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3MD liquid diaphragm pump with BLDC Motor.



Technical Data

Free Flow	2.5 l/min
Max Pressure	2.0 bar
Max Vacuum	-600 mbar
Free Flow (gas / dry)	3.7 l/min
Max Suction Height (dry)	4.5 m H ₂ O
Voltage Options	24 V DC
Power Consumption	7.2 to 19.7 W
Max current (start-up or locked rotor), electronically limited	10.0 A
Speed	400 to 1600 rpm
Wiring Details / Speed Control	See next page
Wire Length	400 mm (5 mm stripped / tinned)
Wire Gauge	22 AWG
Max. Motor Surface Temperature	80 °C
Motor Insulation Class	B
Max Ambient Operating Temperature	50 °C
Max Media Temperature	100 °C
Elastomer Options:	
Diaphragm	EPDM / Nitrile / Viton / Silicone
Valves	EPDM / Nitrile / Viton / Silicone
O-Rings	EPDM / Nitrile / Viton / Silicone
Eccentric Options:	0.8 / 1.0 mm
Other Wetted Parts	PPS (polyphenylene sulphide)
Mounting	Supplied with mounting bracket (see drawing, page 2)
Weight	385 g

Bold indicates configuration applicable to this datasheet

Wiring Details / Speed Control

Wire:

1	Red	24 V DC
2	Black	GND
3	Green ¹	Speed control input: 0 to 2.0 V DC (or PWM with min. 15 kHz signal) Speed: 400 to 1600 rpm Resolution: 10 bit (410 steps usable)
4	White ²	+ 5 V DC output (for use with speed control, see below)
5	Yellow	Frequency output, 1 pulse (+ 5 V) per revolution with 50% on time

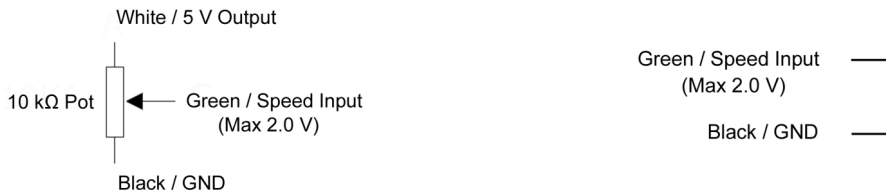
¹ Running above 2.0 V DC (> 1600 rpm) may cause cavitation and reduced liquid flow.

² White wire is supplied insulated. Damage will occur if connected to GND or any voltage.

The 3MD BLDC liquid diaphragm pump has 2 options for speed control:

❶ Variable Speed: external 10 kΩ pot connected between white + 5V DC output and GND with wiper connected to green speed input.

❷ Variable Speed: green speed input connected directly to an external 0 to 2.0 V DC (or PWM) signal with common GND to motor.



Flow Curve

At max recommended speed (Speed Input at 2.0 V DC / 1600 rpm)

