

## BOXER

### Boxer 3MD Series Dual Diaphragm Pump Liquid

Liquid Flow Rate to 2.5 l/m

## DESCRIPTION

The 3MD series is a new compact version of the double headed liquid diaphragm pump. High quality connection rod and motor bearings combined with slow speed contribute to maximum operational life and low power consumption. This series additionally offers a unique detachable motor construction allowing contaminated heads to be economically exchanged.

Brushed and versatile brushless motor options are offered in this series.

Like all other pumps in the Boxer range, this series can be customized to specific OEM requirements.

## FEATURES

- BLDC versions at same costs as brushed DC
- approx. 1500 rpm with speed control 0 to 5V
- speed feedback signal (1 pulse per revolution) output
- flow control is available in combination with PWM flow controller
- detachable motor construction
- single, double, and quad heads available



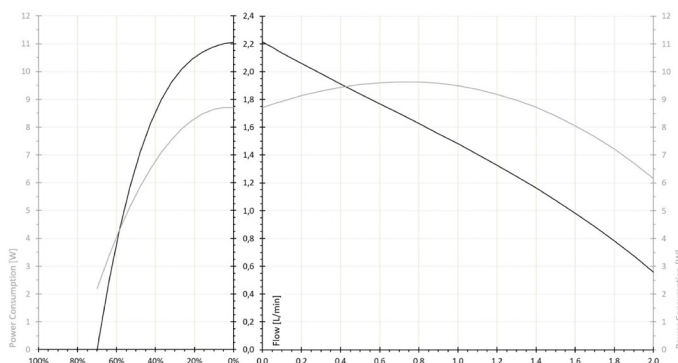
## SPECIFICATIONS

### GENERAL

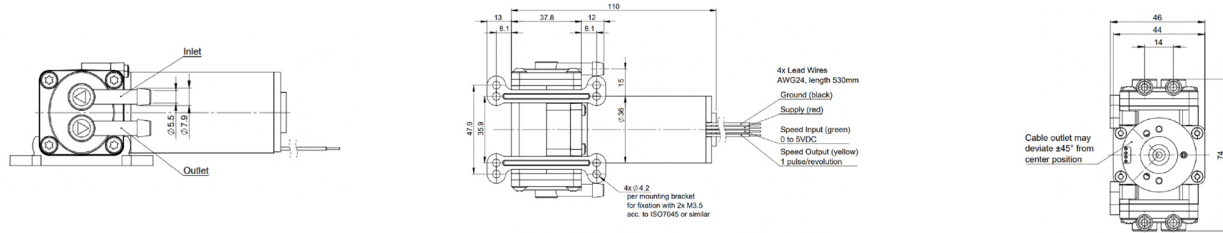
Free Flow	2.5 l/m Brushed, 2.2 l/m Brushless
Max Pressure	2.0 Bar (29 PSI)
Max Vacuum	-600 mbar Brushed, -700 mbar Brushless
Motor	12 & 24 Volt; DC & BLDC
Housing Material	PPS (Polyphenylene Sulphide)
Diaphragm Material	EPDM (other materials available)
Valve Material	EPDM/Silicone (other materials available)
Tubing Connection	Suitable for 7.8 mm ID tubing
Eccentric	0.8 & 1.0 mm
Max. Ambient Temp	50°C
Max Media Temp	100°C
Weight	420 g

## FLOW AND POWER CONSUMPTION CURVE

At max recommended speed (Speed Input at 4.5 V DC / 1500 rpm)



## BRUSHED DIMENSIONS



## WIRING DETAILS / SPEED CONTROL

Wire		
1	Red	24 V DC
2	Black	GND
3	Green	Speed control input: 0.5 to 4.5 V DC (or 5.0 V PWM with min. 15 kHz signal)
		Speed range: 167 to 1500 rpm
		Not recommended to run below 400 rpm (1.2 V)
		Green wire can be connected to +24 V supply for full speed (1500 rpm) operation
		Resolution: 10 bit
4	Yellow	Frequency (rpm) output, 1 pulse (+ 5.0 V) per revolution with 50% on time

## ORDERING INFORMATION

Model	Motor Type	Nominal Motor Voltage (VDC)
3232.650	Brushless	12
3232.660	Brushless	24
3232.129	Brushed	12
3232.252	Brushed	24