Smart solutions.
Strong relationships.

Instrument Transformers

Global Leadership

CG is proud to be a part of the USD 4 billion Avantha Group, a reputed Indian Industrial conglomerate led by its Chairman, Mr. Gautam Thapar. Avantha has business interests in diverse areas, including pulp and paper, power generation, transmission & distribution equipments, solutions & services, food processing, farm forestry, chemicals, energy, infrastructure, information technology (IT) and IT-enabled services.

In keeping with its growing aspirations, Avantha has been aggressively expanding overseas. Avantha has an impressive global footprint and operates in more than 10 countries with over 20,000 employees of 20 nationalities.

As one of the world`s leading engineering corporations, CG provides end-to-end solutions, helping its customers use electrical power effectively and increase industrial productivity with sustainability. CG was established in 1937 in India; &, since then the Company has been a pioneer & has retained its leadership position in the management and application of electrical energy.

Our unique and diverse portfolio ranges from transformers, switchgear, circuit breakers, network protection & control gear, project engineering, HT & LT motors, drives, lighting, fans, pumps & consumer appliances and turnkey solutions in all these areas; thus enhancing the many aspects of industrial and personal life. This portfolio has been structured into 3 SBUs - Power Systems, Industrial Systems and Consumer Products. For details please refer to the panel on the right.

Since 2005, CG has embarked upon an ambitious globalization strategy, growing both organically & inorganically, drawing into its fold leading international companies such as Pauwels, Ganz, Microsol, Sonomatra, MSE & PTS. Consequent to this globalisation, CG now enjoys manufacturing bases in Belgium, Canada, Hungary, Indonesia, Ireland, France, UK and US, in addition to more than twenty manufacturing locations in India, employing more than 8000 employees worldwide with diverse nationalities and cultures. A worldwide marketing network of more than 150 representatives spans the globe, offering the entire range of CG's products, solutions and services.

Thanks to its well structured and validated business model, CG is well positioned to provide its customers with technology driven, value-added solutions, leveraging a broad product portfolio on the one hand, & enhancing the entire value-chain quality, delivery, and services on the other hand.

CG established its international manufacturing footprint in the year 2005 by acquisition of the Belgium based Pauwels Group which gave CG additional manufacturing facilities for Power & Distribution transformers at Belgium, Ireland, USA, Canada and Indonesia. In its quest to enhance its technology edge, increase its global market reach & expand the product portfolio, CG followed this up with a series of successful acquisitions - Ganz, Hungary in 2006; Microsol, Ireland in 2007; Sonomatra, France in 2008; MSE, USA in 2008, PTS, UK in 2010, and 3 businesses of Nelco, India, in 2010. The business domains of the new companies that joined the CG family, have charted the way for CG progressively entrenching itself globally, as a "full solutions provider" carving out for itself positioning as a serious international player and a recognized transnational corporation. The map below gives an overview of our operations in the countries where we are present.

CG has been aggressively investing in R&D, product certifications, product quality, productivity enhancement and operational excellence. CG`s Global R&D centre, located in India, has been recognised for its innovation & received the prestigious "National Award for the Best R&D Efforts" for its outstanding achievements in the Electrical Engineering Sector in 2008. CG`s R&D strategy aligns with the Company`s Global Vision, & focuses on creating platform technologies, shrinking product development cycle time & enhancing CG's Intellectual Property capital.

To unify our global focus, all CG facilities across the world have taken actions to ensure that customers receive consistent "One World Quality", for all CG products and solutions in all parts of the world.

Business Edge

The Switchgear Works of Crompton Greaves is located on a 1,32,540 sq.mtrs. plot in Nashik on the Mumbai Agra National Highway and is demarcated in four main divisions: EHV SF6 Gas Switchgear, EHV Instrument Transformer, Medium Voltage Vacuum Switchgear and Lightning Arresters. Operations commenced in 1980 with the manufacture of Medium Voltage Switchgear, which was relocated from Kanjur Mumbai Works.

A specialised Business Unit spearheads the export thrust for in-house products as well as carefully out-sourced synergistic products for supply to Trade, Industry, OEMs and Power Utilities.

Our regional establishments throughout India have factory-trained personnel to provide prompt after sales service, supporting our service personnel located at the factory.

Introduction

A large quantity of Crompton Greaves Current Transformers upto 550 kV have been put into service in various environments in over 60 countries since 1984 where they are operating satisfactorily.

Type CT and Type IOSK, CTs are of live tank type with rated voltage of 36 to 800 kV.

All our Current Transformers (36 to 800 kV) adhere to the requirements of the International quality standards and our quality system, environment management system, safety management system are certified to ISO 9001–2008, ISO 14001 and ISO 18001 respectively.

Design

Current Transformers (CTs) are used to transform high voltage line current to a low standard value.

In our live tank type of current transformers, the primary winding consists of aluminium sections accommodated in the top housing. The primary winding is rigid, concentric and distributed uniformly around the insulated secondary winding in order to have optimum mechanical endurance against short circuit forces. Fig.1 shows the basic construction of a CT. The CTs can be equipped with single or multiple primary turns. Fig.3 shows a schematic diagram of the connections. The primary windings are terminated on the sides of the top housing with provisions for convenient primary ratio changeover.

The cores and secondary windings are enclosed in a well contoured, rigid aluminium shell which is fully insulated from the top housing. The secondary leads are taken to the base of the CT through an oil impregnated paper (OIP) insulated condenser bushing. The insulation structure is specially designed to have a uniform drop of electric field radially as well as longitudinally across the bushing. This is achieved by specially contoured electrodes, uniform insulation around the electrodes and fine potential grading along the bushing. High quality insulating kraft paper is used for insulation. The paper insulation is dried under heat and vacuum and impregnated with oil to achieve excellent insulation as well as ageing properties. The fully assembled CTs are dried and oil filled under vacuum in evacuated heating chambers.

Construction

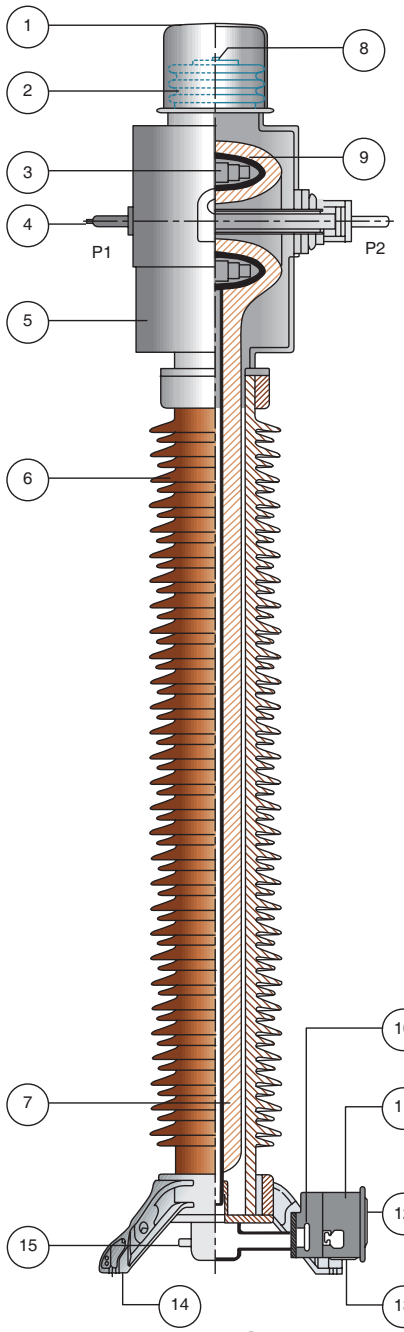
Brown glazed porcelain Insulator with shed profile as per IEC 815 is used. Gray porcelains or variant shed profiles can also be supplied on request. The porcelains are cemented to aluminium alloy flanges on both sides with port land cement for providing optimum mechanical strength.

The top housing is made of corrosion resistant aluminium alloy, form fitted to the internal active body. The insulated primary and secondary windings are assembled in the top housing. Primary terminals, with ratio changeover arrangements are accessible on the sides. Stainless steel bellow mounted at the top compensates for expansion / contraction of oil due to ambient temperature variations. Thus the CT is hermetically sealed. The bellow position viewed through the window on the Hood indicates the operational status and the oil level in the CT. An oil filling plug is provided at the top of the bellow.

The fully encapsulated CT is impervious to rain, snow and ice and can sustain considerable temperature variations.

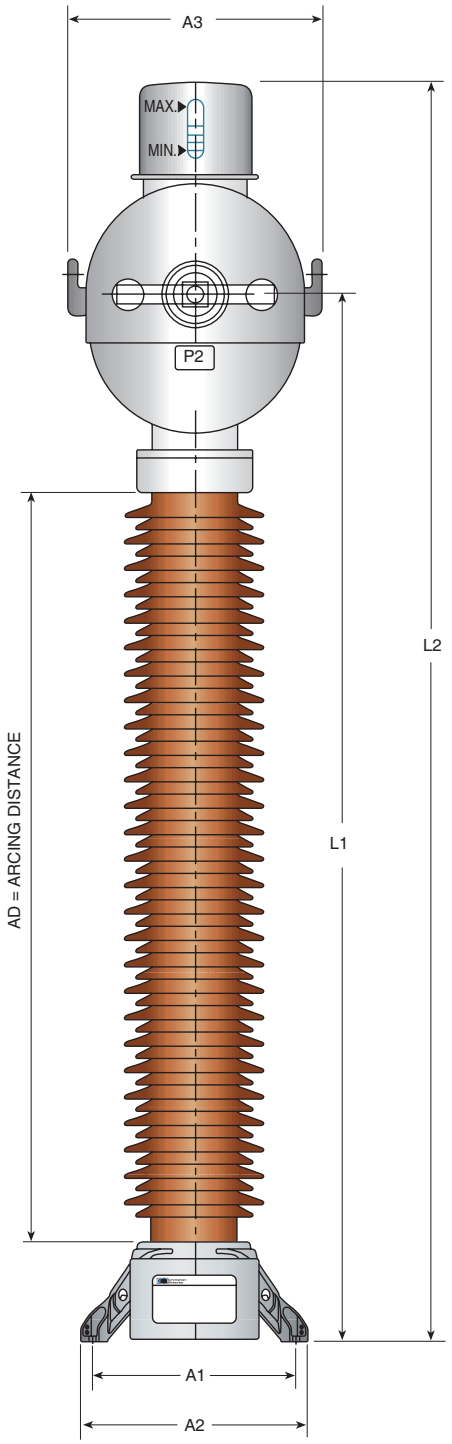
High quality CRGO grade silicon steel, Mu-metal cores of wound ring type are used. Upto 6 cores of various accuracy classes, burdens and

FIG. 1



1. ALUMINIUM HOOD
2. STAINLESS STEEL BELLOW
3. CORE WITH SECONDARY WINDING
4. PRIMARY TERMINAL
5. ALUMINIUM HOUSING
6. PORCELAIN INSULATOR
7. CONDENSER BUSHING
8. OIL FILLING PLUG
9. ALUMINIUM SHELL
10. MULTI TERMINAL MONOBLOCK
11. SECONDARY TERMINAL BOX
12. RATING & SCHEME PLATE
13. GLAND PLATE
14. ALUMINIUM BASE
15. OIL SAMPLING POINT

FIG. 2



Rated Normal Current can be accommodated in one CT to meet different metering and protection requirements. The secondary winding is uniformly distributed over the circumference of the core. This minimises the reactance of the winding and helps in obtaining accurate transformation ratio.

The CT base structure is made of Aluminium Alloy. The secondary terminal box, oil sampling valve and earthing pads are provided on the base. Main lifting lugs and mounting holes are also provided on the base. To provide stability during lifting and for erecting up from prone position, two additional lugs are provided on the top housing.

Tests And Performance

The performance and reliability of these Current Transformers has been verified at renowned international testing laboratories like KEMA (Netherlands) and CPRI (India). The CTs are type tested for short circuit performance, Thermal Stability Test, Multiple Chopped wave Impulse test, wet Lightning Impulse Test, partial discharge etc. as per IEC 44-1 - 1996, IEC : 61869-1 (2007) & IEC : 61869-2(2012)

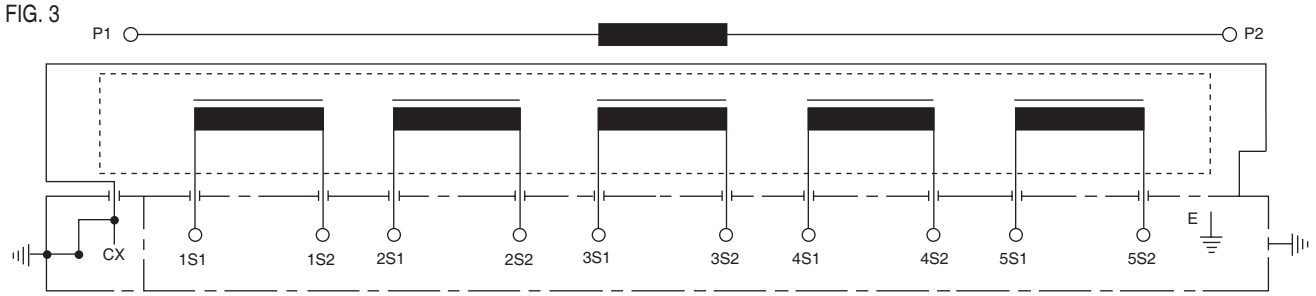
Transport

All CTs are be transported in horizontal position only. For further details please refer to the instruction manual.

Maintenance

The product is self contained, maintenance free and does not require spares. For regular and periodic checks on the equipment, please refer the instruction manual supplied with the CTs.

FIG. 3



CX – CAPACITANCE AND TAN DELTA MEASURING TERMINAL.

1. TYPE DESIGNATION	:	UNIT	CGC 36/70/170	CT 72.5/140/325	IOSK 123/230/550	IOSK 145/275/650	IOSK 170/325/750	IOSK 245/460/1050	IOSK 300/460/1050	IOSK 420/630/1425	IOSK 550/680/1550	IOSK 800/975/2100
2. APPLICABLE STANDARD	:		IEC - 60044 - 1 : 2003; IEC 61869 - 1 & 2									
3. HIGHEST SYSTEM VOLTAGE	:	kV	36	72.5	123	145	170	245	300	362 / 420	550	800
4. ONE MIN. POWER FREQUENCY VOLTAGE	:	kV	70	140	230	275	325	460	460	630	680	975
5. LIGHTNING IMPULSE	:	kVp	170	325	550	650	750	1050	1050	1425	1550	2100
6. SWITCHING IMPULSE	:	kVp	NA						850	1050	1175	1550
7. RATED FREQUENCY	:	Hz	50/60									
8. AMBIENT TEMPERATURE	:	°C	-25 TO 50									
9. SEISMIC ACCELERATION	:	g	0.3									
10. ALTITUDE	:	m	UPTO 1000									
11. ONE MIN. P.F. VOLTAGE ON SECONDARY - METERING - PROTECTION	: :	kV kV	3 3									
12. RATED PRIMARY CURRENT	:	A	2500	50 - 2000 - 4000								
13. RATED SECONDARY CURRENT	:	A	1 OR 5									
14. SHORT TIME THERMAL CURRENT / DURATION	:	kA /s	31.5 / 1&3 sec.	31.5 / 1 & 3 sec.	40 / 1 & 3 sec.		50 / 1 & 3 sec.			63/1 50/3	50 / 1 sec.	63/1
15. DYNAMIC WITHSTAND CURRENT	:	kA	78.75	78.75	100		125			157.5 125	125	157.5
16. CANTILEVER LOAD	:	kg	In accordance with IEC - 60044 - 1 : 2003 & IEC : 61869 - 1 & 2									
17. TOTAL CREEPAGE DISTANCE	:	mm	900	1810	3075	3625	4250	6125	7500	10500	13750	20000
18. ARCING DISTANCE	:	mm	420	700	1280	1280	1345	2040	2325	3155	3800	5790
19. DIMENSIONS L1 L2 A3	: : :	mm mm mm	1150 1540 500	1530 2175 600	2070 2755 665	2070 2755 665	2110 2780 665	2960 3755 825	3410 4225 855	4275 5250 1060	5060 6300 1200	7510 8810 1315
20. MOUNTING DIMS A1 A2	: :	mm mm	350 400	560 670	560 645	560 645	600 685	600 700	650 750	700 800	750 890	900 1075
21. TOTAL WEIGHT	:	kg	150	325	450	450	525	850	950	1450	2400	4000
22. QUANTITY OF OIL	:	kg	40	80	100	100	110	210	320	375	700	950
23. OIL LEVEL INDICATION	:	—	BELLOW LEVEL INDICATOR PROVIDED AT THE TOP									
24. PRESSURE RELIEF DEVICE	:	—	STAINLESS STEEL BELLOW PROVIDED AT THE TOP									
25. PROVISION FOR COMPENSATION OF OIL VOLUME EXPANSION/CONTRACTION	:	—	STAINLESS STEEL BELLOW PROVIDED AT THE TOP									
26. TYPE OF SECONDARY TERMINAL BLOCKS	:	—	CLIP ON STUD TYPE									

Optionals

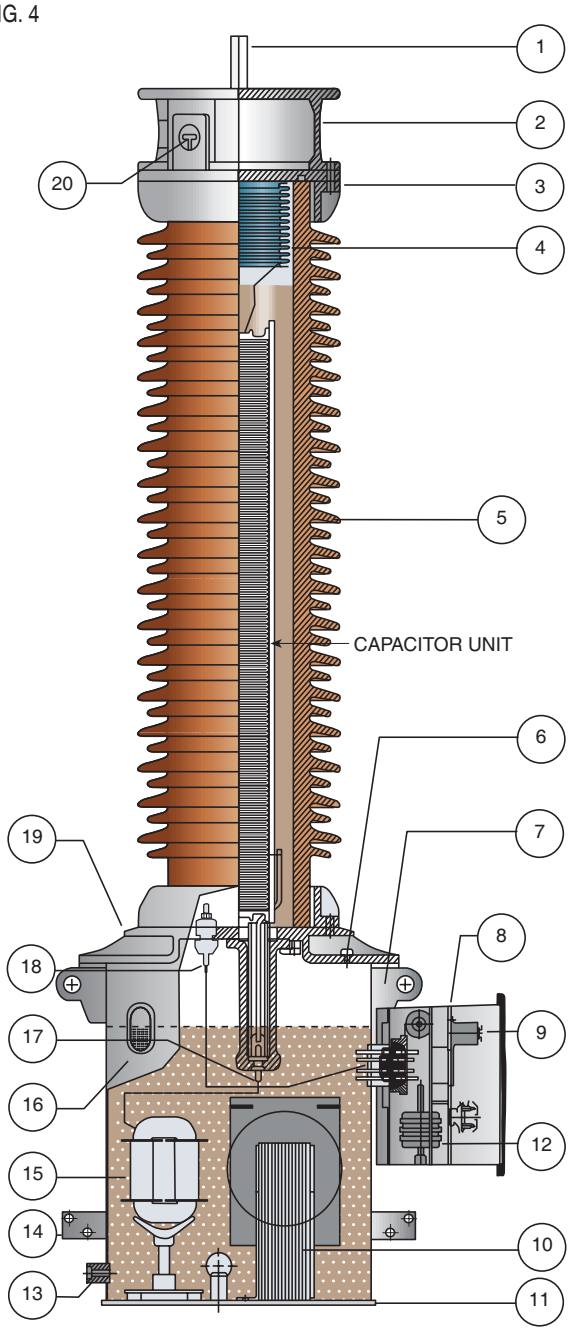
TYPE DESIGNATION	:	UNIT	CGC 36/70/170	CT 72.5/140/325	IOSK 123/230/550	IOSK 145/275/650	IOSK 170/325/750	IOSK 245/460/1050	IOSK 300/460/1050	IOSK 420/630/1425
1. RATED THERMAL CURRENT	:	A	UPTO 3000	UPTO 4000 (FOR k=1)						
2. ALTITUDE	:	m	UPTO 1500					UPTO 2000		
3. SEISMIC ACCELERATION	:	g	0.5							
4. CREEPAGE	:	mm/kV	31	31	31/35	31	31	31/35	31	31/35

These parameters are typical values. For other specifications, please contact us.

Capacitive Voltage Transformer

72.5 kV TO 1200 kV

FIG. 4



CAPACITOR VOLTAGE TRANSFORMER

1. Collapsible H.V. Terminal Ø30×80
2. Hood Chamber
3. Porcelain Flange
4. Bellow
5. Porcelain Insulator
6. Oil Filling Plug (For EMU)
7. Lifting Lugs
8. Secondary Terminal Box
9. Surge Arrestor
10. Inductive Voltage Transf.
11. EMU Tank
12. Damping Device
13. Oil Sampling Valve (for EMU)
14. Earthing Pads (8 mm THK)
15. Compensating Choke
16. Oil Level Indicator on EMU
17. M.V. Tap Terminal
18. NHF Terminal
19. Tank Cover
20. Bellow Level Indicator

More than 15000 Crompton Greaves Capacitive Voltage Transformers upto 1200 kV have been put into service in various environments in over 60 countries all over the world since 1984 where they are operating satisfactorily.

Our CVTs adhere to the requirements of the International quality standards and our quality and environment management system, safety management system are certified to ISO 9001–2000, ISO 14001 and ISO 18001 respectively.

Design And Construction

Figure 4 shows the schematic view as well as the construction of a single stack CVT. Each CVT consists of a coupling capacitor (CC) which acts as a voltage divider and an Electro Magnetic Unit (EMU) which transforms the medium voltage to standard low voltage. Depending on the system voltage the CC can be a single or a multi stack unit. The CC and the EMU are individually hermetically sealed to ensure accurate performance and high reliability.

Coupling Capacitor

The Coupling Capacitor (CC) acts as a voltage divider and converts the system voltage to a medium voltage. The active part of the CC consists of a large number of oil impregnated paper (paper and film) capacitor elements connected in series. Supercalendered capacitor tissue paper and pure aluminium foils are used to make the capacitor elements. The capacitor elements are pressed and held in insulating supports to ensure a stable capacitance even for large temperature variations. The electrical connections between the capacitor elements are designed for a natural frequency much above 600 KHz in order to avoid interference with carrier communication.

The processed capacitor stack is assembled inside a porcelain insulator with corrosion resistant aluminium alloy end fittings. Brown glazed porcelain insulators with shed profile as per IEC 815 are used. The insulators are cemented to aluminium alloy flanges for improved strength. Oil volume changes due to temperature variations are compensated by a stainless steel bellow installed at the upper end of the CC. The unit is completely filled with degassed insulated oil under vacuum. The bellow is pressurised by inert gas (from the top surface) to maintain a positive oil pressure even at lowest ambient temperatures. The CVT thus has very low PD levels even at low ambient temperatures.

Electromagnetic Unit

The Electromagnetic Unit (EMU) consists of a medium voltage transformer, compensating reactor, damping element and surge protection device. The unit is housed inside a steel tank which is filled with insulating oil leaving a largely dimensioned air cushion at the top in order to take care of changes in the oil volume due to fluctuations in the ambient temperature. An oil level indicator is mounted on the side wall of the tank.

The CC unit is mounted on the EMU tank and the insulated earth terminal of the CC (marked as 'NHF' in Fig.4) is also accessible for connecting to power line carrier communication equipment. A surge arrester across this terminal and earth serves as the surge protection device. The NHF terminal must always be connected to earth if the CVT is not connected to carrier equipment.

The secondary terminal box is provided on the EMU tank. Secondary leadouts, NHF lead and earth leads are all terminated inside the secondary terminal box. The EMU is calibrated and adjusted at factory for all burden and accuracy requirements. No site adjustments or measurements are necessary. The EMU is given adequate surface treatment for corrosion protection for life long service.

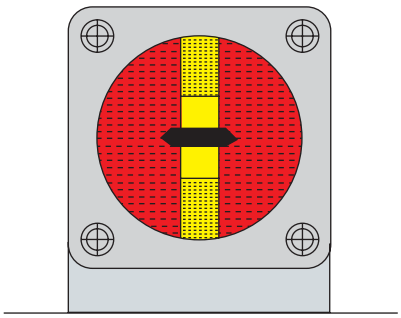
Maintenance

The product is self contained, maintenance free and requires no spares over its entire life span. We recommend regular and periodic checks as per pre-specified schedules (specified in the Instruction Manuals supplied with the CVTs).

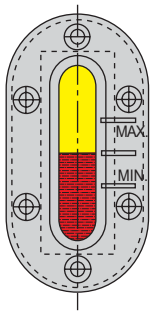
Optionals / Accessories

- Terminal Connector (Aluminium/Bimetallic, NEMA or as per customer specs)
- Three element Carrier Protection Device Level (comprising Drain Coil, surge Arrester & Earth Switch)
- Cable Glands

FIG. 6



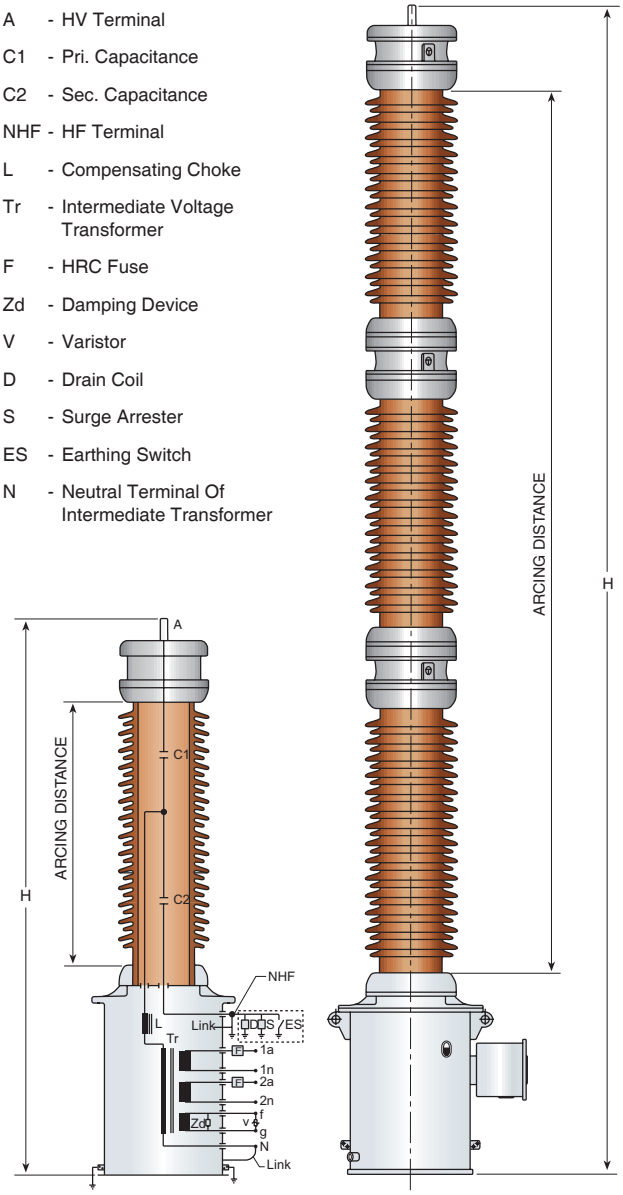
BELLOW POSITION INDICATOR

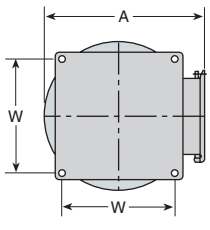


OIL LEVEL INDICATOR ON EMU

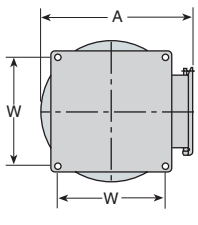
FIG. 5

A - HV Terminal
C1 - Pri. Capacitance
C2 - Sec. Capacitance
NHF - HF Terminal
L - Compensating Choke
Tr - Intermediate Voltage Transformer
F - HRC Fuse
Zd - Damping Device
V - Varistor
D - Drain Coil
S - Surge Arrester
ES - Earthing Switch
N - Neutral Terminal Of Intermediate Transformer





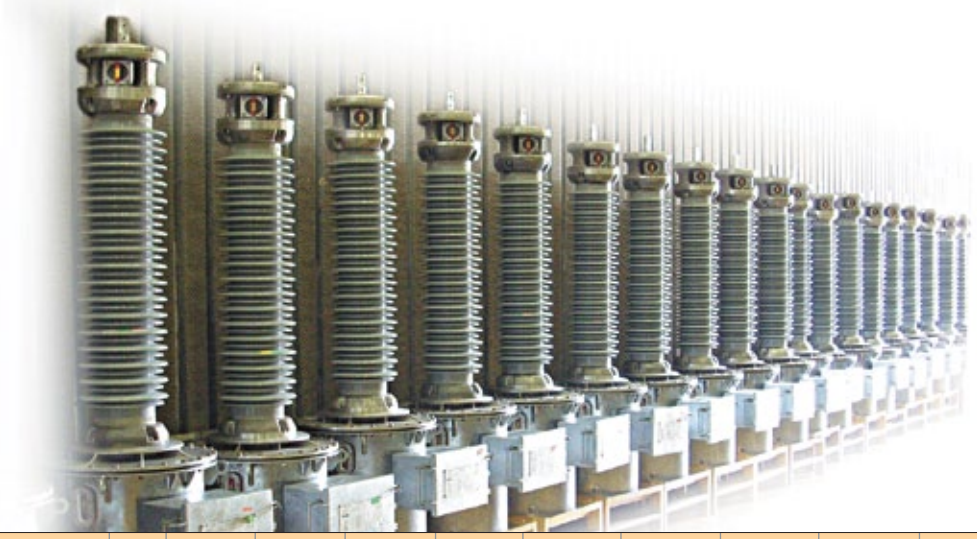
BOTTOM VIEW



BOTTOM VIEW

Capacitive Voltage Transformer

72.5 kV TO 1200 kV



1. TYPE DESIGNATION	UNIT	CVE 72.5/325/50	CVE 145/650/50	CVE 145/650/50	CVE 170/750/50	CVE 245/1050/50	CVE 300/1050/50	CVE 420/1425/50	CVE 420/1425/50	CVE 550/1550/50	CVE 800/2100/50	CVE 1200/2400/50
2. APPLICABLE STANDARDS		IEC 61869 - 1 & 5, IEC 358 (1990); IEC 60044 - 5 (2004)										
3. HIGHEST SYSTEM VOLTAGE	kV	72.5	123	145	170	245	300	362	420	550	800	1200
4. ONE MIN, POWER FREQUENCY VOLTAGE	kV	140	230	275	325	460	460	575	630	680	975	1200
5. LIGHTNING IMPULSE	kVp	325	550	650	750	1050	1050	1300	1425	1550	2100	2400
6. SWITCHING IMPULSE	kVp	NA					850	950	1050	1175	1550	1800
7. RATED FREQUENCY	Hz	50/60										
8. AMBIENT TEMPERATURE	°C	-25 TO 50										
9. SEISMIC ACCELERATION	g	0.3										
10. RATED VOLTAGE FACTOR	–	1.2 (CONT) / 1.5 (30 SEC)										
11. ONE MIN. POWER FREQUENCY VOLTAGE ON SECONDARY	kV	3										
12. SECONDARY VOLTAGE	V	100, 100/√3, 110, 110/√3 , 120 , 120/ √3.										
13. TOTAL CREEPAGE DISTANCE	mm	1815	3075	3625	4250	6125	7500	9050	10500	13750	20000	30000
14. EQUIVALENT CAPACITANCE	pF	8800	6000	6000	6000	4400	4400	3000	4400	3000	4400	2000
15. TOTAL SIMULTANEOUS BURDEN/ACCURACY		–	200VA / CL 0.5									
16. TOTAL THERMAL BURDEN	VA	500VA			750VA							
17. CANTILEVER LOAD	kg	125	200		250							
18. ARCING DISTANCE	mm	820	1215	1215	1415	1930	2180	2630	2830	3810	5800	7250
19. TOTAL HEIGHT (H)	mm	1950	2350	2350	2550	3410	3655	4175	4370	5730	7950	9650
20. MAXIMUM DEPTH (A)	mm	785	785	785	785	785	785	850	850	850	850	850
21. MOUNTING DIMENSIONS (W)	mm	450	450	450	450	450	450	450	450	450	600	600
22. TOTAL WEIGHT	kg	315	360	430	450	575	600	810	825	950	2500	2400
23. QTY OF OIL	kg	75	90	95	100	115	125	200	210	240	2800	300
24. OIL VOLUME COMPENSATION (CC UNIT)	–	STAINLESS STEEL BELLOW										
25. ALTITUDE	m	UPTO 1000										

Optionals

TYPE DESIGNATION	UNIT	CVE	CVE	CVE	CVE	CVE	CVE	CVE	CVE	CVE	CVE	CVE
1. HIGHEST SYSTEM VOLTAGE	kV	72.5	123	145	170	245	300	362	420	550	800	1200
2. VOLTAGE FACTOR	–	1.9 FOR 30 SEC							—	—	—	—
3. CREEPAGE DISTANCE	mm/kV	31, 35							31	31	31	31
4. TOTAL SIMULTANEOUS BURDEN/ACCURACY	–	100 VA / CL 0.2							100 VA/CL 0.2	100 VA/CL 0.2	100 VA/CL 0.2	100 VA/CL 0.2
5. SEISMIC ACCELERATION	g	0.5										

These parameters are typical values. For other specifications, please contact us.

Inductive Voltage Transformer

36 kV To 420 kV

Introduction

Crompton Greaves Ltd. have manufactured and supplied thousands of quality electrical products for the past six decades which have excelled in various test and service environments around the world. Nearly 5000 Inductive Voltage Transformers, type IVT/VEOT, have been supplied all over the world since 1986 and their performance and reliability has proven to be one of the best.

All our Voltage Transformers (72.5 to 420 kV) adhere to the requirements of the quality standards and our quality system, environment management system, safety management system are certified to ISO 900-2000, ISO 14001 and ISO 18001 respectively.

Design

Voltage Transformers (VTs) are used to transform high system voltages (kV) to low measurable values (Volts).

Fig. 7 shows the basic construction of the Inductive Voltage Transformer. The high voltage winding consists of a multi-layered coil of insulated copper wire. Inter-layer insulation is provided by Oil Impregnated Paper (OIP). The high Voltage (HV) winding is wound over the low voltage (LV) winding and assembled over a closed iron core maintained at ground potential.

The VTs can be provided with several metering and protection windings and can be designed to provide any desired voltage output from the secondary winding. Secondary taps can be used to obtain multi-ratio secondary voltage output.

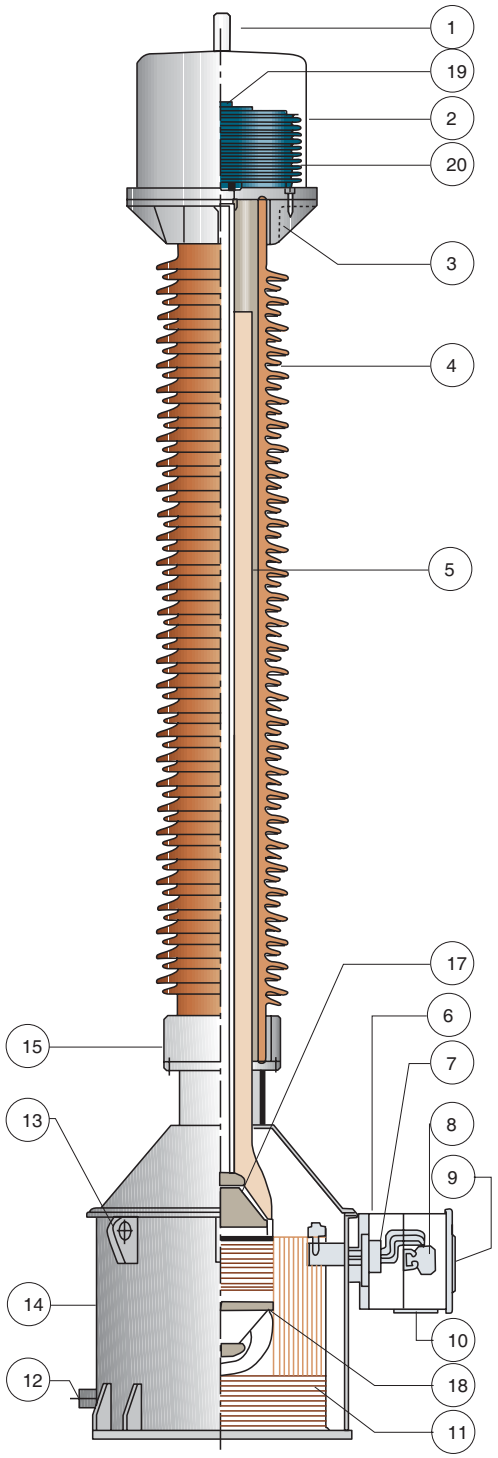
The high voltage lead is brought to the bottom tank (which houses the windings) through an OIP insulated condensor bushing in order to maintain the accessible bottom tank of the VT at ground potential. Uniform potential gradient is obtained along the bushing by means of contoured electrodes, uniform insulation and fine condensor grading. High quality kraft paper is used to wind the bushings using a Wide Band Bushing Winding machine. The paper insulation is dried under heat and vacuum and then impregnated with oil to achieve excellent insulation as well as ageing properties. The fully assembled VTs are dried and oil filled under vacuum in evacuated heating chambers.

Construction

The VT head is equipped with the primary terminal. The head accommodates an oil communicating type stainless steel bellow to compensate for changes in oil volume due to changes in the ambient temperature. The bellow renders the VT truly hermetically sealed and, at the same time, removes any chances of abnormal internal pressure variation. A window is provided at the top to indicate the bellow level and thus the oil level in the VT.

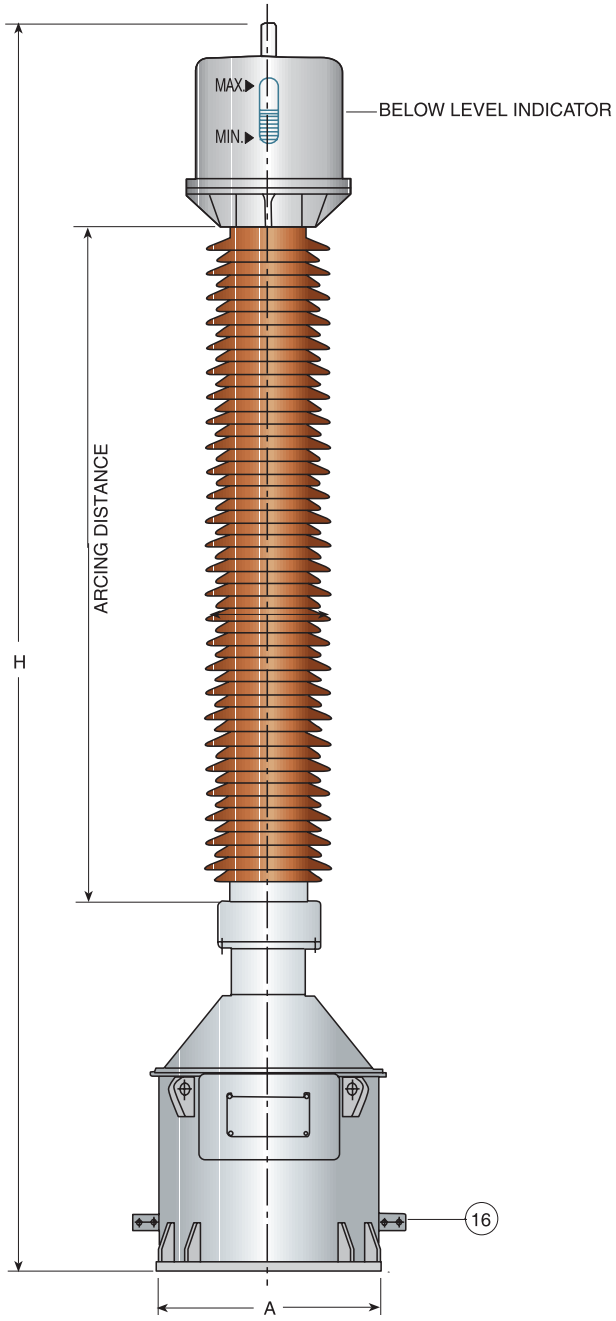
The porcelains are cemented to aluminium alloy flanges on both sides with port land cement to provide optimum mechanical strength. Brown

FIG. 7

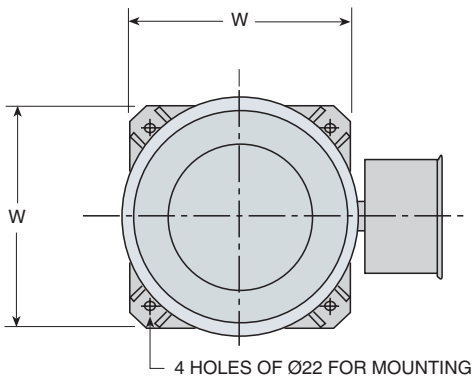


(1) H.V. TERMINAL Ø30×80 MM LONG	(11) C.R.G.O. CORE
(2) HOOD	(12) OIL SAMPLING VALVE
(3) UPPER PORCELAIN FLANGE	(13) LIFTING LUG
(4) PORCELAIN INSULATOR	(14) TANK
(5) CONDENSER BUSHING	(15) LOWER PORCELAIN FLANGE
(6) SECONDARY BOX	(16) EARTHING PAD
(7) EPOXY MONO BLOCK	(17) PRIMARY WINDING
(8) SECONDARY TERMINALS	(18) SECONDARY WINDING
(9) RATING/SCHEMATIC PLATE	(19) OIL FILLING PLUG
(10) GLAND PLATE	(20) BELLOW

FIG. 8



MOUNTING DETAILS



glazed porcelain of shed profile as per IEC 815 is used. Grey porcelains or variant shed profiles can also be supplied against specific customer requirement.

The bottom tank is made of high quality sheet steel and shaped to conform to the active part of the VT. All exposed ferrous parts are shot blasted, spray galvanised, primer coated and finally painted with high quality polyurethane or epoxy paint in order to ensure excellent finish and corrosion resistance. The bottom tank accommodates the core, HV and LV windings and the secondary terminal leadouts. The tank is equipped with secondary terminal box with cover, earthing connection, oil sampling valve and rating and schematic plate. The secondary leads are brought out through multi-terminal monoblocks into the secondary terminal box for easy access. Lifting lugs and mounting holes are also provided on the tank.

Tests And Performance

The performance and reliability of Crompton Greaves make Inductive Voltage Transformers has been verified by type testing at renowned laboratories like CPRI (India) KEMA Netherland.

Transport

All IVTs are transported in horizontal position except for 72.5 kV IVT which is transported vertically.

Maintenance

The product is self contained, maintenance free and does not require any spares throughout its service life. For regular and periodic checks, please refer the instruction manual.

Inductive Voltage Transformer

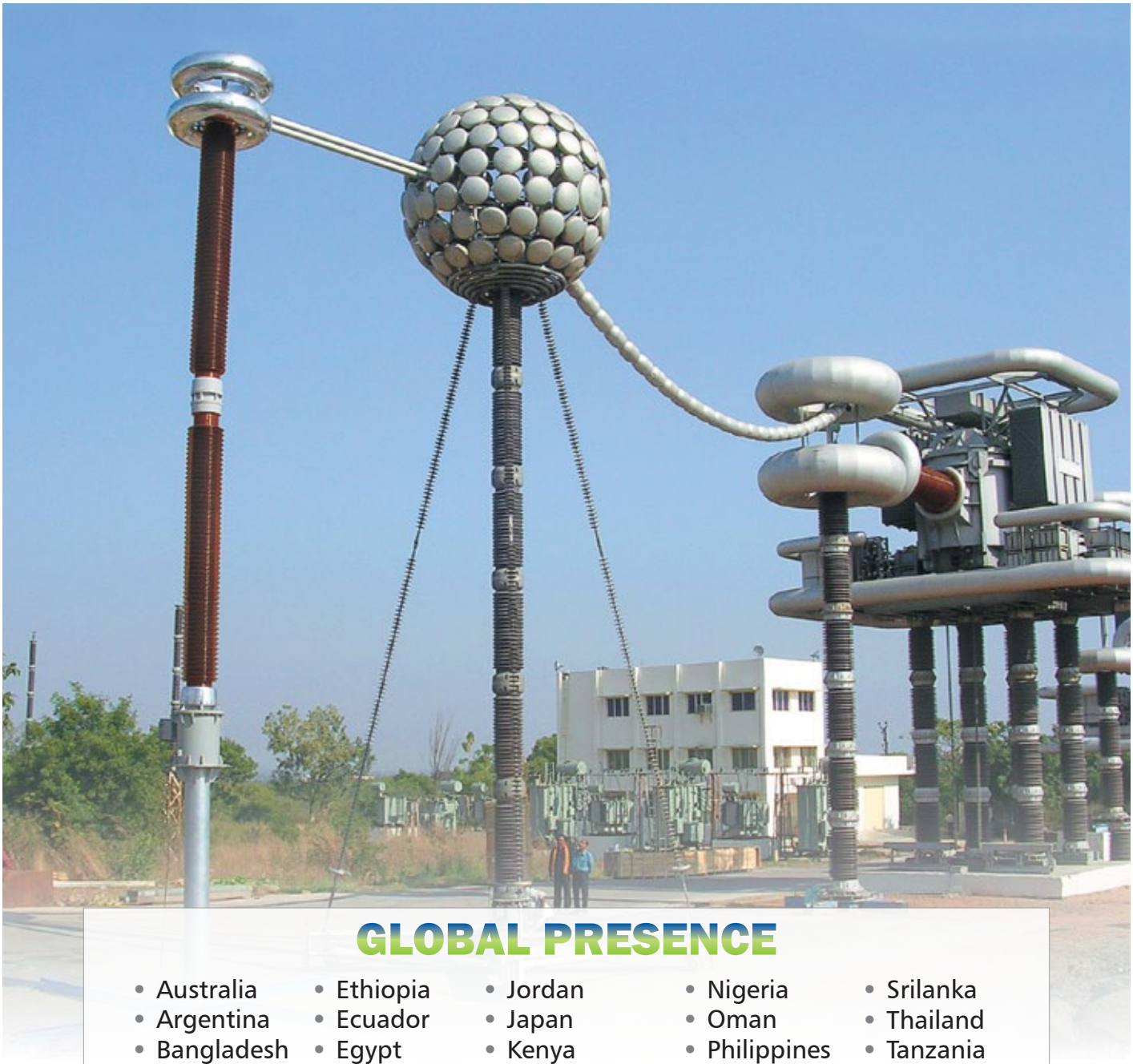
36 kV To 420 kV

1. TYPE DESIGNATION	:	UNITS	CGV	IVT	VEOT	VEOT	VEOT	VEOT	VEOT	VEOC
2. APPLICABLE STANDARD	:		IEC - 60044 - 2 : 2003; IEC - 61869 - 1 & 3							
3. HIGHEST SYSTEM VOLTAGE	:	kV	36	72.5	123	145	170	245	300	420
4. ONE MIN POWER FREQUENCY WITHSTAND VOLTAGE	:	kV	70	140	230	275	325	460	460	630
5. 1.2/50 μs IMPULSE WITHSTAND VOLTAGE	:	kVp	170	325	550	650	750	1050	1050	1425
6. SWITCHING IMPULSE	:	-	-	-	-	-	-	-	850	1050
7. RATED FREQUENCY	:	Hz	50/60							
8. AMBIENT TEMPERATURE	:	°C	-25 TO 50							
9. SEISMIC ACCELERATION	:	g	0.3							
10. RATED VOLTAGE FACTOR	:	-	1.2 (CONT) / 1.5 (30 SEC)							
11. 1 MIN POWER FREQUENCY WITHSTAND VOLTAGE ON SECONDARY WINDINGS	:	kV	3							
12. SECONDARY VOLTAGE	:	V	100, 100/√3, 110, 110/√3 , 120 , 120/√3							
13. TOTAL CREEPAGE DISTANCE	:	mm	900	1810	3075	3625	4250	6125	7500	10500
14. ARCING DISTANCE	:	mm	420	700	1100	1300	1400	2065	2325	3200
15. TOTAL SIMULTANEOUS BURDEN / ACCURACY	:	-	200 VA / CL 0.5	300 VA / CL 0.5	500 VA / CL 0.5	500 VA / CL 0.5	500 VA / CL 0.5	500 VA/ CL 0.5	500 VA/ CL 0.5	300 VA / CL 0.5
15. TOTAL THERMAL BURDEN	:	VA	300 VA	500 VA	750 VA	750 VA	1000 VA	1000 VA	1000 VA	750 VA
16. CANTILEVER LOAD	:	kG	NA	125	200	200	200	250	250	250
17. TOTAL HEIGHT (WITHOUT SUPPORT STRUCTURE) (H)	:	mm	1370	1810	2725	2725	3080	3800	4195	5930
18. MAXIMUM WIDTH (A)	:	mm	350	700	790	790	930	980	1000	850
19. MOUNTING DIMENSIONS (W)	:	mm	350 × 350	375 × 375	450 × 450	450 × 450	600 × 600	550 × 550	600 × 600	650 × 650
20. TOTAL WEIGHT	:	kG	125	230	400	400	575	870	1200	1250
21. QTY OF INSULATING OIL	:	kG	30	50	50	50	100	210	350	360
22. PROVISION FOR COMPENSATION OF OIL VOLUME EXPANSION	:	-	STAINLESS STEEL BELLOW							
23. TYPE OF SECONDARY TERMINAL BLOCKS	:	-	CLIP ON STUD TYPE							

Optionals

TYPE DESIGNATION	:	UNITS	CGV	IVT	VEOT	VEOT	VEOT	VEOT
1. HIGHEST SYSTEM VOLTAGE	:	kV	36	72.5	123	145	170	245
2. VOLTAGE FACTOR	:	-	1.9 FOR 30 SEC					
3. CREEPAGE DISTANCE	:	mm/kV	31	31/35/40				31/35
4. TOTAL SIMULTANEOUS BURDEN / ACCURACY	:	-	100 VA / CL 0.2	100 VA / CL 0.2	200 VA / CL 0.2			
5. SEISMIC ACCELERATION	:	g	0.5					

These parameters are typical values. For other specifications, please contact us.



GLOBAL PRESENCE

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- Bangladesh
- Benin
- Brazil
- Botswana
- Chile
- Costa Rica
- Colombia
- Canada
- U.A.E.
- Ethiopia
- Ecuador
- Egypt
- France
- Greece
- Ghana
- Indonesia
- Iraq
- Iran
- Italy
- Iceland
- Jordan
- Japan
- Kenya
- Kyrgyzstan
- Laos
- Mauritania
- Myanmar
- Malaysia
- Mozambique
- Nepal
- New Zealand
- Nigeria
- Oman
- Philippines
- Peru
- Panama
- Suriname
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Data subject to change

Cat. No. IT Combine-110 (3/15/1K) / Sangam