TURBOTECH ENERGY

You're just one step away from joining the rest of the world

A revolution in the energy space is sweeping the world. Let's help you take your place in the new world order of energy efficient and sustainable companies.

Over the course of the last 25+ years, we have installed our turbines and provided energy solutions for some of the most respected brands across the world.

1 *US Patent*

8 *pending Indian patents*

Present in ***17*** *countries*

4,385,300,192
KG CO_2 emission prevented

3,140,785 *MW*
units generated hourly

ABOUT US

One-stop global energy solutions provider

Manufacture turbines, turbine parts and other power generation equipment

Provides BOOT, EPC, FEED, engineering and project management services

Highly experienced design team striving for the best techno-commercial solution

---

25+

25+ YEARS OF EXCELLENCE

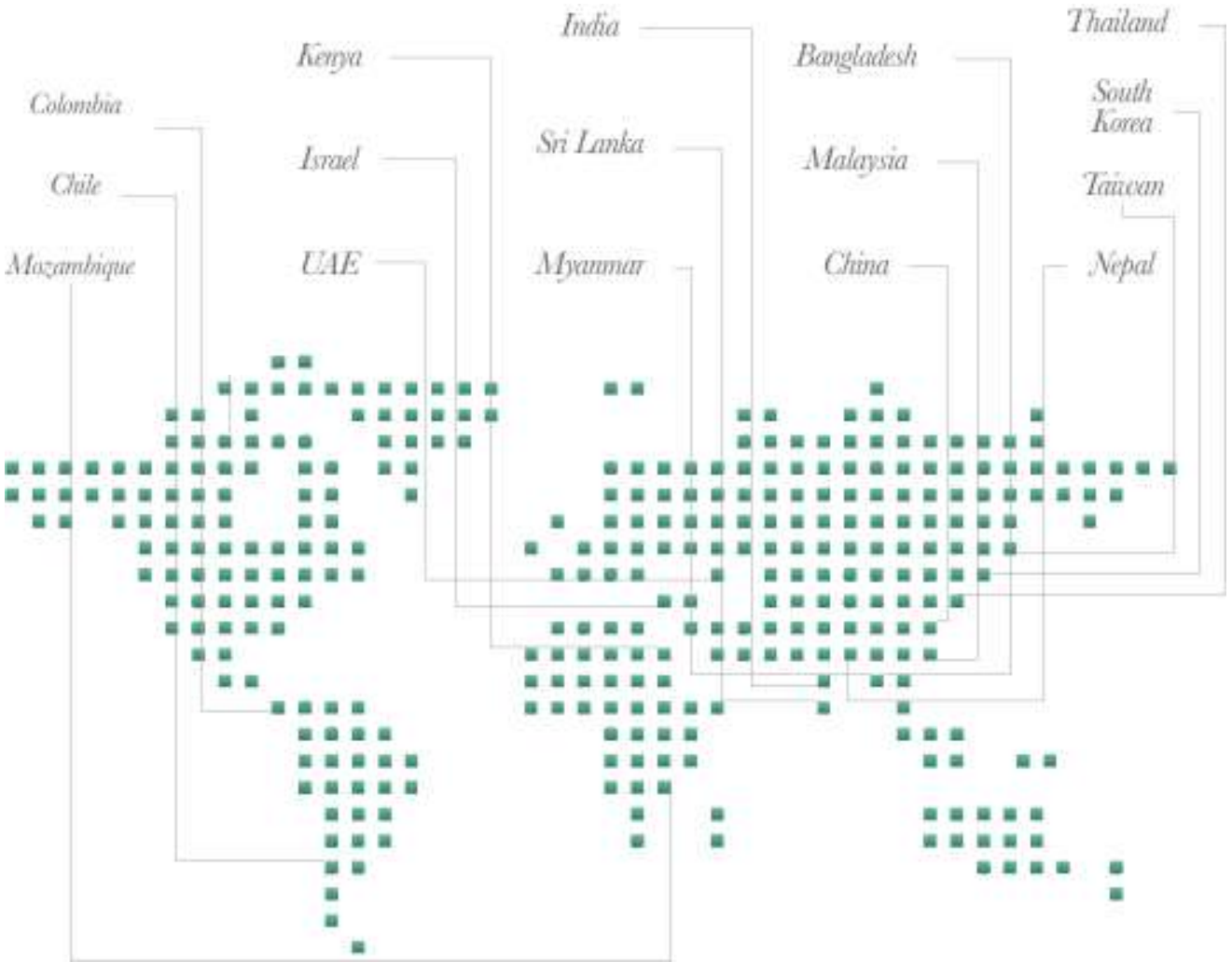
GLOBAL PRESENCE

DESIGN EXPERTISE

ENGINEERING & TECHNOLOGY COMPETENCE

TURBOTECH ENERGY

OUR PRESENCE



Present in 17 countries

TURBOTECH ENERGY

SOME OF OUR CUSTOMERS

LAURELS

Confederation of Indian Industry

CII-Green Products and Services Council

hereby certifies that

Energy Conservation Turbine

(GPTE76001)

Manufactured by TurboTech Precision Engineering Limited at Bangalore, Karnataka meets the requirements of GreenPro Certification and qualifies as Green Product.

This certification is valid till ***December 2021***

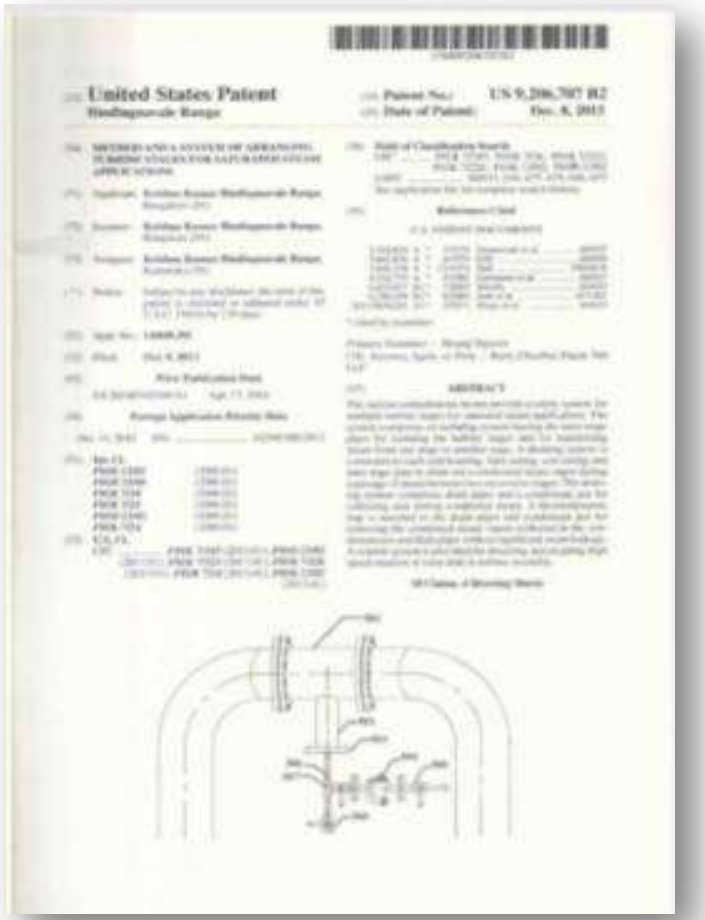
Jamshyd N Godrej
Chairman, CII-Godrej GBC

ParasuRaman R
Chairman, CII-Green Products & Services Council

K S Venkatagiri
Executive Director, CII-Godrej GBC

Supporting Council and programmes

Green Product Certification



United States Patent

US 9,206,707 B2

United States Patent; 8 India Patents Pending

TURBOTECH ENERGY

LAURELS

TÜV NORD

CERTIFICATE

Management system as per
ISO 9001 : 2015

In accordance with TÜV NORD CERT procedures, it is hereby certified that

TURBOTECH PRECISION ENGINEERING PVT. LTD.
Survey No. 8 /2, Honnasandra Village,
Kasaba Hobli, Nelmangala Taluk,
Bangalore – 562 123, Karnataka,
India

applies a management system in line with the above standard for the following scope

Design, Development, Manufacture, Testing, Installation
& Servicing of Steam Turbines

Certificate Registration No. 44 100 16392101 — Valid until 15.12.2021
Audit Report No. 2.5-9750/2018

Certification Body
at TÜV NORD CERT GmbH

Issue 16.12.2018
Place : Mumbai

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures & shall be valid subject to regular Surveillance Audits.

TÜV NORD CERT GmbH Langemarckstrasse 20 45141 Essen www.tuev-nord-cert.com
TUV India Pvt. Ltd., 801, Raheja Plaza – 1, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086, India www.tuv-nord.com/in

IAF DAkkS

TÜV NORD

CERTIFICATE

Management system as per
ISO 14001 : 2015

In accordance with TÜV NORD CERT procedures, it is hereby certified that

TURBOTECH PRECISION ENGINEERING PVT. LTD.
Survey No. 8 /2, Honnasandra Village,
Kasaba Hobli, Nelmangala Taluk,
Bangalore – 562 123, Karnataka,
India

applies a management system in line with the above standard for the following scope

Design, Development, Manufacture, Testing, Installation
& Servicing of Steam Turbines

Certificate Registration No. 44 104 16392101 — Valid until 15.12.2021
Audit Report No. 2.5-9750/2018

Certification Body
at TÜV NORD CERT GmbH

Issue 16.12.2018
Place : Mumbai

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures & shall be valid subject to regular Surveillance Audits.

TÜV NORD CERT GmbH Langemarckstrasse 20 45141 Essen www.tuev-nord-cert.com
TUV India Pvt. Ltd., 801, Raheja Plaza – 1, L.B.S. Marg, Ghatkopar (W), Mumbai - 400 086, India www.tuv-nord.com/in

IAF DAkkS

BUREAU VERITAS
Certification

Certificate of Approval

This is to certify that the Quality Management System of:

TURBOTECH DEFENCE & AEROSPACE
PRIVATE LIMITED
SY.NO.8/2, HONNASANDRA VILLAGE, NELAMANGALA TALUK,
BANGALORE RURAL DISTRICT, KARNATAKA, 560 123, INDIA

has been audited in accordance with the requirements of EN 9104-001:2013 by Bureau Veritas Certification and conforms to the following Quality Management Systems Standards detailed below

Standards

BS EN ISO 9001:2015
EN 9100:2018
(Technically equivalent to AS9100D)

Scope of certification

DESIGN, MANUFACTURE, ASSEMBLY AND TESTING OF AIRBORNE STORES FOR AEROSPACE AND DEFENCE APPLICATIONS.

Certification Structure: Single Site

This certificate forms part of the approval identified by certificate number: UK3742017-1

Certificate Issue Date: 20 FEBRUARY 2020

Certification Expiry Date: 19 FEBRUARY 2023

Trevor William Douce
Authorised Signatory

ADS aerospace sector certification scheme

UKAS MANAGEMENT SYSTEMS 0008

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organization.

Certification Body: Bureau Veritas Certification Holding SAS-UK Branch, 9th Floor, 66 Prescot Street, London, E1 8HG, United Kingdom.

BUREAU VERITAS

ISO 9001 & 140001

AS9100D (Aerospace Manufacturing)

TURBOTECH ENERGY

12,000 RPM
Better performance

Aerospace-grade precipitated, hardened, stainless steel
Corrosion resistant

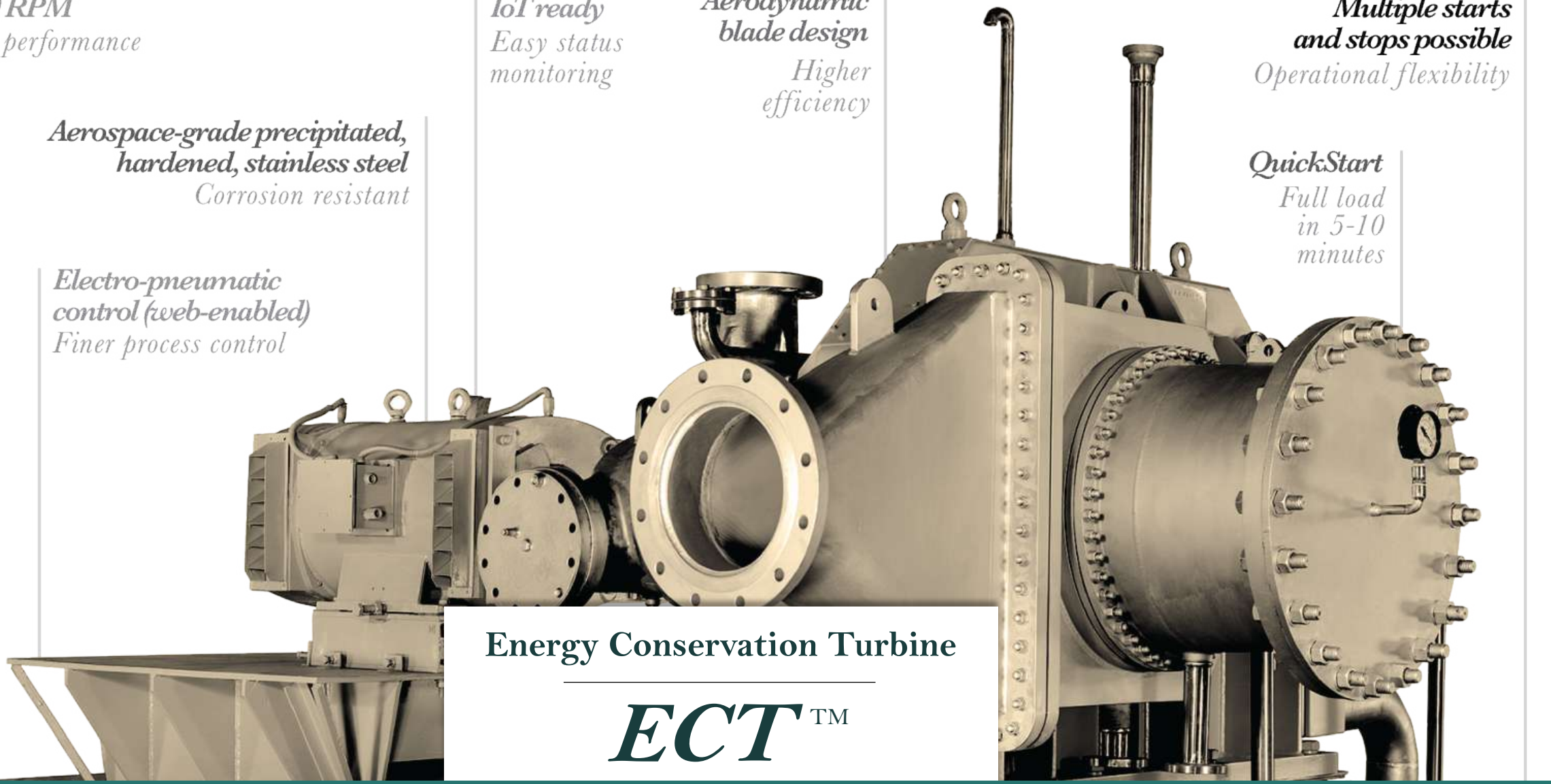
Electro-pneumatic control (web-enabled)
Finer process control

IoT ready
Easy status monitoring

Aerodynamic blade design
Higher efficiency

Multiple starts and stops possible
Operational flexibility

QuickStart
Full load in 5-10 minutes



Energy Conservation Turbine

ECT™

OUR FLAGSHIP PRODUCT

RELIABILITY

After a few years of operation:

CONVENTIONAL TURBINES

Condition when opened

TURBOTECH TURBINES

Upon cleaning with cloth

Condition when opened

TURBOTECH ENERGY

RELIABILITY

99.5% uptime

Erosion resistant steam wetted parts made of stainless steel

Force lubricated journal and thrust bearings having long life

Labyrinth + carbon seals for effective sealing

TURBOTECH ENERGY

SAFETY

CONVENTIONAL TURBINES

Inserted blade rotor

Split casing

TURBOTECH TURBINES

Blisk rotor

Volute casing

Blisk rotors — **Blades never dislodged during operation**

Stainless steel volute casings — **Offer superior containment**

TURBOTECH ENERGY

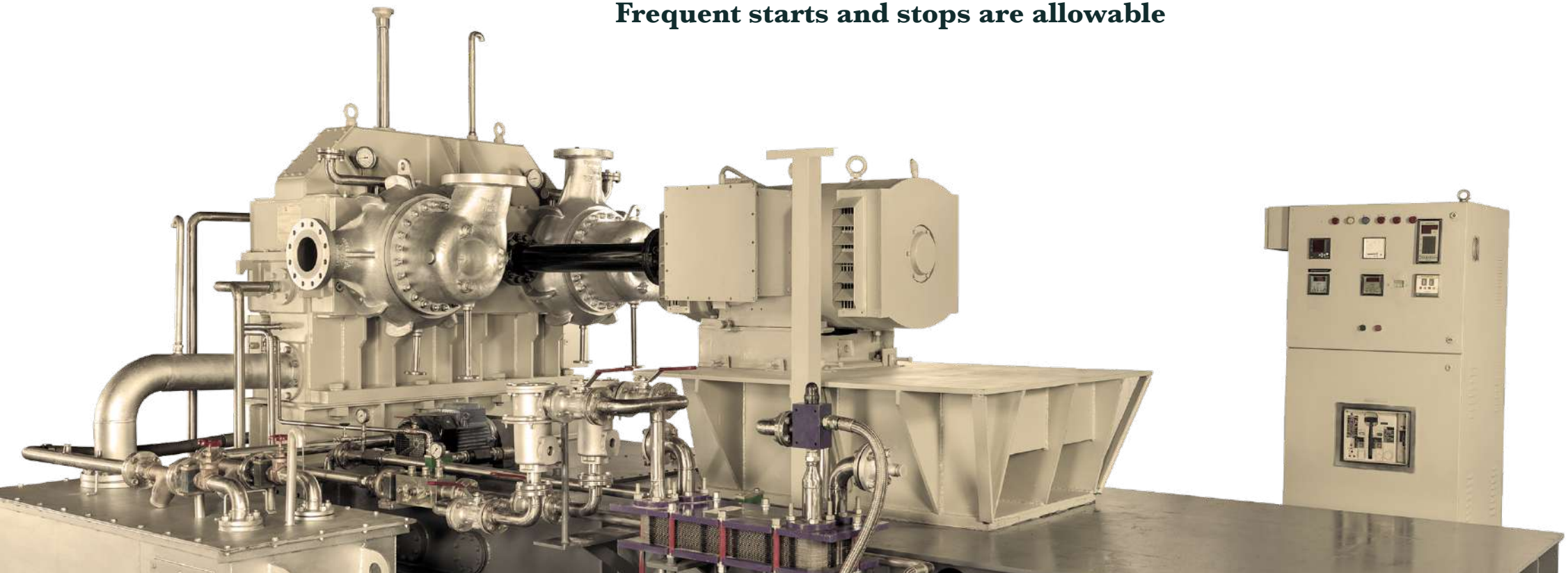
SUPERIOR PERFORMANCE

High speed, high efficiency = higher power generation (8%)

Well suited for *super-heated and saturated* steam

Startup time – 15 mins vs 90 mins

Frequent starts and stops are allowable



APPLICATION IN TEXTILE INDUSTRY

- **In textile industry current energy cost rate is reported about 8–10% in the total production**
- **Significantly important share of this energy cost is electric energy**
- **Multiple PRVs and PRDs are used in the production process that give an opportunity to generate incidental power**

TURBOTECH ENERGY

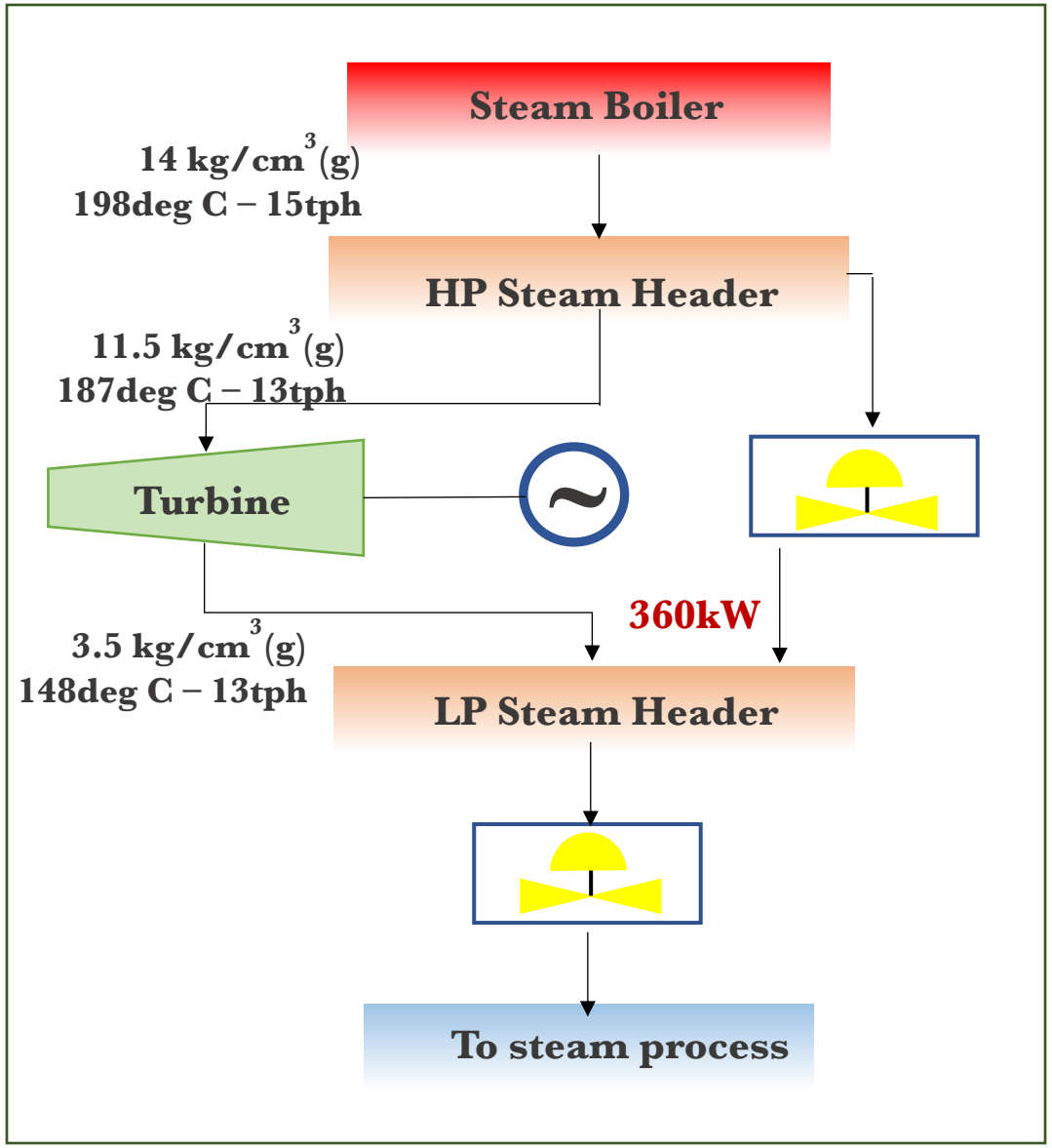
COMMON TEXTILE INDUSTRY PARAMETERS

Parameters	Details					
Turbine Inlet Pressure	11.5kg/cm^2	8.0kg/cm^2	8.5kg/cm^2	10.0kg/cm^2	12.0kg/cm^2	8.0kg/cm^2
Turbine Inlet Temperature	189 deg C	175 deg C	177 deg C	183 deg C	191 deg C	175 deg C
Turbine Inlet Flow	11 tph	16 tph	15 tph	11 tph	6 tph	8 tph
Turbine Exit Pressure	3.5kg/cm^2	3.8kg/cm^2	4.0kg/cm^2	4.0kg/cm^2	4.0kg/cm^2	4.0kg/cm^2
Power output	360 kWe	290 kWe	285 kWe	225 kWe	140 kWe	110 kWe

TURBOTECH ENERGY

CASE STUDY FROM TEXTILE INDUSTRY

Description	Details
Power generated by Turbine (kWh)	360
Total min units generated yearly basis (Considering 24hrs/day and 300 working days per year, i.e. 7200 working hours yearly)	25,92,000
Gross yearly savings Considering $ 0.095/unit, for yearly unit savings	$246,240
Less – maintenance cost (consumables)	$2700
Yearly savings	$ 243,540



TURBOTECH ENERGY

REFERENCE LIST: TEXTILE INDUSTRY

Company	Power output (kWh)	Year of dispatch	Total annual savings (USD)
Durga Processor Pvt Ltd	285	2014	162827
Shailja Textiles Pvt Ltd	315	2014	180107
Bhaskar Silk Mills Pvt Ltd	110	2015	62027
Durga Polysters Pvt Ltd (2)	360	2015	204694
Jaybharath	175	2015	99467
Kalakruti Textiles (2)	140	2016	79307
Madhusudan Textiles	225	2017	128267
Roshni Creations Pvt Ltd	90	2017	50507

TURBOTECH ENERGY

SUMMARY

- **High speed, high efficiency = Higher power generation (8%)**
- **Reliability of steam wetted parts - lifetime**
- **Cost of new turbine house - minimal**
- **E&C time of 7 days *vs.* 45 days**
- **Overhaul maintenance time of 2 days *vs.* 30 days**
- **Emphasis on safety – *Zero accidents***

TURBOTECH ENERGY

TURBOTECH
ENERGY

www.turbotechindia.com
marketing@turbotechindia.com