

EH MECHANICAL BOOSTER PUMPS

edwardsvacuum.com

The EH Mechanical Booster range gives our customers reassurance and peace of mind thanks to its large installed base, both in Industrial and Chemical markets. EH pumps, available in sizes from 250 to 4200 m³h⁻¹ displacement, feature the unique hydrokinetic drive, providing an efficient power transmission with benefits in economy, performance and compactness.



Increased productivity

The unique Hydro kinetic drive allows the pump to operate from atmospheric pressure leading to fast pump down times.



Simple installation

No need for pressure switches, bypass lines or variable frequency drives.



Reliability

Robust and safe operation - Automatic overload protection, reliable shaftseal design.



Reassurance

Peace of mind - Industry proven, with a large installed base.

AGMA

Technical data

	Units	EH250	EH500	EH1200	EH2600	EH4200
Displacement 50 Hz	m ³ h ⁻¹ /cfm	310/185	505/300	1195/715	2590/1525	4140/2440
Displacement 60 Hz	m ³ h ⁻¹ /cfm	375/220	605/335	1435/845	3110/1830	4985/2935
Inlet connection		ISO63	ISO100	ISO160	ISO160	ISO250
Outlet connection						
Pressure differential across pump 50 Hz	mbar/torr	0-180/0-140	0-110/0-83	0-90/0-68	0-120/0-90	0-70/0-52
Pressure differential across pump 60 Hz	mbar/torr	0-150/0-115	0-90/0-68	0-75/0-56	0-67/0-50	0-50/0-38
Weight	kg/lb	69/152	106/233	149/328	401/882	481/1058
Dimensions (L, W, H)	mm	705, 305, 272	791, 305, 265	953, 380, 334	1156, 522, 479	1336, 522, 479
Motor Power 50 Hz	kW/hp	2.2/3	2.2/3	3.0/4	11.0/15	11.0/15
Motor Power 60 Hz	kW/hp	2.2/3	2.2/3	3.0/4	11.0/15	11.0/15
Oil capacity gear case	litre	N/A	N/A	1.25	3.5	3.5
Oil capacity coupling cover	litre	1.5	1.5	2.4	6.5	6.5
Oil capacity shaft seal reservoir	litre	0.125	0.125	0.125	0.15	0.15
Water cooling req	lhr ¹ /gal min ⁻¹	N/A air cooled	N/A air cooled	120/0.53	250/1.1	250/1.1
Recommended oil		Ultragrade® 20 Fomblin® Y16/6	Ultragrade® 20 Fomblin® Y16/6	Ultragrade® 20 Fomblin® Y16/6	Ultragrade® 20 Fomblin® Y16/6	Ultragrade® 20 Fomblin® Y16/6

Ordering information

Oil type	Voltage	EH250	EH500	EH1200	EH2600	EH4200
"Hydrocarbon oil (Oil supplied with pump)"	200V 50HZ IE3	A30105934	A30205934	A30505934	A30705934	A30905934
	380-400V 50HZ IE3	A30105945	A30205945	A30505945	A30705945	A30905945
	200V 60HZ, 380V 60HZ IE3	A30106934	A30206934	A30506934	A30706934	A30906934
	230 / 460V 60HZ IE3	A30106946	A30206946	A30506946	A30706946	A30906946
PFPE Prepared FX (Oil to be ordered separately)	200V 50HZ IE3	A30107934	A30207934	A30507934	A30707934	A30907934
	380-400V 50HZ IE3	A30107945	A30207945	A30507945	A30707945	A30907945
	200V 60HZ, 380V 60HZ IE3	A30108934	A30208934	A30508934	A30708934	A30908934
	230 / 460V 60HZ IE3	A30108946	A30208946	A30508946	A30708946	A30908946

For Chemical, ATEX versions, contact Edwards

Applications

- Semiconductor processing
- Vacuum distillation
- Vacuum packaging
- Steel degassing
- Thin film coating
- Vacuum metallurgy
- Low density wind tunnels
- Space simulation
- Vacuum impregnation
- Oil drying and degassing
- Pharmaceutical freeze drying
- CO₂ lasers

GLOBAL CONTACTS

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HV 8000 - MECHANICAL BOOSTER PUMP

edwardsvacuum.com

HV8000 feature a rugged design for robust and reliable operation in very large scale processes both in the industrial and chemical markets.



Performance

Stable process for consistent output - Suitable for continuous operation over wide pressure ranges.



Adaptability

Easy integration and safe - Optional water cooled exhaust gas after cooler, shaft seal safety purge, temperature monitoring and VFD available.



Reliability

No unplanned downtime - High performance water cooled mechanical shaft seal, large diameter shaft and large helical gears.



Flexibility

Configured to your needs - Can be supplied with standard motor or without motor to allow a local motor to be fitted. Horizontal or vertical flow to suit application and system design.

Technical Data

	Units	HV8000
Displacement 50 Hz	m ³ h ⁻¹ /CFM	7200/4241
Displacement 60 Hz	m ³ h ⁻¹ /CFM	8640/5089
Inlet/outlet connection		10" class 150 ASME B16.5
Inlet/outlet cooling water connection		Rp 1/2 ISO 7-1 (1/2 BSP)
End cover purge gas inlet		Rp 3/8 ISO 7-1 (3/8 BSP)
Pressure differential across pump 50 Hz	mbar/torr	190/143
Pressure differential across pump 60 Hz	mbar/torr	120/90
Max cooling water supply pressure	bar/psi	4.0/58
Max cooling water supply temp	°C/F	35/95
Cooling water flow rate	lmin ⁻¹ /US gal min ⁻¹	15/3.96
Noise level	dB(A)	82
Weight (without motor)	kg/lb	580/1279
Weight (with standard motor) kg	kg/lb	720/1587
Motor Power 50Hz	kW/hp	15/20
Motor Power 60Hz	kW/hp	18.5/25
Oil capacity (vertical gas flow)	litre/gal	8.3/2.18
Dimensions Horizontal flow L x W x H	mm	1737 x 530 x 820
Dimensions Vertical flow L x W x H	mm	1737 x 670 x 638

Ordering information

Product Description	Part Number
HV8000 VF 400 V 50 Hz 230/460 V 60 Hz 18.5 kW BOOSTER	A311-03-940
HV8000 VF 200 V 50 Hz 200/380 V 60 Hz 18.5 kW BOOSTER	A311-03-934
HV8000 VF BARESHAFT BOOSTER	A311-01-985
HV8000 HF 380/400 V 50 Hz 230/460 V 60 Hz 18.5 kW BOOSTER	A311-04-940
HV8000 HF 200 V 50 Hz 200/380 V 60 Hz 18.5 kW BOOSTER	A311-04-934
HV8000 HF BARESHAFT BOOSTER	A311-02-985

ATEX variants available on request

Applications

- Steel degassing
- Metallurgy
- Coating
- Process industry

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Ordering information

Part Number	Product Description	Part Number	Product Description
900607MHR934	607 MHR IE3 ASIA 50/60HZ	90061B5HR940	61B 5HR IE3 EU/US/CN 50/60HZ
900607MHR940	607 MHR IE3 EU/US/CN 50/60HZ	90061B5HR934	61B 5HR IE3 ASIA 50/60HZ
900607MVR934	607 MVR IE3 ASIA 50/60HZ	90061B5VR940	61B 5VR IE3 EU/US/CN 50/60HZ
900607MVR940	607 MVR IE3 EU/US/CN 50/60HZ	90061B5VR934	61B 5VR IE3 ASIA 50/60HZ
9006075HR940	607 5HR IE3 EU/US/CN 50/60HZ	900-61B-MVR	61B BP VGF Bare Shaft
9006075HR934	607 5HR IE3 ASIA 50/60HZ	900-61B-MHR	61B BP HGF Bare Shaft
9006075VR940	607 5VR IE3 EU/US/CN 50/60HZ	90061BMV10EE	61B BP VGF 10hp EE 230/460V 60Hz
9006075VR934	607 5VR IE3 ASIA 50/60HZ	90061BMV25EE	61B BP VGF 25hp EE 230/460V 60Hz
900-607-MVR	607MVR VGF Bare Shaft	90061B5V25EE	61B PIB BP VGF 25hp 230-460V 60Hz
900-607-MHR	607MHR HGD Bare Shaft	90061BMH10EE	61B BP HGF 10hp EE 230/460V 60Hz
900607MV05EE	607 VGF 5hp EE 230-460V 60Hz	90061BMH25EE	61B BP HGF 25hp EE 230/460V 60Hz
900607MV20EE	607 VGF 20hp EE 230-460V 60Hz	90061B5H25EE	61B PIB BP HGF 25hp 230-460V 60Hz
9006075V10EE	607 PIB VGF 10hp 230-460V 60Hz	90061BMHR934	61B MHR IE3 ASIA 50/60HZ
900607MH05EE	607 HGF 5hp EE 230-460V 60Hz	90061BMHR940	61B MHR IE3 EU/US/CN 50/60HZ
900607MH20EE	607 HGF 20hp EE 230-460V 60Hz	90061BMVR934	61B MVR IE3 ASIA 50/60HZ
9006075H10EE	607 PIB HGF 10hp 230-460V 60Hz	90061BMVR940	61B MVR IE3 EU/US/CN 50/60HZ
900615MHR934	615 MHR IE3 ASIA 50/60HZ	9006225HR940	622 5HR IE3 EU/US/CN 50/60HZ
900615MHR940	615 MHR IE3 EU/US/CN 50/60HZ	9006225HR934	622 5HR IE3 ASIA 50/60HZ
900615MVR934	615 MVR IE3 ASIA 50/60HZ	9006225VR940	622 5VR IE3 EU/US/CN 50/60HZ
900615MVR940	615 MVR IE3 EU/US/CN 50/60HZ	9006225VR934	622 5VR IE3 ASIA 50/60HZ
9006155HR940	615 5HR IE3 EU/US/CN 50/60HZ	900-622-MVR	622 VGF Bare Shaft
9006155HR934	615 5HR IE3 ASIA 50/60HZ	900-622-MHR	622 HGF Bare Shaft
9006155VR940	615 5VR IE3 EU/US/CN 50/60HZ	900622MV25EE	622 VGF 25hp 230-460 60Hz
9006155VR934	615 5VR IE3 ASIA 50/60HZ	9006225V25EE	622 PIB VGF 25hp 230-460 60Hz
900-615-MVR	615MVR VGF Bare Shaft	900622MH25EE	622 HGF 25hp 230-460V 60Hz
900-615-MHR	615MHR HGF Bare Shaft	9006225H25EE	622 PIB HGF 25hp 230-460V 60Hz
900615MV10EE	615 VGF 10hp EE 230-460V 60Hz	900622MHR934	622 MHR IE3 ASIA 50/60HZ
900615MV15EE	615 VGF 15hp EE 230-460V 60Hz	900622MHR940	622 MHR IE3 EU/US/CN 50/60HZ
9006155V15EE	615 PIB VGF 15hp EE 230-460V 60Hz	900622MVR934	622 MVR IE3 ASIA 50/60HZ
900615MH10EE	615 HGF 10hp EE 230-460V 60Hz	900622MVR940	622 MVR IE3 EU/US/CN 50/60HZ
900615MH15EE	615 HGF 15hp EE 230-460V 60Hz		
9006155H15EE	615 PIB HGF 15hp 230-460V 60Hz		

Note: for PFPE variants please contact Edwards

VGF - Vertical Gas Flow | HGF - Horizontal Gas Flow | EE - Energy Efficient Motor

Applications

- Automotive
- Chemical processing
- Heat treatment
- Leak detection
- Metallurgy
- PET processing
- Pharmaceuticals
- Thermal processing
- Transformer drying and cable fluid conditioning
- Vacuum coating
- Vacuum melting

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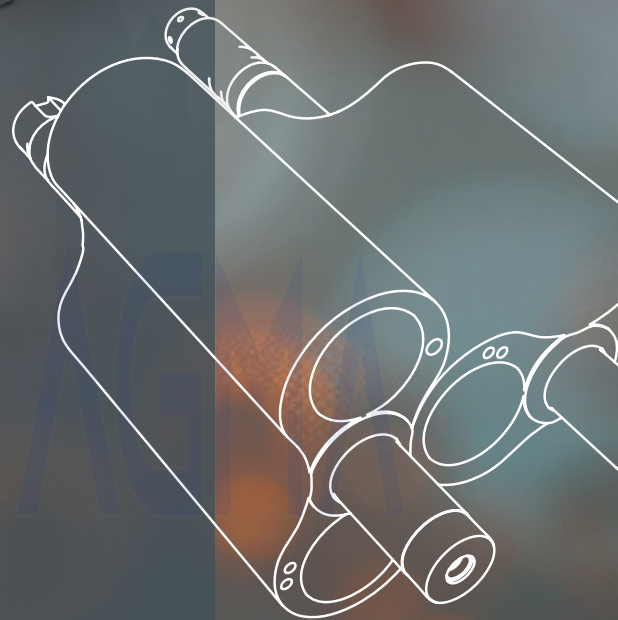
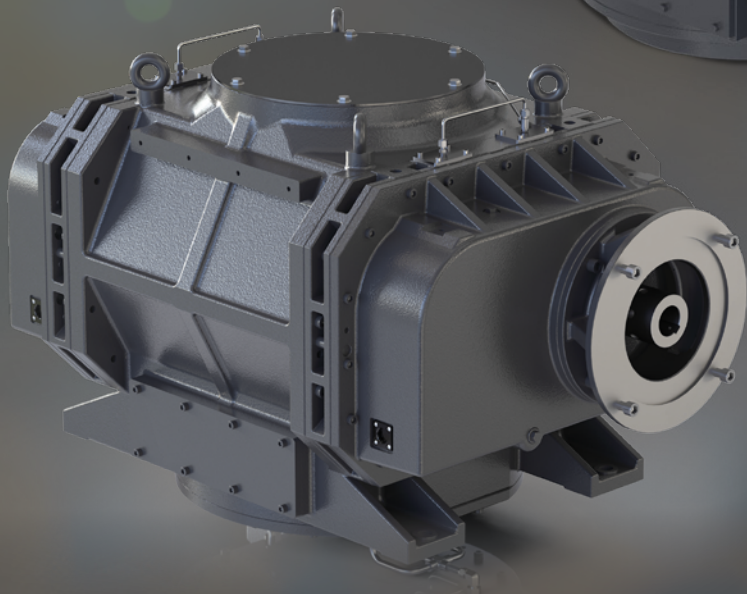
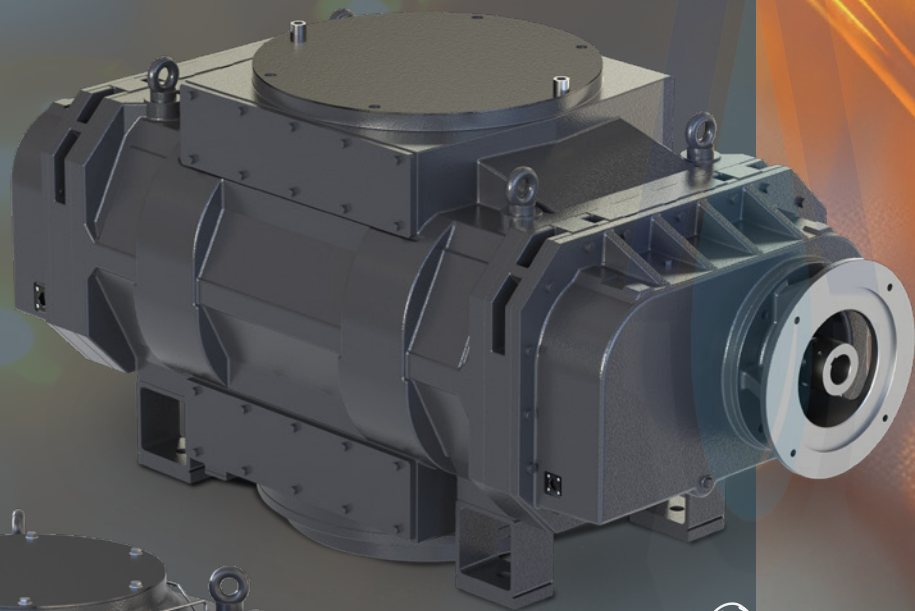
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GMB ROOTS VACUUM BOOSTER PUMPS

EDWARDS



HIGH CAPACITY ROOTS VACUUM BOOSTER PUMPS

The new Edwards GMB25-40K roots vacuum booster pumps designed for harsh applications feature an innovative composite rotor design of high-strength alloy-steel shafts. Equipped with lightweight rotor lobes, the patented construction safely enables higher running speeds while offering maximum displacement.

The small footprint and weight of the GMB25-40K roots pump ensures a high degree of flexibility when designing large vacuum systems. The GMB25-40K is scalable with multiple backing configurations available. Built to global standards IEC and NEMA flange compatibility. ATEX options are also available for hazardous or chemical applications.

Economical – low cost of ownership

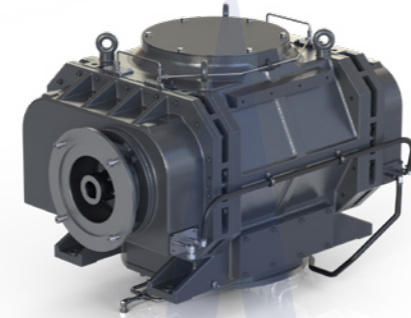
- Reduced installation costs: Small footprint and efficient design
- Increased efficiency: Low power consumption at vacuum
- Controllable vacuum: Ensures optimum process conditions

Flexible – multiple systemisation options

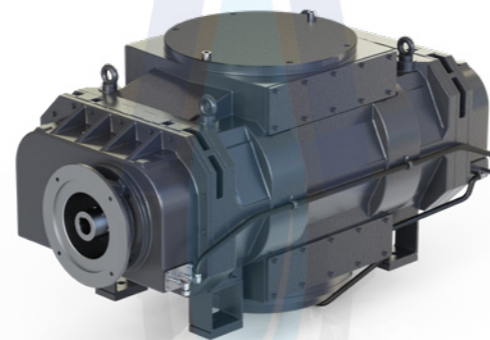
- Global standards: IEC and NEMA motor options
- Hazardous area options: ATEX / Class 1 Div 1 ready
- Systems engineering: Scalable technology with multiple backing configurations

Reliable – peace of mind for your process

- Robust: Designed for harsh applications
- Service: Minimal in situ service to maximise process uptime
- Increased safety: Ensures mechanical integrity during process malfunctions



GMB25K



GMB40K



APPLICATIONS

- Steel degassing
- Vacuum metallurgy
- Low density wind tunnels
- Space simulation
- Chemical process industries



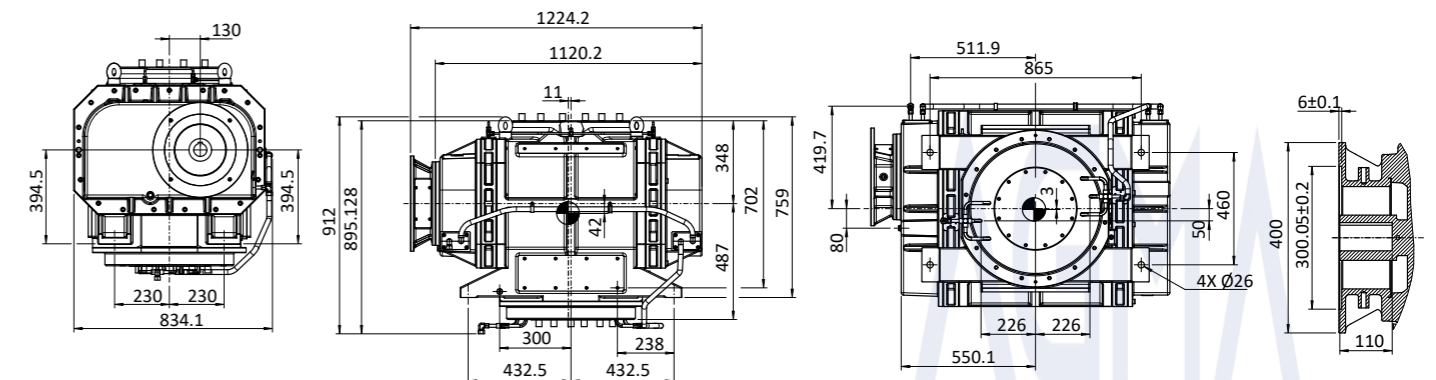
TECHNICAL SPECIFICATIONS

	Units	GMB25K	GMB40K
Displacement (swept volume) at 3,960 rpm	m ³ /hr (cfm)	25500 (15009)	44300 (26074)
Minimum backing capacity	m ³ /hr (cfm)	4500 (2649)	6500 (3825)
Maximum Δpressure across booster	mbar (torr)	30 (22.56)	25 (18.75)
Total input power at ultimate	kW (hp)	3.6 (4.8)	
Ultimate pressure	mbar (torr)	<0.01* (<0.008)	
Rotational speed	rpm (min)	540	
	rpm (max)	3960	
Motor power	kW (hp)	IEC – 30 (NEMA – 40)	
Vibration	mm s ⁻¹ (inch s ⁻¹)	<4 (<0.16)	
Cooling water connections		R1/2" female	
Cooling water temperature	°C (°F)	5 – 40 (41 – 104)	
Minimum cooling water flow (@max. temp.)	litres min ⁻¹ (US gal min ⁻¹)	10 (2.6)	
Minimum cooling water pressure drop	bar (psi)	1 (14.7)	
Seal purge connection, suitable for		1/4" outside diameter rigid tube	
Purge gas pressure	bar (psi)	0.3 – 0.5 (5 – 7)	
Purge gas flow (minimum)	slm	4	
Recommended lubrication type	Synthetic booster gear oil	Ultragrade 150	
Lubricant quantity	litres (US gal)	7 (1.85)	
Connection flanges	Inlet	DN350 PN6	DN500 PN6
	Outlet	ISO250	
Weight (without motor)	kg (lbs)	1400 (3086)	2088 (4603)
Ambient T	°C (°F)	-20 – 40 (-4 – 104)	

*With typical Edwards based backing pumps

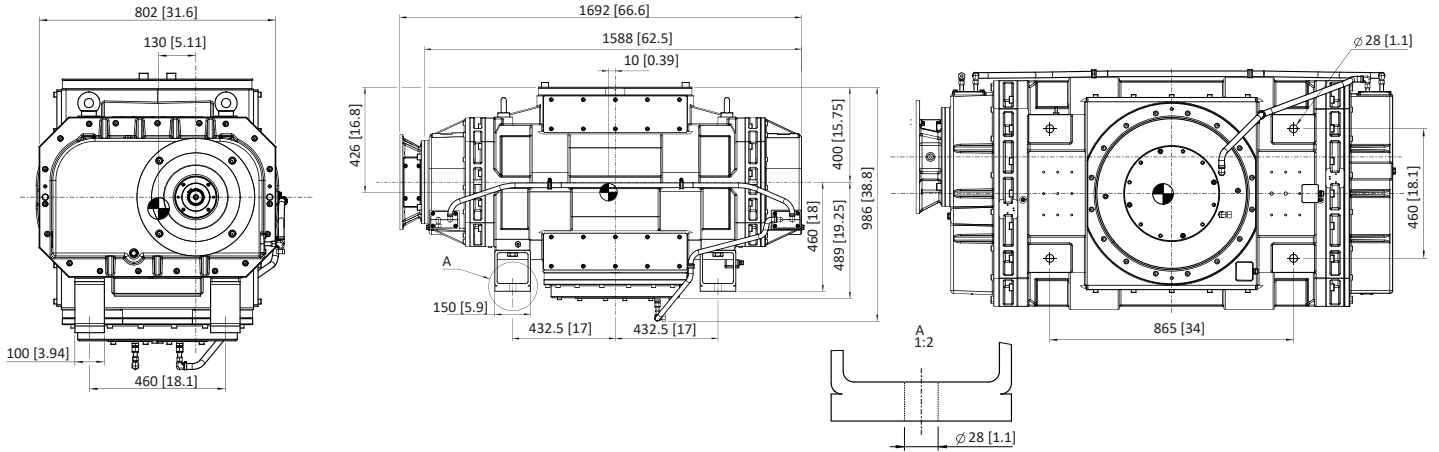
DIMENSIONS

GMB25K



DIMENSIONS

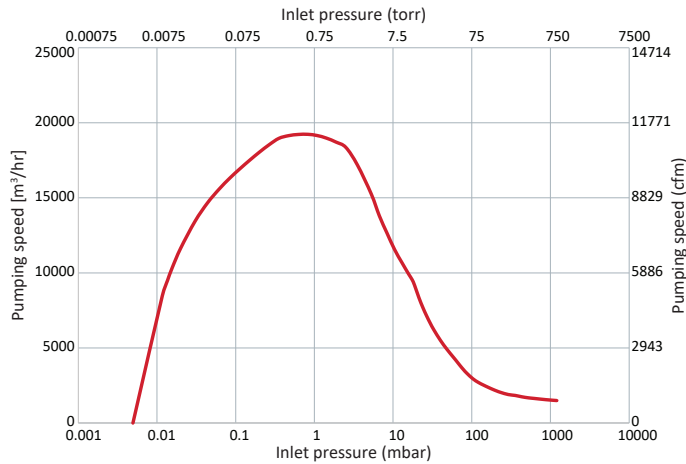
GMB40K



PERFORMANCE CURVES

GMB25K

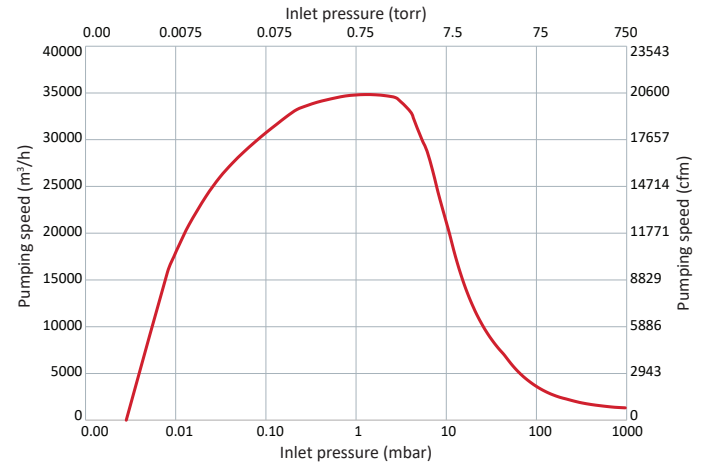
Typical pumping speed of GMB25K (as part of system)*



*With typical Edwards based backing pumps

GMB40K

Typical pumping speed of GMB40K (as part of system)*



*With typical Edwards based backing pumps

ORDERING INFORMATION

GMB25K Standard Pump

A30601985	GMB25K BS IEC SD
A30602985	GMB25K BS NEMA SD
A30605985	GMB25K BS IEC CPI
A30605986	GMB25K BS NEMA CPI

GMB25K ATEX Pump

A30603985	GMB25K BS ATEX Cat. 2 INT T2 IEC SD
A30603986	GMB25K BS ATEX Cat. 2 INT T2 NEMA SD
A30607985	GMB25K BS ATEX Cat. 2 INT-2EXT T3 IEC CPI
A30607986	GMB25K BS ATEX Cat. 2 INT-2EXT T3 NEMA CPI

GMB40K Standard Pump

A30801985	GMB40K BS IEC SD
A30802985	GMB40K BS NEMA SD
A30805985	GMB40K BS IEC CPI
A30805986	GMB40K BS NEMA CPI

GMB40K ATEX Pump

A30803985	GMB40K BS ATEX Cat. 2 INT T2 IEC SD
A30803986	GMB40K BS ATEX Cat. 2 INT T2 NEMA SD
A30807985	GMB40K BS ATEX Cat. 2 INT-2EXT T3 IEC CPI
A30807986	GMB40K BS ATEX Cat.2 INT-2EXT T3 NEMA CPI

