

# XDD1 DIAPHRAGM VACUUM PUMP

edwardsvacuum.com

XDD1 diaphragm pumps are compact and efficient pumps, used for backing small compound turbomolecular pumps in clean, high vacuum applications, and also designed to be free standing bench top units. A typical ultimate pressure of better than  $5 \times 10^{-8}$  mbar can be achieved when using an XDD1 to back a  $70 \text{ ls}^{-1}$  turbomolecular pump. The XDD1 pumps are intended for use on non-aggressive, safe area applications.

The 24 V version is designed to provide a complete pumping package and can be used with the Edwards Turbo and Instrument Controller (TIC). The d.c. voltage motor runs on 24 V via a 15 pin DIN connector. By selecting the appropriate mode the pump speed can be controlled by the user to provide variable pumping speed or max pumping speed. The pump is compact and efficient. The Mk3 24V version can now be user set to run at a maximum speed of  $1.8 \text{ m}^3\text{h}^{-1}$  running at 2400 rpm.

Under normal conditions the XDD1 is virtually maintenance free, the lifetime of the diaphragms and valves is typically  $> 10,000$  operating hours, depending on the application.



## FEATURES AND BENEFITS

**Dry pumping, lubricant free technology**  
eliminating the need for costly oil changes and disposal

**Lightweight and compact**  
with a small footprint allowing flexibility of use.

**Ideal backing pump**  
for small turbomolecular pumps.

**Complies**  
with EN61010, EN1012, CSA/UL standards.

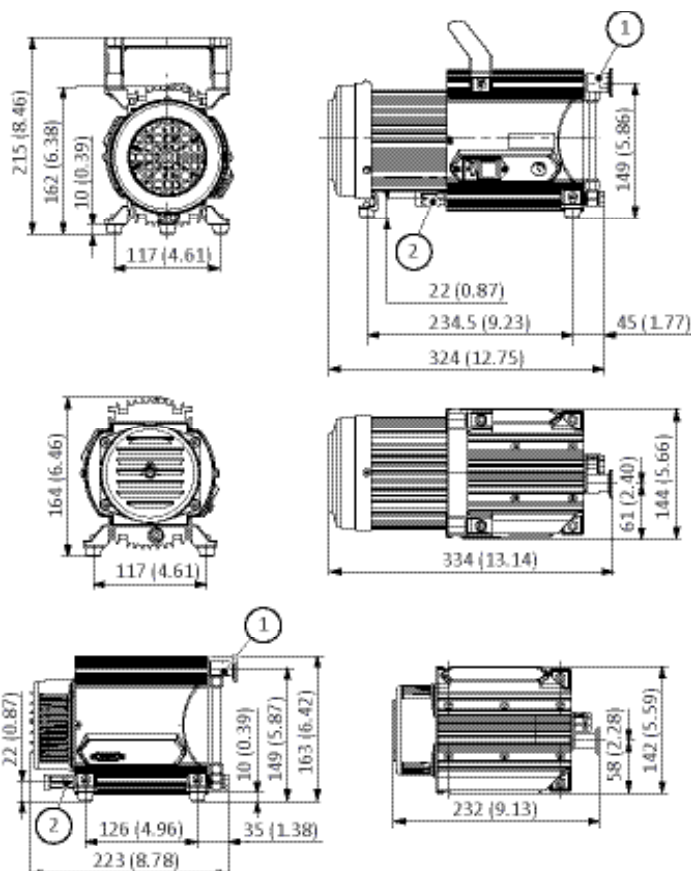
**Worldwide**  
115/230 V or 24 V options.

**IEC 60320 C13 connector**  
on a.c. pumps.

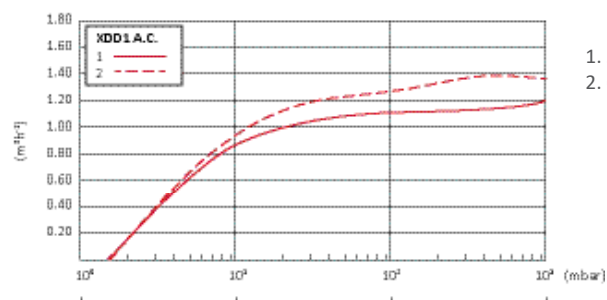
## APPLICATIONS

- Residual gas analysis
- Mass spectrometers
- Cryostat and Dewar evacuation
- Ion pump evacuation
- Surface science

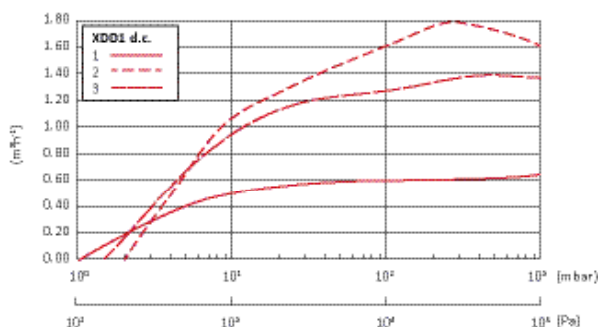
## DIMENSIONS



## PERFORMANCE CURVE



1. 50 Hz  
2. 60 Hz



1. 600 rpm  
2. 2400 rpm  
3. 1700 rpm  
factory set

## TECHNICAL DATA

| a.c.          |                                 | d.c.                          |                                 |
|---------------|---------------------------------|-------------------------------|---------------------------------|
| Pumping speed |                                 |                               |                                 |
| 50Hz          | $1.2 \text{ m}^3/\text{h}^{-1}$ | 600 rpm                       | $0.6 \text{ m}^3/\text{h}^{-1}$ |
| 60Hz          | $1.4 \text{ m}^3/\text{h}^{-1}$ | 1700 rpm<br>(Factory setting) | $1.4 \text{ m}^3/\text{h}^{-1}$ |
|               |                                 | 2400 rpm                      | $1.8 \text{ m}^3/\text{h}^{-1}$ |
| Motor power   | Weight                          | Motor power                   | Weight                          |
| 80 W          | 7.3 kg                          | 64 W                          | 4.5 kg                          |

| Performance                |                                                                                                                   |
|----------------------------|-------------------------------------------------------------------------------------------------------------------|
| Ultimate vacuum (typical)  | <2 mbar                                                                                                           |
| Ambient temperature limit  | 10 to 40 °C                                                                                                       |
| Inlet connection           | NW16                                                                                                              |
| Exhaust connection         | The pump is fitted with a silencer which can be removed and an exhaust line connected with a 1/8 inch BSP fitting |
| Max allowed inlet pressure | 1 bar (abs)                                                                                                       |
| Power connector (a.c.)     | IEC EN60320 C13                                                                                                   |

## ACCESSORIES &amp; SPARES

| Product description                                                 | Order number |
|---------------------------------------------------------------------|--------------|
| 2m electrical supply cable for 1-ph pumps, UK plug 3A               | A50516000    |
| 2m electrical supply cable for 1-ph pumps, no plug                  | A50508000    |
| 2m electrical supply cable for 1-ph pumps, North America/Japan plug | A50507000    |
| 2m electrical supply cable for 1-ph pumps, North European plug      | A50506000    |
| XDD/DX/EXDC extension cable 1m                                      | D39700835    |
| XDD/DX/EXDC extension cable 2m                                      | D39700836    |
| XDD/DX/EXDC extension cable 5m                                      | D39700837    |
| XDD1 diaphragm service kit                                          | A74601800    |

## ORDERING INFORMATION

| Product description                                                   | Order number |
|-----------------------------------------------------------------------|--------------|
| XDD1 diaphragm pump Mk2 100-115V 50/60Hz, 120V 60Hz, 220-230V 50/60Hz | A74602983    |
| XDD1 diaphragm pump Mk3 24 V d.c.                                     | A74603991    |

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