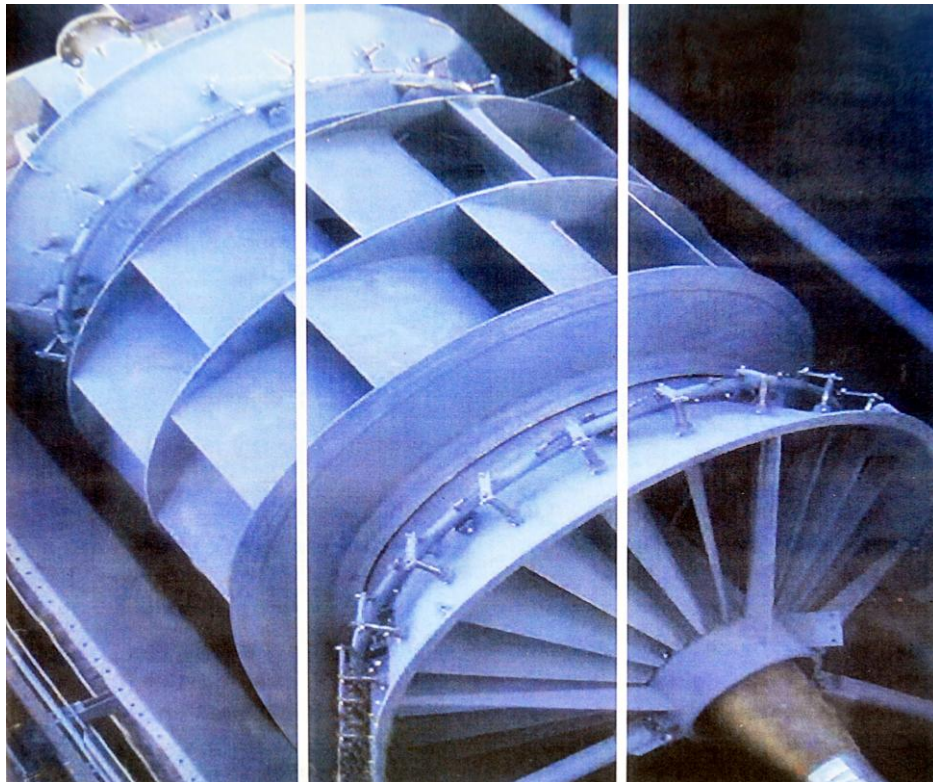


ООО «ТИ-СИСТЕМС» ИНЖИНИРИНГ И ПОСТАВКА ТЕХНОЛОГИЧЕСКОГО ОБОРУДОВАНИЯ
Интернет: www.tisys.ru www.tisys.kz www.tisys.by www.tesec.ru www.ти-системс.рф
Телефоны: +7 (495) 7774788, 7489626, (925) 5007155, 54, 65 Эл. почта: info@tisys.ru info@tisys.kz info@tisys.by

COMPANY PROFILE



E N G I N E E R I N G E X C E L L E N C E

TLT ENGINEERING INDIA PVT. LTD.

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COMPANY PROFILE

TLT Engineering India Pvt. Ltd. was established in 1987 as a joint venture company with Turbo Lufttechnik GmbH, Germany, for designing and manufacturing Heavy Duty Centrifugal Fans in India.

From a humble beginning at Vatva, Ahmedabad, TLT India today is one of the leading fan manufacturers in India with a manufacturing facility at Indrad (40 kms from Ahmedabad, Gujarat) having 95,000 sq. ft. area under crane and contemporary machine tools.

Over the past two decades, TLT India has built a broad spectrum of customer base in core sector industries such as petroleum refineries, petro-chemicals, fertilizers, power, cement and metals and is approved with numerous Indian and multinational engineering consultants and OEMs which, to name only a few, are : Technip KTI, Uhde India, Toyo Engineering, Jacobs Engineering, Linde, Aker Solutions, Engineers (India) Ltd. (EIL), M. N. Dastur & Co., MECON, Desein, Enereff Engineers, Larsen & Toubro, Heurtey Petrochem, Tecnimont ICB, ThyssenKrupp, Thermax, Tenova Hypertherm etc.

A few of the critical applications for which TLT India has supplied fans are listed herebelow.

- **Petroleum Refinery & Petrochemicals**

ID & FD Fans for Hydrogen Generation Unit (HGU), Crude Distillation Unit (CDU) & Vacuum Distillation Unit (VDU), Delayed Coker Unit (DCU), Diesel Hydrotreater Unit (DHDT), VGO-HDT Unit, Incinerator Air Blower for Sulphur Recovery Unit (SRU) & ID Fan for a Gas Cracking Unit

- **Steam Generation & Power Plant**

Forced & Induced Draft fans and Primary Air & Secondary Air Fans

- **Steel & Metallurgical Industry**

Waste Gas Fan, Plant De-dusting Fan & Cooling Air Fans for Sinter Plant

Exhaust Gas Fan (Designed to handle furnace flue gases at 500 deg C)

Waste Gas Fan for Lime Kilns

Cast House & Stock House De-dusting Fans

Scrubber ID Fans for Gas Treatment Plants

Booster Fans for Blast Furnace, Coke Oven & Mixed Gas

Our Project Division also undertakes projects for design, engineering and supply of complete Gas Mixing & Boosting Stations and has executed many such projects for Tata Steel, Jindal Steel & Power, JSW Steel, Essar Steel & Steel Authority of India (SAIL).

- **Fertiliser Industry**

Flue Gas Blower for CO₂ Recovery Plant

Dryer Fan

Fumes Fan

- **Cement Industry**

Raw Mill Fan, Pre-heater Fan, Bag House Fan & Clinker Cooler ESP Fan

Coal Mill & Cement Mill Fan

We have also supplied number of fans driven by steam turbine and also with dual drive (steam turbine and electric motor) for FD & ID applications in refineries and fertilizer plants.

Fans are manufactured as per the designs of TLT Germany and if required, conforming to API Standard 560 & API Standard 673 for applications in refineries, petrochemical plants & fertilizer plants.

Fans can be supplied in any of the arrangements as per AMCA and with accessories such as various types of inlet / outlet dampers with electrical / pneumatic actuator, multi-louvre / guillotine type isolation damper / shut-off blades, silencer, flow measurement devices like piezometric ring / venturi / annubar, leak-proof shaft seals with provision for nitrogen purging, blow-off systems, LV / HV motors, AC drives, constant / variable speed fluid coupling, steam turbine, over running clutch, slow turning device etc.

We have the experience in handling the complete range of raw material which includes IS 2062 / A283, IS 2002 (BQ) / A515, Cor-ten, NA-X-TRA / WELDOX / S690Q, HARDOX, low alloy steel like 15Mo3 / 13CrMo44 / ASME 387, Austenitic material like SS 304 / 304L / 316 / 316L / 321. **For highly corrosive applications, we have also built fans with Titanium, Alloy 904L series, AVESTA 254, Alloy 2205 & HASTALLOY C-276.**

Apart from the basic inspection & testing facilities, **we have an in-house facility for conducting no-load mechanical run test and performance test of fans and have successfully conducted mechanical run test of fans with power consumption in excess of 1000 kW, at the rated speed. Performance testing of fans is conducted as per BS 848 as well as AMCA 210.**

MAJOR REFERENCES

As mentioned above, TLT India has supplied fans for a wide range of critical applications in various industries. A few of the major references are listed herebelow.

Fan with Maximum Volume Flow Rate

Volume Flow Rate	: 1260360 m³/hr (350.1 m³/s)
Total Pressure	: 5354 Pa (545 mm wc)
Impeller Diameter	: 2600 mm
Fan Shaft Power	: 2165 kW
Fan Speed	: 980 rpm
Application	: ID Fan
Client	: Alstom Projects A/c. HINDALCO (Mahan Aluminium)

Fan with Largest Size of Impeller

Volume Flow Rate	: 560160 m ³ /hr (155.6 m ³ /s)
Total Pressure	: 1697 Pa (173 mm wc)
Impeller Diameter	: 3698 mm
Fan Speed	: 390 rpm
Application	: Cooler ESP Fan
Client	: Chittor Cement Works

Fan with Maximum Shaft Power

Volume Flow Rate	: 900000 m ³ /hr (250.0 m ³ /s)
Total Pressure	: 11500 Pa (1172 mm wc)
Impeller Diameter	: 3008 mm
Fan Shaft Power	: 3234 kW
Fan Speed	: 990 rpm
Application	: Raw Mill Fan
Client	: JP Rewa Cement

FD Fan with Maximum Shaft Power – Refinery

Volume Flow Rate	: 500400 m ³ /hr (139.0 m ³ /s)
Total Pressure	: 8693 Pa (886 mm wc)
Impeller Diameter	: 1814 mm
Fan Shaft Power	: 1317 kW
Fan Speed	: 1440 rpm
Application	: FD Fan for Boiler
Client	: Ansaldo / Larsen & Toubro A/c. IOCL, Panipat

ID Fan with Maximum Shaft Power – Refinery

Volume Flow Rate	: 504720 m ³ /hr (140.2 m ³ /s)
Total Pressure	: 7151 Pa (729 mm wc)
Impeller Diameter	: 2748 mm
Fan Shaft Power	: 1215 kW
Fan Speed	: 980 rpm
Application	: ID Fan for Hydrogen Reformer
Client	: Larsen & Toubro A/c. IOCL, Panipat

Fan with Maximum Impeller Diameter – Refinery

Volume Flow Rate	: 574920 m ³ /hr (159.7 m ³ /s)
Total Pressure	: 5483 Pa (559 mm wc)
Impeller Diameter	: 3174 mm
Fan Shaft Power	: 1015 kW
Fan Speed	: 695 rpm
Application	: ID Fan for Hydrogen Generation Unit
Client	: Technip KTI A/c. Bharat Oman Refineries, Bina

TLT India has the distinction of having supplied the biggest fans in terms of power consumption to a refinery unit in India.

Fan with Maximum Shaft Power – Boiler (CFBC)

Volume Flow Rate	: 513000 m ³ /hr (142.5 m ³ /s)
Total Pressure	: 6952 Pa (709 mm wc)
Impeller Diameter	: 2710 mm
Fan Shaft Power	: 1157 kW
Fan Speed	: 980 rpm
Application	: ID Fan
Client	: Bharat Aluminium Co. Ltd. (BALCO)

Fan with Maximum Impeller Diameter – Boiler (CFBC)

Volume Flow Rate	: 339120 m ³ /hr (94.2 m ³ /s)
Total Pressure	: 6466 Pa (660 mm wc)
Impeller Diameter	: 3264 mm
Fan Shaft Power	: 701 kW
Fan Speed	: 740 rpm
Application	: ID Fan for CFBC Boiler
Client	: ThyssenKrupp Industries A/c. Indo-Gulf Fertilisers

Fan for Handling High Temperature Flue Gases

Volume Flow Rate	: 343361 m ³ /hr (95.4 m ³ /s)
Total Pressure	: 696 Pa (71 mm wc)
Impeller Diameter	: 2806 mm
Inlet gas temperature	: 500 deg C
Fan Shaft Power	: 92 kW
Fan Speed	: 480 rpm
Application	: Exhaust Gas Fan for Walking Beam Furnace
Client	: Tenova Hypertherm A/c. Jindal Steel & Power

Fan for Developing High Pressure

Volume Flow Rate	: 39600 m ³ /hr (11.0 m ³ /s)
Total Pressure	: 26487 Pa (2700 mm wc)
Impeller Diameter	: 2340 mm
Inlet gas temperature	: 35 deg C
Fan Shaft Power	: 361 kW
Fan Speed	: 1450 rpm
Application	: Forced Draft Fan
Client	: Indian Petrochemicals Corp. Ltd., Dahej

Fans for Vapour Compression System (Two Fans in Series)

Fan – 1

Volume Flow Rate	: 25200 m ³ /hr (7.0 m ³ /s)
Static Pressure at fan inlet	: (-) 72760 Pa (7422 mm wc)
Static pressure at fan outlet	: (-) 68687 Pa (7006 mm wc)
Differential static pressure	: 4073 Pa (416 mm wc)
Inlet gas temperature / Inlet gas density	: 68 deg C / 0.183 kg/m³
Fan Shaft Power	: 44 kW
Fan Speed	: 2170 rpm (VFD Driven)

Fan – 2

Volume Flow Rate	: 23724 m ³ /hr (6.59 m ³ /s)
Static Pressure at fan inlet	: (-) 68885 Pa (7026 mm wc)
Static pressure at fan outlet	: (-) 64365 Pa (6565 mm wc)
Differential static pressure	: 4520 Pa (461 mm wc)
Inlet gas temperature / Inlet gas density	: 89 deg C / 0.195 kg/m³
Fan Shaft Power	: 43 kW
Fan Speed	: 2117 rpm (VFD Driven)
Client	: Chem Process Systems / Bhushan Steel Ltd., Khopoli

Detailed industry – wise reference lists can be furnished on request.

SYNOPSIS OF EXPORTS

TLT India has also executed many direct and indirect / deemed export jobs for various Indian OEMs and overseas clients covering a wide range of applications in sectors such as petroleum refining, captive power generation, metal processing (steel & copper) and cement.

The countries to which TLT India has exported fans are: USA, Saudi Arabia, United Arab Emirates, Qatar, Egypt, Sudan, Zambia, Tanzania, Thailand and Philippines. These fans have been engineered as per the specifications of leading Indian and international consultants.

Following are the two major direct export jobs executed by TLT India in the recent past.

- **Supply & site testing of 13 nos. Process fans and drive motors for a Copper Smelter Project in Zambia**
- **Supply of 50 no. Non-Process fans and drive motors for a Pelletizing Plant**

TLT India has an experienced team of design engineers trained at TLT-Turbo GmbH, Germany, by virtue of which we have also provided engineering services to TLT-Turbo on case to case basis.

REFERENCE LETTERS



Ref. : Proj/001/02/09
Date : 12th February 2009

TLT Engineering India Pvt. Ltd.
204, Sumer Kandra
Pandurang Budhkar Marg
Worli, Mumbai – 400 018
INDIA

Attn. : Mr. Gautam Sheth, Director / Mr. Mukesh Jain, Vice president (Operations)

SUPPLY OF FANS AND MOTORS FOR OUR 300,000 TPA COPPER SMELTER PROJECT AT CHINGOLA AT CHINGOLA, ZAMBIA

Dear Sirs,

We are pleased to inform you that the 12 no. fans and motors supplied by TLT Engineering India for our 300,000 TPA Copper Smelter Project have been successfully commissioned in the month of September 2008 and the same are working satisfactorily.

We appreciate the efforts put in by TLT India in timely completion of engineering to the satisfaction of our engineering consultant for the project, Aker Solutions Pvt. Ltd., and subsequently in dispatching all the fans and motors in record time of 6 months from the zero date. We also take this opportunity to place on record our appreciation of the overall quality of the fans.

We thank Team TLT and look forward to working with you for our forthcoming projects.

Thanking you,

Yours faithfully,
for Konkola Copper Mines Plc

Frank Moraes
PROJECT MANAGER

ESSAR STEEL LIMITED



Hazira - 384 270 Dist Surat,
Gujarat, India
Tel: 00-91-261-2873076
Fax: 00-91-231-2873837

Date: 04.03.2008

TO WHOMSOEVER IT MAY CONCERN

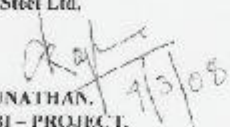
WE WOULD LIKE TO PUT ON RECORD THAT WE HAD PROCURED FOLLOWING FANS FROM
M/S. TLT ENGINEERING INDIA PVT. LIMITED IN THE YEAR 2005 AND THE SAME WERE
COMMISSIONED IN THE YEAR 2006.

DETAILS	MAF	FLUE GAS FAN
MODEL OF FAN	20071ZA/1194	14144Z//1830
VOLUME -m3/s	90.37	222
STATIC PRESSURE -Pa	18000	2100
TEMP -deg cent	40	320
SHAFT POWER Kw	1878	560
RPM	1440	720
QTY	1	1
APPLICATION	- REFORMER	-
TLT JOB NO	900436	900436

THE ABOVE FANS ARE WORKING SATISFACTORILY AND THE AFTER SALES SERVICES
RENDERED ARE EXCELLENT.

WE HAVE ALSO PLACED ORDERS FOR ADDITIONAL SUCH FANS IN THE YEAR 2007.

For Essar Steel Ltd.


V. RAGHUNATHAN
JGM - HBI - PROJECT.



Date: 30.03.2012

TO WHOMSOEVER IT MAY CONCERN

We would like to put on record that we had procured following Fans from M/s TLT Engineering India Pvt. Ltd. in year 2009 and the same were commissioned in the year 2009.

		Main ID Fan	Booster Fan
Fan model		1788ZA/ 1618	1888/ 948
Volume	M ³ /s	208.3	27.78
Static pressure	Pa	7700	2943
Temp.	Deg. C	105	150
Shaft power	KW	1904	101
Speed	RPM	980	980
Motor rating	KW/RPM	2200 / 980	132 / 980
Qty.	Nos.	3	1
Application		For FES of 100 T EAF of SMS-3	
TLT Job no.		900627	900627

The above Fans are working satisfactorily and the after sales services rendered are excellent.

For Jindal Steel and Power Ltd.

Atul Dubey
Sr. DGM

Jindal Steel & Power Limited

Post Box No.16, Kharsia Road, Raigarh – 496 001 (C.G.)

T (07762) 227001- 227005 (5 lines) F 07762 – 227021, 227022 E raigarh@jspl.com

Registered Office: O.P.Jindal Marg, Hisar – 125 005 (Haryana)



DATE:- 23.10.2010

TO WHOM SO EVER MAY CONCERN

This is to certified **THAT M/S TLT ENGINEERING INDIA PVT. LTD** have Supplied 1 no ID / PA / SA for our CFBC boiler and are working satisfactory and trouble free since its commissioning in August 2008.

The details of Fans are as under

	I D Fan	P A Fan	S A Fan
Fan Model	1854Z / 1466	2248B / 1022	1894B / 978
Volume	150.3	52.9	44.1
Delta Pt	6371	18807	7670
Temperature	160	45	45
Shaft Power	1073	1097	380
RPM	940	1420	1420
Impeller Dia.	2714	2286	1852

Thanking you

For Tata chemicals ltd Mithapur

A handwritten signature in blue ink, appearing to read 'M L Dhokai', with a horizontal line underneath.

(M L Dhokai)
Manager – Power Plant

ThyssenKrupp Industries India



ThyssenKrupp

ThyssenKrupp Industries India Pvt. Ltd., Pirogi, Pune-411 018, India

TLT Engineering India Pvt. Ltd.
204, Sumer Kandra
Pandurang Budhkar Marg
Worli,
Mumbai - 400 018

Attn.: Mr. Gautam Sheth, Managing Director / Mr. Mukesh Jain, President

B&PP /RNN

September 29, 2010

Dear Sirs,

We are pleased to inform you that 1 x 100% PA, SA and ID fans supplied by you for our 1 x 200 TPH CFBC boiler at Tata Chemicals Ltd., Mithapur, have been working satisfactorily since commissioning in 11.12.2008.

ThyssenKrupp Industries India have had a very long association with TLT and we find their products and services satisfactory. We thank TLT Engineering for the co-operation extended to us and look forward to working together in future as well in execution of various projects.

Thanking you,

Yours faithfully,

THYSSENKRUPP INDUSTRIES INDIA PVT. LTD.

A. Biswas
Sr. Vice President
Boiler & Power Plant Divn.



ThyssenKrupp Industries India Pvt. Ltd.
Pirogi, P. No. 41, 018, India
Telephone: +91 20 2743 5451-54
Telex: 491 20 2742 5593
E-mail: comcrus.00@thyssenkrupp.com
www.thyssenkrupp.co.uk

Registered Office:
154-C, Mittal Tower, 4th Floor
P/O, Karamba VPI
Mumbai 400 001, India
Tel.: +91 22 2232 0164, Fax: +91 22 2204 4025
e-mail: 841.mumbai@thyssenkrupp.com
Registration No.: 11 15305



**Gujarat Narmada Valley
Fertilizers Company Limited**
(An ISO 14001 & OHSAS 18001 Company)



P.O. Karmalwagar - 392 015 Dist. Bharuch Gujarat, India
Ph (02649) 247001, 247002
Website www.gnfc.in

TO WHOME EVER CONCERN

Subject: Satisfactory Operation of TLT ID FAN

M/s. TLT Engineering India Pvt. Ltd. have supplied 1no. ID fan for our Methanol - II reformer revamp project and is running satisfactorily and trouble free since its commissioning in the month of July, 2008.

The details of the Fan are as under:-

Fan Model: 1854B/1166
Volume: 40.2 m³/sec
Delta Pt: 3842 Pascal
Temperature: 173 deg cent
Shaft Power: 175 KW
RPM: 980 RPM
Impeller Dia: 2158 mm

Thanking you,

For Gujarat Narmada Valley fertilizers Company Ltd.,

13.10.10

Y C Goratela
Additional General Manager



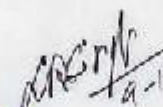
JSW Steel Limited

Vijayanagar Works :
P.O. Vijayanagar, Toranagalli,
Dist. Bellary - 583 275, Karnataka, India
Phone : 08395 - 250 120 - 130
Fax : 08395 - 250 135/250 685
Website : www.jsw.in
Dt: 08.11.2010

TO WHOM IT MAY CONCERN

This is to Certify that M/s TLT Engineering India Pvt. Ltd. Of 31B Lake Place, Kolkata-700029 Vide Our P.O. No. JSW / VJNR / C/ 7MT/ 70004 /3562 Dt. 11.03.2008, designed, engineered, manufactured, supplied, tested & commissioned 2 Nos. CO Gas Boosters each having capacity of handling 30,000 NM³/Hr. CO (Coke Oven) Gas at 1500 mm. Wg Discharge Pressure with Motors and other Accessories such as Isolation Valves, Control Valves, Instrumentation, Piping etc. TLT India also carried out the basic and detailed engineering of above CO Gas Boosting Station for Blast Furnace # 3 including structural design.

The plant was commissioned on 18.02.2009 and is running satisfactorily since Then.


For JSW LIMITED
9-11-10



Part of C.P. Jindal Group

Regd. Office : Jindal Mansion,
S.A. Dr. G. Doshmukh Marg,
Mumbai - 400 020
Phone : 022 2351 3000
Fax : 022-2352 6400



DATE: 21.01.2015

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s TLT ENGINEERING INDIA PVT. LTD. had supplied 1 no. Exhaust Gas Fan for 200 TPH Walking Beam Furnace installed at Medium Light Section Mill JSPL, Raigarh and is working satisfactorily and trouble free since its commissioning in 2009.

Considering the process requirement 1 more additional fan of identical specification was produced by JSPL from M/S TLT ENGINEERING INDIA PVT. LTD and commissioned on Feb'2014 which is all performing satisfactorily and running trouble free.

The details of the supplied fans are as under:

TLT Job No.900708
Furnace supplier – Lencva Hypertherm
Model : 16378/1724
Temperature : 500 Deg.
Flow : 95.4 m³/sec
Shaft Power : 92 KW
Pressure : 696 Pa

For JINDAL STEEL & POWER LTD, RAIGARH


Ambar Kundu
Manager, Mechanical
Medium & Light Section Mill


Sudip Kumar Paul
AGM, Mechanical
Medium & Light Section Mill

HS GROUP COMPANIES

1. HS ENGINEERING & MARKETING SERVICES

A professionally managed marketing organization representing in India leading manufacturers from Europe, U.S.A.. and Japan, catering to the requirements of the Fertilizer, Refineries and Petro-Chemical Industries, Thermal Power Stations and Oil Exploration application.

2. AIROIL FLAREGAS PVT. LTD.

Airoil Flaregas Pvt. Ltd. specializes in the manufacture and supply of Flare Systems and Accessories on turnkey basis.

3. HORIZON POLYMER ENGINEERING PVT. LTD.

Manufacturers of PTFE / PFA / PVDF / PP / FEP lined Ball Valves, Pipes, Fittings, Expansion Bellows and Sight Flow Indicators in technical collaboration with BTR Silverton Ltd., U. K.
