Dry Type Transformer | DRY PLUS (IP 21 up to IP 31)

Dry Plus

Presentation

The Dry-Type Transformers, with epoxy-encapsulated coils under vacuum, from DRY PLUS series, manufactured in up to 10MVA rated power, in the voltage classes up to 36.2kV, are recommended for application in industrial eletrical substations, business centers, data centers and hospitals that require convenience, safety, performance and reliability in critical loads. They are compact and appropriate for applications in non-linear loads up to K Factor = 4. Manufactured with advanced technology, meeting requirements from ABNT-NBR and IEC-EN standards, produced in modern equipment, employing materials and productive process that are certified and guaranteed by ISO 9001:2008 standard. The DRY PLUS Dry-Type Transformers' application results in higher safety and saving, enabling its use next to the loads center, reducing expenditures with low voltage facilities and improving their 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 low loss, grain-oriented silicon steel sheets. The HV and LV coils are manufactured with high-purity aluminum conductors in continuous winding, reducing mechanical stress, 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.

Standard Transformer Characteristics

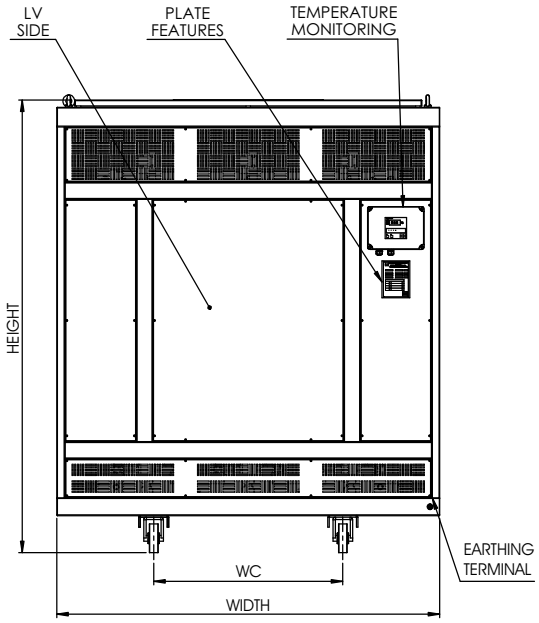
HV Voltage Class	7,2 / 15,0 / 24,2 / 36,2 kV	(other features on request)
HV Withstand Applied Voltage	20 / 34 / 50 / 70 kV	
Basic Impulse Level	40 / 95 / 125 / 150 kV	
Partial Discharges (induced 2x Vn)	< 10pC	
LV Maximum Voltage Level	1,2 KV	
LV Withstand Applied Voltage	10 KV	
Vector Group	Dyn1	
Frequency	60Hz	
Class of Material and Temper. Rise	F-155°C / 105°C	
K Factor	K= 4	
Standards	ABNT NBR 10295 / 5356-1/5 and IEC EN 60076	

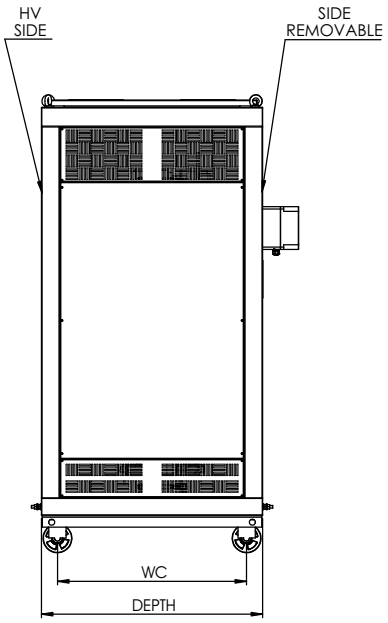
Optional Accessories

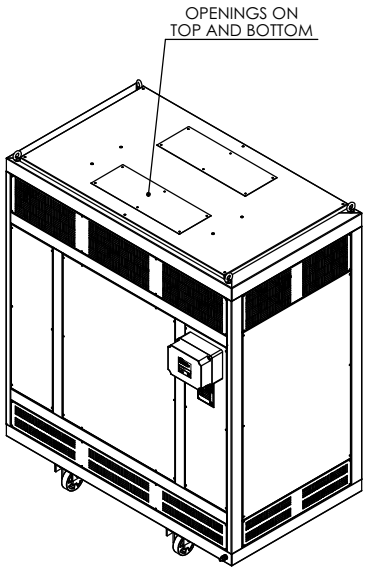
Metalic Enclosure up to IP 31	Plug-in Bushing Connection
4 PT-100 Sensors or more	Forced Ventilation System
Analogic or Digital Controller with more outputs or with other protocols	Shielding Screen
	Flanges for Cables or Ducts in the HV or in the LV

Included Accessories

Metallic Cabinet Protection Degree IP 21 until IP 31
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







IP 21 / 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	D	H	WC	BP	ENCLOSURE (KG)	TOTAL (KG)	VOID (WO)	TOTALS (WT)	EZ% (115ºC)	VOID (IO)	(NL)	MAXIMUM
112,5	1650	860	1650	520	360	100	1000	600	2400	5,00	2,00%	58	15 x In
150	1650	860	1650	520	380	129	1120	650	2600	5,00	1,65%	58	14 x In
225	1650	860	1650	520	425	160	1210	1000	4000	5,00	1,40%	58	13 x In
300	1760	910	1850	670	430	190	1390	1100	6000	5,00	1,25%	58	12 x In
500	1760	910	1850	670	460	240	1720	1650	8500	5,00	1,15%	64	12 x In
750	1980	960	2100	820	500	280	2280	2000	11500	6,00	1,10%	64	11 x In
1000	1980	960	2100	820	525	330	2780	2400	13000	6,00	1,05%	64	11 x In
1250	2100	1010	2200	820	540	380	3180	3000	16000	6,00	1,00%	65	11 x In
1500	2100	1010	2200	820	575	420	3720	3500	17000	6,00	0,95%	65	10 x In
2000	2450	1310	2400	1070	665	460	4960	4700	24000	6,00	0,90%	66	10 x In
2500	2450	1310	2400	1070	680	500	5300	5300	26000	6,50	0,85%	68	10 x In

IP 21 / Voltage 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	D	H	WC	BP	ENCLOSURE (KG)	TOTAL (KG)	VOID (WO)	TOTALS (WT)	EZ% (115ºC)	VOID (IO)	(NL)	MAXIMUM
225	1715	1010	1700	520	480	180	1380	1200	4800	5,75	2,10%	58	16 x In
300	1815	1210	1850	670	490	200	1610	1500	6500	5,75	1,90%	58	15 x In
500	1815	1210	1850	670	505	235	1910	1900	8500	6,00	1,60%	64	15 x In
750	2010	1210	2100	820	545	305	2465	2500	12000	6,00	1,40%	64	12 x In
1000	2010	1210	2100	820	560	365	2895	3000	13500	6,00	1,25%	64	12 x In
1250	2160	1260	2200	820	580	445	3455	3500	17000	6,25	1,20%	65	12 x In
1500	2160	1260	2200	820	590	515	3915	4300	20000	6,25	1,15%	65	11 x In
2000	2500	1360	2400	1070	620	590	5190	5800	25000	6,50	1,10%	66	11 x In
2500	2500	1360	2400	1070	690	670	5570	6500	30000	6,50	1,00%	68	11 x In

IP 21 / Voltage 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	D	H	WC	BP	ENCLOSURE (KG)	TOTAL (KG)	VOID (WO)	TOTALS (WT)	EZ% (115ºC)	VOID (IO)	(NL)	MAXIMUM
225	2000	1310	2050	520	435	198	1548	1500	5000	5,75	2,10%	58	17 x In
300	2240	1310	2200	670	440	225	2025	2000	6500	6,50	2,00%	58	16 x In
500	2240	1310	2200	670	470	265	2295	2500	10500	6,50	1,70%	64	16 x In
750	2420	1410	2250	820	510	340	3040	3500	14000	6,50	1,50%	64	13 x In
1000	2420	1410	2250	820	535	405	3505	4000	17000	6,50	1,40%	64	13 x In
1250	2570	1510	2300	820	550	495	4195	4500	19000	6,50	1,30%	65	13 x In
1500	2570	1510	2300	820	585	570	4570	5500	24000	6,50	1,25%	65	12 x In
2000	2915	1660	2450	1070	675	656	6156	7000	28000	6,50	1,20%	66	12 x In
2500	2915	1660	2450	1070	690	745	6545	8000	32000	6,50	1,10%	68	12 x In

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