

GLOBAL EXPORTS TO 40+ COUNTRIES

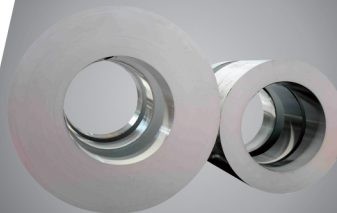
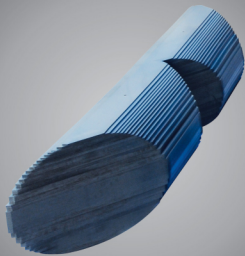
							
AFGHANISTAN	ARGENTINA	AUSTRALIA	AUSTRIA	BANGLADESH	BELGIUM	BRAZIL	CANADA
							
CHINA	COLOMBIA	CUBA	ECUADOR	EGYPT	FRANCE	GHANA	HUNGARY
							
INDONESIA	IRELAND	ITALY	JAPAN	KUWAIT	LEBANON	MALAYSIA	MEXICO
							
NEPAL	OMAN	PARAGUAY	PERU	ROMANIA	SAUDI ARABIA	SINGAPORE	SOUTH AFRICA
							
SRI LANKA	SUDAN	THAILAND	UAE	USA	URUGUAY	VENEZUELA	ZIMBABWE



KRYFS Power Components Ltd.  
3rd Floor, AZA House, 24, Turner Road, Bandra (W), Mumbai - 400 050, India  
Phone: +91 22 - 6785 9999 | Fax: +91 22 - 6785 9988  
www.kryfs.com | E-mail: sales@kryfs.com

CRGO LAMINATIONS • BUILT TRANSFORMER CORE • TORROIDAL CORE • UNICORES • CORE COIL ASSEMBLY • CT(Active part) • CRGO SLIT COILS

THE CORE PROFESSIONALS



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SERVING THE POWER SECTOR SINCE 1992



7

H

VALUES





Strategic Alliance

 **TOYOTA TSUSHO CORPORATION**

Toyota Tsusho Corporation

is a strategic partner

of KRYFS since

May 2012.

Honesty



Humility



Humanitarian Approach

## About KRYFS

KRYFS Power Components Ltd. is India's largest CRGO transformer core solution company. Commencing production in December 1992, from a humble beginning at Palghar (Maharashtra), with a capacity of 100 MTPA, KRYFS has become India's largest importer and processor of Prime CRGO steel from Japan, USA, Europe, China and Korea. KRYFS has 9 factories located at Palghar, Silvassa, Vadodara and Bhopal on the western coast of India. With 13 automated core cutting lines, 4 slitting machines, and all the latest processing and testing equipment for CRGO Steel, KRYFS is India's most trusted brand by the transformer industry for a transformer core. It is a recognized Star Export House by Ministry of Commerce, Government of India since 2005. Toyota Tsusho Corporation, Japan, a US \$79 billion conglomerate, has acquired a strategic stake of 20% in KRYFS, making it the only independent lamination company in the world, to have the backing of a multinational giant.

## Vision

Our vision is to positively contribute to the growth and development of all our stakeholders which includes society, employees, customers, suppliers and shareholders, by operating businesses that are profitable, sustainable and environmentally friendly.

## KRYFS Group - a synopsis

- Established in December 1992
- Exports to more than 40+ countries globally
- CRGO Laminations, Built Core, Torroidal Core, Unicores, Distribution Transformers, CT (Active Part)
- Power and Distribution Transformers upto 33 KV class
- EPC
- Solar Rooftop
- Material Handling
- Rigging Tools and Tackles
- Stringing T+P's for Transmission Projects

 Helpful Nature

 Hard Work

 Happy Outlook

 Hamesha Kaizen

### BIS Grades and Mill Equivalent Grades Of Various Mills

New Grades as per BIS	AK Steel	BAO	COGENT	JFE	NIPPON	POSCO	STALPRODUKT	TKES	VIZ Stal
23HP 85d	TCH 0DR	B23R085	M085-23P	23JGSD85	23ZDKH85	23PHD85		H 085-23	
23HP 90d	TCH 0 C	B23R090	M090-23P	23JGSD90	23ZDKH95	23PHD90		H 090-23	
23CG 110	23M3 110	B23C110	M110-23S	23JG 110			23ET 110	C 110-23	
23CG 120		B23C120	M120-23S		23M3		23ET 120	C 120-23	
27HP 90d	TCH 1DR	B27R090	M090-27P	27JGSD90	27ZDKH90	27PHD 90		H 090-27	
27HP 95d		B27R095	M095-27P	27JGSD95	27ZDKH95	27PHD 95		H 095-27	
27HP 100	TCH1C	B27P100	M100-27P	27JGH 100	27MOH	27PH 100		H 103-227	
27HP 110		B27P110		27JGH 110	27ZH 110	27PG 110			NV27-110
27CG 120	27M4 120	B27C120	M120-27S	27JG 120	27M4	27PG 120	27ET 120	C 120-27	NV27-120
27CG 130	27M4 130	B27C130	M130-27S	27JG 130			27ET 130	C 130-27	
30HP 105	TCH 2 Carlite	B30P105	M105-30P	30JGH 105	30MOH	30PH 105		H 105-30	NV30L-105
30CG 120	30M5 120	B30C120	M120-30S	30JG 120		30PG 120			NV30 - 120
30CG 130	30M5 130	B30C130	M130-30S	30JG 130	30M5	30PG 130	30ET 130	C 130-30	NV30- 130
30CG 140		B30C140	M140-30S	30JG 140		30PG 140	30ET 140	C 140-30	
35CG 145		B35C145	M150-35S	35JG 145	35M6	30PG 145	35ET 150	C 150-35	
35CG 155		B27C155		35JG 155		30PG 155	35ET 165	C 165-35	

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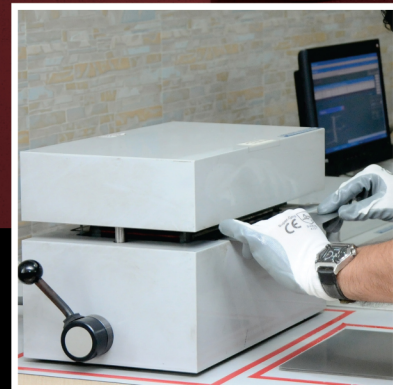


As on 2017, KRYFS is India's only Transformer lamination processing facility to have NABL accredited Brockhaus (German) lab for testing CRGO steel and MORA scale for dimensional measurement.



ISO 9001: 2015, ISO - 14001: 2015, OHSAS - 18001 : 2007  
Certified Facilities

## Quality and Certification



Brockhaus Single Sheet testing



Brockhaus Franklin testing



Brockhaus Torroidal Core testing



Stacking Factor

Tests Performed :

1. Specific Core loss at various flux densities by Epstein and SST method
2. Permeability at B800 and B100
3. Insulation resistivity
4. Stacking factor test
5. Bending test



Helpful Nature



Hard Work



Happy Outlook



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## KRYFS GROUP BUSINESSES



ENGINEERING,  
PROCUREMENT  
& CONSTRUCTION



SOLAR  
ROOFTOP



AMORPHOUS CORE



MATERIAL  
HANDLING



TRANSFORMER TANKS  
Upto 1200 kV Class

## 7H VALUES

Over 750+ employees are part of a large committed family serving customers with dedication and commitment as embodied in the 7H values of KRYFS which is at the core of everything a KRYFSian does.

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## CRGO Laminations (Stacked Transformers Core)

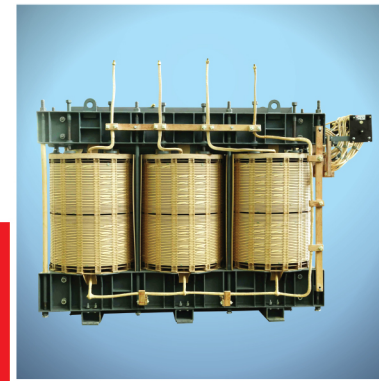
KRYFS manufactures transformer laminations for transformers up to 1200 KV class using Cold Rolled Grain Oriented (CRGO) steel imported from Japan, U.S.A, U.K, Korea and Russia, in various grades (Conventional and HiB). KRYFS processes laminations with a high degree of precision for transformers from 10KVA/11KV to 1000 MVA/1200 KV class as per customer specification and designs.

### Specifications:

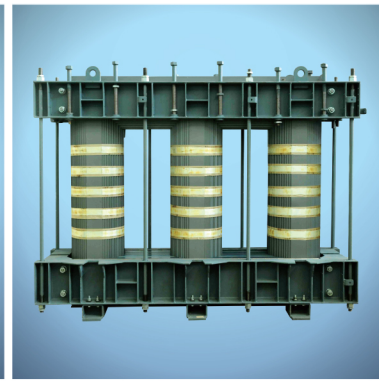
- Transformer core lamination/cut to size lamination for the Power and Distribution Transformers - Width up to 1000 mm and length up to 5000 mm with auto stacking facility
- Strip lamination for instrument transformer industry
- Lamination processing capacity - 50,000 Metric Tonnes/annum



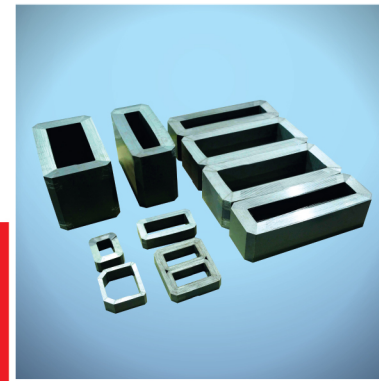
Stacked Transformer Core CRGO Laminations



Core Coil Assembly



Built Transformer Core



Unicores

## Built Transformer Core and Core Coil Assembly

KRYFS produces built Transformer Cores with Core frame parts up to 50 MT. Tested for No Load Losses (NLL), no load current, appropriately packed and ready for insertion of LV and HV coils.

Core assembly capacity is up to 50 MT (approx 100 MVA).

## Unicores

Wound/Unicores are manufactured for single and three phase transformers as per customer specification.

### Salient features

- Customized design
- Compact construction
- NLL are lower than stacked core
- Low winding time
- Quick assembly



## Who Trust KRYFS

## Products

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## Brands In Energy Sector

### Torrodial Core

KRYFS manufactures round Torrodial Cores having the highest accuracy. Suitable for low, medium and high voltage CTs, PTs and Transformers, all the cores undergo a stringent quality check at low induction values for specific purpose and high accuracy applications before dispatch, Post Annealing in 100% Nitrogen atmosphere with SCADA controlled furnaces at the state of art factory of KRYFS, Unit 3, in Kherdi (DNH) of weight from 10gms to 200kgs.

#### Features:

- Winding of Wound Cores as per customer specification
- Annealing in SCADA controlled Nitrogen atmosphere for 18 to 24 hours (at 800° C)
- 100% of our cores are tested before dispatch so our customers get only those cores in line with the guaranteed specs.
- Torroidal strip wound cores form a virtually air gap free magnetic circuit and constant cross section and generally offer magnetic properties very near to that of the raw material.
- Varnishing and color coding is done as per our customer specification.



Torrodial Core

### CRGO Slit Coils

KRYFS offers the complete range of CRGO Slit Coils in sizes ranging from 10mm upwards and thickness ranging from 0.23mm to 0.30mm in various grades. These are slit on an automated GEORG CNC machine to attain minimum burr in the cutting edge of the coils, which is typically less than 5 microns.

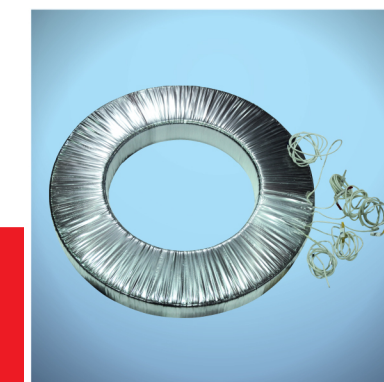
We manufacture these products in line with the global quality standards and norms, as per IEC 60404-8-7 .



CRGO Slit Coils

### CT (Active Part)

We currently manufacture active part of CT upto an outer diameter of 1200 mm and weight 150 kgs on (V & C) double headed copper winding machine (German technology), one of its kind in India. Our manufacturing range includes metering class CT, Protection class CT & PS/ PX class CT. The CTs are tested on Automatic CT test system (Eltel make, a Canadian technology). The following tests are performed on CTs: accuracy test, knee point voltage test, polarity test, over voltage inter turn test, resistance measurement test, composite error test, HV test.



CT (Active Part)

Since 1992, our customer base has spread both in India and internationally. Our global footprint is on every continent, serving over 40 countries like North and South America, Australia, the Middle East, and the Far East. In India, we serve over 200 customers in the transformer industry from global giants to small scale industries.

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KRYFS products are manufactured at our modern facilities at Kherdi and Palghar (in India), which have a combined capacity of over 50,000 MT per annum. We have 750 full-time employees, who are committed to providing the transformer industry world class, quality products.

## Manufacturing Units



Kherdi Unit 1



Kherdi Unit 2



Kherdi Unit 3



Palghar Unit



Bhopal Unit 4



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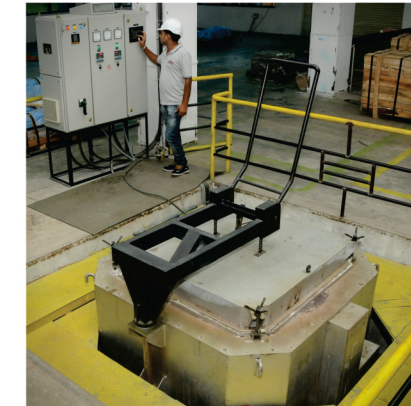


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Unicore Machine from Australia



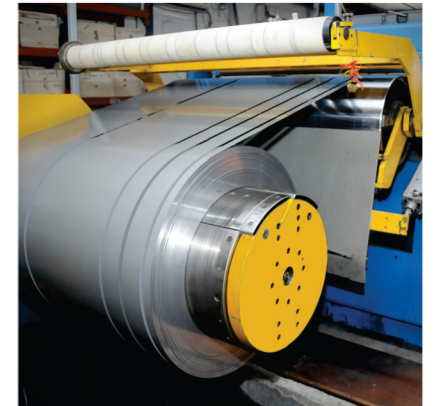
SCADA Controlled batch annealing furnace for Torroidal Cores



Torroidal Core Winding Facility from LARA (Turkey)



Slitting on automated Georg (German) /CNC line



## Some Special facilities at KRYFS



NABL accredited Brockhaus CRGO testing lab



Digital German MORA Scale for measuring 5000mm / 1000mm lamination



Automated Georg (German) 1000mm CNC line for cutting and auto stacking



V&C German Double Headed Copper Winding Machine from Germany

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