



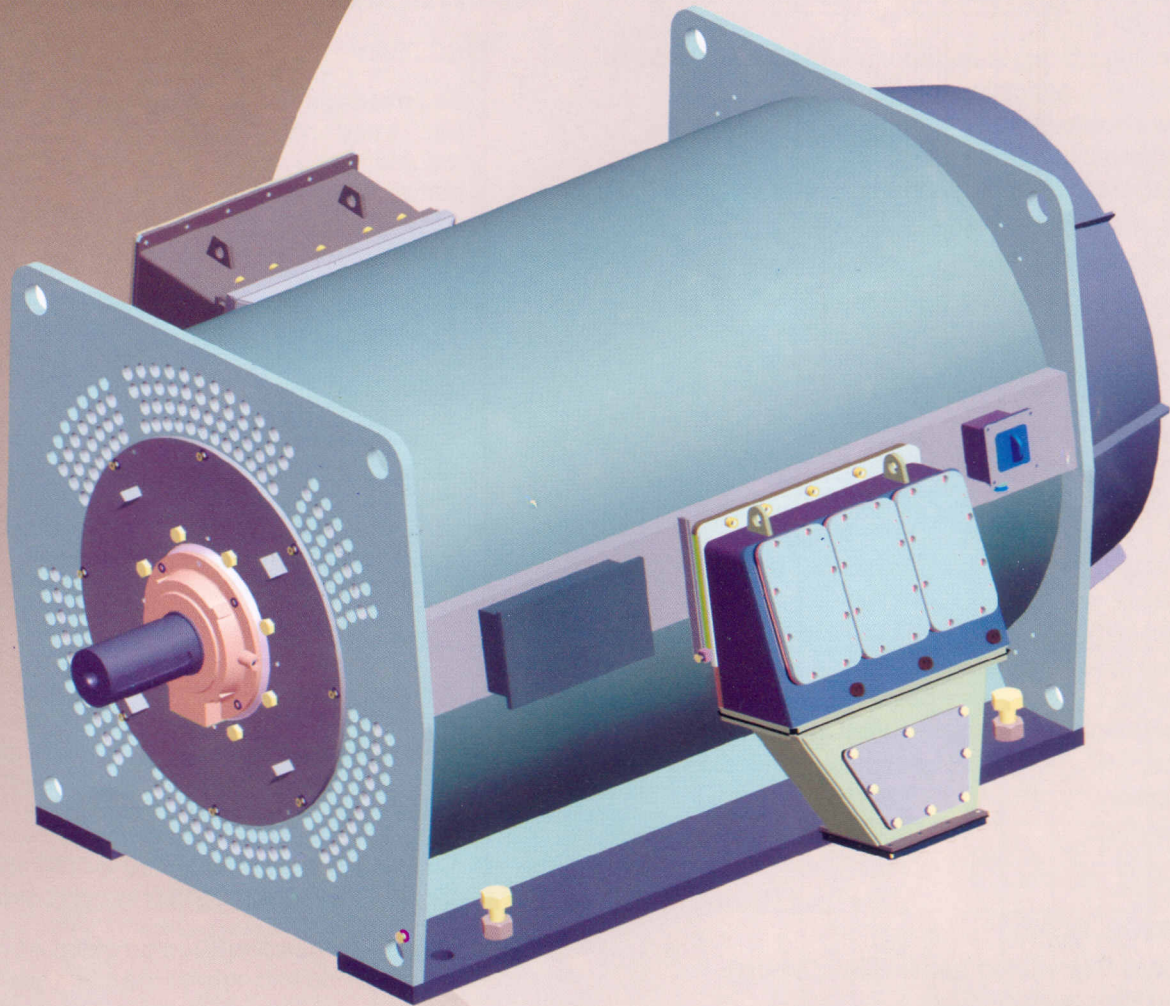
RWTUV

 **Jyoti Ltd.**



**'Jyoti'
High Voltage
Induction Motors
(TETV Series)**

Designed for
the performance
you insist



INTRODUCTION

The 'Jyoti' High Voltage Induction Motors are used for numerous and varied applications in the industries. It is necessary to carefully match the design parameters of the motors with the requirements of driven equipment to ensure satisfactory operation and performance.

Long experience in design, development and manufacturing of rotating electrical machines has enabled Jyoti to successfully design, manufacture and deliver H.T. Motors for various applications in thermal and nuclear power stations, cement plants, coal industries, fertilizer plants and water supply and irrigation projects, etc. The H.T. Motors are designed for high operating efficiency to reduce the operating cost and conserve energy.

These motors adopt quality materials skilled workmanship resulting in low operation cost, low noise, low vibration, high reliability and ease of convenience, for installation and maintenance.

SPECIAL FEATURES :

Jyoti H.T. Motors have the following Special Features :

- Type tested PSTB
- Robust Coils wound stator using proven insulation system.
- Design Ambient Temperature of 50°C
- Stator Coil type tested for impulse level, as per IEC 60034-15.
- Winding bracing suitable for out-of-phase reclosing.
- Modular construction.
- Low vibration level
- Optimized performance
- Special cage bar for low starting current
- Bearing life more than 40,000 hours

Specification of 'Jyoti Induction Motors'

Rating	: 150 to 1120 kW
Voltage	: 3300 / 6600 Volts,
Voltage variation	: ±10%
Frequency	: 50 Hz
Frequency variation	: ±5%
Combined variation	: 10%
Sync.Speed	: 1500/ 1000 rpm
Type	: Squirrel cage
Mounting	: Horizontal
Enclosure	: TETV
Degree of Protection	: IP-54 / IP-55
Cooling Type	: IC-511
Insulation	: Class-F
Temperature Rise	: Limited to Class-B
Bearing	: Antifriction Ball / Roller Bearings
Lubrication	: Grease
Accessories	: 1. RTDs for winding & bearings 2. Anti-Condensation Heaters 3. Dial Type Thermometer

TERMINAL BOX :

1. Phase Segregated Terminal Box (Mains)
2. Star Point terminal Box
3. Accessories Terminal Box for RTD, BTD & Anti-Condensation Heaters

BRIEF CONSTRUCTIONAL DETAILS

The motors are of tubular type construction, and frame is of fabricated, thus motors are light in weight and rigid in construction. The frame construction is such that it provides convenience for repair and maintenance. For TETV motors, air-to-air heat transfer by tubes provided around the stack, and is a part of body.

STATOR :

The stator stack is built from high permeability, low loss, both side insulated silicon steel lamination. The stator stack assembled with coils to form an individual assembly, which is then hydraulically pressed into the stator housing and welded with the steel ribs and stacking rings.

The windings are of class F insulation, but used in accordance with the temperature rise limitation of Class-B insulation. Epoxy mica glass and flexible mica composite is used for coils straight and overhang portion. Insulation for coils are resin rich or resin poor. For total winding stress grading conducting tapes are used for coils rated voltage 6.6 kV and above. The stator winding overhang rigidly supported and braced at the end portion. The stator stack with winding is impregnated under vacuum and pressure (VPI) to make the stack and winding assembly rigid with varnish filling the voids. Therefore, the motor is reliable in insulation properties, good in electrical and mechanical strength and protection against humid environment.

ROTOR :

Squirrel-cage rotors are made with different types of rotor bar sections, depending upon starting torque requirements. Rotor is either aluminum die-cast or fabricated construction having copper bars brazed to S.C. rings using high silver content brazing alloys. Complete rotor is then impregnated using class F varnish and baked.

Rotor is balanced dynamically on precision balancing machine.

BEARINGS :

In general, horizontal motors are provided with anti-friction ball / roller bearings. In case of vertical motors roller bearing is used at DE side and thrust bearing is used on NDE side. Thrust bearing size is selected considering thrust load from driven equipment. The bearings are lubricated using lithium base high temperature grease

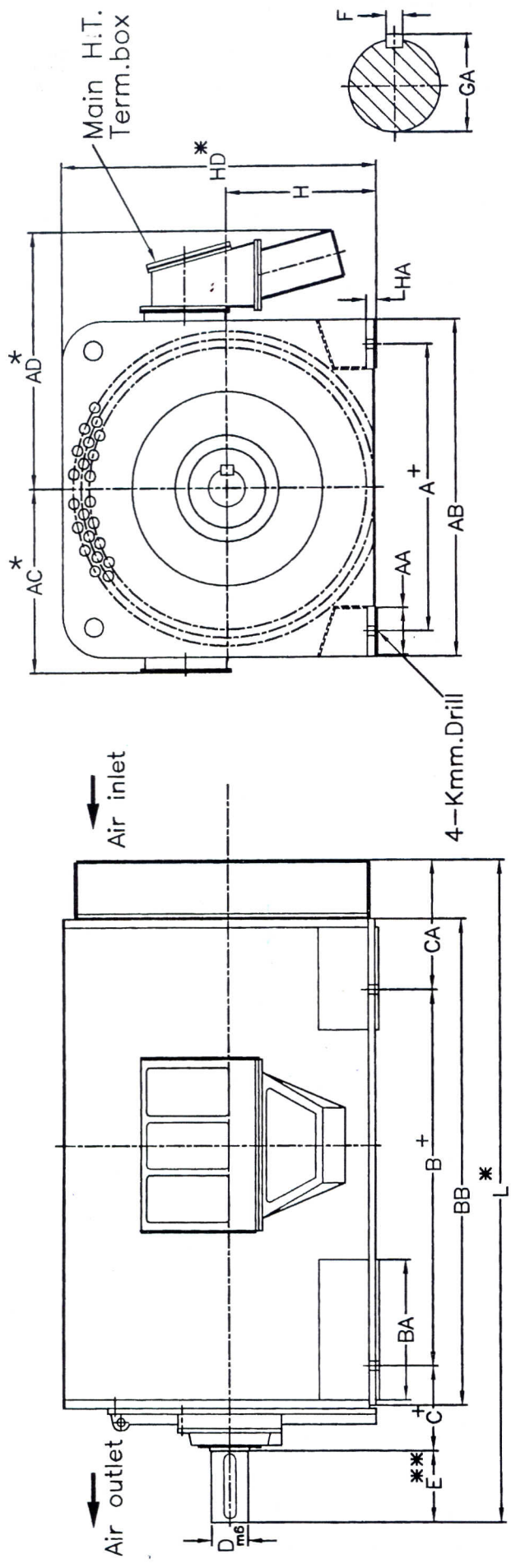
TERMINAL BOX :

The main lead terminal box is of phase-segregated type with IP-55 protection. It is type tested for 500 MVA at 6.6 kV for 0.25 seconds at CPRI. For star point terminal box, bushing and stud construction are used. Separate terminal boxes are provided for all accessories.

The cable entry can be turned to 180° position. The number of cable glands will be given as per customer requirement.

Also ground terminals are provided on motor body as well as both inside and outside the main lead terminal box.

The motors are treated for relevant corrosion protection and painted with colour as per IS : 5, with required shade.



FRAME	A+	AA	AB	B+	BB	BA	C+	Dm6	E**	F	GA	H	HA	HD*	AD*	AC*	L*	K
CHTETV-400S	686	180	886	710	1137	200	280	100	210	28	106	400	25	830	765	550	1650	42
CHTETV-400M	686	180	886	800	1207	200	280	100	210	28	106	400	25	830	765	550	1720	42
CHTETV-400L	686	180	886	900	1287	200	280	100	210	28	106	400	25	830	765	550	1800	42
CHTETV-450M	800	190	1040	1065	1530	220	200	100	210	28	106	450	30	955	980	940	2100	42
CHTETV-450L	800	210	1040	1065-1165	1450-1550	220	200	100	210	28	106	450	30	955	980	940	2050-2150	42
CHTETV-560M	920	210	1160	1200-1300	1420-1580	220	205	110	210	28	116	560	36	1110	980	940	2200-2250	42
CHTETV-630	1000	270	1270	1210-1320	1440-1550	300	220	120	210	32	127	630	50	1240	910	1010	2000-2110	42
CHTETV-710	1250	310	1540	1400-1600	1700-1830	360	250	130	250	32	137	710	50	1480	1090	830	2465-2565	56

All dimensions are in mm.

* These dimensions may vary by ± 15 mm

** These dimensions may vary by ± 0.5 mm

+ These dimensions may vary by ± 1.5 mm

RELATIONSHIP OF OUTPUT TO FRAME SIZE AND SPEED (3.3 / 6.6 kV) TETV ENCLOSURE

FRAME SIZE	SPEED (R.P.M)				
	1500 (4P)	1000 (6P)	750 (8P)	600 (10P)	500 (12P)
	OUTPUT (kW)				
400	250	250	-	-	-
	280				
	315				
450	355	280	-	-	-
	400				
	450				
560	500	400			
	560				
	630				
630	710	560	-	-	-
	800				
	900				
710	1000	800	-	-	-
	1120				



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PLEASE CONTACT

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