

Масляные пластинчато-роторные насосы двухступенчатые E2M0.7-28, E2M 40-275, E2S, RV

Технические характеристики

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SMALLEST SEALED ROTARY VANE PUMPS

**PERFORMANCE YOU
CAN RELY ON**

Edwards EM pumps are designed for reliable, long term operation

Our EM range of small oil sealed rotary vane pumps are renowned for achieving high ultimate vacuum and rapid pumping speeds, with quiet operation and exceptional reliability. These pumps can be used in a wide range of scientific and laboratory applications, and are ideal for backing turbomolecular pumps.

- Single and two stage design options
- Pumping speeds from 0.7 to 28 m³h⁻¹
- Simple installation and operation with no customer wiring
- Range of accessories available
- Internal ATEX classification of II 3 G Ex h IIB T4 Gc
- Approved to EN61010, CSA22.2 and UL61010
- Fully RoHS compliant

Quiet operation

For a better working environment

Flexibility of use

Free standing unit and compact design

Reliable performance

Proven in a range of laboratory and industrial applications over many years

Gas ballast valve

Used when pumping vapour



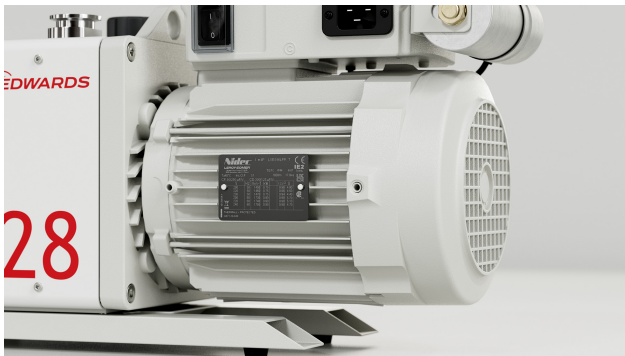
EM ROTARY VANE PUMP TECHNOLOGY





1. Easy control

IEC connector and on/off switch for local control



2. Works where you are

You can select the appropriate motor for your country



3. Large water vapour handling capacity

Gas ballast valve can be used to help pumping vapour and conditioning the oil so you get the optimal performance out of your pump.



4. Forced air cooling

Optimal operating conditions for the pump whilst controlling the temperature of accessible surfaces



5. Easy oil top ups

Thanks to a large oil filling port and recessed top in the oil box



6. Large oil sight glass

Makes visual inspection of oil level and condition easy!
Easy access to oil drain port on the end of the oil box.



7. Plug-in and pump

Integral IEC connector (available on most versions) allows easy connection to mains electric supply



APPLICATIONS

APPLICATIONS

	E2M0.7 - E2M1.5 - E2M2.5	E1M18 - E2M18	E2M28
Analytical instruments - GCMS	✓		
Analytical instruments - LCMS		✓	✓
Automotive		✓	✓
Beam lines and high energy physics		✓	✓
Centrifuges, ultra-high speed		✓	✓
Coating		✓	✓
Cryogenics		✓	✓
Degassing/curing - oil, epoxy resin		✓	✓
Distillation/extraction/filtration		✓	✓
Freeze drying		✓	✓
Furnaces		✓	✓
Gas bottle filling/emptying			✓
Gel drying		✓	✓
Glove boxes, ovens		✓	✓
Laboratory bench top vacuum	✓	✓	✓
Lasers, gas recovery and re-circulation			✓
Leak detectors, Helium	✓	✓	✓
Load locks and transfer chambers		✓	✓
Refrigeration manufacture		✓	✓
Research and development	✓	✓	✓
Rotary, centrifugal evaporators		✓	✓
Scanning electron microscopes - SEM	✓	✓	
SEM/FIB (Ion beam repair)		✓	
Solvent recovery		✓	✓
Surface science instruments		✓	✓
Turbomolecular backing pumps	✓	✓	✓

TECHNICAL DATA

VACUUM DATA

	Hz	Units	E2M0.7	E2M1.5	E2M2.5	E1M18	E2M18	E2M28
Peak pumping speed	50	m ³ h ⁻¹	0.75	1.6	2.5	17	17	27.5
	60	cfm	0.5	1.2	1.8	12.1	12.1	19.4
Ultimate pressure w/o gas ballast	50	mbar	3.0x10 ⁻³	1.5x10 ⁻³	3.0x10 ⁻³	3x10 ⁻²	1x10 ⁻³	1x10 ⁻³
	60	Torr	2.3x10 ⁻³	1.1x10 ⁻³	2.3x10 ⁻³	2.3x10 ⁻²	7.5x10 ⁻⁴	7.5x10 ⁻⁴
Ultimate pressure with gas ballast	50	mbar	2x10 ⁻¹	2.5x10 ⁻²	2.5x10 ⁻²	6.5x10 ⁻¹	1.5x10 ⁻²	1.5x10 ⁻²
	60	Torr	1.5x10 ⁻¹	1.9x10 ⁻²	1.9x10 ⁻²	4.9x10 ⁻¹	1.1x10 ⁻²	1.1x10 ⁻²
Ultimate pressure with PFPE fluid	50	mbar	n/a	n/a	n/a	3x10 ⁻¹	1x10 ⁻²	1x10 ⁻²
	60	Torr	n/a	n/a	n/a	2.3x10 ⁻¹	7.5x10 ⁻³	7.5x10 ⁻³
Water vapour tolerance	50	mbar	15	15	15	50	20	30
	60	Torr	11	11	11	38	15	23
Water vapour capacity		g/h	8	16	16	650	300	700
Maximum continuous inlet pressure*		mbar a (Torr a)	50 (38)			100(75)		
Maximum gas ballast/purge pressure		bar gauge (psig)	0.5 (7)					

(*) These oil sealed rotary vane pumps are designed to evacuate chamber from atmospheric pressure down to ultimate vacuum. Please note there is a maximum inlet pressure that these pumps can operate at continuously.

MOTOR DATA

	Hz	Units	E2M0.7	E2M1.5	E2M2.5	E1M18	E2M18	E2M28
Supply voltage		V	100-120/200-240 (+/- 10%)			115/200-230 (+/- 10%)		
Supply frequency		Hz	50/60					
Mechanical power 1 phase	50	kW	0.09	0.16	0.16	0.75	0.75	0.75
	60	kW	0.09	0.16	0.16	0.90	0.90	0.90
Mechanical power 3 phase	50	kW				0.55	0.55	0.75
	60	kW				0.66	0.66	0.90

MOTOR DATA

	Hz	Units	E2M0.7	E2M1.5	E2M2.5	E1M18	E2M18	E2M28
Nominal rotation speed	50	rpm	1400	2800	2800	1440	1440	1440
	60	rpm	1700	3400	3400	1720	1720	1720
Power connector ^(*)			IEC EN60320 C13	IEC EN60320 C13	IEC EN60320 C13	IEC EN60320 C19	IEC EN60320 C19	IEC EN60320 C19

(*) pumps listed with IEC connector only

PHYSICAL DATA

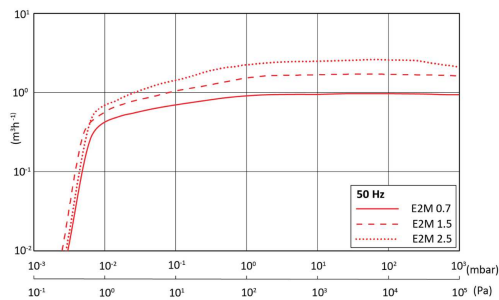
	Units	E2M0.7	E2M1.5	E2M2.5	E1M18	E2M18	E2M28
Weight	lb	22	22	22	84	90	97
	kg	10	10	10	38	41	44
Oil type (recommended)		ULTRAGRADE™ Performance 15			ULTRAGRADE™ Performance 19		
Oil capacity (maximum)	litre	0.32	0.32	0.32	1.4	1.05	1.32
Oil capacity (minimum)	litre	0.2	0.2	0.2	0.9	0.75	1.2
Inlet flange		NW10	NW10	NW10	NW25	NW25	NW25
Exhaust flange ⁽¹⁾		Nozzle 11mm external Ø removable from 3/8 in BSP tapped hole			Nozzle 15mm external diameter removable from 3/4 in BSP tapped hole		
Operating temperature range	°C	12 to 40	12 to 40	12 to 40	13 to 40	13 to 40	13 to 40
Noise level at 50Hz	dB(A)	43	54	55	57	57	57
Noise with acoustic enclosure ⁽²⁾	dB(A)	36	47	48	50	50	50

(1) PFPE variants are supplied with NW25 outlet connection

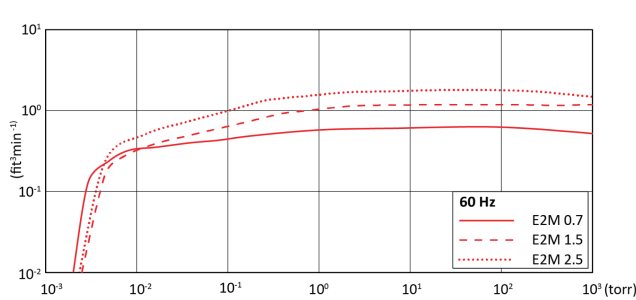
(2) approx. noise reduction 7 dB(A)

PERFORMANCE CURVES

E2M0.7, E2M1.5 and E2M2.5 - 50Hz

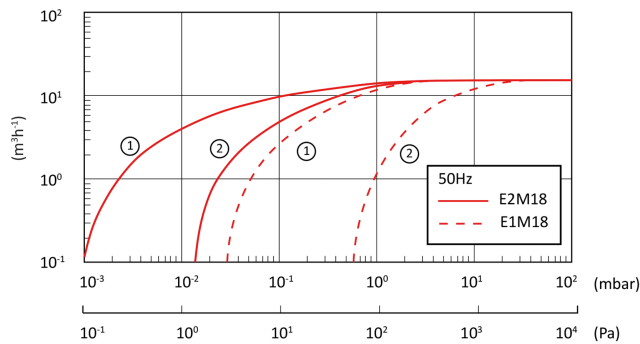


E2M0.7, E2M1.5 and E2M2.5 - 60Hz



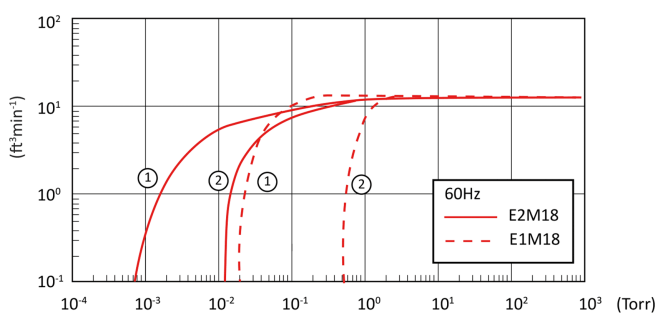
E1M18 and E2M18 - 50Hz

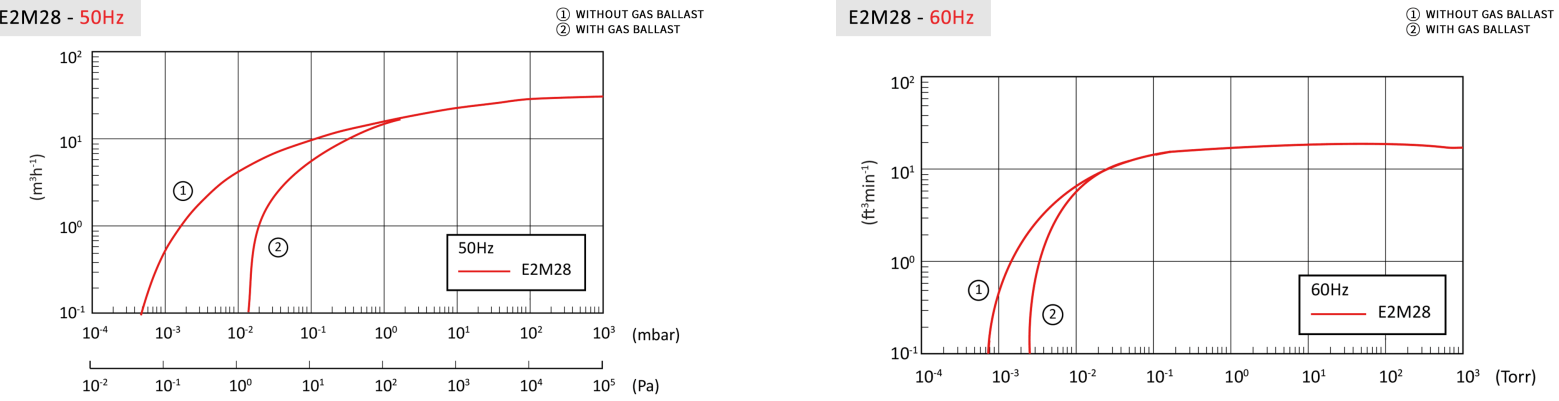
① WITHOUT GAS BALLAST
② WITH GAS BALLAST



E1M18 and E2M18 - 60Hz

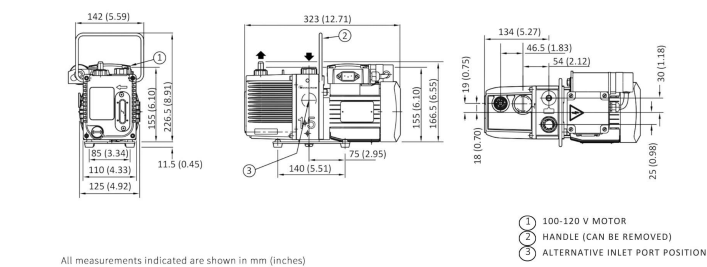
① WITHOUT GAS BALLAST
② WITH GAS BALLAST





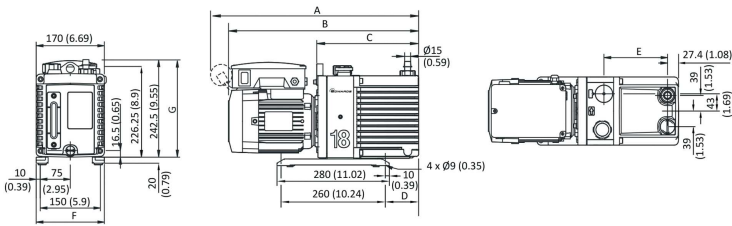
DIMENSIONS

E2M0.7, E2M1.5 and E2M2.5



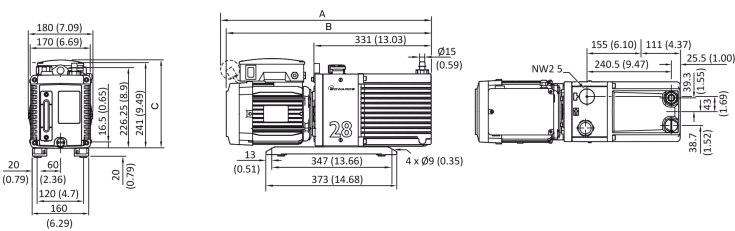
All measurements indicated are shown in mm (inches)

E1M18 one stage - E2M18 two stage dimensions



All measurements indicated are shown in mm (inches)

E2M28



E1M18 one stage -E2M18 two stage dimensions

Ordering Number	A	B	C	D	E	F	G
A34310905, A34310925	-	474	246	83	159	172	217
A34315904	532	504	246	83	159	172	251
A34317984, A34325984	532	504	246	83	159	172	251
A36310905, A36310925, A36321905, A36321925	-	520	294	131	207	172	217
A36315904, A36325904	578	550	294	131	207	172	251
A36317984, A36325984	578	550	294	131	207	172	251

E2M28

Ordering Number	A	B	C
A37317984, A37325984, A37315904	611	583	251
A37333940, A37333934, A37343934, A37343940	-	626	229

ORDERING INFORMATION

E2M0.7 / E2M1.5 / E2M2.5

Product description	Order No.
E2M0.7 HC 200-230V 50 Hz, 200-240V 60Hz, 1-ph, IEC 60320 connector	A37141919
E2M0.7 HC 100-115V 50Hz, 100-120V 60Hz, 1-ph, IEC 60320 connector	A37141902
E2M1.5 HC 200-230V 50 Hz, 200-240V 60Hz, 1-ph, IEC 60320 connector IE2	A37132919
E2M1.5 HC 100 50Hz, 100-120V 60Hz, 1-ph, IEC 60320 connector IE2	A37132902
E2M1.5 interstage HC 200-230V 50 Hz, 200-240V 60Hz, 1-ph, IEC 60320 connector IE2	A37104919
E2M1.5 interstage HC 100 50Hz, 100-120V 60Hz, 1-ph, IEC 60320 connector IE2	A37104902
E2M2.5 HC 200-230V 50 Hz, 200-240V 60Hz, 1-ph, IEC 60320 connector IE2	A37632919
E2M2.5 HC 100 50Hz, 100-120V 60Hz, 1-ph, IEC 60320 connector IE2	A37632902

Each EM pump is supplied with ULTRAGRADE™ Performance 15 oil, O ring and centering ring, two Allen keys and spare seals for oil drain and filter plugs.

E1M18 / E2M18 / E2M28

Product description	Order No.
E1M18 HC EU/US 50/60Hz 380-415V, 50Hz 460V, 60Hz, 3-ph IE2	A34310905
E1M18 HC Asia 50/60 Hz 200-220V 50Hz 200-230V 60Hz, 3-ph IE2	A34310925
E1M18 HC 100/200V, 50Hz or 100/200V, 60Hz 1-ph factory set to 200V IE2	A34315904
E1M18 HC 100/200-230V, 50Hz; 100-120V/200-240V 60Hz 1-ph,with IEC60320 connector, factory set to 230V IE2	A34317984
E1M18 FX 100/200-230V, 50Hz; 100-120V/200-240V 60Hz 1-ph,with IEC60320 connector, factory set to 230V IE2	A34325984
E2M18 HC EU/US 50/60Hz 380-415V, 50Hz 460V, 60Hz, 3-ph IE2	A36310905
E2M18 HC Asia 50/60 Hz 200-220V 50Hz 200-230V 60Hz, 3-ph IE2	A36310925
E2M18 HC 100/200V, 50Hz or 100/200V, 60Hz 1-ph, factory set to 200V, IE2	A36315904
E2M18 HC 100/200-230V, 50Hz; 100-120V/200-240V 60Hz 1-ph, with IEC60320 connector, factory set to 230V IE2	A36317984
E2M18FX EU/US 50/60Hz 380-415V, 50Hz 460V, 60Hz, 3-ph IE2	A36321905
E2M18FX Asia 50/60 Hz 200-220V 50Hz 200-230V 60Hz, 3-ph IE2	A36321925
E2M18 FX 100/200V, 50Hz or 100/200V 60Hz 1-ph, factory set to 200V IE2	A36325904

E1M18 / E2M18 / E2M28

Product description	Order No.
E2M18 FX 100/200-230V, 50Hz; 100-120V/200-240V 60Hz 1-ph, with IEC60320 connector, factory set to 230V IE2	A36325984
E2M28 HC 100/200-230V, 50Hz; 100-120V/200-240V 60Hz 1-ph, with IEC60320 connector, factory set to 230V IE2	A37317984
E2M28 HC EU/US 50/60Hz, 380-400V, 50Hz or 230/460V 60Hz, 3-ph IE3	A37333940
E2M28 HC Asia 50/60Hz, 200V 50Hz; 200/380V 60Hz, 3-ph IE3	A37333934
E2M28 HC 100/200V, 50Hz or 100/200V, 60Hz 1-ph, factory set to 200V, IE2	A37315904
E2M28 FX EU/US 50/60Hz, 380-400V 50Hz or 230/460V 60Hz 3-ph, IE3	A37343940
E2M28 FX Asia 50/60Hz, 200V, 50/60Hz or 380V 60Hz 3-ph, IE3	A37343934
E2M28 FX 100/200-230V, 50Hz; 100-120V/200-240V 60Hz 1-ph, with IEC60320 connector, factory set to 230V IE2	A37325984

Each EM pump is supplied with ULTRAGRADE™ Performance 19 oil, O ring and centering ring, two Allen keys and spare seals for oil drain and filter plugs.

For PFPE prepared FX pumps XTRAGRADE ADVANCED PFPE 64 to be ordered separately.

3-phase and Japanese 100/200V motor to be hard wired.

Accessories and spares E2M0.7 / E2M1.5 / E2M2.5

Product description	Order No.
EMF3 mist filter	A46220000
2m electrical supply cable for 1-ph pumps, UK, Three-pin plug	A50505000
2m electrical supply cable for 1-ph pumps, North European plug	A50506000
2m electrical supply cable for 1-ph pumps, North America/Japan plug	A50507000
2m electrical supply cable for 1-ph pumps, no plug	A50508000
ULTRAGRADE™ Performance 15 Oil 1 litre	H11026015
Clean and overhaul kit E2M0.7/1.5/2.5	A37101131
Spares kit blade E2M0.7/1.5	A37101132
Spares kit blade E2M2.5	A37601132
NW10 centring nitrile S/S pack 1	C10511396
NW10 O ring viton pack 5	H02124032
NW10 x 3/8 inch BSP adapter	A23908064

Accessories and spares E1M18 / E2M18 / E2M28

Product description	Order No.
EMF20 mist filter (suitable for E2M28 on low throughput applications)	A46229000
MF30 mist filter	A46233000
2m electrical supply cable for 1-ph pumps, UK, three-pin plug	A50505003
2m electrical supply cable for 1-ph pumps, North European plug	A50506003
2m electrical supply cable for 1-ph pumps, North America/Japan plug	A50507003

Accessories and spares E1M18 / E2M18 / E2M28

Product description	Order No.
2m electrical supply cable for 1-ph pumps, no plug	A50508003
ULTRAGRADE™ Performance 19 oil 1 litre	H11025015
ULTRAGRADE™ Performance 19 oil 4 litre	H11025013
XTRAGRADE ADVANCED PFPE 64 (1 litre)	H11041121
Clean and overhaul kit E1M18/E2M18	A36301131
Spares kit blade E1M18	A34301041
Spares kit blade E2M18	A36301020
NW25 to 28mm bore tube adaptor	C10520201
¾ inch BSP to NW25 outlet adaptor	C10501414
Clean and overhaul kit E2M28	A37301131
Blade kit E2M28/30	A37301135
Acoustic enclosure 110-120V	NRD317000
Acoustic enclosure 200-240V	NRD318000

E2M0.7, E2M1.5 & E2M2.5 OIL SEALED ROTARY VANE PUMP

Edwards EM pumps are designed for reliable, long term operation and the E2M2.5 is no exception. The latest addition to the Edwards family of Small EM oil sealed rotary vane pumps offers increased pumping speed but in the same compact form extending the choice for system maker and end user. Based on our proven E2M1.5 range of pumps the E2M2.5 offers 2.5 m³h⁻¹ pumping speed; for those applications where space is tight but a little more speed would be beneficial. The pumps are suitable for a wide range of scientific and laboratory applications and backing small turbomolecular pumps.



FEATURES AND BENEFITS

- Simple installation and operation with no customer wiring
- Pumping speeds from 0.7 to 2.5 m³h⁻¹
- Alternate side inlet connection port so that overall installation height can be reduced to a minimum
- Internal ATEX classification of Ex II 3 G Exh IIB T4 Gc
- Approved to EN61010, CSA22.2 and UL61010
- Fully RoHS compliant

TECHNICAL SPECIFICATIONS

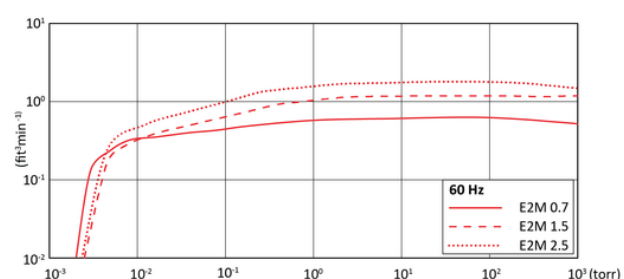
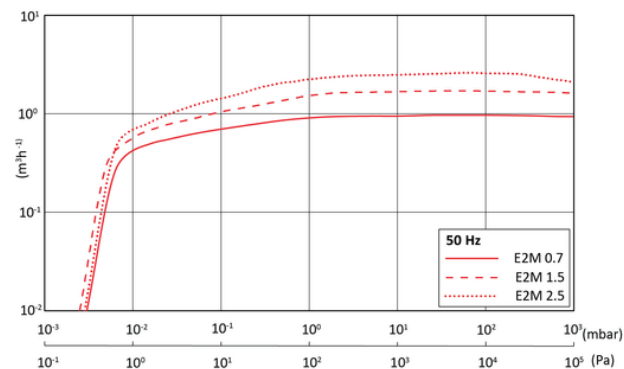
Vacuum data	Hz	Unit	E2M0.7	E2M1.5	E2M2.5
Peak pumping speed	50	m ³ h ⁻¹	0.75	1.6	2.5
	60	cfm	0.5	1.2	1.8
Ultimate pressure w/o gas ballast	50	mbar	3.0x10 ⁻³	1.5x10 ⁻³	3.0x10 ⁻³
	60	Torr	2.3x10 ⁻³	1.1x10 ⁻³	2.3x10 ⁻³
Ultimate pressure with gas ballast	50	mbar	2.0x10 ⁻¹	2.5x10 ⁻²	
	60	Torr	1.5x10 ⁻¹	1.9x10 ⁻²	
Water vapour tolerance	n/a	mbar	15	15	15
	n/a	Torr	11	11	11
Water vapour capacity	n/a	g/h	8	16	16

Motor data	Hz	Unit	E2M0.7	E2M1.5	E2M2.5
Mechanical power	50	kW	0.09	0.16	0.16
	60	kW	0.09	0.16	0.16
Nominal rotation speed	50	rpm	1400	2800	2800
	60	rpm	1700	3400	3400
Power connector (1)	n/a	n/a	IEC EN60320 C13		

Physical data	Unit	E2M0.7	E2M1.5	E2M2.5
Weight	lb	22	22	22
	kg	10	10	10
Oil type (recommended)		Ultragrade performance 15		
Oil type (max.)	litre	0.32		
Oil type (min.)	litre	0.2		

(1) pumps listed with IEC connector only

PERFORMANCE

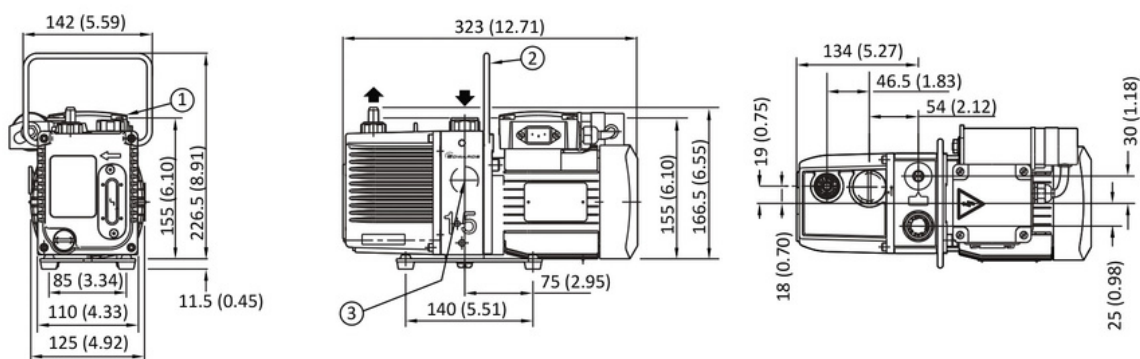


DIMENSIONS

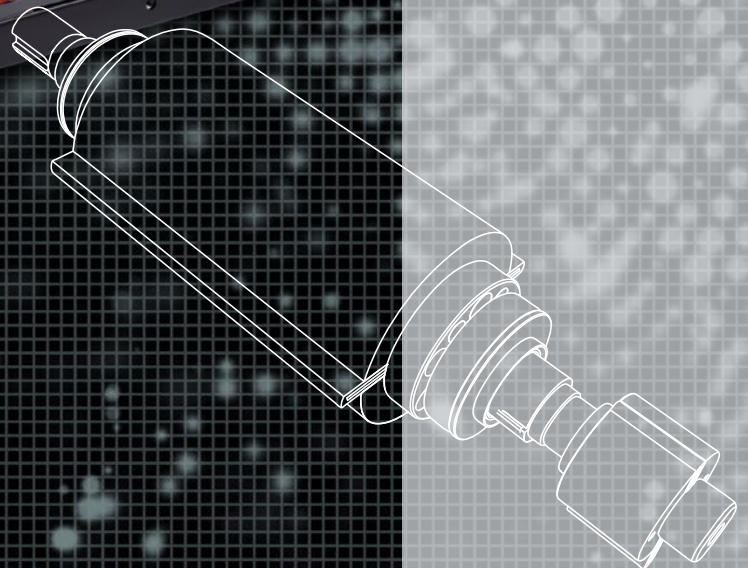
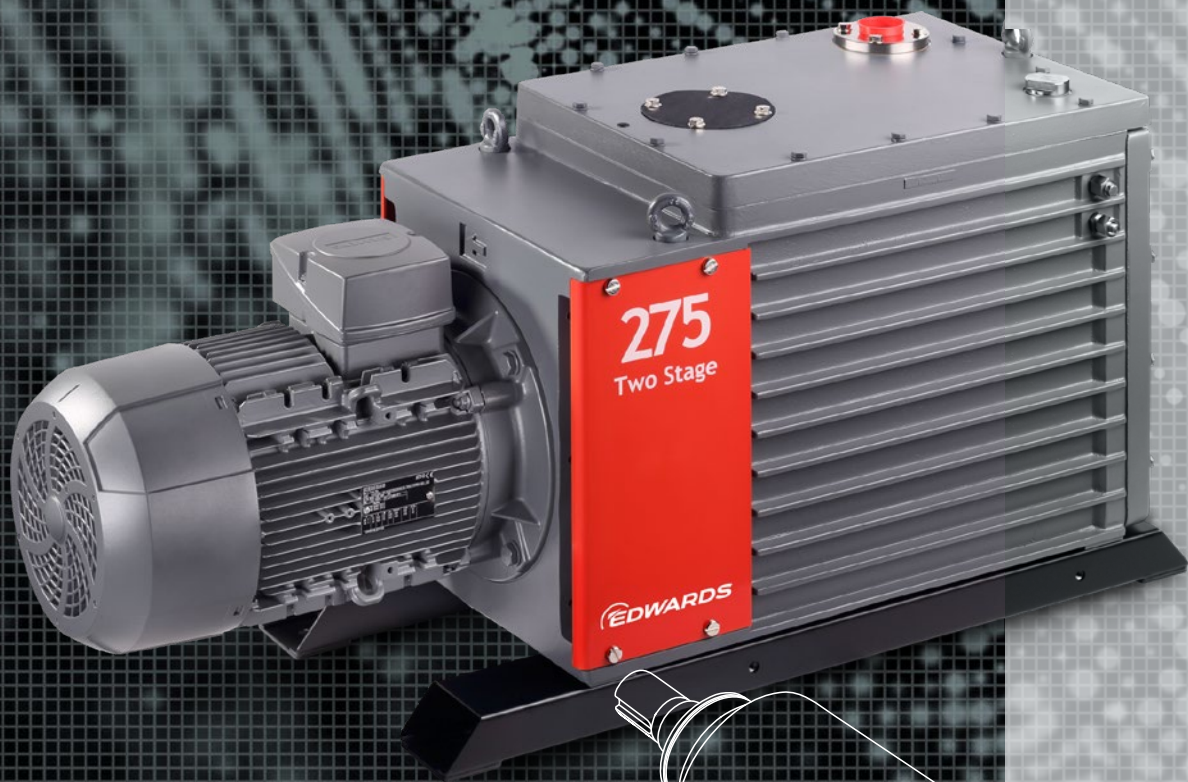
- 1 100-120 V motor version shown*
- 2 Handle (can be removed)
- 3 Alternative inlet port position

All measurements indicated are shown in mm (inches)

*High Volts also available with smaller capacitor



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 m³/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

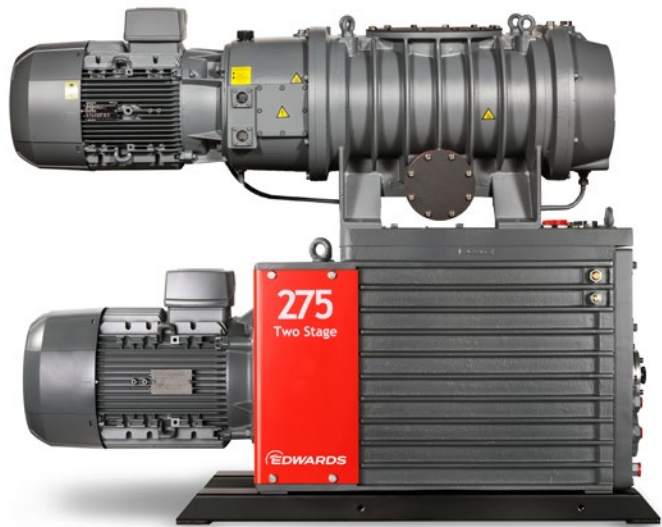
E2M VARIANTS

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



E2M WITH EH BOOSTER COMBINATION

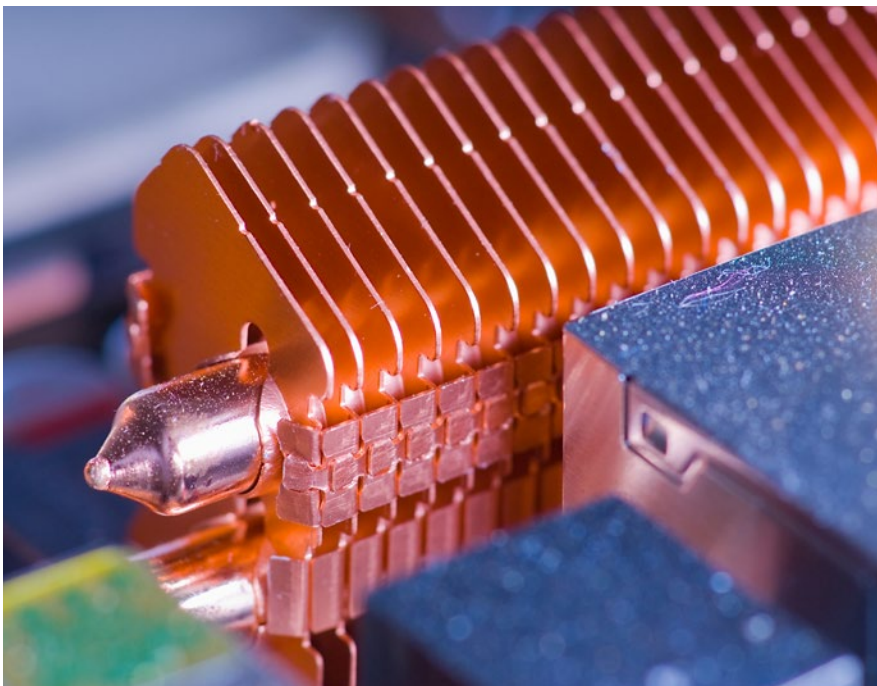
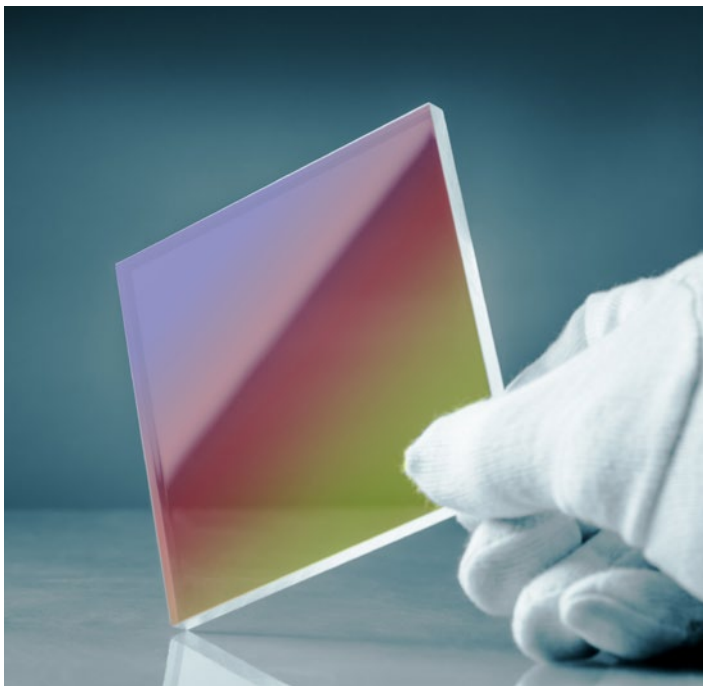
Combine the E2M with an EH booster to obtain additional pumping speed and improved ultimate pressure. Our unique pumping system EM275/EH4200 offers enormous suction speed to pump down large chambers quickly at very low pressure.



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)



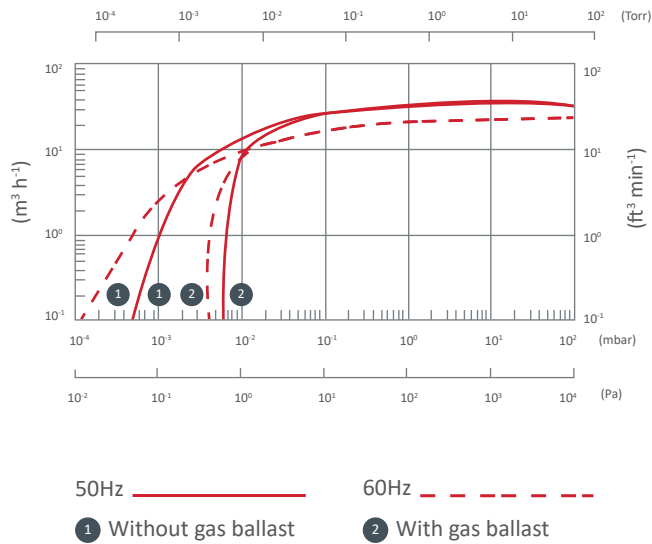
TECHNICAL DATA

		E2M 40	E2M 80	E2M 175	E2M 275
Max displacement (50 Hz)	m³h ⁻¹	42.5	80	175	292
Max displacement (60 Hz)	m³h ⁻¹	50.5	96	214	350
Pumping speed (50 Hz)	m³h ⁻¹	37	74	160	255
Pumping speed (60 Hz)	m³h ⁻¹	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 ⁻¹	0.2	0.3	2.4	2.5
Max gas ballast flow	m3h ⁻¹	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)			

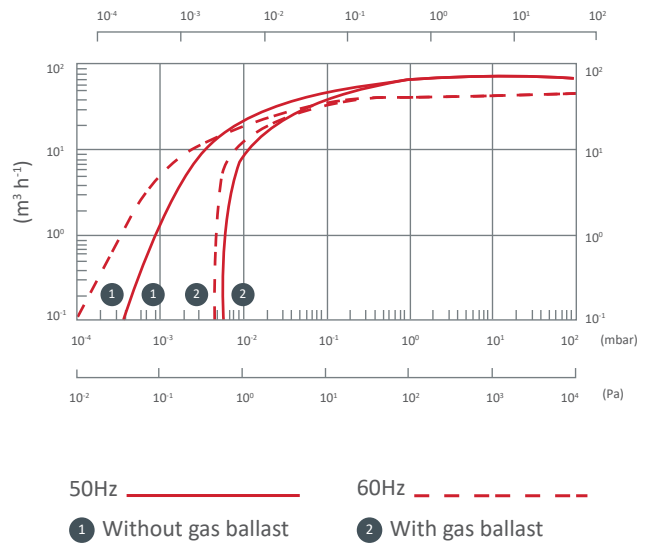
* with optional thermostatic water flow valve

PERFORMANCE CURVES

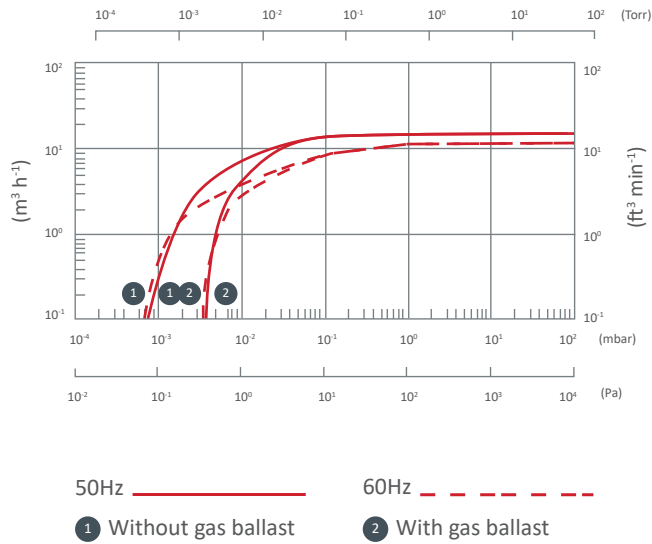
E2M40



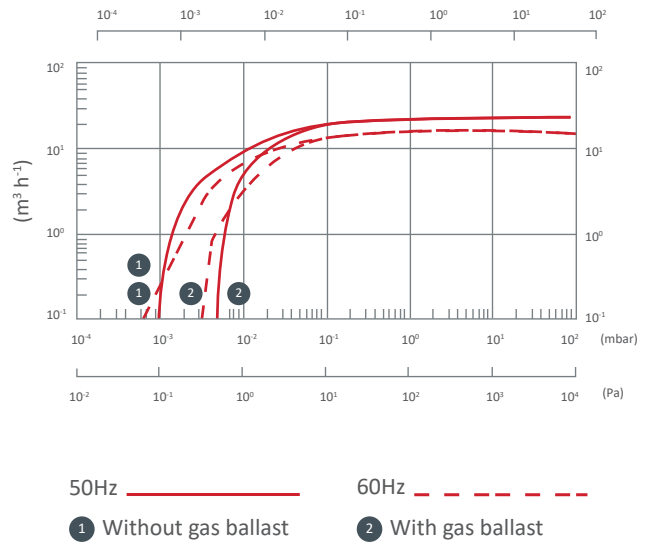
E2M80



E2M175

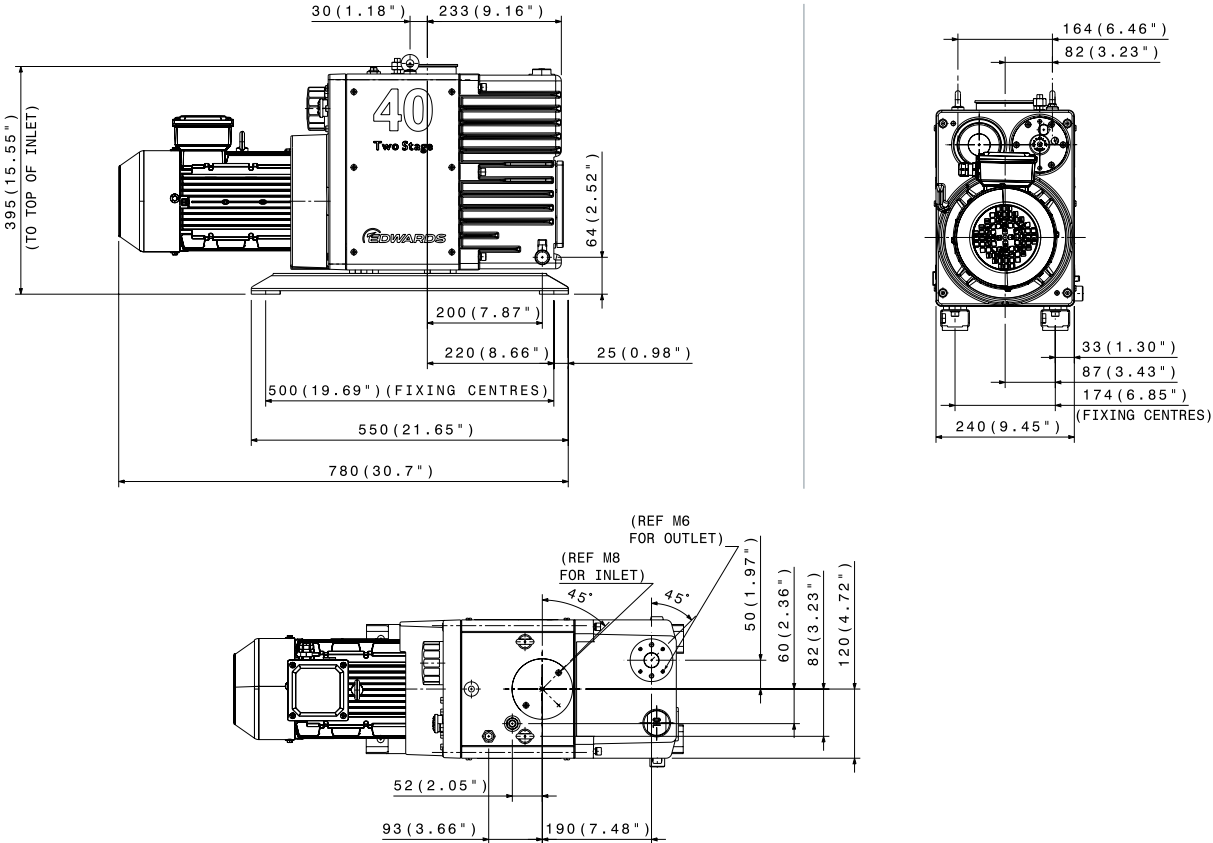


E2M275

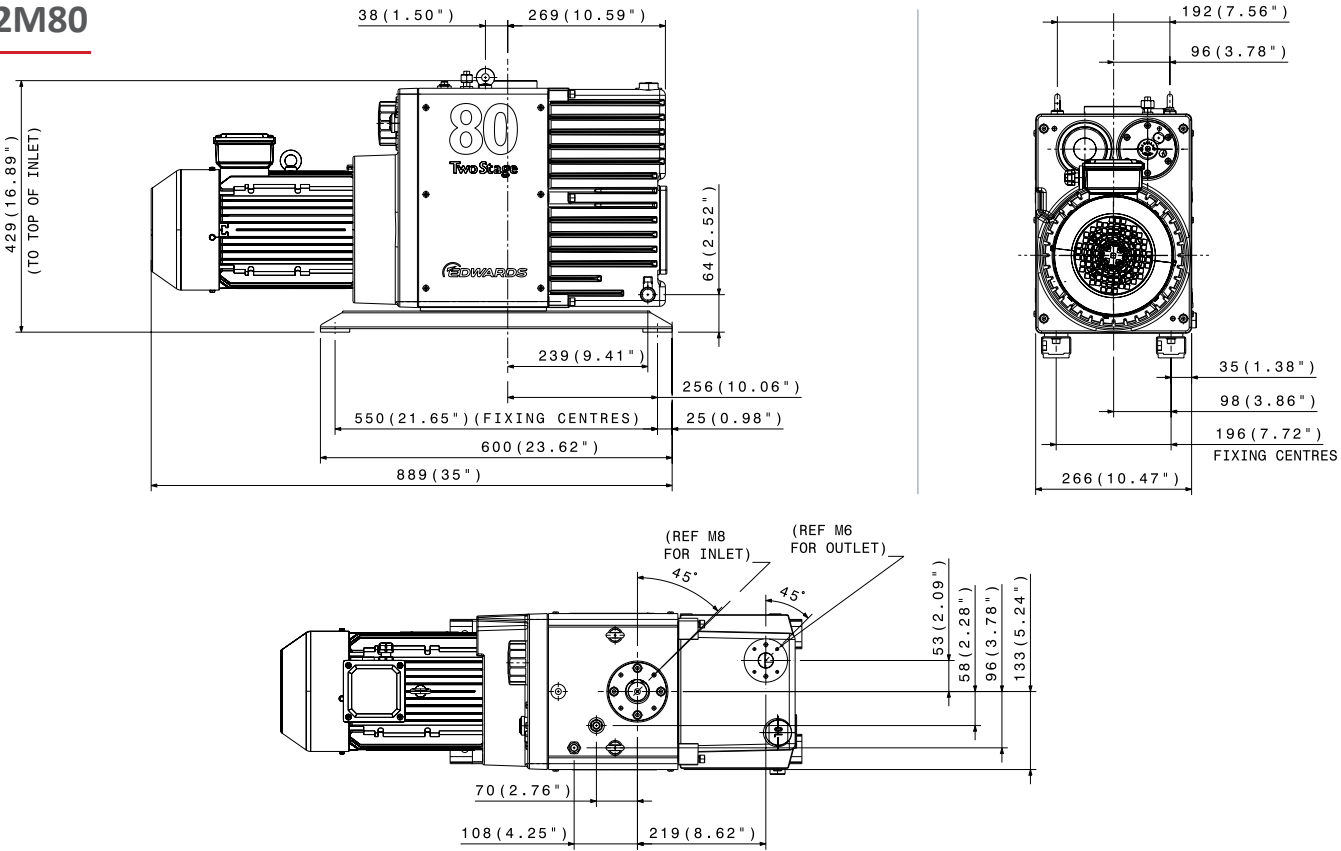


DIMENSIONS

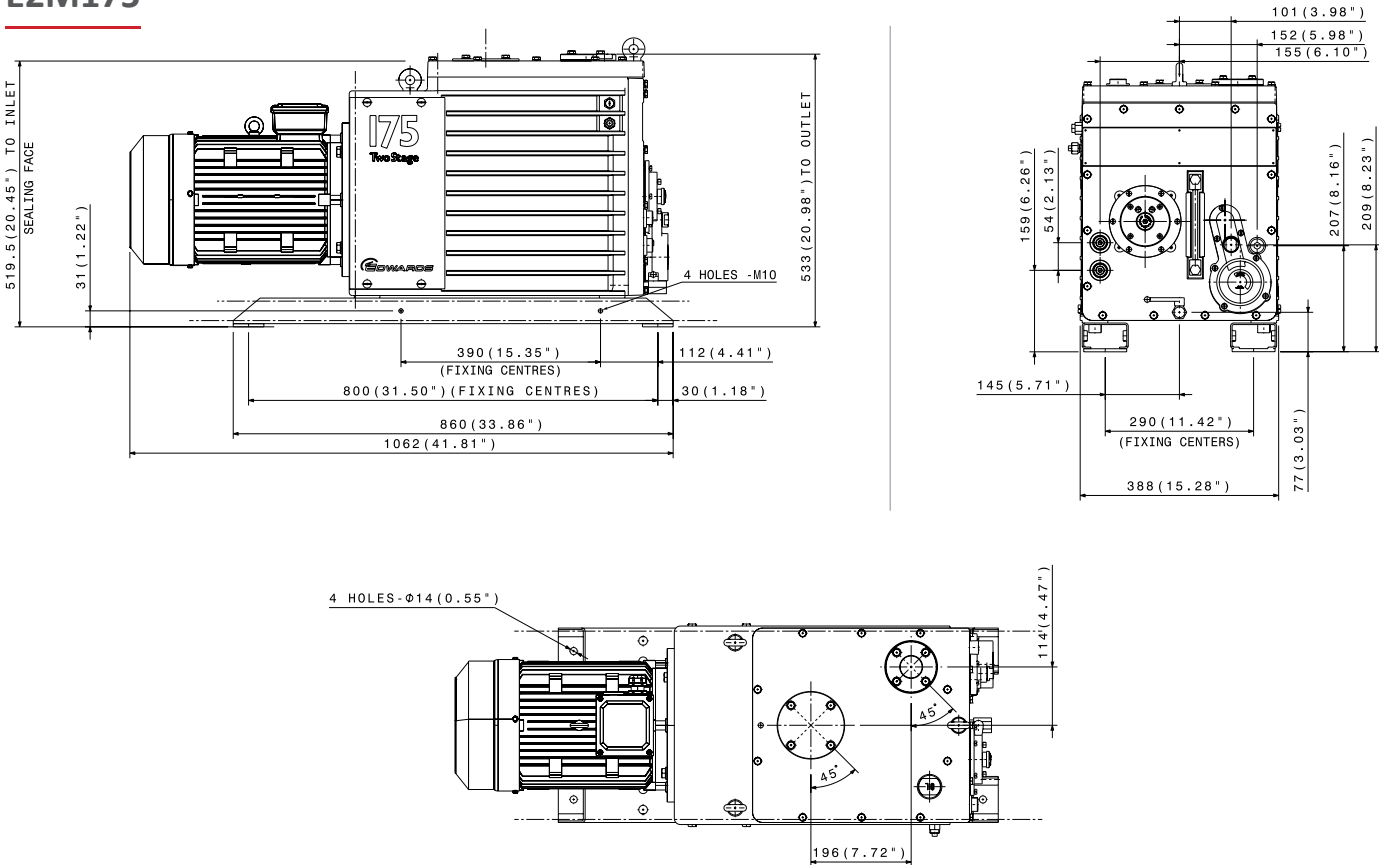
E2M40



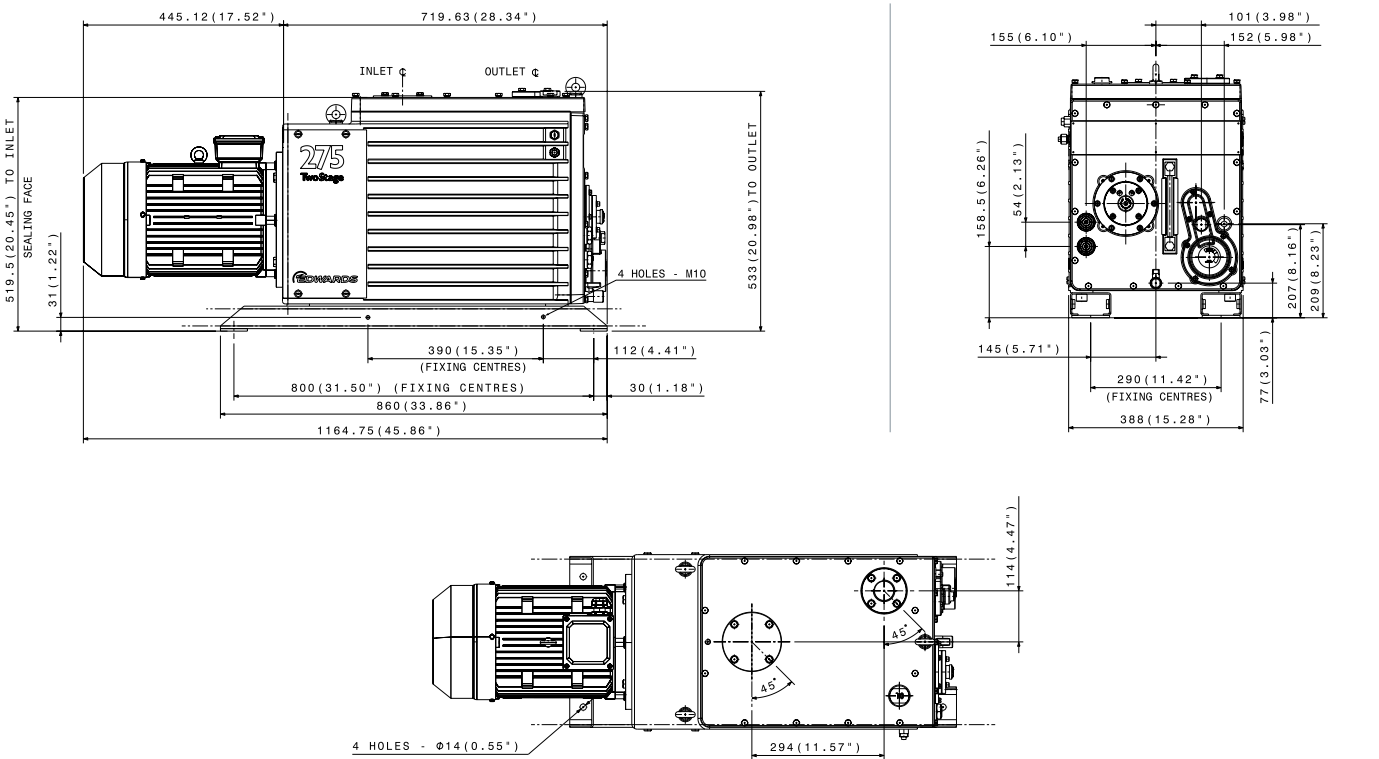
E2M80



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

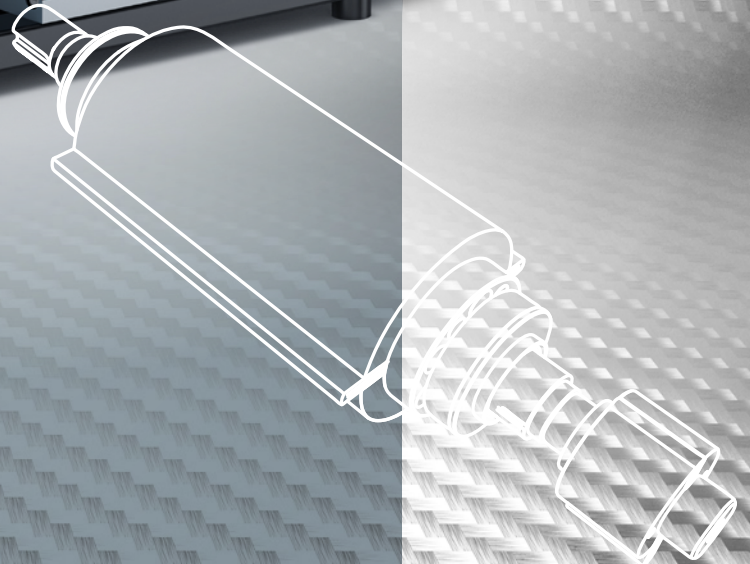
Mat. Number	Description
E2M EX Series (ATEX cat 3 internal / cat 2 external)	
A36418993	E2M 40T4 220/240V or 380/415V 50 Hz 3Ø
A36518993	E2M 80T4 220/240V or 380/415V 50 Hz 3Ø
A36618993	E2M 175T3 220/240V or 380/415V 50 Hz 3Ø
A36718993	E2M 275T3 220/240V or 380/415V 50 Hz 3Ø

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

E2S TWO-STAGE ROTARY VANE PUMPS



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SIMPLE, YET POWERFUL ROTARY VANE PUMP

E2S range - E2S45, E2S65 and E2S85 - is our modern series of industrial two-stage oil-sealed rotary vane vacuum pumps for medium vacuum. E2S perfectly balances performance, cost and usability. A reliable piece of engineering, simply made and well-suited for many standard applications. It pumps down fast, handles vapours and contributes to minimising noise level in your workplace.

BOOST YOUR PRODUCTION NOT YOUR EXPENSES



SPECIALISED PERFORMANCE

- High pumping speed to reduce cycle times and gain productivity
- Hydro mode with improved vapour handling capability to fit with humid applications
- Low noise level matching with lab environment expectations



MODERN DESIGN MADE SIMPLE

- Economical product with clean layout
- Built-in oil filter to protect pump mechanism from contaminants and prevent oil leaks
- Innovative design to increase cooling performance keeping high vapour tolerance
- No complex mechanical arrangement to keep technology simple



GREAT USABILITY

- Effective product design to accommodate users' needs
- Easy and pleasant to use and service. On-site cleaning to maximise uptime
- Efficient over-temperature protection and low oil level detection (optional features)
- Increased safety against operator misuse

E2S VARIANTS

- E2S45
- E2S65
- E2S85



WOULD YOU NEED MORE SPEED?

Standard combinations of E2S two-stage rotary pumps and EH mechanical boosters are available for high capacity demands.

Maximum pumping speed of standard E2S/EH systems at 50Hz

	EH250	EH500	EH1200
E2S45	230	X	X
E2S65	240	365	X
E2S85	250	385	770

Ultimate vacuum: 3x10⁻⁴ mbar

Factory pre-assembled, these pumping systems are compact, mobile and easy to use. With a direct start from atmospheric pressure our E2S85-EH1200 stack provides up to 900 m³/h effective speed and allows to reach high vacuum range with an ultimate vacuum of 3x10⁻⁴ mbar.



APPLICATIONS



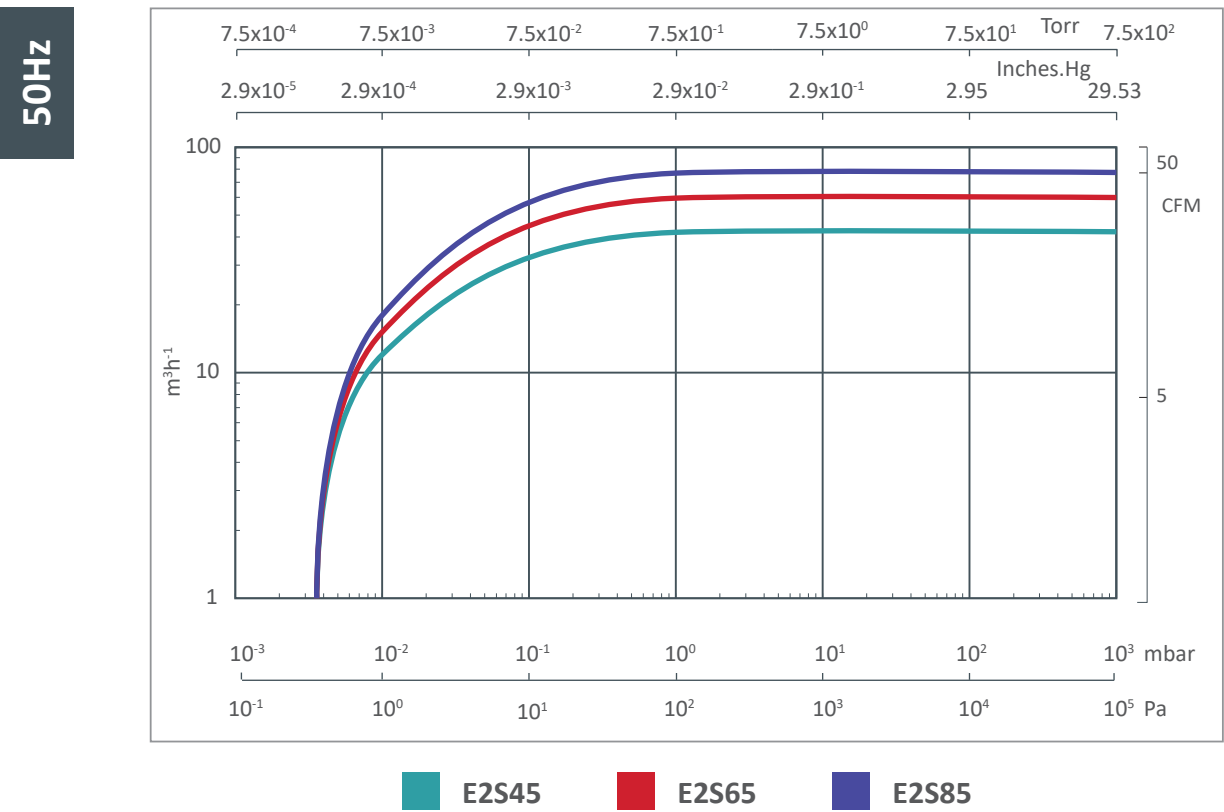
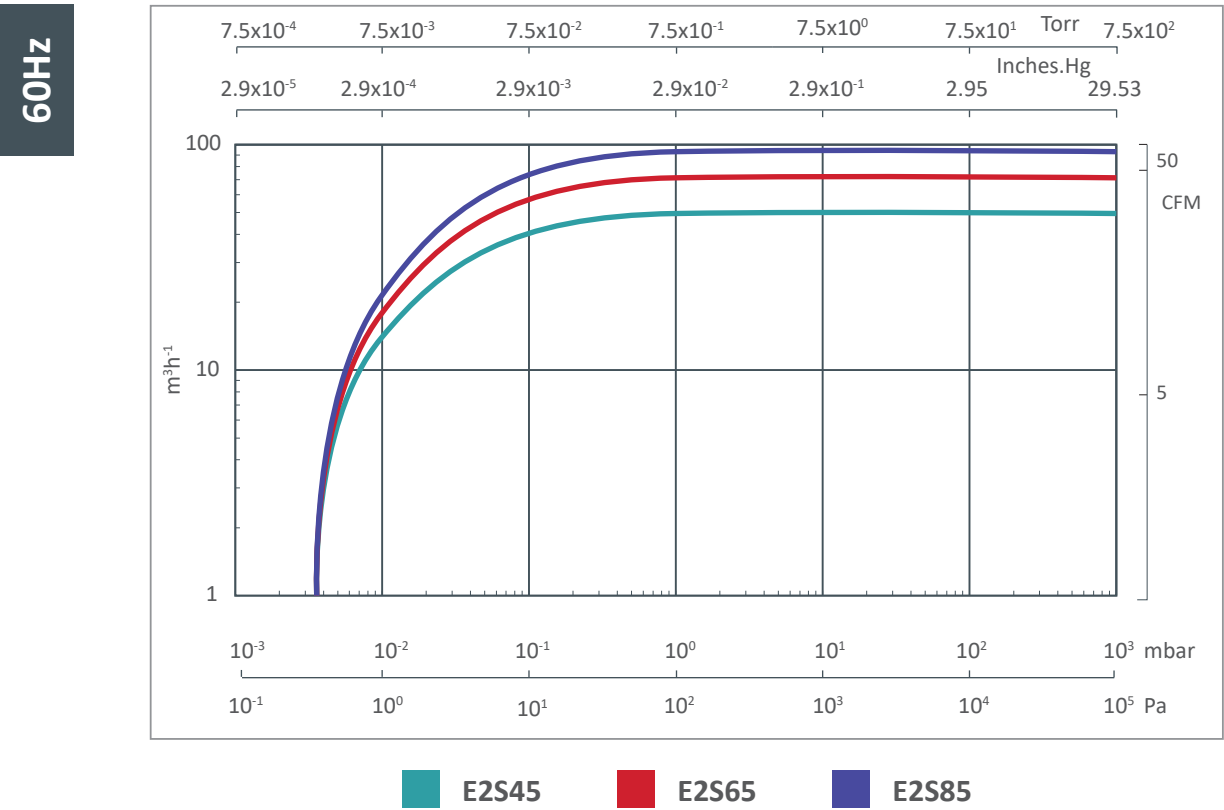
- Vacuum degassing and drying
- Heat treatments and vacuum ovens
- Vacuum insulation
- Plasma treatments (except O2 plasma)
- Leak testing
- Gas production and handling
- Research and development
- Backing of high vacuum pumps or systems



TECHNICAL DATA

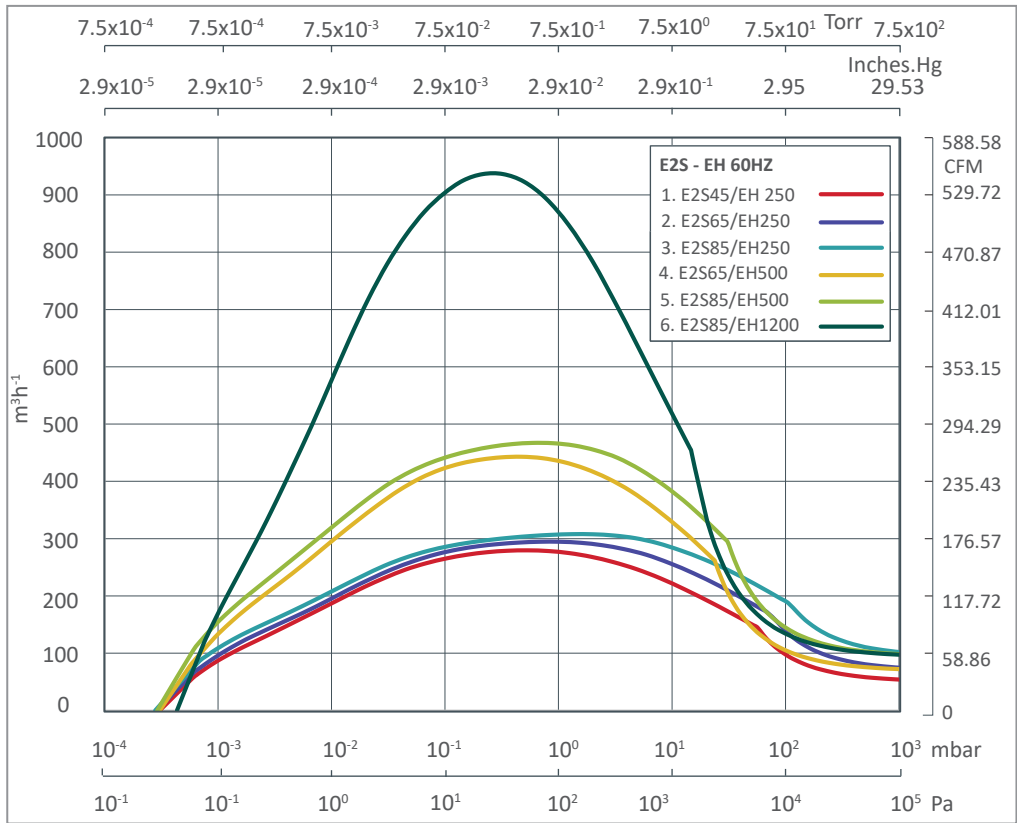
		E2S45	E2S65	E2S85
Max. displacement (50Hz)	m³h⁻¹	47	64	87
	cfm	28	38	51
Max. displacement (60Hz)	m³h⁻¹	56	77	105
	cfm	33	45	62
Pumping speed (50Hz)	m³h⁻¹	42	57	78
	cfm	25	34	46
Pumping speed (60Hz)	m³h⁻¹	50	69	94
	cfm	29	41	55
Ultimate total pressure without gas ballast	mbar	3.0E-03	3.0E-03	3.0E-03
	torr	2.25E-03	2.25E-03	2.25E-03
Ultimate vacuum with gas ballast (position 1)	mbar	6.0E-03	6.0E-03	6.0E-03
	torr	4.5E-03	4.5E-03	4.5E-03
Inlet connection	ISO-F / NW	40	40	40
Outlet connection	mm	25	25	25
Max. permitted outlet pressure	bar (g)	0.5	0.5	0.5
	psi (g)	7.3	7.3	7.3
Max. water vapour tolerance	mbar	20	15	13
	torr	15	11	10
Max. water vapour capacity (50Hz)	kg h⁻¹	0.62	0.66	0.73
	lb h⁻¹	1.4	1.5	1.6
Max. water vapour capacity (60Hz)	kg h⁻¹	0.74	0.8	0.87
	lb h⁻¹	1.6	1.8	1.9
Weight Approximate	Kg	80	90	100
Motor protection rating	IP	55	55	55
Motor rated power (50Hz)	kW	1.1	1.5	2.2
	Hp	1.5	2	3
Motor rated power (60Hz)	kW	1.3	1.8	2.6
	Hp	1.7	2.4	3.5
Noise level (50Hz)	dB(A)	58	60	60
Noise level (60Hz)	dB(A)	60	62	62
Oil refill capacity (Max.)	litre	4.3	4.8	5.5
	gal	1.1	1.3	1.5
Cooling type	cooling	Air	Air	Air
Recommended oil		Ultragrade Performance 70		

PERFORMANCE CURVES

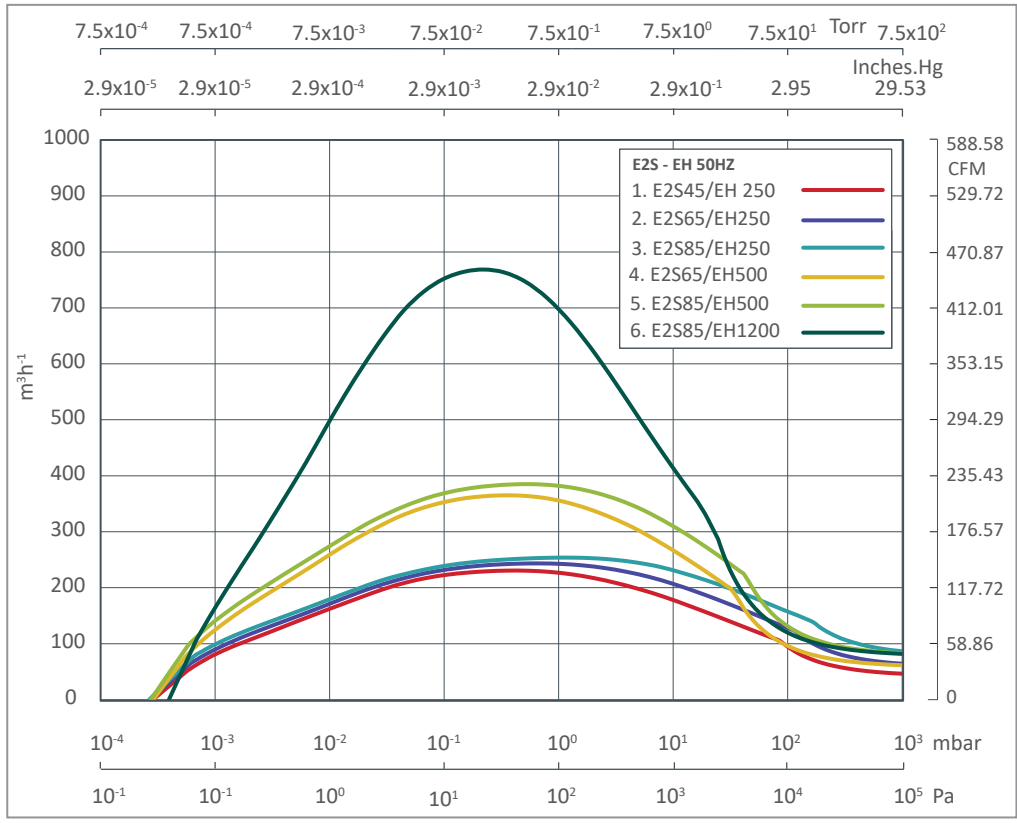


PERFORMANCE CURVES | E2S PUMP+EH BOOSTER COMBINATION

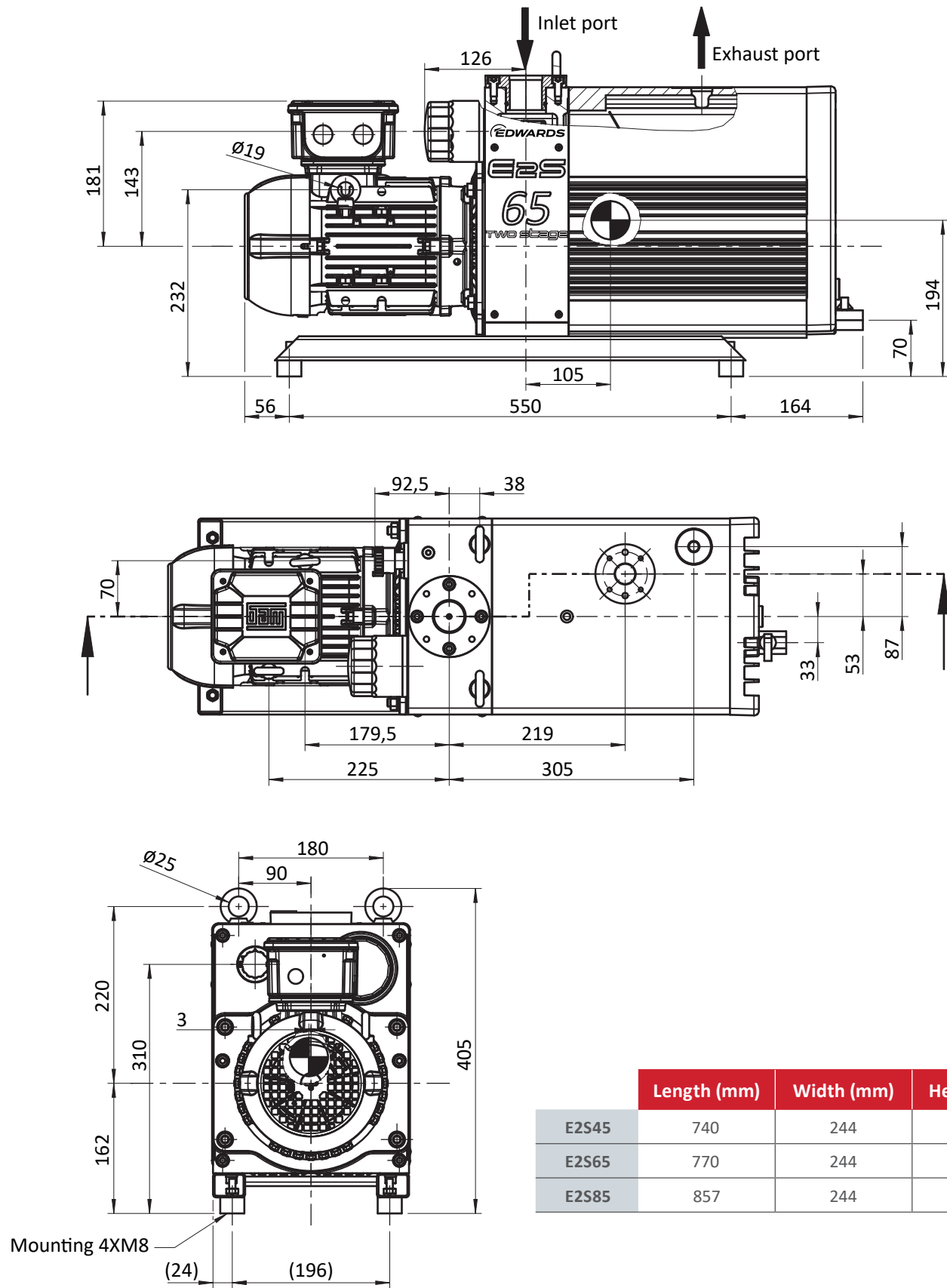
E2S-EH 60Hz



E2S-EH 50Hz



DIMENSIONS



SERVICE AND SUPPORT

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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
E2S	
A35324950	E2S45 EU/US 50/60Hz
A35324934	E2S45 ASIA 50/60Hz
A35424950	E2S65 EU/US 50/60Hz
A35424934	E2S65 ASIA 50/60Hz
A35524950	E2S85 EU/US 50/60Hz
A35524934	E2S85 ASIA 50/60Hz

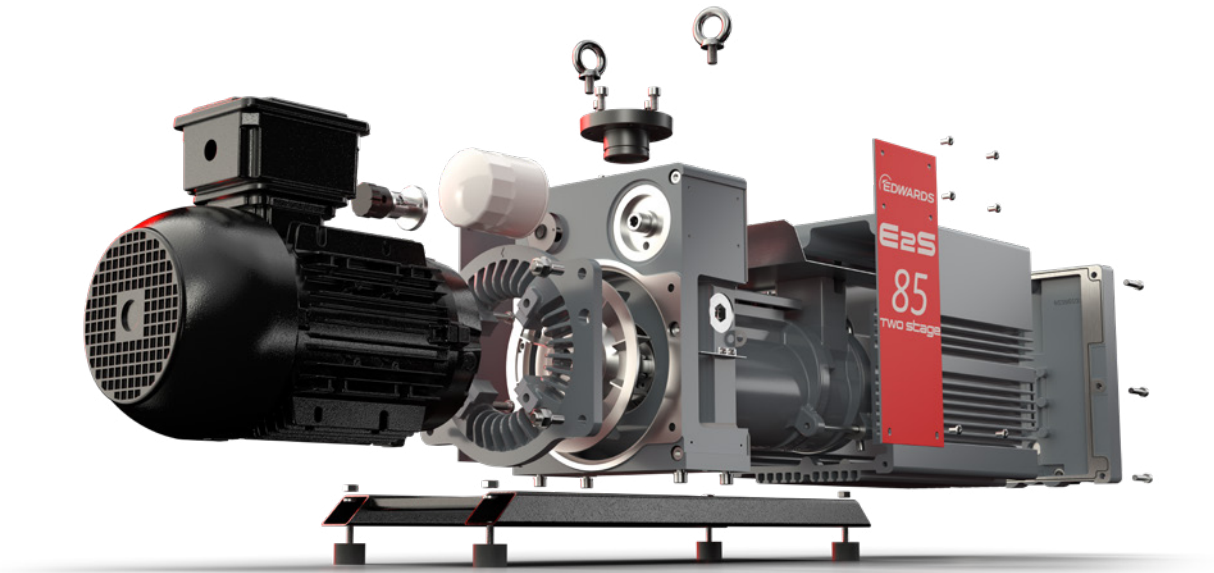
Mat. Number	Description	Cooling
E2S-EH packages with 400V/50Hz EH booster		
A35320250	E2S45/EH250 EU/CN 50Hz system	Air/Air
A35420250	E2S65/EH250 EU/CN 50Hz system	Air/Air
A35520250	E2S85/EH250 EU/CN 50Hz system	Air/Air
A35420500	E2S65/EH500 EU/CN 50Hz system	Air/Air
A35520500	E2S85/EH500 EU/CN 50Hz system	Air/Air
NRV355210	E2S85/EH1200 EU/CN 50Hz system	Air/Water

Mobility kit available separately.

E2S ACCESSORIES

Instrumentation	
A35924247	Oil level monitor E2S
A35924246	Temperature switch E2S
Exhaust elements	
1019040A20	E2S45 exhaust oil mist filter
1019090A20	E2S 65-85 exhaust oil mist filter
Inlet elements	
A44202000	Inlet dust filter ITF100
A44302000	High capacity inlet dust filter ITM100
A44102000	Inlet catchpot ITO100
A44402000	Inlet chemical trap ITC100

Gas ballast	
A35924546	Electric gas ballast E2S with solenoid valve
A35924546	Permanent gas ballast E2S without solenoid valve
Booster fitting kits (spool + supporting bracket)	
A35924131	EH250 fitting kit for E2S 45-65-85
A35924142	EH500 fitting kit E2S 65-85
A35924153	EH1200 adapter spool E2S85
NRV355212	EH1200 frame for E2S85
Mobility kits	
NRV355222	Mobility kit for E2S 45-65-85 with EH250-500
NRV355232	Mobility kit for E2S85 with EH1200 (castors)





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Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
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Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
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Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
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Уфа (347)229-48-12
Хабаровск (4212)92-98-04
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