

# D16 Series Micro Piston Vacuum Pump & Compressor



## Datasheet



### Highlights

- Can be restarted with max load
- Long service life under max load
- Support voltage speed control
- Low EMI
- Driven by long life BDC motor
- Industrial-grade reliability
- High pressure
- Compact size

### Applications

- Gas sampling
- Medical equipment
- Analytical Instruments
- Pneumatic drive

1000<sup>hours</sup>  
lifetime test



### PERFORMANCE DATA

Model	Voltage (V DC)	Max. Load Current (mA)	Max. Peak Flow rate (L/min)	Max. Average Flow rate (L/min)	Max. Vacuum (-kPa)	Max. Pressure (kPa)
<b>Material Option A</b>	Piston:PTFE Valves:FKM Pump Head: Aluminum Cylinder: Aluminum					
D16M	24	≤780	≥5.0	≥2.8	≥80	≥520

Note: The above parameters are measured under the rated voltage 24V DC, the input voltage is required to be 12 ~ 24V, and the change of the working voltage will affect the parameters.

CONFIGURATION OPTIONS			
Material Options			
Pump Head	Aluminum		
Piston	PTFE		
Cylinder	Aluminum		
Valves	FKM		
Motor	BDC motor		
Connector Options			
Default PC8 push-in quick connector/PA hose connector/PP hose connector/Stainless steel hose connector PC6 push-in quick connector/Rc1/8 inside thread			

RELIABILITY DATA		
Models	D16M	
Fully Loaded Lifetime (hrs)	1000	
Unloaded Lifetime (hrs)	2000	
Motor Lifetime (hrs)	5000	
Test conditions	In a clean and non-corrosive laboratory, working under rated voltage, the pump is fully loaded (the outlet pressure 400kPa, the inlet is directly connected to the atmosphere) or unloaded (the inlet and outlet are directly connected to the atmosphere), and runs continuously around the clock; ambient temperature: 5℃ ～33℃, relative humidity: 50%-85%, fluctuates with the climate.	
Working Condition		
Operating temperature	Permissible ambient temperature is 0℃～50℃, it is not suitable to be exposed to the sun, and it should work in a clean and ventilated environmen	
Medium	Permissible temperature of the medium is 0℃～50℃, the transferring gas is allowed to be rich in water vapor, but cannot contain solid particles	
Wetted materials	The gaseous medium will come into contact with pump head, piston, cylinder, check valve and gas connectors. Please refer to the options for parts materials. Please further judge the resistance to the medium according to the material	

The graph shows the flow rate (L/min) on the y-axis (0 to 3) against vacuum/pressure (kPa) on the x-axis (-80 to 540). The 24V model (solid line) has a peak flow rate of approximately 2.8 L/min at 0 kPa. The 12V model (dotted line) has a peak flow rate of approximately 1.3 L/min at 0 kPa. Both models show a decrease in flow rate as pressure increases.

Vacuum/Pressure (kPa)	Flow rate (L/min) @24V	Flow rate (L/min) @12V
-80	0.0	0.0
-40	1.5	0.5
0	2.8	1.3
60	2.2	1.0
120	1.8	0.7
180	1.4	0.5
240	1.0	-
300	0.7	-
360	0.5	-
420	0.3	-
480	0.1	-
540	0.0	-

The diagram illustrates the structure of the product code, which is a sequence of characters and numbers separated by hyphens. The code is divided into several segments, each with a specific meaning:

- Category:** D- Vacuum pump & compressor
- Model:** 16- Model code
- Flow rate:** M- Medium flow rate
- Develop code:** Omitted by default
- Elastic material:** 1- FKM
- Pump head material:** A-Aluminum pump head with aluminum cylinder
- Motor Type:** 1-BDC motor type A
- Connector type:** 2-PC8 quick connector, 3- Rp1/8 inside thread, 4- Hose connector type B, 5- Hose connector type C
- Type:** J- Basic type, Omitted by default
- Version:** 2-standard
- Voltage:** 4-24V DC

The code structure is shown as follows:

D 16 [ ] [ ] - [ ] [ ] [ ] - [ ] [ ] [ ] [ ]

Arrows indicate the mapping from the code segments to their respective descriptions.

ACCESSORIES		
Descriptions	Illustration	Function
Shock-isolation mounting feet		Reduce the impact of vibration on the equipment during the operation of the pump. This accessory comes with the pump*4
Filter		The 80-mesh filter protect both pumps and other upstream instrumentation and hydraulic circuits against particulate, crystals and fibers . It is recommended to replace it regularly. This accessory comes with the pump*1
Check valve		Enhance the cut-off capability of the gas circuit system to ensure one-way gas flow. This accessory can be purchased on demand
Flow stabilizer		Eliminate and reduce pulsation, make gas output smooth and stable, this accessory can be purchased on demand
Manual control valve		It can be used to manually adjust the gas flow rate, pressure and vacuum. This accessory can be purchased on demand
DC power adapter		220V AC to DC switching power supply, this accessory can be purchased on demand
Silencer		It is used to eliminate and reduce the airflow noise caused by pumping operation, this accessory can be purchased on demand



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