



FEEDER

EF 161 EVO EF 162 EVO



M012-90 - Rev. 00- 10/2018

Scheda Tecnica

Culligan presents the evolution of its professional line of electromagnetic pumps, which feature an advanced digital electronics and housing for wall installation.

The wide range of available models and options (dosing heads, flow rates, inputs and outputs), allows to choose the perfect pump for your application needs.

Main Characteristics

- Multi-language interface
- CONSENT input for external consent to the dosage and/or monitoring of water flow to the sensors
- Setting the input for pH or redox measurement through configuration menu (EF162 model)
- Separated inputs for level control and injection flow control
- Alarms and errors (diagnostic) directly shown on display
- Automatic compensation of the power voltage variations (from -30 up to +10%)
- Two configuration levels, standard and advanced, both protected by password
- Configuration and calibration data saving on non-volatile memory for at least 10 years
- Internal clock, powered by buffer battery that ensures proper functioning even in case of power failure; can be used for scheduling the pump operations
- Auxiliary output (optional) for remote indication of the proper functioning of the pump: may be a programmable relay (NO or NC) or, alternatively, a 4-20 mA signal
- "Repetition" output (optional) for remotely sending the magnet pulse to other pumps equipped with pulse input, as an alternative to the relay or 4-20 mA output
- RS232C serial port (optional) for communication with a supervisor (e.g. RW14)
- Built-in counter of injected litres, useful for maintenance requests and resettable through password
- Counters of membrane working hours & shots, can be displayed and reset via "service" password
- Factory data restoring with different codes for different pump models and configurations

List of Models

EF161 EVO : Multi-function pump, with pulse and 0/4-20 mA inputs

EF162 EVO : Pump with built-in pH/RX meter and electrode input on BNC connector

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Company with UNI EN ISO 9001:2015 certified quality system

TECHNICAL DATA

Power Supply	230 V~, 50/60 Hz, -30...+10%, max 55 VA (cable with Schuko plug)
Protection	fuse 5x20; F2A @ 230 V~
Clock RTC, precision ±5 sec/month, powered by CR2032 buffer battery, life of at least 3 years with no power supply	
Environment	storage temperature: -20 ... +60°C working temperature: -10 ... +50°C RH max: 90% no condensing
Protection Rate	IP65
Installation	wall mounting, with supplied bracket and screws
Dimensions	150 x 210 x 130 mm (connectors and wirings excluded)
Weight	approx. 3 kg
Materials	PP housing reinforced with glass fibre, PVDF (even with auto-drain option) or PP dosing head, PTFE membrane, FPM (upon request: EPDM or PTFE) seals, Pyrex ball valves (upon request: ceramic ball)
Frequency	adjustable from 0 to 150 pulses/minute
Suction Height	max 1.5 m
Suction / Injection Lines	4x6 mm hose

Digital Inputs

Level	accept voltage-free contact from level sensor
Ext. Consent / Pulse	Model EF161: Pulse input for water meter; accept voltage-free contact; if this input has to be connected in parallel with similar inputs of other pumps, it is advisable to install a signal splitter Models EF162: accept voltage-free contact from contactor or 3-wire micro-magnetic NPN (cell flow); configurable NO/NC
FLOW (injection)	optional; contact from injection flow control sensor

Analogic Input (depending on model)

(Note: the precision/repeatability data refer to the electronics only)

mA	0-20 or 4-20 mA, selectable through configuration menu; input impedance 100Ω, precision better than ±0.3% FS, repeatability better than ±0.2% FS
pH/RX	selectable through configuration menu; available on BNC connector; input impedance > 10 ¹² Ω • pH range: 0.00 ... 14.00 pH ; precision > ±0.02pH, repeatability > ±0.01pH • pH range: 0 ... +1000 mV ; precision > ±2 mV, repeatability > ±1 mV

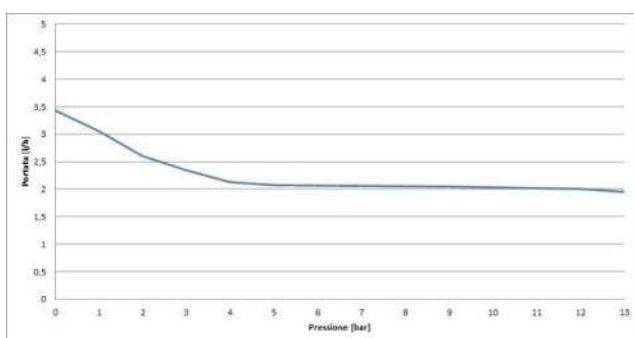
Outputs (optional)

Alarm Relay	contact configurable NO / NC, max 250V~, 3A resistive
"Repetition" relay	SSR (solid state relay) contact, max 40 V / 50 mA, duration 60 msec
mA	4-20 mA, directly proportional to the dosing percentage (0-150 inj./min ⇒ 4-20 mA) on load max 400 Ohm, precision 1%, with no galvanic insulation from inputs
Serial Port	RS232, 3-wire, 9600 BPS, 8 bit, no parity

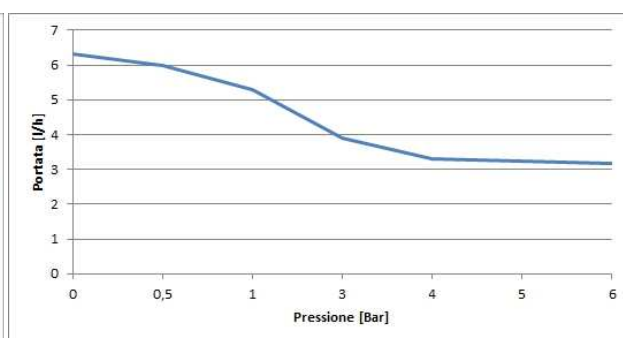
Flow Rate Curves

<i>Model (curve)</i>	<i>Pressure</i>	<i>Flow Rate</i>
C10	20 bar	max 2 l/h
C11	6 bar	max 3 l/h
C12	2 bar	max 10 l/h

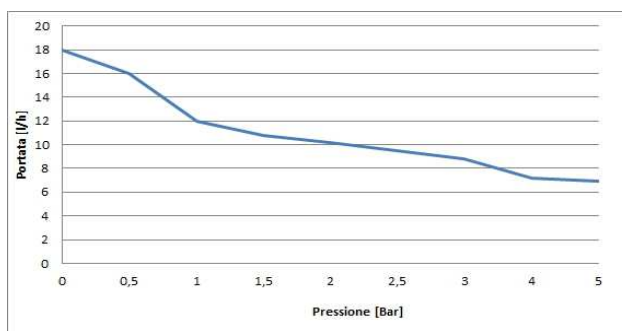
Note: these data refer to standard pump heads, dosage of no viscous liquids, temperature 25°C, working frequency 120 pulses/minute.



Curve C10



Curve C11



Curve C12