



KIRLOSKAR PNEUMATIC COMPANY LIMITED

A Kirloskar Group Company

Enriching Lives

OIL INJECTED ELECTRIC SCREW COMPRESSOR



Meeting Your Expectation



KPCL believes service to customers & society through partnership with its customers and partners worldwide guided by values, innovation, technology and consistency in business processes.

INTRODUCTION

The name Kirloskar is synonymous with quality and dependability in the engineering industry. Pioneering industrial revolution in India, Kirloskar group has contributed immensely in every field of its operation during its 120 year-long journey, and holds a place of repute in the industry for its good business values and customer focus.

Kirloskar Pneumatic Company Ltd. (KPCL) is one of the core group companies. KPCL was incorporated in 1958 under the chairmanship of Late Shri Shantanurao Kirloskar. KPCL is certified for Integrated Management System (IMS) Certifications of ISO 9001:2008, ISO 14001:2004, OHSAS 18001:2007, by TUVNORD.

The company started its operations with the manufacture of Air Compressors and Pneumatic Tools. New product lines were then added, including Air Conditioning and Refrigeration systems, Marine HVACR, Process Gas systems and Hydraulic Power Transmission machinery.



OUR CORPORATE PHILOSOPHY

OUR MISSION

We will demonstrate an EDGE to all our Stakeholders in our offerings for converting / transmitting energy.

We will strive to make our Company an employer of Choice.

BUSINESS VALUES

In an ever changing world one thing that will remain constant is our Commitment towards all our stakeholders.

Each one of us will be guided by the following values.

Customer Focus

Our activities / actions will be focused on enhancing internal / external customer's satisfaction .

Commitment

We commit to achieve our targets / goals. We will be responsible / accountable for our commitment.

Continuous Improvement

We will consciously work to improve our procedures, processes and systems with an objective to improve our business processes.

Ethical Business Practies

We will be fair in our dealings with all our stakeholders. It will be based on integrity, honesty and transparency.

SCREW COMPRESSORS

From a product manufacturer in the domestic market to a company offering total solutions – designing and manufacturing customized products and systems - KPCL has come a long way. Paving this way has been our customer-centric work culture. The graduation was steady and strategically aimed at specific market segment. The customer-centric work culture along with technical excellence has been the hallmark of this success. Our ultimate reward is a satisfied customer.

Screw Air Compressors division caters its niche market segment right from General engineering workshop till the operation & processing unit in different sectors.

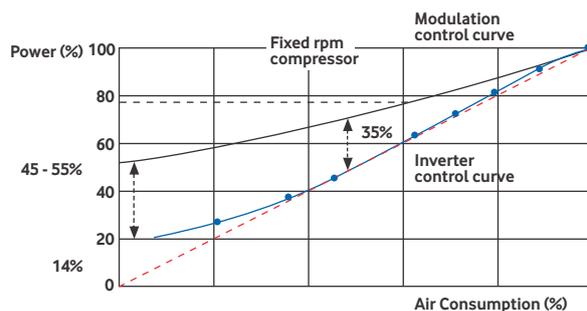
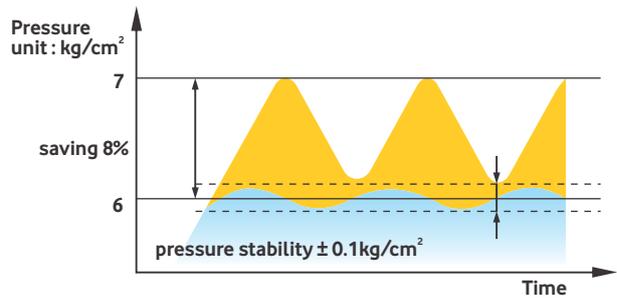
OIL INJECTED ELECTRIC SCREW COMPRESSORS

KEY FEATURES

Modulation Capacity Control

Modulation & Load /Unload capacity control is provided which functions as per demand conditions. Power saving and optimum utilization of compressor package is achieved due to this type of capacity control.

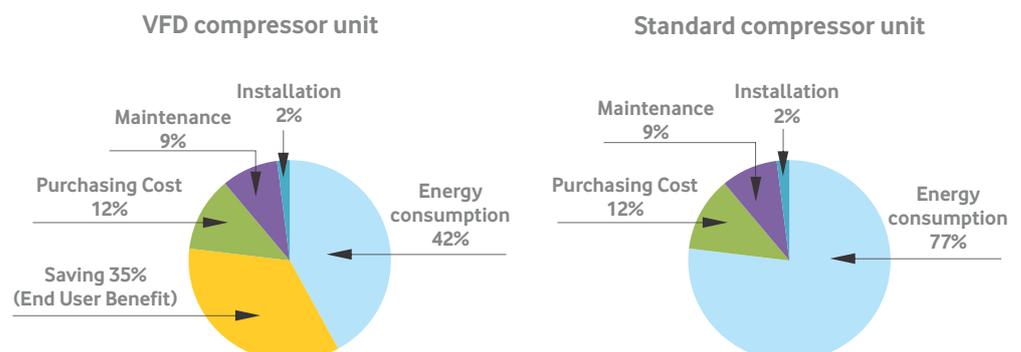
- Stable pressure compressed air system
- Real time response to air demand fluctuations keeps working pressure constant within 0.1 kg/cm^2
- Saving up to 8% energy that is additionally required in traditional load/unload control compressor units due to pressure difference setting of 1 kg/cm^2



Linear Air Output

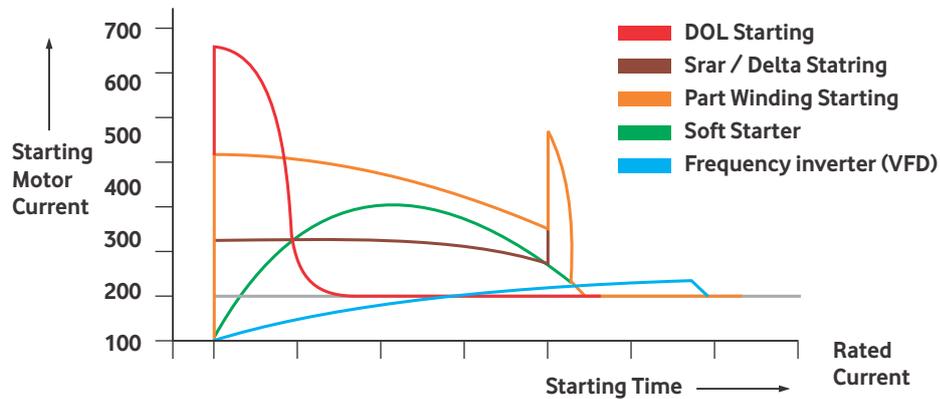
- Linear operation and output
- Electrical power saving up to 45 ~ 55% as compared to traditional modulation control compressors
- Linear inverter control (VFD) output can be achieved, depending on the extent of loading (20~100%)

Energy Saving



Low Starting Current

- Inverter starting method
- Decreases starting current
- Eliminates star delta cut –in high voltage
- Extends compressor unit service life



Safety Devices:

Following mechanical safety devices are provided to ensure safe operation of the compressor

Minimum Pressure Valve - Maintains minimum air pressure in air-oil separator tank so that positive oil flow is ensured.

Safety Relief Valve - De-pressurize compressor system if pressure exceeds beyond limits of the system

Blow Down Valve - Ensures proper pressure relief arrangement during the unload condition of the compressor

Oil Level indicator - This is mounted on air/oil separator tank. It gives visual indication of minimum & maximum level of oil present in compressor system

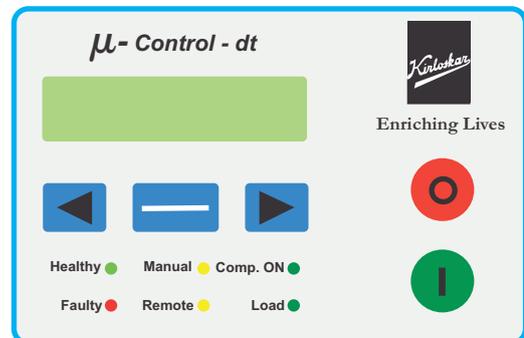
Display on MMI (microcontroller)

- Delivery air pressure
- Air/oil Temperature
- Differential pressure across air/oil separator
- Hour meter
- Total running hours
- Total loaded hours
- Start/stop, load/unload, Emergency stop & test conditions
- Reason for trip

Maintenance schedule (No. of Hours indication)

- Replace Air Filter Element
- Replace Oil Filter Element
- Replace Air/Oil Separator Element
- Change of Lube oil

Photo for micro controller



Electrical circuit diagram sticker is pasted inside the Electrical panel for ready reference during wiring or trouble-shooting.

Safety & Control

Following Trip signals are provided to protect the machine from abnormal operating conditions:

- High air-oil mixture temperature
- PT1 Pressure Transmitter fault (for air pr. at Compressor Outlet)
- PT2 Pressure Transmitter fault (for air-oil at airend outlet)
- RTD Temperature Sensor fault (for oil temp. at airend outlet)
- Main motor over load
- Fan motor overload
- SPP/RVP fault (Single phase /Reverse rotation)

ENVIRONMENTAL SAFETY

- Low Noise
- Efficient use of energy
- No oil discharge to environment



Components

Airend

This is the main component of the compressor package called as Airend. Free atmospheric air is being compressed during the rotation of optimally designed twin helical screws in the airend. The air end is coupled directly to the electric motor through a set of gears. Both air-end & motor is mounted on anti-vibration pads placed on the base frame. With this arrangement we ensure less vibrations and longer life of the compressor. High efficiency air-end and reliable arrangement for transmission of power makes the compressor energy efficient and reliable performance machine.



Air/Oil Separator

Compressed air and lube oil is separated in a multistage air/oil separator tank. The separator also acts as an oil reservoir. High efficient air/oil separator element, limits oil carryover to desired level in the delivered air from compressor package.



Electric Motor

This is flange mounting, 2/4 Pole, TEFC, IP 55 protection, Class F insulation motor designed with necessary starting torque and operational load variations. Make of the motor is as per KPC standard.



Air Intake

Trouble free operation of this close tolerance, screw type compressor is achieved by suction air filtration system. It is with Dry, Paper type filter element in cartridge form for easy replacement. Complete filter assembly is within canopy of the compressor, which avoids entry of heavy particles in the compressor.

After Cooler

High-pressure discharge air is cooled in radiator type air-cooled after-cooler. The condensation happens due to cooling of air & separates out in the Moisture separator. We provide Auto drain trap to remove water from the system.



Canopy & Base Frame

All components of the compressor package are mounted on a single base frame. It does not require any foundation. The complete package can be shifted with forklift or hydraulic lift trolleys by using the provision given in the base frame.

Powder Coated Metallic Canopy of the compressor is of modular design. It is acoustically designed to limit sound pressure level of the package to 75 dB (A) at a distance of one meter. The noise measurement is as per Pneuop / Cagi ISO 2151 - ISO 3744 standard. Easily removable doors with locks are provided for easy

Optional

INDUSTRIAL ELECTRIC POWERED REFRIGERATED AIR DRYER KRD 30 - 10,000

SALIENT FEATURES:

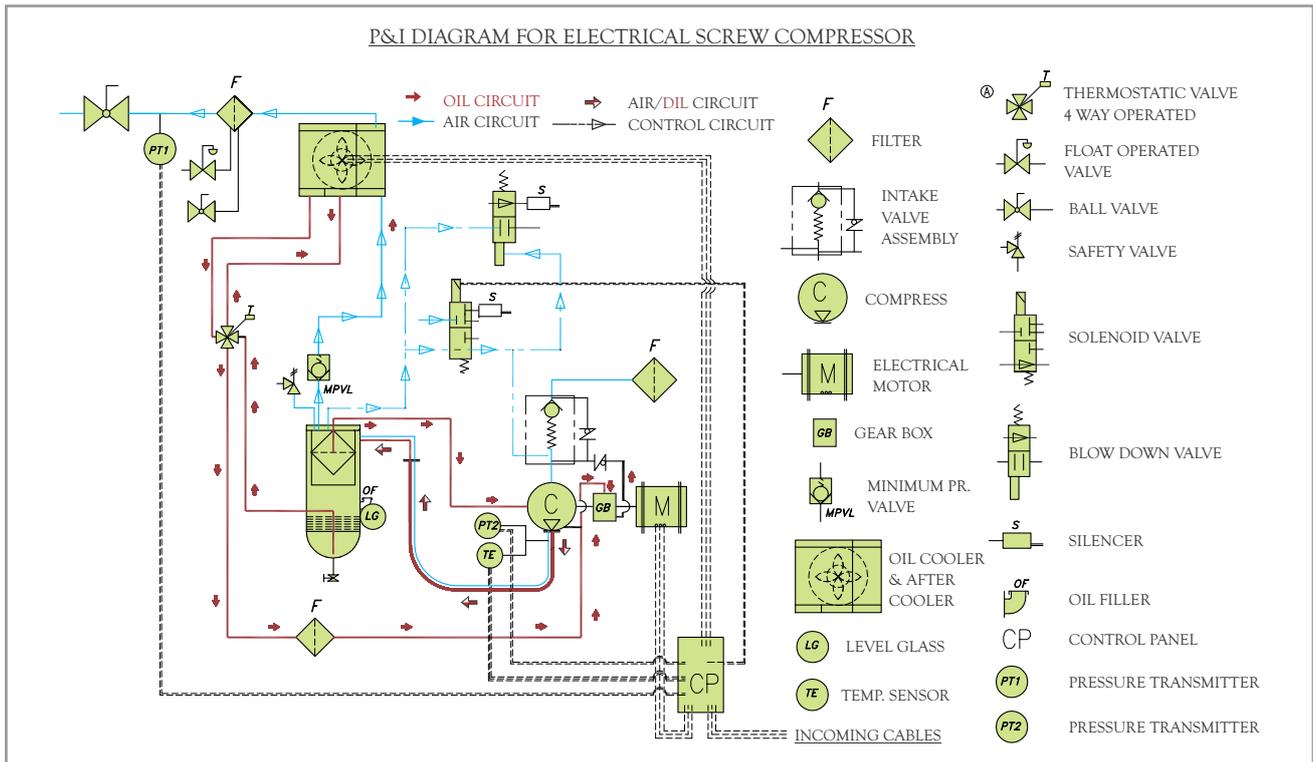
- Eco-friendly refrigerant for all models.
- Constant Dew point at all varying load conditions
- Radial finned flowerpot heat exchanger ensures better pre-cooling and turbulence, results in low power consumption.
- Low pressure drop.
- Dual stage affective moisture separation.
- Remote interfacing & monitoring in selected models.
- Maintenance free & user friendly.
- Microprocessor controller with 16 x 2 Alpha numeric (32 digit) LCD Display with Back light for displaying air inlet temperature, dew point temperature (-20°ADP and + 4°PDP) condensing temperature monitors the complete system with various alarms and trips functions. RS 232 RS 485 remote interfacing available.



- Stand alone VFD panel

- Micro controller with RS 485 port

FLOW DIAGRAM



Note: This flow diagram is for R2 and above

TECHNICAL DATA

MODEL	CAPACITY		MAX. WORKING PRESSURE		MOTOR RATING		WEIGHT
	cfm	m ³ / min	kgf / cm ² g	psi (g)	kw	hp	
KES 7-7.5	46	1.30	7.5	107	7	10	417
KES 7-10	38	1.08	10	142	7	10	
KES 7-13	31	0.88	13	185	7	10	
KES 11-7.5	61	1.73	7.5	107	11	15	417
KES 11-10	53	1.50	10	142	11	15	
KES 11-13	45	1.27	13	185	11	15	

R1



KES 7- KES11

Note: 1. Overall dimensions "L- 1235 mm,W- 600 mm,H- 1715 mm
2. Unit performance measured according to ISO 1217 Ed 3 Annexure - C, 1996.

SALIENT FEATURES :

- **Ready to use :** Foundation is not required.
- **Quality Air :** Efficient air / oil separation system ensures maximum oil recovery to minimise lub oil consumption and maintenance cost.
- **Canopy :** Specially designed canopy to facilitate effective ventilation and ease of maintenance.
- **Cooling System :** Radiator type oil cooler & after cooler with low noise fan & motor provided for effective cooling of lub oil and compressed air.
- **Control Panel :** In built control panel housing main motor fan motor & other control of the package.
- **Air suction filter :** Dry type air filter protects the airend and ensures long life.
- **Air Receiver :** Compressor is mounted on Horizontal Air Receiver conforming to ASME Section VIII Div - 2
- **Electric Motor :** High efficient, TEFC, Class F insulation, Foot mounted, 2P, IP55 protection motor is selected considering operating conditions at site.

BUILT IN ACCESSORIES :

- Horizontal Air Receiver :** 270 LTS
- Safety Relief Valve :** It protects against building up high pressure in air / oil separator.
- Blow Down Valve :** This facilitates very low power consumption in unloaded condition.
- Additional safeties :** Minimum Pressure Valve, Oil Level Indicator etc.

R2

MODEL	CAPACITY		MAX. WORKING PRESSURE		ELECTRIC MOTOR		WEIGHT
	cfm	m ³ /min	kgf/cm ² g	psi (g)	kw	hp	
KES 15-7.5	96	2.72	7.5	107	15	20	455
KES 15-8.5	87	2.46	8.5	121	15	20	
KES 15-10	80	2.27	10	142	15	20	
KES 15-13	66	1.87	13	185	15	20	
KES 18-7.5	119	3.37	7.5	107	18.5	25	475
KES 18-8.5	110	3.11	8.5	121	18.5	25	
KES 18-10	100	2.83	10	142	18.5	25	
KES 18-13	85	2.41	13	185	18.5	25	
KES 22-7.5	140	3.96	7.5	107	22	30	535
KES 22-8.5	133	3.77	8.5	121	22	30	
KES 22-10	119	3.37	10	142	22	30	
KES 22-13	102	2.89	13	185	22	30	
KES 30-7.5	187	5.30	7.5	107	30	40	540
KES 30-8.5	178	5.04	8.5	121	30	40	
KES 30-10	154	4.70	10	142	30	40	
KES 30-13	138	4.91	13	185	30	40	



KES 15 - KES 30

- Note:**
1. Overall dimensions "L- 1250mm,W- 650mm,H- 1550 mm
 2. Unit performance measured according to ISO 1217 Ed 3 Annexure - C, 1996, at nominal working pressure of 7, 8, 9.5 and 12.5 kg/cm²(g)

R3

MODEL	CAPACITY		MAX. WORKING PRESSURE		ELECTRIC MOTOR		WEIGHT
	cfm	m ³ /min	kgf/cm ² g	psi (g)	kw	hp	
KES 37 - 7.5	229	6.48	7.5	107	37	50	845
KES 37 - 8.5	211	5.98	8.5	121	37	50	
KES 37 - 10	191	5.41	10	142	37	50	
KES 37 - 13	144	4.07	13	185	37	50	
KES 45 - 7.5	266	7.52	7.5	107	45	60	950
KES 45 - 8.5	238	7.42	8.5	121	45	60	
KES 45 - 10	226	6.39	10	142	45	60	
KES 45 - 13	196	5.55	13	185	45	60	
KES 55 - 7.5	297	8.41	7.5	107	55	75	1045
KES 55 - 8.5	277	7.84	8.5	121	55	75	
KES 55 - 10	266	7.53	10	142	55	75	
KES 55 - 13	226	6.39	13	185	55	75	



KES 37- KES 55

- Note:**
1. Overall dimensions "L- 1730mm,W- 925mm,H- 1530 mm
 2. Unit performance measured according to ISO 1217 Ed 3 Annexure - C, 1996, at nominal working pressure of 7, 8, 9.5 and 12.5 kg/cm²(g)

R2/ R3 SALIENT FEATURES :

- **Ready to use** : Foundation is not required.
- **Quality Air** : Efficient air / oil separation system ensures maximum oil recovery to minimise lub oil consumption and maintenance cost.
- **Canopy** : Specially designed canopy to facilitate effective ventilation and ease of maintenance.
- **µ Controller** : Microprocessor based efficient controller with all necessary Safety Control Systems & maintenance schedule.
- **Cooling System** : Radiator type oil cooler & after cooler with low noise fan & motor provided for effective cooling of lub oil and compressed air.
- **Control Panel** : In built control panel housing MMI, µ controller, main motor auto star - delta starter, fan motor direct on-line starter & other control of the package.
- **Air suction filter** : Dry type air filter protects the airend and ensures long life.
- **Electric Motor** : High efficient, TEFC, Class F insulation, Flange mounting, 2P, IP55 protection motor is selected considering operating conditions at site.
- **Service Centres** : Fully equipped Service Centres with trained engineers and spare parts stocks available at arms length throughout the country.

BUILT IN ACCESSORIES :

- Moisture Separator with Auto Drain Trap** : It separates condensed moisture from cooled compressed air.
- Safety Relief Valve** : It protects against building up high pressure in air / oil separator.
- Blow Down Valve** : This facilitates very low power consumption in unloaded condition.
- Additional safeties** : Minimum Pressure Valve, Oil Level Indicator etc.

R4

Model	FAD		Max (Working Pr.)		Electric Motor	
	cfm	m3/min	Kg/cm2	psi	kw	hp
KES 55S - 7.5	383	10.85	7.5	107	55	75
KES 55S - 8.5	358	10.14	8.5	121	55	75
KES 55S - 10	320	9.06	10.0	142	55	75
KES 55S - 13	276	7.82	13.0	185	55	75
KES 75 - 7.5	534	15.12	7.5	107	75	100
KES 75 - 8.5	465	13.17	8.5	121	75	100
KES 75 - 10	435	12.32	10.0	142	75	100
KES 75 - 13	375	10.62	13.0	185	75	100
KES 90 - 7.5	600	16.99	7.5	107	90	120
KES 90 - 8.5	595	16.85	8.5	121	90	120
KES 90 - 10	537	15.21	10.0	142	90	120
KES 90 - 13	427	12.09	13.0	185	90	120



KES 55S - KES 90

- R4 Note:**
1. Overall dimensions "L - 2232 mm, W - 1112 mm, H - 1740 mm
 2. Unit performance measured according to ISO 1217 Ed Annexure - C, 1996, at nominal working pressure of 7,8,9,5 and 12.5 kg/cm2(g)
 3. All models given above are air cooled.

R5

Model	FAD		Max (Working Pr.)		Electric Motor	
	cfm	m3/min	Kg/cm2	psi	kw	hp
KES 110 - 7.5	769	21.78	7.5	107	110	150
KES 110 - 8.5	761	21.55	8.5	121	110	150
KES 110 - 10	659	18.66	10.0	142	110	150
KES 110 - 13	582	16.47	13.0	185	110	150
KES 132 - 7.5	879	24.89	7.5	107	132	180
KES 132 - 8.5	870	24.63	8.5	121	132	180
KES 132 - 10	758	21.46	10.0	142	132	180
KES 132 - 13	652	18.47	13.0	185	132	180
KES 160 - 7.5	1047	29.65	7.5	107	160	215
KES 160 - 8.5	1036	29.35	8.5	121	160	215
KES 160 - 10	923	26.14	10.0	142	160	215
KES 160 - 13	758	21.46	13.0	185	160	215



KES 110- KES 160

- R5 Note:**
1. Overall dimensions "L - 2960 mm, W - 1655 mm, H - 2025 mm
 2. Unit performance measured according to ISO 1217 Ed 3 Annexure - C, 1996, at nominal working pressure of 7,8,9,5 and 12.5 kg/cm2(g)
 3. All models given above are air cooled.
 4. Modulation for 100% to 60%

R4 /R5 SALIENT FEATURES :

- **Ready to use** : Foundation is not required.
- **Quality Air** : Efficient air / oil separation system ensures maximum oil recovery to minimise lub oil consumption and maintenance cost.
- **Canopy** : Specially designed canopy to facilitate effective ventilation and ease of maintenance.
- **µ Controller** : Microprocessor based efficient controller with all necessary Safety Control Systems & maintenance schedule.
- **Cooling System** : Radiator type oil cooler & after cooler with low noise fan & motor provided for effective cooling of lub oil and compressed air.
- **Control Panel** : In built control panel housing MMI, µ controller, main motor auto star - delta starter, fan motor direct on-line starter & other control of the package.
- **Air suction filter** : Dry type air filter protects the airend and ensures long life.
- **Electric Motor** : High efficient TEFC, Class F insulation, Flange mounting, 4P, IP55 protection motor is selected considering operating conditions at site.
- **Service Centres** : Fully equipped Service Centres with trained engineers and spare parts stocks available at arms length through out the country.

BUILT IN ACCESSORIES :

- Moisture Separator with Auto Drain Trap** : It separates condensed moisture from cooled compressed air.
- Safety Relief Valve** : It protects against building up high pressure in air / oil separator.
- Blow Down Valve** : This facilitates very low power consumption in unloaded condition.
- Additional safeties** : Minimum Pressure Valve, Oil Level Indicator etc.

R5 Model Compressors are also available as 'Water Cooled'



State of art Manufacturing Facilities

"QUALITY IS
A JOURNEY
THAT STARTS
WITH US."



An IMS Certified Company

KPCL is practicing Integrated Management System with Good Blending of ISO 14001:2004, ISO 9001:2008 & OHSAS 18001:2007



After Market Support

Air Compressor Division (ACD) provides after sales service (for products in warranty & out of warranty) through Head Office and its wide spread network of branch offices, channel partners, service franchisees.

The Spare Parts Division caters to the need of all spare parts of Vertical Reciprocating Compressors, Balance Opposed Piston Compressors, Centrifugal Compressors, Screw Compressors, Railway Brake Compressors and exhausters, High Pressure compressors used in Oil and Defense. This is further supported by a well spread Dealers Network all over India.

Efficient and qualified team of professionals & effective material handling system ensures only flawless, quality products with on time delivery reach to our clients.

The training is provided at client site location after commissioning of our system. We have also developed our own Customer Training Center which organizes seminars & service workshops for the client representatives at our Head Office as per agreement or on chargeable basis.

Note : since KPCL pursue continual growth and up gradation, we reserve the right to modify above data/specifications in accordance with improved design



Enriching Lives



An IMS Certified Company

KIRLOSKAR PNEUMATIC COMPANY LIMITED

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DELHI : 607 Manjusha, 57 Nehru Place, New Delhi 110 019	011-26446778	011-41606211	ccsdel@kpcl.net
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