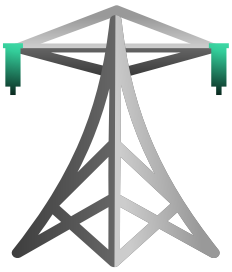
Dry Type Transformer | DRY UTILITIES

Utilities



Presentation

The Dry-Type Transformers, with epoxy-encapsulated coils under vacuum, from DRY UTILITIES series, manufactured in up to 1000kVA rated power, in the voltage classes up to 36.2kV, specially developed to meet the eletrical utility companies specifications are the Energy Efficiency Transformers. The DRY UTILITIES have low losses and when they are submitted to life-cycle cost analysis, the total purchase cost is substantially reduced, because the electric power consumption becomes much lower, in comparison with a conventional Transformer. They are recommended for application in industrial eletrical substations, business centers, data centers and hospitals where there is a search for energy consumption reduction and in places requiring convenience, safety, performance and reliability in critical loads. Manufactured with advanced technology, meeting requirements from standards ABNT, NBR and IEC EN, produced in modern equipment, employing materials and certified productive processes, guaranteed by the standards ISO 9001:2008. The application of the Dry Type Transformers from the DRY UTILITIES series, as well as reducing the eletrical power consumption, due to the low losses, also result in higher safety and saving, enabling the use next to the loads center, reducing expenditures with low voltage facilities and improving its performance. They also eliminate expenditures with other items, such as explosion-proof environment, fire doors, and drains to collect the insulating liquid and protective barriers.

Construction

The magnetic core manufactured in special high permeability, grain-oriented silicon steel sheets, step-laped cutting type, ensuring low no-load losses and reduced noise level. The HV and LV coils are manufactured with high-purity aluminum conductors in continuous winding, reducing mechanical stress efforts, while the LV coils are impregnated and the HV coils are encapsulated in epoxy resin under high vacuum, then annulling the presence of micro bubbles, mitigating the index of partial discharges. All Transformers are tested in accordance to the standards ABNT NBR 10295 / 5356-1/5 and dispatched with the respective test reports.

Optional Accessories

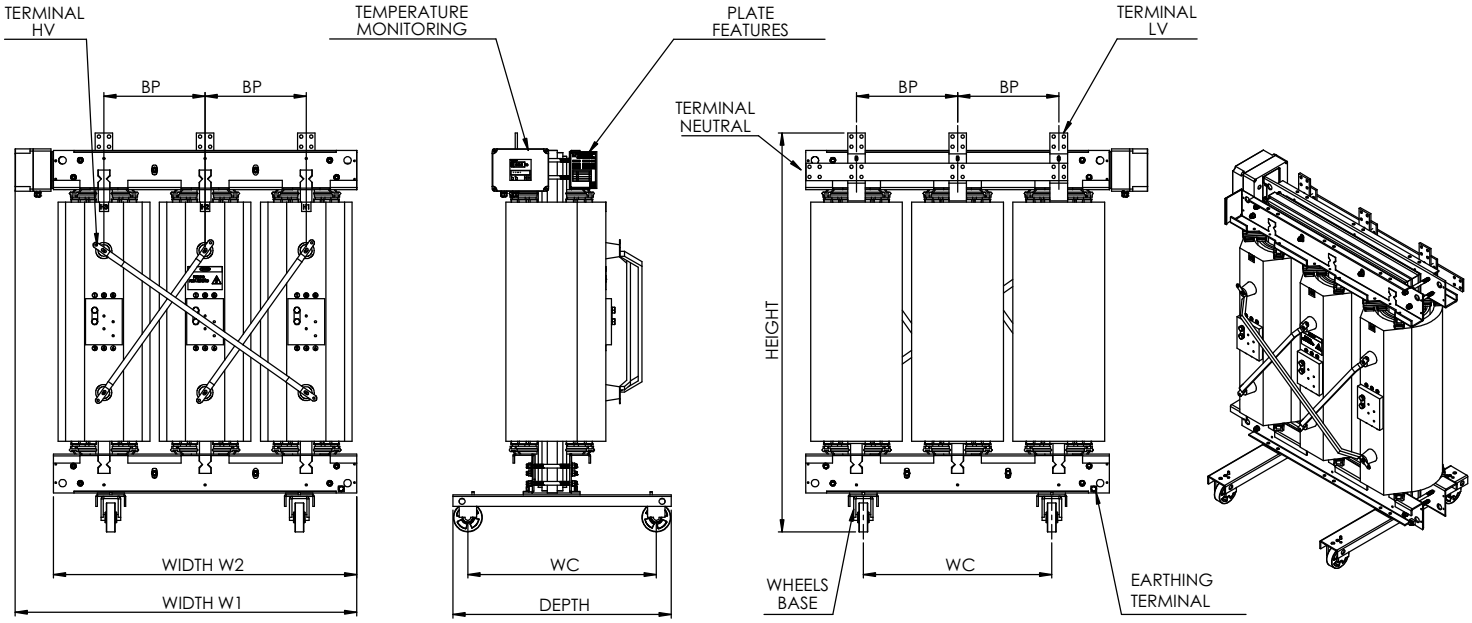
Metalic Enclosure from IP 21 to IP 54	Low Voltage Box Protection
4 PT-100 Sensors or more	Plug-in Bushing Connection
Analogic or Digital Controller with more outputs or with other protocols	Forced Ventilation System
	Shielding Screen

Included Accessories

Orientable Wheels
PT-100 sensors in the 3 phases
Digital Temperature Controller - Outputs for Alarm and Power Down, serial communication
Earthing Terminal
Lifting Eyebolts
Characteristic Plate

Standard Transformer Characteristics

HV Voltage Class	15,0 / 24,2 / 36,2 kV	(other features on request)
HV Withstand Applied Voltage	34 / 50 / 70 kV	
Basic Impulse Level	95 / 125 / 150 kV	
Partial Discharges (induced 2x Vn)	< 10pC	
LV Maximum Voltage Level	1,2 KV	
LV Withstand Applied Voltage	10 KV	
Vector Group	Dyn1	
Frequency	60Hz	
Class of Material and Temperature Rise	F-155°C / 105°C	
K Factor	K = 1	
Standards	ABNT NBR 10295 / 5356-1/5 e IEC EN 60076	



Voltage Class: 15kV

Power	Width		Depth	Height	Wheel Center	Between Phases	Total Approx. Weight	Losses - Watts (at 115ºC)		Short Circuit Voltage	Excitation Current	Noise Level	Inrush Current
KVA	W1	W2	D	H	WC	BP	KG	VOID (WO)	TOTALS (WT)	EZ% (115ºC)	VOID (IO)	(NL)	MAXIMUM
150	1305	1110	850	1550	520	370	930	540	2450	4,00	2,60%	58	14 x In
225	1410	1215	850	1450	520	405	1000	750	3470	4,50	2,30%	58	13 x In
300	1425	1230	900	1550	670	410	1200	950	4310	4,50	2,20%	58	12 x In
500	1560	1365	900	1650	670	455	1500	1170	6800	5,00	1,60%	64	12 x In
750	1620	1425	950	1850	820	475	2100	1500	9860	6,00	1,30%	64	11 x In
1000	1830	1635	950	1900	820	545	2800	1800	11000	6,00	1,20%	64	11 x In

V. Class: 24,2kV

Power	Width		Depth	Height	Wheel Center	Between Phases	Total Approx. Weight	Losses - Watts (at 115ºC)		Short Circuit Voltage	Excitation Current	Noise Level	Inrush Current
KVA	W1	W2	D	H	WC	BP	KG	VOID (WO)	TOTALS (WT)	EZ% (115ºC)	VOID (IO)	(NL)	MAXIMUM
300	1455	1260	1200	1600	670	420	1410	1200	6000	5,75	2,30%	58	15 x In
500	1590	1395	1200	1650	670	465	1675	1500	8000	6,00	1,70%	64	15 x In
750	1650	1455	1200	1850	820	485	2160	2000	11000	6,00	1,40%	64	12 x In
1000	1860	1665	1200	1900	820	555	2530	2500	12500	6,00	1,25%	64	12 x In

V. Class: 36,2kV

Power	Width		Depth	Height	Wheel Center	Between Phases	Total Approx. Weight	Losses - Watts (at 115ºC)		Short Circuit Voltage	Excitation Current	Noise Level	Inrush Current
KVA	W1	W2	D	H	WC	BP	KG	VOID (WO)	TOTALS (WT)	EZ% (115ºC)	VOID (IO)	(NL)	MAXIMUM
300	1845	1650	1300	1950	670	550	1800	1700	6000	6,50	2,40%	58	16 x In
500	1905	1710	1300	2000	670	570	2030	2000	10000	6,50	1,80%	64	16 x In
750	2025	1830	1400	2050	820	610	2700	2900	13400	6,50	1,70%	64	13 x In
1000	2085	1890	1400	2100	820	630	3100	3300	16300	6,50	1,60%	64	13 x In

NOTES: ORIENTATION DIMENSIONS AND INFORMATION, SUBJECT TO MODIFICATION WITHOUT PREVIOUS NOTICE. OTHER VOLTAGE, POWER CLASSES AND DIFFERENT PROTECTION LEVELS, UNDER INQUIRY.