



## Instrument Transformers Condenser Bushings

ADDRESS:-  
Electric Power Equipment Company ,9H1, Yerandahalli sublayout,  
Bommasandra- Jigni Link Road, Bangalore-560099, India.



## About us

Established in 1972, EPEC (Electric Power Equipment Company) has built a formidable reputation as one of India's premier vendors of High Voltage Oil-filled Instrument Transformers. From early beginnings out of a small factory in Bangalore, the company has grown in size and now operates out of 3 facilities in and around Bangalore, India.

We specialize in custom designed oil filled Current Transformers and Potential/Voltage Transformers, up to 220kV Class. EPEC has also grown its product portfolio to include Condenser Bushings. With a customer list in excess of 70 customers, we are a proven partner to Power Generating Companies, Distribution Utilities, EPC contractors and other large companies.

In addition to our portfolio of Current Transformer, Voltage Transformers and Condenser Bushings, we are also a leading provider of outsourced manufacturing services to MNC Transformer majors. We set up dedicated manufacturing lines for these companies to manufacture CT/VT Transformer sub-assemblies that go into their product-lines, thereby providing them with enhanced manufacturing capacity and strengthening their price competitiveness and agility in India's price sensitive market.



## Products & Services

We are a nationally reputed vendor of CT, VTs and Condenser Bushings, with over 40 years of experience. Our products are custom-designed by us and manufactured across our 3 locations in Bangalore, India. We have one dedicated factory for core winding and core testing operations, with specialized manufacturing and test equipment. The wound cores and core-boxes are then taken to our Insulation taping facility, where the active part is manufactured using latest machines and highly experienced personnel. The active parts are then assembled and final tested at our assembly operations site. The final test and inspection cycle is conducted there, and the product is then packaged and readied for shipment. We fully leverage our vast experience in this area to design and manufacture our products for accuracy and reliability. We are proud of the fact that many of our CTs and VTs that we shipped out more than 25 years ago, are still in use at customer sites ! The table below lists our product portfolio:

- |                                    |                                         |
|------------------------------------|-----------------------------------------|
| ◆ <b>33kV Current Transformers</b> | ◆ <b>66kV Voltage Transformers</b>      |
| ◆ <b>33kV Voltage Transformers</b> | ◆ <b>110/132kV Current Transformers</b> |
| ◆ <b>66kV Current Transformers</b> | ◆ <b>110/132kV Voltage Transformers</b> |

## 33kV Current Transformer

|                                     |                                                                                               |
|-------------------------------------|-----------------------------------------------------------------------------------------------|
| Rated Voltage (kV)                  | 33 / 22                                                                                       |
| Type of Installation                | Outdoor, Pedestal Mounted, Upright Standing, Effectively Earthed.                             |
| Insulation Level (kV)               | 70 / 170                                                                                      |
| Operating Frequency (Hz)            | 50                                                                                            |
| Primary Current (Amps)              | 50 to 1000                                                                                    |
| Short Time Thermal Current (kA/Sec) | Tested Value 15kA / 3 Sec., Suitable upto 21 kA / 3Secs.                                      |
| Dynamic Current (kAp)               | Tested Value 40 kAp, Suitable upto 53 kAp                                                     |
| Number of Secondary's               | Max. 5                                                                                        |
| Accuracy Class                      | Metering – 0.5 (Regular), 0.2 (special) & Protection – All classes as per relevant standards. |
| Type of Design                      | Live Tank / Dead Tank                                                                         |
| Type of Sealing                     | By Nitrogen Cushion                                                                           |
| Reference Standards                 | IEC – 185 / ISS – 2705                                                                        |
| Creepage Distance Available (mm)    | 900                                                                                           |
| Shipping dimensions(L x B x H)(mm)  | 1500 x 750 x 1250 (Set of 3 CTs)                                                              |
| Shipping Weight (Kg)                | 450 for set of 3 CTs                                                                          |
| Manner of Packing                   | By Wooden Box                                                                                 |
| Manner of Transportation            | Vertical                                                                                      |

### OTHER FEATURES:

#### Design:

- i. Insulation – Class A Oil impregnated paper insulation with grading type design. This design results in uniform distribution of stress giving excellent transient stability and low levels of partial discharge.
- ii. Processing & Oil Filling – CTs are dried and oil filled under very high vacuum (0.05 torr), after going through rigorous process cycles at high temperatures and vacuum (105 deg. C to 120 deg. C and 0.05 torr).
- iii. Ratio Changing – Different ratios can be selected with reconnections on primary or secondary sides.
- iv. Hermetic Sealing – The CTs are hermetically sealed using Nitrogen Cushion which effectively prevents the contamination of Transformer Oil with atmosphere, during its service life.

#### Construction:

The CTs are of Live Tank type with main weight of cores and insulation at top. INSULATORS used are Hollow types with ALTERNATE SHED Design as per latest IEC recommendation. They are most suitable for HOT LINE WASHING. The design is indigenous based on 39 years of experience and is built to suit EHV technology and its service in extreme climatic conditions of India: from the mountainous regions of Northern India to the tropical conditions in the Southern and coastal regions. All metal parts that are exposed to atmosphere are either hot dip galvanized or epoxy painted. The primary windings are wound with EC grade copper strips covered with fiberglass insulation or copper tubes. The primary winding is adequately reinforced to withstand repeated mechanical forces developed during the passage of very high short circuiting currents through the CT due to various faults developed in the system.

Dead Tank design can also be offered on special request.  
Secondary cores are wound with super enameled hermetic grade or PVA based EC copper rounds. The inter-layer insulation is adequately reinforced to withstand the mechanical forces developed during short circuiting conditions of primary windings.

#### Testing:

All CTs are tested for routine test as per relevant standards. Type tests are regularly carried out to maintain a quality check. Facilities for type tests such as temperature Rise and High Voltage Power Frequency Tests (Dry type), are available at our Labs.

High Voltage Power Frequency Tests (Wet type) can also be done at CPRI on special request.

#### Packing & transportation:

The CTs are packed in Wooden Crates suitably so that they can be transported vertically.

## 33kV Voltage Transformer

|                                    |                                                                                              |
|------------------------------------|----------------------------------------------------------------------------------------------|
| Rated Voltage (kV)                 | 33 / 22                                                                                      |
| Type of Installation               | Outdoor, Pedestal Mounted, Upright Standing, Effectively Earthed                             |
| Insulation Level (kV)              | 70 / 170                                                                                     |
| Operating Frequency (Hz)           | 50                                                                                           |
| Primary Voltage (kV)               | 19.05 / 12.7                                                                                 |
| Secondary Voltage (kV)             | 63.5 / 110                                                                                   |
| Number of Secondary's              | Max. 4                                                                                       |
| Accuracy Class                     | Metering – 0.5 (Regular), 0.2 (special) & Protection – All classes as per relevant standards |
| Type of Design                     | Dead Tank                                                                                    |
| Type of Sealing                    | By Nitrogen Cushion                                                                          |
| Reference Standards                | IEC – 186 / ISS – 3156                                                                       |
| Creepage Distance Available (mm)   | 900                                                                                          |
| Shipping dimensions(L x B x H)(mm) | 1500 x 800 x 1200 (set of 3 VTs)                                                             |
| Shipping Weight (Kg)               | 450 Kgs (set of 3 VTs)                                                                       |
| Manner of Packing                  | By Wooden Box                                                                                |
| Manner of Transportation           | Vertical                                                                                     |
| Rated Voltage (kV)                 | 33 / 22                                                                                      |

### OTHER FEATURES:

#### Design:

- i. Insulation – Class A Oil impregnated paper insulation is used with grading type design. This design results in uniform distribution of stresses giving excellent transient stability and low levels of partial discharges. This is a bottom tank design with core and coils housed in the bottom tank.
- ii. Processing & Oil Filling – VTs are dried and oil filled under very high vacuum (0.05 torr), after going through rigorous process cycles at High Temperature & Vacuum (105 deg C to 120 deg C and 0.05 torr).
- iii. Ratio Changing – Different ratios of voltages can be selected from secondary side only.
- iv. Hermetically Sealing – The VTs are hermetically sealed using Nitrogen Cushion, which effectively prevent the contamination of transformer oil with atmosphere during its service life.

#### Construction:

The EMVT is a bottom tank design having the core and coils housed in the bottom tank. The primary lead is brought to the top chamber through a graded insulated tube encased in the hollow porcelain insulator. The high voltage coil is wound with many thousand turns of high-grade hermetic grade of super enameled insulated copper conductor. The design is indigenous based on 39 years of experience in High Voltage Technology and its implementation in extreme climatic conditions of India. All metal parts exposed to atmosphere are either hot dip galvanized or epoxy painted.

#### Testing:

All CTs are tested for routine test as per relevant standards. Type tests are frequently carried out to keep the quality check. Facilities for type tests such as temperature Rise and High Voltage Power Frequency Tests (Dry type), are available in our Lab.

High Voltage Power Frequency Tests (Wet type) can also be done in CPRI on special request.

#### Packing & transportation:

The PTs are packed suitable in wooden crates so that they can be transported vertically without any difficulty.

## 66kV Current Transformer

|                                     |                                                                                               |
|-------------------------------------|-----------------------------------------------------------------------------------------------|
| Rated Voltage (kV)                  | 66                                                                                            |
| Type of Installation                | Outdoor, Pedestal Mounted, Upright Standing, Effectively Earthed.                             |
| Insulation Level (kV)               | 140 / 325                                                                                     |
| Operating Frequency (Hz)            | 50                                                                                            |
| Primary Current (Amps)              | 50 to 1600                                                                                    |
| Short Time Thermal Current (kA/Sec) | Tested Value 31.5kA / 3 Sec., Suitable upto 40 kA / 3Secs.                                    |
| Dynamic Current (kAp)               | Tested Value 80 kAP, Suitable upto 100 kAP                                                    |
| Number of Secondary's               | Max. 5                                                                                        |
| Accuracy Class                      | Metering – 0.5 (Regular), 0.2 (special) & Protection – All classes as per relevant standards. |
| Type of Design                      | Dead Tank, alternatively Live Tank                                                            |
| Type of Sealing                     | By Stainless Steel Bellows or Nitrogen Cushion                                                |
| Reference Standards                 | IEC – 185 / ISS – 2705.                                                                       |
| Creepage Distance Available (mm)    | 1810                                                                                          |
| Shipping dimensions(L x B x H)(mm)  | 800 x 800 x 2000                                                                              |
| Shipping Weight (Kg)                | 400                                                                                           |
| Manner of Packing                   | By Wooden Box                                                                                 |
| Manner of Transportation            | Vertical                                                                                      |

### OTHER FEATURES:

#### Design:

- Insulation – Class A Oil impregnated paper insulation with grading type design. This design results in uniform distribution of stress giving excellent transient stability and low levels of partial discharge.
- Processing & Oil Filling – CTs are dried and oil filled under very high vacuum (0.05 torr), after going through rigorous process cycles at high temperatures and vacuum (105 deg. C to 120 deg. C and 0.05 torr).
- Ratio Changing – Different ratios can be selected with reconnections on primary or secondary sides.
- Hermetic Sealing – The CTs are hermetically sealed using Stainless Steel Bellows OR Nitrogen Cushion which effectively prevents the contamination of Transformer Oil with atmosphere, during its service life.

#### Construction:

The CTs are of Dead Tank type with main weight of cores and insulation at bottom giving very good mechanical stability considering the extra height of the equipment. INSULATORS used are Hollow types with ALTERNATE SHED Design as per latest IEC recommendation. They are most suitable for HOT LINE WASHING. The design is indigenous based on 39 years of experience and is built to suit EHV technology and its service in extreme climatic conditions of India; from the mountainous regions of Northern India to the tropical conditions in the Southern and coastal regions. All metal parts exposed to atmosphere are either hot dip galvanized or epoxy painted. The primary windings are wound with EC grade copper strips covered with fiberglass insulation or copper tubes. The primary winding is adequately reinforced to withstand repeated mechanical forces developed during the passage of very high short circuiting currents through the CT due to various faults developed in the system. Secondary cores are wound with super enameled hermetic grade or PVA based EC copper rounds. The inter-layer insulation is adequately reinforced to withstand the mechanical forces developed during short circuiting conditions of primary windings.

#### Testing:

All CTs are tested for routine test as per relevant standards. Type tests are frequently carried out to keep the quality check. Facilities for type tests such as temperature Rise and High Voltage Power Frequency Tests (Dry type), are available in our Lab.  
High Voltage Power Frequency Tests (Wet type) can also be done in CPRl on special request.

#### Packing & transportation:

The CTs are packed in Wooden Crates suitably so that they can be transported vertically.

## 66kV Voltage Transformer

|                                    |                                                                                              |
|------------------------------------|----------------------------------------------------------------------------------------------|
| Rated Voltage (kV)                 | 66                                                                                           |
| Type of Installation               | Outdoor, Pedestal Mounted, Upright Standing, Effectively Earthed                             |
| Insulation Level (kV)              | 140 / 325                                                                                    |
| Operating Frequency (Hz)           | 50                                                                                           |
| Primary Voltage (kV)               | 38.10 kV                                                                                     |
| Secondary Voltage (kV)             | 63.5 / 110                                                                                   |
| Number of Secondary's              | Max. 4                                                                                       |
| Accuracy Class                     | Metering – 0.5 (Regular), 0.2 (special) & Protection – All classes as per relevant standards |
| Type of Design                     | Dead Tank                                                                                    |
| Type of Sealing                    | By Stainless Steel Bellows or Nitrogen Cushion                                               |
| Reference Standards                | IEC – 186 / ISS – 3156                                                                       |
| Creepage Distance Available (mm)   | 1810                                                                                         |
| Shipping dimensions(L x B x H)(mm) | 750 x 750 x 1800                                                                             |
| Shipping Weight (Kg)               | 350                                                                                          |
| Manner of Packing                  | By Wooden Box                                                                                |
| Manner of Transportation           | Vertical                                                                                     |

### OTHER FEATURES:

#### Design:

- Insulation – Class A Oil impregnated paper insulation with grading type design. This design results in uniform distribution of stresses giving excellent transient stability and low levels of partial discharge. This is a bottom tank design with core and coil housed in the bottom tank.
- Processing & Oil Filling: VTs are dried and oil filled under very high vacuum (0.05 torr), after going through rigorous process cycles at High Temperature & Vacuum (105 deg. C to 120 deg. C and 0.05 torr).
- Ratio Changing – Different ratios of voltages can be selected from secondary side only.
- Hermetically Sealing – The VTs are hermetically sealed using Stainless Steel Bellows OR Nitrogen Cushion which effectively prevent the contamination of transformer oil with atmosphere, during its service life.

#### Construction:

The EMVT is a bottom tank design having the core and coil housed in the bottom tank. The primary lead is brought to the top chamber through a graded tube encased in the hollow porcelain insulator. The high voltage coil is wound with many thousand turns of high-grade hermetic grade of super enameled insulated wires. The insulators used are hollow type with alternate shade design as per latest IEC recommendations. They are most suitable for HOT LINE WASHING. The design is indigenous based on 39 years of experience in High Voltage Technology and its implementation in extreme climatic conditions of India. All metal parts exposed to atmosphere are either hot dip galvanized or epoxy painted.

#### Testing:

All VTs are tested for routine test as per relevant standards. Type tests are frequently carried out to keep the quality check. Facilities for type tests such as temperature Rise and High Voltage Power Frequency Tests (Dry type), are available in our Lab.  
High Voltage Power Frequency Tests (Wet type) can also be done in CPRl on special request.

#### Packing & transportation:

The VTs are packed suitable in wooden crates so that they can be transported vertically without any difficulty.

## 110kV and 132kV Current Transformers

|                                     |                                                                                               |
|-------------------------------------|-----------------------------------------------------------------------------------------------|
| Rated Voltage (kV)                  | 132 / 110 / 100                                                                               |
| Type of Installation                | Outdoor, Pedestal Mounted, Upright Standing, Effectively Earthed.                             |
| Insulation Level (kV)               | 275 / 650 or 230 / 550                                                                        |
| Operating Frequency (Hz)            | 50                                                                                            |
| Primary Current (Amps)              | 50 to 2400                                                                                    |
| Short Time Thermal Current (kA/Sec) | Tested Value 40kA / 3 Sec.                                                                    |
| Dynamic Current (kA)                | Tested Value 100 kA, Suitable upto 125 kA                                                     |
| Number of Secondaries               | Max. 6                                                                                        |
| Accuracy Class                      | Metering – 0.5 (Regular), 0.2 (special) & Protection – All classes as per relevant standards. |
| Type of Design                      | Dead Tank                                                                                     |
| Type of Sealing                     | By Stainless Steel Bellows or Nitrogen Cushion                                                |
| Reference Standards                 | IEC – 185 / ISS – 2705                                                                        |
| Creepage Distance Available (mm)    | 3625                                                                                          |
| Shipping dimensions(L x B x H)(mm)  | 900 x 900 x 2500                                                                              |
| Shipping Weight (Kg)                | 600                                                                                           |
| Manner of Packing                   | By Wooden Box                                                                                 |
| Manner of Transportation            | Vertical                                                                                      |

### OTHER FEATURES:

#### Design:

- Insulation – Class A Oil impregnated paper insulation with grading type design. This design results in uniform distribution of stress giving excellent transient stability and low levels of partial discharge.
- Processing & Oil Filling – CTs are dried and oil filled under very high vacuum (0.05 torr), after going through rigorous process cycles at high temperatures and vacuum (105 deg. C to 120 deg. C and 0.05 torr).
- Ratio Changing – Different ratios can be selected with reconnections on primary or secondary sides.
- Hermetic Sealing – The CTs are hermetically sealed using Stainless Steel Bellows OR Nitrogen Cushion which effectively prevents the contamination of Transformer Oil with atmosphere, during its service life.

#### Construction:

The CTs are of Dead Tank type with main weight of cores and insulation at bottom giving very good mechanical stability considering the extra height of the equipment. INSULATORS used are Hollow types with ALTERNATE SHED Design as per latest IEC recommendation. They are most suitable for HOT LINE WASHING. The design is indigenous based on 39 years of experience and is built to suit EHV technology and its service in extreme climatic conditions of India, from the mountainous regions of Northern India to the tropical conditions in the Southern and coastal regions. All metal parts exposed to atmosphere are either hot dip galvanized or epoxy painted. The primary windings are wound with EC grade copper tubes or copper strips covered with fiberglass insulation. The primary winding is adequately reinforced to withstand repeated mechanical forces developed during the passage of very high short circuiting currents through the CT, due to various faults developed in the system. Secondary cores are wound with super enameled hermetic grade or PVA based EC copper rounds. The inter-layer insulation is adequately reinforced to withstand the operating voltages as well as transient over-voltages.

#### Testing:

All CTs are tested for routine test as per relevant standards. Type tests are frequently carried out to keep the quality check. Facilities for type tests such as temperature Rise and High Voltage Power Frequency Tests (Dry type), are available in our Lab. High Voltage Power Frequency Tests (Wet type) can also be done in CPRI on special request.

#### Packing & transportation:

The CTs are packed in Wooden Crates suitably so that they can be transported vertically.

## 110kV and 132kV Voltage Transformers

|                                    |                                                                                              |
|------------------------------------|----------------------------------------------------------------------------------------------|
| Rated Voltage (kV)                 | 132 / 110 / 100                                                                              |
| Type of Installation               | Outdoor, Pedestal Mounted, Upright Standing, Effectively Earthed                             |
| Insulation Level (kV)              | 275 / 650 or 230 / 550                                                                       |
| Operating Frequency (Hz)           | 50                                                                                           |
| Primary Voltage (kV)               | 76.2 / 63.5 / 57.73                                                                          |
| Secondary Voltage (kV)             | 63.5 / 110                                                                                   |
| Number of Secondaries              | Max. 4                                                                                       |
| Accuracy Class                     | Metering – 0.5 (Regular), 0.2 (special) & Protection – All classes as per relevant standards |
| Type of Design                     | Dead Tank                                                                                    |
| Type of Sealing                    | By Stainless Steel Bellows or Nitrogen Cushion                                               |
| Reference Standards                | IEC – 186 / ISS – 3156                                                                       |
| Creepage Distance Available (mm)   | 3625                                                                                         |
| Shipping dimensions(L x B x H)(mm) | 900 x 900 x 2500                                                                             |
| Shipping Weight (Kg)               | 650                                                                                          |
| Manner of Packing                  | By Wooden Box                                                                                |
| Manner of Transportation           | Vertical                                                                                     |
| Rated Voltage (kV)                 | 132 / 110 / 100                                                                              |

### OTHER FEATURES:

#### Design:

- Insulation – Class A Oil impregnated paper insulation with grading type design. This design results in uniform distribution of stresses giving excellent transient stability and low levels of partial discharge. This is a bottom tank design with core and coil housed in the bottom tank.
- Processing & Oil Filling : VTs are dried and oil filled under very high vacuum (0.05 torr), after going through rigorous process cycles at High Temperature & Vacuum (105 deg. C to 120 deg. C and 0.05 torr).
- Ratio Changing – Different ratios of voltages can be selected from secondary side only.
- Hermetically Sealing – The VTs are hermetically sealed using Stainless Steel Bellows OR Nitrogen Cushion which effectively prevent the contamination of transformer oil with atmosphere, during its service life.

#### Construction:

The EMVT is a bottom tank design having the core and coil housed in the bottom tank. The primary lead is brought to the top chamber through a graded tube encased in the hollow porcelain insulator. The high voltage coil is wound with many thousand turns of high-grade hermetic grade of super enameled insulated wires. The insulators used are hollow type with alternate shade design as per latest IEC recommendations. They are most suitable for HOT LINE WASHING. The design is indigenous based on 39 years of experience in High Voltage Technology and its implementation in extreme climatic conditions of India. All metal parts exposed to atmosphere are either hot dip galvanized or epoxy painted.

#### Testing:

All CTs are tested for routine test as per relevant standards. Type tests are frequently carried out to keep the quality check. Facilities for type tests such as temperature Rise and High Voltage Power Frequency Tests (Dry type), are available in our Lab. High Voltage Power Frequency Tests (Wet type) can also be done in CPRI on special request.

#### Packing & transportation:

The PTs are packed suitable in wooden crates so that they can be transported vertically without any difficulty.

### 3 decades of satisfied customers!

As a leading vendor of Instrument Transformers and Condenser Bushings, we have proudly served the needs of over 70 customers in India and abroad. Below is a listing of our customer base.

#### Our Customer List

| SL NO | Customer Name                                      |
|-------|----------------------------------------------------|
| 1     | Gagan Ferrrotech Ltd.                              |
| 2     | Reliance Industries Ltd.                           |
| 3     | Rourkela Steel Plant                               |
| 4     | Areva T&D India Ltd.                               |
| 5     | Indo Power Projects Ltd.                           |
| 6     | Damodar Valley Corporation                         |
| 7     | The West Bengal Power Development Corporation Ltd. |
| 8     | Uranium Corporation of India Ltd.                  |
| 9     | Raaga Electrical & Infrastructures                 |
| 10    | Birla Tyres                                        |
| 11    | PSC Engineers Pvt. Ltd.                            |
| 12    | Sumangala Steel (P) Ltd.                           |
| 13    | Techno Electric & Engineering Co. Ltd.             |
| 14    | Everest Infra Energy Ltd.                          |
| 15    | The India Cements Ltd.                             |
| 16    | Vindhyachal Hydro Power Ltd.                       |
| 17    | Jyoti Structure Ltd.                               |
| 18    | Karnataka Power Transmission Corporation Ltd.      |
| 19    | Crompton Greaves limited                           |
| 20    | Kudremukh Iron Ore Co.,Ltd.                        |
| 21    | Emmess Control Pvt. Ltd.                           |
| 22    | Uttam Galva Steels Ltd.                            |
| 23    | Sitson India Pvt. Ltd.                             |
| 24    | Bhoruka Gases Limited.                             |
| 25    | Zen Projects & Constructions.                      |
| 26    | Descon Limited.                                    |
| 27    | Shree Akkamamba Textiles Limited.                  |
| 28    | Assam State Electricity Board.                     |
| 29    | Delta Power.                                       |
| 30    | Mangalore Refinery & Petrochemicals Ltd.           |
| 31    | The Government of Tripura Electricity Dept.        |
| 32    | Govt of Bhutan                                     |
| 33    | UP State Electricity Board                         |
| 34    | VA Tech Escher Wyss Flovel Ltd                     |
| 35    | Vishveshwaraya Iron & Steel Company                |
| 36    | Voltamp Electricals                                |
| 37    | W.S. Industries(India) Ltd.                        |
| 38    | R.V. Electrical Enterprises                        |
| 39    | SAE (India) Ltd.                                   |

#### Our Customer List

| SL NO | Customer Name                              |
|-------|--------------------------------------------|
| 40    | Siemens Limited                            |
| 41    | South India Viscose Ltd.                   |
| 42    | Tata Iron & Steel Company Limited.         |
| 43    | Nevveli Lignite Corporation,               |
| 44    | N.G.E.F. Ltd.                              |
| 45    | Nuclear Fuel Complex.                      |
| 46    | Orissa State Electricity Board             |
| 47    | Penna Cement Industries Ltd.               |
| 48    | Punjab State Electricity Board.            |
| 49    | Rama News Prints Papers Ltd.               |
| 50    | Rayalseema Alkalies & Allied Chemicals Ltd |
| 51    | Kirloskar Electric Company Ltd.            |
| 52    | Larsen & Toubro Pvt Limited.               |
| 53    | Lotus Controls                             |
| 54    | Madhya Pradesh State Electricity board     |
| 55    | Maharashtra State Electricity Board        |
| 56    | Mehar Capacitor Pvt. Ltd                   |
| 57    | Nagarjuna Construction Co. Ltd.            |
| 58    | Indian aluminium Co.Ltd.                   |
| 59    | Indian Farmers Co-op Limited               |
| 60    | Ishwar Alloy Steel Limited                 |
| 61    | Kap steel Limited                          |
| 62    | Karnataka Electricity Board                |
| 63    | Karnataka Power Corporation                |
| 64    | Kerala state Electricity Board             |
| 65    | Essen Enterprises                          |
| 66    | Eswaran & Sons Engrs Ltd.                  |
| 67    | Goldstar Cements Ltd.                      |
| 68    | Govt. of Manipur Electricity Dept.         |
| 69    | Grid Corporation of Orissa Limited         |
| 70    | Gujarat Electric Board                     |
| 71    | Haryana State Electricity Board            |
| 72    | Hindustan Papers Corporation               |
| 73    | Alstom Instrument Transformers Pvt. Ltd    |
| 74    | Andhra Pradesh state Electricity Board     |
| 75    | Best and Crompton                          |
| 76    | Bharat Heavy Electricals Limited           |
| 77    | Civilec Engineering Works                  |
| 78    | Crompton Greaves Limited                   |