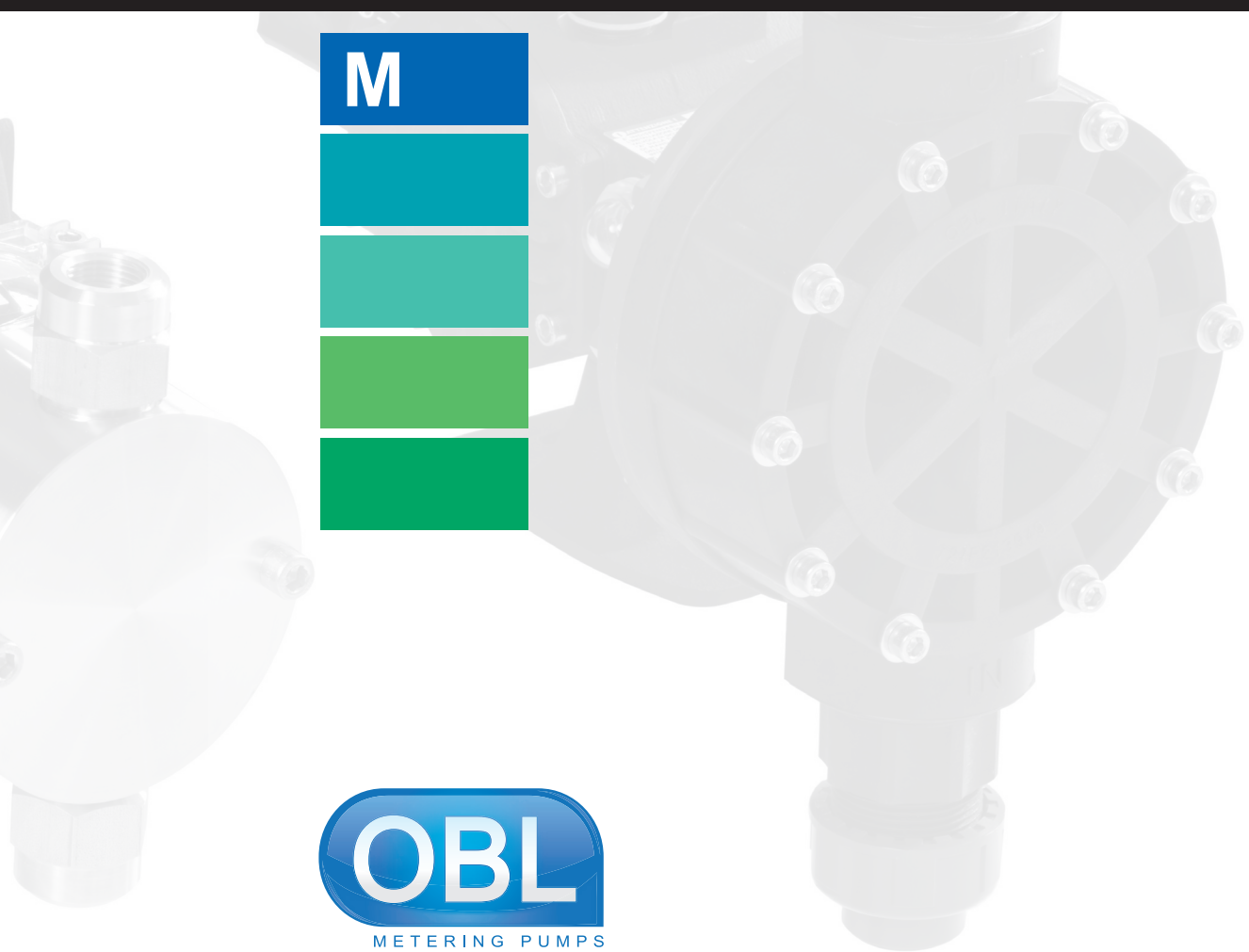
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blackline

an OBL brand

WATER DIVISION

M



OBL

METERING PUMPS

IDEX

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.

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



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.

Models with flowrate up to 50 l/h double valve standard, optional on request untill 155 l/h (Ø108mm):
Increased accuracy when operating at low flow.
Enhance application flexibility.

STURDIER

NEW DESIGN

Injection molded PVDF pumphead:

PVDF pumphead:
Combination of PVDF pumphead, PTFE seats and PYREX check valves provides broad chemical compatibility.
Permits standardization on single pump for multiple liquids and applications.



ATEX

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

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

Multiple unit:
All possible combination until 10 pumpheads



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



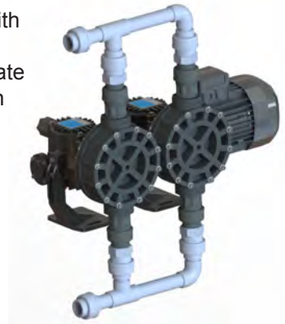
Multi headed option (limit according pump size):
- different materials (metallic and Non metallic)
- different duty points (max flow rates and pressure)
Enhances application flexibility.

NEW DESIGN

ENHANCED FLEXIBILITY

PTFE coated cast iron diaphragm chamber (large models):
Increased resistance in case of liquid spillage to reduce maintenance cost.
Extends pump life and lowers life-cycle cost.

Duplex unit with manifolds:
To have flowrate up to 1.042 l/h



ATEX

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

Sectional view

THREADED CONNECTIONS

PP PP



A AISI-316L



FLANGED CONNECTIONS

PP PP



A AISI-316L



FEATURE & BENEFITS

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

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

Extends pump life and lowers life-cycle cost.

Diaphragm Structure

The mechanical diaphragm works giving the swept volume, acting basically as plunger, and as a separator between casing and pumped fluid. The OBL's unique mechanical diaphragm design allows controlled volumetric displacement and ensures linear proportionality between flow rate and percentage of stroke.

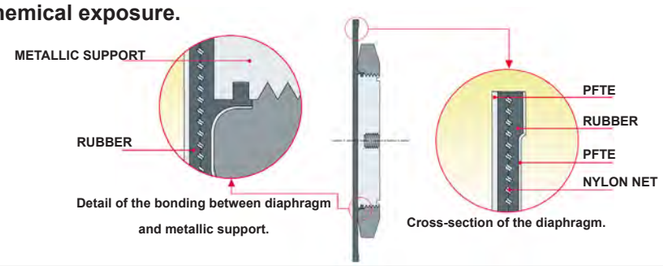
FEATURE & BENEFITS

PP diaphragm back-support ring:

Protection against discharge overpressure.

Reduces downtime and cleanup, minimizes chemical exposure.

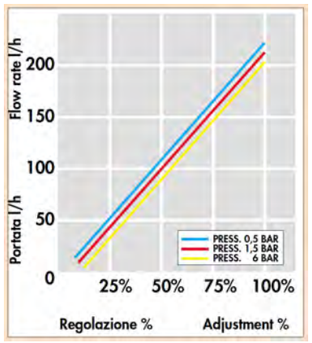




Flowrate linearity

The OBL mechanical diaphragm pump functioning reflect the same linearity of flowrate as a plunger pump.

This peculiarity is highlighted in the flow chart on the side. By the trend of the flow lines is clear the linear proportionality between flowrate and adjustment.



FEATURE & BENEFITS

Multiple layer PTFE diaphragm:

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

- Protection against corrosive fume entering diaphragm chamber.
- Reduced friction against back-support ring.
- Leak-free pump, due to OBL's stress-proof diaphragm.

Extends pump life and lowers life-cycle cost.

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 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).

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

Ø DIAPH./ STROKE	50 Hz TYPE	50 Hz STROKES / 1	50 Hz MAX FLOW RATE l/h	60 Hz TYPE	60 Hz STROKES / 1	60 Hz MAX FLOW RATE l/h	MAX PRESS. bar 3ph	MAX PRESS. bar 1ph	CONNECTIONS THREADED A	CONNECTIONS THREADED PP	CONNECTIONS THREADED S562	CONNECTIONS FLANGED A	CONNECTIONS FLANGED PP	CONNECTIONS FLANGED S562	MOTOR kW 3ph	MOTOR kW 1ph
2 94	**M 7** **M 11** **M 16** **M 23**	25 36 50 70	7 11 16 23	**M 9** **M 14** **M 19**	30 43 60	9 14 19	12	12	3/8" BSP f	3/8" BSP f	/	DN 15 1/2" ANSI	DN 15 1/2" ANSI	/	0,25 KW	0,25 KW
	M 31 **M 37** **M 50**	95 115 155	31 37 50	**M 28** **M 36** **M 45**	84 114 138	28 36 45	10	10								
4 108	**M 35** **M 49** **M 75** **M 101**	36 50 70 95	35 49 75 101	**M 42** **M 58** **M 90**	43 60 84	42 58 90	10	10		1/2" BSP f	1/2" BSP f	DN 15 1/2" ANSI	DN 15 1/2" ANSI	DN 15 1/2" ANSI		
	M 120 **M 155**	115 155	120 155	**M 118** **M 145**	114 138	118 145	10	10								
6 138	**M 102** **M 131**	36 50	100 132	**M 119**	43	120	8	8	3/4" BSP f	3/4" BSP f	3/4" BSP f	DN 20 3/4" ANSI	DN 20 3/4" ANSI	DN 20 3/4" ANSI	0,37 KW	0,37 KW
	M 201 **M 261**	70 95	197 260	**M 158** **M 236**	60 84	158 236	7	7								
	M 321 **M 421**	115 155	320 420	**M 312** **M 384**	114 138	312 384	6	6								
6 165	**M 150** **M 190** **M 301**	36 50 70	150 200 300	**M 180** **M 228** **M 360**	43 60 84	165 228 350	5	5	1" BSP f	1" BSP f	1" BSP f	DN 25 1" ANSI	DN 25 1" ANSI	DN 25 1" ANSI		
	M 431 **M 521**	95 115	435 520	**M 519**	114	515		4								

Material of construction

COMPONENTS	A	PP	PP11	PP32	S562
PUMP HEAD	AISI-316L	PP	PP	PP	PVDF
DIAPHRAGM	PTFE	PTFE	PTFE	PTFE	PTFE
VALVE GUIDE	PP	PP	PP	PP	PVDF
VALVE SEAT	AISI-316L	PVC	AISI-316L	INCOLOY-825	PTFE
VALVE (BALL)	AISI-316L	PYREX	AISI-316L	HASTELLOY C-276	PYREX
VALVE HOUSING	AISI-316L	PP	PP	PP	PVDF
VALVE SEAL	FPM	FPM	FPM	FPM	PTFE
FLANGE	AISI-316L	PVC	PVC	PVC	PVDF

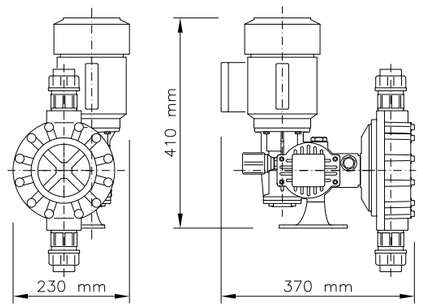
Identification code

M 236 PP DV FA ZC

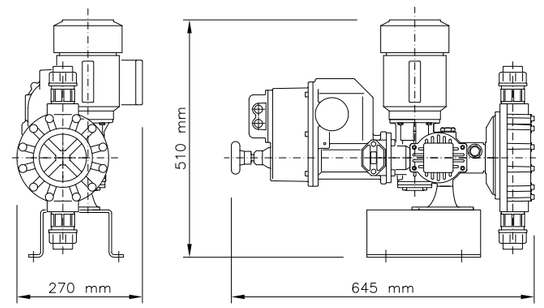
M	PUMP TYPE	
236	MAX FLOWRATE l/h	
PP	PUMPHEAD EXECUTION	
	...A...	AISI-316L
	...PP...	POLIPROPILENE (PP)
	...PP11...	PP + AISI-316L VALVES & SEATS
	...PP32...	PP + INCOLOY-825 VALVES & HASTELLOY C-276 SEATS
	...S562...	PP + PTFE VALVES & PYREX SEATS
DV	VALVES EXECUTION	
	...SV...	SINGLE VALVE
	...DV...	DOUBLE VALVE
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

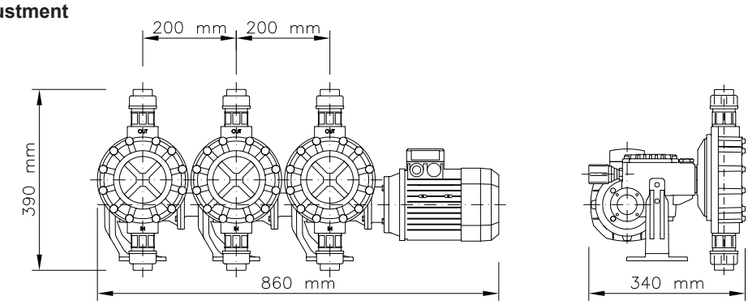
SINGLE PUMP - Manual Adjustment



SINGLE PUMP - Electric Actuator Adjustment



MULTIPLE PUMP - Manual Adjustment



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 heather (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

PROFI PROCESS FIELD BUS

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

Technical data are subject to modifications without prior notice

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