



DOMESTIC

# PRODUCT CATALOGUE



 **TELAWNE**  
EMPOWERING GENERATIONS

## OVERVIEW

Telawne Power Equipment is located in Asia's Largest Manufacturing Zone of Navi Mumbai. The plant is spread around 1.0 Lac sq ft. Our founder, Late Shri Sudhakar Telawne having experience of over 17 years in Crompton Greaves, Mumbai and started producing and servicing oil Immersed distribution transformers, established by name of "Telawne Cromptek" in 1988.

All plants are certified by ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018. It has all the necessary Machinery for handling and producing transformers in accordance with

IEC:60076 standards. Telawne has a capacity to produce over 10000 MVA Transformers per annum in assorted sizes and types.

We are equipped with all infrastructure facilities complete with Epoxy Flooring, Testing Pit (for better safety), Vacuum Oven, Aluminium foil winding machine. Yokogawa Power Analyzer and also the best Human Safety Equipments.

Our success and growth has been mainly due to thrust and emphasis on quality which never compromise to manufacture zero defect transformers.

## MILESTONES

- Established Indigenous Manufacturing facility at a new location as "Telawne Power Equipments Pvt Ltd. **2003-2004**
- Expanded infrastructure and testing facility for handling up to 50 MVA 132 kV. Enhanced additional winding machinery for Foil **2007-2008**
- VPI type Dry Transformer Processing facility. **2010-2011**
- Installed foil winding machinery. Built separate section for processing Dry type Transformer. Incorporated new casting plant & partial Discharge (PD) Testing Arrangement. **2015-2016**
- New Manufacturing Facility for Distribution, Dry Type Transformer & USS at Taloja, Navi Mumbai. **2017-2018**
- ISO 45001 (OHSAS), Supplied Solar Inverter duty transformer 5.5MVA, 2X0.360/33kV and also supplied 42 Nos.Solar Inverter duty transformer to APGENCO for 100mw project **2018-2019**
- Taloja Facility upgraded upto 20MVA, 33KV **2020-2021**



## OUR CREDENTIALS

### 2012 Udyog Bodh

for Business Excellence

### 2014 SME

for SME Excellence Award 2014

### 2015 SKOTCH

for Business Excellence

## LAUNCH

### 2014

New Launch for Pad Mounted and Tower Substation

### 2018-2019

New Launch for Skid Solution, and Trailer Mounted Substation

### 2016

New Launch for Contenarized Substation

### 2021

New Launch for IOT Solutions, Smart Transformers and Smart CSS

## EXHIBITIONS



## CERTIFICATIONS

- **CE Certified:** Applicable Directive R548/2014 Certified 29754
- **CPRI** 12.5MVA, 5 windings, Aluminium wound, Inverter Duty Transformer.
- **CPRI** Successfully Type tested 1250 KVA, 33KVA; 5,10 & 20 MVA 33/11KV Transformers at CPRI, Bangalore.
- **KEMA** Short Circuit Tested 2750KVA 33KV, 3 windig Inverter Duty Transformer.
- **ERDA** Successfully Type Tested 100 to 2500 KVA, 11KV @ 22KV, Oil & Dry Type Transformer, PACKaged & Pad Mounted Substaions.
- **ASTA** Complete Type Tested 1000KVA, 11/0.433KV Pil Cooled Distribution Transformer as per Gulf & African Utility Specification.

## MOTTO



### VALUES

Maintain Transparency, Commitments & Harmonious relationship with Employees, Business Associates & Well Wishers. Develop healthy & safe working environment & provide Integrity throughout the Organisation.



### VISION

“Empowering Generations through innovation and continual improvement.”



### MISSION

To empower as world recognized service provider for Low Loss Transformers & Compact Substations with a zeal to create excellent customer relationship by being transparent, committed & maintaining Harmonious relationship.

# OIL IMMERSED DISTRIBUTION TRANSFORMER

## STANDARD FITTINGS

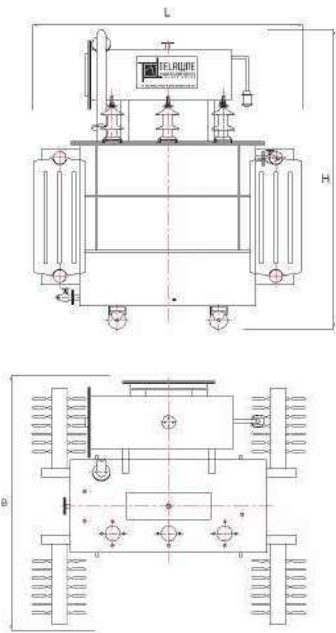
- H. V. Bushing
- L. V. Bushing
- Off Circuit Tap Changer
- Conservator with oil filling hole, cap & drain plug
- Under carriage with four bi-directional rollers
- Earthing terminals
- Drain cum bottom filter valve with sampling plug
- Top filter valve with sampling plug
- Plain Oil Level gauge
- Rating diagram plate
- Air release device
- Thermometer Pocket
- Lifting lugs
- Pressed Steel Radiators (Detachable or corrugated type)
- Double Diaphragm Explosion Vent
- Silica gel breather
- Additional Neutral bushing

## ● TECHNICAL SPECIFICATIONS

Duty, Type	Outdoor / Indoor, Pole or Ground Mounted
Voltage Class	3.3, 6.6, 11, 22, 33 KV or any specific
No of Phases	1 or 3 Phase
Frequency	50/60 Hz
Vector Group	Dyn1 or Dyn5 or Dyn11 or any specific
Class of Insulation	Class A
Tap Changer	Off Circuit or On Load
Tapping Range	As per customer requirement
Winding Material	Aluminium or Copper with multi paper covering
Applicable Standards	IS 2026, IS1180, IEC 60076, ANSI, IEEE
Painting	Enamel, Epoxy, Polyurethane or customer specific
Type of Oil	Mineral Oil, Natural Ester, Synthetic Ester



## PRODUCT DIAGRAM



## ● GENERAL DETAILS

We at TELAWNE manufacture both hermetically sealed, corrugated radiator type and conventional rectangular tank type distribution Transformers. These Transformers are generally used in distribution network for feeding residential, commercial & bulk consumers. Following are the dimensional, weight & quantity details with LV Cable Box and conventional fin type radiator along with IS 1180 losses for 11 KV distribution transformer (Off Circuit Type).

SR. NO.	RATING (KVA)	OVERALL DIMENSIONS (mm)			IS 1180 LOSSES 11kV		OIL QTY. (LTRS)	TOTAL WT. (KGS)
		LENGTH(L)	BREADTH(B)	HEIGHT(H)	MAX. 50% LOSSES (LEVEL 1)	MAX. 100% LOSSES (LEVEL 1)		
1	100	1200	1400	1500	520	1800	260	945
2	160	1250	1500	1600	770	2200	315	1155
3	200	1300	1500	1700	890	2700	385	1415
4	250	1400	1600	1750	1050	3150	450	1650
5	315	1500	1700	1800	1100	3275	490	1950
6	400	1600	1800	1850	1300	3875	535	2255
7	500	1700	2000	1900	1600	4750	600	2480
8	630	1800	2100	2000	2000	5855	735	2950
9	800	2000	2050	2200	2459	7300	790	3300
10	1000	2200	2200	2350	3000	9000	975	4040
11	1250	2300	2600	2400	3600	10750	1130	4670
12	1600	2400	3000	2600	4500	13500	1345	5450
13	2000	2600	3200	2400	5400	17000	1675	6650
14	2500	2800	3300	2800	6500	20000	1950	7925

*\*Dimensions & weight may vary for any specific or special requirement.*

## ● OPTIONAL FITTINGS

- Dial type Winding Temperature Indicator with with SCADA compatibility
- Dial type Oil Temperature Indicator with with SCADA compatibility
- Equaliser pipe between conservator & explosion vent
- On Load Tap Changer
- RTCC Panel with automatic voltage Regulator (AVR)
- DGPT Relay
- IOT - Real time data transfer to cloud platform for online data transfer
- Air cell bag
- Air cell rupture relay

## ● ASSURED FEATURES

- Highest dielectric insulation property to withstand Lightning Impulse.
- Mechanical design to withstand short circuit forces arising during faults.
- Optimum oven heating under vacuum as to achieve desired compression height and maximum insulation resistance (IR) to windings.
- Adequate ducts between layers, coils, discs for maximum oil flow and reduced hot spot temperature.
- Step-lap designed CRGO laminations for lower losses and excitation current.
- Pre compressed Insulation material for minimal moisture absorption.

# INVERTER DUTY TRANSFORMER

## STANDARD FITTINGS

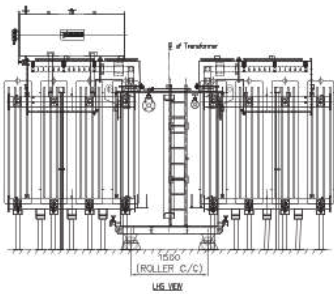
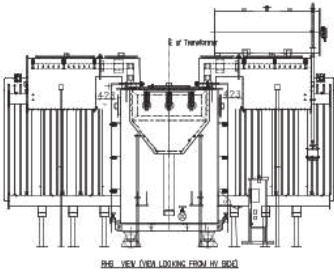
- H. V. Bushing L. V. Bushing
- Off Circuit Tap Changer
- Conservator oil filling hole with cap & drain plug
- Under carriage with four bi-directional rollers
- Earthing terminals
- Drain cum bottom filter valve with sampling plug
- Top filter valve with sampling plug
- Plain Oil Level gauge
- Rating diagram plate
- Air release device
- Thermometer Pocket
- Lifting lugs
- Pressed Steel Radiators (Detachable)
- Silica gel breather
- Jacking Pads
- PRV
- MOG
- Buchholz relay
- OTI
- WTI
- Marshalling box with control wiring

## TECHNICAL SPECIFICATIONS

Duty, Type	Outdoor / Indoor, Ground Mounted
Voltage Class	3.3, 6.6, 11, 22, 33 KV or any specific
No of Phases	3 Phase
Frequency	50/60 Hz
Vector Group	Ynd11 or Ynd11d11 or Ynd11d11 d11d11 or Dy11y11y11y11 any specific
Class of Insulation	Class A, Class E
Tap Changer	Off Circuit or On Load
Tapping Range	As per customer requirement
Winding Material	Aluminum or Copper with multi paper covering
Applicable Standards	IS 2026, IEC 60076, ANSI, IEEE
Painting	Enamel, Epoxy, Polyurethane or customer specific



## ● PRODUCT DIAGRAM



## ● OPTIONAL FITTINGS

- Dial type Oil Temperature Indicator with SCADA compatibility
- Dial type Winding Temperature Indicator with SCADA compatibility
- Magnetic Oil Gauge with multiple contacts
- Buchholz relay with multiple contacts
- On Load Tap Changer
- RTCC Panel with automatic voltage Regulator (AVR)
- IOT - Real time data transfer to cloud platform for online data transfer
- Air cell bag
- Air cell rupture relay
- Smart Breather

## ● GENERAL DETAILS

We at TELAWNE manufacture both hermetically sealed, corrugated radiator type and conventional rectangular tank type distribution Transformers. These Transformers are generally used in distribution network for feeding residential, commercial & bulk consumers. Following are the dimensional, weight & quantity details along with standard losses for conventional 11 KV distribution transformer (Off Circuit Type).

SR. No.	Rating (KVA)	No. Of Winding	No. Of Core Coil Assembly
1	1000	2	1
2	1250	2	1
3	1500	2	1
4	2000	3	1
5	2500	3	1
6	3000	3	1
7	3250	4	1
8	3350	4	1
9	4000	5	2
10	5000	5	2

*\* losses may vary for any specific or special requirement.*

## ● ASSURED FEATURES

- Highest dielectric insulation property to withstand Lightening Impulse.
- Mechanical design to withstand short circuit forces arising during faults.
- Optimum oven heating under vacuum as to achieve desired compression height and maximum insulation resistance (IR) to windings.
- Adequate ducts between layers, coils, discs for maximum oil flow and reduced hot spot temperature.
- Step-lap designed CRGO laminations for lower losses and excitation current.
- Pre compressed Insulation material for minimal moisture absorption.

# POWER TRANSFORMER

## STANDARD FITTINGS

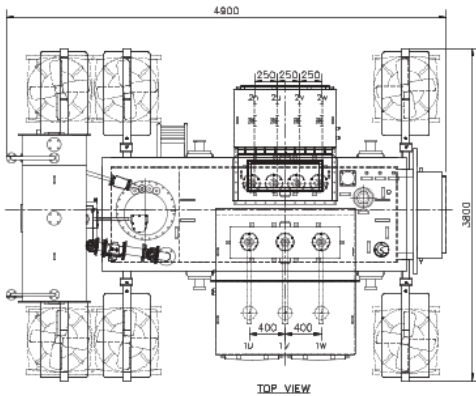
- H. V. Bushing / L. V. Bushing
- Conservator oil filling hole
- Off circuit tap charger
- Bi-directional rollers
- Earthing terminals pads
- Drain cum bottom filter valve
- Top filter valve with sampling plug
- Plain Oil Level gauge
- Rating diagram plate
- Air release device
- Air release device
- Lifting lugs
- Pressed steel Radiators with isolating valves (Detachable)
- Double Diaphragm Explosion Vent
- Silica gel breather
- Jacking Pads
- Dial type OTI with contacts
- Dial type WTI with contacts
- Buchholz relay with contacts
- Marshalling box with control wiring
- MOG with contacts
- PRV with contacts

## TECHNICAL SPECIFICATIONS

Duty, Type	Outdoor / Indoor
Voltage Class	11, 22, 33, 66 KV or any specific
No of Phases	3 Phase
Frequency	50/60 Hz
Vector Group	Dyn5 or Dyn11 or YNyn0 any specific
Class of Insulation	Class A
Tap Changer	Off circuit or On load tap changer
Tapping Range	As per customer requirement
Winding Material	Copper with multi paper covering
Applicable Standards	IS 2026, IEC 60076, ANSI, IEEE
Painting	Enamel, Epoxy, Polyurethane or customer specific



## ● PRODUCT DIAGRAM



## ● OPTIONAL FITTINGS

- Dial type OTI with SCADA compatibility
- Dial type WTI with SCADA compatibility
- Magnetic Oil Gauge with multiple contacts
- On Load Tap Changer
- RTCC Panel with automatic voltage Regulator (AVR)
- RTCC Panel with automatic voltage Regulator (AVR)
- Pressure Release valve with multiple contacts
- Air cell bag
- Air cell rupture relay
- Equalizer pipe between conservator & explosion vent
- Annunciators in RTCC panel
- Force cooling arrangement with fan control cubical
- IOT - Real time data transfer to cloud platform for online data transfer
- Nitrogen Injection Fire Prevention System Provision
- Smart Breather

## ● GENERAL DETAILS

We manufacture both on load & off circuit tap switch type power transformer. These Transformers are generally used in receiving substation for feeding residential, commercial & bulk consumers. Following are the dimension, oil quantity & weight details along with standard & low losses for 33 KV Power transformer with On Load Tap Changer.

STANDARD TRANSFORMER WITH OLTC

SR. NO.	RATING (KVA)	OVERALL DIMENSIONS (MM)			LOSSES (W)			OIL QTY. (LTRS)	TOTAL WT. (KGS)
		LENGTH(L)	BREADTH(B)	HEIGHT(H)	NO LOAD	LOAD	%		
1	3150	3300	3000	3500	4000	24000	7.15	2450	9250
2	5000	3500	3200	3600	5500	33000	7.15	3300	11550
3	6300	3600	3400	3800	6500	40000	7.15	3800	13250
4	8000	3800	3500	3900	8000	48000	8.35	4200	15000
5	10000	4000	3600	4000	9000	57000	8.35	4800	17500
6	12500	4200	3800	4200	10000	67000	8.35	5200	19500
7	16000	4400	4000	4400	12000	80000	10.00	6300	22250

LOW LOSS TRANSFORMER WITH OLTC

1	3150	3500	3000	3300	3000	14000	7.15	2700	10850
2	5000	3700	3200	3400	3900	19000	7.15	3600	14150
3	6300	3800	3400	3600	4500	25000	7.15	4200	15000
4	8000	4000	3500	3700	5000	32000	8.35	4600	17850
5	10000	4200	3600	3800	5400	37000	8.35	5200	21500
6	12500	4400	3800	4000	6000	43000	8.35	5700	24500
7	16000	4600	4000	4200	7000	52000	10.00	6800	28250

\*Dimensions and weight & Losses may vary for any specific or special requirement.

## ● ASSURED FEATURES

- Highest dielectric insulation property to withstand lightning impulse.
- Mechanical design to withstand short circuit forces arising during faults.
- Optimum oven heating under vacuum as to achieve desired compression height and maximum insulation resistance (IR) to windings.
- Adequate ducts between layers, coils, discs for maximum oil flow and reduced hot spot temperature.
- Step-lap designed CRGO laminations for lower losses and excitation current.
- Pre compressed Insulation material for minimal moisture absorption.
- PermaWood rings for uniform clamping.

# EXTRA HIGH VOLTAGE TRANSFORMER

## STANDARD FITTINGS

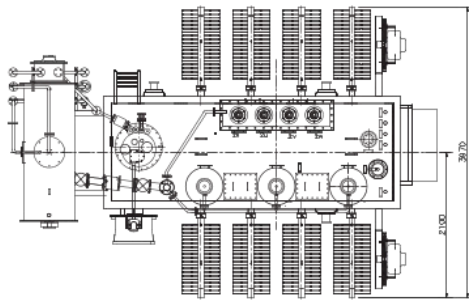
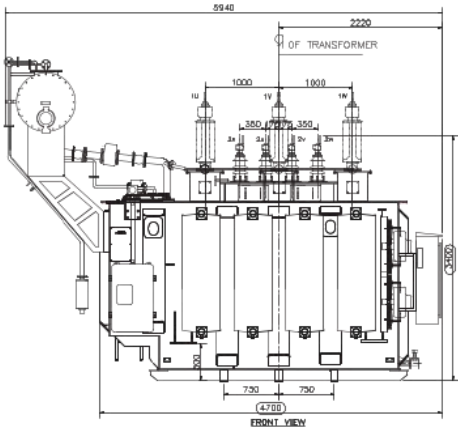
- H.V Bushing / L.V Bushing
- Conservator with oil filling hole
- Rollers (Plain / Flange)
- Earthing terminal pads
- Drain with bottom filter valve
- Top filter valve with sampling plug
- Shut off valve
- Plain oil level gauge
- Rating diagram plate
- Terminal Marking Plate
- Air release device
- Thermometer Pocket
- Lifting lugs
- Pressed Steel Radiators (Detachable)
- Double Diagram Explosion Vent
- Equaliser pipe
- Silica Gel Breather
- Isolating valves for radiator
- Jacking Pads
- Dial type OTI with contacts
- Dial type WTI with contacts
- Marshalling Box with control wiring
- Buchholz relay with contacts
- Magnetic Oil Gauge with contacts
- Skid under base
- Inspection Cover
- On Load Tap Changer / Off
- Circuit Tap Changer
- RTCC Panel with automatic voltage regulator (AVR)
- PRV with Contacts

## TECHNICAL SPECIFICATIONS

Duty, Type	Outdoor
Voltage Class	66, 100, 110, 132 KV or any specific
No of Phases	3 Phase
Frequency	50/60 Hz
Vector Group	Dyn5 or Dyn11 or YNyn0 any specific
Insulating Fluid	IS / IEC, ASTM D3487
Class of Insulation	Class A
Tap Changer	Off Circuit or On load tap Changer
Tapping Range	As per customer requirement
Winding Material	Copper with multi paper covering
Applicable Standards	IS 2026, IEC 60076, ANSI, IEEE
Painting	Epoxy, Polyurethane or customer specific



## ● PRODUCT DIAGRAM



## ● OPTIONAL FITTINGS

- Air cell bag
- Air cell rupture relay
- Scada Compatible OTI & WTI
- Annunciator in RTCC panel
- Force cooling arrangement with fan control cubical
- Anti vibration pads
- Vibration Recorder
- RTD for oil & winding
- Nitrogen Injection Fire Prevention System
- IOT - Real time data transfer to cloud platform for online data transfer
- Smart Breather

## ● GENERAL DETAILS

We manufacture both on load & off circuit tap switch type EHV transformer. EHV transformer have voltage class 66 KV or above. These transformer are generally used for stepping down voltage from transmission line. EHV transformer generally have force cooling & on load tap changer. Following are the dimension, oil quantity & weight details along with standard & low losses for 66 KV & 132 KV EHV power transformer with On Load Tap Changer having ONAN /ONAF Cooling.

### STANDARD TRANSFORMER WITH OLTC

SR. NO.	RATING (MVA)	OVERALL DIMENSIONS (MM)			LOSSES (W)			OIL QTY. TOTAL WT.	
		LENGTH(L)	BREATH(B)	HEIGHT(H)	NO LOAD	LOAD	%	(LTRS)	(KGS)
1	10/12.5	5100	3900	4100	9	60	10	8300	24000
2	12.5/16	5800	4500	4400	11.5	708	10	8400	28000
3	16/20	7000	4900	4750	13	85	10	13000	34000
4	20/25	7500	5000	5200	16	100	10	14000	42000
5	25/31.5	8000	5100	5750	20	120	10	20000	52000
6	32/40	8400	5650	6000	25	150	12.5	21000	63000
7	40/50	8600	5750	6150	31.5	185	12.5	22000	70000

### LOW LOSS TRANSFORMER WITH OLTC

1	10/12.5	5300	4100	4300	7	40	10	9130	26400
2	12.5/16	6000	4700	4600	9.5	48	10	9240	30800
3	16/20	7200	5100	4950	11.5	60	10	14000	36550
4	20/25	8000	5200	5400	14	76	10	15050	45150
5	25/31.5	8300	5400	5950	18	92	10	21000	54600
6	32/40	8700	5950	6200	21	120	12.5	22050	66150
7	40/50	8900	6050	6450	25	150	12.5	23100	73500

\*Dimensions and weight & Losses may vary for any specific or special requirement.

## ● ASSURED FEATURES

- Highest Dielectric insulation property to withstand Lightning impulse.
- Step lap designed CRGO laminations for lower losses & excitation current.
- Pre heating of coils under vacuum as to achieve desired compression height & max shrinking of coils.
- Premali wood clamping rings for uniform compression of primary & secondary winding.
- Coil clamping screws for sustaining high mechanical strength due to short circuit forces.
- Adequate ducts between layers, coils, discs for max oil flow & reduced hot spot temperature.

# CAST RESIN DRY TYPE TRANSFORMER

## STANDARD FITTINGS

- H.V. Cable box.
- L.V. Cable box with bus bar or bus duct
- Off circuit tap links
- Under carriage with four bi-directional rollers
- Earthing terminals.
- Rating and diagram plate
- Lifting lugs for complete transformer
- Tapping link operation door
- Enclosure with louver panels
- Canopy
- Base channel – 2 Nos.
- Separate neutral bushing on LV side.
- Digital Temperature Scanner with RTD Sensors
- Marshalling Box with Control Wiring

## SAFETY FEATURES

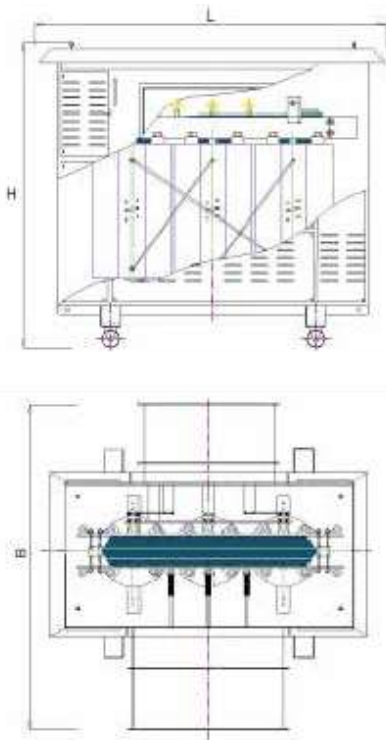
- Environment Friendly
- Fire Resistance
- Non-Hygroscopic
- Door Limit Switch

## TECHNICAL SPECIFICATIONS

Duty, Type	Outdoor / Indoor Ground Mounted Type
Voltage Class	Upto 33 KV
No of Phases	3 Phase
Frequency	50/60 Hz
Vector Group	Dyn1 or Dyn5 or Dyn11 or any specific
Class of Insulation	F or H with Temp Rise of 90 or 115 Deg C or as per customer requirement
Tap Changer	Off Circuit or On Load
Tapping Range	As per customer requirement
Winding Material	Aluminium or Copper with multi paper covering
Applicable Standards	IS 2026, IS 11171, IEC 60726, IEC 60076
Painting	Powder coated with RAL 7032 shade or as per customer requirement



## ● PRODUCT DIAGRAM



## ● OPTIONAL FITTINGS

- On Load Tap Changer with RTCC Panel with AVR
- Forced Cooling arrangement
- Neutral Current Transformer
- IOT - Real time data transfer to cloud platform for online data transfer

## GENERAL DETAILS

At TELAWNE casting method of these transformers is obtained with the combined action of vacuum and temperature. The casting method makes it possible to assure void-free epoxy penetration of both the inner layer and between turn insulation. These Transformers are specifically needed in distribution network for feeding basements or stilts of high-rise buildings, hotels, Malls, stadium, air ports, chemical & refinery plants. Following are the dimensional, weight & quantity details along with standard losses for conventional 11KV, (off circuit Type) Cast Resin Transformer (CRT).

SR.	RATING	OVERALL DIMENSIONS (MM)			LOSSES (W)		TOTAL WT. (KGS)
		NO.	(KVA)	LENGTH(L)	BREADTH(B)	HEIGHT(H)	
1	100	1400	1500	1500	400	1600	925
2	150	1500	1600	1600	500	2400	1050
3	200	1600	1700	1700	600	3000	1400
4	250	1700	1800	1800	700	3500	1550
5	315	1750	1900	1900	950	4400	1650
6	400	1850	2100	2000	1200	4750	2100
7	500	1900	2200	2200	1450	5200	2300
8	630	2000	2400	2300	1600	6000	2600
9	750	2100	2500	2350	1800	7000	3200
10	1000	2200	2600	2400	2200	9500	3400
11	1250	2300	2700	2450	2600	11500	3600
12	1600	2350	2800	2500	3200	13500	4000
13	2000	2400	3000	2600	3800	16500	4450
14	2500	2500	3200	2700	4500	20000	5000
15	3000	2600	3400	2800	5000	23000	6500

*\*Dimensions and weight & losses may vary for any specific or special requirement.*

## ● ASSURED FEATURES

- Windings are electrically balanced to minimize axial short circuit forces.
- Coils are held rigidly in place between insulators clamped to the upper and lower core frames under high compression.
- Precise casting under vacuum ensuring low partial discharge.
- Smooth surface finish and robust construction of MV & LV cast Coils.
- Adequate ducts between coils, discs for maximum air flow and reduced hot spot temperature.
- Step-lap designed CRGO laminations for lower losses and excitation current.

# VACUUM PRESSURE IMPREGNATED DRY TYPE TRANSFORMER

## STANDARD FITTINGS

- H.V. Cable box
- L.V. Cable box with Bus bar or Bus duct
- Off Circuit Tap links
- Under carriage with four bi-directional Rollers
- Earthing terminals
- Rating and diagram plate
- Lifting lugs for complete Transformer
- Tapping Link operation Door
- Enclosure with Louver Panels
- Canopy
- Base Channel-2 Nos.
- Separate Neutral bushing on LV side
- Hinged Windows for inspection of core and windings

## SAFETY FEATURES

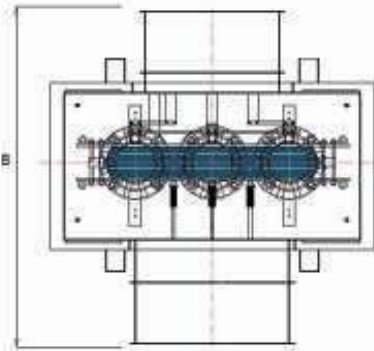
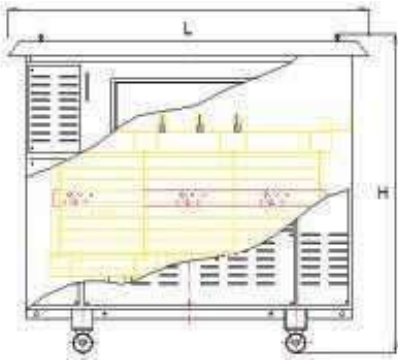
- Environment Friendly
- Fire Resistance
- Non-Hygroscopic

## TECHNICAL SPECIFICATIONS

Duty, Type	Outdoor / Indoor, Pole or Ground Mounted
Voltage Class	Upto 22 KV
No of Phases	3 Phase
Frequency	50/60 Hz
Vector Group	Dyn1 or Dyn5 or Dyn11 or any specific
Class of Insulation	F or H with Temp Rise of 90 or 115° C or as per customer requirement
Tap Changer Type	Off Circuit or On Load
Tapping Range	As per customer requirement
Winding Material	Aluminium or copper with multi paper covering
Applicable Standards	IS 11171, IEC 60726, IEC 60076
Enclosure Painting	Powder coated with RAL 7032 shade or as per customer requirement



## ● PRODUCT DIAGRAM



## ● GENERAL DETAILS

We TELAWNE manufacture both hermetically sealed, corrugated radiator type and conventional open enclosure type vacuum pressure impregnated dry Transformers. These Transformers are specifically needed in distribution network for feeding basements or stilts of high-rise buildings, hotels, Malls, stadium, air ports, chemical & refinery plants. Following are the dimensional & weight details along with standard losses for conventional 11 KV, Dry Type (VPI) Transformer (off circuit Type). with enclosure of IP 23

SR. NO.	RATING (KVA)	OVERALL DIMENSIONS (MM)			STANDARD LOSSES (W)		TOTAL WT. (KGS)
		LENGTH(L)	BREADTH(B)	HEIGHT(H)	NO LOAD	FULL LOAD	
1	100	1400	1500	1500	400	1600	925
2	150	1500	1600	1600	500	2400	1050
3	200	1600	1700	1700	600	3000	1400
4	250	1700	1800	1800	700	3500	1550
5	315	1750	1900	1900	950	4400	1650
6	400	1850	2100	2000	1200	4750	2100
7	500	1900	2200	2200	1450	5200	2300
8	630	2000	2400	2300	1600	6000	2600
9	750	2100	2500	2350	1800	7000	3200
10	1000	2200	2600	2400	2200	9500	3400
11	1250	2300	2700	2450	2600	11500	3600
12	1600	2350	2800	2500	3200	13500	4000
13	2000	2400	3000	2600	3800	16500	4450
14	2500	2500	3200	2700	4500	20000	5000
15	3000	2600	3400	2800	5000	23000	6500

*\*Dimensions and weight & Losses may vary for any specific or special requirement.*

## ● OPTIONAL FITTINGS

- On Load Tap Changer with RTCC Panel with AVR
- Forced Cooling arrangement
- Neutral Current Transformer
- IOT - Real time data transfer to cloud platform for online data transfer

## ● ASSURED FEATURES

- Windings are electrically balanced to minimize axial & radial short circuit forces.
- Coils are held rigidly in place between insulators clamped to the upper and lower core frames under high compression.
- Polyester resin or thixotropic epoxy resin or silicon varnish impregnation as per the application is used.
- High temperature resistant materials are used including Nomex papers, silicone coated fibreglass and pressure sensitive glass tape.
- Adequate ducts between coils, discs for maximum air flow and reduced hot spot temperature.
- Step-lap designed CRGO laminations for lower losses and excitation current.

# UNITISED SUBSTATION

## STANDARD FITTINGS

- MS/ CRC Sheet fabricated Enclosure as per IS 14786
- Load Balancing Lifting Hooks
- Collapsible hinge mounted doors
- Perforated sheet & Air ventilation louvers in Transformer section
- Easy removable rain water protection canopy
- For safety doors with alarm & tripping circuit
- Inter connecting MV & LV cables & Bus bars
- Powder coated paint, Shade - RAL 7032 or as per customer request
- Illuminating lamps with MCB in LT & MT Compartment

## SPECIAL FEATURES

- Completely Factory built
- Superior Aesthetics
- Convenience in portability
- Ready to install & Commission
- Compact in size
- Minimal maintenance
- Suitable for rooftop & Basement
- Tamper Proof
- IOT - Real time data transfer to cloud platform for online data transfer

## ● TECHNICAL SPECIFICATIONS

### Medium Voltage Compartment

MV Switchgear	3.3 to 33 kV
Type of Switchgear	LBS / SFU / Circuit Breaker / RMU
Insulation Medium	SF6 Gas or Vacuum
Tripping	Fuse / Relay
Short Circuit Rating	12.5 to 25kA or as per customer requirement

### Transformer Compartment

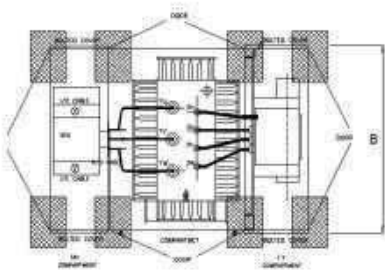
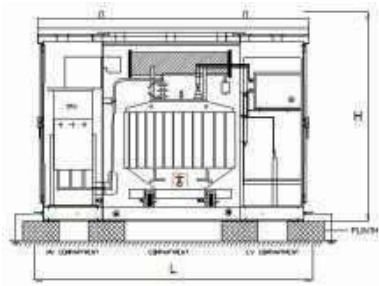
Type	Oil Immersed / Dry Type
Rating	100 to 2000 kVA
Voltage	3.3 to 33/0.433 kV or any specific
Phase / Frequency	3 Phase / 50 or 60 Hz.
Vector Group	Dyn1 or Dyn5 or Dyn11 or any specific.

### Low Voltage Compartment

LV Switchgear	ACB's, MCCB's, HRC Fuses
Current Rating	Upto 4000 Amps
Voltage	440 Volts
No. of Poles	3 / 4
Short Circuit Rating	36 KA or as per customer requirement



## ● PRODUCT DIAGRAM



## ● GENERAL DETAILS

Unitised substations are designed for locations where space and safety is a concern, population density is high, such as urban centre. Unitised substation is divided into three sections or compartments— Medium Voltage, Transformer and Low Voltage Switchboard. Unitised substations are designed in accordance with IS 14786 / IEC 62271.202 standards with degree of protection for IP 23 Transformer and IP 54 for MV & LV compartments or as per customer requirement.

Following are the dimensional and weight details for a typical 11 KV, Unitised substation with off circuit type oil cooled Transformer.

SR. NO.	Rating (KVA)	Overall dimensions (mm)			Approx WT. (KGS)
		LENGTH (L)	BREADTH (B)	HEIGHT (H)	
1	100 to 250	2600	1800	2000	2500
2	315 to 630	2800	2000	2200	3800
3	750 to 1000	3000	2200	2400	5200
4	1250 to 2000	3200	2400	2600	7000

*\*Dimensions and weight may vary for any specific or special requirement.*

## ● APPLICATIONS

Airport



IT Industry



Refineries



Mines



Theatre / Mall



Construction Site



## ● ASSURED FEATURES

M.V. Compartments	Transformer Compartment	L.V. Compartment
MV RMU/ VCB/ SFU	On Load Tap Changer with R.T.C.C. panel & AVR	L.T. microprocessor based trip unit
H.T. Metering/ Load manager	Pressure Release valve	L.T. MFM / Load manger
Annunciator & Power pack	W.T.I & O.T.I. with Alarm & Trip contacts	Feeder Pillar (HRC fuse / MCCB Based)
Earth fault, over current relay	Magnetic Oil Gauge with low level contacts	APFCR Panel with capacitor Bank
Scada or P.L.C compatible	Bucholz Relay with Alarm & Trip contacts	L.T. Earth fault & Over current relay

# PAD MOUNTED SUBSTATION

## BASIC COMPONENTS

- MS/ CRC Sheet fabricated Enclosure as per IS 14786
- Load Balancing Lifting Hooks
- Collapsible hinge mounted doors
- Enclosure / Tank for Transformer
- Safety door switches
- Interconnecting MV & LV Bus bars
- Powder coated paint, Shade - RAL 7032 or as per customer requirement

## SPECIAL FEATURES

- Completely Factory built
- Superior Aesthetics
- Convenience in portability
- Ready to install & Commission
- Compact in size
- Minimal maintenance
- IOT - Real time data transfer to cloud platform for online data transfer

## TECHNICAL SPECIFICATIONS

### Medium Voltage Compartment

MV Switchgear	Upto 22 KV
Type of Switchgear	LBS / SFU / Circuit Breaker / RMU / VCB
Insulation Medium	SF6 Gas or Vacuum
Tripping Short	Fuse / Relay
Circuit Rating	12.5 to 25 KA or as per customer requirement

### Transformer Compartment

Installation	Outdoor / Indoor Ground Mounted
Type	Oil Immersed / Dry Type
Rating	63 to 1000 KVA
Voltage	6.6 to 22/0.433 kV or any specific
Phase / Frequency	3 Phase / 50 or 60 Hz
Vector Group	Dyn1 or Dyn5 or Dyn11 or any specific

### Low Voltage Compartment

LV Switchgear	ACB's, MCCB's or HRC Fuse
Current Rating	Upto 2000 Amps
Voltage	440 Volts
No. of Poles	3 / 4
Short Circuit Rating	36 KA or as per customer requirement





# SOLAR SKID SUBSTATION

## BASIC COMPONENTS

- L. V. Termination
- M.V. Termination
- DGPT-2 or equivalent for Transformer Protection
- Load Balancing Lifting Hooks for Transformer
- Inter connecting by LV cables or bus bars (as applicable) from Invertors to Transformer
- Inter connecting MV cables o bus bars (as applicable) Transformer to MV Breaker
- Skid fabrication type- MS Steel /Galvanized steel or as per customer requirement
- Auxiliary Service Electrical Panels as per specific requirement of customer

## SPECIAL FEATURES

- Completely factory built Superior
- Aesthetics Convenience in portability
- Ready to install & Commission
- Compact in size
- Minimal maintenance
- Tamper proof
- Epoxy / PU paint, Shade - RAL 9003 or as per customer request for Encloser
- Powder coated paint, for HV& LV Equipment's
- IOT - Real time data transfer to cloud platform for online data transfer

## TECHNICAL SPECIFICATIONS

### Medium Voltage Switchgear

MV Switchgear	Upto 33 kV
Type of Switchgear	SFU / Circuit Breaker / RMU SF6
Insulation Medium	Gas or Vacuum
Tripping Short	Fuse / Relay
Circuit Rating	Upto 21 kA or as per customer requirement

### Hermetically Sealed Transformer

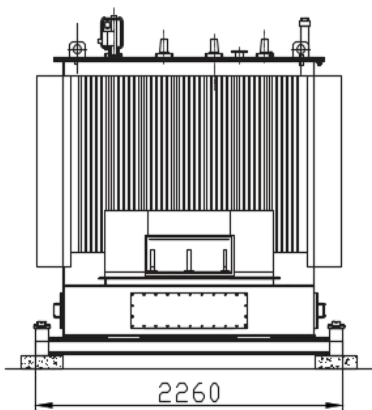
Voltage Class	Upto 33 kV or any specific
No of Phases	3 Phase
Frequency	50/60 Hz
Vector Group	Ynd11 or Ynd11d11 or Ynd11d11 d11d11, Dy11, Dy11y11, Dy11y11y11y11 or any specific
Insulating Fluid	PCB FREE Mineral Oil, both inhibited & uninhibited, as per IEC, ASTM D3487 and customer requirement
Class of Insulation	Class A
Tap Changer	Off Circuit
Tapping Range	As per customer requirement
Winding Material	Aluminum or Copper with multipaper covering
Applicable Standards	IEC 60076, ANSI, IEEE, Eco Design or As per customer requirement



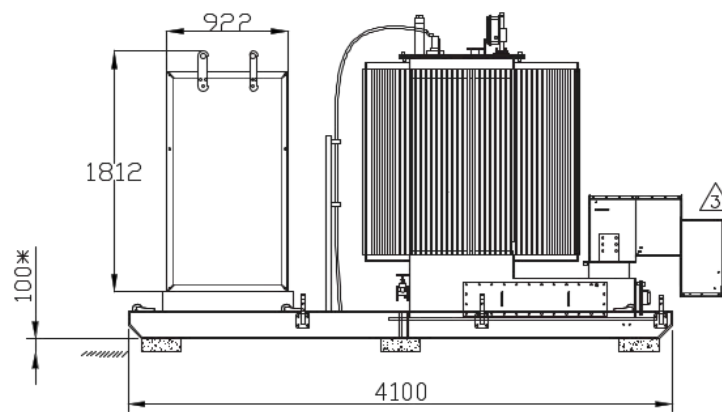
## ● OPTIONAL FEATURES

- Annunciator & Power pack
- Earth Fault & Overcurrent relay
- SCADA or PLC Compatible switchgear
- Scanner / WTI / OTI with RS 485 Port, Alarm & Trip Contact
- Input Range: 300V to 800 or as per requirement

## ● PRODUCT DIAGRAM



SIDE VIEW



VIEW WITHOUT FENCE

## ● GENERAL DETAILS

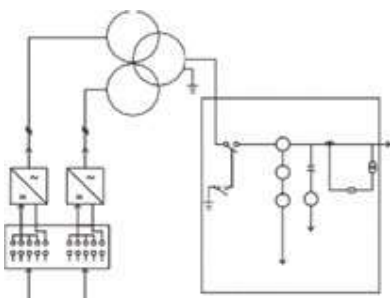
Solar Skid Substation are designed for clustered solar parks where space and safety is a concern, and are of capacity 2 MW & above projects. Solar Skid Substation comprises of MV Breaker, Transformer and Inverters. Solar Skid Substation are designed in accordance with IS 14786 / IEC 61330 standards with degree of protection upto IP 55 for Transformer and Inverters & upto IP 54 for MV breaker.

Following are the dimensional and weight details for a typical 33 KV, Solar Skid Substation with off circuit type, Oil Cooled Transformer.

SR.	Rating	Overall dimensions (mm)			Approx WT.
NO.	(KVA)	LENGTH (L)	BREADTH (B)	HEIGHT (H)	(KGS)
1	Upto 3000	800	2200	2600	13000
2	3000-6000	1150	2600	3200	22000

*\*Dimensions and weight may vary for any specific or special requirement.*

## ● SINGLE LINE DIAGRAM



## ● APPLICATIONS



# GLOBAL PRESENCE

**GOVERNMENT UTILITIES & PUBLIC SECTOR UNITS**

**INDUSTRIES CATERED**

Power Utilities | Government Undertakings  
Real Estate | Textile | Engineering | Food

Power Grid Corporation of India (PGCIL)

National Thermal Power Corp. (NTPC)

Bharat Heavy Electricals Ltd. (BHEL)

Indian Oil Corporation Ltd (IOCL)

BSES Yamuna Power Ltd

Hindustan Petroleum Corporation Limited (HPCL)

Ordnance Factory Boards (OFBs)

Oil & Natural Gas Corp. (ONGC)

National Hydroelectric Power Corp. (NHPC)

JNPT

**63+**  
COUNTRIES

**350+**  
EMPLOYEES

1700 KVA Distribution Transformer, UK



1500 KVA Distribution Transformers in Higeig, Sudan



Venezuela



1500kVA USS Substation for Amponsah Pharmaceuticals, Ghana

Chile



3MVA Power Transformer for Arcelor Mittal Mines, Liberia



Steel | Healthcare | Renewable Energy | Oil and gas | Hospitality  
Beverage | Automobile | Telecom | Information & Technology.

**CORPORATES  
& MULTINATIONALS**

**8400+**  
**INSTALLATIONS**

**1,00,000+**  
**SQUARE FEET**

6300 KVA Transformer, Afghanistan.



3600 KVA Distribution Transformer, Bangladesh.



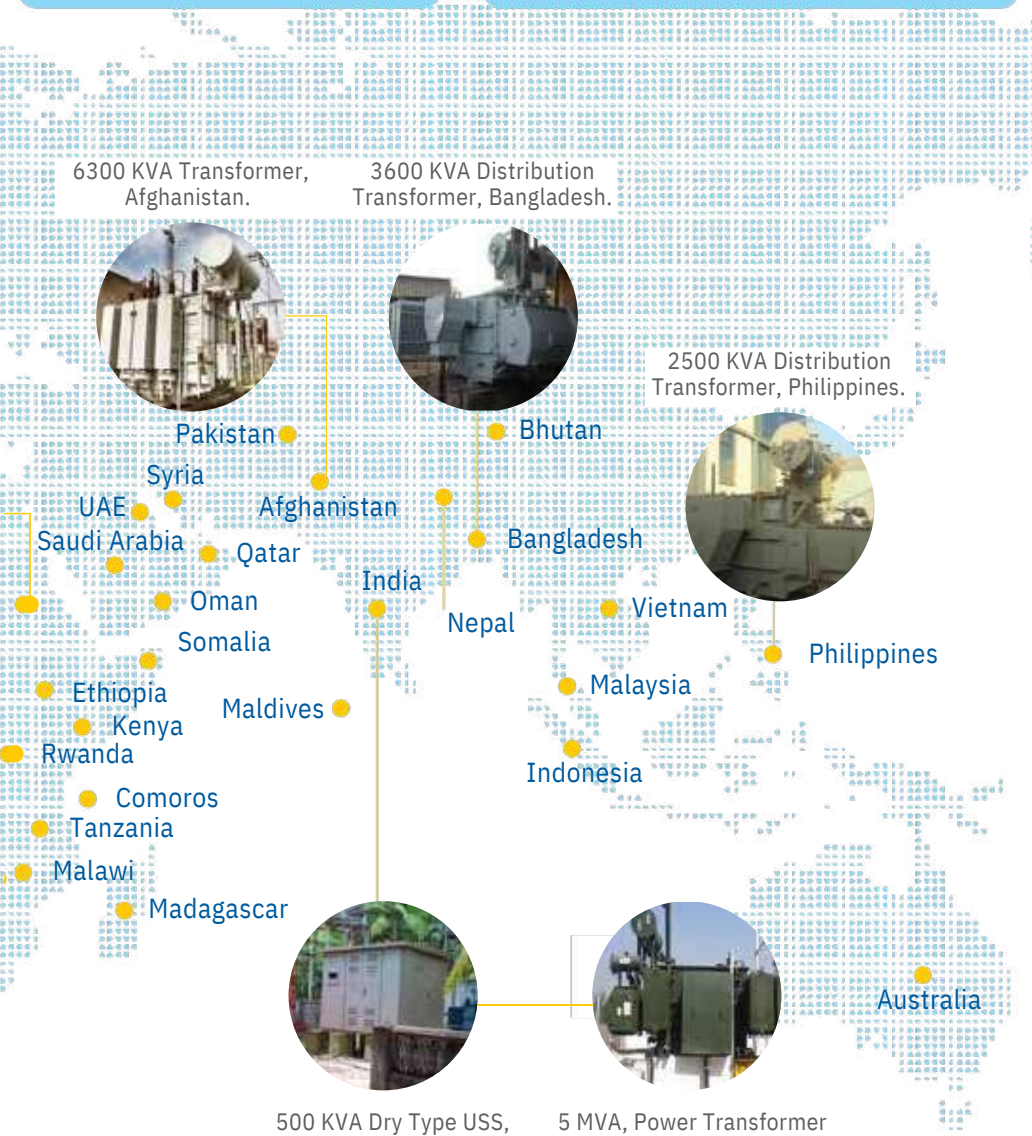
2500 KVA Distribution Transformer, Philippines.



500 KVA Dry Type USS, for INOX, Jamnagar, Gujrat



5 MVA, Power Transformer Sagar Sai Enterprises, Nirmal Nagari, Nagpur



- Siemens Ltd
- .....
- Larsen & Toubro Ltd
- .....
- Tata Solar
- .....
- Shapoorji Pallonji
- .....
- Tata Power Ltd
- .....
- Toyo Engineering Ltd
- .....
- Jindal Steel Ltd
- .....
- Reliance Industries LTD
- .....
- Sterling & Wilson
- .....
- ABB LTD.
- .....
- Vikram Solar
- .....
- Enrich Energy
- .....
- Gamesa Renewable Pvt. Ltd.
- .....
- KEC International Ltd
- .....
- TATA Project Ltd
- .....
- GE T & D
- .....
- Schneider
- .....
- Spring Energy
- .....
- ACME Solar

## DOMESTIC OFFICES

### DELHI

+91-7400093467  
+91-9870629004

delhi@telawne.com

### KOLHAPUR

+91-8433999821

sales@telawne.com

### KOLKATA

+91-7890003357

kolkata@telawne.com

### PUNE

+91-9673174740  
+91-9673774740

pune@telawne.com

### NAGPUR

+91-8108880449

nagpur@telawne.com

### CHENNAI

+91-9840533204

chennai@telawne.com

### HYDERABAD

+91-9676353994  
+91-9866199244

hyd@telawne.com

### BARODA

+91-9978627402

baroda@telawne.com

### BANGALORE

+91-9964655000

blgr@telawne.com

## INTERNATIONAL OFFICES

### OMAN

muscat@telawne.com

### U.A.E

abudhabi@telawne.com

### SPAIN

europe@telawne.com

## AFTER SALES ENGINEERING PARTNERS

EUROPE | USA | MEXICO | PERU | ECUADOR | CHILE

## SYSTEM INTEGRATION PARTNER

SPAIN



**FACTORY:** R-457, MIDC, Rabale, Behind Pipeline Road, Thane Belapur Road, Navi Mumbai - 400701. INDIA.

+91-22-2764 2273 / 74 / 75 | +91-22-2764 2277 | www.telawne.com | tpepl@telawne.com

**FACTORY:** D23, Talaja MIDC Road, Panvel MIDC Industry Area, Talaja, Navi Mumbai - 410208.INDIA.

**FACTORY:** M2 Pale Road, MIDC, Ambernath, Palegaon Maharashtra, 421005, INDIA.

**CORPORATE OFFICE:** Lodha Supremus-II, Unit No 129, 1st Floor, Plot No F-4 & F-A/1, Road No 22, Waghle Industrial Area, MIDC Thane (W) - 400 604.

+91-22-22 2081 1110