

## Ordering details

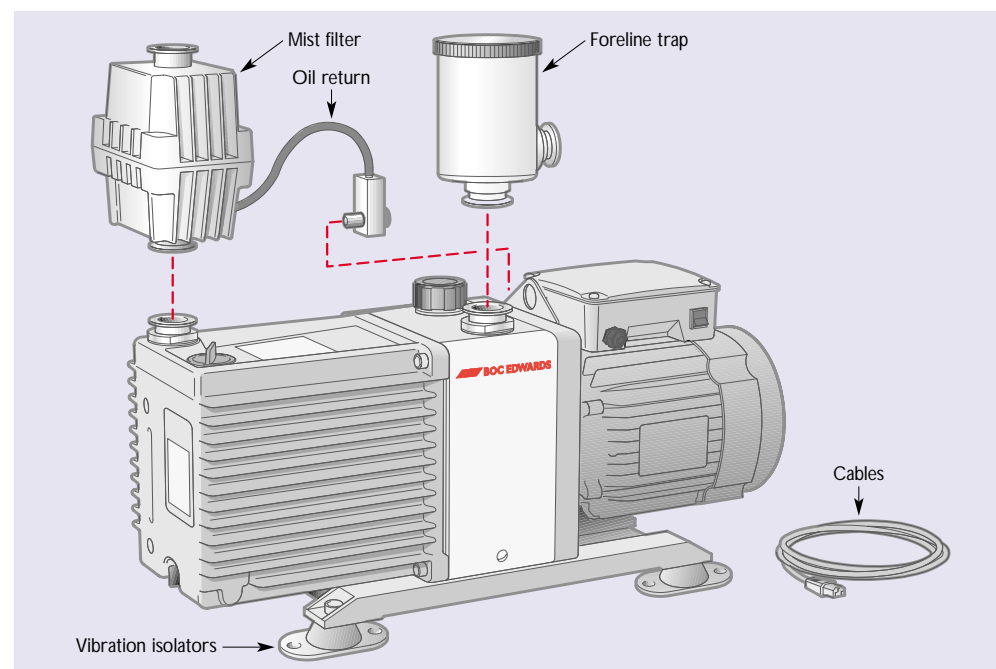
Description	Ordering Number
<b>E1M18</b> E1M18 Pump 1ph, 115V, 200 to 230V 50/60Hz	A34317984
E1M18 Pump 1ph, 100/200V 50/60Hz	A34315904
E1M18 3ph, 200-220/380-415V 50Hz 200-230/460V 60Hz	A34310940
<b>E2M18</b> E2M18 Pump 1ph, 115V, 200 to 230V 50/60Hz	A36317984
E2M18 Pump 1ph, 100/200V 50/60Hz	A36315904
E2M18 3ph, 200-220/380-415V 50Hz 200-230/460V 60Hz	A36310940
<b>E2M28</b> E2M28 Pump 1ph, 115V, 200 to 230V 50/60Hz	A37317984
E2M28 Pump 1ph, 100/200V 50/60Hz	A37315904
E2M28 3ph, 200-220/380-415V 50Hz 200-230/460V 60Hz	A37310940

Cables	Suitable for 984 variant
UK, three pin plug	A50505003
North European plug	A50506003
North American plug	A50507003
Suitable for 100/200V variants	
North American plug	U30003459
Oil	Ultragrade 19, 1 liter bottle H11025015
Inlet accessories	FL20K - oil vapor (foreline) trap A13305000
Outlet accessories	EMF20 - mist filter A46229000
Oil returns	Clean application (no gas ballast) A50420000
Vibration isolators	E1M18 and E2M18 A24801404 E2M28 A24801412

Description	Ordering Number
<b>E2M0.7</b> E2M0.7 Pump 1ph, 200 to 230V 50/60Hz	A37131919
E2M0.7 Pump 1ph, 100 to 115V 50/60Hz Fitted with North American cable	A37131902 A37131902P
<b>E2M1.5</b> E2M1.5 Pump 1ph, 200 to 230V 50/60Hz	A37122919
E2M1.5 Pump 1ph, 100 to 115V 50/60Hz fitted with N.A. cable	A37122902 A37122902P
Oil	Ultragrade 15, 1 liter bottle H11026015
Inlet accessories	FL20K - oil vapor (foreline) trap A13305000
Outlet accessories	EMF3 - mist filter A46220000
Oil return	Clean application (no gas ballast) A50419000
Mist filter	EMF3 A46220000
Vibration isolators	E2M0.7 and E2M1.5 A24801407

Note: All pumps supplied with initial charge of oil

## Accessories



# EM Rotary Vane Pumps

BOC Edwards is a world leader in process equipment, materials and services for electronics, industrial and scientific applications. Our aim is to offer customers solutions that result in a measurable improvement in productivity.

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Publication no: A371 22 895

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for Better Process Results



# Proven performance that sets the industry standard

BOC Edwards' 30 years of experience in scientific applications affords us a deep understanding of research practices and the critical role that vacuum plays within them. From this platform, and through collaboration with the major analytical instrument manufacturers, we develop and support innovative vacuum products that underpin the customer's entire research process.

The EM range of oil-sealed rotary pumps - renowned for its high ultimate vacuum, rapid pumping speed, quiet operation and ability to handle vapor - has become the industry standard for laboratory applications. All pumps in the range are independently approved to UL and CSA standards and backed by BOC Edwards worldwide service and support.

## Typical Applications

	E2M0.7	E1M18	E2M1.5	E2M18	E2M28
<b>Instrumentation</b>					
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	●	●		●	
<b>General</b>					
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	●	●		●	
TV manufacturing / light bulb manufacture		●			

### Wide voltage motors

All major countries covered with less variants needed in stock

### Integral IEC 60320 connector

No customer wiring

### Pressure die-cast oil box

Integrated oil-seals, no oil leaks

### Easy controls

Motor on/off switch

### Gas ballast valve

Large water vapor handling capacity

### Forced air cooling

Low pump surface temperature

### Pressurized oil feed

Excellent pump lifetime

All pumps externally approved to EN61010, CSA C22.2 1010, UL61010 standards

Safe product

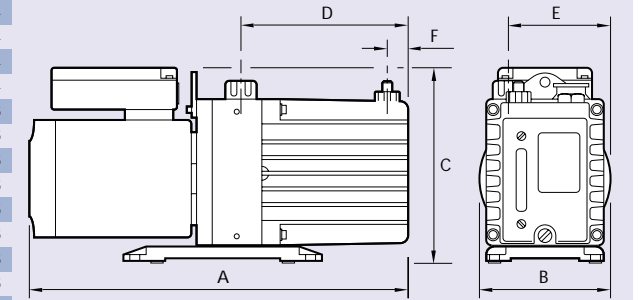


Manufactured under ISO 9001 standard  
High quality product

Manufactured under ISO 14001 standard  
Environmentally friendly processes

## Dimensions

Part nr	A	B	C	D	E	F	
<b>E2M0.7</b>	A371 31 919	320	124	171	123	81	24
	A371 31 902	320	124	200	123	81	24
<b>E2M1.5</b>	A371 22 919	320	124	171	123	81	24
	A371 22 902	320	124	200	123	81	24
<b>E1M18</b>	A343 17 984	501	180	253	184	120	25
	A343 15 904	515	162	253	184	120	25
	A343 10 940	471	162	266	184	120	25
<b>E2M18</b>	A363 17 984	549	180	253	232	120	25
	A363 15 904	608	162	253	232	120	25
	A363 10 940	519	162	266	232	120	25
<b>E2M28</b>	A373 17 984	582	180	242	266	129	25
	A373 15 904	608	180	276	266	129	25
	A373 10 940	553	180	276	266	129	25



All dimensions in mm

## Specifications

	Hz	Units	E2M0.7	E2M1.5	E1M18	E2M18	E2M28
<b>VACUUM DATA</b>							
Peak pumping speed <sup>1</sup>	60	cfm	0.95	0.8	12.1	12.1	19.5
	50	m <sup>3</sup> /h	0.75	1.6	17	17	27.5
Ultimate pressure (Total)	60	Torr	5.3x10 <sup>-4</sup>	1.1x10 <sup>-3</sup>	3.2x10 <sup>-2</sup>	7.5x10 <sup>-4</sup>	7.5x10 <sup>-4</sup>
	50	mbar	3.0x10 <sup>-3</sup>	2.5x10 <sup>-2</sup>	3.0x10 <sup>-2</sup>	1.0x10 <sup>-3</sup>	1.0x10 <sup>-3</sup>
Ultimate pressure GB I (Total)	50/60	Torr	1.5x10 <sup>-1</sup>	1.9x10 <sup>-2</sup>	4.8x10 <sup>-1</sup>	1.1x10 <sup>-2</sup>	1.1x10 <sup>-2</sup>
		mbar	2.0x10 <sup>-1</sup>	2.2x10 <sup>-2</sup>	6.5x10 <sup>-1</sup>	1.5x10 <sup>-2</sup>	1.5x10 <sup>-2</sup>
Water vapor tolerance		Torr	11	11	38	15	23
		mbar	15	15	50	20	30
Water vapor capacity - GB I		g/h	8	8	650	300	700

## MOTOR DATA

Motor rating 1 phase (nominal)	60	W			750	750	900
	50	W	90	160	550	550	750
Motor rating 3 phase		W					
Nominal rotation speed	60	rpm	1800	3600	1800	1800	1800
	50	rpm	1500	3000	1500	1500	1500

## PHYSICAL DATA

Weight		lb	22	22	70	79	88
		kg	10	10	32	36	40
Length		inch	12.6	12.6	19.7	21.6	22.9
		mm	320	320	501	549	582
Width		inch	4.9	4.9	6.4	6.4	7.1
		mm	124	124	162	162	180
Height <sup>2</sup>		inch	7.4	7.4	10.5	10.5	10.9
		mm	189	189	266	266	276
Oil capacity		liters	0.28	0.28	1.4	1.05	1.5
Oil type (Ultragrade)			15	15	19	19	19
Inlet flange			NW10 <sup>3</sup>	NW10 <sup>3</sup>	NW25 <sup>4</sup>	NW25 <sup>4</sup>	NW25 <sup>4</sup>
Exhaust flange							
Noise level	50	dBA	43	54	57	57	57
Operating temperature range		°C	12 to 40	12 to 40	12 to 40	12 to 40	12 to 40

Notes: 1. Pumping speed measured to PNEUROF 6602. 3. Nozzle 11mm diameter, removable from 3/8 inch BSP tapped hole.  
2. Height varies with motor supply frequency, 60Hz shown, 50Hz is 29mm less. 4. Nozzle 15mm diameter, removable from 3/4 inch BSP tapped hole.