

World Class  
Efficiency & Reliability

k|r|s|d

SINGLE STAGE ROTARY

Kaishan Compressor Global



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# world wide support

## Globally recognized industrial presence

Over the last sixty years, Kaishan has steadily grown to become a significant, diversified 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 60,000 rotary screw and 250,000 reciprocating compressors annually. Kaishan is the world's third largest manufacturer of compressed air, mining and drilling equipment and supports industries in more than 60 countries including: CHINA, 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, reliable equipment at a significant cost savings to our customers. Additionally, Kaishan's manufacturing processes are 85% vertically integrated insuring full control of the material supply chain. This vertical approach supplies high quality components at a lower cost, and affords Kaishan the ability to respond rapidly to changing market demands.



## Practiced 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 commitment to environmental responsibility ensures that we will continue to develop technologies and manufacturing solutions that provide industry with machinery of exceptional value - now and well into the future.



KRSD series compressors provide low capital cost and low operating cost

#### 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 cycle of a compressor. Therefore, it is important to consider the life cycle cost of a compressed air system when evaluating productivity improvements. KRSD series advanced energy saving features reduce operation costs significantly.



*KRSD Series 'best in class' rotor assembly*

## world class engineering

Internationally patented 'SKK' air end developed exclusively by Kaishan engineers

#### CONTINUED DEVELOPMENT HAS INCREASED EFFICIENCY BY MORE THAN 20% OVER EARLIER MODELS

- **Direct drive (1:1 ratio) motor and air end** operate at slow speed
- **Slow speed male rotor** maximizes performance and increases efficiency
- **Steady system pressure** lowers system stress and overall air demand
- **Decreased energy consumption** delivers environmentally friendly savings
- **Duplex SKF bearings** for durability and reliability
- **Low part load energy consumption**
- **5 / 6 rotor profile** creates optimal performance while reducing energy consumption
- **Very tight tolerances** provide maximum efficiency
- **Direct flow inlet valve** provides reliable capacity control

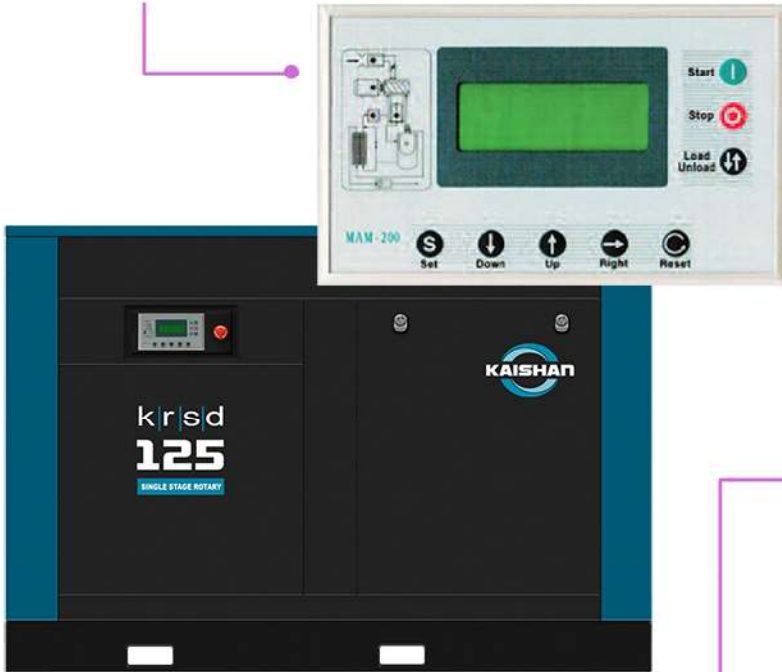


*KRSD Series patented air end*

## DIGITAL CONTROL PANEL

### **Monitors & Controls Key Compressor Functions**

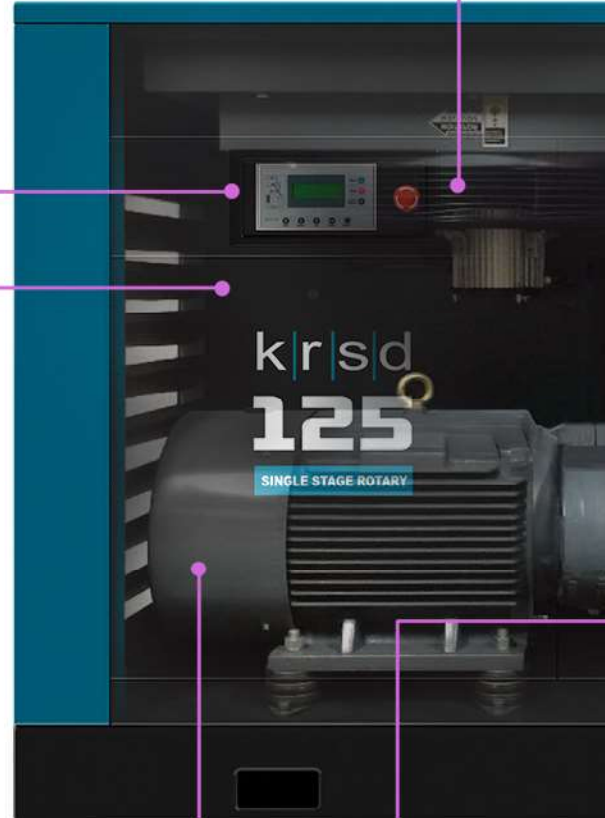
- Protects compressor in the event of a fault
- Provides service required alert
- Sequencing of up to 16 compressors
- External monitoring via RS 485 interface
- WYE Delta starter standard to reduce electrical load stress



## AXIAL COOLING FANS

### **Increased Cooling Efficiency**

- Higher static pressure allows for energy saving ductwork
- Even air flow across the cooler face



## INDUSTRIAL GRADE ELECTRICALS

### **Increased Reliability / Lower Servicing Cost**

- Outstanding reliability
- Excellent component life
- Worldwide support
- Standard electrical parts available locally



## HIGH EFFICIENCY ELECTRIC MOTORS

### **Long Operating Life / Lower Power Use**

- Kaishan Technologies uses high efficiency motors, which comply with all international standards:
- TEFC (IP 54) standard, IEC frame
- Class F insulation
- Premium, efficient WEG or Marathon motors
- Off the shelf replaceable

## 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

## 'ULTRAWEB' AIR INTAKE FILTERS

### **Increased Filtration Efficiency**

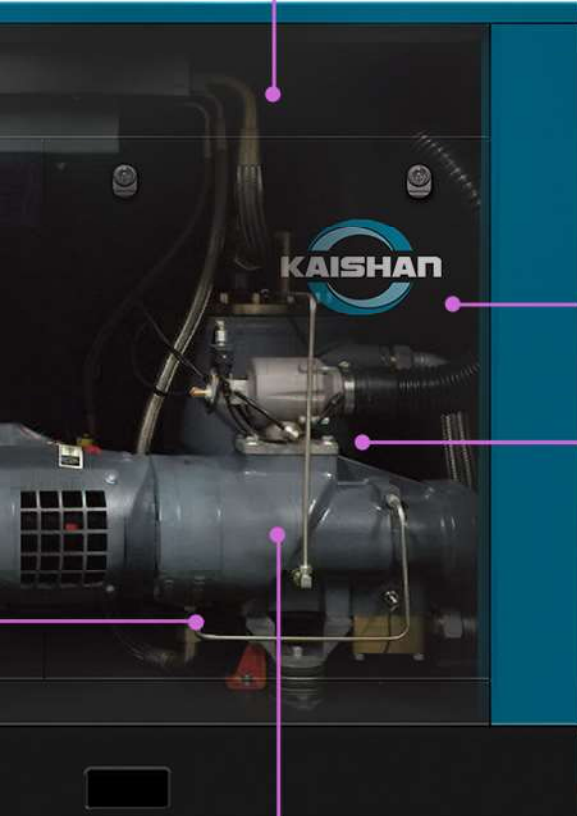
- Full airflow, low restriction, nanofiber technology
- Deep bed media ensures excellent dust capture
- Increased free air delivery for further savings in energy and running costs



## SAFETY AND THE ENVIRONMENT

### **Reduced OSHA Risk and Injury**

- The entire Kaishan range of compressors includes full safety features such as guarded rotating components, shrouded electrical components and internal spillage containment



## 3 STAGE TANGENTIAL OIL SEPARATION

### **Lower Pressure Drop / Lower Absorbed Power**

- Excellent oil 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**

- Minimize thermal stress
- Cooler running temperatures / correct running temperature @ 122F° (50°C) ambient capable
- Low oil carryover increases bearing life
- Low cooling air velocity reduces dust build up

## DIRECT FLOW INLET VALVE

### **Minimum Pressure Drop / Increased Output**

- Lower pressure drop through the intake, increasing output and saving energy

## PREMIUM DISCHARGE BEARINGS

### **Longer Bearing Life / Quieter Operation**

- The "SKK" series direct drive air ends use two discharge bearings to absorb radial and axial loads
- Longer bearing life under all operating conditions
- Increased load carrying capacity

## 'SKK' SERIES AIR END

### **Maximum Output with Less Energy Usage**

- Asymmetric 5 / 6 rotor profile with 100% SKF bearings
- KAPP Grinder rotor technology for tighter clearances and improved lubrication
- Precision machined bell housing to maintain coupling alignment

## DIRECT DRIVE - 1:1 DRIVE RATIO

### **NO GEARBOX**

### **Maximum Air Output / Reduced Energy Usage**

- Large, slow running air end
- Eliminates transmission energy losses
- Increases bearing life
- Flexible, easily removable coupling element



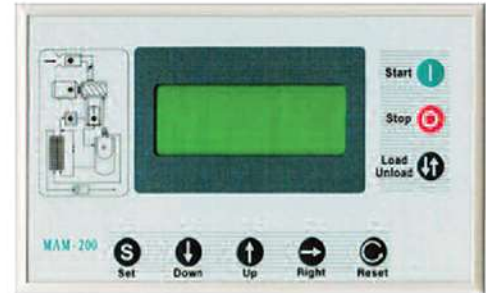
# KRSD series control system provides total management of all operating parameters

## KRSD CONTROLLER CAPABILITIES INCLUDE THE FOLLOWING FEATURES:

- Operating parameters display
- Warning stop alarms
- Programmed maintenance schedules

The control panel contains a special programmed microprocessor that can safely and efficiently control all the functions of the compressor.

The display monitors the line pressure, oil temperature and working conditions (running, idling and stop). Abnormal conditions will trigger a flashing LED and a flashing message indicating the cause for the alarm. Microprocessor functions are password protected, accessible only to authorized personnel.



KRSD series System Management Control Panel

# KRSD series Variable Speed Drive option provides a major energy savings

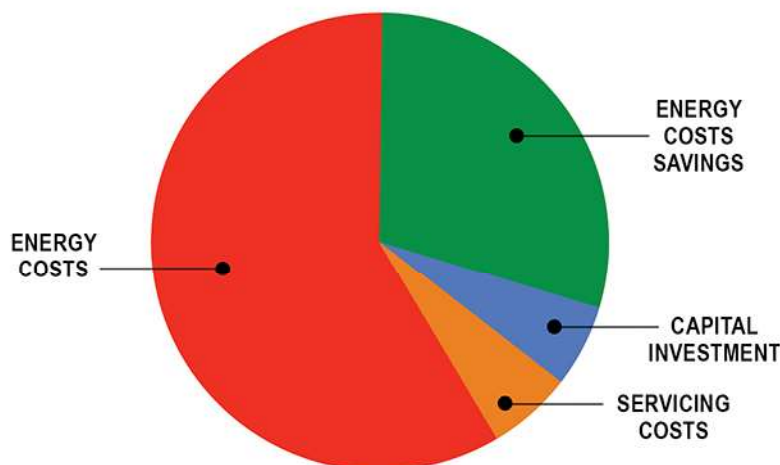
## KRSD VSD COMBINES A ROBUST POWER PLATFORM WITH A STATE-OF-THE-ART CONTROL SCHEME

The drive provides a soft start and the ability to operate efficiently through the compressor's capacity range by matching flow to demand, while maintaining a high level of pressure control. By eliminating wasted energy, cost savings as high as 35% or more are possible. With this level of savings, the additional capital cost of the variable speed drive can be recovered in less than one year's operation.

## VARIABLE SPEED DRIVE

The Variable Speed Drive used in KRSD VSD compressors are renowned for:

- Efficient and reliable service
- Worldwide support



KRSD Series VSD Rotary Screw Compressor operating at 70% load compared to a fixed speed model.



Variable Speed Drive

# KRSD series compressors provide robust, turn-key industrial solutions

KRSD HAS LOW LIFE CYCLE COST BY PROVIDING:

**Low Capital Cost + Low Operating Cost + Exceptional Reliability & Efficiency**

- Pre-piped with components required for complete installation
- All electrical wiring is high performance including cable and convertors
- Optimum operating temperature to prevent moisture in the system
- Rugged and proven technology to ensure long operating life
- Heavy duty isolators to minimize operating vibration
- SAE fittings allow easy and low cost maintenance
- Spin-on fluid filter for quick maintenance
- Premium, efficienCY TEFC Electrical motors
- Acoustic enclosure brings the sound level to industry leading level of 73 dB(A) to 79 dB(A)



*Cycling cooling fan provides energy savings by reducing airflow during periods of light load or low temperatures.*



*Lubricant filter assembly features a spin-on, full-flow, 12μ, high-efficiency components*

## KRSD SERIES SPECIFICATIONS

**380V/60hz**

MODEL KRSD	CAPACITY CFM	POWER HP	FULL LOAD PSI	SOUND dB(A)	DIMENSIONS (IN.)			WEIGHT (LB.) AC
					L	W	H	
KRSD30-115	141	30	115	73	56	34	44	1298
KRSD30-125	140	30	125	73	56	34	44	1298
KRSD50-115	234	50	115	74	70	39	51	1980
KRSD50-125	233	50	125	74	70	39	51	1980
KRSD60-115	281	60	115	75	70	39	51	2425
KRSD60-125	280	60	125	75	70	39	51	2425
KRSD75-115	349	75	115	76	72	45	61	3168
KRSD75-125	348	75	125	76	77	45	61	3168
KRSD100-115	446	100	115	76	95	46	65	4334
KRSD100-125	445	100	125	76	95	46	65	4334
KRSD125-115	585	125	115	77	101	51	64	4630
KRSD125-125	584	125	125	77	101	51	64	4630
KRSD150-115	712	150	115	78	118	53	75	6613
KRSD150-125	711	150	125	78	118	53	75	6613
KRSD200-115	878	200	115	79	118	53	75	6724
KRSD200-125	876	200	125	79	118	53	75	6724

*150 & 200 PSI models available, consult factory. Consult factory for larger HP models.  
Performance test based on ISO 1217.*

# KRSD SERIES SPECIFICATIONS

380V/50hz

MODEL KRSD	CAPACITY m³/min	POWER kW	FULL LOAD		NOISE dBA Rating at 1 meter	DIMENSIONS (mm)			WEIGHT KG
			bar	MAXIMUM bar		L	W	H	
KRSD-18-8	3.3	18	8	8.5	73	1370	900	1110	510
KRSD-18-10	2.53	18	10	10.5	73	1370	900	1110	510
KRSD-22-8	3.8	22	8	8.5	73	1370	900	1110	540
KRSD-22-10	3.3	22	10	10.5	73	1370	900	1110	540
KRSD-22-13	2.42	22	12.5	13	73	1370	900	1110	540
KRSD-30-8	5.7	30	8	8.5	74	1600	960	1220	650
KRSD-30-10	4.7	30	10	10.5	74	1600	960	1220	650
KRSD-30-13	3.55	30	12.5	13	74	1600	960	1220	650
KRSD-37-8	6.8	37	8	8.5	75	1600	960	1220	700
KRSD-37-10	5.5	37	10	10.5	75	1600	960	1220	700
KRSD-37-13	3.7	37	12.5	13	75	1600	960	1220	700
KRSD-45-8	8.5	45	8	8.5	76	1630	960	1220	880
KRSD-45-10	6.6	45	10	10.5	76	1630	960	1220	880
KRSD-45-13	5.3	45	12.5	13	76	1630	960	1220	880
KRSD-55-8	10	55	8	8.5	76	1850	1200	1500	1090
KRSD-55-10	8.4	55	10	10.5	76	1850	1200	1500	1090
KRSD-55-13	6.5	55	12.5	13	76	1850	1200	1500	1090
KRSD-75-8	14	75	8	8.5	76	2160	1220	1580	1550
KRSD-75-10	11.6	75	10	10.5	76	2160	1220	1580	1550
KRSD-75-13	9.5	75	12.5	13	76	2160	1220	1580	1550
KRSD-90-8	17	90	8	8.5	77	2160	1320	1580	2000
KRSD-90-10	13.5	90	10	10.5	77	2160	1320	1580	2000
KRSD-90-13	11.6	90	12.5	13	77	2160	1320	1580	2000
KRSD-110-8	21.2	110	8	8.5	78	2440	1400	1710	2700
KRSD-110-10	16.9	110	10	10.5	78	2440	1400	1710	2700
KRSD-110-13	13.9	110	12.5	13	78	2440	1400	1710	2700
KRSD-132-8	24	132	8	8.5	79	2440	1400	1710	2800
KRSD-132-10	20	132	10	10.5	79	2440	1400	1710	2800
KRSD-132-13	16.5	132	12.5	13	79	2440	1400	1710	2800
KRSD-160-8	28.5	160	8	8.5	80	2960	1860	2000	4200
KRSD-160-10	24.5	160	10	10.5	80	2960	1860	2000	4200
KRSD-160-13	20.5	160	12.5	13	80	2960	1860	2000	4200
KRSD-200-8	36.8	200	8	8.5	80	2960	1860	2000	4300
KRSD-200-10	31.9	200	10	10.5	80	2960	1860	2000	4300
KRSD-200-13	28.5	200	12.5	13	80	2960	1860	2000	4300
KRSD-250-8	45	250	8	8.5	84	3700	2200	2200	6000
KRSD-250-10	40	250	10	10.5	84	3700	2200	2200	6000
KRSD-250-13	33	250	12.5	13	84	3700	2200	2200	6000
KRSD-315-8	55.2	315	8	8.5	85	4200	2200	2210	7200
KRSD-315-10	49.5	315	10	10.5	85	4200	2200	2210	7200
KRSD-315-13	45.4	315	12.5	13	85	4200	2200	2210	7200
KRSD-355-8	64	355	8	8.5	85	4200	2200	2210	7400
KRSD-355-10	54.6	355	10	10.5	85	4200	2200	2210	7400
KRSD-355-13	49.3	355	12.5	13	85	4200	2200	2210	7400

150, 175, 200 PSI models available, consult factory.



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 to 580 PSI
KRSL	Single Stage Low Pressure	Pressure as low as 45 PSI
KRSV	Rotary Screw Vacuum Pump	World class vacuum efficiency



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