



FX MF
with stroke adjustment



FXS MF
without stroke adjustment

KEY FEATURES

- ⇒ Multi-functions modes dosing pump
- ⇒ Digital keypad controls
- ⇒ Display LCD / 3 LED display status
- ⇒ Stroke frequency control / Stroke length adjustment (FX)
- ⇒ Microcontroller pump, SMD technology
- ⇒ Air Bleed manual valve for priming
- ⇒ Polypropylene Plastic housing / IP 65 / PTFE diaphragm
- ⇒ Level control setting (probe upon request)

PUMP FUNCTIONS, DOSING MODES AND CONTROLS

Constant mode: adjustment of % of injection frequency stroke per minute; stroke per hour; stroke per day. Connected to a Remote On/Off equipment, the pump will start and stop operations according to the external contact.

Proportional to external digital pulses:

- **divider mode:** step down (1: n), dividing factor 1999; it divides external pulses received then effects one injection according to the dividing factor selected.
- **pacing mode 1:1** suitable for proportional controllers with pulses output for proportional control.
- **multiplier mode:** step up (1x n); it multiplies up to pump max frequency for each pulse received
- **multiplier mode with memory:** step up (1x nM), it memorised pulses then effect sequential injections
- **PPM (parts per million):** knowing the water meter pulse type, it allows to select the exact ppm dosing requirements

Proportional to external analog signal 4÷20 mA: also allows to choose signal 20÷4, 0÷20 or 20÷0 mA combining to the signal any stroke frequency adjustment.

Flow detector Alarm: this function must be connected to FWT Flow Sensor. The pump will go in alarm once the actual pump injections will not correspond to stroke frequency selected. Alarms via buzzer remote relay.

Clock: time and date setting

Timer: digital timer, weekly and daily programming; ideal for biocide dosing for cooling towers

Language: language programming selection

Level control: level switch stops the pump when liquid level runs low allowing pump to stay primed.

Level alarm output contact: output contact N.O./N.C. to drive external equipments

Stroke length adjustment (only FX): regulation of injection volume that combined with speed control allows top accuracy.

PUMPS MAIN FEATURES

Power supply: **230 Vac (±10-15%) - 1 phase - 50/60 Hz**
 Reproducibility under standard conditions: **± 5%**
 Plastic housing and support: **PP reinforced, IP65**
 Connectors: **4 pole IP56** (changing the housing IP rating)
 Upon request: **110 Vac/60 Hz; 12-24 Vdc** (limited range)
 Ambient working temperature: **45°C**
 Voltage working range: **min.207V ÷ Max 253 V**
 Voltage Peak: **Max 270 V**

Pumps are provided with **Standard Accessories Kit:**

- 1 - Injection valve;
 - 2 m - Discharge Hose PE semi-rigid (white);
 - 2 m - Suction Hose PVC flexible (transparent);
 - 1,5 m - Air Bleed Hose PVC flexible (transparent);
 - 1 - Foot Valve / Filter
- Pumps are also provided upon request with **Level control switch: MF/L model**

PUMP CONTROLS



1. START/STOP (STAND-BY) button
2. "NEXT STEP" program button
3. Decreasing (left) values button
4. YELLOW LED: flow sensor alarm
5. RED LED: injection pulses status
6. LED BICOLOR: GREEN Power – RED Level control
7. DISPLAY LCD
8. "PREVIOUS PROGRAM" button
9. Increasing value button - programming menu

TECHNICAL CHARACTERISTICS

Pump type	Max Flow / Max Pressure		Start-up* performance		Output per stroke	Stroke length	Pump head type	Power/Current consumption
	l/h	bar	l/h	bar				
1,5-10	1,5	10	1,5	10	0,21 cc (ml)	0,80 mm	PVDF 3/8"	37 watts/0,16 Amp
2,5-15	2,5	15	2,5	15	0,34 cc (ml)	0,80 mm	PVDF 3/8"	37 watts/0,16 Amp
03-20	3	20	3,6	20	0,49 cc (ml)	1,00 mm	PVC 20b3/8"	58 watts/0,25 Amp
5,5-07	5,5	7	6	7	0,77 cc (ml)	1.00 mm	PVDF 3/8"	37 watts/0,16 Amp
05-12	6	12	6,2	12	0,84 cc (ml)	1.00 mm	PVDF 3/8"	58 watts/0,25 Amp
08-09	8	9	7,5	9	1,10 cc (ml)	1.40 mm	PVDF 3/8"	58 watts/0,25 Amp
14-04	14	4	17,6	4	1,96 cc (ml)	2.20 mm	PVDF 3/8"	58 watts/0,25 Amp
22-02	22	2	23	2	3,08 cc (ml)	2.20 mm	PP 20L3/8"	58 watts/0,25 Amp

Max strokes frequency: **120 per min**

Power supply: **230Vac – single phase 50-60 Hz**

Hose size: **4 x 6 mm** (available 6x8 fittings)

Max suction lift: **2 m**

AVAILABLE: 12Vdc -24Vdc are available only up to 08-09 type

***NOTE:** "Start-up" performances are available when the pump starts the operations and are constant only if duties are not continuous (working for time periods not over 20/30 min and with at least 15 min rest)

LIQUID ENDS

PARTS IN CONTACT WITH LIQUID	STANDARD VERSION	UPON REQUEST
Pump head	PVDF ^{MEMO1 - MEMO2}	PP; PMMA ^{NOTE} ; AISI 316
Diaphragm	PTFE	-----
Ball check valve	CERAMIC	AISI 316
Pump head Nipples / Hose fastening nut	PVDF / PP types 03-20 - 10-10	PP
Seals / O-rings	FPM (Viton ®)	EPDM (Dutral®); TFE-P
Injection Fitting	PP	PVDF; AISI 316
Injection No-Return Valve (sleeve type)	FPM	EPDM
Foot "Lip" type check valve	FPM	EPDM
Filter body / Filtering media	PP / GLASSWOOL	PVDF; AISI 316
Suction Hose / Air Bleed hose 4x6mm	PVC flexible	PVDF; available PVC 6x8
Discharge Hose 4x6mm	PE semi- flexible	PVDF; available PE 6x8

OTHER OPTIONS AND SPECIAL CONFIGURATIONS UPON REQUEST:

Reed type "Lip" Valve / Valve seat	FPM / PP	EPDM / PP
Foot valve ball check valve / Fitting	CERAMIC / PVDF fitting	PP fitting
Injection valve fitting	PVDF	PP fitting
Spring injection ball valve / Fitting	PVDF spring / CERAMIC ball	-----
Automatic auto-bleed pump head	PVDF AUTO BLEED ^{NOTE}	-----
Aggressive chemicals configuration	PVDF acid configuration ^{MEMO 3}	-----
Polymer viscous liquid configuration	PMMA polymer configuration ^{MEMO 4}	AISI 316 ball check

MEMO 1: pump head type 03-20 and 22-02 do not feature air bleed valve and are not suitable for auto-bleed head.

MEMO 2: type **03-20** mounts **PVC** pump head; type **22-02** mounts **PP** pump head

MEMO 3 aggressive chemical configuration: PVDF pump head/fittings, double Ceramic ball checks, o-rings in FPM or EPDM (on request TFE/P), Injection no-return valve PVDF spring / Foot valve both with Ceramic ball check, **PVDF** hoses.

MEMO 4 polymer viscous liquid configuration: PMMA pump head, AISI 316 ball checks, Fittings PP 3/4-1/2", o-rings/seals FPM or EPDM, Injection fitting and Strainer (without no- return valve), hoses PVC flexible 10x14;

NOTE: PVDF AUTO-BLEED and Polymer PMMA configurations, pump pressure performance decreases of about 50%

Net weight: 2,4÷3,1 kg

Gross weight: 2,8÷3,5 kg

Carton size (mm):

275 x 240 x 200



FX MF - FXS MF
Solenoid driven dosing pump

Technical Data Sheet

rev.01_0220

