

E1M18 One Stage, E2M18 Two Stage Rotary Vane Pumps



The EM range of oil-sealed rotary pumps - renowned for their high ultimate vacuum, rapid pumping speed, quiet operation and ability to handle vapour - have become the industry standard for laboratory and light industrial applications.

The E1M18 and E2M18 pumps are direct drive, sliding vane pumps. The pump is oil sealed and designed for reliable, long-term operation. The pump is a freestanding unit with the drive provided through a flexible coupling by either a single-phase or three-phase (four-pole) motor.

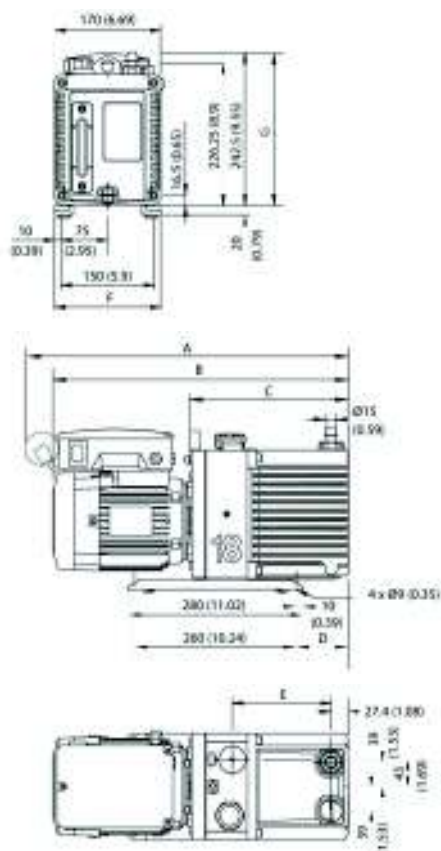


Supplied with: Ultragrade 19 oil, NW25 O-ring and centering ring. Fomblin® must be purchased separately for PFPE pumps.

Features & Benefits

- The pump is designed for reliable, long-term operation.
- Thermal overload device prevents overheating (single phase only).
- The drive is provided through a flexible coupling by a single-phase or three-phase (four pole) motor.
- The motors are totally enclosed and are cooled by the motor-cooling fan.
- Pressure die cast oil box with integral oil seals prevents oil leaks.

Dimensions

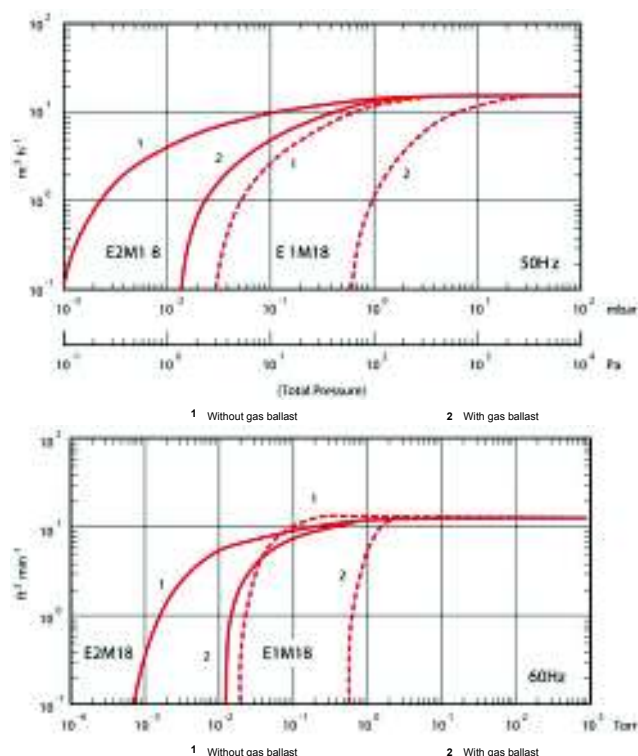


Order No.	A	B	C	D	E	F	G
A34310940	-	474	247	83	159	171.4	217
A34315904	518	474	247	83	159	171.4	241
A34317984	-	504	247	83	159	171.4	251
A36310940	-	520	295	131	207	171.4	217
A36315904	564	520	295	131	207	171.4	241
A36317984	-	550	295	131	207	171.4	251

Applications

- Analytical instruments
- Leak detectors, Helium
- Research and development
- Backing Turbomolecular pumps

Performance Curves



Technical Data

Ordering Information

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	E1M18	E2M18
Displacement (50Hz)	20.5 m ³ h ⁻¹ / 12.1 ft ³ min ⁻¹	20.5 m ³ h ⁻¹ / 12.1 ft ³ min ⁻¹
Displacement (60Hz)	25.0 m ³ h ⁻¹ / 14.7 ft ³ min ⁻¹	25.0 m ³ h ⁻¹ / 14.7 ft ³ min ⁻¹
Speed (Pneurop 6602) 50 Hz	17.0 m ³ h ⁻¹ / 10 ft ³ min ⁻¹	17.0 m ³ h ⁻¹ / 10 ft ³ min ⁻¹
Speed (Pneurop 6602) 60Hz	20.4 m ³ h ⁻¹ / 12.1 ft ³ min ⁻¹	20.4 m ³ h ⁻¹ / 12.1 ft ³ min ⁻¹
Ultimate vacuum (total pressure)		
without gas purge	3 x 10 ⁻² mbar / 2.2 x 10 ⁻² Torr	1 x 10 ⁻³ mbar / 7.4 x 10 ⁻⁴ Torr
with gas purge	6.5 x 10 ⁻¹ mbar / 4.8 x 10 ⁻¹ Torr	1.5 x 10 ⁻¹ mbar / 1.1 x 10 ⁻² Torr
with Fomblin®	3 x 10 ⁻¹ mbar / 2.56 x 10 ⁻² Torr	1 x 10 ⁻² mbar / 7.5 x 10 ⁻³ Torr
Inlet connection	NW25 Nozzle 15 mm external Ø	NW25 Nozzle 15 mm external Ø
Outlet connection	removable from 3/4 in BSP tapped hole	removable from 3/4 in BSP tapped hole
Max permitted pressure at outlet	0.5 bar gauge / 7 psig	0.5 bar gauge / 7 psig
Max inlet pressure	50 mbar / 38 Torr	20 mbar / 15 Torr
Max water vapour pumping rate	0.65 kg h ⁻¹	0.3 kg h ⁻¹
Operating temp range	13-40°C	13-40°C
Nominal Rotation speed 50/60Hz	1440/1720 rpm	1440/1720 rpm
Power connector 1-ph*	IEC EN60320 C19	IEC EN60320 C19
Motor power 50 Hz	0.55 kW	0.55 kW
Motor power 60 Hz	0.75 kW	0.75 kW
Weight	37 kg / 82 lbs	39 kg / 86 lbs
Noise @ 50Hz	57 dB(A)	57 dB(A)
Oil capacity - max	1.4 litre	1.05 litre
Oil capacity - min	0.9 litre	0.75 litre
Recommended oil (supplied)	Ultragrade 19	Ultragrade 19

* Pumps listed with IEC connector only

Product Description	Order No.
E1M18 200-230/380-415V, 3-ph, 50Hz or 200-230/460V, 3-ph, 60Hz	A34310940
E1M18 100/200V, 1-ph, 50Hz or 100-105/200-210V, 1-ph, 60Hz	A34315904
E1M18 115/200-230V, 1-ph, 50/60Hz with IEC60320 connector, factory set to 230V	A34317984
PFPE E1M18 115/200-230V, 1-ph, 50/60Hz with IEC60320 connector	A34325984
E2M18 200-230/380-415V, 3-ph, 50Hz or 200-230/460V, 3-ph, 60Hz	A36310940
E2M18 100/200V, 1-ph, 50Hz or 100-105/200-210V, 1-ph, 60Hz	A36315904
E2M18 115/200-230V, 1-ph, 50/60Hz with IEC60320 connector	A36317984
PFPE E2M18 200-230/380-415 V, 3-ph, 50 Hz or 200-230/460 V, 3-ph, 60 Hz	A36321940
PFPE E2M18 100/200V, 1-ph, 50Hz or 100-105/200-210V, 1-ph, 60Hz	A36325904
PFPE E2M18 115/200-230 V, 1-ph, 50/60 Hz with IEC60320 connector fitted	A36325984
Accessories & Spares	Order No.
Model EMF20 mist filter	A46229000
2m Electrical supply cable, UK, three-pin plug	A50505003
2m Electrical supply cable, North European plug	A50506003
2m Electrical supply cable, North America/Japan plug	A50507003
2m Electrical supply cable, no plug	A50508003
Spares Kit C&O E1M18/E2M18	A36301131
Spares Kit Blade E1M18	A34301041
Spares Kit Blade E2M18	A36301020
NW25 to 28mm bore tube adaptor	C10520201
3/4" BSP to NW25 outlet adaptor	C10501414

E2M28 Two Stage Rotary Vane Pump

The EM range of oil-sealed rotary pumps - renowned for its high ultimate vacuum, rapid pumping speed, quiet operation and ability to handle vapour - has become the industry standard laboratory and light industrial applications.

The E2M28 pump is a two-stage, direct drive, sliding vane pump. The pump is oil sealed and designed for reliable, long-term operation in both laboratory and industrial environments. The pump is a freestanding unit with the drive provided through a flexible coupling by either a single-phase or three-phase (four-pole) motor.

Supplied with: Ultragrade 19 oil, NW25 O-ring and centering ring, lifting plate. Fomblin® must be purchased separately for PFPE pumps.



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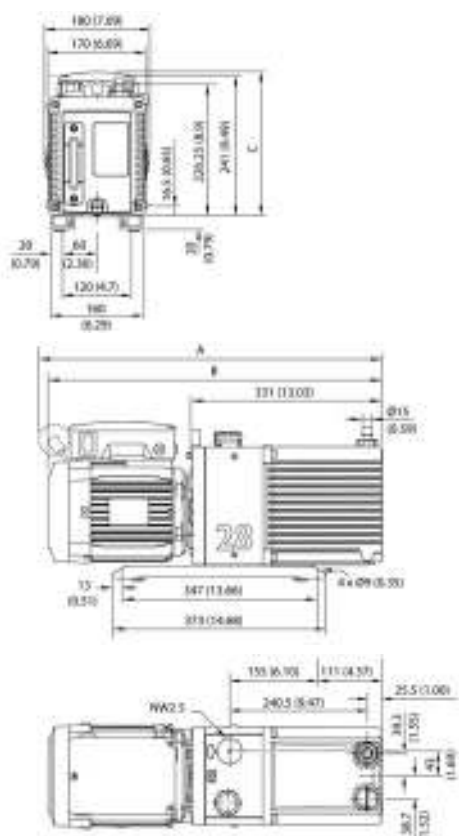
Features & Benefits

- The pump is designed for reliable, long-term operation.
- Thermal overload device prevents overheating (single phase only).
- The pump is a free-standing unit.
- The drive is provided through a flexible coupling by a single-phase or three-phase (four pole) motor.
- The motors are totally enclosed and are cooled by the motor-cooling fan.

Applications

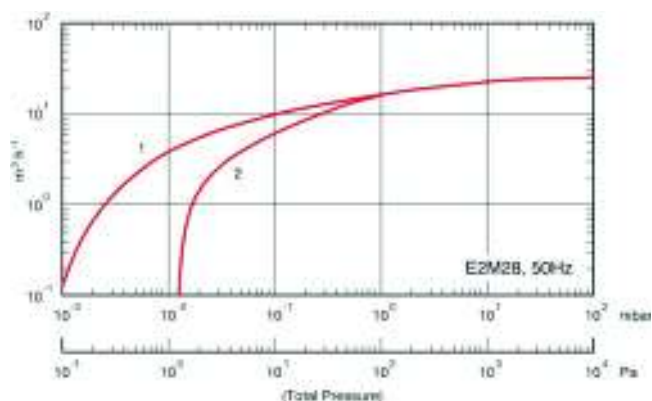
- Analytical instruments - LCMS
- Automotive
- Beam lines and high energy physics
- Centrifuges, ultra-high speed
- Coating

Dimensions



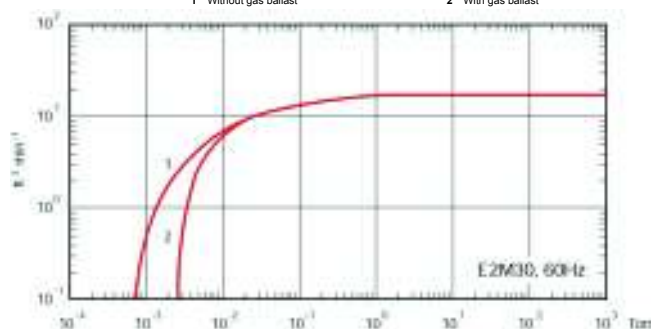
Ordering No.	A	B	C
A37310940	-	553	217
A37315904	598	584	251
A37317984	-	584	251

Performance Curves



1 Without gas ballast

2 With gas ballast



1 Without gas ballast

2 With gas ballast

Technical Data

Displacement (swept volume) 50 Hz	32.2 m ³ h ⁻¹ / 19 ft ³ min ⁻¹
Displacement (swept volume) 60 Hz	38.9 m ³ h ⁻¹ / 22.3 ft ³ min ⁻¹
Speed (Pneurop 6602) 50 Hz	27.5 m ³ h ⁻¹ / 16.2 ft ³ min ⁻¹
Speed (Pneurop 6602) 60 Hz	33.0 m ³ h ⁻¹ / 19.5 ft ³ min ⁻¹
Ultimate vacuum (total pressure)	
without gas ballast	1 x 10 ⁻³ mbar / 7.5 x 10 ⁻⁴ Torr
with gas ballast	1.5 x 10 ⁻² mbar / 1.1 x 10 ⁻² Torr
with Fomblin®	1 x 10 ⁻² mbar / 7.5 x 10 ⁻³ Torr
Inlet connection	NW25 flange
Outlet connection	Nozzle 15 mm external Ø removable from 3/4 in BSP tapped hole
Max allowed pressure at outlet	0.5 bar gauge / 7 psig
Max inlet pressure for water vapour	30 mbar / 23 Torr
Max water vapour pumping rate	0.7 kg h ⁻¹
Operating temperature range	13 – 40 °C
Nominal rotation speed	1440 / 1720 rpm
Motor power 50 Hz	0.75 kW
Motor power 60 Hz	0.90 kW
Power Connector 1-ph*	IEC EN60320 C19
Weight	40 kg / 88 lbs
Noise	57 dB(A) @ 50 Hz
Oil capacity - max	1.5 litre
Oil capacity - min	1.2 litre
Recommended oil (supplied)	Ultragrade 19

* Pumps listed with IEC connector only

Ordering Information

Product Description	Order No.
E2M28 200-230/380-415 V, 3-ph, 50 Hz or 200-230/460 V, 3-ph, 60 Hz	A37310940
E2M28 100/200 V, 1-ph, 50 Hz or 100-105/200-210 V, 1-ph, 60 Hz	A37315904
E2M28 115/200-230 V, 1-ph, 50/60 Hz with IEC60320 connector fitted	A37317984
PFPE E2M28 200-230/380-415 V, 3-ph, 50 Hz or 200-230/460 V, 3-ph, 60 Hz	A37321940
PFPE E2M28 115/200-230 V, 1-ph, 50/60 Hz with IEC60320 connector fitted	A37325984
Accessories & Spares	Order No.
Model MF30 mist filter	A46233000
2m Electrical supply cable, UK, three-pin plug	A50505003
2m Electrical supply cable, North European plug	A50506003
2m Electrical supply cable, North America/Japan plug	A50507003
2m Electrical supply cable, no plug	A50508003
Spares Kit C&O E2M28	A37301131
Spares Kit Blade Sprung E2M28/30	A37301135
NW25 to 28mm bore tube adaptor	C10520201
3/4" BSP to NW25 outlet adaptor	C10501414