 | 43 | 44 | | | | |
| R 50 | 36 | 58 | 30 | 48 | | | | |
| | 50 | 80 | 43 | 70 | | | | |
| R 62 | 36 | 90 | 30 | 75 | | | | |
| | 50 | 120 | 43 | 105 | | | | |

HV VERSION (HIGH VISCOSITY DOSING):

Typical application: Viscous liquids and concentrated polymer (Emulsion).

- Connections normally threaded with single valves, double on demand.
- Plunger pumphead with gland nut and adjustable packing.
- PTFE adjustable plunger packing rings with "V" profile (Chevron type) to contain the pumped fluid leakages.
- Suitable to dose products with viscosities up to 55,000 cP.
- Use for working pressure up to 10 bar.

Material of construction

| COMPONENTS | HV |
|-----------------|-----------|
| PUMP HEAD | AISI-316L |
| PLUNGER | AISI-316L |
| PLUNGER PACKING | PTFE |
| VALVE GUIDE | AISI-316L |
| VALVE SEAT | AISI-316L |
| VALVE (BALL) | AISI-316L |
| VALVE SEAL | FPM |



R-TS HIGH PRESSURE DOSING

Technical data

| TYPE | 50 Hz | | 60 Hz | | MAX PRESS. bar | CONNECTIONS | |
|--------------|-------------|-------------------|-------------|-------------------|----------------|-------------|------------------|
| | STROKES / 1 | MAX FLOW RATE l/h | STROKES / 1 | MAX FLOW RATE l/h | | THREADED | FLANGED |
| | | | | | | | |
| R 10 A TS | 36 | 2 | 43 | 2,4 | 100 | 3/8" NPT f | 1/2" ANSI 600 RF |
| | 50 | 2,8 | 60 | 3,4 | | | |
| | 70 | 4 | 84 | 4,8 | | | |
| | 95 | 5 | 114 | 6 | | | |
| 115 | 6 | | | | | | |
| R 16 A TS | 50 | 7 | 43 | 6 | | | |
| | 70 | 10 | 60 | 8,5 | | | |
| | 95 | 15 | 84 | 13 | | | |
| | 115 | 18 | 114 | 18 | | | |

TS VERSION (HIGH PRESSURE DOSING):

Typical application: High pressure injection Chemicals.

- Double valves with lapped seats.
- Connections normally threaded, flanged on demand.
- Plunger pumphead with gland nut and adjustable packing.
- Extended PTFE braid type adjustable plunger packing reinforced with KEVLAR and with intermediate ring.
- Self-centering plunger.
- Use for working pressure up to max 100 bar.

Material of construction

| COMPONENTS | TS |
|-----------------|-------------|
| PUMP HEAD | AISI-316L |
| PLUNGER | SAF-2205 |
| PLUNGER PACKING | PTFE+KEVLAR |
| VALVE GUIDE | AISI-316L |
| VALVE SEAT | AISI-316L |
| VALVE (BALL) | AISI-316L |
| VALVE SEAL | FPM |



R-OM MAGNESIUM OXIDE DOSING

Technical data

| TYPE | 50 Hz | | 60 Hz | | MAX WORK. PRESS. bar | MAX BUILT-IN RELIEF VALVE SET PRESS. bar | CONNECTIONS |
|---------------|-------------|-------------------|-------------|-------------------|----------------------|--|-------------|
| | STROKES / 1 | MAX FLOW RATE l/h | STROKES / 1 | MAX FLOW RATE l/h | | | |
| R 16 MA OM | 25 | 4 | 30 | 4,8 | 60 | 70 | 3/8" BSP m |
| | 36 | 6 | 43 | 7,2 | | | |
| | 50 | 8,5 | 60 | 10,2 | | | |
| R 25 MA OM | 25 | 10 | 30 | 12 | 35 | 45 | |
| | 36 | 14 | 43 | 16,8 | | | |
| | 50 | 20 | 60 | 24 | | | |
| R 30 MA OM | 36 | 20 | 43 | 24 | 30 | 35 | |
| | 50 | 30 | 60 | 36 | | | |
| | | | | | | | |

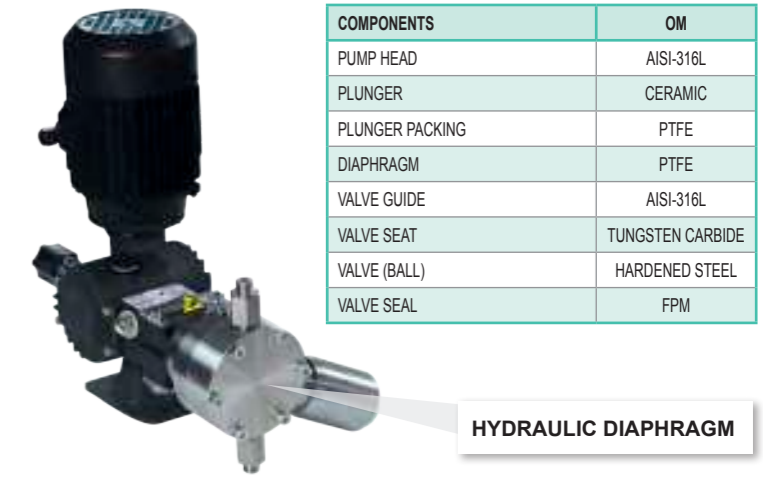
OM VERSION (MAGNESIUM OXIDE DOSING):

Typical application: Increase Combustion in Thermal Power.

Version designed for dosing diluted MAGNESIUM OXIDE into diesel. The OM version has been specifically designed for this application since 1980, working with the manufacturers of the magnesium oxide, wetted components are made in special materials. Use for flowrates up to 30 liters per hour and working pressure up to 70 bar.

Material of construction

| COMPONENTS | OM |
|-----------------|------------------|
| PUMP HEAD | AISI-316L |
| PLUNGER | CERAMIC |
| PLUNGER PACKING | PTFE |
| DIAPHRAGM | PTFE |
| VALVE GUIDE | AISI-316L |
| VALVE SEAT | TUNGSTEN CARBIDE |
| VALVE (BALL) | HARDENED STEEL |
| VALVE SEAL | FPM |



H/MH DIATOMACEOUS EARTH DOSING

Technical data

| TYPE | 50 Hz | | 60 Hz | | MAX PRESS. bar | THREADED CONNECTIONS | |
|------|-------------|-------------------|-------------|-------------------|----------------|----------------------|------------|
| | STROKES / 1 | MAX FLOW RATE l/h | STROKES / 1 | MAX FLOW RATE l/h | | ACC | PPCC |
| | | | | | | | |
| H 43 | 70 | 90 | 60 | 75 | 10 | 1/2" BSP f | 3/4" BSP m |
| | 95 | 115 | 84 | 100 | | | |
| H 50 | 70 | 120 | 60 | 100 | | | |
| | 95 | 160 | 84 | 140 | | | |

| Ø DIAPH./STROKE | 50 Hz | | 60 Hz | | MAX PRESS. bar | THREADED CONNECTIONS | | | |
|-----------------|--------|-------------|-------|-------------|----------------|----------------------|------------|----|------------|
| | TYPE | STROKES / 1 | TYPE | STROKES / 1 | | PP | A | | |
| | | | | | | | | | |
| 4 108 | MH 73 | 70 | 73 | MH 58 | 60 | 10 | 3/4" BSP m | | |
| | | 95 | 100 | | | | | 84 | 90 |
| | MH 100 | 95 | 100 | MH 90 | 84 | | | 90 | 3/4" BSP f |
| | | | | | | | | | |

H/MH PUMPS (DIATOMACEOUS EARTH DOSING):

Typical application: Oenological Filtration.

OBL is a leader in the manufacture of metering pumps for FILTER AID WITH DIATOMACEOUS EARTH; used for wine, beer and fruit juice filtration. The range includes plunger pumps with lip seals and mechanical diaphragm pumps. Use for flowrates up to 160 liters per hour and working pressure up to 10 bar.

Material of construction

| COMPONENTS | ACC | PPCC |
|-----------------|-----------|-----------|
| PUMP HEAD | AISI-316L | PP |
| PLUNGER | CERAMIC | CERAMIC |
| PLUNGER PACKING | VULKOLLAN | VULKOLLAN |
| VALVE GUIDE | PP | PP |
| VALVE SEAT | AISI-316L | AISI-316L |
| VALVE (BALL) | AISI-316L | AISI-316L |
| VALVE SEAL | FPM | SILICON |



| COMPONENTS | PP | A |
|---------------|-----------|-----------|
| PUMP HEAD | PP | AISI-316L |
| DIAPHRAGM | PTFE | PTFE |
| VALVE GUIDE | PP | PP |
| VALVE SEAT | AISI-316L | AISI-316L |
| VALVE (BALL) | AISI-316L | AISI-316L |
| VALVE HOUSING | PP | AISI-316L |
| VALVE SEAL | SILICON | FPM |



► Safe area

On all pumps M, ME, R, XRN it is possible to automate the control system by installing the OBL's electric actuator Z type (ZC or ZP).

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

► Hazardous Area: ATEX version

On request the pumps M, R, XRN can be made comply with the requirements of the ATEX European Directive. Even the control system can be comply with that Directive, by installing the ATEX electric actuator Z type (ZR or ZG).

ELECTRIC ACTUATOR CHARACTERISTICS

- ATEX II 2GD EEx-d IIB T4 IP6X
- 115/230V – 1 – 50/60 Hz
- Manual emergency override
- Anticondensation heater (on demand)
- 4-20 mA pilot signal
- 4-20 mA feedback signal



ATEX

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