

**Gardner
Denver**

HIGH PRESSURE SOLUTIONS

High Pressure Oil Free Solutions

Smarter Compressor Technology





Gardner Denver High Pressure Compressors

With the Gardner Denver Compressors brands, we have grown into one of the world's most respected organisation within high pressure 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 compressor solution.

Oil Free Compressors

The wide scope of the Gardner Denver High Pressure range means that achieving the optimal oil free compressor design solution has never been easier.

With the choice of single, two or three stages of compression, seven modular crankcases, over 100 cylinder sizes plus a variety of specialist control systems, there is virtually unlimited flexibility in application and performance.

Through development of the pioneering 'V' and 'W' design technologies, Gardner Denver Belliss & Morcom compressor series offer significant performance, reliability and power advantages over other machine configurations.

Longer piston ring life, reduced component wear, smooth running and superior reliability are just some of the factors which make our compressors the first choice for many of industry's most arduous and critical process applications around the world.

Our intrinsically oil free compressors, with a unique seal design eliminating any risk or possibility of oil contamination, make the range ideal for virtually all industrial and commercial handling applications. This intrinsic ability to maintain gas purity, coupled with exceptional reliability makes Gardner Denver High Pressure Compressors the world's first choice for oil free applications such as PET blow moulding.

BellissMorcom



Unrivalled Application Know-how

Here at Gardner Denver, we have the ability to understand our customer's specific requirements and are committed to ensuring we provide intelligent solutions that meet your ultimate needs.

With the direct drive high efficiency motors or with belt driven arrangement and the latest extended life materials technology, the Gardner Denver Oil Free compressor range offers unrivalled high performance oil free air and gas components up to 90 barg pressures.

Our oil free reciprocating compressors are suitable for a wide range of industrial applications. Rely on our expertise to select the right compressor for your needs.



Industry and Applications Overview	Belliss & Morcom Range		
	≤45 - 90 barg V290 - V780	20 - 45 barg V130 - V540	3 - 40 barg V250 - W370
Aerospace			
• Turbines	•	•	•
• Hydraulic Systems	•	•	•
• Pressure Testing	•	•	•
• Nitrogen applications	•	•	•
Automotive			
• Crash testing	•	•	•
• Component manufacture/testing	•	•	•
• Engine development	•	•	•
Chemical			
• Metrology	•	•	•
• Production of hydrochloric acid	•	•	•
• Cryogenic cooling systems	•	•	•
Food & Beverage			
• Nitrogen Blanketing and freeze drying	•	•	•
• Autoclaves for sterilisation & cooking	•	•	•
• Hydrogen - oil & fat hydrogenation	•	•	•
• Carbon Dioxide recovery	•	•	
Metal & Metallurgy			
• Producing and forming steel	•	•	•
• Press accumulator	•	•	•
Oil & Gas			
• Coiled Tube drilling	•		
• Deep well drilling	•	•	•
• Pressure valve testing	•	•	•
Plastic			
• Plastic forming for isostatic forming	•	•	•
• Production of PET bottles	•	•	•
• Plastic forming for internal gas-pressure procedures	•	•	•
Power generation			
• Gas turbine	•	•	•
• Steam power	•	•	•
• Hydro electric	•	•	•
• Nuclear	•	•	•
Universities			
• Super sonic wind tunnels testing	•	•	•
• Autoclaves	•	•	•
• Wasp test rigs	•	•	•
Pharmaceutical			
• Metrology	•	•	•
• Cryogenic cooling systems	•	•	•
Packaging			
• Magnetic Resonance Imaging	•	•	•
• MRI Scan production	•	•	•
• Decompression chambers	•	•	•
• Thermal Imaging	•	•	•
Construction			
• Air separation units	•	•	•
• Cement hopper de-clogging	•	•	•

Gardner Denver Oil Free Compressors

Gardner Denver Belliss & Morcom range, 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.

Belliss & Morcom VH industrial Compressors

Performance summary

- 290 to 3.151 m³/hour at 90 barg
- 80 to 275 kW
- Oil free
- Water cooled
- 1 to 3 stages
- Capacity control – 0 to 100 %
- Variable speed drive range from 50 - 100%
- Fully balanced operation

The Belliss & Morcom VH range of compressors offers a neatly arranged compressor system which provides maximum oil free air or gas capacity in the smallest available footprint.



Sales Model*

	4 Barg Pressure Range						10 to 15 Barg Pressure Range						20 Barg Pressure Range				
	V250-50-1N	V250-40-1N	V250-35-1N	V250-20-1N	W370-70-1N	V130-25-1N	V130-13-2N	W370-50-2N	W370-40-2N	V250-40-2N	V250-28-2N	V130-15-2N	W370-45-2N	W370-32-2N	V250-23-2N	V250-21-2N	V250-16-2N
Pressure Barg (max)	4	4	4	4	4	3.5	15	10	10	10	10	10	20	20	20	20	20
Capacity m ³ /Hr	2990	2508	2009	1178	4094	1534	786	3151	2448	2026	1645	886	2397	1882	1357	1070	906
Shaft Power kW	153	136	126	93	240	95	99	256	194	172	123	96	199	197	157	124	106
Speed rpm	735	735	735	735	735	985	985	735	735	735	735	985	735	735	735	735	735
Comp Stages	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2

Example

*Sales Model Designation follows the following rationale :-

W - Frame type, I.E. W or V type configuration

370 - Frame rating

40 - Approx Capacity rating in m³/min



Belliss & Morcom WH Industrial Compressors

Performance summary

- 1.578 to 4.094 m³/hour at 45 barg
- 194 to 518 kW
- Oil free
- Water cooled
- 1 to 3 stages
- Capacity control – 0 % / 50 % / 100 %
- Variable speed drive range from 30 - 100%
- Fully balanced operation

Belliss & Morcom WH range of compressors offers higher 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.

Range 4 to 45 barg

40 to 45 Barg Pressure Range													90 Barg Pressure Range		
W540-50-3N	W370-45-3N	W370-40-3N	W370-35-3N	W370-29-3N	W370-28-3N	V250-25-3N	V250-21-3N	V250-18-3N	V250-15-3N	V250-12-3N	V130-9-3N	V130-7-3N	V780-15-3N	V660-12-3N	V290-5-3N
45	45	45	45	45	45	45	45	45	45	45	40	40	90	90	90
3040	2725	2204	2120	1734	1578	1500	1360	1090	908	730	568	386	886	677	290
518	477	366	330	287	266	275	238	190	154	125	97	80	174	150	80
735	735	735	735	735	735	735	735	590	735	590	985	735	735	735	735
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

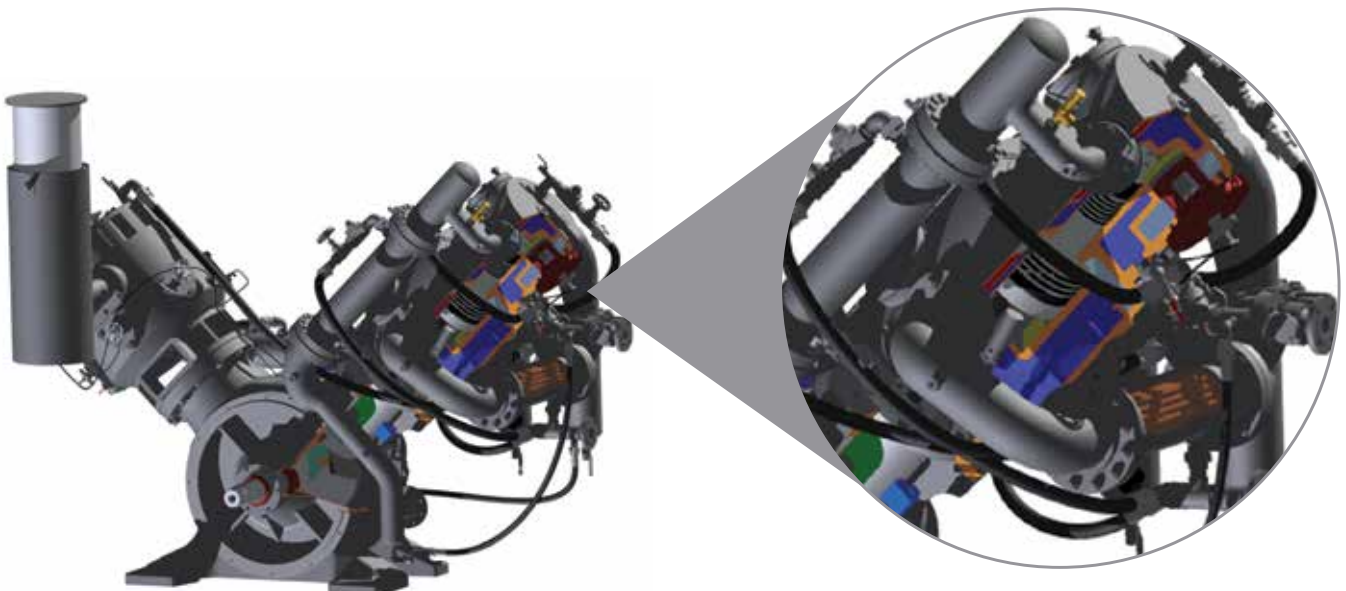
3 - Denotes number of compression stages, 1, 2 or 3.

N - Denotes that the machine (cylinders) are Oil Free Operation.



What Makes Gardner Denver High Pressure Compressors **unique?**

Unrivalled Durability	Ability to work in the most onerous environments
Low Power Consumption	Use of energy efficient equipment ensuring lower operating costs
Small Compact Footprint	Reduction in space requirements leads to cost savings for floor space
Simple Installation	Compact skid packages thus reducing installation costs
Balanced Operation	Dynamically balanced removing the need for any special foundations
Single Compressor Block	One single stage block resulting in the most efficient solution
Half Load Capability	Reduced power at partial load conditions for the WH range
Low Maintenance	Use of latest material technology reduces service costs
Robust Construction	Ensures continuous 24/7 operation maintaining production output
High Operating Efficiency	Results in maximum compressor and plant performance
High Quality Oil Free output	Guaranteed oil free output with no risk of oil contamination
Single Turnkey Partners	A single source for all air and gas requirements
Global Supply & Local Support	Dedicated sales and service centres protect your investments
Direct Drive Shaftless Motor	Reduces power absorbed and eliminates any belt drive losses
Expert Selection Ability	Ability to select for all applications and environments



Gardner Denver

Warranty programmes

All Gardner Denver High Pressure compressors have been designed to provide many years of trouble free service, however even the most reliable products require regular service and maintenance. This is why Gardner Denver provide as standard a 12 month manufacturer's warranty, with the added option of extending the warranty period should you wish to enter in to one of our Total Care Maintenance & Warranty Plans.

Our Total Care Maintenance & Warranty Plans offer a commitment to safeguard your business against costly unexpected and unscheduled repairs, whilst continuing to extend your warranty period for the duration of the agreement.

The primary benefits of the Gardner Denver Total Care Maintenance & Warranty Plans are as follows:

- Extended manufacturers' guarantee from commissioning date
- Low cost scheduled maintenance, carried out by factory trained technicians
- Optimum compressor performance and high operating efficiency
- Elimination of unexpected repair costs
- 100% original spare parts – with proven performance and reliability
- Parts stocked locally
- Increased compressor and plant availability
- Only scheduled services required each year, increasing compressor and plant availability
- Annual maintenance and operator training for the customers technicians
- Detailed quarterly inspections
- Automatic upgrade to any new parts designs / materials as they are released by the factory
- Ongoing maintenance and operator training for the customers' technicians
- Minimises customer exposure to Health & Safety risk
- Flexible payment plans so you can budget accordingly

The Total Care and Warranty can be further extended beyond the initial time period, by agreement.

In summary, we offer Complete Peace of Mind for your compressor operation, eliminating the risk of any unforeseen costs, thus enabling you to focus on your own plant and operations.





Package options

The Gardner Denver Oil Free ranges are also available as complete packages that include all essential ancillary items such as starter control panels with PLC logic systems, energy efficient motors, air dryers, air receivers, filters and optional cooling systems to suit all site conditions and application requirements.

Ancillary Skid Options

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

Loose equipment

All equipment can be supplied as loose items with a 'kit' of interconnecting parts that just require final connections on site, including fully acoustic solutions.



Gardner Denver Full Turnkey Installation, Commissioning & Training

Correct installation is essential in providing long-term compressor reliability. Gardner Denver provide full turnkey solutions from initial site surveys through to design, installation and final commissioning.

Our fully qualified engineers assess all critical factors such as location, radiated heat, noise and air inlet conditions to ensure the complete compressor installation functions reliably whatever the environment.





Gardner Denver **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 pressure 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.

- Our commitment to you and your business
- 24 Hours a Day, 365 Days a Year Support
- Extensive Spare Parts Stock Holding
- Experienced Local Product and Technical Support
- Fully Flexible Maintenance Packages
- On Site Commissioning and Training
- Full Turnkey Installation Capabilities

Plus the added advantage of the best technical advice and support available in the market place today.



Gardner Denver

HIGH PRESSURE SOLUTIONS



Global Expertise

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.

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For additional information please contact Gardner Denver or your local representative.

Specifications subject to change without notice.