KAISHAN

Engineering the Future

WORLD CLASS
Technology, engineering, product range and capabilities

Kaishan Australia is the Australian division of the Kaishan Group of Companies, one of the largest and most advanced designers and manufacturers of compressed air and gas products in the world.

Kaishan is committed to the continuous development of new compressor technologies and currently produces more than 80000 rotary and 25000 reciprocating air compressors annually for applications and installations in the Australian, European, SE Asian, USA, India and Latin American markets with growth globally through partnerships and acquisitions.

Mr Kevin Cao, President of the Kaishan Group of Companies stated that the organisation currently has plant and equipment valued at over USD$2.1b based in multiple plants across the world employing more than 4500 personnel including over 2000 trained technicians.

Kaishan Australia supplies its extensive compressed air product range offering truly heavy duty, high quality and premium efficiency machinery for an enormously broad range of applications.

After almost 40 years of success in supporting the Australian compressed air market, Kaishan Australia utilises the world's best technologies with the ability to customise solutions that provide optimal benefits to its Australian customers.

KAISHAN AUSTRALIA PTY LTD

24 HOUR AUSTRALIA WIDE SUPPORT

National Sales and Service:

1300 098 901

www.kaishan.com.au

WORLD CLASS ▪ SUPER EFFICIENCT ▪ RELIABLE ▪ QUIET

p|m|v

15 - 250kW

Permanent Magnet
Variable Frequency
Rotary Screw
Air Compressors

KAISHAN AUSTRALIA

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Kaishan PMV compressor range is a game changer providing maximum efficiency and performance with worlds leading energy saving technology

Engineering the Future

Kaishan Australia's range of PMV rotary screw compressors combine engineering excellence with the highest quality components into a compact unit to provide maximum output with minimum energy use. These highly advanced air compressors deliver world class efficiency and performance in a heavy duty unit that ensures superior durability and reliability. Precision engineering utilises the latest compressed air technologies to achieve energy standards exceeding international expectations.

Developed by Kaishan engineers, these revolutionary compressors combine integrated systematic optimisation of the compressor unit with an advanced permanent magnet motor, Kaishan SKY airend and rapid response variable speed drive to achieve outstanding energy efficiency.

Precision engineered integrated compressor and drive motor unit

PMV rotary screw compressors provide lower operating costs in a heavy duty, durable unit.

Low cost of ownership throughout life cycle

Compressed air is often referred to as the 'fourth utility' and is critical to most manufacturing operations. Facility performance depends upon compressor reliability and efficiency.

Power consumption is a significant cost throughout the life of a compressor, therefore it is important to consider the life cycle cost of a compressed air system when evaluating productivity improvements. Kaishan's unique PMV series highly advanced energy saving features greatly reduce operational costs in a high performance, industrial air compressor.

PMV Series 'Best in Class' 2-Stage rotor assembly

Kaishan Australia... the latest global compressed air products plus a wealth of experience working with Australian industry

The combination of servicing the needs of Australian compressed air system operators for nearly 40 years as Southern Cross Compressors with the global resources and technology of the Kaishan Group offers our customers the very latest in energy saving efficiency.

Kaishan's global strategy of combining highly skilled engineering with efficient manufacturing has provided the Australian market with performance proven, reliable machinery for any application.

The manufacturing processes are 85% vertically integrated to ensure full control of the supply chain delivering high quality components on time and at the right cost.

Practiced environmental sustainability

Kaishan's fundemental belief in environmental sustainability is integral to the design and manufacture of products that maximise energy efficiency and help to preserve precious resources. Unused waste materials are recycled to maximise the use of raw materials.

Kaishan's committment to environmental responsibility ensures continued development of advanced technologies and manufacturing processes providing industry with machinery of exceptional value, now and into the future.

We fully support our products 24/7 with a fleet of highly trained and experienced mobile technicians.

All Kaishan Australia products are fully backed by nationwide customer focused advice, support and service.

RAPID REPAIRS AND SPARES
We stock a full range of spare parts and system components to ensure a rapid return to full production should a problem occur.

CUSTOM SERVICE PROGRAMS
We also offer flexible, customised service programs that maintain your compressed air system in peak condition day in, day out.

DIGITAL CONTROL PANEL

Monitors & Controls KeyCompressor Functions

- Displays pressure, temperature, motor current, faults
- Phase failure protection
- Service schedule notification
- External monitoring via RS 485 interface
- Shutdown protection
- Sequencing of up to 16 compressors

INTEGRATED MICROPROCESSOR CONTROL FOR INDUSTRY 4.0

- Easy to read mimic diagram with constant pressure and temperature readout
- Selective readout of operation and maintenance parameters
- Automatic start/stop operation over 24 hour period
- with lead/lag sequencing of multiple compressors Auto dual control: If there is no air demand during the
- pre-set time delay, the compressor shuts down the drive motor and will restart the motor only when pressure falls below the pre-selected levels
- Integrated with IoT technology which allows remote monitoring and control over local or web networks

3 STAGE AIR / OIL SEPARATION

Lower Pressure Drop / Lower Absorbed Power

- Excellent mechanical pre-separation/reduced direct oil impingement onto separator element
- Lower dust contact resulting in lower pressure drop/longer element life/lower energy consumption
- Residual oil carryover limited to 3 ppm

SINGLE PASS OIL & AFTER COOLERS

Long Life / Easily Accessible

- Minimise thermal stress
- Cooler running temperatures / correct running temperature @ 50°C ambient
- Low oil carryover
- Low cooling air velocity reduces dust build up
- Increased lubricant life

RARE EARTH MAGNET TECHNOLOGY

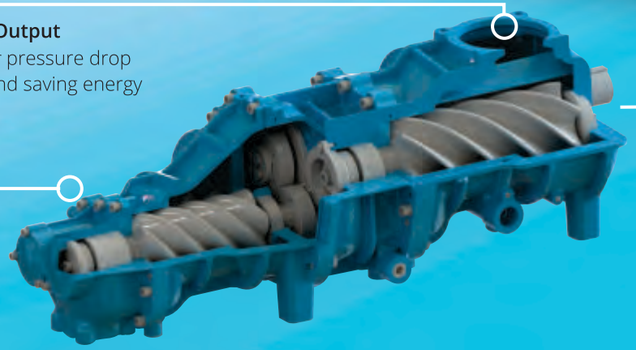
Rare earth technology gives the permanent magnet motor superior energy efficiency compared to conventional induction motors. PM synchronous torque motors provide faster acceleration and deceleration, a great advantage in compressor applications as they can rapidly vary output to match application demands.

- Energy efficient over a wide speed range
- Variable speed in constant and changing torque requirements
- Lower routine and long term maintenance

LAMINAR FLOW INLET VALVE

Minimum Pressure Drop / Increased Output

- Laminar flow inlet valve results in lower pressure drop through the intake,increasing output and saving energy



'SKY' SERIES 2-STAGE AIR END

Maximum Output with Less Energy Usage

- Asymmetric 5 / 6 rotor profile with 100% SKF bearings
- KAPP Ground rotor technology for tighter clearances and world class efficiency and performance
- Precision machined bell housing to maintain rigid alignment

316 STAINLESS STEEL CONTROL TUBING

Long Tubing Life / Reduced Downtime

- Increased reliability due to corrosion free material
- Material such as nylon, copper or mild steel will fail in time causing downtime
- Increased lubricant life

SAFETY AND THE ENVIRONMENT

Reduced OH&S Risk and Injury

- The entire Kaishan range of compressors includes full safety features such as guarded rotating components and shrouded electrical components to reduce the risk of injury .

PRECISE VARIABLE SPEED CONTROL AND PERMANENT MAGNET TECHNOLOGY BRINGS BIG ENERGY SAVINGS FOR COMPRESSED AIR RELIANT OPERATORS.

More than 70% of the long term cost of owning an air compressor can be attributed to energy use. Over the life of the compressor this adds up to many times the original investment, yet in many cases much of this energy is wasted through poor part load control.

Kaishans revolutionary new PMV (Permanent Magnet Variable Frequency) compressors will exactly match output to demand, eliminating high part load energy usage as experienced with conventional fixed speed compressors. With the right PMV compressor for your operation, energy savings as high as 50% are possible.

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WORLD CLASS ENGINEERING

INTERNATIONALLY PATENTED 'SKY' 2-STAGE AIREND DEVELOPED EXCLUSIVELY BY KAISHAN

Continual trial and development has created an advanced airend that increases compressor efficiency by more than 20% over earlier models.

KRSP2 Series patented air end

Larger Rotor Size

To increase the rotor throughput, the airends of our PMV compressors are larger than usual. They are built with 5/6 lobes and larger rotor size which reduces the specific power consumption whilst operating at low speed.

Lower inter-lobe leakage losses

Pressure differences between two neighbouring work chambers is small due to a greater number of lobes. This reduces inter-lobe leakage losses, hence leakage to delivery ratio decreases as the number of lobes increases.

Larger wrap angle & discharge port

A greater number of lobes combined with larger wrap angle ensures multiple rotor contact. This reduces vibration which minimises noise. Larger discharge ports decrease the discharge velocity and therefore reduce the discharge pressure losses increasing the compressor's overall efficiency.

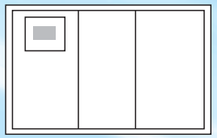
KAISHAN PMV COMPRESSORS OFFER HUGE ENERGY SAVING ADVANTAGE OVER CONVENTIONAL ROTARY SCREW COMPRESSORS

Kaishan PMV compressors operate at peak efficiency even with reduced air output. They offer far greater integrated control precision through an advanced PID control algorithm that generates a highly stable supply pressure. By regulating the volume of air output, the compressor maintains maximum efficiency under wide usage demands.
The PMV compressor demonstrates a remarkable energy saving capability over conventional types particularly when under widely fluctuating demands.
Motor angular position sensors are not required, improving both stability and reliability. Torque can be compensated at any angle within 360° to achieve perfect control. Utilisation of bus voltage is greater than 93%, much more than conventional converters.

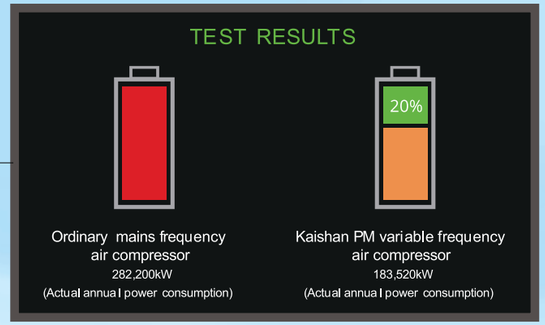
BENEFITS

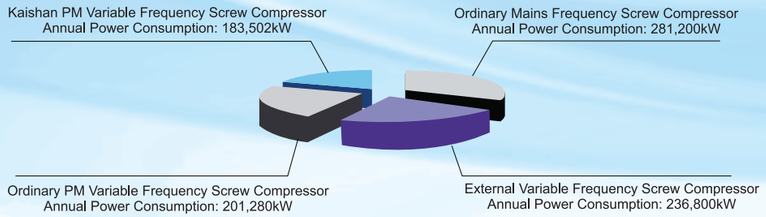
- Complete control of air output to meet operating demand
- Lower energy input for required air generation
- Excessive part load energy usage is significantly reduced
- Gradual increase in motor speed eliminates starting spikes and cost penalties
- A steady system pressure is maintained, lowering system stress and overall air demand
- Reduced artificial demand due to lower operating pressures
- Reduced maintenance time and cost
- Significantly lower noise levels

37kW Kaishan PM Variable Frequency Screw Compressor



37kW standard mains frequency screw compressor





PMV SERIES SPECIFICATIONS

Single Stage

MODEL PMV	CAPACITY m³/min	Power kW	Nominal Pressure bar	Maximum Pressure bar	Noise dBA Rating at 1 meter	Dimension mm L	W	H	Weight KG
PMV-15	2.48	15	8	10	68	1200	830	1240	380
PMV-22	3.62	22	8	10	68	1200	830	1290	480
PMV-37	6.10	37	8	10	69	1400	1000	1540	710
PMV-55	10.00	55	8	10	70	1500	1160	1700	990

2 - Stage

MODEL PMV	CAPACITY m³/min	Power kW	Nominal Pressure bar	Maximum Pressure bar	Noise dBA Rating at 1 meter	Dimension mm L	W	H	Weight KG
PMV2-22	4.25	22	8	8.5	68	1650	900	1110	550
PMV2-37	7.15	37	8	8.5	69	1820	1000	1140	740
PMV2-55	10.4	55	8	8.5	70	2100	1200	1330	1100
PMV2-75	14.7	75	8	8.5	70	2160	1220	1580	1450
PMV2-90	21	90	7	7.5	72	3110	1780	2020	3600
	19.25		8	8.5					
	17		10	10.5					
PMV2-110	25.7	110	7	7.5	73	3110	1890	2060	4450
	23		8	8.5					
	19.5		10	10.5					
PMV2-132	31	132	7	7.5	74	3440	1930	2260	5100
	26.9		8	8.5		3100	1890	2060	4450
	24		10	10.5					
PMV2-160	38	160	7	7.5	75	4160	2260	2280	6100
	34.31		8	8.5					
	31		10	10.5					
PMV2-185	41.1	185	7	7.5	76	4160	2260	2280	6200
	39.8		8	8.5					
	34		10	10.5					
PMV2-200	46	200	7	7.5	76	4160	2260	2280	6450
	43.12		8	8.5		4160	2260	2280	6300
	40		10	10.5					
PMV2-220	53	220	7	7.5	78	4160	2260	2350	8920
	47.48		8	8.5					
	43		10	10.5					
PMV2-250	57	250	7	7.5	78	4260	2410	2350	9420
	52.2		8	8.5		4160	2260	2350	9220
	47		10	10.5					

Unit performance measured in accordance with: ISO 1217, Ed3, Annex C-1996
Reference conditions: Absolute inlet pressure = 1bar; Ambient temperature = 20°C; Cooling temperature = 20°C; Sound pressure level measured in accordance with test code: ISO2151-2004 (E). **NOTE:** Technical specifications of compressors are subject to change without notice.

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COMPRESSED AIR SYSTEM ACCESSORIES

Kaishan Australia offer a quality range of ancillary components to enhance the performance of every compressed air system.

AUTO DRAINS

Automatically drains unwanted condensate from your system.

AIR RECEIVERS

To increase efficiency and reduce maintenance.

REFRIGERATED AIR DYERS

For applications where dry air is needed even in the hottest environments.

OIL WATER SEPARATORS

Separates lubricants from condensate for easy, responsible disposal.

AFTER COOLERS

Vital for protection against moisture contamination and damage.

CONDENSATE SEPARATORS

Centrifugal separators remove condensed moisture from the air.

DESSICANT AIR DRYERS

Achieves very low pressure dewpoint for moisture sensitive applications.

COALESCING AIR FILTERS

Remove traces of contaminants in the compressed air stream

QUALITY SPARE PARTS

Genuine parts and lubricants to ensure the integrity of your system.

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WE HAVE THE RIGHT AIR COMPRESSOR FOR EVERY APPLICATION FROM HEAVY INDUSTRIAL TO SMALL BUSINESS/WORKSHOPS

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ENGINEERED FOR SUPERIOR PERFORMANCE

krsp Rotary Screw Air Compressors 18.5- 400kW

The krsp range of advanced, energy efficient, rotary screw compressors are designed for maximum energy efficiency and reliability in the toughest operating conditions.

- Up to 20% higher energy savings *(even more with Variable Speed Drive)*
- Extended bearing life
- Direct drive, no gears
- Low pressure 3 and 5 bar
- Multiple machine sequencing
- IP55 MEPS compliant WEG drive motor

INCREASED ENERGY SAVING EFFICIENCY

krsp 2-Stage Rotary Screw Air Compressors 75 - 400kW

The krsp range of 2-Stage, rotary screw compressors offer all the benefits of our standard single stage compressors with added efficiency gains and energy saving performance.

- Up to 50% higher energy savings *(even more with Variable Speed Drive)*
- Extended bearing life
- Low pressure 3 and 5 bar
- Multiple machine sequencing
- IP55 MEPS compliant WEG drive motor

COMPACT, TANK MOUNTED AIR POWER

krst Compact Rotary Screw Air Compressors

The krst Series receiver mounted, rotary screw compressors provide the ideal choice for industries requiring high performance in a compact compressed air package.

- Large, slow running airend for maximum efficiency
- Integrated after cooler
- Large capacity 500 litre receiver
- Integrated refrigerated dryer and coalescing line filter
- Engineered from the highest quality components
- Minimal service and maintenance
- IP55 MEPS compliant WEG drive motor

ADVANCED ORBITAL SCROLL TECHNOLOGY

OX Series Compact Lubricated Scroll Air Compressors 4.5 - 15kW

Advanced, lubricated 'Scroll' technology delivers energy efficiency with minimal moving parts in an ultra quiet, compact package.

- Lubricated Scroll technology
- Maximum energy efficiency
- Super quiet, compact package
- 100% continuous duty rated
- Integrated aftercooler reduces condensate
- Low maintenance reliability
- IP55 MEPS compliant WEG drive motor

Custom Designed Air Compressors & Systems

Our local and international design and engineering teams can work with you to build a customised air compressor to work in a variety of applications and environments.
Examples of this are stainless steel units for operation in extreme marine environments and skid mounted, heavy framed units for mining applications.

MOBILE MINING APPLICATION

MARINE APPLICATION

Choosing the right compressor for your application

No matter what type or size of industry you are in, selecting the right air compressor to suit your specific application is vital in providing the highest efficiency with minimal running costs. Kaishan Australia offer a free, no obligation advisory service to help you make the right decision. Just call us on **1300 098 901** for free expert advice.