First Philec

FIRST PHILEC INC. is the pioneer and leader in transformer solutions in the Philippines. It has been the preferred solutions provider to the country's power utilities, commercial and industrial businesses for more than 45 years. The company is also the largest manufacturer of amorphous transformers in Southeast Asia.

A member of the Lopez Group, FIRST PHILEC is the intermediate holding company of First Philippine Holdings Corporation (FPH) primarily for its manufacturing and technology-related investments. Through FIRST PHILEC, FPH intends to grow its investments in manufacturing to provide a more robust backbone to the country's economy—one that is founded on technological competitiveness and increased ability to add value to products and manufacturing services for the global market. FIRST PHILEC intends to achieve its growth by building on its core strength in operations excellence. With manufacturing as our core, we aim to engineer innovative industrial solutions.

CORPORATE OFFICE ADDRESS

10F The Rockwell Business Center
Tower 3, Ortigas Avenue, Ugong,
Pasig City 1604, Metro Manila,
Philippines

PLANT ADDRESS

Second Street Extension
First Philippine Industrial Park
Brgy. Ulango Tanauan City
Batangas, Philippines

With more than 250,000 units installed nationwide, our Distribution Transformers have been the preferred choice of some of the Philippines' largest private distribution utilities and electric cooperatives for the past 40 years.

Our transformers have also been specified by a number of the country's leading names in the commercial development and industrial sectors. Our products not only conform to international standards, but also withstand the test of time. Our designs conform to applicable standards of ANSI / IEEE and NEMA.

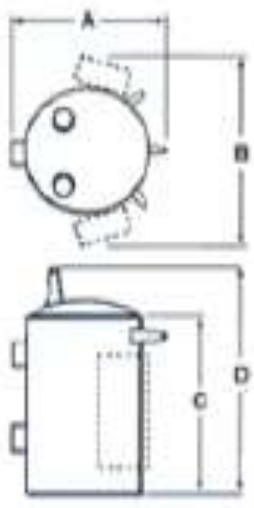

FIGURE 1

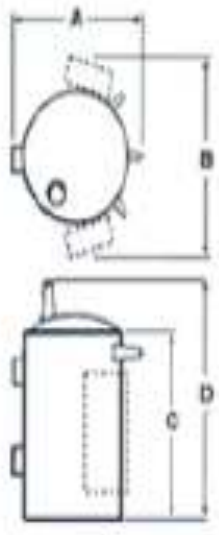

FIGURE 2

MAXIMUM:
kVA Rating.....667 kVA (special)
Voltage Rating.....up to 69 kV

EXTERNAL FEATURES

HIGH VOLTAGE BUSHINGS. The cover-mounted and tank-wall mounted high voltage bushings are made of wet process porcelain suitable for both copper and aluminum conductors.

LOW VOLTAGE BUSHINGS. Single or double eyebolt or spade terminal made of wet process porcelain.

TANK AND COVER. Manufactured from hot-rolled steel sheets and pressure tested to ensure a leak-free enclosure. Grit blasted or chemically treated to remove every trace of scale, rust or oil for better paint adhesion. Outer and inner surfaces are primed with epoxy for rust prevention and the outer surface is coated with polyurethane.

PRESSURE RELIEF VALVE. Gradually releases excess pressure and designed for outdoor conditions.

TANK AND LOW VOLTAGE GROUNDING PROVISIONS. Provided to help prevent damage to the transformer during electrical surges.

EXTERNALLY OPERATED NO-LOAD TAP CHANGER. Provides up to five (5) primary voltage settings for convenient changing of high voltage tap connection at no-load.

RADIATORS. Made of hot-rolled steel sheets these are provided for higher kVA units for added cooling surface.

INTERNAL FEATURES

CORE COIL ASSEMBLY. Uses a superior transformer insulation system and is permanently centered in the tank using a close fitted steel frame. Materials used for our coils are wither Silicon-Iron for our Blue and Silver series or Amorphous Metal for our Gold line.

WINDING MATERIAL. Our distribution transformers use a combination of standard Copper-Aluminum or Copper-Copper winding materials.

INSULATING DIELECTRIC FLUID. The dielectric fluid used are either Mineral Oil or High Fire Point fluid.

COIL SUPPORT. We use compatible materials to hold the coil in place and restrain it during short-circuit conditions. Core clamps and clamp angles are also used to ensure that the core and windings are effectively secured even during mechanical stresses.

STANDARD TESTS

ROUTINE TESTS
Transformer Turns Ratio (TTR) Test
Polarity Test
Winding Resistance Test
Insulation Resistance Test
Insulation Power Factor (IPF) Test
Open Circuit with Excitation Test
Short Circuit and Voltage Impedance Test
Applied Potential Test
Induced Potential Test

TYPE TESTS
Temperature Rise Test
Basic Impulse Level (BIL) Test

DISTRIBUTION TRANSFORMERS

STANDARD SPECIFICATIONS

kVA Ratings	10, 15, 25, 37.5, 50, 75, 100, 167, 250, 333, 500 *(special)*, 667 *(special)*
Number of Phase	Single
Insulation/Cooling	Dielectric Fluid Immersed Self-Cooled
Di-Electric Fluid	Mineral Oil or High Fire Point Fluid
Core Materials	Silicon Steel (SiFe), Amorphous (AMDT)
Winding Temp Rise	65°C
Frequency	60 Hz
Taps	Externally operated. 2A2B x 2.5%, 1A3B x 2.5%, 0A4B (14.4, 13.8, 13.2, 12.87, 12.54 kV)
Winding Materials	Copper-Aluminum (Cu-Al), Copper-Copper (Cu-Cu) *(special)*
HV Bushings	Single or Double Bushing
LV Bushings	3 or 4
Applicable Standards	ANSI / IEEE, NEMA
Application	Outdoor
Mounting	Pole-mounted

FIRST PHILEC GOLD SERIES

Amorphous Metal Distribution Transformers (AMDT)

The GOLD series is our high-efficiency distribution transformer line. The core is made of amorphous metal, which enables lower No-Load Losses (NLL) as much as 30% in comparison to its SiFe counterparts. This ensures cost savings in the long run.

FIRST PHILEC SILVER SERIES

NEA Compliant Distribution Transformers

The SILVER series distribution transformers conform to applicable NEA loss standards. These are most appropriate for electric cooperatives and private distribution utilities.

Our SILVER series can either be Silicon or Amorphous Cores.

FIRST PHILEC BLUE SERIES

Silicon Iron Distribution Transformers

The BLUE series distribution transformers offer high durability, premium quality, and long life.

DISTRIBUTION TRANSFORMERS

For sales inquiries:
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Visit us www.firstphilec.com

STANDARD DIMENSIONS

Standard values only. Final product requirements may differ per requirement.

Silver Series (NEA Compliant)

SILICON MODELS

HV Rating, BIL	LV Rating, BIL	Taps	kVA	Number of LV Bushings	Dimensions (mm)				Weight (kg)	Figure
					A	B	C	D		
7620/13.2Y kV, 95 kV BIL	120/240, 30 kV BIL	2A2B, 2.5%	10	3	630	565	785	985	181	2
			15	3	660	590	805	1005	210	2
			25	3	705	630	825	1025	276	2
			37.5	3	770	695	785	985	336	2
			50	3	770	695	825	1025	375	2
			75	3	860	770	970	1170	538	2
			100	3	950	840	980	1182	663	2

AMORPHOUS MODELS

HV Rating, BIL	LV Rating, BIL	Taps	kVA	Number of LV Bushings	Dimensions (mm)				Weight (kg)	Figure
					A	B	C	D		
7620/13.2Y kV, 95 kV BIL	120/240, 30 kV BIL	2A2B, 2.5%	10	3	630	565	745	1000	166	2
			15	3	595	525	815	1015	160	2
			25	3	640	565	745	945	183	2
			37.5	3	665	590	805	1005	243	2
			50	3	705	630	825	1025	282	2
			75	3	805	695	935	1135	388	2
			100	3	885	815	940	1140	496	2

Blue Series for PDUs

SILICON MODELS

HV Rating, BIL	LV Rating, BIL	Taps	kVA	Number of LV Bushings	Dimensions (mm)				Weight (kg)	Figure
					A	B	C	D		
14.4/24.94Y kv, 125 kV BIL	120/240, 30 kV BIL	14400, 13800, 13200, 12870, 12540	25	3	665	590	745	1000	179	2
			37.5	3	670	470	680	1020	227	2
			50	3	735	715	935	1190	316	2
			75	3	770	805	940	1195	363	2
	240/480, 30 kV BIL		100	3	790	950	935	1190	424	2
			167	4	915	1040	1020	1275	607	2
			25	3	635	565	845	1100	187	2
			50	3	735	805	935	1190	369	2
13.8/23.9 Y kV, 125 kV BIL	120/240, 30 kV BIL	2A2B, 2.5%	15	3	630	565	785	1040	171	2
			25	3	665	590	805	1060	216	2
			37.5	3	705	630	825	1080	248	2
			50	3	735	660	885	1140	301	2
			75	3	805	750	935	1190	409	2
	240/480, 30 kV BIL		100	3	830	840	935	1190	440	2
			75	4	860	750	935	1190	409	2
			100	4	860	840	935	1190	452	2
			167	4	915	950	990	1245	621	2
			250	4	925	1110	1060	1315	910	2

Note: Weight are all in approximate values.

DISTRIBUTION TRANSFORMERS

STANDARD DIMENSIONS

Standard values only. Final product requirements may differ per requirement.

First Philec

Blue Series

SILICON MODELS

HV Rating, BIL	LV Rating, BIL	Taps	kVA	Number of LV Bushings	Dimensions (mm)				Weight (kg)	Figure
					A	B	C	D		
7620/13.2 kV, 95 kV BIL	120/240, 30 kV BIL	2A2B, 2.5%	10	3	570	505	710	910	118	2
			15	3	570	505	710	910	132	2
			25	3	605	530	820	1020	180	2
			37.5	3	670	595	890	1080	227	2
			50	3	670	650	940	1140	266	2
			75	3	770	805	940	1140	346	2
			100	3	830	890	990	1190	411	2
			167	4	905	1040	1020	1220	611	2
			250	4	920	1245	1065	1265	815	2
			333	4	1105	1290	1065	1265	943	2
7620/13.2 kV, 95 kV BIL	240/480, 30 kV BIL	2A2B, 2.5%	10	3	570	505	710	910	118	2
			15	3	570	505	710	910	130	2
			25	3	595	530	820	1020	176	2
			37.5	3	670	595	890	1090	237	2
			50	3	670	650	940	1140	266	2
			75	3	775	800	940	1140	344	2
			100	3	775	890	990	1190	410	2
			167	4	905	1040	1020	1220	609	2
			250	4	920	1250	1065	1265	815	2
			333	4	1055	1240	1115	1315	950	2
14.4/24.94Y kV, 125 kV BIL	120/240, 30 kV BIL	14400, 13800, 13200, 12870, 12540	10	3	595	530	710	965	134	2
			15	3	595	530	750	1005	143	2
			25	3	640	565	790	1045	177	2
			37.5	3	670	470	680	1020	227	2
			50	3	670	650	940	1195	266	2
			75	3	770	805	940	1195	363	2
			100	3	830	945	940	1195	424	2
			167	4	905	1085	990	1245	603	2
			250	4	920	1335	1065	1320	838	2
			333	4	1105	1335	1065	1320	978	2
14.4/24.94Y kV, 125 kV BIL	240/480, 30 kV BIL	14400, 13800, 13200, 12870, 12540	10	3	595	530	710	965	134	2
			15	3	595	530	750	1005	145	2
			25	3	595	530	820	1075	177	2
			37.5	3	670	595	890	1145	245	2
			50	3	705	685	940	1195	266	2
			75	3	775	800	940	1195	380	2
			100	3	770	940	940	1190	424	2
			167	4	905	1085	940	1995	586	2
			250	4	920	1335	1060	1320	828	2
			333	4	1055	1330	1115	1370	982	2
34.5 GrdY/ 19.92kV, 150 kV BIL	120/240, 30 kV BIL	1A3B, 2.5%	10	3	595	530	750	1140	142	1
			15	3	635	565	750	1140	162	1
			25	3	640	565	810	1200	180	1
			37.5	3	705	630	870	1260	237	1
			50	3	670	650	940	1330	260	1
			75	3	740	820	940	1330	344	1
			100	3	930	935	990	1380	440	1
34.5 GrdY/ 19.92kV, 150 kV BIL	139/277, 30kV BIL	1A3B, 2.5%	167	4	905	1040	940	1330	583	1
			250	4	960	1330	1065	1455	842	1
			333	4	1015	1290	1180	1570	1004	1

Note: Weight are all in approximate values.

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