

Catalogue  
High Pressure Air & Gas Compressors



# High Pressure Compressor Catalogue

**Belliss & Morcom**

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***GD***  
**COMPRESSORS**

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**Reavell**

**Gardner**  
**Denver**

Your Ultimate Source  
for Vacuum and Pressure

[www.gardnerdenver.com](http://www.gardnerdenver.com)

[highpressure@gardnerdenver.com](mailto:highpressure@gardnerdenver.com)

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## 5 VERY GOOD REASONS TO CHOOSE GARDNER DENVER AND ITS EXPERTS AS YOUR PARTNER FOR COMPRESSED AIR, VACUUM AND PRESSURE

1

### POWER TO INNOVATE

Anticipating tomorrow's market demands drives our product innovation and is essential to your and our success. We invest heavily in product development to secure our future and are proud to boast at having some of the most talented engineers in the industry.

We prefer to lead the market through innovation rather than following the rest.

2

### UNIQUE RANGE OF TECHNOLOGIES AT TOP QUALITY

The Gardner Denver performance envelopes shows the massive range our products cover which are second to none. Our focus is not on the quantity we sell, but on the quality we produce.

Only great products make it into our portfolio.

3

# **Gardner Denver**

## Your Ultimate Source for Vacuum and Pressure

This proud claim is the quintessence of what we have to offer: the largest product range in the industry and the biggest choice of technologies for both vacuum and pressure needs. Based on many decades of close partnership with our customers and their demands we have acquired an unrivalled application know-how and expertise.

But it is the people of Gardner Denver that make the difference. We work hard to establish and maintain strong relationships with our customers to gain their trust, respect and loyalty.

You can be sure you get the best product for your money. With peace of mind included.

### **GLOBAL EXPERTS**

We have a global network of well trained, experienced people able to professionally service all your compressed air, vacuum and pressure applications.

We love working with you.

**4**

### **LOW LIFE CYCLE COSTS**

Keeping your energy bill down is one of our major targets. We understand the complex needs of industrial manufacturing processes and aim to support you all the way. By understanding your real needs we are able to offer technically advanced, energy efficient products in a cost efficient solution.

**5**

### **AFTER SALES SUPPORT**

Once our products are installed and fully operational you can benefit from a range of aftermarket packages designed to give you complete peace of mind. Gardner Denver offer extended warranty, efficient service and maintenance programs plus a great choice of spares and accessories which will surpass your expectations.

# Belliss & Morcom

## GD COMPRESSORS

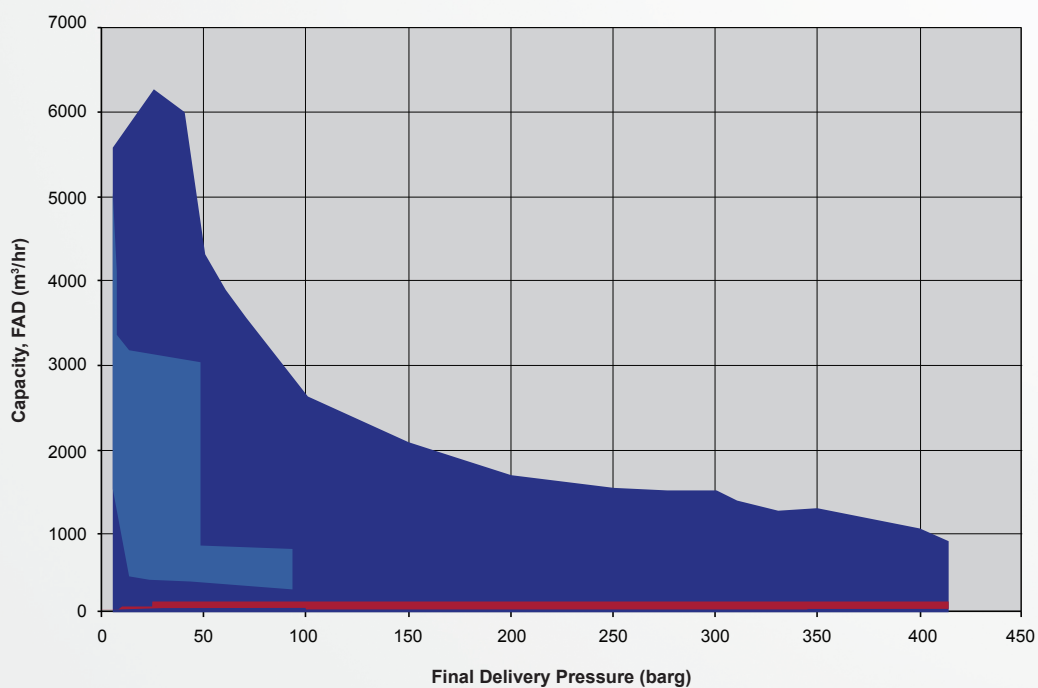
# Reavell

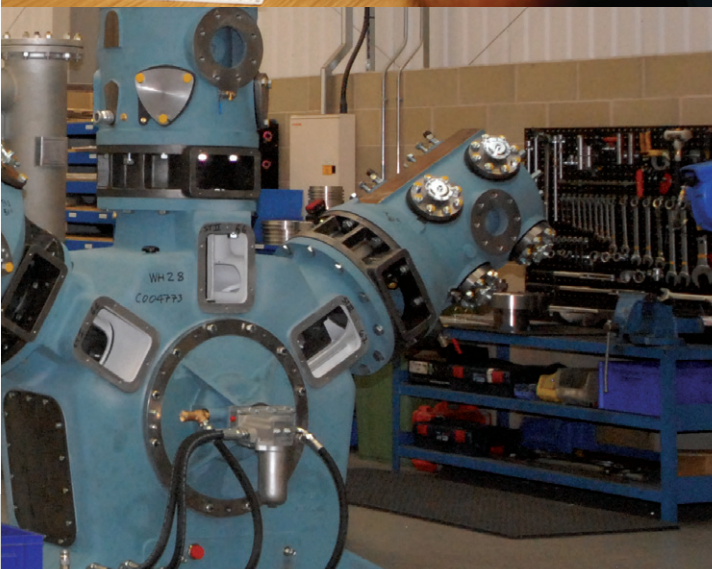
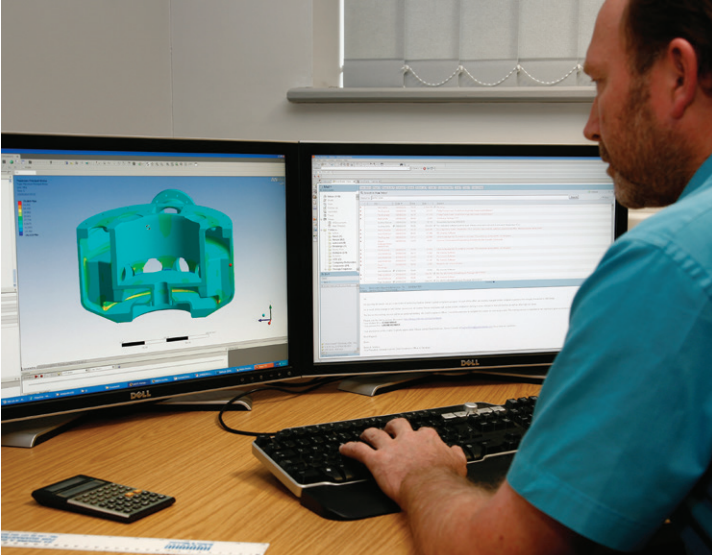
### THE HIGH PRESSURE BRANDS OF GARDNER DENVER

With the Belliss & Morcom, Reavell and GD Compressors brands, we have grown into one of the world's most respected organisations within high compression technology.

We build our future with total respect for our unique heritage and by demonstrating our passion for our global brands through technology leadership. Our team is professional, customer focused and leaders in their field ensuring you are equipped with exactly the right high pressure solution.

### HIGH PRESSURE COMPRESSORS PERFORMANCE ENVELOPE





## HIGH PRESSURE CENTRE OF EXCELLENCE

The High Pressure Centre of Excellence is based in Redditch, Worcestershire, UK, in a newly refurbished Technology Centre. Being centrally based in the UK gives an ideal location for servicing a global network of high pressure customers. The new facility has over 8,400 square metres of manufacturing and office space combined.

- **State-of-the-art product development**
- **A unique testing facility**
- **Streamlined production assembly cells**
- **Fast track production areas**
- **A dedicated area to manage custom engineered projects**

Investment has also been made in creating a class leading refurbishment centre. This centre will allow our customers to return compressors which have experienced long and arduous service for a much needed refurbishment, extending their active service life.

All of this makes Gardner Denver's High Pressure Centre of Excellence the perfect place to supply our global customers' unique high pressure needs.

## PURPOSE OF THIS CATALOGUE

The Gardner Denver High Pressure Catalogue is designed to act as a useful tool to help the reader understand how high pressure compressors operate, select the right compressor for a particular application and understand some of the essential performance factors behind high pressure air and gas systems allowing you to create a safe and reliable system.

The catalogue lists the Gardner Denver key industries and applications for high pressure, summary information on each of the high pressure brands, performance data in a standard format for each compressor block available from each of the high pressure brands. There is information on the our parts and service offering as well as a useful information which covers more of the engineering science behind high pressure.

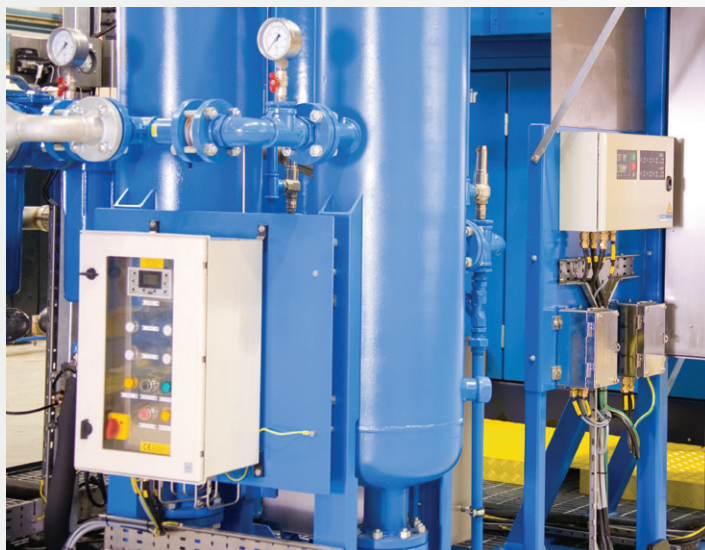
## HOW TO USE THIS CATALOGUE

This catalogue is intended for use by any person who may have regular involvement in specifying high pressure compressors. It is not designed to be left with customers or prospects who are considering buying a one off high pressure compressor.

The Gardner Denver High Pressure Solutions catalogue may also be used as a useful reference point for more detailed high pressure compressor enquiries, however, on occasion, there may be a requirement which needs escalating to the High Pressure Sales Team for further clarification.

Whilst the majority of information contained in this catalogue is focussed on the compressor block, it is essential that you understand the whole system in which the compressor will operate in to ensure the safe and efficient operation of the compressor.

On designing a high pressure air or gas system you should always consider reducing energy costs, improving the system reliability, increasing productivity and reducing unplanned downtime.



## INDUSTRIES & APPLICATIONS

Through our product range we service over 250 different applications for high pressure products in industry including PET, breathing air, power distribution and generation, and oil & gas to name but a few.



## INDUSTRIES & APPLICATIONS OVERVIEW

Introduction to Gardner Denver

For years Gardner Denver, through its high pressure brands, has developed compressor solutions for a wide range of applications across many different industry sectors.

Wherever there is a requirement for high pressure air or gas, Gardner Denver will be able to help. Our reciprocating compressors have been engineered to operate in the harshest of environments for the most strenuous applications.

Year-on-year we have developed our compressors for new applications. As production or process techniques evolve or high pressure air or gas requirements are identified, Gardner Denver's high pressure compressors have been developed to suit.

If you have a project where high pressure air or gas is required then Gardner Denver will be able to develop a compressor solution to suit your requirements.

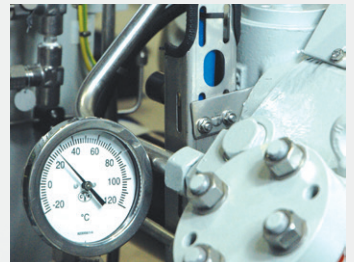


## INDUSTRIES & APPLICATIONS OVERVIEW

Through our product range we service over 250 different applications for high pressure products in the industries below:

- Aerospace
- Automotive
- Bio-gas
- Building / Construction
- Chemical / Pharmaceutical / Petrochemical
- Component testing
- Defence
- Diving
- Electronics
- Food & Beverage
- Glass & Ceramics
- Healthcare
- Leisure
- Marine
- Metal & Metallurgy
- Meteorological
- Mining
- Oil & Gas
- Packaging
- Plastic
- Power generation
- Power distribution
- Safety
- Universities / Research Institutes

For more information on our wide range of applications please contact your local sales and service centre.



## COMPRESSED NATURAL GAS – (CNG) – VEHICLE REFUELLING

With over 2,000 CNG compression units supplied worldwide, Gardner Denver is a global leader in the design, manufacture and installation of ready-to-run CNG refuelling stations, offering three decades of unrivalled engineering pedigree.

Our global team meets the needs of a diverse range of customers through a series of modular, ready-to-run packages based around the Gazpack range of air and water cooled reciprocating compression units.

The Gazpack series is designed to cover the full range of station types from pilot projects and small forklift fleets, through to high capacity public stations and large bus/truck refuelling depots. Designed for flexibility and ease of installation, the Gazpack series is available in a wide range of packaging options.

In addition to Gardner Denver's unrivalled knowledge base in compression solutions and reciprocating unit manufacture, the organisation can also support you with its extensive expertise in project management.

Our team of experienced project managers and engineers can advise on all aspects of this process, taking into account the station and fleet type as well as its proposed purpose, full volume, site limitations and budget.

Should you require a fast fill system for public forecourts or a time fill system for vehicles being left over night, our engineers can design a filling system to meet your needs, complete with a full range of ancillaries.

### KEY BENEFITS

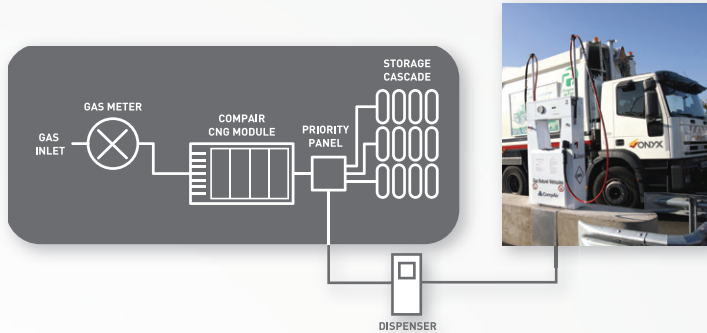
- Low operating costs
- Unrivalled cost of ownership
- Energy efficient
- Reliable in the most hostile environments



**TURNKEY SOLUTIONS & STATION DESIGN**

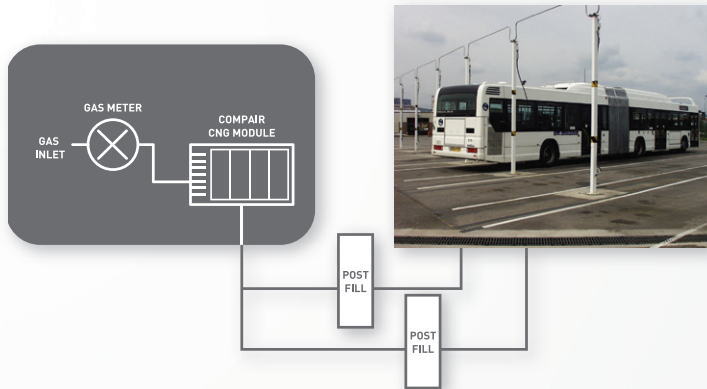
**FAST FILL**

Fast fill stations primarily utilise gas drawn from a storage element previously filled by the compression unit, rather than direct from the gas supply pipe. The speed of fill is comparable to petrol or diesel and is typically found on public forecourts. This method is always used where the exact volume of gas in each vehicle must be quantified.



**TIME FILL**

With time fill systems the vehicle is refuelled directly from the compressor without the need for storage cylinders. Refuelling is therefore slower and more suited for vehicles left overnight at a depot, such as buses. With time fill systems the quantity of fuel dispensed into each vehicle is not precisely measurable and therefore time fill is unsuitable for public refuelling stations.



## FOOD & BEVERAGE

Gardner Denver understand the key drivers for the food and beverage industry, ranging from lowest cost of ownership through to low power consumption. With these drivers in mind we ensure we provide solutions which meet these needs.

Our high pressure reciprocating compressors can provide lubricated air or gas through our Reavell and GD brands. Should your requirement be for oil free air then the Belliss & Morcom compression technology delivers the highest quality, oil free compressed air. This means no possibility of oil contamination in your process, meeting all air quality standards including Pure Air - ISO 8573-1.

We can combine our compressors with the latest in energy efficient motors, variable speed drives, air and gas recovery systems and advanced control systems to provide just the right amount of air or gas when you need it.

### KEY BENEFITS

- Low power consumption
- Small compact footprint
- High operating efficiency
- High quality oil free air
- Lowest cost of ownership

### HIGH PRESSURE APPLICATIONS FOR THE FOOD & BEVERAGE INDUSTRY:

- **Autoclaves** - Food sterilisation & cooking
- **Carbon Dioxide** - recovery off the brewing and soft drinks production process
- **Hydrogen** -
  - Sweetener products
  - Oils & fat hydrogenation
- **Nitrogen** -
  - Blanketing
  - Cleaning
  - Freeze drying
- **PET bottle blowing**
- **Air and Gas recovery systems**



**FOOD & BEVERAGE**

**AIR RECOVERY**

The Air Recovery System is designed to accommodate a returned pressure from the process that can be 'recycled' back through the compressor.

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

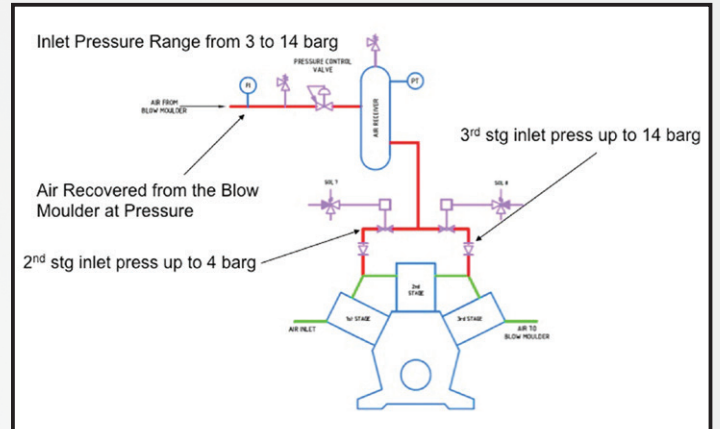
**HEAT RECOVERY**

Gardner Denver have developed a heat recovery system which works with the Belliss & Morcom compressors. It utilises the cooling water used to cool the compressor and the air during operation. Once the water has passed through the compressor it will be need cooling through a cooling tower built within the compressor system. The cooling water can also be used to provide water at temperatures up to 800 °C which allows the water to be used for heating systems. Typical savings can be as much as 22-30% of the compressor motor rating kW. For example a Belliss & Morcom WH40 compressor with a 400kW motor would provide energy reduction equivalent to 90kW.

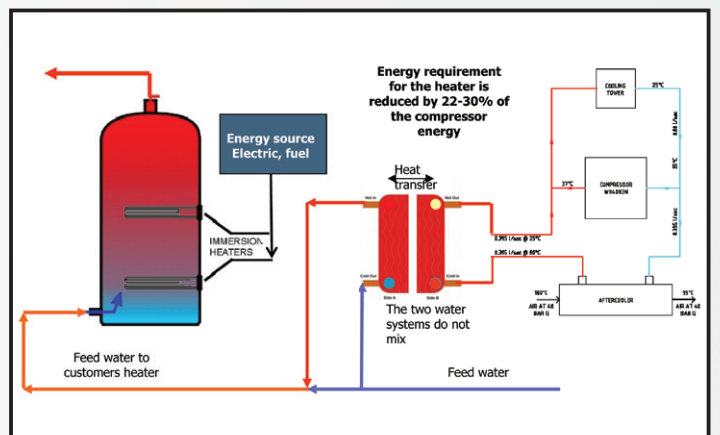
**ENERGY AUDITS**

In order to reduce energy costs and CO<sub>2</sub> emissions, Gardner Denver offer audits tailored to suit your specific needs by our team of dedicated experts.

For further information please contact your local sales and service centre.



Air Recovery



Heat Recovery



## OIL & GAS

The quality and engineering excellence built into each and every one of our high compression units is able to stand up to even the harshest and most hostile environments.

Right now, our systems are working on oil platforms miles from shore, in the remotest of locations, in the most extreme of temperatures found across the globe.

Gardner Denver designs, manufactures, commissions and services high pressure compressed air and gas systems for these specialist markets making Gardner Denver, through its high pressure compressor brands, synonymous with the highest standards of quality and long-term support capabilities.

Our unique range of seawater, freshwater, air or water cooled high pressure systems meet or exceed many international approval standards (e.g. ISO 9001, Lloyds Register, Det Norske Veritas, RINA and The American Bureau of Shipping).

Our research, development and engineering expertise give us an unrivalled flexibility in being able to configure specific high compression systems, tailor-made to your exact requirements.

### KEY BENEFITS

- Operate in harsh environments
- Fresh or sea water cooling options
- Small compressor footprint
- Experts in Heliox breathing systems



## OIL & GAS

### COILED TUBE DRILLING

Coiled tube drilling is an application used for revitalising oil wells. A tube is placed down to the bottom of the well, sometimes over 1KM down, along with “soaps”. The mixture of soaps and high pressure air or nitrogen fluidises the well bed. Debris, sand and sediment can become a heavy mixture in the bottom of the well and can restrict and in some cases stop the oil from flowing from the well. The soaps are injected into the well to soften the sand and sediment and when mixed with air or nitrogen can aerate the mixture and bring it to the surface.

On reaching the surface the mixture is removed and spread over the surrounding land. This mixture is rich in minerals such as titanium.

This process reinvigorates the well bed and allows the oil to flow freely again.

Reavell compressors are usually used for this application and the model may vary depending on the flow and pressure requirements of the oil fields. The compressors are usually mounted and installed as part of a packaged set on to the back of a flat bed truck to allow the unit to be easily transported around oil fields in different locations.



### HIGH PRESSURE APPLICATIONS FOR THE OIL & GAS INDUSTRY

- **Seismic Survey** – Providing high pressure air to power air guns for surveying the seabed
- **Offshore** –
  - Drill string compensation
  - Air and nitrogen drilling systems
  - Well head cleaning
  - Revitalising oil wells
- **Onshore** –
  - Air and nitrogen drilling systems
  - Well head cleaning
  - Revitalising oil wells
  - Coiled tube for oil well stimulation
- **Pipeline** –
  - Cleaning pipelines
  - Evacuation of gas from pipeline
  - Checking pipelines
  - Leak testing systems (air and helium)
- **Breathing air** –
  - Standard breathing air systems
  - Specialist heliox breathing systems for saturation diving
- **Control and general service air**



## MARINE

TMC understand the high pressure needs for marine applications and are committed to ensuring we provide intelligent solutions that meet your ultimate needs. The TMC high pressure reciprocating compressors can provide intelligent solutions that meet your ultimate needs.

Our unique range of seawater, freshwater, air or water cooled high pressure systems meet or exceed many international approval standards (e.g. ISO 9001, Lloyds Register, Det Norske, Veritas, RINA and the American Bureau of Shipping).

We know what your key drivers are, ranging from the highest possible pressures and flow from the smallest available footprint. No installation or requirement is the same and so our skilled engineers are able to configure the compressors to meet your specific needs.

### KEY BENEFITS

- Reliable in the most hostile environments
- Fresh or sea water cooling options
- Low operating costs
- Small compressor footprint



## SEISMIC SURVEY

In the continuing search for oil, geologists and geophysicists use a technique called reflection seismology to map the subsurface structure of rock formations. While these seismic surveys do not directly detect the presence of oil, they do allow geologists and geophysicists to distinguish the presence of structural traps that could potentially contain hydrocarbon and help to improve our knowledge of the earth's structure and content.

In marine survey, the seismic source is usually an air gun that uses bubbles of high pressure compressed air to generate seismic waves.

Compressed air at pressures up to 350 barg is fired in pulses from air guns at the area being surveyed. The air pulses then create shock waves that echo from the survey area. The echoes are picked up and analysed by sensitive electronic devices to provide data on the structure and content of the survey area.

Compressed air is the ideal medium for this application as it is a versatile and powerful energy source adaptable to all conditions and climatic variations; it is environmentally safe and does not damage marine life; it is clean, leaving no residual deposits after use; and is safe, inexhaustible and requires little storage capacity.



## HIGH PRESSURE APPLICATIONS FOR THE MARINE INDUSTRIES

- Starting air
- Emergency starting air
- Service air
- Breathing air
- Propulsion control
- Nitrogen - compensator systems
- Nitrogen - High pressure valve testing
- Air guns - sending a line between ships
- Thermal imaging - Cryogenic Cooling Systems
- Ballast control



## STANDARD BREATHING AIR

For over 50 years Gardner Denver has been the breathing air system supplier to fire and safety, recreational and professional divers, marine, offshore and defence industries across the globe.

Its reputation for safety, reliability, quality and service is recognised as its most valuable asset by safety professionals and divers who accept nothing less than total dependability.

With breathing air systems installed throughout the world, Gardner Denver's equipment combines leading technology and unsurpassed engineering excellence to deliver high quality breathing air you can rely on.

The Gardner Denver range of high pressure breathing air sets have earned their merits based on decades of performance in the breathing air market. Gardner Denver breathing air systems are designed, manufactured, tested and serviced to provide you with countless hours of continuous operation.

With internationally recognised quality certification and unrivalled focus on engineering excellence, Gardner Denver ensures a class-leading application.

The Gardner Denver range combines the latest technology, super silent running and efficient performance, together with simplicity of use.

### KEY BENEFITS

- Fast cylinder charge rates
- Low operating noise levels
- Easy to use
- Condition monitoring systems ensuring air quality



## SPECIALIST BREATHING AIR

### HELIOX

Gardner Denver's Reavell compressors are fast becoming the industry standard for specialist breathing air applications, such as Heliox.

Renowned for reliability and long operational life, Reavell units provide high quality compression on demand, even in the most arduous situations.

Designed and manufactured in the UK to the highest international standards, Reavell Heliox compressors are robust 4 stage water cooled compressors, complemented with a compact design that provides one of the smallest footprints on the market for comparable compressors.

Reavell Heliox compressors can be supplied as standalone compressors for use in existing installations or as a bespoke package designed to meet specific customer requirements. The compressors are suitable for transfer, reclaim or dedicated breathing air duty and have been designed to meet all major worldwide survey and certification requirements.

### ABOUT HELIOX

Helium comprises 25 percent of the elemental mass of the universe, making it the most abundant element after hydrogen, however minable quantities of helium are finite and declining. Even though the air we breathe consists of one part in 200,000 helium, commercial helium extraction requires much higher concentrations to be economically viable. The element is formed in radioactive decay processes that take place in the earth's crust and it cannot be synthesized. Helium's use in breathing atmospheres accounts for only about two percent of the commercial market. The relatively high cost of Helium means that many hyperbaric chambers, technical and saturation dives incorporate a reclamation system to recover up to 98% of the gas for re-use.

A heliox transfer system usually begins with separate sources of oxygen and helium, usually stored on shore but systems can be set up on board sea vessels or offshore rigs. When required the gases are transferred from the storage cylinders and put through a mixing chamber at the required ratio. This gas will then be delivered to a heliox transfer compressor at an inlet pressure of approximately 4 psig. The compressor receives a constant flow of this gas mixture, which is compressed and transferred into separate storage cylinders ready for use.



## AIR & GASES

Since the beginning of industrial processes, Gardner Denver's high pressure technology through its Belliss & Morcom, GD Compressor and Reavell brands have been the partner of choice for countless organisations worldwide.

Gardner Denver will offer you precisely the right air and gas compression system needed for your application, supplied from a wide range of standardised models or custom designed to meet a particular requirement, commissioned as a complete turnkey package or supplied as a minimum configuration, based on your needs.

### 1 CONTROL AND GENERAL SERVICE AIR

Whatever your requirements, Gardner Denver can supply a system from our range of reciprocating compression units which can be supplied as air or water cooled, lubricated or oil free packages.

Where the quality of the delivered air is vital Gardner Denver can provide a complete range of filters and dryers to meet all requirements.

In addition, Gardner Denver can supply control panels which allow users not only to control, but also monitor the compressor's performance via an electronic PLC card. This simple logic controller allows for the alteration of drain cycles and offers complete machine monitoring and protection.

## GAS RECOVERY SYSTEMS

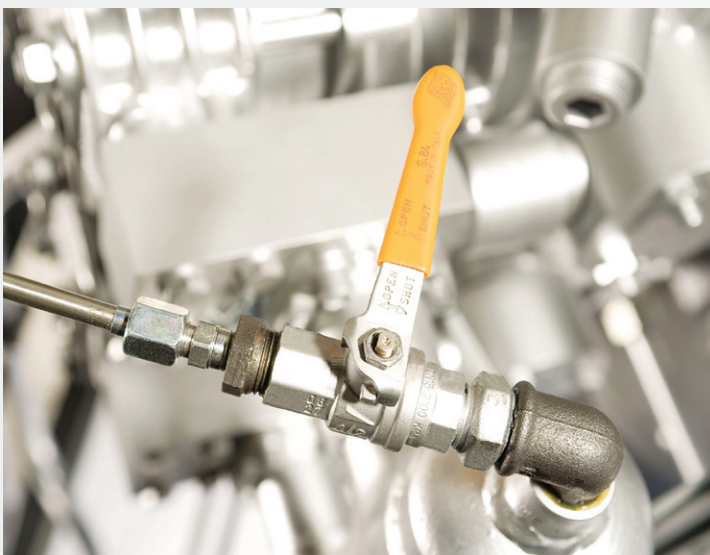
Buying gases in bulk for production or research processes can be expensive. Gardner Denver compressors can compress the gas to the required pressure ready for use or can be utilised for gas recovery, reducing wastage and purchasing costs.

## DOWN STREAM AND NITROGEN GENERATION SYSTEMS

Compressed air treatment is paramount in the ongoing fight against problems caused through contamination entering the air system, delivering uncompromising performance and reliability whilst providing the right balance of air quality with the lowest cost of operation and CO<sub>2</sub> emissions

This product range offers various products and technologies to provide peace of mind whatever the air quality requirement; water separators, filters, dryers and condensate management products can be combined to provide you with a tailored compressed air system built around your needs and those of the ISO air quality guidelines.

The addition of our nitrogen gas generators means that many systems can be adapted to provide a ready source of high purity nitrogen through on site generation saving up to 90% when compared with some traditional supply methods.



**AIR & GASES**

Managed Gases	Managed Gases With Limitations**		Unmanaged Gases
	Gas	Limitation	
Argon	Ammonia	10 parts per million (ppm)*	Acetylene - explosive
Bio-Gas	Hydrogen Chloride	10 ppm	Ammonia - corrosive
Carbon Dioxide	Hydrogen Fluoride	10 ppm	Caustic Potash - corrosive
Carbon Monoxide	Hydrogen Sulphide	10 ppm*	Caustic Soda - corrosive
Helium	Oxygen	21% maximum with inert gases	Chlorine - corrosive
Hydrogen	Potassium Hydroxide	10 mg/m <sup>3</sup>	Heavy hydrocarbons (e.g. Butane, Propane) - liquefy
Methane	Sodium Hydroxide	10 mg/m <sup>3</sup>	Oxygen - explosive
Natural gas			Refrigerant Gases - liquefy
Nitrogen			Hydrogen Sulphide - corrosive
Oxy-Helium mix			

\* Material changes may allow increase to 200 ppm in some cases, please contact your local Gardner Denver Sales & Service centre.  
 \*\*In certain instances there are mixes of these gases which can be managed if the volatile gas content is at a certain level in the gas mix.

For more information on specialist gases please refer to the Useful information section in this publication.



## CUSTOM ENGINEERED PROJECT [CEP]

For some industries and applications our standard product configurations are not the best solution for your needs. Our standard compressor blocks are easily configured and can be quickly adapted to meet your requirements by our team of highly skilled engineers. For these types of custom engineered projects we create the right project team which combines all skills you need for your application and provide the right solution first time.

We also have the knowledge and ability to design a solution utilising a combination of different compressor technologies such as linking a screw compressor to a piston compressor.

Our engineers and project managers work closely to design a bespoke solution which is safe and performs exactly how you want it.

It does not matter how complex your project is, how difficult the application, if it is possible from an engineering perspective then our engineers will find a way to provide a solution.

### KEY BENEFITS

- Experienced design engineers
- Excellent process and application understanding
- Adaptable and vast product range
- Dedicated CEP production cells



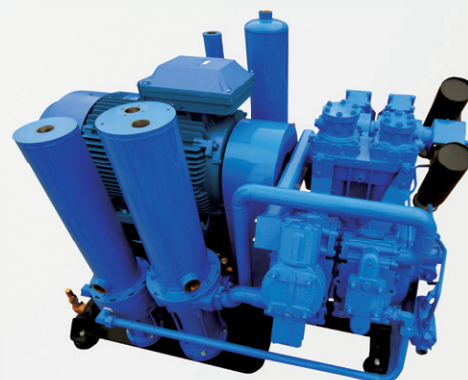
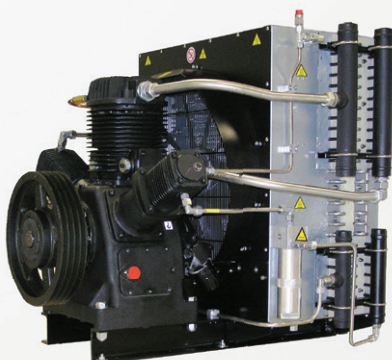
## QUICK REFERENCE

The quick reference section is designed to help you easily identify the compressor which will suit your requirements.

Each of the available high pressure compressors are presented in a series of tables, sorted in a variety of ways designed to help you quickly find the page within the catalogue which contains the compressor you are looking for.

The tables are sorted by:

- |                                |         |
|--------------------------------|---------|
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| Air cooled                     | 37      |
| Water cooled                   | 38 - 40 |
| • <b>Air &amp; Gas type</b>    | 41      |



## BELLISS & MORCOM COMPRESSORS

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Low Pressure 0 - 20 barg

V130-25-1N	2	3.5	755	1890	Oil Free	Water	Go to page 49
V250-20-1N	2	4	945	1846	Oil Free	Water	Go to page 49
V250-35-1N	2	4	1612	2490	Oil Free	Water	Go to page 49
V250-40-1N	2	4	2014	3081	Oil Free	Water	Go to page 50
V250-50-1N	2	4	2400	3666	Oil Free	Water	Go to page 50
W370-70-1N	2	4	3286	5028	Oil Free	Water	Go to page 50
V130-13-2N	6	15	375	870	Oil Free	Water	Go to page 53
V130-15-2N	5	10	426	945	Oil Free	Water	Go to page 53
V250-28-2N	4	10	1321	1729	Oil Free	Water	Go to page 53
V250-40-2N	5	10	1626	2144	Oil Free	Water	Go to page 53
W370-40-2N	5	10	1964	2521	Oil Free	Water	Go to page 53
W370-50-2N	5	10	2530	3323	Oil Free	Water	Go to page 53

### Medium Pressure 20 - 40 barg

V250-16-2N	10	20	728	996	Oil Free	Water	Go to page 54
V250-21-2N	10	20	860	1166	Oil Free	Water	Go to page 54
V250-23-2N	10	20	1089	1473	Oil Free	Water	Go to page 54
W370-32-2N	10	20	1511	2104	Oil Free	Water	Go to page 54
W370-45-2N	10	20	1924	2641	Oil Free	Water	Go to page 54
VH7	20	40	403	420	Oil Free	Water	Go to page 76
VH9	20	40	540	580	Oil Free	Water	Go to page 76
VH12	20	40	711	729	Oil Free	Water	Go to page 78
VH15	20	40	886	916	Oil Free	Water	Go to page 78
VH18	20	40	1074	1116	Oil Free	Water	Go to page 80
VH21	20	40	1338	1402	Oil Free	Water	Go to page 80
VH25	20	40	1470	1500	Oil Free	Water	Go to page 82
WH28	20	40	1566	1680	Oil Free	Water	Go to page 84
WH29	20	40	1737	1800	Oil Free	Water	Go to page 84
WH40	20	40	2226	2300	Oil Free	Water	Go to page 86
WH45	20	40	2168	2700	Oil Free	Water	Go to page 86
WH50	20	40	3045	3200	Oil Free	Water	Go to page 88

## BELLISS & MORCOM COMPRESSORS

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Intermediate Pressure 40 - 85 barg

V130-7-3N	20	40	403	425	Oil Free	Water	Go to page 56
V130-9-3N	20	40	540	570	Oil Free	Water	Go to page 56
V250-12-3N	20	45	711	730	Oil Free	Water	Go to page 58
V250-15-3N	20	45	886	910	Oil Free	Water	Go to page 58
V250-18-3N	20	45	1074	1098	Oil Free	Water	Go to page 60
V250-21-3N	20	45	1338	1368	Oil Free	Water	Go to page 60
V250-25-3N	20	45	1180	1506	Oil Free	Water	Go to page 62
W370-28-3N	20	45	1257	1619	Oil Free	Water	Go to page 64
W370-29-3N	20	45	1394	1783	Oil Free	Water	Go to page 64
W370-40-3N	20	45	1787	2292	Oil Free	Water	Go to page 66
W370-45-3N	20	45	2168	2778	Oil Free	Water	Go to page 66
W540-50-3N	20	45	2444	3045	Oil Free	Water	Go to page 68

### High Pressure 85 - 414 barg

V290-5-3N	50	90	290	370	Oil Free	Water	Go to page 70
V660-12-3N	50	90	543	710	Oil Free	Water	Go to page 72
V780-15-3N	50	90	711	990	Oil Free	Water	Go to page 74
V290-WN	50	90	290	327	Oil Free	Water	Go to page 90
V660-WN	50	90	543	710	Oil Free	Water	Go to page 92
V780-WN	50	90	795	990	Oil Free	Water	Go to page 94

## GD COMPRESSORS

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
<b>Low Pressure 0 - 20 barg</b>							
V5L-AL	1	8	3	9	Lubricated	Air	Go to page 98
<b>Intermediate Pressure 40 - 85 barg</b>							
V68M-AL	28	70	32	65	Lubricated	Air	Go to page 112
<b>High Pressure 85 - 414 barg</b>							
V5H-AL	69	345	3	4	Lubricated	Air	Go to page 100
V10H-AL	69	345	4	8	Lubricated	Air	Go to page 102
V14H-AL	100	345	9	11	Lubricated	Air	Go to page 104
V16H-AL	100	414	11	16	Lubricated	Air	Go to page 106
V22H-AL	100	414	12	23	Lubricated	Air	Go to page 108
V34H-AL	100	414	21	37	Lubricated	Air	Go to page 110
W70H-AL	100	414	34	70	Lubricated	Air	Go to page 114
W120-B1-AL	100	414	33	65	Lubricated	Air	Go to page 116
V130M-WL	25	100	63	135	Lubricated	Water	Go to page 118
V130H-WL	138	414	61	131	Lubricated	Water	Go to page 118

## REAVELL COMPRESSORS

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Medium Pressure 20 - 40 barg

H5204	16	40	3	7	Lubricated	Air	Go to page 122
H5205	16	50	6	16	Lubricated	Air	Go to page 124
H5207	16	40	12	28	Lubricated	Air	Go to page 126
H5209	16	40	24	43	Lubricated	Air	Go to page 128
H5211	20	45	24	63	Lubricated	Air	Go to page 130
H5212	10	35	22	64	Lubricated	Water	Go to page 132
H5213	16	31	27	67	Lubricated	Air	Go to page 134
H5217	10	40	51	153	Lubricated	Water	Go to page 136
H5236	10	40	184	313	Lubricated	Water	Go to page 138

### Intermediate Pressure 40 - 85 barg

H5307	40	80	15	28	Lubricated	Air	Go to page 140
H5309	40	80	23	44	Lubricated	Air	Go to page 142
H5317	40	85	27	67	Lubricated	Water	Go to page 144
H5337	40	85	69	159	Lubricated	Water	Go to page 146

### High Pressure 85 - 414 barg

H5404	85	350	5	8	Lubricated	Air	Go to page 148
H5405	85	350	7	11	Lubricated	Air	Go to page 150
H5405e	85	350	8	17	Lubricated	Air	Go to page 152
H5407	140	414	12	27	Lubricated	Air	Go to page 154
H5409	140	414	20	44	Lubricated	Air	Go to page 156
H5417	140	350	25	68	Lubricated	Water	Go to page 158
H5420	160	350	44	84	Lubricated	Water	Go to page 160
H5437	160	414	62	159	Lubricated	Water	Go to page 162
H5442	120	350	139	280	Lubricated	Water	Go to page 164
H5450	3	414	150	850	Lubricated	Air	Go to page 166
H5460	2	414	300	1600	Lubricated	Water	Go to page 168
H5470	3	414	300	1128	Lubricated	Air	Go to page 170

## LOW PRESSURE

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Low Pressure 0 - 20 barg

#### Belliss & Morcom

V130-25-1N	2	3.5	755	1890	Oil Free	Water	Go to page 49
V250-20-1N	2	4	945	1846	Oil Free	Water	Go to page 49
V250-35-1N	2	4	1612	2490	Oil Free	Water	Go to page 49
V250-40-1N	2	4	2014	3081	Oil Free	Water	Go to page 50
V250-50-1N	2	4	2400	3666	Oil Free	Water	Go to page 50
W370-70-1N	2	4	3286	5028	Oil Free	Water	Go to page 50
V130-13-2N	6	15	375	870	Oil Free	Water	Go to page 53
V130-15-2N	5	10	426	945	Oil Free	Water	Go to page 53
V250-28-2N	4	10	1321	1729	Oil Free	Water	Go to page 53
V250-40-2N	5	10	1626	2144	Oil Free	Water	Go to page 53
W370-40-2N	5	10	1964	2521	Oil Free	Water	Go to page 53
W370-50-2N	5	10	2530	3323	Oil Free	Water	Go to page 53

### Low Pressure 0 - 20 barg

#### GD Compressors

V5L-AL	1	8	3	9	Lubricated	Air	Go to page 98
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## MEDIUM PRESSURE

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Medium Pressure 20 - 40 barg

#### Belliss & Morcom

V250-16-2N	10	20	728	996	Oil Free	Water	Go to page 54
V250-21-2N	10	20	860	1166	Oil Free	Water	Go to page 54
V250-23-2N	10	20	1089	1473	Oil Free	Water	Go to page 54
W370-32-2N	10	20	1511	2104	Oil Free	Water	Go to page 54
W370-45-2N	10	20	1924	2641	Oil Free	Water	Go to page 54

### Medium Pressure 20 - 40 barg

#### Belliss & Morcom 50Hz

VH7	20	40	403	420	Oil Free	Water	Go to page 76
VH9	20	40	540	580	Oil Free	Water	Go to page 76
VH12	20	40	711	729	Oil Free	Water	Go to page 78
VH15	20	40	886	916	Oil Free	Water	Go to page 78
VH18	20	40	1074	1116	Oil Free	Water	Go to page 80
VH21	20	40	1338	1402	Oil Free	Water	Go to page 80
VH25	20	40	1470	1500	Oil Free	Water	Go to page 82
WH28	20	40	1566	1680	Oil Free	Water	Go to page 84
WH29	20	40	1737	1800	Oil Free	Water	Go to page 84
WH40	20	40	2226	2300	Oil Free	Water	Go to page 86
WH45	20	40	2168	2700	Oil Free	Water	Go to page 86
WH50	20	40	3045	3200	Oil Free	Water	Go to page 88

### Medium Pressure 20 - 40 barg

#### Reavell

H5204	16	40	3	7	Lubricated	Air	Go to page 122
H5205	16	50	6	16	Lubricated	Air	Go to page 124
H5207	16	40	12	28	Lubricated	Air	Go to page 126
H5209	16	40	24	43	Lubricated	Air	Go to page 128
H5211	20	45	24	63	Lubricated	Air	Go to page 130
H5212	10	35	22	64	Lubricated	Water	Go to page 132
H5213	16	31	27	67	Lubricated	Air	Go to page 134
H5217	10	40	51	153	Lubricated	Water	Go to page 136
H5236	10	40	184	313	Lubricated	Water	Go to page 138

## INTERMEDIATE PRESSURE

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Intermediate Pressure 40 - 85 barg

#### Belliss & Morcom

V130-7-3N	20	40	403	425	Oil Free	Water	Go to page 56
V130-9-3N	20	40	540	570	Oil Free	Water	Go to page 56
V250-12-3N	20	45	711	730	Oil Free	Water	Go to page 58
V250-15-3N	20	45	886	910	Oil Free	Water	Go to page 58
V250-18-3N	20	45	1074	1098	Oil Free	Water	Go to page 60
V250-21-3N	20	45	1338	1368	Oil Free	Water	Go to page 60
V250-25-3N	20	45	1180	1506	Oil Free	Water	Go to page 62
W370-28-3N	20	45	1257	1619	Oil Free	Water	Go to page 64
W370-29-3N	20	45	1394	1783	Oil Free	Water	Go to page 64
W370-40-3N	20	45	1787	2292	Oil Free	Water	Go to page 66
W370-45-3N	20	45	2168	2778	Oil Free	Water	Go to page 66
W540-50-3N	20	45	2444	3045	Oil Free	Water	Go to page 68

### Intermediate Pressure 40 - 85 barg

#### GD Compressors

V68M-AL	28	70	32	65	Lubricated	Air	Go to page 112
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### Intermediate Pressure 40 - 85 barg

#### Reavell

H5307	40	80	15	28	Lubricated	Air	Go to page 140
H5309	40	80	23	44	Lubricated	Air	Go to page 142
H5317	40	85	27	67	Lubricated	Water	Go to page 144
H5337	40	85	69	159	Lubricated	Water	Go to page 146

## HIGH PRESSURE

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### High Pressure 85 - 414 barg

#### Belliss & Morcom

V290-5-3N	50	90	290	370	Oil Free	Water	Go to page 70
V660-12-3N	50	90	543	710	Oil Free	Water	Go to page 72
V780-15-3N	50	90	711	990	Oil Free	Water	Go to page 74
V290-WN	50	90	290	327	Oil Free	Water	Go to page 90
V660-WN	50	90	543	710	Oil Free	Water	Go to page 92
V780-WN	50	90	795	990	Oil Free	Water	Go to page 94

### High Pressure 85 - 414 barg

#### GD Compressors

V5H-AL	69	69	3	4	Lubricated	Air	Go to page 100
V10H-AL	69	69	4	8	Lubricated	Air	Go to page 102
V14H-AL	100	345	9	11	Lubricated	Air	Go to page 104
V16H-AL	100	414	11	16	Lubricated	Air	Go to page 106
V22H-AL	100	414	12	23	Lubricated	Air	Go to page 108
V34H-AL	100	414	21	37	Lubricated	Air	Go to page 110
W70H-AL	100	414	34	70	Lubricated	Air	Go to page 114
W120B1-AL	100	414	33	65	Lubricated	Air	Go to page 116
V130M-WL	25	25	63	135	Lubricated	Water	Go to page 118
V130H-WL	138	138	61	131	Lubricated	Water	Go to page 118

### High Pressure 85 - 414 barg

#### Reavell

H5404	85	350	5	8	Lubricated	Air	Go to page 148
H5405	85	350	7	11	Lubricated	Air	Go to page 150
H5405e	85	350	8	17	Lubricated	Air	Go to page 152
H5407	140	414	12	27	Lubricated	Air	Go to page 154
H5409	140	414	20	44	Lubricated	Air	Go to page 156
H5417	140	350	25	68	Lubricated	Water	Go to page 158
H5420	160	350	44	84	Lubricated	Water	Go to page 160
H5437	160	414	62	159	Lubricated	Water	Go to page 162
H5442	120	350	139	280	Lubricated	Water	Go to page 164
H5450	3	414	150	850	Lubricated	Air	Go to page 166
H5460	2	414	300	1600	Lubricated	Water	Go to page 168
H5470	3	414	300	1128	Lubricated	Air	Go to page 170

## OIL FREE

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Low Pressure 0 - 20 barg

#### Belliss & Morcom

V130-25-1N	2	3.5	755	1890	Oil Free	Water	Go to page 49
V250-20-1N	2	4	945	1846	Oil Free	Water	Go to page 49
V250-35-1N	2	4	1612	2490	Oil Free	Water	Go to page 49
V250-40-1N	2	4	2014	3081	Oil Free	Water	Go to page 50
V250-50-1N	2	4	2400	3666	Oil Free	Water	Go to page 50
W370-70-1N	2	4	3286	5028	Oil Free	Water	Go to page 50
V130-13-2N	6	15	375	870	Oil Free	Water	Go to page 53
V130-15-2N	5	10	426	945	Oil Free	Water	Go to page 53
V250-28-2N	4	10	1321	1729	Oil Free	Water	Go to page 53
V250-40-2N	5	10	1626	2144	Oil Free	Water	Go to page 53
W370-40-2N	5	10	1964	2521	Oil Free	Water	Go to page 53
W370-50-2N	5	10	2530	3323	Oil Free	Water	Go to page 53

### Medium Pressure 20 - 40 barg

#### Belliss & Morcom

V250-16-2N	10	20	728	996	Oil Free	Water	Go to page 54
V250-21-2N	10	20	860	1,166	Oil Free	Water	Go to page 54
V250-23-2N	10	20	1,089	1,473	Oil Free	Water	Go to page 54
W370-32-2N	10	20	1,511	2,104	Oil Free	Water	Go to page 54
W370-45-2N	10	20	1,924	2,641	Oil Free	Water	Go to page 54

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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## Intermediate Pressure 40 - 85 barg

## Belliss &amp; Morcom

V130-7-3N	20	40	403	425	Oil Free	Water	Go to page 56
V130-9-3N	20	40	540	570	Oil Free	Water	Go to page 56
V250-12-3N	20	45	711	730	Oil Free	Water	Go to page 58
V250-15-3N	20	45	886	910	Oil Free	Water	Go to page 58
V250-18-3N	20	45	1,074	1,098	Oil Free	Water	Go to page 60
V250-21-3N	20	45	1,338	1,368	Oil Free	Water	Go to page 60
V250-25-3N	20	45	1,180	1,506	Oil Free	Water	Go to page 62
W370-28-3N	20	45	1,257	1,619	Oil Free	Water	Go to page 64
W370-29-3N	20	45	1,394	1,783	Oil Free	Water	Go to page 64
W370-40-3N	20	45	1,787	2,292	Oil Free	Water	Go to page 66
W370-45-3N	20	45	2,168	2,778	Oil Free	Water	Go to page 66
W540-50-3N	20	45	2,444	3,045	Oil Free	Water	Go to page 68
V290-WN	50	50	290	327	Oil Free	Water	Go to page 90

## Intermediate Pressure 40 - 85 barg

## Belliss &amp; Morcom

VH7	20	40	403	420	Oil Free	Water	Go to page 76
VH9	20	40	540	580	Oil Free	Water	Go to page 76
VH12	20	40	711	729	Oil Free	Water	Go to page 78
VH15	20	40	886	916	Oil Free	Water	Go to page 78
VH18	20	40	1074	1,116	Oil Free	Water	Go to page 80
VH21	20	40	1338	1,402	Oil Free	Water	Go to page 80
VH25	20	40	1470	1,500	Oil Free	Water	Go to page 82
WH28	20	40	1566	1,680	Oil Free	Water	Go to page 84
WH29	20	40	1737	1,800	Oil Free	Water	Go to page 84
WH40	20	40	2226	2,300	Oil Free	Water	Go to page 86
WH45	20	40	2168	2,700	Oil Free	Water	Go to page 86
WH50	20	40	3045	3,200	Oil Free	Water	Go to page 88

## High Pressure 85 - 414 barg

## Belliss &amp; Morcom

V290-5-3N	50	90	290	370	80	735	3	Go to page 70
V660-12-3N	50	90	543	710	150	735	3	Go to page 72
V780-15-3N	50	90	711	990	174	735	3	Go to page 74
V660-WN	50	90	543	710	150	735	3	Go to page 92
V780-WN	50	90	795	990	174	735	3	Go to page 94

## LUBRICATED

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Low Pressure 0 - 20 barg

#### GD Compressors

V5L-AL	1	8	3	9	Lubricated	Air	Go to page 98
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### Medium Pressure 20 - 40 barg

#### Reavell

H5204	16	40	3	7	Lubricated	Air	Go to page 122
H5205	16	50	6	16	Lubricated	Air	Go to page 124
H5207	16	40	12	28	Lubricated	Air	Go to page 126
H5209	16	40	24	43	Lubricated	Air	Go to page 128
H5211	20	45	24	63	Lubricated	Air	Go to page 130
H5212	10	35	22	64	Lubricated	Water	Go to page 132
H5213	16	31	27	67	Lubricated	Air	Go to page 134
H5217	10	40	51	153	Lubricated	Water	Go to page 136
H5236	10	40	184	313	Lubricated	Water	Go to page 138

### Intermediate Pressure 40 - 85 barg

#### GD Compressors

V68M-AL	28	70	32	65	Lubricated	Air	Go to page 112
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### Intermediate Pressure 40 - 85 barg

#### Reavell

H5307	40	80	15	28	Lubricated	Air	Go to page 140
H5309	40	80	23	44	Lubricated	Air	Go to page 142
H5317	40	85	27	67	Lubricated	Water	Go to page 144
H5337	40	85	69	159	Lubricated	Water	Go to page 146

### High Pressure 85 - 414 barg

#### GD Compressors

V5H-AL	69	345	3	4	Lubricated	Air	Go to page 100
V10H-AL	69	345	4	8	Lubricated	Air	Go to page 102
V14H-AL	100	345	9	11	Lubricated	Air	Go to page 104
V16H-AL	100	414	11	16	Lubricated	Air	Go to page 106
V22H-AL	100	414	12	23	Lubricated	Air	Go to page 108
V34H-AL	100	414	21	37	Lubricated	Air	Go to page 110
W70H-AL	100	414	34	70	Lubricated	Air	Go to page 114
W120B1-AL	100	414	33	65	Lubricated	Air	Go to page 116
V130M	25	100	63	135	Lubricated	Water	Go to page 118
V130H	138	414	62	131	Lubricated	Water	Go to page 118

### High Pressure 85 - 414 barg

#### Reavell

H5404	85	350	5	8	Lubricated	Air	Go to page 148
H5405	85	350	7	11	Lubricated	Air	Go to page 150
H5405e	85	350	8	17	Lubricated	Air	Go to page 152
H5407	140	414	12	27	Lubricated	Air	Go to page 154
H5409	140	414	20	44	Lubricated	Air	Go to page 156
H5417	140	350	25	68	Lubricated	Water	Go to page 158
H5420	160	350	44	84	Lubricated	Water	Go to page 160
H5437	160	414	62	159	Lubricated	Water	Go to page 162
H5442	120	350	139	280	Lubricated	Water	Go to page 164
H5450	3	414	150	850	Lubricated	Air	Go to page 166
H5460	2	414	300	1600	Lubricated	Water	Go to page 168
H5470	3	414	300	1128	Lubricated	Air	Go to page 170

## AIR COOLED

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Low Pressure 0 - 20 barg

#### GD Compressors

V5L-AL	1	8	3	9	Lubricated	Air	Go to page 98
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### Medium Pressure 20 - 40 barg

#### Reavell

H5204	16	40	3	7	Lubricated	Air	Go to page 122
H5205	16	50	6	16	Lubricated	Air	Go to page 124
H5207	16	40	12	28	Lubricated	Air	Go to page 126
H5209	16	40	24	43	Lubricated	Air	Go to page 128
H5211	20	45	24	63	Lubricated	Air	Go to page 130
H5213	16	31	27	67	Lubricated	Air	Go to page 134

### Intermediate Pressure 40 - 80 barg

#### GD Compressors

V68M-AL	28	70	32	65	Lubricated	Air	Go to page 112
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### Intermediate Pressure 40 - 80 barg

#### Reavell

H5307	40	80	15	28	Lubricated	Air	Go to page 140
H5309	40	80	23	44	Lubricated	Air	Go to page 142

### High Pressure 80 - 414 barg

#### GD Compressors

V5H-AL	69	345	3	4	Lubricated	Air	Go to page 100
V10H-AL	69	345	4	8	Lubricated	Air	Go to page 102
V14H-AL	100	345	9	11	Lubricated	Air	Go to page 104
V16H-AL	100	414	11	16	Lubricated	Air	Go to page 106
V22H-AL	100	414	12	23	Lubricated	Air	Go to page 108
V34H-AL	100	414	21	37	Lubricated	Air	Go to page 110
W70H-AL	100	414	34	70	Lubricated	Air	Go to page 112
W120B1-AL	100	414	33	65	Lubricated	Air	Go to page 114

### High Pressure 80 - 414 barg

#### Reavell

H5404	85	350	5	8	Lubricated	Air	Go to page 148
H5405	85	350	7	11	Lubricated	Air	Go to page 150
H5405e	85	350	8	17	Lubricated	Air	Go to page 152
H5407	140	414	12	27	Lubricated	Air	Go to page 154
H5409	140	414	20	44	Lubricated	Air	Go to page 156
H5450	3	414	150	850	Lubricated	Air	Go to page 166
H5470	3	414	300	1128	Lubricated	Air	Go to page 170

## WATER COOLED

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Low Pressure 0 - 20 barg

#### Belliss & Morcom

V130-25-1N	2	3.5	755	1890	Oil Free	Water	Go to page 49
V250-20-1N	2	4	945	1846	Oil Free	Water	Go to page 49
V250-35-1N	2	4	1612	2490	Oil Free	Water	Go to page 49
V250-40-1N	2	4	2014	3081	Oil Free	Water	Go to page 50
V250-50-1N	2	4	2400	3666	Oil Free	Water	Go to page 50
W370-70-1N	2	4	3286	5028	Oil Free	Water	Go to page 50
V130-13-2N	10	15	375	870	Oil Free	Water	Go to page 53
V130-15-2N	3	10	426	945	Oil Free	Water	Go to page 53
V250-28-2N	4	10	1321	1729	Oil Free	Water	Go to page 53
V250-40-2N	5	10	1626	2144	Oil Free	Water	Go to page 53
W370-40-2N	5	10	1964	2521	Oil Free	Water	Go to page 53
W370-50-2N	5	10	2530	3323	Oil Free	Water	Go to page 53

### Medium Pressure 20 - 40 barg

#### Belliss & Morcom

V250-16-2N	10	20	728	996	Oil Free	Water	Go to page 54
V250-21-2N	10	20	860	1166	Oil Free	Water	Go to page 54
V250-23-2N	10	20	1089	1473	Oil Free	Water	Go to page 54
W370-32-2N	10	20	1511	2104	Oil Free	Water	Go to page 54
W370-45-2N	10	20	1924	2641	Oil Free	Water	Go to page 54

### Medium Pressure 20 - 40 barg

#### Reavell

H5212	10	35	22	64	Lubricated	Water	Go to page 132
H5217	10	40	51	153	Lubricated	Water	Go to page 136
H5236	10	40	184	313	Lubricated	Water	Go to page 138

## WATER COOLED

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
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### Intermediate Pressure 40 - 85 barg

#### Belliss & Morcom

V130-7-3N	20	40	403	425	Oil Free	Water	Go to page 56
V130-9-3N	20	40	540	570	Oil Free	Water	Go to page 56
V250-12-3N	20	45	711	730	Oil Free	Water	Go to page 58
V250-15-3N	20	45	886	910	Oil Free	Water	Go to page 58
V250-18-3N	20	45	1074	1098	Oil Free	Water	Go to page 60
V250-21-3N	20	45	1338	1368	Oil Free	Water	Go to page 60
V250-25-3N	20	45	1180	1506	Oil Free	Water	Go to page 62
W370-28-3N	20	45	1257	1619	Oil Free	Water	Go to page 64
W370-29-3N	20	45	1394	1783	Oil Free	Water	Go to page 64
W370-40-3N	20	45	1787	2292	Oil Free	Water	Go to page 66
W370-45-3N	20	45	2168	2778	Oil Free	Water	Go to page 66
W540-50-3N	20	45	2444	3045	Oil Free	Water	Go to page 68

### Intermediate Pressure 40 - 85 barg

#### Belliss & Morcom

VH7	20	40	403	420	Oil Free	Water	Go to page 76
VH9	20	40	540	580	Oil Free	Water	Go to page 76
VH12	20	40	711	729	Oil Free	Water	Go to page 78
VH15	20	40	886	916	Oil Free	Water	Go to page 78
VH18	20	40	1074	1116	Oil Free	Water	Go to page 80
VH21	20	40	1338	1402	Oil Free	Water	Go to page 80
VH25	20	40	1470	1500	Oil Free	Water	Go to page 82
WH28	20	40	1566	1680	Oil Free	Water	Go to page 84
WH29	20	40	1737	1800	Oil Free	Water	Go to page 84
WH40	20	40	2226	2300	Oil Free	Water	Go to page 86
WH45	20	40	2168	2700	Oil Free	Water	Go to page 86
WH50	20	40	3045	3200	Oil Free	Water	Go to page 88

### Intermediate Pressure 40 - 85 barg

#### Reavell

H5317	40	85	27	67	Lubricated	Water	Go to page 144
H5337	40	85	69	159	Lubricated	Water	Go to page 146

## WATER COOLED

Sales model	barg (min)	barg (max)	m <sup>3</sup> /hr (min)	m <sup>3</sup> /hr (max)	Lubrication	Cooling	Page no.
<b>High Pressure 85 - 414 barg</b>							
<b>Belliss &amp; Morcom</b>							
V290-5-3N	50	90	290	370	Oil Free	Water	Go to page 70
V660-12-3N	50	90	543	710	Oil Free	Water	Go to page 72
V780-15-3N	50	90	711	990	Oil Free	Water	Go to page 74
<b>High Pressure 85 - 414 barg</b>							
<b>GD Compressors</b>							
V130M	25	100	63	135	Lubricated	Water	Go to page 118
V130H	138	414	61	131	Lubricated	Water	Go to page 118
<b>High Pressure 85 - 414 barg</b>							
<b>Reavell</b>							
H5417	140	350	25	68	Lubricated	Water	Go to page 158
H5420	160	350	44	84	Lubricated	Water	Go to page 160
H5437	160	414	62	159	Lubricated	Water	Go to page 162
H5442	120	350	139	280	Lubricated	Water	Go to page 164
H5460	2	414	300	1600	Lubricated	Water	Go to page 168

Quick reference guide

2

# INDUSTRIAL AIR & GAS

Sales model	Industrial air	Biogas: H <sub>2</sub> S*	Carbon Dioxide	Methane	Natural gas	Nitrogen	Page no.
<b>Belliss &amp; Morcom</b>							
V130-25-1N	Oil Free	✓	✓	✓	✓	✓	Go to page 49
V250-20-1N	Oil Free	✓	✓	✓	✓	✓	Go to page 49
V250-35-1N	Oil Free	✓	✓	✓	✓	✓	Go to page 49
V250-40-1N	Oil Free	✓	✓	✓	✓	✓	Go to page 50
V250-50-1N	Oil Free	✓	✓	✓	✓	✓	Go to page 50
W370-70-1N	Oil Free	✓	✓	✓	✓	✓	Go to page 50
V130-13-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 53
V130-15-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 53
V250-16-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 54
V250-21-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 54
V250-23-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 54
V250-28-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 53
V250-40-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 53
W370-32-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 54
W370-40-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 53
W370-45-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 54
W370-50-2N	Oil Free	✓	✓	✓	✓	✓	Go to page 53
V130-7-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 56
V130-9-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 56
V250-12-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 58
V250-15-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 58
V250-18-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 60
V250-21-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 60
V250-25-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 62
W370-28-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 64
W370-29-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 64
W370-40-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 66
W370-45-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 66
W540-50-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 68
V290-5-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 70
V660-12-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 72
V780-15-3N	Oil Free	✓	✓	✓	✓	✓	Go to page 74
V290-WN	Oil Free	✓	✓	✓	✓	✓	Go to page 90
V660-WN	Oil Free	✓	✓	✓	✓	✓	Go to page 92
V780-WN	Oil Free	✓	✓	✓	✓	✓	Go to page 94
VH7	ISO8573.1.4.1						Go to page 76
VH9	ISO8573.1.4.1						Go to page 76
VH12	ISO8573.1.4.1						Go to page 78
VH15	ISO8573.1.4.1						Go to page 78
VH18	ISO8573.1.4.1						Go to page 80
VH21	ISO8573.1.4.1						Go to page 80
VH25	ISO8573.1.4.1						Go to page 82
WH28	ISO8573.1.4.1						Go to page 84
WH29	ISO8573.1.4.1						Go to page 84
WH40	ISO8573.1.4.1						Go to page 86
WH45	ISO8573.1.4.1						Go to page 86
WH50	ISO8573.1.4.1						Go to page 88

\*limitations apply

## INDUSTRIAL AIR & GAS

Sales model	Industrial air	Breathing air	Helium	Sludge gas	Nitrogen	Page no.
<b>GD Compressors</b>						
V5L-AL	Lubricated					Go to page 98
V5H-AL	Lubricated	✓				Go to page 100
V10H-AL	Lubricated	✓				Go to page 102
V14H-AL	Lubricated	✓				Go to page 104
V16H-AL	Lubricated	✓				Go to page 106
V22H-AL	Lubricated	✓				Go to page 108
V34H-AL	Lubricated	✓				Go to page 110
V68M-AL	Lubricated					Go to page 112
W70H-AL	Lubricated	✓		✓	✓	Go to page 114
W120B1-AL	Lubricated			✓	✓	Go to page 116
V130H-WL	Lubricated		✓	✓	✓	Go to page 118
V130M-WL	Lubricated					Go to page 118

Sales model	Industrial air	Breathing air	Argon	Biogas: H <sub>2</sub> S*	Carbon Dioxide	Helium	Hydrogen	Methane	Natural gas	Nitrogen	Heliox	Sludge gas	Page no.
<b>Reavell</b>													
H5204	Lubricated												Go to page 122
H5205	Lubricated												Go to page 124
H5207	Lubricated					✓	✓	✓	✓	✓	✓		Go to page 126
H5209	Lubricated					✓	✓	✓	✓	✓	✓		Go to page 128
H5211	Lubricated												Go to page 130
H5212	Lubricated		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 132
H5213	Lubricated												Go to page 134
H5217	Lubricated		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 136
H5236	Lubricated		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 138
H5307	Lubricated			✓		✓	✓	✓	✓	✓	✓	✓	Go to page 140
H5309	Lubricated			✓		✓	✓	✓	✓	✓	✓	✓	Go to page 142
H5317	Lubricated		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 144
H5337	Lubricated		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 146
H5404	Lubricated	✓								✓			Go to page 148
H5405	Lubricated	✓		✓						✓	✓	✓	Go to page 150
H5405e	Lubricated	✓		✓						✓	✓	✓	Go to page 152
H5407	Lubricated	✓		✓		✓	✓	✓	✓	✓	✓	✓	Go to page 154
H5409	Lubricated	✓		✓		✓	✓	✓	✓	✓	✓	✓	Go to page 156
H5417	Lubricated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 158
H5420	Lubricated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 160
H5437	Lubricated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 162
H5442	Lubricated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 164
H5450	Lubricated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 166
H5460	Lubricated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 168
H5470	Lubricated	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	Go to page 170

\*limitations apply

## OTHER GASES

The gases listed below can be compressed depending on application. Please contact your nearest sales office for further information.

- Sulphur Hexafluoride
- Xenon
- Neon
- Nitrous Oxide
- Ethane
- Ethylene
- Carbon Monoxide

Please note, the information listed in the product pages of this catalogue is for air compressors only. Gas compressors operate at different speeds and pressures to air compressors. Do not use the information listed in this catalogue to specify a gas compressor.

For gas compressors please contact your nearest sales office for further assistance.

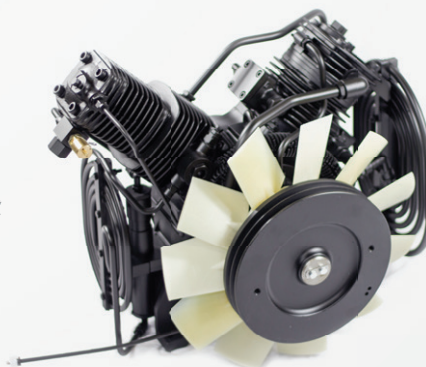


## PRODUCT RANGE

Our comprehensive product range is presented in this section. Each compressor combined offers an all encompassing performance envelope with a variety of models performing a range of flows and pressure up to 414 barg (6005 psig).

Within this section you will find compressors from the three main high pressure brands available from Gardner Denver:

	Page no
• <b>Belliss &amp; Morcom Compressors</b>	46 - 95
• <b>GD Compressors</b>	96 - 119
• <b>Reavell Compressors</b>	120 - 171



**PERFORMANCE SUMMARY:**

**Air quality:** Oil Free

**Cooling:** Water

**No. of blocks:** 47

**Pressure:**  
2 to 90 barg  
29 to 1305 psig

**Flow:**  
403 to 4094 m<sup>3</sup>/hr  
237 to 2409 cfm



Belliss & Morcom is a world leader in the field of oil free reciprocating technology and solutions. With over 150 years' experience, we have earned the trust of our customers who rely on our exceptional performance and outstanding aftermarket support. We are committed to delivering you the best technical advice and support for your PET bottle blowing, hydropower or industrial applications.

**3**

**INDUSTRY AREAS OF EXPERTISE**



**FOOD & DRINK**



**POWER GENERATION**



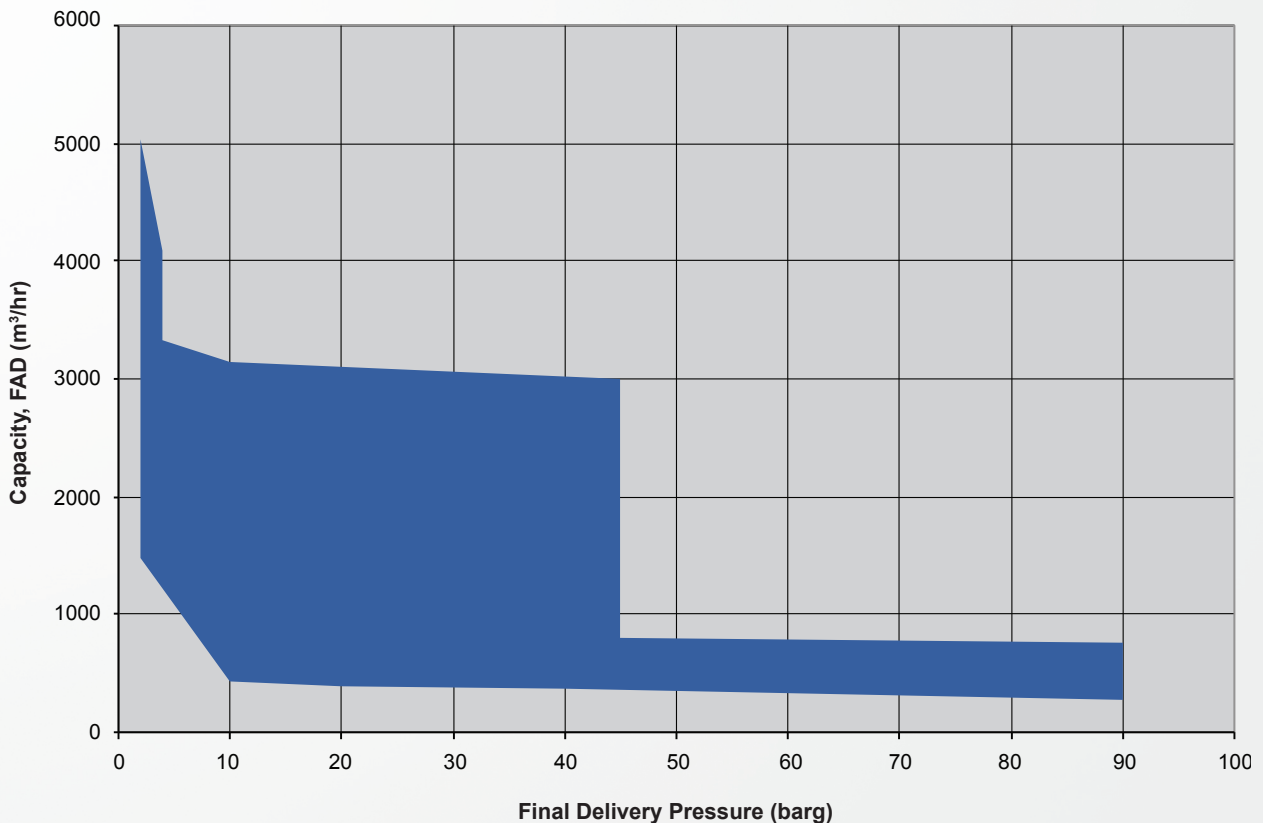
**POWER DISTRIBUTION**

Belliss & Morcom has over 35 years experience of supplying oil free compressors for the PET Bottle Blowing market including installations in some of the largest PET plants in the world. Our PET range of compressors are robust, energy-efficient and offer unrivalled durability which makes them the compressor of choice for most of the industry. Our oil free reciprocating compressors are suitable for a wide range of industrial applications. With direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the VH and WH range offer unrivalled high performance oil free air and gas components up to 90 barg (1305 psig).

## FEATURES

## BENEFITS

Low cost of ownership	High efficiency motors, half load capability and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

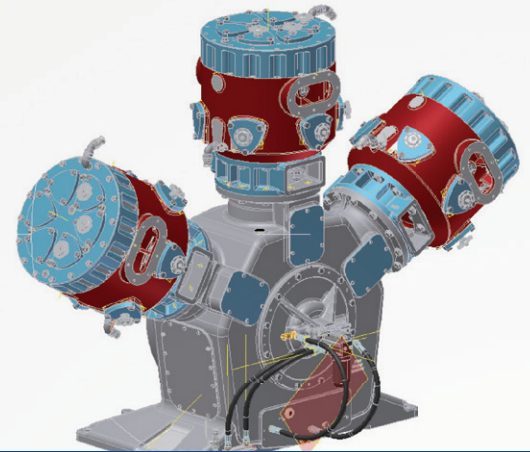


The Belliss & Morcom industrial range of 1 stage, water cooled, oil free industrial air and gas compressors are a world leader in the field of oil free reciprocating technology and solutions.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 4 barg pressures.

**PERFORMANCE STATISTICS:**

2 to 4 barg (29 to 58 psig)  
755 to 5028 m<sup>3</sup>/hr (444 to 2959 cfm)



**Sales models in this range:**  
**V130-25-1N, V250-20-1N, V250-35-1N,**  
**V250-40-1N, V250-50-1N**  
**and W370-70-1N**

Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors, half load capability and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

### PERFORMANCE

V130-25-1N	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	755	1890
	cfm	444	1112
Final delivery pressure	barg	3.5	2
	psig	51	29
Compressor speed	rpm	485	985
Motor power 50Hz	kW	90	110
	hp	121	148
Compressor stages		1	

V250-20-1N	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	945	1846
	cfm	556	1087
Final delivery pressure	barg	4	2
	psig	58	29
Compressor speed	rpm	590	735
Motor power 50Hz	kW	90	110
	hp	121	148
Compressor stages		1	

V250-35-1N	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1612	2490
	cfm	949	1466
Final delivery pressure	barg	4	2
	psig	58	29
Compressor speed	rpm	590	735
Motor power 50Hz	kW	150	150
	hp	201	201
Compressor stages		1	

Please note performance data is based on 50Hz motor power only.

## V130-25-1N, V250-20-1N, V250-35-1N, V250-40-1N, V250-50-1N and W370-70-1N

V250-40-1N	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	2014	3081
	cfm	1185	1813
Final delivery pressure	barg	4	2
	psig	58	29
Compressor speed	rpm	590	735
Motor power 50Hz	kW	150	175
	hp	201	235
Compressor stages		1	

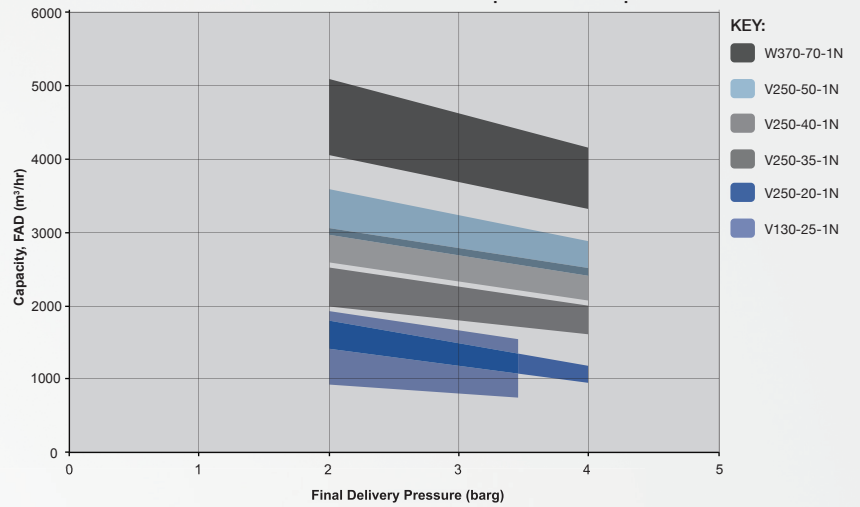
V250-50-1N	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	2400	3666
	cfm	1413	2158
Final delivery pressure	barg	4	2
	psig	58	29
Compressor speed	rpm	590	735
Motor power 50Hz	kW	175	210
	hp	235	282
Compressor stages		1	

W370-70-1N	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	3286	5028
	cfm	1934	2959
Final delivery pressure	barg	4	2
	psig	58	29
Compressor speed	rpm	590	735
Motor power 50Hz	kW	150	175
	hp	201	235
Compressor stages		1	

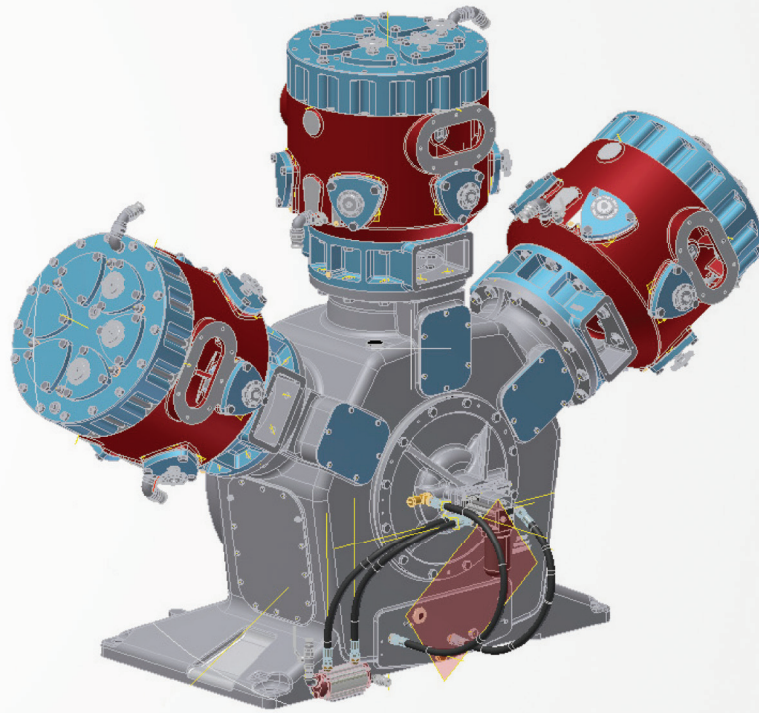
Please note performance data is based on 50Hz motor power only.

## PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



## GENERAL ARRANGEMENT



## DIMENSIONS

		Metric		Imperial	
V130-25-1N V250-20-1N V250-35-1N V250-40-1N	Height	mm	2370	inches	93
	Width	mm	2100	inches	83
	Length	mm	3025	inches	119
	Weight	kg	6800	lb	14991
V250-50-1N W370-70-1N	Height	mm	2980	inches	117
	Width	mm	2100	inches	83
	Length	mm	3275	inches	129
	Weight	kg	9900	lb	21826



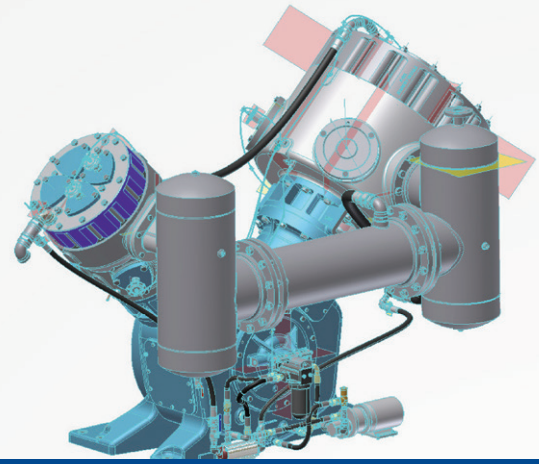
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The Belliss & Morcom industrial range of 2 stage, water cooled, oil free industrial air and gas compressors are a world leader in the field of oil free reciprocating technology and solutions.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 20 barg pressures.

**PERFORMANCE STATISTICS:**

4 to 20 barg (58 to 290 psig)  
 375 to 3323 m<sup>3</sup>/hr (221 to 1956 cfm)



**Sales models in this range:**  
 V130-13-2N, V130-15-2N, V250-16-2N,  
 V250-21-2N, V250-23-2N, V250-28-2N,  
 V250-40-2N, W370-32-2N, W370-40-2N,  
 W370-45-2N and W370-50-2N

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors, half load capability and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

### PERFORMANCE

	Unit/ Measure	V130-13-2N		V130-15-2N	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	375	870	426	945
	cfm	221	512	251	556
Final delivery pressure	barg	15	6	10	5
	psig	218	218	145	73
Compressor speed	rpm	485	985	485	985
Motor power	kW	90	90	90	90
	hp	121	121	121	121
Compressor stages		2			

	Unit/ Measure	V250-28-2N		V250-40-2N	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1321	1729	1626	2144
	cfm	778	1018	957	1262
Final delivery pressure	barg	10	4	10	5
	psig	145	58	145	73
Compressor speed	rpm	590	735	590	735
Motor power	kW	210	210	210	210
	hp	282	282	282	282
Compressor stages		2			

	Unit/ Measure	W370-40-2N		W370-50-2N	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1964	2521	2530	3323
	cfm	1156	1439	1489	1956
Final delivery pressure	barg	10	5	10	5
	psig	145	73	145	73
Compressor speed	rpm	590	735	590	735
Motor power	kW	260	260	280	280
	hp	349	349	375	375
Compressor stages		2			

Please note performance data is based on 50Hz motor power only.

## PERFORMANCE

	Unit/ Measure	V250-16-2N		V250-21-2N	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	728	996	860	1166
	cfm	428	586	506	686
Final delivery pressure	barg	20	10	20	10
	psig	290	145	290	145
Compressor speed	rpm	590	735	590	735
Motor power	kW	110	150	150	150
	hp	148	201	201	201
Compressor stages		2			

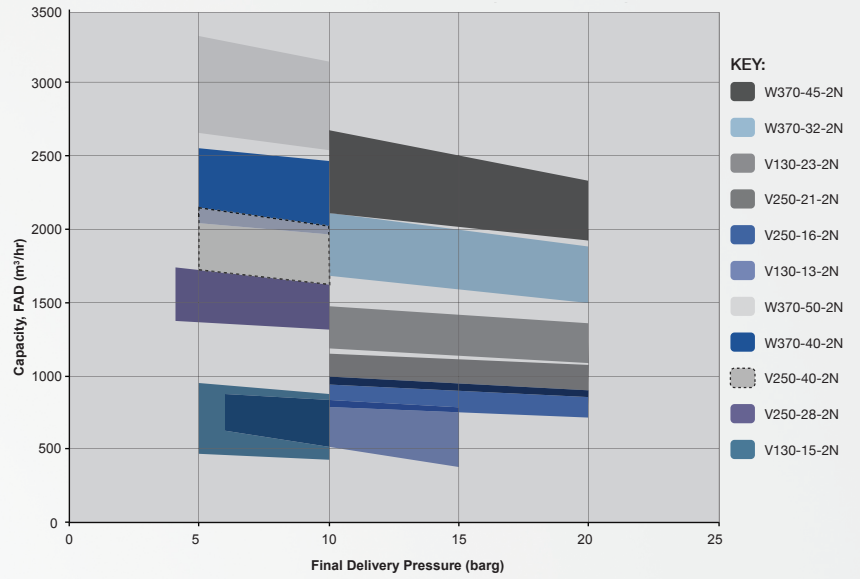
	Unit/ Measure	V250-23-2N		W370-32-2N	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1089	1473	1511	2104
	cfm	641	867	889	1238
Final delivery pressure	barg	20	10	20	10
	psig	290	145	290	145
Compressor speed	rpm	590	735	590	735
Motor power	kW	175	175	260	260
	hp	235	235	349	349
Compressor stages		2			

W370-45-2N	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1924	2641
	cfm	1132	1554
Final delivery pressure	barg	20	10
	psig	290	145
Compressor speed	rpm	590	735
Motor power 50 Hz	kW	325	325
	hp	436	436
Compressor stages		2	

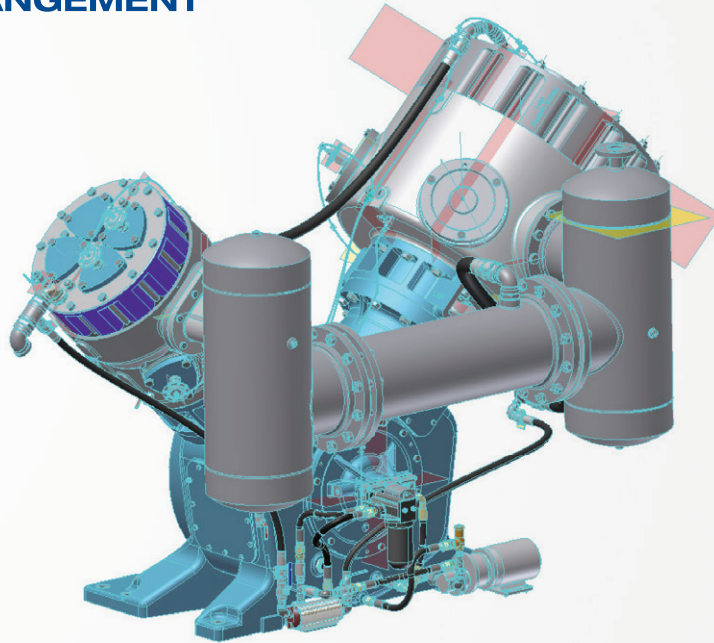
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

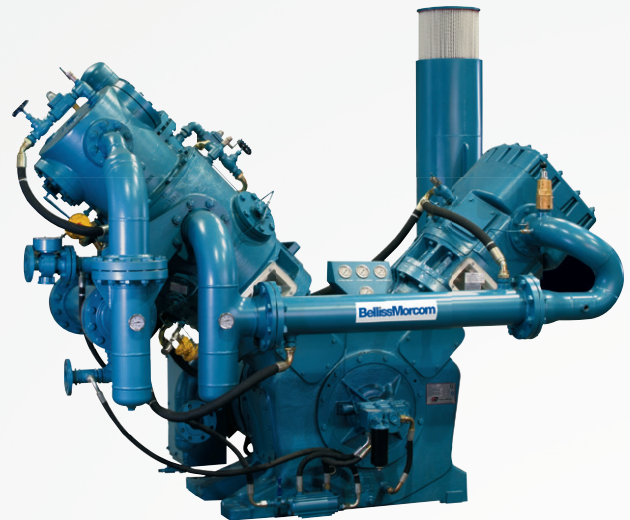
		Metric		Imperial	
V130-13-2N V130-15-2N	Height	mm	2260	inches	2260
	Width	mm	2100	inches	2100
	Length	mm	2350	inches	2350
	Weight	kg	3875	lb	3875
V250-28-2N V250-40-2N V250-16-2N V250-21-2N	Height	mm	2980	inches	2980
	Width	mm	2100	inches	2100
	Length	mm	3275	inches	3275
	Weight	kg	9900	lb	9900
W370-40-2N W370-50-2N V250-23-2N W370-32-2N W370-45-2N	Height	mm	3150	inches	3150
	Width	mm	2100	inches	2100
	Length	mm	4000	inches	4000
	Weight	kg	12000	lb	12000



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The Belliss & Morcom industrial range of 3 stage, water cooled, oil free industrial air and gas compressors is a world leader in the field of oil free reciprocating technology and solutions for industrial applications.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 40 barg (653 psig) pressures.



**PERFORMANCE STATISTICS:**

20 to 40 barg (290 to 580 psig)  
 403 to 570 m<sup>3</sup>/hr (237 to 336 cfm)

Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Fast simple servicing with long service intervals

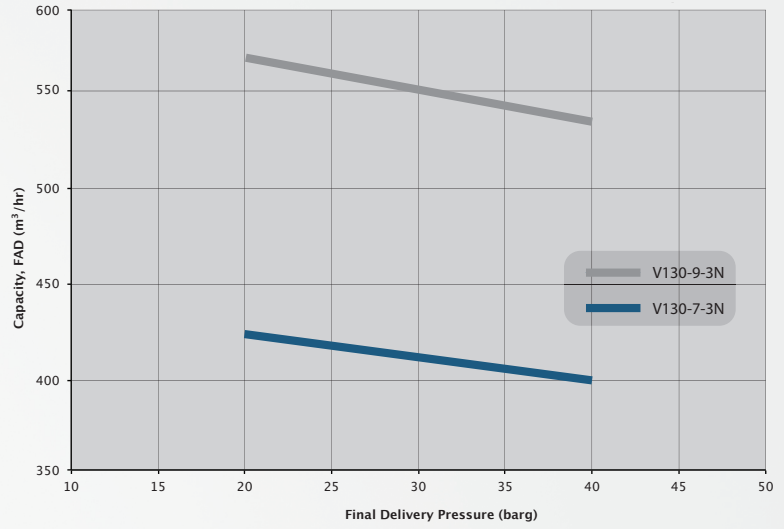
**PERFORMANCE**

	Unit/ Measure	V130-7-3N		V130-9-3N	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	403	425	540	570
	cfm	237	250	318	336
Final delivery pressure	barg	40	20	40	20
	psig	580	290	580	290
Compressor speed	rpm	735		985	
Motor power	kW	90	90	110	110
	hp	121	121	148	148
Compressor stages		3			

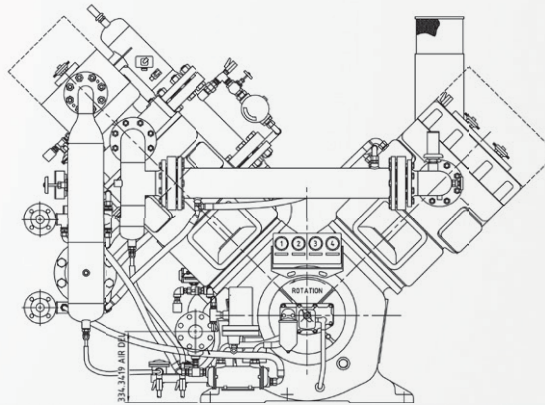
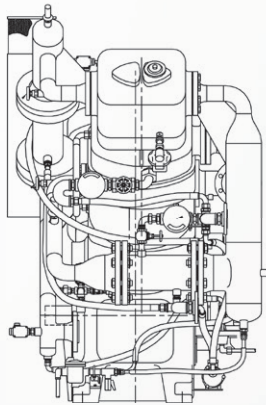
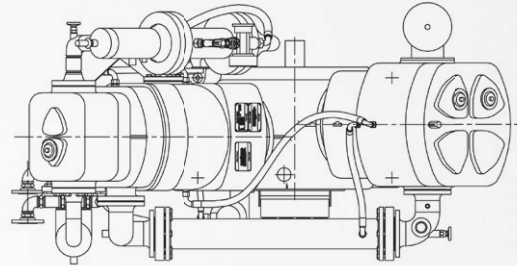
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2260	inches	89
Width	mm	2100	inches	83
Length	mm	2350	inches	93
Weight	kg	3875	lb	8543



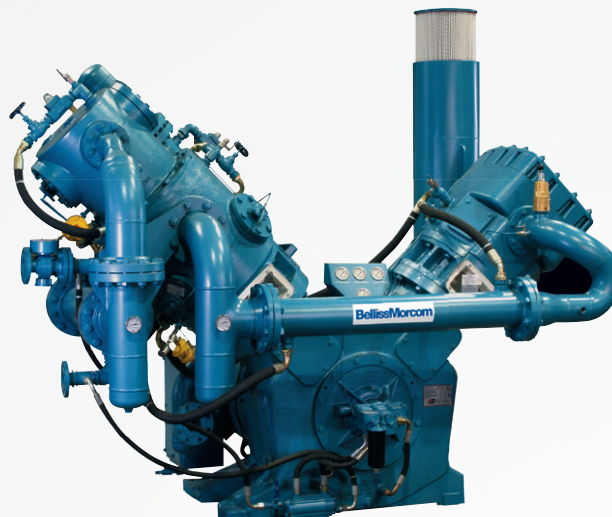
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The Belliss & Morcom industrial range of 3 stage, water cooled, oil free industrial air and gas compressors is a world leader in the field of oil free reciprocating technology and solutions.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 45 barg (653 psig) pressures.

**PERFORMANCE STATISTICS:**

20 to 45 barg (290 to 653 psig)  
711 to 910 m<sup>3</sup>/hr (419 to 536 cfm)



Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Fast simple servicing with long service intervals

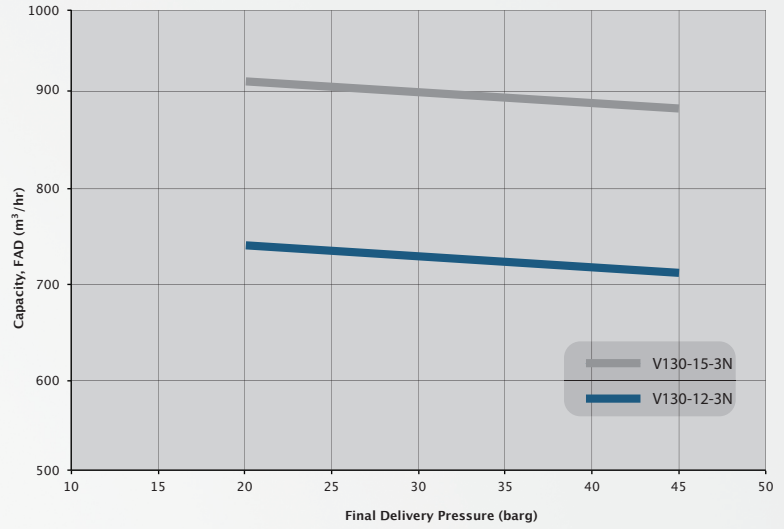
**PERFORMANCE**

	Unit/ Measure	V250-12-3N		V250-15-3N	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	711	730	886	910
	cfm	419	430	522	536
Final delivery pressure	barg	45	20	45	20
	psig	653	290	653	290
Compressor speed	rpm	590		735	
Motor power	kW	110	150	150	175
	hp	201	148	201	235
Compressor stages		3			

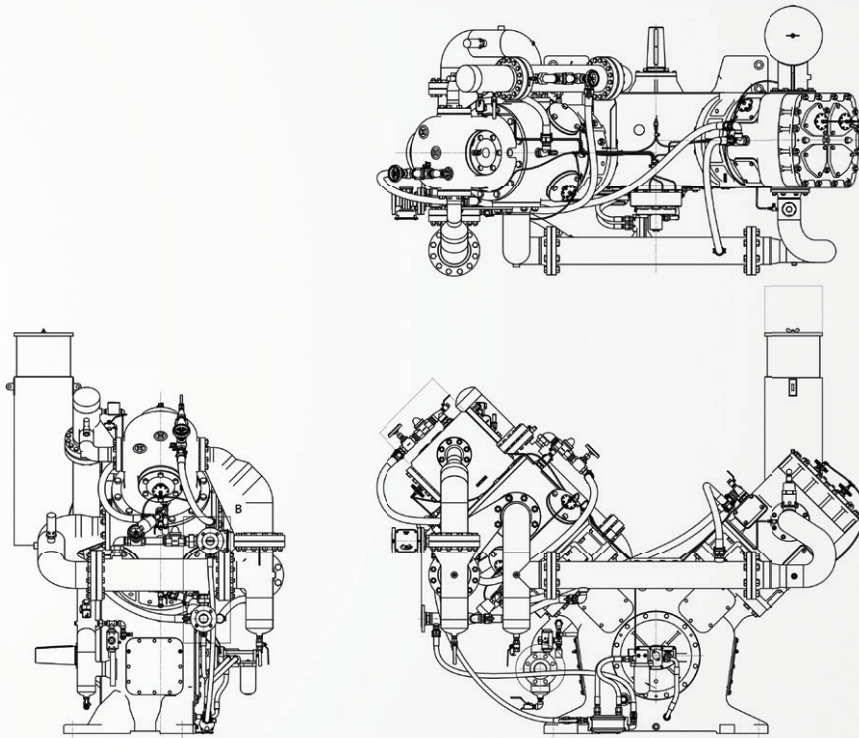
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2300	inches	91
Width	mm	2100	inches	83
Length	mm	2950	inches	116
Weight	kg	5160	lb	11376



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With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 45 barg (653 psig) pressures.

**PERFORMANCE STATISTICS:**

20 to 45 barg (290 to 653 psig)  
1074 to 1368 m<sup>3</sup>/hr (632 to 805 cfm)



Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

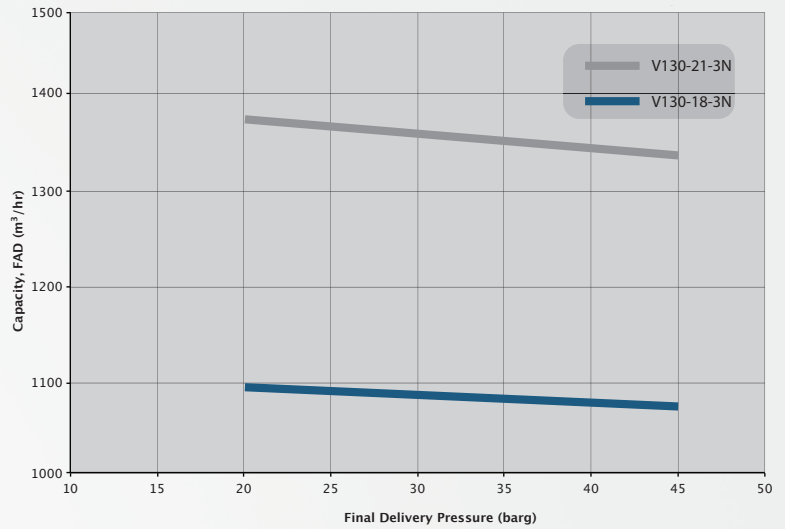
**PERFORMANCE**

	Unit/ Measure	V250-18-3N		V250-21-3N	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1074	1098	1338	1368
	cfm	632	646	788	805
Final delivery pressure	barg	45	20	45	20
	psig	653	290	653	290
Compressor speed	rpm	590		735	
Motor power	kW	210	210	260	260
	hp	282	282	278	349
Compressor stages		3			

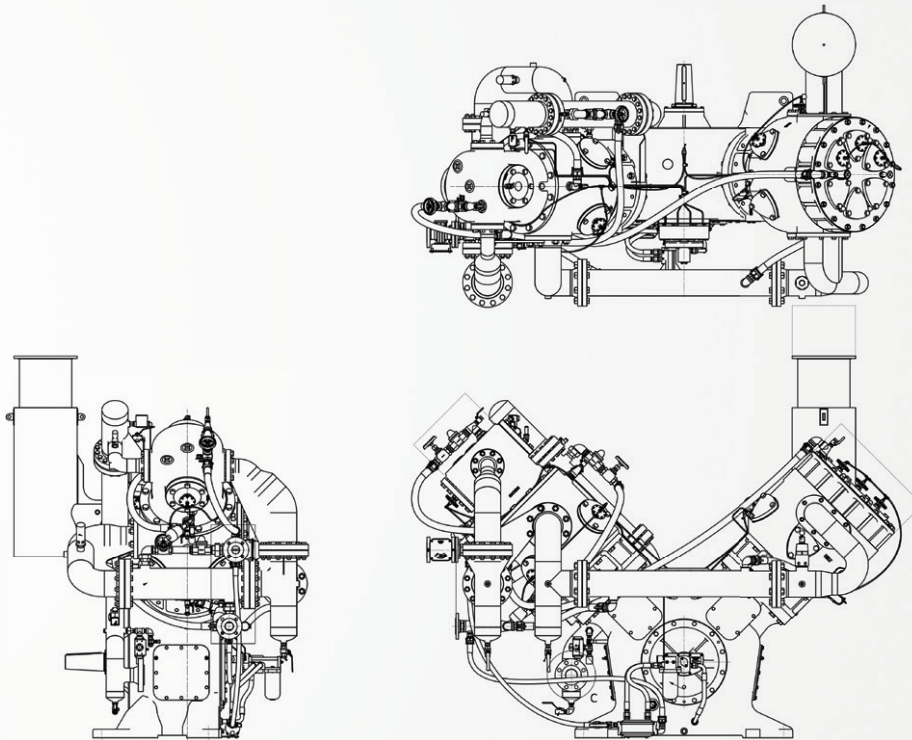
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2370	inches	93
Width	mm	2100	inches	83
Length	mm	3025	inches	119
Weight	kg	6345	lb	13988



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With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 45 barg (653 psig) pressures.

**PERFORMANCE STATISTICS:**

20 to 45 barg (290 to 653 psig)  
1180 to 1506 m<sup>3</sup>/hr (695 to 886 cfm)



Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

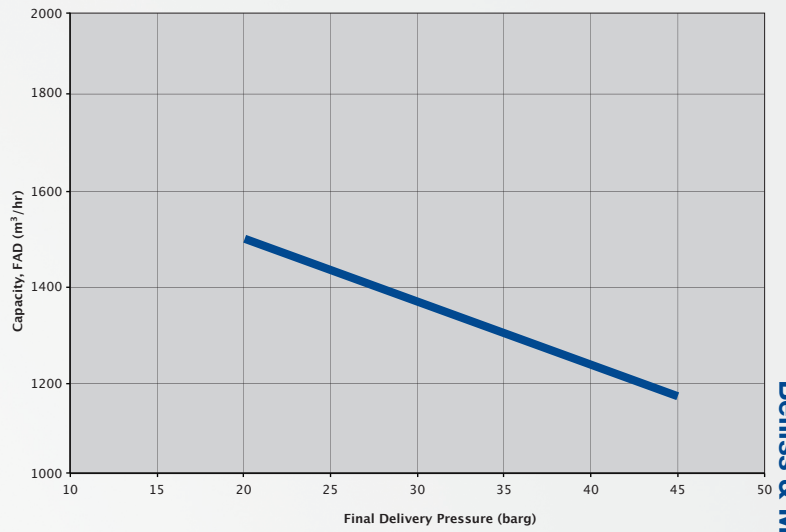
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1180	1506
	cfm	695	886
Final delivery pressure	barg	45	20
	psig	653	290
Compressor speed	rpm	735	
Motor power	kW	280	280
	hp	375	375
Compressor stages		3	

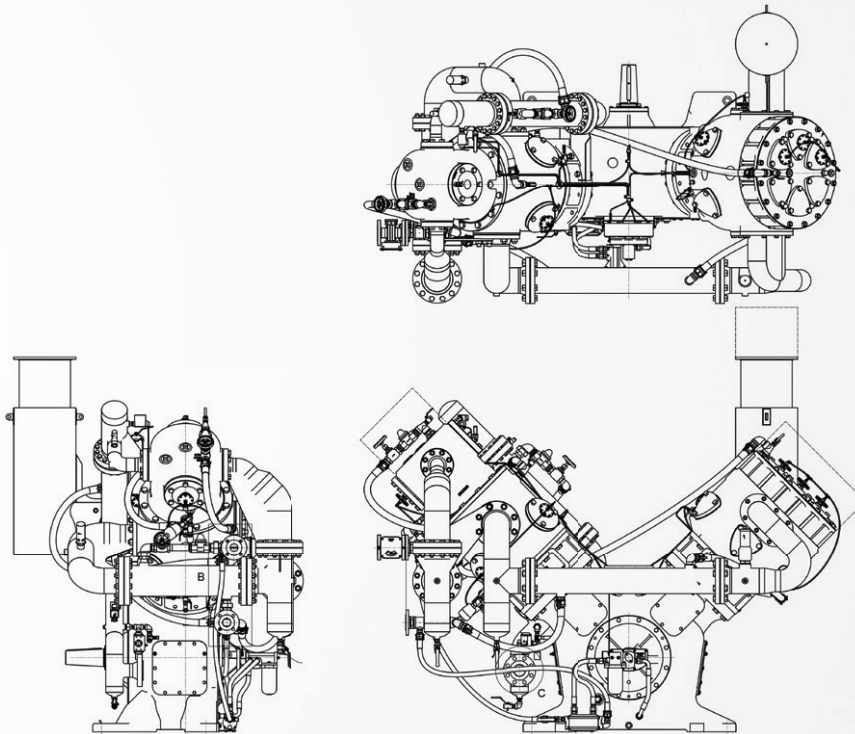
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2980	inches	117
Width	mm	2100	inches	83
Length	mm	3275	inches	129
Weight	kg	9900	lb	21826



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The Belliss & Morcom industrial range of 3 stage, water cooled, oil free industrial air and gas compressors is a world leader in the field of oil free reciprocating technology and solutions.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 45 barg (653 psig) pressures.



**PERFORMANCE STATISTICS:**

20 to 45 barg (290 to 653 psig)  
1257 to 1783 m<sup>3</sup>/hr (740 to 1049 cfm)

Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors, half load capability and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

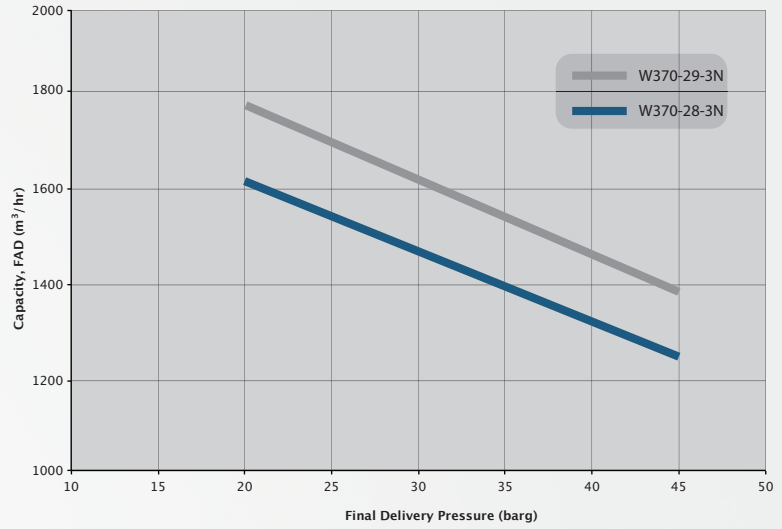
**PERFORMANCE**

	Unit/ Measure	W370-28-3N		W370-29-3N	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1257	1619	1394	1783
	cfm	740	953	821	1049
Final delivery pressure	barg	45	20	45	20
	psig	653	290	653	290
Compressor speed	rpm	735		735	
Motor power	kW	280	280	325	325
	hp	375	375	436	436
Compressor stages		3		3	

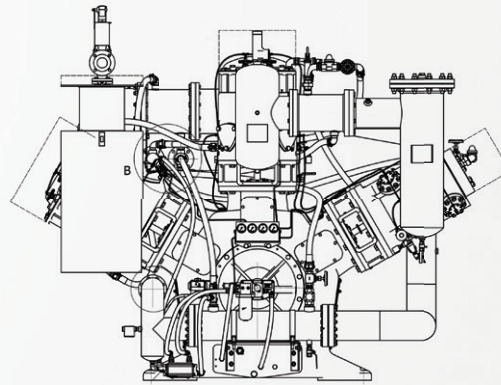
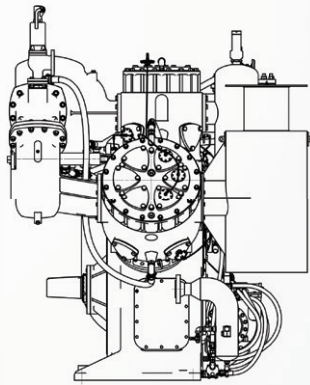
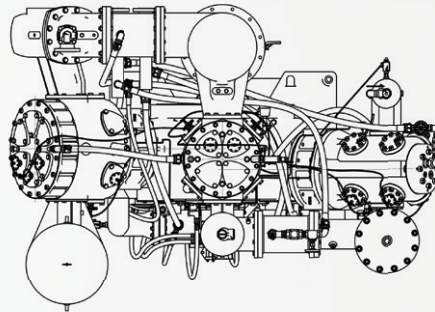
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
W370-28-3N	Height	mm	2980	inches	117
	Width	mm	2100	inches	83
	Length	mm	3275	inches	129
	Weight	kg	9900	lb	21826
W370-29-3N	Height	mm	3100	inches	122
	Width	mm	2100	inches	83
	Length	mm	3500	inches	138
	Weight	kg	9900	lb	22950



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The Belliss & Morcom industrial range of 3 stage, water cooled, oil free industrial air and gas compressors is a world leader in the field of oil free reciprocating technology and solutions.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 45 barg (653 psig) pressures.



**PERFORMANCE STATISTICS:**

20 to 45 barg (290 to 653 psig)  
1787 to 2778 m<sup>3</sup>/hr (1052 to 1635 cfm)

Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors, half load capability and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

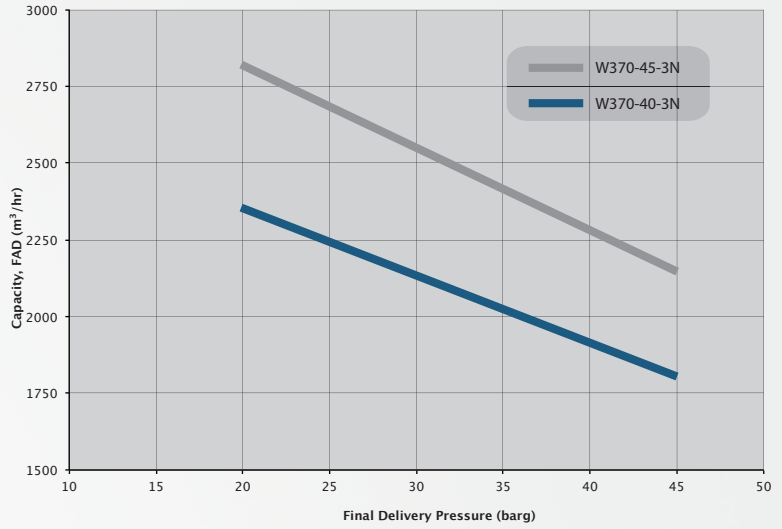
**PERFORMANCE**

	Unit/ Measure	W370-40-3N		W370-45-3N	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1787	2292	2168	2778
	cfm	1052	1349	1276	1635
Final delivery pressure	barg	45	20	45	20
	psig	653	290	653	290
Compressor speed	rpm	735		735	
Motor power	kW	400	400	400	550
	hp	536	536	536	738
Compressor stages		3		3	

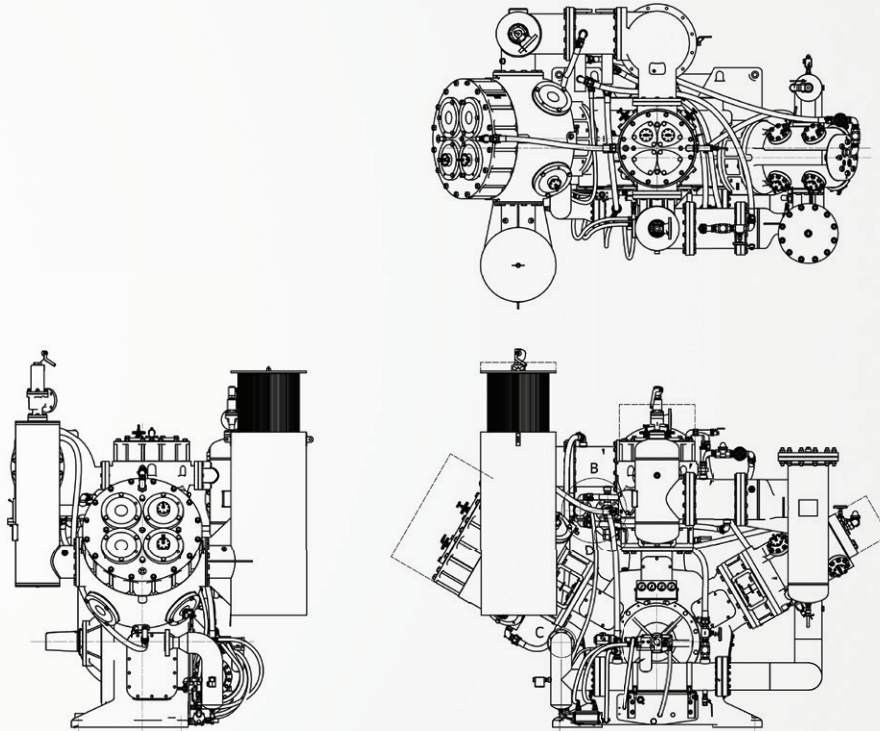
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
W370-40-3N	Height	mm	3100	inches	122
	Width	mm	2100	inches	83
	Length	mm	3500	inches	138
	Weight	kg	10410	lb	22950
W370-45-3N	Height	mm	3150	inches	124
	Width	mm	2100	inches	83
	Length	mm	3400	inches	134
	Weight	kg	11500	lb	25353



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The Belliss & Morcom industrial range of 3 stage, water cooled, oil free industrial air and gas compressors is a world leader in the field of oil free reciprocating technology and solutions.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 45 barg (653 psig) pressures.

**PERFORMANCE STATISTICS:**

20 to 45 barg (290 to 653 psig)  
2444 to 3045 m<sup>3</sup>/hr (1439 to 1792 cfm)



Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors, half load capability and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

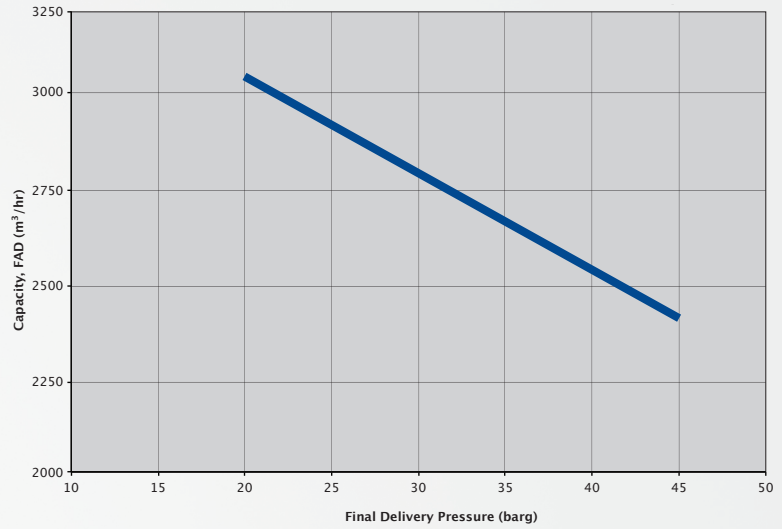
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	2444	3045
	cfm	1439	1792
Final delivery pressure	barg	45	20
	psig	653	290
Compressor speed	rpm	735	
Motor power	kW	450	550
	hp	603	738
Compressor stages		3	

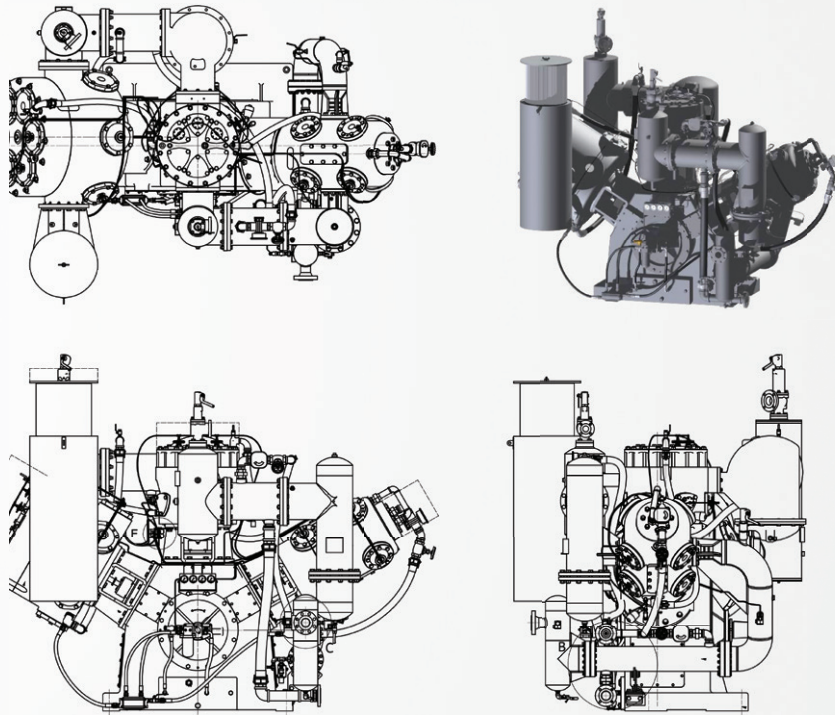
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	3150	inches	124
Width	mm	2100	inches	83
Length	mm	4000	inches	134
Weight	kg	12000	lb	25353



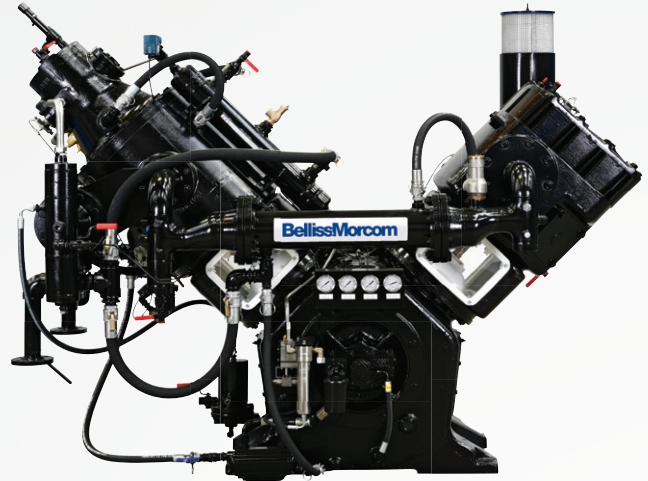
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The Belliss & Morcom industrial range of 3 stage, water cooled, oil free industrial air and gas compressors is a world leader in the field of oil free reciprocating technology and solutions.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 90 barg (1305 psig) pressures.

**PERFORMANCE STATISTICS:**

50 to 90 barg (725 to 1305 psig)  
290 to 370 m<sup>3</sup>/hr (170 to 217 cfm)



Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	290	370
	cfm	171	218
Final delivery pressure	barg	90	50
	psig	1305	725
Compressor speed	rpm	735	
Motor power	kW	90	
	hp	121	
Compressor stages		3	

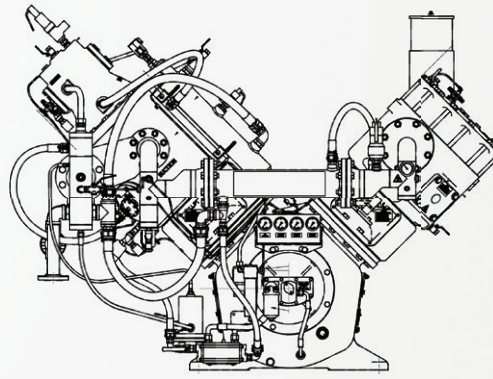
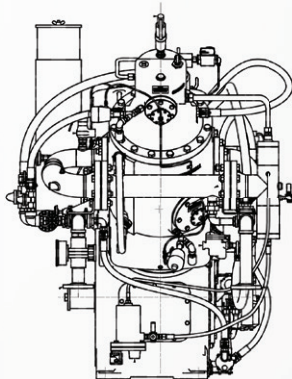
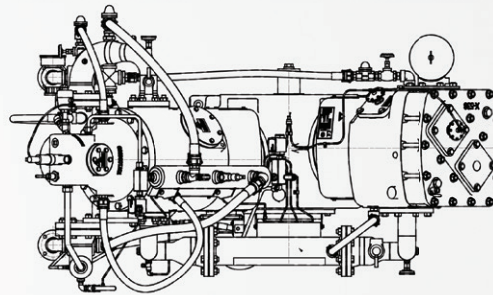
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2260	inches	89
Width	mm	2100	inches	83
Length	mm	2350	inches	93
Weight	kg	3875	lb	8543



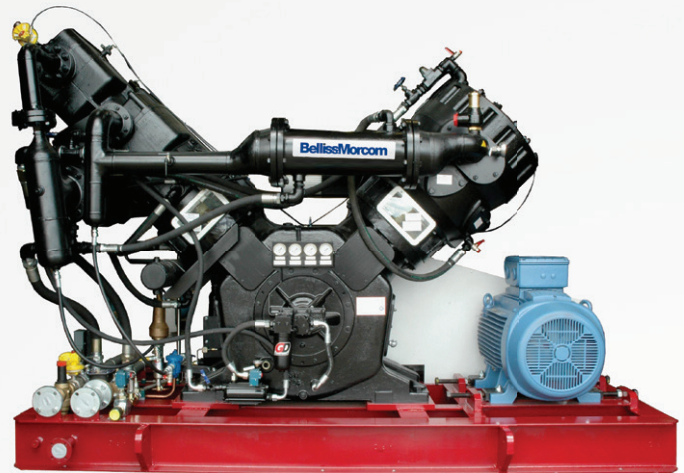
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The Belliss & Morcom industrial range of 3 stage, water cooled, oil free industrial air and gas compressors is a world leader in the field of oil free reciprocating technology and solutions.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 90 barg (1305 psig) pressures.

**PERFORMANCE STATISTICS:**

50 to 90 barg (725 to 1305 psig)  
543 to 710 m<sup>3</sup>/hr (320 to 418 cfm)



Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	543	710
	cfm	320	418
Final delivery pressure	barg	90	50
	psig	1305	725
Compressor speed	rpm	735	
Motor power	kW	175	175
	hp	235	235
Compressor stages		3	

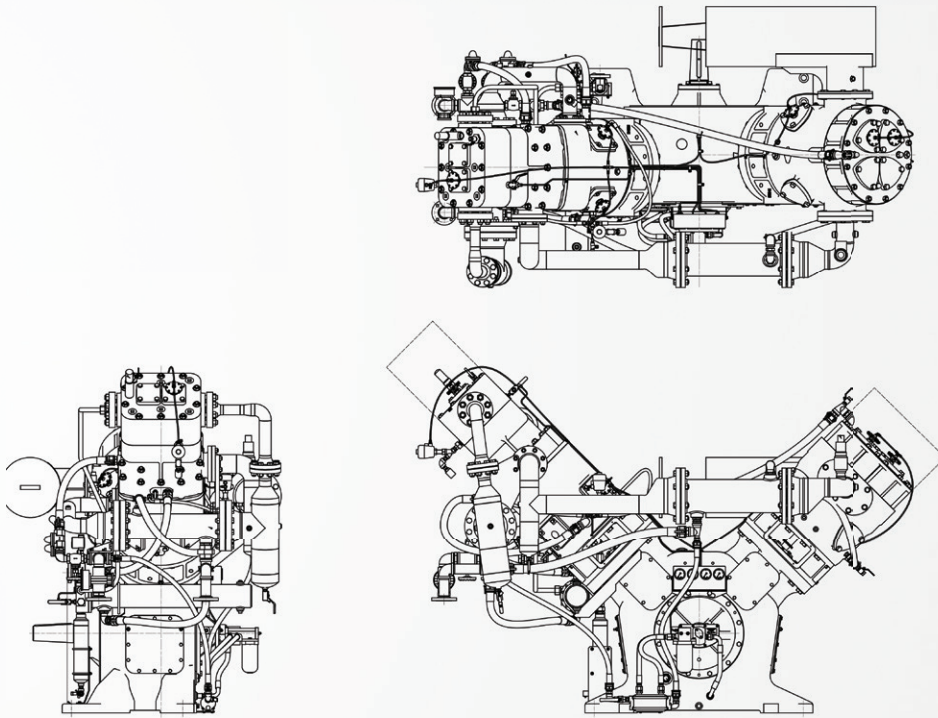
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2300	inches	91
Width	mm	2100	inches	83
Length	mm	2950	inches	116
Weight	kg	5160	lb	11376



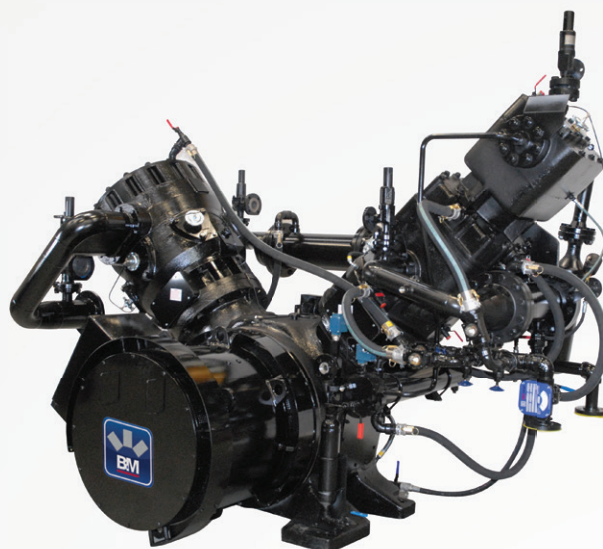
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The Belliss & Morcom industrial range of 3 stage, water cooled, oil free industrial air and gas compressors is a world leader in the field of oil free reciprocating technology and solutions.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, both the V and W range offer unrivalled high performance oil free air and gas components up to 90 barg (1305 psig) pressures.

**PERFORMANCE STATISTICS:**

50 to 90 barg (725 to 1305 psig)  
711 to 990 m<sup>3</sup>/hr, (418 to 583 cfm)



Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

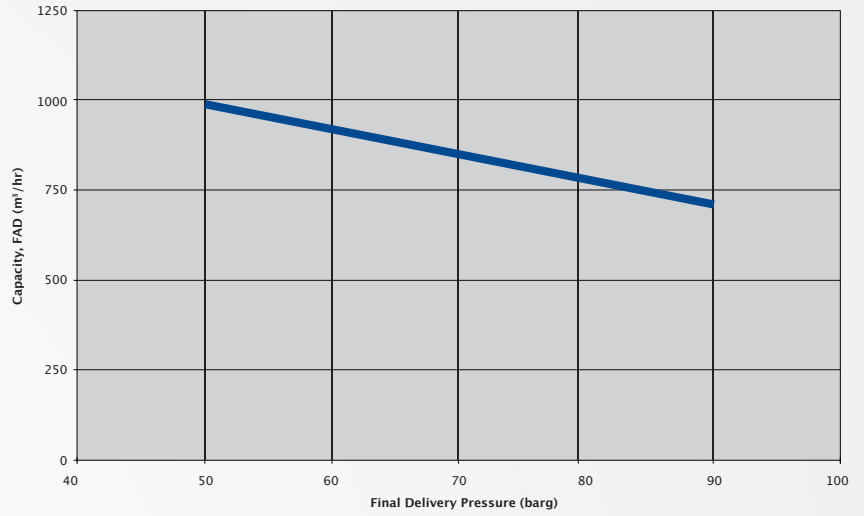
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	711	990
	cfm	418	583
Final delivery pressure	barg	90	50
	psig	1305	725
Compressor speed	rpm	735	
Motor power	kW	200	200
	hp	282	235
Compressor stages		3	

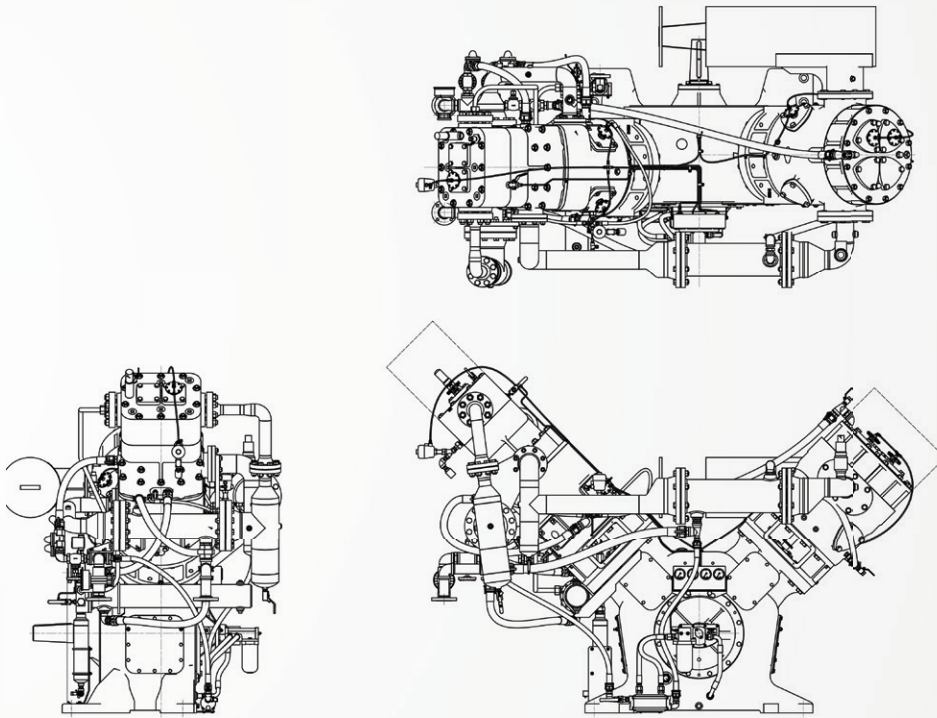
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Boosted Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

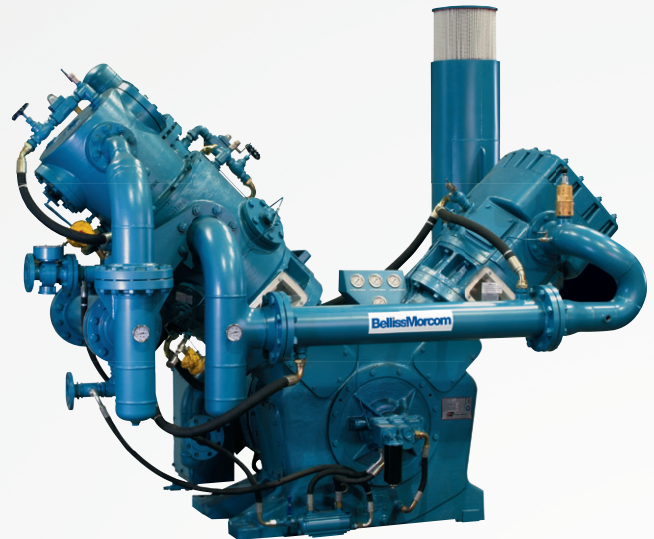
	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2300	inches	91
Width	mm	2100	inches	83
Length	mm	2950	inches	116
Weight	kg	5160	lb	11376



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The VH7 and VH9 is a 3 stage, oil free, water cooled compressor designed for the PET bottle blowing industry. They offer a neatly arranged compressor system which provides maximum oil free air capacity in the smallest available footprint.

The VH Range is also available as complete packages including all essential ancillary items such as starter control panels with PLC logic systems, energy efficient motors, air dryer, air receiver, filters and optional cooling systems to suit all site conditions.



**PERFORMANCE STATISTICS:**

20 to 40 barg (290 to 580 psig)  
403 to 580 m<sup>3</sup>/hr (237 to 341 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Fast simple servicing with long service intervals

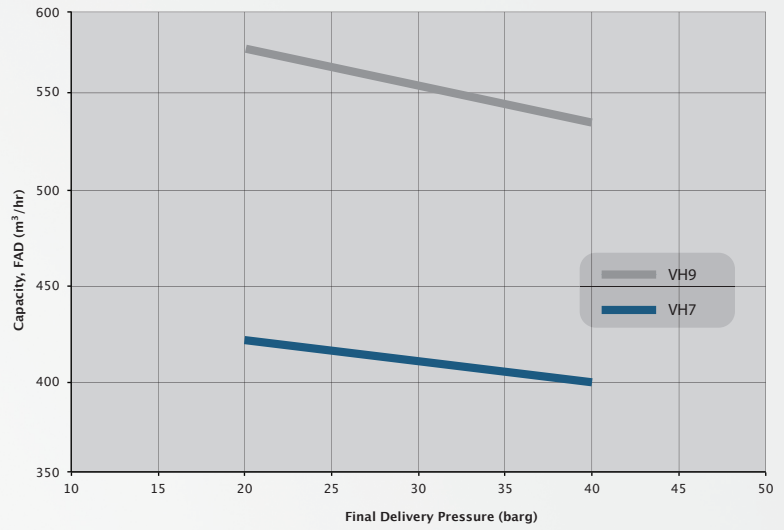
**PERFORMANCE**

	Unit/ Measure	VH7		VH9	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	403	420	540	580
	cfm	237	247	318	341
Final delivery pressure	barg	40	20	40	20
	psig	580	290	580	290
Compressor speed	rpm	735		985	
Motor power	kW	90	90	110	110
	hp	121	121	148	148
Compressor stages		3		3	

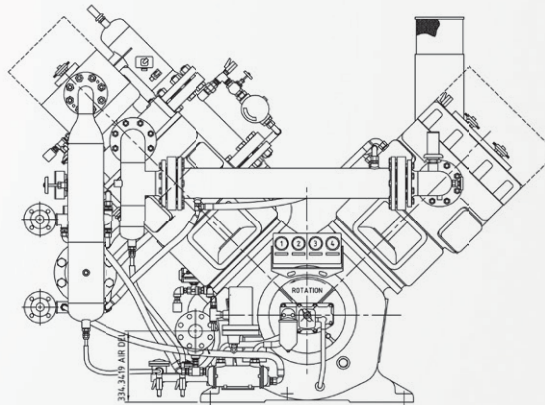
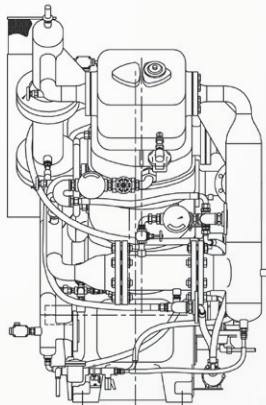
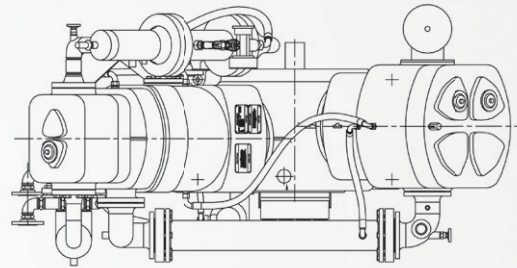
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

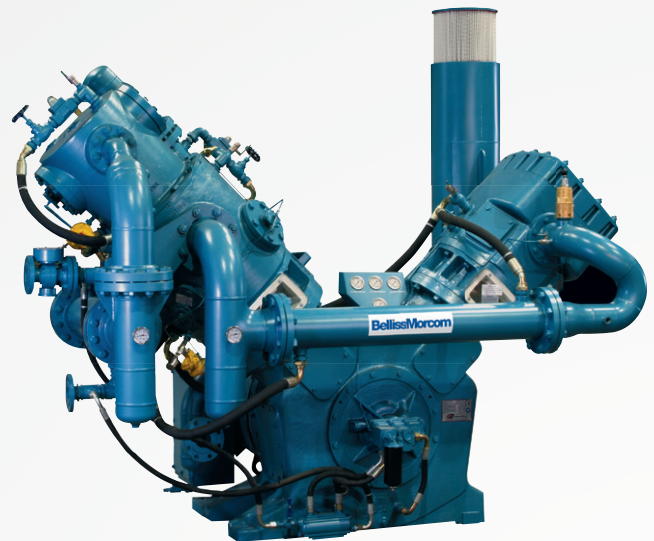
	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2260	inches	89
Width	mm	2100	inches	83
Length	mm	2350	inches	93
Weight	kg	3875	lb	8543



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The VH12 and VH15 are a 3 stage, oil free, water cooled compressor designed for the PET bottle blowing industry. They offer a neatly arranged compressor system which provides maximum oil free air capacity in the smallest available footprint.

The VH Range is also available as complete packages including all essential ancillary items such as starter control panels with PLC logic systems, energy efficient motors, air dryer, air receiver, filters and optional cooling systems to suit all site conditions.



**PERFORMANCE STATISTICS:**

20 to 40 barg (290 to 580 psig)  
711 to 916 m<sup>3</sup>/hr (419 to 539 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Fast simple servicing with long service intervals

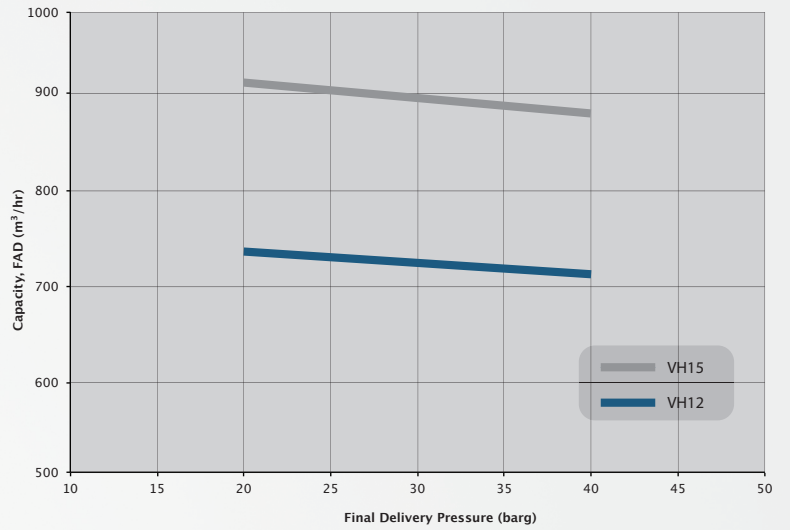
**PERFORMANCE**

	Unit/ Measure	VH12		VH15	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	711	729	886	916
	cfm	419	429	522	539
Final delivery pressure	barg	40	20	40	20
	psig	580	290	580	290
Compressor speed	rpm	585		735	
Motor power	kW	110	150	150	175
	hp	201	148	201	235
Compressor stages		3		3	

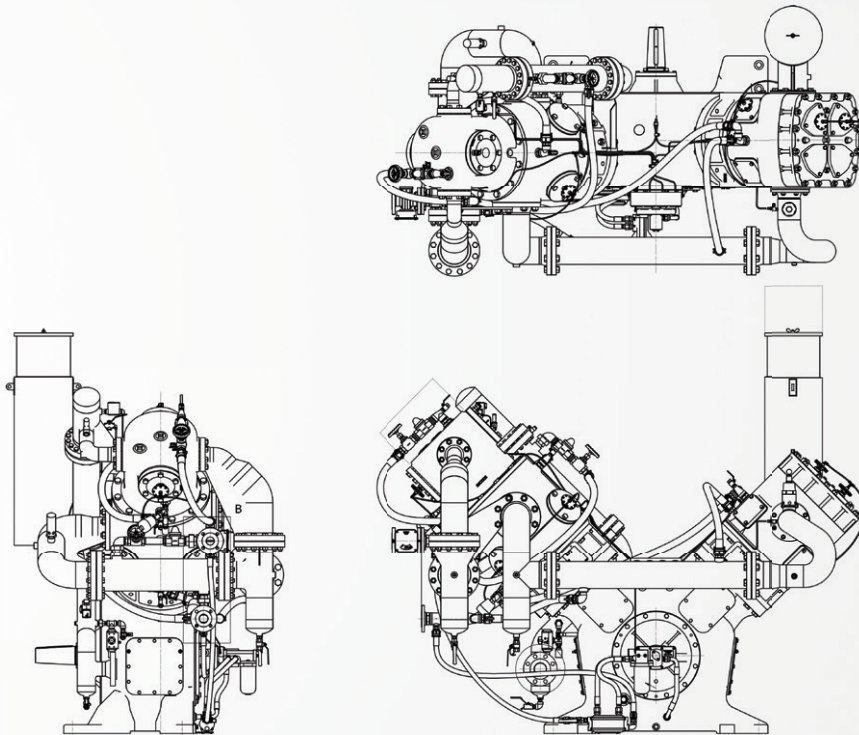
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2300	inches	91
Width	mm	2100	inches	83
Length	mm	2950	inches	116
Weight	kg	5160	lb	11376



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The VH18 and VH21 are a 3 stage, oil free, water cooled compressor designed for the PET bottle blowing industry. They offer a neatly arranged compressor system which provides maximum oil free air capacity in the smallest available footprint.

The VH Range is also available as complete packages including all essential ancillary items such as starter control panels with PLC logic systems, energy efficient motors, air dryer, air receiver, filters and optional cooling systems to suit all site conditions.

**PERFORMANCE STATISTICS:**

20 to 40 barg (290 to 580 psig)  
1074 to 1402 m<sup>3</sup>/hr (631 to 822 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

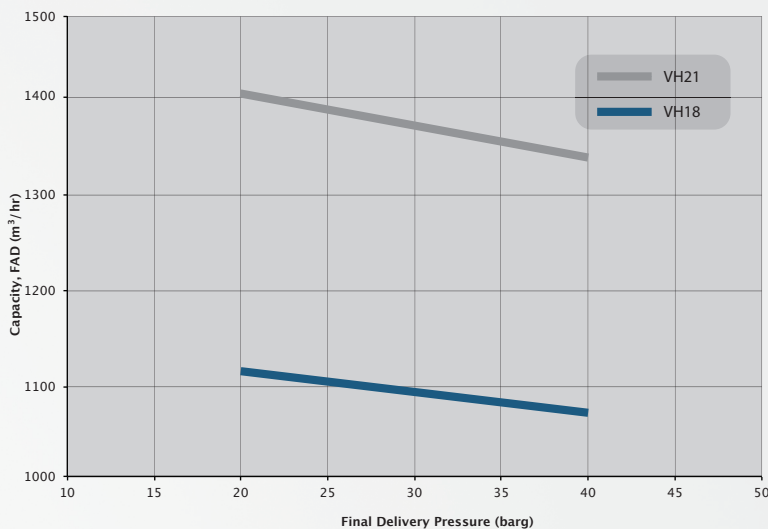
**PERFORMANCE**

	Unit/ Measure	VH18		VH21	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1074	1116	1338	1402
	cfm	631	657	788	822
Final delivery pressure	barg	40	20	40	20
	psig	580	290	580	290
Compressor speed	rpm	585		735	
Motor power	kW	210	210	260	260
	hp	282	282	349	349
Compressor stages		3		3	

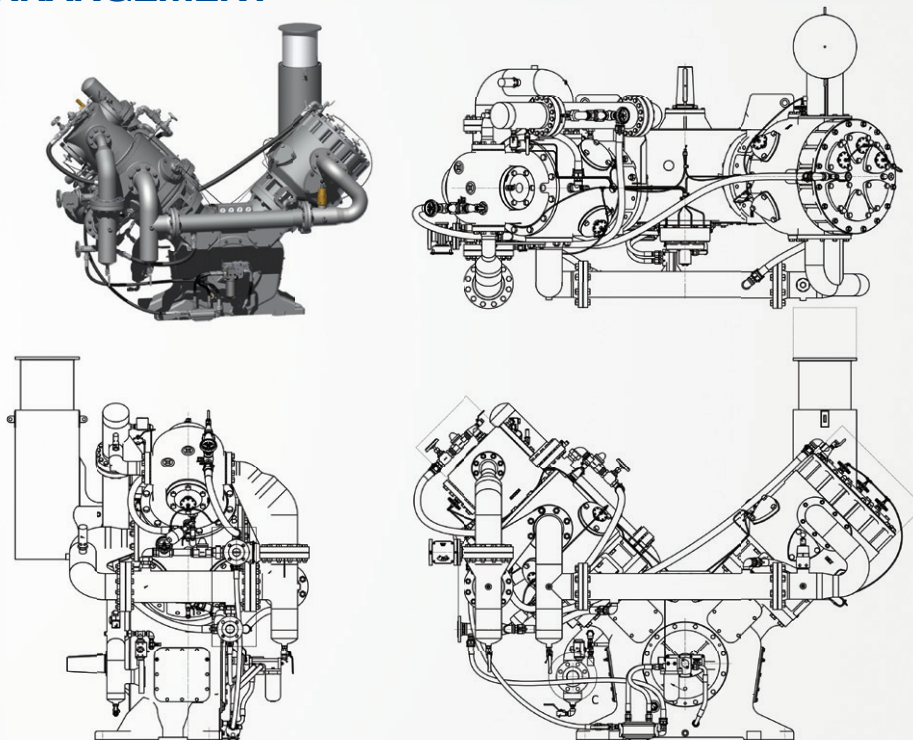
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2370	inches	93
Width	mm	2100	inches	83
Length	mm	3025	inches	119
Weight	kg	6345	lb	13988



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The VH25 is a 3 stage, oil free, water cooled compressor designed for the PET bottle blowing industry. It offers a neatly arranged compressor system which provides maximum oil free air capacity in the smallest available footprint.

The VH Range is also available as complete packages including all essential ancillary items such as starter control panels with PLC logic systems, energy efficient motors, air dryer, air receiver, filters and optional cooling systems to suit all site conditions.

**PERFORMANCE STATISTICS:**

20 to 40 barg (290 to 582 psig)  
1470 to 1500 m<sup>3</sup>/hr (865 to 883 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

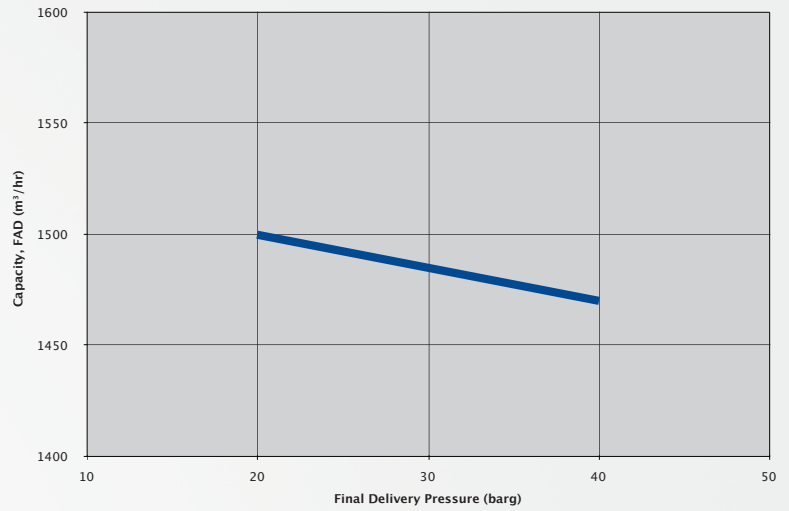
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1470	1500
	cfm	865	883
Final delivery pressure	barg	40	20
	psig	580	290
Compressor speed	rpm	735	
Motor power	kW	280	280
	hp	375	375
Compressor stages		3	

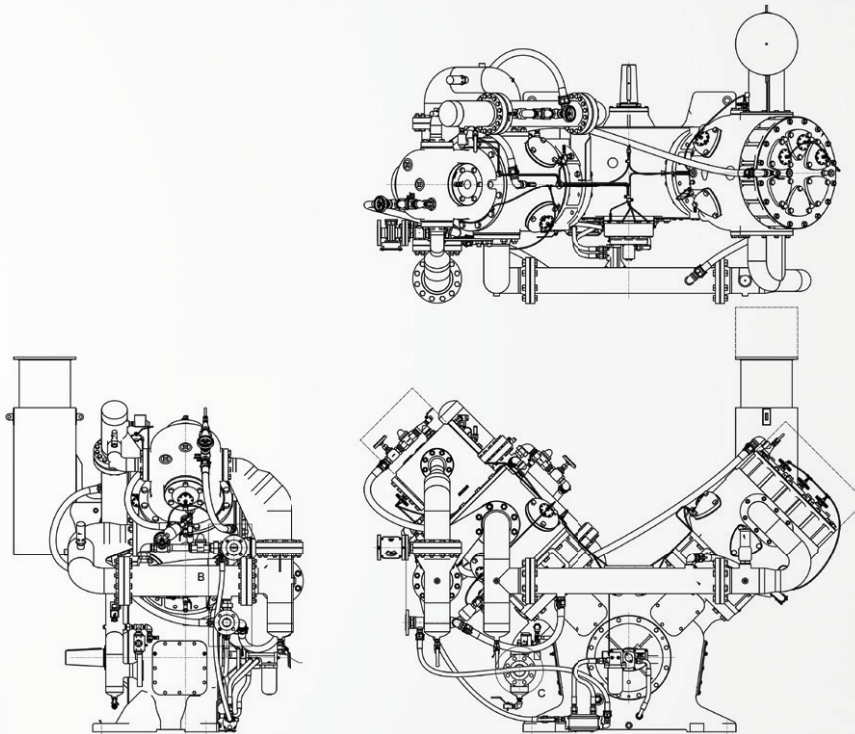
Please note performance data is based on 50Hz motor power only.

## PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



## GENERAL ARRANGEMENT



## DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2370	inches	93
Width	mm	2100	inches	83
Length	mm	3025	inches	119
Weight	kg	6800	lb	14991



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The WH28 and WH29, are 3 stage, oil free, water cooled compressors designed for the PET bottle blowing industry. They offer high volumes of oil free air utilising energy efficient equipment and components. The double acting design provides greater flexibility in capacity control and lower power consumption.

Our unique design includes a three step capacity control with the piston compressing air on the up stroke as well as the down. This type of capacity control allows our customers to save energy and money. Our inclined cylinder arrangement optimises balance and extends component life, reducing maintenance costs.



**PERFORMANCE STATISTICS:**

20 to 40 barg (290 to 580 psig)  
 1566 to 1800 m<sup>3</sup>/hr (922 to 1059 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors, half load capability and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

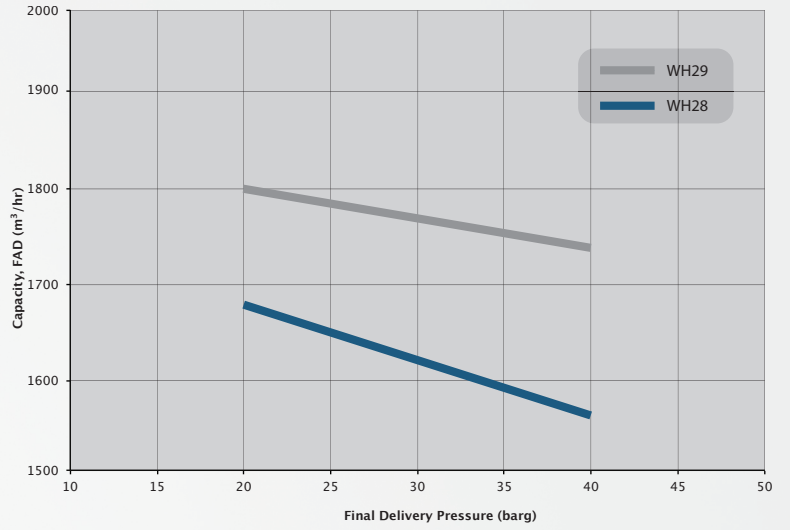
**PERFORMANCE**

	Unit/ Measure	WH28		WH29	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	1566	1680	1737	1800
	cfm	922	989	1022	1059
Final delivery pressure	barg	40	20	40	20
	psig	580	290	580	290
Compressor speed	rpm	735		735	
Motor power	kW	280	280	325	325
	hp	375	375	436	436
Compressor stages		3		3	

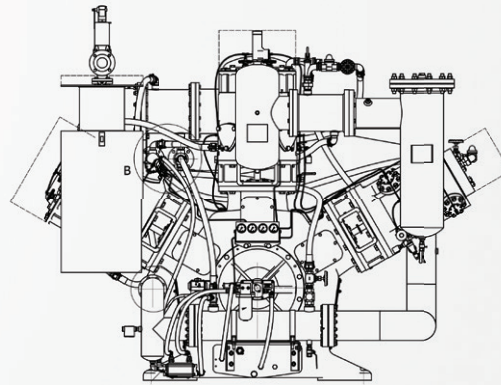
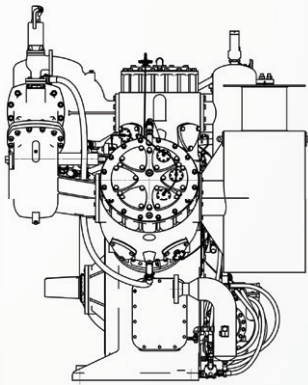
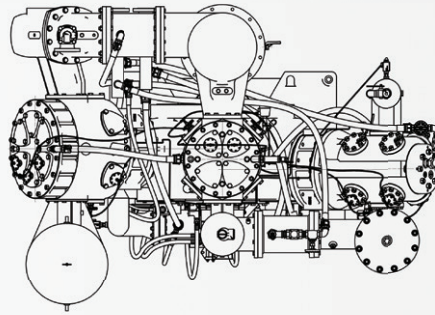
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2980	inches	117
Width	mm	2100	inches	83
Length	mm	3275	inches	129
Weight	kg	9900	lb	21826



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The WH40 and WH45 are 3 stage, oil free, water cooled compressors designed for the PET bottle blowing industry. It offers high volumes of oil free air utilising energy efficient equipment and components. The double acting design provides greater flexibility in capacity control and lower power consumption.

Our unique design includes a three step capacity control with the piston compressing air on the up stroke as well as the down. This type of capacity control allows our customers to save energy and money. Our inclined cylinder arrangement optimises balance and extends component life, reducing maintenance costs.



**PERFORMANCE STATISTICS:**

20 to 40 barg (290 to 580 psig)  
2226 to 2700 m<sup>3</sup>/hr (1310 to 1589 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors, half load capability and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

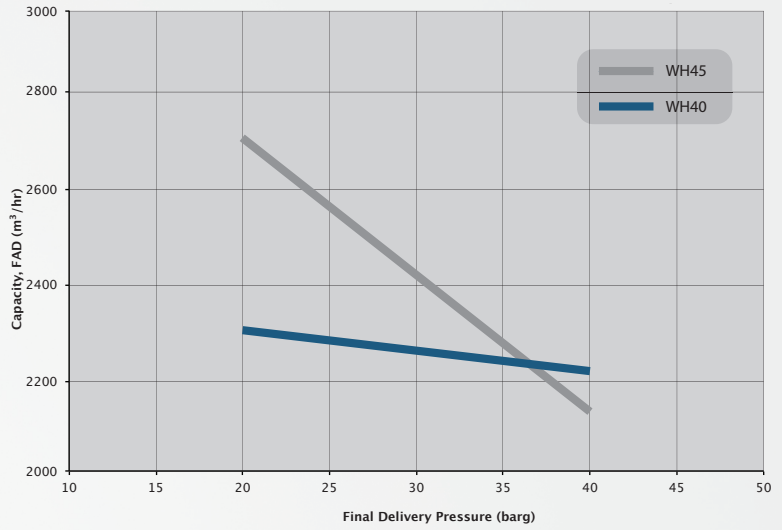
**PERFORMANCE**

	Unit/ Measure	WH40		WH45	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	2226	2300	2168	2700
	cfm	1310	1354	1589	1589
Final delivery pressure	barg	40	20	40	20
	psig	580	290	580	290
Compressor speed	rpm	500	735	500	735
Motor power	kW	400	400	400	550
	hp	536	536	536	738
Compressor stages		3		3	

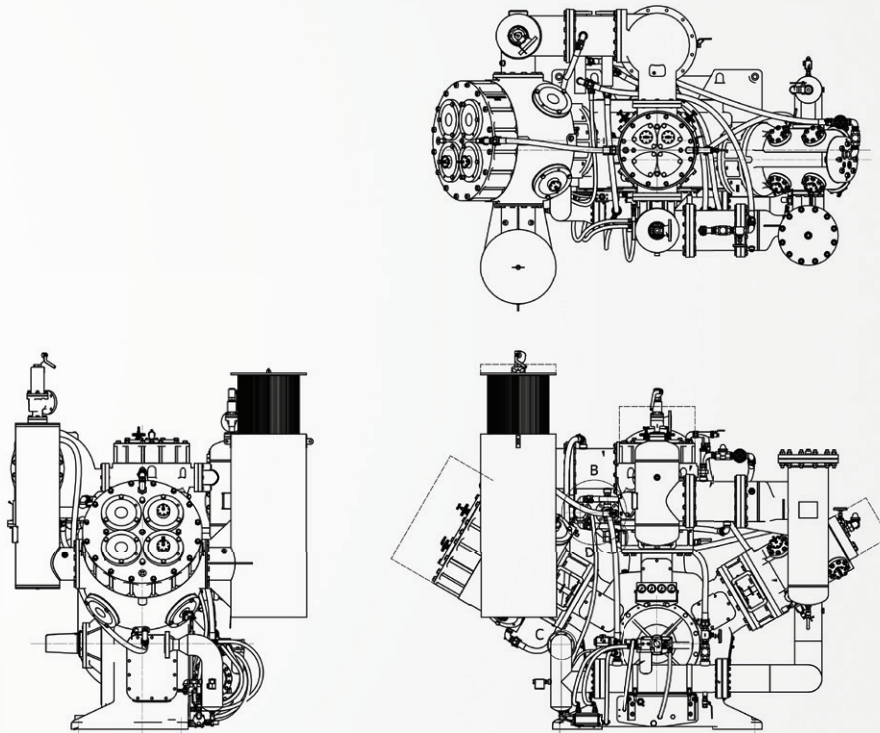
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
WH40	Height	mm	3100	inches	122
	Width	mm	2100	inches	83
	Length	mm	3500	inches	138
	Weight	kg	10410	lb	22950
WH45	Height	mm	3150	inches	124
	Width	mm	2100	inches	83
	Length	mm	3400	inches	134
	Weight	kg	11500	lb	25353

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.



The WH50 is a 3 stage, oil free, water cooled compressor designed for the PET bottle blowing industry. It offers high volumes of oil free air utilising energy efficient equipment and components. The double acting design provides greater flexibility in capacity control and lower power consumption.

Our unique design includes a three step capacity control with the piston compressing air on the up stroke as well as the down. This type of capacity control allows our customers to save energy and money. Our inclined cylinder arrangement optimises balance and extends component life, reducing maintenance costs.



**PERFORMANCE STATISTICS:**

20 to 40 barg (290 to 580 psig)  
3045 to 3200 m<sup>3</sup>/hr (1792 to 1884 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors, half load capability and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

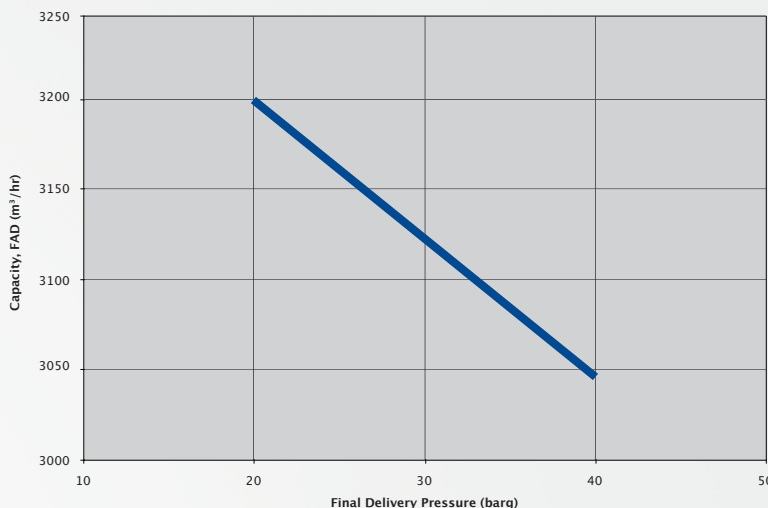
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	3045	3200
	cfm	1792	1884
Final delivery pressure	barg	40	20
	psig	580	290
Compressor speed	rpm	735	
Motor power	kW	450	550
	hp	603	738
Compressor stages		3	

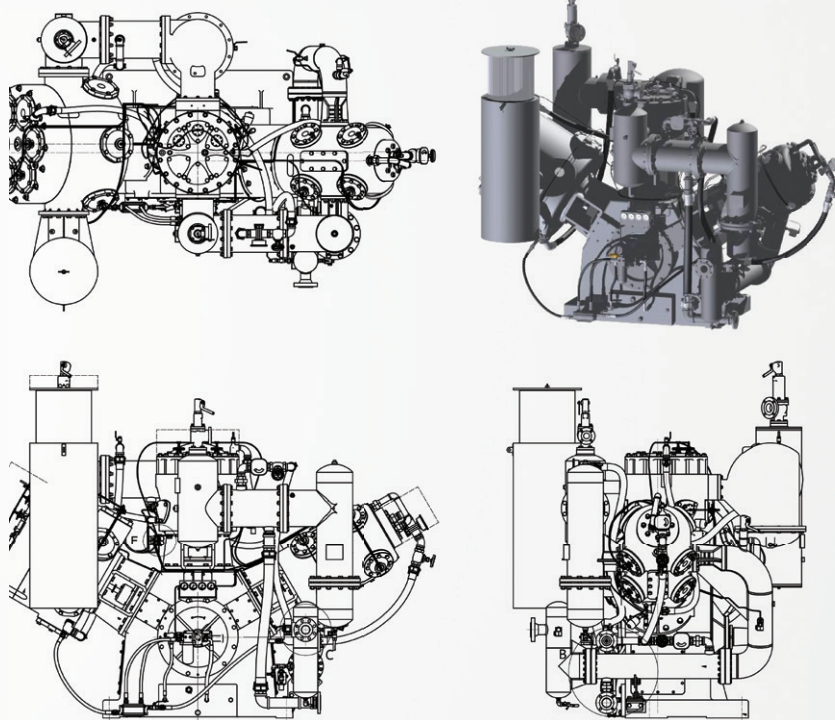
Please note performance data is based on 50Hz motor power only.

## PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



## GENERAL ARRANGEMENT



## DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	3150	inches	124
Width	mm	2100	inches	83
Length	mm	4000	inches	157
Weight	kg	12000	lb	26455



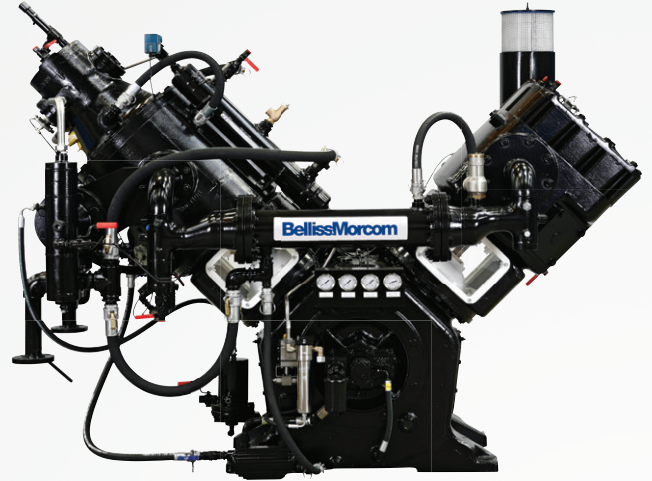
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The Belliss & Morcom Hydropower range of 3 stage, water cooled, oil free compressors are world leaders in the field of oil free reciprocating technology and solutions for the power generation industry.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, the Hydropower range offers unrivalled high performance oil free air and gas components up to 90 barg pressures for applications such as turbine de-watering and governor control.

**PERFORMANCE STATISTICS:**

50 to 90 barg (725 to 1305 psig)  
290 to 327 m<sup>3</sup>/hr (171 to 193 cfm)



Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	290	327
	cfm	171	193
Final delivery pressure	barg	90	50
	psig	1305	725
Compressor speed	rpm	735	
Motor power	kW	90	
	hp	121	
Compressor stages		3	

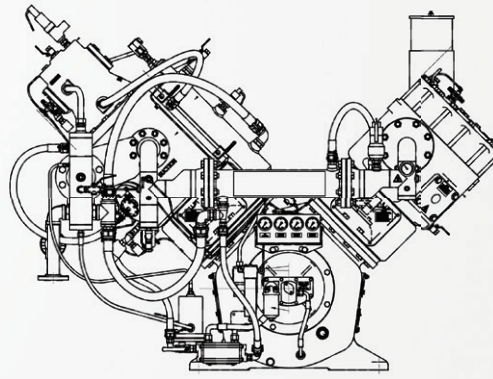
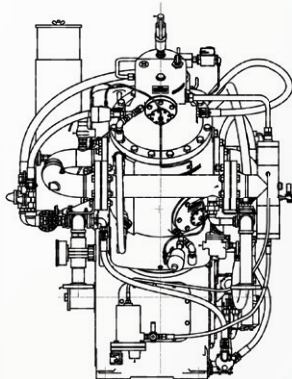
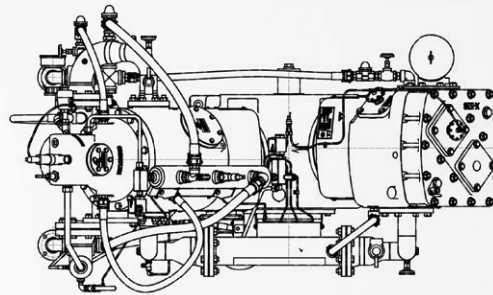
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	1696	inches	67
Width	mm	1797	inches	71
Length	mm	2888	inches	114
Weight	kg	4000	lb	8818



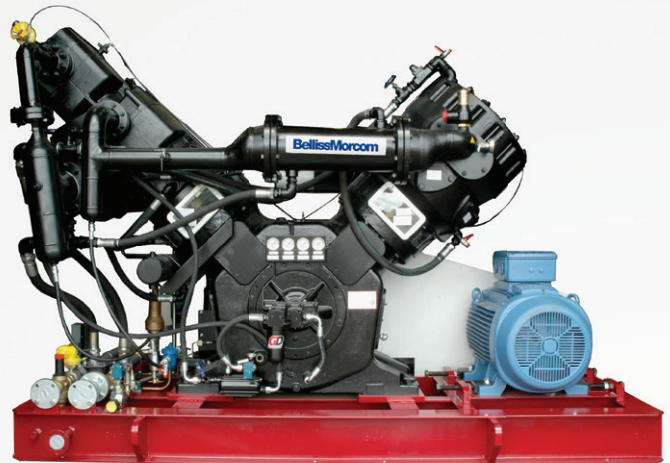
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The Belliss & Morcom Hydropower range of 3 stage, water cooled, oil free compressors are world leaders in the field of oil free reciprocating technology and solutions for the power generation industry.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, the Hydropower range offers unrivalled high performance oil free air and gas components up to 90 barg pressures for applications such as turbine de-watering and governor control.

**PERFORMANCE STATISTICS:**

50 to 90 barg (725 to 1305 psig)  
543 to 710 m<sup>3</sup>/hr (320 to 418 cfm)



Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter stage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs.
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduces compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	543	710
	cfm	320	418
Final delivery pressure	barg	90	50
	psig	1305	725
Compressor speed	rpm	735	
Motor power	kW	175	175
	hp	235	235
Compressor stages		3	

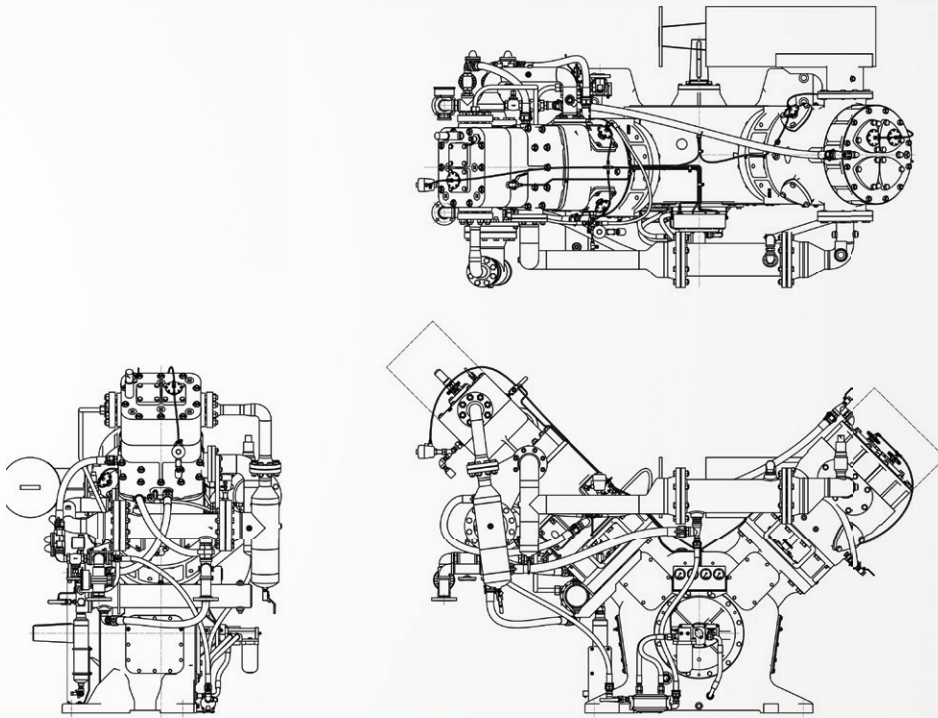
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2300	inches	91
Width	mm	2100	inches	83
Length	mm	2950	inches	116
Weight	kg	5160	lb	11376



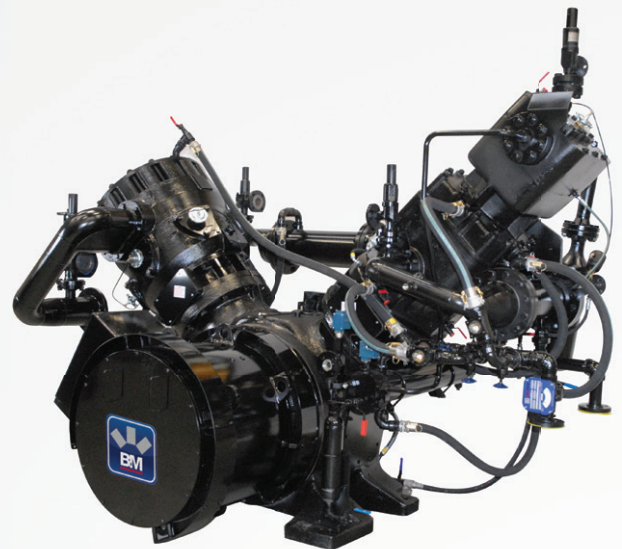
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The Belliss & Morcom Hydropower range of 3 stage, water cooled, oil free compressors are world leaders in the field of oil free reciprocating technology and solutions for the power generation industry.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, the Hydropower range offers unrivalled high performance oil free air and gas components up to 90 barg pressures for applications such as turbine de-watering and governor control.

**PERFORMANCE STATISTICS:**

50 to 90 barg (725 to 1305 psig)  
795 to 990 m<sup>3</sup>/hr (468 to 583 cfm)



Belliss & Morcom Compressors

3

**FEATURES**

**BENEFITS**

Low cost of ownership	High efficiency motors and other energy efficiency components reduces operating costs
Low power consumption	Direct drive shaftless motor reduces power absorbed and eliminates any belt drive losses
Small compressor footprint	Where space is at a premium our compressors offer a neatly arranged compressor system in the smallest available footprint
Long term reliability	Robust construction ensures continuous 24/7 operation maintaining production output
Simple installation	Compact skid packages which are dynamically balanced reduce installation costs and do not require special foundations
Low cost maintenance	Only one major service per annum and with no belts or bearings to replace there are fewer parts to maintain

**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	795	990
	cfm	468	583
Final delivery pressure	barg	90	50
	psig	1305	725
Compressor speed	rpm	735	
Motor power	kW	200	200
	hp	282	235
Compressor stages		3	

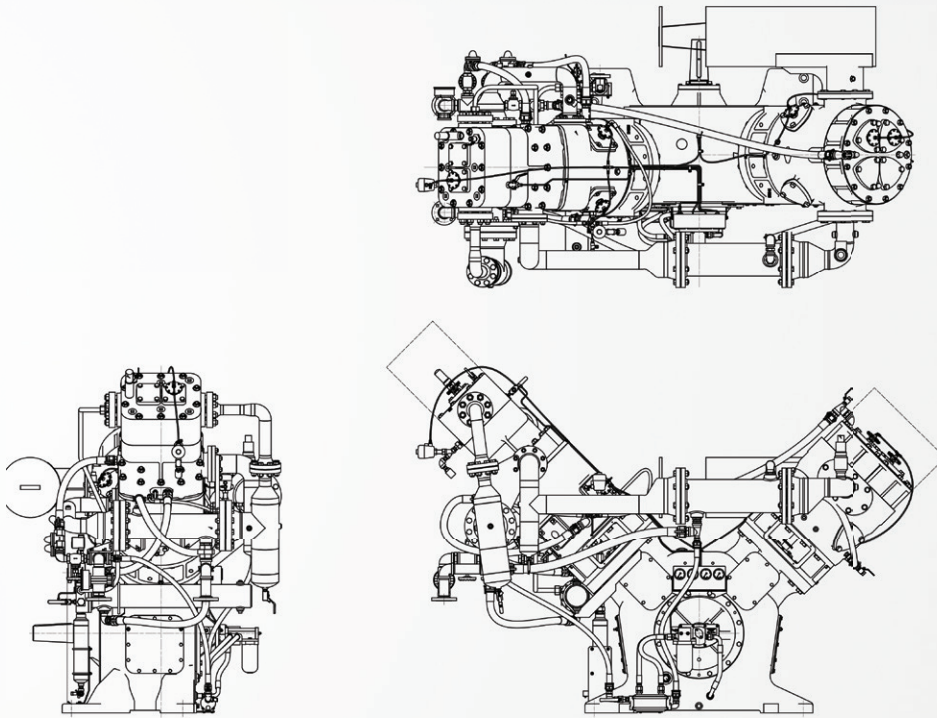
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	2370	inches	93
Width	mm	2100	inches	83
Length	mm	3025	inches	119
Weight	kg	6345	lb	13988



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

**PERFORMANCE SUMMARY:**

**Air quality:** Lubricated

**Cooling:** Air & Water

**No. of blocks:** 12

**Pressure:**

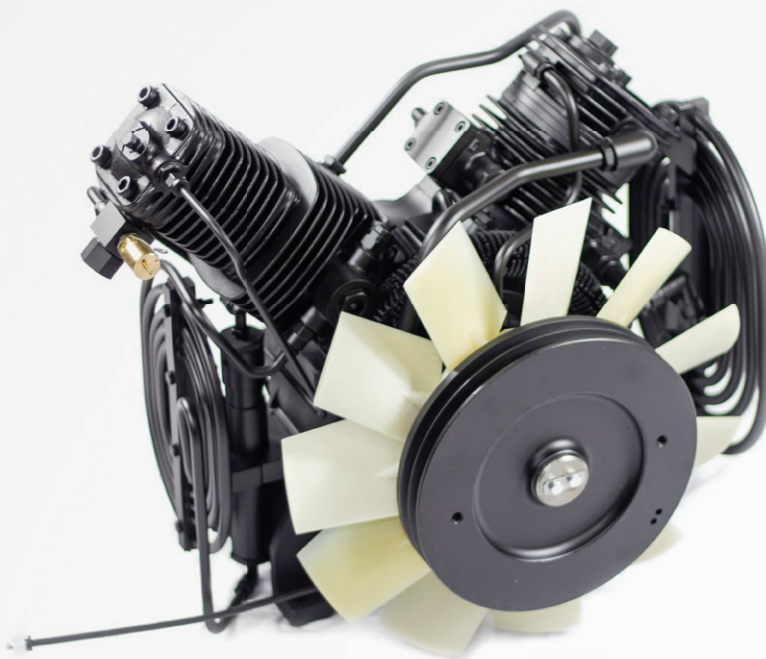
2 to 414 barg

29 to 6005 psig

**Flow:**

3.3 to 64.6 m<sup>3</sup>/hr

1.9 to 38 cfm



The GD range of compressors provides high performance, reliable reciprocating compressors. The vee belt driven sets provide excellent balanced packages in a compact compressor footprint.

The compressors are designed with easy maintenance in mind, with no specialist tools required with easy access and fast replacement of wearable parts

GD Compressors

**INDUSTRY AREAS OF EXPERTISE**



**BREATHING AIR**



**POWER DISTRIBUTION**



**CNG**

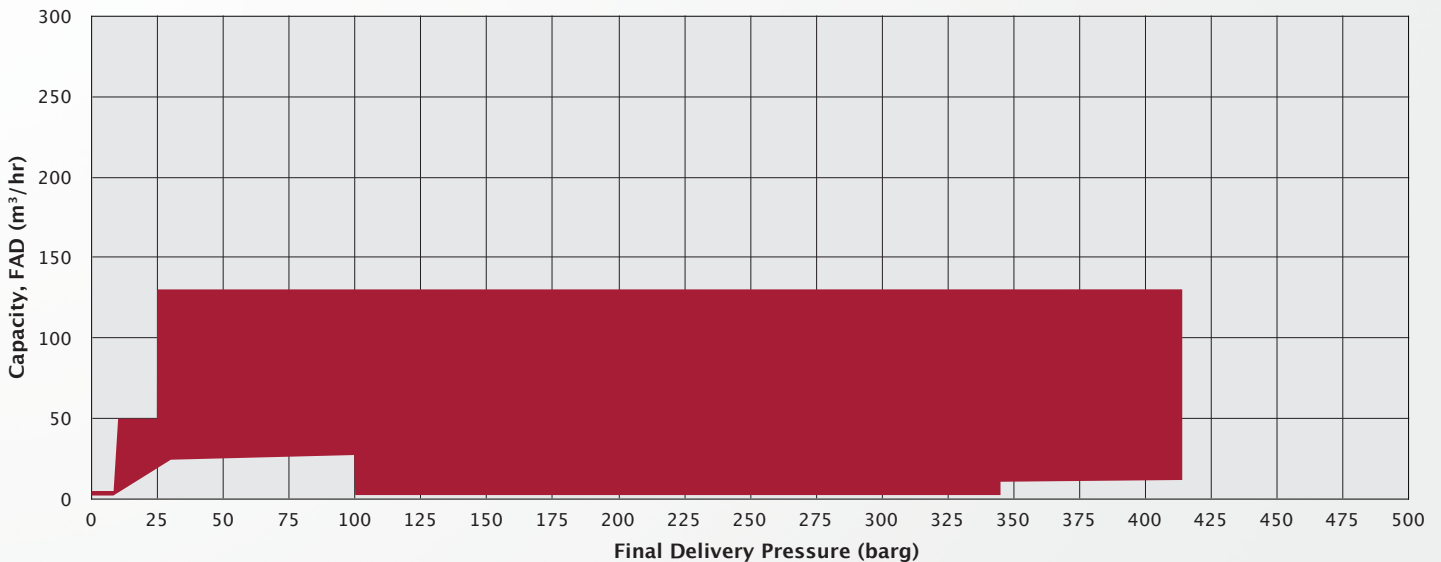
**AIR COOLED COMPRESSORS**

For the Air Cooled compressor unit, all excess heat is transferred to the ambient air environment. Utilised in GD's small as well as largest compression units, this type of cooling is flexible and adaptable to many applications

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Vee belt driven sets offer a wide variety of speeds irrespective of prime mover (electric or diesel) matching compressor speed to customer requirements Direct Driven sets, less power transmission loss and no adjustment of belts
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required



The V5L-AL is a low pressure lubricated air cooled piston compressor set. A proven design which is energy efficient with low running noise.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments.

**PERFORMANCE STATISTICS:**

1 to 8 barg (20 to 119 psig)

3 to 9 m<sup>3</sup>/hr (2 to 5 cfm)

**Alternative sales model reference:  
BP02**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Direct driven sets, less power transmission loss and no adjustment of belts
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

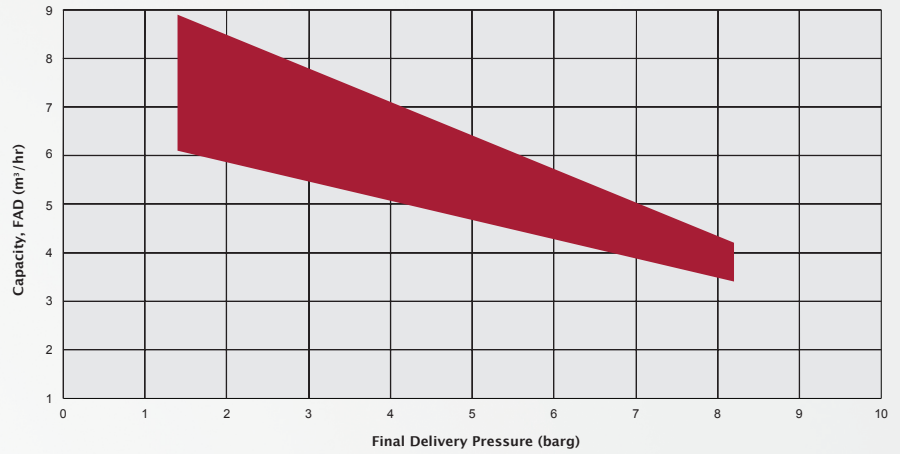
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	3	9
	cfm	2	5
Final delivery pressure	barg	8	1
	psig	119	20
Compressor speed	rpm	1200	1750
Motor power	kW	1	
	hp	1	
Compressor stages		1	

Please note performance data is based on 50Hz motor power only.

**PERFORMANCE ENVELOPE**

High Pressure Performance Envelope,  
Atmospheric Inlet



**GENERAL ARRANGEMENT**

**DIMENSIONS**

	Metric		Imperial	
Height	mm	335	inches	13
Width	mm	381	inches	15
Length	mm	240	inches	9
Weight	kg	12	lb	26



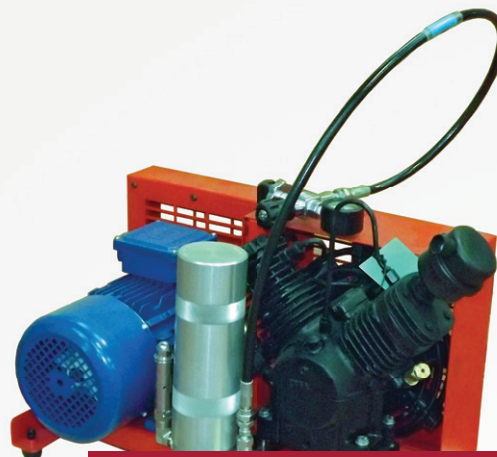
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The V5H-AL is a 3 stage air cooled lubricated compressor set. A proven design which is energy efficient with low running noise, easy to install and configure to meet site requirements.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments. Its flexible design means the compressor can be set to provide industrial air as well as high quality breathing air.

**PERFORMANCE STATISTICS:**

69 to 345 barg (1000 to 5004 psig)  
3 to 4 m<sup>3</sup>/hr (2 to 3 cfm)



**Alternative sales model reference:  
BP3**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Vee belt driven sets offer a wide variety of speeds irrespective of prime mover (electric or diesel) matching compressor speed to customer requirements
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

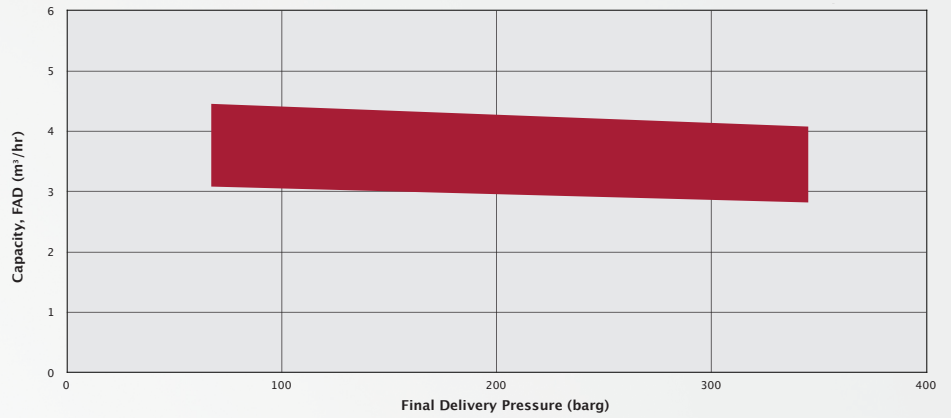
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	3	4
	cfm	2	3
Final delivery pressure	barg	345	69
	psig	5004	1000
Compressor speed	rpm	1800	2600
Motor power	kW	2	
	hp	3	
Compressor stages		3	

Please note performance data is based on 50Hz motor power only.

**PERFORMANCE ENVELOPE**

High Pressure Performance Envelope,  
Atmospheric Inlet



**GENERAL ARRANGEMENT**

**DIMENSIONS**

	Metric		Imperial	
Height	mm	335	inches	13
Width	mm	381	inches	15
Length	mm	240	inches	9
Weight	kg	12	lb	26



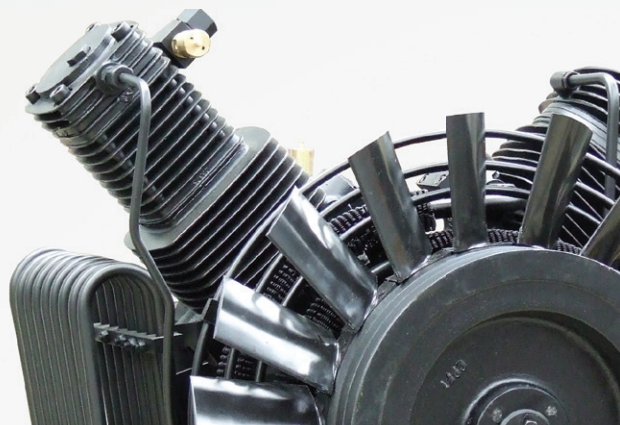
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The V10H-AL is a 3 stage air cooled lubricated compressor set. A proven design which is energy efficient with low running noise, easy to instal and configure to meet site requirements.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments. Its flexible design means the compressor can be set to provide industrial air as well as high quality breathing air.

**PERFORMANCE STATISTICS:**

69 to 345 barg (1000 to 5004 psig)  
4 to 8 m<sup>3</sup>/hr (2 to 5 cfm)



**Alternative sales model reference:  
BP6**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Vee belt driven sets offer a wide variety of speeds irrespective of prime mover (electric or diesel) matching compressor speed to customer requirements
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

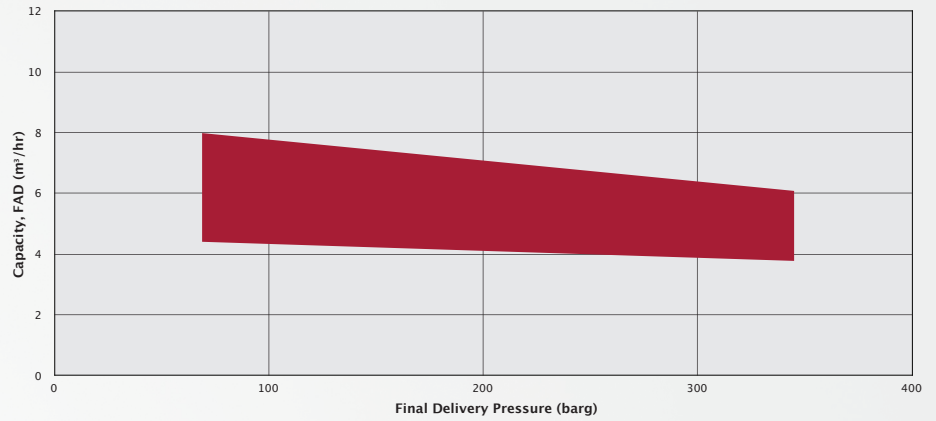
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	4	8
	cfm	2	5
Final delivery pressure	barg	345	69
	psig	5004	1000
Compressor speed	rpm	800	1450
Motor power	kW	4	
	hp	5	
Compressor stages		3	

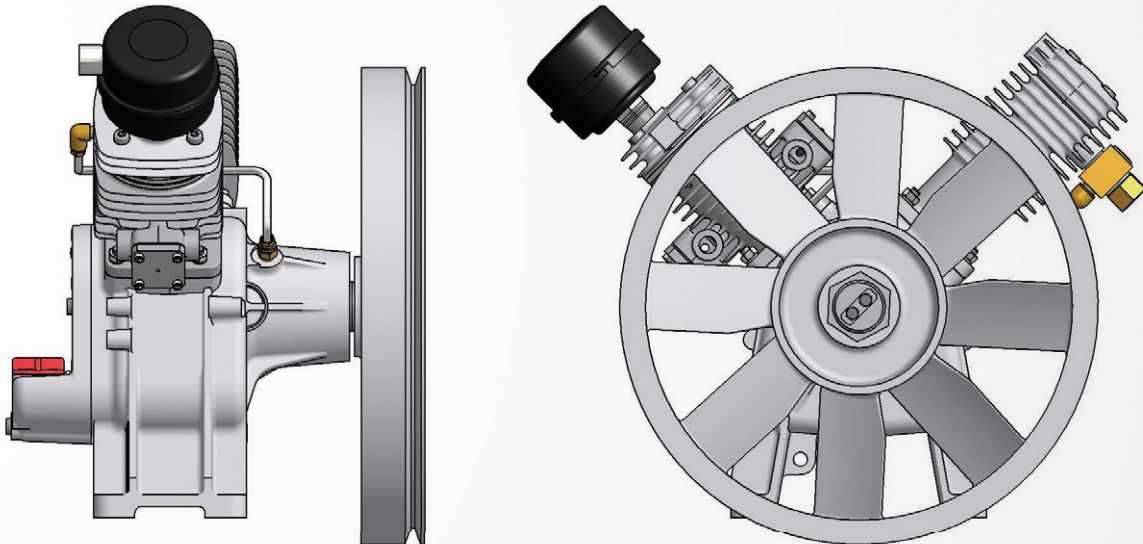
Please note performance data is based on 50Hz motor power only.

**PERFORMANCE ENVELOPE**

High Pressure Performance Envelope,  
Atmospheric Inlet



**GENERAL ARRANGEMENT**



**DIMENSIONS**

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	430	inches	17
Width	mm	510	inches	20
Length	mm	350	inches	14
Weight	kg	29	lb	65



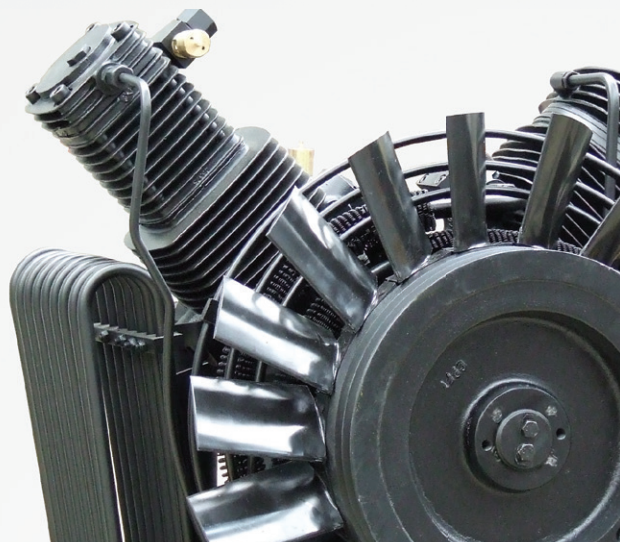
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The V14H-AL is a 3 stage air cooled lubricated compressor set. A proven design which is energy efficient with low running noise, easy to install and configure to meet site requirements.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments. Its flexible design means the compressor can be set to provide industrial air as well as high quality breathing air.

**PERFORMANCE STATISTICS:**

100 to 345 barg (1450 to 5004 psig)  
9 to 11 m<sup>3</sup>/hr (5 to 6 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Vee belt driven sets offer a wide variety of speeds irrespective of prime mover (electric or diesel) matching compressor speed to customer requirements
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

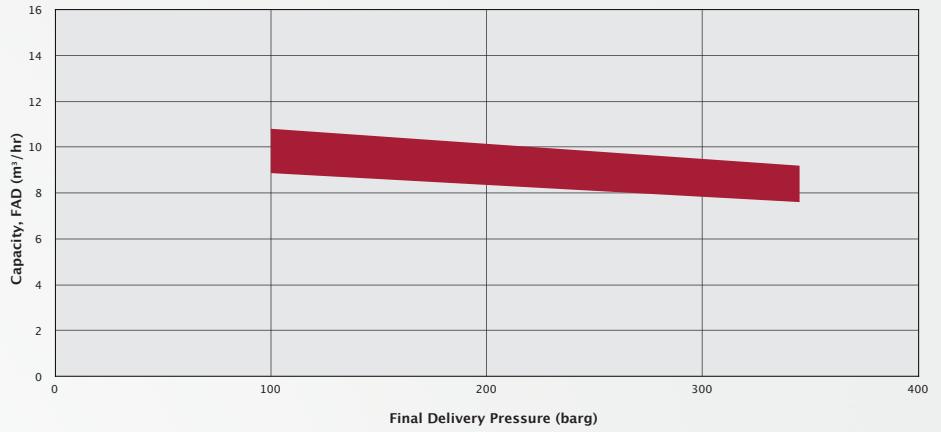
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	9	11
	cfm	5	6
Final delivery pressure	barg	345	100
	psig	5004	1450
Compressor speed	rpm	1450	1750
Motor power	kW	5.5	7.5
	hp	7.5	10
Compressor stages		3	

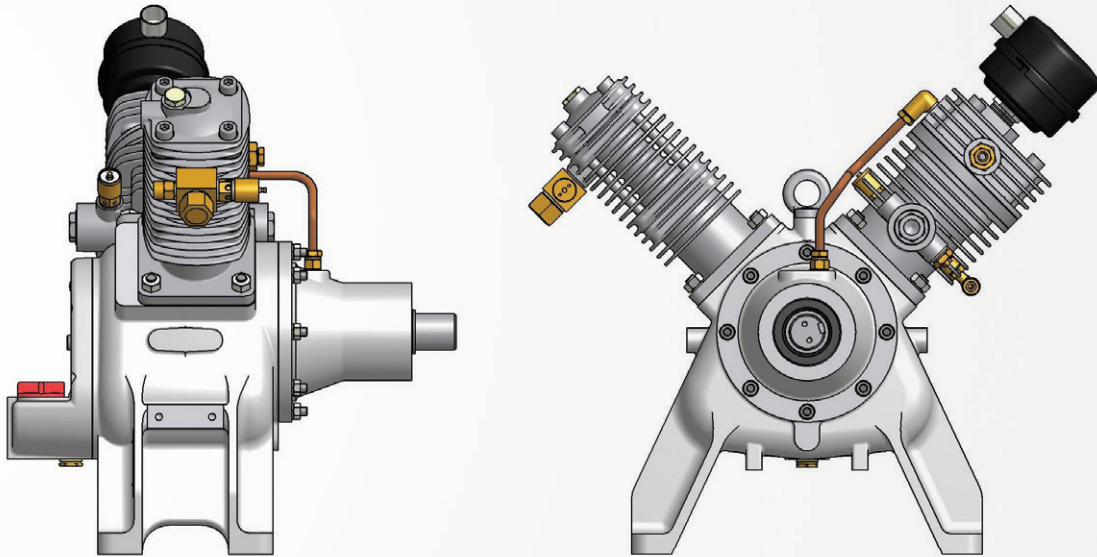
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

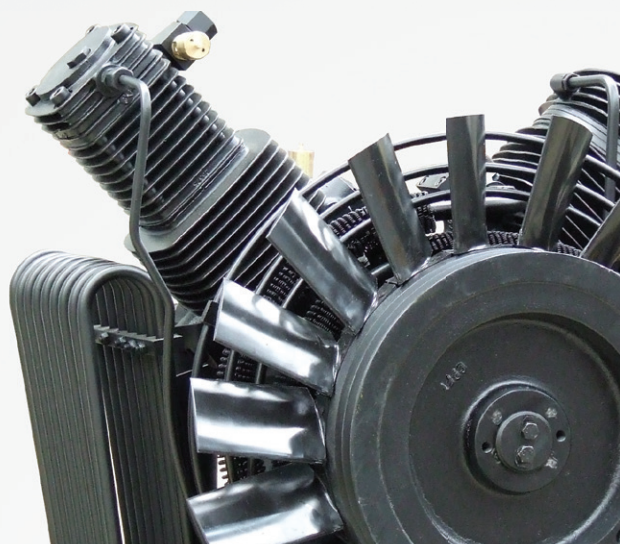
	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	500	inches	20
Width	mm	440	inches	17.2
Length	mm	520	inches	20.5
Weight	kg	49	lb	108



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The V16H-AL is a 4 stage air cooled lubricated compressor set. A proven design which is energy efficient with low running noise, easy to install and configure to meet site requirements.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments. Its flexible design means the compressor can be set to provide industrial air as well as high quality breathing air.



**PERFORMANCE STATISTICS:**

100 to 414 barg (1450 to 6005 psig)  
 11 to 16 m<sup>3</sup>/hr (7 to 10 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Vee belt driven sets offer a wide variety of speeds irrespective of prime mover (electric or diesel) matching compressor speed to customer requirements
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

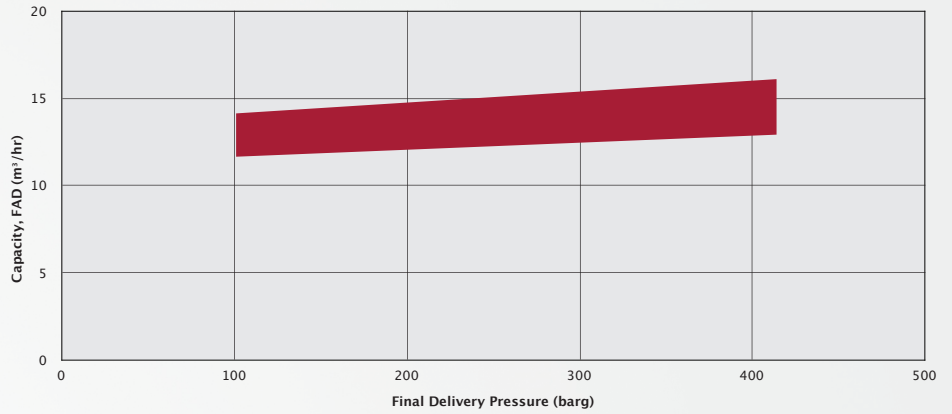
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	11	16
	cfm	7	10
Final delivery pressure	barg	414	100
	psig	6005	1450
Compressor speed	rpm	1400	1750
Motor power	kW	6	7
	hp	8	10
Compressor stages		4	

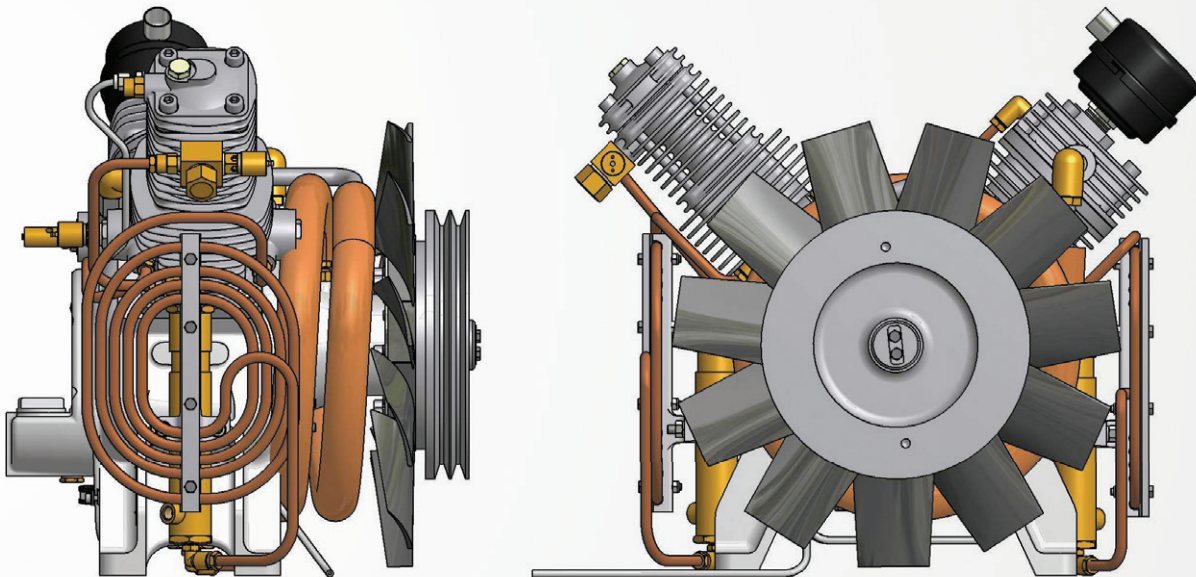
Please note performance data is based on 50Hz motor power only.

## PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



## GENERAL ARRANGEMENT



## DIMENSIONS

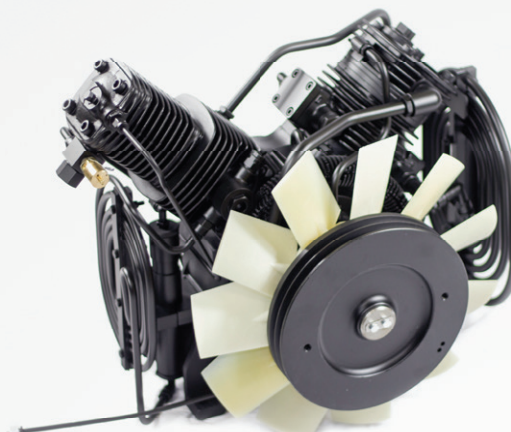
	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	500	inches	20
Width	mm	530	inches	21
Length	mm	440	inches	17
Weight	kg	66	lb	145



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The V22H-AL is a 4 stage air cooled lubricated compressor set. A proven design which is energy efficient with low running noise, easy to install and configure to meet site requirements.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments. Its flexible design means the compressor can be set to provide industrial air as well as high quality breathing air.



Alternative sales model reference:  
**PREMAIR 21S, 27S, 35S, 48S**  
 (run at different speed)

**PERFORMANCE STATISTICS:**

100 to 414 barg (1450 to 6005 psig)  
 12 to 23 m<sup>3</sup>/hr (7 to 14 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Vee belt driven sets offer a wide variety of speeds irrespective of prime mover (electric or diesel) matching compressor speed to customer requirements
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

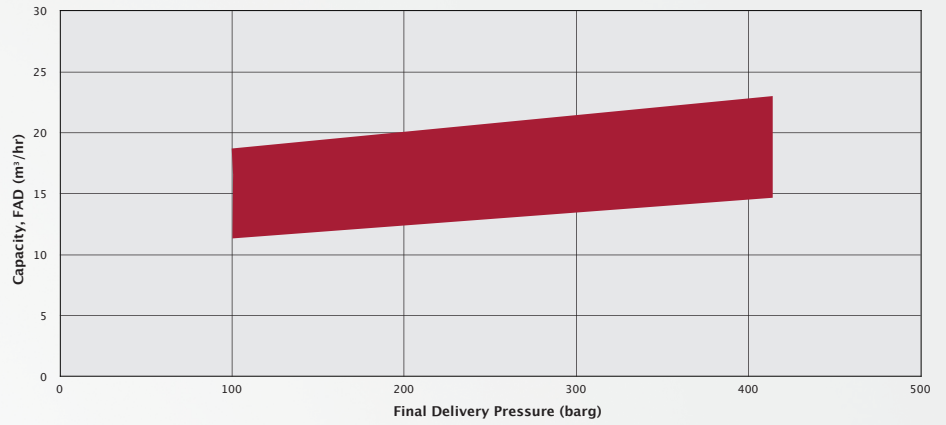
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	12	23
	cfm	7	14
Final delivery pressure	barg	414	100
	psig	6005	1450
Compressor speed	rpm	1100	1700
Motor power	kW	6	8
	hp	8	10
Compressor stages		4	

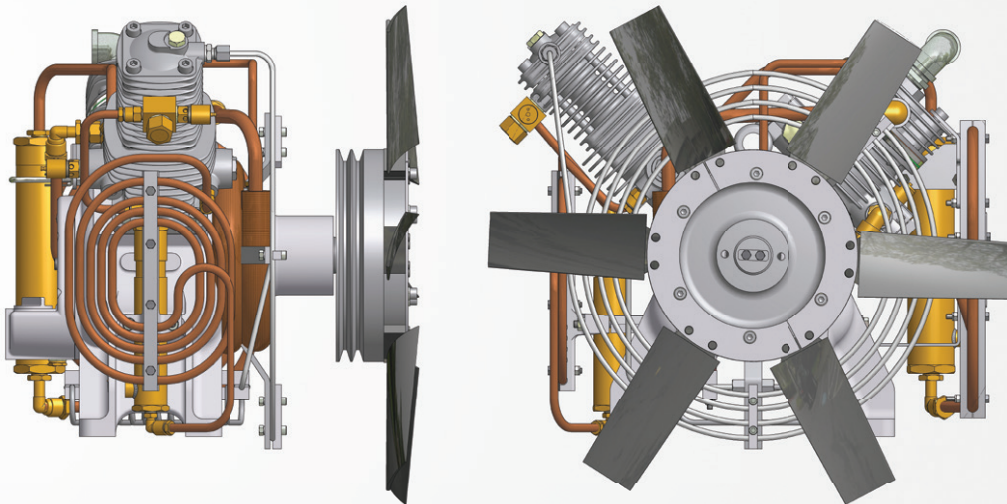
Please note performance data is based on 50Hz motor power only.

**PERFORMANCE ENVELOPE**

High Pressure Performance Envelope,  
Atmospheric Inlet



**GENERAL ARRANGEMENT**



**DIMENSIONS**

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	510	inches	20.8
Width	mm	545	inches	21.4
Length	mm	455	inches	18.1
Weight	kg	68	lb	150



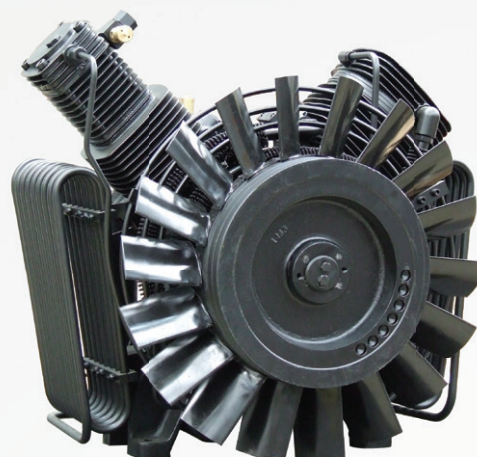
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The V34H-AL is a 4 stage air cooled lubricated compressor set. A proven design which is energy efficient with low running noise, easy to install and configure to meet site requirements.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments. Its flexible design means the compressor can be set to provide industrial air as well as high quality breathing air.

**PERFORMANCE STATISTICS:**

100 to 414 barg (1450 to 6005 psig)  
21 to 37 m<sup>3</sup>/hr (12 to 22 cfm)



**Alternative sales model reference:  
PREMAIR 55S, 68S  
(run at different speed)**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Vee belt driven sets offer a wide variety of speeds irrespective of prime mover (electric or diesel) matching compressor speed to customer requirements
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

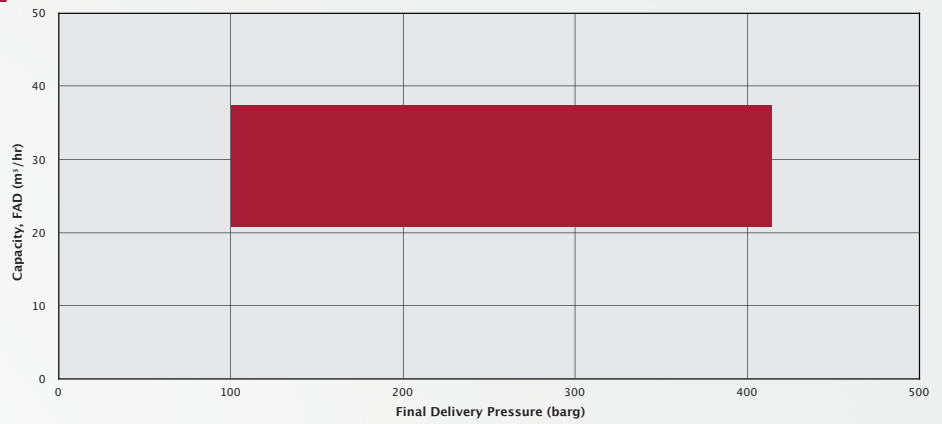
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	21	37
	cfm	12	22
Final delivery pressure	barg	414	100
	psig	6005	1450
Compressor speed	rpm	650	1200
Motor power	kW	11	15
	hp	15	20
Compressor stages		4	

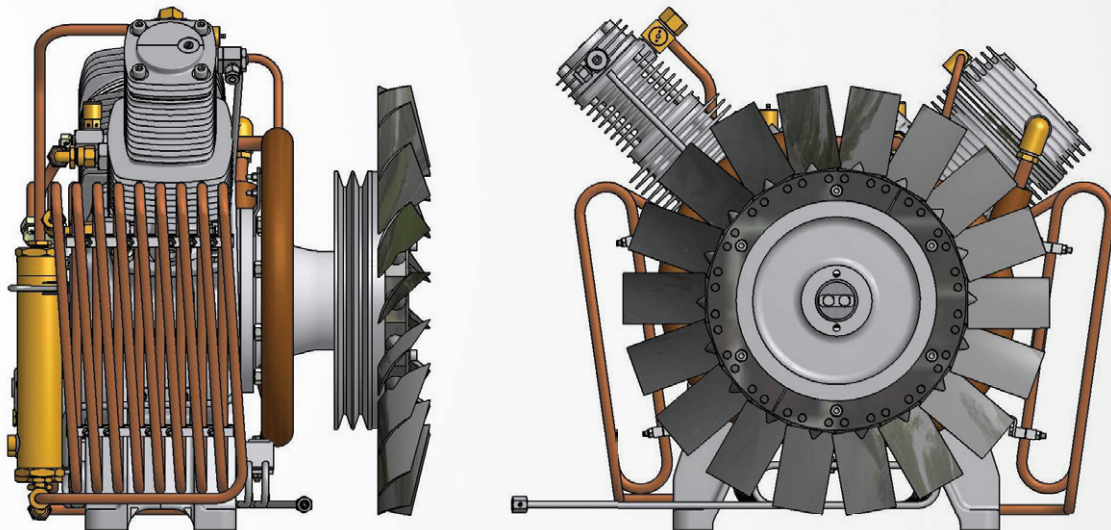
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	681	inches	27
Width	mm	685	inches	27
Length	mm	466	inches	18
Weight	kg	116	lb	256



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

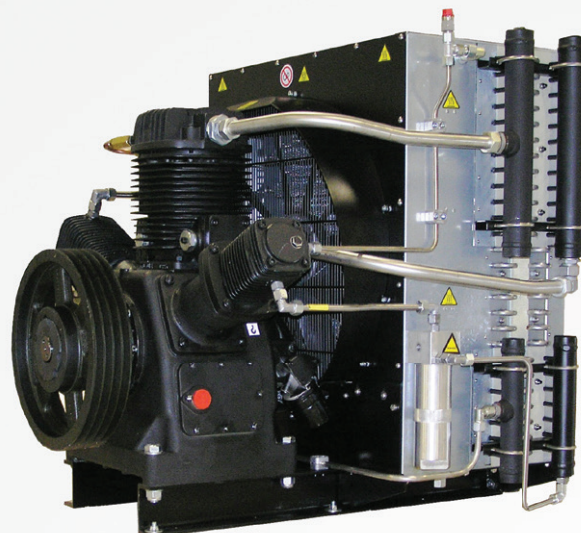
The V68M-AL is a 3 stage air cooled lubricated compressor set. A proven design which is energy efficient with low running noise, easy to install and configure to meet site requirements.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments.

**PERFORMANCE STATISTICS:**

28 to 70 barg (400 to 1015 psig)

32 to 65 m<sup>3</sup>/hr (19 to 38 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Direct driven sets, less power transmission loss and no adjustment of belts
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

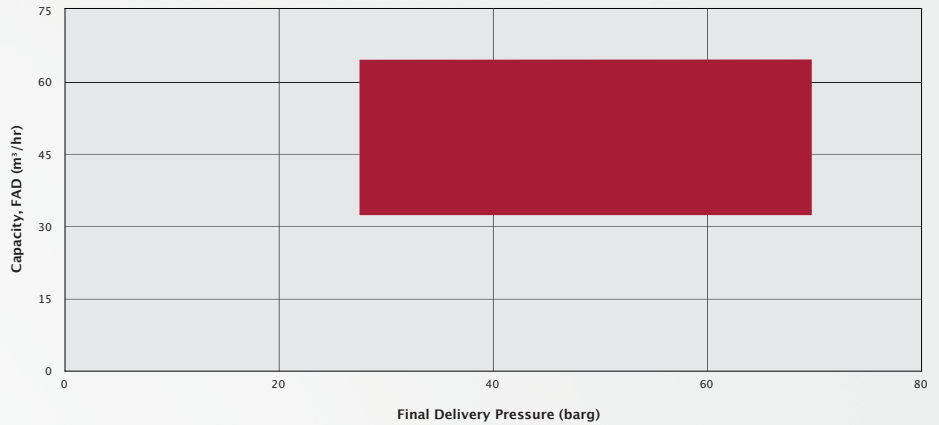
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	32	65
	cfm	19	38
Final delivery pressure	barg	70	28
	psig	1015	400
Compressor speed	rpm	600	1200
Motor power	kW	15	22
	hp	20	30
Compressor stages		3	

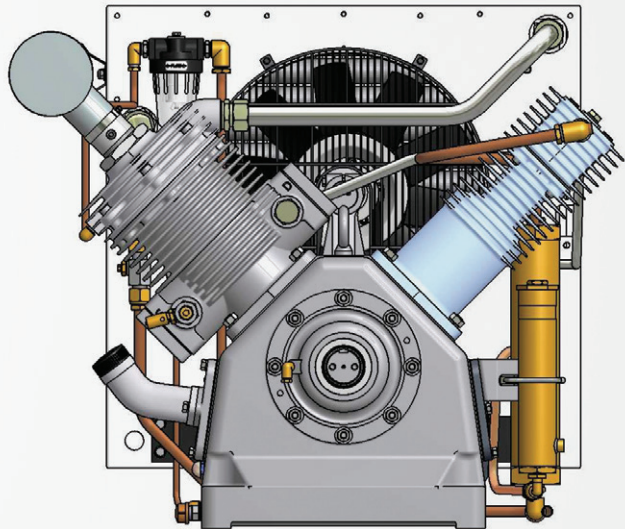
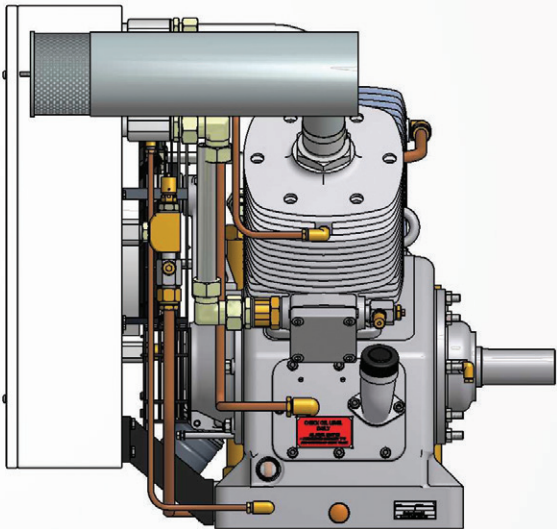
Please note performance data is based on 50Hz motor power only.

## PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



## GENERAL ARRANGEMENT



## DIMENSIONS

	Metric		Imperial	
	mm		inches	
Height	mm	755	inches	30
Width	mm	900	inches	35
Length	mm	765	inches	30
Weight	kg	285	lb	628



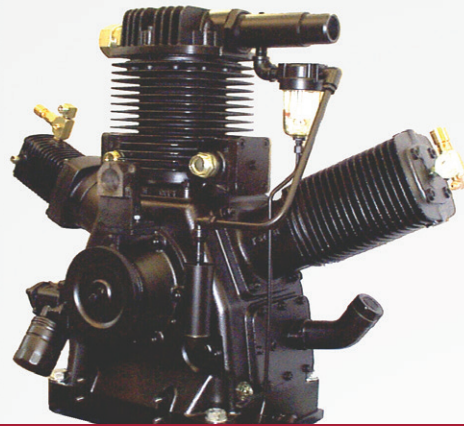
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The W70H-AL is a 4 stage air cooled lubricated compressor set. A proven design which is energy efficient with low running noise, easy to install and configure to meet site requirements.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments. Its flexible design means the compressor can be set to provide industrial air, high quality breathing air as well as compressing natural gas and nitrogen.

**PERFORMANCE STATISTICS:**

100 to 414 barg (1450 to 6005 psig)  
34 to 70 m<sup>3</sup>/hr (20 to 41 cfm)



**Alternative sales model reference:  
BP35, BP45  
(run at different speed)**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Vee belt driven sets offer a wide variety of speeds irrespective of prime mover (electric or diesel) matching compressor speed to customer requirements
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	'W' cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

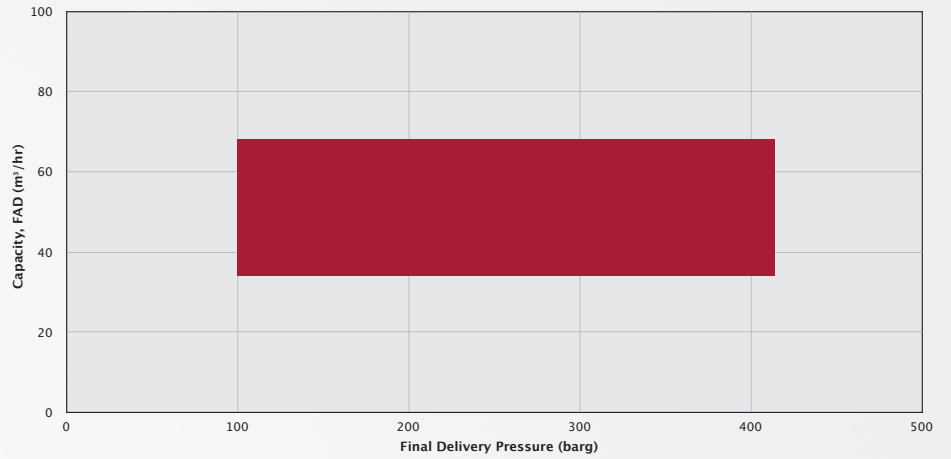
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	34	70
	cfm	20	41
Final delivery pressure	barg	414	100
	psig	6005	1450
Compressor speed	rpm	600	1200
Motor power	kW	22	30
	hp	30	40
Compressor stages		4	

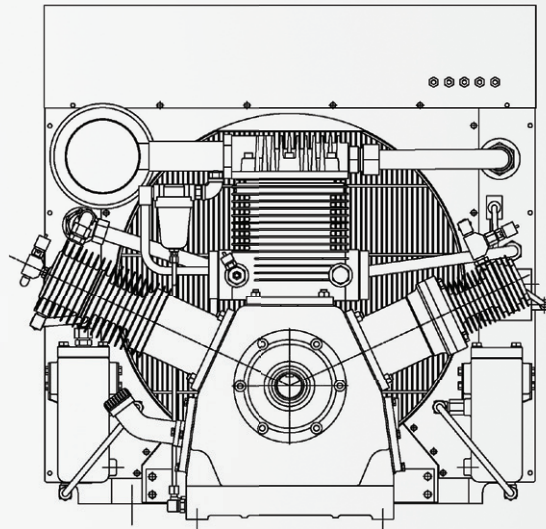
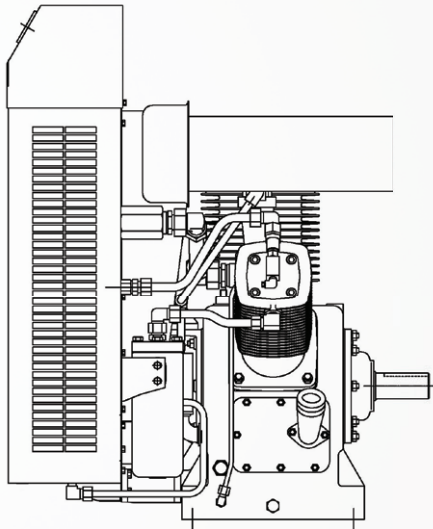
Please note performance data is based on 50Hz motor power only.

**PERFORMANCE ENVELOPE**

High Pressure Performance Envelope,  
Atmospheric Inlet



**GENERAL ARRANGEMENT**



**DIMENSIONS**

	Metric		Imperial	
	mm		inches	
Height	mm	1005	inches	40
Width	mm	1035	inches	41
Length	mm	850	inches	33
Weight	kg	365	lb	805



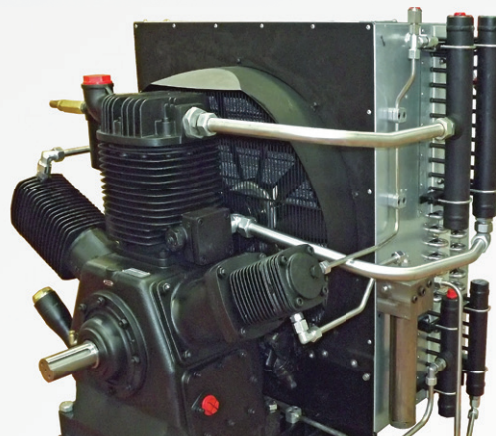
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The W120B1-AL is a 4 stage air cooled lubricated compressor set. A proven design which is energy efficient with low running noise, easy to install and configure to meet site requirements.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments. Its flexible design means the compressor can be set to provide industrial air as well as compressing natural gas and nitrogen at boosted inlet pressures upto 1 barg.

**PERFORMANCE STATISTICS:**

100 to 414 barg (1450 to 6005 psig)  
33 to 65 m<sup>3</sup>/hr (20 to 38 cfm)



Alternative sales model reference:  
**GAZPACK 120**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Vee belt driven sets offer a wide variety of speeds irrespective of prime mover (electric or diesel) matching compressor speed to customer requirements
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	'W' cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

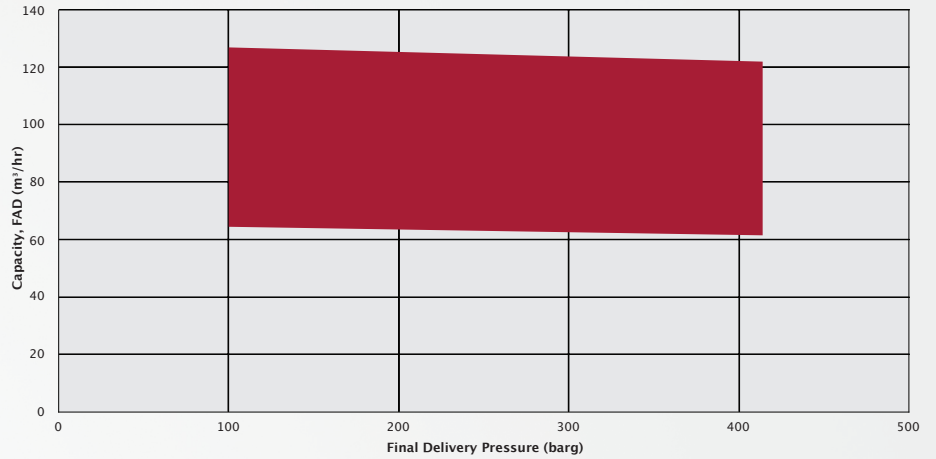
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	33	65
	cfm	20	38
Final delivery pressure	barg	414	100
	psig	6005	1450
Compressor speed	rpm	600	1200
Motor power	kW	22	45
	hp	30	60
Compressor stages		4	

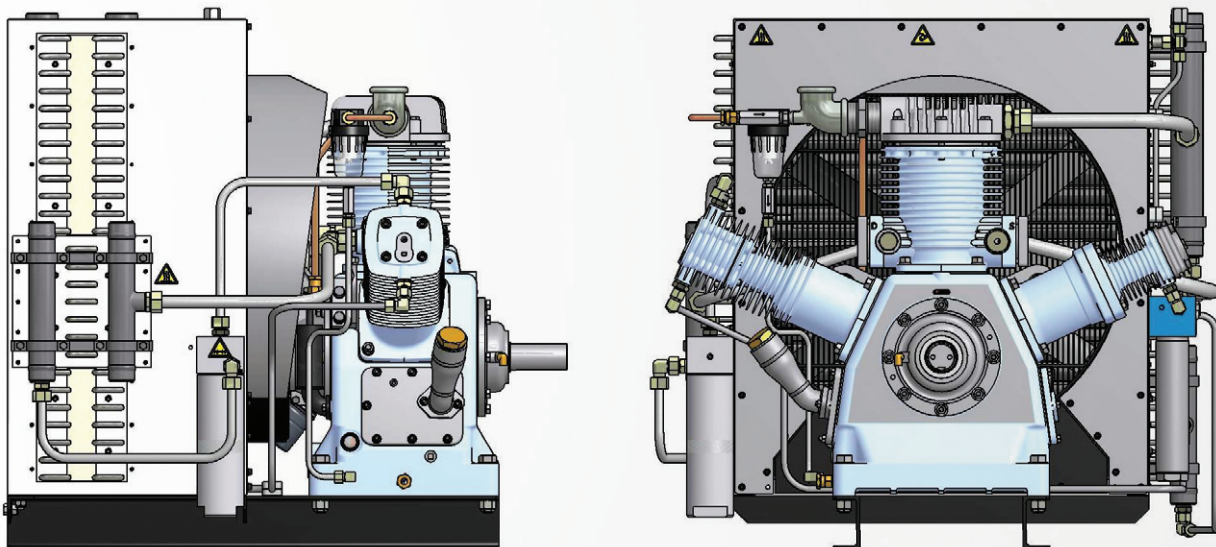
Please note performance data is based on 50Hz motor power only.

**PERFORMANCE ENVELOPE**

High Pressure Performance Envelope,  
Atmospheric Inlet



**GENERAL ARRANGEMENT**



**DIMENSIONS**

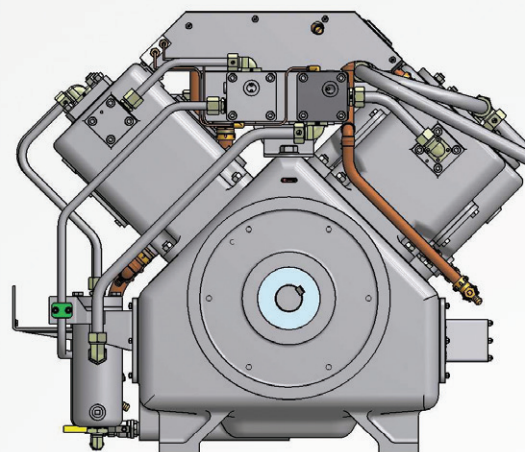
	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	1010	inches	40
Width	mm	1053	inches	42
Length	mm	1079	inches	43
Weight	kg	450	lb	992



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The V130 is a 3 stage water cooled lubricated compressor set. A proven design which is energy efficient with low running noise, easy to install and configure to meet site requirements.

This compressor is durable, easy to maintain and offers a long life expectancy. Once installed this compressor is a safe, reliable source of compressed air and is utilised in a wide range of industrial and marine environments. Its flexible design means the compressor can be set to provide industrial air as well as compressing helium, natural gas and nitrogen.



**PERFORMANCE STATISTICS:**

25 to 414 barg (313 to 6005 psig)

61 to 135 m<sup>3</sup>/hr (36 to 80 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air inter-stage and final stage cooling for low discharge temperatures, so no requirement to purchase additional after coolers, increasing compressor efficiency
Low power consumption	Vee belt driven sets offer a wide variety of speeds irrespective of prime mover (electric or diesel) matching compressor speed to customer requirements
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance, combined with low piston speeds reduces wear and increases component life
Simple installation	No specialist tools required, fast simple installation and maintenance
Low cost maintenance	Coolers are all easily removed and cleaned with no major strip down required

**PERFORMANCE**

	Unit/ Measure	V130M-WL		V130H-WL	
		Min flow	Max flow	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	63	135	61	131
	cfm	37	80	36	77
Final delivery pressure	barg	100	25	414	138
	psig	1450	313	6005	2001
Compressor speed	rpm	650	1350	650	1350
Motor power	kW	30	37	45	55
	hp	40	50	60	75
Compressor stages		3		4	

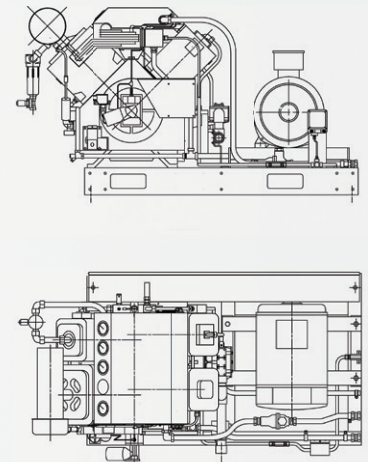
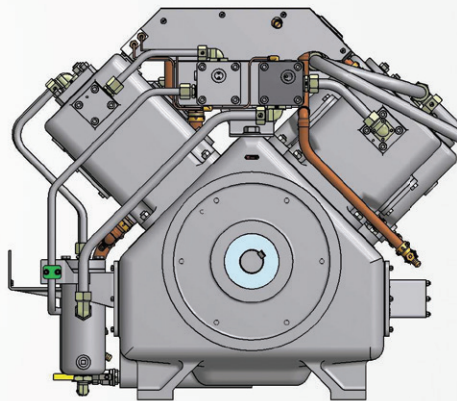
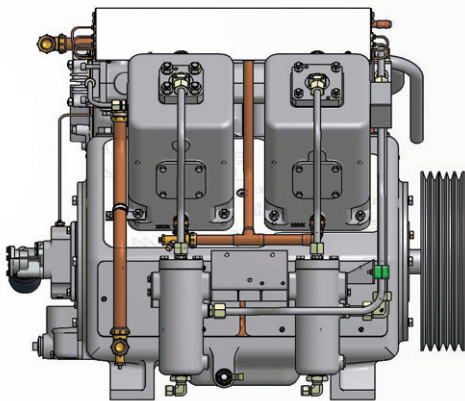
Please note performance data is based on 50Hz motor power only.

**PERFORMANCE ENVELOPE**

High Pressure Performance Envelope,  
Atmospheric Inlet



**GENERAL ARRANGEMENT**



**DIMENSIONS**

	Metric		Imperial	
	mm		inches	
Height	900		36	
Width	1120		44	
Length	1070		42	
Weight	762	kg	1680	lb



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

## PERFORMANCE SUMMARY:

**Air quality:** Lubricated

**Cooling:** Air & Water

**No. of blocks:** 12

**Pressure:**

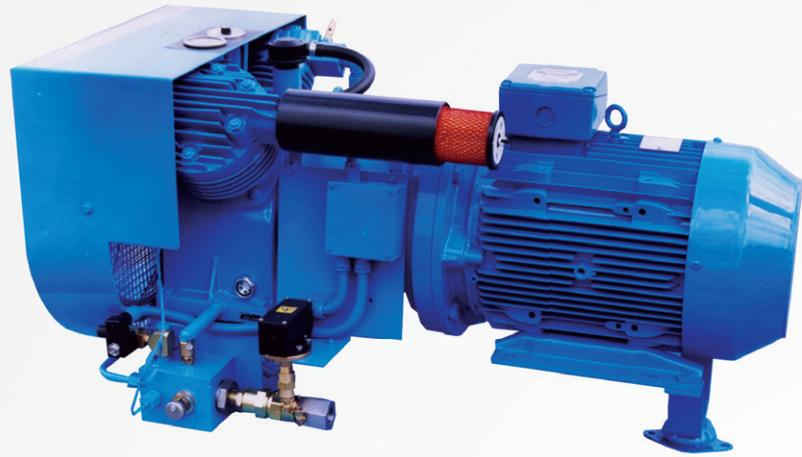
2.5 to 414 barg

36 to 6005 psig

**Flow:**

4.9 to 1600 m<sup>3</sup>/hr

2.8 to 941 cfm



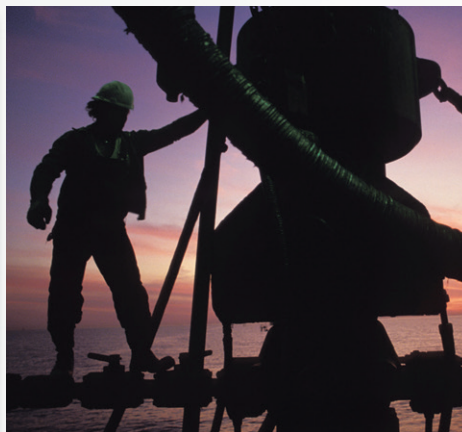
Reavell specialises in high pressure compression technology, with its skilled and knowledgeable global team boasting over a century of experience within the sector.

Renowned for providing high quality turnkey solutions, Reavell can assist with specialist air and gas requirements, utilising the latest technological innovations to create bespoke solutions that meet your requirements.

## INDUSTRY AREAS OF EXPERTISE



**CNG**



**OIL AND GAS**



**MARINE**

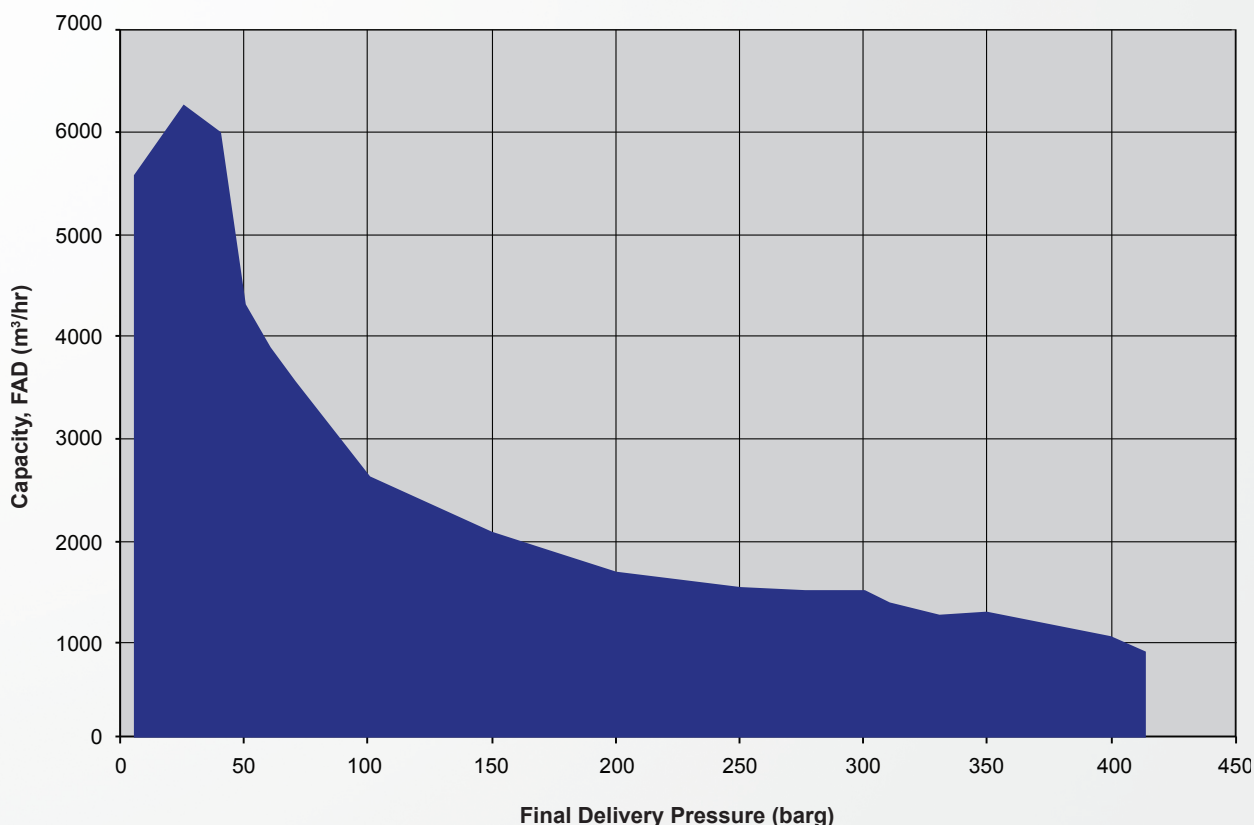
## AIR AND WATER COOLED COMPRESSORS

Reavell offer a range of air or water cooled compressor units. Excess heat is transferred either into the ambient air environment or into the cooling water contained within the cooling system. Both types of cooling are flexible and adaptable in design, suiting a wide range of applications.

### FEATURES

### BENEFITS

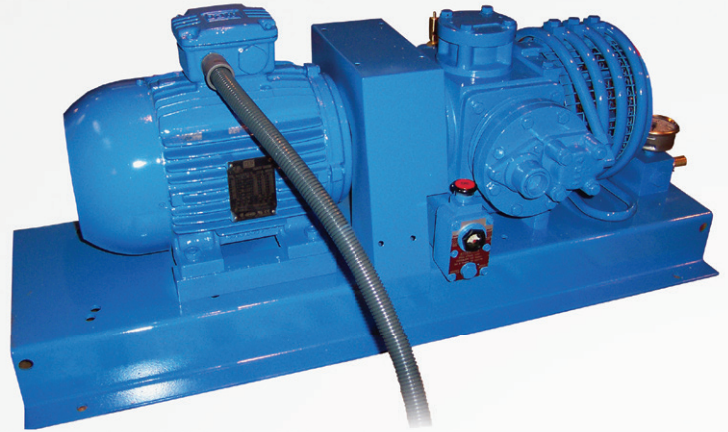
Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes



The H 5204 is a 2 stage air cooled lubricated industrial air compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

**PERFORMANCE STATISTICS:**

16 to 40 barg (232 to 580 psig)  
3 to 7 m<sup>3</sup>/hr (2 to 4 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	Horizontally opposed, low profile cylinder configuration
Simple installation	Compact skid design and flexible custom engineered packages provides a small compressor footprint to optimise space for installation
Low cost maintenance	No lifting gear required for top end service, fast service, with reduced down time

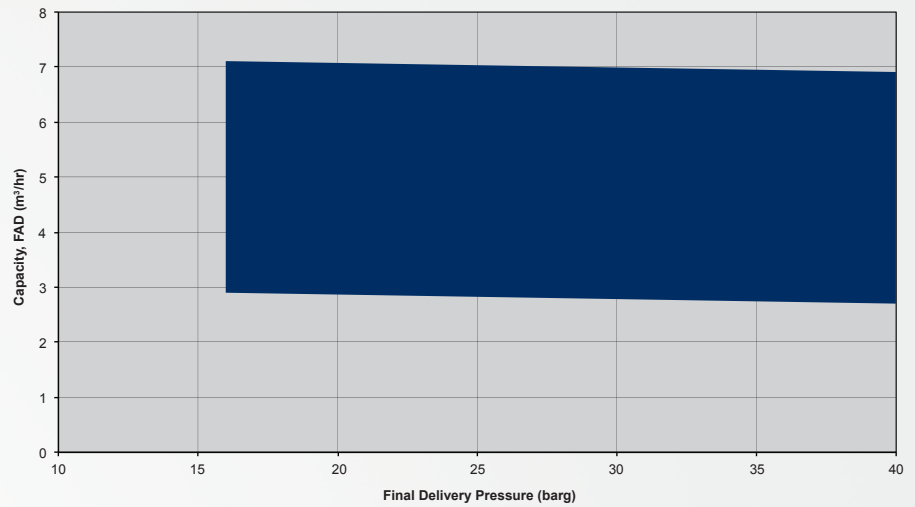
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	3	7
	cfm	2	4
Final delivery pressure	barg	40	16
	psig	580	232
Compressor speed	rpm	600	1500
Motor power 50Hz	kW	2	2
	hp	2	3
Compressor stages		2	

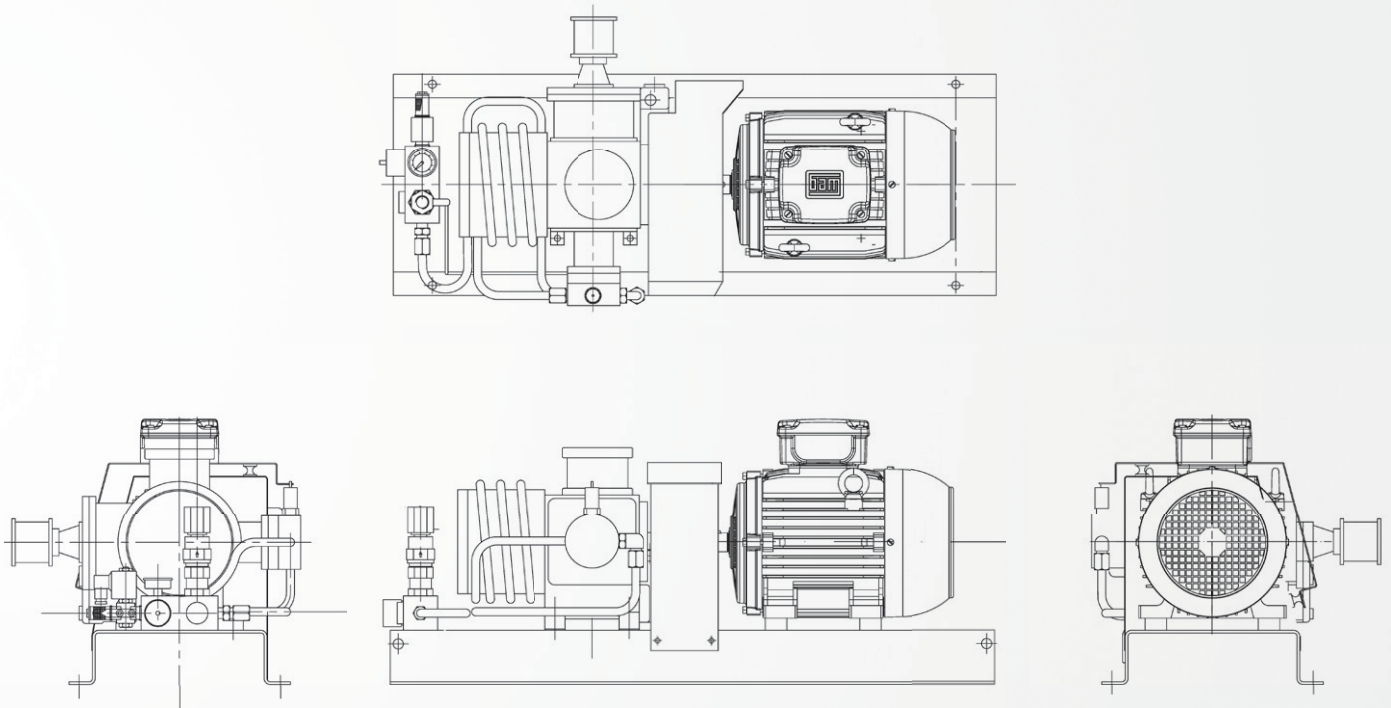
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	767	inches	30
	Width	mm	530	inches	21
	Length	mm	730	inches	29
	Weight	kg	165	lb	364
Direct Drive	Height	mm	420	inches	17
	Width	mm	540	inches	21
	Length	mm	950	inches	37
	Weight	kg	105	lb	231

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

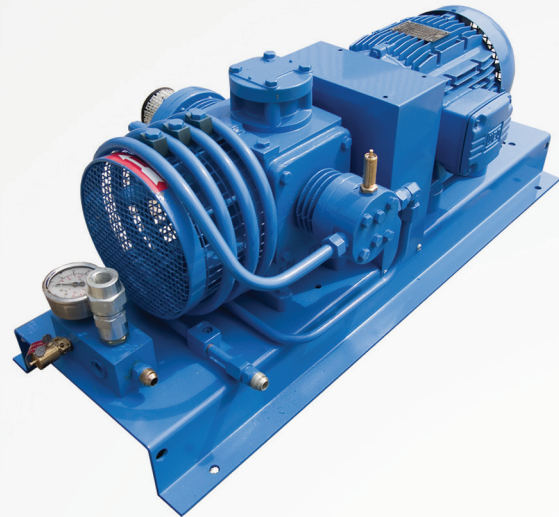


The H 5205 is a 2 stage air cooled lubricated industrial air compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

**PERFORMANCE STATISTICS:**

16 to 40 barg (232 to 580 psig)

6 to 16 m<sup>3</sup>/hr (4 to 9 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	Horizontally opposed, low profile cylinder configuration
Simple installation	Compact skid design and flexible custom engineered packages provides a small compressor footprint to optimise space for installation
Low cost maintenance	No lifting gear required for top end service, fast service, with reduced down time

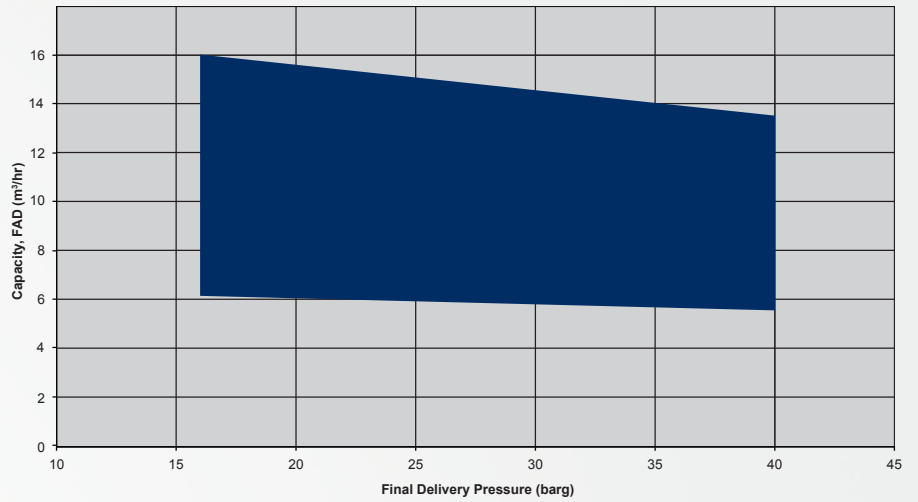
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	6	16
	cfm	4	9
Final delivery pressure	barg	40	16
	psig	580	232
Compressor speed	rpm	600	1500
Motor power 50Hz	kW	4	4
	hp	6	6
Compressor stages		2	

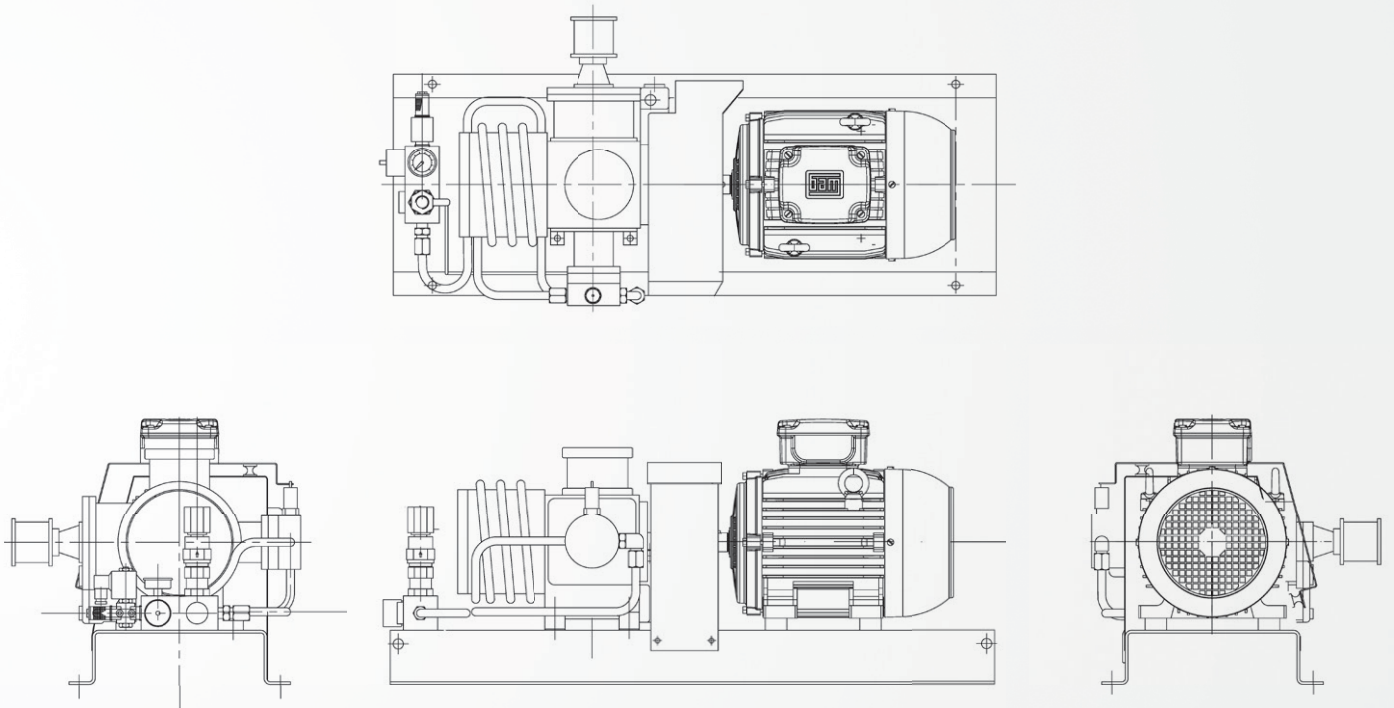
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	767	inches	30
	Width	mm	530	inches	21
	Length	mm	730	inches	29
	Weight	kg	165	lb	364
Direct Drive	Height	mm	420	inches	17
	Width	mm	540	inches	21
	Length	mm	950	inches	37
	Weight	kg	105	lb	231

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.



The H 5207 is a 2 stage air cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, helium, hydrogen, methane, natural gas, nitrogen and heliox.

**PERFORMANCE STATISTICS:**

16 to 40 barg (232 to 580 psig)  
 12 to 28 m<sup>3</sup>/hr (7 to 16 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air interstage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

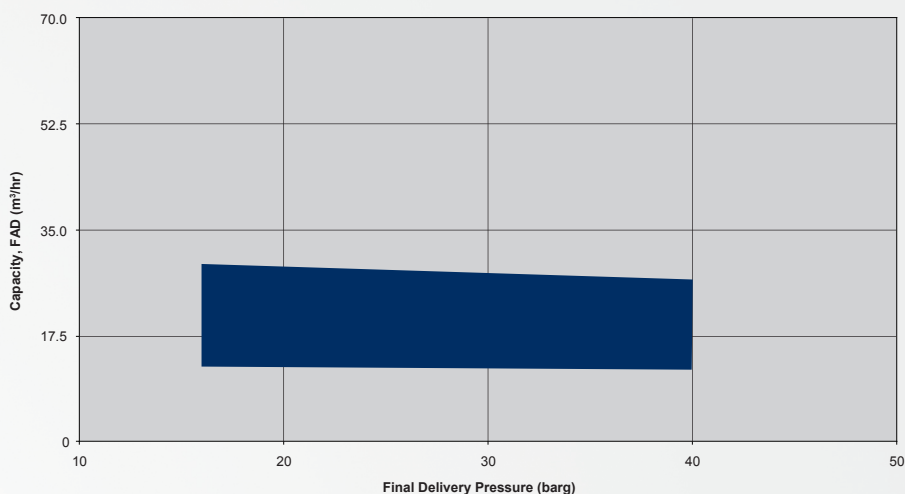
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	12	28
	cfm	7	16
Final delivery pressure	barg	40	16
	psig	580	232
Compressor speed	rpm	750	1800
Motor power 50Hz	kW	6	8
	hp	7	10
Compressor stages		2	

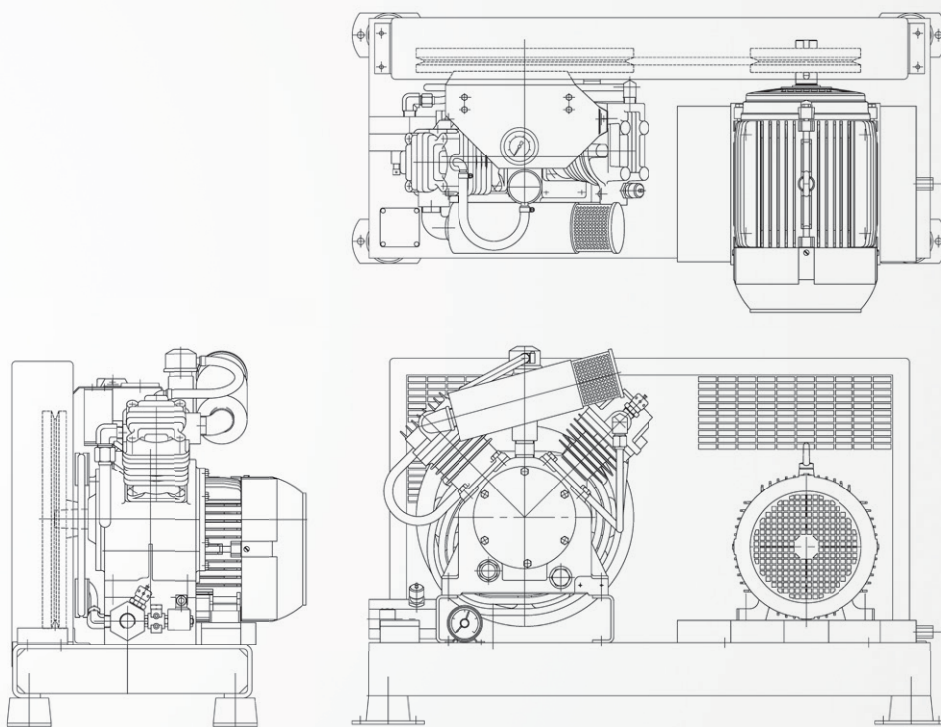
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	660	inches	26
Width	mm	1170	inches	46
Length	mm	490	inches	19
Weight	kg	195	lb	430

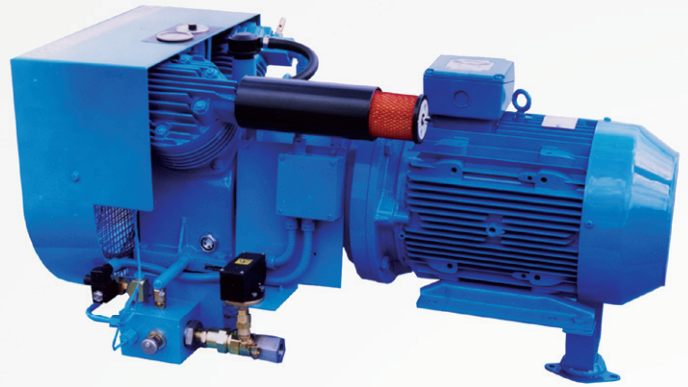


The H 5209 is a 2 stage air cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, helium, hydrogen, methane, natural gas, nitrogen and heliox.

**PERFORMANCE STATISTICS:**

16 to 40 barg (232 to 580 psig)  
24 to 43 m<sup>3</sup>/hr (14 to 25 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air interstage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

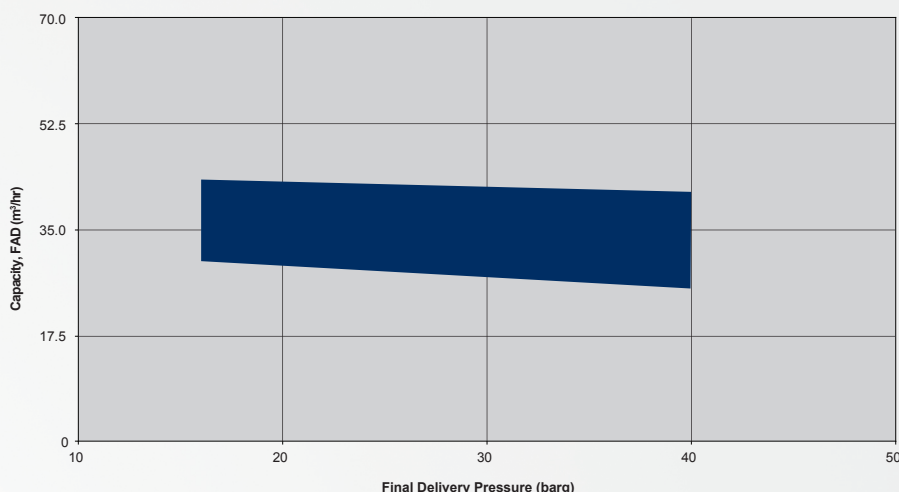
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	24	43
	cfm	14	25
Final delivery pressure	barg	40	16
	psig	580	232
Compressor speed	rpm	1000	1800
Motor power 50Hz	kW	8	11
	hp	10	15
Compressor stages		2	

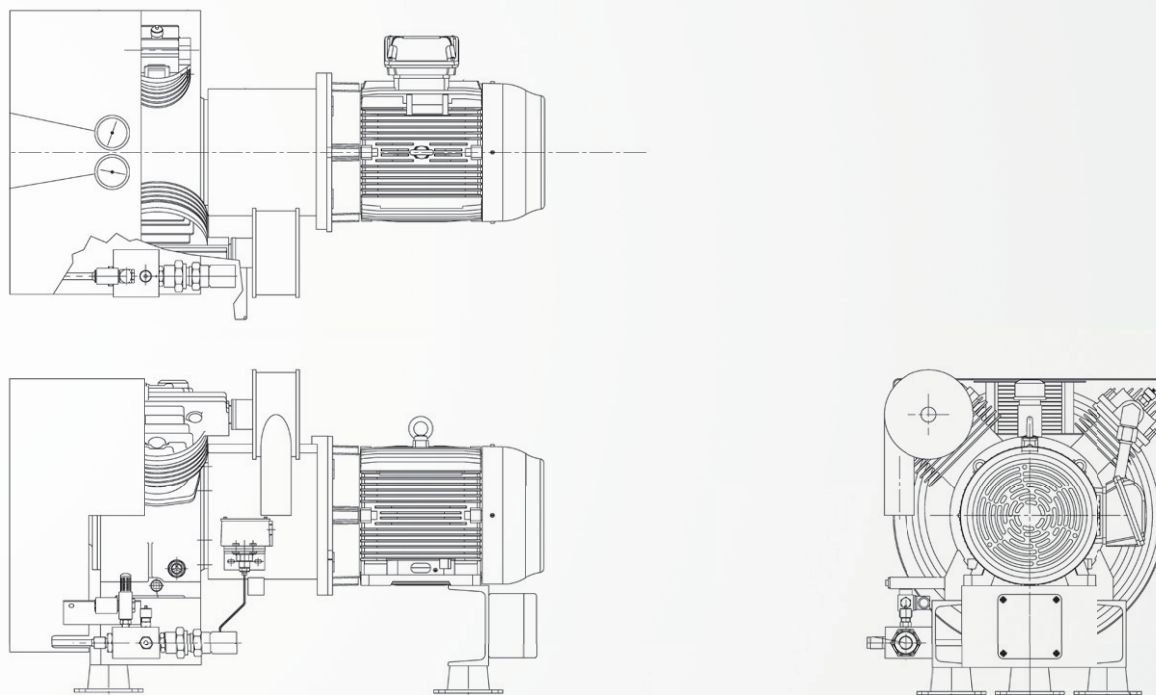
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	650	inches	26
	Width	mm	1100	inches	43
	Length	mm	520	inches	20
	Weight	kg	225	lb	496
Direct Drive	Height	mm	650	inches	26
	Width	mm	600	inches	24
	Length	mm	1100	inches	43
	Weight	kg	180	lb	397

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

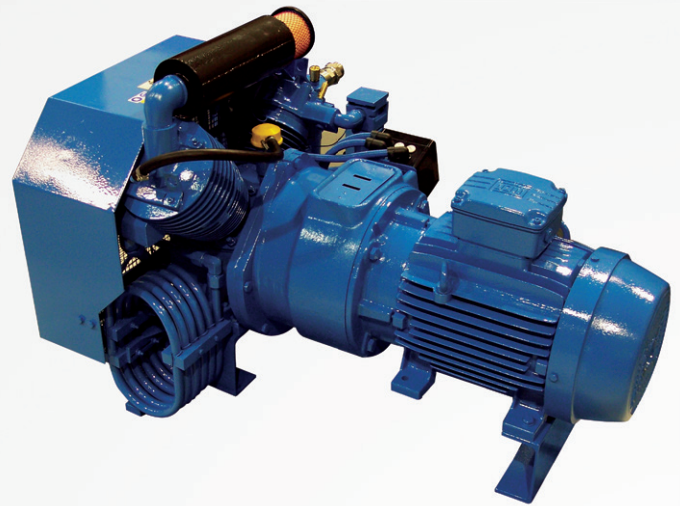


The H 5211 is a 2 stage air cooled lubricated industrial air compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

**PERFORMANCE STATISTICS:**

20 to 45 barg (290 to 652 psig)

24 to 63 m<sup>3</sup>/hr (14 to 37 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air interstage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

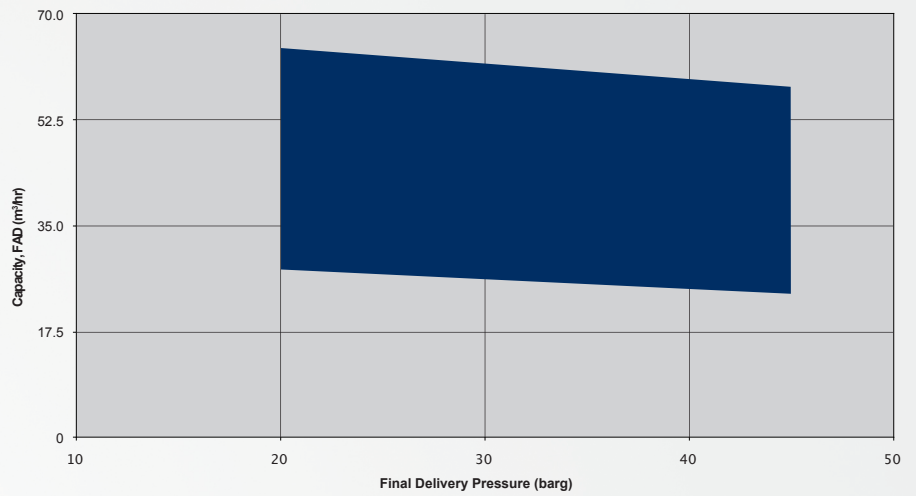
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	24	63
	cfm	14	37
Final delivery pressure	barg	45	20
	psig	652	290
Compressor speed	rpm	750	1800
Motor power 50Hz	kW	11	15
	hp	15	20
Compressor stages		2	

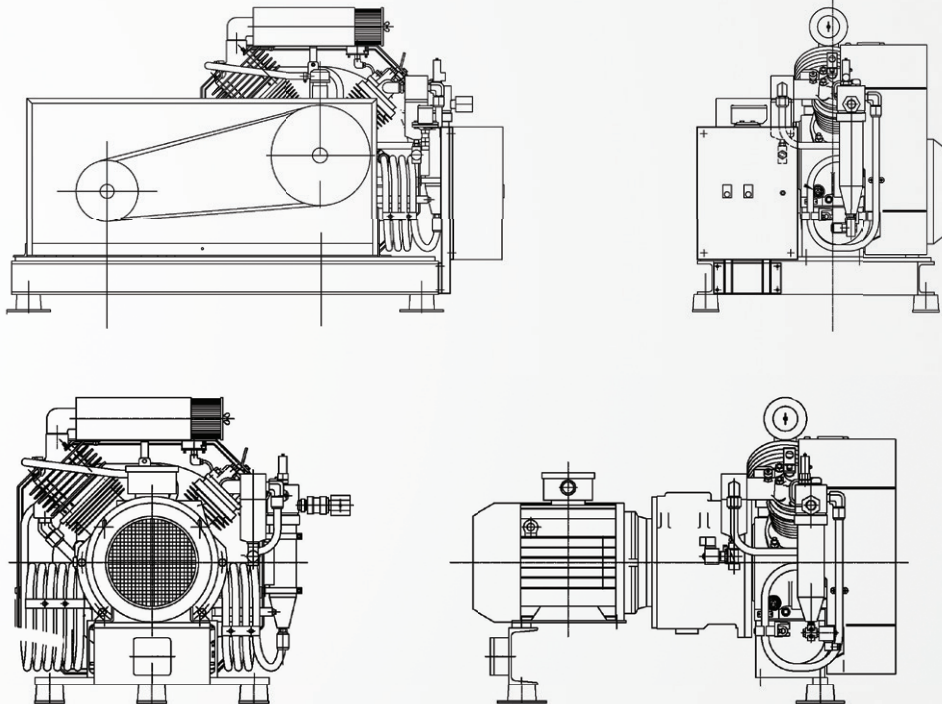
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	850	inches	33
	Width	mm	1280	inches	50
	Length	mm	840	inches	33
	Weight	kg	380	lb	838
Direct Drive	Height	mm	773	inches	30
	Width	mm	870	inches	34
	Length	mm	1140	inches	45
	Weight	kg	290	lb	639

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.



The H 5212 is a 2 stage water cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, argon, bio-gas (H<sub>2</sub>S limitations), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

10 to 35 barg (145 to 507 psig)  
22 to 64 m<sup>3</sup>/hr (13 to 38 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from an integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes

**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	22	64
	cfm	13	38
Final delivery pressure	barg	35	10
	psig	507	145
Compressor speed	rpm	750	1800
Motor power 50Hz	kW	4	15
	hp	6	20
Compressor stages		2	

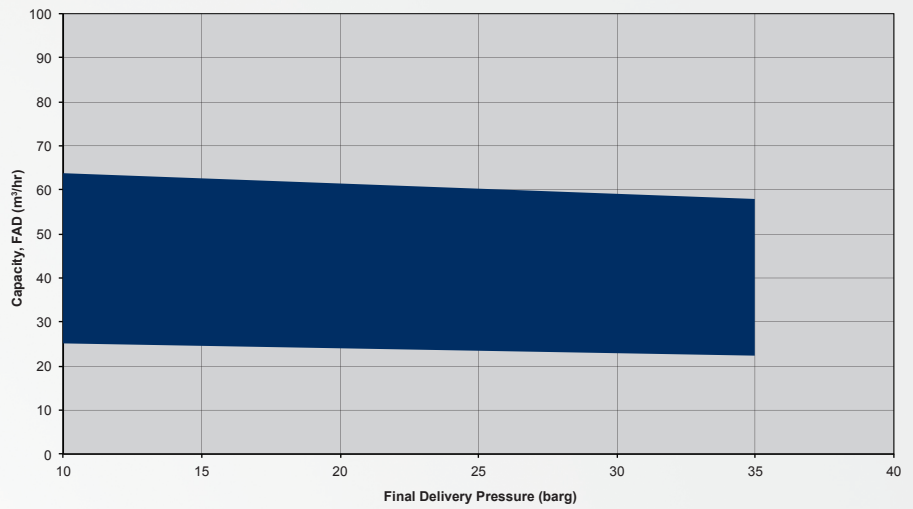
Please note performance data is based on 50Hz motor power only.

Reavell Compressors

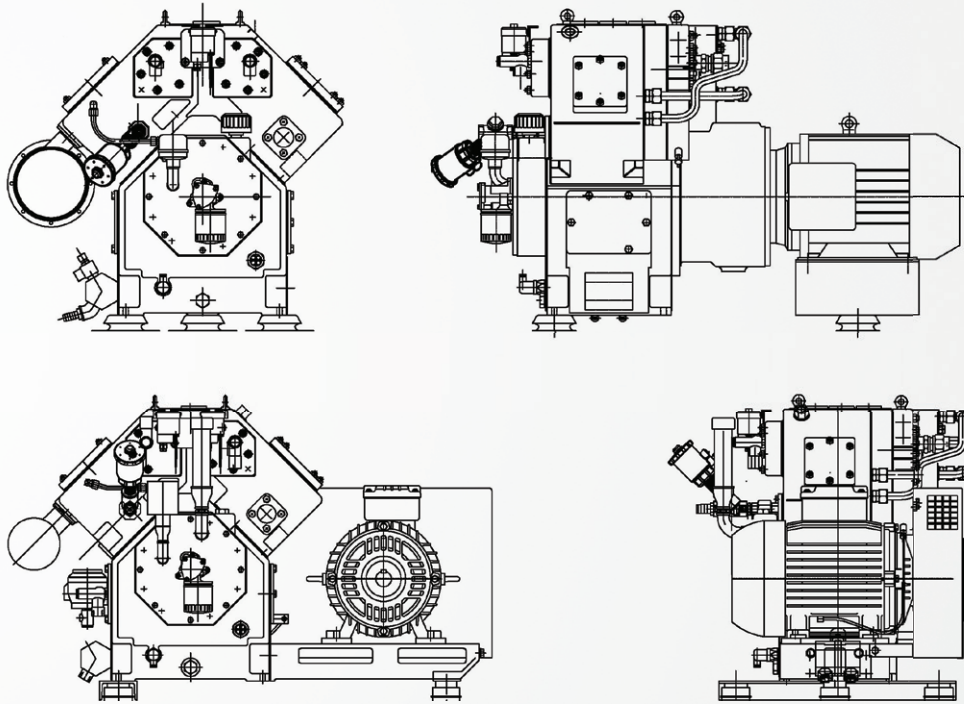
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## PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



## GENERAL ARRANGEMENT



## DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	850	inches	33
	Width	mm	1280	inches	50
	Length	mm	715	inches	28
	Weight	kg	530	lb	1168
Direct Drive	Height	mm	835	inches	33
	Width	mm	850	inches	33
	Length	mm	1190	inches	47
	Weight	kg	500	lb	1102

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

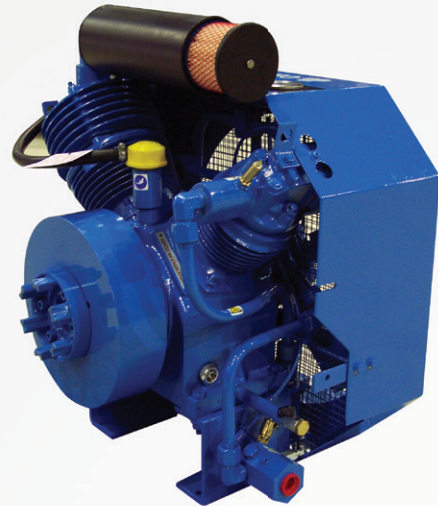


The H 5213 is a 2 stage air cooled lubricated industrial air compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

**PERFORMANCE STATISTICS:**

16 to 31 barg (232 to 450 psig)

27 to 67 m<sup>3</sup>/hr (16 to 39 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air interstage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

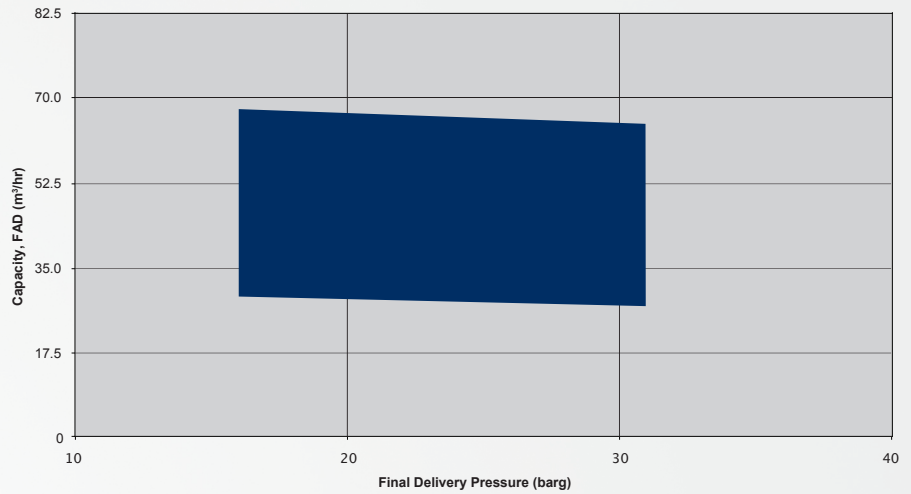
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	27	67
	cfm	16	39
Final delivery pressure	barg	31	16
	psig	450	232
Compressor speed	rpm	750	1800
Motor power 50Hz	kW	11	15
	hp	15	20
Compressor stages		2	

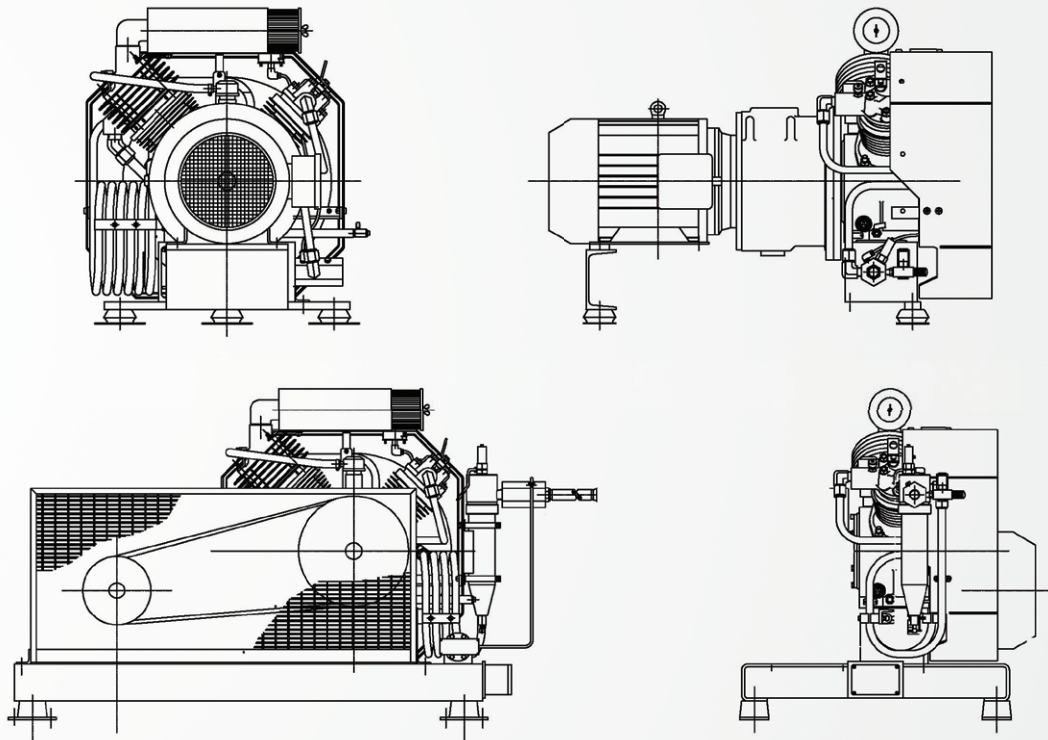
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	850	inches	33
	Width	mm	1280	inches	50
	Length	mm	840	inches	33
	Weight	kg	380	lb	838
Direct Drive	Height	mm	820	inches	32
	Width	mm	820	inches	32
	Length	mm	1140	inches	45
	Weight	kg	290	lb	639

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.



The H 5217 is a 2 stage water cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, argon, bio-gas (H<sub>2</sub>S limitations), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.



**PERFORMANCE STATISTICS:**

10 to 40 barg (145 to 580 psig)  
51 to 153 m<sup>3</sup>/hr (30 to 90 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from an integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes

Reavell Compressors

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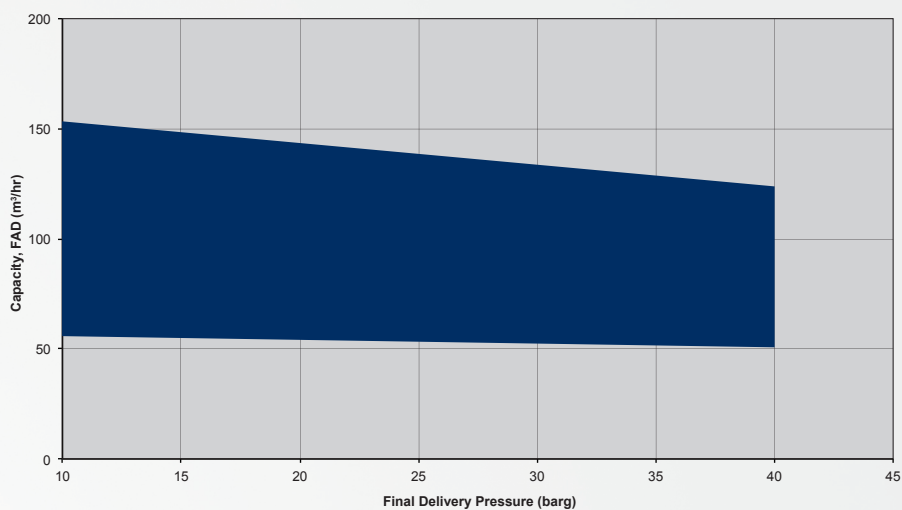
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	51	153
	cfm	30	90
Final delivery pressure	barg	40	10
	psig	580	145
Compressor speed	rpm	750	1800
Motor power 50Hz	kW	15	30
	hp	20	40
Compressor stages		2	

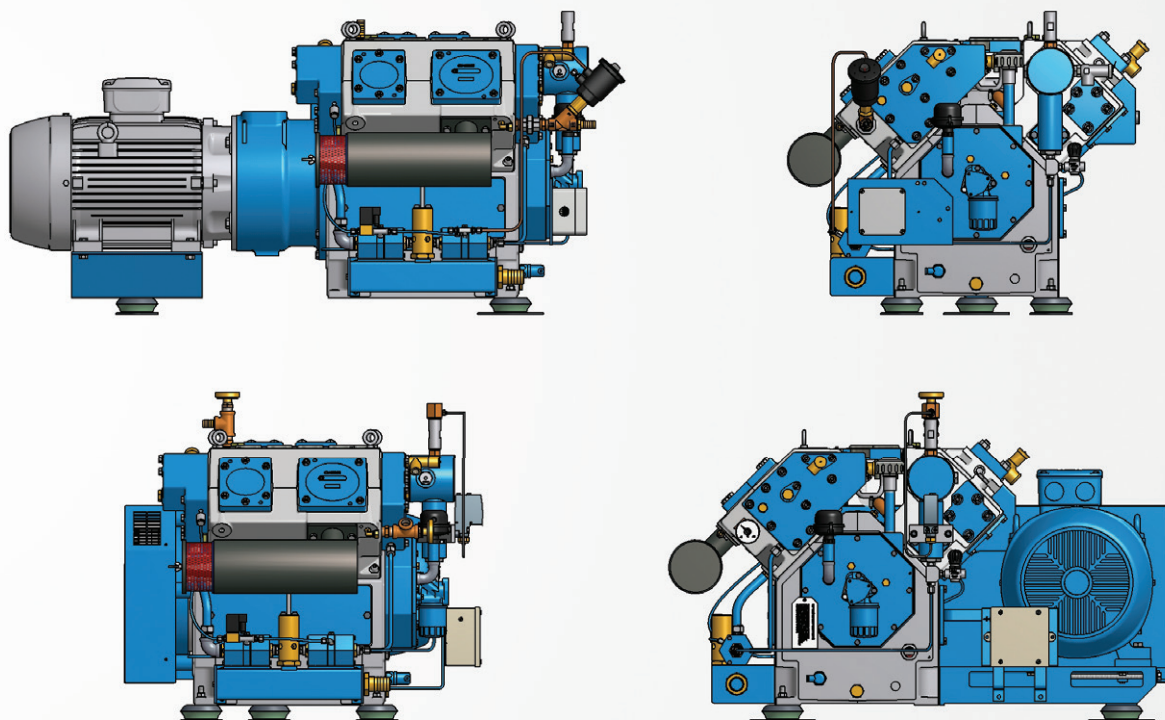
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	770	inches	30
	Width	mm	1290	inches	51
	Length	mm	870	inches	34
	Weight	kg	730	lb	1609
Direct Drive	Height	mm	770	inches	30
	Width	mm	860	inches	34
	Length	mm	1470	inches	56
	Weight	kg	730	lb	1609

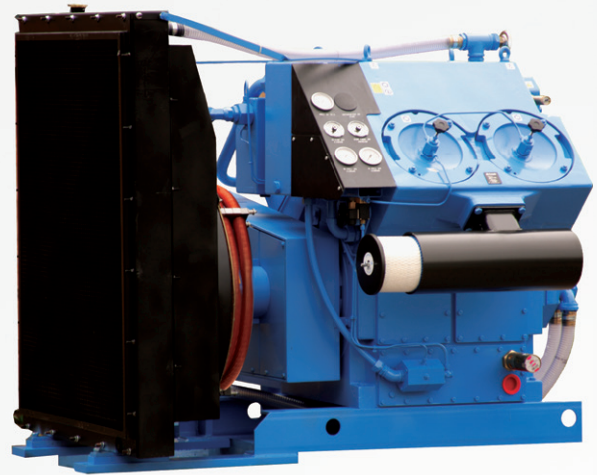
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The H 5236 is a 2 stage water cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, argon, bio-gas (H<sub>2</sub>S limitations), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

10 to 40 barg (145 to 580 psig)  
 184 to 313 m<sup>3</sup>/hr (74 to 184 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from an integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes

**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	184	313
	cfm	74	184
Final delivery pressure	barg	40	10
	psig	580	145
Compressor speed	rpm	750	1800
Motor power 50Hz	kW	22	75
	hp	30	100
Compressor stages		2	

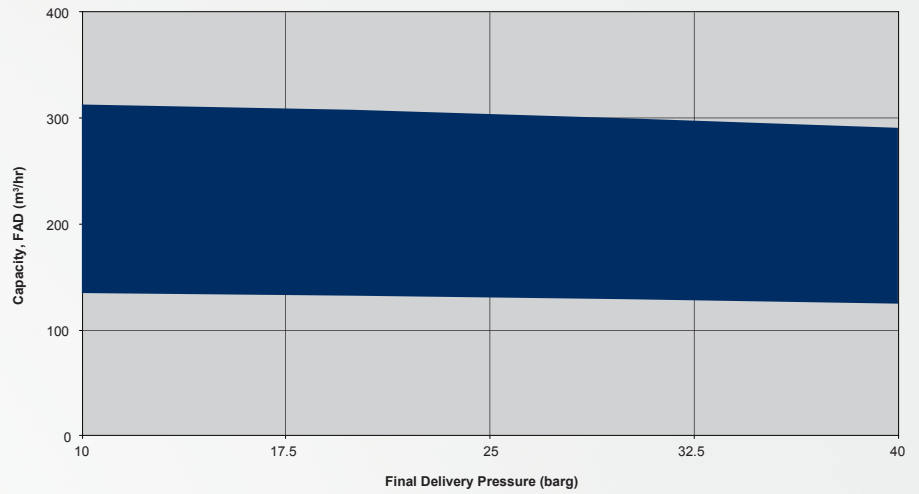
Please note performance data is based on 50Hz motor power only.

Reavell Compressors

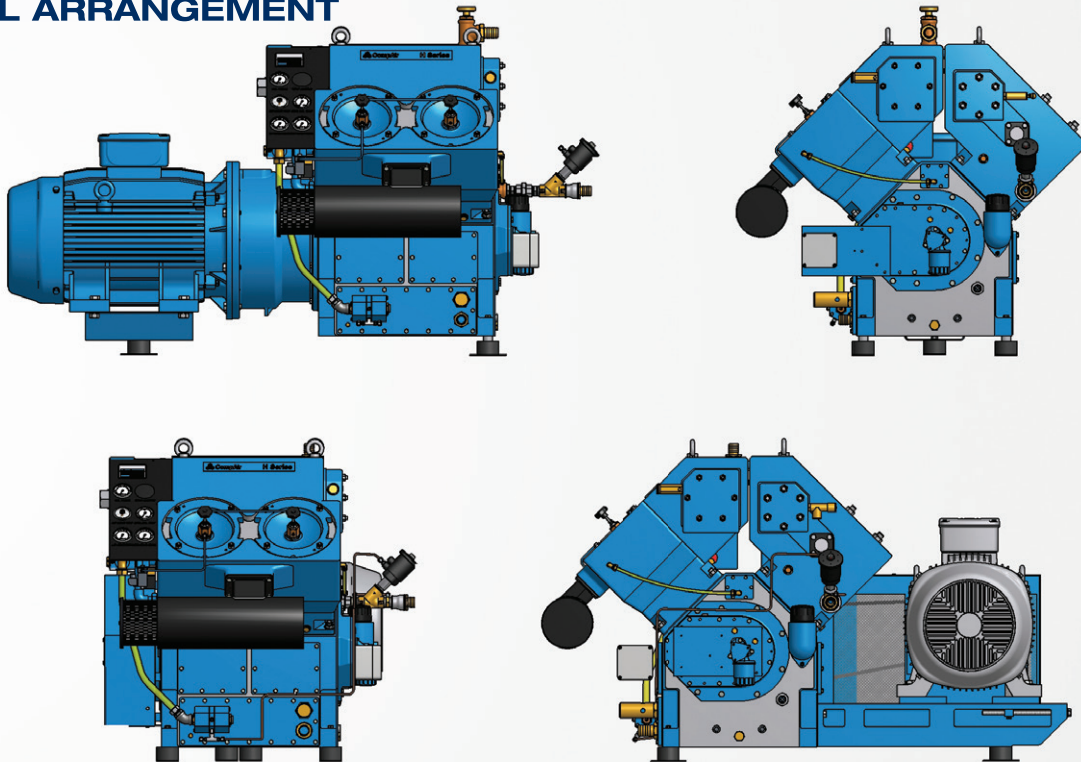
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### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	1065	inches	42
	Width	mm	1760	inches	69
	Length	mm	970	inches	38
	Weight	kg	1650	lb	3637
Direct Drive	Height	mm	1050	inches	41
	Width	mm	1210	inches	48
	Length	mm	1800	inches	71
	Weight	kg	1500	lb	3307

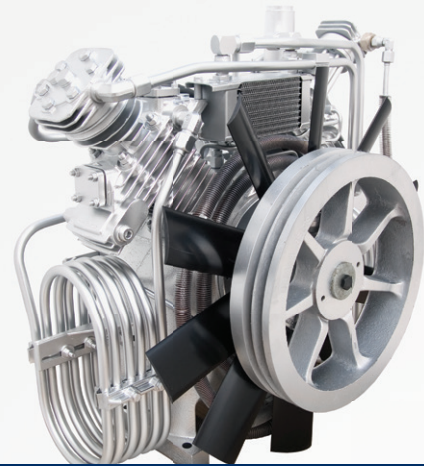
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The H 5307 is a 3 stage air cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, bio-gas (H<sub>2</sub>S limitations), helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

40 to 80 barg (580 to 1160 psig)  
15 to 28 m<sup>3</sup>/hr (9 to 17 cfm)



**Alternative sales model reference:  
HAI28**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air interstage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

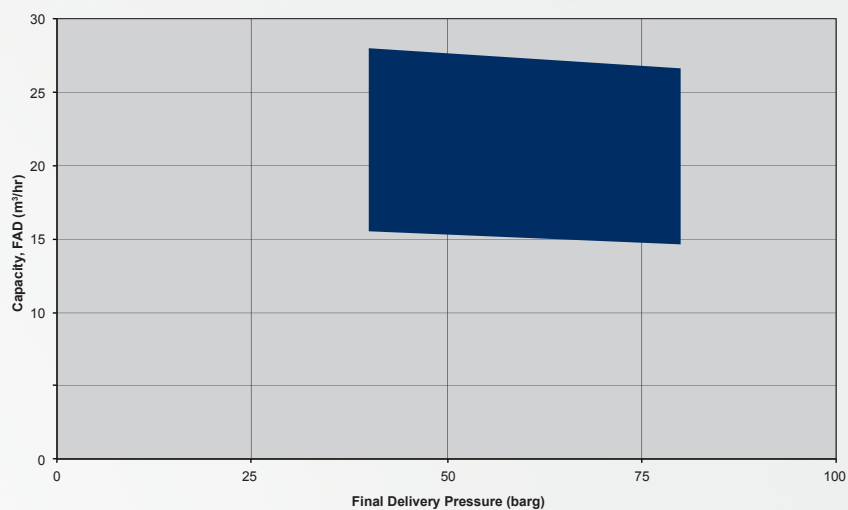
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	15	28
	cfm	9	17
Final delivery pressure	barg	80	40
	psig	1160	580
Compressor speed	rpm	1000	1800
Motor power 50Hz	kW	8	11
	hp	10	15
Compressor stages		3	

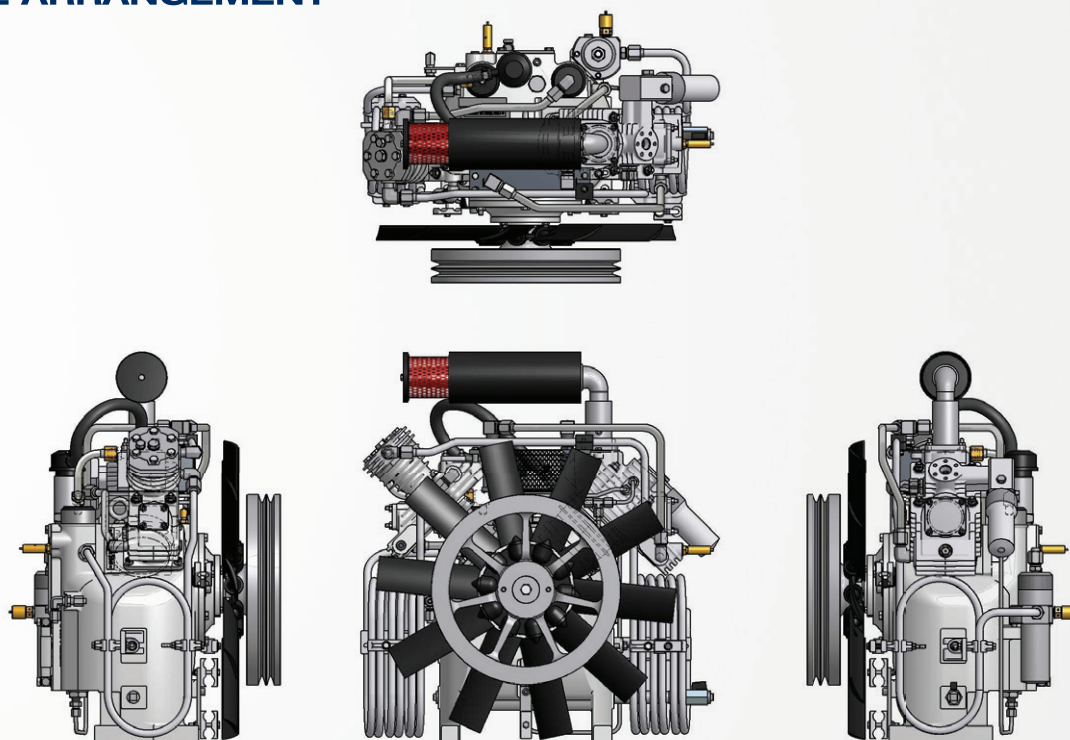
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

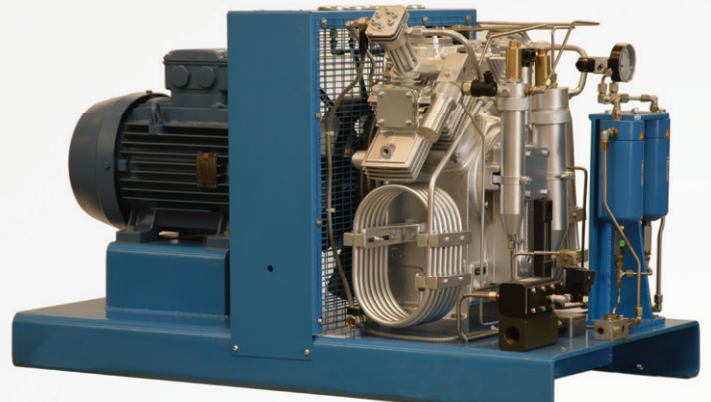
	Metric		Imperial	
	mm		inches	
Height	685		27	inches
Width	559		22	inches
Length	483		19	inches
Weight	77	kg	170	lb



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The H 5309 is a 3 stage air cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, bio-gas (H<sub>2</sub>S limitations), helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.



Alternative sales model reference:  
HAI45

**PERFORMANCE STATISTICS:**

40 to 80 barg (580 to 1160 psig)  
23 to 44 m<sup>3</sup>/hr (14 to 26 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air interstage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

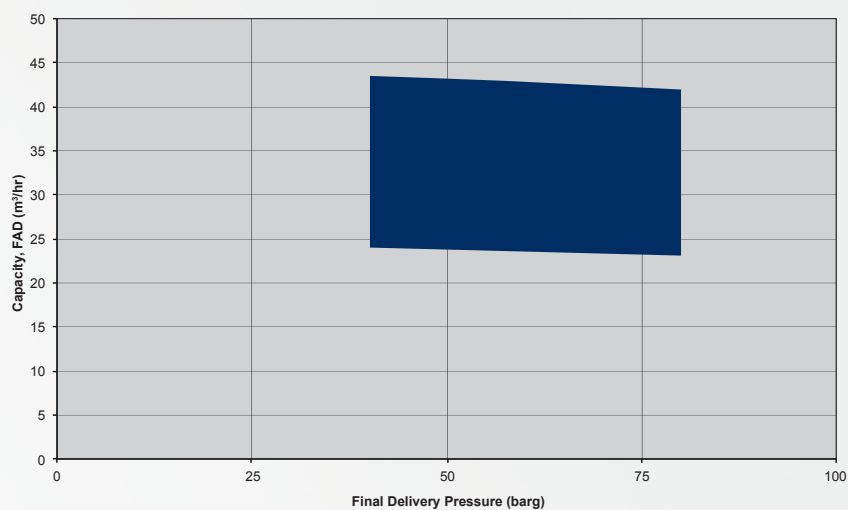
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	23	44
	cfm	14	26
Final delivery pressure	barg	80	40
	psig	1160	580
Compressor speed	rpm	1000	1800
Motor power 50Hz	kW	11	15
	hp	15	20
Compressor stages		3	

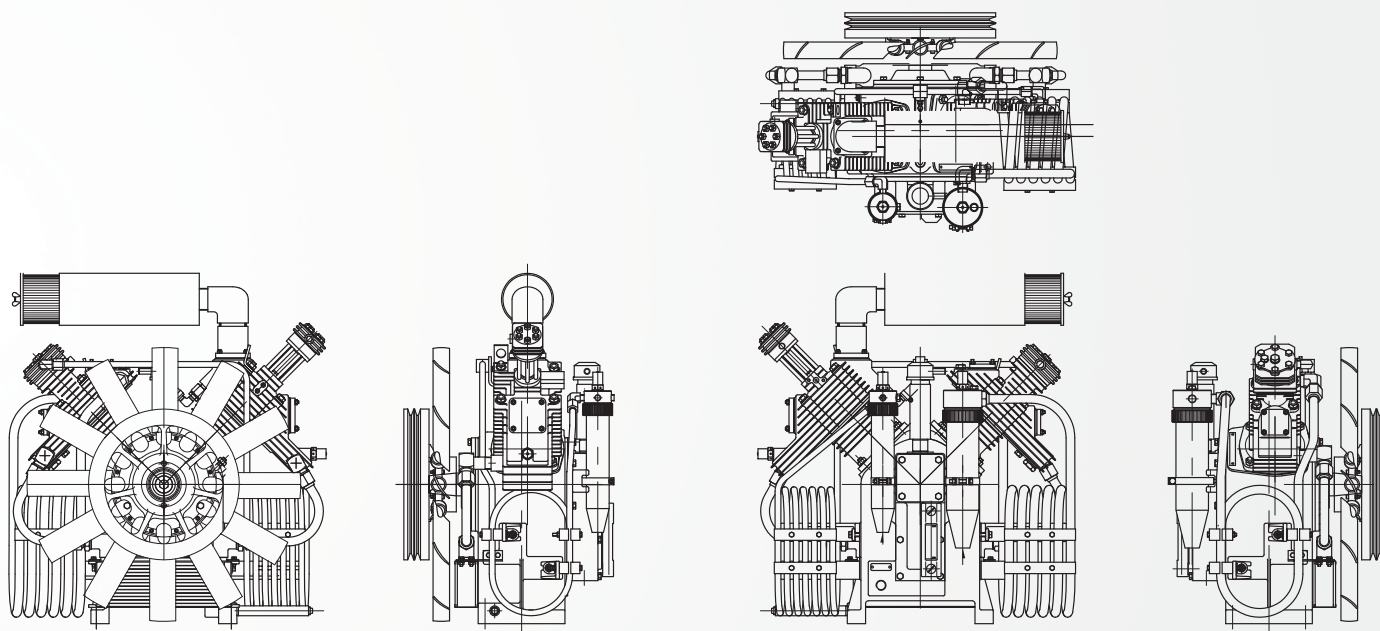
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	697	inches	27
Width	mm	714	inches	28
Length	mm	515	inches	20
Weight	kg	113	lb	249



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

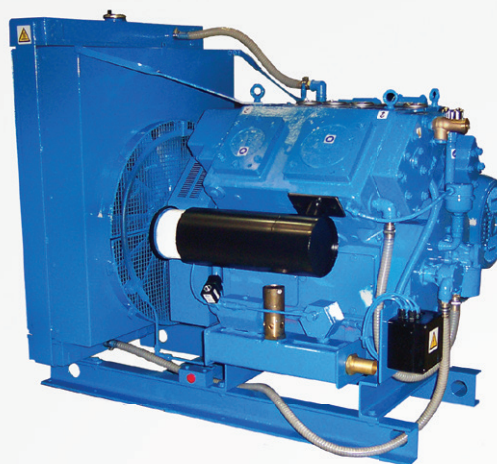
The H 5317 is a 3 stage water cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, argon, bio-gas (H<sub>2</sub>S limitations), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

40 to 85 barg (580 to 1233 psig)

27 to 67 m<sup>3</sup>/hr (16 to 39 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from an integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes

**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	27	67
	cfm	16	39
Final delivery pressure	barg	85	40
	psig	1233	580
Compressor speed	rpm	750	1800
Motor power 50Hz	kW	15	19
	hp	20	25
Compressor stages		3	

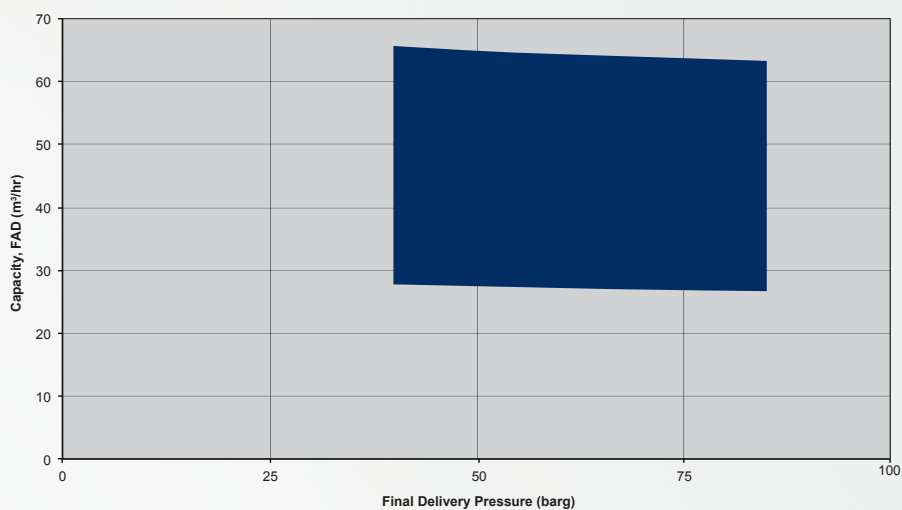
Please note performance data is based on 50Hz motor power only.

Reavell Compressors

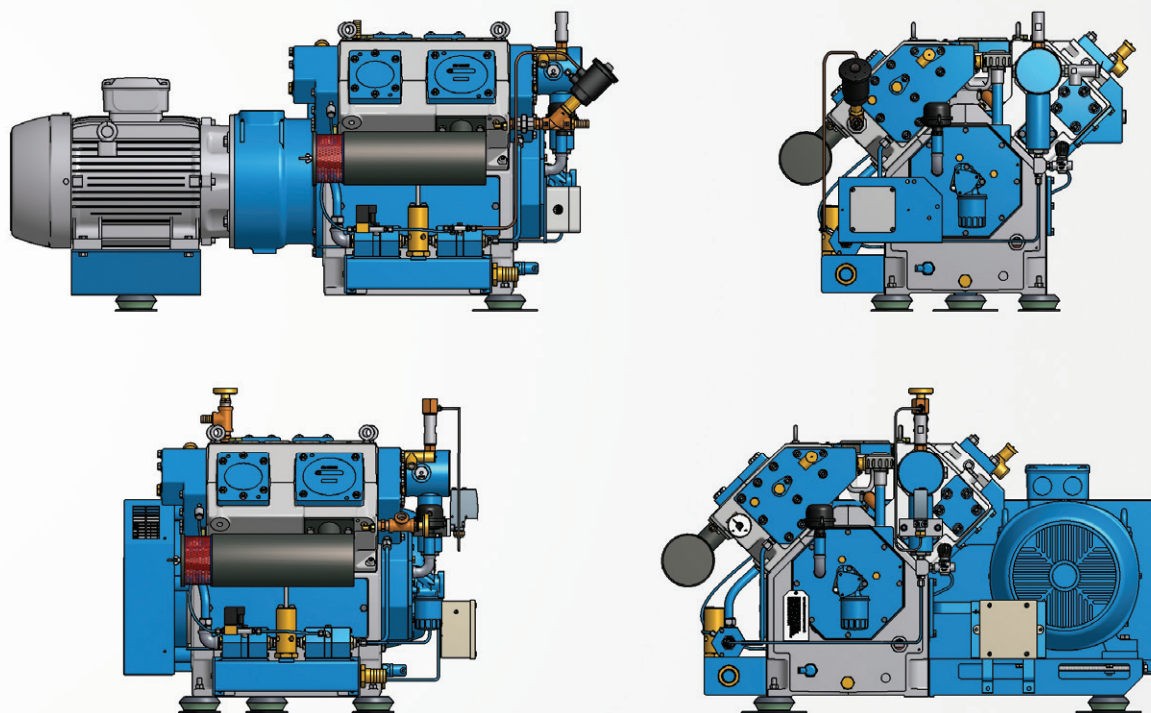
5

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	770	inches	30
	Width	mm	1290	inches	51
	Length	mm	870	inches	34
	Weight	kg	740	lb	1631
Direct Drive	Height	mm	770	inches	30
	Width	mm	880	inches	35
	Length	mm	1560	inches	61
	Weight	kg	740	lb	1631

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

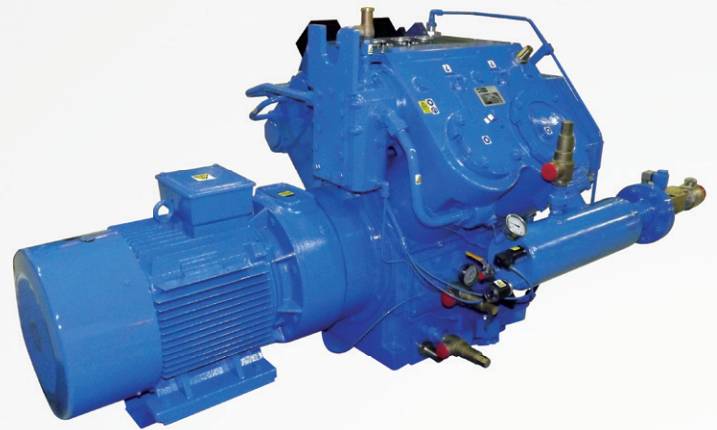


The H 5337 is a 3 stage water cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, argon, bio-gas (H<sub>2</sub>S limitations), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

40 to 85 barg (580 to 1233 psig)  
69 to 159 m<sup>3</sup>/hr (40 to 93 cfm)



**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from an integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes

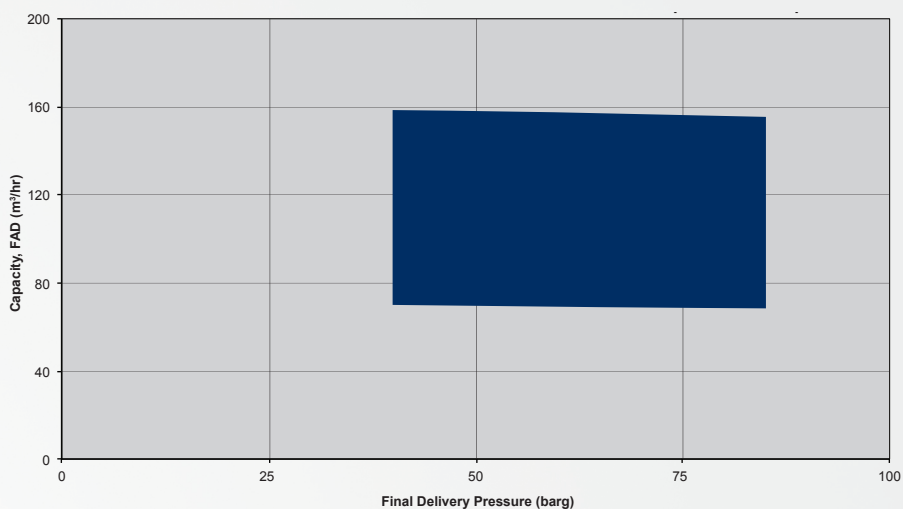
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	69	159
	cfm	40	93
Final delivery pressure	barg	85	40
	psig	1233	580
Compressor speed	rpm	750	1800
Motor power 50Hz	kW	22	45
	hp	30	60
Compressor stages		3	

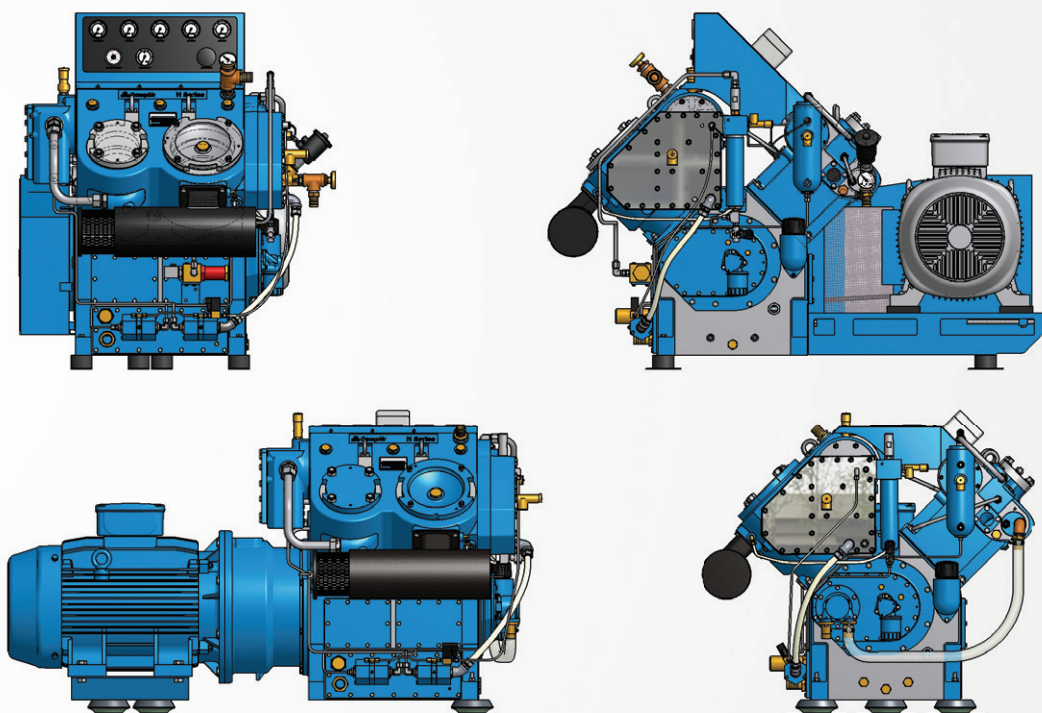
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	1090	inches	43
	Width	mm	1700	inches	67
	Length	mm	1060	inches	42
	Weight	kg	1600	lb	3527
Direct Drive	Height	mm	1090	inches	43
	Width	mm	1200	inches	47
	Length	mm	1820	inches	72
	Weight	kg	1500	lb	3307

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.



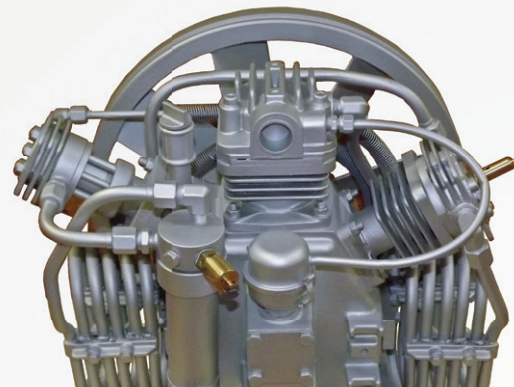
The H 5404 is a 3 stage air cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a range of gases, depending on the application. Typical gases are industrial air, breathing air and nitrogen.

**PERFORMANCE STATISTICS:**

85 to 350 barg (1233 to 5076 psig)

6 to 8 m<sup>3</sup>/hr (4 to 5 cfm)



**Alternative sales model reference:  
HA10 and CHALLENGER  
(Breathing air only)**

**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	'W' cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	No lifting gear required for top end service, fast service, with reduced down time

Reavell Compressors

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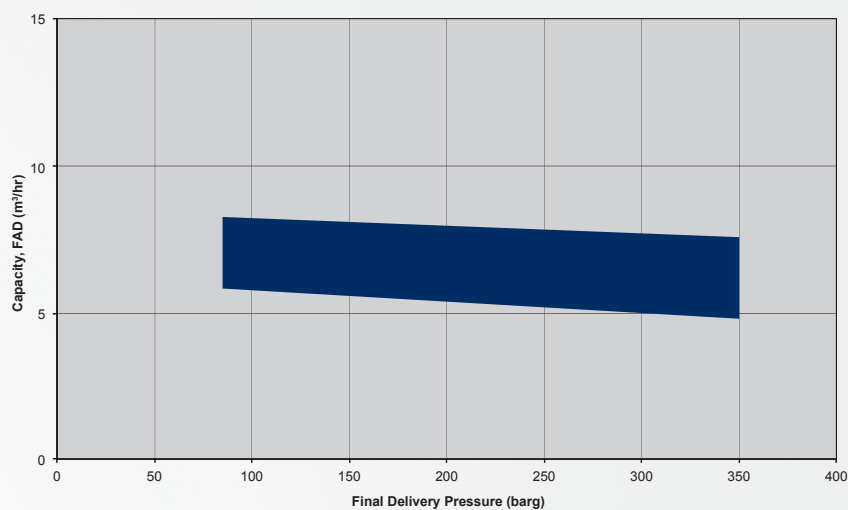
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	6	8
	cfm	4	5
Final delivery pressure	barg	350	85
	psig	5076	1233
Compressor speed	rpm	900	1300
Motor power 50Hz	kW	4	4
	hp	6	6
Compressor stages		3	

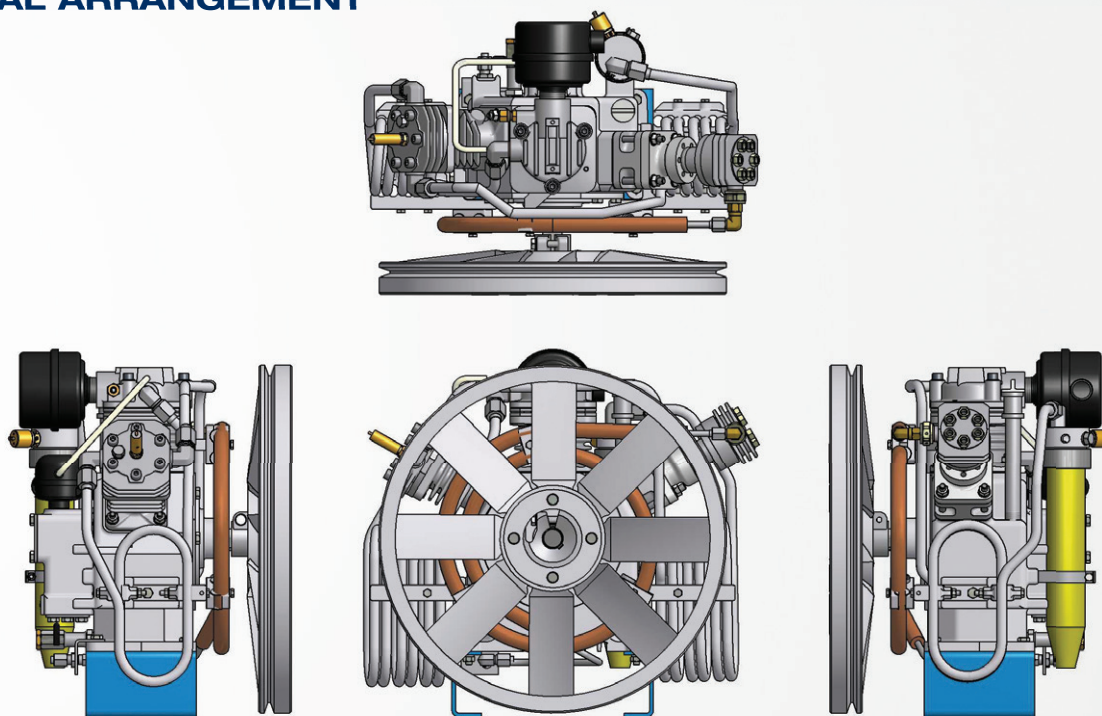
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	505	inches	20
Width	mm	530	inches	21
Length	mm	361	inches	14
Weight	kg	36	lb	79



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The H 5405 is a 3 stage air cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, bio-gas (H<sub>2</sub>S limitations apply), helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

85 to 350 barg (1233 to 5076 psig)  
8 to 11 m<sup>3</sup>/hr (6 to 7 cfm)



**Alternative sales model reference:  
HA15**

**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	‘W’ cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	No lifting gear required for top end service, fast service, with reduced down time

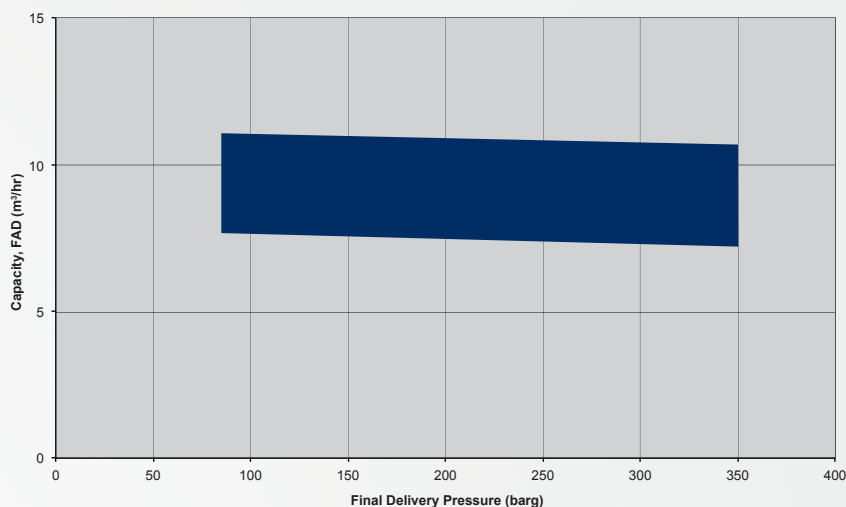
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	8	11
	cfm	6	7
Final delivery pressure	barg	350	85
	psig	5076	1223
Compressor speed	rpm	900	1300
Motor power 50Hz	kW	6	6
	hp	8	8
Compressor stages		3	

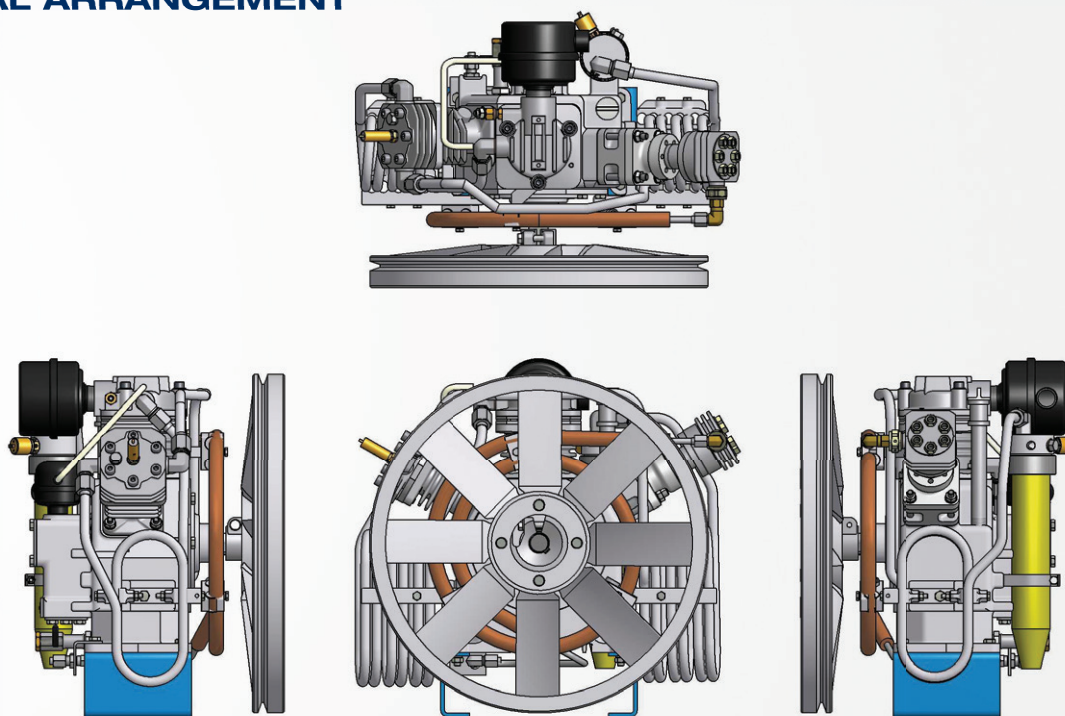
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

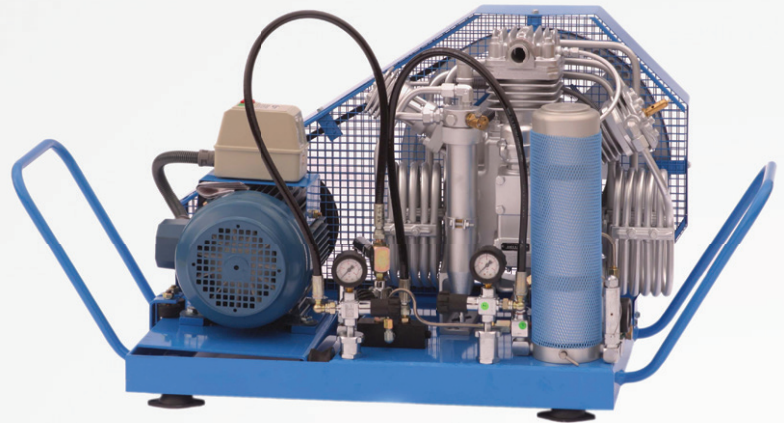
	Metric		Imperial	
	mm		inches	
Height	mm	505	inches	20
Width	mm	530	inches	21
Length	mm	361	inches	14
Weight	kg	39	lb	86



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The H 5405e is a 3 stage air cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, bio-gas (H<sub>2</sub>S limitations apply), helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.



Alternative sales model reference:  
**GP5, HA20, HQ15, HQ20, PREMIAIR**  
**and COMMANDER**  
 (Breathing air only)

**PERFORMANCE STATISTICS:**

85 to 350 barg (1233 to 5076 psig)  
 8 to 17 m<sup>3</sup>/hr (5 to 10 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	'W' cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	No lifting gear required for top end service, fast service, with reduced down time

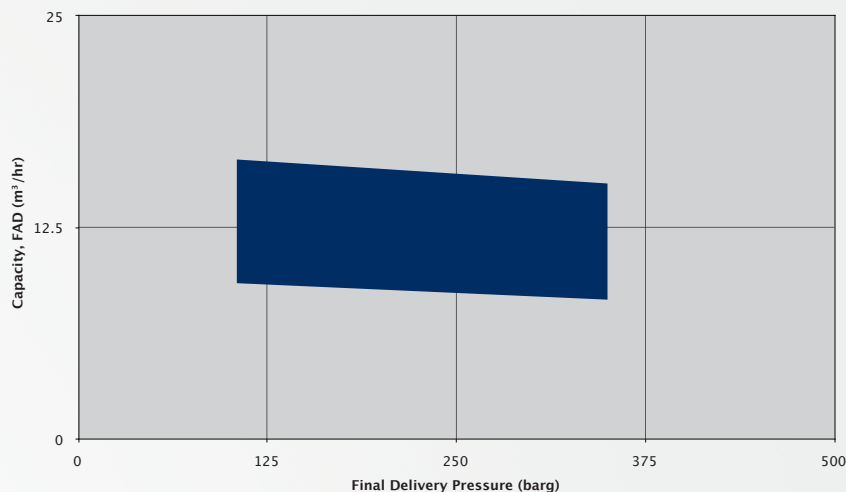
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	8	17
	cfm	5	10
Final delivery pressure	barg	350	85
	psig	5076	1233
Compressor speed	rpm	1000	1800
Motor power 50Hz	kW	6	8
	hp	8	10
Compressor stages		3	

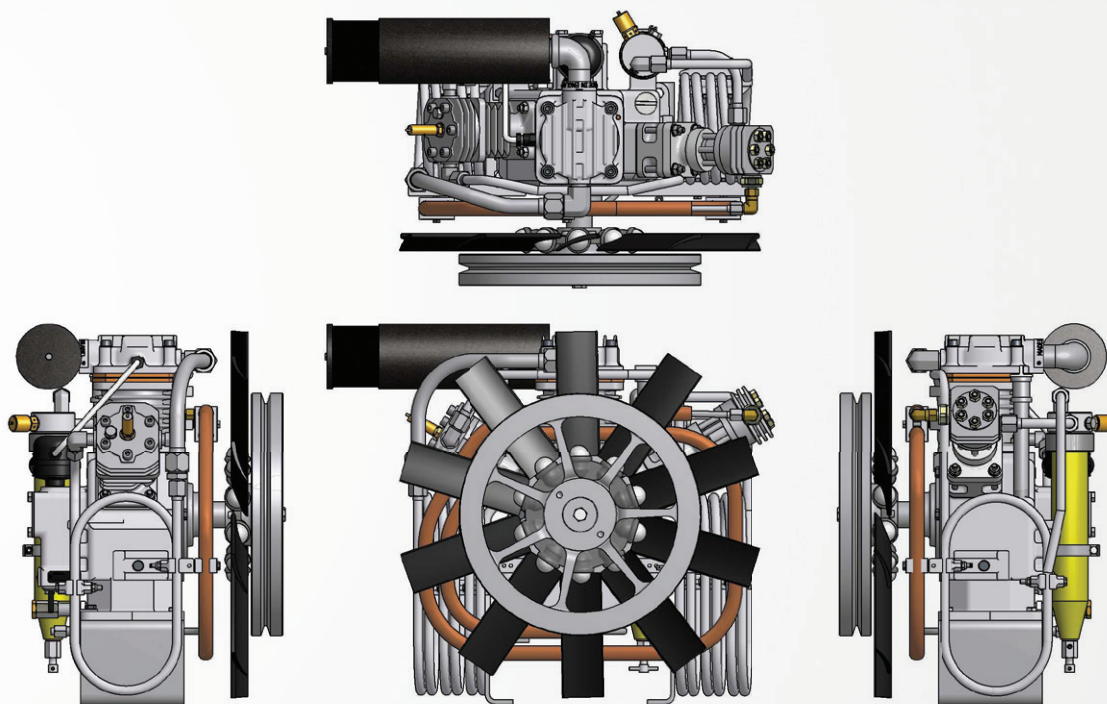
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	mm		inches	
Height	mm	520	inches	20
Width	mm	623	inches	25
Length	mm	380	inches	15
Weight	kg	40	lb	88



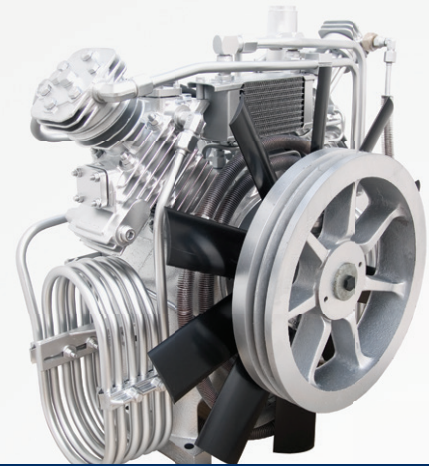
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The H 5407 is a 4 stage air cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, bio-gas (H<sub>2</sub>S limitations apply), helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

140 to 414 barg (2031 to 6005 psig)  
12 to 27 m<sup>3</sup>/hr (7 to 16 cfm)



**Alternative sales model reference:  
GP7, HA25, HA30, HQ25, HQ30**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air interstage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

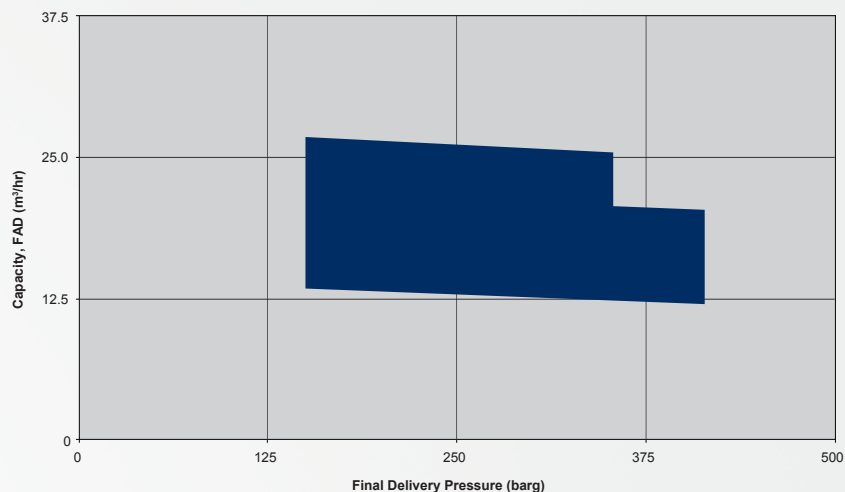
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	12	27
	cfm	7	16
Final delivery pressure	barg	414	140
	psig	6005	2031
Compressor speed	rpm	900	1800
Motor power 50Hz	kW	8	11
	hp	10	15
Compressor stages		4	

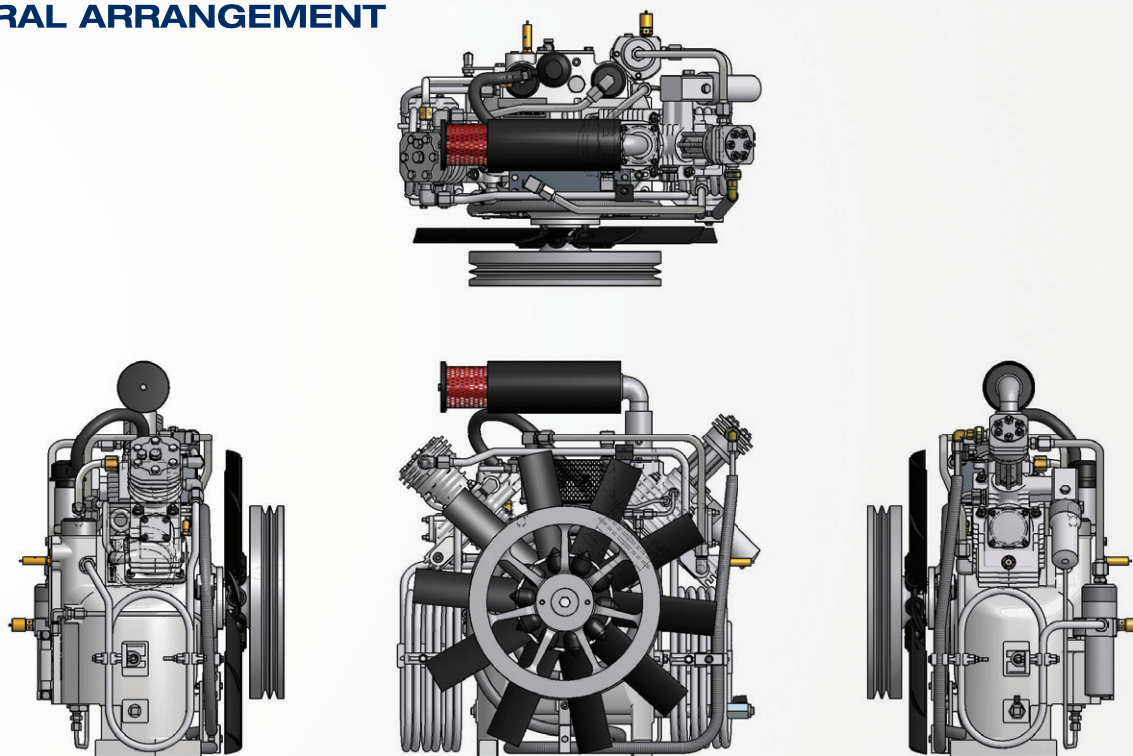
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	mm		inches	
Height	685		27	inches
Width	559		22	inches
Length	483		19	inches
Weight	77	kg	170	lb



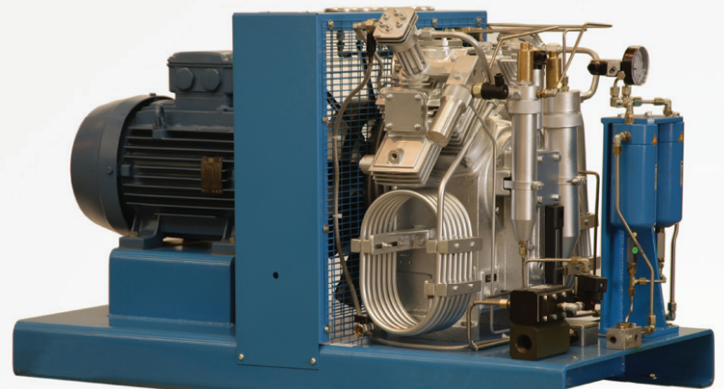
The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

The H 5409 is a 4 stage air cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, bio-gas (H<sub>2</sub>S limitations apply), helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

140 to 414 barg (2031 to 6005 psig)  
20 to 44 m<sup>3</sup>/hr (12 to 26 cfm)



**Alternative sales model reference:  
GP9, HA40, HA50, HQ40, HQ50**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air interstage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

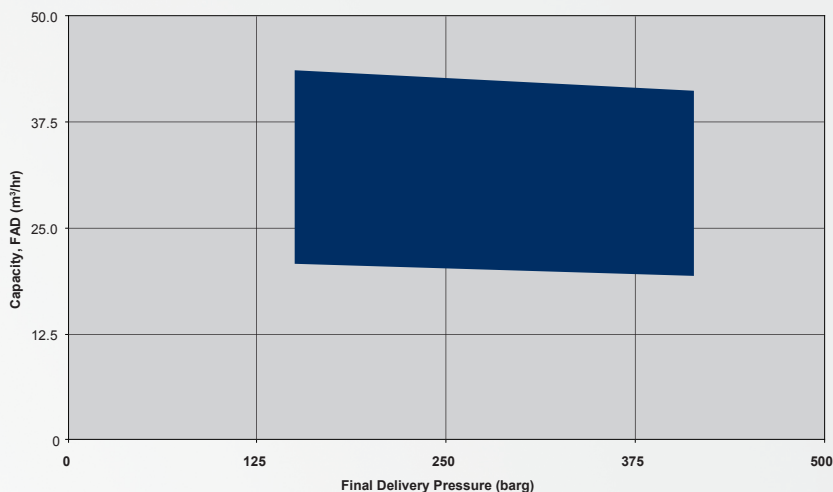
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	20	44
	cfm	12	26
Final delivery pressure	barg	414	140
	psig	6005	2031
Compressor speed	rpm	900	1800
Motor power 50Hz	kW	15	19
	hp	20	25
Compressor stages		4	

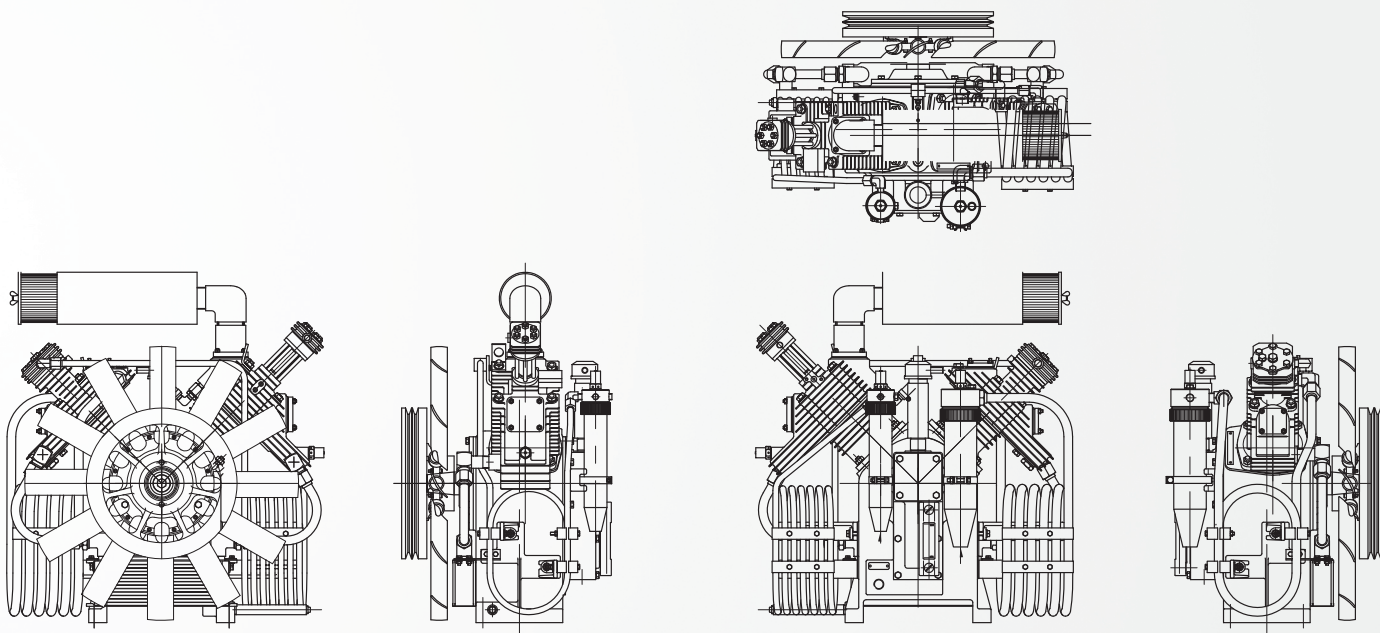
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



Reavell Compressors

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### DIMENSIONS

	Metric		Imperial	
	mm		inches	
Height	697		27	
Width	714		28	
Length	515		20	
Weight	129	kg	284	lb



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

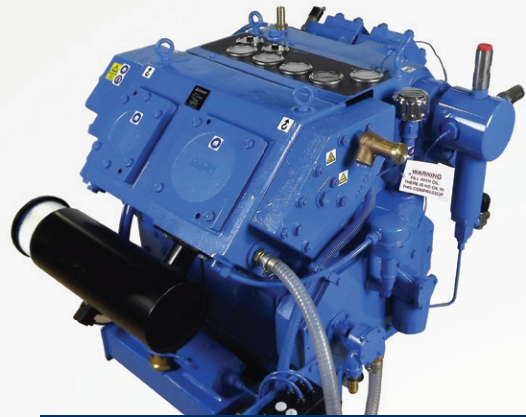
H 5409

The H 5417 is a 4 stage water cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, argon, bio-gas (H<sub>2</sub>S limitations apply), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

140 to 350 barg (2031 to 5076 psig)  
25 to 68 m<sup>3</sup>/hr (15 to 40 cfm)



**Alternative sales model reference:  
GP17**

**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from an integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes

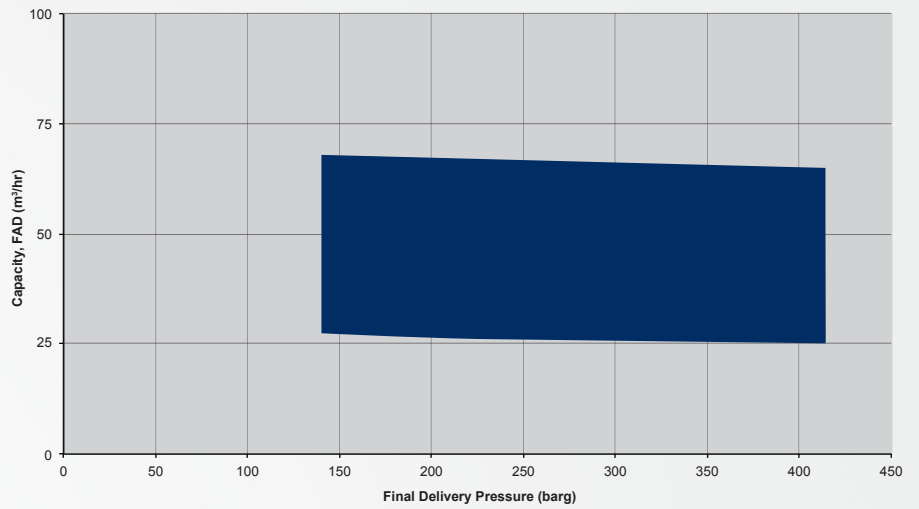
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	25	68
	cfm	15	40
Final delivery pressure	barg	350	140
	psig	5076	2031
Compressor speed	rpm	750	1800
Motor power 50Hz	kW	11	30
	hp	15	40
Compressor stages		4	

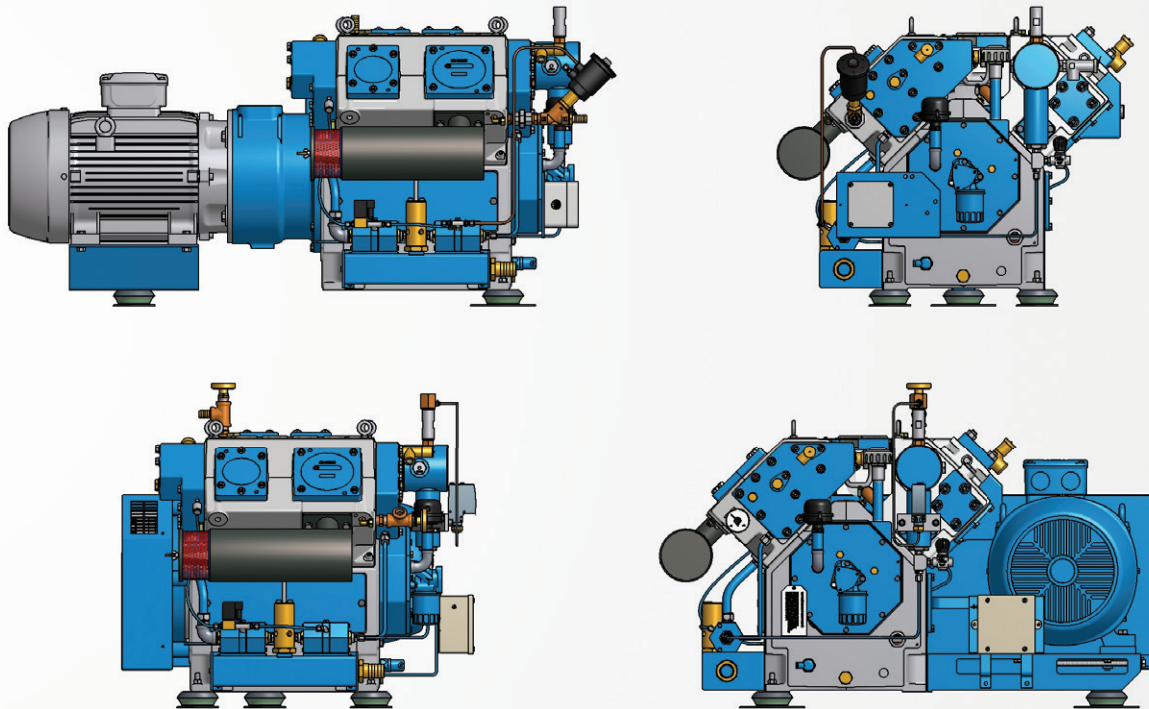
Please note performance data is based on 50Hz motor power only.

## PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



## GENERAL ARRANGEMENT



## DIMENSIONS

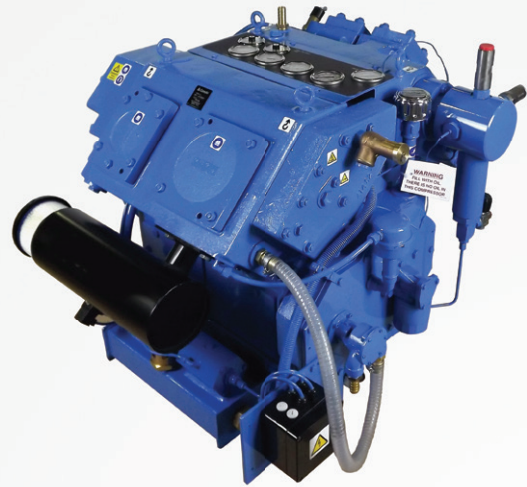
		Metric		Imperial	
V-Belt Drive	Height	mm	770	inches	30
	Width	mm	1290	inches	51
	Length	mm	870	inches	34
	Weight	kg	740	lb	1631
Direct Drive	Height	mm	770	inches	30
	Width	mm	880	inches	35
	Length	mm	1560	inches	61
	Weight	kg	750	lb	1653

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.



The H 5420 is a 4 stage water cooled lubricated compressor offering reduced wear, excellent reliability, longer life, simple maintenance and extended service intervals. This compressor is quick to install and simple to configure to your site and user requirements.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, argon, bio-gas (H<sub>2</sub>S limitations apply), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.



**PERFORMANCE STATISTICS:**

160 to 350 barg (2321 to 5076 psig)

44 to 84 m<sup>3</sup>/hr (26 to 49 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from an integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes

Reavell Compressors

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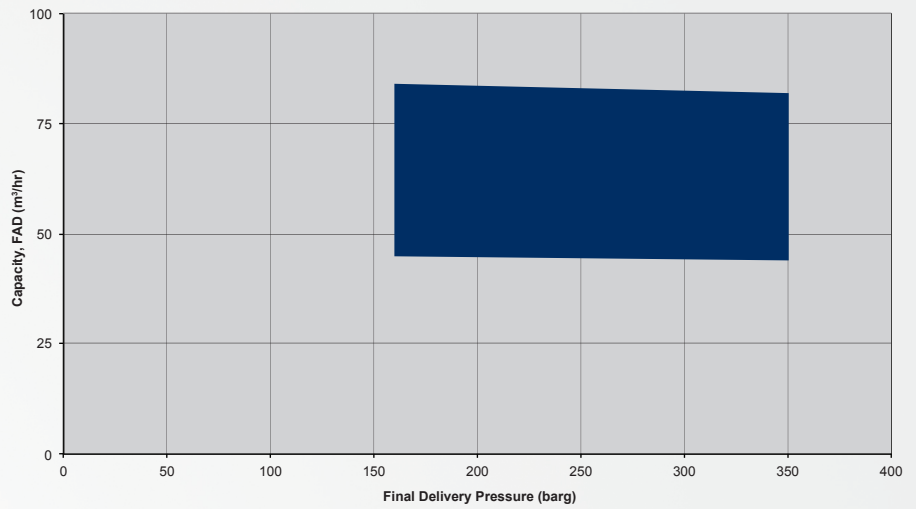
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	44	84
	cfm	26	49
Final delivery pressure	barg	350	160
	psig	5076	2321
Compressor speed	rpm	1000	1800
Motor power 50Hz	kW	22	37
	hp	30	50
Compressor stages		4	

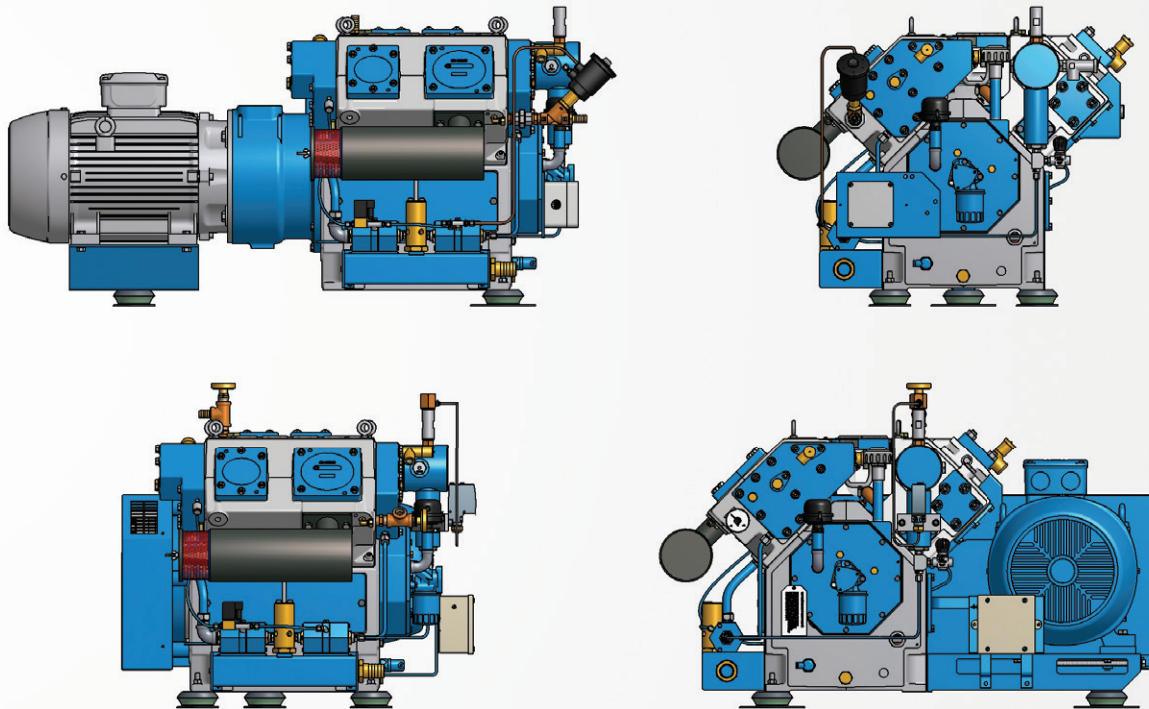
Please note performance data is based on 50Hz motor power only.

## PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



## GENERAL ARRANGEMENT



## DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	770	inches	30
	Width	mm	1290	inches	51
	Length	mm	870	inches	34
	Weight	kg	750	lb	1653
Direct Drive	Height	mm	770	inches	30
	Width	mm	880	inches	35
	Length	mm	1560	inches	61
	Weight	kg	750	lb	1653

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.



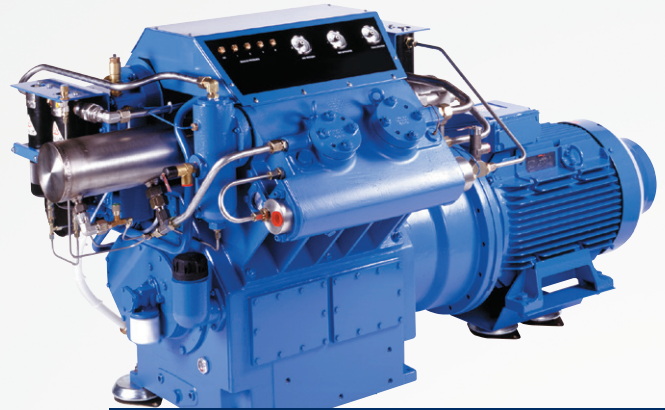
The H 5437 is a heavy duty four stage, lubricated, water cooled compressor set designed to operate in the harshest of environments but easy to maintain.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, argon, bio-gas (H<sub>2</sub>S limitations apply), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

160 to 414 barg (2321 to 6005 psig)

62 to 159 m<sup>3</sup>/hr (37 to 93 cfm)



Alternative sales model reference:  
**GP37**

**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from an integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes

Reavell Compressors

5

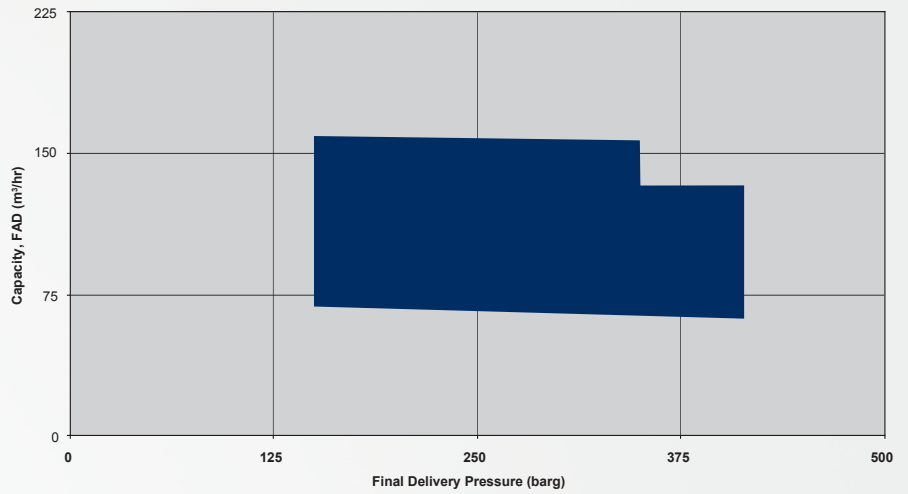
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	62	159
	cfm	37	93
Final delivery pressure	barg	414	160
	psig	6005	2321
Compressor speed	rpm	750	1800
Motor power 50Hz	kW	45	55
	hp	60	75
Compressor stages		4	

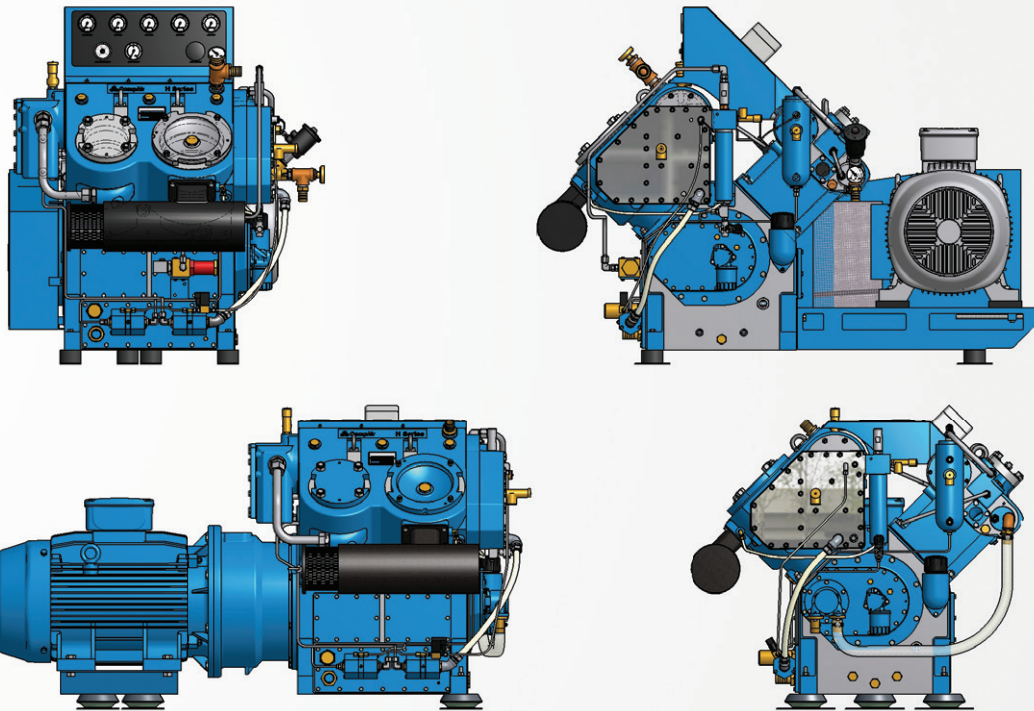
Please note performance data is based on 50Hz motor power only.

## PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



## GENERAL ARRANGEMENT



## DIMENSIONS

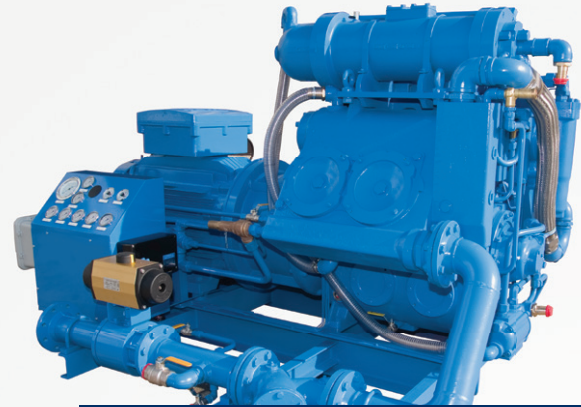
		Metric		Imperial	
V-Belt Drive	Height	mm	1090	inches	43
	Width	mm	1700	inches	67
	Length	mm	1060	inches	42
	Weight	kg	1600	lb	3527
Direct Drive	Height	mm	1090	inches	43
	Width	mm	1200	inches	47
	Length	mm	1820	inches	72
	Weight	kg	1500	lb	3307

The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.



The H 5442 lubricated four stage water cooled compressor set is a heavy duty compressor designed for high performance applications. It is an efficient high volume compressor which can operate in high ambient temperatures.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, argon, bio-gas (H<sub>2</sub>S limitations apply), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.



Alternative sales model reference:  
GP42

**PERFORMANCE STATISTICS:**

120 to 350 barg (1740 to 5076 psig)

139 to 280 m<sup>3</sup>/hr (82 to 165 cfm)

**FEATURES**

**BENEFITS**

Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	'W' cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from an integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes

Reavell Compressors

5

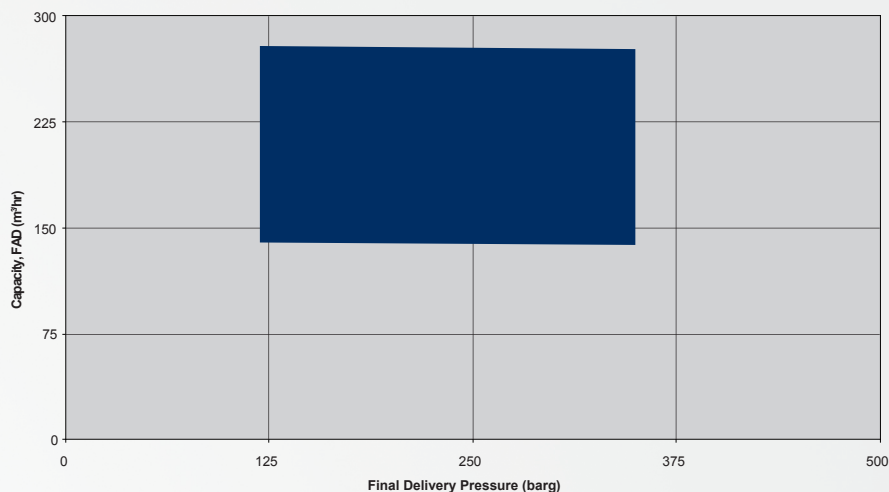
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	139	280
	cfm	82	165
Final delivery pressure	barg	350	120
	psig	5076	1740
Compressor speed	rpm	750	1500
Motor power 50Hz	kW	75	110
	hp	100	150
Compressor stages		4	

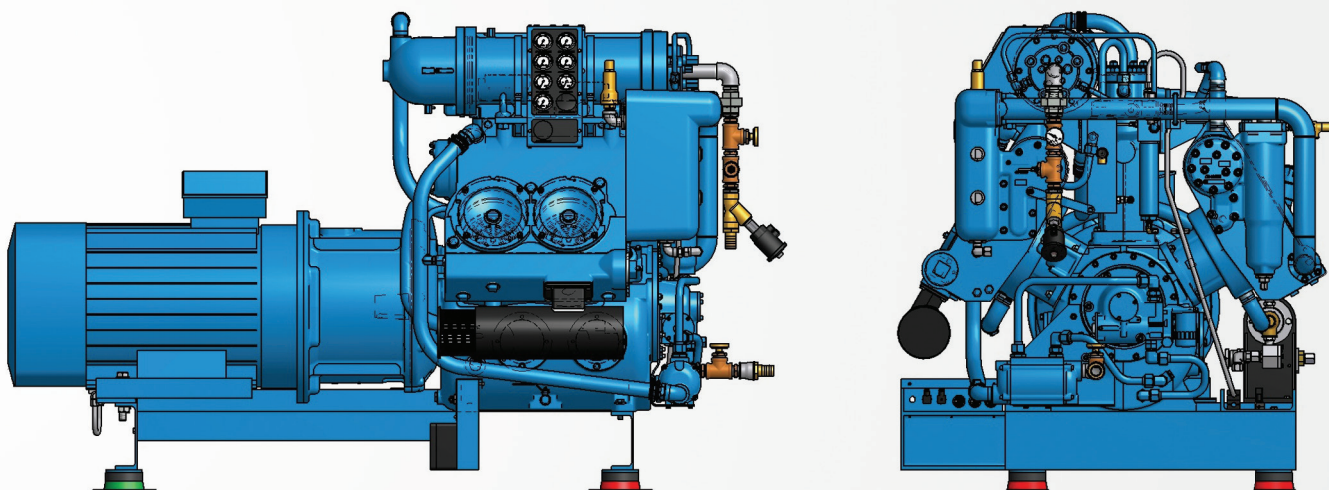
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



Reavell Compressors

5

### DIMENSIONS

		Metric		Imperial	
V-Belt Drive	Height	mm	1867	inches	74
	Width	mm	2620	inches	103
	Length	mm	1955	inches	77
	Weight	kg	3300	lb	7275
Direct Drive	Height	mm	1597	inches	63
	Width	mm	1505	inches	59
	Length	mm	2484	inches	98
	Weight	kg	2750	lb	6063



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

H 5442

The H 5450 is a heavy duty lubricated air cooled compressor. It can combine a range of boosters and compressor configurations suitable for air and gas applications. The pressurised crank case is suitable for inlet pressures up to 18 barg (261 psig).

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, argon, bio-gas (H<sub>2</sub>S limitations apply), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

3 to 414 barg (44 to 6005 psig)  
150 to 850 m<sup>3</sup>/hr (88 to 500 cfm)



Alternative sales model reference:  
**GP50**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air interstage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	'W' cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

**PERFORMANCE**

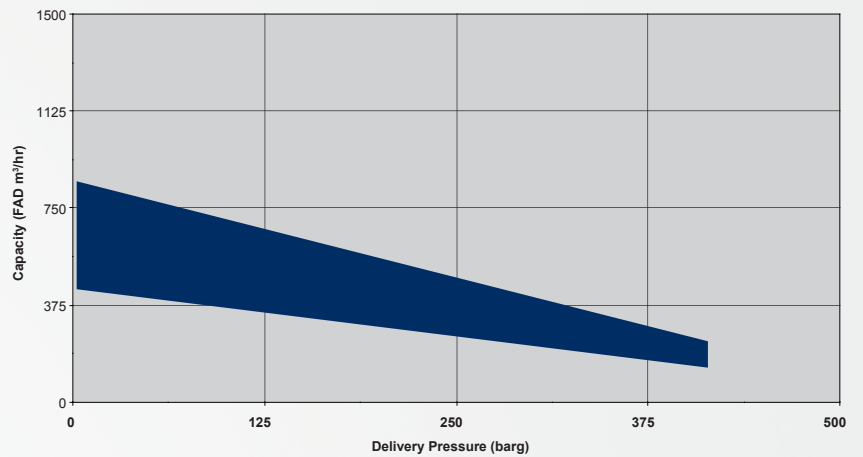
	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	150	850
	cfm	88	500
Final delivery pressure	barg	414	3
	psig	6005	36
Compressor speed	rpm	1000	1500
Motor power 50Hz	kW	37	110
	hp	50	150
Compressor stages		1 to 6	

Reavell Compressors

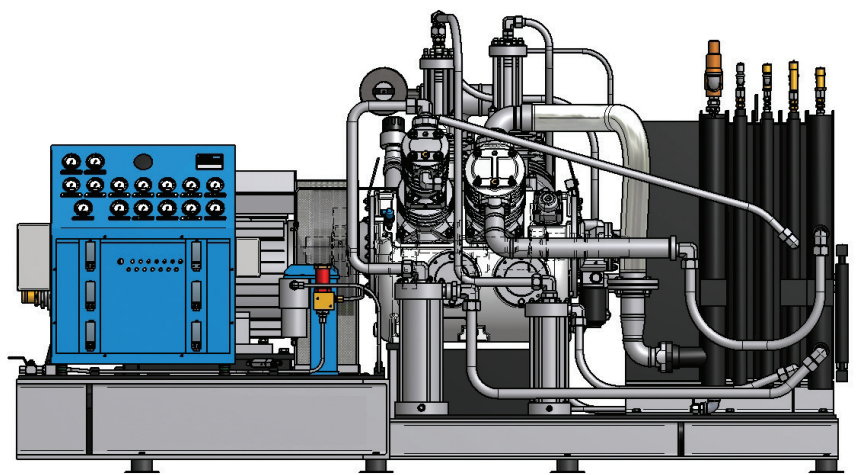
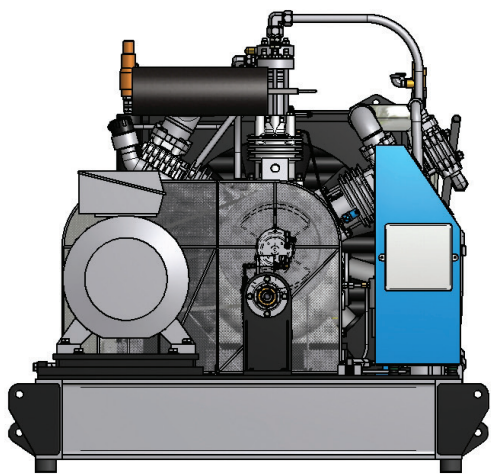
5

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



Reavell Compressors

5

### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	1696	inches	67
Width	mm	1797	inches	71
Length	mm	2888	inches	114
Weight	kg	4000	lb	8818



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

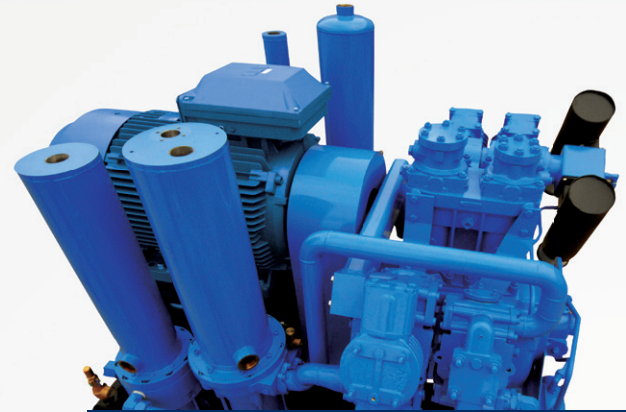
H 5450

The H 5460 is a heavy duty lubricated water cooled compressor. Its flexible design utilises 14 cylinder options and 8 cooler assemblies which can operate with either fresh or sea water and not requiring a desalination unit. The compressor produces a high performance output in a small compressor footprint in an energy efficient package.

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, argon, bio-gas (H<sub>2</sub>S limitations apply), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

2 to 414 barg (29 to 6005 psig)  
300 to 1600 m<sup>3</sup>/hr (177 to 942 cfm)



Alternative sales model reference:  
**GP60**

**FEATURES**

**BENEFITS**

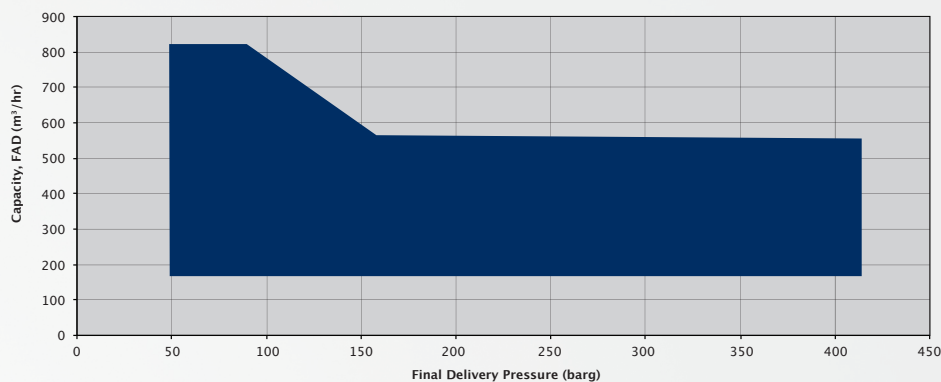
Low cost of ownership	Low piston speeds reduce wear increasing component life
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Can be installed in a range of industrial or marine environments, suitable for direct cooling by fresh or sea water or from an integral closed radiator circuit system
Low cost maintenance	Direct valve access, no removal of other components, valves can be replaced in less than 5 minutes

**PERFORMANCE**

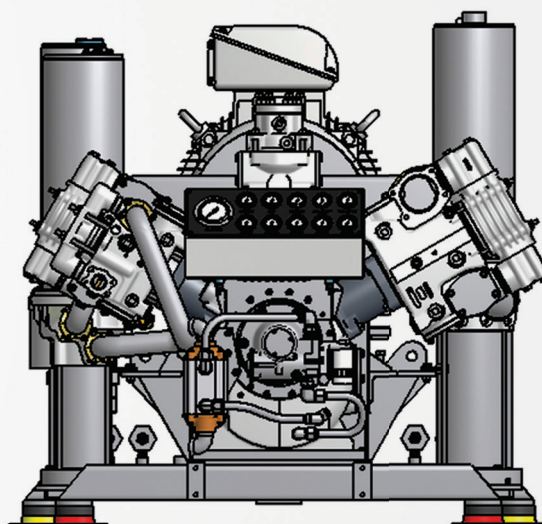
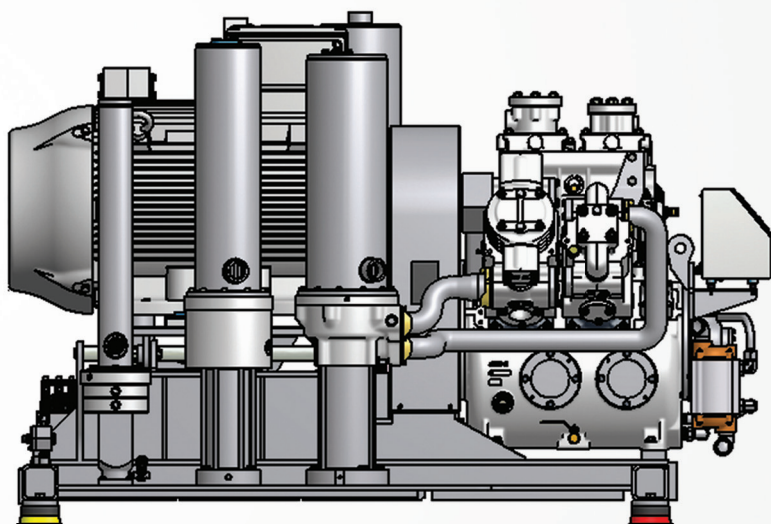
	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	300	1600
	cfm	177	942
Final delivery pressure	barg	414	2
	psig	6005	29
Compressor speed	rpm	1000	1500
Motor power 50Hz	kW	110	250
	hp	148	340
Compressor stages		1 to 6	

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



Reavell Compressors

5

### DIMENSIONS

	Metric		Imperial	
	mm		inches	
Height	mm	1729	inches	68
Width	mm	1820	inches	72
Length	mm	2576	inches	101
Weight	kg	3000	lb	6614



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.

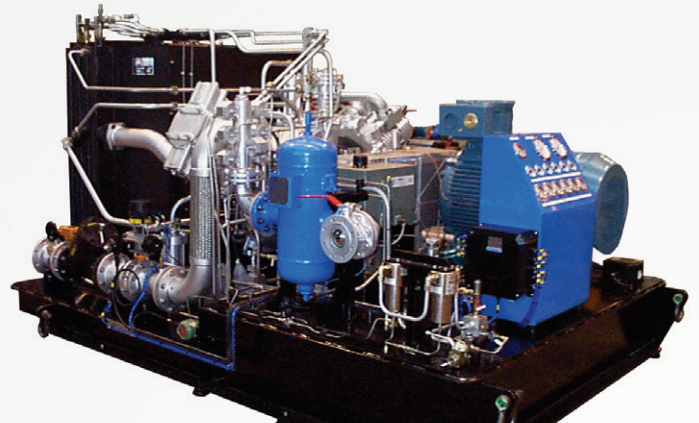
H 5460

The H 5470 is a heavy duty lubricated air cooled compressor. It can combine a range of boosters and compressor configurations suitable for air and gas applications. The pressurised crank case is suitable for inlet pressures up to 18 barg (261 psig).

This compressor can manage a wide variety of gases, depending on the application. Typical gases are industrial air, breathing air, argon, bio-gas (H<sub>2</sub>S limitations apply), carbon dioxide, helium, hydrogen, methane, natural gas, nitrogen, heliox and sludge gas.

**PERFORMANCE STATISTICS:**

3 to 414 barg (44 to 6005 psig)  
300 to 1128 m<sup>3</sup>/hr (177 to 664 cfm)



**Alternative sales model reference:  
GP70**

**FEATURES**

**BENEFITS**

Low cost of ownership	Forced air interstage and final stage cooling ensuring no requirement for additional after coolers increasing life expectancy of compressor and lubricants. Increases service intervals, lowering running costs.
Low power consumption	Electric motor driven sets offers energy efficiency with low operating noise
Small compressor footprint	Compact skid designs to optimise available installation space
Long term reliability	90° cylinder configuration for excellent balance
Simple installation	Anti-vibration mounts reduce compressor vibration so no need for specialist foundations
Low cost maintenance	High efficiency intake filter and silencer with replaceable element, gives fast simple service, with reduced down time

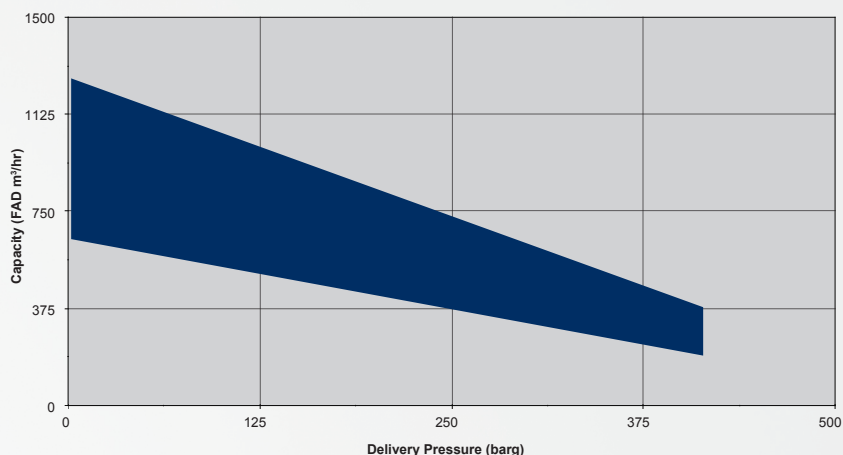
**PERFORMANCE**

	Unit/Measure	Min flow	Max flow
Capacity (FAD)	m <sup>3</sup> /hr	300	1128
	cfm	177	664
Final delivery pressure	barg	414	3
	psig	6005	44
Compressor speed	rpm	1000	1500
Motor power 50Hz	kW	55	250
	hp	75	340
Compressor stages		1 to 6	

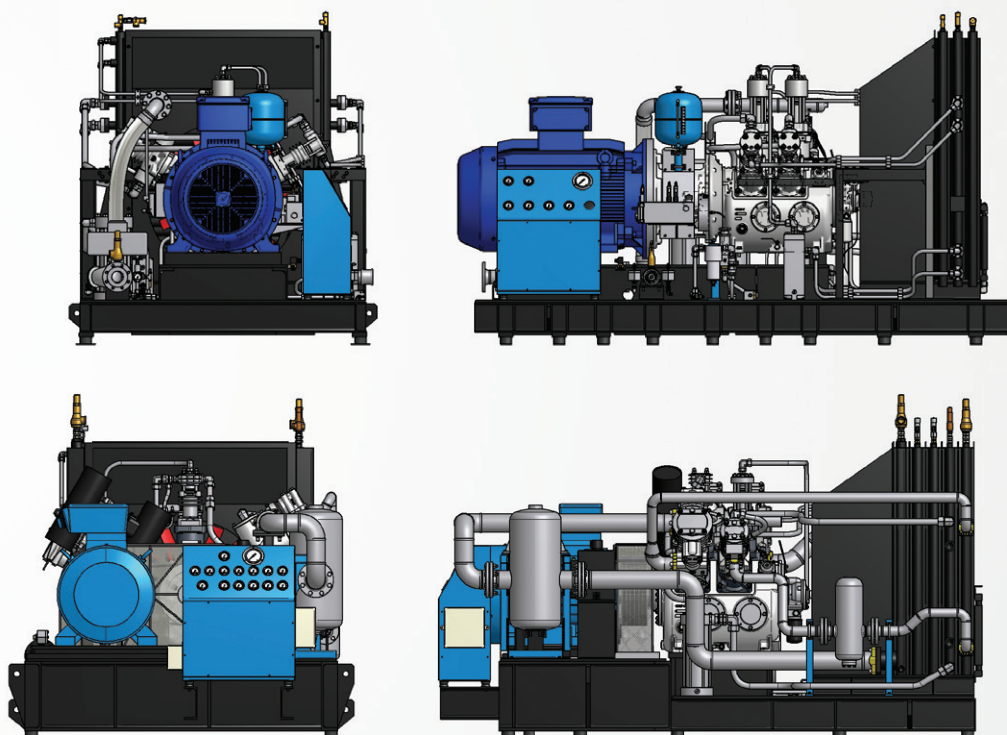
Please note performance data is based on 50Hz motor power only.

### PERFORMANCE ENVELOPE

High Pressure Performance Envelope,  
Atmospheric Inlet



### GENERAL ARRANGEMENT



### DIMENSIONS

	Metric		Imperial	
	Unit	Value	Unit	Value
Height	mm	1729	inches	68
Width	mm	1820	inches	72
Length	mm	3300	inches	130
Weight	kg	7000	lb	15432



The performance and dimension information listed is for indication purposes only. Each compressor block can be configured to meet specific application criteria and so a different compressor may be suited for your requirements. The maximum and minimum performance data listed are not linked, for example, the figures listed show the maximum flow available from the machine, but not at the maximum pressure.



## **PARTS & SERVICE**

Our class leading compression systems are supported by some of the industry's most experienced aftermarket professionals. Dedicated to supporting you with commitment and professionalism, we provide a wide range of parts and a service that is responsive and flexible. Our expertise delivers a comprehensive parts and service support package that is accessible for the service life of the compressor.



### **Parts and Services**



## **PARTS & SERVICE**

Gardner Denver understands the challenges facing our global client base in today's changing environment and takes pride in offering an exemplary global aftermarket programme covering spare parts, service and support. Our global teams fulfil all service requirements throughout the life cycle of your equipment. Effective maintenance of your high compression systems not only ensures uninterrupted process stability, but offers the additional security of scheduled maintenance programmes.

Choosing our aftermarket professionals offers you a comprehensive service support package that can continue far beyond the initial installation phase.

As part of our life cycle commitment, Gardner Denver can additionally offer you a total solution approach, providing extended warranty within a service contract framework.

### **SERVICE**

Gardner Denver's skilled engineers offer 365-day service support for its compressors. The most popular high-quality consumable parts are always in stock, with quick dispatch times across the globe.

Our servicing options guarantee the use of genuine Gardner Denver parts and lubricants to ensure your compressor runs at optimum performance. Meanwhile, Gardner Denver's continuous drive for product development and design means that your compressor incorporates the latest technological enhancements.

By servicing with Gardner Denver you can also maintain your compressor to its optimum performance.

### **SERVICE INTO PERSPECTIVE**

If you were to run a Gardner Denver compressor for 1,000 hours continuous operation it would be the same as driving a vehicle continuously at 60mph (100km/hr) for 60,000 miles (96,560km). A Gardner Denver compressor is the engine for many applications and processes around the world and therefore needs regular maintenance to ensure that it runs to maximum efficiency and reliability.



## GARDNER DENVER WARRANTY PROGRAMMES

All of Gardner Denver's compressors are supported with a warranty. The standard warranty programme is 3 years from date of commissioning or 3 years and 6 months following dispatch from the Gardner Denver factory, whichever is earliest.

It is essential for you to register the compressor on our website or through your Gardner Denver supplier so we have all the correct information in the unlikely event you should experience any issues. To maintain your warranty it is imperative that you only use Gardner Denver genuine spare parts: failure to do so will invalidate your warranty and may lead to expensive repairs.

To maintain the warranty on the Gardner Denver compressor all you have to do is:

- Follow the service recommendations using only genuine Gardner Denver parts and lubricants
- Use Gardner Denver service trained engineers to carry out all service work
- Maintain the running parameters of the original compressor package

### HOW DOES IT WORK?

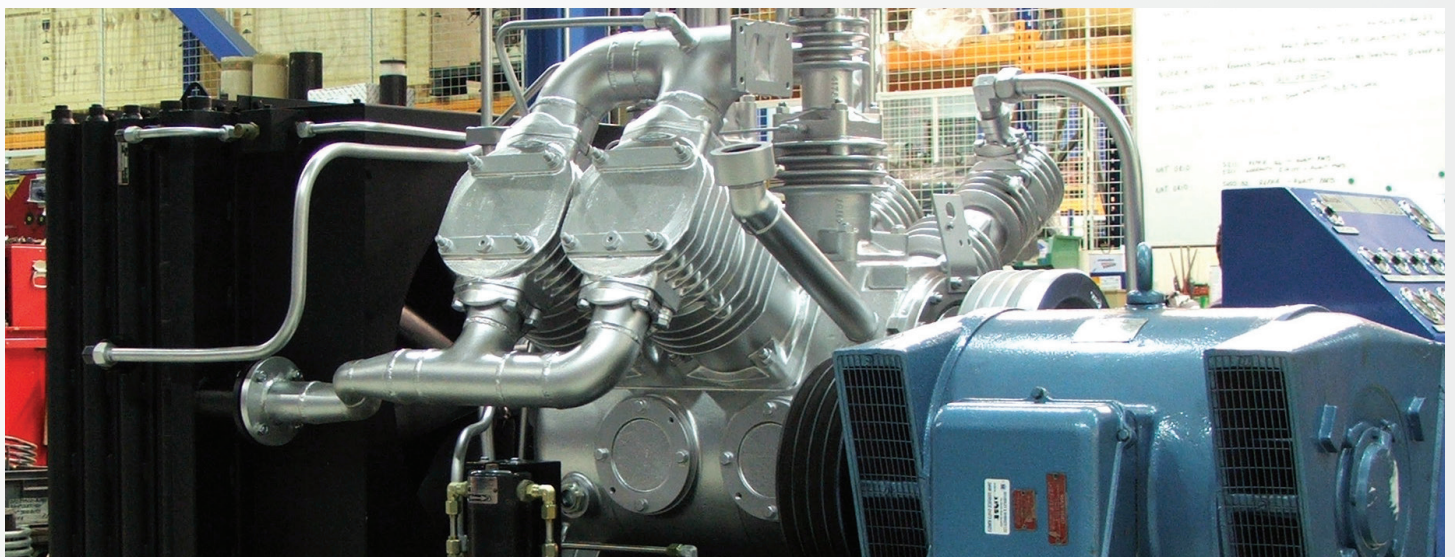
- Gardner Denver offer a range of warranty programmes designed to offer a protection programme for the life of your compressor(s)
- You will be fully budgeted against any unforeseen or unscheduled breakdown and failures
- Gives you peace of mind through maximised productivity and lowered costs

### FEATURES INCLUDE:

- A simple, straightforward agreement – no hidden extras, no small print
- Unlimited operating hours on the compressor
- 100% original spare parts with proven performance and reliability
- Scheduled maintenance carried out by factory-trained technicians
- Only one service required each year, depending on model, increasing compressor availability

### BENEFITS INCLUDE:

- Parts stocked locally to minimise downtime
- Interactive and proactive compressor monitoring
- Elimination of unexpected repair costs
- Long term reliability and Improved operational visibility and with free, user-friendly expert advice



## GENUINE PARTS PROGRAMME

Gardner Denver is the only source for parts fulfilling the stringent manufacturing standards needed to ensure uninterrupted equipment performance.

Designed and produced to the highest standards to ensure correct fitment, genuine parts secure optimum performance and life span efficiencies.

With genuine spare parts you will be able to secure maximum equipment availability and eliminate the risk and quality problems of non-original spares. Naturally all our fastest moving items are available ex-stock or on short lead times.

For additional piece of mind, we are the only ones with the complete original machine records to ensure full service enquiry back-up facilities.

## COMPREHENSIVE PARTS STOCK HOLDING

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

## CONVENIENT SERVICE PACKS

Services packs and kits provide all the necessary components to carry out field services and repairs efficiently.

## AFTERMARKET PRODUCTS & SERVICES

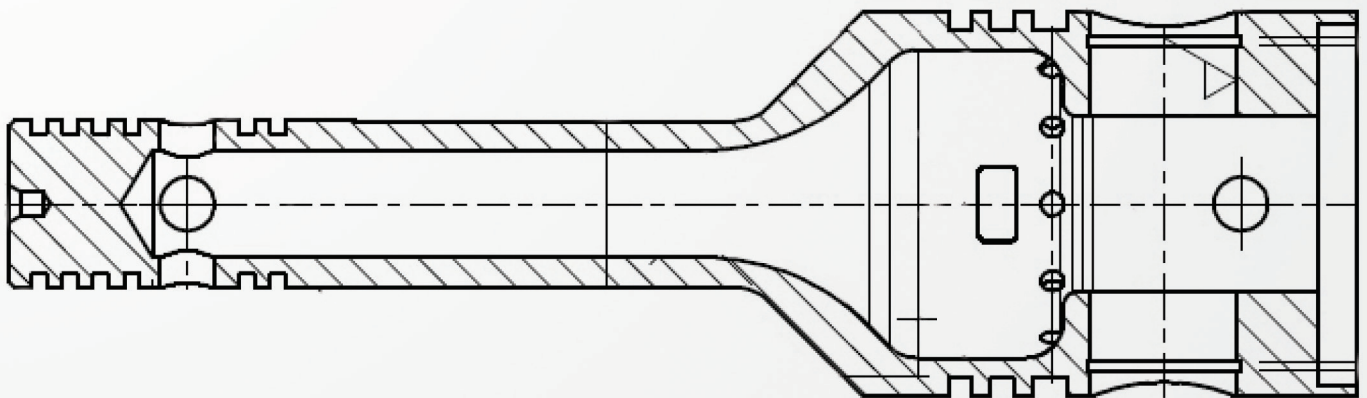
- Fixed cost preventative maintenance
- Compressor and component refurbishment
- Enhanced product upgrades
- On site commissioning and training
- Full turnkey installations
- Unrivalled product & technical support



## USEFUL INFORMATION

In this section are some of key technical information presented in a simple to understand format which help you specify the right high pressure compressor for your requirements.

This section includes:	Page no
• Operating principles	178 - 179
• Terminology	180 - 181
• Formulae	182 - 184
• Dew point calculation	185 - 187
• Altitude and relative humidity	188 - 191
• Specialist gases	192 - 194
• Accreditations	195
• Best Practice Guide	196 - 205
• Terms and conditions	206 - 207



## OPERATING PRINCIPLES

At Gardner Denver we classify our higher pressure compressors into four pressure ranges; low, medium, intermediate and high pressure.

Typically the type of compressor is:

Low Pressure	– 1 or 2 stage reciprocating compressor – 0 - 20 barg (0 - 290 psig)
Medium Pressure	– 2 or 3 stage reciprocating compressor – 20 - 40 barg (290 - 580 psig)
Intermediate Pressure	– 3 or 4 stage reciprocating compressor – 40 - 80 barg (580 - 1160 psig)
High Pressure	– 4 or 5 stage reciprocating compressor – 80 - 414 barg (1160 - 6005 psig)

### Why is it necessary to compress in a number of stages?

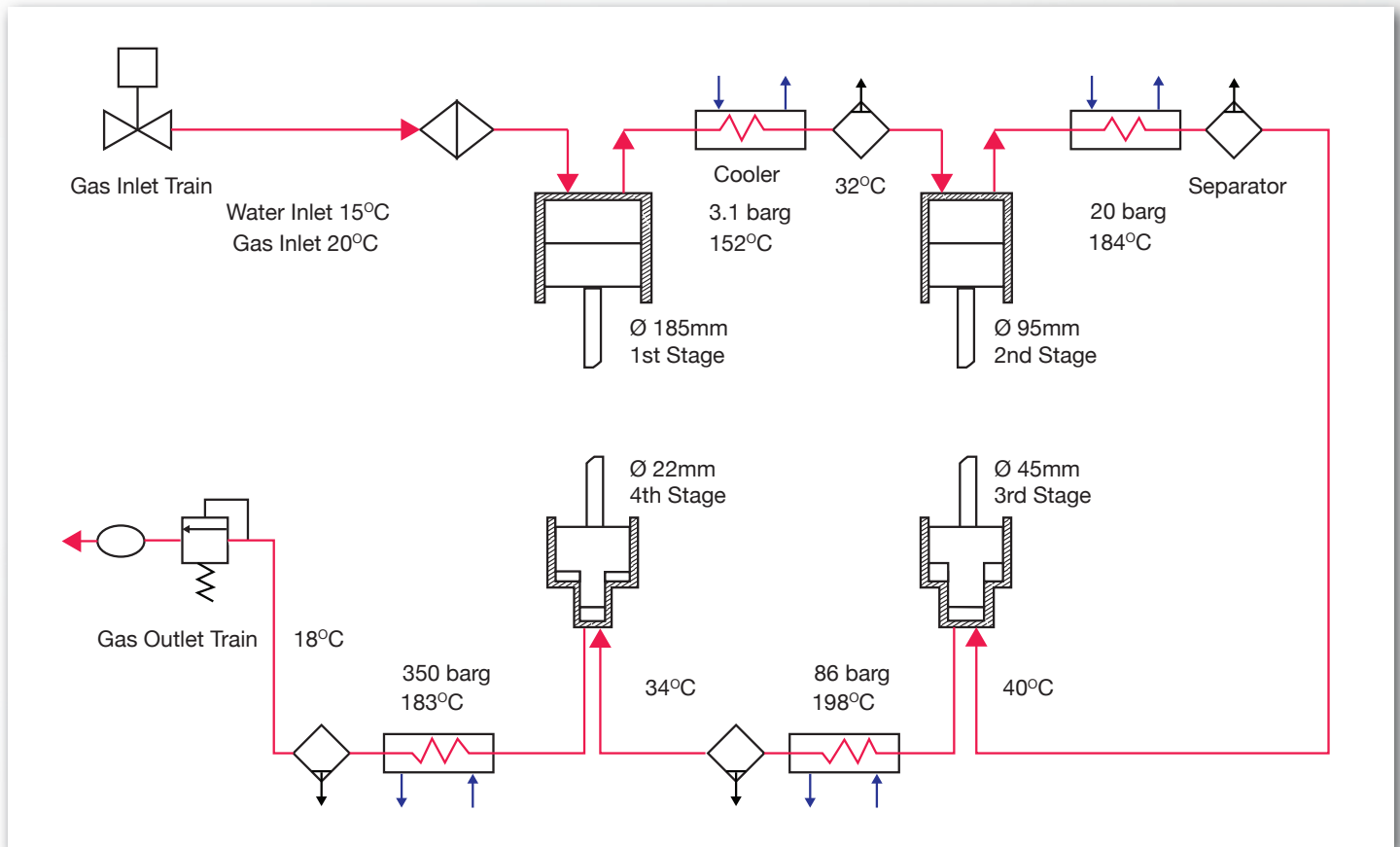
From established laws of thermodynamics, we compress air/gas in a selected number of stages to balance stage temperatures and loads on the compressor running gear, if not then the following results will happen:

- Forces on components would be too high
- The compression temperature would be too high
- Compressor efficiency would be very poor

**OPERATING PRINCIPLES**

This is a very simplified diagram of the gas compression cycle of a Reavell H 5437 compressor. You will see that the 1st stage piston has a diameter of 185mm. It is the swept volume of this 1st stage that determines the output of the compressor. You will see that as the pressure at each stage increases the diameter of the piston decreases to take account of the decrease in volume.

The gas is cooled between compression stages in the water cooled intercoolers, and passes through the moisture separators to remove water or oil held as aerosol at each stage. After the final stage the gas will pass to the outlet train, which would contain a pressure maintaining valve, non-return valve, control valves and filters.



## TERMINOLOGY - CAPACITY AND OUTPUT

There are many terms used within the compressed air and gas industry for:

### Operation

Continuous operation in the literal sense is considered as:

- 24 hours per day, 7 days per week operation or
- 8 hours per day, 5 days per week as continuous running as this is a full “working week”
- Typical applications that fall into this category would be a Belliss & Morcom water cooled, oil free compressor used for PET bottle blowing or from the Reavell range the Gazpack compressors for CNG vehicle refuelling

Intermittent operation is considered as:

- Shorter periods of running where air/gas is required
- A process which runs on various cycle times or an infrequent process e.g. charging a receiver
- Typical applications which fall into this type of operation would be a Reavell breathing air compressor

### Volume (Capacity)

Capacity or Constant Pressure Volume

- Actual volume flow-rate at intake conditions

Charging Volume

- Flow rate to fill a vessel from a low pressure to full working pressure maintaining a constant pressure at the compressor

Charging Rate

- Rate to charge a vessel from 0 to working pressure without temperature correction or constant pressure at the compressor

## TERMINOLOGY - CAPACITY AND OUTPUT

### Miscellaneous Terms

FAD

- Free Air Delivered

FGD

- Free Gas Delivered

Actual volume flow rate referred to suction pressure and temperature

- m<sup>3</sup>/hr or cfm

Customers may specify a flow at some other reference conditions either “standard” or “normal”

- Standard = 20 degC (UK) 50 degF (US) and 1 atmosphere (1.013 bara or 14.7 psia)
- Normal = 0 degC and 1 atmosphere (1.013 bara or 14.7 psia)

## FORMULAE

### CONVERSION

$m^3/hr$  to cfm = multiply by 0.58858 (divide by 1.699)

$m^3/hr$  to litres/sec = divide by 3.6

barg to psig = multiply by 14.504

barg to kPa = multiply by 100

kW to hp = multiply by 1.341

mm to inches = divide by 25.4

$^{\circ}C$  to  $^{\circ}F$  =  $^{\circ}F = 9/5 \times ^{\circ}C + 32$

### SWEPT VOLUME

Defined as the amount of volume in cc's displaced by a piston during one half of one revolution of the crankshaft, (i.e. moving from the bottom to top dead centre).

The swept volume for the Reavell H 5212 1st stage piston would be calculated as follows:

$$\text{swept volume} = \frac{\pi}{4} \times (\text{1st stage cylinder bore } \phi \text{ cms})^2 \times \text{stroke cms} \times \text{number of 1st stage cylinders}$$

$$\text{swept volume} = \frac{\pi}{4} \times 14^2 \times 5.5 \times 1 = 846.66 \text{ cm}^2$$

**Note:** for tandem pistons upper cylinder bore cms  $\phi^2$  would be subtracted from 1st stage cylinder bore  $\phi^2$

Useful information

### PISTON DISPLACEMENT

Defined as the amount of volume in  $m^3/hr$  displaced by a piston running at stated speed in 1 hour.

The displacement for a Reavell H 5212 1st stage piston would be calculated as follows:

$$D = \frac{(\text{swept volume (cc's)} \times \text{rpm} \times 60 \text{ mins})}{10^6}$$

$$D = \frac{866.66 \times 1800 \times 60}{10^6} = 91.44 \text{ m}^3/\text{hr} \text{ (90.85 cfm)}$$

## FORMULAE

### MEAN PISTON SPEED

Defined as the average piston speed in m/sec when running at stated revolutions per minute.

The mean piston speed for the Reavell H 5212 1st stage piston would be calculated as follows:

$$\begin{aligned} \text{MPS} &= \frac{\text{stroke (cm's)}}{100} \quad \times \quad 2 \quad \times \quad \frac{\text{rpm}}{60} \\ \text{MPS} &= \frac{5.5 \times 2}{100} \quad \times \quad \frac{1800}{60} \quad = \quad 3.3 \text{ m/sec} \end{aligned}$$

### VOLUMETRIC EFFICIENCY

Efficiency of compressor for delivery air at intake condition, relative to piston displacement.

To determine the volumetric efficiency of the Reavell H 5212 1st stage compressor running at 1800 rpm:

$$\begin{aligned} \text{V.E.} &= \frac{\text{capacity (FAD)}}{\text{piston displacement}} \quad \times \quad 100 \\ \text{V.E.} &= (57.9 \div 91.44) \quad \times \quad 100 \quad = \quad 63.32\% \end{aligned}$$

This is the actual volumetric efficiency for this compressor and should not be confused with theoretical volumetric efficiency.

## DEFINITIONS

<b>CONTINUOUS OPERATION</b>	Continuous operation describes duty applications where the compressor runs at steady pressure for a number of hours; e.g. in a continuous process plant where steady conditions have to be maintained.						
<b>INTERMITTENT OPERATION</b>	Intermittent operation describes applications such as charging bottles where the pressure increases up to the required pressure. The duration of continued running at the top working pressure is relatively small. This guideline restriction is imposed to ensure that good value and compressor life are still maintained. This is achieved by ensuring that the high temperatures are not sustained for long periods of time.						
<b>LLOYDS MAX. CONDITIONS</b>	These are design parameters for the maximum ambient temperatures considered by Lloyds to be attained onboard ship. <table border="0" style="margin-left: 40px;"> <tr> <td>Air ambient and inlet temperature</td> <td>=</td> <td>45°C</td> </tr> <tr> <td>Water inlet temperature</td> <td>=</td> <td>37°C</td> </tr> </table>	Air ambient and inlet temperature	=	45°C	Water inlet temperature	=	37°C
Air ambient and inlet temperature	=	45°C					
Water inlet temperature	=	37°C					
<b>MAX MID-STREAM TEMP.</b>	Accurate test method where temperatures are measured using a thermocouple in the centre of the cross-sectional area of flow. This method is used as the compressor, interconnecting pipework and even the boundary layers of the gas (air) flow will not reach maximum temperature e.g. this maximum mid-stream temperature will not be recorded by lagged on mercury in glass thermometers or even in thermometers in pockets positioned in the flow.						
<b>MAX WORKING PRESSURE</b>	A safety requirement due to permitted working pressure on components and loading on running gear.						
<b>MIN WORKING PRESSURE</b>	Restrictions imposed to maximise valve life in the final stage of the compressor.  To drop below the stated figure oil consumption increases and has an adverse affect on valve life.						
<b>MAXIMUM SPEED</b>	Safety requirement, life and mechanical parameter for running gear, temperature parameter.						
<b>MINIMUM SPEED</b>	Lubrication, life, flywheel/coupling.						
<b>CHARGING RATE</b>	Charging rate is defined as the rate to charge a certain size vessel from zero to full working pressure without allowing for temperature or compressibility effects and not maintaining the pressure on the compressor. This gives an indication of the rate of charge. The charging volume simulates the charging of a vessel keeping the pressure maintained on the compressor and charging between certain pressures. An allowance for the air temperature is made in the calculation but this method does not give capacity.						
<b>CHARGING VOLUME</b>	Charging volume is defined as the rate to charge a certain size vessel from zero to full working pressure with pressure maintained on the compressor allowing for temperature corrections but no allowance for temperature to settle in final receiver.						
<b>CAPACITY F.A.D.</b>	Capacity or constant pressure volume of a compressor is the actual volume flow rate of gas referred to suction pressure and temperature which is compressed and delivered under steady conditions. The aspired volume is taken in by an exhaustor and is referred to the conditions prevailing at the inlet port.						
<b>'NORMAL' &amp; 'STANDARD' CONDITIONS</b>	Normal = 0 degC and 1 atmosphere (1.013 bara or 14.7 psia) Standard = 20 degC (UK) 50 degF (US) and 1 atmosphere (1.013 bara or 14.7 psia)						

**CALCULATION OF DEW POINT TEMPERATURE**

The moisture, g/m<sup>3</sup> contained in the final delivery air is given by:  $\frac{G}{P} \times \frac{\varnothing 2}{100}$

Where

G = g/m<sup>3</sup> at final delivery temperature from graphs (see pages 186 - 187)

∅2 = relative humidity at outlet from oil & moisture carry over table divided by 100 (see page 188 for table)

P = outlet pressure in bar absolute

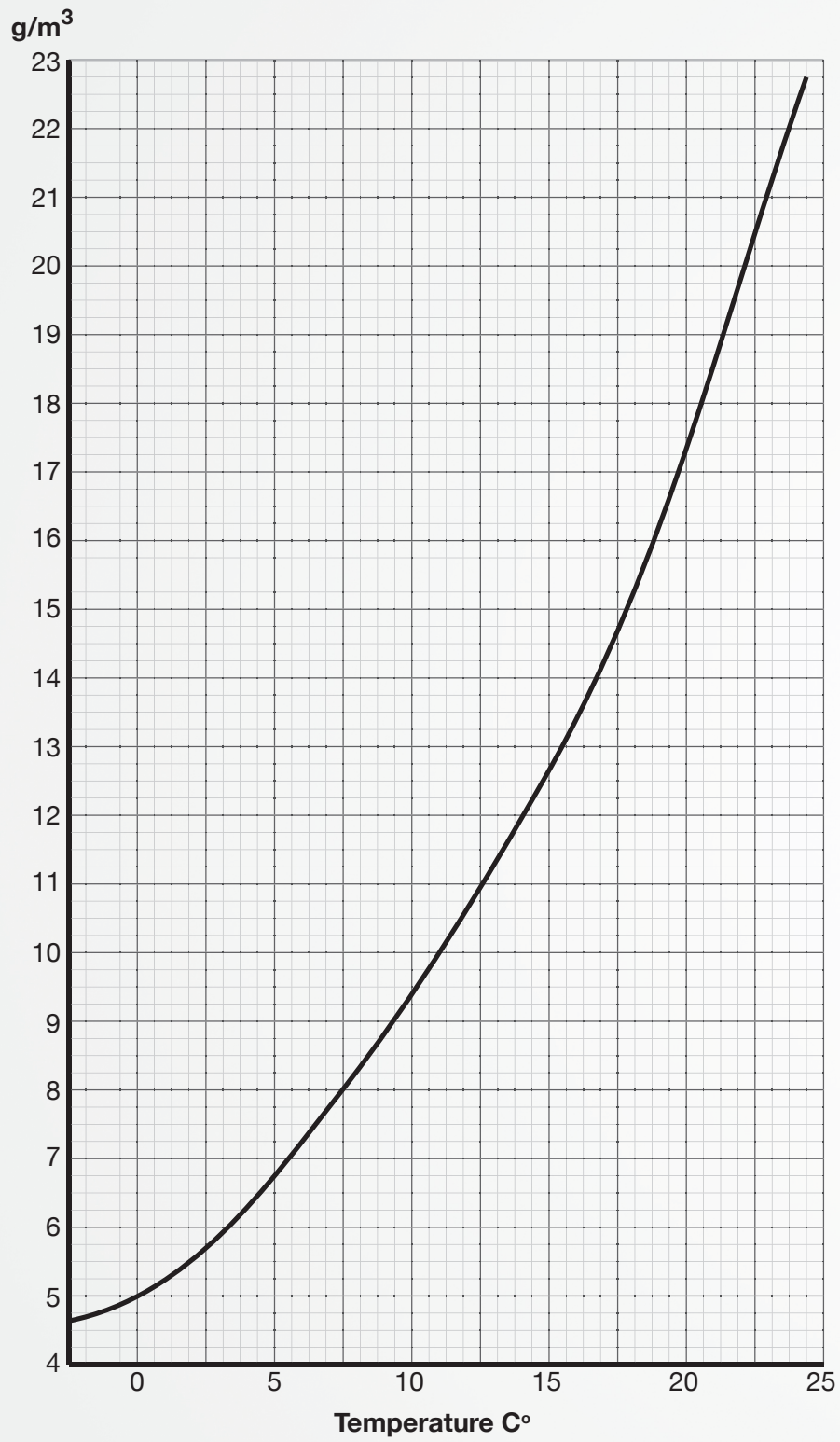
Example: Reavell H 5212 with an outlet pressure of 30 barg (435 psig) final delivery temperature of 36°C

$\frac{45}{31} \times \frac{150}{100} = 2.18$  which indicates a dew point temperature of approximately -10°C (as indicated humidity below)

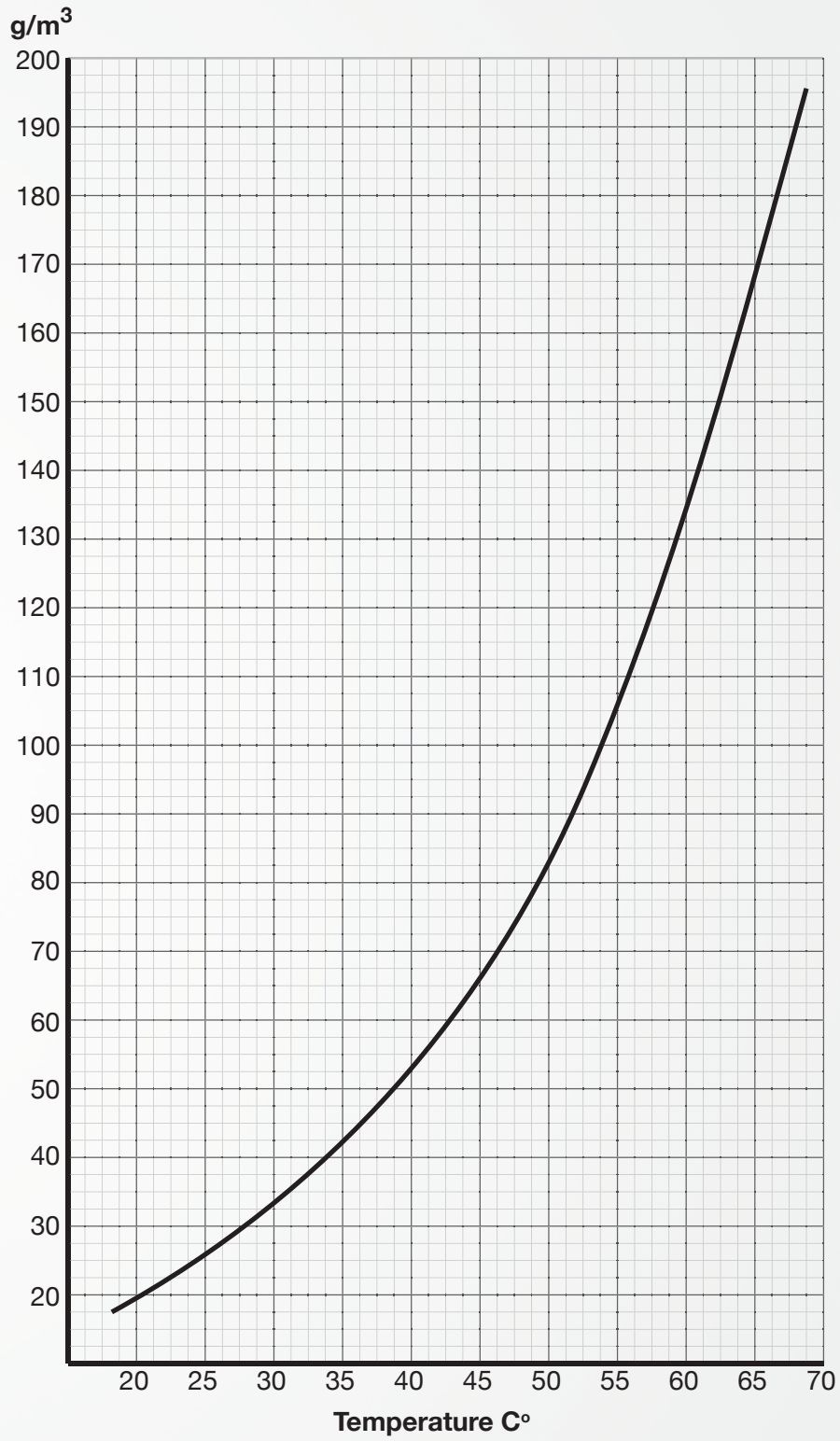
**HUMIDITY TABLE**

-70	0.0028
-65	0.0056
-60	0.011
-55	0.021
-50	0.039
-45	0.069
-40	0.12
-35	0.20
-30	0.34
-25	0.55
-20	0.88
-15	1.4
-10	2.2
-5	3.3
0	4.9
10	9.4
13	11
16	13
18	16
21	19
24	22
27	25
29	30
32	35
35	40
38	46
40	53
43	61
46	69
49	79

**SATURATED WATER CONTENT OF AIR 0°C to 25°C**



**SATURATED WATER CONTENT OF AIR 20°C to 70°C**



## OIL AND MOISTURE CARRY OVER

Compressor type	Oil (parts per 10 <sup>6</sup> by weight)*	Relative humidity at outlet
Reavell H 5204 & H 5205		
Reavell H 5207, H 5209, H 5211 & H 5213	20	150%
Reavell H 5212 & H 5217	50	150%
Reavell H 5236	50	150%
Reavell H 5307 & H 5309	30	150%
Reavell H 5317	30	150%
Reavell H 5404, H 5404H & H 5405	20	125%
Reavell H 5405E		
Reavell H 5407 & H 5407H	20	125%
Reavell H 5409	20	125%
Reavell H 5417 & H 5417N	20	125%
Reavell H 5417.2, H 5417N.2, H 5420.1 & H 5420N.1	5	125%
Reavell H 5437.1.HA	5	125%
Reavell H 5437.1.IA	5	125%
Reavell H 5437.1.MA	Less than 1	Dewpoint at outlet -70°C
Reavell H 5450	Please refer to your local Gardner Denver sales and Service office for more information	
Reavell H 5460	Please refer to your local Gardner Denver sales and Service office for more information	
Reavell H 5470	Please refer to your local Gardner Denver sales and Service office for more information	

**Drain Time.** The recommended drain time for up to 100% relative humidity at inlet is every 15 minutes.

**Notes:** \*The stated oil figure is weight related. When gases other than air are compressed the amount will vary in relationship to the density of the gas.

Example: for Helium x 7  
for Hydrogen x 15

The figures assume a final separator is fitted.

It is recommended that a coalescing filter be used before any dryers or filtration.

**VOLUME CORRECTION FOR TEMPERATURE ALTITUDE & RELATIVE HUMIDITY****EXAMPLE CALCULATION****DATA REQUIRED**

volume required	72 nm <sup>3</sup> /hr dry
duty pressure	250 barg (3626 psig)
inlet temperature	20°C
site altitude	2100 metres
relative humidity	saturated (100%)

correction for inlet temperature:

$$\frac{273 + 20}{273} = 1.0733$$

correction for altitude:

0.79 obtained from atmospheric pressure/altitude graph

correction for relative humidity:

1.024 obtained from correction for relative humidity graph

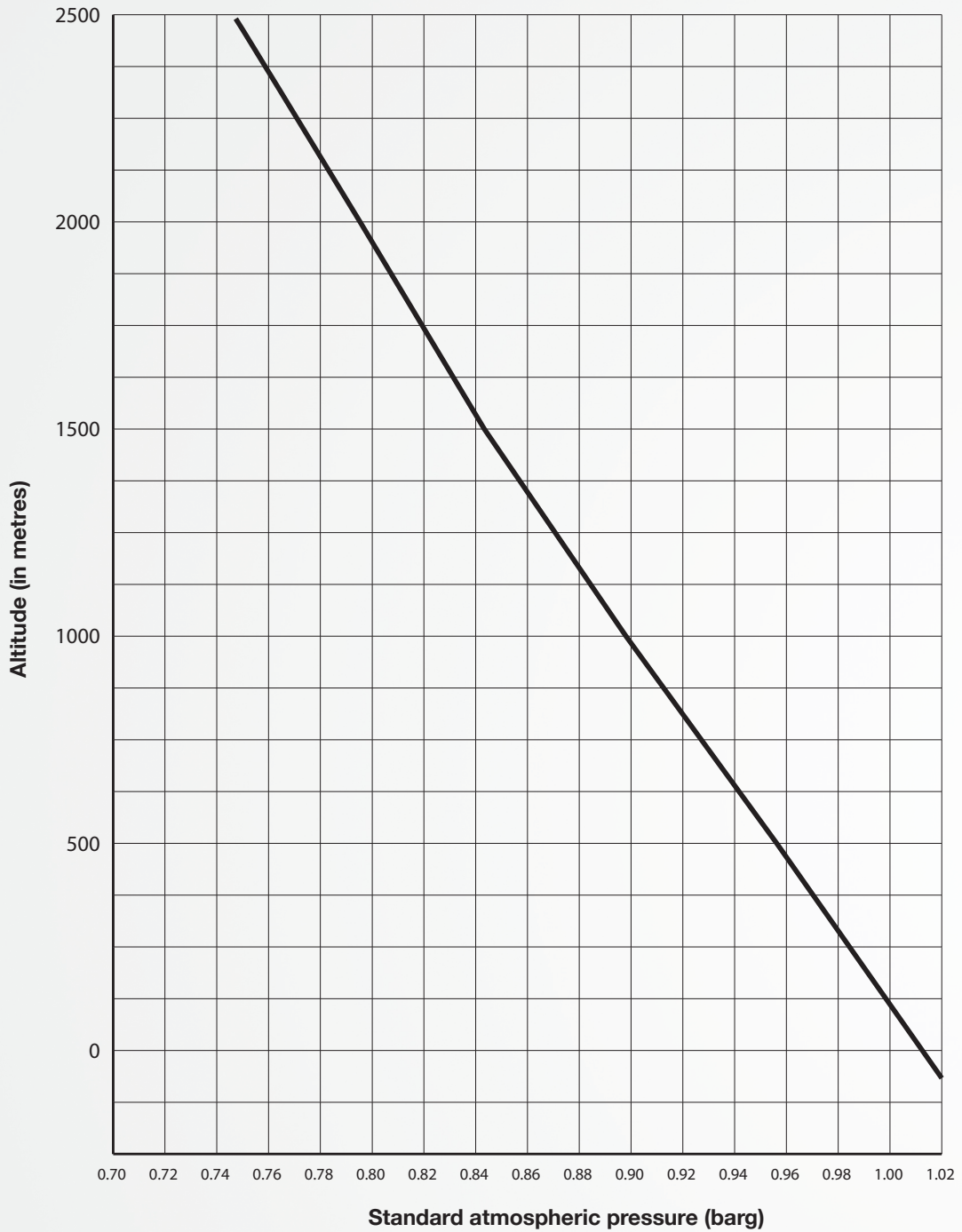
volume at site conditions:

$$\begin{aligned} &= \text{volume nm}^3/\text{hr} \quad \times \quad 1.0733 \quad \times \quad \frac{1}{0.79} \quad \times \quad 1.024 \\ &= 100.12 \text{ m}^3/\text{hr} \end{aligned}$$

Use this figure for sizing compressor required. Use power figure in performance tables for sizing electric motor, although actual power will be less due to the lower density of gas at the outlet.

**Note: If an accurate power figure is required please contact your local Gardner Denver Sales and Service office.**

**ATMOSPHERIC PRESSURE / ALTITUDE CHART**



Useful information

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At altitude the compressor handles less mass of air at a given speed, therefore a correction must be made to the volume delivered when referred to 'normal' or 'standard' conditions.

Example at 2000 metres (see cross-reference point on above graph) :-

$$\text{volume delivered at inlet conditions} = \frac{\text{volume required nm}^3/\text{hr}}{0.795} \times 1.013$$

The power will also decrease slightly due to the lower mass compressed. Also note that engine powers are derated at altitude.

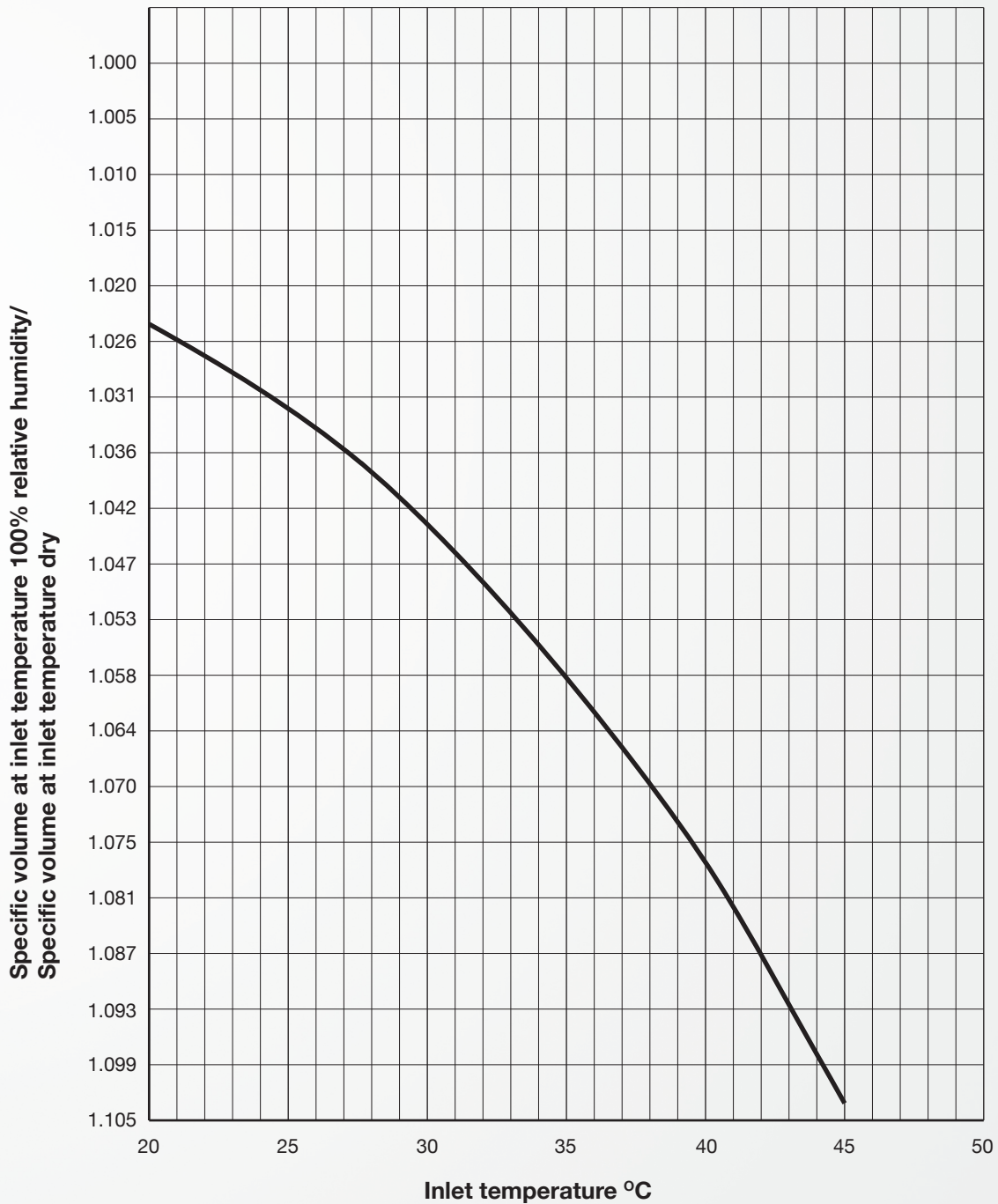
**CORRECTION FOR RELATIVE HUMIDITY**

A volume correction should be carried out when the compressed gas is wet but is measured dry at normal conditions.

Volume at site conditions =

$$\frac{\text{volume dry} \times \text{specific volume at inlet temperature \& relative humidity}}{\text{specific volume at inlet temperature dry}}$$

Figures for specified volume can be taken from steam tables at the appropriate gas inlet temperature. For saturated gases use the following graph:



## SPECIALIST GASES

The broad definition of whether a gas can be handled by any Gardner Denver brand of compressor is that it must be:

- Non-explosive
- Non-corrosive
- Does not liquefy

The following is a summary of some of the gases which can be handled by our reciprocating compressors. Detailed comments on properties and any restrictions are given in the following paragraphs.

Argon	A
Bio-Gas	CH <sub>4</sub> CO <sub>2</sub>
Carbon Dioxide	CO <sub>2</sub>
Carbon Monoxide	CO
Ethane	C <sub>2</sub> H <sub>6</sub>
Ethylene	C <sub>2</sub> H <sub>4</sub>
Helium	He
Hydrogen	H <sub>2</sub>
Methane	CH <sub>4</sub>
Natural gas	mainly CH <sub>4</sub>
Neon	Ne
Nitrous Oxide	N <sub>2</sub> O
Oxy-Helium mix	O <sub>2</sub> He
Sludge gas	CH <sub>4</sub> CO <sub>2</sub>
Sulphur Hexafluoride	SF <sub>6</sub>
Xenon	Xe

Our machines for the reason given cannot compress the following gases.

*However some can be tolerated in small quantities, see following paragraph for maximum amount.*

Acetylene	H <sub>2</sub> C <sub>2</sub>	Explosive
Ammonia	NH <sub>3</sub>	Corrosive
Caustic Potash		see Potassium Hydroxide
Caustic Soda		see Sodium Hydroxide
Chlorine	Cl	Corrosive
Heavy Hydrocarbons (such as Butane and Propane)		Liquefy at low pressure
Hydrogen Chloride	HCl	Corrosive
Hydrogen Fluoride	HF	Corrosive
Hydrogen Sulphide	H <sub>2</sub> S	Corrosive
Oxygen	O <sub>2</sub>	Explosive
Potassium Hydroxide	KOH	Corrosive
Refrigerant gases		Liquefy
Sodium Hydroxide	NaOH	Corrosive
Sulphur Dioxide	SO <sub>2</sub>	Corrosive

**SPECIALIST GASES**

**Notes**

The corrosive property of many of the above gases occurs when the gas reacts with water. Since most gas mixtures have some moisture present, even in very small amounts, the amount of gas present is restricted. If mixture is bone dry, please speak to your local Gardner Denver sales contact.

This section gives guidance on any limitations for each gas. It covers such aspects as maximum amount that can be tolerated, reduction in flow and changes in power compared with air and any restrictions on pressure and compressor speed due to higher temperatures generated by certain gases.

The key characteristics are listed under each gas, including electrical restrictions. Explanations of the less obvious terms used are:

- Higher specific head results in higher capacity, power and temperature. The latter usually leads to restrictions in running speeds and maximum pressure.
- Low specific heat results in lower capacity, power and temperature.
- Apparatus class and temperatures class indicates special electrical requirements, see later paragraph for explanation.
- Where parts per million (ppm) are specified these are by volume unless stated otherwise.

Ammonia - NH <sub>3</sub> Corrosive	Restricted presence	10 ppm maximum (attacks copper and copper-based alloys). Can increase to 200 ppm with material changes
Argon - A Inert	Specific heat higher power	Speed and power restrictions. Refer all details to your local Gardner Denver sales contact.
	Lower flow	Lower speeds. Help us to know production method; e.g. with cracked ammonia process will contain some trace of ammonia. Electrolysis method will contain trace of potassium or sodium hydroxide. See comments under relevant gases for material changes. Recovery method of exhaust gases from unloaders is important since hydrogen differs from normal gases by increasing in temperature when expanding from high pressures.
Hydrogen chloride - HCL Corrosive	Restricted presence	10 ppm maximum (attacks most materials when moist)
Hydrogen fluoride - HF Corrosive	Restricted presence	10 ppm maximum (attacks most materials when moist)

## SPECIALIST GASES

Hydrogen Sulphide - H <sub>2</sub> S Corrosive	Restricted presence	10 ppm maximum (attacks copper and copper-based alloys). Can increase to 200 ppm with material changes
Methane - CH <sub>4</sub> Flammable	Apparatus class ii a temperature class t1	The main, and useful, content of bio-gas, natural gas and sludge gas. Non-corrosive in itself, but trace gases with it causes the problems.
Natural gas mainly Methane Flammable	Apparatus class ii a temperature class t1	Usually contains small traces of hydrocarbon vapours and sometimes traces of corrosive gases such as hydrogen sulphide. It is standard to fit stainless steel tubes in place of copper or cupro-nickel.
Neon - Ne Inert	High specific heat Higher power	Speed and pressure restrictions. Refer all details to your local Gardner Denver sales contact.
Nitrogen - N <sub>2</sub> Inert		No problems.
Nitrous Oxide - N <sub>2</sub> O Inert		No problems.
Oxygen - O <sub>2</sub>	Restricted presence	21% maximum (with inert gases only) must not be exceeded. Some oxygen is very welcome if gas is dry.
Oxy-Helium mix Inert	High specific heat Lower flow	Speed and pressure restrictions. Refer all details to your local Gardner Denver sales contact. Used extensively for breathing at depth to avoid 'the bends', the nitrogen breathing air set, but may be speed restrictions. Synthetic higher temperatures. Some deration compared with air - refer to your local Gardner Denver sales contact.
Potassium Hydroxide Corrosive	Restricted presence	10 mg/m <sup>3</sup> (attacks aluminium)
Sludge gas - mixture Flammable	Apparatus class ii a temperature class t1	This term covers the gas mixture given off by animal waste products. Mainly methane and carbon dioxide (approximate proportions 65% and 34%). Remainder is made up of trace gases such as carbon monoxide and hydrogen sulphide. Cleaning or scrubbing the mixture to leave the useful methane is usually done at a pressure of 25 barg (363 psig). The CO <sub>2</sub> removal results in upset stage pressures if gas is compressed further in our machines to say 250 barg (3626 psig).
Sodium Hydroxide - naoh Corrosive	Restricted presence	10 mg/m <sup>3</sup> (attacks aluminium)
Sulphur Hexafluoride - SF <sub>6</sub> Inert		No problems.
Xenon - Xe Inert	High specific heat Higher power	Speed and pressure restrictions. Refer all details to your local Gardner Denver sales contact.

**For other gases please contact your local Gardner Denver sales contact.**

## **GARDNER DENVER ACCREDITATIONS**

The Gardner Denver High Pressure Group is accredited to ISO 9001:2008.

## **GARDNER DENVER CONFORMITY WITH EUROPEAN DIRECTIVES**

PED 97/23/EC conformity is achieved by the Module H quality assurance route or through conformity with European Union legislation, including the Machines Directive & Pressure Equipment Directive is through the use of harmonised standards which includes BS EN 1012-1:2010 for air and nitrogen compressors and BS EN ISO 12100:2010 for others. This leads to CE marking and the confidence that the compressors comply with all safety legislation.

ATEX accreditation is available on the Reavell range but it is essential we are advised at the time of ordering.

## **OTHER CERTIFICATION**

GOST conformity ensured for Belliss & Morcom compressors and can be sought for Reavell compressors.

## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### OVERVIEW

The high pressure air or gas system's ultimate objective is to deliver air or gas at the most optimum pressures for the application. Operating at a higher than required pressure increases the:

- Air consumption at point of use
- Increases the risk of leaks
- Increases energy consumption

Operating at the optimum pressure will have a massive impact in all the areas listed above.

When calculating the optimum pressure required it is important to understand the equipment that will be expected to manage the pressure. It is important to refer to the equipment manufacturers operating manual to ensure the systems current components can safely operate at both the minimum requirements for the equipment, but also the maximum. It is important to check the pressure, minimum and maximum at each point of use.

As part of a high pressure air or gas system additional safety considerations should be given to pressure regulators which are normally built in to the high pressure skid package to control the system operation should a fluctuation occur in the air or gas supply.

A calculation should be made to estimate the drop in pressure between the compressor and point of use. The pressure at the compressor will be higher than the point of use as the air or gas pressure will drop as it passes through piping, valves, dryers, filters and other components.

Listed below are the sections covered in this guide:

- Understanding your Compressed Air or Gas System
- Compressor System Components & Control Systems
- System Leakage and Management
- Reducing Unnecessary Production of Compressed Air or Gas
- System Monitoring & Measuring
- Providing a Stable Supply of Compressed Air or Gas

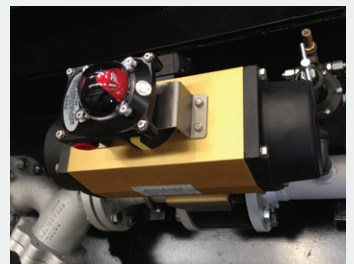
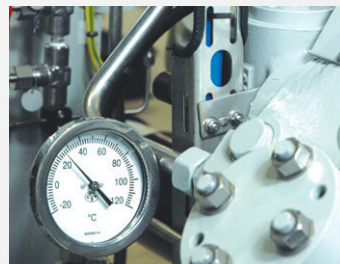
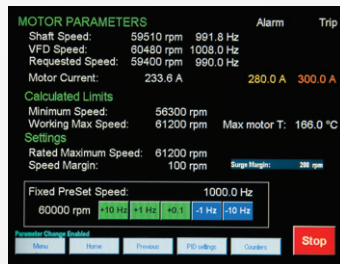
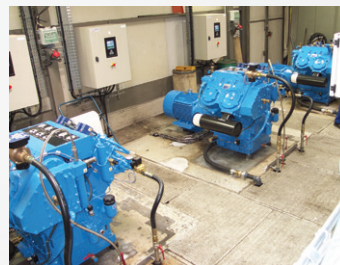


## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### UNDERSTANDING YOUR COMPRESSED AIR OR GAS SYSTEM

The following are key points you should consider and understand to manage your compressed air or gas system:

- Know what equipment and components make up the system
- Understand what is happening in your system
  - System monitoring and measuring is essential
- Create a starting point for monitoring and measuring
  - This will help you understand the impact of any changes made to the system
- Identify problems or opportunities with the system
  - This may include proactive preventative maintenance programmes to identify and fix system leaks
- Ensure the correct and appropriate use of the compressed air or gas
  - Sometimes processes change at the point of use and these are not reflected in changes to the compressor. A periodic review will ensure the compressor is operating as required for the process
- Understand the process and keep the balance stable between the supply and demand side of the compressor
- Implement and maintain a continuous preventative maintenance programme
- Maintain all system components to extend operational life and increase efficiency
- When you are measuring the system performance ensure accurate records are kept so that any system improvement can be calculated



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### MINIMUM PRESSURE DEMANDS

To calculate the minimum pressure demands, start at the end of the process or point of use and work back to the compressor. It is important to understand the minimum pressure requirements at the point of use and then calculate the reduction in pressure at various points through the system back to the compressor. Each component should be assessed to ensure it can operate at the lower pressures and if not, it may be necessary to install low pressure alarms which can alert operators there is a problem within the system.

### MAXIMUM PRESSURE DEMANDS

As with minimum pressure demands the maximum pressure demands on the system are also important, especially if there are a variety of pressure fluctuations throughout the day. Normally, pressure regulators would be fitted to a high pressure air or gas compressor, this should be identified before the installation of another pressure regulator in the system.

The pressure from the compressor will be higher than at point of use as the pressure will drop as the air or gas passes through the system.



Useful information



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## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### COMPRESSOR SYSTEM COMPONENTS & CONTROL SYSTEMS

Understanding the usage and the demands of the compressor will help understand the type of compressor required. To do this accurately, data logs should be created to monitor flow rates and identify peaks in demand, as well as when and why they occur.

### COMPRESSOR CONTROL SYSTEMS

Should a number of compressors be required to maintain continuous operation and meet air or gas demands, an automated sequencing system should be installed as part of the system to optimise compressor selection and manage changing demand cycles.

When sizing an individual compressor start by understanding the variance in supply the system will endure and the amount of storage available in the receiver. If you are specifying a system which may have multiple compressors in, ensure the compressors are in full operation continually and only one is in part load capacity at any one time. By implementing this type of system you will be able to minimise energy consumption.

If demand is typically around 80% or less of the compressors capacity, then implementing a variable speed drive (VSD) may assist in bringing further energy savings. Industry trends suggest VSD controlled compressors are becoming the norm, specifically for compressors in high or continual operation. If the compressor is operating continually at or above 80% then the energy savings will be smaller, and may be insignificant.

VSD controlled compressors tend to be more expensive than traditional fixed speed compressors however this may be offset by the reduced power requirements. It is important a return on investment (ROI) calculation is applied before specifying VSD compressors to ensure the initial cost can be recovered by the anticipated savings.



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### AIR OR GAS RECEIVERS

Air or gas receivers are designed to store air or gas ensuring there is a sufficient supply to cover the demand at peak times. When demand is required in short cycle and the demand is higher than the capacity of the compressor an air or gas receiver will be required. A large air or gas receiver may be supported by a small compressor where peak air or gas demands are intermittent and of short duration, allowing the compressor time to recharge the receiver before the air or gas is in demand.

A correctly sized receiver will ensure the compressor is not frequently loading and unloading and will help keep the maintenance costs of the compressor to a minimum. It will also help maintain the correct pressure in the system by preventing unnecessary compressors from starting and reducing the impact of pressure pulsations.

For more information on the selection of a receiver, please refer to the High Pressure Solutions Proposal Team where their experience and knowledge will assist in identifying the correct size of receiver.

Air or gas receivers located immediately after the compressor and prior to any dryers are normally referred to as wet receivers. These types of receivers are normally saturated with moisture, hence the term wet receivers. If a receiver is placed before the dryers it is important to specify dryers and filters which can operate correctly at the pressures the system will be operating at. Incorrectly specified dryers and filters could cause an increase in pressure drop and moisture contaminating the system.

Should the receiver be located after the dryers and filters then the receiver will be able to cope with higher demands from the system. It is important to note that the delivery pressure will drop as the air or gas passes through the dryer and filters. In some instances it may be necessary to install two smaller receivers, one wet one, immediately after the compressor and one after the dryer and filters. This will minimise the compressor from operating under short cycles and reduce pressure drop across the system.



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

As a norm the air or gas receiver should be able to accommodate pressures preferably 20% above the maximum pressure anticipated from the system. Always check the manufacturers information before specifying a receiver.

### AIR AND GAS RECEIVERS OPERATING PRINCIPLES

- Place the receiver as close to the compressor as possible
- Do not connect a reciprocating compressor to the same receiver manifold as a screw or vane compressor
- The receiver should be installed on a flat surface
- Air or gas should enter the receiver at the bottom and be discharged from the top
- Drain pipes and valves should be located at the bottom of the receiver to allow condensate to be easily removed
- The air or gas receiver should have a pressure gauge for monitoring internal pressures
- If the receiver is placed in an environment where temperatures may drop below freezing then condensate needs to be regularly drained from the system
- To help prevent corrosion the inside of the receiver should be galvanised or have an epoxy coating added
- Install an additional inlet on the receiver so should the original compressor be out of action an alternative compressor can be quickly installed with out having to re-engineer the whole system



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### PRESSURE RELIEF VALVES

Pressure relief valves (PRV) should always be located and installed in accordance to any local codes of conduct and legislation. Each PRV should be set at a pressure which does not exceed any other maximum working pressure of other components within the same system. Normally the capacity of the PRV is selected to ensure the receiver does not exceed its specified maximum working pressure.

### PRESSURE / FLOW CONTROLLERS

Pressure / flow controllers tend to be optional extras in a standard compressor package. They are linked with other storage devices and are not linked to control the compressor in any way. It acts as a device which separates the supply side of the compressor system from the demand side. For example the supply side may operate at a higher pressure to the demand side and this difference is controlled by a pressure or flow controller.

The pressure / flow controllers are normally installed in the compressor room, after any air or gas treatment and the primary dry receiver and before the air or gas is passed into the main distribution pipework. Pressure / flow controllers are sized for the highest estimated flow around 60% to 80% of the full loads on the compressor.



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### SOLENOID VALVES

Solenoid valves are designed to stop the flow of air or gas to the point of use if the process is not consuming the air or gas produced. On water cooled compressors the solenoid valve can also be employed to stop cooling water flowing in to the system when the compressor is idle.

Solenoid valves tend to have an inlet and outlet port and are commonly referred to as two way valves. Three way valves include the inlet and outlet port but also have an exhaust port and can be used to control the loading and unloading of the compressor. Solenoid valves are also available with multiple outlet and exhaust ports depending on the process or application.

Best practice on system installation is to install a pipeline strainer prior to the solenoid to prevent debris or particles entering the solenoid valve which may prevent complete shut off operation and eventually part failure.

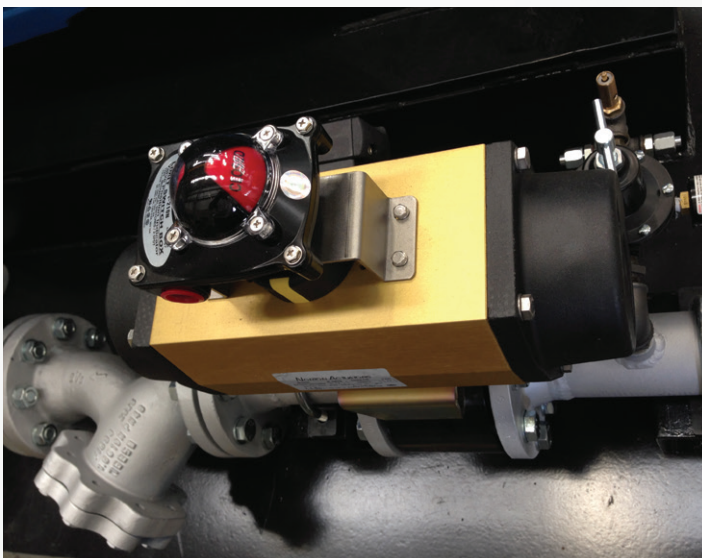
### DRYERS

The role of the dryer in the compressed air and gas system is to remove moisture from the air or gas. Whilst some compressors have separators built into the compressor, these will only remove a percentage of the suspended droplets. The air or gas which leaves the compressor will still have some suspended droplets, and will often be at 100% relative humidity, to remove this will require a dryer.

The dryer is normally placed after the compressor, there are dryers which can be installed on the inlet but it is more common to locate the dryer after the compressor.

There are a variety of different dryers available, such as refrigerant, desiccant, absorption and regenerative dryers. The process and application will govern which type of dryer is installed as it depends on the quality of air or gas required.

On a multi stage compressor, interstage dryers can be installed, again this depends on the pressures and flows required from the compressors and the demands of the process and application.



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### FILTERS

It is generally accepted that contaminants and pollutants exist within the air and gas. As the gas or air is passed through the compressor the pollutants can become concentrated and it is therefore important to the integrity of the system to install suitable filters in it.

By understanding the application and process in detail an assessment of the type of filtration required can be completed. You should only install a filter to the exact requirements of the system. Just because one part of the process requires a high standard of air or gas quality it does not mean you have to deliver the same quality to other applications which do not require the same standard. This applies to plants where one compressor may be supplying multiple applications.

Filters will have an impact on the pressure of the system and pressure drops will occur once the air or gas has passed through a filter. This pressure drop will need to be calculated when designing the system to ensure the compressor is set at the correct pressure and also delivers the required pressure at point of use. Best practice would normally be to install a pressure gauge after the filter to monitor any drop in pressure in the system.

Filters should be changed in line with manufacturers instructions depending on the type of application. Filters should also be changed when air audits identify the quality is below specific parameters or when pressure drop exceeds acceptable levels.

There are different types of filters depending on the application or process these include coalescing filters, dry particle filters, vapour removal filters or adsorption filters. The application and the quality of air or gas will determine the type of filter required.



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

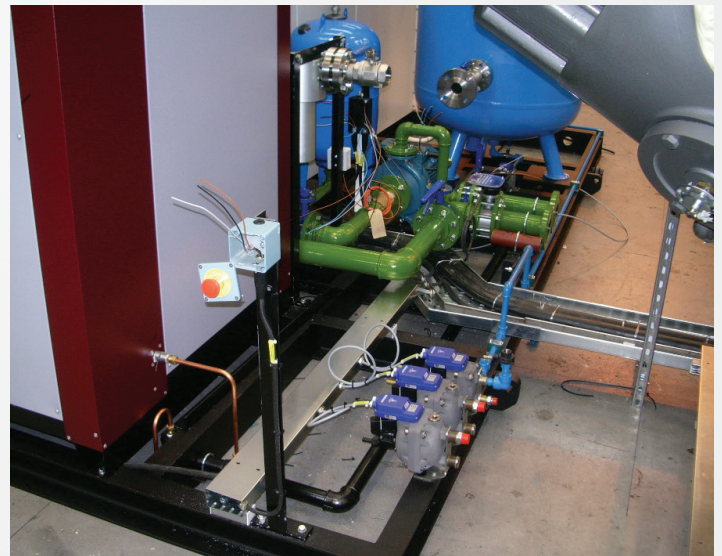
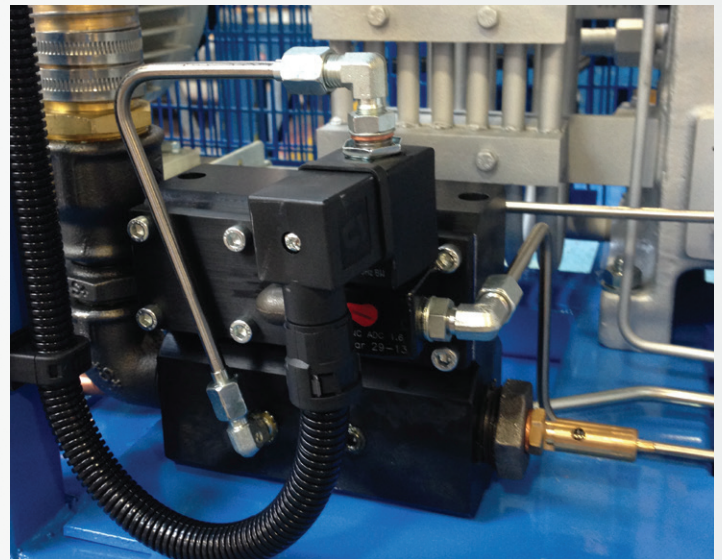
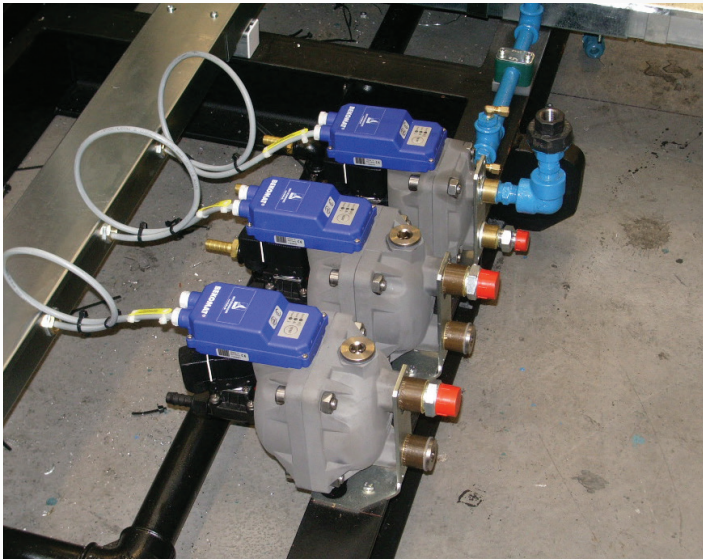
### CONDENSATE DRAINS

Condensate is the liquid which is created from the water vapour or moisture in the air or gas. It may also contain lubricant from lubricated compressors. It is essential to remove condensate from all the areas in the compressor where condensate may form. This will include the receivers, after coolers, moisture separators, piping, dryers and filters.

Condensate drains can be manual, where someone opens the drain and releases the condensate on a regular basis, automatic, where the drain is opened depending on the level of condensate, timed, where a timing device set at regular intervals drains the condensate. Drains will ideally have zero air loss so the system maintains its pressure.

Where the automatic drain option is installed, a manual drain should also be installed to ensure drainage can continue should the automatic drain require repair. Other safety measures include a shut off valve prior to any automatic drain so repairs can be conducted.

On drains which operate on liquid levels, install alarm systems so operators are aware of high condensate levels. Install one automatic drain trap per component, do not run two components into one trap.



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### SYSTEM LEAKAGE AND MANAGEMENT

Unfortunately, most compressed air or gas systems will have a leak. The volume of air or gas lost through a system can vary but estimates as high as 30% lost through leakage is not uncommon. A proactive maintenance programme to manage leaks is best practice to help reduce leaks. A good identification and repair of leaks will help reduce running costs and energy consumption.

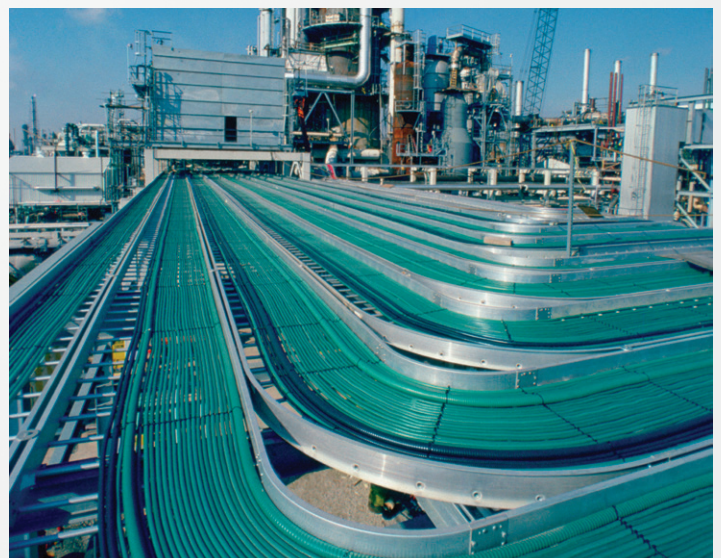
The compressor speed must be reduced in line with the fixing of leaks within the system. Leaks are a significant waste of energy, with leaks accounting for upto 30% of output, a good preventative maintenance programme can help reduce wastage to as little as 10%. A system with many leaks can cause system pressure drops which is an inefficient operation. Another impact of leaks is on the compressor itself, as it will be working harder to maintain its pressure and therefore unscheduled down time can be a significant factor as the compressor will need more frequent maintenance.

The areas where leaks are most likely to occur are listed in the table on the following page:



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

Problem area / component	Solution
Couplings, hoses, tubes and fittings	Push to lock fittings whilst are quick and easy to install over a period of time can lose its air tightness. Regular checks are advised on systems with this type of coupling.
Quick disconnect couplings	O rings are important to maintain the air tightness of this type of coupling. It is important to regularly check the O ring to ensure they have not perished or become damaged. In some instances the O ring can fall out during maintenance checks or installation and so it is important the O ring is there in the first place.
Control and shut off valves	<p>These types of valves over a period of time or with continuous use can deteriorate and become worn.</p> <p>Should this type of malfunction occur Gardner Denver recommends only replacing these types of valves with original equipment components available from Gardner Denver.</p>
Filters, regulators and lubricators	<p>To maintain the integrity of these components it is essential they are replaced in line with Gardner Denvers recommendations. It is essential that the on going maintenance and replacement of these parts is with genuine original equipment supplied direct from Gardner Denver.</p> <p>Whilst these components may look visibly the same they may not be up to the required standard set by Gardner Denver. Whilst a cost saving may be achieved on the replacement component cost, the installation may suffer due to poor quality components.</p>
Pipe joints & flanges	<p>Wherever there is a joint in a compressed air or gas system there is potential for a leak to occur. Missed welds, or poorly welded joints can increase the likelihood of a leak eventually occurring in the system.</p> <p>Gardner Denver recommend regular inspection of all welded joints to ensure they have not perished over a period of time and are still air tight.</p>
Point of use devices	Should the air or gas be used for hand tools then these need to be regularly check and maintained as they can deteriorate over time and become a source for leaks.



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### REDUCING UNNECESSARY PRODUCTION OF COMPRESSED AIR OR GAS

As outlined in the system leak management section, the cost of a leak in a compressed air or gas system can be expensive. Regular maintenance programmes will help reduce the number of leaks within the system and have a significant impact on the cost of running the machine.

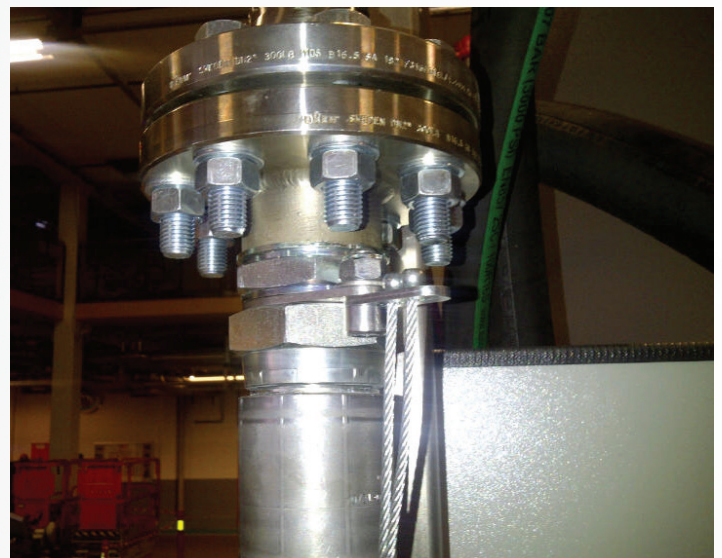
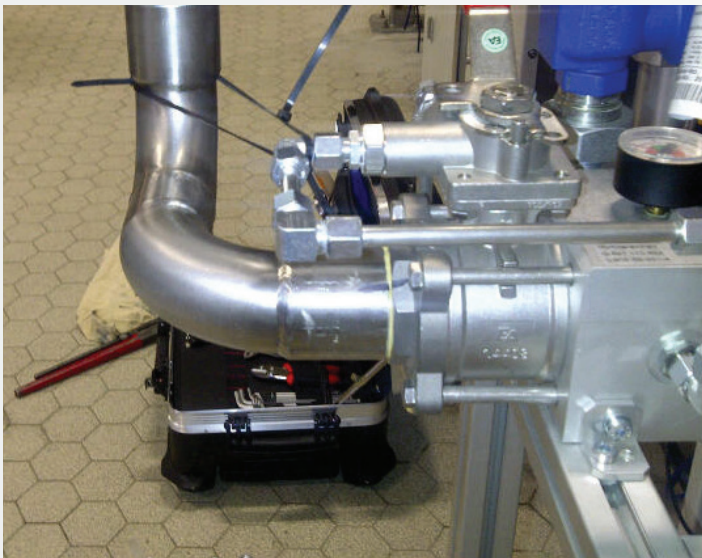
Compressed air or gas can also leak through condensate drains be it from improper use or component deterioration.

The main operation to be completed to reduce wasteful production of compressed air or gas is by turning off the compressor whilst it is not in operation.

Only operate the compressor at the pressure required and when the air or gas is required. To achieve this it is important to understand the operation and how your system supplies this pressure. If possible identify the peak demand periods, aligning the compressors to operate consecutively rather than at the same time. Another consideration is to implement secondary storage close to the point of use.

Ensure all components within the system are fit for purpose and designed to accommodate the pressure they are expected to operate reliably at. Components which will need assessing are all filters, regulators, lubricators, hoses, valves, safety valves, and fittings.

Useful information



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## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### SYSTEM MONITORING & MEASURING

To be fully in control of any system or process it is essential to take performance data at key points and analyse the results. Accurate measurement of flows, power usage and temperatures will generate enough data for you to analyse normal performance levels and identify problems should the data deviate.

### PRESSURE MEASUREMENTS

Pressure readings are the first measurement for compressed air or gas systems. Pressure is normally read through a number of gauges installed between the compressor and the point of use. It is important to have a pressure gauge near the point of use so you can account for the pressure drop through the system from the compressor. What is important is the air or gas is at the right pressure at point of use.

### FLOW MEASUREMENTS

There is a wide variety of flow meters available on the market today from a variety of manufacturers. The flow meter should be positioned in a suitable location within the system, it is important to follow the manufacturers guidelines for ideal positioning. The flow meter should also be installed in a part of the system where the air or gas will be clean and dry.

It is important to note, that flow meters only measure plant demand and not compressor load outputs, this is critical when interpreting the data. Ensure you capture data during quiet periods as this will allow you to gather information on leakages and inappropriate use of the compressed air or gas.

### ELECTRICAL MEASUREMENTS

When you combine power readings with system flow you can calculate the total system efficiency. It is important to measure the pressure and power consumption so you can establish how efficient the system is operating. The electrical measurements should be conducted in weekly intervals as this will identify any changes or patterns in power consumption. Power should also be measured once any leak detection work or system maintenance has been conducted.

Electrical meters can be either portable voltmeters or installed as part of the compressed air or gas system depending on the operating environment. For example if a system is in constant operation then it may be better to install power meters in existing switch gear. Electrical meters are more accurate and can establish the true running power costs of the system.

Power measurements should be captured when the compressor is operating at full load, part load and at no load.

Capturing flow, power and pressure will help you identify how to maintain system efficiency whilst reducing energy costs.



## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### TEMPERATURE MEASUREMENTS

Temperature measurements should be taken at various points throughout the compressed air or gas system. Recommended measuring points include:

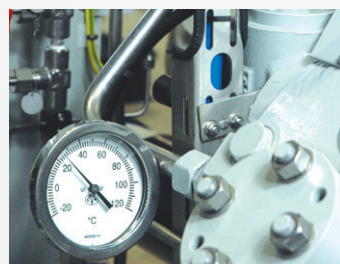
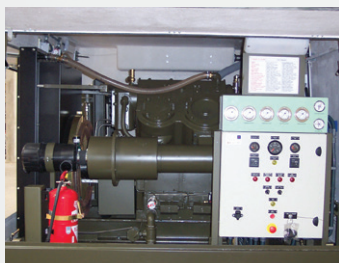
- Inlet to the compressor
- Outlet to the compressor
- Aftercooler discharge pressure
- Inlet and outlet cooling air temperatures for air cooled compressors and for water cooled compressors water inlet and outlet temperatures
- Dryer inlets, outlets and condensate temperatures
- Lubricant temperatures
- Intercoolers

### PROVIDING A STABLE SUPPLY OF COMPRESSED AIR OR GAS

Creating a stable supply of air or gas consistently can be very challenging especially if the compressor is to supply more than one application within a plant. With multiple applications operating simultaneously the compressor may not be able to provide the supply of air or gas when demanded and this can lead to pressure fluctuations within the system.

Normally the way to prevent this from happening is by installing secondary receivers near the point of use which can relieve the demands on the system and ensures once the demand has decreased the point of use is not starved of air or gas. This will allow the compressor to replenish the secondary receiver without having to increase compressor capacity.

Useful information



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## HIGH PRESSURE AIR & GAS BEST PRACTICE GUIDE

### SECONDARY STORAGE RECEIVERS

Secondary storage receivers can supplement the primary receiver and ensure a consistent supply of air or gas to the points of use.

Should a secondary storage receiver be installed then it is best practice to install a check valve and either a tapered plug or needle valve upstream of the receiver. A check valve is designed to maintain receiver pressure at the maximum system pressure and not allow demand to change this. The plug or needle valve is designed to meter the flow of air or gas and to ensure the receiver is filled in time and try to reduce the large intermittent demand into smaller pockets of demand which will help maintain the system pressure.

The secondary receiver should be placed close to the point of use, with the pressure in the receiver matching the primary receiver.

### HIGH PRESSURE STORAGE

This type of storage is ideal for large air or gas demands in short periods and will not affect the overall system pressure. Adopting this type of storage it will prevent the system requiring another compressor. A high pressure storage system will also maintain system pressure where a compressor is off line whilst waiting for another compressor to come on line and charge the system up to required pressure.



PLANT TEMPERATURES		Alarm	Trip
Plant Air Inlet:	23.4 °C	46.0	
Stage 1 Discharge:	27.2 °C	205.0	220.0
Stage 2 Inlet:	23.1 °C	45.0	55.0
Stage 2 Discharge:	31.1 °C	170.0	180.0
Plant Delivery:	35.2 °C	65.0	70.0
Water Inlet:	10.1 °C	40.0	
Water Outlet:	29.9 °C	65.0	
Motor Winding:	129.2 °C	160.0	165.0



SHUTDOWN TRIPS		WARNING ALARMS	
Emergency Stop:	Ok	Air Inlet T:	Ok
Power/Fail:	Ok	Stage 1 Discharge T:	Ok
AMB Fault:	Ok	Stage 2 Inlet T:	Ok
VFD Fault:	Ok	Stage 2 Discharge T:	Ok
Stage 1 Discharge T:	Ok	Plant Delivery T:	Ok
Stage 2 Inlet T:	Ok	Water Inlet T:	Ok
Stage 2 Discharge T:	Ok	Water Outlet T:	Ok
Plant Delivery T:	Ok	Motor T:	Ok
Stage 2 Inlet P:	Ok	Power Fail seen:	Ok
Plant Delivery P:	Ok	Stage 2 Inlet P:	Ok
Blower Fault:	Ok	Plant Delivery P:	Ok
Fan Fault:	Ok	Stage 1 Drain:	Ok
Aux Fan F:	Ok	Stage 2 Drain:	Ok
Min Spd F:	Ok	Air Filter dp:	Ok
Motor T:	Ok		
Over Speed Fault:	Ok		



## **GARDNER DENVER LTD STANDARD CONDITIONS OF SALE**

**SAVE TO THE EXTENT THAT WE HAVE OTHERWISE AGREED IN WRITING, THESE TERMS GOVERN ALL OUR CONTRACTS TO THE EXCLUSION OF OTHER TERMS AND CONDITIONS. OUR QUOTATIONS AND ESTIMATES ARE NOT OFFERS CAPABLE OF ACCEPTANCE BY YOU, AND ANY ORDER PLACED BY YOU WILL ONLY BE ACCEPTED BY OUR WRITTEN CONFIRMATION OF ORDER.**

### **1. BASIS OF CONTRACT**

- (a) Gardner Denver Limited, No. 3047245, Registered Office: Springmill Street, Bradford, West Yorkshire, BD5 7HW ("the Company") designs, manufactures, markets and installs compressor, blower and pump equipment, control systems and spare parts, and provides ancillary goods and services ("the Products").
- (b) No representation, undertaking or promise shall be taken to have been given or implied from anything said or written in negotiations between the parties prior to the date of this Contract except as expressly stated in this Contract. The Customer's only remedies shall be for breach of contract as provided for in these terms.
- (c) This Contract shall be construed in accordance with English Law and subject to the exclusive jurisdiction of the English Courts.

### **2. TIMING OF DELIVERY AND COMMISSIONING**

- (a) In the event of delay beyond any date agreed for the performance by the Company of its obligations under this Contract:
  - i. Caused by circumstances beyond either party's control and/or otherwise than as provided for in sub-clauses (b) and (c) below, the Company will be entitled to a reasonable extension of time.
  - ii. Caused by the Customer, the Company will be entitled to a reasonable extension of time and compensation for any costs, expenses and losses it suffers by reason thereof.
- (b) While dates or periods for readiness for despatch or delivery of goods are given in good faith the same are not of the essence of or in any way terms of the contract or representations of fact.
- (c) In the event that the Company has agreed liquidated damages in specific circumstances then these will apply to the exclusion of any other liability for delay and in all other cases the Company shall not be liable for any delay save where delay is directly attributable to default of the Company in which event the Company will compensate the Customer for any direct losses the Customer suffers as a direct result of such delay, compensation being limited to half a percent of the contract price of the Products for every week of delay subject to a maximum of 5% of such contract price.

### **3. ENGINEERING CRITERIA**

- (a) The Products are sophisticated engineering products. Accordingly, the Customer undertakes:
  - i. That it has provided and will promptly provide all the information reasonably necessary to enable the Company to (1) evaluate the requirements for performing and (2) perform the Contract, and that all such information is full and accurate.
  - ii. That all premises, plant, engineering support, spare parts, connected pipe work and machinery and inputs that it is required to provide for the design, engineering, installation, testing and use of the Products are fit for their purpose and of good engineering quality.
  - iii. Fully to co-operate with the Company in the design, engineering, installation, testing and use of the Products.
  - iv. To use the Products for the intended purpose only and in accordance with the Product literature.
  - v. Not under any circumstances, to use any unapproved spare part, connected machinery, service or repair or use the Products in any manner as may render the Products dangerous and agrees that any breach of these negative criteria will negate all specific and implied conditions and obligations on the part of the Company relating to the quality of the Products.
- (b) The Customer further agrees that it will be liable to the Company for any costs, expenses and losses it suffers by reason of any breach of these undertakings.

### **4. DRAWINGS DESIGNS AND CONFIDENTIALITY**

- (a) All of the Company's specifications, designs, drawings, indications of physical, chemical and electronic properties and indications of pressure output and power consumptions ("the Designs") are made in good faith and are approximate indications only and are not binding in detail unless the Customer has specified in writing a particular indication upon which he is relying and the Company shall be entitled to vary the same and/or to correct errors and omissions provided the Products remain in substantial conformity with the contractual requirements.
- (b) The Designs (including all copyright, design right and other intellectual property in them) shall as between the parties be the property of the Company; and the Customer is not entitled to make any use of the Designs other than for the purpose of this Contract.
- (c) Any inventions, modifications, improvements, techniques or know-how affecting the Products made or gained in the course of performing this Contract, shall belong to the Company absolutely.
- (d) Neither party shall disclose to third parties or use for its own purposes any confidential Information or trade secrets of the other party.
- (e) Each party warrants that it has the necessary intellectual property rights to enable it to perform its contractual obligations and will forthwith inform the other on discovery of any infringement of intellectual property rights.

### **5. PRICES, TERM AND VESTING**

- (a) All invoices shall be paid in pounds sterling within 30 days from the date of invoice ("the Due Date") unless expressly agreed otherwise, without any deduction or withholding on account of any rights of equitable set-off which the Customer may have (save where the same are based on fraud).
- (b) Prices quoted are net ex-works unpacked and are subject to VAT or other taxes (unless specifically stated to the contrary).
- (c) The Company may charge interest on any sums still outstanding on the Due Date at the rate of 4% per annum above the base rate for the time being of the Company's bank.
- (d) Payment for export orders will be by irrevocable letter of credit in a form acceptable to the Company and confirmed by a London Bank.
- (e) In case of any non-payment the Company shall be entitled (without prejudice to its other rights) to suspend performance and charge the Customer for all costs and expenses occasioned thereby and/or at any time thereafter to terminate the Contract in accordance with clause 8 below.
- (f) All Products shall remain the property of the Company until paid for in full.
- (g) Between delivery and payment in full the risk in the Products shall be with the Customer, who shall keep the same in good condition and repair, properly stored and labelled as being the Company's property.
- (h) In the event of "Termination" in accordance with clause 8 below or in the event of non-payment (in full or in part) for the Products by the Due Date, the Customer hereby irrevocably licenses the Company (insofar as it is able) to enter upon any premises to repossess the Products.

## GARDNER DENVER LTD STANDARD CONDITIONS OF SALE

### 6. WARRANTY

- (a) In this clause "Warranty Period" shall mean:
- Where the Contract does not include commissioning – 12 months from the despatch of the Products (or the relevant part thereof)
  - Where the Contract includes commissioning – the shorter of 12 months from commissioning or 18 months from the despatch of the Products (or the relevant part thereof).
- (b) The Company warrants that the Products will be free from defects caused by inadequacy or neglect in the Company's workmanship or materials during the Warranty Period ("Warranty")
- (c) Save as provided for in sub-clauses (d) and (e) below, where any valid claim in respect of the Products or any part thereof which can be shown to the Company's reasonable satisfaction (on the balance of probabilities) to be based on a breach of the Warranty, is notified to the Company during the Warranty Period, the Company will (at its option) repair or replace, or (at its option) credit a sum to be agreed with the Customer in lieu of the repair or replacement of, any Product or part thereof.
- (d) The Company shall be under no liability for any breach of the Warranty:-
- Unless the Products have been properly installed, used, maintained and serviced;
  - Unless the Customer has informed the Company of the defect alleged within the Warranty Period and within 28 days of its discovery;
  - In respect of wearing and consumable parts;
  - To Products or parts thereof not manufactured by the Company ("Third Party Products").
- (e) In the event of a defect arising in the Products at any time then the Customer will notify the Company in writing of such defect within 28 days of its discovery and:
- If it is within the Warranty Period then the Company will reply stating whether it accepts warranty liability pursuant to sub-clause (c) above and indicating what action it proposes to take (which action may include further investigation by the Company's service engineer) and if it transpires that the defect is not covered by a breach of the Warranty, then the Company reserves the right to make a reasonable charge for such investigation.
  - If the Warranty Period has expired, then the Company will offer advice (free of charge) and may offer repair or replacement at the Customer's expense.
  - Any dispute as to whether a defect is covered by the Warranty shall be immediately referred to an Expert to be agreed by the Company and the Customer (or in default of agreement to be appointed by the President of the Institution of Mechanical Engineers in London) whose decision shall be final and binding upon the parties and whose fees shall be shared equally by the parties.
- (f) In respect of Third Party Products the Company undertakes to pass on to the Customer any manufacturer's or supplier's warranty given by manufacturer or supplier to the Company.
- (g) There are no third party beneficiaries of the Warranty granted by the Company herein.

### 7. LIMITATION OF LIABILITY AND FORCE MAJEURE

- (a) Without prejudice to clause 7(f), the Company shall be under no liability to the Customer for any loss of profit, loss of business, loss of goodwill, loss of income, loss of use of equipment, loss of use of facilities, loss resulting from unusable machinery, loss resulting from facility downtime, costs of procurement of substitute products, or for any indirect or consequential loss or damage of any kind, in each case howsoever arising, whether such loss or damage was foreseeable or in the contemplation of the parties, and whether arising in or caused by breach of contract, tort (including negligence), breach of statutory duty or otherwise.
- (b) Except for the limited remedies provided above in Clause 6: Warranty, the Company grants no warranties or conditions, express or implied in any communication by the Company to the Customer, or otherwise, regarding the Products. All warranties, conditions, representations and terms express or implied whether by statute, common law or otherwise are, to the extent permitted by law, excluded from these terms.
- (c) The Company makes no representation regarding compliance with any state, provincial, or local law, rules, regulations, building code or ordinance relating to the installation or operation of the Products ("local laws"). The Customer acknowledges that it is the Customer's responsibility to comply with all applicable laws, rules and regulations relating to the installation and operation of the Products and indemnifies the Supplier from any claims actions, losses (including without limitation, loss of profit), damages, costs and expenses (including without limitation, legal costs and expenses) arising thereof.
- (d) The Company shall be liable for damage to the Customer's physical property caused by the Company's negligence in connection with the production, manufacture or installation of the Products provided that the Company's total aggregate liability for such damage shall in no event exceed the equivalent in local currency of £1 million with respect to any one event or series of connected events.
- (e) Without prejudice to clause 7(f) the Company's maximum aggregate liability under or in connection with this Contract, whether arising in breach of contract, tort (including negligence), breach of statutory duty or otherwise, shall in no event exceed the greater of £1,000,000 and the total amount payable/paid by the Customer under this Contract.
- (f) Nothing in these terms shall exclude or limit the Company's liability for (i) fraud, (ii) death or personal injury caused by its negligence (including negligence as defined in UCTA 1977), (iii) breach of terms regarding title implied under the Sale of Goods Act 1979 or the Supply of Goods and Services Act 1982, or (iv) any other liability to the extent that the same may not be excluded or limited as a matter of law.
- (g) Notwithstanding anything to the contrary in these terms, neither party shall be liable to the other for breach of its obligations under this Contract by reason of circumstances or events beyond the reasonable control of either of them.

### 8. CANCELLATION AND TERMINATION

- (a) In the case where the Products are being designed or adapted to a Customer's specific requirements, then the Customer shall (subject to 8(c) below) be entitled to cancel this Contract ("Cancellation").
- (b) The Company shall be entitled forthwith to terminate this Contract in the event of non-payment (in whole or in part) by the Due Date or if at any time before payment in full is made (whether or not payment is yet due) a Petition is presented or Resolution passed for the winding up or bankruptcy of the Customer or in the event of the appointment of a receiver or administrator of the Customer's business ("Termination").
- (c) In the event of Cancellation or Termination the Customer shall be liable to the Company for all the costs and expenses which it incurred up until the date thereof and the profit it reasonably expected to make on the Contract had the same been fully performed, less such net sum (if any) as the Company is able to make in disposing of the Products.

### 9. GENERAL

- (a) The Contracts (Rights of Third Parties) Act 1999 shall not apply to this Contract.
- (b) If any provision or part of a provision of these terms is found to be illegal, invalid or unenforceable under any applicable law, such provision or part of a provision shall, insofar as it is severable from the remaining terms, be deemed omitted from these terms and shall in no way affect the legality, validity or enforceability of the remaining terms.
- (c) Only variations or modifications to the Contract which are made in writing signed by Customer and Company shall be enforceable.
- (d) The Customer shall not assign, novate or otherwise transfer its rights or obligations under this Contract without the prior written consent of Company.
- (e) Any failure by the Company to enforce its rights under this Contract shall not be deemed a waiver of such rights.







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

**Gardner Denver Ltd**  
**Claybrook Drive, Redditch, Worcestershire B98 0DS UK**

T: +44 (0) 1527 838 600, F: +44 (0) 1527 838 630  
E: [highpressure@gardnerdenver.com](mailto:highpressure@gardnerdenver.com)  
W: [www.reavell.com](http://www.reavell.com) W: [www.belliss.com](http://www.belliss.com)

