



Transformers

Up to 500 kV

Catalogue | Substation Portfolio

2027

Introduction

General introduction

Complete portfolio and wide application

Our oil-immersed power transformers are rated up to 500 kV and are type tested to IEC standards in KEMA (DNV) and ASTA labs. The transformers include various types, such as hermetically-sealed, dry-type, amorphous alloy, pad-mounted, and other special transformers used in electrical furnaces, rectifiers, mines, utilities, renewables, as well as for current and voltage transformers. Brunstock has a wide range of over 800 types and 2000 specified transformers.



220kV Power transformer



Intelligent warehousing



Test hall



Test certificates

Compliance with standards

IEC standard	Description
IEC 60076-1: 2011	Power transformers - Part 1: General
IEC 60076-2: 2011	Power transformers - Part 2: Temperature rise for liquid-immersed transformers
IEC 60076-3: 2013+AMD1: 2018	Power transformers - Part 3: Insulation levels, dielectric tests and external clearances in air
IEC 60076-5: 2006	Power transformers - Part 5: Ability to withstand short circuit
IEC 60076-10: 2016	Power transformers - Part 10: Determination of sound levels



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500 kV Transformer



500 kV transformer

500 kV transformer introduction

Brunstock's 500 kV oil-immersed power transformers are designed for extra-high-voltage (EHV) transmission and bulk power transfer. The range includes:

- single-phase two-winding power transformers from 100 MVA to 484 MVA
- three-phase two-winding power transformers from 120 MVA to 1,170 MVA
- single-phase three-winding autotransformers from 120 MVA to 400 MVA, with de-energised (DETC) or on-load (OLTC) voltage regulation.

Each design is developed with multi-physics coupled modelling. This simulates real operating conditions, optimises design parameters and removes potential design risks before manufacture.

The core, winding and cooling structures are optimised to improve short-circuit withstand capability, so the transformer can operate reliably at EHV over the long term.

Advanced manufacturing processes, including vacuum oil filling and precision winding, keep manufacturing quality tightly controlled and improve equipment performance.

The processes used to manufacture Brunstock transformers control quality at every stage of production and comply strictly with ISO 9001. Type testing confirms that each design conforms to the relevant standards.

To meet end users' needs, Brunstock can also supply other voltage ratios, vector groups and rated capacities, as listed in the following tables.

500 kV transformer features

- Advanced computational modelling
- Optimised structural configuration
- Advanced manufacturing processes
- Comprehensive quality-control system

Technical data

500 kV oil-immersed power transformers

1) Single-phase two-winding de-energised tap-changing

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
100000	34	203	40	203	49	214	99.737	99.770	14
120000	39	234	46	234	56	247	99.737	99.775	
200000	63	342	74	342	91	361	99.737	99.797	
223000	68	371	81	371	99	391	99.737	99.797	
240000	72	392	85	392	105	413	99.737	99.797	
260000	77	414	91	414	112	437	99.737	99.797	
380000	102	549	121	549	149	580	99.737	99.797	14 or 16
400000	106	570	125	570	154	601	99.737	99.797	
410000	108	581	128	581	158	613	99.737	99.797	
484000	123	657	145	657	178	694	99.737	99.797	

2) Three-phase two-winding de-energised tap-changing

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
120000	41	356	49	356	60	375	99.737	99.775	14
160000	50	441	59	441	72	466	99.737	99.790	
240000	69	599	81	599	100	632	99.737	99.797	
300000	80	707	94	707	116	746	99.737	99.797	
370000	94	810	111	810	136	855	99.737	99.797	
400000	96	855	114	855	140	903	99.737	99.797	
420000	102	860	120	860	148	907	99.737	99.797	16 or 18
480000	110	954	130	954	160	1007	99.737	99.797	
600000	143	1202	169	1202	208	1268	99.737	99.797	
720000	168	1382	195	1382	244	1458	99.737	99.797	
750000	173	1422	205	1422	252	1501	99.737	99.797	16 or 18
780000	176	1467	208	1467	256	1549	99.737	99.797	
860000	190	1575	224	1575	276	1663	99.737	99.797	
1140000	237	1949	280	1949	344	2057	99.737	99.797	
1170000	242	1980	286	1980	352	2090	99.737	99.797	

Technical data

500 kV oil-immersed power transformers

3) Single-phase three-winding de-energised tap-changing autotransformer with tap regulation on MV side

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
120000	28	207	33	207	40	219	99.737	99.775	HV-MV 12 HV-LV 34-38 MV-LV 20-22
167000	33	248	39	248	48	261	99.737	99.791	
250000	47	333	55	333	68	352	99.737	99.797	
334000	58	428	68	428	84	451	99.737	99.797	
400000	66	491	78	491	96	518	99.737	99.797	
120000	28	221	33	221	40	233	99.737	99.775	HV-MV 12 HV-LV 42-46 MV-LV 28-30
167000	33	261	39	261	48	276	99.737	99.791	
250000	47	356	55	356	68	375	99.737	99.797	
334000	58	459	68	459	84	485	99.737	99.797	
400000	66	522	78	522	96	551	99.737	99.797	
120000	28	221	33	221	40	233	99.737	99.775	HV-MV 14-22 HV-LV 42-64 MV-LV 28-40
167000	33	261	39	261	48	276	99.737	99.791	
250000	47	356	55	356	68	375	99.737	99.797	
334000	58	459	68	459	84	485	99.737	99.797	
400000	66	522	78	522	96	551	99.737	99.797	

4) Single-phase three-winding on-load tap-changing power autotransformer with tap regulation on MV side

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
120000	28	212	33	212	40	223	99.737	99.775	HV-MV 12 HV-LV 34-38 MV-LV 20-22
167000	33	257	39	257	48	271	99.737	99.791	
250000	47	342	55	342	68	361	99.737	99.797	
334000	61	441	72	441	88	466	99.737	99.797	
400000	72	504	85	504	104	532	99.737	99.797	
120000	28	225	33	225	40	238	99.737	99.775	HV-MV 12 HV-LV 42-46 MV-LV 28-30
167000	33	270	39	270	48	285	99.737	99.791	
250000	47	365	55	365	68	385	99.737	99.797	
334000	61	477	72	477	88	504	99.737	99.797	
400000	72	549	85	549	104	580	99.737	99.797	
120000	28	225	33	225	40	238	99.737	99.775	HV-MV 14-25 HV-LV 42-46 MV-LV 28-30
167000	33	270	39	270	48	282	99.737	99.791	
250000	47	365	55	365	68	385	99.737	99.797	
334000	61	477	72	477	88	504	99.737	99.797	
400000	72	549	85	549	104	580	99.737	99.797	

330 kV Transformer



330 kV transformer

330 kv transformer introduction

Brunstock's 330 kV oil-immersed power transformers are built for high-voltage transmission, utilities, large industrial loads and connecting renewable generation to the grid. The range runs from 90 MVA to 720 MVA. It covers two-winding and three-winding power transformers and three-winding autotransformers with a 110 kV or 220 kV medium-voltage side. De-energised tap changing (DETC formerly NLTC) or on-load tap changing (OLTC) is available to suit the application.

The mechanical structure is designed to withstand short circuits, and an environmentally responsible insulating medium supports quiet operation and easy maintenance.

On-load voltage regulation smooths output fluctuations from wind and solar generation. This helps keep grid connection stable and makes efficient use of renewable energy.

During the manufacture of these transformers, product quality is strictly controlled in line with ISO 9001.

To meet end users' needs, Brunstock can also supply other voltage ratios, vector groups and rated capacities, as listed in the following tables.

330 kV transformer features

- Short-circuit resilience and environmentally responsible maintenance
- Stable supply under high loads
- Voltage regulation for grid stability and renewable-energy use

Technical data

330 kV oil-immersed power transformers

1) Three-phase two-winding de-energised tap-changing

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
90000	37	247	44	247	54	260	99.733	99.763	14-15
120000	47	306	55	306	68	323	99.737	99.775	
150000	56	362	66	362	81	382	99.737	99.783	
180000	64	415	75	415	93	438	99.737	99.794	
240000	80	515	94	515	116	543	99.737	99.797	
360000	109	722	129	722	158	762	99.737	99.797	
370000	111	736	131	736	162	777	99.737	99.797	
400000	118	780	139	780	171	824	99.737	99.797	
720000	183	1212	216	1212	266	1280	99.737	99.797	

2) Three-phase three-winding de-energised tap-changing

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
90000	42	302	50	302	62	318	99.733	99.763	HV-MV 24-26 HV-LV 14-15 MV-LV 8-9
120000	53	374	62	374	77	394	99.737	99.775	
150000	63	442	74	442	91	466	99.737	99.783	
180000	72	507	85	507	104	535	99.737	99.794	
240000	89	629	105	629	130	664	99.737	99.797	

3) Three-phase three-winding de-energised tap-changing autotransformer with tap regulation at the end of series winding MV 110 kV

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
90000	25	237	29	237	36	250	99.733	99.763	HV-MV 10-11 HV-LV 24-26 MV-LV 12-14
120000	31	292	36	292	45	308	99.737	99.775	
150000	37	347	44	347	54	366	99.737	99.783	
180000	42	396	50	396	62	418	99.737	99.794	
240000	53	492	62	492	77	520	99.737	99.797	
360000	72	668	85	668	104	705	99.737	99.797	

Technical data

330 kV oil-immersed power transformers

4) Three-phase three-winding on-load tap-changing autotransformer with tap regulation at the end of series winding, MV 110 kV

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
90000	26	235	31	235	38	248	99.733	99.763	HV-MV 10-11 HV-LV 24-26 MV-LV 12-14
120000	32	292	38	292	47	308	99.737	99.775	
150000	38	345	45	345	55	364	99.737	99.783	
180000	43	396	51	396	63	418	99.737	99.794	
240000	54	492	64	492	79	520	99.737	99.797	
360000	74	668	87	668	107	705	99.737	99.797	

5) Three-phase three-winding on-load tap-changing autotransformer with 110 kV MV line-end tap regulation

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
90000	27	251	32	251	39	265	99.733	99.763	HV-MV 10-11 HV-LV 26-28 MV-LV 16-17
120000	34	311	40	311	49	329	99.737	99.775	
150000	40	369	47	369	58	390	99.737	99.783	
180000	46	423	54	423	66	447	99.737	99.794	
240000	56	526	66	526	82	555	99.737	99.797	
360000	76	713	90	713	111	752	99.737	99.797	

6) Three-phase three-winding de-energised tap-changing autotransformer with 220 kV MV line-end tap regulation

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
90000	13	264	15	264	18	278	99.733	99.763	HV-MV 10-11
120000	16	327	19	327	23	345	99.737	99.775	
150000	19	388	22	388	27	409	99.737	99.783	
180000	21	445	25	445	31	469	99.737	99.794	
240000	27	552	32	552	39	582	99.737	99.797	
360000	37	752	44	752	54	794	99.737	99.797	

Technical data

330 kV oil-immersed power transformers

7) Three-phase three-winding on-load tap-changing autotransformer with 220 kV MV line-end tap regulation

Rated capacity (kVA)	Class 1		Class 2		Class 3		Peak efficiency index		Short circuit impedance (%)
	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	No-load loss (kW)	Loadloss 75 °C (kW)	Tier 1 (%)	Tier 2 (%)	
90000	14	264	16	264	20	278	99.733	99.763	HV-MV 10-II
120000	17	327	20	327	25	345	99.737	99.775	
150000	20	388	24	388	30	409	99.737	99.783	
180000	23	445	27	445	34	469	99.737	99.794	
240000	29	552	34	552	39	582	99.737	99.797	
360000	40	753	47	753	54	794	99.737	99.797	

220 kV Transformer



220 kV transformer

220 kV transformer introduction

Brunstock's 220 kV transformers are designed with advanced electric, magnetic, thermal and mechanical computing software to calculate electro-magnetic field and magnetic flux distribution, to optimise reliability, size and efficiency.

The construction of our transformers includes a multilevel stepped lap helical structure that reduces no-load losses and minimises noise, which is crucial for transformers in urban environments.

The cores of all Brunstock 220 kV transformers are robot laser cut for high precision and superior tolerances. The transformer factory has vertical winding machines with digital control tension devices to ensure windings are precision wound.

The manufacturing processes used in production are strictly controlled as per ISO 9001 quality management.

Our 220 kV transformers have passed a complete set of type tests in a KEMA certified facility, and we are happy to provide these on request.

To meet the needs of the end users of our products, Brunstock can provide transformers of other voltage ratios, vector groups and rated capacities, as listed in the upcoming tables.

220 kV transformer features

- Innovative structure layout
- Advanced technological measures
- Excellent quality assurance system

Technical data

220 kV power transformers

1) Two-winding de-energised tap-changing

Rated capacity (kVA)	Voltage ratio and tap range (kV)		Connection symbol	No-load loss (kW)	Full-load loss (kW)	Impedance (%)	No-load current (%)
	HV	LV					
31500	220 242±2×2.5%	6.3 6.6 10.5 11	YNd11	35	135	12-14	0.70
40000				41	157		0.70
50000				49	189		0.65
63000				58	220		0.65
75000		10.5 11 13.8		67	250		0.60
90000				77	288		0.55
120000				94	345		0.55
150000		11; 13.8; 15.75; 20		112	405		0.50
180000				128	459		0.46
240000				160	567		0.42
300000				189	675		0.38
360000		15.75; 18; 20		217	774		0.38

2) Two-winding de-energised tap-changing 220 kV/66 kV

Rated capacity (kVA)	Voltage ratio and tap range (kV)		Connection symbol	No-load loss (kW)	Full-load loss (kW)	Impedance (%)	No-load current (%)
	HV	LV					
31500	220±2×2.5%	63 66 69	YNd11	38	151	12-14	0.89
40000				45	176		0.89
50000				53	211		0.82
63000				63	247		0.82
90000				83	323		0.75
120000				102	387		0.75
150000				122	453		0.68
180000				138	513		0.68
240000				171	635		0.61

Technical data

220 kV power transformers

3) Two-winding on-load tap-changing

Rated capacity (kVA)	Voltage ratio and tap range (kV)		Connection symbol	No-load loss (kW)	Full-load loss (kW)	Impedance (%)	No-load current (%)
	HV	LV					
31500	220±8×1.25%	6.3; 6.6 10.5; 11 35; 37; 38.5	YNd11	38	135	12-14	0.70
40000				45	157		0.63
50000				54	189		0.56
63000				63	220		0.56
90000		10.5; 11 35; 37; 38.5		80	288		0.49
120000				99	346		0.49
150000				116	405		0.42
180000				135	468		0.42
120000				66 69	102		355
150000		120			415		0.42
180000		140			475		0.42

4) Three-winding de-energised tap-changing autotransformer

Rated capacity (kVA)	Voltage ratio and tap range (kV)			Connection symbol	No-load loss (kW)		Full-load loss (kW)		Impedance (%)		No-load current (%)
	HV	MV	LV		Step-up	Step-down	Step-up	Step-down	Step-up	Step-down	
31500	220 242±2×2.5%	115 121	6.6 10.5 11	YNyn0d11	25	22	117	99	H-M 12-14	H-M 8-10	0.50
40000			35 37		29	26	144	121			0.50
50000			38.5		34	30	170	144			0.43
63000					40	36	201	171			0.43
90000			10.5 11		50	46	276	234	H-L 8-12	H-L 28-34	0.36
120000			13.8 15.75		62	56	340	288	M-L 14-18	M-L 18-24	0.36
150000			18 35 37		70	60	405	342			0.33
180000			38.5		80	72	464	387			0.33
240000					95	86	595	504			0.25

Technical data

220 kV power transformers

5) Three-winding de-energised tap-changing

Rated capacity (kVA)	Voltage ratio and tap range (kV)			Connection symbol	No-load loss (kW)	Full-load loss (kW)	Impedance (%)		No-load current (%)
	HV	MV	LV				Step-up	Step-down	
31500	220 242±2×2.5%	69 115 121	6.3	YNyn0d11	40	162	H-M	H-L	0.70
40000			6.6; 10.5		48	189			0.63
50000			11		56	225			0.56
63000			35; 37		66	261			0.56
90000			10.5; 11		86	351	H-L	H-M	0.49
120000			13.8; 35		106	432	12-14	12-14	0.49
150000			37; 38.5		125	513	M-L	M-L	0.42
180000			11; 13.8		142	585			0.42
240000			15.75		176	720			0.35
300000			35; 37		208	750			0.30

6) Three-winding on-load tap-changing

Rated capacity (kVA)	Voltage ratio and tap range (kV)			Connection symbol	No-load loss (kW)	Full-load loss (kW)	Impedance (%)	No-load current (%)
	HV	MV	LV					
31500	220±8×1.25%	69 115 121	6.3; 6.6	YNyn0d11	44	162	H-L	0.77
40000			10.5; 11		52	189		0.70
50000			35		60	225		0.63
63000			37		70	261	22-24	0.63
90000			38.5		92	351	H-M	0.56
120000			10.5		115	432	12-14	0.56
150000			11		135	513	M-L	0.49
180000			35		159	630	7-9	0.49
240000			37		193	780		0.45
			38.5					

7) Three-winding auto-transformer with on-load tap changer

Rated capacity (kVA)	Voltage ratio and tap range (kV)			Connection symbol	No-load loss (kW)	Full-load loss (kW)	Impedance (%)	No-load current (%)
	HV	MV	LV					
31500	220±8×1.25%	115 121	6.3; 6.6	YNyn0d11	25	108	H-L	0.56
40000			10.5		30	132		0.56
50000			11		36	157		0.49
63000			35		42	189	28-34	0.49
90000			37		51	247	H-M	0.42
120000			38.5		64	308	8-10	0.42
150000			10.5		76	365	M-L	0.35
180000			11		85	419		0.35
240000			35		104	540		0.30
			37					

110 kV Transformer



110 kV transformer

110 kV transformer introduction

The core of our 110 kV power transformers is made of high-quality laminated silicon-steel sheets resulting in low loss, low noise, and high short-circuit withstand capacity. Applications include power stations, power plants, utilities and renewables.

Brunstock's 110 kV transformers have passed a complete set of tests including the short-circuit withstand capacity test. This transformer passed the type test in KEMA in Holland, the world's leading electrical laboratory.

110 kV transformer features

- The core is made of high-quality CRGO (cold rolled grain oriented) silicon steel.
- Low loss and noise, and strong anti short-circuit capability.
- Widely used in various substations and power plants.

Technical data

110 kV power transformers

1) Two-winding de-energised tap-changing							
Rated capacity (kVA)	Voltage ratio and tap range (kV)		Connection symbol	No-load loss (kW)	No-load current (%)	Full-load loss (kW)	Impedance (%)
	HV	LV					
6300	110 121±2×2.5%	6.3 6.6 10.5 11	YNd11	9.3	0.6	36	10.5
8000				11.2	0.6	45	
10000				13.2	0.55	53	
12500				15.6	0.55	63	
16000				18.8	0.5	77	
20000				22	0.5	93	
25000				26	0.45	110	
31500				30.8	0.45	133	
40000				36.8	0.4	156	
50000				44	0.4	194	
63000				52	0.35	234	
75000		13.8 15.75 18 20		59	0.35	278	12-14
90000				68	0.3	320	
120000				84.8	0.3	397	
150000				100.2	0.3	472	
180000				112.5	0.25	532	

2) Two-winding on-load tap-changing							
Rated capacity (kVA)	voltage ratio and tap range (kV)		Connection symbol	No-load loss (kW)	No-load current (%)	Full-load loss (kW)	Impedance (%)
	HV	LV					
6300	110 121±8×1.25%	6.3 6.6 10.5 11	YNd11	10	0.6	36	10.5
8000				12	0.6	45	
10000				14.2	0.55	53	
12500				16.8	0.55	63	
16000				20.2	0.5	77	
20000				24	0.5	93	
25000				28.4	0.45	110	
31500				33.8	0.45	133	
40000				40.4	0.4	156	
50000				47.8	0.4	194	
63000				56.8	0.35	234	
75000				63.4	0.35	278	
90000				73.1	0.3	320	
120000				91.2	0.3	397	

Technical data

110 kV power transformers

3) Three-winding de-energised tap-changing									
Rated capacity (kVA)	Voltage ratio and tap range (kV)			Connection symbol	No-load loss (kW)	No-load current (%)	Full-load loss (kW)	Impedance (%)	
	HV	MV	LV					Step-up	Step-down
6300	110 121±2×2.5%	35 37 38.5±2×2.5% Or ±5%	6.3 6.6 10.5 11	YNyn0d11	11.2	0.6	47	H-M	H-M
8000					13.3	0.6	56		
10000					15.8	0.55	66		
12500					18.4	0.55	78	10.5	17-18
16000					22.4	0.5	95	H-L	H-L
20000					26.4	0.5	112		
25000					30.8	0.45	133	17-18	10.5
31500					36.8	0.45	157	M-L	M-L
40000					43.6	0.4	189	6.5	6.5
50000					52	0.4	225		
63000					61.6	0.35	270		

4) Three-winding on-load tap-changing									
Rated capacity (kVA)	Voltage ratio and tap range (kV)			Connection symbol	No-load loss (kW)	No-load current (%)	Full-load loss (kW)	Impedance (%)	
	HV	MV	LV					Step-up	Step-down
6300	110±8×1.25%	35 37 38.5±2×2.5% Or ±5%	6.3 6.6 10.5 11	YNyn0d11	12	0.6	47	H-M	H-M
8000					14.4	0.6	56		
10000					17.1	0.55	66		
12500					20.2	0.55	78	10.5	17-18
16000					24.2	0.5	95	H-L	H-L
20000					28.6	0.5	112		
25000					33.8	0.45	133	17-18	10.5
31500					40.2	0.45	157	M-L	M-L
40000					48.2	0.4	189	6.5	6.5
50000					56.9	0.4	225		
63000					67.7	0.35	270		

66 kV Transformer



66 kV transformer

66 kV product introduction

Our 66 kV transformers incorporate a bell type tank and the corrugated shell which increases the strength of the tank. The core has a D-shaped yoke with a 45° mitre joint. The core and tank are securely fixed and well protected during transportation. The winding layout method is supported by interior and exterior strips. High-tension cylinders between coils increase the short-circuit withstand capacity. Advanced workmanship is used, such as welding technology and phase-assembly technology for winding. To meet the client's needs, we can provide products of other voltage ratios, vector groups, and rated capacities, as listed in the tables.

1) Two-winding power transformer with de-energised tap changing							
Rated capacity (kVA)	Voltage ratio and tap range (kV)		Connection symbol	No-load loss (kW)	No-load current (%)	Full-load loss (kW)	Impedance (%)
	HV	LV					
6300	63 66 69±2.5%	6.3 6.6 10.5 11	YNd11	9.2	0.6	36	9
8000				11.2	0.6	42.7	
10000				13.2	0.55	50.4	
12500				15.6	0.55	59.8	
16000				18.8	0.5	73.5	
20000				22	0.5	89.1	
25000				26	0.45	105.3	
31500				30.8	0.45	126.9	
40000				36.8	0.4	148.9	
50000				44	0.4	184.5	
63000				52	0.35	222.3	

2) Two-winding power transformer with on-load tap changing							
Rated capacity (kVA)	Voltage ratio and tap range (kV)		Connection symbol	No-load loss (kW)	No-load current (%)	Full-load loss (kW)	Impedance (%)
	HV	LV					
6300	63 66 69±8×1.25%	6.3 6.6 10.5 11	YNd11	10	0.6	36	9
8000				12	0.6	42.7	
10000				14.2	0.55	50.4	
12500				16.8	0.55	59.8	
16000				20.2	0.5	73.5	
20000				24	0.5	89.1	
25000				28.4	0.45	105.3	
31500				33.7	0.45	126.9	
40000				40.3	0.4	148.9	
50000				47.6	0.4	184.5	
63000				56.2	0.35	222.3	

35 kV Transformer



35 kV transformer

35 kV transformer introduction

Brunstock's series of 35 kV transformers have the following characteristics: low loss, low noise, protection against lightning with a high short-circuit withstand capacity. They are made in advanced assembly lines with carefully qualified and refined methods and equipment.

Our 35 kV series of energy-saving transformers have passed type testing by KEMA and ASTA (DNV) laboratories. The 35 kV series of transformers are mainly used in urban and rural power grids and other industries, mining, power transmission and distribution, new energy solar, wind farms and also agriculture projects.

35 kV transformer features

- The core is processed by the advanced method of vertical cut, horizontal cut, and stacking with stepped lap core and grade 3 seams. It reduces the air gaps and improves flux trend, thus decreasing the no-load loss, no-load current and noise;
- The core uses particular adhesives for the plate, press ring and silicon steel surfaces. The overall structure is designed with a range of measures that increase its mechanical strength;
- A new structure of HV and LV windings combine with a layout of oil duct and connecting areas to increase the mechanical strength and short-circuit withstand capacity;
- The tank is a bell type or core-lifting type, and the tank side is corrugated.

Technical data

35 kV distribution transformers

1) 50-1600/35 three-phase two-winding distribution transformer with de-energised tap changing

Rated capacity (kVA)	Voltage ratio and tap range (kV)		Connection symbol	Loss value for S9 series		Loss value for S10 series		Loss value for S11 series		No-load current (%)	Impedance (%)	Weight		Outline dimension			Gauge mm
	HV	LV		No-load	Full load	No-load	Full load	No-load	Full load			Oil	Total	L	W	H	
50	35 38.5 ±5 Or ±2 ×2.5%	0.4	Yyn0 Dyn11	0.21	1.21	0.19	1.15	0.17	1.15	2	6.5	275	740	1100	1000	1700	660
100				0.29	2.02	0.26	1.92	0.23	1.92	1.8		350	995	1100	1150	1750	660
125				0.34	2.38	0.31	2.26	0.27	2.26	1.7		430	1250	1100	1150	1800	660
160				0.36	2.83	0.32	2.69	0.29	2.69	1.6		450	1405	1160	1150	1860	660
200				0.43	3.33	0.39	3.16	0.34	3.16	1.5		495	1460	1230	1300	1950	660
250				0.51	3.96	0.46	3.76	0.41	3.76	1.4		520	1625	1250	1300	2000	660
315				0.61	4.77	0.55	4.53	0.49	4.53	1.4		590	1915	1400	1320	2070	820
400				0.73	5.76	0.66	5.47	0.58	5.47	1.3		680	2175	1510	1350	2150	820
500				0.86	6.93	0.77	6.58	0.69	6.58	1.2		760	2485	1620	1370	2240	820
630				1.04	8.28	0.94	7.87	0.83	7.87	1.1		830	2950	1750	1390	2330	820
800				1.23	9.9	1.11	9.41	0.98	9.41	1		880	3370	1900	1420	2400	820
1000				1.44	12.15	1.3	11.54	1.15	11.54	1		1005	4140	2165	1450	2485	820
1250				1.76	14.67	1.58	13.94	1.41	13.94	0.9		1160	4700	2230	1500	2600	1070
1600				2.12	17.55	1.91	16.67	1.7	16.67	0.8		1250	5570	2250	1650	2650	1070

2) 630-2500/35 three-phase two-winding distribution transformer with de-energised tap changing

Rated capacity (kVA)	Voltage ratio and tap range (kV)		Connection symbol	Loss value for S9 series		Loss value for S10 series		Loss value for S11 series		No-load current (%)	Impedance (%)	Weight		Outline dimension			Gauge mm
	HV	LV		No- load	Full load	No- load	Full load	No- load	Full load			Oil	Total	L	W	H	
630	35 38.5 ±5 Or ±2 ×2.5%	6.3 6.6 10 10.5 11	Yd11	1.04	8.28	0.94	7.87	0.83	7.87	1.1	6.5	0.65	2.9	2100	1300	2300	820
800				1.23	9.9	1.11	9.4	0.98	9.4	1		0.7	3.2	2200	1350	2350	820
1000				1.44	12.15	1.3	11.54	1.15	11.54	1		0.85	3.5	2350	1450	2400	820
1250				1.76	14.67	1.58	13.94	1.41	13.94	0.9		1.01	3.84	2500	1600	2450	1070
1600				2.12	17.55	1.91	16.67	1.7	16.67	0.8		1.2	5	2600	1700	2500	1070
2000				2.72	19.35	2.45	18.38	2.18	18.38	0.7		1.28	6	2730	1800	2600	1070
2500				3.2	20.7	2.88	19.67	2.56	19.67	0.6		1.4	7	2870	1900	2700	1070

Technical data

35 kV distribution transformers

3) Two-winding power transformer with de-energised tap changing							
Rated capacity (kVA)	Voltage ratio and tap range (kV)		Connection symbol	No-load loss (kW)	No-load current (%)	Full-load loss (kW)	Impedance (%)
	HV	LV					
3150	35 38,5±2×2,5%	3,15 3,3 6,3 6,6 10,5 11	Yd11	3,8	0,56	24,3	7,0
4000				4,52	0,56	28,8	
5000				5,4	0,48	33,03	
6300				6,56	0,48	36,9	
8000			YNd11	9	0,42	40,5	7,5
10000				10,88	0,42	47,7	
12500				12,6	0,40	56,7	
16000				15,2	0,40	69,3	
20000				18	0,40	83,7	
25000				21,28	0,32	99	
31500				25,28	0,32	118,8	

4) Two-winding power transformer with on-load tap changing							
Rated capacity (kVA)	Voltage ratio and tap range (kV)		Connection symbol	No-load loss (kW)	No-load current (%)	Full-load loss (kW)	Impedance (%)
	HV	LV					
3150	35 38,5±3×2,5%	6,3 6,6 10,5 11	Yd11	4,04	0,72	26,01	7,0
4000				4,84	0,72	30,69	
5000				5,8	0,68	36	
6300				7,04	0,68	38,7	
8000			YNd11	9,84	0,6	42,75	7,5
10000				11,6	0,6	50,58	
12500				13,68	0,56	59,85	
16000				16,46	0,54	74,02	
20000				19,46	0,54	87,14	

