WORLD CLASS · EFFICIENCY · RELIABILITY

k|r|s|d

SINGLE STAGE ROTARY

- WORLD CLASS
- EFFICIENT
- RELIABLE
- SILENT

KAISHAN

Kaishan Compressor India

WORLD WIDE SUPPORT

Globally recognized industrial presence

Over the last sixty years, Kaishan has steadily grown to become a signiflcant and diversifled engineering company developing high value machinery for industries worldwide. With modern, specialized manufacturing facilities positioned in seven strategic locations, Kaishan's group of thirty-two subsidiary companies produce over 1,00,000 rotary screw and 2,50,000 reciprocating compressors annually. Kaishan is the world's third largest manufacturer of Compressed air equipment, mining and drilling equipment and supports industries in more than 60 countries including USA, Australia, Germany, Japan, Korea, Russia, Africa and throughout Latin America.

Vertically integrated global strategy

Kaishan's global strategy of combining highly skilled engineering with highly efficient manufacturing allows us to provide performance proven and reliable equipment at a signiflcant cost savings to our customers. Additionally, Kaishan's manufacturing processes are 85% vertically integrated ensuring full control of the material supply chain. This approach enables to supply high quality components at a lower cost and maintain agility to respond rapidly to changing market demands.

Environmental sustainability

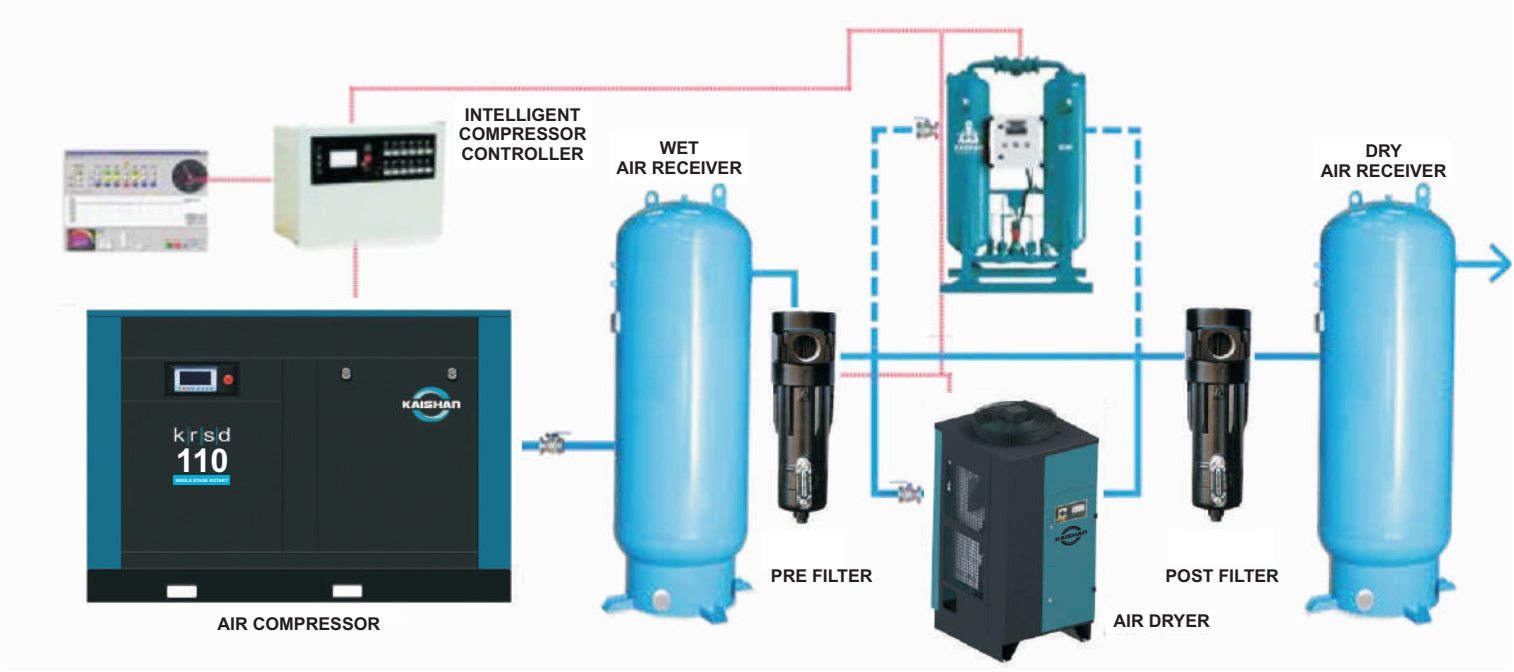
Integral to the design and manufacture of our products is outstanding energy efficiency. Kaishan's fundamental belief in environmental sustainability drives us to produce products that maximize energy efficiency and help to preserve precious energy resources. Single and two-stage compressors that produce more compressed air per unit of power input as well as expanders that utilize waste heat to produce electricity are just two of the fundamental products in our sustainable approach. Throughout our manufacturing processes, unused waste materials are recycled at every stage to maximize the use of raw materials. This approach translates to lower initial costs and lower operating costs for our customers and a smaller environmental footprint that helps us all. Kaishan's committment to environmental responsibility ensures that we will continue to develop technologies and manufacturing solutions that provide industry with "Good and Green" products of exceptional value - now and well into the future.

Air is free, Compressed Air is Not!

Compressed Air is the Fourth Largest Utility for an Industry after Electricity, Gas and Water. Very few people understand the cost associated with compressed air production. Compressed air is the most expensive form of energy used in an industry.

Energy Cost

Consider a compressor of 500 cfm and 100 psi (g). This will use a 100 HP / 75 kW motor. Running for 24 hrs a day, 365 days a year, with a 70% load factor, it would consume approximately 600000 units annually. At Rs 7 per kWh, it would cost 42 lakhs a year. That is 3-4 times the cost of the compressor itself.

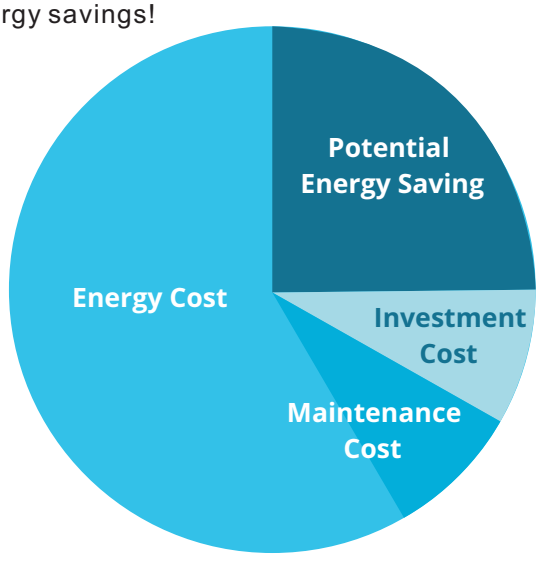


KRSD SERIES

Reliable | Energy Efficient | Low Maintenance

Kaishan offers KRSD Series “Value for Money” rotary screw air compressors. These come with 1:1 Direct Drive with discharge pressure ranging from 6 barg to 16 barg. Choice of Air Cooled (AC) and Water Cooled (WC) variant is available from 300 cfm. PLC is standard feature of KRSD series. Variable Speed Drive and IE3 / IE4 motors are optional.

Reduce your ownership costs and Maximize your energy savings!



WORLD CLASS ENGINEERING

INTEGRATED MICROPROCESSOR CONTROLLER

- Easy to use with mimic diagram
- Constant readout of pressure & temperature
- Selective readout of operation & maintenance parameters
- Safety shutdown
- 24 hours automatic start-stop operation
- Lead/Lag & Sequencing multiple compressors

ELECTRICAL CONTROL PROTECTION

- Protection against 'Single Phasing'
- Phase sequence protection
- High discharge temperature shutdown
- Auto-dual control: If there is no air demand, the controller will unload the compressor and then shut down the drive motor. The controller will restart the compressor when the system pressure drops to the preselected pressure level

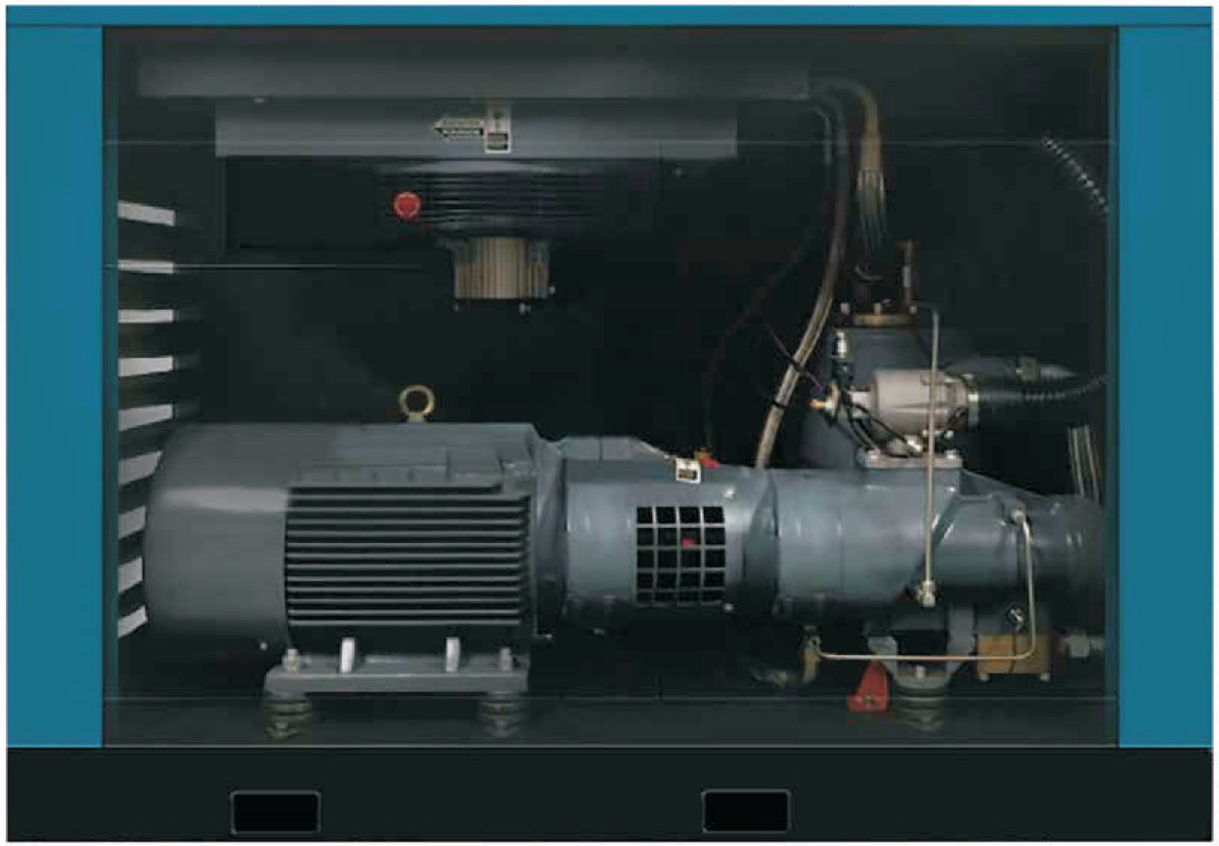
HIGH EFFICIENCY DRIVE MOTORS

- IEC high efficiency TEFC IP55 motors
- High temperature F class insulation
- Direct coupling design for extended bearing life
- Easy Maintenance with grease refIll port

'No load start' protection. Automatic blow down during unload before shut off ensures the compressor does not start on load

SUPERIOR FILTRATION SYSTEM

- Ultra-efficient inlet air fIlters provide clean air that traps dirt particles to less than 3 microns
- Easy spin-on Oil Filters
- Pressure differential gauges for easy fIlter maintenance



COMPRESSOR FLUID & COOLING SYSTEM

A custom blended PAO synthetic hydro-carbon fluid provides:

- Premium lubrication at high and low temperature
- Reduced volatility properties
- Long life lubricant formulated with rust and oxidation inhibitors

6000 hours fiuid pre-filled with standard units

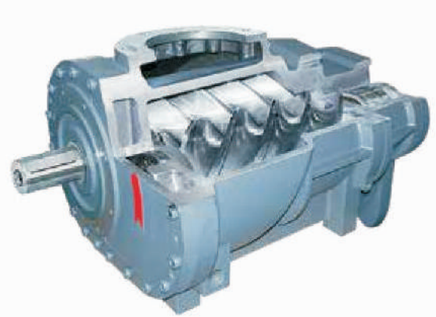
- Superior Cooling system designed for environments with high ambient temperature and humidity levels

EFFICIENT SKY ROTOR PROFILE

SKK series rotors are highly efficient and their world renowned 5/6 profIle have evolved from previous generations to meet today's industry requirement. Energy & Cost efficiency with increased output is achieved through following:

a) Large rotor size

To increase the rotor throughput, the Airends of our compressors are larger than usual. Hence our Air Compressors are built with 5/6 lobes with a larger rotor size than the traditional profIle. Therefore, they consume lower specifIc power (kw/cfm ratio).



b) Lower inter-lobe leakage losses

Greater the number of lobes, smaller is the pressure difference between the two neighboring working chambers thereby reducing inter-lobe leakage losses. Hence leakage to delivery ratio decreases as the number of rotor lobes is increased.

c) Large wrap angle & discharge port

A greater number of lobes combined with a large wrap angle ensure multiple rotor contact. This reduces vibration & thus minimizes noise. Larger discharge ports decrease the discharge velocity and therefore reduce the discharge pressure losses, thereby increasing the compressor overall efficiency.

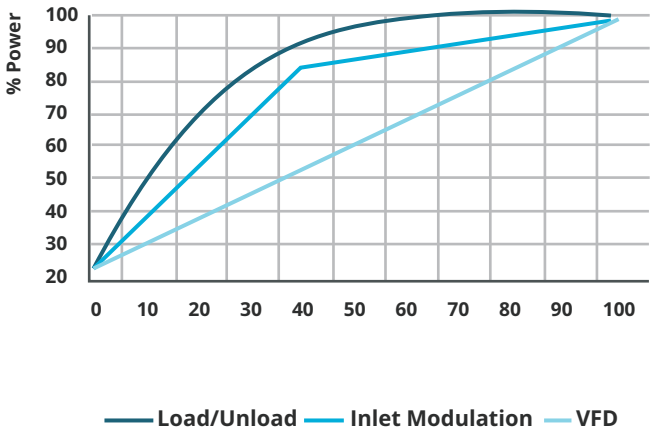
KRSD SERIES COMPRESSOR WITH VFD

KRSD compressors are built to be compatible with optional VFD feature.

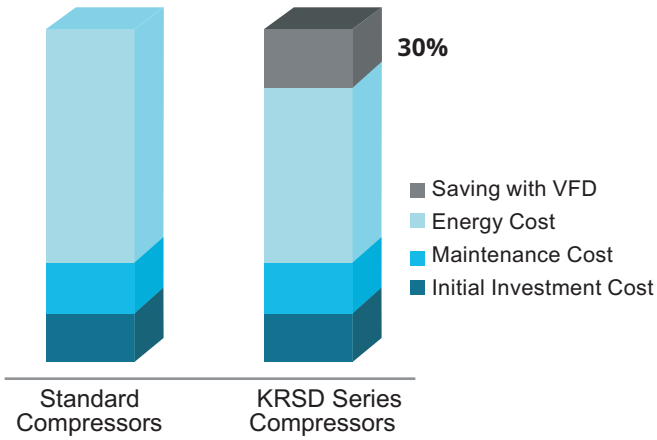
KRSD Variable Speed Air compressors provide maximum efficiency with consistent operation. Unlike the traditional “Auto-dual” and “Load/ No load” control modes, KRSD VFD modulates the speed of the drive motor in response to system demand. This results in greater energy saving compared to a flxed speed compressor. The VFD feature greatly reduces the starting power surge of the motor. A constant pressure delivery extends the life of valves.

- Industry renowned VFD units are used in KRSD series compressor package
- Compact VFD design allows a smaller footprint
- Monitors key function of the unit
- Maintenance free
- The VFD minimizes starting current peak loads
- Extremely low sound level

PART LOAD PERFORMANCE ASSESSMENT



ENERGY COST COMPARISON



KRSD SERIES SPECIFICATIONS

Model	Pressure Bar	Flow cfm	Power kW	Discharge Connection	Dimension mm	Weight Kg
KRSD 18	8 10	117 90	18.5	G1	1370 X 900 X 1110	510
KRSD 22	8 10 13	140 116 85	22	G1	1370 X 900 X 1110	540
KRSD 30	8 10 13	201 166 125	30	G1 1/2	1600 x 960 x 1220	650
KRSD 37	8 10 13	245 200 140	37	G1 1/2	1600 x 960 x 1220	700
KRSD 45	8 10 13	300 233 187	45	G1 1/2	1630 x 960 x 1220	880
KRSD 55	8 10 13	365 297 230	55	G1 1/2	1850 X 1200 X 1500	1090
KRSD 75	8 10 13	510 410 336	75	G2	2160 X 1220 X 1580	1550
KRSD 90	8 10 13	601 500 410	90	G2	2160 X 1320 X 1580	2000
KRSD 110	8 10 13	749 597 491	110	DN65	2440 X 1400 X 1710	2700
KRSD 132	8 10 13	848 706 583	132	DN65	2440 x 1400 x 1710	2800
KRSD 160	8 10 13	1007 865 724	160	DN80	2960 x 1860 x 2000	4200
KRSD 200	8 10 13	1300 1127 1007	200	DN80	2960 X 1860 X 2000	4300
KRSD 250	8 10 13	1625 1413 1166	250	DN100	3700 X 2200 X 2200	6000
KRSD 315	8 10 13	1950 1748 1604	315	DN125	4200 X 2200 X 2210	7200
KRSD 355	8 10 13	2331 1928 1741	355	DN125	4200 X 2200 X 2210	7400

Note:

- Technical Specifications of compressor are subject to change without notice
- Flow as per ISO 1217 Annexure C
- Maximum Pressure can be 0.5 bar(g) higher than discharge pressure
- For any special combination of pressure & flow, kindly Consult Factory (CF)

MODEL	COMPRESSOR TYPE	FEATURES
KRSP2	Two Stage	Global leader in air compressor efficiency
KRSP	Single Stage	Patented ‘SKY’ air end, triple SKF bearings
KRSD	Single Stage	Direct drive, TEFC motor, low sound enclosure
KRSB	Single Stage	Belt drive, economical to own and operate
KRST	Single Stage	Belt drive, tank mounted
KRSH	Two Stage High Pressure	Pressure up to 40 Bar
KRSA	Single Stage Low Pressure	Pressure as low as 1.5 Bar
KRSV	Rotary Screw Vacuum Pump	World class vacuum efficiency

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