



MEDIUM VOLTAGE INSTRUMENT TRANSFORMERS

OUTDOOR / INDOOR



Folow us      @ArtecheGroup

For more detailed information, please visit us at www.arteche.com

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GLOBAL ORGANIZATION



Arteche is a global organization that has manufacturing, technical and trade facilities worldwide, and has **products installed in more than 175 countries** around the world.

This **worldwide presence** allows us to directly meet the local needs of the generation, transmission, and distribution sectors, understanding the local demands and complexities.

In short, we are a global, strong, and stable brand with over 75 years of experience, prepared to respond to any market changes through our main purpose: to respond to energy challenges with agility and responsibility, true to our commitment to people, society and the planet. Always MOVING TOGETHER. Always ADDING ENERGIES.

To this end, **we have the best source of energy on the planet: our people.** People have made Arteche the company it is today thanks to their professionalism, knowledge, and commitment to this common project. Our international team has experience and commitment, allowing us to work based on continuous innovation, adapting our answers to the needs of our clients.

Arteche is a project that is shared with our people, and clients, and suppliers, and the whole of the society in which we develop our activity.

Sustainability, ethics, honesty, solidarity, and transparency are the principles that make up our philosophy and which all of us at Arteche follow, always seeking excellence in quality and service. Our commitment to society is strong, and all of us at Arteche want to participate actively to contribute to social development, and to generate value for our clients and for society as a whole.

In July 2021 **ESITAS company** has been added to Arteche's project, a company with **over 35 years' experience** in the sector and in the instrumentation and measuring market.

With this acquisition, Arteche reinforces its leadership as it looks to the future challenges around the transformation of the energy sector. We also strengthen our commitment to continue to add energies to move into the future.

WE ARE SUPPLYING INSTRUMENT TRANSFORMERS TO ALL OVER THE WORLD



M.V. Current Transformers

ATB 10-B / 10-B3 / 10-2	11
ATB 10-BS / 10-BS2 / 10-B3 / 10-B4	13
ATB 20-BS / 20-BS2	15
ATB 10-10 / 10-15	17
ATB 20-B / 20-B2 / 20-3 / 20 - 3B	19
ATB 20-3A / 20-3B	21
ATB 20-10 / 20-15	23
ATB 30-S1 / 30-1 / 30-2 / 30-3	25
ATB 30-5 / 30-10 / 30-15	27
ATU 24	29
ES 24 C3 B	31
ATD 10 / 20	33
ATN 17-1 / 17-2 / ESO 17 C / ATN 18 / 19 / AR 01 a / 03	35
ATSI 24	39
ATGI 24 / 24-2	41
ATH 20-S / 21 / 21-2 / 22 N	43
ATH 32	45
ATH 30-N / 32-N	47
ATH 52	49
ATH 72-N	51
ATH 32 C	53

L.V. Current Transformers

KAP	57
A-KAP	59
Indoor & Outdoor Ring Type	61
LPCT - 115	63
LPCT - 160	64

M.V. Voltage Transformers

VTB 10-S / 10-K / 20 / 20-K	71
VTB 30-K	73
VT 20-B / VTB 30 / 30-1 / 2VT 30-200	75
ES 17 V3	77
ES 24 V2-B	79
ES 24 V1	81
VTU-24	83
2VTB 10 / 20	85
2VT 20-B / 2VTB 30 / 2VT 40-200	87
VTB 10-KF1 / 20-KF1 / 30-KF1	89
VTB 10-KF2 / 10- KFA2 / 20-KF2 / 30-KF2	91
VTB 10-KFP / 20-KFP	93
ES 12 VR-F / 24 VR-F	95
VTB 10-SF / 20-F2	97
VTB 30-F1 / 30-F1B	99
VTH 20 / 30	101
VTH 20-N / 30-N	103
VTH 52-N	105
2VTH 20 / 30	107
2VTH 20-N / 30-N	109
MVT 10B / 30B	111
MVT 10 / 30	113
VTH 72-N	115

Insulators

M.V. CURRENT TRANSFORMERS

M.V. CURRENT TRANSFORMERS



General Definitions

General definitions have been given according to International Standards IEC 61869

Instrument Transformer

A transformer intended to supply measuring instruments meters, protection relays and other similar apparatus.

Applicable Standards

Our transformers comply with applicable national and international standards.

Current Transformers

An instrument transformer in which the secondary current, in normal conditions of use, is substantially proportional to the primary current and differs in phase from it by angle which is approximately zero for an appropriate direction of the connections. It isolates the instrument and protection circuit from the primary side and protect the devices against overload according to the overcurrent characteristics of the transformer. Current transformers can have several secondary windings with cores of identical or different characteristics completely isolated from each other.

Measuring Current Transformer

A current transformer intended to supply indicating instruments, integrating meters and similar apparatus.

Protective Current Transformer

A current transformer intended to supply protective relays.

Primary Winding

The winding through which flows the current to be transformed.

Secondary Winding

The winding, which supplies the current circuits of measuring instruments, meters, relays or similar devices.

Secondary Circuit

The external circuit supplied by the secondary winding of a transformer.

Rated Primary Current

The value of the primary current on which the performance of the transformer is based.

Rated Secondary Current

The value of the secondary current on which the performance of the transformer is based.

Rated Transformation Ratio

The ratio of rated primary current to the rated secondary current (I_{1N}/I_{2N}-i.e. 100/5A)

Current Error (Ratio Error)

The error which a transformer introduces into the measurement of a current and which arises from the fact that the actual transformation ratio is not equal to the rated transformation ratio.

The current error expressed in per cent is given by formula:

$$\text{Current Error}\% = \frac{K_n I_s - I_p}{I_p} \times 100$$

Where

K_n is the rated transformation ratio;

I_p is the actual primary current

I_s is the actual secondary current when I_p is flowing, under the conditions of measurements.

Accuracy Class

A designation assigned to a current transformer errors of which remain within specified limits under prescribed conditions of use.

Burden

The impedance of the secondary circuit in ohms and power-factor. The burden is usually expressed as the apparent power in voltamperes absorbed at a specified power-factor and at the rated secondary current.

Rated Burden

The value of the burden on which the accuracy requirements are based on.

Rated Output

The value of the apparent power (in voltamperes at a specified power-factor) which the transformer is intended to supply to the secondary circuit at the rated secondary current and with rated burden connected to it.

Rated Insulation Level

The combination of voltage values which characterizes the insulation of a transformer with regard to its capability to withstand dielectric stresses.

Rated Frequency

This is the frequency for which the transformer is designed and given in Hz on the rating plate.

Rated Short-Time Thermal Current (I_{th})

The r.m.s. value of the primary current which a transformer will withstand for one second without suffering harmful effects, the secondary winding being short-circuited.

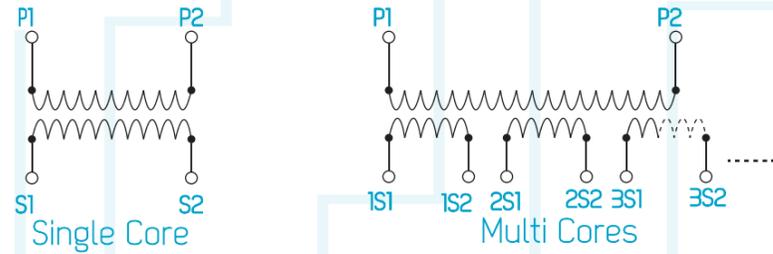
Rated Dynamic Current (I_{dyn})

The peak value of the primary current which a transformer will withstand, without being damaged electrically or mechanically by the resulting electromagnetic forces, the secondary winding being short-circuited.

Rated Continuous Thermal Current

The value of the current which can be permitted to flow continuously in the primary winding, the secondary winding being connected to the rated burden, without temperature rise exceeding the values specified.

CONNECTION DIAGRAMS
Single Ratio Current Transformers

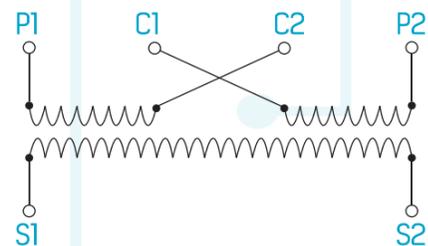


Reconnection of Current Transformer

In case of changeable ratios, it is possible to design the transformer with primary reconnection or secondary tapping;

Primary Reconnection

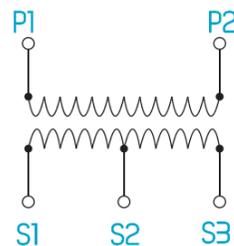
Changeover will be done at the primary side by using joint bars.
Can be used only for primary currents up to 2 x 600A



! C1 - C2 short circuited: low rated current
P1 - C1 and P2 - C2 short circuited: high rated current

Secondary Tapping

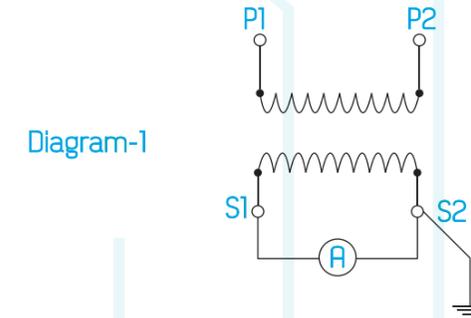
Changeover will be done at the secondary side.



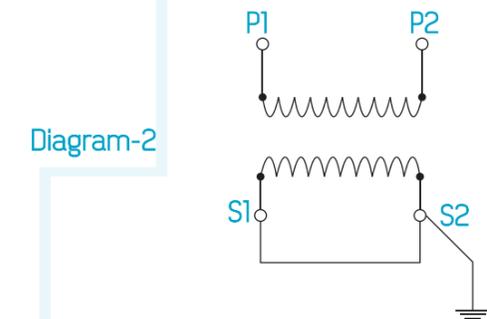
! S1 - S2 low rated current
S1 - S3 high rated current

Safety Operation Conditions for Current Transformers

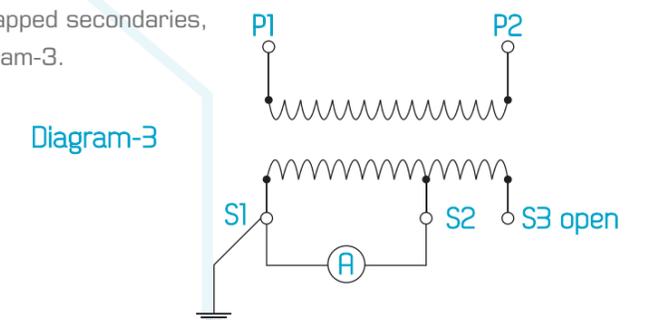
- When the secondary terminals are connected to the measuring or protection devices, one of the terminals should be earthed for safety, as seen in Diagram-1.



- The secondary circuit of a current transformer must not be operated with an open - circuit.
- The secondary winding of a current transformer which will not be used must be short - circuited and earthed as seen in Diagram-2

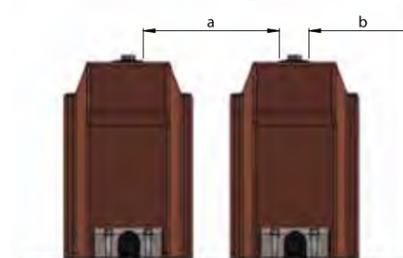


- For the transformer with reconnectable and - or tapped secondaries, unused terminals must be left open as seen in Diagram-3.



- The current transformers which have capacitive divider tap (Ck) must be connected to the indicator, if the tap will not be used then it must be earthed.

M.V. CURRENT TRANSFORMERS CONNECTION CLEARANCES



INSULATION LEVEL	a minimum	b minimum
12kV	100mm	110mm
24kV	190mm	210mm
36kV	305mm	325mm

INDOOR SUPPORT TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=3,6kV 17,5kV BLOCK TYPES)



INDOOR SUPPORT TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=3,6kV 17,5kV BLOCK TYPES)

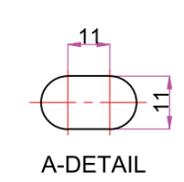
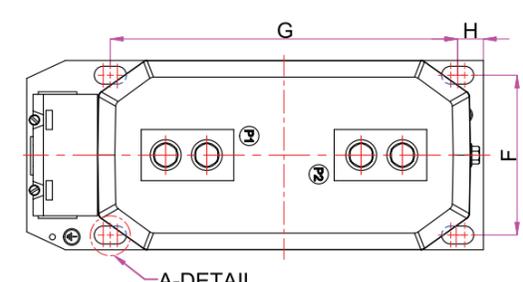
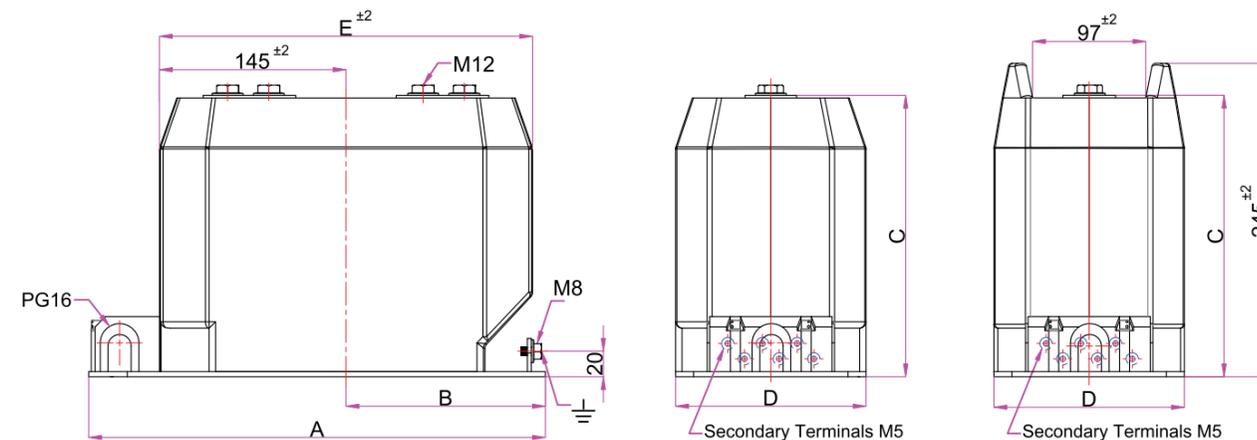
Types:

- ATB 10-B
- ATB 10-B3
- ATB 10-2

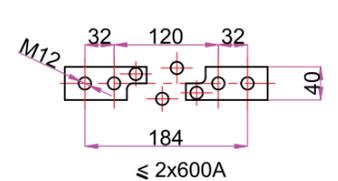
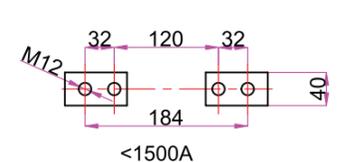
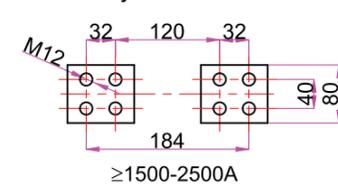
- Up to 3 cores*
- On request with capacitive layer.
- On request with barrier.

Technical Data	Produced only in Indonesia Factory			
	ATB 10-B	ATB 10-B3	ATB 10-2	
Operating voltage, Um (kV)	3,6	7,2	12	17,5
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95
Rated frequency (Hz)	50-60			
Primary rated current (A)	5 - 2500 (On request 3000A 1.0xIn / Cont. & Insulation class B)			
Primary reconnection (A)	2 x 5 - 2 x 600			
Secondary rated current (A)	1 - 5			
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2			
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2			
Rated short-time thermal current (I _{th}) (1s) (kA)	Max. 60 kA or 1000 x I _n			
Rated dynamic current (I _{dyn}) (kA)	2,5 x I _{th}			
Short-time load (mechanical) (N)	5000			
Insulation class	E			
Ambient temperature (°C)	-25 +40**			
Altitude (m)	1000			
Standard	According to the customer requirements			
Weight (approx.) (kg)	20 - 25	25 - 33	28 - 33	

On request operating voltage of 17,5 kV is available.
* For more cores please contact with ARTECHE for feasibility.
** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



Primary Connection Bars



Types	A	B	C	D	E	F	G	H
ATB 10-B	355	155	220	148	290	125	270	20
ATB 10-B3	455	255	220	148	390	125	370	20
ATB 10-2	385	170	220	175	290	150	300	20

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5
M8 (Ground Terminal)	15	20
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.

INDOOR SUPPORT TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=3,6kV 17,5kV NEW BLOCK TYPES)



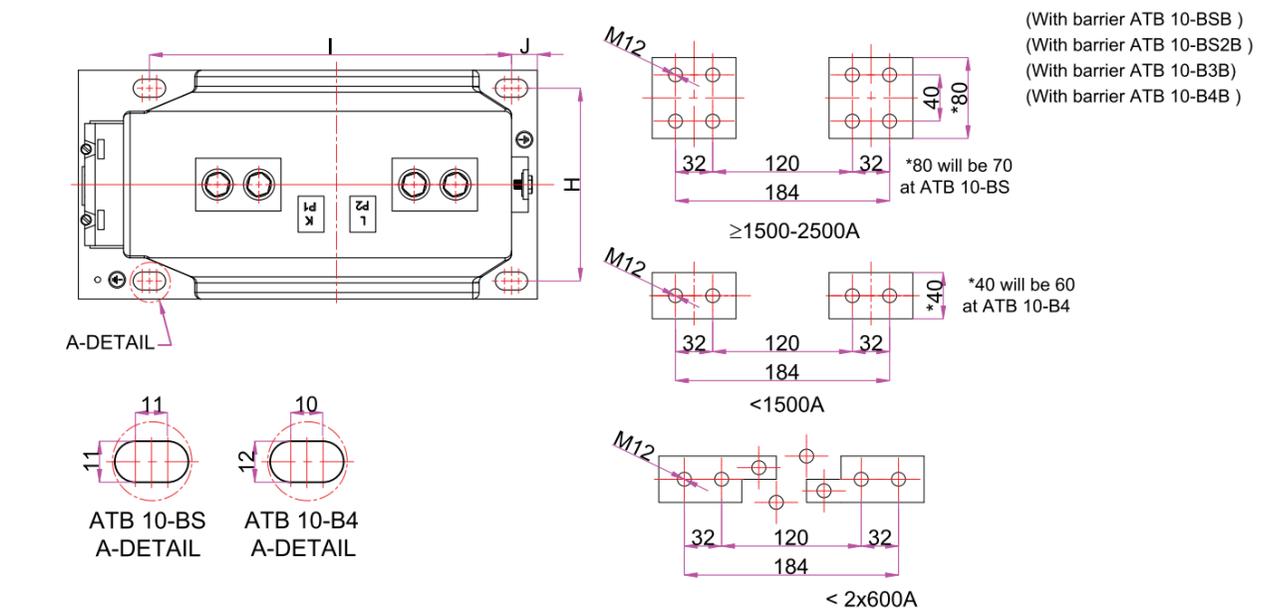
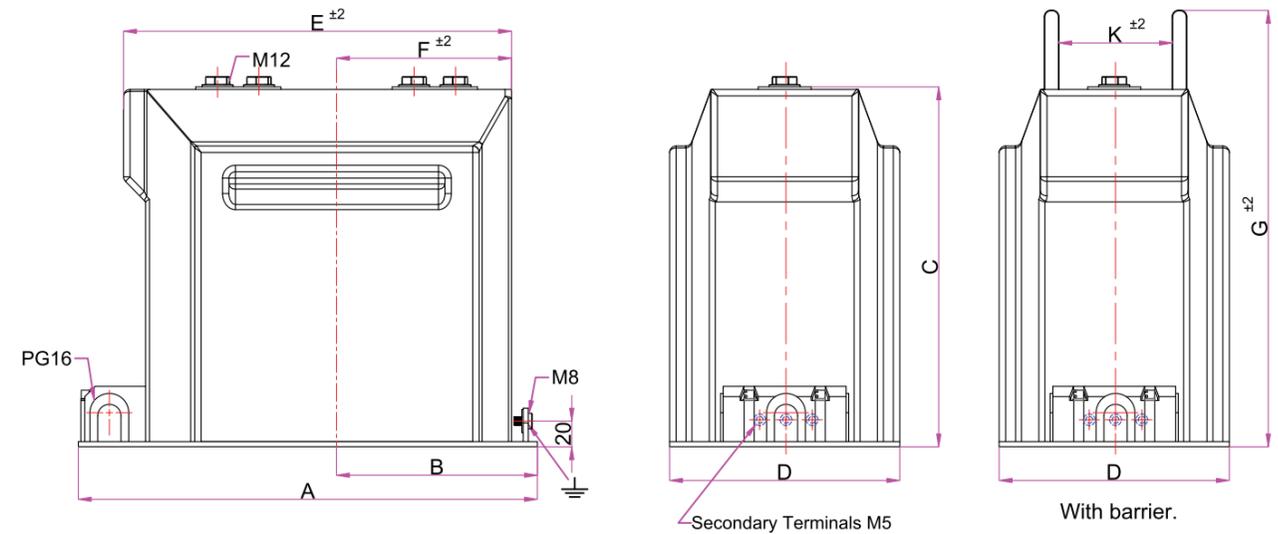
INDOOR SUPPORT TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=3,6kV 17,5kV NEW BLOCK TYPES)

Types:

- ATB 10-BS (With barrier ATB 10-BSB)
- ATB 10-BS2 (With barrier ATB 10-BS2B)
- ATB 10-B3 (With barrier ATB 10-B3B)
- ATB 10-B4 (With barrier ATB 10-B4B)

- Up to 3 cores*
- On request with capacitive layer.
- On request with barrier.



Types	A	B	C	D	E	F	G	H	I	J	K	TIGHTENING TORQUE (Nm)	min.	max.
ATB 10-BS	355	155	220	148	299	135	245	125	270	20	88	M5 (Secondary Terminal)	2.5	3.5
ATB 10-BS2	355	155	220	175	300	135	245	150	270	20	115	M8 (Ground Terminal)	15	20
ATB 10-B3	455	255	220	148	390	245	245	125	370	20	88	M12 (Primary Terminal)	60	70
ATB 10-B4	355	160	220	184	300	135	280	160	270	25	110			

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.

Technical Data				
Types	ATB 10-BS	ATB 10-BS2	ATB 10-B3	ATB 10-B4
Operating voltage, Um (kV)		3,6 7,2	12 17,5	
Rated power-frequency withstand voltage (1 minute) (kV)		10 20	28 38	
Rated impulse test voltage (1.2/50 μs) full wave (kV)		40 60	75 95	
Rated frequency (Hz)	50-60			
Primary rated current (A)	5 - 2500 (On request 3000A 1.0xIn / Cont. & Insulation class B)			
Primary reconnection (A)	2 x 5 - 2 x 600			
Secondary rated current (A)	1 - 5			
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2			
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2			
Rated short-time thermal current (Ith) (1s) (kA)	max. 1000 x In			
Rated dynamic current (Idyn) (kA)	2,5 x Ith			
Short-time load (mechanical) (N)	5000			
Insulation class	E			
Ambient temperature (°C)	-25 +40**			
Altitude (m)	1000			
Standard	According to the customer requirements			
Weight (approx.) (kg)	20 - 25	25 - 33	28 - 33	

* For more cores please contact with ARTECHE for feasibility.
 ** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR SUPPORT TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=17,5 24kV NEW BLOCK TYPES)



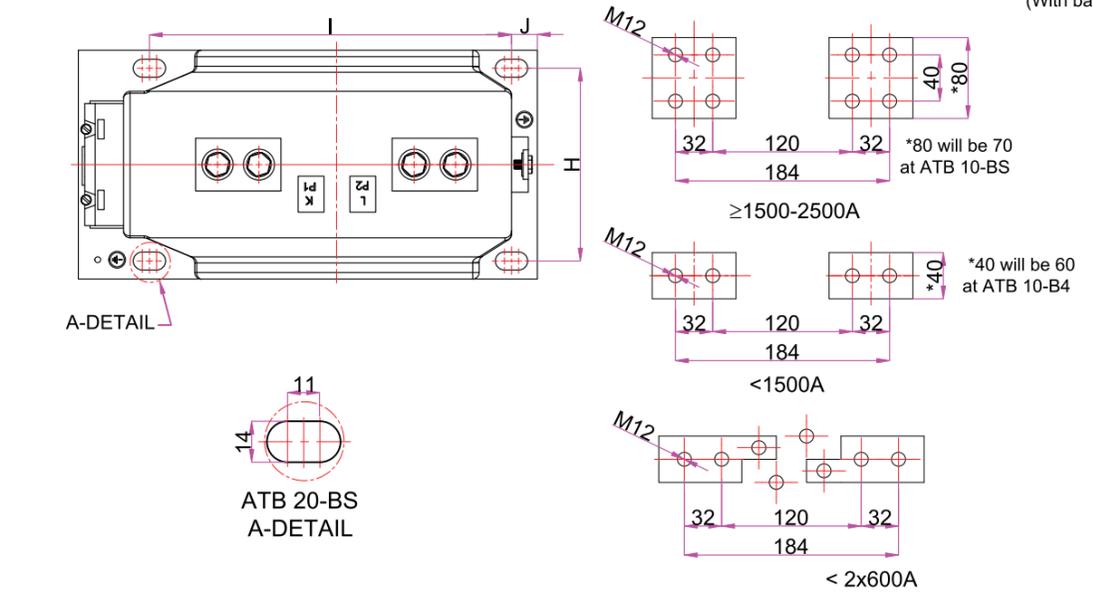
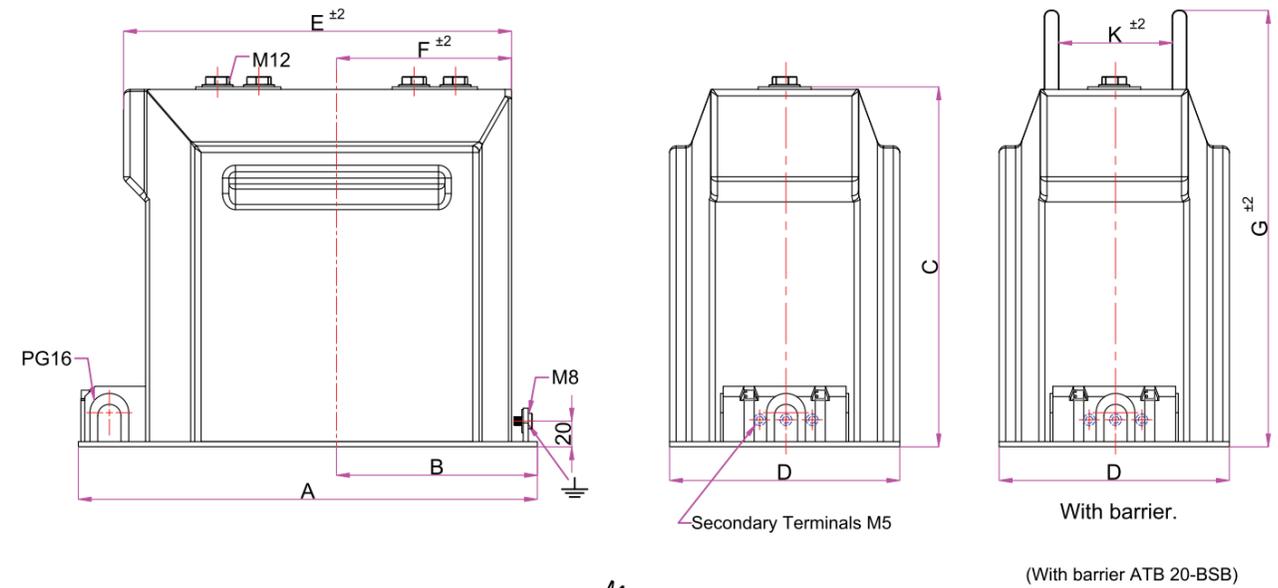
INDOOR SUPPORT TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=17,5 24kV NEW BLOCK TYPES)

Types:

- ATB 20-BS (With barrier ATB 20-BSB)
- ATB 20-BS2 (With barrier ATB 20-BS2B)

- Up to 3 cores*
- On request with capacitive layer.
- On request with barrier.



Types	A	B	C	D	E	F	G	H	I	J	K	TIGHTENING TORQUE (Nm)	min.	max.
ATB 20-BS	355	155	280	178	300	135	340	150	280	20	88	M5 (Secondary Terminal)	2.5	3.5
ATB 20-BS2	355	155	280	250	300	135	340	150	280	20	88	M8 (Ground Terminal)	15	20
												M12 (Primary Terminal)	60	70

Technical Data		
Types	ATB 20-BS	ATB 20-BS2
Operating voltage, Um (kV)	17,5	24***
Rated power-frequency withstand voltage (1 minute) (kV)	38	50
Rated impulse test voltage (1.2/50 μs) full wave (kV)	95	125
Rated frequency (Hz)	50-60	
Primary rated current (A)	5 - 2500 (On request 3000A 1.0xIn / Cont. & Insulation class B)	
Primary reconnection (A)	2 x 5 - 2 x 600	
Secondary rated current (A)	1 - 5	
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2	
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2	
Rated short-time thermal current (Ith) (1s) (kA)	max. 1000 x In	
Rated dynamic current (Idyn) (kA)	2,5 x Ith	
Short-time load (mechanical) (N)	5000	
Insulation class	E	
Ambient temperature (°C)	-25 +40**	
Altitude (m)	1000	
Standard	According to the customer requirements	
Weight (approx.) (kg)	30	

* For more cores please contact with ARTECHE for feasibility.
 ** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.
 *** For more kV, please contact with ARTECHE for feasibility.

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.

INDOOR SUPPORT TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=3,6kV 12kV NARROW BLOCK TYPES)



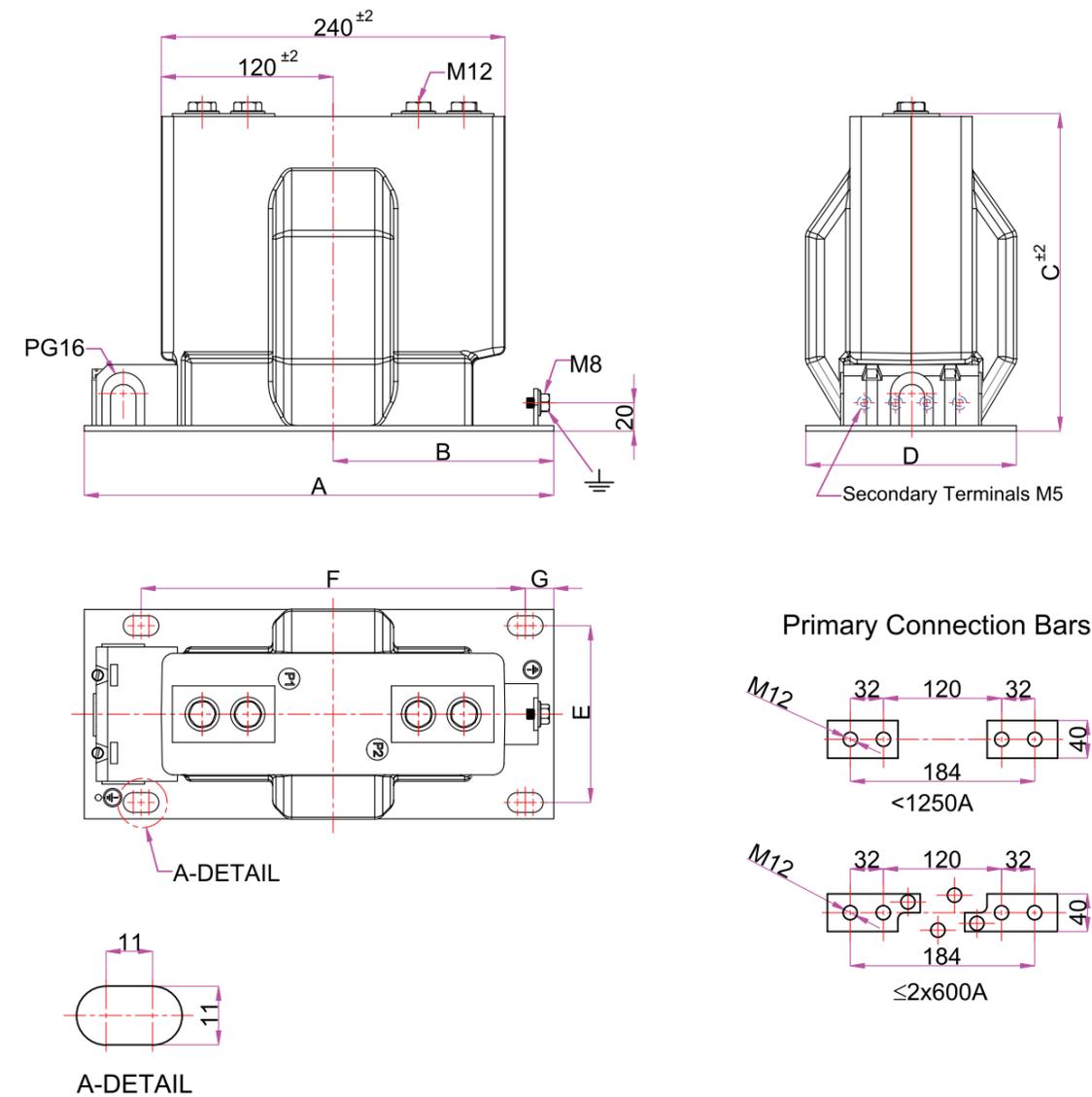
INDOOR SUPPORT TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS
(Um=3,6kV 12kV NARROW BLOCK TYPES)

Types:
ATB 10-10
ATB 10-15

- ATB 10-10, up to 1 core*
- ATB 10-15, up to 2 cores.*

Technical Data			
Types	ATB 10-10	ATB 10-15	
Operating voltage, Um (kV)	3,6 7,2 12		
Rated power-frequency withstand voltage (1 minute) (kV)	10 20 28		
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40 60 75		
Rated frequency (Hz)	50-60		
Primary rated current (A)	5-up to 1250		
Primary reconnection (A)	2 x 5 - 2 x 600		
Secondary rated current (A)	1 - 5		
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2		
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2		
Rated short-time thermal current (I _{th}) (1s) (kA)	(max. 200 x I _n) **		
Rated dynamic current (I _{dyn}) (kA)	(2,5 x I _{th})		
Short-time load (mechanical) (N)	5000		
Insulation class	E		
Ambient temperature (°C)	-25 +40 ***		
Altitude (m)	1000		
Standard	According to the customer requirements		
Weight (approx.) (kg)	12	17	

On request operating voltage of 17,5 kV is available.
* For more cores please contact with ARTECHE for feasibility.
** May vary according to requested primary current and core values.
*** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



Types	A	B	C	D	E	F	G
ATB 10-10	330	155	220	148	125	270	20
ATB 10-15	330	155	220	148	125	270	20

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5
M8 (Ground Terminal)	15	20
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.

INDOOR SUPPORT TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=17,5kV 24kV BLOCK TYPES)



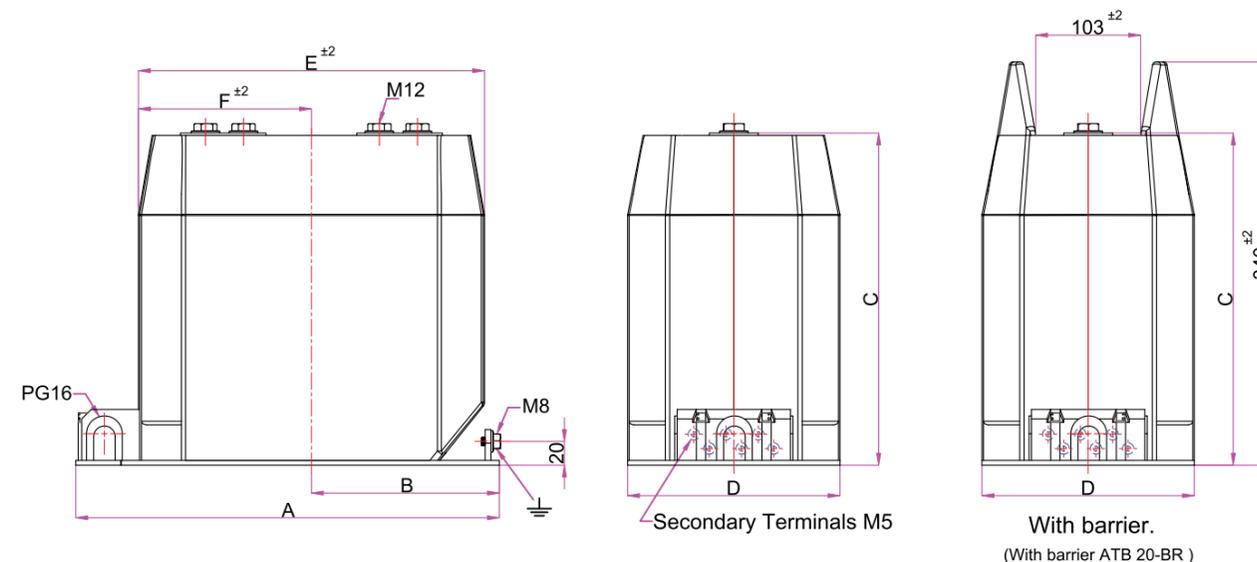
INDOOR SUPPORT TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=17,5kV 24kV BLOCK TYPES)

Types:

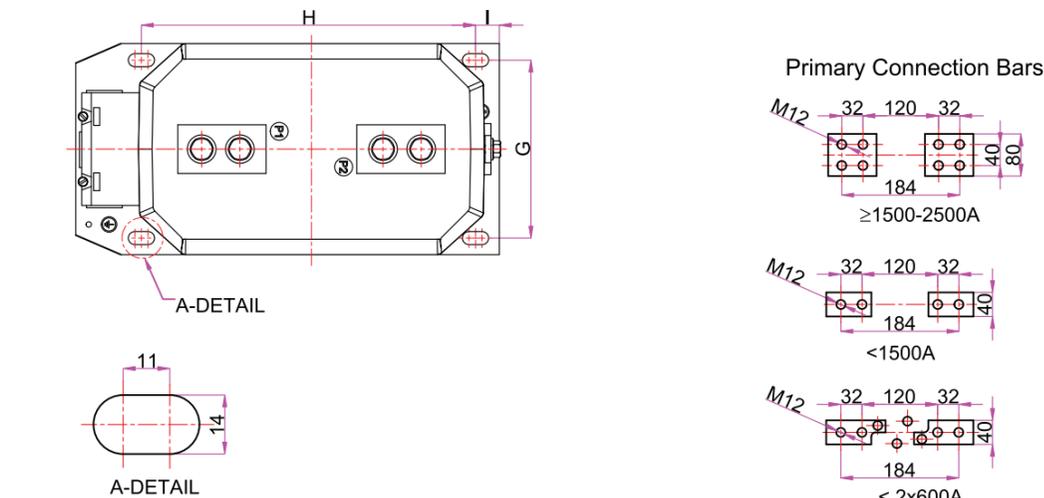
- ATB 20-B (With barrier ATB 20-BR)
- ATB 20-B2
- ATB 20-3
- ATB 20-3B

- Up to 3 cores.*
- On request with capacitive layer.
- On request with barrier.



Technical Data	Produced only in Indonesia Factory			
Types	ATB 20-B	ATB 20-B2	ATB 20-3	ATB 20-3B
Operating voltage, Um (kV)		17,5	24	
Rated power-frequency withstand voltage (1 minute) (kV)		38	50	
Rated impulse test voltage (1.2/50 μs) full wave (kV)		95	125	
Rated frequency (Hz)		50-60		
Primary rated current (A)	5 - 2500 (On request 3000A 1.0xIn / Cont. & Insulation class B)			
Primary reconnection (A)		2 x 5 - 2 x 600		
Secondary rated current (A)		1 - 5		
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2			
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2			
Rated short-time thermal current (Ith) (1s) (kA)		Max. 60 kA or 1000 x In		
Rated dynamic current (Idyn) (kA)		2,5 x Ith		
Short-time load (mechanical) (N)		5000		
Insulation class	E			
Ambient temperature (°C)	-25 +40 **			
Altitude (m)	1000			
Standard	According to the customer requirements			
Weight (approx.) (kg)	30	42	44	55

* For more cores please contact with ARTECHE for feasibility.
** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



Types	A	B	C	D	E	F	G	H	I
ATB 20-B	355	155	280	178	290	145	150	280	20
ATB 20-B2	355	155	280	205	290	145	180	280	17
ATB 20-3	455	197	280	178	390	195	150	300	22
ATB 20-3B	455	197	280	205	390	195	180	375	22

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5
M8 (Ground Terminal)	15	20
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.

INDOOR SUPPORT TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=17,5kV 24kV NEW BLOCK TYPES)



INDOOR SUPPORT TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=17,5kV 24kV NEW BLOCK TYPES)

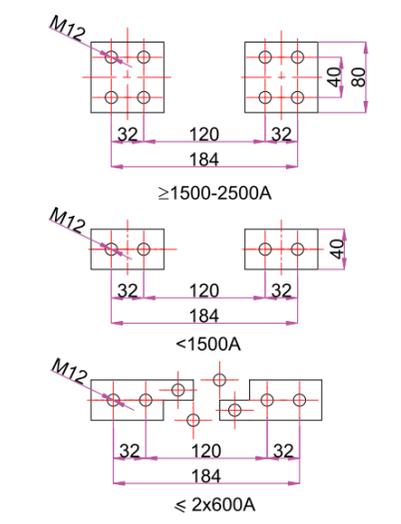
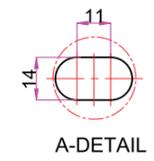
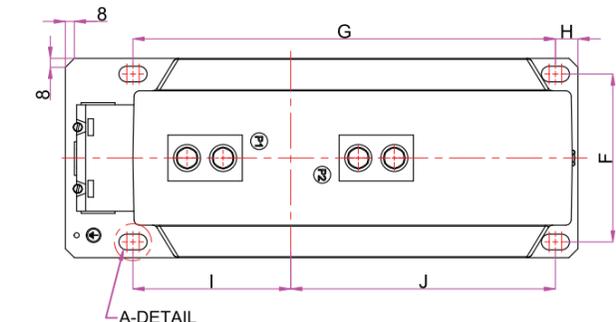
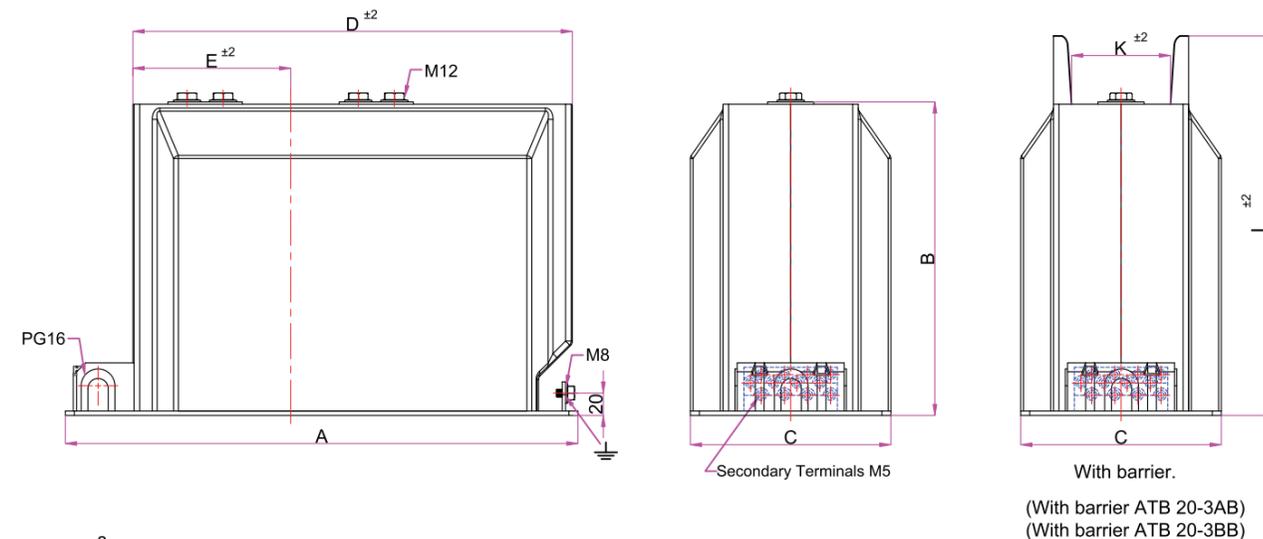
Types:

- ATB 20-3A (With barrier ATB 20-3AB)
- ATB 20-3B (With barrier ATB 20-3BB)

- Up to 3 cores.*
- On request with capacitive layer.
- On request with barrier.

Technical Data		
Types	ATB 20-3A	ATB 20-3B
Operating voltage, Um (kV)	17,5	24***
Rated power-frequency withstand voltage (1 minute) (kV)	38	50
Rated impulse test voltage (1.2/50 μs) full wave (kV)	95	125
Rated frequency (Hz)	50-60	
Primary rated current (A)	5 - 2500 (On request 3000A 1.0xIn / Cont. & Insulation class B)	
Primary reconnection (A)	2 x 5 - 2 x 600	
Secondary rated current (A)	1 - 5	
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2	
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2	
Rated short-time thermal current (I _{th}) (1s) (kA)	max. 1000 x I _n	
Rated dynamic current (I _{dyn}) (kA)	2,5 x I _{th}	
Short-time load (mechanical) (N)	5000	
Insulation class	E	
Ambient temperature (°C)	-25 +40 **	
Altitude (m)	1000	
Standard	According to the customer requirements	
Weight (approx.) (kg)	44	55

* For more cores please contact with ARTECHE for feasibility.
 ** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.
 *** For more kV, please contact with ARTECHE for feasibility.



Types	A	B	C	D	E	F	G	H	I	J	K	L	TIGHTENING TORQUE (Nm)	min.	max.
ATB 20-3A	455	280	178	390	140	150	375	20	140	235	-	-	M5 (Secondary Terminal)	2.5	3.5
ATB 20-3B	455	280	205	390	140	180	375	20	140	235	88	340	M8 (Ground Terminal)	15	20
													M12 (Primary Terminal)	60	70

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.

INDOOR SUPPORT TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=17,5kV 24kV NARROW BLOCK TYPES)



INDOOR SUPPORT TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS
(Um=17,5kV 24kV NARROW BLOCK TYPES)

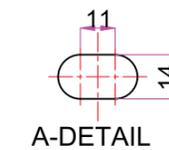
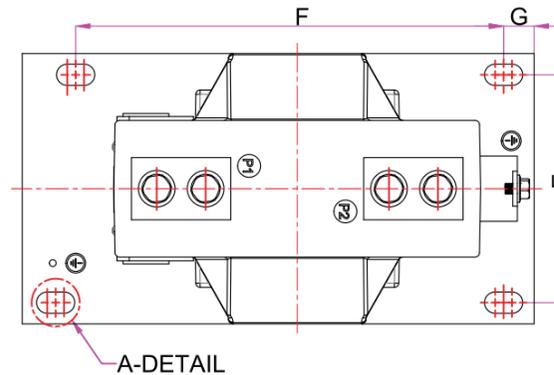
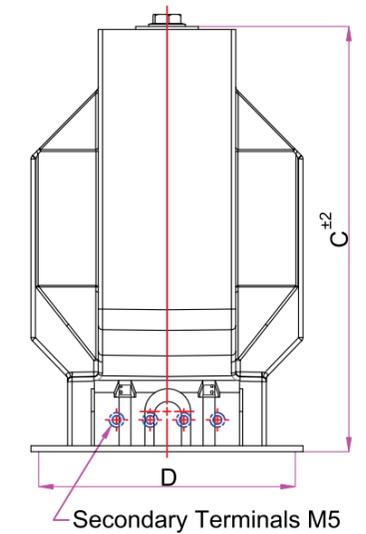
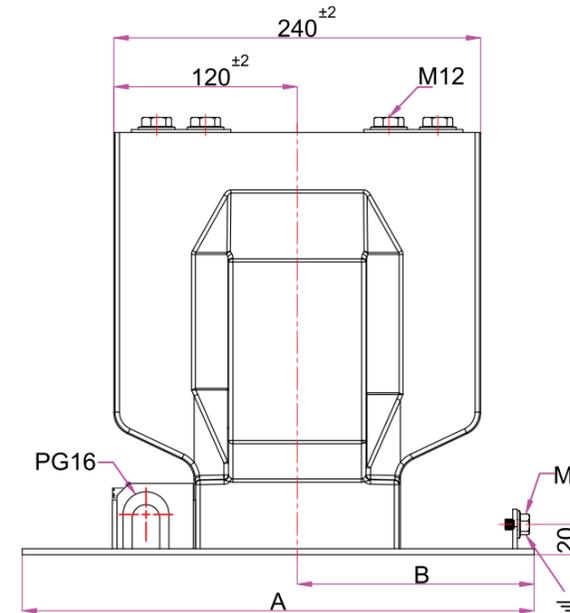
Types:

- ATB 20-10
- ATB 20-15

- ATB 20-10, up to 1 core*
- ATB 20-15, up to 2 cores.*

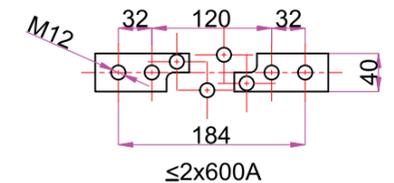
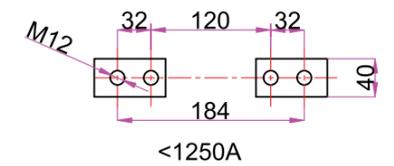
Technical Data		
Types	ATB 20-10	ATB 20-15
Operating voltage, Um (kV)	17,5	24
Rated power-frequency withstand voltage (1 minute) (kV)	38	50
Rated impulse test voltage (1.2/50 μs) full wave (kV)	95	125
Rated frequency (Hz)	50-60	
Primary rated current (A)	5 up to 1250	
Primary reconnection (A)	2 x 5 - 2 x 600	
Secondary rated current (A)	1 - 5	
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2	
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2	
Rated short-time thermal current (I _{th}) (1s) (kA)	(max. 300 x I _n) **	
Rated dynamic current (I _{dyn}) (kA)	2,5 x I _{th}	
Short-time load (mechanical) (N)	5000	
Insulation class	E	
Ambient temperature (°C)	-25 +40 ***	
Altitude (m)	1000	
Standard	According to the customer requirements	
Weight (approx.) (kg)	20	25

* For more cores please contact with ARTECHE for feasibility.
** May vary according to requested primary current and core values.
*** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



Types	A	B	C	D	E	F	G
ATB 20-10	335	155	280	178	150	280	20
ATB 20-15	335	155	280	178	150	280	20

Primary Connection Bars



TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5
M8 (Ground Terminal)	15	20
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.

INDOOR SUPPORT TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=36kV BLOCK TYPES)



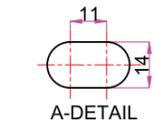
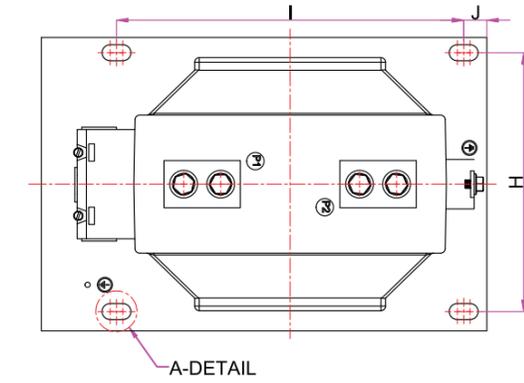
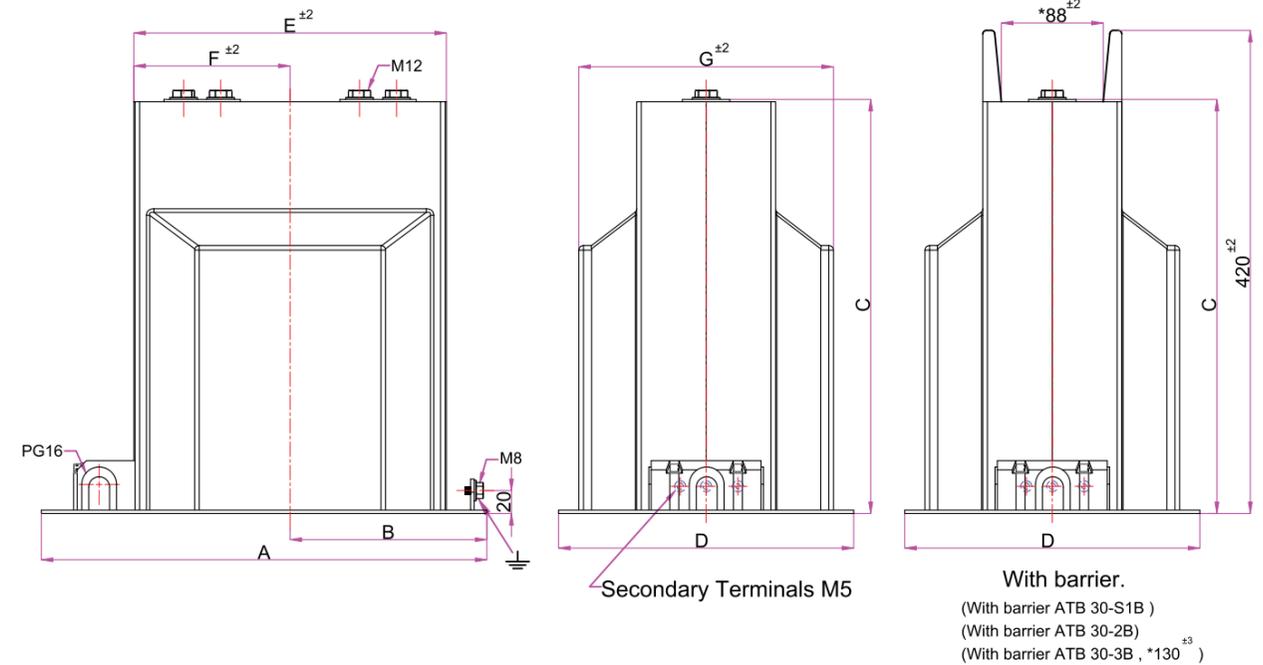
INDOOR SUPPORT TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS
(Um=36kV BLOCK TYPES)

- Types:**
 ATB 30-S1 (With barrier ATB 30-S1B)
 ATB 30-1
 ATB 30-2 (With barrier ATB 30-2B)
 ATB 30-3 (With barrier ATB 30-3B)

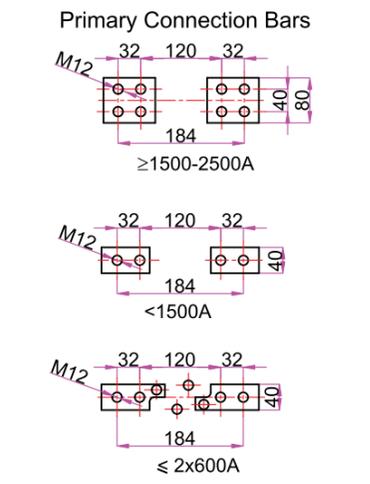
- Up to 3 cores.*
- On request with capacitive layer.
- On request with barrier.
- On request height: 390 mm as ATB 30-S1H
 ATB 30-2H
 ATB 30-3H

Technical Data				
Types	ATB 30-S1	ATB 30-1	ATB 30-2	ATB 30-3
Operating voltage, Um (kV)	36***			
Rated power-frequency withstand voltage (1 minute) (kV)	70			
Rated impulse test voltage (1.2/50 μs) full wave (kV)	170			
Rated frequency (Hz)	50-60			
Primary rated current (A)	5 - 2500 (On request 3150A 1.0xIn / Cont. & Insulation class B)			
Primary reconnection (A)	2 x 5 - 2 x 600			
Secondary rated current (A)	1 - 5			
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2			
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2			
Rated short-time thermal current (Ith) (1s) (kA)	max. 1000 x In			
Rated dynamic current (Idyn) (kA)	2,5 x Ith			
Short-time load (mechanical) (N)	5000			
Insulation class	E			
Ambient temperature (°C)	-25 +40 **			
Altitude (m)	1000			
Standard	According to the customer requirements			
Weight (approx.) (kg)	38-48	45-50	50-55	65

* For more cores please contact with ARTECHE for feasibility.
 ** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.
 *** For more kV, please contact with ARTECHE for feasibility.



With barrier.
 (With barrier ATB 30-S1B)
 (With barrier ATB 30-2B)
 (With barrier ATB 30-3B , *130^{s3})



Types	A	B	C	D	E	F	G	H	I	J	TIGHTENING TORQUE (Nm)	min.	max.
ATB 30-S1	385	170	360(390 ATB 30-S1H)	255	270	135	220	225	300	20	M5 (Secondary Terminal)	2.5	3.5
ATB 30-1	385	170	360	255	270	135	220	225	300	20	M8 (Ground Terminal)	15	20
ATB 30-2	385	170	360(390 ATB 30-2H)	255	310	155	240	225	300	20	M12 (Primary Terminal)	60	70
ATB 30-3	455	210	360(390 ATB 30-3H)	255	389	195	249	225	375	20			

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.

INDOOR SUPPORT TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=36kV NARROW BLOCK TYPES)



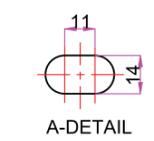
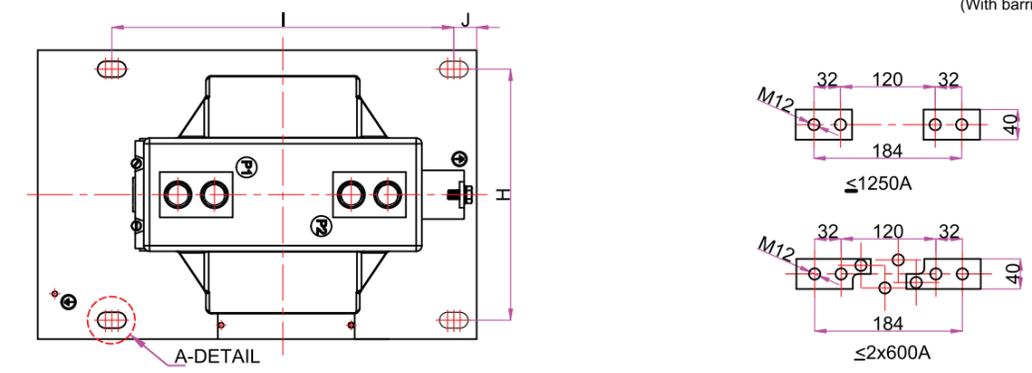
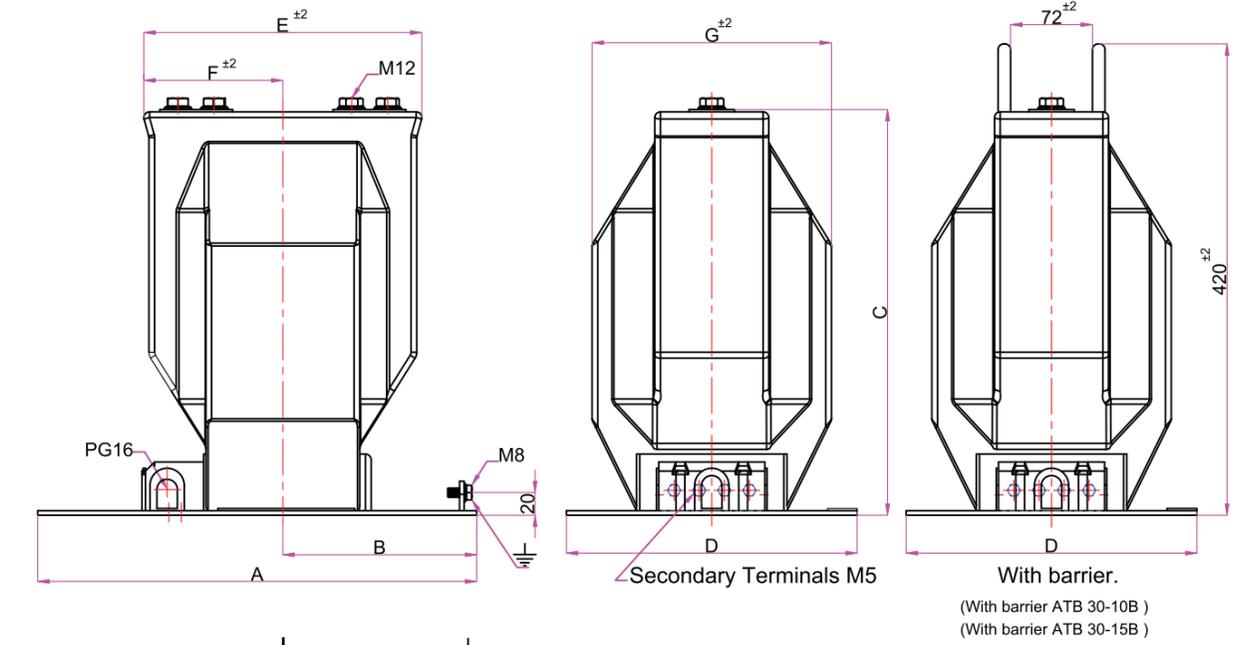
INDOOR SUPPORT TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=36kV NARROW BLOCK TYPES)

Types:

- ATB 30-5
- ATB 30-10 (With barrier ATB 30-10B)
- ATB 30-15 (With barrier ATB 30-15B)

- ATB 30-5, 30-10 up to 1 core.*
- ATB 30-15, up to 2 cores.**
- ATB 30-10 & ATB 30-15 with barrier on request.
- On request height: 390 mm as ATB 30-10H
ATB 30-15H



Types	A	B	C	D	E	F	G	H	I	J	TIGHTENING TORQUE (Nm)	min.	max.
ATB 30-5	385	170	360	255	250	125	210	225	300	20	M5 (Secondary Terminal)	2.5	3.5
ATB 30-10	385	170	360(390 ATB 30-10H)	255	250	125	210	225	300	20	M8 (Ground Terminal)	15	20
ATB 30-15	385	170	360(390 ATB 30-15H)	255	250	125	210	225	300	20	M12 (Primary Terminal)	60	70

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.

Technical Data			
Types	ATB 30-5	ATB 30-10	ATB 30-15
Operating voltage, Um (kV)		36	
Rated power-frequency withstand voltage (1 minute) (kV)		70	
Rated impulse test voltage (1.2/50 μs) full wave (kV)		170	
Rated frequency (Hz)		50-60	
Primary rated current (A)		5 - 1250	
Primary reconnection (A)		2x5 - 2x600	
Secondary rated current (A)		1 - 5	
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2		
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2		
Rated short-time thermal current (Ith) (1s) (kA)	max. 400xIn ** (for 1 measurement core)	max. 800xIn ** (for 1 measurement core)	max. 300xIn ** (for 2 core)
Rated dynamic current (Idyn) (kA)	2,5 x Ith		
Short-time load (mechanical) (N)	5000		
Insulation class	E		
Ambient temperature (°C)	-25 +40 **		
Altitude (m)	1000		
Standard	According to the customer requirements		
Weight (approx.) (kg)	22	30-35	35-40

* For more cores please contact with ARTECHE for feasibility.
 ** May vary according to requested primary current and core values.
 *** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



INDOOR SUPPORT TYPE CAST RESIN INSULATED NARROW TYPE CURRENT TRANSFORMERS

(Um=7,2kV 24kV BLOCK TYPES)

Types:
ATU 24

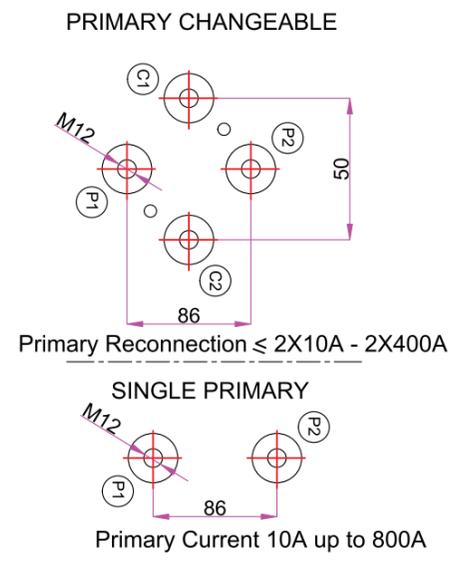
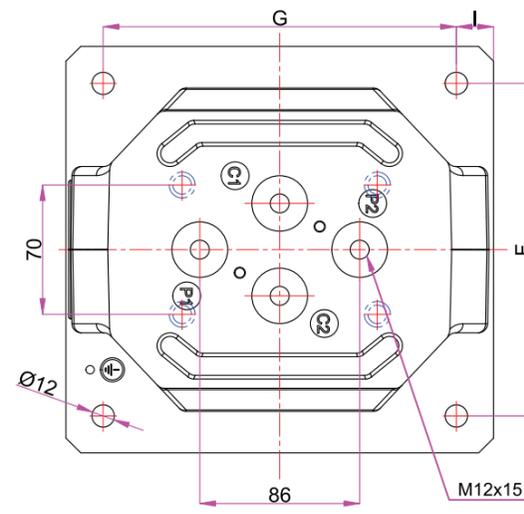
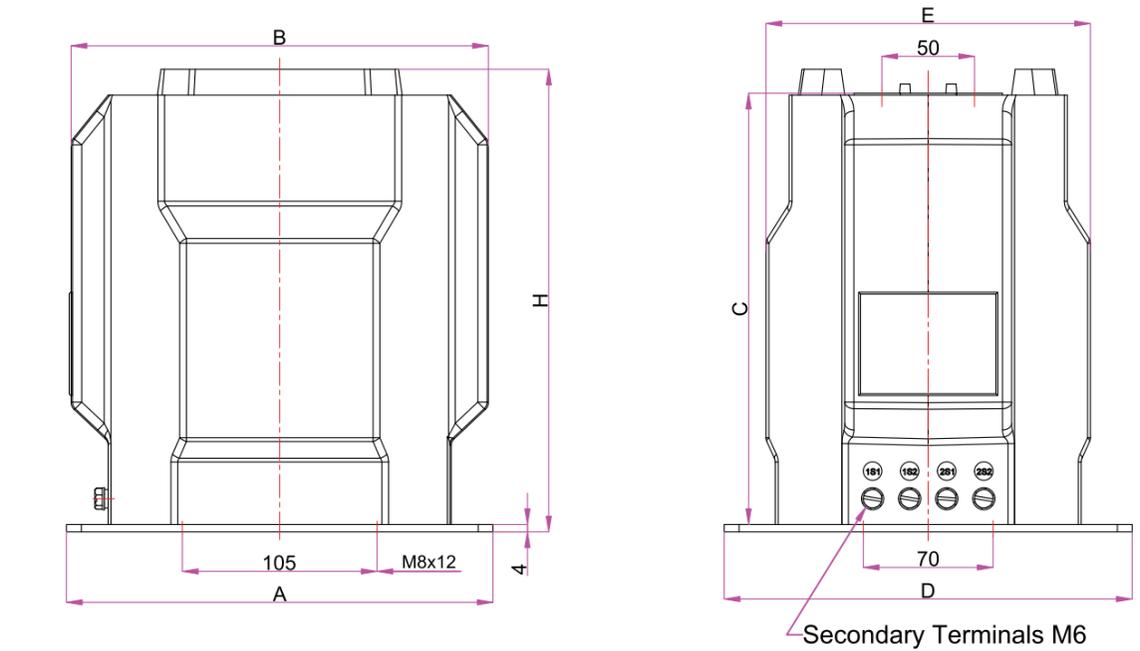
- Up to 2 cores.

Technical Data	Produced only in Indonesia Factory			
Types	ATU 24			
Operating voltage, Um (kV)	7,2	12	17,5	24
Rated power-frequency withstand voltage (1 minute) (kV)	20	28	38	50
Rated impulse test voltage (1.2/50 μs) full wave (kV)	60	75	95	125
Rated frequency (Hz)	50-60			
Primary rated current (A)	10 - 800			
Primary reconnection (A)	2x10 - 2x400			
Secondary rated current (A)	1 - 5			
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2			
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2			
Rated short-time thermal current (I _{th}) (1s) (kA)	100 x I _n *			
Rated dynamic current (I _{dyn}) (kA)	2,5 x I _{th}			
Short-time load (mechanical) (N)	5000			
Insulation class	E			
Ambient temperature (°C)	-25 +40 **			
Altitude (m)	1000			
Standard	According to the customer requirements			
Weight (approx.) (kg)	24			

* May vary according to requested primary current and core values.
** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR SUPPORT TYPE CAST RESIN INSULATED NARROW TYPE C.T.'S TECHNICAL DRAWING

(Um=7,2kV 24kV BLOCK TYPES)



Types	A	B	C	D	E	F	G	H	I
ATU 24	230	225	234	220	175	180	190	247	20

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5
M8 (Ground Terminal)	15	20
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



INDOOR SUPPORT TYPE CAST RESIN INSULATED SPECIAL TYPE CURRENT TRANSFORMERS

(Um=7,2kV 24kV BLOCK TYPES)

Types:
ES 24 C3-B

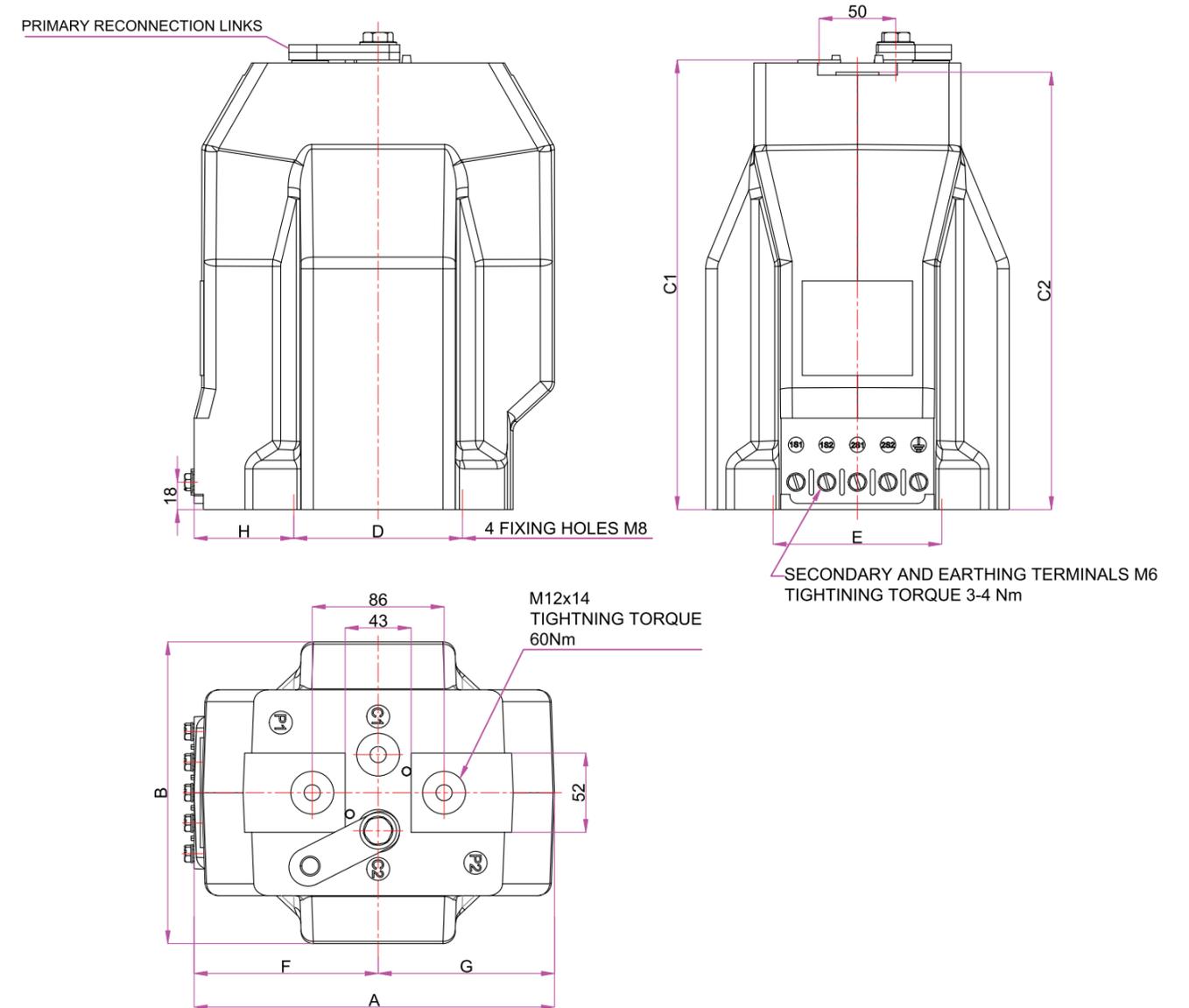
- Up to 2 cores.

Technical Data	Produced only in Indonesia Factory			
Types	ES 24 C3-B			
Operating voltage, Um (kV)	7,2	12	17,5	24
Rated power-frequency withstand voltage (1 minute) (kV)	20	28	38	50
Rated impulse test voltage (1.2/50 μs) full wave (kV)	60	75	95	125
Rated frequency (Hz)	50-60			
Primary rated current (A)	10 - 800			
Primary reconnection (A)	2 x 10 - 2 x 400			
Secondary rated current (A)	1 - 5			
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2			
Protection classes	5P-10P-PX Acc. to IEC 61869-1&2			
Rated short-time thermal current (I _{th}) (1s) (kA)	Up to 60kA*			
Rated dynamic current (I _{dyn}) (kA)	2,5 x I _{th}			
Short-time load (mechanical) (N)	5000			
Insulation class	E			
Ambient temperature (°C)	-25 +40 **			
Altitude (m)	1000			
Standard	According to the customer requirements			
Weight (approx.) (kg)	25			

* May vary according to requested primary current and core values.
** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR SUPPORT TYPE CAST RESIN INSULATED SPECIAL TYPE C.T.'S TECHNICAL DRAWING

(Um=7,2kV 24kV BLOCK TYPES)



Types	A	B	C1	C2	D	E	F	G	H
ES 24 C3-B	235	198	295	287	110	110	120	115	65

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5
M8 (Ground Terminal)	15	20
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.

INDOOR POST BUSBAR TYPE CAST RESIN INSULATED C.T.'S
TECHNICAL DRAWING

(Um=3,6kV24kV)

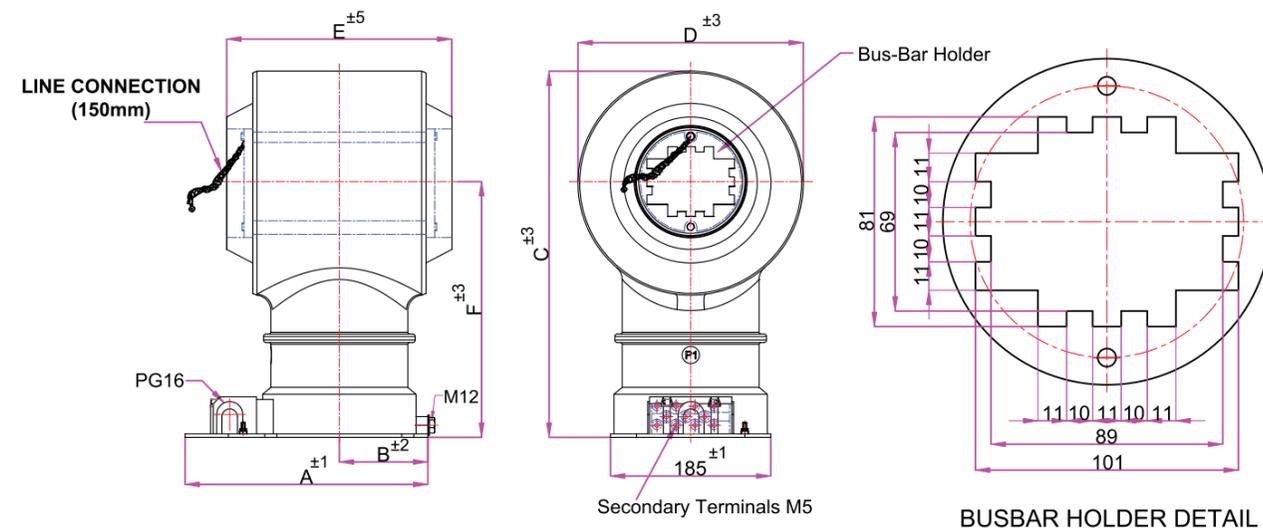


INDOOR POST BUSBAR TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=3,6kV24kV)

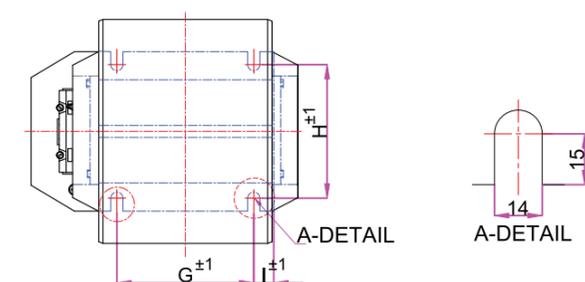
Types:
ATD 10
ATD 20

- Up to 2 cores.



Technical Data					
Types	ATD 10			ATD 20	
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125
Rated frequency (Hz)	50-60				
Primary rated current (A)	800-3000			800-4000	
Primary reconnection (A)	2 x 10 - 2 x 400				
Secondary rated current (A)	1 - 5				
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2				
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2				
Rated short-time thermal current (Ith) (1s) (kA)	max. 100				
Rated dynamic current (Idyn) (kA)	Practically Unlimited				
Short-time load (mechanical) (N)	3000				
Insulation class	E				
Ambient temperature (°C)	-25 +40 **				
Altitude (m)	1000				
Standard	According to the customer requirements				
Weight (approx.) (kg)	19			34	

* For more cores please contact with ARTECHE for feasibility.
** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



Types	A	B	C	D	E	F	G	H	I
ATD 10	280	102	342	214	215	235	158	155	23
ATD 20	280	102	427	260	260	295	158	155	23

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5

- All dimensions are in mm.
- Tolerance is DIN 7168-g.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.

INDOOR POST BUSBAR TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=3,6kV.....17,5kV)



INDOOR POST BUSBAR TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=3,6kV.....17,5kV)

Types:

- ATN 17-1
- ATN 17-2
- ESO 17 C
- ATN 18
- ATN 19
- AR 01a
- AR 03

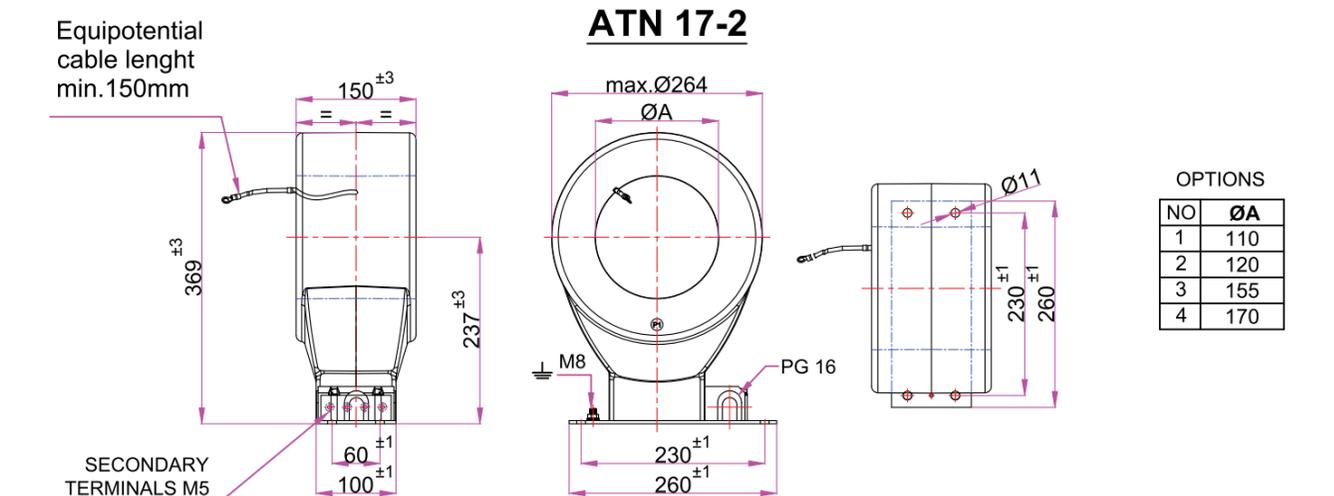
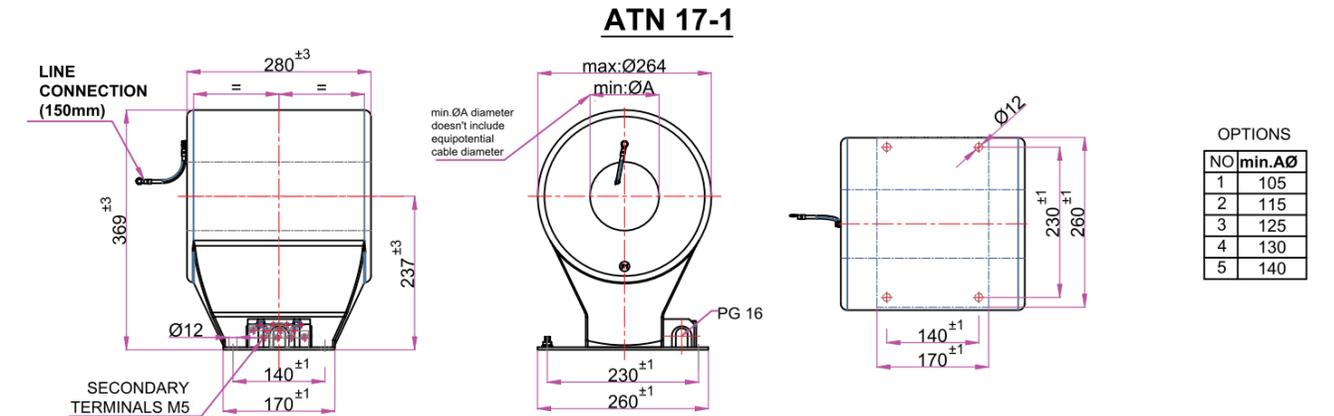
- Up to 3 cores.*

Technical Data

Types	ATN 17-1	ATN 17-2	ATN 17 C	ATN 18	ATN 19	AR01a / AR 03
Operating voltage, Um (kV)		3,6	7,2	12	17,5	
Rated power-frequency withstand voltage (1 minute) (kV)		10	20	28	38	
Rated impulse test voltage (1.2/50 μs) full wave (kV)		40	60	75	95	
Rated frequency (Hz)		50-60				
Primary rated current (A)		800-4000				
Primary reconnection (A)		2 x 5 - 2 x 600				
Secondary rated current (A)		1 - 5				
Metering classes		0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2				
Protection classes		5P- 10P; CI:PX Acc. to IEC 61869-1&2				
Rated short-time thermal current (I _{th}) (1s) (kA)		max. 100				
Rated dynamic current (I _{dyn}) (kA)		Practically Unlimited				
Short-time load (mechanical) (N)		3000				
Insulation class		E				
Ambient temperature (°C)		-25 +40 **				
Altitude (m)		1000				
Standard		According to the customer requirements				
Weight (approx.) (kg)	35	30		40		38

* For more cores please contact with ARTECHE for feasibility.

** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5

- All dimensions are in mm.

- Tolerance is DIN 7168-g.

- Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.

- Customer designed products are also available.

INDOOR SUPPORT TYPE CAST RESIN INSULATED SPECIAL TYPE C.T.'S
TECHNICAL DRAWING

(Um= 3.6kV 24kV BLOCK TYPES)



INDOOR SUPPORT TYPE CAST RESIN INSULATED SPECIAL TYPE CURRENT TRANSFORMERS

(Um= 3.6kV 24kV BLOCK TYPES)

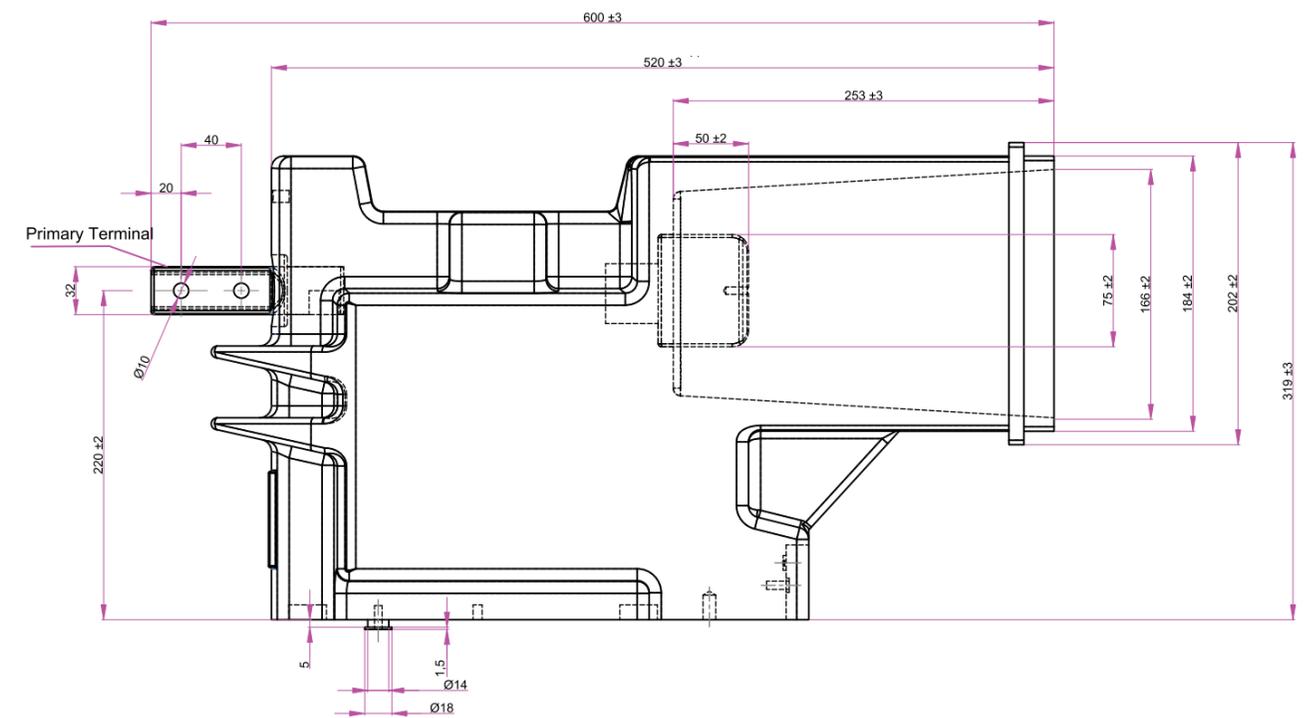
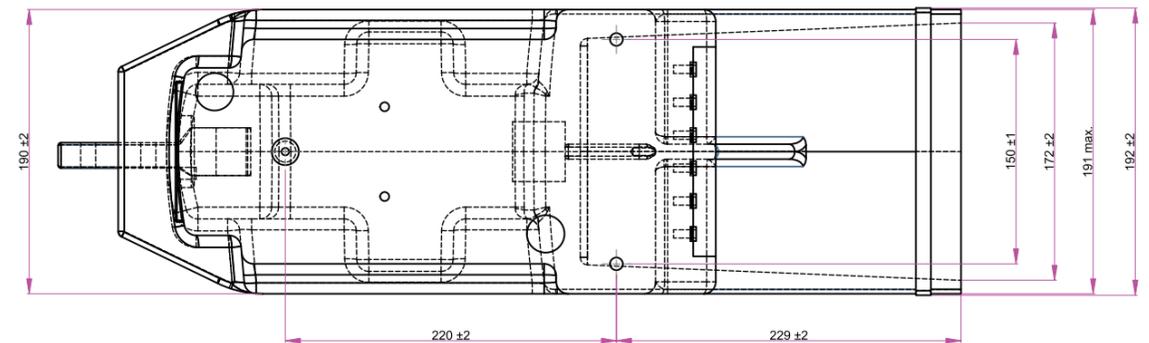
Types:

ATSI 24

Technical Data	Produced only in Indonesia Factory				
Types	ATSI 24				
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125
Rated frequency (Hz)	50-60				
Primary rated current (A)	300-600 or 400-800				
Secondary reconnection (A)	300-600/5 or 400-800/5				
Secondary rated current (A)	5				
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2				
Protection classes	5P-10P- to IEC 61869-1&2				
Rated short-time thermal current (I _{th}) (1s) (kA)	Up to 60kA*				
Rated dynamic current (I _{dyn}) (kA)	2,5 x I _{th}				
Short-time load (mechanical) (N)	5000				
Insulation class	E				
Ambient temperature (°C)	-25 +40 **				
Altitude (m)	1000				
Standard	According to the customer requirements				
Weight (approx.) (kg)	25				

* May vary according to requested primary current and core values.

** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



- All dimensions are in mm.
- Tolerance is DIN 7168-g.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



INDOOR POST BUSBAR TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=3,6kV.....24kV)

Types:

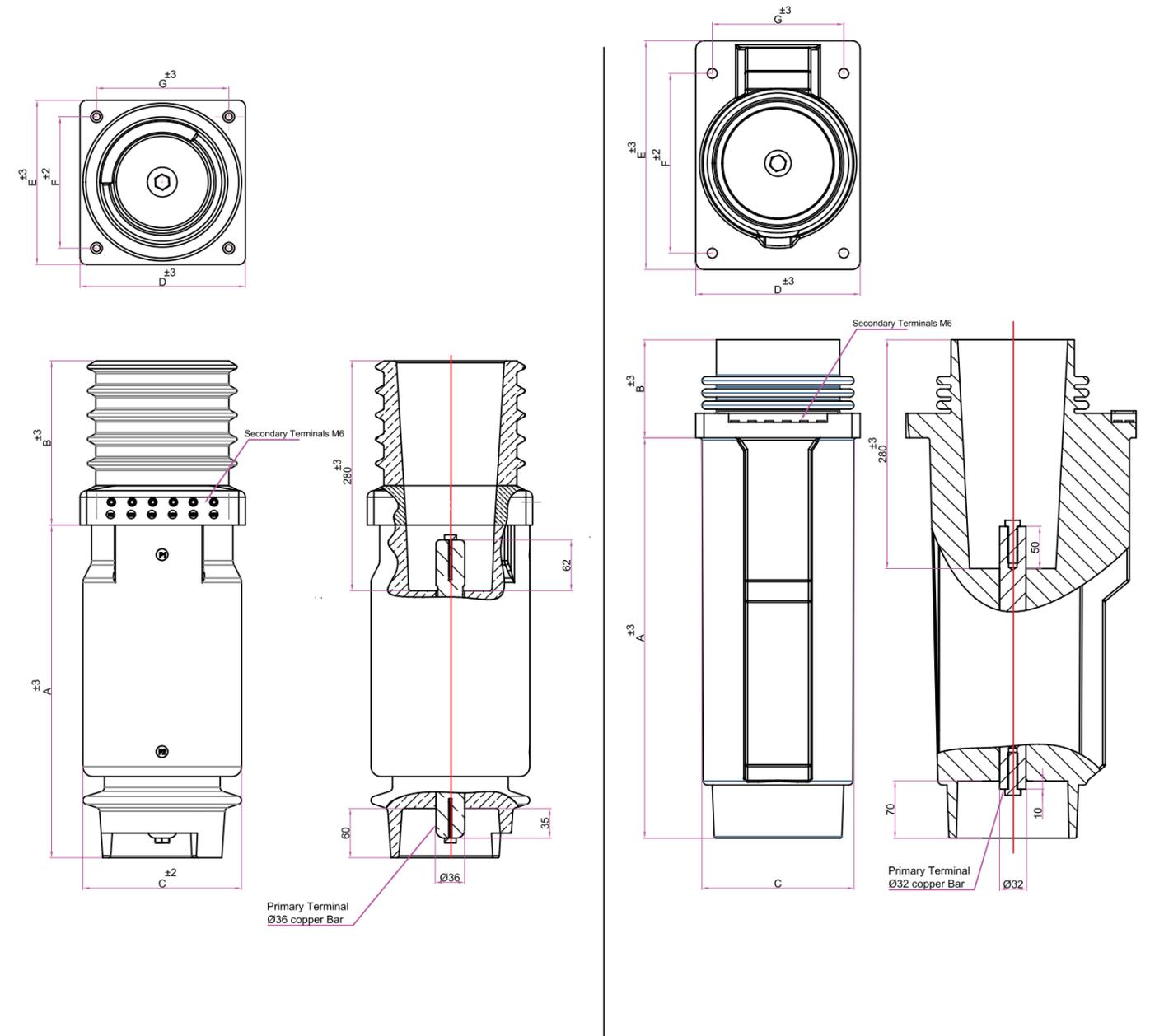
- ATGI 24
- ATGI 24-2

Technical Data	Produced only in Indonesia Factory				
Types	ATGI 24				
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125
Rated frequency (Hz)	50-60				
Primary rated current (A)	300-600 or 400-800				
Primary reconnection (A)	300-600/5 or 400-800/5				
Secondary rated current (A)	5				
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2				
Protection classes	5P-10P- to IEC 61869-1&2				
Rated short-time thermal current (Ith) (1s) (kA)	Up to 60kA*				
Rated dynamic current (Idyn) (kA)	2,5 x Ith				
Short-time load (mechanical) (N)	5000				
Insulation class	E				
Ambient temperature (°C)	-25 +40 **				
Altitude (m)	1000				
Standard	According to the customer requirements				
Weight (approx.) (kg)	25				

* May vary according to requested primary current and core values.
 ** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR POST BUSBAR TYPE CAST RESIN INSULATED SPECIAL TYPE C.T.'S TECHNICAL DRAWING

(Um=3,6kV.....24kV)



Types	A	B	C	D	E	F	G
ATGI 24	405	200	Ø190	200	200	160	160
ATGI 24-2	490	120	Ø185	200	280	220	160

- All dimensions are in mm.
 - Tolerance is DIN 7168-g.
 - Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.

OUTDOOR DRY TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=3,6kV24kV)



OUTDOOR DRY TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=3,6kV24kV)

Types:

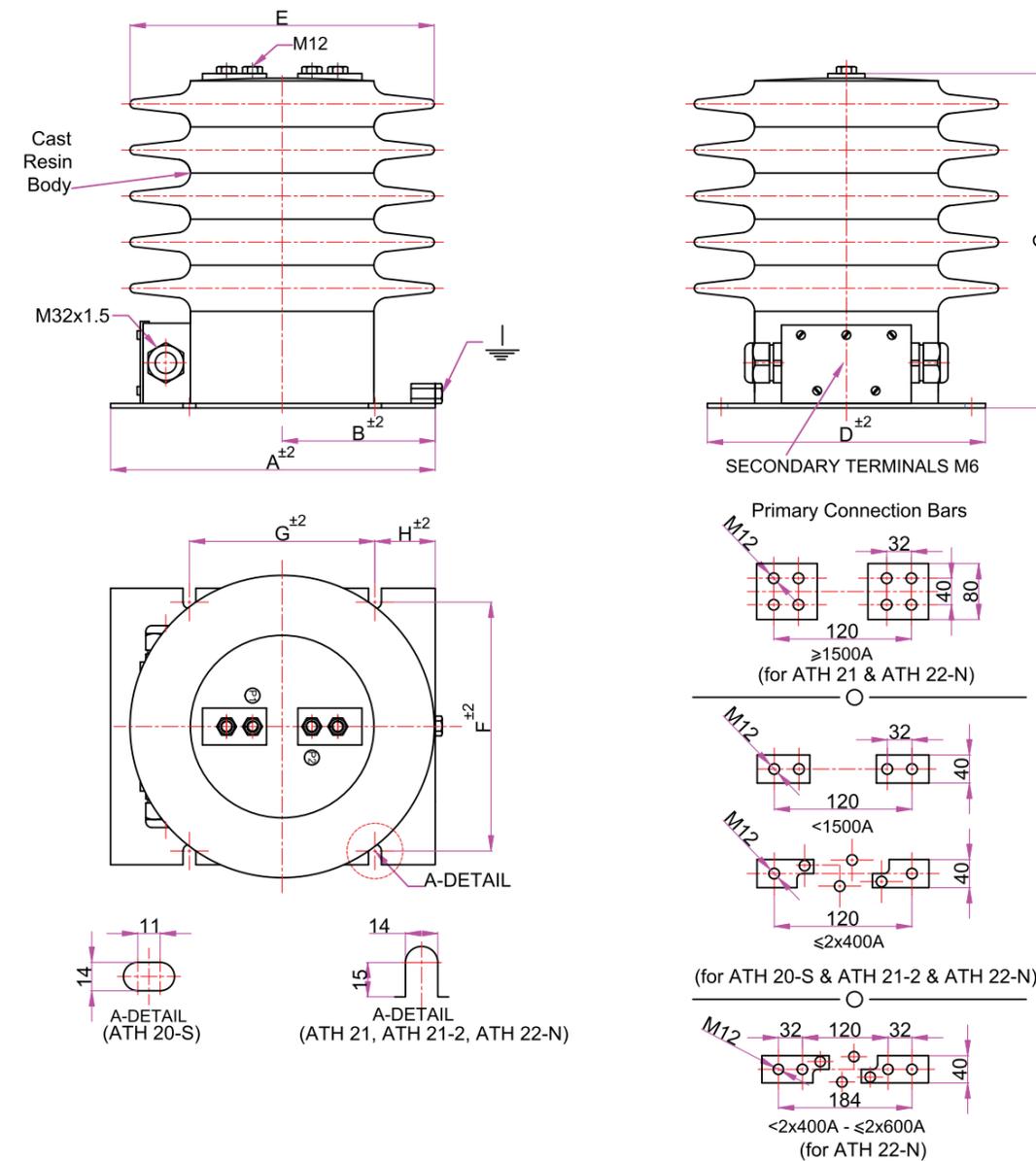
- ATH 20-S
- ATH 21
- ATH 21-2
- ATH 22-N

- ATH 20-S up to 1 core.*
- ATH 21, ATH 21-2 up to 2 cores.*
- ATH 22-N up to 3 cores.*



Technical Data				
Types	ATH 20-S	ATH 21	ATH 21-2	ATH 22-N
Operating voltage, Um (kV)		3,6 7,2 12	17,5 24**	
Rated power-frequency withstand voltage (1 minute) (kV)		10 20 28	38 50	
Rated impulse test voltage (1.2/50 μs) full wave (kV)		40 60 75	95 125	
Rated frequency (Hz)		50-60		
Primary rated current (A)	5-1250	5-2500		
Primary reconnection (A)	2x5 - 2x400		2x5 - 2x600	
Secondary rated current (A)	1 - 5			
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2			
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2			
Rated short-time thermal current (Ith) (1s) (kA)	max. 1000 x In			
Rated dynamic current (Idyn) (kA)	2,5 x Ith			
Short-time load (mechanical) (N)	2400			
Insulation class	E			
Min. creepage distance (mm)	560	825	770	
Altitude (m)	According to the customer requirements			
Standard	According to the customer requirements			
Weight (approx.) (kg)	24	35	38	78

* For more cores please contact with ARTECHE for feasibility.
** For more kV, please contact with ARTECHE for feasibility.



Types	A	B	C	D	E	F	G	H
ATH 20-S	245	105	max. 350	220	max. ø225	178	175	20
ATH 21	350	165	max. 370	300	max. ø340	270	200	65
ATH 21-2	350	165	max. 370	300	max. ø340	270	200	65
ATH 22-N	400	195	max. 380	370	max. ø415	340	250	70

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	5
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



OUTDOOR DRY TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=36kV)

Types:
ATH 32

- ATH 32 up to 3 cores.*

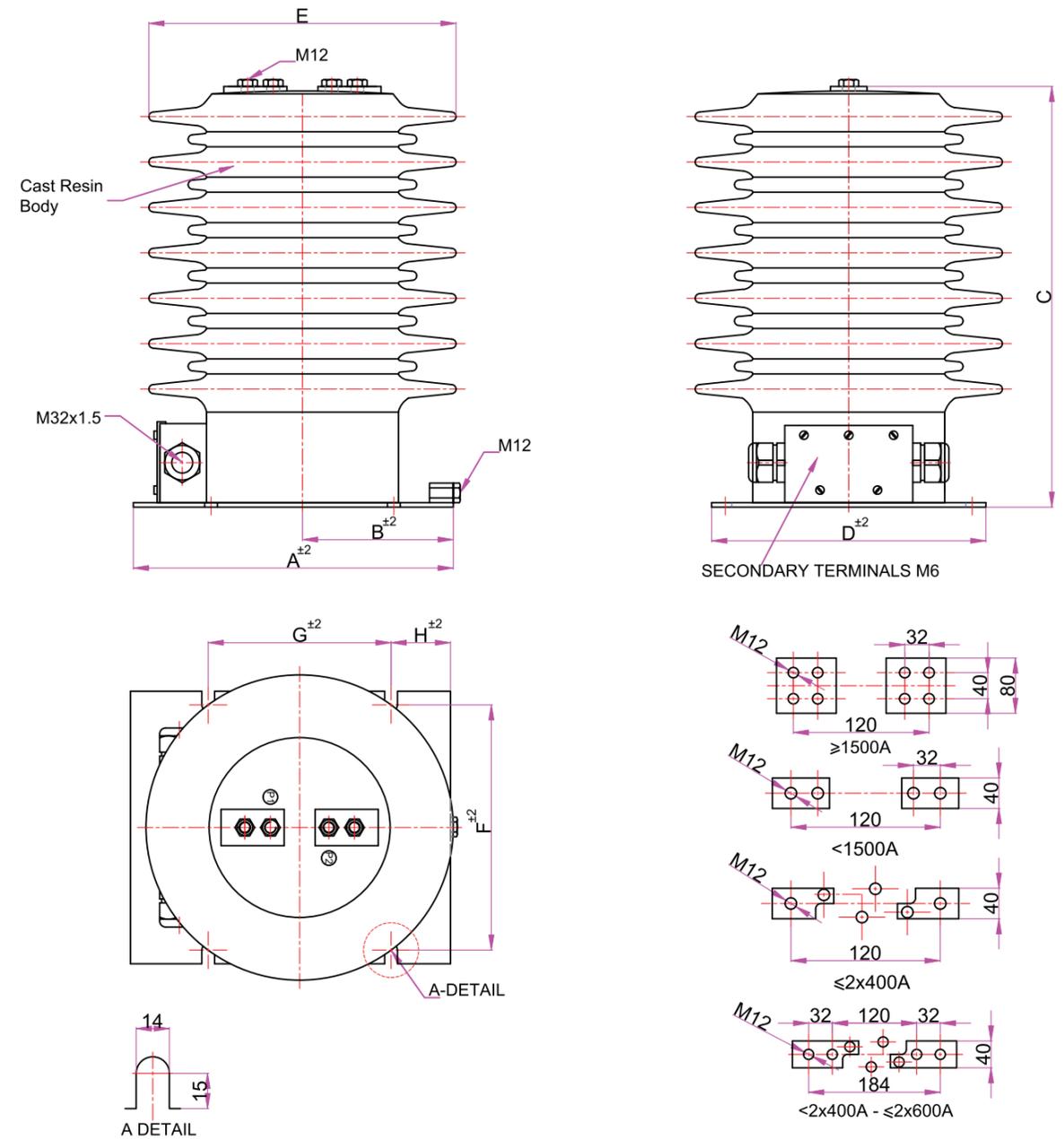


For the connection of aluminium conductors steel reinforced

Technical Data	Produced only in Indonesia Factory	
Types	ATH 32	
Operating voltage, Um (kV)	36	
Rated power-frequency withstand voltage (1 minute) (kV)	70	
Rated impulse test voltage (1.2/50 μs) full wave (kV)	170	
Rated frequency (Hz)	50-60	
Primary rated current (A)	5-2500	
Primary reconnection (A)	2x5 - 2x600	
Secondary rated current (A)	1 - 5	
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2	
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2	
Rated short-time thermal current (I _{th}) (1s) (kA)	max. 1000 x I _n	
Rated dynamic current (I _{dyn}) (kA)	2,5 x I _{th}	
Short-time load (mechanical) (N)	2500	
Insulation class	E	
Min. creepage distance (mm)	1140	
Altitude (m)	According to the customer requirements	
Standard	According to the customer requirements	
Weight (approx.) (kg)	47	85

* For more cores please contact with ARTECHE for feasibility.

OUTDOOR DRY TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=36kV)



Types	A	B	C	D	E	F	G	H
ATH 32	390	190	max. 477	350	max. ø403	320	250	65

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	5
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



OUTDOOR DRY TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=36 kV)

Types:
ATH 30-N
ATH 32-N

- ATH 30-N up to 2 cores.*
- ATH 32-N up to 3 cores.*

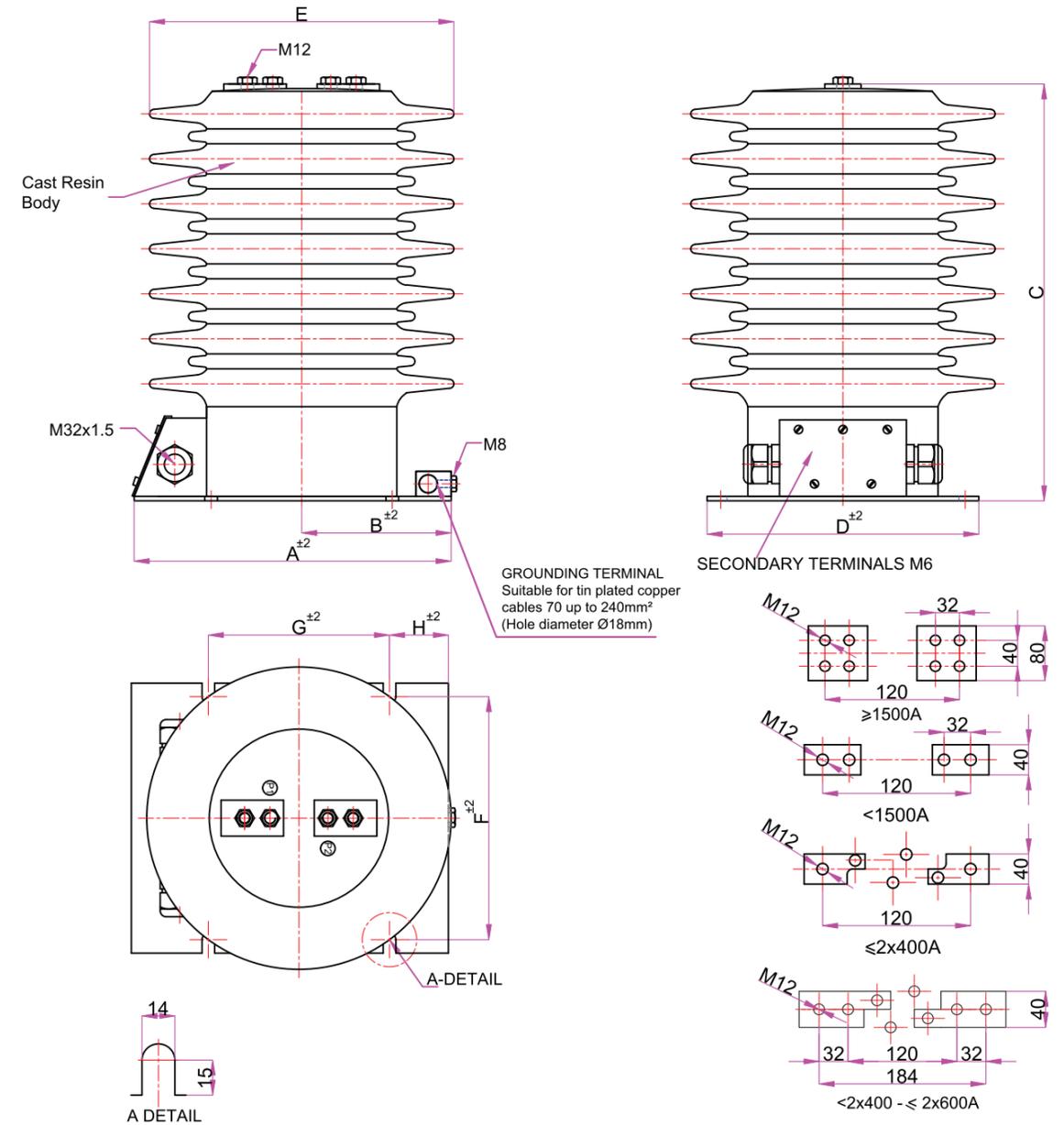


For the connection of aluminium conductors steel reinforced

Technical Data		
Types	ATH 30-N	ATH 32-N
Operating voltage, Um (kV)	36**	
Rated power-frequency withstand voltage (1 minute) (kV)	70	
Rated impulse test voltage (1.2/50 μs) full wave (kV)	170	
Rated frequency (Hz)	50-60	
Primary rated current (A)	5 - 2500	
Primary reconnection (A)	2 x 5 - 2 x 600	
Secondary rated current (A)	1 - 5	
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2	
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2	
Rated short-time thermal current (Ith) (1s) (kA)	max. 1000 x In	
Rated dynamic current (Idyn) (kA)	2,5 x Ith	
Short-time load (mechanical) (N)	2500	
Insulation class	E	
Min. creepage distance (mm)	1140	
Altitude (m)	According to the customer requirements	
Standard	According to the customer requirements	
Weight (approx.) (kg)	47	85

* For more cores please contact with ARTECHE for feasibility
** For more kV, please contact with ARTECHE for feasibility.

OUTDOOR DRY TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=36kV)



Types	A	B	C	D	E	F	G	H
ATH 30-N	350	165	max. 465	300	max. Ø340	270	200	65
ATH 32-N	390	173	max. 474	350	max. Ø400	320	250	65

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	5
M8 (Ground Terminal)	15	20
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.

OUTDOOR DRY TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=52kV)



OUTDOOR DRY TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=52kV)

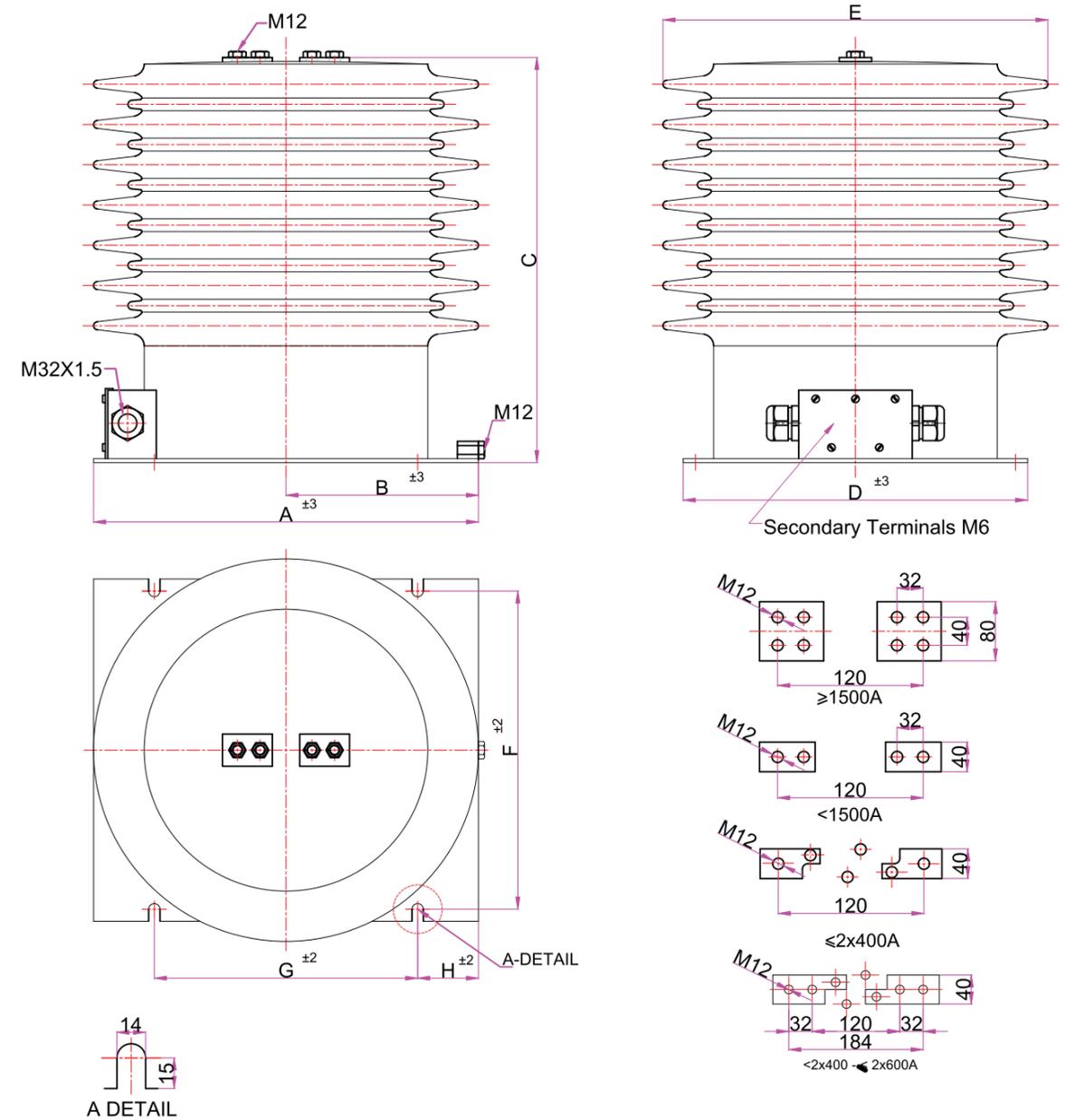
Types:
ATH 52

- Up to 2 cores.*

For the connection of aluminium conductors steel reinforced

Technical Data	
Types	ATH 52
Operating voltage, Um (kV)	52
Rated power-frequency withstand voltage (1 minute) (kV)	95
Rated impulse test voltage (1.2/50 μs) full wave (kV)	250
Rated frequency (Hz)	50-60
Primary rated current (A)	5 - 2500
Primary reconnection (A)	2 x 5 - 2 x 600
Secondary rated current (A)	1 - 5
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2
Protection classes	5P- 10P; CI:PX Acc. to IEC 61869-1&2
Rated short-time thermal current (I _{th}) (1s) (kA)	max. 1000 x I _n
Rated dynamic current (I _{dyn}) (kA)	2,5 x I _{th}
Short-time load (mechanical) (N)	2500
Insulation class	E
Min. creepage distance (mm)	1615
Altitude (m)	According to the customer requirements
Standard	According to the customer requirements
Weight (approx.) (kg)	140

* For more cores please contact with ARTECHE for feasibility.



Types	A	B	C	D	E	F	G	H
ATH 52	475	237,5	max 510	425	max $\varnothing 480$	395	325	75

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	5
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.

OUTDOOR DRY TYPE CAST RESIN INSULATED C.T.'S TECHNICAL DRAWING
(Um=72,5 kV)



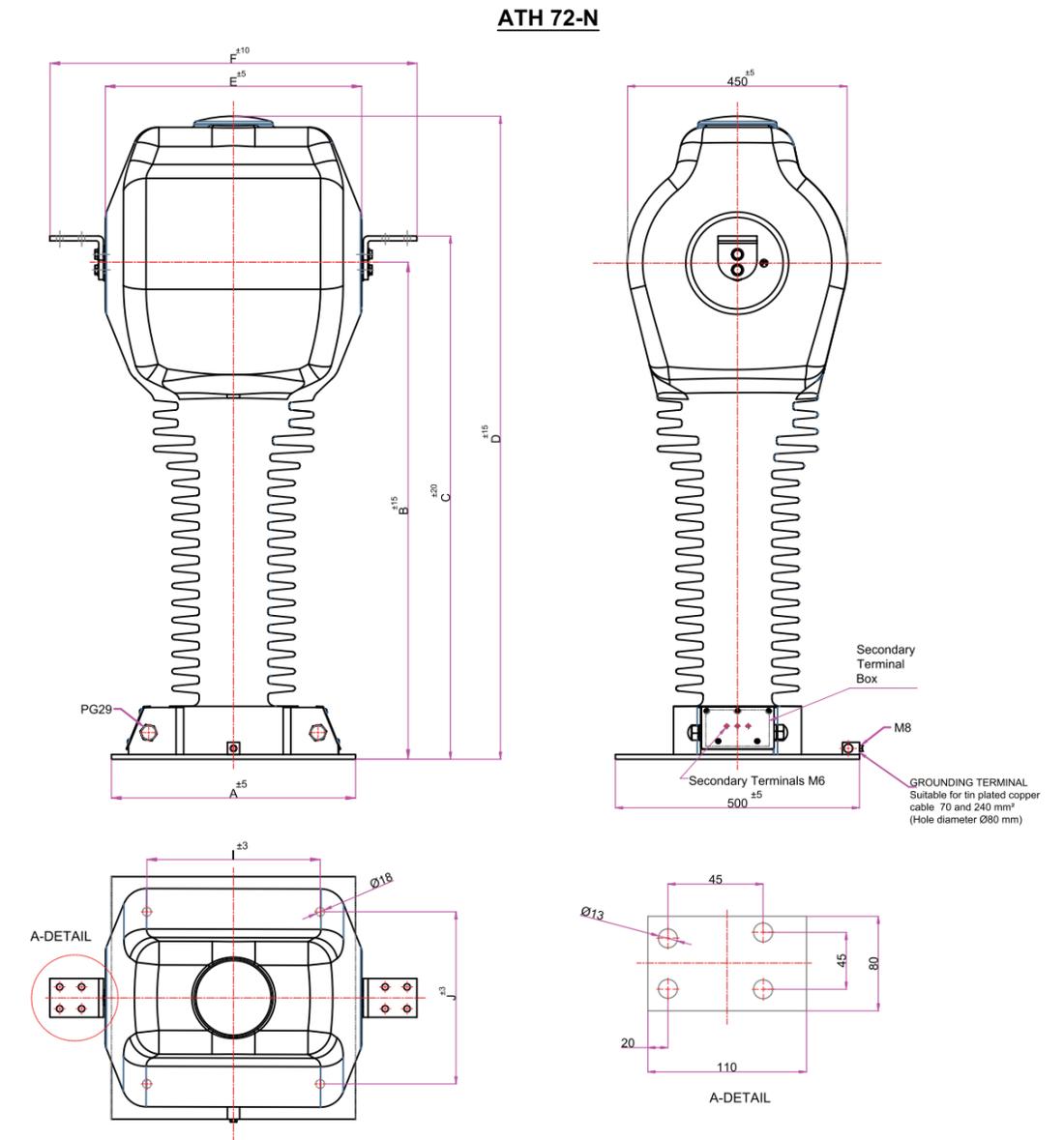
OUTDOOR DRY TYPE CAST RESIN INSULATED CURRENT TRANSFORMERS

(Um=72,5kV)

Types:
ATH 72-N

Technical Data	
Types	ATH 72-N
Operating voltage, Um (kV)	72,5
Rated power-frequency withstand voltage (1 minute) (kV)	140
Rated impulse test voltage (1.2/50 μs) full wave (kV)	325
Rated frequency (Hz)	50-60
Primary rated current (A)	5 - 2000
Secondary rated current (A)	1 - 5
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2
Protection classes	5P- 10P; Cl:PX Acc. to IEC 61869-1&2
Rated short-time thermal current (Ith) (1s) (kA)	max. 1000 x In
Rated dynamic current (Idyn) (kA)	2,5 x Ith
Short-time load (mechanical) (N)	2500
Insulation class	E
Min. creepage distance (mm)	2400
Altitude (m)	According to the customer requirements
Standard	According to the customer requirements
Weight (approx.) (kg)	300

* For more cores please contact with ARTECHE for feasibility.



Types	A	B	C	D	E	F	G	H	I	J
ATH 72-N	500	1025	1080	1325	525	755	500	450	355	355

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	5
M12 (Primary Terminal)	60	70

- All dimensions are in mm.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.

OUTDOOR DRY TYPE CAST RESIN INSULATED COMBINED TRANSFORMERS
C.T.'S & V.T.'S TECHNICAL DRAWING

(Um=12kV 36kV)



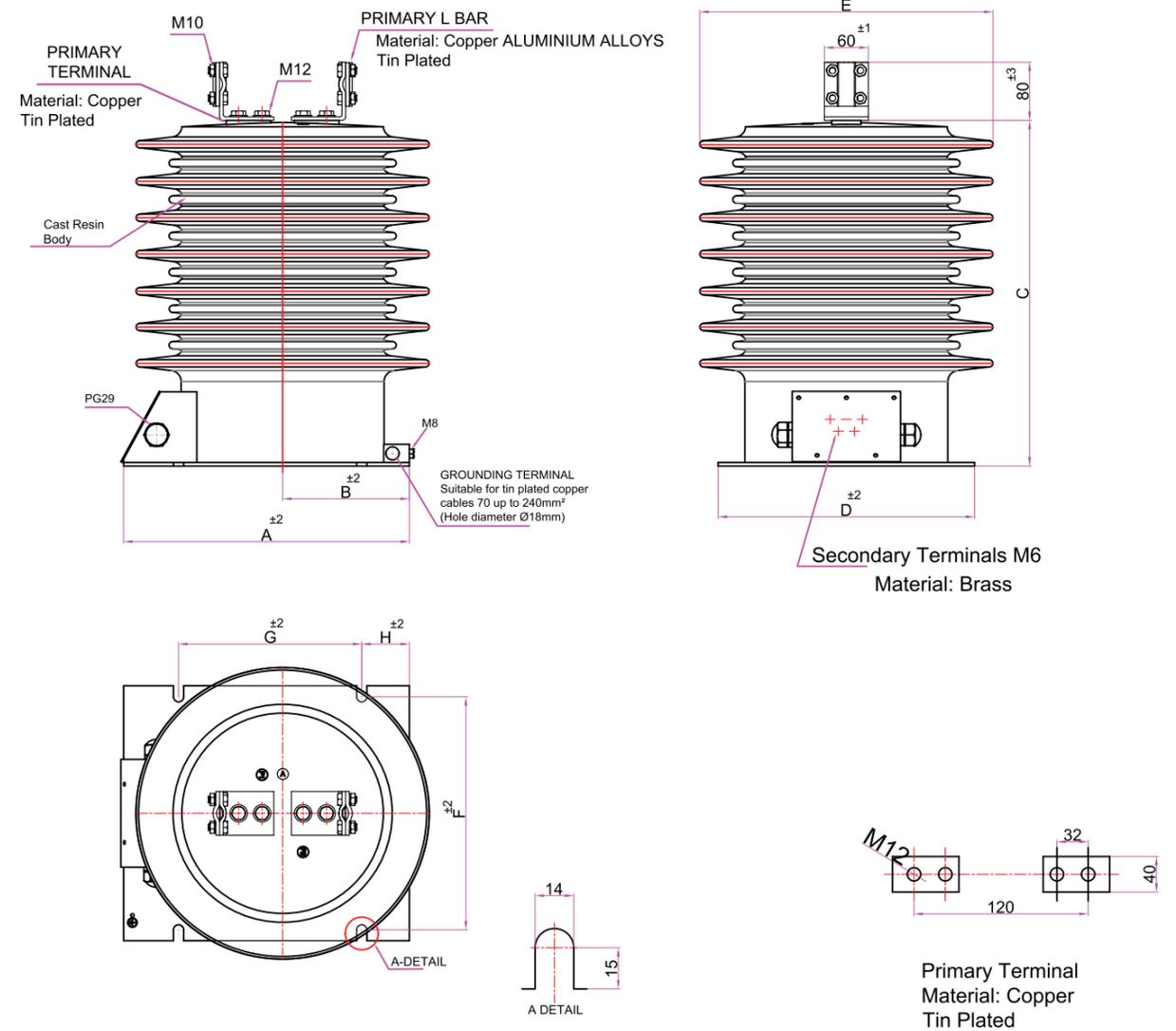
OUTDOOR DRY TYPE CAST RESIN
INSULATED COMBINED TRANSFORMERS
(CURRENT & VOLTAGE)

(Um=12kV 36kV)

Types:
ATH 32-C

Technical Data				
Types	ATH 32-C			
Operating voltage, Um (kV)	12	17,5	24	36
Rated power-frequency withstand voltage (1 minute) (kV)	28	38	50	70
Rated impulse test voltage (1.2/50 μs) full wave (kV)	75	95	125	170
Rated frequency (Hz)	50-60			
Primary rated current (A) - Rated primary voltage (max)(kV)	20A-1250A	100/√3 110/√3 120/√3		
Secondary rated current (A) - Secondary voltage (V)	1 - 5			
Metering classes for C.T.	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2			
Raten burden (max) in class 0,2 (VA) For V.T.	15			
Raten burden (max) in class 0,5 (VA) For V.T.	25			
Raten burden (max) in class 1 (VA) For V.T.	50			
Rated voltage factor (30 sec. or 8h) (Un) (1s) For C.T. (kA)	1,9			
Rated short-time thermal current (Ith) (1s) (kA)	max. 200 x In (25kA)			
Rated dynamic current (Idyn) (kA)	2,5 x Ith			
Short-time load (mechanical) (N)	2500			
Insulation class	E			
Min. creepage distance (mm)	1140			
Altitude (m)	According to the customer requirements			
Standard	According to the customer requirements			
Weight (approx.) (kg)	85			

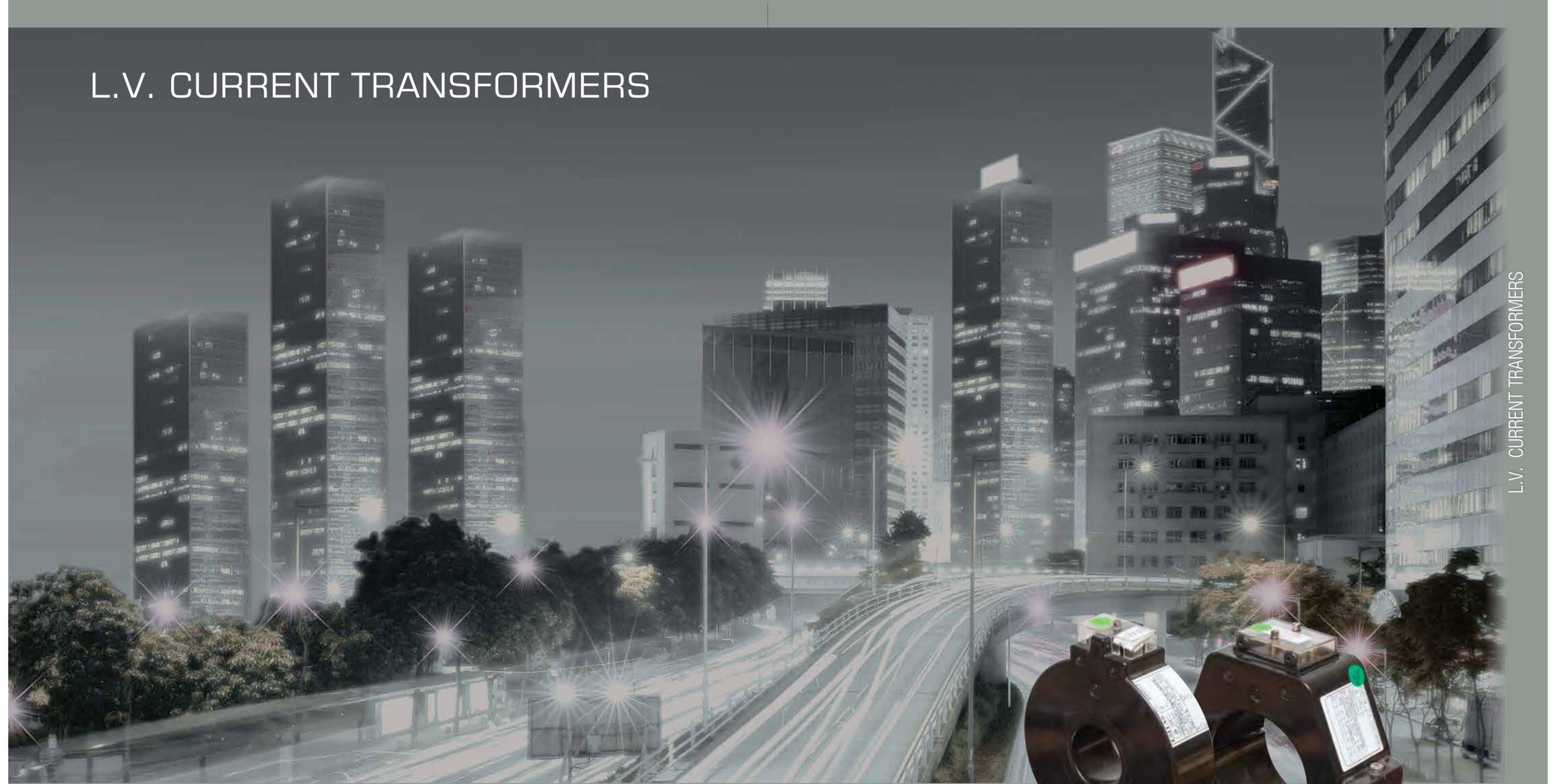
* For more cores please contact with ARTECHE for feasibility.



Types	A	B	C	D	E	F	G	H	TIGHTENING TORQUE (Nm)	min.	max.
ATH 32-C	390	173	max 474	350	Ø400	320	250	65	M6 (Secondary Terminal)	3	5
									M12 (Primary Terminal)	60	70

- All dimensions are in mm.
 - Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.

L.V. CURRENT TRANSFORMERS



L.V. CURRENT TRANSFORMERS





INDOOR KAP TYPE (CABLE TYPE) CAST RESIN INSULATED AND ENCLOSED BY PLASTIC COVER CURRENT TRANSFORMERS

(Um=0,72kV)

Types:
KAP

- Width 35, 55mm up to 1 core.*
- Width 95, 115mm up to 2 cores.*

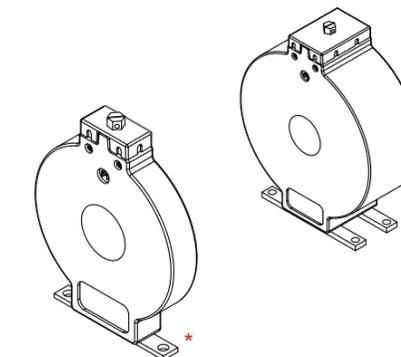
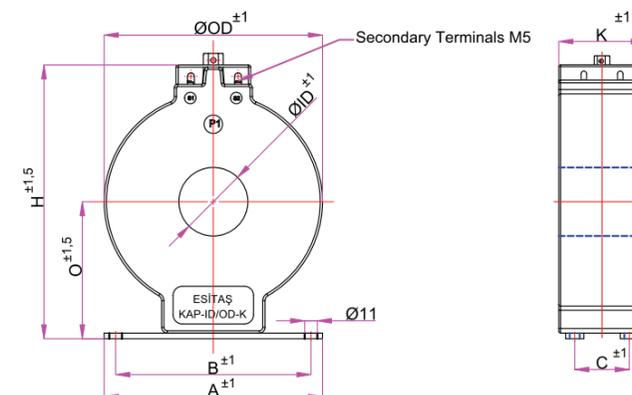
Technical Data	
Types	KAP
Operating voltage, Um (kV)	0,72
Rated power-frequency withstand voltage (1 minute) (kV)	3
Rated impulse test voltage (1.2/50 μs) full wave (kV)	-
Rated frequency (Hz)	50-60
Primary rated current (A)	40 3000
Secondary rated current (A)	1 - 5
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2
Protection classes	5P- 10P; Acc. to IEC 61869-1&2
Rated short-time thermal current (I _{th}) (1s) (kA)	max. 100
Rated dynamic current (I _{dyn}) (kA)	Practically unlimited
Insulation class	E
Ambient temperature (°C)	-25.....+40**
Altitude (m)	1000
Standard	According to the customer requirements

* For more cores, please contact with ARTECHE for feasibility.

** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR KAP TYPE (CABLE TYPE) CAST RESIN INSULATED AND ENCLOSED BY PLASTIC COVER C.T.'S TECHNICAL DRAWING

(Um=0,72kV)



* Attention : Transformers which have 35mm height (K)
There is only one connection plate.

KAP TYPE (With Horizontal Mounted Plates) CURRENT TRANSFORMER

As can be seen in the below tables there are various dimensions of KAP Types. Please contact with ARTECHE for feasibility of required transformer's which have different ratio, class, burden and dimensions.

NO	TYPE	ID	OD	H	K	O	A	B	C
1	KAP-40/190-35	40	190	241	35	119	150	130	-
2	KAP-40/190-55	40	190	241	55	119	150	130	25
3	KAP-40/190-95	40	190	241	95	119	150	130	40
4	KAP-40/190-115	40	190	241	115	119	170	150	40
5	KAP-60/190-35	60	190	241	35	119	150	130	-
6	KAP-60/190-55	60	190	241	55	119	150	130	25
7	KAP-60/190-95	60	190	241	95	119	150	130	40
8	KAP-60/190-115	60	190	241	115	119	170	150	40
9	KAP-80/190-35	80	190	241	35	119	150	130	-
10	KAP-80/190-55	80	190	241	55	119	150	130	25
11	KAP-80/190-95	80	190	241	95	119	150	130	40
12	KAP-80/190-115	80	190	241	115	119	170	150	40
47	KAP-100/190-55	100	190	241	55	119	150	130	25
48	KAP-100/190-95	100	190	241	95	119	150	130	40
49	KAP-100/190-115	100	190	241	115	119	170	150	40

NO	TYPE	ID	OD	H	K	O	A	B	C
25	KAP-40/250-35	40	250	301	35	149	150	130	-
26	KAP-40/250-55	40	250	301	55	149	150	130	25
27	KAP-40/250-95	40	250	301	95	149	150	130	40
28	KAP-40/250-115	40	250	301	115	149	170	150	40
29	KAP-60/250-35	60	250	301	35	149	150	130	-
30	KAP-60/250-55	60	250	301	55	149	150	130	25
31	KAP-60/250-95	60	250	301	95	149	150	130	40
32	KAP-60/250-115	60	250	301	115	149	170	150	40
33	KAP-80/250-35	80	250	301	35	149	150	130	-
34	KAP-80/250-55	80	250	301	55	149	150	130	25
35	KAP-80/250-95	80	250	301	95	149	150	130	40
36	KAP-80/250-115	80	250	301	115	149	170	150	40

NO	TYPE	ID	OD	H	K	O	A	B	C
13	KAP-40/210-35	40	210	261	35	129	150	130	-
14	KAP-40/210-55	40	210	261	55	129	150	130	25
15	KAP-40/210-95	40	210	261	95	129	150	130	40
16	KAP-40/210-115	40	210	261	115	129	170	150	40
17	KAP-60/210-35	60	210	261	35	129	150	130	-
18	KAP-60/210-55	60	210	261	55	129	150	130	25
19	KAP-60/210-95	60	210	261	95	129	150	130	40
20	KAP-60/210-115	60	210	261	115	129	170	150	40
21	KAP-80/210-35	80	210	261	35	129	150	130	-
22	KAP-80/210-55	80	210	261	55	129	150	130	25
23	KAP-80/210-95	80	210	261	95	129	150	130	40
24	KAP-80/210-115	80	210	261	115	129	170	150	40

NO	TYPE	ID	OD	H	K	O	A	B	C
37	KAP-100/250-35	100	250	301	35	149	150	130	-
38	KAP-100/250-55	100	250	301	55	149	150	130	25
39	KAP-100/250-95	100	250	301	95	149	150	130	40
40	KAP-100/250-115	100	250	301	115	149	170	150	40
41	KAP-120/250-55	120	250	301	55	149	150	130	25
42	KAP-120/250-95	120	250	301	95	149	150	130	40
43	KAP-120/250-115	120	250	301	115	149	170	150	40
44	KAP-150/250-55	150	250	301	55	149	150	130	25
45	KAP-150/250-95	150	250	301	95	149	150	130	40
46	KAP-150/250-115	150	250	301	115	149	170	150	40

NO	TYPE	ID	OD	H	K	O	A	B	C
50	KAP-170/250-55	170	250	301	55	149	150	130	25
51	KAP-170/250-95	170	250	301	95	149	150	130	40
52	KAP-170/250-115	170	250	301	115	149	170	150	40

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5

* All dimensions are in mm.



INDOOR A-KAP TYPE (SPLIT TYPE) CAST RESIN INSULATED AND ENCLOSED BY PLASTIC COVER CURRENT TRANSFORMERS

(Um=0,72kV)

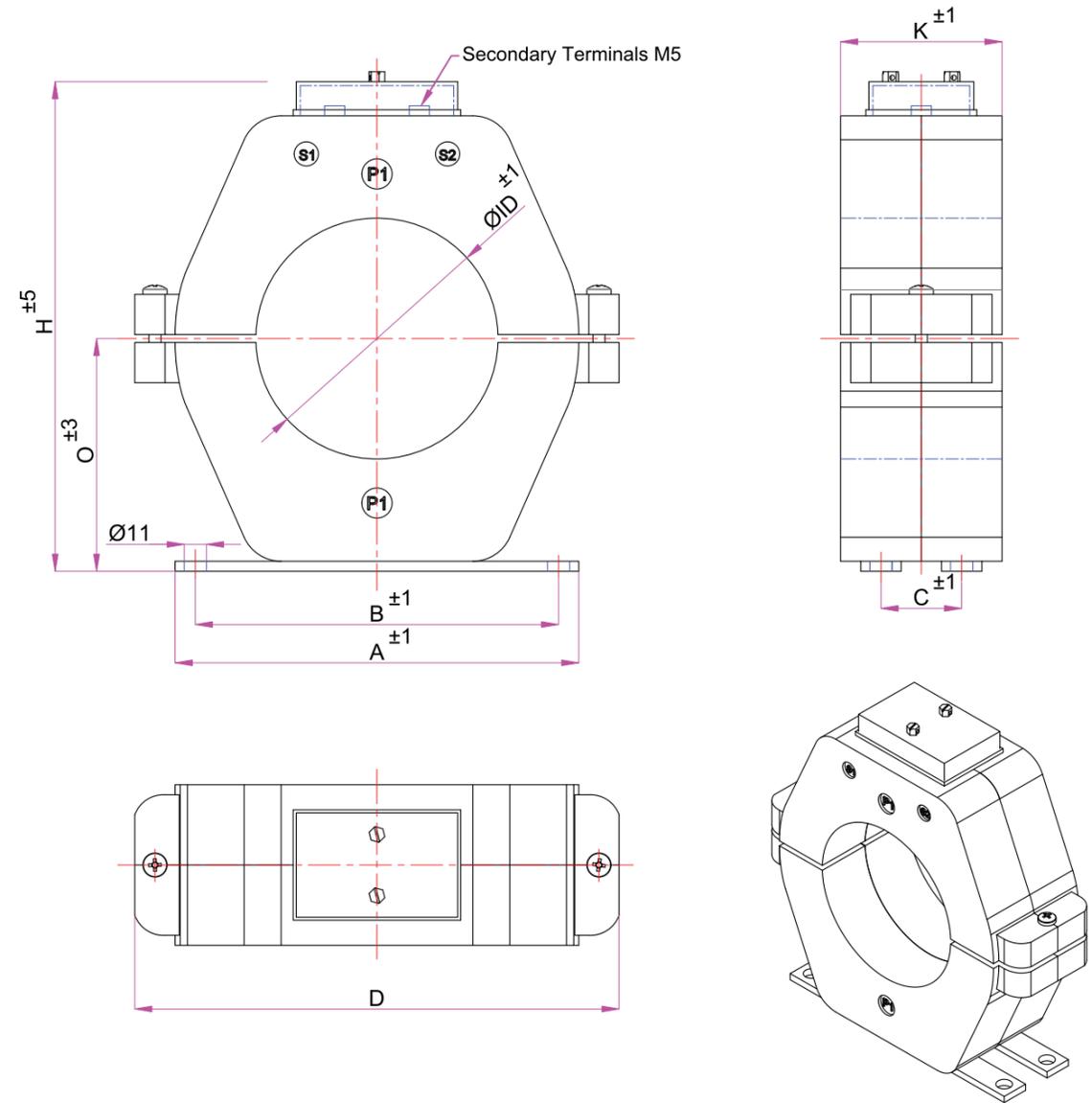
Types:
A-KAP

- Inside Diameters: Ø80 / Ø100 / Ø120

Technical Data	
Types	A- KAP
Operating voltage, Um (kV)	0,72
Rated power-frequency withstand voltage (1 minute) (kV)	3
Rated impulse test voltage (1.2/50 µs) full wave (kV)	-
Rated frequency (Hz)	50-60
Primary rated current (A)	50 2000
Secondary rated current (A)	1 - 5
Metering classes	0,2 - 0,2S - 0,5 - 0,5S - 1 - 3 - 5 Acc. to IEC 61869-1&2
Protection classes	5P- 10P; Acc. to IEC 61869-1&2
Rated short-time thermal current (I _{th}) (1s) (kA)	max. 100
Rated dynamic current (I _{dyn}) (kA)	Practically unlimited
Insulation class	E
Ambient temperature (°C)	-25.....+40**
Altitude (m)	1000
Standard	According to the customer requirements

** It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR A-KAP TYPE (SPLIT TYPE) CAST RESIN INSULATED AND ENCLOSED BY PLASTIC COVER C.T.'S TECHNICAL DRAWING (Um=0,72kV)



Types	ØID	H	K	O	A	B	C	D
A-KAP	80/100/120	245	80	116	200	180	40	max.240

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5

* All dimensions are in mm.

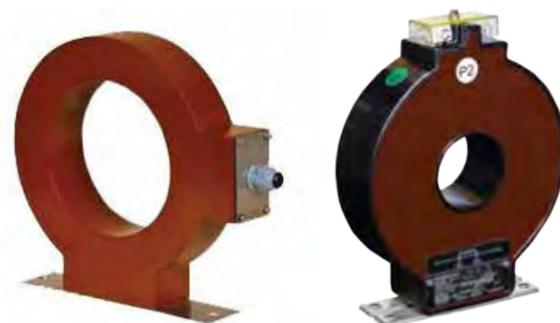
RING TYPE CURRENT TRANSFORMERS

(Um=0,72kV)

INDOOR RING TYPES



OUTDOOR RING TYPES



- Cable type.
- Insulated by cast resin.
- Applicable for measurement and protection purposes.

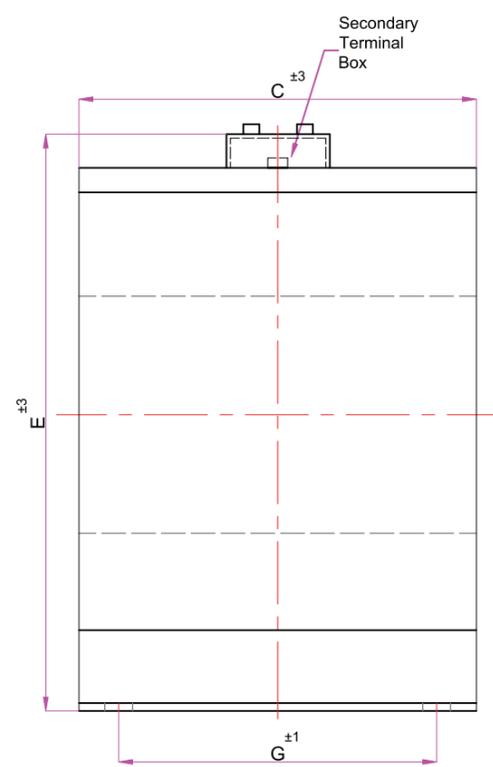
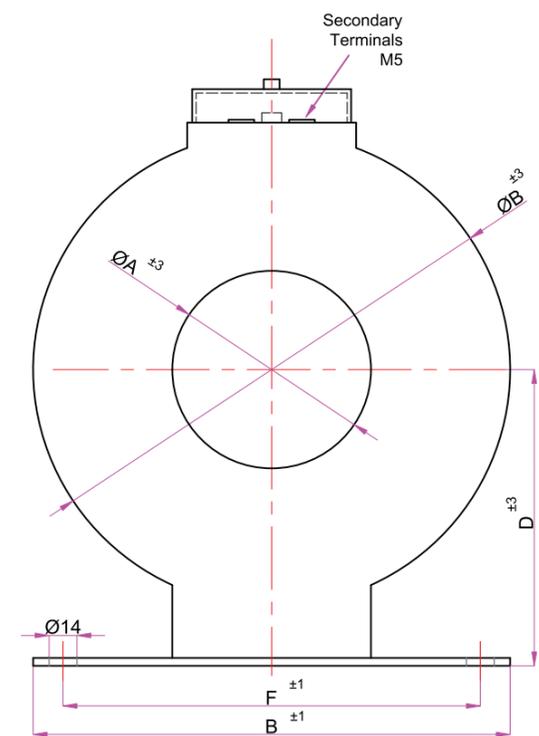
BUSHING TYPES



- For power transformers.
- Suitable for operation under oil continuous 130°C.
- Insulated by Insulation paper or Polyester tape.
- Applicable for measurement and protection purposes.

- Dimensions : According to the customer requirements.
 - Standards : According to the customer requirements.
 - Please contact with ARTECHE for feasibility of required transformer's which have different ratio, class, burden and dimensions.

C.T.'S TECHNICAL DRAWING



* All dimensions are in mm.



INDOOR TYPE LPCT
(Low Power Current Transformer) (Cable Type)
(Um=0, 72kV)

Types:
LPCT-115

- LPCT-115 is defining low power current transformer with voltage output in compliance with IEC 60044-8.
- It is designed for measuring nominal currents of 5A to 1250 A with ratio 100A / 22,5mV. Thus it should be used with a digital relay which have 100A / 22,5mV input with LPCT.
- Esitas LPCT Set is composed of three LPCT and one digital relay. In case of preferred set without relay, Esitas has to be informed about the relay that will be used.
- The sensor is delivered with cable which is between 5m - 8m upon customer request.

Advantages :

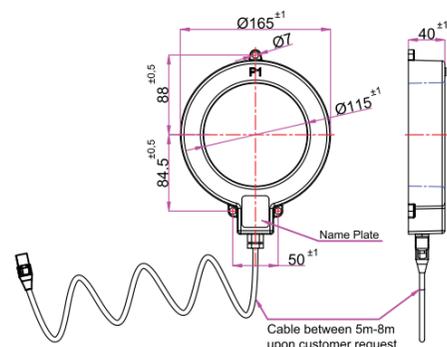
- Same transformer is usable for nominal currents of 5A to 1250A.
- Accuracy warranty throughout the range :
 - Protection : 5A-40kA ; class 5P
 - Measuring: 100A-1250A; class 0,5 (class 0,75 for 20A, class 1,5 for 5A).

Simple Assembly :

- Ready for connection secondary cables.
- Simple connection with insulated cable for all types cubicles.

Safety Operation :

- Openable secondary circuit under load.



Technical Data	
Types	LPCT - 115
Standard	IEC 60044-8
Minimum primary current (A)	5
Rated primary current (A)	100
Rated secondary voltage (mV)	22,5
Rated maximum primary current (A)	1250
Class of protection	0,5 (100A - 1250A), 0,75 (20A), 1,5 (5A)
Class of measuring	5P
Accuracy limit factor (Kalf)	150
Rated short - time current (kA / 1s)	40
Insulation level (kV)	0,72 / 3 / -
Frequency (Hz)	50 - 60
Burden (Rbr) (kVA)	2



INDOOR TYPE LPCT
(Low Power Current Transformer) (Cable Type)
(Um=0, 72kV)

Types:
LPCT-160

- LPCT-160 is defining low power current transformer with voltage output in compliance with IEC 60044-8.
- It is designed for measuring nominal currents of 5A to 2000 A with ratio 100A / 22,5mV. Thus it should be used with a digital relay which have 100A / 22,5mV input with LPCT.
- Esitas LPCT Set is composed of three LPCT and one digital relay. In case of preferred set without relay, Esitas has to be informed about the relay that will be used.
- The sensor is delivered with cable which is between 5m - 8m upon customer request.

Advantages :

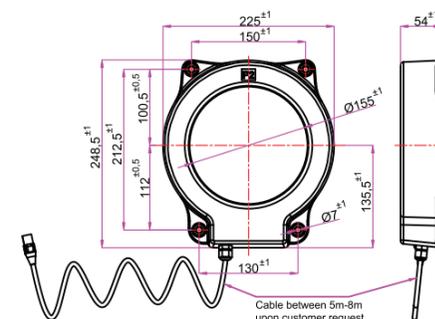
- Same transformer is usable for nominal currents of 5A to 2000A.
- Accuracy warranty throughout the range :
 - Protection : 5A-40kA ; class 5P
 - Measuring: 100A-2000A; class 0,5 (class 0,75 for 20A, class 1,5 for 5A).

Simple Assembly :

- Ready for connection secondary cables.
- Simple connection with insulated cable for all types cubicles.

Safety Operation :

- Openable secondary circuit under load.



Technical Data	
Types	LPCT - 160
Standard	60044-8
Minimum primary current (A)	5
Rated primary current (A)	100
Rated secondary voltage (mV)	22,5
Rated maximum primary current (A)	2000
Class of protection	0,5 (100A - 2000A), 0,75 (20A), 1,5 (5A)
Class of measuring	5P
Accuracy limit factor (Kalf)	400
Rated short - time current (kA / 1s)	40
Insulation level (kV)	0,72 / 3 / -
Frequency (Hz)	50 - 60
Burden (Rbr) (kVA)	2

M.V. VOLTAGE TRANSFORMERS



M.V. VOLTAGE TRANSFORMERS



Voltage Transformers

An instrument transformer in which the secondary voltage, in normal conditions of use, is substantially proportional to the primary voltage and differs in phase from it by an angle which is approximately zero for an appropriate direction of the connections.

It isolates the primary side rated voltage from the connected instruments and protection circuits and convert the primary voltage into a measurable secondary voltage, which is true in magnitude and phase.

Primary Winding

The winding to which the voltage to be transformed is applied.

Secondary Winding

The winding, which supplies the voltage circuits of measuring instruments, meters, relays or similar apparatus.

Rated Primary Voltage

The value of the primary voltage, which appears in the designation of the transformer and on which its performance is based.

Rated Secondary Voltage

The value of the secondary voltage, which appears in the designation of the transformer and on which its performance is based.

Rated Transformation Ratio

The ratio of the rated primary to the rated secondary voltage.

Voltage Error (Ratio Error)

The error which a transformer introduces into the measurement of a voltage and which arises when the actual transformation ratio is not equal to the transformation ratio.

The voltage error, expressed in per cent, is given by the formula:

$$\text{Voltage Error \%} = \frac{K_n U_s - U_p}{U_p} \times 100$$

Where

K_n is the rated transformation ratio;

U_p is the actual primary voltage;

U_s is the actual secondary voltage when U_p is applied under the conditions of measurement.

Accuracy Class

A designation assigned to a voltage transformer, the errors of which remain within specified limits under prescribed conditions of use.

Burden

The admittance of the secondary circuit expressed in siemens and power factor (lagging or leading)

Rated Burden

The value of the burden on which the accuracy requirements are based on.

Rated Output

The value of apparent power (in voltamperes at a specified power - factor), which the transformer is intended to supply to the secondary circuit at the rated secondary voltage and with rated burden, connected to it.

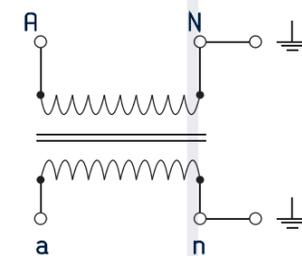
Rated Insulation Level

The combination of voltage values which characterizes the isolation of a transformer with regard to its capability to withstand dielectric stresses.

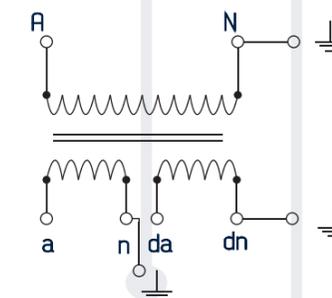
Rated Voltage Factor

The multiplying factor to be applied to the rated primary voltage to determine the maximum voltage at which a transformer must comply with the relevant thermal requirements for a specified time and with the relevant accuracy requirements.

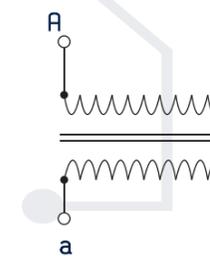
CONNECTION DIAGRAMS



Single Pole insulated voltage transformer (e.g. 11000/√3: 100/√3V)



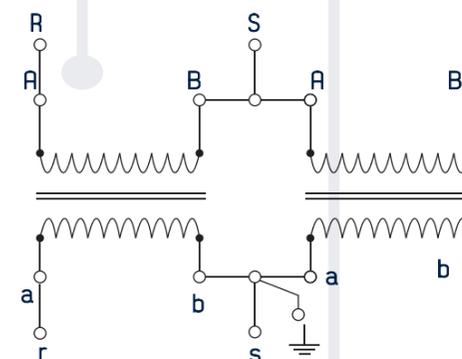
Single Pole insulated voltage transformer with an open delta winding (e.g. 11000/√3: 100/√3V - 100/3V)



Double pole insulated voltage transformer (e.g. 11000: 100V)

It can be required for multi secondary winding and changeable ratios.

V-Connection of Two Double Pole Insulated Voltage Transformers



Safety Operation Conditions for Voltage Transformers

-When the Secondary terminals are connected to the measuring or protection devices, one of the terminals should be earthed for safety as seen in Diagram-1.

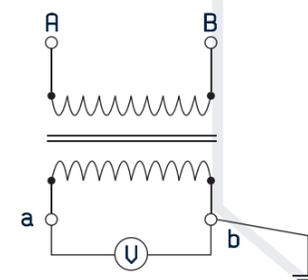
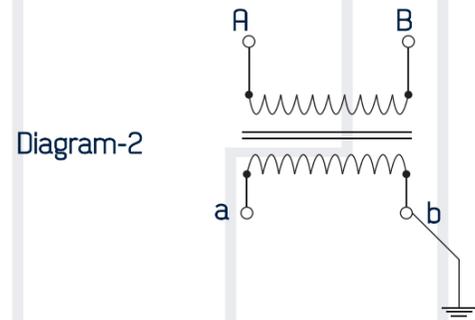
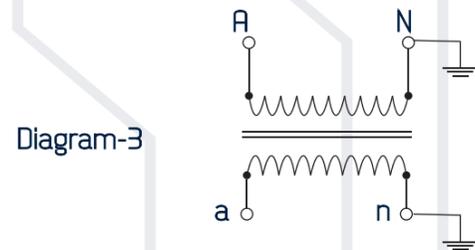


Diagram-1

- The base plate must be earthed
- The secondary circuits must not be short-circuited during operation. Otherwise the voltage transformers will be thermally destroyed.
- If any of the secondary windings of a voltage transformer will not be used, then it must be left open with one of the terminals connected to the earth as seen in Diagram-2.

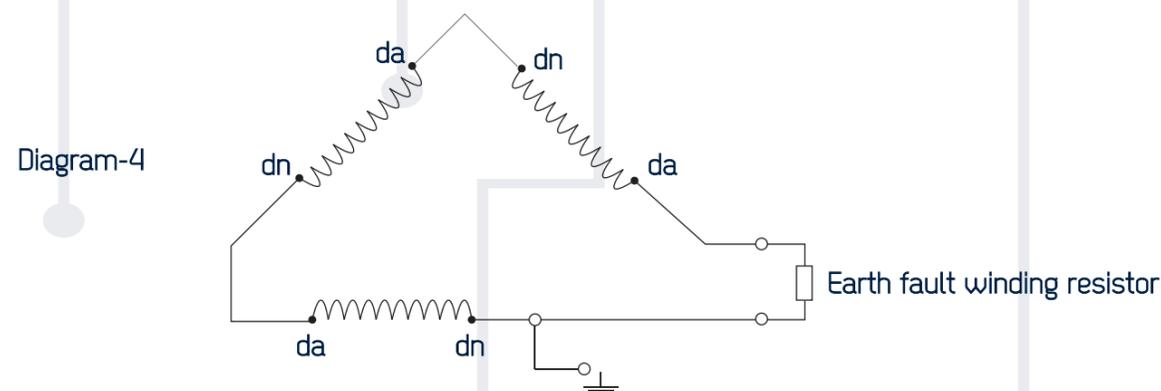


- For the single phase transformers, the neutral terminal of the primary "N" must be earthed in the earthed (neutral) systems as seen in Diagram-3.



Other Important Points and Notes

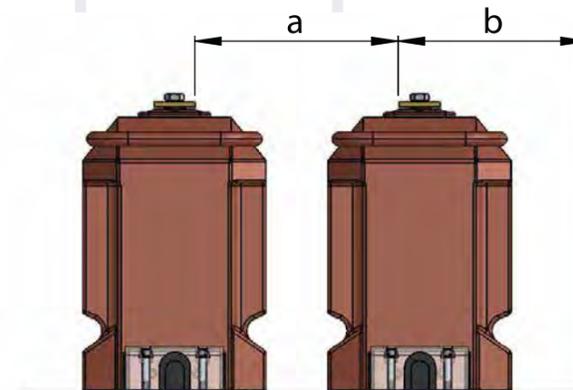
When using single pole insulated inductive voltage transformers it is very important to understand that, when a circuit is being closed or during the decaying period of an earth fault ferroresonance may occur. Ferroresonance can lead to the overheating and thermal destruction of the voltage transformer or high levels of voltages may be induced. In general, ferroresonance can be eliminated by the use of an appropriate resistor placed as a burden in open-delta circuit formed by three voltage transformers open-delta windings. The open-delta circuit must always be earthed only at one point as seen in Diagram-4. The open-delta connection can also be used for earth-fault monitoring with appropriate devices.



As the number of cable systems is increasing in the energy distribution systems, the protection of voltage transformers have become very important for the uninterrupted operation of the system without any failure and/or down time. For that reason, ARTECHE is always recommending the use of open-delta windings in single phase inductive voltage transformers.

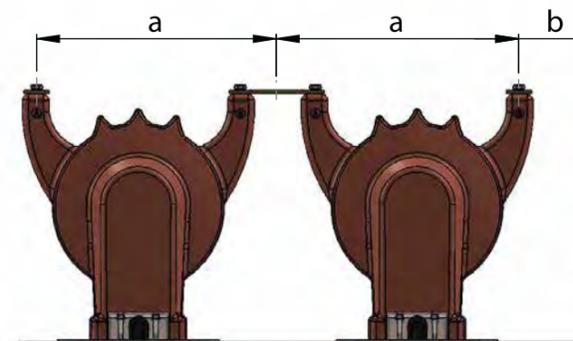
M.V. VOLTAGE TRANSFORMERS CONNECTION CLEARANCES

SINGLE PHASE VOLTAGE TRANSFORMERS



INSULATION LEVEL	a minimum	b minimum
12kV	100mm	110mm
24kV	190mm	210mm
36kV	305mm	325mm

PHASE TO PHASE VOLTAGE TRANSFORMERS



INSULATION LEVEL	a minimum	b minimum
12kV	185mm	120mm
24kV	240mm	220mm
36kV	340mm	325mm



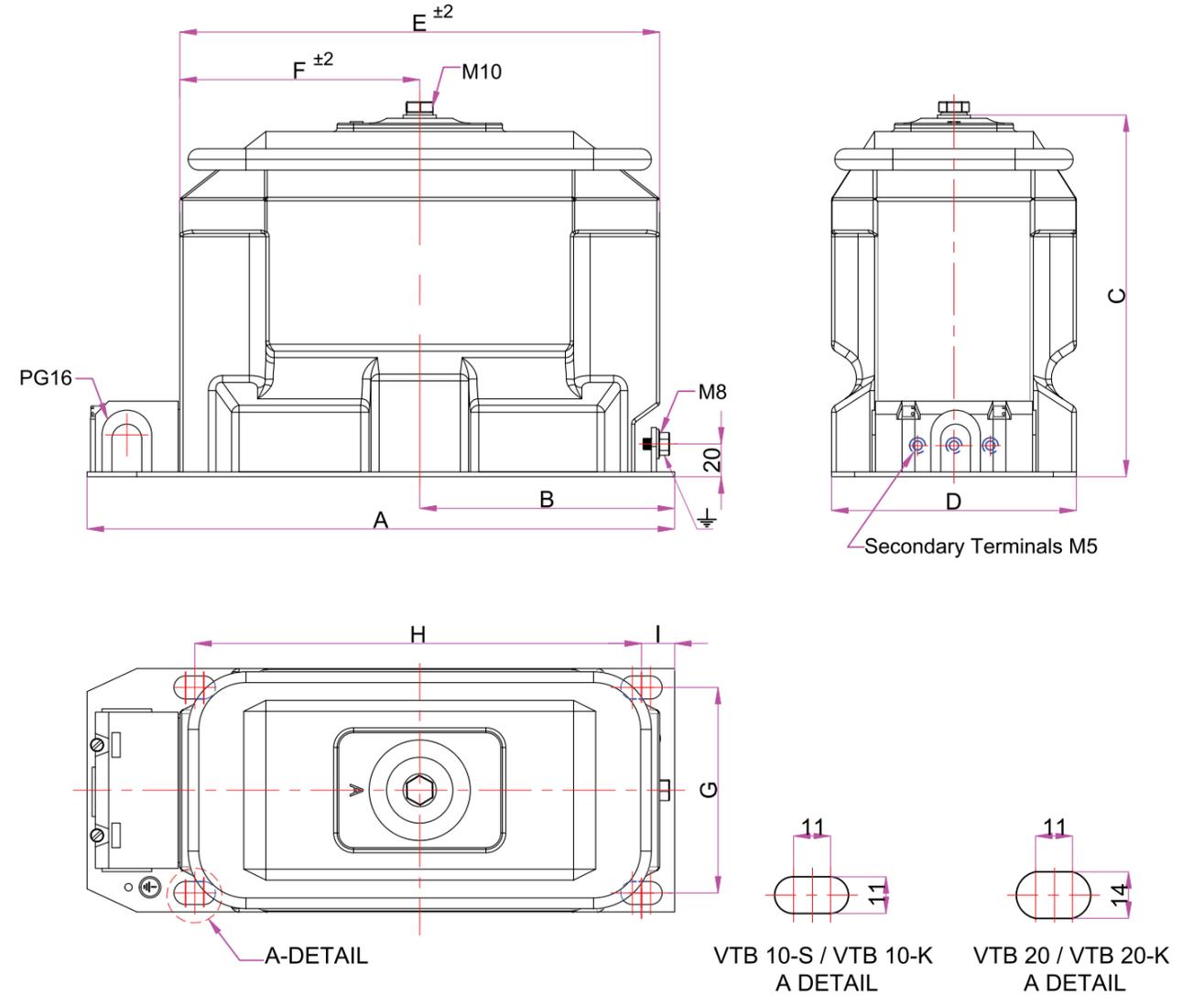
INDOOR SINGLE PHASE SUPPORT TYPE CAST RESIN INSULATED VOLTAGE TRANSFORMERS

(Um=3,6kV.....24kV BLOCK TYPES)

Types:
VTB 10-S
VTB 10-K
VTB 20
VTB 20-K

INDOOR SINGLE PHASE SUPPORT TYPE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....24kV BLOCK TYPES)



Technical Data

Types	VTB 10-S	VTB 10-K	VTB 20	VTB 20-K		
Operating voltage, Um (kV)	3,6	7,2	12	17,5	17,5	24**
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	38	50
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	95	125
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	12/√3			24/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3
Rated burden (max.) in class 0,2 (VA)	30			50		
Rated burden (max.) in class 0,5 (VA)	100			120		
Rated burden (max.) in class 1 (VA)	200			250		
Rated burden for protection purpose in class 3P (VA)	100					
Rated voltage factor (30 sec. or 8h) (Un)	1,9					
Insulation class	E					
Ambient temperature (°C)	-25.....+40*					
Altitude (m)	1000					
Standard	According to the customer requirements					
Weight (approx.) (kg)	27			37		

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.
** For more kV, please contact with ARTECHE for feasibility.

Types	A	B	C	D	E	F	G	H	I
VTB 10-S	355	155	220	148	290	145	125	270	20
VTB 10-K	355	155	220	148	290	145	125	270	20
VTB 20	355	155	280	178	290	145	150	280	20
VTB 20-K	355	155	280	178	290	145	150	280	20

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5
M8 (Ground Terminal)	15	20
M10 (Primary Terminal)	30	40

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



INDOOR SINGLE PHASE SUPPORT TYPE CAST RESIN INSULATED VOLTAGE TRANSFORMERS

(Um=36kV Block Types)

Types:
VTB 30-K

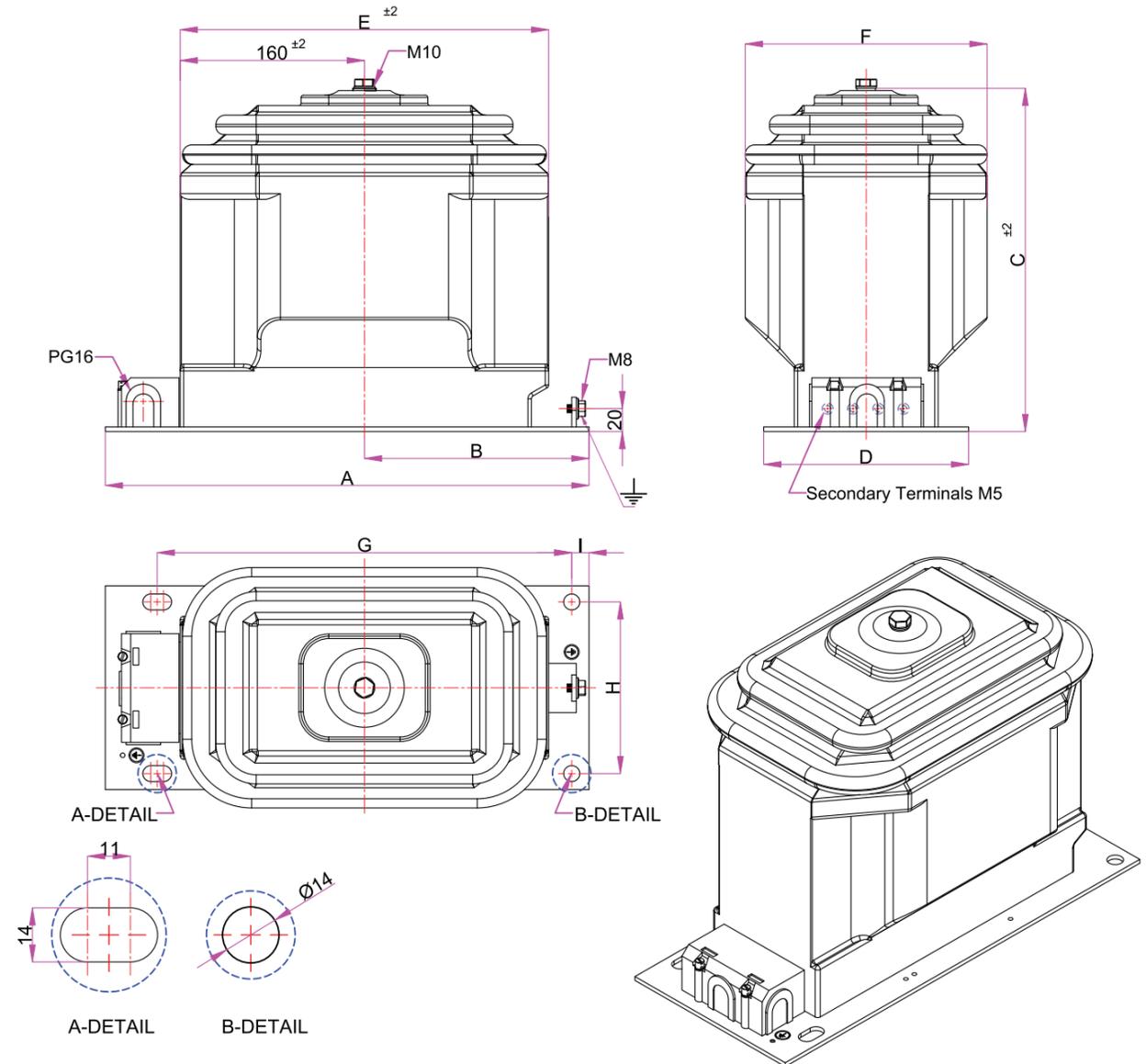
Technical Data

Types	VTB 30-K						
Operating voltage, Um (kV)	36**						
Rated power-frequency withstand voltage (1 minute) (kV)	70						
Rated impulse test voltage (1.2/50 μs) full wave (kV)	170						
Rated frequency (Hz)	50-60						
Rated primary voltage (max.) (kV)	36/√3						
Secondary voltage (V)	100/√3	100/3	110/√3	110/3	120/√3	120/3	
Rated burden (max.) in class 0,2 (VA)	50						
Rated burden (max.) in class 0,5 (VA)	120						
Rated burden (max.) in class 1 (VA)	250						
Rated burden for protection purpose in class 3P (VA)	100						
Rated voltage factor (30 sec. or 8h) (Un)	1,9						
Insulation class	E						
Ambient temperature (°C)	-25.....+40*						
Altitude (m)	1000						
Standard	According to the customer requirements						
Weight (approx.) (kg)	46						

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.
** For more kV, please contact with ARTECHE for feasibility.

INDOOR SINGLE PHASE SUPPORT TYPE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=36kV Block Types)



Types	A	B	C	D	E	F	G	H	I
VTB 30-K	420	195	300	178	320	210	360	150	15

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5
M8 (Ground Terminal)	15	20
M10 (Primary Terminal)	30	40

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



INDOOR SINGLE PHASE SUPPORT TYPE CAST RESIN INSULATED VOLTAGE TRANSFORMERS

(Um=17.5kV 36kV)

Types:
 VT 20-B
 VTB 30
 VTB 30-1
 VTB 30-200

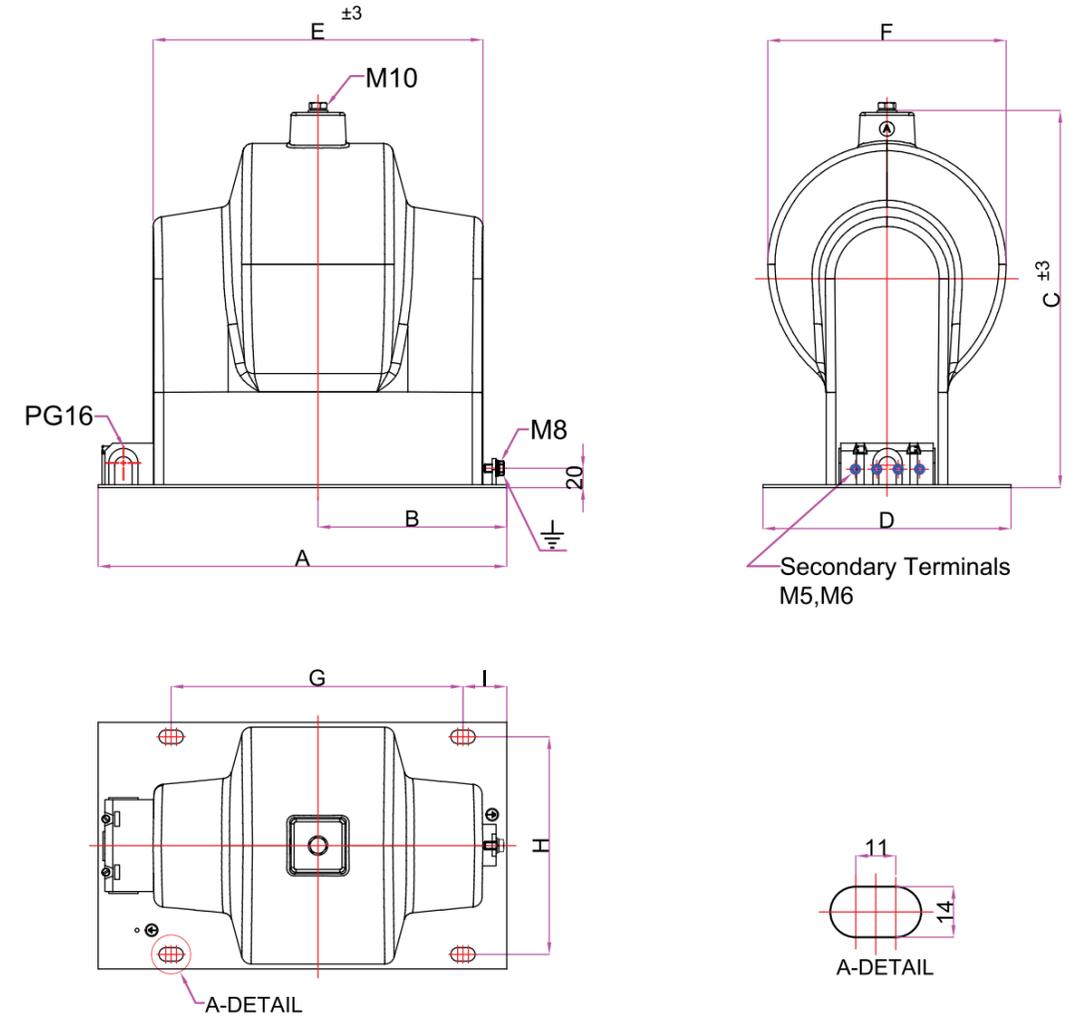
Technical Data

Types	VT 20-B	VTB 30	VTB 30-1	VTB 30-200
Operating voltage, Um (kV)	17,5 24	36	36**	
Rated power-frequency withstand voltage (1 minute) (kV)	38 50	70	70	
Rated impulse test voltage (1.2/50 μs) full wave (kV)	95 125	170	200	
Rated frequency (Hz)	50-60			
Rated primary voltage (max.) (kV)	17,5/√3 24/√3	36/√3		
Secondary voltage (V)	100/√3 110/√3	120/√3	& Suitable for 220V winding	
Rated burden (max.) in class 0,2 (VA)	50			
Rated burden (max.) in class 0,5 (VA)	150			
Rated burden (max.) in class 1 (VA)	300			
Rated burden for protection purpose in class 3P (VA)	100			
Rated burden for 220V winding (VA)	800			
Rated voltage factor (30 sec. or 8h) (Un)	1,9			
Insulation class	E			
Ambient temperature (°C)	-25.....+40*			
Altitude (m)	1000			
Standard	According to the customer requirements			
Weight (approx.) (kg)	45	50-60	62	

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.
 ** For more kV, please contact with ARTECHE for feasibility.

INDOOR SINGLE PHASE SUPPORT TYPE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=17.5kV 36kV)



Types	A	B	C	D	E	F	G	H	I
VTB 30	420	195	390	255	338	-	300	225	45
VTB 30-1	420	195	390	255	338	-	300	225	45
VT 20-B	440	205	300	200	360	215	270	170	70
VTB 30-200	420	195	445	255	-	-	300	225	45

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5
M8 (Ground Terminal)	15	20
M10 (Primary Terminal)	30	40

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.



INDOOR SINGLE PHASE CAST RESIN INSULATED SPECIAL TYPE VOLTAGE TRANSFORMERS

(Um=3,6kV.....17,5kV)

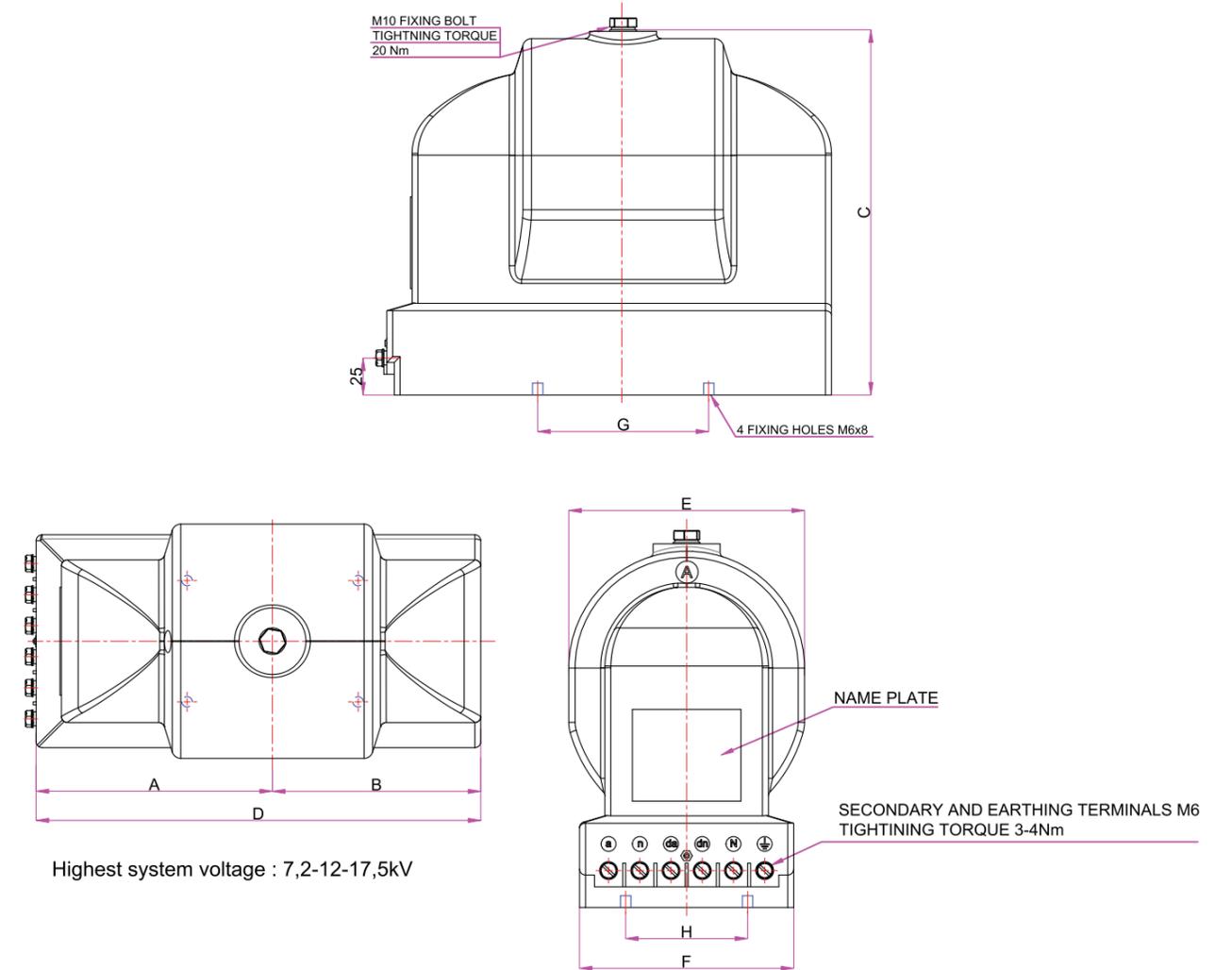
Types:
ES 17 V3

Technical Data						
Types	ES 17 V3					
Operating voltage, Um (kV)	3,6	7,2	12	17,5		
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38		
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95		
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	3,6/√3	7,2/√3	12/√3	17/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3
Rated burden (max.) in class 0,2 (VA)	30			20		
Rated burden (max.) in class 0,5 (VA)	100			60		
Rated burden (max.) in class 1 (VA)	200			120		
Rated burden for protection purpose in class 3P (VA)	100					
Rated voltage factor (30 sec. or 8h) (Un)	1,9					
Insulation class	E					
Ambient temperature (°C)	-25 +40*					
Altitude (m)	1000					
Standard	According to the customer requirements					
Weight (approx.) (kg)	22					

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR SINGLE PHASE CAST RESIN INSULATED SPECIAL TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....17,5kV)



Types	A	B	C	D	E	F	G	H
ES 17 V3	158	139	455	297	158	144	115	82

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.



INDOOR SINGLE PHASE CAST RESIN INSULATED SPECIAL TYPE VOLTAGE TRANSFORMERS

(Um=7,2kV..... 24kV)

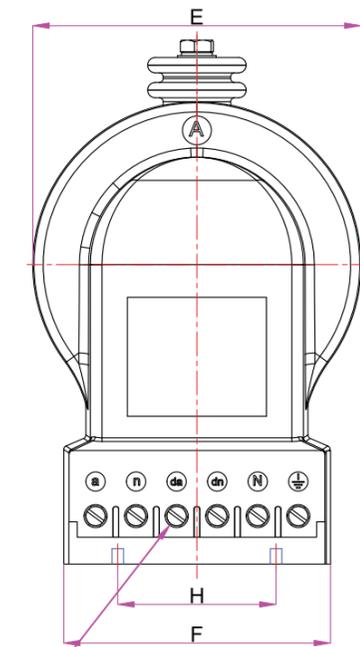
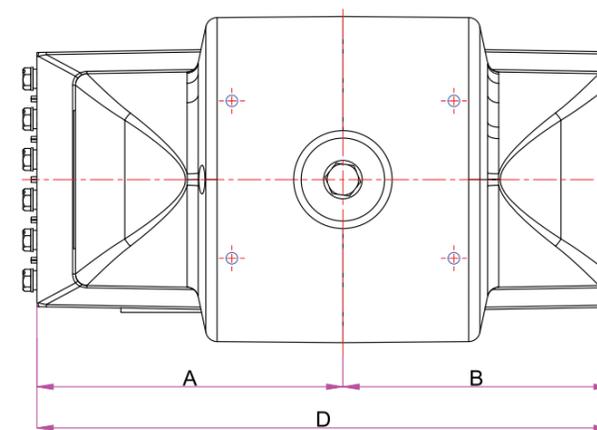
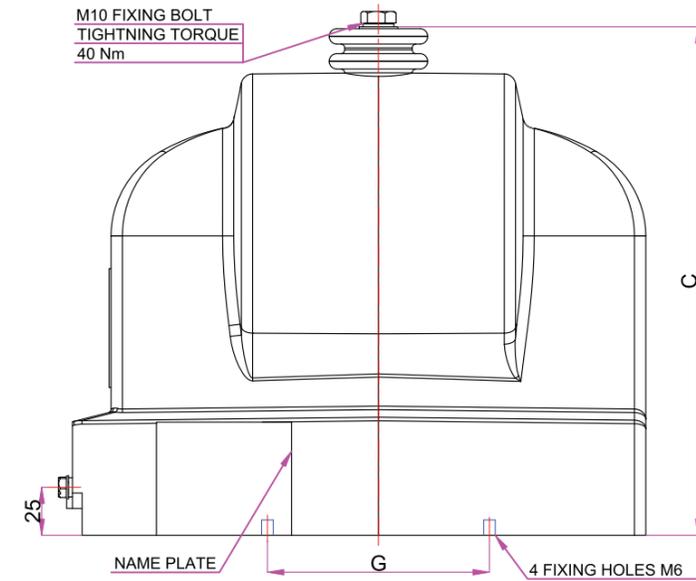
Types:
ES 24 V2-B

INDOOR SINGLE PHASE CAST RESIN INSULATED SPECIAL TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=7,2kV..... 24kV)

Technical Data	Produced only in Indonesia Factory					
Types	ES 24 V2-B					
Operating voltage, Um (kV)	7,2	12	17,5	24		
Rated power-frequency withstand voltage (1 minute) (kV)	20	28	38	50		
Rated impulse test voltage (1.2/50 μs) full wave (kV)	60	75	95	125		
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	7,2/√3	12/√3	17,5/√3	24/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3
Rated burden (max.) in class 0,2 (VA)	30					
Rated burden (max.) in class 0,5 (VA)	75					
Rated burden (max.) in class 1 (VA)	150					
Rated burden for protection purpose in class 3P (VA)	100					
Rated voltage factor (30 sec. or 8h) (Un)	1,9					
Insulation class	E					
Ambient temperature (°C)	-25 +40*					
Altitude (m)	1000					
Standard	According to the customer requirements					
Weight (approx.) (kg)	26					

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



Types	A	B	C	D	E	F	G	H
ES 24 V2-B	158,5	138,5	265	297	170	138	115	82

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.



INDOOR SINGLE PHASE CAST RESIN INSULATED SPECIAL TYPE VOLTAGE TRANSFORMERS

(Um=24kV)

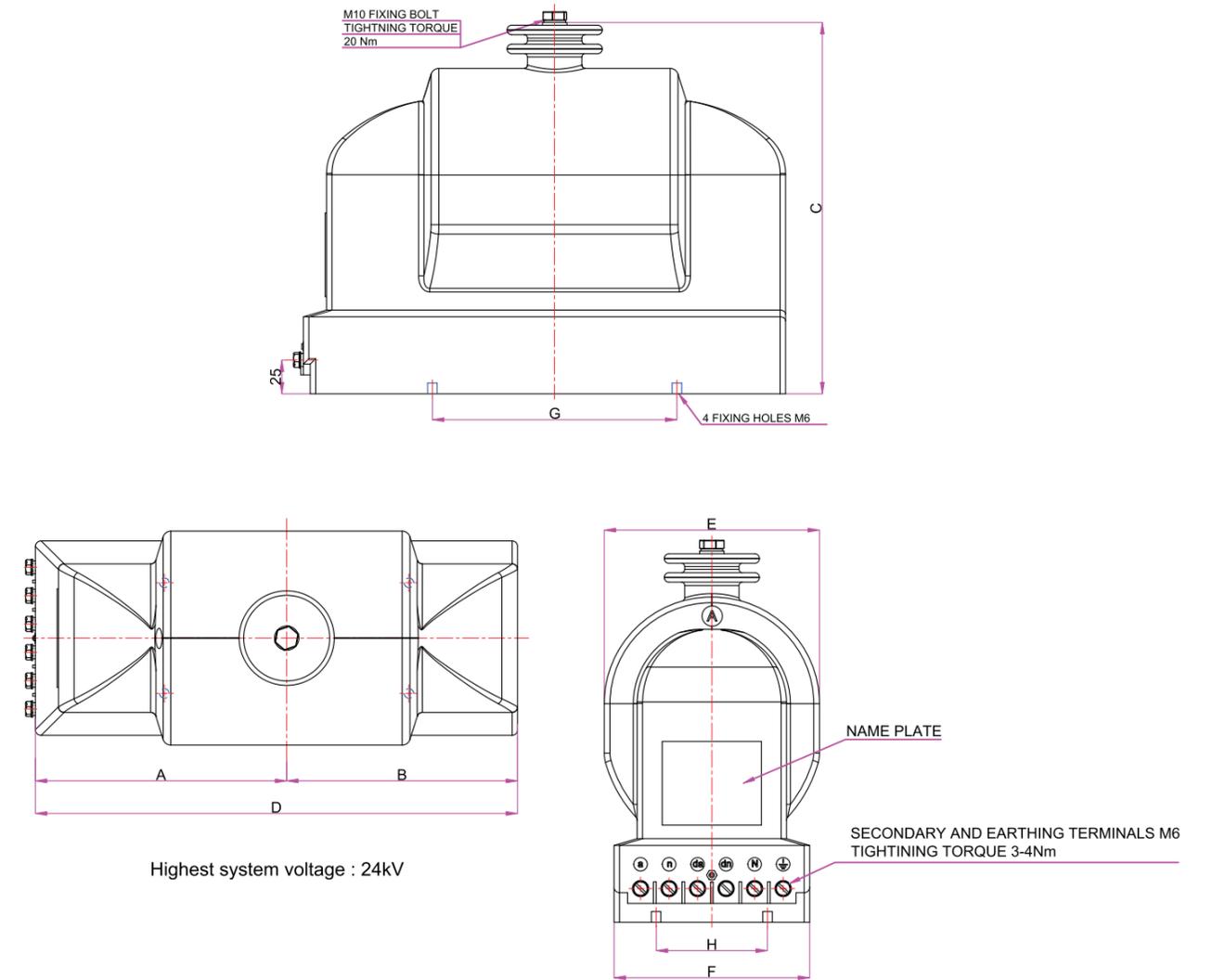
Types:
ES 24 V1

Technical Data							
Types	ES 24 V1						
Operating voltage, Um (kV)	24						
Rated power-frequency withstand voltage (1 minute) (kV)	50						
Rated impulse test voltage (1.2/50 μs) full wave (kV)	125						
Rated frequency (Hz)	50-60						
Rated primary voltage (max.) (kV)	24/√3						
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3	
Rated burden (max.) in class 0,2 (VA)	30						
Rated burden (max.) in class 0,5 (VA)	100						
Rated burden (max.) in class 1 (VA)	200						
Rated burden for protection purpose in class 3P (VA)	100						
Rated voltage factor (30 sec. or 8h) (Un)	1,9						
Insulation class	E						
Ambient temperature (°C)	-25 +40*						
Altitude (m)	1000						
Standard	According to the customer requirements						
Weight (approx.) (kg)	30						

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR SINGLE PHASE CAST RESIN INSULATED SPECIAL TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=24kV)



Types	A	B	C	D	E	F	G	H
ES 24 V1	185	170	275	355	158	144	180	82

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.



INDOOR SINGLE PHASE CAST RESIN INSULATED NARROW TYPE VOLTAGE TRANSFORMERS

(Um=7,2kV.....24kV)

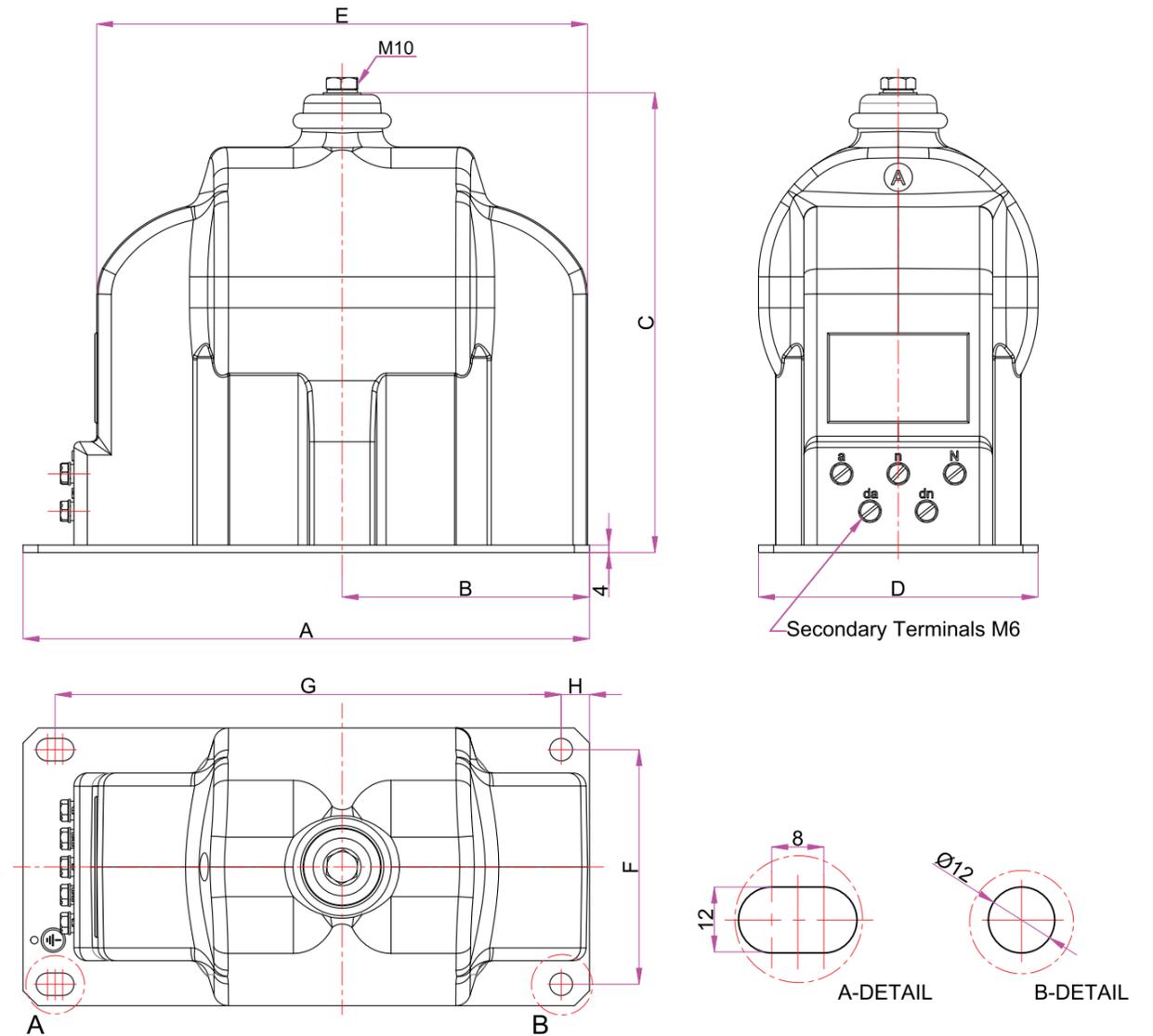
Types:
VTU-24

Technical Data

Types	VTU-24					
Operating voltage, Um (kV)	7,2	12	17,5	24		
Rated power-frequency withstand voltage (1 minute) (kV)	20	28	38	50		
Rated impulse test voltage (1.2/50 μs) full wave (kV)	60	75	95	125		
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	7,2/√3	12/√3	17,5/√3	24/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3
Rated burden (max.) in class 0,2 (VA)	30					
Rated burden (max.) in class 0,5 (VA)	75					
Rated burden (max.) in class 1 (VA)	150					
Rated burden for protection purpose in class 3P (VA)	100					
Rated voltage factor (30 sec. or 8h) (Un)	1,9					
Insulation class	E					
Ambient temperature (°C)	-25 +40*					
Altitude (m)	1000					
Standard	According to the customer requirements					
Weight (approx.) (kg)	28					

INDOOR SINGLE PHASE CAST RESIN INSULATED NARROW TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=7,2kV.....24kV)



Types	A	B	C	D	E	F	G	H
VTU-24	300	131	241	148	260	125	268	15

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	4

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.



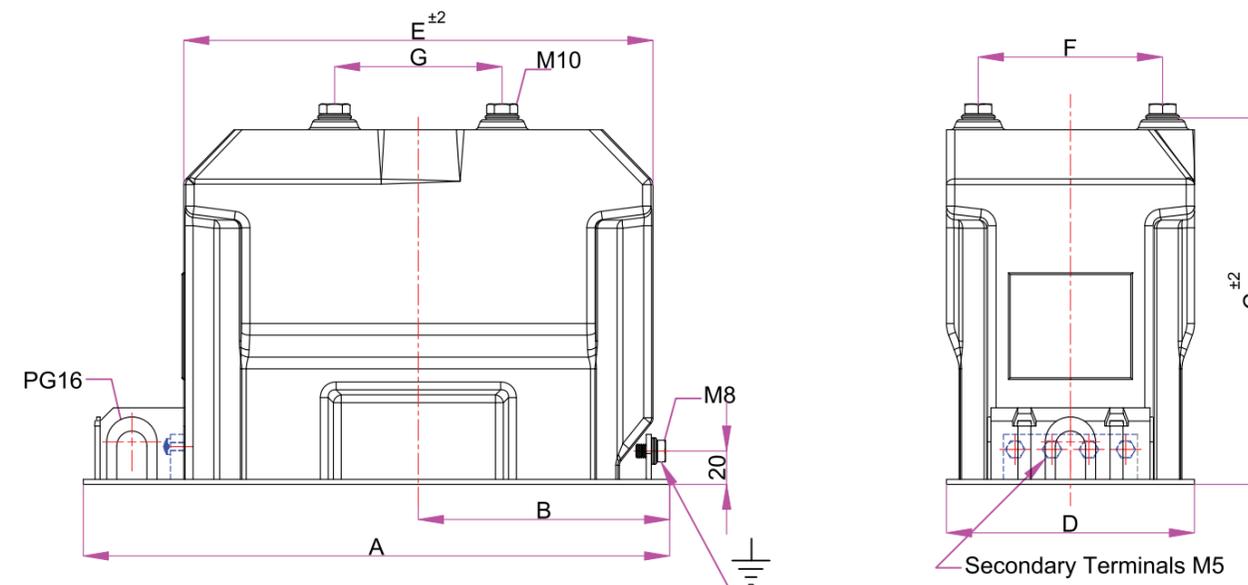
INDOOR PHASE TO PHASE SUPPORT TYPE CAST RESIN INSULATED VOLTAGE TRANSFORMERS

(Um=3,6kV.....24kV BLOCK TYPES)

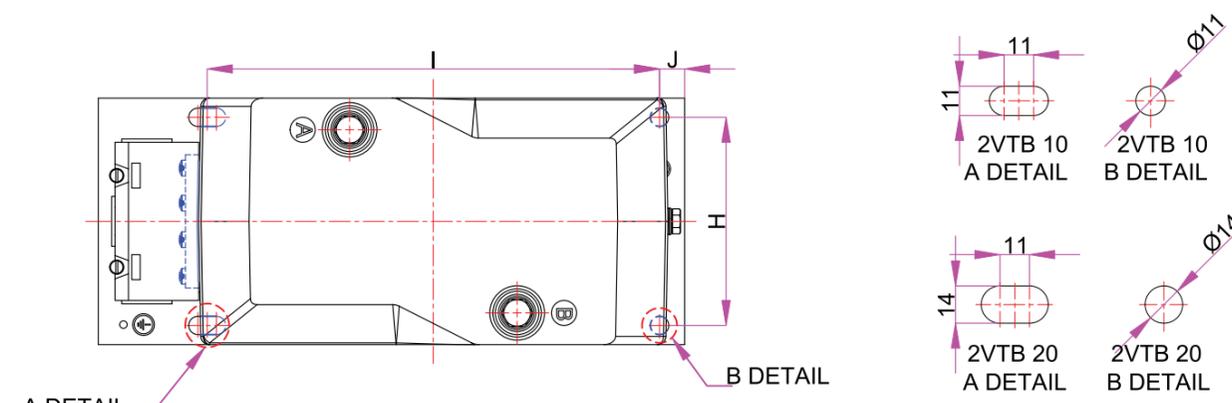
Types:
2VTB 10
2VTB 20

INDOOR PHASE TO PHASE SUPPORT TYPE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....24kV BLOCK TYPES)



Technical Data					
Types	2VTB 10			2VTB 20	
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125
Rated frequency (Hz)	50-60				
Rated primary voltage (max.) (kV)	12			24	
Secondary voltage (V)	100	110	120		
Rated burden (max.) in class 0,2 (VA)	15				
Rated burden (max.) in class 0,5 (VA)	60				
Rated burden (max.) in class 1 (VA)	100				
Rated voltage factor (Cont.) (Un)	1,2				
Insulation class	E				
Ambient temperature (°C)	-25.....+40*				
Altitude (m)	1000				
Standard	According to the customer requirements				
Weight (approx.) (kg)	28			37	



Types	A	B	C	D	E	F	G	H	I	J
2VTB 10	350	150	220	148	280	110	100	125	270	15
2VTB 20	355	155	280	178	290	130	165	150	280	15

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2,5	3,5
M8 (Ground Terminal)	15	20
M10 (Primary Terminal)	30	40

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



INDOOR PHASE TO PHASE SUPPORT TYPE CAST RESIN INSULATED VOLTAGE TRANSFORMERS

(Um=17.5kV 36kV LARGE TYPES)

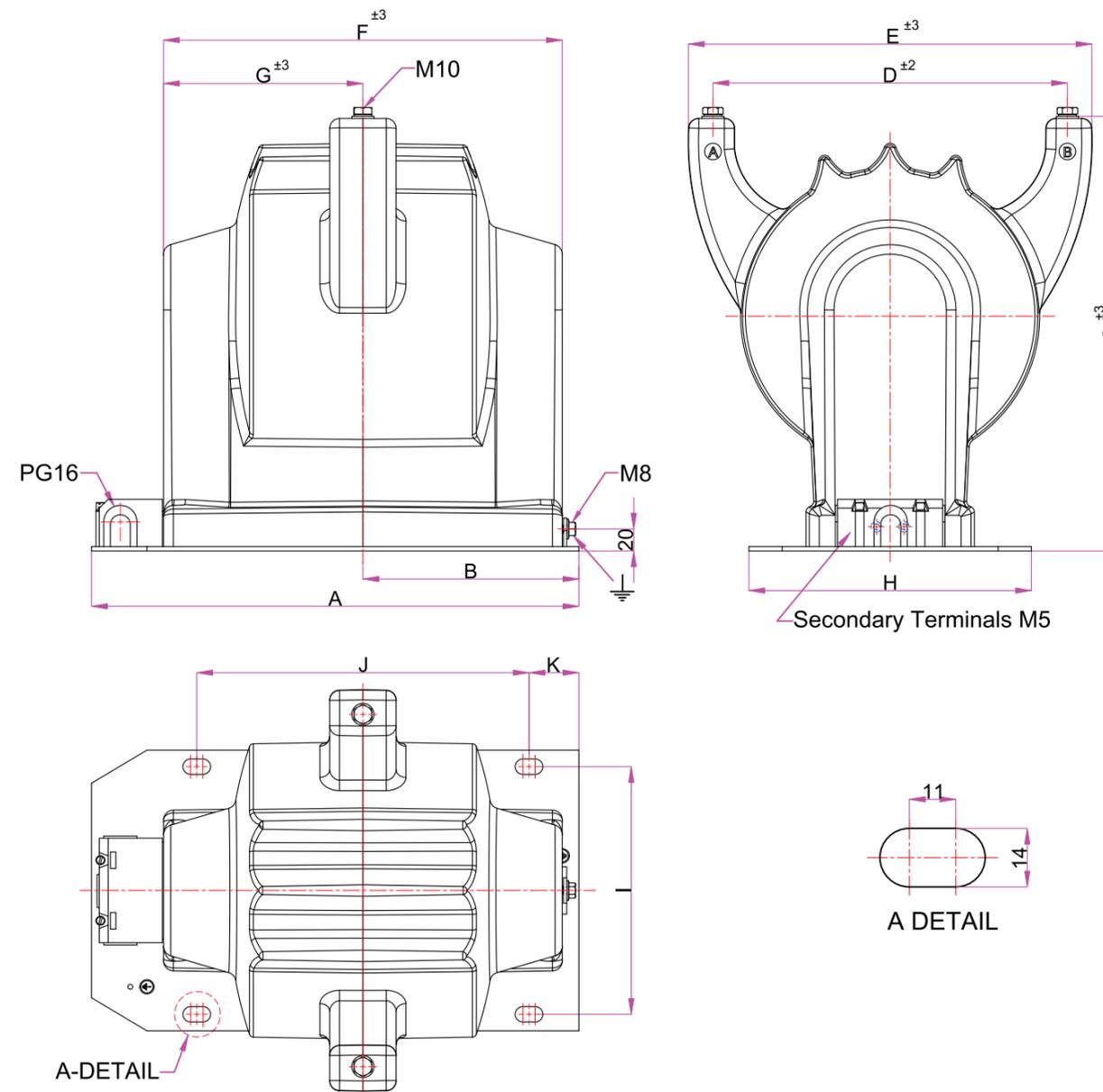
Types:
2VT 20-B
2VTB 30
2VT 40-200

Technical Data			
Types	2VT 20-B	2VTB 30	2VT 40-200
Operating voltage, Um (kV)	17,5 24	36	36
Rated power-frequency withstand voltage (1 minute) (kV)	38 50	70	70
Rated impulse test voltage (1.2/50 μs) full wave (kV)	95 125	170	200
Rated frequency (Hz)	50-60		
Rated primary voltage (max.) (kV)	24	36	36
Secondary voltage (V)	100 - 110 - 120 & Suitable for 220V winding		
Rated burden (max.) in class 0,2 (VA)	30		
Rated burden (max.) in class 0,5 (VA)	120		
Rated burden (max.) in class 1 (VA)	200		
Rated burden for 220V winding (VA)	800		
Rated voltage factor (Cont.) (Un)	1,2		
Insulation class	E		
Ambient temperature (°C)	-25 +40*		
Altitude (m)	1000		
Standard	According to the customer requirements		
Weight (approx.) (kg)	48	65	73

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR PHASE TO PHASE SUPPORT TYPE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=17.5kV 36kV LARGE TYPES)



Types	A	B	C	D	E	F	G	H	I	J	K	TIGHTENING TORQUE (Nm)	min.	max.
2VT 20-B	440	205	300	210	250	360	180	200	170	270	70	M5 (Secondary Terminal)	2,5	3,5
2VTB 30	440	195	395	320	363	360	180	255	225	300	45	M8 (Ground Terminal)	15	20
2VT 40-200	480	220	445	350	390	370	185	255	225	300	70	M10 (Primary Terminal)	30	40

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



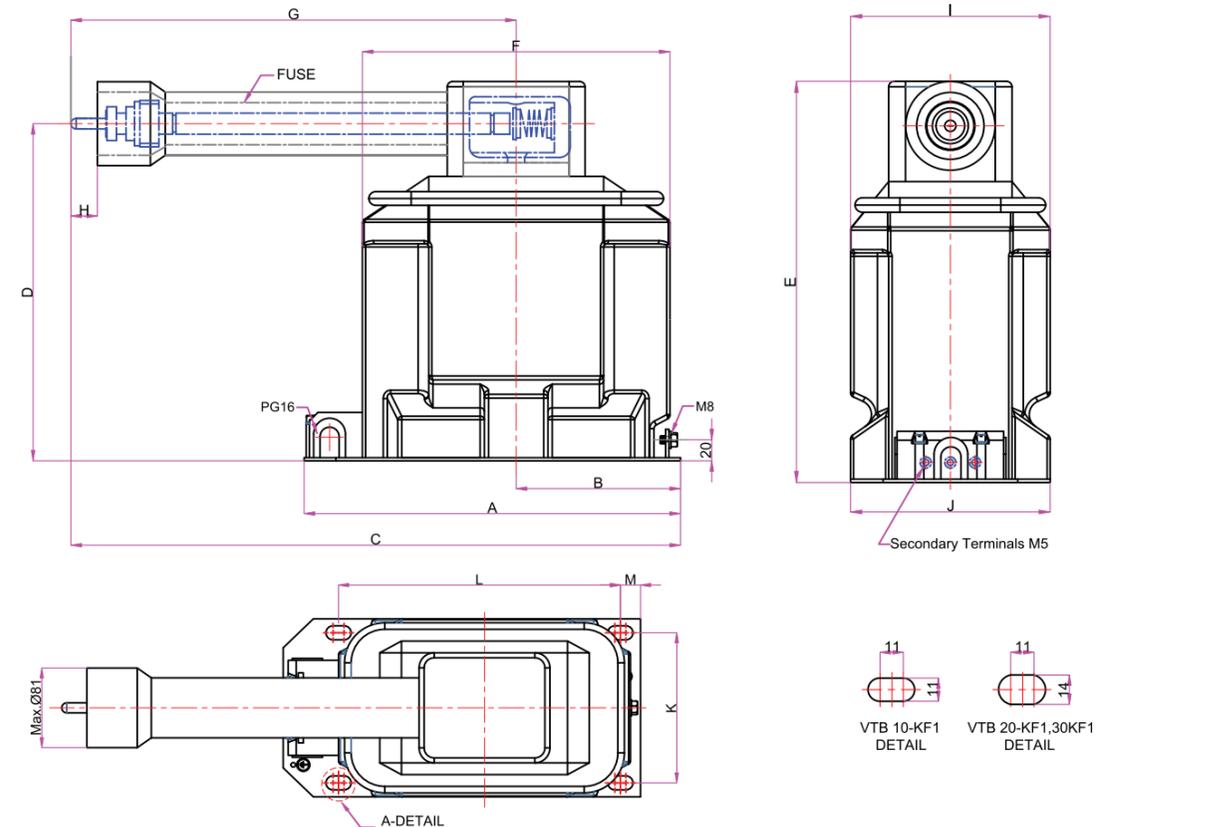
INDOOR SINGLE PHASE CAST RESIN INSULATED BUILT IN FUSE WITHDRAWABLE TYPE VOLTAGE TRANSFORMERS

(Um=3,6kV.....36kV BLOCK TYPES)

Types:
VTB 10-KF1
VTB 20-KF1
VTB 30-KF1

INDOOR SINGLE PHASE CAST RESIN INSULATED BUILT IN FUSE WITHDRAWABLE TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....36kV BLOCK TYPES)



Technical Data							
Types	VTB 10-KF1		VTB 20-KF1		VTB 30-KF1		
Operating voltage, Um (kV)	3,6	7,2	12	17,5	17,5	24**	36**
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	38	50	70
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	95	125	170
Rated frequency (Hz)	50-60						
Rated primary voltage (max.) (kV)	12/√3		24/√3		36/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3	
Rated burden (max.) in class 0,2 (VA)	30		50		50		
Rated burden (max.) in class 0,5 (VA)	100		120		120		
Rated burden (max.) in class 1 (VA)	200		250		250		
Rated burden for protection purpose in class 3P (VA)	100						
Rated voltage factor (30 sec. or 8 h) (Un)	1,9						
Insulation class	E						
Ambient temperature (°C)	-25 +40*						
Altitude (m)	1000						
Standard	According to the customer requirements						
Weight (approx.) (kg)	30		40		55		

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.
** For more kV, please contact with ARTECHE for feasibility.

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2,5	3,5
M8 (Ground Terminal)	15	20

Types	A	B	C	D	E	F	G	H	I	J	K	L	M
VTB 10-KF1	355	155	492	260	299	290	336	25	148	148	125	270	20
VTB 20-KF1	355	155	575	318	361	290	420	25	178	178	150	280	20
VTB 30-KF1	395	175	688	364	421,5	320	513	75	210	210	180	300	15



NO	V.T. Types	Rated Currents (A)	Rated Voltage (Un)	ØA	B (mm)
1		0,63 Amper			
2	VTB 10-KF1 or KF2	1 Amper	7,2 kV	20	190
3	VTB 20-KF1 or KF2	2 Amper			
4		3,15 Amper			
5		0,63 Amper	12 kV	20	254
6	VTB 10-KF1 or KF2	1 Amper			
7	VTB 20-KF1 or KF2	2 Amper			
8		3,15 Amper	15,5 kV	20	254
9		0,63 Amper			
10	VTB 10-KF1 or KF2	1 Amper			
11	VTB 20-KF1 or KF2	2 Amper	25,5 kV	36	400
12		3,15 Amper			
13		0,5 Amper			
14	VTB 20-KF1 or KF2	1 Amper	25,5 kV	36	400
15	VTB 30-KF1 or KF2	2 Amper			
16		1 Amper	36 kV	36	400
17		2 Amper			

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



INDOOR SINGLE PHASE CAST RESIN INSULATED BUILT IN FUSE WITHDRAWABLE TYPE VOLTAGE TRANSFORMERS

(Um=3,6kV.....36kV BLOCK TYPES)

Types:

- VTB 10-KF2
- VTB 10-KFA2
- VTB 20-KF2
- VTB 30-KF2

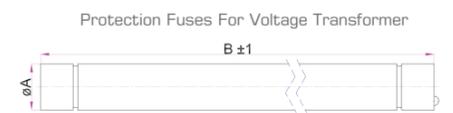
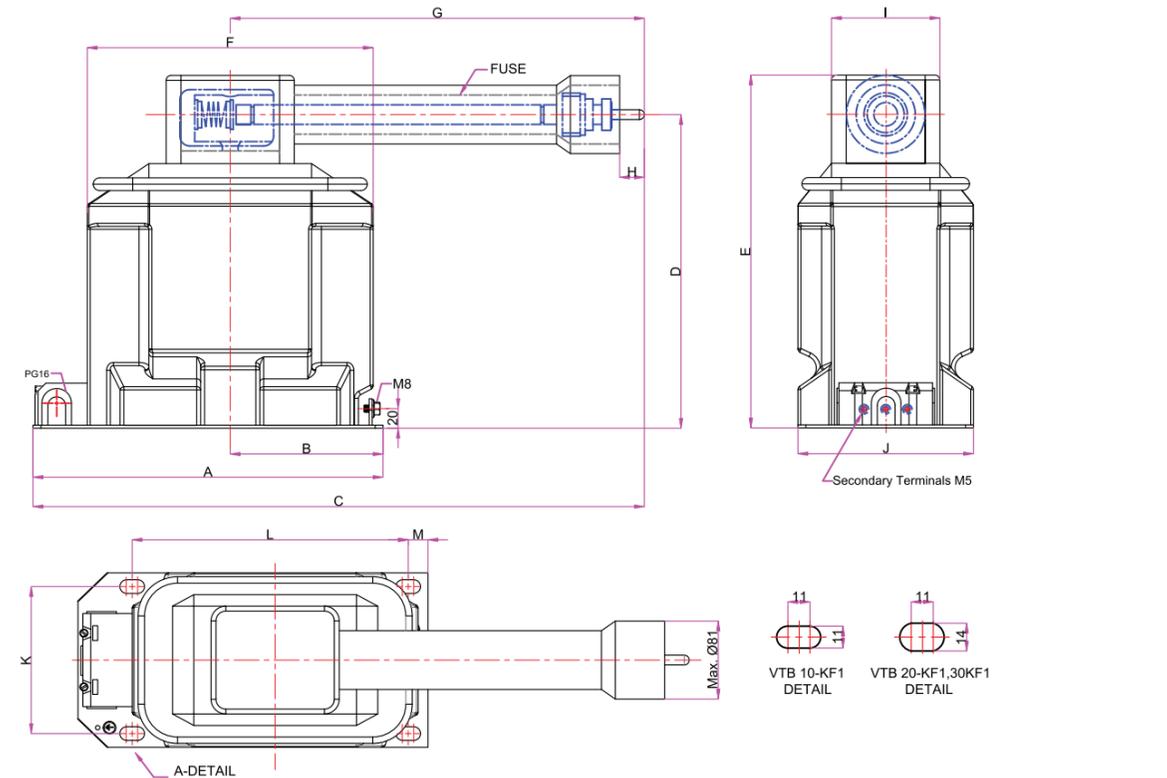
Technical Data

Types	VTB 10-KF2 / KFA2				VTB 20-KF2		VTB 30-KF2
Operating voltage, Um (kV)	3,6	7,2	12	17,5	17,5	24**	36**
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	38	50	70
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	95	125	170
Rated frequency (Hz)	50-60						
Rated primary voltage (max.) (kV)	12/√3				24/√3		36/√3
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3	
Rated burden (max.) in class 0,2 (VA)	30				50		50
Rated burden (max.) in class 0,5 (VA)	100				120		120
Rated burden (max.) in class 1 (VA)	200				250		250
Rated burden for protection purpose in class 3P (VA)	100						
Rated voltage factor (30 sec. or 8 h) (Un)	1,9						
Insulation class	E						
Ambient temperature (°C)	-25 +40*						
Altitude (m)	1000						
Standard	According to the customer requirements						
Weight (approx.) (kg)	30		40		55		

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.
 ** For more kV, please contact with ARTECHE for feasibility.

INDOOR SINGLE PHASE CAST RESIN INSULATED BUILT IN FUSE WITHDRAWABLE TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....36kV BLOCK TYPES)



TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2,5	3,5
M8 (Ground Terminal)	15	20

Types	A	B	C	D	E	F	G	H	I	J	K	L	M
VTB 10-KFA2	350	160	520	285	315	-	-	25	-	160	120	270	-
VTB 10-KF2	355	155	536	260	299	290	336	25	148	148	125	270	20
VTB 20-KF2	355	155	575	318	361	290	420	25	178	178	150	280	20
VTB 30-KF2	395	175	733	364	421,5	320	513	75	210	210	180	300	15

NO	V.T. Types	Rated Currents (A)	Rated Voltage (Un)	ØA	B (mm)
1		0,63 Amper			
2	VTB 10-KF1 or KF2	1 Amper	7,2 kV	20	190
3	VTB 20-KF1 or KF2	2 Amper			
4		3,15 Amper			
5		0,63 Amper	12 kV	20	254
6	VTB 10-KF1 or KF2	1 Amper			
7	VTB 20-KF1 or KF2	2 Amper			
8		3,15 Amper	25,5 kV	340	
9		0,63 Amper			
10	VTB 10-KF1 or KF2	1 Amper			
11	VTB 20-KF1 or KF2	2 Amper	36 kV	36	400
12		3,15 Amper			
13	VTB 20-KF1 or KF2	0,5 Amper			
14	VTB 30-KF1 or KF2	1 Amper			
15		2 Amper			
16	VTB 30-KF1 or KF2	1 Amper			
17		2 Amper			

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.



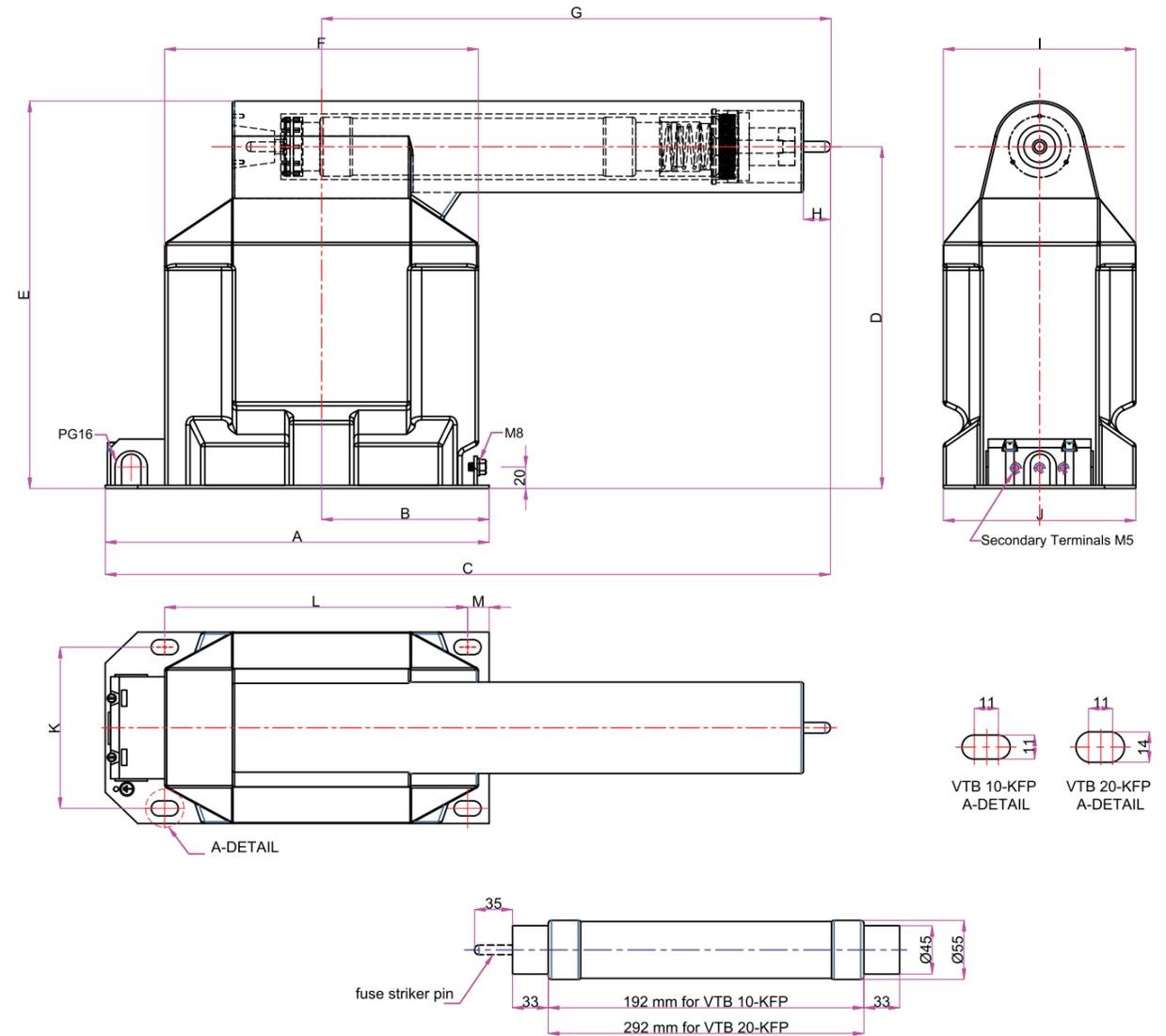
INDOOR SINGLE PHASE CAST RESIN INSULATED WITH STRIKER PIN SIGNALLING BUILT IN FUSE WITHDRAWABLE TYPE VOLTAGE TRANSFORMERS

(Um=3,6kV.....24kV BLOCK TYPES)

Types:
VTB 10-KFP
VTB 20-KFP

INDOOR SINGLE PHASE CAST RESIN INSULATED WITH STRIKER PIN SIGNALLING BUILT IN FUSE WITHDRAWABLE TYPE V.T.'S TECHNICAL DRAWING

(Um=3,6kV24kV BLOCK TYPES)



Technical Data						
Types	VTB 10-KFP			VTB 20-KFP		
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24	
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50	
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125	
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	12/√3			24/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3
Rated burden (max.) in class 0,2 (VA)	30			50		
Rated burden (max.) in class 0,5 (VA)	100			120		
Rated burden (max.) in class 1 (VA)	200			250		
Rated burden for protection purpose in class 3P (VA)	100					
Rated voltage factor (30 sec. or 8 h) (Un)	1,9					
Insulation class	E					
Ambient temperature (°C)	-25 +40*					
Altitude (m)	1000					
Standard	According to the customer requirements					
Weight (approx.) (kg)	32			42		

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

Types	A	B	C	D	E	F	G	H	I	J	K	L	M	TIGHTENING TORQUE (Nm)	min.	max.
VTB 10-KFP	355	155	560	260	302	290	360	25	148	148	125	270	20	M5 (Secondary Terminal)	2,5	3,5
VTB 20-KFP	355	155	671	318	361	290	471	25	178	178	150	270	20	M8 (Ground Terminal)	15	20

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



INDOOR SINGLE PHASE CAST RESIN INSULATED BUILT IN FUSE WITHDRAWABLE SPECIAL TYPE VOLTAGE TRANSFORMERS

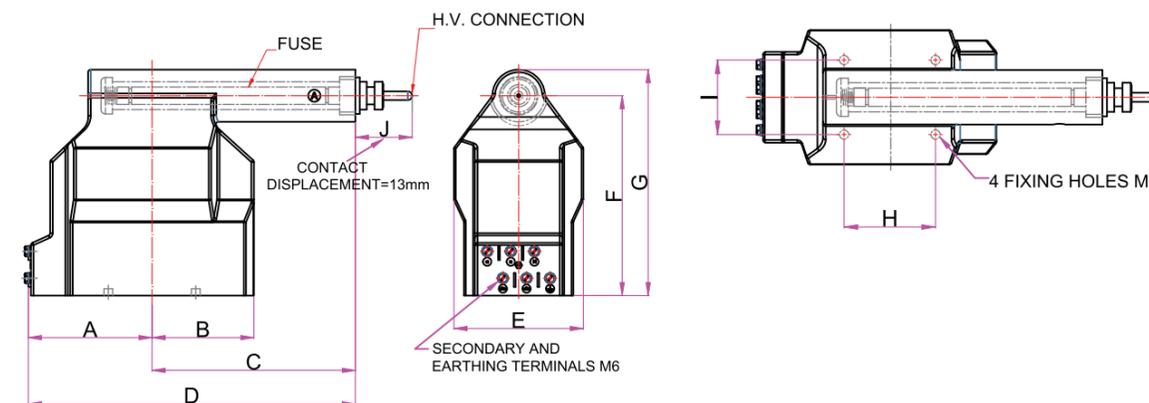
(Um=3,6kV.....24kV BLOCK TYPES)

Types:
ES 12 VR-F
ES 24 V2-F

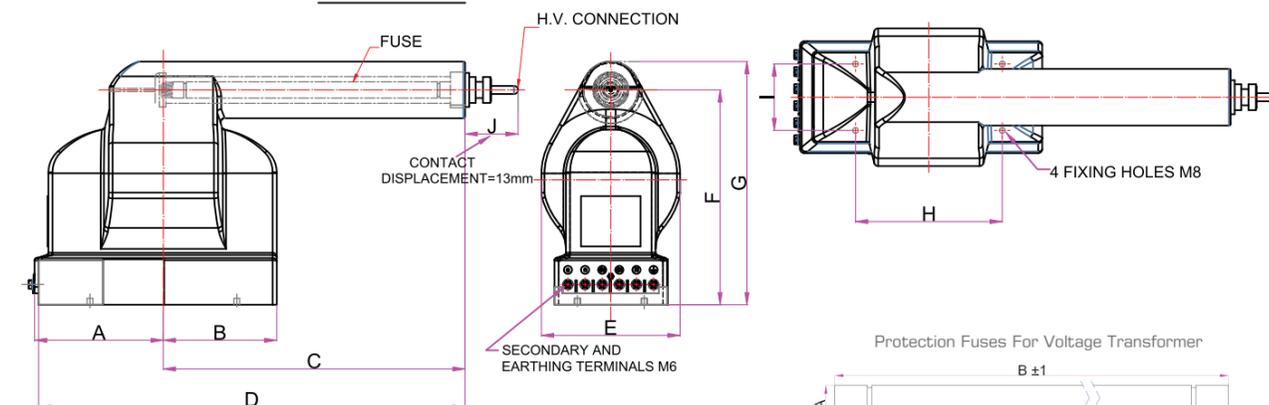
INDOOR SINGLE PHASE CAST RESIN INSULATED BUILT IN FUSE WITHDRAWABLE SPECIAL TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....24kV BLOCK TYPES)

ES 12 VR-F



ES 24 V2-F



Technical Data		Produced only in Indonesia Factory				
Types	ES 12 VR-F			ES 24 V2-F		
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24	
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50	
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125	
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	12/√3			24/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3
Rated burden (max.) in class 0,2 (VA)	20					
Rated burden (max.) in class 0,5 (VA)	60					
Rated burden (max.) in class 1 (VA)	120					
Rated burden for protection purpose in class 3P (VA)	60					
Rated voltage factor (30 sec. or 8h) (Un)	1,9					
Insulation class	E					
Ambient temperature (°C)	-25 +40*					
Altitude (m)	1000					
Standard	According to the customer requirements					
Weight (approx.) (kg)	21			29		

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.



NO	V.T. Types	Rated Currents (A)	Rated Voltage (Un)	øA	B (mm)
1		0,63 Amper			
2	ES 12 VR-F	1 Amper	7,2 kV	20	190
3	ES 24 V2-F	2 Amper			
4		3,15 Amper			
5		0,63 Amper	12 kV	20	254
6	ES 12 VR-F	1 Amper			
7	ES 24 V2-F	2 Amper			
8		3,15 Amper			
9		0,63 Amper	15,5 - 17,5 kV	20	254
10	ES 12 VR-F	1 Amper			
11	ES 24 V2-F	2 Amper			
12		3,15 Amper			
13		0,5 Amper	24-25.5 kV	20	340
14	ES 24 V2-F	1 Amper			
15		2 Amper			

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	4

Types	A	B	C	D	E	F	G	H	I	J
ES 12 VR-F	141,5	116,5	232,5	374	148	230	260	100	82	65
ES 24 V2-F	158	139	370	528	170	265	300	180	82	65

- All dimensions are in mm.
- Tolerances are according to DIN 7168-g when not specified.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



INDOOR SINGLE PHASE CAST RESIN INSULATED BUILT IN FUSE FIXED TYPE VOLTAGE TRANSFORMERS

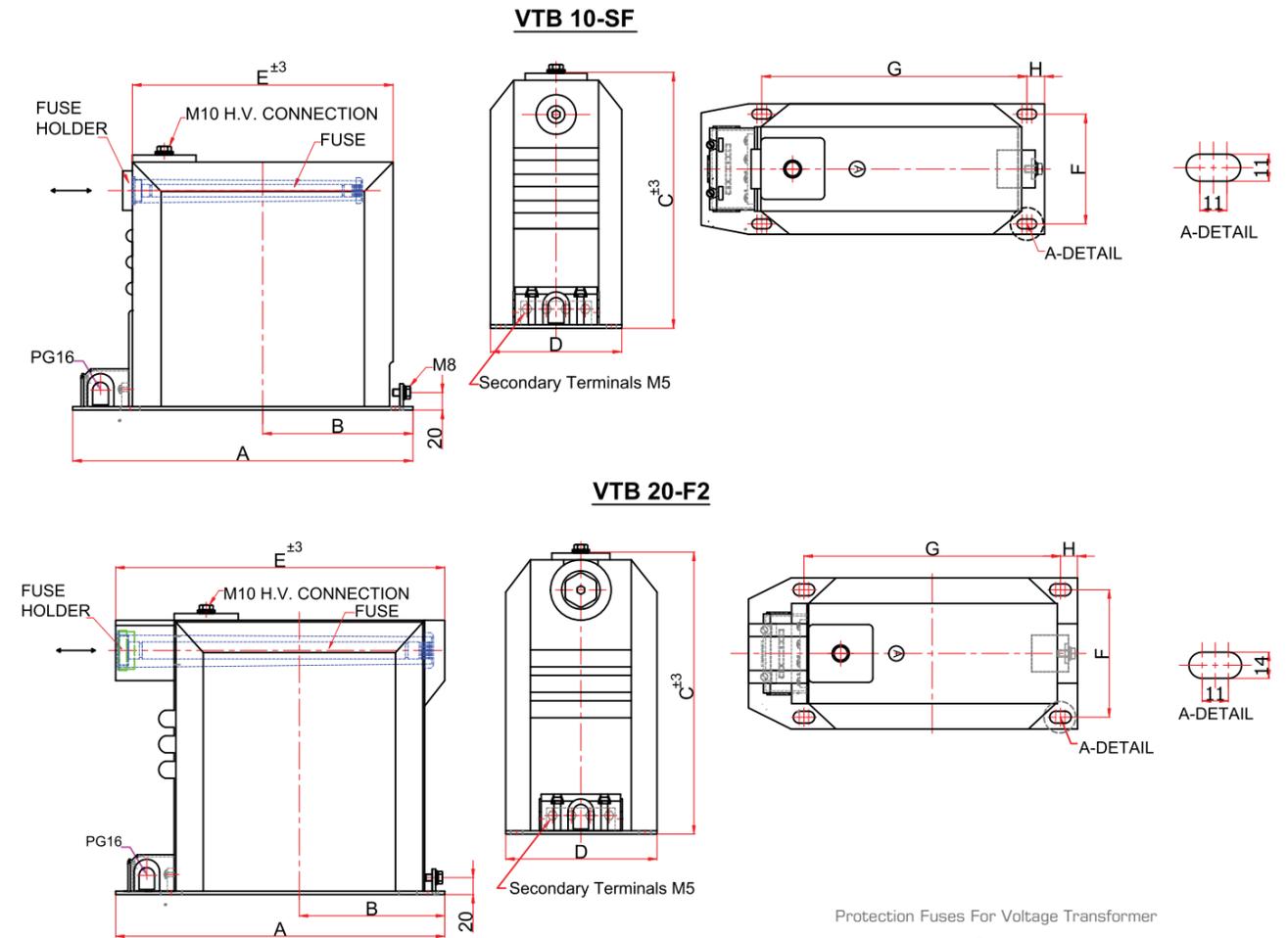
(Um=3,6kV.....24kV)

Types:
VTB 10-SF
VTB 20-F2

Technical Data		Produced only in Indonesia Factory				
Types	VTB 10-SF			VTB 20-F2		
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24	
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50	
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125	
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	12/√3			24/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3
Rated burden (max.) in class 0,2 (VA)	30			60	50	
Rated burden (max.) in class 0,5 (VA)	100			180	120	
Rated burden (max.) in class 1 (VA)	200			300	250	
Rated burden for protection purpose in class 3P (VA)	100					
Rated voltage factor (30 sec. or 8h) (Un)	1,9					
Insulation class	E					
Ambient temperature (°C)	-25 +40*					
Altitude (m)	1000					
Standard	According to the customer requirements					
Weight (approx.) (kg)	34			45		

INDOOR SINGLE PHASE CAST RESIN INSULATED BUILT IN FUSE FIXED TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....24kV)



TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2,5	3,5
M8 (Ground Terminal)	15	20
M10 (Primary Terminal)	30	40

Types	A	B	C	D	E	F	G	H
VTB 10-SF	385	170	290	148	291	125	300	20
VTB 20-F2	385	170	365	178	385	150	300	20

Protection Fuses For Voltage Transformer

NO	V.T. Types	Rated Currents (A)	Rated Voltage (Un)	øA	B (mm)
1		0,63 Amper			
2	VTB 10-SF	1 Amper	7,2 kV	20	190
3	VTB 20-F2	2 Amper			
4		3,15 Amper			
5		0,63 Amper	12 kV	20	254
6	VTB 10-SF	1 Amper			
7	VTB 20-F2	2 Amper			
8		3,15 Amper	15,5- 17,5 kV	20	254
9		0,63 Amper			
10	VTB 10-SF	1 Amper			
11	VTB 20-F2	2 Amper	24-25,5 kV	340	340
12		3,15 Amper			
13		0,5 Amper			
14	VTB 20-F2	1 Amper			
15		2 Amper			

- All dimensions are in mm.
 - Tolerances are according to DIN 7168-g when not specified.
 - Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.



INDOOR SINGLE PHASE CAST RESIN INSULATED BUILT IN FUSE WITHDRAWABLE TYPE VOLTAGE TRANSFORMERS

(Um=36 kV)

Types:
VTB 30-F1
VTB 30-F1B

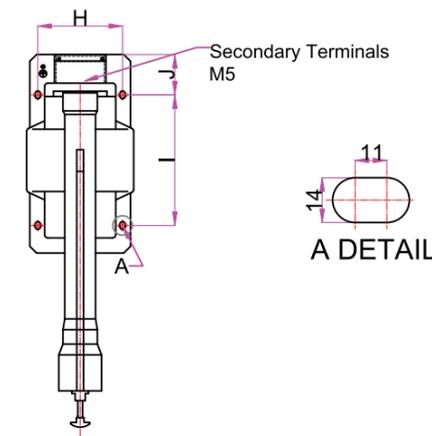
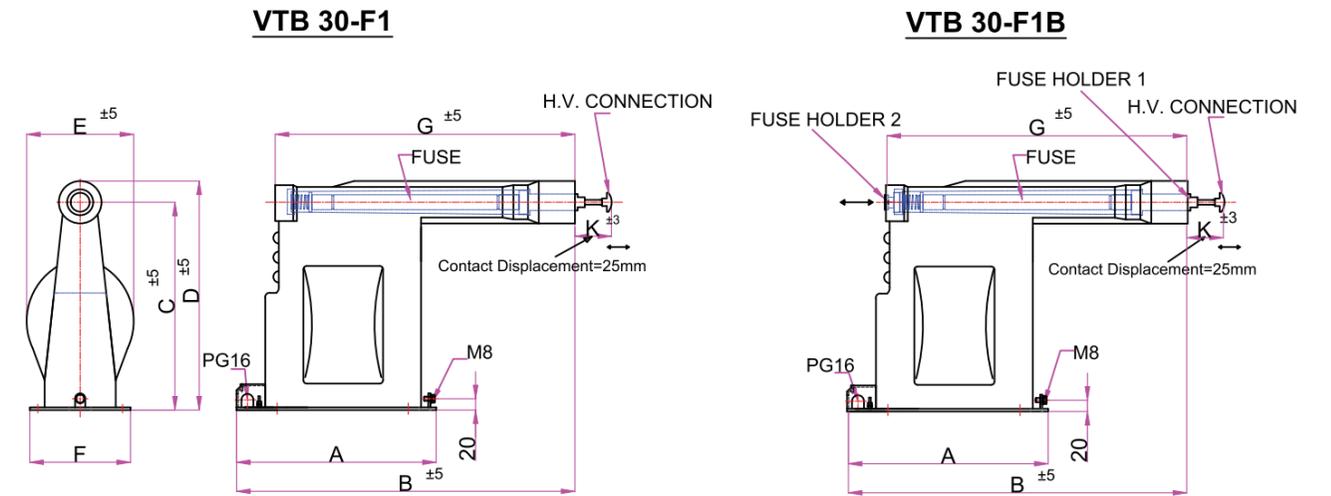
Technical Data

Types	VTB 30-F1	VTB 30-F1B
Operating voltage, Um (kV)	36**	
Rated power-frequency withstand voltage (1 minute) (kV)	70	
Rated impulse test voltage (1.2/50 μs) full wave (kV)	170	
Rated frequency (Hz)	50-60	
Rated primary voltage (max.) (kV)	36/√3	
Secondary voltage (V)	100/√3 110/√3 120/√3	100/3 110/3 120/3
Rated burden (max.) in class 0,2 (VA)	30	
Rated burden (max.) in class 0,5 (VA)	150	
Rated burden (max.) in class 1 (VA)	250	
Rated burden for protection purpose in class 3P (VA)	100	
Rated voltage factor (30 sec. or 8h) (Un)	1,9	
Insulation class	E	
Ambient temperature (°C)	-25 +40*	
Altitude (m)	1000	
Standard	According to the customer requirements	
Weight (approx.) (kg)	70	

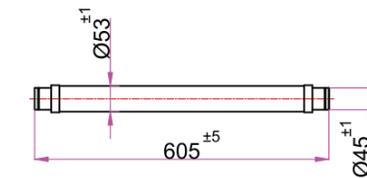
* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.
** For more kV, please contact with ARTECHE for feasibility.

INDOOR SINGLE PHASE CAST RESIN INSULATED BUILT IN FUSE WITHDRAWABLE TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=36kV)



PROTECTION FUSES FOR VOLTAGE TRANSFORMER



Rated Voltage = 36kV
Rated Current = 2A

Types	A	B	C	D	E	F	G	H	I	J	K
VTB 30-F1	450	890	455	510	240	220	805	190	240	90	75
VTB 30-F1B	450	890	455	510	240	220	805	190	240	90	75

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2,5	3,5
M8 (Ground Terminal)	15	20

- All dimensions are in mm.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



OUTDOOR DRY TYPE SINGLE PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS
(Um=3,6kV.....36kV)

Types:
VTH 20
VTH 30



Clamp type terminal for high voltage connection.

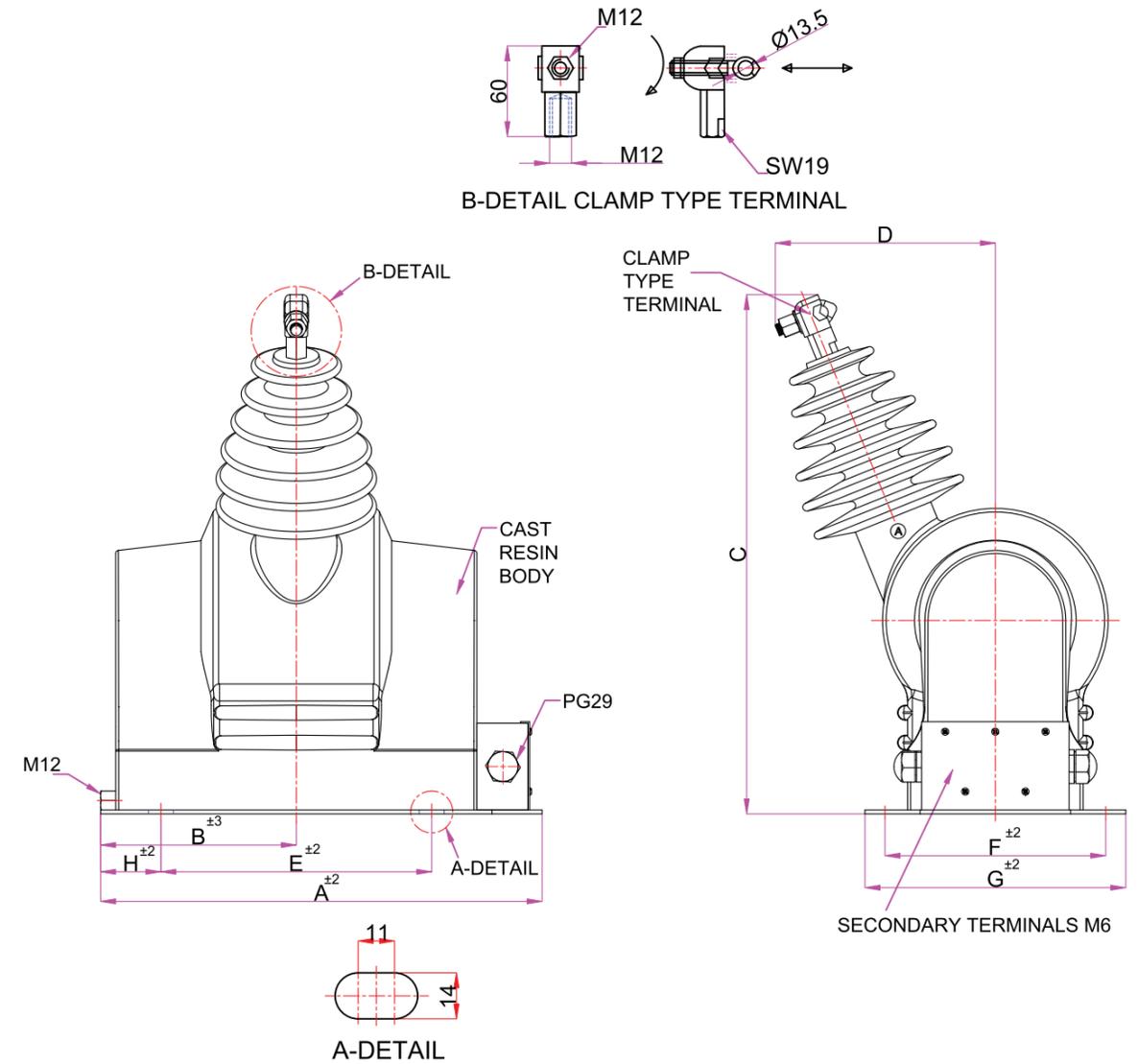
Technical Data

Types	VTH 20					VTH 30
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24*	36*
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50	70
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125	170
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	24/√3					36/√3
Secondary voltage (V)	100/√3	110/√3	120/√3	& suitable for 220V winding.		
Rated burden (max.) in class 0,2 (VA)	40					50
Rated burden (max.) in class 0,5 (VA)	120					150
Rated burden (max.) in class 1 (VA)	250					250
Rated burden for protection purpose in class 3P (VA)	100					
Rated burden for 220V winding (VA)	800					
Rated voltage factor (30sec. or 8h) (Un)	1,9					
Short time load (mechanical) (N)	3750					
Insulation Class	E					
Min. creepage distance (mm)	820					1220
Altitude (m)	According to the customer requirements					
Standard	According to the customer requirements					
Weight (approx.) (kg)	50					65

* For more kV, please contact with ARTECHE for feasibility.

OUTDOOR DRY TYPE SINGLE PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....36kV)



Types	A	B	C	D	E	F	G	H
VTH 20	440	195	535 ^{±5}	235 ^{±5}	270	220	260	60
VTH 30	450	200	max.625	max.295	270	190	220	70

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	5
M12 (Primary&Ground Terminal)	60	70

- All dimensions are in mm.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



OUTDOOR DRY TYPE SINGLE PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS

(Um=3,6kV.....36kV)

Types:
VTH 20-N
VTH 30-N



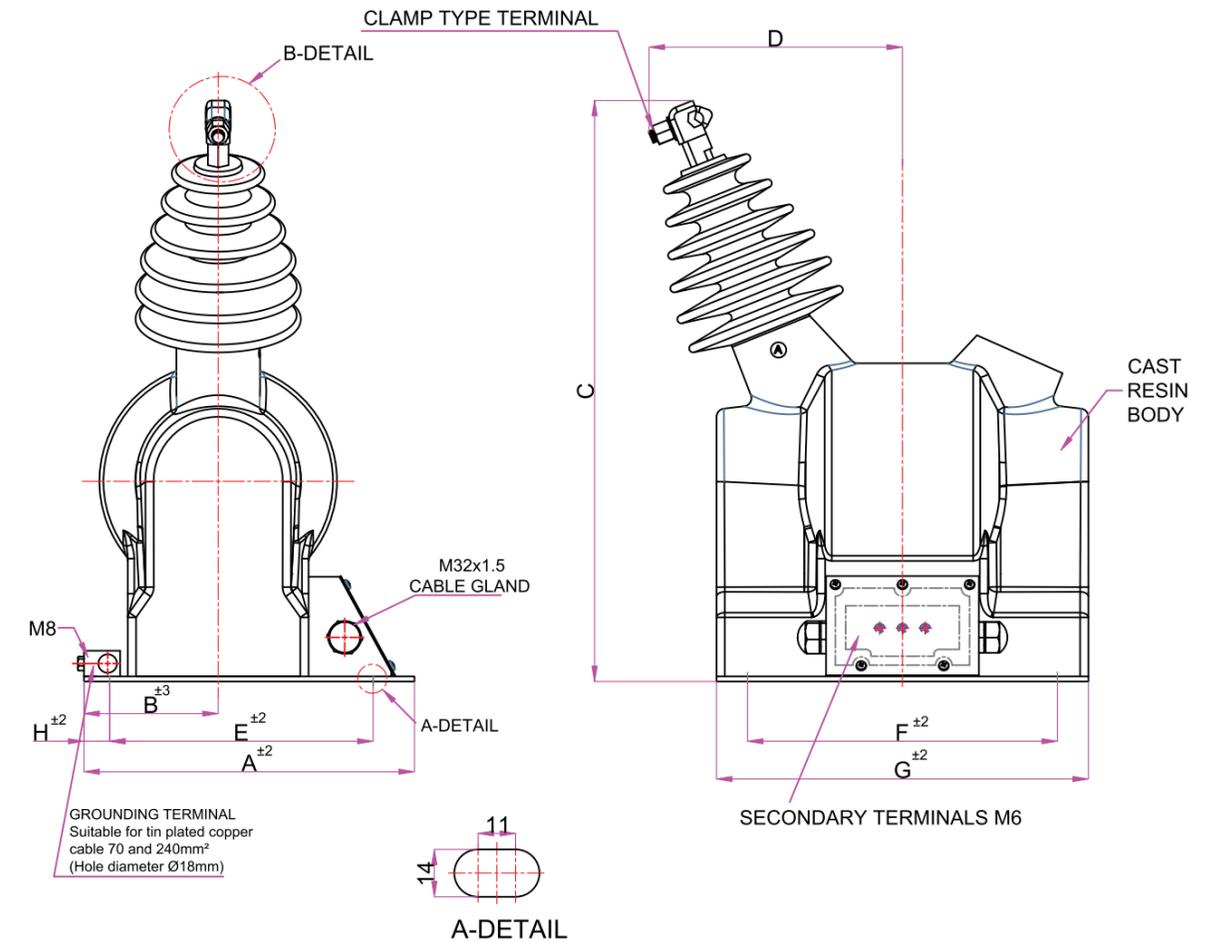
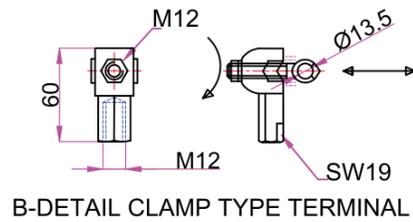
Clamp type terminal for high voltage connection.

Technical Data						
Types	VTH 20-N					VTH 30-N
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24*	36*
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50	70
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125	170
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	24/√3					36/√3
Secondary voltage (V)	100/√3	110/√3	120/√3	& suitable for 220V winding.		
Rated burden (max.) in class 0,2 (VA)	40					50
Rated burden (max.) in class 0,5 (VA)	120					150
Rated burden (max.) in class 1 (VA)	250					250
Rated burden for protection purpose in class 3P (VA)	100					
Rated burden for 220V winding (VA)	800					
Rated voltage factor (30sec. or 8h) (Un)	1,9					
Short time load (mechanical) (N)	3750					
Insulation Class	E					
Min. creepage distance (mm)	820					1220
Altitude (m)	According to the customer requirements					
Standard	According to the customer requirements					
Weight (approx.) (kg)	55					65

* For more kV, please contact with ARTECHE for feasibility.

OUTDOOR DRY TYPE SINGLE PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....36kV)



Types	A	B	C	D	E	F	G	H
VTH 20-N	320	130	max.585	max.255	255	300	360	20
VTH 30-N	315	135	max.660	max.275	255	300	360	30

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	5

- All dimensions are in mm.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



OUTDOOR DRY TYPE SINGLE PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS

(Um=52kV)

Types:
VTH 52-N



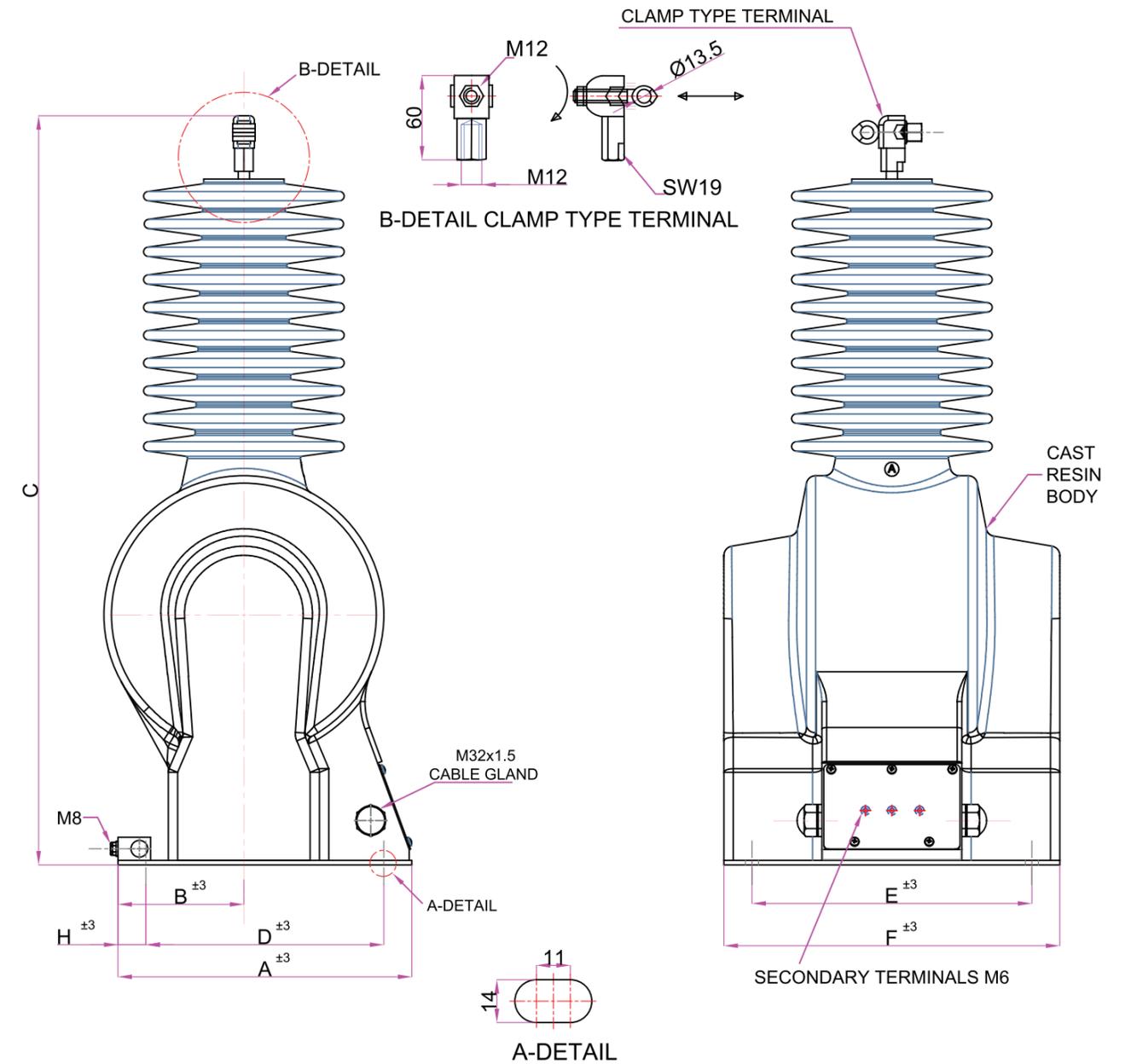
Clamp type terminal for high voltage connection.

Technical Data

Types	VTH 52-N			
Operating voltage, Um (kV)	52			
Rated power-frequency withstand voltage (1 minute) (kV)	95			
Rated impulse test voltage (1.2/50 μs) full wave (kV)	250			
Rated frequency (Hz)	50-60			
Rated primary voltage (max.) (kV)	46/√3			
Secondary voltage (V)	100/√3	110/√3	120/√3	& suitable for 220V winding.
Rated burden (max.) in class 0,2 (VA)	50			
Rated burden (max.) in class 0,5 (VA)	150			
Rated burden (max.) in class 1 (VA)	250			
Rated burden for protection purpose in class 3P (VA)	100			
Rated burden for 220V winding (VA)	800			
Rated voltage factor (30sec. or 8h) (Un)	1,9			
Short time load (mechanical) (N)	3750			
Insulation Class	E			
Min. creepage distance (mm)	1650			
Altitude (m)	According to the customer requirements			
Standard	According to the customer requirements			
Weight (approx.) (kg)	90			

OUTDOOR DRY TYPE SINGLE PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=52kV)



Types	A	B	C	D	E	F	G	TIGHTENING TORQUE (Nm)	min.	max.
VTH 20-N	315	135	max.820	255	300	360	30	M6 (Secondary Terminal)	3	5

- All dimensions are in mm.
 - Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
 - Customer designed products are also available.



OUTDOOR DRY TYPE PHASE TO PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS

(Um=3,6kV.....36kV)

Types:
2VTH 20
2VTH 30

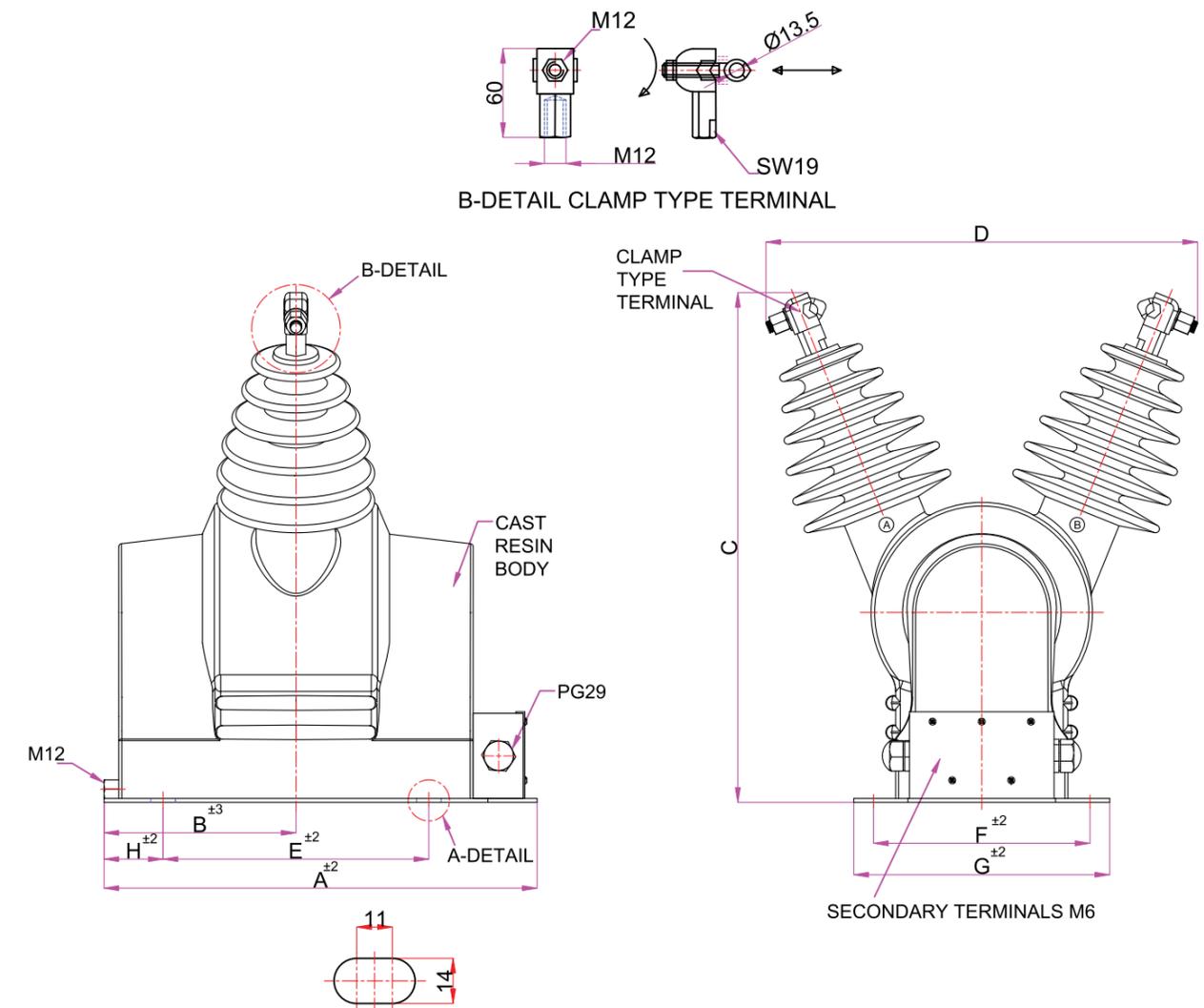


Clamp type terminal for high voltage connection.

Technical Data		Produced only in Indonesia Factory				
Types	2VTH 20					2VTH 30
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24	36
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50	70
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125	170
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	24					36
Secondary voltage (V)	100, 110, 120 & suitable for 220V winding.					
Rated burden (max.) in class 0,2 (VA)	30					40
Rated burden (max.) in class 0,5 (VA)	100					120
Rated burden (max.) in class 1 (VA)	200					200
Rated burden for 220V winding (VA)	800					
Rated voltage factor (30sec. or 8h) (Un)	1,2					
Short time load (mechanical) (N)	3750					
Min. creepage distance (mm)	820					1220
Altitude (m)	According to the customer requirements					
Standard	According to the customer requirements					
Weight (approx.) (kg)	60					70

OUTDOOR DRY TYPE PHASE TO PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....36kV)



Types	A	B	C	D	E	F	G	H
2VTH 20	440	195	535 ⁺⁵	460 ⁺⁵	270	20	260	60
2VTH 30	450	200	max.625	max.580	270	190	220	70

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	5
M12 (Primary and Ground Terminal)	60	70

- All dimensions are in mm.
- Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



OUTDOOR DRY TYPE PHASE TO PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS

(Um=3,6kV.....36kV)

Types:
2VTH 20-N
2VTH 30-N



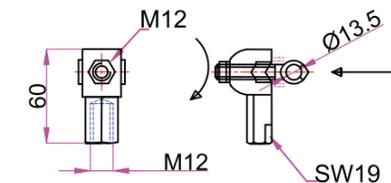
Clamp type terminal for high voltage connection.

Technical Data

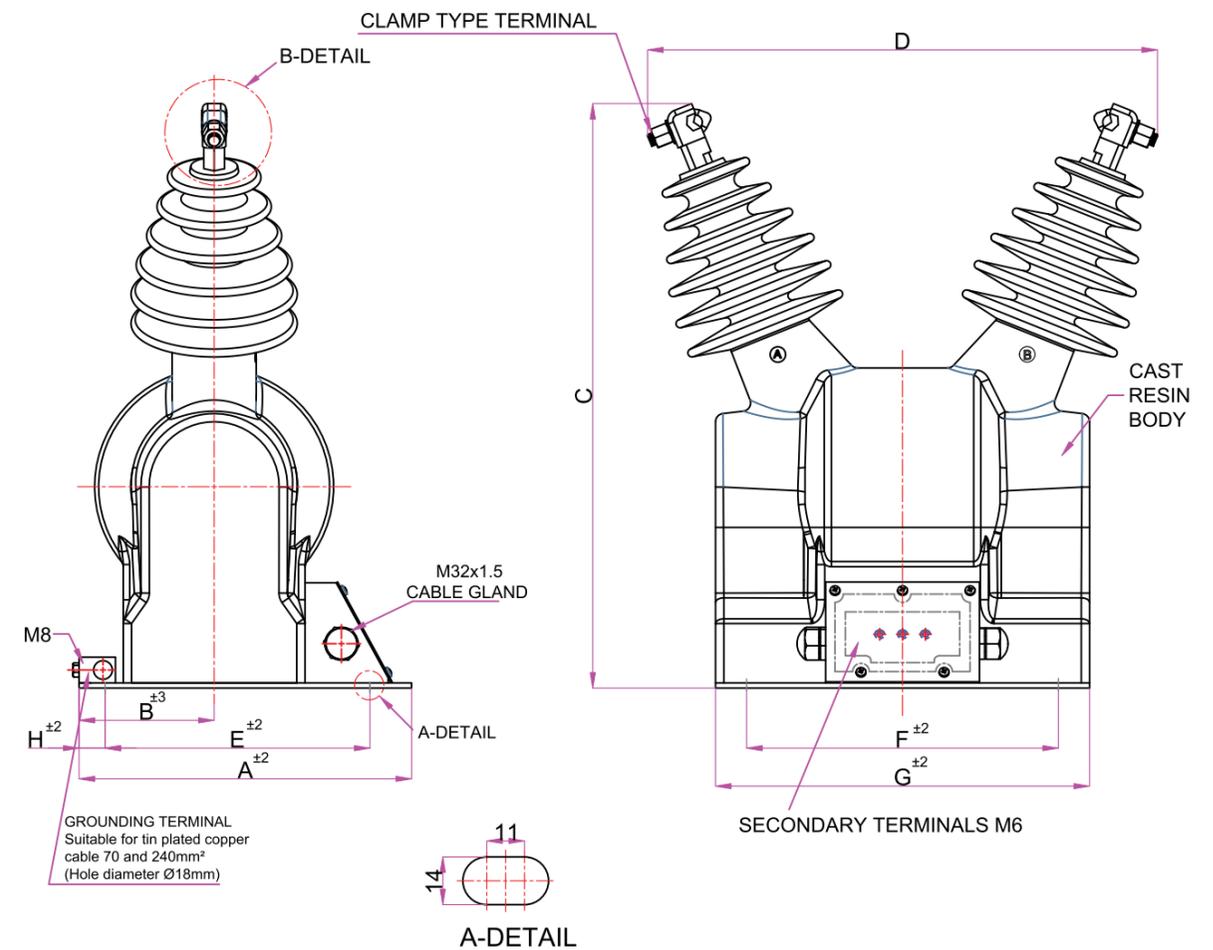
Types	2VTH 20-N					2VTH 30-N
Operating voltage, Um (kV)	3,6	7,2	12	17,5	24	36
Rated power-frequency withstand voltage (1 minute) (kV)	10	20	28	38	50	70
Rated impulse test voltage (1.2/50 μs) full wave (kV)	40	60	75	95	125	170
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	24					36
Secondary voltage (V)	100, 110, 120 & suitable for 220V winding.					
Rated burden (max.) in class 0,2 (VA)	30					40
Rated burden (max.) in class 0,5 (VA)	100					120
Rated burden (max.) in class 1 (VA)	200					200
Rated burden for 220V winding (VA)	800					
Rated voltage factor (30sec. or 8h) (Un)	1,2					
Short time load (mechanical) (N)	3750					
Insulation Class	E					
Min. creepage distance (mm)	820					1220
Altitude (m)	According to the customer requirements					
Standard	According to the customer requirements					
Weight (approx.) (kg)	67					86

OUTDOOR DRY TYPE PHASE TO PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=3,6kV.....36kV)



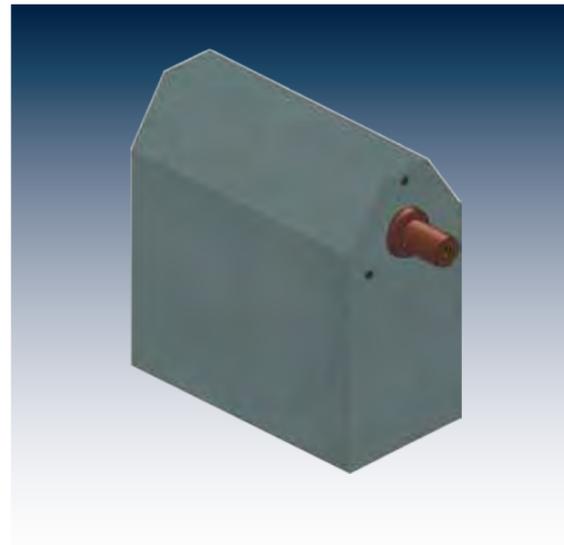
B-DETAIL CLAMP TYPE TERMINAL



Types	A	B	C	D	E	F	G	H
2VTH 20-N	320	130	max.585	max.510	255	300	360	20
2VTH 30-N	315	135	max.660	max.550	255	300	360	30

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	5

- All dimensions are in mm.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



INDOOR SINGLE PHASE METAL HOUSING BUSHING TYPE VOLTAGE TRANSFORMERS

(Um=12kV 36kV)

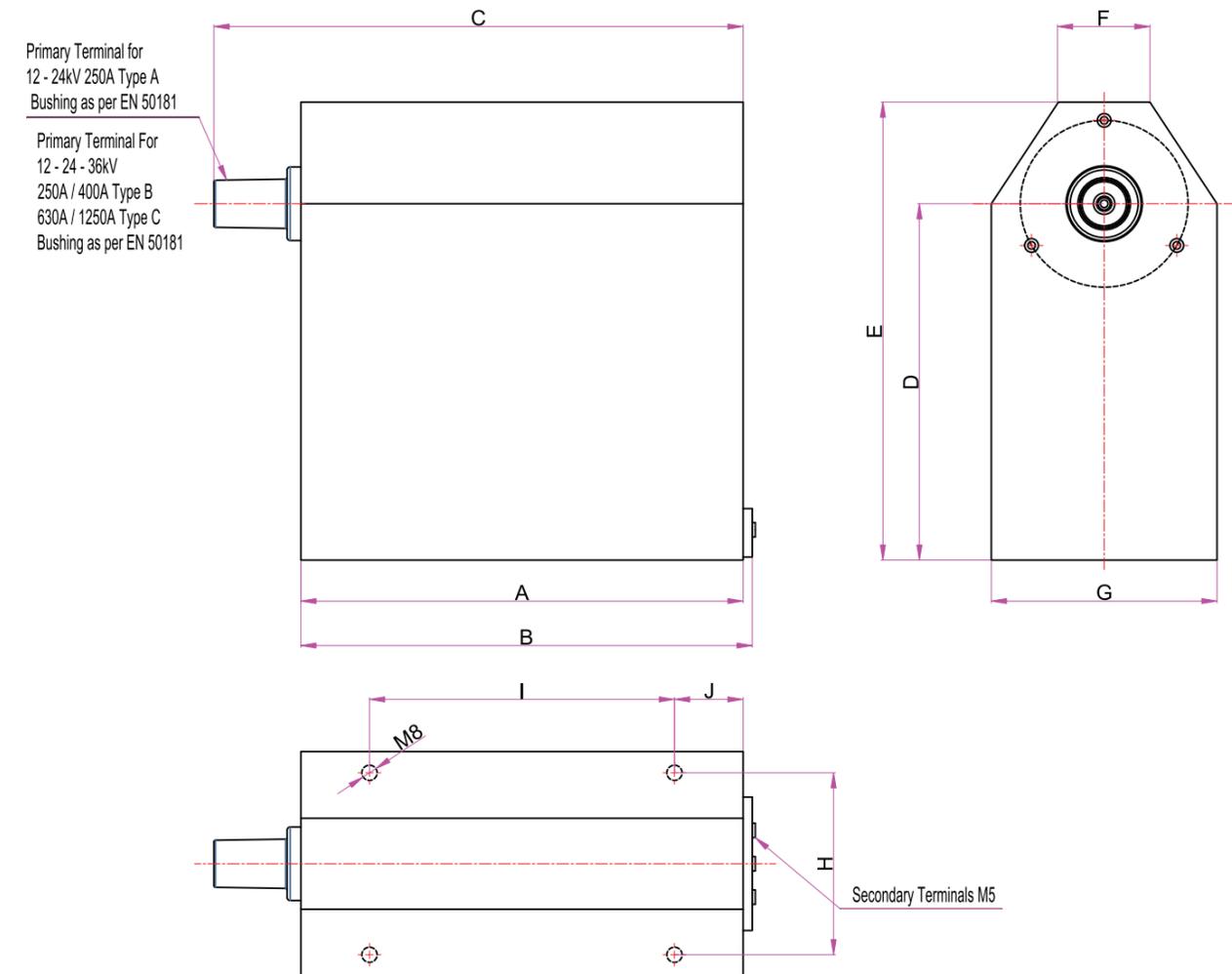
V V MVT 10B
MVT 30B

Technical Data						
Types	MVT 10B			MVT 30B		
Operating voltage, Um (kV)	12			17,5	24	36
Rated power-frequency withstand voltage (1 minute) (kV)	28			38	50	70
Rated impulse test voltage (1.2/50 μs) full wave (kV)	75			95	125	170
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	12/√3			36/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3
Rated burden (max.) in class 0,2 (VA)	10			10	10	10
Rated burden (max.) in class 0,5 (VA)	30			30	30	30
Rated burden (max.) in class 1 (VA)	60			60	60	60
Rated burden for 220V winding (VA)	50 (1th 2A)			50	50	50 (1th 4A)
Rated voltage factor (30sec. or 8h) (Un)	1,9					
Insulation Class	E					
Min. creepage distance (mm)	-25.....+40*					
Altitude (m)	1000					
Standard	According to the customer requirements					
Weight (approx.) (kg)	30			45		

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR SINGLE PHASE METAL HOUSING BUSHING TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=12kV 36kV)



Types	A	B	C	D	E	F	G	H	I	J
MVT 10B	290	296	347	235	302	60	148	120	200	45
MVT 30B	370	376	482	-	306,5	95	185	150	250	60

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2.5	3.5

- All dimensions are in mm.
- Artech reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



INDOOR SINGLE PHASE METALISED BUSHING TYPE VOLTAGE TRANSFORMERS

(Um=12kV 36kV)

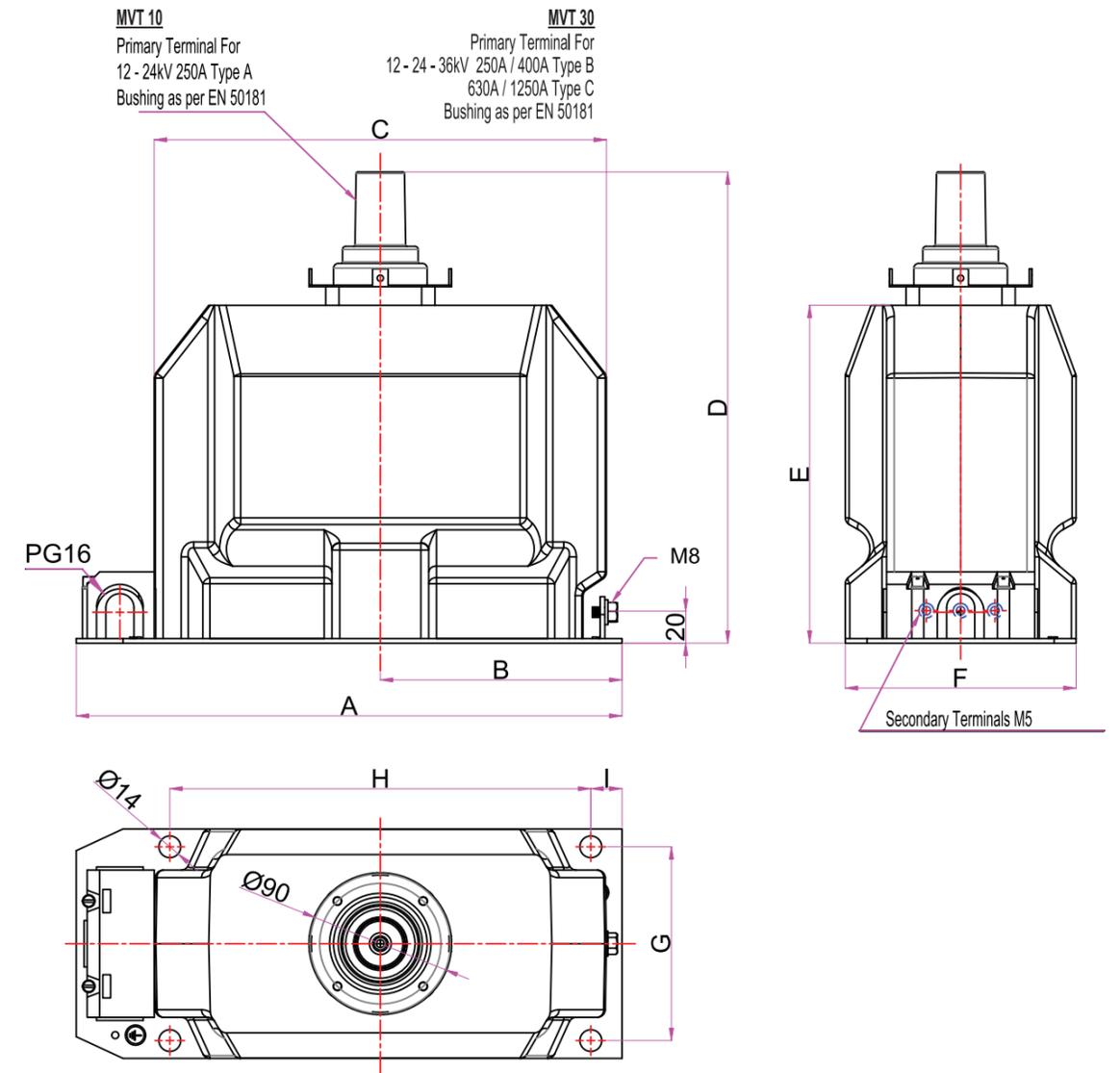
Types:
MVT 10
MVT 30

Technical Data						
Types	MVT 10			MVT 30		
Operating voltage, Um (kV)	12			17,5	24	36
Rated power-frequency withstand voltage (1 minute) (kV)	28			38	50	70
Rated impulse test voltage (1.2/50 μs) full wave (kV)	75			95	125	170
Rated frequency (Hz)	50-60					
Rated primary voltage (max.) (kV)	12/√3			36/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3	100/3	110/3	120/3
Rated burden (max.) in class 0,2 (VA)	10			10	10	10
Rated burden (max.) in class 0,5 (VA)	30			30	30	30
Rated burden (max.) in class 1 (VA)	60			60	60	60
Rated burden for 220V winding (VA)	50 (1th 2A)			50	50	50 (1th 4A)
Rated voltage factor (30sec. or 8h) (Un)	1,9					
Insulation Class	E					
Min. creepage distance (mm)	-25.....+40*					
Altitude (m)	1000					
Standard	According to the customer requirements					
Weight (approx.) (kg)	30			45		

* It can be produced according to customer's specified ambient temperature. Please contact with ARTECHE for feasibility.

INDOOR SINGLE PHASE METALISED BUSHING TYPE VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um=12kV 36kV)



Types	A	B	C	D	E	F	G	H	I
MVT 10	350	155	290	304	218	148	125	270	20
MVT 30	430	195	370	429	290	185	150	300	45

TIGHTENING TORQUE (Nm)	min.	max.
M5 (Secondary Terminal)	2,5	3,5
M8 (Ground Terminal)	15	20

- All dimensions are in mm.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.



OUTDOOR DRY TYPE SINGLE PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS

(Um=72,5kV)

Types:
VTH 72-N

Technical Data

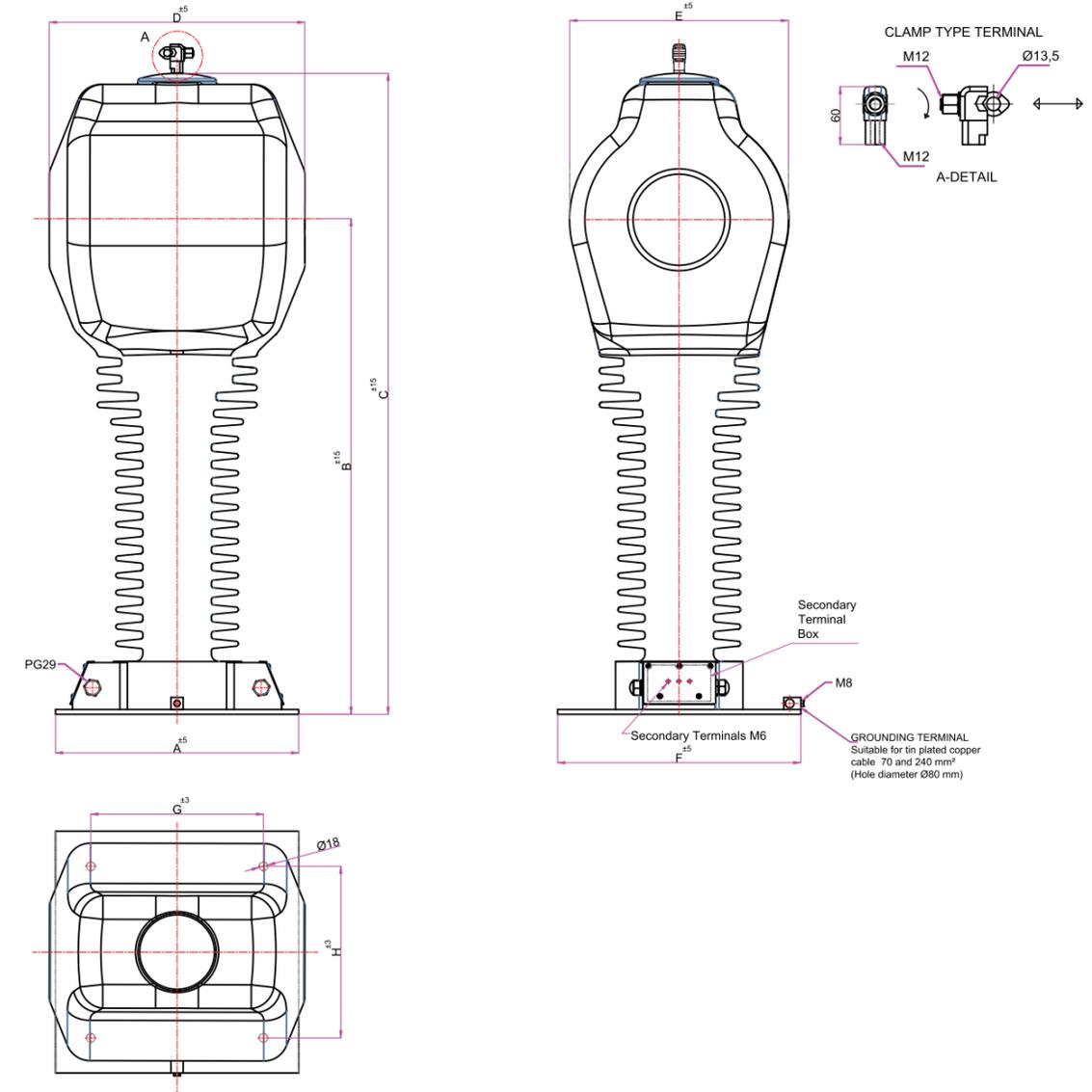
Types	VTH 72-N		
Operating voltage, Um (kV)	72,5		
Rated power-frequency withstand voltage (1 minute) (kV)	140		
Rated impulse test voltage (1.2/50 μs) full wave (kV)	325		
Rated frequency (Hz)	50-60		
Rated primary voltage (max.) (kV)	66/√3		
Secondary voltage (V)	100/√3	110/√3	120/√3
Rated burden (max.) in class 0,2 (VA)	50		
Rated burden (max.) in class 0,5 (VA)	150		
Rated burden (max.) in class 1 (VA)	300		
Rated burden for protection purpose in class 3p (VA)	100		
Rated voltage factor (30sec. or 8h) (Un)	1,9		
Insulation Class	E		
Min. creepage distance (mm)	2500		
Altitude (m)	According to the customer requirements		
Standard	According to the customer requirements		
Weight (approx.) (kg)	300		

* For more cores please contact with ARTECHE for feasibility.

OUTDOOR DRY TYPE SINGLE PHASE CAST RESIN INSULATED VOLTAGE TRANSFORMERS TECHNICAL DRAWING

(Um= 72,5kV)

VTH 72-N



Types	A	B	C	D	E	F	G	H
VTH 72-N	500	1025	1325	525	450	500	355	355

TIGHTENING TORQUE (Nm)	min.	max.
M6 (Secondary Terminal)	3	5
M12 (Primary and Ground Terminal)	60	70

- All dimensions are in mm.
- Arteche reserves the right to change the specifications and the dimensions of the goods. Please ask for updated information.
- Customer designed products are also available.

INSULATORS



INSULATORS

Insulators are insulating and supporting components of the power transmission lines and busbars (distribution centers, switchgears) where they are fixed.

Insulators are intended to be used for 2 reason:

- Separating conductors from the earth in regards to electricity
- Supporting the weight of conductors and additional loads

Arteche Insulators are epoxy cast resin insulated with internal metal fittings.

The insulators are particularly suitable to be used as single support or voltage control.

Arteche MV Insulators are designed for indoor-indoor and outdoor-indoor applications (from 3,6kV to 36kV):

- Bushing Insulators
- Post Insulators
- Capacitive Insulators(voltage divider)

Post insulators for indoor installation

General characteristics

Epoxy resin post insulators, for indoor application, with internal metal fitting. These insulators are particularly suitable to be used as single supports for conductors, for fuses and for other equipment (as switchgears).

Application

For indoor installation with working condition at T° max. 85 °C.

Service voltage

Up to 36 kV (40,5 kV available on request)

Routine Tests

Visual inspection
Testing of conductive connection of fixing inserts for post insulators
Dry power-frequency withstand voltage
Partial discharge extinction voltage test

Standards

IEC 60273 (CEI 36/12) - CENELEC HD 578 S1
IEC 60660

General characteristics

Epoxy resin post insulators with capacitive divider for the reading of the voltage. Manufactured with internal metal fitting, they can be equipped with couplings and low voltage light signal box. These insulators are mainly suitable to be used as insulated supports of equipment, bus bar or fuses.

Application

Max working temperature of 85 °C.

Routine Tests

Visual inspection
Testing of conductive connection of fixing inserts for post insulators
Dry power-frequency withstand voltage
Partial discharge extinction voltage test (connected to the voltage indicator)

Service voltage

Up to 36 kV (40,5 available on request)

Standards

IEC 60660

Bushing Insulators for indoor-indoor / outdoor-indoor

General characteristics

12 - 36 kV epoxy resin bushing insulators. The insulators can be fitted with copper bars designed from 250 up to 1250 A. They are equipped with internal metal fittings for installation on the relevant frame and with brass nuts and washers for fastening of phase connectors.

Application

Indoor/outdoor installation at max working temperature of 85 °C.

Service voltage

Up to 36 kV.

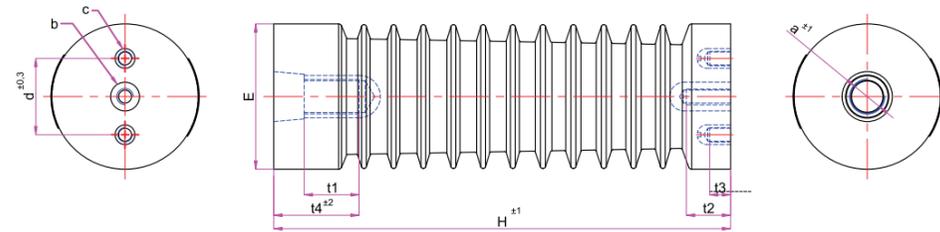
Routine Tests

Visual inspection
Dry power-frequency withstand voltage
Measurement of partial discharge quantity

Standards

IEC 60137

INDOOR POST INSULATORS UP TO 36kV



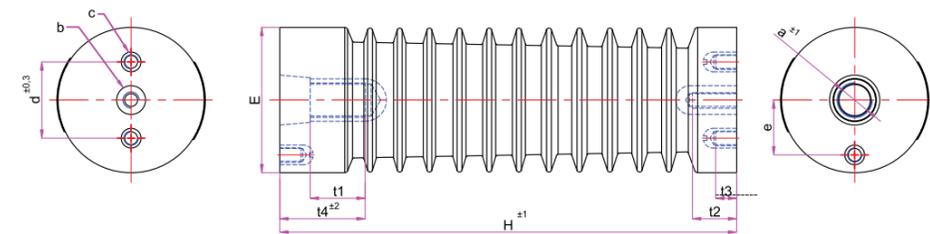
Material Type: Epoxy Resin

According to IEC 60273 (1990), IEC 60660 (1999)

TYPES	Um (kV)	Power-frequency withstand voltage, dry (kV)	Falling load bending (N)	Weight app. (kg)	Dimensions (mm)										Min. Creepage Distance (mm)	Number of ribs
					a	b	c	d	E	H	t1	t2	t3	t4		
J04-75 (10N500)	12	38	4000	0,60	M16	M12	M6	36	Ø61	130	25	18	10	37	170	5
J010-125 (20N1000)	12/24	38/50	10000	0,97	M20	M16	M10	46	Ø86	210	27	24	12	42	210	8
J010-125 (20N1000 EGY)	24	50	8000	1,80	M16	M10	M6	36	Ø90	210	45	40	16	63	440	9
J010-75 (10N1000)	12	38	10000	0,85	M20	M16	M10	46	Ø72	130	27	24	12	42	190	5
J010-75 (10N1000 EGY)	12	38	5000	0,75	M16	M10	M6	36	Ø71	130	40	20	10	50	240	7
J04-95 (15N500)	17,5	50	4000	0,95	M16	M12	M6	36	Ø70	175	25	18	10	40	250	6
J010-95(15N1000)	17,5	50	10000	1,7	M20	M16	M10	46	Ø90	175	27	24	12	42	270	6
J04-125 (20N500)	24	50	4000	1,30	M16	M12	M6	36	Ø75	210	25	18	10	40	320	8
J010-125 (20N1000)	24	50	7500	1,6	M16	M12	-	-	Ø85	225	40	32	-	60	425	13
J04-170 (30N500)	36	70	4000	1,9	M16	M12	M6	36	Ø80	300	25	26	12	48	510	11
J010-170 (30N1000)	36	70	10000	3,00	M24	M16	M10	46	Ø96	300	38	28	12	56	460	11
J010-170 (30N1000 ABB)	36	70	10000	3,9	M24	-	M12	32	Ø96	390	38	-	18	56	550	11

Tolerance ± (Dimensions x 0,01 + 0,2) mm

INDOOR CAPACITIVE POST INSULATORS UP TO 36kV



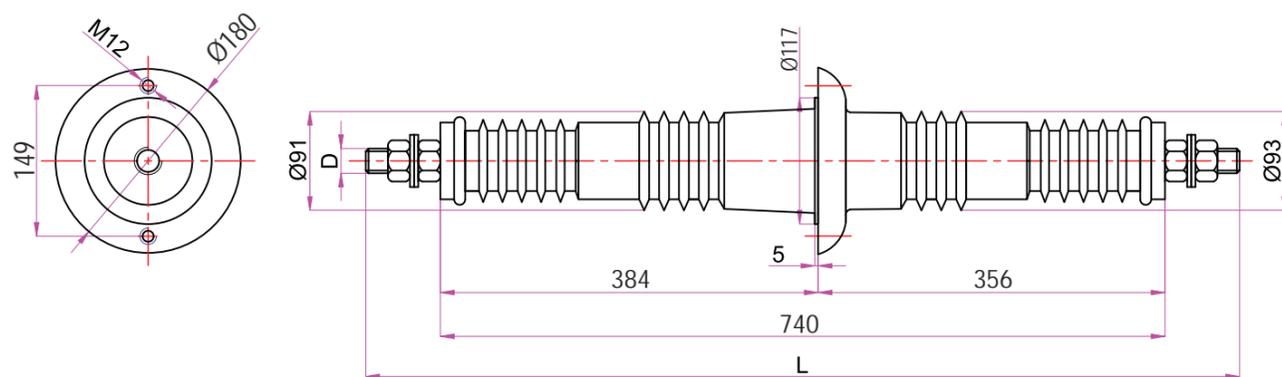
TYPES	Um (kV)	Power-frequency withstand voltage, dry (kV)	Falling load bending (N)	Weight app. (kg)	Dimensions (mm)										Min. Creepage Distance (mm)	Number of ribs	
					a	b	c	d	e	E	H	t1	t2	t3			t4
10N1000K	12	38	10000	0,95	M20	M16	M10	46	30	Ø77	130	27	24	12	42	190	5
15N1000K	17,5	50	10000	1,70	M20	M16	M10	46	30	Ø90	175	27	24	12	42	270	6
20N500K	24	50	4000	1,30	M16	M12	M6	36	30	Ø75	210	25	18	10	40	320	8
20N1000K	24	50	10000	1,90	M20	M16	M10	46	30	Ø85	210	27	24	12	42	330	8
30N500K	36	70	4000	2,00	M16	M12	M6	36	30	Ø80	300	25	26	12	48	510	11
30N1000K	36	70	10000	3,10	M24	M16	M10	46	34	Ø96	300	38	28	12	56	460	11
6 KN	12	38	6000	0,95	M16	M4	M8	36	20	Ø75	154	30	5	12	42	255	7
4 KN	36	70	4000	2,50	M12	M10	M6	-	-	-	349	-	-	-	-	640	13

Tolerance ± (Dimensions x 0,01 + 0,2) mm

M.V. INDOOR - INDOOR BOLT BUSHING UP TO 1250A



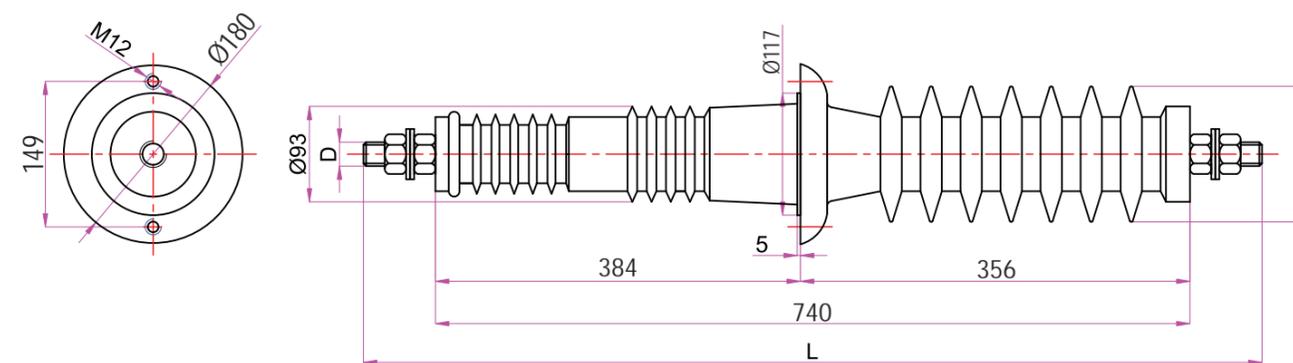
TYPES	Um (kV)	Falling load bending (N)	In (A)	D	L	Weight (kg)
EDD-36	36	3750	400	M16	840	8,6
			630	M20	860	9,8
			800	M24	880	11,7
			1250	M30	920	14,9



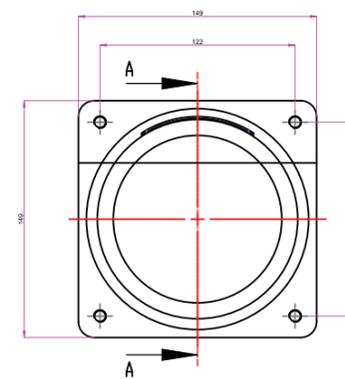
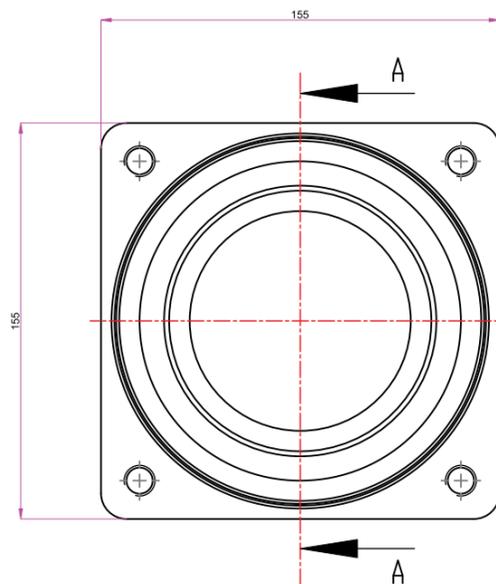
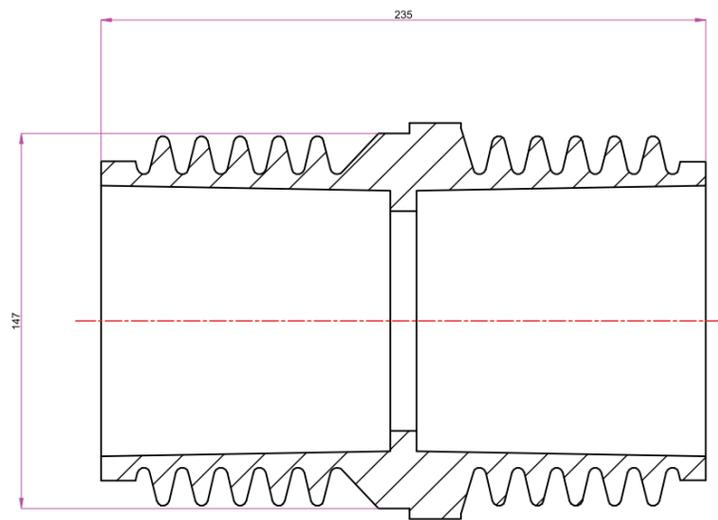
M.V. OUTDOOR - INDOOR BOLT BUSHING UP TO 1250A



TYPES	Um (kV)	Falling load bending (N)	In (A)	D	L	Weight (kg)
EDH-36	36	3750	400	M16	840	10,8
			630	M20	860	12,0
			800	M24	880	14,2
			1250	M30	920	19,4



SPECIAL PRODUCT - I



SPECIAL PRODUCT - II

