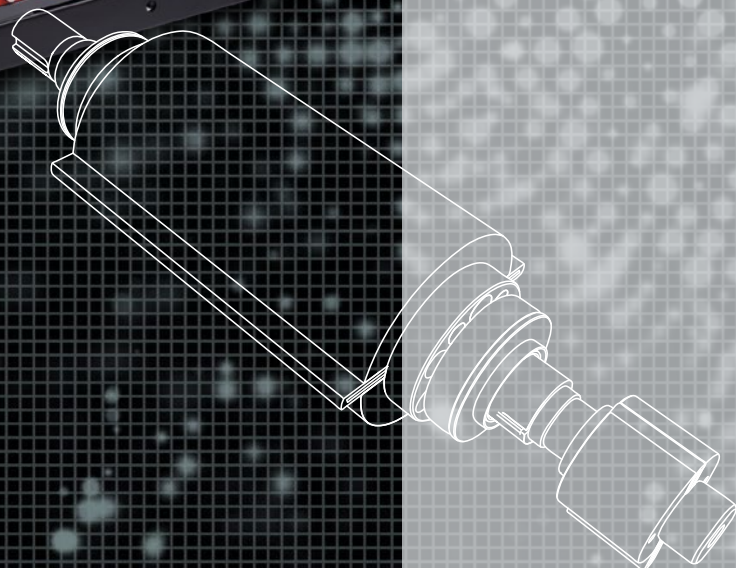
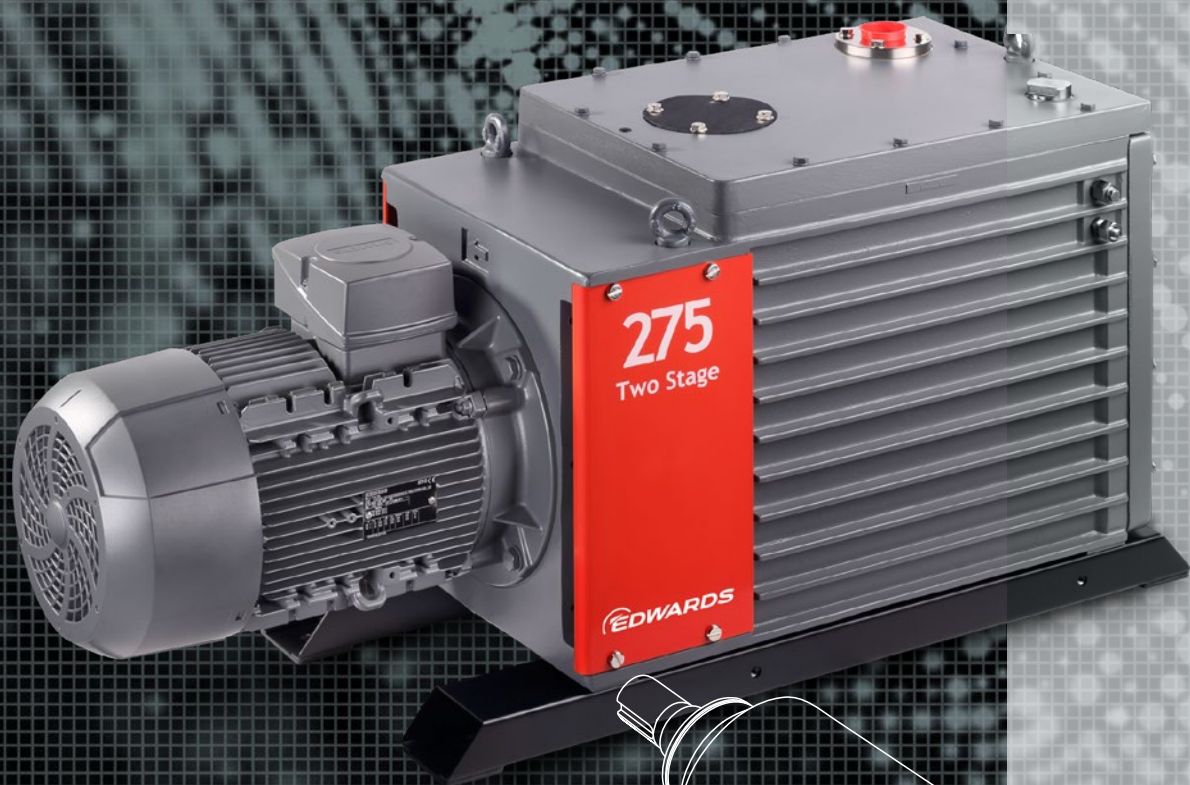


# E2M TWO-STAGE ROTARY VANE PUMPS



## EDWARDS THE PARTNER OF CHOICE

Edwards is a world leader in the design, technology and manufacture of vacuum pumps for industrial applications with over 100 years' history.

We believe in delivering results that bring value to our customers by using our breadth of industry experience to identify and apply solutions. Using the most innovative and up-to date modelling techniques, we can optimise the pumping configuration for customers to provide a system design giving the maximum performance in the most reliable and cost-effective way.

## E2M TWO-STAGE ROTARY VANE PUMPS

Industrial E2M vacuum pumps (40 to 275 m<sup>3</sup>/h) are rugged two-stage rotary vane pumps with a well-proven design. They feature advanced lubrication circuits to ensure smooth operation; and are available with optional heavy-duty accessories to suit a broad range of applications.

Specially designed for demanding applications, E2M pumps have demonstrated reliable long-term performance, are renowned for achieving low ultimate pressure and have high pumping speeds.

### FEATURES & BENEFITS



#### PEACE OF MIND

- With robust design and 30 years of proven performance in high-end markets
- Excellent sealing of the vacuum stage to maintain low and stable ultimate pressure
- Low surface temperature for maximum uptime
- Adjustable gas ballast for fine-tuning your process with built-in dust filter and purge gas connection



#### SAFE OPERATION

- Forced oil lubrication to ensure safe operation of the pump mechanism at any inlet pressure
- Smart oil distributor designed to ensure delivery of constant oil flow to the vacuum stage during operation. Internal oil pressure control possible with a pressure gauge
- Designed to prevent solid contamination with built-in oil filter. Additional external oil filtration possible



#### CONTAMINATION-FREE PROCESS

- Efficient inlet isolation valve to prevent oil suck-back
- Designed to prevent oil back-streaming
- Optional exhaust mist filters to capture oil vapours at the exhaust

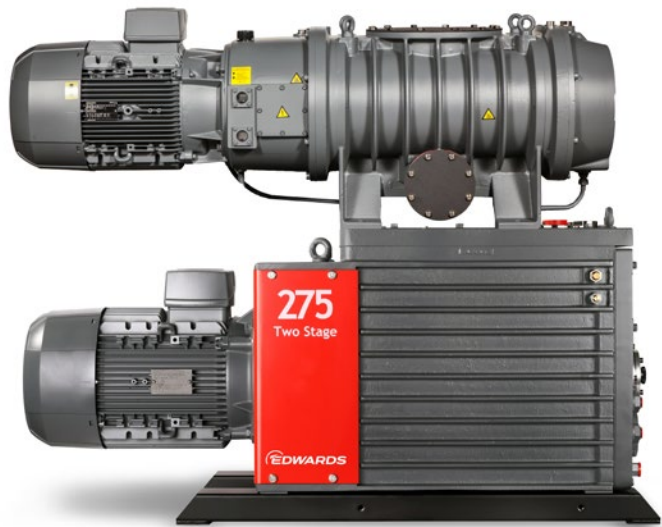
# E2M VARIANTS

|           |                                                                                |           |                                                                |
|-----------|--------------------------------------------------------------------------------|-----------|----------------------------------------------------------------|
| <b>HC</b> | Standard pumps with hydrocarbon oil                                            | <b>AZ</b> | Special variants free of yellow metals, Azide compatible       |
| <b>FX</b> | PFPE prepared pumps for pumping oxygen mixtures with oxygen concentration >21% | <b>EX</b> | ATEX certified pumps for use in and with explosive atmospheres |



## E2M WITH EH BOOSTER COMBINATION

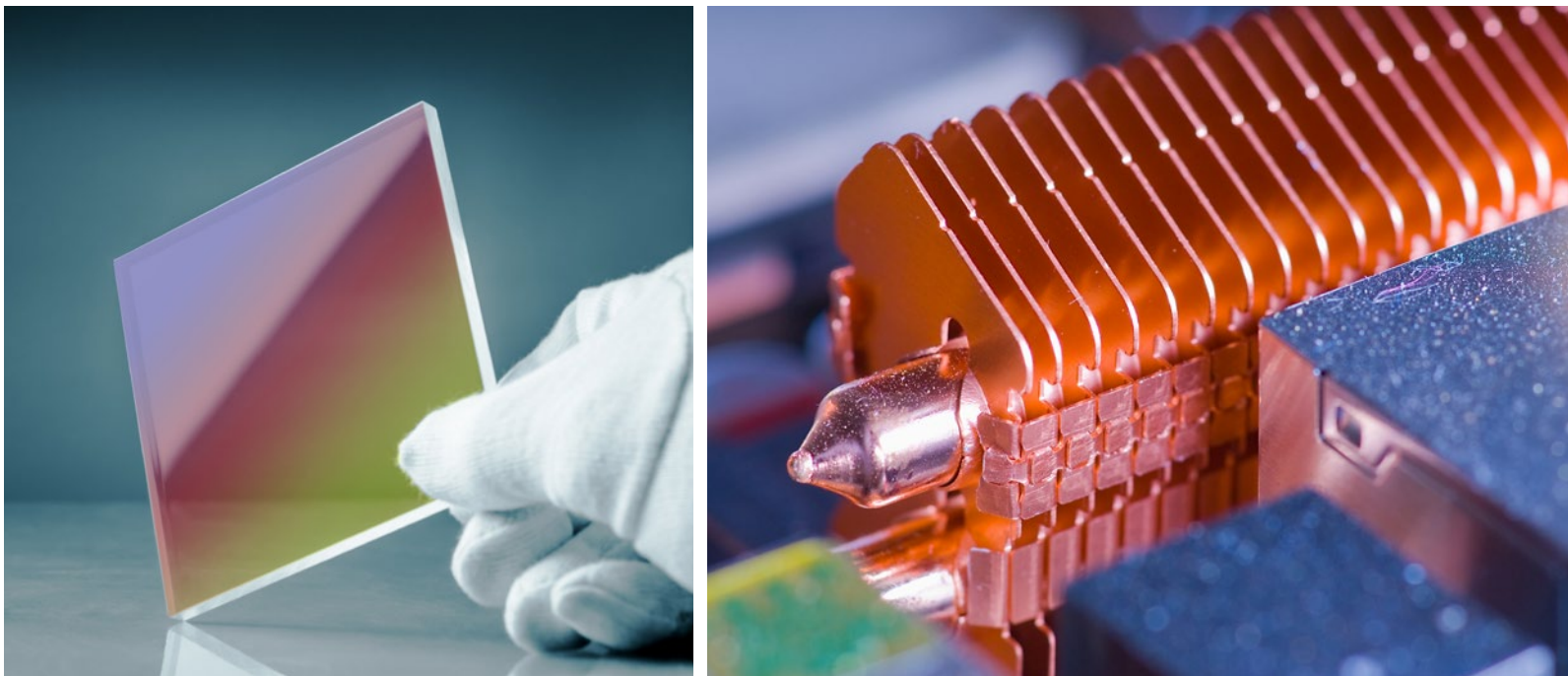
Combine the E2M with an EH booster to obtain additional pumping speed and improved ultimate pressure. Our unique pumping system EM275/EH4200 offers enormous suction speed to pump down large chambers quickly at very low pressure.



# APPLICATIONS



- Coating
- Pharma freeze-drying (use AZ variant for Azide compatibility)
- Plasma treatments (use FX variant for oxygen-rich plasma compatibility)
- Heat pipes
- Heat treatments
- Chemical Process Industry (use EX variant for use in explosive atmospheres)



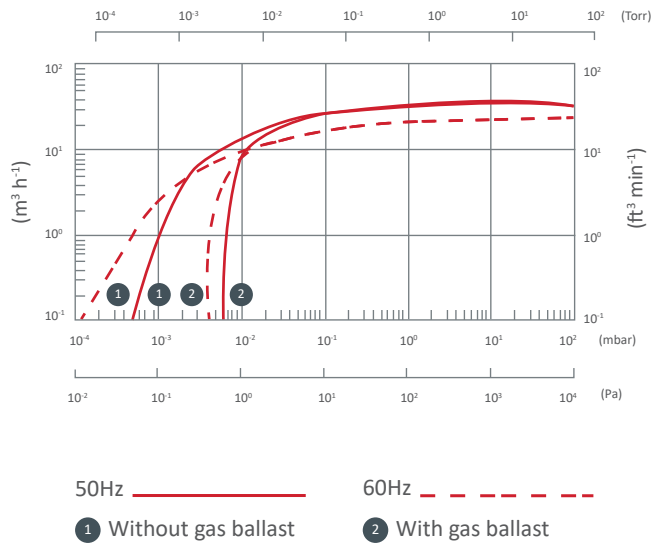
TECHNICAL DATA

|                                             |                    | E2M 40                                                    | E2M 80      | E2M 175      | E2M 275      |
|---------------------------------------------|--------------------|-----------------------------------------------------------|-------------|--------------|--------------|
| Max displacement (50 Hz)                    | m³h <sup>-1</sup>  | 42.5                                                      | 80          | 175          | 292          |
| Max displacement (60 Hz)                    | m³h <sup>-1</sup>  | 50.5                                                      | 96          | 214          | 350          |
| Pumping speed (50 Hz)                       | m³h <sup>-1</sup>  | 37                                                        | 74          | 160          | 255          |
| Pumping speed (60 Hz)                       | m³h <sup>-1</sup>  | 44                                                        | 90          | 196          | 306          |
| Ultimate total pressure without gas ballast | mbar               | 3.0E-03                                                   | 3.0E-03     | 3.0E-03      | 3.0E-03      |
| Ultimate vacuum with gas ballast            | mbar               | 5.0E-03                                                   | 5.0E-03     | 5.0E-03      | 5.0E-03      |
| Inlet connection                            | ISO-F / NW         | 40                                                        | 40          | 63           | 63           |
| Outlet connection                           | NW                 | 25                                                        | 25          | 40           | 40           |
| Max permitted outlet pressure               | bar (g)            | 0.5                                                       | 0.5         | 0.5          | 0.5          |
| Max water vapour tolerance                  | mbar               | 7                                                         | 5           | 4(20*)       | 2(12*)       |
| Max water vapour capacity                   | kg h <sup>-1</sup> | 0.2                                                       | 0.3         | 2.4          | 2.5          |
| Max gas ballast flow                        | m3h <sup>-1</sup>  | 1.7                                                       | 1.4         | 3            | 3            |
| Dimensions (LxWxH)                          | mm                 | 780x240x395                                               | 889x266x429 | 1055x388x533 | 1165x388x533 |
| Weight Approximate                          | Kg                 | 75                                                        | 104         | 198          | 216          |
| Motor protection rating                     | IP                 | 55                                                        | 55          | 55           | 55           |
| Motor rated power (50 Hz)                   | kW                 | 1.1                                                       | 2.2         | 5.5          | 7.5          |
| Motor rated power (60 Hz)                   | kW                 | 1.5                                                       | 3           | 6.5          | 8.5          |
| Noise level (50 Hz)                         | dB(A)              | 65                                                        | 65          | 75           | 75           |
| Oil refill capacity (Max)                   | litre              | 2.2/4                                                     | 4/6.3       | 16/25        | 18/28        |
| Recommended oil                             |                    | Ultragrade 70 (E2M HC, AZ & EX) / PFPE lubricant (E2M FX) |             |              |              |

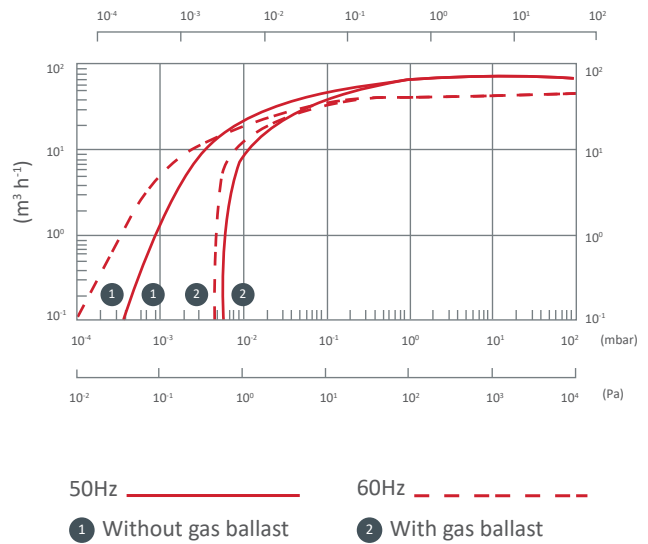
\* with optional thermostatic water flow valve

PERFORMANCE CURVES

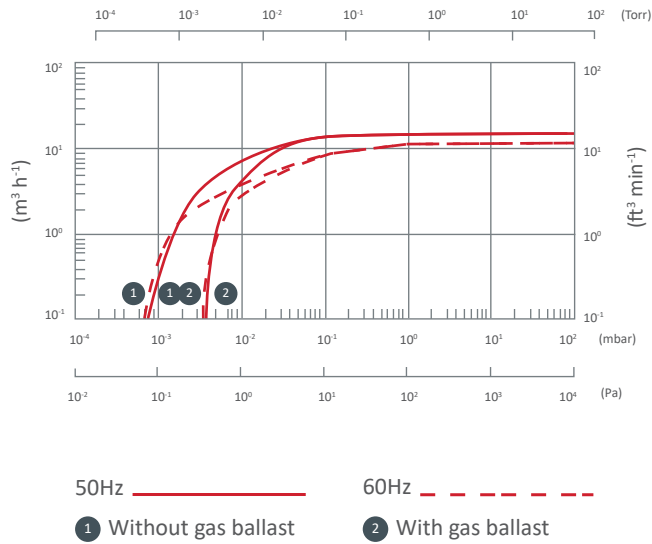
E2M40



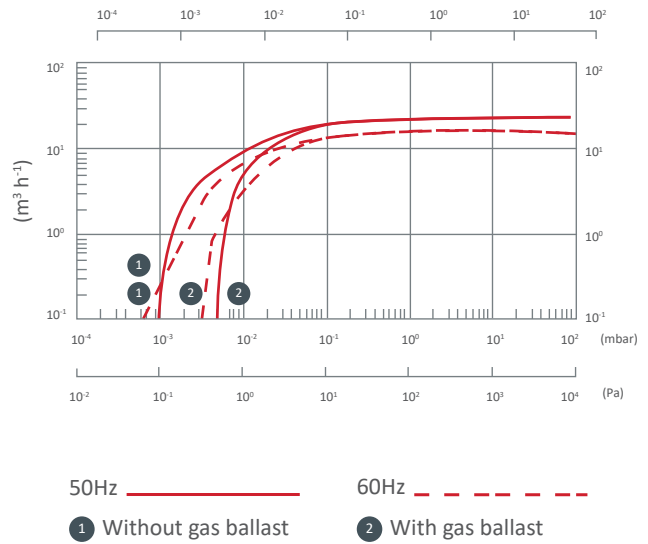
E2M80



E2M175

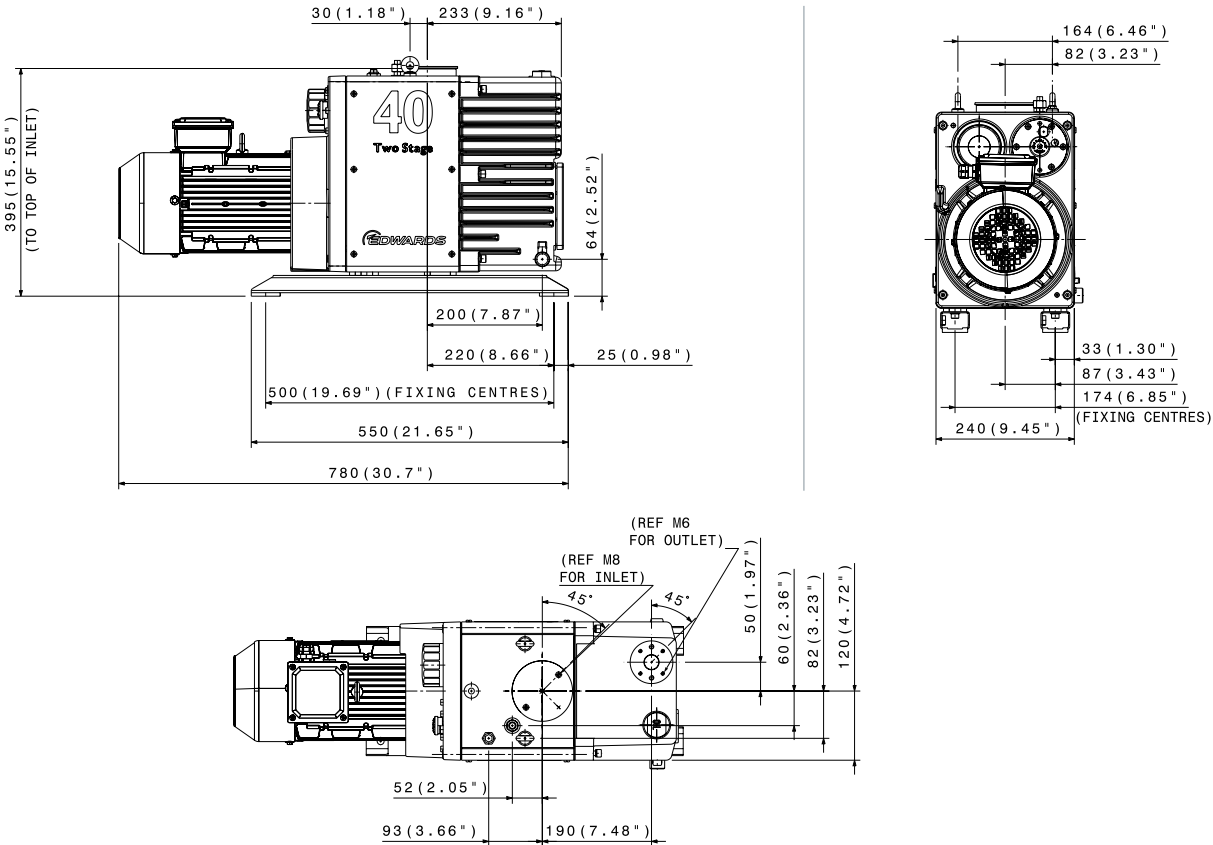


E2M275

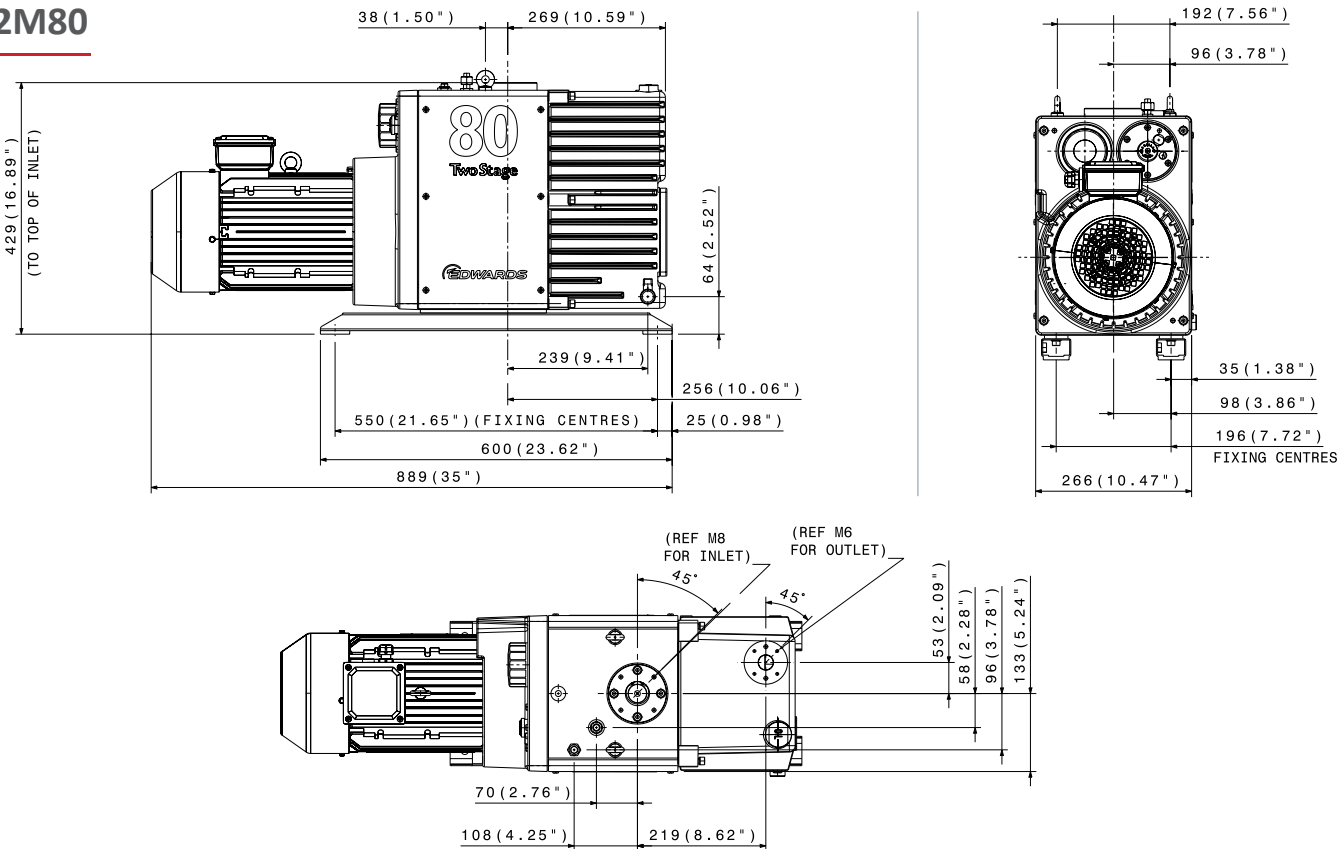


DIMENSIONS

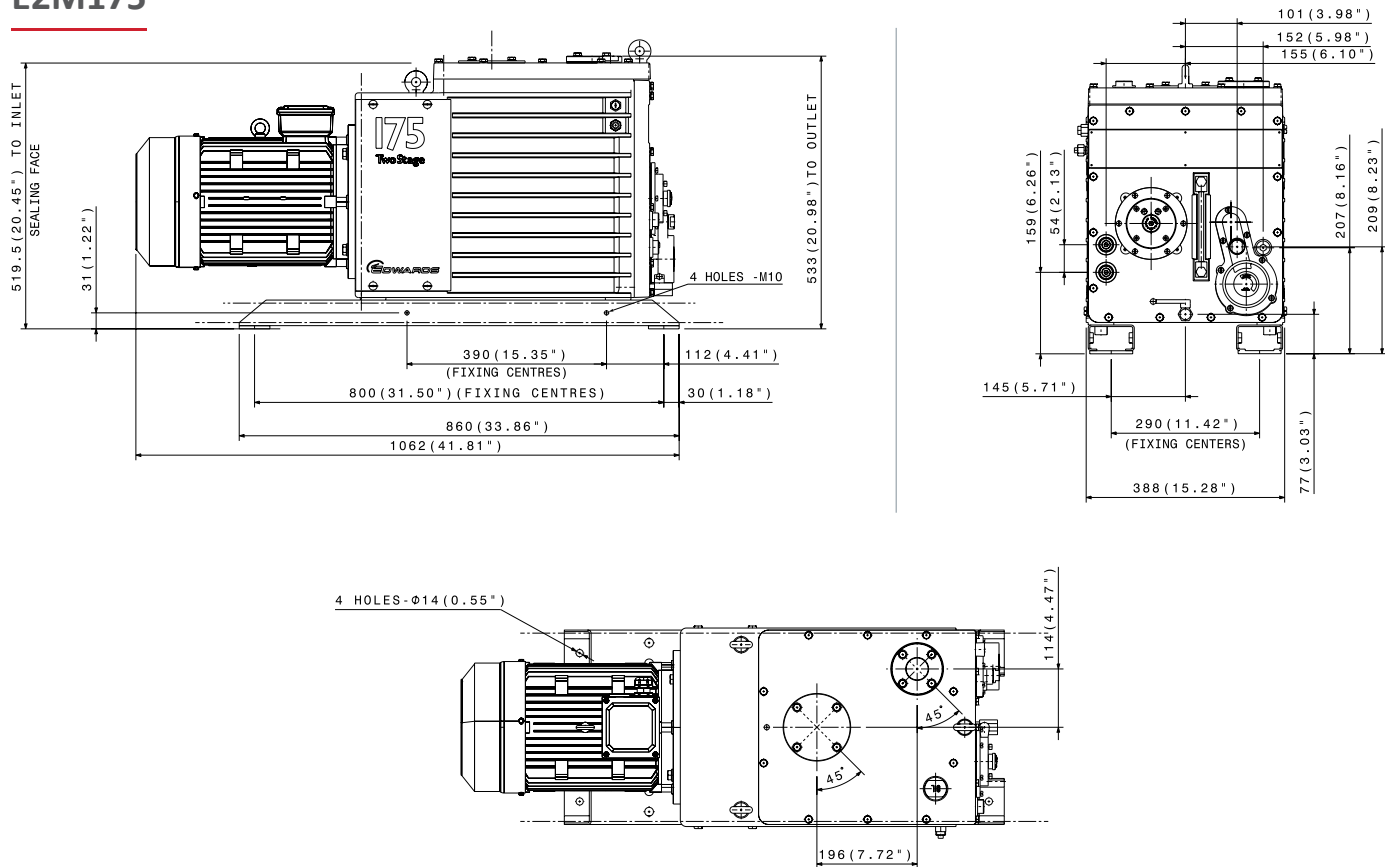
E2M40



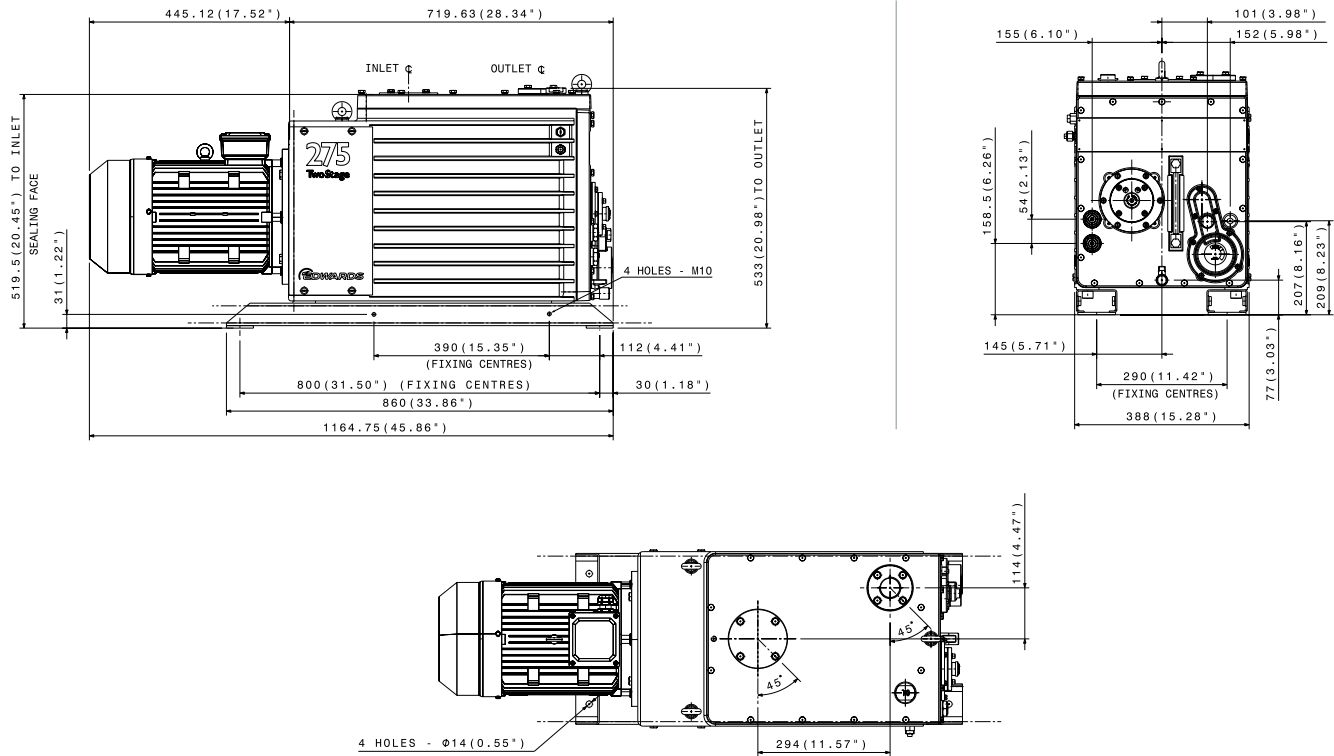
E2M80



E2M175



E2M275



## SERVICE AND SUPPORT

To ensure your pump maintains optimal performance and reliability, we offer a wide range of service solutions, tailored to meet your needs. From Field Service intervention to Managed Maintenance agreements, we will take care of your pump to ensure that it continues to deliver clean, consistent, efficient performance, with lower running cost and optimum total cost of ownership for its entire operating life.

Selecting original spare parts, maintenance kits and grease, means that every critical part performs as it was intended. Form, fit and function are guaranteed. Our services engineers only fit 100% genuine parts to ensure you receive the best result from each and every service.



## ORDERING INFORMATION

| Mat. Number                                         | Description                   |
|-----------------------------------------------------|-------------------------------|
| E2M HC Series (standard pumps with hydrocarbon oil) |                               |
| A36404934                                           | E2M 40 HC IE3 ASIA 50/60 Hz   |
| A36504934                                           | E2M 80 HC IE3 ASIA 50/60 Hz   |
| A36604934                                           | E2M 175 HC IE3 ASIA 50/60 Hz  |
| A36704934                                           | E2M 275 HC IE3 ASIA 50/60 Hz  |
| A36404940                                           | E2M 40 HC IE3 EU/US 50/60 Hz  |
| A36504940                                           | E2M 80 HC IE3 EU/US 50/60 Hz  |
| A36604940                                           | E2M 175 HC IE3 EU/US 50/60 Hz |
| A36704940                                           | E2M 275 HC IE3 EU/US 50/60 Hz |

| Mat. Number                                               | Description                   |
|-----------------------------------------------------------|-------------------------------|
| E2M FX Series (compatible with oxygen concentration >21%) |                               |
| A36417934                                                 | E2M 40 FX IE3 ASIA 50/60 Hz   |
| A36417940                                                 | E2M 40 FX IE3 EU/US 50/60 Hz  |
| A36517934                                                 | E2M 80 FX IE3 ASIA 50/60 Hz   |
| A36517940                                                 | E2M 80 FX IE3 EU/US 50/60 Hz  |
| A36617934                                                 | E2M 175 FX IE3 ASIA 50/60 Hz  |
| A36617940                                                 | E2M 175 FX IE3 EU/US 50/60 Hz |
| A36717934                                                 | E2M 275 FX IE3 ASIA 50/60 Hz  |
| A36717940                                                 | E2M 275 FX IE3 EU/US 50/60 Hz |

Note: PFPE lubricant to be purchased separately

| Mat. Number                      | Description                   |
|----------------------------------|-------------------------------|
| E2M AZ Series (Azide compatible) |                               |
| A36407934                        | E2M 40 AZ IE3 ASIA 50/60 Hz   |
| A36407940                        | E2M 40 AZ IE3 EU/US 50/60 Hz  |
| A36507934                        | E2M 80 AZ IE3 ASIA 50/60 Hz   |
| A36507940                        | E2M 80 AZ IE3 EU/US 50/60 Hz  |
| A36607934                        | E2M 175 AZ IE3 ASIA 50/60 Hz  |
| A36607940                        | E2M 175 AZ IE3 EU/US 50/60 Hz |
| A36707934                        | E2M 275 AZ IE3 ASIA 50/60 Hz  |
| A36707940                        | E2M 275 AZ IE3 EU/US 50/60 Hz |

| Mat. Number                                          | Description                             |
|------------------------------------------------------|-----------------------------------------|
| E2M EX Series (ATEX cat 3 internal / cat 2 external) |                                         |
| A36418993                                            | E2M 40T4 220/240V or 380/415V 50 Hz 3Ø  |
| A36518993                                            | E2M 80T4 220/240V or 380/415V 50 Hz 3Ø  |
| A36618993                                            | E2M 175T3 220/240V or 380/415V 50 Hz 3Ø |
| A36718993                                            | E2M 275T3 220/240V or 380/415V 50 Hz 3Ø |

## E2M ACCESSORIES

| E2M 40/80 |                                   |         |
|-----------|-----------------------------------|---------|
| A44202000 | Inlet dust filter                 | ITF100  |
| A44302000 | High capacity inlet dust filter   | ITM100  |
| A44102000 | Inlet catchpot                    | ITO100  |
| A44402000 | Inlet chemical trap               | ITC100  |
| A46203000 | Outlet mist filter (clean)        | MF100   |
| A46211000 | Outlet mist filter (toxic)        | MF100AE |
| A50004000 | Outlet mist filter oil return kit |         |
| A46103000 | Outlet catchpot                   | CP100   |
| A50017930 | Electric GB EM40/80               | EBV300D |
| A24801405 | Vibration isolators               |         |

| E2M175/275 |                                   |        |
|------------|-----------------------------------|--------|
| A44203000  | Inlet dust filter                 | ITF300 |
| A44303000  | High capacity inlet dust filter   | ITM300 |
| A44103000  | Inlet catchpot                    | ITO300 |
| A44403000  | Inlet chemical trap               | ITC300 |
| A46204000  | Outlet mist filter (clean)        | MF300  |
| A50005000  | Outlet mist filter oil return kit |        |
| A46104000  | Outlet catchpot                   | CP300  |
| A24801406  | Vibration isolators               |        |
| A50001000  | Thermostatic valve                | TCU300 |



## GLOBAL CONTACTS

Publication Number: 3602 013 1 01  
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No. 6124750, registered office: Innovation Drive,  
Burgess Hill, West Sussex, RH15 9TW, UK.

### EMEA

|                |                                                        |
|----------------|--------------------------------------------------------|
| <b>UK</b>      | +44 1444 253 000<br>(local rate) 08459 212223          |
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