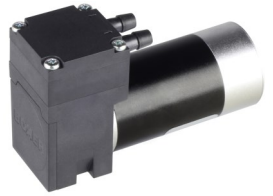


16K Series - BLDC Motor

BOXER

Boxer Pumps > Products > Liquid Diaphragm Pump

16K liquid diaphragm pump with BLDC Motor (5 wire: supply, GND, speed input, rpm feedback, +5V output)



Technical Data

Free Flow ¹	310 ml/min
Max Pressure	2.0 bar
Max Vacuum	8.0 m H ₂ O
¹ Value is show for EPDM elastomers. See flow curves on page 2 for FKM elastomers.	
Free Flow (gas / dry)	300/250 ml/min (EPDM / FKM Elastomers)
Max Suction Height (dry)	4.0 m H ₂ O
Voltage	12 to 24 V DC
Power Consumption ²	4.0 to 9.0 W
² Power consumption also shown on flow curves on page 2.	
Max current (start-up or locked rotor), electronically limited	1.5 A
Speed	650 to 3500 rpm
Wire Length	400 mm (5 mm stripped / tinned)
Wire Gauge	26 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 / Viton (FKM)
Valves	EPDM / Viton (FKM)
Gasket	EPDM / Viton (FKM)
Eccentric Options:	
	0.6 / 0.85 mm
Other Wetted Parts	
	PPS (polyphenylene sulphide)
Weight	85 g

Bold indicates configuration applicable to this datasheet

Wiring Details / Speed Control

1	Red	Supply voltage, 12 to 24 V DC
2	Black	GND
3	Green ¹	Speed control input: 0.65 to 3.5 V DC (or 5.0 V PWM 13 to 70%, TTL compatible, with min. 30 kHz signal) Corresponding Speed range: 650 to 3500 rpm Resolution: 10 bit
4	White	+ 5 V DC output (for use with speed control via potentiometer, see below)
5	Yellow ²	Frequency (rpm) output, 1 pulse (+ 5.0 V) per revolution with 50% on time

¹ Running above 3.5 V DC (> 3500 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 16K BLDC liquid diaphragm pump has 2 options for speed control:

① Variable Speed: external 10 kΩ pot connected between white + 5V DC output and GND with wiper connected to green speed input.

② Variable Speed: green speed input connected directly to an external 1.0 to 3.5 V DC (or PWM) signal with common GND to motor.

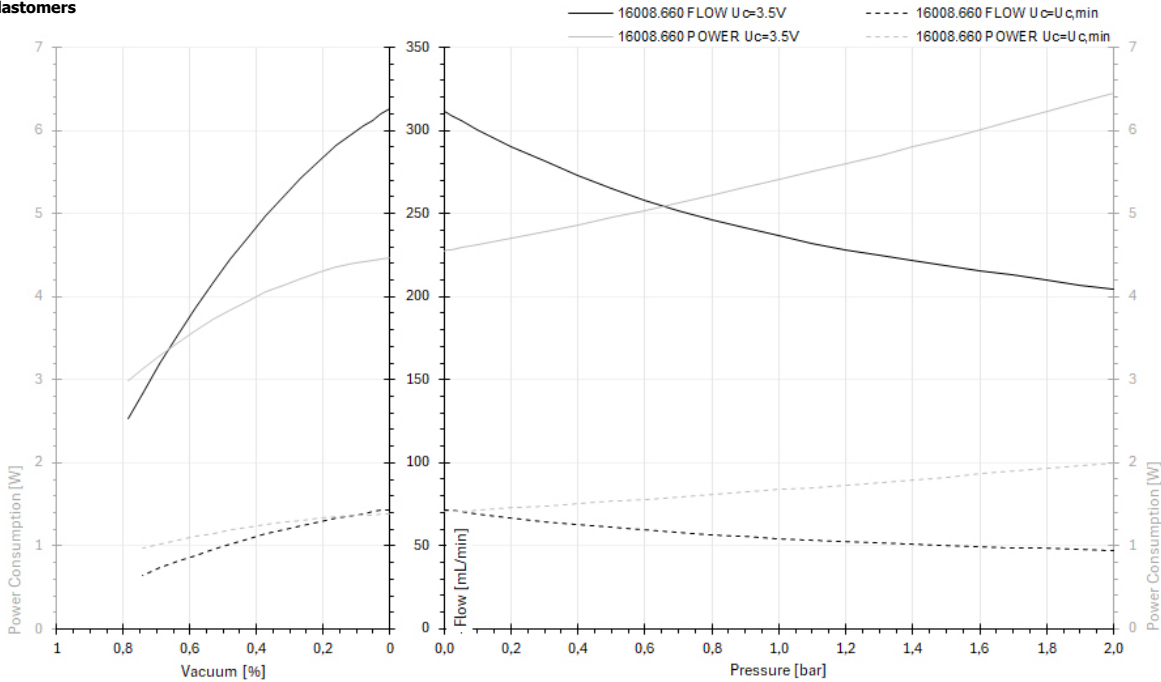


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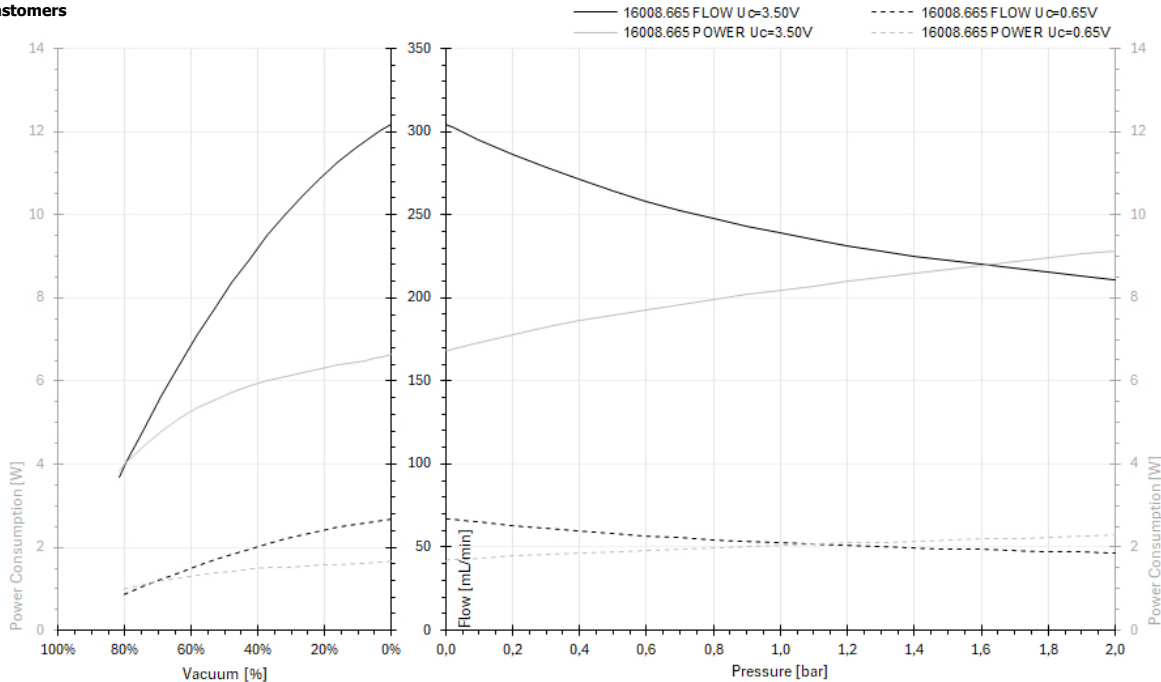
Flow Curves

At max speed (speed input 3.5 V DC / 3500 rpm) and min speed (speed input 0.65 V DC / 650 rpm). Supply voltage 24 V DC.

EPDM Elastomers



FKM Elastomers

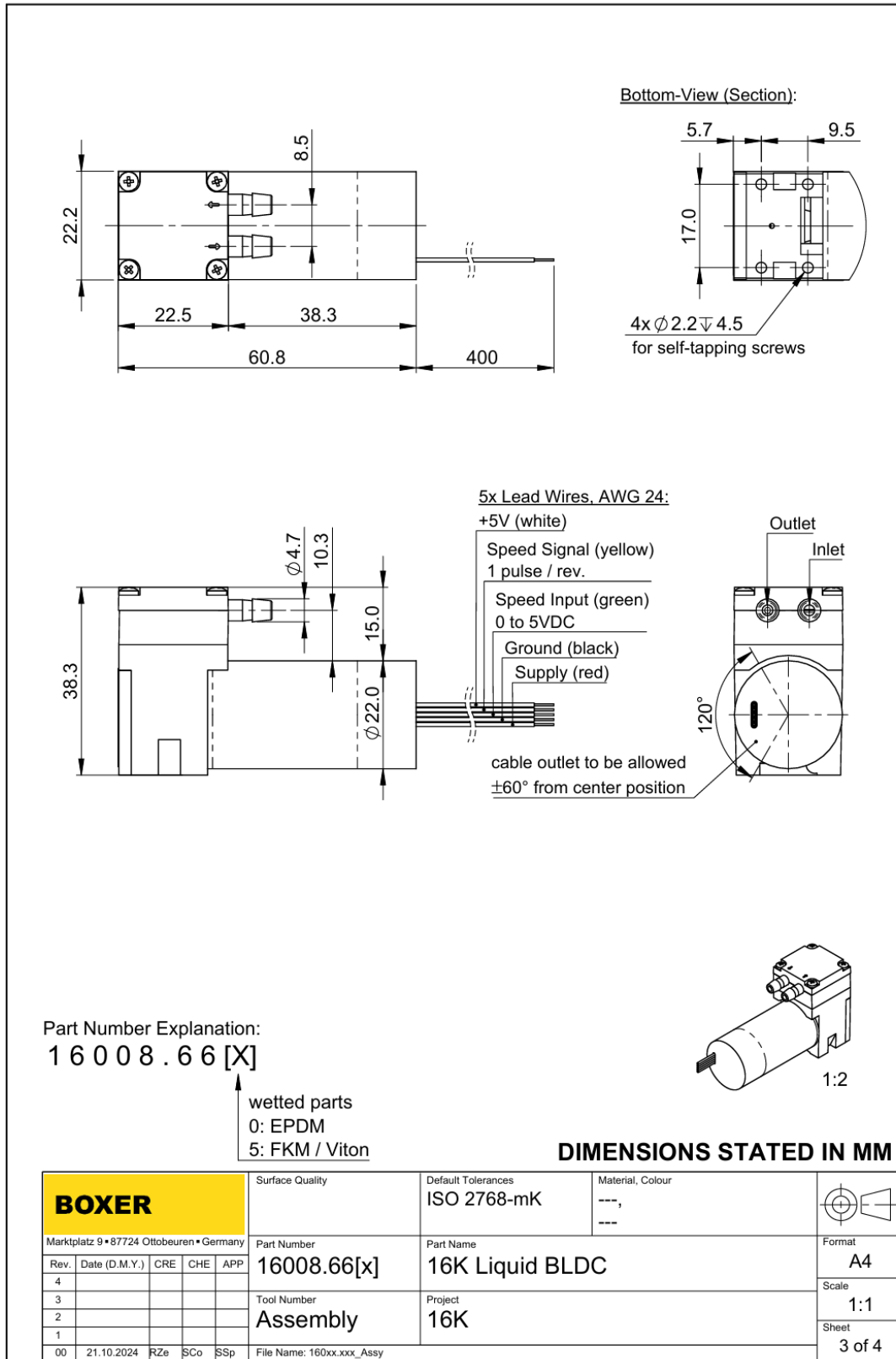


Order Information

Description	Motor	Voltage	Elastomer Materials			Part Number
			Diaphragm	Valve	Gasket	
16K Liquid Diaphragm Pump	BLDC	12.0 to 24.0 ¹	EPDM	EPDM	EPDM	16008.660
16K Liquid Diaphragm Pump	BLDC	12.0 to 24.0 ¹	FKM	FKM	FKM	16008.665

¹ Flow curves shown at 24.0 V DC. Performance will reduce at 12.0 V DC.

Engineering Drawing



BXP_A4_Portrait_02.drwdot, 05/2023

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