

mXDS3 and mXDS3s dry scroll vacuum pumps

 **EDWARDS**





FILLING THE PERFORMANCE GAP

Edwards mXDS3 and mXDS3s Small Dry Scroll Vacuum Pumps

Extending the Edwards small dry pump portfolio. mXDS3 continues our scroll pump experience filling the performance gap and giving more choice to System builders and OEMs. A small dry alternative to oil sealed rotary vane pumps and diaphragm pumps of a similar capacity. mXDS3 are offered as standard or configured with an inlet valve accessory and exhaust silencer/filter to become the mXDS3s.

Flexibility

The compact and lightweight mXDS3 weighs in at just 7.8kg and comes with a purpose made carry handle making it highly portable. For system builders the pump can typically be mounted horizontally or vertically and for convenient connection the inlet can be orientated vertically or horizontally with a push fit alternative available as an accessory.

Performance

Edwards mXDS3 and mXDS3s dry scroll pumps deliver $3\text{m}^3\text{h}^{-1}$ peak speed and 0.1mbar ultimate. The pumping speed and good ultimate vacuum make these pumps well suited for backing turbomolecular pumps. These small scroll pumps have a gas ballast facility incorporated in the design as standard for water vapour handling and an exhaust valve just like the larger nXDS.

Environment

Edwards mXDS3 and mXDS3s are clean oil free pumps with no oil to top up, replace or dispose of. They typically have a lower power requirement compared to similar capacity pumps making them great for energy savings, an ideal choice for helping to reduce your carbon footprint. The optimised fan cooling is beneficial in reducing noise for quieter operation and a pleasant working environment.

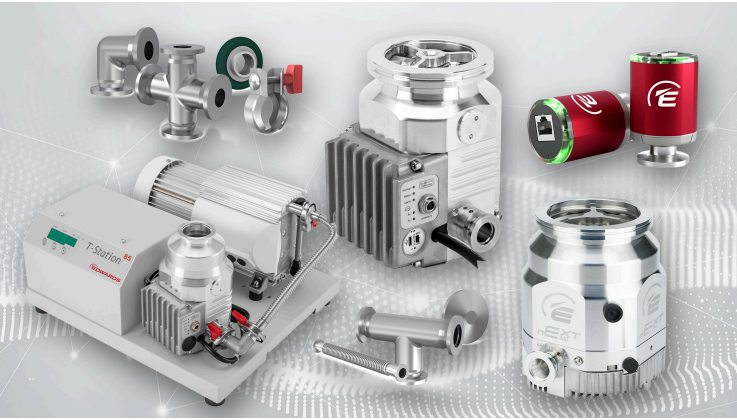
Markets



— Scientific Instruments and OEMs

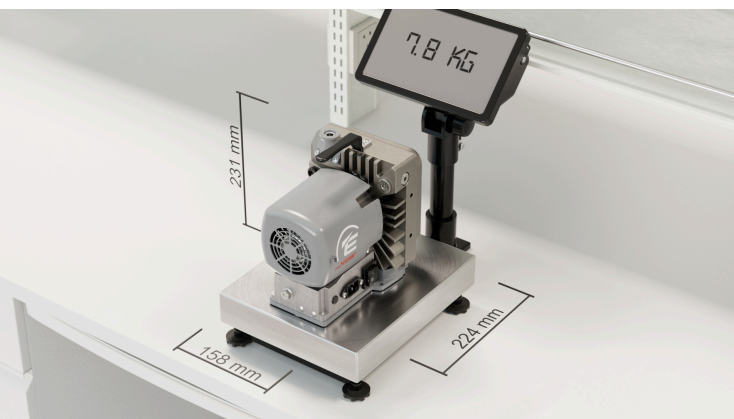
— Research and Development





— Small System Builders

Features and benefits



Flexibility

Compact and Lightweight

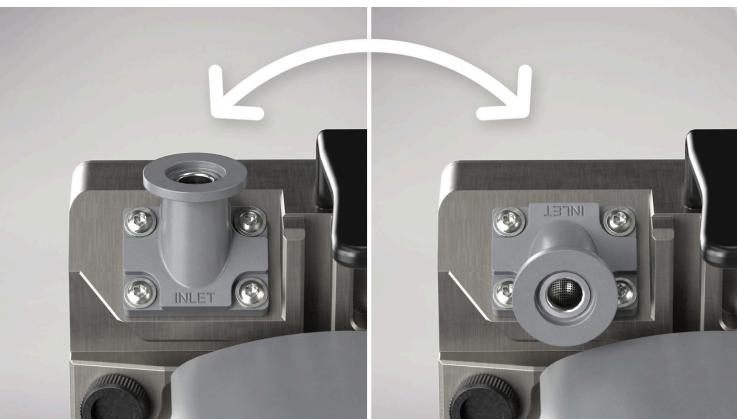
Occupies minimal footprint saving valuable space in your environment. Highly portable vacuum pump with carry handle making it easy to move and position. Standard pump weighs in at just 7.8kg.

Flexibility

Mounting options

Pump can typically be mounted horizontally but can also be mounted vertically, giving flexibility to the system builder. Brackets and baseplate can also enable vibration isolators to be fitted.





Flexibility

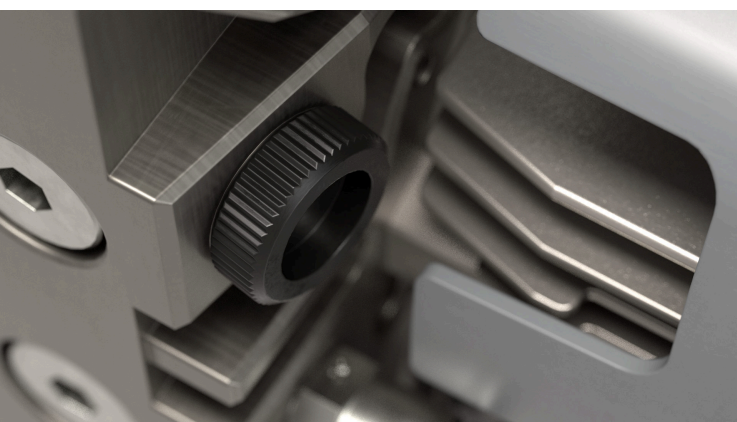
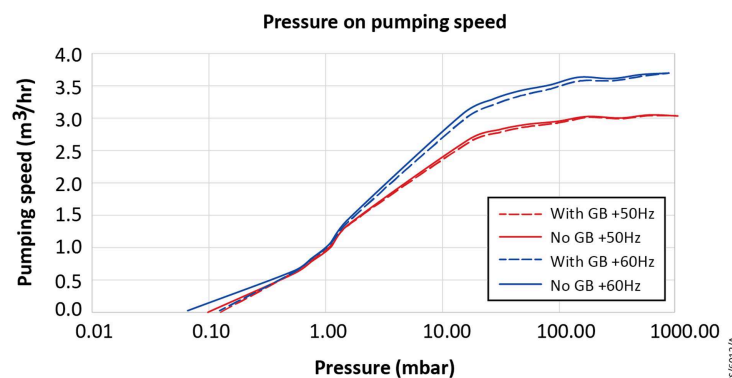
Inlet can be orientated vertically or horizontally

for convenient connection a push fit alternative is available along with a wide range of other accessories.

Performance

Excellent performance

with a pumping speed of $3\text{m}^3\text{h}^{-1}$ and a good ultimate vacuum 0.1mbar makes these pumps well suited for backing turbomolecular pumps.



Performance

Gas ballast incorporated

as standard for water vapour handling.

— Performance

Exhaust valve included

as standard just like the larger nXDS in the family, this acts to reduce the rate of pressure rise at the inlet for system protection.



— Performance

mXDS3s

fully configured variant supplied with factory fitted delay opening inlet valve and exhaust silencer/filter accessory.

— Environment

Environmentally friendly

clean and dry with a typically lower power requirement compared to similar capacity pumps making for good energy savings and the opportunity to reduce your carbon footprint. With optimised fan cooling for quiet operation making a more pleasant working environment.



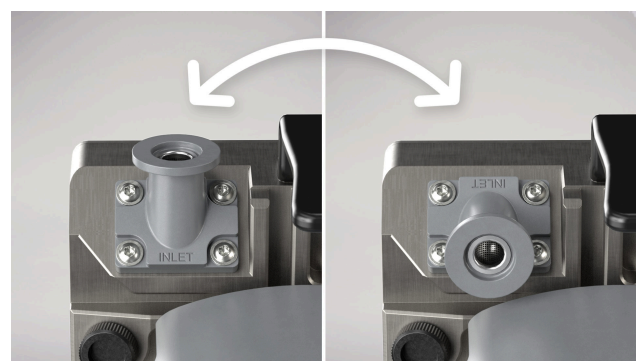


360°



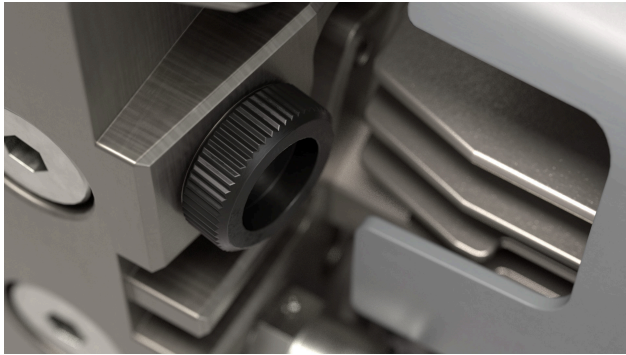
1. Mains driven motor

- Compact air cooled motor
- Select appropriate motor variant for local electric supply
- Plug in IEC power cable
- On/off switch for local control
- Easy to set up and run



2. Inlet

- DN 16-KF flange can face up or to the back of the pump for compact installation.
- An alternative inlet with 1/4 inch BSP connection available as an accessory which can be used with suitable push fit fittings



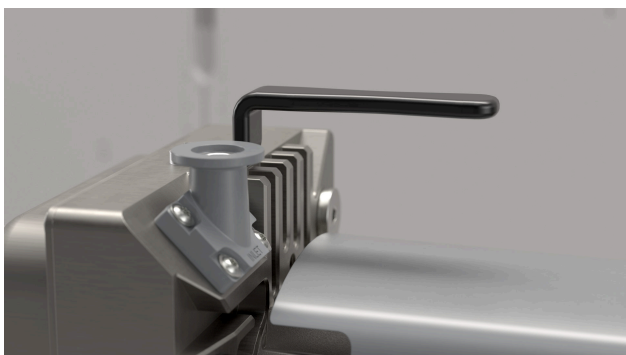
3. Gas ballast

Assists with water vapour pumping and clean up
1/8 inch BSP adaptors and restrictors offered as accessories



4. Exhaust

1/8 inch BSP push in fitting supplied as standard
suitable for 8mm od hose.
Silencer supplied with configured pump



5. Carry handle

Pick up and place pump



6. Solenoid inlet valve with delay opening relay

Supplied as standard mXDS3s only. Fast closing in the event of power failure, this inlet valve provides extra system protection especially if using gas ballast.

Delay opening on startup ensures the pump is evacuated when the inlet valve opens



7. Base mounting or face mounting

Base plate and bracket accessories available.
Flexibility in orientation, optimising space utilisation and the option to fit vibration isolators

Technical data

VACUUM DATA

| | Units | mXDS3 | mXDS3s |
|---|--------------------------------|-------|--------|
| Ultimate vacuum with closed gas ballast | mbar | 0.1 | |
| Ultimate vacuum with gas ballast (1 turn) | mbar | 0.15 | |
| Peak pumping speed (50Hz) | m ³ h ⁻¹ | 3 | |
| Peak pumping speed (60Hz) | m ³ h ⁻¹ | 3.5 | |
| Maximum permitted inlet pressure* | mbar | 1000 | |
| Typical initial pressure rise on power loss (no inlet valve, with no inlet or gas ballast flow) | mbar l | 5 | |

*These pumps are designed to pump down from atmospheric pressure, but prolonged operation at high inlet pressures may reduce bearing life.

* These pumps are intended to exhaust to atmospheric pressure. High exhaust pressure may reduce tip-seal life.

* Large volumes may be pumped, but prolonged operation at high inlet pressures may reduce bearing life.

MOTOR DATA

| | Units | mXDS3 | mXDS3s |
|-------------------------------|-------|---------------------|--------|
| Supply voltage | V | 100 +/- 6% 1 phase | |
| | | 115 +/- 10% 1 phase | |
| | | 200 +/- 10% 1 phase | |
| | | 230 +/- 10% 1 phase | |
| Supply frequency | Hz | 50/60 | |
| Power consumption at ultimate | W | 180 | 210 |
| Mains connector | | IEC EN60320 C13 | |

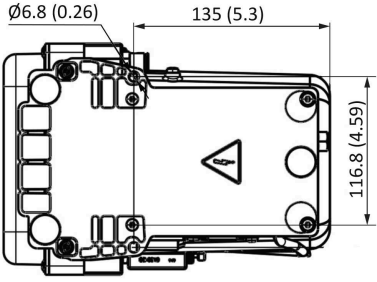
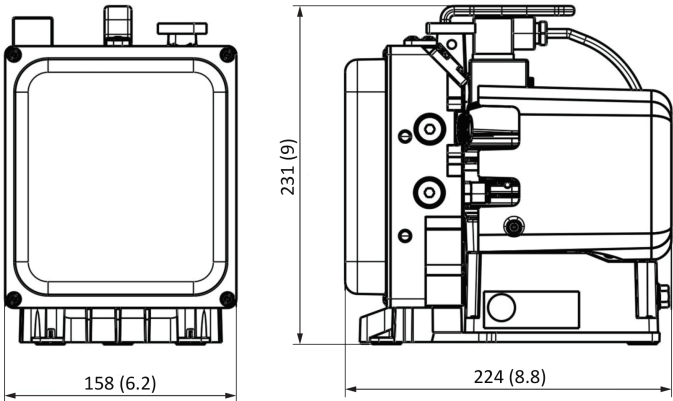
PHYSICAL DATA

| | Units | mXDS3 | mXDS3s |
|-------------------|-------|------------------------|--|
| Weight | kg | 7.8 | 8 |
| Inlet connection | | DN 16 ISO-KF | |
| Outlet connection | inch | 1/8 BSP for 6x8mm hose | 1/8 BSP for 6x8mm hose exhaust filter supplied |

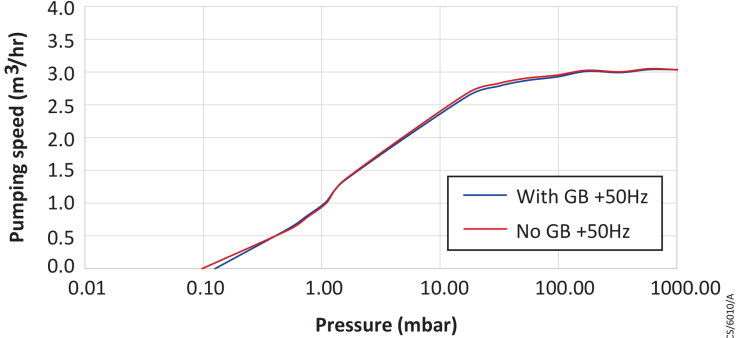
PHYSICAL DATA

| | Units | mXDS3 | mXDS3s |
|--|------------------------|-------------------------------|--------|
| Noise level at ultimate vacuum | dB (A) | 54.0 ±2.5 | |
| Vibration measured at plane of bearing | mms-1 | Class 1C...<4.5 (rms radial) | |
| Leak tightness | mbar/l ^s -1 | 1x10 ⁻⁴ | |
| Overall dimensions (L x W x H) | mm | 224 x 158 x 231 | |
| Nominal rotational speed | Hz | 3000 rpm @ 50 / 3600 rpm @ 60 | |
| Ambient temperature range (operation) | °C | +5 to +40 | |

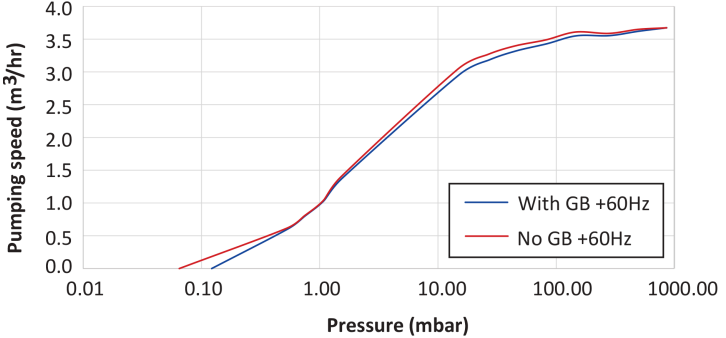
Dimensions



Pressure on pumping speed 50Hz



Pressure on pumping speed 60Hz



Ordering information

PRODUCTS

| | Product description | Order number |
|-----------------|-------------------------|--------------|
| High Volts 230V | mXDS3 230V 1ph 50/60Hz | A74401903 |
| | mXDS3s 230V 1ph 50/60Hz | A74402903 |
| High Volts 200V | mXDS3 200V 1 ph 50/60Hz | A74401904 |
| | mXDS3s 200V 1ph 50/60Hz | A74402904 |
| Low Volts 115V | mXDS3 115V 1ph 50/60Hz | A74401906 |
| | mXDS3s 115V 1ph 50/60Hz | A74402906 |
| Low Volts 100V | mXDS3 100V 1ph 50/60Hz | A74401907 |
| | mXDS3s 100V 1ph 50/60Hz | A74402907 |

ACCESSORIES

| Product description | Order number |
|---|--------------|
| Inlet valve 100 - 120V | A74402920 |
| Inlet valve 200 - 240V | A74402921 |
| Delay relay | A74402922 |
| Gas ballast or exhaust push-in fitting 1/8 inch BSP | A74402925 |
| Gas ballast fine restrictor | A74402926 |
| Inlet push-in fitting 1/4 inch BSP | A74402927 |
| Inlet 1/4 inch BSP adaptor | A74402928 |
| mXDS base mounting plate | A74402929 |
| Bracket | A74402930 |
| Exhaust silencer / gas ballast filter 1/8 inch BSP | A74402931 |
| Vibration isolator kit | A74402932 |
| Adhesive rubber pads (pack of 4) | A74402933 |
| Inlet filter DN25 ISO KF | A50597805 |
| Lead assembly, 10 amax, C13, UK | A50505000 |
| Lead assembly, 10 amax, C13, europe | A50506000 |
| Lead assembly, 10 amax, C13, USA | A50507000 |

ACCESSORIES

| Product description | Order number |
|--------------------------------------|--------------|
| Lead assembly, 10 amax, C13, no plug | A50508000 |

SPARES

| Product description | Order number |
|-----------------------------|--------------|
| Tip seal kit | GK7440001 |
| Bearing replacement kit | GK7440002 |
| Gas ballast and exhaust kit | GK7440003 |
| Inlet KF16 adaptor kit | GK7440004 |



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