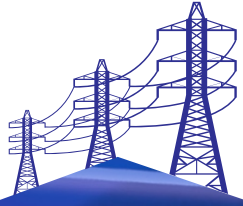
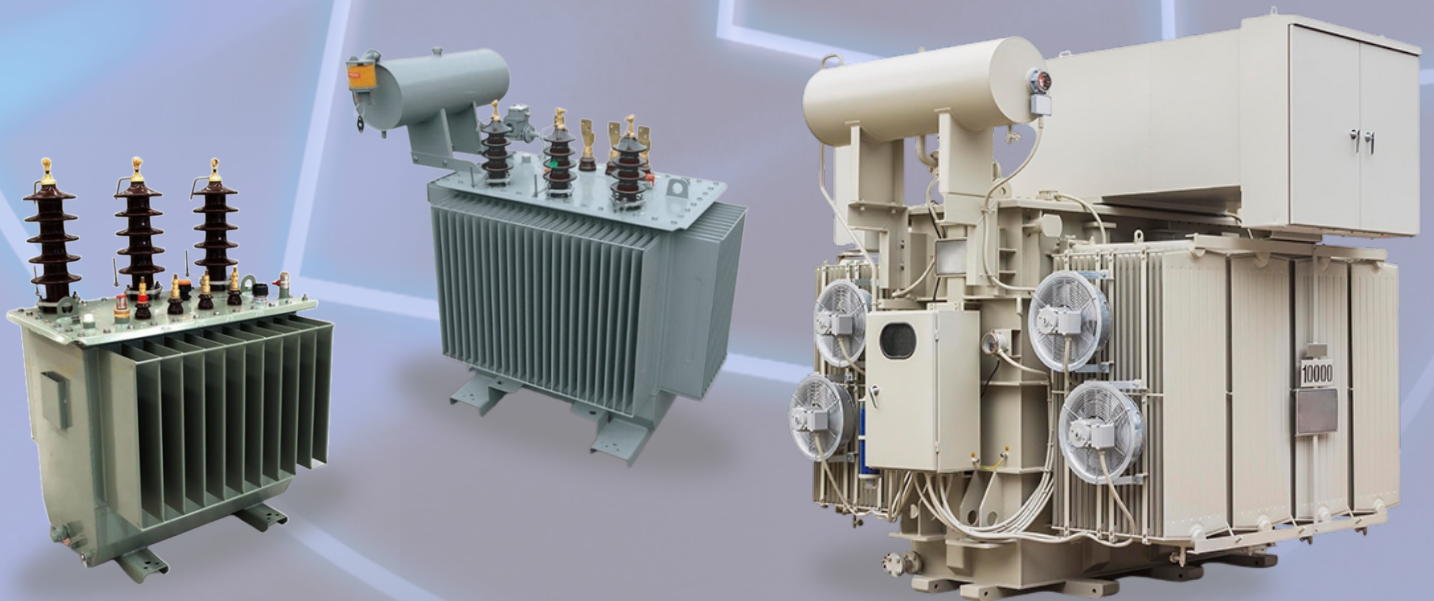


75
YEARS



ENERGOINVEST



TRANSFORMERS

2025: A Year of Strategic Transition

The company achieves its strongest financial results in the past three decades and initiates the restoration of its production capacities and the development of products under the Energoinvest brand. This confirms the company's strategic positioning and its return to numerous international markets.

The Energoinvest Story: Vision in Motion

What began as a team of 70 experts has grown into an icon of South-Eastern Europe. Energoinvest is a story of vision, renewal, and unity. Today, we are improving the world's energy systems to ensure they are sustainable, flexible, and safe. Our mission is clear: to reduce system costs while increasing network reliability through cutting-edge engineering.

Our expertise spans from traditional power plants to the frontier of Green Energy. We take pride in our "human-centric" approach—dedicating ourselves to the development of young talent and the promotion of culture and sports, leaving a lasting, positive mark on society.

A World of Expertise

Energoinvest is a global brand with a local heart. Headquartered in Bosnia and Herzegovina, our footprint extends across multiple continents. In an era of fierce global competition, we stay ahead by:

- **Monitoring Global Trends:** Adapting quickly to market shifts.
- **Strategic Partnerships:** Collaborating with world-class financial and industrial leaders.
- **Proven Results:** Delivering high-value infrastructure that stands the test of time.

In March 2025, Energoinvest signed a strategic partnership agreement with Ares Trafo Ekipmanları San. ve Tic. Ltd. Sti., with which Energoinvest officially launched the production of transformers under its own brand.

Our expertise

Energoinvest is engineering company, executing projects on turn-key basis as EPC contractor in following fields:

- Transmission and distribution
- Generation plants (TPP, HPP, WPP, PVPP)
- Information and Communication technologies
- Civil Engineering and Architecture
- Environment protection and Water utilities

Scope of services

- Design
- Procurement of equipment
- Construction
- Supervision
- Testing and commissioning
- Activities during the warranty period
- Maintenance and after-sales services
- Training of client staff

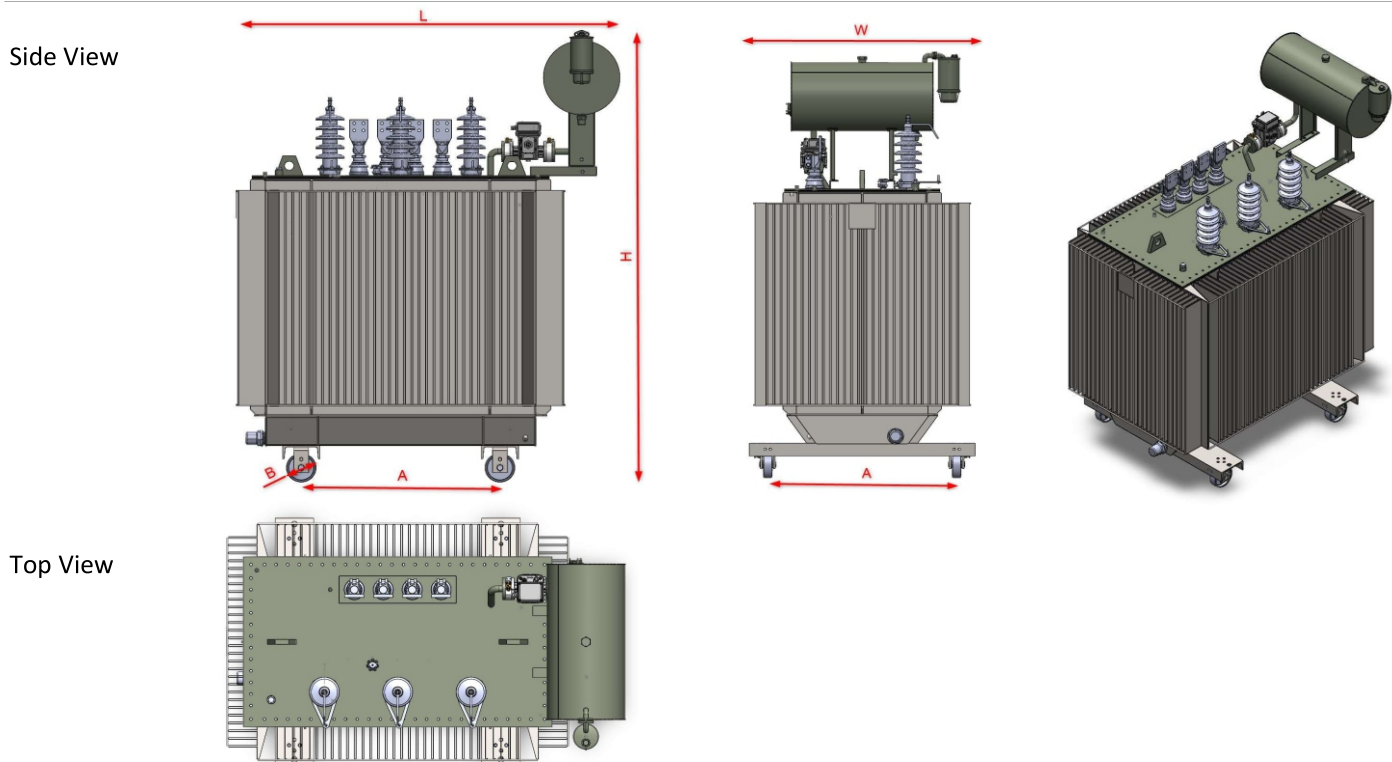


Tier 2 (Material: Cu/Cu)

Oil Distribution Transformer Up to 1600 kVA / 10 kV - 420V

Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	1000	1250	1600
Primary voltage	10 kV							
Secondary voltage	420 V between phases (at no load)							
HV insulation level	12 kV (75 / 28 kV)							
HV tapping range	+/- 2.5% and/or +/- 5%							
Temperature	Temperature rise 65 / 60 K							
Vector group	Dyn 5 (other vector groups upon request)							
No-load losses (Watts)	130	189	270	387	540	693	855	1080
Load Losses at 75°C (Watts)	1250	1750	2350	3250	4600	7600	9500	12000
Impedance voltage (%)	4	4	4	4	4	6	6	6



Dimensions and weights

Rated power (kVA)		100	160	250	400	630	1000	1250	1600
Length	L mm	1020	1050	1100	1400	1460	1680	1750	1900
Width	W mm	770	770	770	870	890	1040	1040	1080
Height	H mm	1400	1400	1490	1580	1700	1760	1930	2040
Roller Distance	A mm	520	520	520	670	670	820	820	820
Roller Dimension	B mm	125	125	125	125	125	125	125	160
Total weight	kg	950	1050	1250	1740	2350	3180	3400	4000
Oil weight	kg	180	180	220	270	350	490	520	620
HV Bushing Type	Porcelain bushing								
LV Bushing Type	Porcelain bushing								

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m



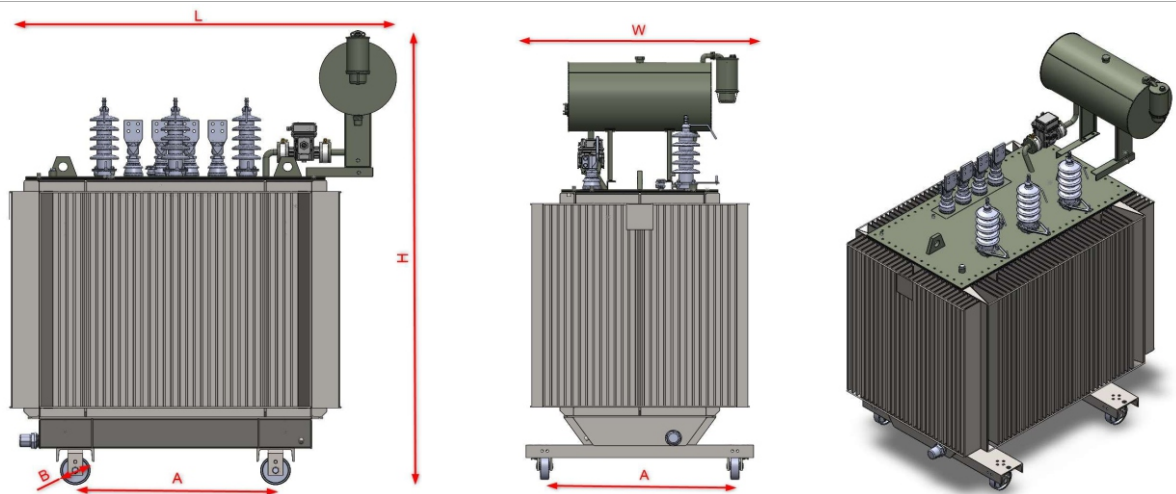
Tier 2 (Material: Cu/Cu)

Oil Distribution Transformer Up to 1600 kVA / 20 kV - 420V

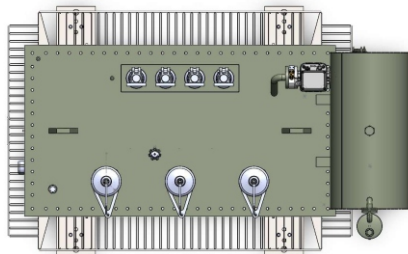
Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	1000	1250	1600
Primary voltage	20 kV							
Secondary voltage	420 V between phases (at no load)							
HV insulation level	24 kV (125 / 50 kV)							
HV tapping range	+/- 2.5% and/or +/- 5%							
Temperature	Temperature rise 65 / 60 K							
Vector group	Dyn 5 (other vector groups upon request)							
No-load losses (Watts)	130	189	270	387	540	693	855	1080
Load Losses at 75°C (Watts)	1250	1750	2350	3250	4600	7600	9500	12000
Impedance voltage (%)	4	4	4	4	4	6	6	6

Side View



Top View



Dimensions and weights

Rated power (kVA)		100	160	250	400	630	1000	1250	1600
Length	L mm	1020	1080	1100	1560	1550	1750	1800	1900
Width	W mm	770	770	770	870	890	1040	1040	1100
Height	H mm	1430	1480	1550	1650	1720	1820	2020	2100
Roller Distance	A mm	520	520	520	670	670	820	820	820
Roller Dimension	B mm	125	125	125	125	125	125	125	160
Total weight	kg	970	1180	1400	1950	2350	3180	3500	4150
Oil weight	kg	190	220	250	350	360	550	560	660
HV Bushing Type	Porcelain bushing								
LV Bushing Type	Porcelain bushing								

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m



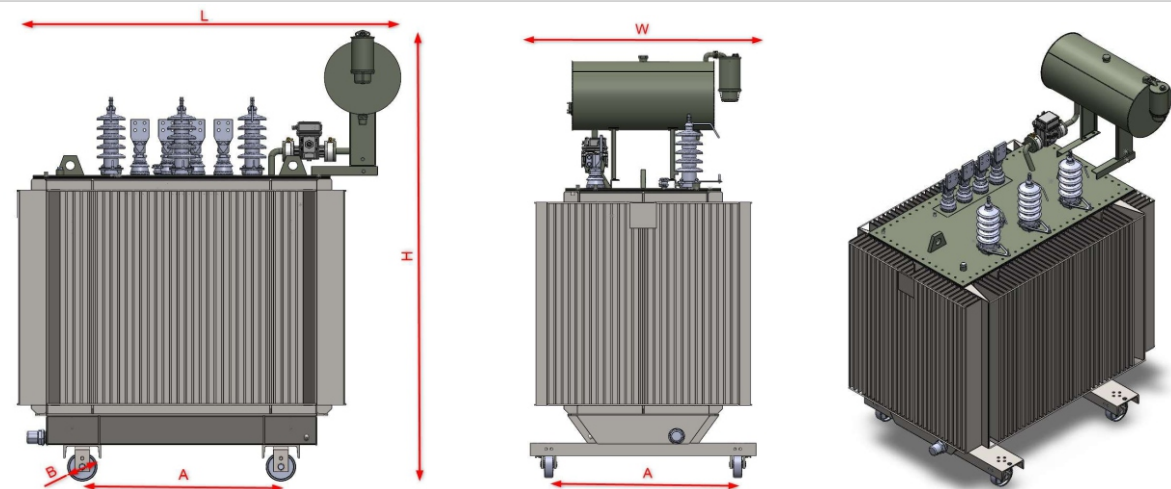
(Material: Cu/Cu)

Oil Distribution Transformer Up to 1600 kVA / 10 kV - 420V

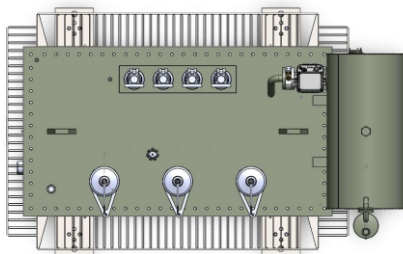
Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	1000	1250	1600
Primary voltage	10 kV							
Secondary voltage	420 V between phases (at no load)							
HV insulation level	12 kV (75 / 28 kV)							
HV tapping range	+/- 2.5% and/or +/- 5%							
Temperature	Temperature rise 65 / 60 K							
Vector group	Dyn 5 (other vector groups upon request)							
No-load losses (Watts)	210	300	425	610	860	1100	1350	1700
Load Losses at 75°C (Watts)	1475	2000	2750	3850	5400	9500	11000	14000
Impedance voltage (%)	4	4	4	4	4	6	6	6

Side View



Top View



Dimensions and weights

Rated power (kVA)	100	160	250	400	630	1000	1250	1600	
Length	L mm	1020	1050	1100	1380	1500	1800	1800	2000
Width	W mm	770	770	770	870	890	1080	1140	1220
Height	H mm	1400	1400	1520	1580	1650	1720	1800	2040
Roller Distance	A mm	520	520	520	670	670	820	820	820
Roller Dimension	B mm	125	125	125	125	125	125	125	160
Total weight	kg	800	860	1450	1740	2020	3000	3100	3850
Oil weight	kg	190	180	260	270	340	490	500	600
HV Bushing Type	Porcelain bushing								
LV Bushing Type	Porcelain bushing								

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m



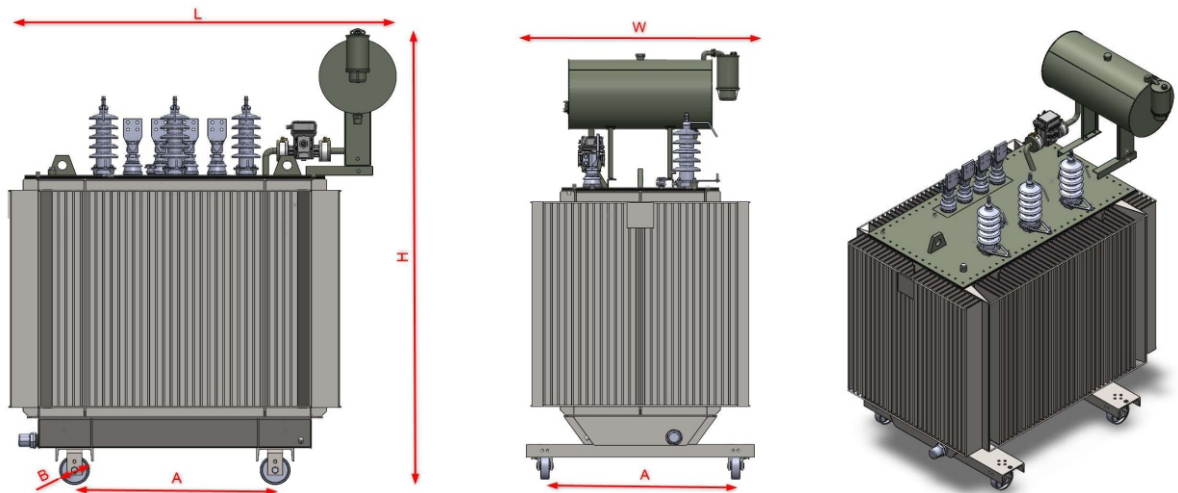
(Material: Cu/Cu)

Oil Distribution Transformer Up to 1600 kVA / 20 kV - 420V

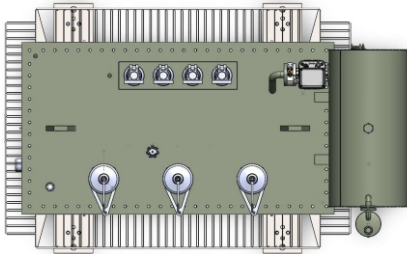
Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	1000	1250	1600
Primary voltage	20 kV							
Secondary voltage	420 V between phases (at no load)							
HV insulation level	24 kV (125 / 50 kV)							
HV tapping range	+/- 2.5% and/or +/- 5%							
Temperature	Temperature rise 65 / 60 K							
Vector group	Dyn 5 (other vector groups upon request)							
No-load losses (Watts)	210	300	425	610	860	1100	1350	1700
Load Losses at 75°C (Watts)	1475	2000	2750	3850	5400	9500	11000	14000
Impedance voltage (%)	4	4	4	4	4	6	6	6

Side View



Top View



Dimensions and weights

Rated power (kVA)			100	160	250	400	630	1000	1250	1600
Length	L	mm	1050	1050	1100	1490	1600	1850	1850	1880
Width	W	mm	770	770	770	870	890	1080	1140	1190
Height	H	mm	1410	1450	1480	1520	1650	1730	1850	2110
Roller Distance	A	mm	520	520	520	670	670	820	820	820
Roller Dimension	B	mm	125	125	125	125	125	125	125	160
Total weight		kg	810	920	1130	1500	2090	2780	3200	3920
Oil weight		kg	190	200	230	270	360	510	540	600
HV Bushing Type	Porcelain bushing									
LV Bushing Type	Porcelain bushing									

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m

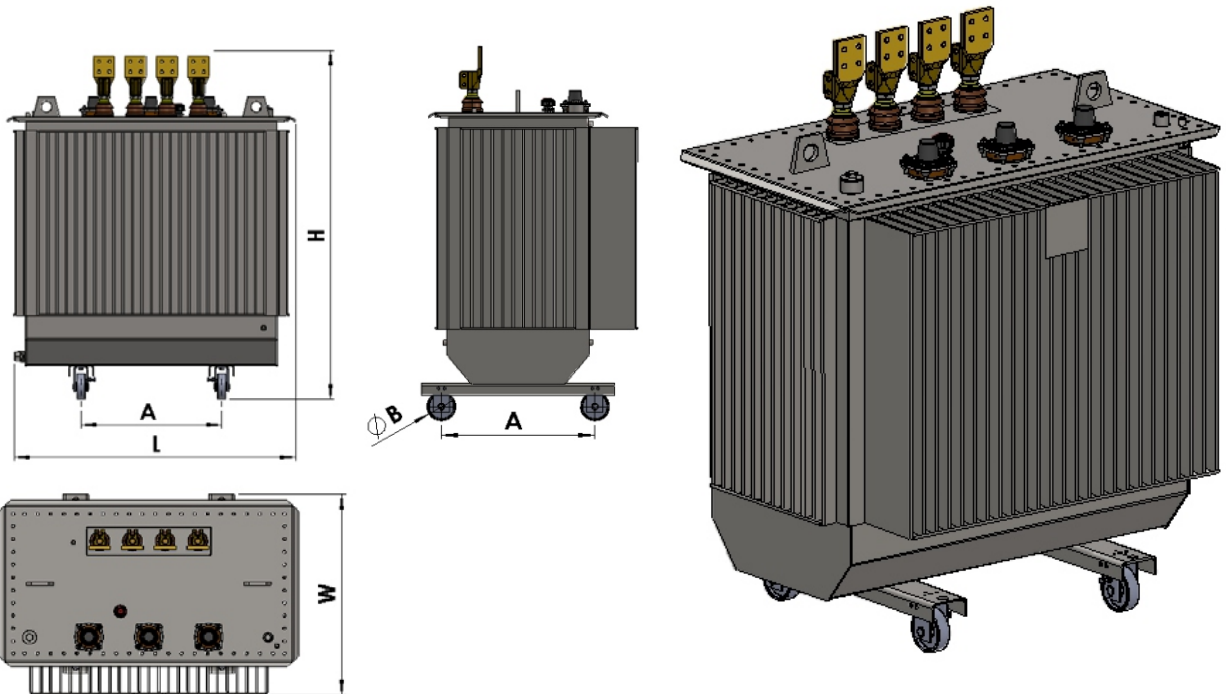


Oil Distribution Transformer Up to 3150 kVA / 10 kV - 400V

Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Primary voltage	10 kV											
Secondary voltage	400 V between phases (at no load)											
HV insulation level	12 kV (75 / 28 kV)											
HV tapping range	+/- 2.5% and/or +/- 5%											
Temperature	Temperature rise 65 / 60 K											
Vector group	Dyn 5 (other vector groups upon request)											
No-load losses (Watts)	130	189	270	387	540	585	693	855	1080	1305	1575	1980
Load Losses at 75°C (Watts)	1250	1750	2350	3250	4600	6000	7600	9500	12000	15000	18500	23000
Impedance voltage (%)	4	4	4	4	4	6	6	6	6	6	6	6

Side View



Top View

Dimensions and weights

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150	
Length	L mm	1130	1170	1130	1220	1270	1420	1430	1510	1560	1660	1850	2090
Width	W mm	750	770	770	870	890	1020	1040	1040	1060	1220	1230	1260
Height	H mm	1400	1450	1490	1580	1700	1760	1770	1840	2030	2180	2300	2500
Roller Distance	A mm	520	520	520	670	670	670	820	820	820	1070	1070	1070
Roller Dimension	B mm	125	125	125	125	125	125	160	160	160	160	160	200
Total weight	kg	1050	1300	1330	1770	2370	2900	3080	3540	4000	4770	5500	7200
Oil weight	kg	260	290	270	350	400	540	560	690	780	930	1100	1570
HV Bushing Type	Plug-in Type (Porcelain available)												
LV Bushing Type	Porcelain bushing												

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m

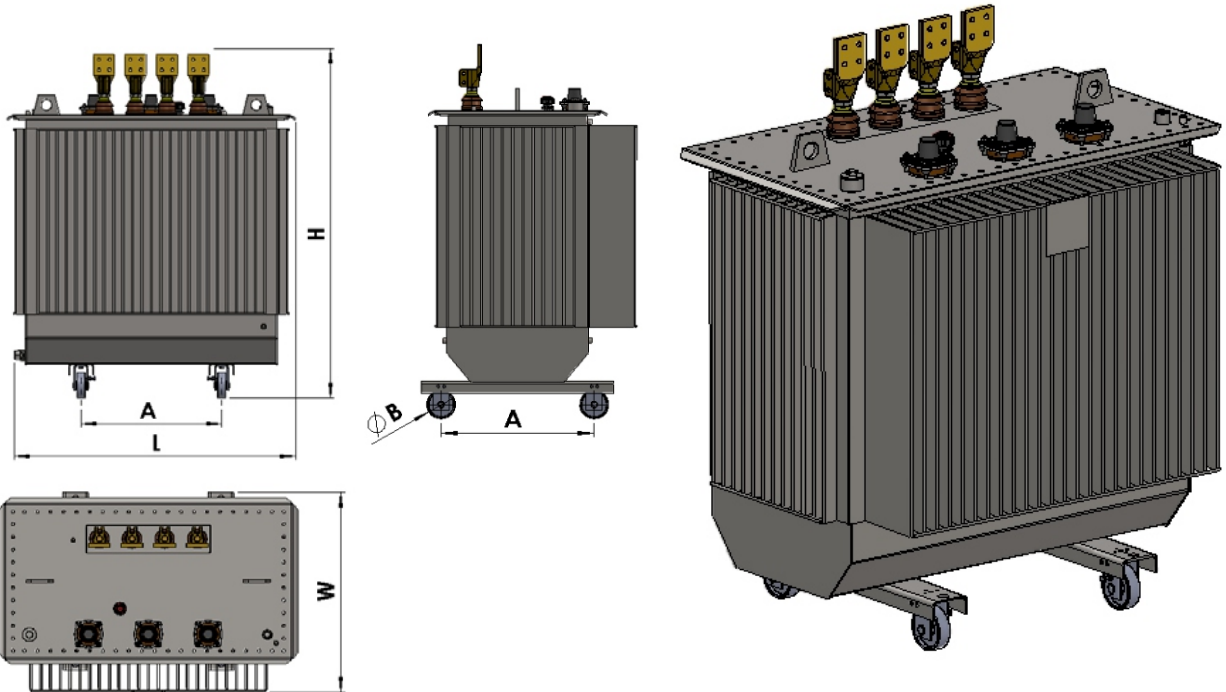


Oil Distribution Transformer Up to 3150 kVA / 10,6 kV - 420V

Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Primary voltage	10,6 kV											
Secondary voltage	420 V between phases (at no load)											
HV insulation level	12 kV (75 / 28 kV)											
HV tapping range	+/- 2.5% and/or +/- 5%											
Temperature	Temperature rise 65 / 60 K											
Vector group	Dyn 11 (other vector groups upon request)											
No-load losses (Watts)	130	189	270	387	540	585	693	855	1080	1305	1575	1980
Load Losses at 75°C (Watts)	1250	1750	2350	3250	4600	6000	7600	9500	12000	15000	18500	23000
Impedance voltage (%)	4	4	4	4	4	6	6	6	6	6	6	6

Side View



Top View

Dimensions and weights

Rated power (kVA)		100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Length	L mm	1180	1190	1210	1230	1350	1530	1530	1500	1550	1730	1780	1970
Width	W mm	770	780	810	890	900	990	1040	1070	1060	1280	1290	1310
Height	H mm	1440	1500	1540	1640	1740	1760	1870	1860	1990	2200	2400	2620
Roller Distance	A mm	520	520	520	670	670	670	820	820	820	1070	1070	1070
Roller Dimension	B mm	125	125	125	125	125	125	160	160	160	160	160	200
Total weight	kg	1150	1280	1590	1880	2570	3170	3360	3620	3970	5000	5970	7550
Oil weight	kg	290	300	350	390	500	650	650	690	790	1070	1250	1600
HV Bushing Type	Plug-in Type (Porcelain available)												
LV Bushing Type	Porcelain bushing												

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m

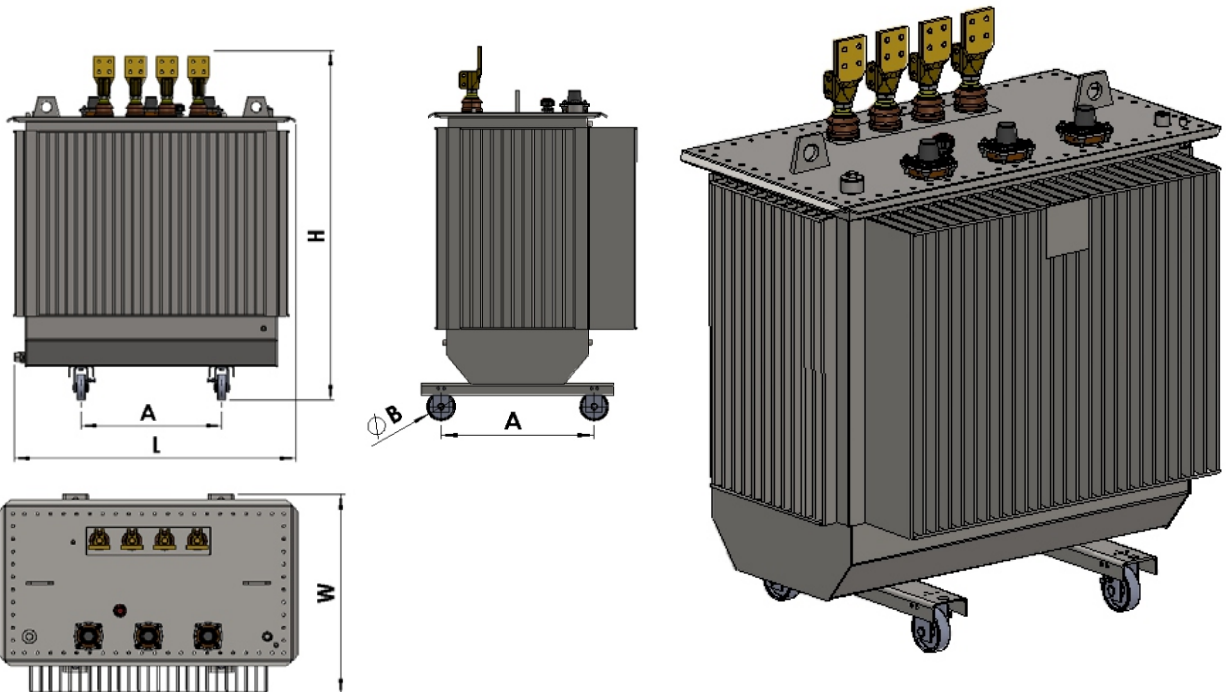


Oil Distribution Transformer Up to 3150 kVA / 11,7 kV - 420V

Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Primary voltage	11,7 kV											
Secondary voltage	420 V between phases (at no load)											
HV insulation level	12 kV (75 / 28 kV)											
HV tapping range	+/- 2.5% and/or +/- 5%											
Temperature	Temperature rise 65 / 60 K											
Vector group	Dyn 11 (other vector groups upon request)											
No-load losses (Watts)	130	189	270	387	540	585	693	855	1080	1305	1575	1980
Load Losses at 75°C (Watts)	1250	1750	2350	3250	4600	6000	7600	9500	12000	15000	18500	23000
Impedance voltage (%)	4	4	4	4	4	6	6	6	6	6	6	6

Side View



Top View

Dimensions and weights

Rated power (kVA)		100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Length	L mm	1150	1200	1210	1230	1340	1550	1550	1530	1650	1740	1830	2070
Width	W mm	780	790	770	870	930	1000	1020	1060	1120	1280	1280	1280
Height	H mm	1450	1510	1560	1640	1800	1800	1870	1890	2150	2250	2440	2590
Roller Distance	A mm	520	520	520	670	670	670	820	820	820	1070	1070	1070
Roller Dimension	B mm	125	125	125	125	125	125	160	160	160	160	160	200
Total weight	kg	1200	1340	1550	1900	2640	3350	3350	3650	4450	5250	6050	7200
Oil weight	kg	290	320	330	370	510	690	650	710	980	1180	1330	1560
HV Bushing Type	Plug-in Type (Porcelain available)												
LV Bushing Type	Porcelain bushing												

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m

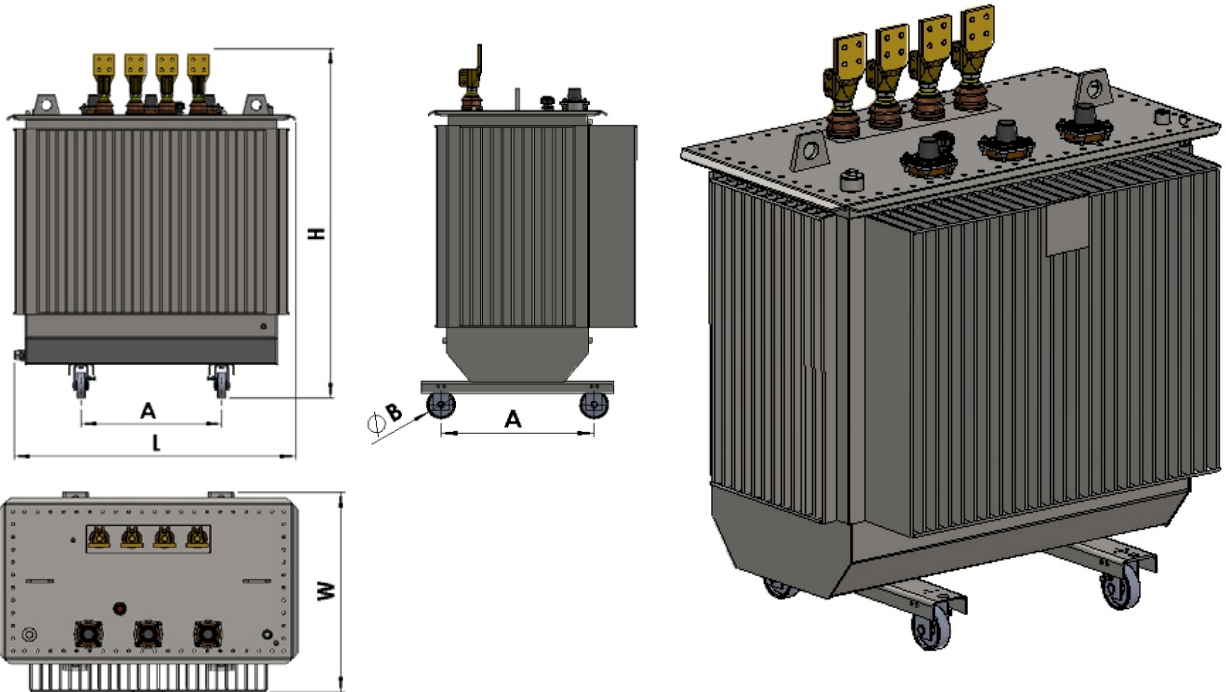


Oil Distribution Transformer Up to 3150 kVA / 12,3 kV - 420V

Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Primary voltage	12,3 kV											
Secondary voltage	420 V between phases (at no load)											
HV insulation level	17.5 kV (95 / 38 kV)											
HV tapping range	+/- 2.5% and/or +/- 5%											
Temperature	Temperature rise 65 / 60 K											
Vector group	Dyn 11 (other vector groups upon request)											
No-load losses (Watts)	130	189	270	387	540	585	693	855	1080	1305	1575	1980
Load Losses at 75°C (Watts)	1250	1750	2350	3250	4600	6000	7600	9500	12000	15000	18500	23000
Impedance voltage (%)	4	4	4	4	4	6	6	6	6	6	6	6

Side View



Top View

Dimensions and weights

Rated power (kVA)		100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Length	L mm	1150	1200	1230	1280	1370	1550	1520	1560	1570	1750	1870	2070
Width	W mm	740	790	820	930	970	1000	1040	1090	1100	1290	1290	1310
Height	H mm	1460	1530	1600	1680	1800	1780	1860	1890	2090	2200	2440	2690
Roller Distance	A mm	520	520	520	670	670	670	820	820	820	1070	1070	1070
Roller Dimension	B mm	125	125	125	125	125	125	160	160	160	160	160	200
Total weight	kg	1200	1420	1730	2150	2800	3400	3400	3850	4270	5050	6200	7730
Oil weight	kg	290	340	380	440	570	680	650	780	870	1060	1370	1650
HV Bushing Type	Plug-in Type (Porcelain available)												
LV Bushing Type	Porcelain bushing												

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m

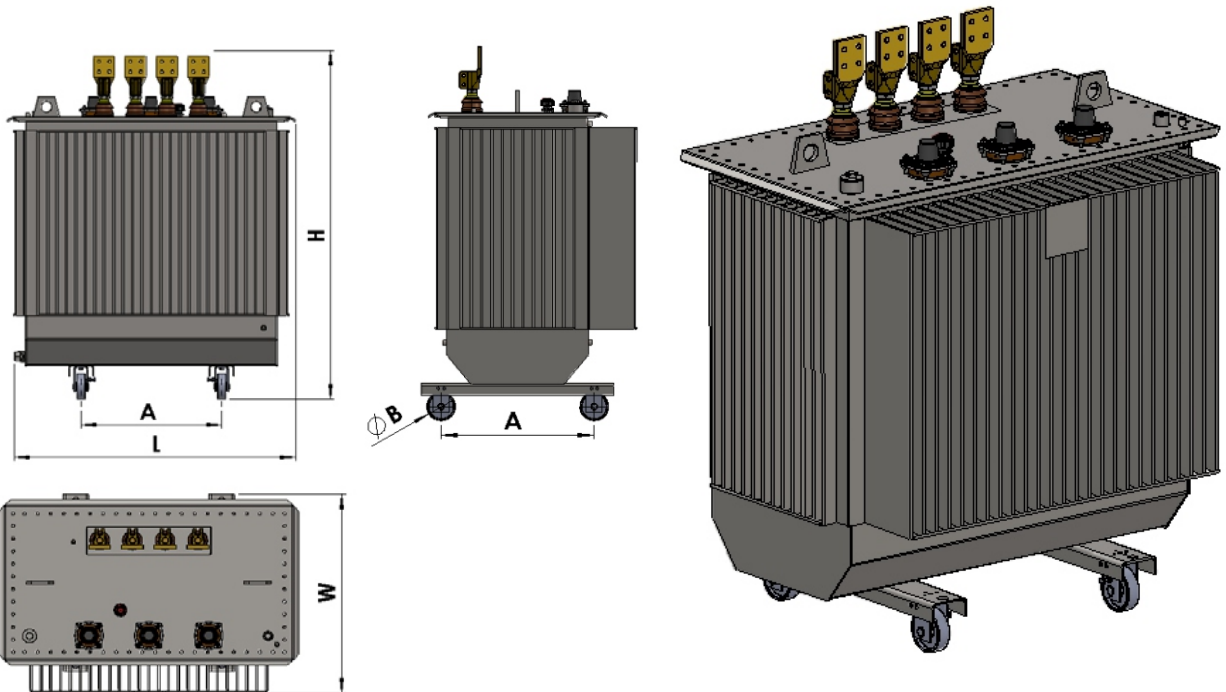


Oil Distribution Transformer Up to 3150 kVA / 15,75 kV - 420V

Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Primary voltage	15,75 kV											
Secondary voltage	420 V between phases (at no load)											
HV insulation level	17.5 kV (95 / 38 kV)											
HV tapping range	+/- 2.5% and/or +/- 5%											
Temperature	Temperature rise 65 / 60 K											
Vector group	Dyn 11 (other vector groups upon request)											
No-load losses (Watts)	130	189	270	387	540	585	693	855	1080	1305	1575	1980
Load Losses at 75°C (Watts)	1250	1750	2350	3250	4600	6000	7600	9500	12000	15000	18500	23000
Impedance voltage (%)	4	4	4	4	4	6	6	6	6	6	6	6

Side View



Top View

Dimensions and weights

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150	
Length	L mm	1160	1220	1240	1240	1360	1530	1460	1530	1560	1730	1850	2100
Width	W mm	760	800	810	890	940	1000	1050	1040	1070	1290	1280	1320
Height	H mm	1460	1500	1640	1640	1800	1790	1830	1870	2000	2200	2430	2670
Roller Distance	A mm	520	520	520	670	670	670	820	820	820	1070	1070	1070
Roller Dimension	B mm	125	125	125	125	125	125	160	160	160	160	160	200
Total weight	kg	1190	1400	1700	1980	2700	3250	3340	3570	4020	5050	6150	7720
Oil weight	kg	290	340	410	400	530	700	620	680	810	1110	1370	1680
HV Bushing Type	Plug-in Type (Porcelain available)												
LV Bushing Type	Porcelain bushing												

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m

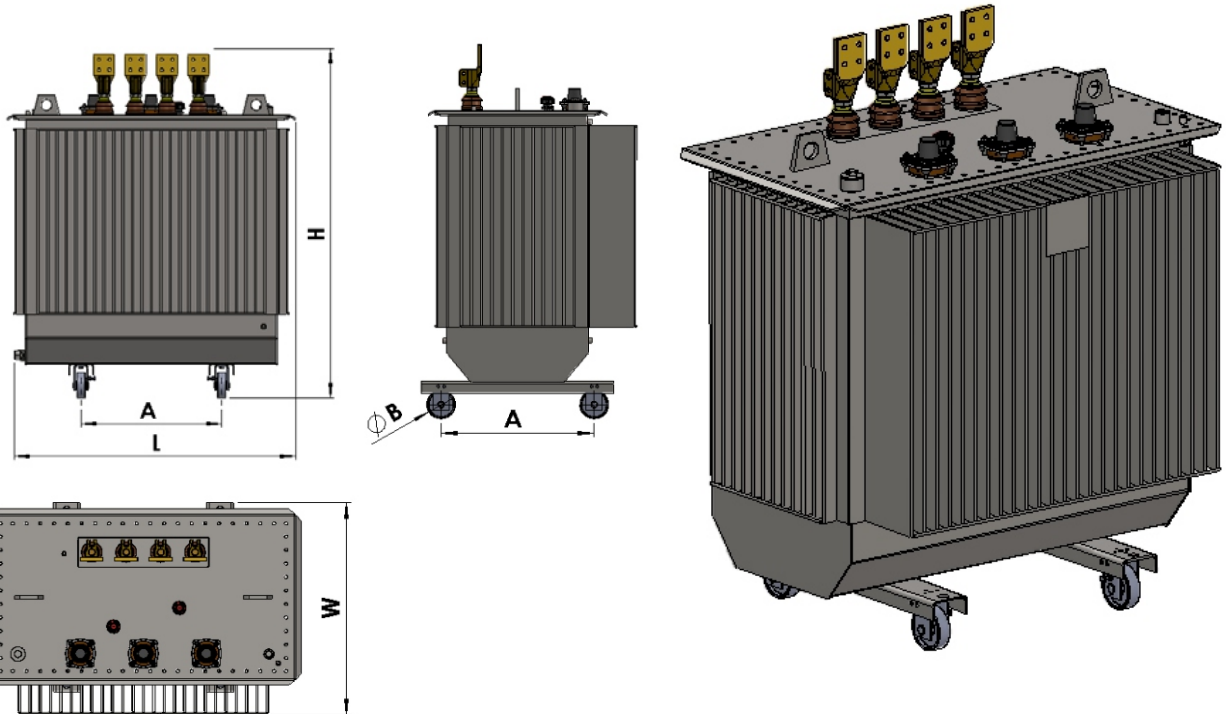


Oil Distribution Transformer Up to 3150 kVA / 20(10) kV - 400V

Main electrical characteristics

Rated power (kVA)	630	800	1000	1250	1600	2000	2500	3150
Primary voltage	20(10) kV							
Secondary voltage	400 V between phases (at no load)							
HV insulation level	24 kV (125 / 50 kV)							
HV tapping range	+/- 2.5% and/or +/- 5%							
Temperature	Temperature rise 65 / 60 K							
Vector group	Dyn 11 (other vector groups upon request)							
No-load losses (Watts)	540	585	693	855	1080	1305	1575	1980
Load Losses at 75°C (Watts)	4600	6000	7600	9500	12000	15000	18500	23000
Impedance voltage (%)	4	6	6	6	6	6	6	6

Side View



Top View

Dimensions and weights

Rated power (kVA)		630	800	1000	1250	1600	2000	2500	3150
Length	L mm	1330	1560	1560	1610	1630	1720	1790	2050
Width	W mm	890	980	970	1080	1070	1150	1180	1230
Height	H mm	1690	1690	1770	1840	1900	2000	2160	2430
Roller Distance	A mm	670	670	820	820	820	1070	1070	1070
Roller Dimension	B mm	125	125	160	160	160	160	160	200
Total weight	kg	2250	2740	2910	3260	3630	4400	5140	7250
Oil weight	kg	520	660	690	830	850	1050	1220	1650
HV Bushing Type	Plug-in Type (Porcelain available)								
LV Bushing Type	Porcelain bushing								

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m

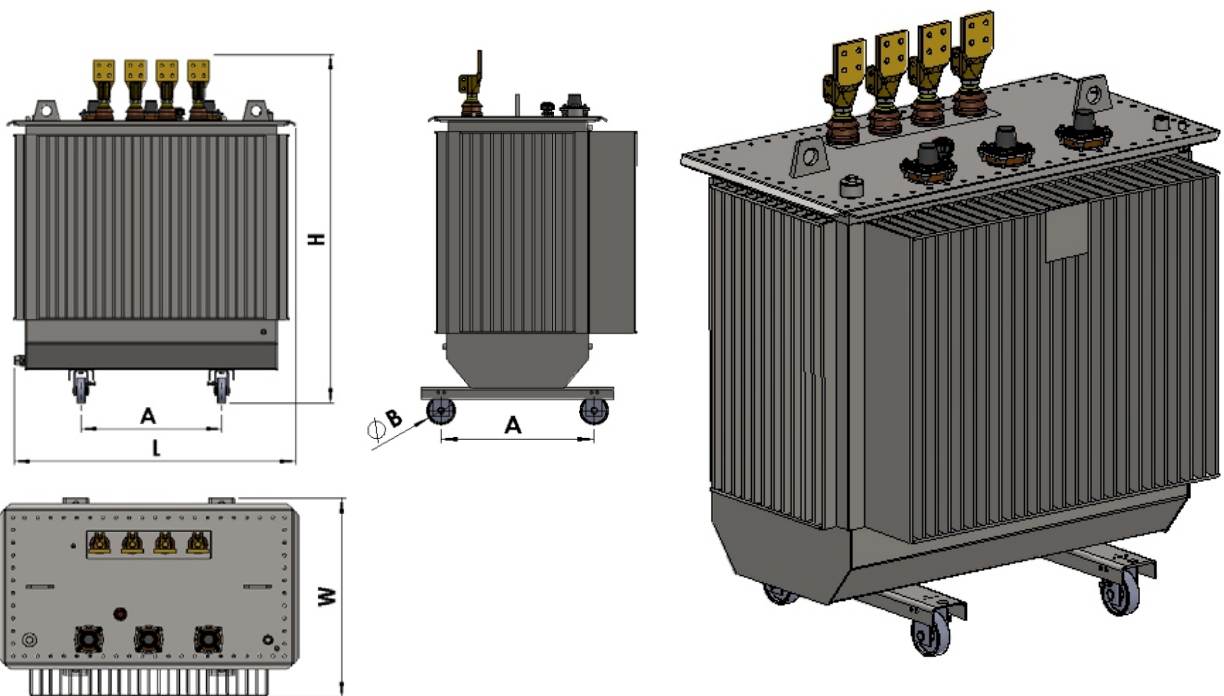


Oil Distribution Transformer Up to 3150 kVA / 20 kV - 400V

Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Primary voltage	20 kV											
Secondary voltage	400 V between phases (at no load)											
HV insulation level	24 kV (125 / 50 kV)											
HV tapping range	+/- 2.5% and/or +/- 5%											
Temperature	Temperature rise 65 / 60 K											
Vector group	Dyn 5 (other vector groups upon request)											
No-load losses (Watts)	130	189	270	387	540	585	693	855	1080	1305	1575	1980
Load Losses at 75°C (Watts)	1250	1750	2350	3250	4600	6000	7600	9500	12000	15000	18500	23000
Impedance voltage (%)	4	4	4	4	4	6	6	6	6	6	6	6

Side View



Top View

Dimensions and weights

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150	
Length	L mm	1100	1120	1180	1330	1340	1540	1420	1510	1560	1620	1720	2100
Width	W mm	720	770	790	890	900	1060	1030	1050	1120	1230	1230	1270
Height	H mm	1450	1540	1630	1730	1730	1680	1910	1920	1960	1960	2460	2460
Roller Distance	A mm	520	520	520	670	670	670	820	820	820	1070	1070	1070
Roller Dimension	B mm	125	125	125	125	125	125	160	160	160	160	160	200
Total weight	kg	1100	1330	1340	2200	2650	3240	3450	3650	4150	4150	5800	7150
Oil weight	kg	260	310	370	460	490	600	640	720	790	1020	1180	1570
HV Bushing Type	Plug-in Type (Porcelain available)												
LV Bushing Type	Porcelain bushing												

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m

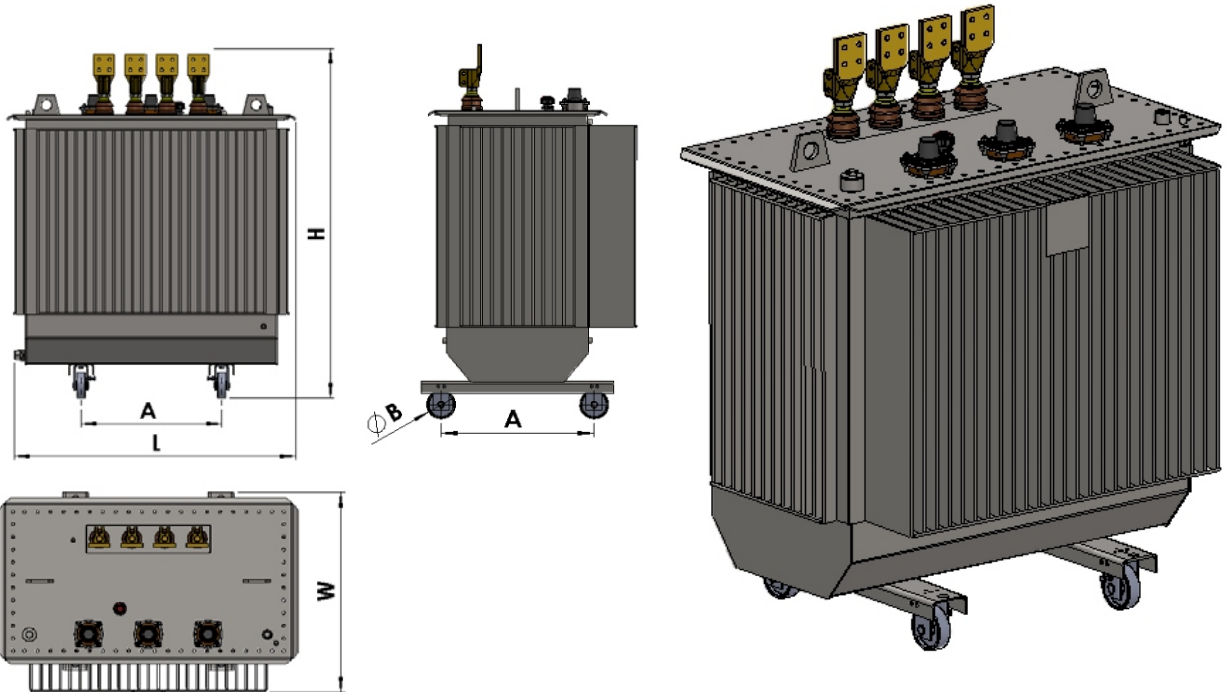


Oil Distribution Transformer Up to 3150 kVA / 20 kV - 800V

Main electrical characteristics

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Primary voltage	20 kV											
Secondary voltage	800 V between phases (at no load)											
HV insulation level	24 kV (125 / 50 kV)											
HV tapping range	+/- 2.5% and/or +/- 5%											
Temperature	Temperature rise 65 / 60 K											
Vector group	Dyn 5 (other vector groups upon request)											
No-load losses (Watts)	130	189	270	387	540	585	693	855	1080	1305	1575	1980
Load Losses at 75°C (Watts)	1250	1750	2350	3250	4600	6000	7600	9500	12000	15000	18500	23000
Impedance voltage (%)	4	4	4	4	4	6	6	6	6	6	6	6

Side View



Top View

Dimensions and weights

Rated power (kVA)	100	160	250	400	630	800	1000	1250	1600	2000	2500	3150
Length	L mm	1160	1180	1280	1340	1330	1540	1500	1520	1400	1780	2070
Width	W mm	770	790	840	920	910	1030	1040	1030	1040	1230	1380
Height	H mm	1590	1600	1750	1860	1860	1800	1840	1860	2050	2100	2220
Roller Distance	A mm	520	520	520	670	670	670	820	820	820	1070	1070
Roller Dimension	B mm	125	125	125	125	125	125	160	160	160	160	200
Total weight	kg	1280	1500	2100	2400	2860	2860	3450	3560	3690	4400	5870
Oil weight	kg	330	360	490	550	530	530	650	680	670	790	1090
HV Bushing Type	Plug-in Type (Porcelain available)											
LV Bushing Type	Porcelain bushing											

Notes:

- 1) Dimensions and weights are for reference only and are NON CONTRACTUAL.
- 2) Altitude maximum 1000m



Dry Type (Cast Resin) Transformers

They differ from oil-immersed transformers in their cooling method. The HV windings are encapsulated in epoxy cast resin under a vacuum. The LV windings can be produced using both the cast resin and resin-impregnated prepreg methods.

They are produced in natural air cooled (AN) or fan cooled (AF) options in the 25-25000 kVA power range, up to 72.5kV medium voltage level. It can provide up to 40% power increase by using cooling fan.

Dry type transformer manufacturing, requires advanced technology and knowledge, increases its market share compared to oil type transformers with the increasing customer demands in recent years.

In today's technology, however, the production of large power dry type transformers, especially above 36 72.5kV voltage level, involves technological challenges. Research and development studies on this subject are continuing at full speed.

No environmentally harmful coolant such as oil, less risk of fire, maintenance-free, resistant to moisture, can be commissioned at any time despite the fact that it is not in operation for a long time and can be loaded more than 40% of nominal power with fan cooling supplement oily type distribution transformers. However, the most important negative aspect of today is the higher sales price compared to an oil-type transformer of the same power, dry-type distribution transformers have been increasing the share of sales in recent years.



Renewable Energy (Solar and Wind) Transformers

These transformers are produced in a range from 25 to 5000kVA, with voltage levels up to 72.5kV. They are designed for low losses, harmonic resilience, and high resistance to short circuits and voltage fluctuations.

Transformers for wind and solar applications possess unique operational characteristics.

Beyond their primary function of voltage transformation, factors such as harmonic distortion, transient voltage disruptions, and frequent load cycling must be meticulously managed. Failure to address these variables can significantly impact the efficiency and operational safety of the units.



Power Transformers

Power transformers are essential components in electricity transmission and distribution networks, designed to bridge the gap between primary (input) and secondary (output) voltage levels.

We design and manufacture these units according to specific customer requirements, starting from 5000 kVA and 72.5 kV levels and above. Our power transformers cover a broad spectrum of technical specifications, including various power ratings, voltage ratios, and regulation types.

Each unit is developed using a tailor-made approach, meticulously considering both technical specifications and environmental operating conditions. All factors affecting efficiency and performance are strictly addressed during the design phase.

Our products comply with local and international standards, including TS 267 EN 60076-1, IEC 60076-1, BS 171, DIN, ANSI, ENEL, ENDESA, CSA, and GOST, among others.



Accessories



Pressure Safety Valve R 1"



Oil Level Indicator Vertical R 1"



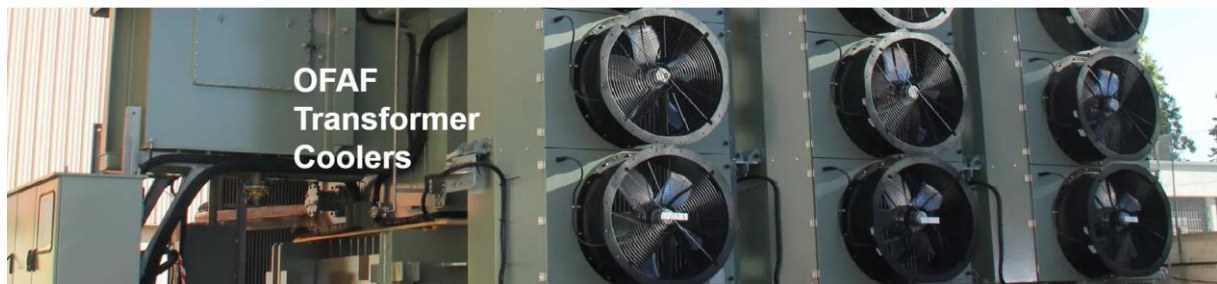
DMCR 3.0 Protection Relay

Accessories:

- Transformer Bushings
- Transformer Valves
- Pressure Relief Valves
- Buchholz Relays
- Breather Moisture Holder
- Bimetal Thermometer
- Oil level indicators
- Axial Cooling Fans
- Dry Type Cooling Fans
- Transformer Wheels
- Terminal Boxes
- Metal Fixing parts
- Flexible Copper Press Welded Connectors



Transformer cooling solutions



OFAF transformer coolers for extreme conditions

Our oil forced/air forced (OFAF) coolers help control the temperature of insulating oil. They are used in large transformers and other large, high voltage equipment across the power generation, transmission and distribution industries. We typically supply to transformer manufacturers and maintenance companies. Our OFAF coolers are customized to meet specific operating and environmental requirements.

Key benefits of OFAF coolers

Improved performance – Effective cooling helps transformers operate at peak efficiency. While ensuring long life and reliability, they also require less maintenance. Our highly efficient fin block and fan design ensures low sound levels and energy consumption.



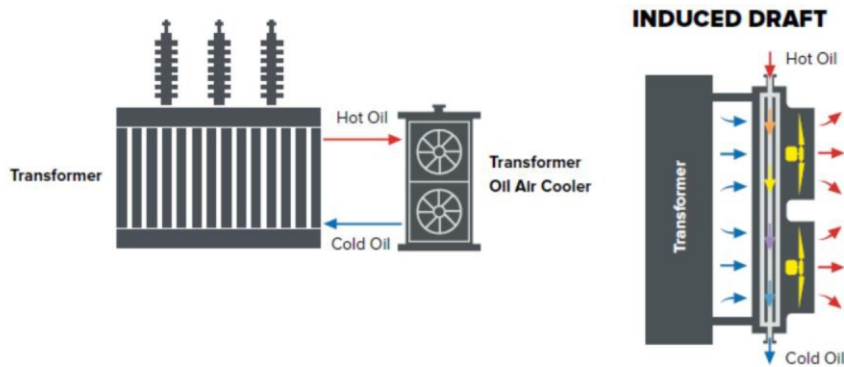
Rugged and robust – We design our OFAF transformer coolers to withstand vibration shock, seismic forces and thermal movement. Aluminum alloys are used as the standard for the tube, fin and tubeplate to minimize corrosion. We provide custom options as required. Components supporting the fans and cooler elements are protected to C3 as standard, increased to C5-M(H) when conditions dictate.

Flexible – The modular construction of our OFAF cooler range means the products fit all oil filled transformers. The highly configurable design can also meet all thermal requirements. Different materials, finishes and coatings are used to suit the most stringent operating conditions and to offer long service life.



What is OFAF?

OFAF stands for oil forced/air forced. It describes how an oil type transformer is cooled by forced movement of both air and oil to aid in heat dissipation. It's a compact, highly effective cooling method for a range of equipment.



How oil forced/air forced coolers work?

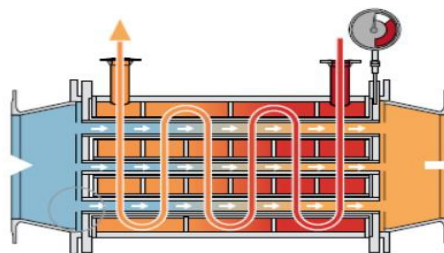
Our OFAF transformer coolers operate at ambient temperatures of $-40...-25^{\circ}\text{C}$ to $+40...+60^{\circ}\text{C}$. Orders are taken with optional -45°C and $+80^{\circ}\text{C}$ limits. Transformer oil coolers are used to keep a huge power plant cool in desert conditions.

The cooling element is made of materials suitable for the local environment and is designed to provide a high level of heat transfer. It is housed in a robust, long-lasting frame for protection against vibration and thermal shock. Final product is designed according our client's requirements.

The chillers can be custom designed and manufactured in lengths with 1 to 4 fan baffles.

Typical configurations include 1,3 or 5 pass arrangements 4 to 8 rows deep. A wide variety of fans and motors are available to meet local electrical requirements, specified noise levels and ingress protection.

The fan structure is an external motor rotor with better balanced, die-cast aluminum low noise blades to G6.3 standards or as required. The ingress protection is IP54, with optional IP66, and the bearing life is expected to be more than 30,000 hours.



Additional options and accessories include:

- Angled fans for efficient evacuation of hot air in confined spaces
- Hinged/lift-off fans for easy coil cleaning and replacement
- An inlet grid to prevent large particulate such as vegetation choking the element inlet face
- Oil circulation pumps
- Enhanced paint finishes
- Mating flanges and gaskets
- Customized packing for shipment
- According to the customer's request, the cooler is made using stainless or copper pipes.



OFAF COOLING SELECT

Customer Name:

Date: / /

OFAF COOLING

Order No:

Requested Capacity 50 kW 75 kW 100 kW 150 kW 200 kW 300 kW Other

Air Flow Inlet Temp 25°C 30°C 35°C 40°C 45°C 50°C Other

Oil inlet / outlet temperature

<input type="radio"/> 40°C - 35°C	<input type="radio"/> 60°-55°C	<input type="radio"/> 100° - 95°C
<input type="radio"/> 50°C - 50°C	<input type="radio"/> 90°-85°C	<input type="radio"/> Other - -

Fan Selection Ø500 Ø630 Ø800 Other

Ø500 Ø630 mm - Ø800 mm fans are recommended for our standard production. Special selection can be made upon request.

Number of fans 1 2 3 Other

Special selection can be made upon request.

Materiel

<input type="radio"/> Tubbes : Copper / Satinless steel	<input type="radio"/> Coil sheets : Galvanized steel + Painted / Stainless steel
<input type="radio"/> Fins : Aluminum / Aluminum + blygold coated	<input type="radio"/> Body sheets : Galvanized steel + Painted / Stainless steel

Paint and corrosion class According to order / C3 / C4 / C5

Connecting flanges According to order
DIN:

Special options

Please specify any additional features you want.



75
YEARS

ENERGOINVEST

105+ countries where Energoinvest operated



60,000

KM TRANSMISSION LINES

7,300

SUBSTATIONS

164

POWER PLANTS

400

STRUCTURAL PROJECTS

75
YEARS

ENERGOINVEST

TODAY...

Energoinvest is an export-oriented, multidisciplinary engineering company whose portfolio includes tens of thousands of kilometers of constructed transmission lines, thousands of substations, as well as a significant number of hydropower, thermal power and process plants, implemented thanks to the skills and experience of Energoinvest experts.

2025.

The company achieves its strongest financial results in the past three decades and initiates the restoration of its production capacities and the development of products under the Energoinvest brand. This confirms the company's strategic positioning and its return to numerous international markets.

2011.

until 2020 - The Libya Crisis: the Arab Spring and the conflict in Libya dealt a severe blow, as it was one of the company's most profitable markets with contracts worth hundreds of million of dollars. Despite all, the company maintained its international reputation by completing massive infrastructure projects.

1996.

until 2010 - Market re-entry: the company gradually returned to its traditional markets such as Ethiopia, Algeria, Iraq and Libya, focusing on power engineering.

1992.

until 1995 - the aggression on Bosnia and Herzegovina stopped the growth and development of the company

1987.

achieves its business peak as the largest exporter in the former Yugoslavia with a turnover of one billion USD and more than 40,000 employees

1958.

Energoinvest becomes an export-oriented company that expands its business to a large number of countries around the world

1951.

founded as a small project bureau headed by Emerik Blum, with the vision of developing Energoinvest into a modern global company whose business is based on the implementation of complex projects on a "turnkey" basis



ENERGOINVEST

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