

Belliss & Morcom[®]

An Ingersoll Rand Business

Engineered To Perform

Oil Free Air & Gas Compressors
for Industrial Applications

Turn to a trusted manufacturer

ENGINEERED FOR PERFORMANCE

EFFICIENT, RELIABLE, AND VERSITILE

Maximise your profitability with Belliss & Morcom

EVERY DETAIL MATTERS

Building on over 150 years of experience and innovation, every Belliss & Morcom compressor is engineered from the ground up, to deliver outstanding levels of efficiency, quality and performance.

In today's competitive world, every efficiency-gain and cost-saving matters; every deliverable matters; every second of every production run matters; and every cubic metre of compressed air matters.

That's why, as world leaders in compressor technology, every detail of equipment design, specification and manufacturing matters to us.

WHY OUR EXPERTISE MATTERS

Building on decades of innovation, every Belliss & Morcom compressor is engineered from the ground up, to deliver outstanding levels of efficiency, quality and performance.

A combination of unique design features and engineering refinement adds up to real advantages for customers – including reduced energy consumption, greater uptime, lower total cost, and the sheer reliability of air delivery, when the pressure is on.

- Hydropower
- Automotive
- Nitrogen Production
- Power Generation
- Aerospace
- Building Products

OIL FREE AIR AND GAS PROVIDES THE BACKBONE OF TODAY'S INDUSTRY. WITH PROFITABILITY EXPANDING EFFICIENCY AND UPTIME, BELLISS & MORCOM IS ENGINEERED TO PERFORM, WHATEVER THE PRESSURE.



Belliss & Morcom V250-4012N-CO2

ENGINEERED FOR EFFICIENCY

EVEN A SINGLE PERCENTAGE POINT CAN MAKE A HUGE DIFFERENCE.

The smallest issues with the transfer of power from the compressor motor can result in significant energy loss, and serious financial impact. In fact, belt drive system inefficiencies can add up to 12% to energy bills. Which is why every Belliss & Morcom compressor is specified with a shaftless motor as standard*.

This means that 100% of the motor's output power is transferred directly into the compressor's running gear, with zero degradation over the lifetime of the equipment. So you start by saving, and you continue saving, year after year.

For example a single 500 kW machine might be costing over £400,000 a year to run**. Inefficiencies of even just 1% on the drive system can add in excess of £4,000 to your energy bill – every year.

Brand new belt drive systems typically operate with inefficiencies of around 5% to 7%, rising to around 12% after wear, depending on your maintenance schedule. This means your drive system alone could be costing upwards of £50,000 per compressor, per year in wasted energy. In contrast, with the Belliss & Morcom shaftless motor you enjoy zero energy loss, and zero extra cost.

NO SHAFT, NO PROBLEM

The Belliss & Morcom shaftless motor requires no drive system maintenance. No belt tensioning, no belt replacement, no motor alignment, no coupling checks or maintenance – this is a zero-maintenance drive system providing a constant and 100% efficient power transmission.

IN INDUSTRY, SUCCESS DEPENDS ON FINE MARGINS, AND EFFICIENCY MATTERS. WHETHER ITS MACHINE EFFICIENCY, MAXIMISED BY OUR SHAFTLESS MOTOR OFFERING THE LOWEST RUNNING COSTS ON THE MARKET, OR OUR UNIQUE SET OF DESIGN FEATURES ENSURING INCREASED PROCESS EFFICIENCY THROUGH UPTIME, YOU CAN BE SURE THAT A BELLISS & MORCOM COMPRESSOR WILL MAXIMISE YOUR PROFITABILITY.

*VH7/9 excluded.

**Assuming 0.1 £/kWh energy prices and 8,000 running hours per year.
 $(500/0.99) * 8000 * 0.1 = £404,040$

UNIQUE DIAGONAL DESIGN

The unique Belliss & Morcom 'W' design means each compression stage runs on its own cylinder line. This gives you an extra layer of reliability and efficiency. So whatever your system size and output, capacity control can be achieved in the most cost effective way possible.

Our efficient 50% load system manages smaller flow variations and allows tighter pressure bandwidth without the need for a variable speed drive (VSD). However, where required, Belliss & Morcom also offer a market leading VSD system. Combined with our 50% load and available running speed range, it offers unmatched output control - down to 30% of the maximum output.

Reduced Wear

Belliss & Morcom compressors feature a 45 or 60 degree incline. This reduces static piston ring loading by up to 29.3% compared with horizontal cylinder lines. It means less wear and completely eliminates the need for interim turning of either compression or bearing rings.

Ease of Access

As a result, our engineers have been able to move the largest piston off the vertical cylinder line, significantly improving access and reducing service complexity and downtime.

UPTIME THROUGH DESIGN

Our unique combination of shaftless motors with diagonal cylinder lines eradicates items that require regular maintenance, such as horizontal cylinder lines and belt drive systems.

It means you can operate for 8,000 hours between service, and when routine maintenance time comes around, you'll find key components are easy to access and work on, so you'll be up and running quickly.

ENGINEERED FOR DEPENDABILITY

BUILT TO LAST

Belliss & Morcom has been an industrial manufacturer since 1852. Our continuing commitment to outstanding build quality and dependability is backed up by our 5 year+ Belliss Xtra warranty programme.

In order to ensure reliability, every component must be carefully matched to the compressor duty. Compromise is a false economy, and simply aiming for the lowest possible cost is often counter-productive for the customer in the long run.

For example, many competitor machines rely on heavy welded base frame assemblies to provide support or dampen very high vibration levels. And while this can be cheaper to manufacture than a fully balanced compressor, it adds extra components which are vulnerable to unexpected and expensive failure. In contrast, the Belliss & Morcom diagonal frame design requires no external supports for structural integrity or vibration damping, and minimizes wear and tear. As a result, you benefit from longer intervals between planned service, and a reduced risk of machine failure and unplanned downtime.

MOTOR SERVICE FACTORS

Compressor motors offer maximum reliability and deliver maximum efficiency when running at 75%-95% of their rated value. Running above the rated value means higher power costs and increased risk of breakdown. Unlike other equipment on the market, every Belliss & Morcom motor is specified with its full-service factor, so you can be confident that it will run continuously and at maximum efficiency throughout its full design life.

WATER-COOLED MOTOR PROTECTION

In harsh environments, at high altitudes or temperatures, where it is dusty or ventilation is limited, air-cooled motors can de-rate or even fail. Belliss & Morcom's bespoke water cooled motors eliminate this risk.

With IP56 protection and a cooling system that doesn't rely on or impact the surrounding environment, our water cooled motors can run reliably where an air cooled motor can't.

COMPACT FOOTPRINT

In busy production sites, space is always at a premium, so a smaller machine footprint can be a big advantage.

Because of their unique diagonal design, Belliss & Morcom compressors are significantly more compact than competitors' equipment. It means more air delivered for a given amount of factory floor – and valuable extra space for productive activity.

CUSTOM DESIGN

Where your available space is limited, and yet you still require high performance, Belliss & Morcom can create a bespoke solution specifically for you. Our expert team have extensive experience of fitting complete systems in even the tightest of spaces. Our diagonal set up, water cooled motor and modular package mean our systems can operate effectively and efficiently where competitors' simply can't fit.

YOU'RE IN COMPLETE CONTROL

Altogether it means that your compressor is up, running and available for production when you need it - it fits within your existing factory constraints and your schedule doesn't need to be organized around maintenance downtime and frequent servicing. You're in control, every minute of the day and always with the peace of mind that comes with our extensive network of expert service technicians.

IN A BUSY FACTORY, YOU NEED EQUIPMENT THAT DOESN'T DEMAND ATTENTION - EVERY BELLISS & MORCOM COMPRESSOR COMES WITH QUALITY AND RELIABILITY BUILT IN, AND OUR COMBINATION OF LOW FOOTPRINT AND CUSTOM DESIGN CAPABILITY ENSURE YOUR MACHINE WILL FIT WHERE YOU NEED IT, WITH MINIMUM IMPACT ON SURROUNDING EQUIPMENT.

ENGINEERED FOR DEPENDABILITY

BELLISS & MORCOM RANGE PERFORMANCE DATA

With a wide range of performance options, ensuring integration with a variety of systems, you can be sure that Belliss & Morcom have the industrial solutions to fit your requirements.

AIR COMPRESSORS

		Atmospheric Inlet						Positive Inlet						
		Delivery Pressure		Flow Rate		Power		Maximum Inlet Pressure @ 20° C	Delivery Pressure		Flow Rate @ Maximum Inlet Pressure		Power	
		min	max	At min del. Pressure	At max del. Pressure	Motor Power	Absorbed Power		min	max	At min del. Pressure	At max del. Pressure	Motor	Absorbed
		bar g	bar g	m³/hr FAD	m³/hr FAD	kW	kW	bar g	bar g	bar g	Nm³/hr	Nm³/hr	kW	kW
Low Pressure	V8-2N	4	12	480	450	45/55	33 - 50	-	-	-	-	-	-	-
	V10-2N	4	12	600	558	55/75	41 - 62	-	-	-	-	-	-	-
	V14-2N	4	12	798	726	75	52 - 76	-	-	-	-	-	-	-
	V18-2N	4	12	1086	1020	90/110	74 - 110	-	-	-	-	-	-	-
	28-2N	4	13	1662	1548	175/260	111 - 181	0.3	4	13	2023	1883	260	133 - 231
	40-2N	4	14	2340	2136	280	159 - 256	0.3	4	12	2846	2680	Note-1	184 - 310
	56-2N	5	14	3282	2988	400	260 - 377	0.3	5	15	4068	3867	500	292 - 481
Medium Pressure	V130-7-3N	20	40	420	402	90	60 - 71	0.03	20	40	401	381	90	66 - 78
	V130-9-3N	20	40	564	540	110	84 - 101	0.03	20	40	537	510	110	88 - 104
	V250-12-3N	10	45	726	720	150	85 - 127	0.3	15	45	850	823	Note-1	
	V250-15-3N	10	45	912	906	175	110 - 154	0.3	15	45	1064	1035	Note-1	
	V250-18-3N	15	45	1093	1074	210	132 - 192	0.1	15	45	1106	1076	210	153 - 209
	V250-21-3N	15	45	1386	1362	260	165 - 238	0.1	15	45	1389	1351	280	192 - 263
	V250-25-3N	20	45	1530	1490	280	222 - 275	0	20	45	Note-1		Note-1	
	W370-28-3N	10	45	1620	1566	280	183 - 274	0.3	10	45	1943	1880	360	203 - 348
	W370-29-3N	10	45	1788	1728	325	202 - 297	0.3	10	45	2082	2014	400	218 - 371
	W370-35-3N	10	45	2178	2112	360	300 - 373	0.3	12	45	2666	2581	500	297 - 463
	W370-40-3N	10	45	2280	2208	400	255 - 376	0.3	12	45	2749	2669	500	390 - 470
	W370-45-2N	5	13	2778	2580	360	233 - 330	0.1	5	13	2860	2668	360	259 - 342
	W370-45-3N	15	45	2761	2664	500	337 - 487	0.3	15	45	Note-1		Note-1	
	W540-50-3N	15	45	3167	3054	550	350 - 525	0.15	15	45	Note-1		Note-1	
H. Press.	V290M-WN	20	90	301	274	90	67 - 74	0.2	20	90	295	262	90	53 - 74
	V660M-WN	20	90	686	666	175	138 - 152	0.1	20	85	738	687	175	117 -167
	V780M-WN	20	90	773	773	260	145 - 170	0	20	90	774	704	260	126 - 175

Note 1: Contact our Sales Representative

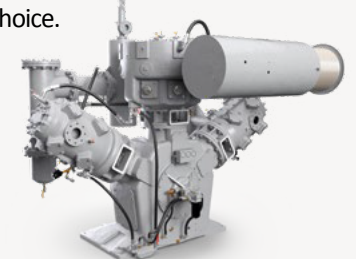
GAS BOOSTERS

Inlet pressure	Delivery Pressure	Flow Rate	Absorbed Power
bar g	bar g	m³/hr FAD	kW
up to 18	up to 40	up to 13093	up to 449

BELLISS & MORCOM

Belliss and Morcom's W370 oil and silicon-free compressors guarantee a steady flow of air at various pressures and rates. The W370 & V250 series are also adept at boosting nitrogen, including bone dry, for a broad range of applications. With three-step load control and signature shaftless motors, these compressors maximize efficiency to ensure you get the most from your energy use.

Built with the trusted quality of Belliss & Morcom, these compressors meet your needs with high efficiency, unwavering reliability, and flexibility. For anyone seeking the best in their air supply solutions, Belliss & Morcom is the perfect choice.



BELLISS & MORCOM 45-2N

Belliss & Morcom: Revolutionizing Nitrogen Boosting with Oil-Free Technology

Introducing a new era of clean, efficient, and reliable nitrogen boosting with the Belliss & Morcom Oil-Free Reciprocating Nitrogen Boosters.

UNLEASH THE POWER OF PURITY:

- ✓ **Eliminate contamination risks:** Say goodbye to oil hazards and ensure the highest purity of nitrogen for sensitive applications.
- ✓ **Extend equipment life:** Minimize wear and tear with oil-free operation, leading to longer compressor life and reduced maintenance costs.
- ✓ **Boost your environmental credentials:** Operate sustainably with a reduced carbon footprint and adhere to stricter environmental regulations.

EXPERIENCE UNMATCHED PERFORMANCE:

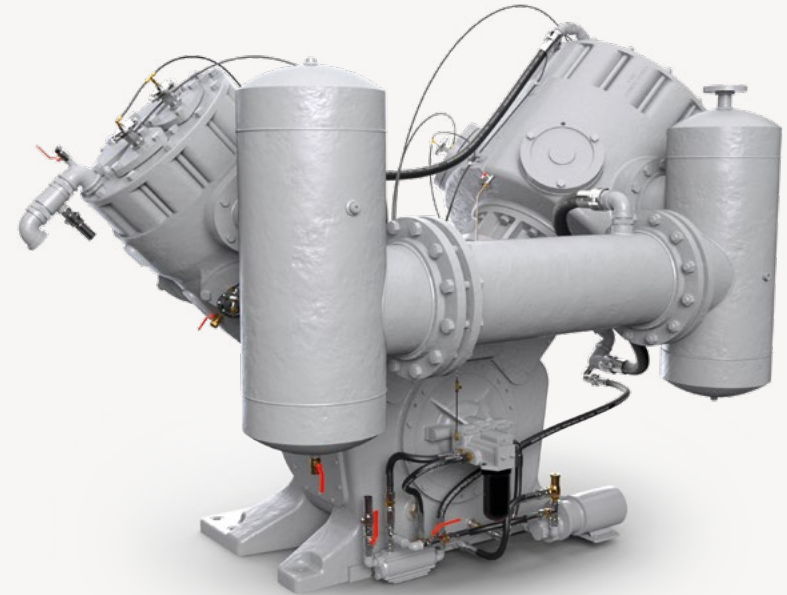
- ✓ **Exceptional efficiency:** Achieve optimal energy savings with our cutting-edge design and materials.
- ✓ **Uncompromising reliability:** Count on robust construction and rigorous testing for dependable operation in demanding environments.
- ✓ **Tailored solutions:** Choose from a variety of configurations and options to perfectly match your specific nitrogen-boosting needs.

IDEAL FOR A WIDE RANGE OF APPLICATIONS:

- ✓ **Food & Beverage:** Ensure pure nitrogen for food packaging, carbonation, and other sensitive processes.
- ✓ **Pharmaceuticals:** Meet stringent purity requirements for drug manufacturing and sterile environments.
- ✓ **Electronics & Semiconductors:** Create a clean and controlled atmosphere for chip production and other critical processes.
- ✓ **Oil & Gas:** Enhance well stimulation and maintain pressure in pipelines.
- ✓ **Chemical Processing:** Safely and efficiently boosts nitrogen pressure for various chemical reactions.

BELLISS & MORCOM OIL-FREE RECIPROCATING NITROGEN BOOSTERS:

- ✓ Higher inlet pressure capabilities provide more flow and increased efficiency.
- ✓ Available in a range of pressures up to 45 Bar and flow rates to suit your specific needs.
- ✓ Design suitable for bone-dry nitrogen applications.
- ✓ Packaged for ease of installation and maintenance.
- ✓ Backed by our global network of experienced service engineers.
- ✓ Make the switch to oil-free nitrogen boosting and experience the difference. Contact Belliss & Morcom today to learn more.



Unleash Peak Performance with iConn: The Connected Air Solution for Smarter Operations

Introducing the iConn, Belliss & Morcom's revolutionary monitoring platform that puts the power of your high-pressure compressor operation in your palm.

UNLEASH THE POWER OF CONNECTIVITY:

- ✓ **Real-time data and insights:** Gain actionable insights into compressor performance.
- ✓ **Predictive maintenance:** Prevent unexpected shutdowns with intelligent alerts and proactive maintenance recommendations.

BOOST YOUR EFFICIENCY AND PRODUCTIVITY:

- ✓ **Reduce downtime:** Identify and address potential issues before they become critical problems.
- ✓ **Improve decision-making:** Make data-driven decisions to optimize your entire compressed air system.

EXPERIENCE UNMATCHED EASE OF USE:

- ✓ **Intuitive interface:** The iConn platform is designed for user-friendly navigation and control, even for non-technical users.
- ✓ **Mobile app:** Access key data features from your smartphone or tablet for on-the-go monitoring.



ICONN IS THE PERFECT SOLUTION FOR:

- ✓ **Plant managers:** Real-time insights to optimize operations and maintenance.
- ✓ **Operations technicians:** Proactively identify and address potential issues to improve uptime and reliability.
- ✓ **Maintenance engineers:** Receive timely alerts and recommendations to perform preventive maintenance and extend compressor life.

BENEFITS:

- ✓ **Increased uptime and productivity:** Reduce downtime and optimize performance for efficient compressed air operations.
- ✓ **Reduced maintenance costs:** Proactive maintenance recommendations extend compressor life and minimize repair costs.
- ✓ **Improved energy efficiency:** Optimize operating parameters to reduce energy consumption and lower your carbon footprint.
- ✓ **Enhanced peace of mind:** Gain real-time insights and control over your compressors for operational transparency and confidence.

READY TO TAKE YOUR COMPRESSOR MANAGEMENT AND MONITORING TO THE NEXT LEVEL? CONTACT BELLISS & MORCOM TODAY TO LEARN MORE ABOUT THE ICONN PLATFORM AND HOW IT CAN TRANSFORM YOUR COMPRESSED AIR OPERATIONS.

ENGINEERED TO PERFORM

OIL FREE AIR & GAS COMPRESSORS FOR INDUSTRIAL APPLICATIONS

BUILT TO LAST

Whatever details matter to you, Belliss & Morcom compressors are designed to meet your needs exactly. Engineered specifically for industry, our machines are built to offer you maximum efficiency, reliability and uptime.

EFFICIENCY

- Shaftless motors ensure 100% drive efficiency.
- Unique diagonal design gives an extra layer of efficient flow control.

RELIABILITY

- Market leading 5 year+ warranty scheme, with re-warrant option.
- Maximum motor service factor for maximum peace of mind.
- Water cooled motor protection ensures reliable running in the harshest of environments.

UPTIME

- Diagonal design reduces wear and tear on all components.
- Shaftless motor means absolutely no drive system maintenance.

BELLISS & MORCOM CENTRE OF EXCELLENCE

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

Address and contact details are:

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

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F: +44 (0) 1527 838 630

E: highpressure@irco.com

WEBSITE

OPTIONS

- Range of additional features designed to offer operators enhanced levels of monitoring, control and cost savings.

FOOTPRINT

- Considerably more compact footprint than competitor machines, saving you valuable floor space.

SINGLE SOURCE SOLUTIONS

For more than 155 years, Gardner Denver has been a leading global provider of compressors, blowers and vacuum pumps. OEMs and end-users from every corner of the world rely on us for their business solutions.

With global teamwork, strong customer focus, and vast application knowledge, our brands provide reliable, energy-efficient products that serve a wide range of manufacturing and process industries.

