

BellissMorcom[®]

An Ingersoll Rand Business

Oil Free Reciprocating Compressors For PET Bottle Blowing

Maximise Efficiency & Lower Operating Costs



[REQUEST A QUOTE](#)

[Turn to a trusted manufacturer](#)

CONTENTS

BELLISS & MORCOM INTRODUCTION	3
THE BENEFITS OF BELLISS & MORCOM PET COMPRESSORS	4
UNIQUE TECHNOLOGY SOLUTIONS	5-6
VH PRODUCT OVERVIEW	7
WH PRODUCT OVERVIEW	8
BELLISS & MORCOM RANGE OF OPTIONS	9-10
CUSTOMISED SUPPORT AND CONTROLS	11-12
SERVICE NETWORK - AFTERMARKET	13
VH AND WH PRODUCT RANGE AND SPECIFICATIONS	14-15
SALES/DISTRIBUTION NETWORK	16



BELLISS & MORCOM WITHIN THE PET BOTTLING INDUSTRY

TRUSTED PARTNER IN PET

Belliss & Morcom have been designing and manufacturing high quality compressors since the mid 19th Century. We were there at the birth of the PET blow moulding sector in the late 1970s' and sold our first oil free compressor into the market in 1978, which is still running today. Since then we have worked with customers in delivering complete solutions that address their unique application challenges.

THE MOST EFFICIENT SOLUTION FOR PET BOTTLE BLOWING

Belliss & Morcom have the ability to fully understand our customers specific requirements to ensure that we provide intelligent solutions and the lowest cost of ownership.

EVERY DETAIL MATTERS

We provide every customer and application with a high level of focus and we have learnt that every detail matters in obtaining a successful and efficient installation. This focus has led us to deliver a range of compressors that provide market leading efficiencies and air quality along with options for maintaining and managing these efficiency gains.

[LEARN MORE](#)



THE BENEFITS OF BELLISS & MORCOM PET COMPRESSORS

The Belliss & Morcom range of compressors have been developed based on our extensive experience of working with customers in the PET application industry for more than 40 years. The resulting compressors allow PET bottle producers to deliver quality products while maximising their ROI (Return On Investment).



LOW ENERGY USE AND MAXIMISED EFFICIENCY

The direct drive shaftless motor used on our compressors maximises the efficiency of the power input and offers market leading volumetric flow / kW figures. **These motors can offer up to a 12% efficiency gain over belt drives which can lead to large savings per annum.** The compressors also offer a highly efficient 50% load capability, which also assists in reducing the (kW) power consumption for the output flow required.



APPLICATIONS AND SERVICE SUPPORT

Belliss & Morcom is part of the Ingersoll Rand group and with their extensive experience and network of skilled and certified service engineers they have the ability to support any application requests and ongoing installation support requirements.



MAXIMUM UPTIME

Our shaftless motor design eliminates wear associated with belt drives. **Cylinders are in a V and W configuration which reduces the load and associated wear on piston rings by ~30% compared to horizontal designs.**



REDUCED TOTAL COST OF OWNERSHIP

Along with reduced service requirements around motors, piston (rings) and cylinders, we also strongly focus on material selection for all components. **All selected materials have gone through extensive analysis to ensure they have service lives which safely exceed recommended service intervals.**



FLEXIBILITY IN MEETING UNIQUE APPLICATION NEEDS

Our extensive range offers a variety of output flow rates that can match typical applications. However given our experience and customer focus, we can also go beyond this by offering customised solutions around pressure, flow rates and layouts.



SMALL COMPACT FOOTPRINT

All Belliss & Morcom compressors are dynamically balanced, therefore removing the need to install any special and expensive structural foundations. The compressor room floor simply needs to carry the static weight of the compressor and ancillary equipment.

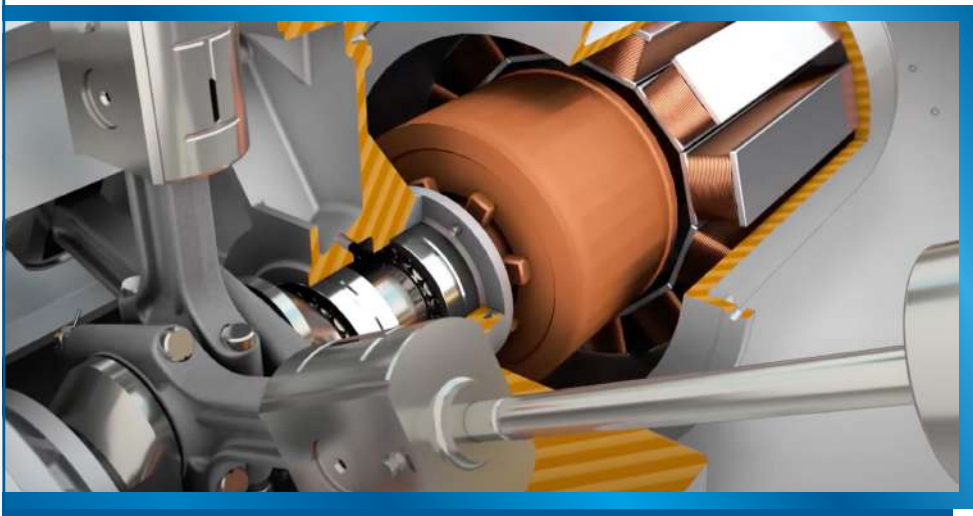


HIGH QUALITY PURE AIR

All the compressors in the range are oil free and have been independently tested and verified by TUV in Germany as delivering air in the **'Class 0'** category as defined within the **ISO 8573-1 standard.**

UNIQUE TECHNOLOGY SOLUTIONS

The Belliss & Morcom compressor range offers a variety of innovative and patented technology solutions which have evolved in line with the increasing demands and challenges within the PET sector. Our design engineers have worked closely with customers to ensure technical solutions deliver real and unique value for bottle blowing applications in the PET arena.



Shaftless Motor

Our compressor range incorporates a shaftless motor which means the rotor is keyed directly to the compressor shaft. The unique shaftless motor design offers **unrivalled efficiency** with no belts which can require tensioning and regular replacement. There is no need for coupling checks and the design eliminates the requirement for regular maintenance while offering ~100% efficient power transmission.



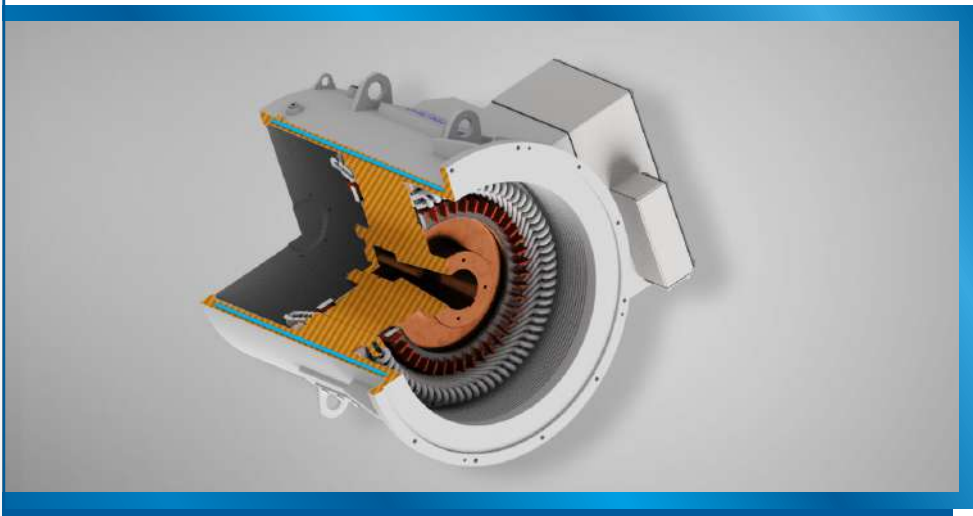
V & W Design

The cylinders are designed with a 45 or 60 degree incline which allows for the ability to dynamically balance these units and **virtually eliminate external vibrations**. This also greatly reduces the static piston ring loading by up to ~30% compared with horizontal cylinder liners. It means less wear and completely eliminates the need for interim turning of either compression or bearing rings.

[LEARN MORE](#)

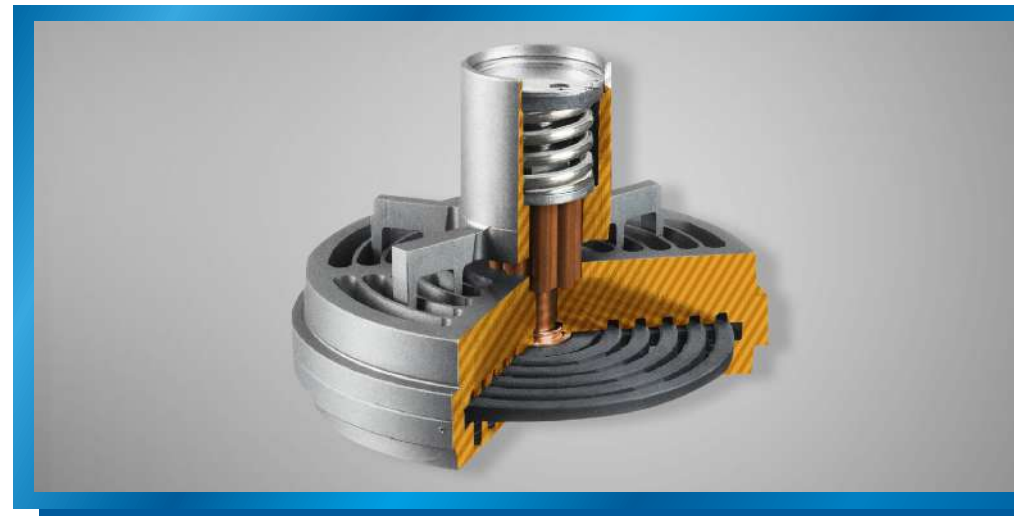
UNIQUE TECHNOLOGY SOLUTIONS

The Belliss & Morcom compressor range offers a variety of innovative and patented technology solutions which have evolved in line with the increasing demands and challenges within the PET sector. Our design engineers have worked closely with customers to ensure technical solutions deliver real and unique value for bottle blowing applications in the PET arena.



Water Cooled Motors

Our water-cooled motors are designed for harsh environments such as high altitudes, and extreme temperatures where dust is present and ventilation is limited. They offer **heat reduction, low noise and virtually eliminate maintenance compared to alternatives.**



High Efficiency Valves

Valves in the range have a unique design and carefully selected material that is in line with the requirements of high pressure applications. They offer greater robustness across a wide range of temperatures. Through extensive testing they have been shown to offer up to **40% reduction in valve losses, and up to 12% savings in electrical energy and much longer service life.**

[LEARN MORE](#)

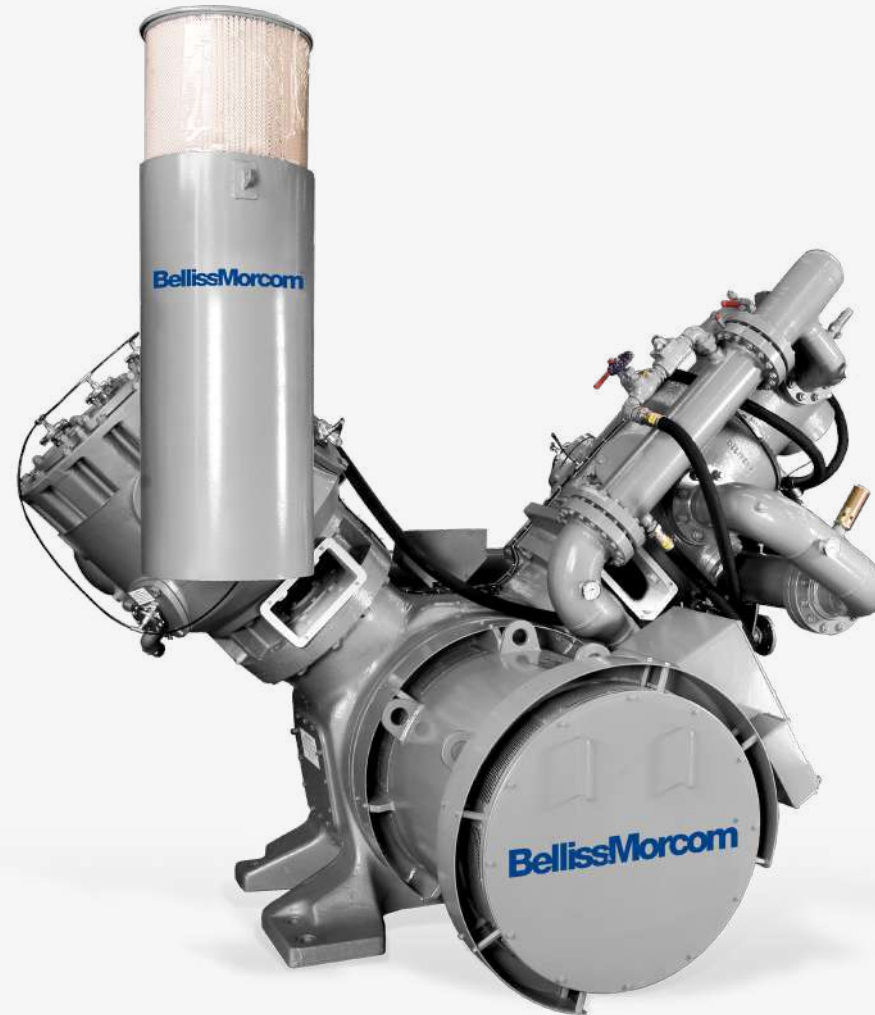
VH COMPRESSOR

The Belliss & Morcom VH range of compressors offer a neatly arranged compressor system which provides maximum oil free capacity in the smallest available footprint. They are offered in a V configuration which has inclined cylinders which are set at 60 degrees to the horizontal. This arrangement optimises the balance and greatly extends component life while reducing maintenance costs.



Performance Summary

- 420 to 1500 m³/hr @ 40 barg / 247 to 882 cfm @ 580 PSIG
- 75 to 242 kW / 101 to 325 HP
- Direct zero drive loss “shaft less” motor
- Oil Free
- Water cooled
- 3 stage compression
- Capacity control: 0 to 50% to 100%
- Maximum speed options available from 590 to 985 rpm
- Fully balanced operation



WH COMPRESSOR

The Belliss & Morcom WH range of compressors offer higher volumes of oil free air utilizing energy efficient equipment and components. The double acting design provides greater flexibility in capacity control and lower power consumption. This unique design includes a three step capacity control with the piston compressing air on the up stroke as well as on the down. This type of capacity control allows our customers to save energy and money.

Performance Summary

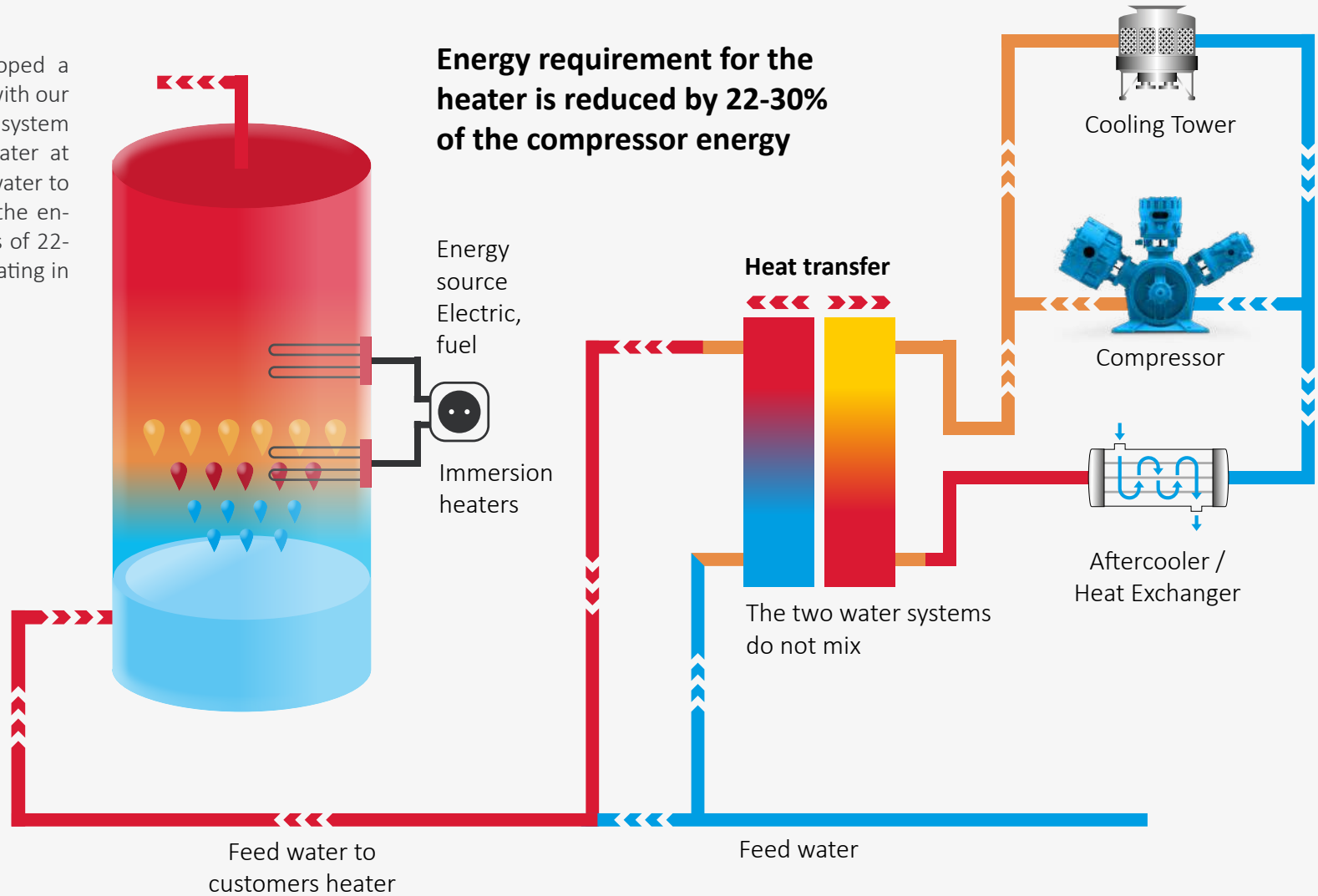
- 1680 to 3200 m³/hr @ 40 barg / 989 to 1883 cfm @ 580 PSIG
- 258 to 505 kW / 346 to 677 HP
- Direct zero drive loss "shaft less" motor
- Oil Free
- Water cooled
- 3 stage compression
- Capacity control: 0 to 50% to 100%
- Maximum speed of 735 rpm
- Fully balanced operation



BELLISS & MORCOM RANGE OF OPTIONS

HEAT RECOVERY

Belliss & Morcom have developed a Heat Recovery System to work with our PET compressors. The cooling system can be modified to provide water at around 80°C, to pre-heat feed water to the heating systems, reducing the energy load and delivering savings of 22-30% of the compressor motor rating in kW.

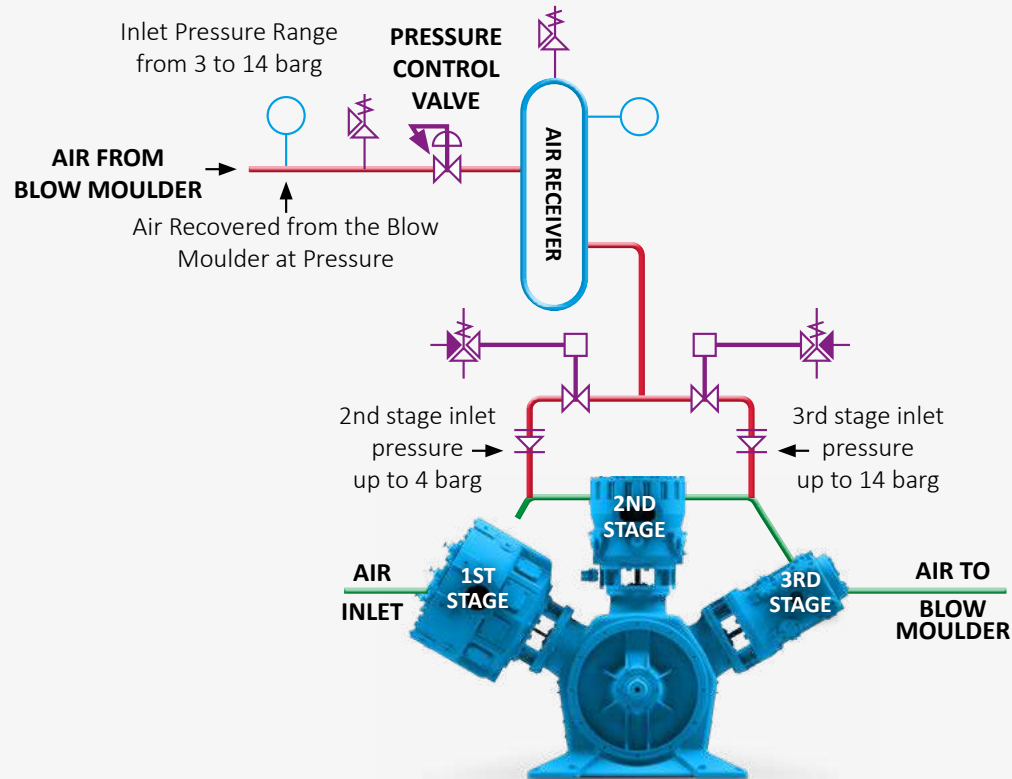


BELLISS & MORCOM RANGE OF OPTIONS

AIR RECOVERY

The air recovery system is designed to accommodate returned pressure from the blow moulding machines that can be 'recycled' back through the compressor. Benefits include:

- Reduction in compressor energy consumption
- Easily installed to existing installation
- Can be used to supplement LP air requirements



Variable Speed Drives (VSD)

Variable speed drives offer the flexibility to alter output based on demand requirements. Our VSD units offer a variety of benefits including:

- Reduced energy costs
- Variable capacity control – 30% to 100%
- Improved efficiency and power factor
- Extended component life

AirPET Intelligent Multi Compressor Systems

On a multi compressor network, the AirPET control system provides accurate control of network pressure, offering several benefits over other control methods. Features and benefits of the system include:

Features

- Powerful data trending for effective plant management
- Internet connection for remote monitoring
- Can monitor up to 30 compressors

Benefits

- Reduces energy costs by reducing compressor off-load time
- AirPRESSURE control of main line within +/- 0.5 barg
- AirPREDICT allows compressor to be online before demand is required
- AirSAVE allows the compressor to be switched off at week-ends or on non production shifts

CUSTOMISED SUPPORT AND CONTROLS

CUSTOMISATION

The VH & WH range of compressors are offered with a range of standard control, air receivers and filters which meet a variety of applications. However complete packages can be customised to meet your particular application requirements.

All our ranges can be installed as floor mounted compressors with all ancillary equipment fixed on a baseplate, complete with all interconnecting pipework and electrical wiring, with options for acoustic enclosures.

ENERGY AUDITS

In order to reduce energy costs and CO2 emissions, Belliss & Morcom offer audits tailored to suit your specific needs. Energy audits are performed by our team of dedicated experts. Please contact us for more details.

VH & WH SERIES PACKAGES

The compressors are supplied with an integral direct-drive motor and do not require any additional base structure. The VH & WH Series compressors are typically provided with the essential ancillary items such as: starter, control panel with PLC logic systems, air dryer, air receiver, drain traps and pressure relief valves.



CUSTOMISED SUPPORT AND CONTROLS

TURN-KEY INSTALLATION, COMMISSIONING AND TRAINING

Correct installation is essential in providing long-term compressor reliability. Belliss & Morcom provides full turn-key solutions from initial site surveys through to design, installation and final commissioning. Our fully qualified engineers assess all critical factors such as location, radiated heat, noise and air inlet conditions to ensure the complete compressor installation functions reliably whatever the environment.

COMPRESSOR CONTROL

The system uses a pressure transducer to continually monitor air pressure and will load/unload depending upon the differential set point which is adjustable from the HMI. The system also features a light run shut down facility which automatically shuts down the compressor after 15 minutes with no load running. The unit automatically starts if demand for air increases.

The control unit offers a user intuitive interface which allows access to a variety of parameters including:

- Operating pressure
- Running and load status
- Indication of total run hours including breakdown of number of half and full loads
- Total number of starts
- Hours since last service



CUSTOMER FOCUSED AFTERMARKET SOLUTIONS

Protect your investment with confidence

All parts used on our compressors have gone through comprehensive design and material selection to match the desired performance characteristics. To ensure optimum compressor performance and reliability, only original and guaranteed Belliss & Morcom parts should be used.

Comprehensive parts stock holding

Stock holding around the globe means parts can be dispatched from our support centres within hours of order.

Aftermarket products and services

- Fixed cost preventative maintenance
- Compressor and component refurbishment
- Enhanced product upgrades
- On site commissioning and training
- Full turn-key installations
- Unrivalled product & technical support

Our commitment to your business

- 24 hours a day, 365 days a year support
- Extensive spare parts stock holding
- Experienced local product and technical support
- On site commissioning and training



Compressor Service Agreements

We offer fixed cost preventative maintenance programs for all Belliss & Morcom compressors, whatever their age. Our service programs ensure that your compressor(s) are properly maintained to ensure the highest level of performance, reliability and peace of mind.

Features include:

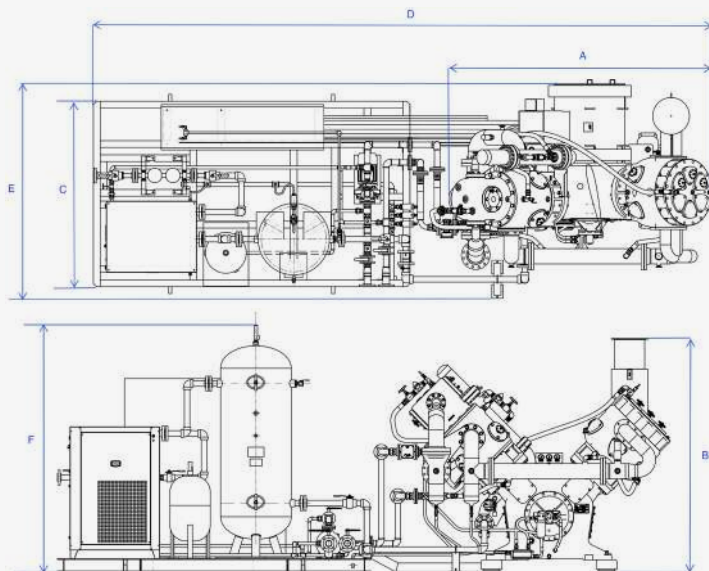
- Simple straightforward agreement with no hidden extra costs
- Unlimited servicing hours on the compressor
- 100% original spare parts with proven performance and reliability
- Scheduled maintenance by factory trained technicians

Benefits include:

- Parts stocked locally to minimise downtime
- Interactive and proactive compressor monitoring
- Elimination of unexpected costs
- Long term reliability and free expert user advice
- Only one service required each year which maximises up time

[LEARN MORE](#)

VH COMPRESSOR



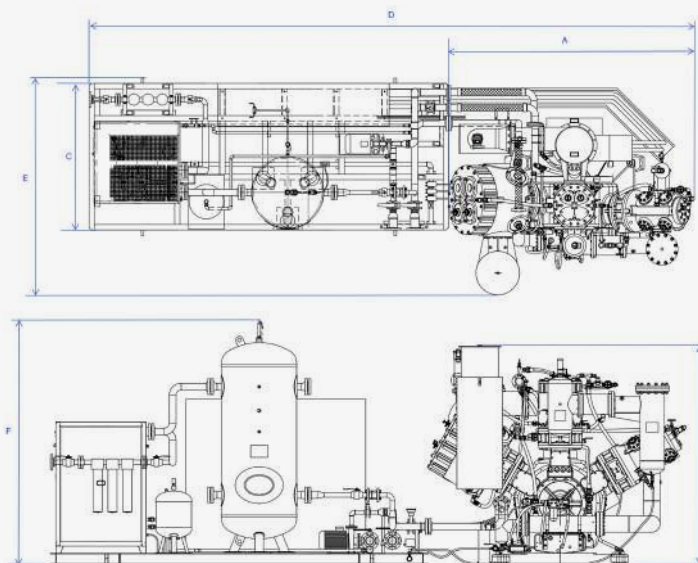
Model	A (mm) / (inch)*	B (mm) / (inch)*	C (mm) / (inch)*	D (mm) / (inch)*	E (mm) / (inch)*	F (mm) / (inch)*	Weight Comp. (Kg) / (lbs)*	Weight Skid (Kg) / (lbs)*
VH7	2350 / 93	1980 / 78	2050 / 81	5770 / 227	2395 / 94	2695 / 106	3875 / 8543	2350 / 5181
VH9	2350 / 93	1980 / 78	2050 / 81	5770 / 227	2395 / 94	2695 / 106	3875 / 8543	2350 / 5181
VH12	2950 / 116	2595 / 102	2050 / 81	6670 / 263	2595 / 102	2695 / 106	5160 / 11376	2400 / 5291
VH15	2950 / 116	2595 / 102	2050 / 81	6670 / 263	2220 / 87	2695 / 106	5160 / 11376	2400 / 5291
VH18	3025 / 119	2595 / 102	2050 / 81	6750 / 266	2320 / 91	2695 / 106	6345 / 13988	2500 / 5512
VH21	3025 / 119	2595 / 102	2050 / 81	6750 / 266	2320 / 91	2740 / 108	6345 / 13988	2500 / 5512
VH25	3025 / 119	2595 / 102	2050 / 81	6750 / 266	2320 / 91	1449 / 853	6800 / 14991	2500 / 5732

*Characteristic dimensions and weights based on a typical solution. Exact dimensions and weights will vary based on actual defined solution

	Model	50Hz				60Hz			
		Capacity FAD m ³ /hr/cfm	Delivery Pressure barg / psi(g)	Speed rpm	Shaft Power kW/HP	Capacity FAD m ³ /hr/cfm	Delivery Pressure barg / psi(g)	Speed rpm	Shaft Power kW/HP
Specifications 40bar / 580psi	VH7	420 / 247	40 / 580	735	75 / 101	406 / 239	40 / 580	710	72 / 97
	VH9	580 / 341	40 / 580	985	101 / 135	518 / 305	40 / 580	880	90 / 121
	VH12	729 / 429	40 / 580	590	116 / 156	729 / 429	40 / 580	585	116 / 156
	VH15	916 / 539	40 / 580	735	146 / 196	885 / 521	40 / 580	710	141 / 189
	VH18	1116 / 656	40 / 580	590	185 / 248	1116 / 657	40 / 580	585	185 / 249
	VH21	1402 / 825	40 / 580	735	227 / 304	1354 / 797	40 / 580	710	219 / 294
	VH25	1500 / 882	40 / 580	735	242 / 325	1449 / 853	40 / 580	710	234 / 314
Specifications 30bar / 435psi	VH7	423 / 249	30 / 435	735	70 / 94	409 / 241	30 / 435	710	68 / 91
	VH9	584 / 344	30 / 435	985	94 / 126	522 / 307	30 / 435	880	84 / 113
	VH12	734 / 432	30 / 435	590	108 / 145	734 / 432	30 / 435	585	108 / 145
	VH15	922 / 543	30 / 435	735	135 / 181	891 / 524	30 / 435	710	130 / 174
	VH18	1123 / 661	30 / 435	590	172 / 231	1123 / 661	30 / 435	585	172 / 231
	VH21	1411 / 830	30 / 435	735	211 / 283	1363 / 802	30 / 435	710	204 / 274
	VH25	1510 / 889	30 / 435	735	224 / 300	1459 / 859	30 / 435	710	216 / 290

Brochure data in line with ISO1217

WH COMPRESSOR



Model	A (mm) / (inch)*	B (mm) / (inch)*	C (mm) / (inch)*	D (mm) / (inch)*	E (mm) / (inch)*	F (mm) / (inch)*	Weight Comp. (Kg) / (lbs)*	Weight Skid (Kg) / (lbs)*
WH28	3275 / 129	2875 / 113	2050 / 81	7880 / 310	2920 / 115	2740 / 108	9900 / 21826	2900 / 6393
WH29	3275 / 129	2875 / 113	2050 / 81	7880 / 310	2920 / 115	2740 / 108	9900 / 21826	2900 / 6393
WH35	3500 / 138	3110 / 122	2050 / 81	8450 / 333	3075 / 121	3255 / 128	10410 / 22950	3000 / 6614
WH40	3500 / 138	3110 / 122	2050 / 81	8450 / 333	3075 / 121	3255 / 128	10410 / 22950	3000 / 6614
WH45	3400 / 134	3150 / 124	2050 / 81	7950 / 313	3370 / 133	3255 / 128	11500 / 25353	3600 / 7937
WH50	4000 / 157	3325 / 131	2050 / 81	9000 / 354	3205 / 126	3255 / 128	12000 / 25456	3600 / 7937

*Characteristic dimensions and weights based on a typical solution. Exact dimensions and weights will vary based on actual defined solution

	Model	50Hz				60Hz			
		Capacity FAD m ³ /hr/cfm	Delivery Pressure barg / psi(g)	Speed rpm	Shaft Power kW/HP	Capacity FAD m ³ /hr/cfm	Delivery Pressure barg / psi(g)	Speed rpm	Shaft Power kW/HP
Specifications 40bar / 580psi	WH28	1680 / 989	40 / 580	735	258 / 346	1622 / 954	40 / 580	710	249 / 334
	WH29	1800 / 1059	40 / 580	735	270 / 362	1738 / 1023	40 / 580	710	261 / 350
	WH35	2120 / 1248	40 / 580	735	330 / 443	2047 / 1205	40 / 580	710	319 / 428
	WH40	2300 / 1354	40 / 580	735	350 / 469	2222 / 1308	40 / 580	710	338 / 453
	WH45	2700 / 1589	40 / 580	735	437 / 586	2609 / 1536	40 / 580	710	422 / 566
	WH50	3200 / 1883	40 / 580	735	505 / 677	3091 / 1891	40 / 580	710	488 / 654
Specifications 30bar / 435psi	WH28	1691 / 995	30 / 435	735	239 / 321	1633 / 961	30 / 435	710	231 / 310
	WH29	1811 / 1066	30 / 435	735	250 / 335	1749 / 1029	30 / 435	710	241 / 323
	WH35	2133 / 1255	30 / 435	735	306 / 410	2060 / 1212	30 / 435	710	296 / 397
	WH40	2315 / 1363	30 / 435	735	325 / 436	2236 / 1316	30 / 435	710	314 / 421
	WH45	2717 / 1599	30 / 435	735	405 / 543	2625 / 1545	30 / 435	710	391 / 524
	WH50	3220 / 1895	30 / 435	735	468 / 628	3110 / 1830	30 / 435	710	452 / 606

Brochure data in line with ISO1217

SALES/DISTRIBUTION NETWORK

GLOBAL EXPERTISE

For more information about the Belliss & Morcom High Pressure compressor ranges please contact your local Belliss & Morcom Sales & Service Centre, or see below for details of our High Pressure Centre of Excellence.

BELLISS & MORCOM CENTRE OF EXCELLENCE

Belliss & Morcom main manufacturing and design centre is located in the UK at purpose built facility in Redditch.

Address and contact details are:

Claybrook Drive, Redditch,
Worcestershire, B98 0DS, UK

T: +44 (0) 1527 838 600,

F: +44 (0) 1527 838 630

E: highpressure@irco.com

WEBSITE

