

DATA SUMMARY EH MECHANICAL BOOSTER PUMPS

PUMP		EH250	EH500A	EH1200	EH2600	EH4200
Catalog page		2-71	2-71	2-72	2-72	2-73
Displacement (swept volume)						
50 Hz supply	m ³ h ⁻¹ / ft ³ min ⁻¹	310 / 185	505 / 300	1195 / 715	2590 / 1525	4140 / 2440
60 Hz supply	m ³ h ⁻¹ / ft ³ min ⁻¹	375 / 220	605 / 355	1435 / 845	3110 / 1830	4985 / 2935
Effective pumping speed* with backing pump						
E1M40 or E2M40	m ³ h ⁻¹ / ft ³ min ⁻¹	240 / 141	350 / 206			
E1M80 or E2M80	m ³ h ⁻¹ / ft ³ min ⁻¹	274 / 161	400 / 236	840 / 495		
E1M175 or E2M275	m ³ h ⁻¹ / ft ³ min ⁻¹		440 / 259	930 / 548	1750 / 1031	
E1M275 or E2M275	m ³ h ⁻¹ / ft ³ min ⁻¹		460 / 271	1020 / 601	1900 / 1119	3100 / 1825
Rotational speed†						
50 Hz supply	rpm	0 - 2900	0 - 2900	0 - 2900	0 - 2900	0 - 2900
60 Hz supply	rpm	0 - 3500	0 - 3500	0 - 3500	0 - 3500	0 - 3500
Operating continuous inlet pressure	mbar / Torr	0 - 1000 / 0 - 760	0 - 1000 / 0 - 760	0 - 1000 / 0 - 760	0 - 1000 / 0 - 760	0 - 1000 / 0 - 760
Maximum outlet pressure	mbar / Torr	1000 / 760	1000 / 760	1000 / 760	1000 / 760	1000 / 760
Pressure differential across pump‡						
50 Hz supply	mbar / Torr	0 - 180 / 0 - 140	0 - 110 / 0 - 68	0 - 90 / 0 - 68	0 - 80 / 0 - 60	0 - 60 / 0 - 45
60 Hz supply	mbar / Torr	0 - 150 / 0 - 115	0 - 90 / 0 - 825	0 - 75 / 0 - 56	0 - 67 / 0 - 50	0 - 50 / 0 - 38
Recommended backing pumps		GV80, E1M/E2M40, E1M/E2M80	GV80, GV160, E1M/E2M80	GV160, GV250, E2M80, E2M175	GV250, GV400, E2M175, E2M275	GV400, E2M275
Inlet connection		ISO63	ISO100	ISO160	ISO160	ISO250
Outlet connection		ISO40	ISO63	ISO100	ISO100	ISO100
Electrical supply voltage, 3-phase						
50Hz	Volts	220 - 240 / 380 - 415	220 - 240 / 380 - 415	220 - 240 V / 380 - 415 V	220 - 240 V / 380 - 415 V	220 - 240 V / 380 - 415 V
60 Hz	Volts	208 - 230 / 460	208 - 230 / 460	208 - 230 / 460	208 - 230 / 460	208 - 230 / 460
Motor power	kW / hp	1.5 / 2	1.5 / 2	3 / 4		
Hydrocarbon					11 / 15	11 / 15
PFPE					7.5 / 10	7.5 / 10
Ambient temperature range						
Operating	°C	5 to 40	5 to 40	5 to 40	5 to 40	5 to 40
	°F	40 to 104	40 to 104	40 to 104	40 to 104	40 to 104
Storage	°C	-10 to 80	-10 to 80	-10 to 80	-10 to 80	-10 to 80
	°F	14 to 176	14 to 176	14 to 176	14 to 176	14 to 176
Maximum operating humidity	% RH	90	90	90	90	90
Recommended cooling water flow (inlet temperature 20 °C)	l h ⁻¹ / gal min ⁻¹	N/A	N/A	120 / 0.53	250 / 1.1	250 / 1.1
Recommended cooling water supply pressure	bar	N/A	N/A	2 - 6	2 - 6	2 - 6
Cooling water connections		N/A	N/A	3/8 inch BSP male	3/8 inch BSP male	3/8 inch BSP male
Recommended oil						
Standard version		Ultragrade 20	Ultragrade 20	Ultragrade 20	Ultragrade 20	Ultragrade 20
PFPE version		Fomblin YVAC 16/6	Fomblin YVAC 16/6	Fomblin YVAC 16/6	Fomblin YVAC 16/6	Fomblin YVAC 16/6
Oil capacity						
Gear case	liter / qt			1.25 / 1.3	3.5 / 3.3	3.5 / 3.3
Coupling cover	liter / qt	1.5 / 1.6	1.5 / 1.6	2.4 / 2.5	6.5 / 7	6.5 / 7
Shaft seal reservoir	liter / qt	0.125 / 0.25	0.125 / 0.25	0.125 / 0.25	1.5 / 1.4	1.5 / 1.4
Weight	kg / lb	61 / 134	74 / 163	149 / 329	308 / 679	400 / 882

Effective pumping speed for air at 0.3 mbar with 50 Hz supply. Effective pumping speed with 60 Hz supply will be at least 20% higher than operation with 50 Hz supply.

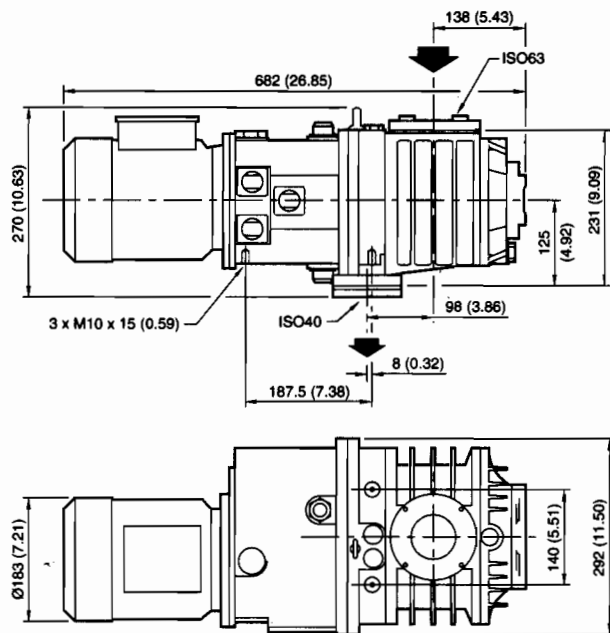
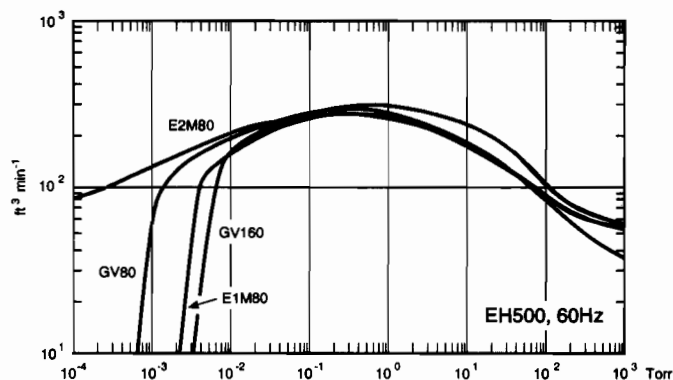
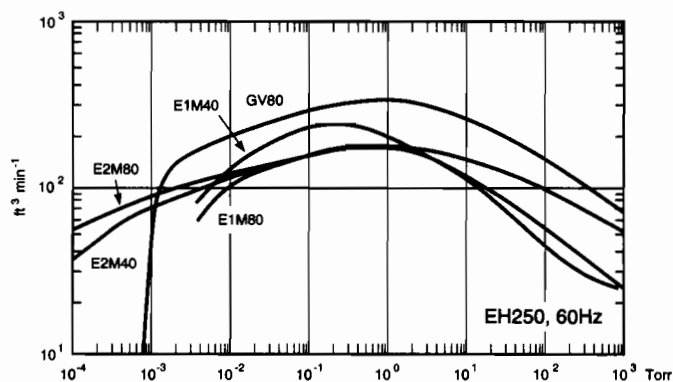
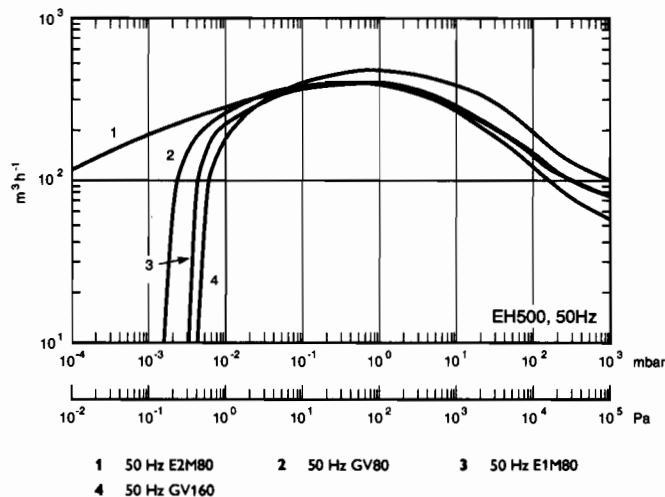
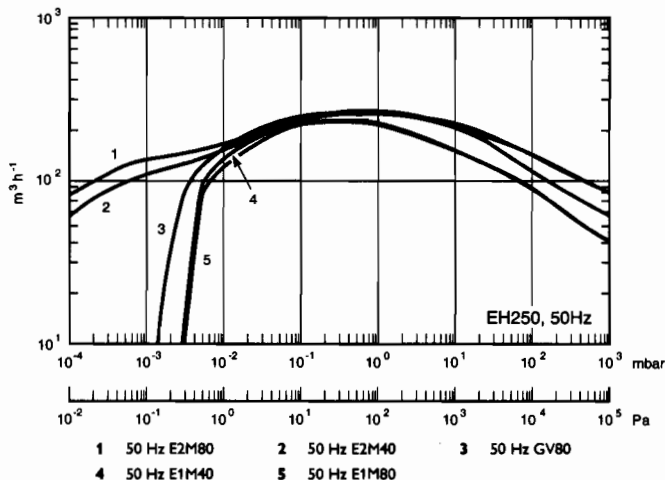
** Under many circumstances, pumps may operate without cooling water. Apply to BOC Edwards for more information.

† Depends on pressure.

‡ Determined by the hydrokinetic drive.

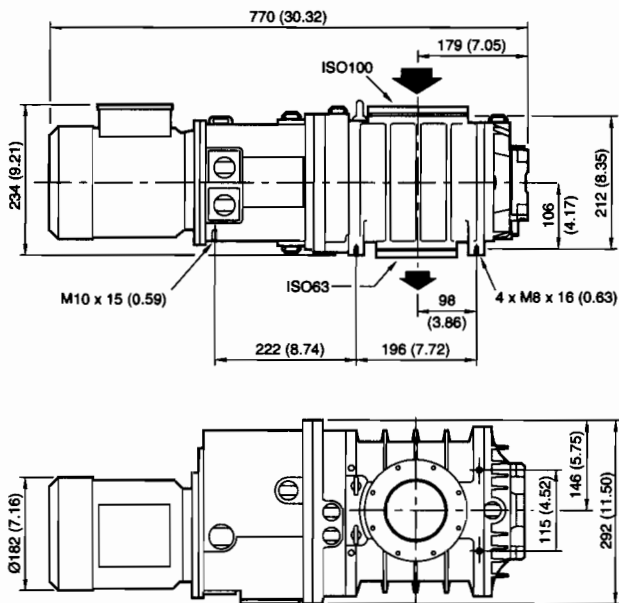
EH250 MECHANICAL BOOSTER PUMP

EH500A MECHANICAL BOOSTER PUMP



Pump is shown with inlet and outlet blanking flanges fitted. Dimensions are to the top surface of the pump flange.

For ordering information see page 2-73.



Pump is shown with inlet and outlet blanking flanges fitted. Dimensions are to the top surface of the pump flange.

For ordering information see page 2-73.

DATA SUMMARY EM OIL SEALED ROTARY PUMPS

PUMP		E1M40	E2M40	E1M80	E2M80
Catalog page		2-22		2-23	
Displacement 50 Hz	m^3h^{-1} / ft^3min^{-1}	42.5 / 25		80 / 47.1	
60 Hz	m^3h^{-1} / ft^3min^{-1}	50.5 / 29.7		96 / 56.5	
Speed 50 Hz	m^3h^{-1} / ft^3min^{-1}	37 / 21.8		74 / 43.6	
(Pneurop) 60 Hz	m^3h^{-1} / ft^3min^{-1}	44 / 25.9		90 / 53	
Number of stages		1	2	1	2
Ultimate vacuum (total pressure)					
without gas ballast	mbar / Torr	$1.0 \times 10^{-1} / 7.7 \times 10^{-2}$	$1.0 \times 10^{-3} / 7.7 \times 10^{-4}$	$7.0 \times 10^{-2} / 5.4 \times 10^{-2}$	$1.0 \times 10^{-3} / 7.7 \times 10^{-4}$
with gas ballast	mbar / Torr	$5.0 \times 10^{-1} / 3.8 \times 10^{-1}$	$7.0 \times 10^{-3} / 5.4 \times 10^{-3}$	$4.0 \times 10^{-1} / 3.1 \times 10^{-1}$	$7.0 \times 10^{-3} / 5.4 \times 10^{-3}$
Inlet connection		ISO40		ISO40	
Outlet connection		25 mm flange suitable for NW25		25 mm flange suitable for NW25	
Maximum permitted pressure at outlet	bar gauge	0.5		0.5	
Maximum inlet pressure for water vapor	mbar / Torr	40 / 30	7 / 5.3	30 / 22.5	5 / 3.8
Maximum water vapor pumping rate	$kg h^{-1} / lb h^{-1}$	1.1 / 2.4	0.2 / 0.4	1.7 / 3.8	0.3 / 0.7
Weight	kg / lb	70.5 / 155	72 / 159	95 / 210	105 / 231
Motor protection rating	IP	44 or 54*		44 or 54†	
Motor power 50 Hz	kW / hp	1.1 / 1.5		2.2 / 3	
Motor power 60 Hz	kW / hp	1.5 / 2		3 / 4	
Standard oil capacity					
maximum	liter / qt	4.6 / 4.8	4.07 / 4.3	7.0 / 7.3	6.3 / 6.7
minimum	liter / qt	2.2 / 2.3	2.2 / 2.3	4.0 / 4.2	4.0 / 4.2
PFPE oil capacity					
maximum	liter / qt	-	3.5 / 3.2	-	4.01 / 4.2
minimum	liter / qt	-	1.32 / 1.6	-	2.19 / 2.3
Recommended oil		Ultragrade 70		Ultragrade 70	
Noise level	dB(A)	70.5	72	70	70

PUMP		E1M175	E2M175	E1M275	E2M275
Catalog page		2-24		2-25	
Displacement 50 Hz	m^3h^{-1} / ft^3min^{-1}	178 / 105		292 / 172	
60 Hz	m^3h^{-1} / ft^3min^{-1}	214 / 126		350 / 206	
Speed 50 Hz	m^3h^{-1} / ft^3min^{-1}	160 / 94		255 / 150	
(Pneurop) 60 Hz	m^3h^{-1} / ft^3min^{-1}	196 / 115		306 / 180	
Number of stages		1	2	1	2
Ultimate vacuum (total pressure)					
without gas ballast	mbar / Torr	$7.0 \times 10^{-2} / 5.4 \times 10^{-2}$	$1.0 \times 10^{-3} / 7.7 \times 10^{-4}$	$9.0 \times 10^{-2} / 6.9 \times 10^{-2}$	$1.0 \times 10^{-3} / 7.7 \times 10^{-4}$
with gas ballast	mbar / Torr	$4.0 \times 10^{-1} / 3.1 \times 10^{-1}$	$5.0 \times 10^{-3} / 3.75 \times 10^{-3}$	$6.0 \times 10^{-1} / 4.6 \times 10^{-1}$	$5.0 \times 10^{-3} / 3.8 \times 10^{-3}$
Inlet connection		ISO 63 blank flange with seal		ISO 63 blank flange with seal	
Outlet connection		ISO 40 flange center tapped 1½ in BSP		ISO 40 flange center tapped 1½ in BSP	
Maximum permitted pressure at outlet	bar gauge	0.5		0.5	
Maximum inlet pressure for water vapor	mbar / Torr	50 / 38	20 / 15	50 / 38	12 / 9
Maximum water vapor pumping rate	$kg h^{-1} / lb h^{-1}$	5.8 / 12.8	2.4 / 5.3	9.2 / 20.3	2.3 / 5.1
Weight	kg / lb	194 / 428	200 / 441	220 / 484	225 / 495
Motor protection rating	IP	44		44	
Motor power 50 Hz	kW / hp	5.5 / 7.5		7.5 / 10	
Motor power 60 Hz	kW / hp	6.5 / 8.5		8.5 / 11	
Standard oil capacity					
maximum	liter / qt	25 / 26		28 / 29.5	
minimum	liter / qt	16 / 17		19 / 20	
PFPE oil capacity					
maximum	liter / qt	-	18 / 19	-	18 / 19
minimum	liter / qt	-	6.5 / 6.9	-	7 / 7
Recommended oil		Ultragrade 70		Ultragrade 70	
Noise level	dB(A)	75	75	75	75