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## **Kirloskar Pneumatic Company Ltd:**

# **K\*rloskar**

#### Three core business lines:

- Air Compressors
- Refrigeration Compressors & compression systems.
- Gas compressors & compression systems.
- Others



- ➤ 60 plus years in business.
- Debt free; strong dividend track record.
- > 3 plants in Maharashtra; workforce of over 1500. Over 200 engineers.
- > Strongly vertically integrated manufacture.
- ➤ Listed company with over 30K shareholders. Market cap: > Rs 4000 cr.
- Our current sales split is ~ 20% Air compressor; ~ 30 % Refrigeration compressors ~ 45% Gas compressor s/ systems



Nashik Plant ~ 150 acres



Air compressor:

General applications like shop air, instrumentation air, Painting, powertools, pneumatic drills, cleaning, packing etc

Also used in applications like: Air separation, handling hydrogen, CO2, Nitrogen, LPG, etc. Process gases like BF4, Methyl acetate etc

Screw compressors.

Generally 70% of the market; standard applications; efficient; Preferred for lower pressures ( < 15 bar ), continuous usage.



Reciprocating compressors.

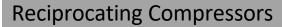
Generally 20% of the market; special applications; customised; Preferred for Higher pressures (upto 300 bar), process usage.



Centrifugal compressors.

Generally 10% of the market; High volume applications; efficient; Preferred for lower pressures ( < 30 bar ), continuous usage.





#### K\*rloskar Pneumatic

#### **Segments where used:**

- Oil & Gas, Chemical
- Pharma, Food & beverage
- Air Separation, High Pressures
- Railways braking.



Centrifugal Compressors



#### **Segments:**

- Used in Steel, Power,
   Textile, Oil & gas.
- Also used as an alternate to Dry Screw

# Range of Screw Compressors: Many applications....



R3e Series, 30 kW To 55 kW

Shop air, instrumentation



R2 Series, 15 kW To 22 kW

Utility – power tools, painting etc



R1 Series, 7 kW To 11 kW

**General Utility** 





#### **\*** Key Industrys:

- Core: Cement, Metals industry, power generation
- Engineering: Auto ancillary, textile, sugar, plastics, packaging & grain sorting.



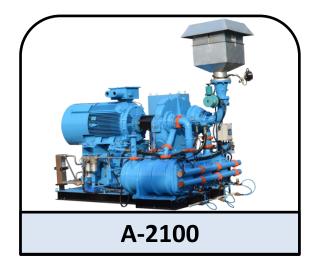
Pneumatic



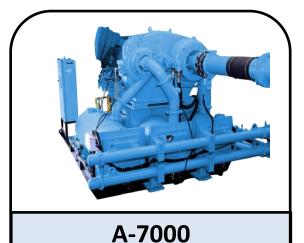
## Products -













Flow CFM **Compressor Frame Minimum** Maximum Upcoming A-800\* 600 1200 A-2100 1200 2400 A-3500 2500 4400 A-5000 4400 5600 A-7000 5600 8100 Future A-12000\*\* 8100 16000



Note: All models are available in canopy

#### **Pressure Range:**

For 3 Stage – 4.5 Bar G to 10.4 Bar G

For 2 Stage – 2.5 Bar G to 4.5 Bar G

# Product USP's -





- Robust Design
- O4 Serviceability



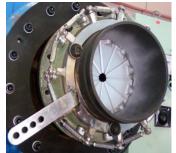
#### Features

- Custom designed Aero components for efficient operation
- Optimized volute design for effective pressure recovery
- IGV 9 % more efficient at part load
- Stainless steel coolers with low pressure drop
- Gearing as per AGMA 6011 –Q 13
- Tilting pad bearings designed for life long operation
- Impeller & Diffuser are made of Stainless steel
- Identical tube bundles for all stages Inventory benefit
- Horizontally spilt gear casing, bearings and seals
  - Quick inspection of bearings
- Skid mounted canopied version

## Manufacturing

- In house impeller mfg.
- Complete value chain with cost advantage











Frugal engineering; competitive product

# **R&D Capability Building**



- Digitization and Automation
- Patents, Design registration, Publications & PhD Studies
- R&D Collaborations,
- Industry- Academia partnership, Events & Recognition
- Over 200 Engineers in Design, Engineering and Development.
- DSIR approved R&D centre.
- Over 40 IP's in 3 years Patent, Design Registration and Peer reviewed publications.



# Digitization, Data and Artificial Intelligence

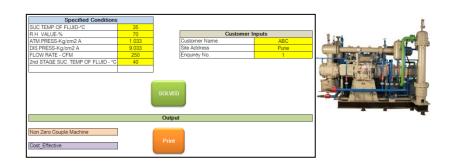
PGS-KGC 32 Recip-Sizing Tool



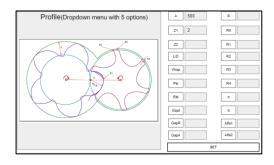


FY'25

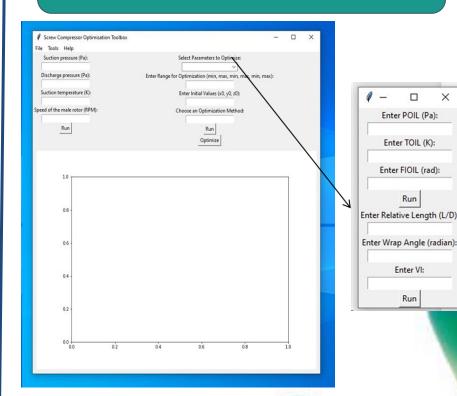
## **ACD- ECAL, RPAT for RECIP**



#### SCOTS



# Al Based Performance Prediction & Optimisation Tool

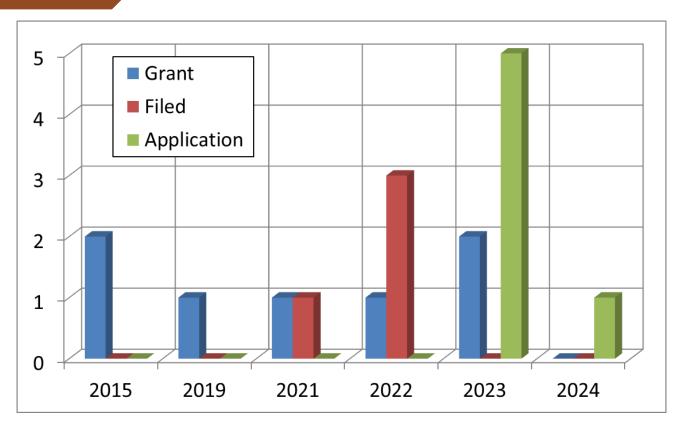


# **Intellectual Property**



**Patents** 

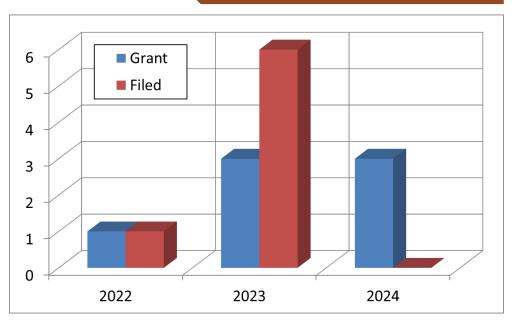
Grant: 07, Filed: 06



Oxygen charging station, Portable  $N_2$  station, Improved compressor, Combined facility for air and  $N_2$ , Integrated compressor, Common flow distributor, Oil-free screw compressor

Grant: 08, Filed: 05 Design

## Design Registrations

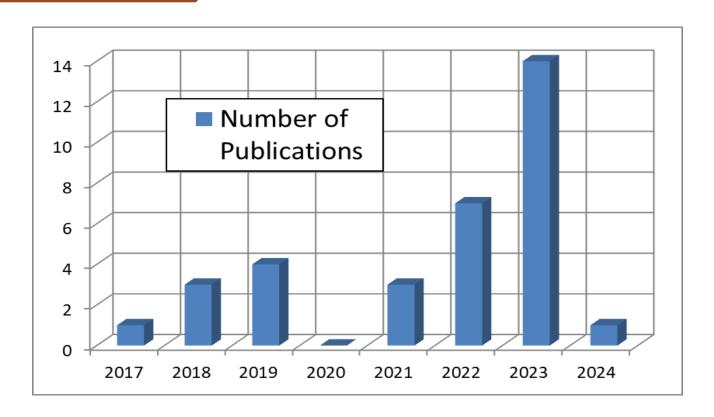


Khione, Aria, Syn gas compressor, Kosmic, Kramis, Viteza series compressors

## International and National Research Publications



## **Publications**



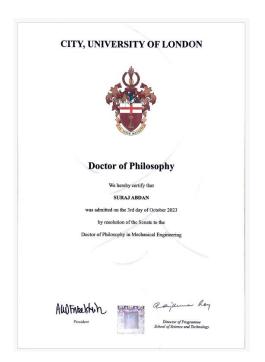
- Numbers: Journal: 10 & Conference: 23
- Two consecutive Best Paper Awards in 12<sup>th</sup> & 13<sup>th</sup> International Conference on Compressors and their Systems, City University of London, September 2021, & September 2023

- Journals: International Research Journal of Engineering and Technology (IRJET), IOSR Journal of Engineering (IOSRJEN), International Journal of Scientific & Technology Research, Journal of Process Mechanical Engineering, International Journal of Engineering Trends and Technology
- Conferences: Purdue University, City, University of London, University of Dortmund, IISc Bengaluru, International Conference on Mechanical, Engineering and Energy Technologies, Kerala

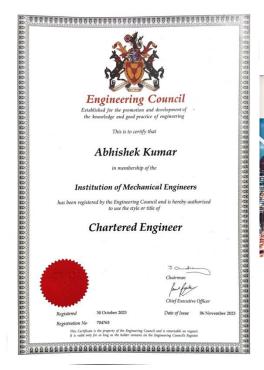
# **Competency and Capability Building**



- 1. PhD1: Investigation of Mechanical Losses in Twin-screw Air Compressors Dr. Suraj Abdan (Degree Awarded)
- 2. PhD2: Profiling and Development of a New Screw Rotor Profile Dr. Sumit Patil (Degree Awarded)
- 3. PhD3: Developing a Framework Multi-Stage Screw Compressors Abhishek Kumar (In Progress)
- 4. Award of "Chartered Engineer" by the Institution of Mechanical Engineers (U.K.) to Abhishek Kumar in October 2023









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## Air compressor:

Global market size : ~ US \$ 30 Bil

Indian market : > Rs 4000 crores.

Lead indicator : GDP +

Technological change / obsolescence – Low.

Nature of industry: 'Local' – need to be present locally to

sell / service this.

Very fragmented.

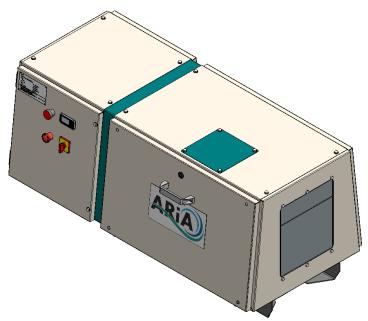
#### What is KPCL's position:

- > Full range of offering; more contemporary late entrant in the Screw / Centri business.
- > End to end value chain integrated manufacturer right from design.
- Current focus : Indian market.
- Very strong after-sales service support.
- Leader in customised packages strong engineering team.
- Tezcatlipoca Most competitive Centrifugal compressor in India.
- > Aria New cost competitive standard offering.



## 5 standard air compressor models







#### **ARIA 11**

Flow capacity: 60 CFM at 7

bar(g);

Weight = 325 kg

#### ARIA 22

Flow capacity: 126 CFM at 7

bar(g)

Weight = 460 kg

#### **ARIA 37**

Flow capacity: 234 CFM at 7

bar(g)

Weight = 835 kg.

#### **ARIA 7.5**

Flow capacity: 42 CFM at 7 bar(g) L x W x H = 1396 x 666 x 626 mm ; Weight = 225 kg

#### **ARIA 18.5**

Flow capacity: 110 CFM at 7

bar(g)

 $L \times W \times H = 1600 \times 760 \times 772 \text{ mm}$ 

; Weight = 380 kg

#### Refrigeration compressor / Compression system:











Process refrigeration

Here we offer Refrigeration packages for various processes in Oil & Gas sector, fertiliser, petrochemicals. We currently use Howden Screw compressors for this

Commercial Refrigeration. We are a leading manufacturer of Air cooled, Ammonia refrigerant Based reciprocating compressors used in Cold rooms, Ice plants, Food processing, diaries, pharma etc.

We have now launched the Khione screw to strengthen our position In this space and to meet the requirement of larger plants.

Comfort airconditioning.

Here we make specific packages for HVAC for Ships – mainly the Navy.

In addition to the above, we make Vapour Absorption Chillers that is used where process Steam or hot water is available. Primarily for cooling upto 10 deg.



## Refrigeration & Air conditioning:

The global market for R&Ac compressors is about US\$ 34 bil.

Trend driving growth: Urbanisation.

Lead indicator: GDP +

Nature of business: 'Global' – can make at any place and sell across the world.

Technological changes / obsolescence: Medium – in refrigerants, energy etc.



## KPCL's position:

- > Leadership in ammonia reciprocating compressor cost competitiveness / volume.
- > Strong engineering / packaging capabilities for process refrigeration.
- ➤ Good distribution / OEM tie-ups in India / SEA spares / service.

#### New offerings:

- New Mag bearing compressors
- Cost effective Screw compressor Khione range













Screw Compressor Package

> Rs 500 cr business opportunity







## **Gas compression systems:**

CNG gas package

This is based on our own reciprocating compressor.
Used to fill Natural Gas into vehicles from CNG pipelines.
We sell, install and handle the O & M of these.



Gas packages

These are packages used in Upstream, mid stream and down stream of the O & G ecosystems. We make packages using Ariel compressors in most cases. Primarily for gas gathering, gas processing, gas pumping and gas injection etc.



Booster gas package

These are engineered and built by us for use in filling Vehicles from gas cascades at gas stations.



Bio gas package

We offer standardised low pressure + High pressure compressor packages for handling biogas from both routes – water scrubbed or membrane separated. These are reciprocating compressors Built by us.





CNG Hydraulic Booster compressor: Best in class offering.





#### **COMPRESSED BIOGAS**

- 5000 CBG Plants expected in 3 years under SATAT scheme to produce 15MMT CBG
- Oil & Gas Companies are entering into MoU with Sate Government for facilitating CBG Plants



# **COMPRESSED BIOGAS – ACTION**



## **KPC Product Line**

Membrane / Water Scrubber Purification Technology – LP Compressor

Compressor Type	Reciprocating Compressor / Screw
Capacity	250 nm3/hr to 2100 nm3/hr
Suction Pressure	80 mbar G to 1 bar G
Discharge Pressure	8 bar G to 16 bar G

Membrane / Water Scrubber / PSA Purification Technology – HP Compressor

Compressor Type	Reciprocating Compressor ( 2 , 4 throw)
Capacity	450 nm3/hr to 1200 nm3/hr
Suction Pressure	0.3 bar G to 15 bar G
Discharge Pressure	250 bar G

## "Market ready" for 5 / 10 TPD CBG Plants



KGC -34 (4 throw ) – Ready for offering



#### Gas compression system:

The market size for gas compressors is about US\$ 4,7 Bil and for the gas compression systems is about US\$ 24 Bil.

Nature of business: Global – based on Proven Track Record – PTR.

Entry barrier: API or other certifications.

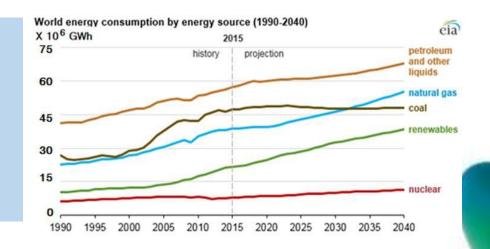
Global trend: Gasification of the energy basket; Environmental initiatives.

Lead indicator: Industrial growth rate +

# Wind 1.7% Solar PV 0.7% Solar Thermal 0.3% Geothermal 0.2% Nuclear 4.1% Hydro 6.5% Oil 30.4% Biofuels & Waste 9.1% Gas 21.2%

## KPCL's position:

- > Strong Design & Engineering capability own compressors for most applications.
- > PTR; approvals
- O & M capabilities for the Indian market.



## **Going forward:**

> Hydrogen compressor / Packages – with an US partner & with IIT Mumbai.

# **CNG OUTLOOK**



## **CGD Market Slowdown – Last 2 Years**

- Market which was expected to Grow at a CAGR of 7.66% during the forecast period (2024-2029), slowed down in last two years -
  - 70% increase in gas prices in last two years
  - Extension to CGD's in minimum work programme

# Government Corrective Measures – Kirit Parikh committee Report

- Fixed band of Pricing for Legacy Fields
  - \$4 (floor price) to \$6.5 (ceiling price) per mmBtu
- Linking Gas Price Price of Gas produced by the state-owned firms from fields given to them on a nomination basis will be linked to imported crude oil prices rather than benchmarking them to gas rates in international markets
- The Ceiling Rate Gas Rates for legacy or old fields, called APM gas, will be increased by \$0.5 per mmBtu annually.
- The city gas Will get the maximum share from the legacy fields

Gas Consumption by CGD's is expected to increase by 23% in next 5 years – 35 MSCMD to 150 MSCMD by 2028.

# CNG – OUTLOOK (cont...)



12<sup>th</sup> Bidding Round

•Total GA's Covered after 12<sup>th</sup> Round – 307, except for Mizoram, Lakshadweep & Andaman & Nicobar

CGD coverage after 12<sup>th</sup> round

•More than 98% population covered

Estimated Demand shift after 11<sup>th</sup> round

 Demand for Hydraulic Booster vs Online Package is set to increase due to inaccessibility of Trunk Gas Pipeline

CGD Minimum Work Programme			
Financial Year	No of stations		
FY'24	2347		
FY'25	2347		
FY'26	2176		
FY'27	1655		
FY'28	1297		
FY'29	1297		
FY'30	865		
Total	11985		

Above mentioned demand will shift by 2 years

GA's: Geographical Areas

## Value chain advantages:



At KPCL we have the following capabilities in house giving us value chain advantage:

- Foundry for CI, SG Iron and Aluminum alloys.
- ➤ 32 Ton Counterblow hammer one of its kind forging capacity to make Gear blanks, Rotors, etc.
- Comprehensive fabrication facility for base frames, pressure vessels etc.
- ➤ High precision multi axis CNC machining capability for housings, Impellers, Rotors, Screws etc.
- ➤ Design & Engineering capabilities over a 100 engineers in D&E with advanced software support, including a PLM.
- > Over 1200 associates across 15 states of India managing the O & M of all the CNG stations.







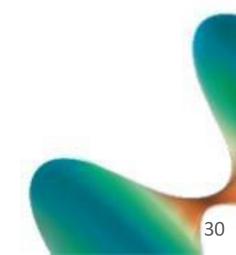






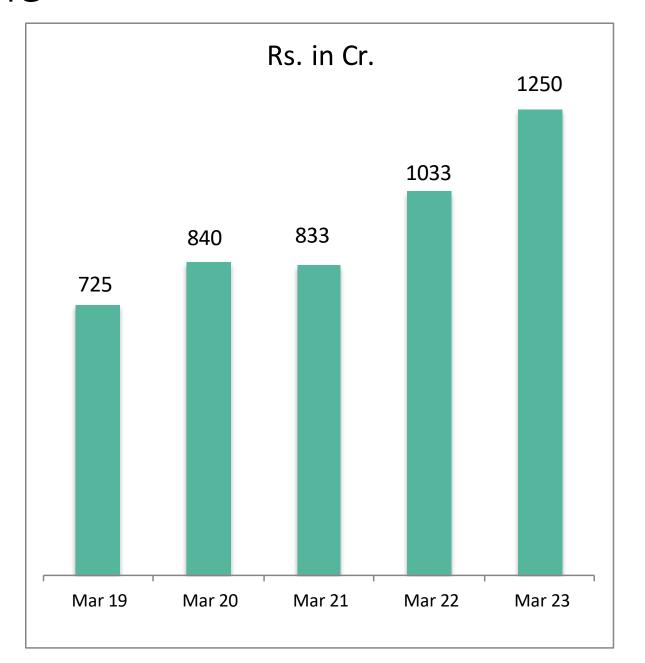


# **Financial Highlights**



# Total Income

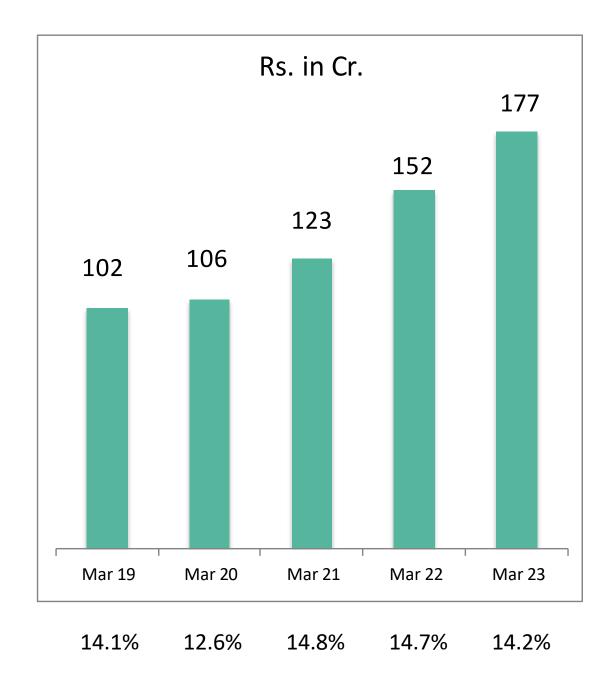




CAGR 14.6%

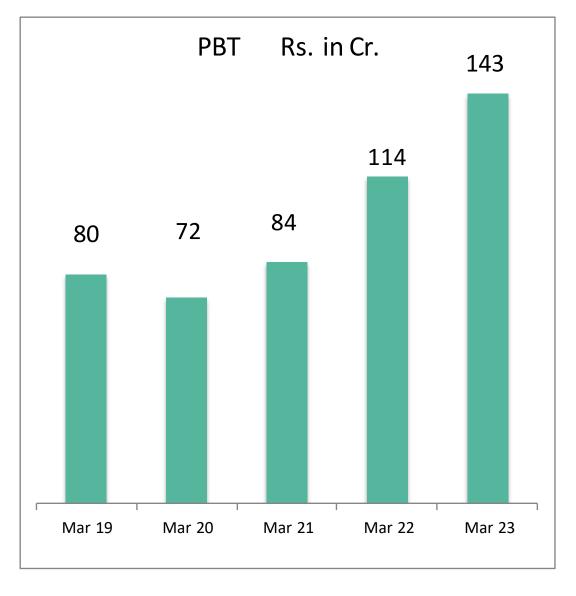
# **EBIDTA**

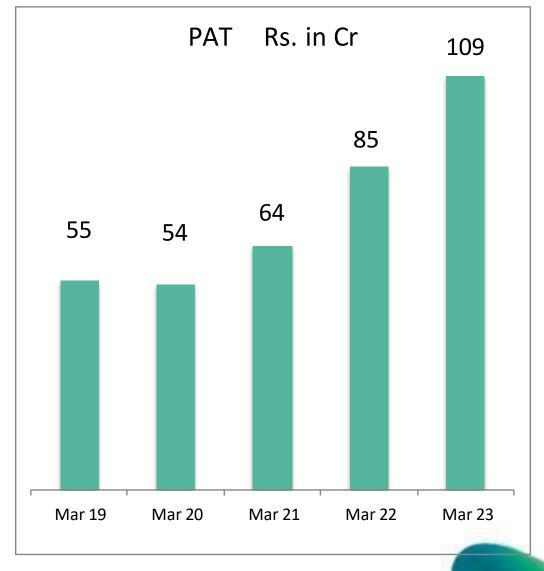




# PBT & PAT







11.0% 8.6% 10.1% 11.0% 11.4%

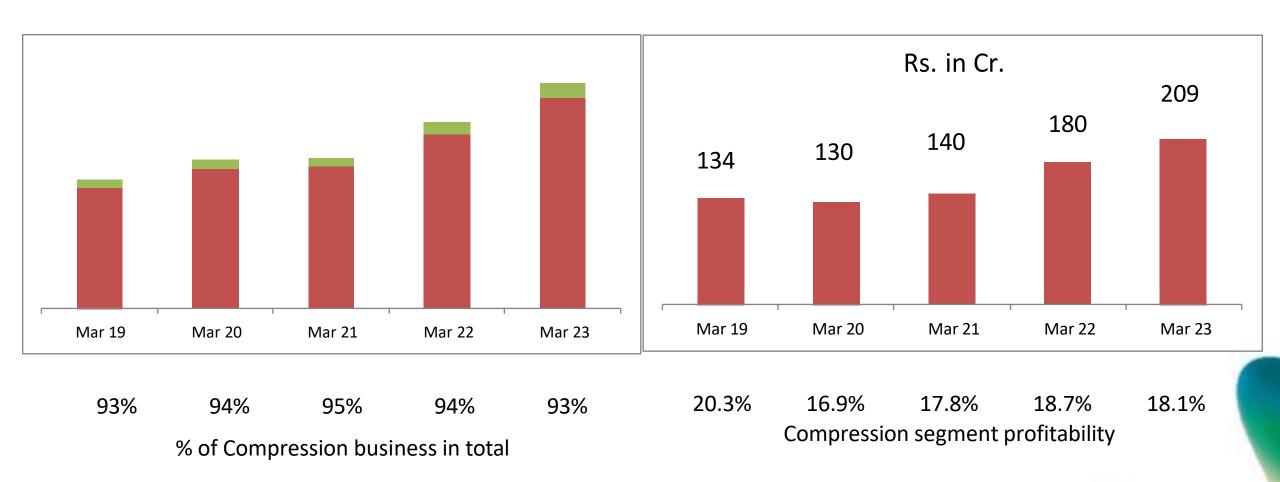
7.6% 6.4% 7.7% 8.2%

33

8.7%

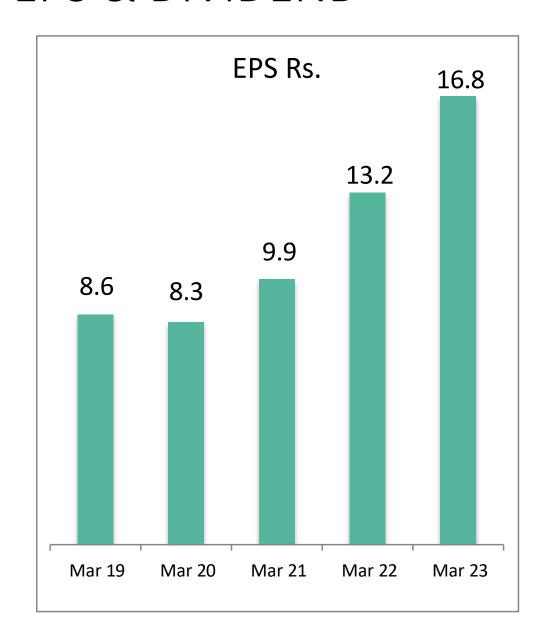
# Segment Results

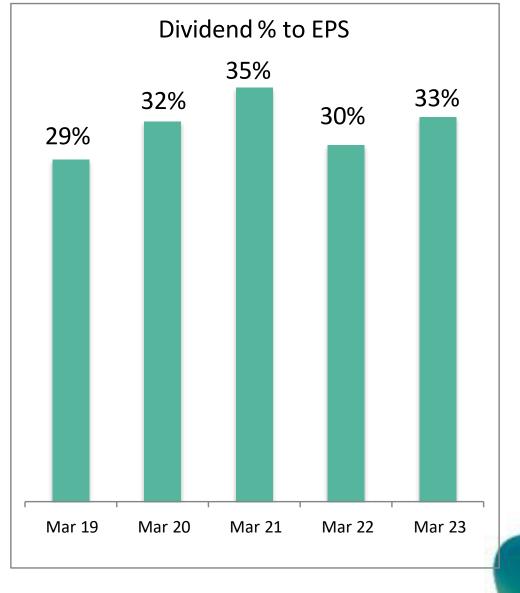




# **EPS & DIVIDEND**

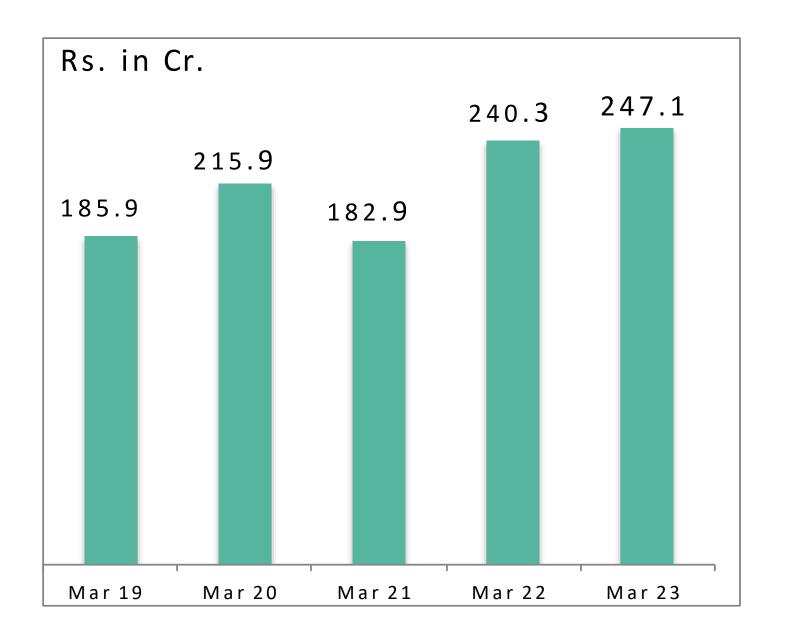






# Net Fixed Assets

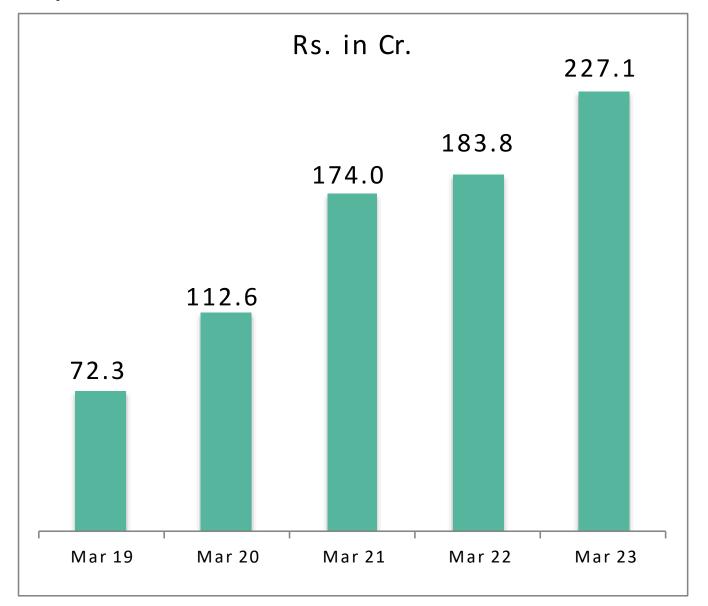




CAPEX Additions – Rs. Cr		
FY 23	40.40	
FY 22	92.50	
FY 21	4.70	
FY 20	62.50	
FY 19	65.40	
Total	265.50	

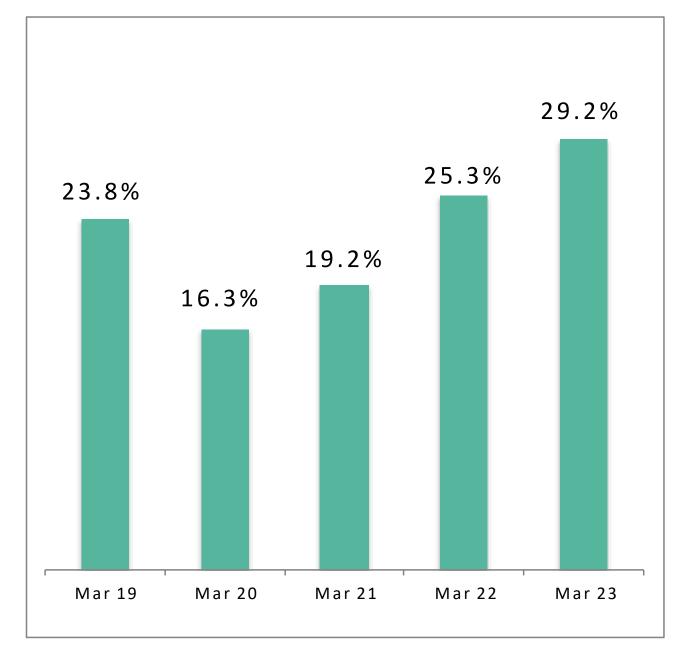
# Net Working Capital





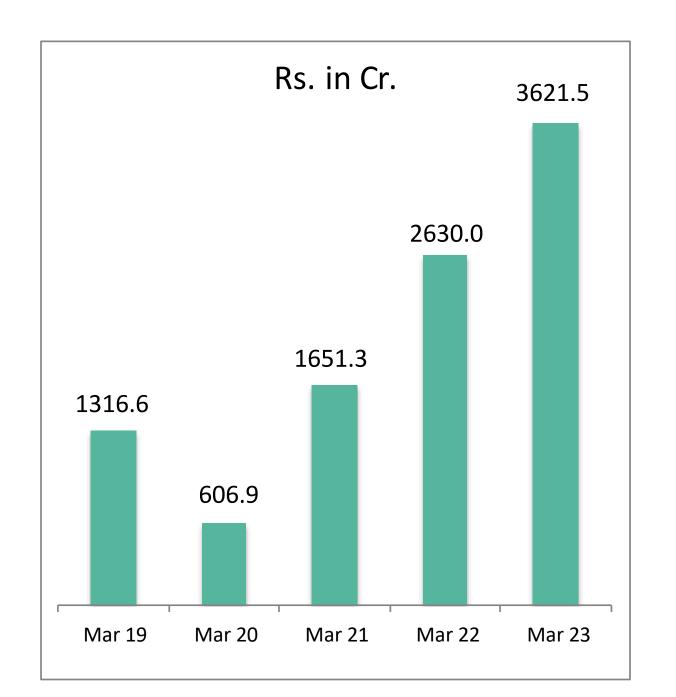
# Operating ROCE





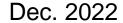
# Market Cap

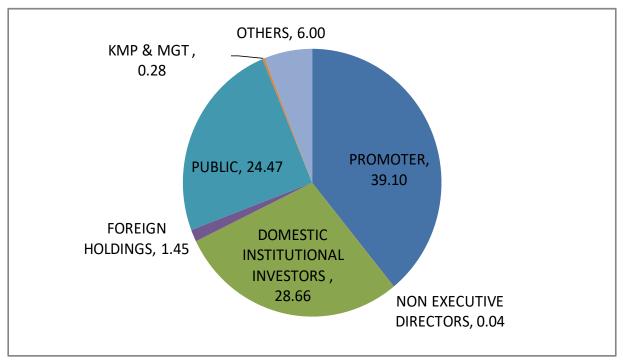




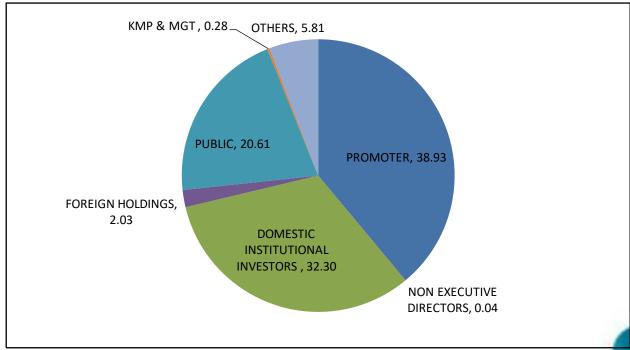
# Shareholding Pattern







Dec. 2023



Note - KPCL shares got listed on the National Stock Exchange on 26<sup>th</sup> April 2023

#### **Awards, Recognitions & Certifications:**



### **IMS Certification**



## **NABL Certification**







National Accreditation Board for Testing and Calibration Laboratories

NABI

CERTIFICATE OF ACCREDITATION

KIRLOSKAR PNEUMATIC CO. LTD. - METROLOGY LABORATORY

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

HADAPSAR INDUSTRIAL ESTATE, SOLAPUR ROAD, PUNE, MAHARASHTRA, INDIA

in the field of

CALIBRATION

Certificate Number:

CC-3503

Issue Date:

03/12/2022

Valid Until:

02/12/2024

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Identity: KIRLOSKAR PNEUMATIC COMPANY LIMITED

Signed for and on behalf of NABL



herlitism

N. Venkateswaran Chief Executive Officer Accreditation of Metallurgy Laboratory in accordance with the standard

"ISO / IEC 17025:2017 - General requirements for the Competence of testing & calibration Laboratories" in the field of "Calibration" for our Calibration facilities at Hadapsar Plant from National Accreditation Board for Testing & Calibration Laboratories.





# "Prize for Leadership in HR Excellence" for scoring 600+ consecutively fourth time.

13th CII HR Excellence Assessment-2022



2020



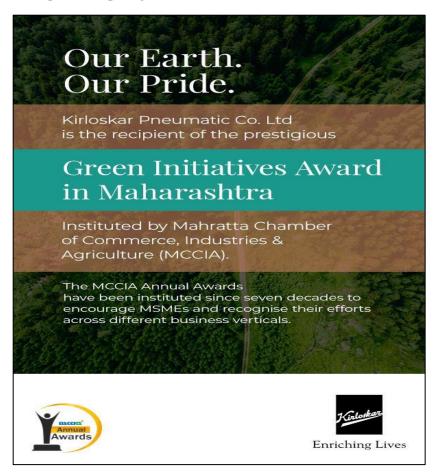
## **Awards & Accolades**



#### **Commitment towards Environment**



The Biggest Natural Vertical Green Wall
by
Asia Book of Records 2021



"Green Initiatives in Industries" by
Mahratta Chamber of Commerce, Industries &
Agriculture (MCCIA) 2020

# ESG Rating by LSEG: KPCL's Score\* (upgraded from 44 to 57 post 1st BRSR)

ESG scores methodology

https://www.lseg.com/en/data-analytics/sustainable-finance/esg-

scores?esg=Kirloskar+Pneumatic+Company+Ltd

Request details Company ESG scores Methodology Data process Global coverage Contribute

COMPARISON AND RANK Kirloskar Pneumatic Kirloskar Pneumatic Company Ltd Company Ltd ESG is a Machinery Tools Heavy score: **57**/100 Vehicles Trains & Ships company. Based on Kirloskar Pneumatic Company Ltd's self-Below is the rank of this company reported FY 2023 data out of all the companies in its ■ Environment ① 48 industry. Get the most comprehensive, detailed, and up to Emissions 81 date sector and industry **ESG Score** Resource Use 80 classification available with the 57 18 TRBC Sector Classification Innovation Social (i) 55 **207**/658 Human Rights 29 Out of Machinery Tools Heavy Vehicles Trains & Ships Companies. Product Responsibility 60 Workforce 73 67 USEFUL LINKS Community ■ Governance (i) 70 ESG brochure  $\rightarrow$ Management 78 Shareholders 61 Contribute ESG data 48 CSR Strategy

\* As on 22/02/2024

#### **K Group Ratings:**

Kirloskar Oil: 46

Kirloskar Ferrous: 36

**k**irloskar

**Pneumatic** 

Kirloskar Brothers:

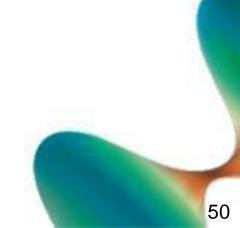
53

#### **Peer Ratings:**

Thermax: 63

Tata Motors: 86

L & T: 76







# Featured HR Best Practices - Dun & Bradstreet (KPCL Practices) 2019





#### **Kirloskar Pneumatic Company Limited**

Hadapsar Industrial Estate, Hadapsar, Pune - 411013, Maharashtra Tel: 020-26727000; Fax: 020-26870634 / 26870297 Email: ; Website: www.kirloskarkpcl.com

Dun & Bradstreet D-U-N-S® No 65-007-7977

#### Kirloskar Pneumatic's Rewards & Recognition Programme

Rewards and Recognitions (R&R) have a significant impact on employee engagement. Keeping this in mind, KPCL sought to improve its existing employee recognition programmes and to introduce new ones. The company implemented its new reward & recognition strategy in three steps - design, communicate and implement. Under design, the company prepared reward scheme posters and displayed them at key locations and on the intranet to create awareness among employees. It also introduced a non-monetary 'Thank You' card. Under communicate, the company created an R&R logo for branding and recall. The company also initiated a few changes in its R&R policy, such as making trainees eligible for R&R, same reward amount irrespective of designation, standardization of trophies and sending names of all awardees via email and also on the intranet every month. The new R&R policy also recognises CSR volunteers by awarding them certificates and gifts.



#### Kirloskar Pneumatic Company Limited

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Dun & Bradstreet D-U-N-S® No 65-007-7977

#### Kirloskar Pneumatic's New Appraisal Process for Performance Management

Performance management is the set of activities that help employees as well the organisation in meeting their goals in an effective and efficient manner. Kirloskar Pneumatic aimed at improving its erstwhile performance appraisal system and introducing a new one in order to enhance its performance management. Hence, the company worked on a new performance appraisals process. The new appraisal process involved few changes like online oracle system for appraisals, keeping track of employee's performance history made easy, inclusion of subordinates' development activities in performance appraisal for managers, training on effective performance appraisal for managers, team working made part of performance appraisal, system alerts for pending appraisals and timely completion of performance appraisals. The new appraisal process has helped the company in timely completion of employees' performance appraisals.

KPCL Reward Practices

KPCL PMS Process



# **Environmentally Conscientious: ESG Approach**



1 Solar (Renewable) Energy Focus

April 2023

2 Responsible Products: Natural Resource Conservation (R & D Focus)

Solar electricity
generation plant
capacity

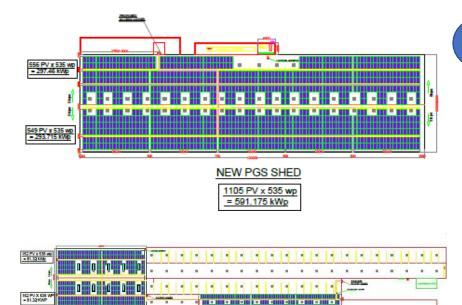
\*\*Electricity
generation of total
electricity
consumption

\*\*Investment – 4 Cr

\*\*Payback – 4 Years



Туре	FY' 16	FY' 17	FY' 18	FY' 19	FY' 20	FY' 21	FY' 22	FY' 23
KC(Water Cooled)	54 %	25 %	13 %	10 %	9 %	3 %	7 %	10%
KCX( Air Cooled)	46 %	75 %	87 %	90 %	91 %	97 %	93 %	90%
Total Number of Compressors	1655	2022	2037	1610	1563	1331	1535	1615



Green & Clean Company: Plantation, Biodiversity Focus





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## Socially Engaged: Focus Areas

## 25,000 + beneficiaries in FY' 23



1 Education: Youth Skilling and Girls Education

Collaboration with NTTF for Skilling Youth for Employability

3 Community Health

38

students

batch

(40% girls) started



DISHA Initiative: HIV AIDS Awareness & Supports





KaShi (Kanya Shiksha) & Bharari Initiative





School Health: Safe Drinking Water Facility

**Supporting School Initiative** 



10,140 students from 9 schools

Water Filtration Plant & Clean Drinking Water Facility created in 10 schools this year

## Values – the basis of our existence and growth:





#### **OUR VALUES**



#### **EXCELLENCE**

In everything we do, Quality without compromise



#### **INTEGRITY**

Say what we do, and do what we say



#### **COLLABORATION**

We grow with People and Partners



EMPATHY Towards all Stakeholders

We always Listen and Learn



VALUE CREATION | Towards all Stakeholders

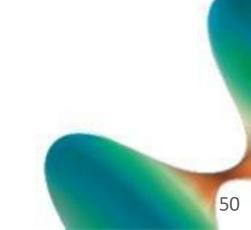
We're bulding for a shared prosperous future



#### **INNOVATIVE THINKING**

Be Bold & Brave and stay Relevant

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