



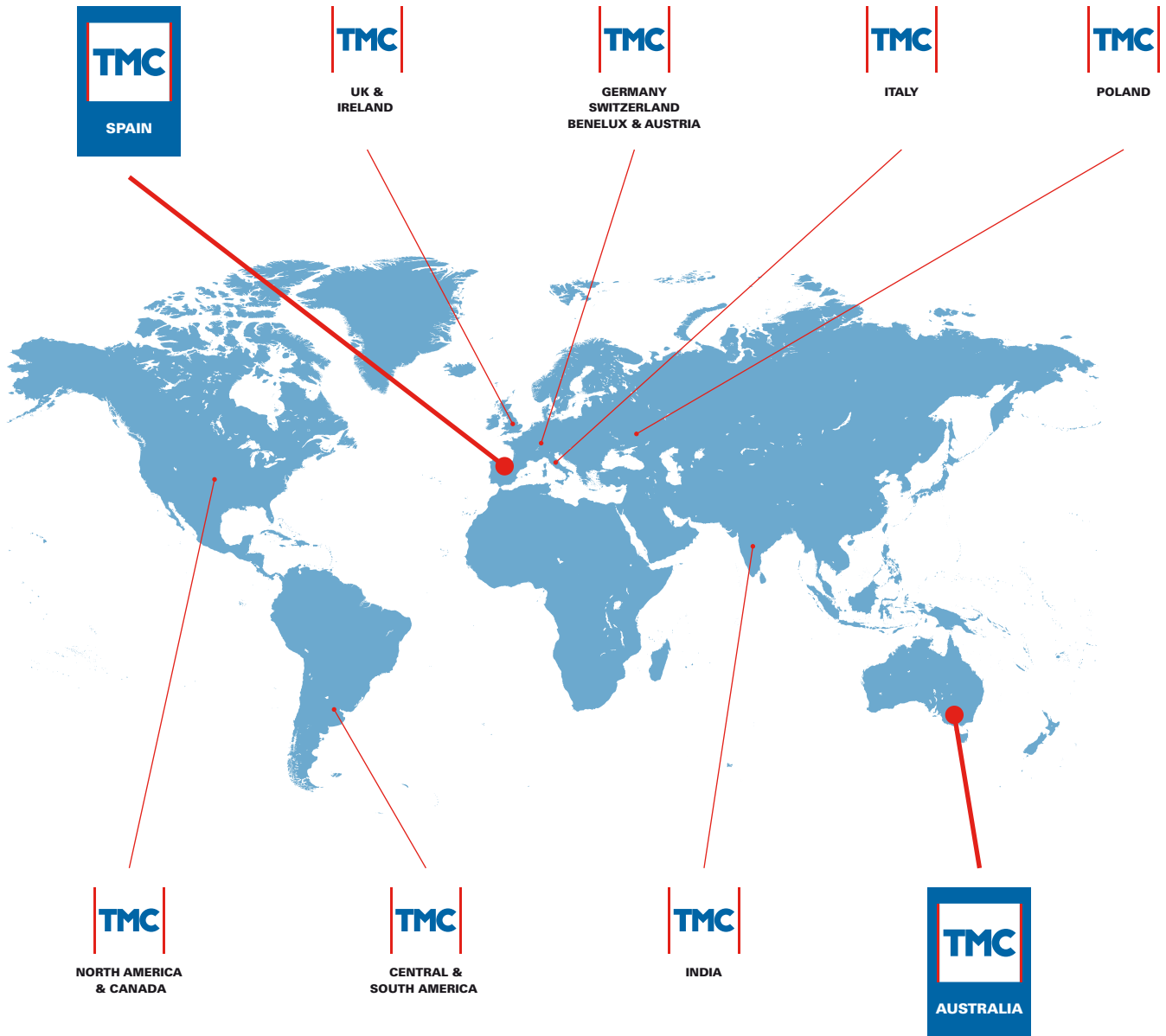
60Hz



**CAST RESIN
DISTRIBUTION
TRANSFORMERS**

2016 EDITION

TMC TRANSFORMERS - GLOBAL NETWORK



EXPERIENCED

TMC Transformers – the ORIGINAL TMC – was established in Melbourne, Australia in 1936.

For 80 years TMC has been providing precision quality induction equipment to the electrical power industry.



GLOBAL

TMC Transformers owns and manages engineering and manufacturing facilities in Spain and Australia, selling directly into these markets.

TMC has strong global distribution alliances covering markets in Europe, North America, Canada, Central and South America as well as emerging markets in South East Asia.



CUSTOMISED

TMC Transformers has developed proprietary, customised tools for optimised electromagnetic design.

Together with 'state of the art' production machinery and equipment, these enable TMC to consistently meet its customers' exacting specifications with economical solutions.

DESIGN AND CONSTRUCTION FEATURES

Foil Windings

TMC Cast Resin Transformers are wound with either aluminium or copper foil.

One advantage of foil construction is that short circuit axial forces are eliminated, due to the matched electrical lengths of the low (LV) and high (HV) voltage coils.

State-of-the-art winding machines enable insulation and conductor materials to be simultaneously wound, resulting in a very compact winding, capable of resisting both radial and axial short circuit forces.

A major electrical advantage over conventional wire or strip windings is that the interlayer voltage never exceeds the individual voltage of each turn.

The LV foil conductor edges are conditioned prior to winding and each turn is insulated with three-ply, resin impregnated high temperature film laminate.

After winding, vacuum pressure impregnation and final oven hardening fully protect the coil from infiltration of moisture.

The HV conductor foil is also edge conditioned and wound in continuous discs onto a precision former. This system of winding guarantees the accuracy required for close tolerance mould casting.

The winding is reinforced with fibreglass mesh and vacuum cast in high temperature epoxy resin.

Different epoxy formulations are used for aluminium and copper winding material to allow for the varying coefficients of thermal expansion of these materials.

Enclosures

TMC enclosures are manufactured from zinc coated mild steel plate. For extreme environmental conditions this may be replaced with stainless steel. The standard finish is a polyester-based powder coat. Protection categories up to IP66 can be supplied. Enclosures can also be manufactured to meet special requirements.

Lightning Impulse Withstand Voltage (BIL)

TMC Cast Resin Transformers are designed to withstand lightning impulse voltages without the aid of surge protection devices.

Terminations

Terminations are fabricated from generously sized solid copper or aluminium busbar.

Free of Partial Discharge

Internal Partial Discharge, which is a major cause of erosion and failure in transformer insulation systems at voltages greater than 12kV, are effectively eliminated in TMC Cast Resin Transformers.

Core

The core used in TMC Cast Resin Transformers is manufactured from prime quality, low loss, grain oriented ferro-silicon steel laminations, individually coated with high temperature, inorganic insulation. The structure consists of vertical columns interconnected with fully mitred joints at the yokes.

Resin impregnated glass bandages strap the core and ensure low noise levels. The completed core is treated with a high temperature, electrically stable coating, to prevent corrosion in service.

Environmentally Safe

TMC Cast Resin Transformers contain no liquid to pollute ground or water supplies, and no special measures are required to guard against spillage.

Quality Assurance

TMC is accredited and audited for compliance to ISO9001 Quality Assurance standards. The rigorous requirements of this International Standard, together with the Customer's own technical specifications, ensure that TMC supplies products that are safe, reliable and of the highest quality.

Routine Testing

Extensive mechanical and electrical routine tests are carried out by qualified personnel using modern, regularly calibrated digital test equipment.

These tests include:

- Winding Resistance
- Voltage Ratio
- Phase Displacement
- Short Circuit Impedance
- Load Loss
- Insulation Resistance
- No Load Loss
- No Load Current
- Applied Voltage
- Induced Overvoltage
- Partial Discharge
- Tap Changer Operation

Type and Special Testing

The following type tests can be carried out at extra cost:

- Short Circuit Withstand
- Sound Level
- Impulse Voltage
- Zero Phase Sequence Impedance
- Temperature Rise
- Harmonic Analysis
- Seismic Shock
- Winding Capacitance

TMC has a comprehensive library of previously conducted and independently audited special tests. Copies of the test certificates are available on request.



BIL 95kV AC 34kV 60Hz										Insulation Class								15kV	
Power kVA	Loss Category	Po W	Pk W	Ucc %	LpA dB(A)	LwA dB(A)	a1 mm	b1 mm	b2 mm	h1 mm	e mm	Ø mm	t mm	Mass kg	Term Type	Encl Type			
100	D	520	2280	4.0	50	63								750					
	C	520	1960	4.0	50	63								750					
	B	470	1960	4.0	49	62	1250	600	750	1350	520	125	40	800	A	1 B			
	A	340	1960	4.0	48	61								800					
112.5	D	550	2570	4.5	51	64								750					
	C	550	2210	4.5	51	64								750					
	B	500	2210	4.5	50	63	1250	600	750	1350	520	125	40	800	A	1 B			
	A	360	2210	4.5	49	62								850					
150	D	660	2800	4.5	52	65								850					
	C	660	2360	4.5	52	65								850					
	B	590	2360	4.5	51	64	1250	600	750	1400	520	125	40	850	A	1 B			
	A	470	2360	4.5	50	63								900					
160	D	720	2940	4.5	53	66								850					
	C	720	2480	4.5	53	66								850					
	B	650	2480	4.5	52	65	1250	600	750	1400	520	125	40	900	A	1 B			
	A	490	2480	4.5	51	64								900					
200	D	920	3420	4.5	54	68								900					
	C	920	2900	4.5	54	68								900					
	B	830	2900	4.5	53	67	1300	750	750	1400	670	125	40	950	B	1 B			
	A	580	2900	4.5	52	66								1000					
225	D	1120	3880	5.0	55	69								950					
	C	1120	3290	5.0	55	69								950					
	B	1000	3290	5.0	54	68	1300	750	750	1450	670	125	40	1000	B	1 B			
	A	670	3290	5.0	53	67								1050					
250	D	1150	4010	5.0	56	70								1000					
	C	1150	3400	5.0	56	70								1000					
	B	1030	3400	5.0	55	69	1300	750	750	1450	670	125	40	1050	B	1 B			
	A	700	3400	5.0	54	68								1100					
300	D	1220	4260	5.0	57	71								1050					
	C	1220	3620	5.0	57	71								1050					
	B	1090	3620	5.0	56	70	1350	750	750	1450	670	125	40	1100	B	1 B			
	A	750	3620	5.0	55	69								1200					
400	D	1490	5500	5.0	59	73								1250					
	C	1490	4700	5.0	59	73								1250					
	B	1340	4700	5.0	58	72	1350	750	800	1500	670	125	40	1300	B	1 B			
	A	910	4700	5.0	57	71								1350					
500	D	1770	6740	5.0	60	74								1400					
	C	1770	5780	5.0	60	74								1400					
	B	1590	5780	5.0	59	73	1400	750	800	1600	670	125	40	1450	C	2 B			
	A	1080	5780	5.0	58	72								1550					
630	D	2090	7840	5.0	62	76								1600					
	C	2090	6660	5.0	62	76								1600					
	B	1880	6660	5.0	61	75	1450	850	850	1650	670	125	40	1650	D	2 B			
	A	1300	6660	5.0	60	74								1800					
750	D	2390	8860	5.5	63	77								1800					
	C	2390	7480	5.5	63	77								1800					
	B	2150	7480	5.5	62	76	1500	850	850	1700	670	125	40	1850	E	2 B			
	A	1510	7480	5.5	61	75								2000					



BIL 95kV AC 34kV 60Hz										Insulation Class 15kV							
Power kVA	Loss Category	Po W	Pk W	Ucc %	LpA dB(A)	LwA dB(A)	a1 mm	b1 mm	b2 mm	h1 mm	e mm	Ø mm	t mm	Mass kg	Term Type	Encl Type	
800	D	2480	9240	5.5	63	77	1500	850	850	1750	670	125	40	1850	E	2 B	
	C	2480	7850	5.5	63	77								1850			
	B	2230	7850	5.5	62	76								1950			
	A	1580	7850	5.5	61	75								2100			
1000	D	2860	10800	6.0	64	79	1600	1000	1000	1850	820	125	40	2200	F	3 B	
	C	2860	9330	6.0	64	79								2200			
	B	2570	9330	6.0	63	78								2250			
	A	1860	9330	6.0	62	77								2450			
1250	D	3370	12300	6.0	65	80	1700	1000	1000	1950	820	160	50	2600	G	3 B	
	C	3370	10600	6.0	65	80								2600			
	B	3030	10600	6.0	64	79								2650			
	A	2160	10600	6.0	63	78								2900			
1500	D	3890	13900	6.0	65	80	1750	1000	1000	2050	820	160	50	3000	H	4 B	
	C	3890	11900	6.0	65	80								3000			
	B	3500	11900	6.0	64	79								3050			
	A	2640	11900	6.0	63	78								3350			
1600	D	4100	14600	6.0	65	80	1800	1000	1000	2100	820	160	50	3150	H	4 B	
	C	4100	12500	6.0	65	80								3150			
	B	3690	12500	6.0	64	79								3250			
	A	2730	12500	6.0	63	78								3500			
2000	D	4960	17500	6.0	66	82	1900	1310	1310	2300	1070	200	70	3800	I	5 B	
	C	4960	15000	6.0	66	82								3800			
	B	4460	15000	6.0	65	81								3900			
	A	3120	15000	6.0	64	80								4200			
2500	D	5980	20100	6.0	67	83	2000	1310	1310	2450	1070	200	70	4600	J	5 B	
	C	5980	17300	6.0	67	83								4600			
	B	5380	17300	6.0	66	82								4700			
	A	3720	17300	6.0	65	81								5000			
3000	D	7090	23500	6.5	68	84	2050	1310	1310	2650	1070	200	70	5350	K	6 B	
	C	7090	20500	6.5	68	84								5350			
	B	6380	20500	6.5	67	83								5500			
	A	4560	20500	6.5	66	82								5750			
3150	D	7630	24700	6.5	68	84	2100	1310	1310	2650	1070	200	70	5600	K	6 B	
	C	7630	21500	6.5	68	84								5600			
	B	6870	21500	6.5	67	83								5750			
	A	4910	21500	6.5	66	82								5950			
3500	D	8920	27400	6.5	69	85	2100	1440	1440	2750	1200	200	70	6150	K	7 B	
	C	8920	23800	6.5	69	85								6150			
	B	8020	23800	6.5	68	84								6300			
	A	5730	23800	6.5	67	83								6450			
3750	D	9830	29300	6.5	70	86	2150	1440	1440	2850	1200	200	70	6550	K	7 B	
	C	9830	25500	6.5	70	86								6550			
	B	8850	25500	6.5	69	85								6700			
	A	6320	25500	6.5	68	84								6800			
4000	D	10750	31200	7.0	70	86	2150	1440	1440	2900	1200	200	70	6950	K	7 B	
	C	10750	27200	7.0	70	86								6950			
	B	9670	27200	7.0	69	85								7100			
	A	6910	27200	7.0	68	84								7150			



INDUSTRY



MEDICAL



MARINE

BIL 125kV AC 50kV 60Hz											Insulation Class 25kV						
Power kVA	Loss Category	Po W	Pk W	Ucc %	LpA dB(A)	LwA dB(A)	a1 mm	b1 mm	b2 mm	h1 mm	e mm	Ø mm	t mm	Mass kg	Term Type	Encl Type	
100	D	700	2350	4.5	50	63	1250	600	800	1350	520	125	40	750	A	1 B	
	C	700	2020	4.5	50	63								750			
	B	630	2020	4.5	49	62								800			
	A	360	2020	4.5	48	61								850			
112.5	D	750	2650	5.0	51	64	1250	600	800	1400	520	125	40	750	A	1 B	
	C	750	2280	5.0	51	64								750			
	B	670	2280	5.0	50	63								800			
	A	380	2280	5.0	49	62								850			
150	D	850	2890	5.0	52	66	1300	600	800	1400	520	125	40	850	A	1 B	
	C	850	2440	5.0	52	66								850			
	B	760	2440	5.0	51	65								850			
	A	510	2440	5.0	50	64								950			
160	D	910	3030	5.0	53	67	1300	600	800	1400	520	125	40	850	A	1 B	
	C	910	2560	5.0	53	67								850			
	B	820	2560	5.0	52	66								900			
	A	530	2560	5.0	51	65								950			
200	D	1150	3530	5.0	54	68	1300	750	800	1450	670	125	40	900	B	1 B	
	C	1150	2990	5.0	54	68								900			
	B	1030	2990	5.0	53	67								950			
	A	630	2990	5.0	52	66								1000			
225	D	1370	4000	5.5	55	69	1300	750	800	1450	670	125	40	950	B	1 B	
	C	1370	3390	5.5	55	69								950			
	B	1230	3390	5.5	54	68								1000			
	A	720	3390	5.5	53	67								1050			
250	D	1410	4130	5.5	56	70	1350	750	800	1450	670	125	40	1000	B	1 B	
	C	1410	3510	5.5	56	70								1000			
	B	1270	3510	5.5	55	69								1050			
	A	740	3510	5.5	54	68								1100			
300	D	1510	4390	5.5	57	71	1350	750	800	1500	670	125	40	1100	B	1 B	
	C	1510	3740	5.5	57	71								1100			
	B	1350	3740	5.5	56	70								1150			
	A	780	3740	5.5	55	69								1200			
400	D	1800	5730	5.5	59	73	1400	750	850	1550	670	125	40	1250	B	1 B	
	C	1800	4700	5.5	59	73								1250			
	B	1620	4700	5.5	58	72								1300			
	A	970	4700	5.5	57	71								1400			
500	D	2090	7080	5.5	60	74	1400	750	850	1600	670	125	40	1450	C	2 B	
	C	2090	5670	5.5	60	74								1450			
	B	1880	5670	5.5	59	73								1500			
	A	1160	5670	5.5	58	72								1550			
630	D	2460	8330	5.5	62	76	1450	850	900	1700	670	125	40	1650	D	2 B	
	C	2460	6890	5.5	62	76								1650			
	B	2210	6890	5.5	61	75								1750			
	A	1400	6890	5.5	60	74								1800			
750	D	2800	9490	6.0	63	77	1500	850	900	1750	670	125	40	1850	E	2 B	
	C	2800	8010	6.0	63	77								1850			
	B	2520	8010	6.0	62	76								1950			
	A	1620	8010	6.0	61	75								2000			



BIL 125kV AC 50kV 60Hz										Insulation Class 25kV							
Power kVA	Loss Category	Po W	Pk W	Ucc %	LpA dB(A)	LwA dB(A)	a1 mm	b1 mm	b2 mm	h1 mm	e mm	Ø mm	t mm	Mass kg	Term Type	Encl Type	
800	D	2920	9900	6.0	63	77	1500	850	900	1750	670	125	40	1950	E	2 B	
	C	2920	8400	6.0	63	77								1950			
	B	2630	8400	6.0	62	76								2050			
	A	1700	8400	6.0	61	75								2100			
1000	D	3420	11540	6.0	64	79	1600	1000	1000	1850	820	125	40	2300	F	3 B	
	C	3420	9970	6.0	64	79								2300			
	B	3070	9970	6.0	63	78								2400			
	A	2000	9970	6.0	62	77								2450			
1250	D	3970	13400	6.0	65	80	1650	1000	1000	2000	820	160	50	2700	G	3 B	
	C	3970	11500	6.0	65	80								2700			
	B	3570	11500	6.0	64	79								2800			
	A	2320	11500	6.0	63	78								2900			
1500	D	4520	15300	6.0	65	80	1750	1000	1000	2100	820	160	50	3150	H	4 B	
	C	4520	13100	6.0	65	80								3150			
	B	4070	13100	6.0	64	79								3250			
	A	2830	13100	6.0	63	78								3350			
1600	D	4770	15900	6.0	65	80	1750	1000	1000	2150	820	160	50	3300	H	4 B	
	C	4770	13600	6.0	65	80								3300			
	B	4290	13600	6.0	64	79								3450			
	A	2930	13600	6.0	63	78								3500			
2000	D	5780	18200	6.0	66	82	1850	1310	1310	2350	1070	200	70	4000	I	5 B	
	C	5780	15700	6.0	66	82								4000			
	B	5200	15700	6.0	65	81								4100			
	A	3350	15700	6.0	64	80								4200			
2500	D	7210	21100	6.0	67	83	2000	1310	1310	2500	1070	200	70	4800	J	5 B	
	C	7210	18200	6.0	67	83								4800			
	B	6490	18200	6.0	66	82								4950			
	A	3990	18200	6.0	65	81								5100			
3000	D	8340	22600	6.5	68	84	2100	1310	1310	2700	1070	200	70	5600	K	6 B	
	C	8340	19700	6.5	68	84								5600			
	B	7510	19700	6.5	67	83								5800			
	A	4900	19700	6.5	66	82								5950			
3150	D	8860	24600	6.5	68	84	2100	1310	1310	2750	1070	200	70	5850	K	6 B	
	C	8860	21400	6.5	68	84								5850			
	B	7980	21400	6.5	67	83								6050			
	A	5250	21400	6.5	66	82								6200			
3500	D	10070	29000	6.5	69	85	2150	1440	1440	2800	1200	200	70	6400	K	7 B	
	C	10070	25300	6.5	69	85								6400			
	B	9080	25300	6.5	68	84								6600			
	A	6090	25300	6.5	67	83								6800			
3750	D	10930	32200	6.5	70	87	2200	1440	1440	2900	1200	200	70	6800	K	7 B	
	C	10930	28100	6.5	70	87								6800			
	B	9860	28100	6.5	69	86								7000			
	A	6680	28100	6.5	68	85								7250			
4000	D	11800	35500	7.0	70	87	2200	1440	1440	2950	1200	200	70	7200	K	7 B	
	C	11800	30900	7.0	70	87								7200			
	B	10650	30900	7.0	69	86								7450			
	A	7280	30900	7.0	68	85								7650			



BIL 170kV AC 70kV 60Hz										Insulation Class 36kV							
Power kVA	Loss Category	Po W	Pk W	Ucc %	LpA dB(A)	LwA dB(A)	a1 mm	b1 mm	b2 mm	h1 mm	e mm	Ø mm	t mm	Mass kg	Term Type	Encl Type	
100	D	1030	2300	5.5	50	64	1600	600	850	1700	520	125	40	1150	A	11 B	
	C	1030	1810	5.5	50	64								1150			
	B	930	1810	5.5	49	63								1250			
	A	510	1810	5.5	48	62								1400			
112.5	D	1080	2500	5.5	51	65	1600	600	850	1700	520	125	40	1200	A	11 B	
	C	1080	1960	5.5	51	65								1200			
	B	970	1960	5.5	50	64								1250			
	A	540	1960	5.5	49	63								1400			
150	D	1060	3000	5.5	52	66	1600	600	850	1750	520	125	40	1250	A	11 B	
	C	1060	2530	5.5	52	66								1250			
	B	950	2530	5.5	51	65								1350			
	A	620	2530	5.5	50	64								1500			
160	D	1140	3100	5.5	53	67	1650	600	850	1750	520	125	40	1300	A	11 B	
	C	1140	2610	5.5	53	67								1300			
	B	1030	2610	5.5	52	66								1350			
	A	640	2610	5.5	51	65								1550			
200	D	1440	3600	5.5	54	68	1650	750	850	1750	670	125	40	1350	B	11 B	
	C	1440	2870	5.5	54	68								1350			
	B	1300	2870	5.5	53	67								1450			
	A	700	2870	5.5	52	66								1650			
225	D	1730	4100	5.5	55	70	1650	750	850	1800	670	125	40	1400	B	11 B	
	C	1730	3110	5.5	55	70								1400			
	B	1560	3110	5.5	54	69								1500			
	A	770	3110	5.5	53	68								1700			
250	D	1780	4300	5.5	56	71	1650	750	850	1800	670	125	40	1450	B	11 B	
	C	1780	3370	5.5	56	71								1450			
	B	1600	3370	5.5	55	70								1550			
	A	800	3370	5.5	54	69								1750			
300	D	1890	4500	5.5	57	72	1650	750	950	1850	670	125	40	1550	B	12 B	
	C	1890	3900	5.5	57	72								1550			
	B	1700	3900	5.5	56	71								1650			
	A	860	3900	5.5	55	70								1900			
400	D	2280	5900	5.5	59	74	1700	750	950	1900	670	125	40	1750	B	12 B	
	C	2280	5120	5.5	59	74								1750			
	B	2050	5120	5.5	58	73								1850			
	A	1150	5120	5.5	57	72								2150			
500	D	2670	7300	5.5	60	75	1750	750	950	1950	670	125	40	1950	C	12 B	
	C	2670	6330	5.5	60	75								1950			
	B	2400	6330	5.5	59	74								2050			
	A	1440	6330	5.5	58	73								2400			
630	D	3130	8700	5.5	62	77	1800	850	1000	2000	670	125	40	2200	D	12 B	
	C	3130	7420	5.5	62	77								2200			
	B	2820	7420	5.5	61	76								2350			
	A	1700	7420	5.5	60	75								2700			
750	D	3560	9900	6.0	63	78	1800	850	1000	2100	670	125	40	2450	E	13 B	
	C	3560	8430	6.0	63	78								2450			
	B	3200	8430	6.0	62	77								2550			
	A	1940	8430	6.0	61	76								3000			



BIL 170kV AC 70kV 60Hz										Insulation Class 36kV							
Power kVA	Loss Category	Po W	Pk W	Ucc %	LpA dB(A)	LwA dB(A)	a1 mm	b1 mm	b2 mm	h1 mm	e mm	Ø mm	t mm	Mass kg	Term Type	Encl Type	
800	D	3710	10300	6.0	63	78	1850	850	1000	2100	670	125	40	2550	E	13 B	
	C	3710	8810	6.0	63	78								2550			
	B	3340	8810	6.0	62	77								2650			
	A	2020	8810	6.0	61	76								3100			
1000	D	4310	12000	6.0	64	79	1900	1000	1100	2200	820	125	40	2900	F	13 B	
	C	4310	10300	6.0	64	79								2900			
	B	3880	10300	6.0	63	78								3050			
	A	2350	10300	6.0	62	77								3550			
1250	D	5120	13800	6.0	65	81	1950	1000	1100	2350	820	160	50	3350	G	14 B	
	C	5120	11900	6.0	65	81								3350			
	B	4610	11900	6.0	64	80								3550			
	A	2790	11900	6.0	63	79								4100			
1500	D	5930	15700	6.0	65	81	2050	1000	1100	2450	820	160	50	3850	H	14 B	
	C	5930	13500	6.0	65	81								3850			
	B	5330	13500	6.0	64	80								4050			
	A	3240	13500	6.0	63	79								4600			
1600	D	6230	16400	6.0	65	81	2050	1000	1100	2500	820	160	50	4000	H	14 B	
	C	6230	14100	6.0	65	81								4000			
	B	5600	14100	6.0	64	80								4200			
	A	3400	14100	6.0	63	79								4800			
2000	D	7440	19200	6.0	66	82	2150	1310	1310	2650	1070	200	70	4700	I	15 B	
	C	7440	16600	6.0	66	82								4700			
	B	6690	16600	6.0	65	81								4950			
	A	4060	16600	6.0	64	80								5600			
2500	D	8920	22800	6.0	67	83	2250	1310	1310	2800	1070	200	70	5550	J	15 B	
	C	8920	19700	6.0	67	83								5550			
	B	8030	19700	6.0	66	82								5800			
	A	4870	19700	6.0	65	81								6450			
3000	D	10360	26100	6.5	68	85	2350	1310	1310	2900	1070	200	70	6350	K	16 B	
	C	10360	22700	6.5	68	85								6350			
	B	9320	22700	6.5	67	84								6600			
	A	5650	22700	6.5	66	83								7150			
3150	D	10870	28400	6.5	68	85	2350	1310	1310	2950	1070	200	70	6600	K	16 B	
	C	10870	24700	6.5	68	85								6600			
	B	9800	24700	6.5	67	84								6850			
	A	5940	24700	6.5	66	83								7350			
3500	D	12050	33700	6.5	69	86	2400	1440	1440	3000	1200	200	70	7150	K	17 B	
	C	12050	29300	6.5	69	86								7150			
	B	10900	29300	6.5	68	85								7400			
	A	6640	29300	6.5	67	84								7800			
3750	D	12900	37400	6.5	70	87	2400	1440	1440	3000	1200	200	70	7500	K	17 B	
	C	12900	32600	6.5	70	87								7500			
	B	11680	32600	6.5	69	86								7750			
	A	7140	32600	6.5	68	85								8050			
4000	D	13750	41200	7.0	70	87	2450	1440	1440	3050	1200	200	70	7850	K	17 B	
	C	13750	35900	7.0	70	87								7850			
	B	12470	35900	7.0	69	86								8100			
	A	7640	35900	7.0	68	85								8300			



STANDARD CHARACTERISTICS

International Standards	:	IEC 60076-11 ANSI C57.12.01
Low Voltage	:	Per customer specification
Frequency	:	60Hz
Vector Group	:	Dyn or Yyn
Insulation Temperature Class	:	F (155°C) or H (180°C)
Winding Material	:	Aluminium
Installation Altitude	:	≤ 1000 mamsl
Maximum Ambient Temperature	:	40°C
Type of Cooling	:	AN

HIGH VOLTAGE COMPONENTS



Three-limbed Core

Cold-rolled grain-oriented ferro-silicon steel sheets with protective varnish coating

HV Terminals

With variable arrangements to permit optimum installation

HV Tappings

For off-circuit adaptation to the supply network

HV Windings

Consisting of vacuum cast, fibreglass reinforced aluminium or copper strip

Epoxy Resin Insulation

Makes the transformer maintenance-free, moisture-free, tropicalized, flame-resistant and self-extinguishing

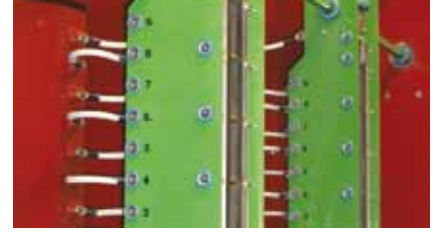
OPTIONAL ACCESSORIES



Temperature Measurement Devices



Switches



On-load Tapchangers



Vibration Dampeners



High Voltage Separable Connectors



Cooling Fans

LOW VOLTAGE COMPONENTS



Temperature Monitoring
Detectors in the LV winding

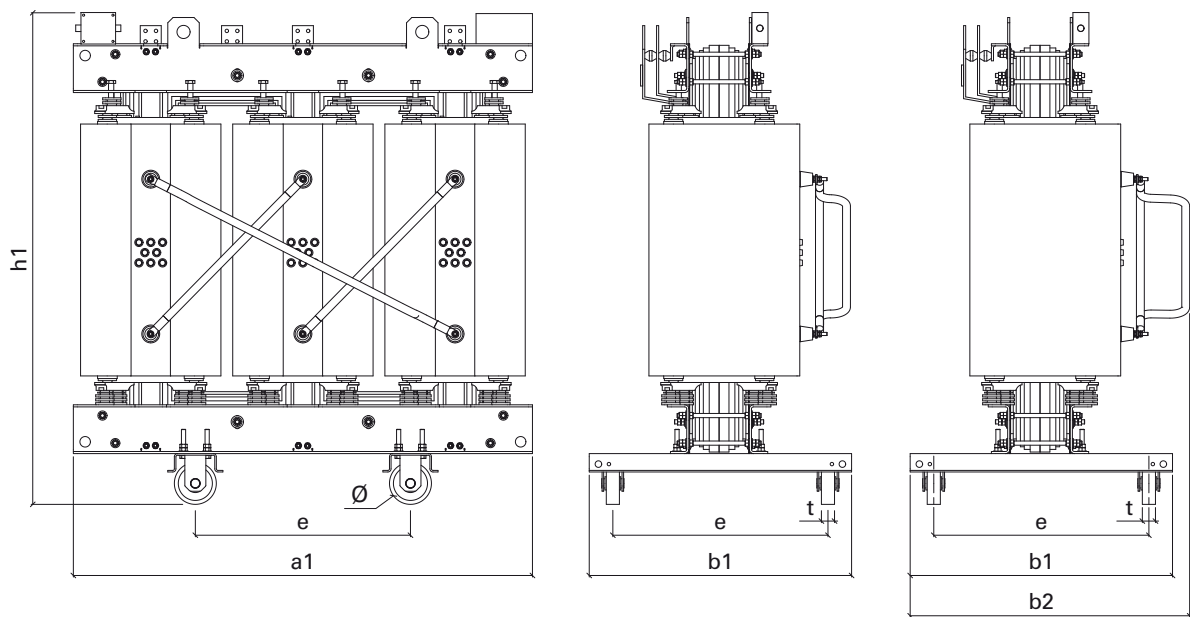
LV Terminals
With variable arrangements on request

Resilient Supports
To provide insulation for core and windings against mechanical vibrations

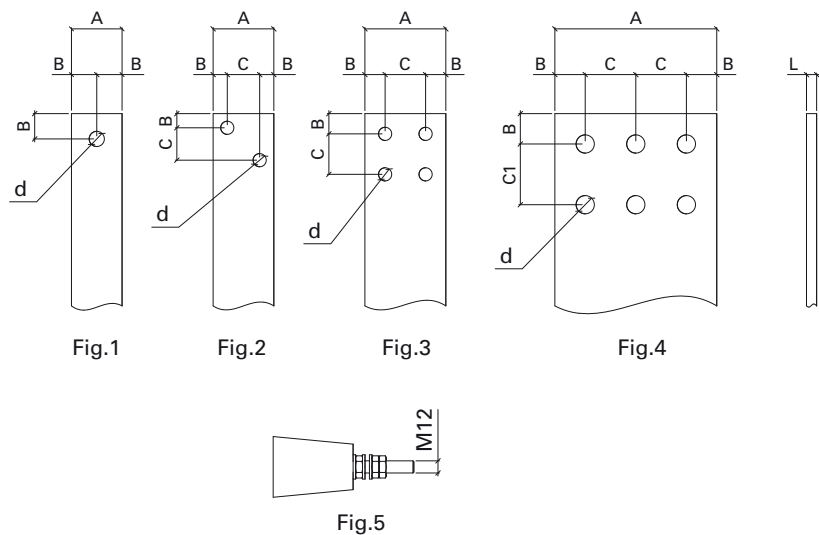
LV Windings
Epoxy prepreg-insulated aluminium or copper strip

TECHNICAL DETAILS

IP00

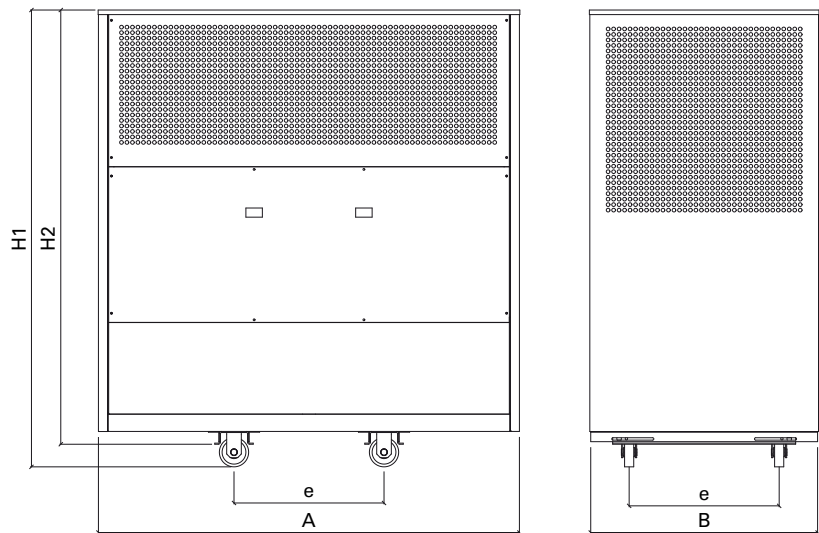


TERMINALS



LV Terminals		A	L	B	C	C1	d
		mm	mm	mm	mm	mm	mm
Term Type	Fig.	LV TERMINALS 380V to 480V					
A	1	30	3	15	-	-	13
B	1	50	5	25	-	-	15
C	2	60	6	14	32	-	13
D	2	60	8	14	32	-	13
E	3	80	8	20	40	-	13
F	3	100	8	25	50	-	15
G	3	120	10	30	60	-	18
H	3	120	12	30	60	-	18
I	4	160	10	30	50	60	18
J	4	160	14	30	50	60	18
K	4	160	20	30	50	60	18
HV TERMINALS							
All HV terminals per Fig.5 with thread dimension M12							

ENCLOSURES IP21 IP22 IP23 IP31 IP32 IP33



Type	A	B	H1 (with wheels) mm	H2 (without wheels) mm	e mm	Mass kg
Insulation Class 15kV 25kV						
1 B	1850	1250	1710	1610	See transformer tables	170
2 B	1950	1300	2010	1910		205
3 B	2050	1350	2260	2160		235
4 B	2250	1400	2500	2360		270
5 B	2500	1450	2850	2670		325
6 B	2750	1550	3050	2870		385
7 B	2900	1600	3150	3110		415
Insulation Class 36kV						
11 B	2400	1550	1960	1860	See transformer tables	255
12 B	2500	1600	2260	2120		300
13 B	2600	1650	2460	2320		330
14 B	2750	1700	2700	2520		365
15 B	2950	1750	3050	2870		430
16 B	3050	1800	3200	3160		465
17 B	3250	1850	3550	3510		535

ENCLOSURES

INDOOR

IP21 IP22 IP23 IP31 IP32 IP33 (See tables)



IP21



IP23



IP31

OUTDOOR

IP43 to IP66 (Details on application)



IP43



IP54



IP66
with Switchgear



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