

FIRST PHILEC INC. distribution transformers has been the choice of major Philippines' largest private distribution utilities and electric cooperatives for the past 45 years with more than 250,000 units installed nationwide.

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 conforms to international quality standards but has also withstood the test of time.

General Specifications										
KVA Ratings	10kVA, 15kVA, 25kVA, 37.5kVA, 50kVA, 75kVA, 100kVA, 167kVA, 250kVA,	Taps	Externally operated; 2A2B x 2.5% or 1A3B x 2.5%, 0A4B (designed taps)							
	333kVA, 500kVA(special), 667kVA (special)	Winding Materials	Copper-Aluminum (Cu-Al) Copper-Copper(Cu-Cu) (Special)							
Number of Phase	Single		copper copper(ed ed) (openial)							
Insulation/ Cooling	Di-electric Fluid Immersed Self Cooled	HV Bushings	Single or Double Bushing							
Di-electric Fluid	Mineral Oil or High Fire Point Fluid	LV Bushings	3 or 4							
Core Materials	Silicon Steel (SiFe) Amorphous (AMDT)	Applicable Standards	ANSI/ IEEE/ NEMA							
Winding Temp Rise	65°C	Application	Indoor or Outdoor							
Frequency	60 Hz	Mounting	Pole mounted or pad mounted							

## Standard Models



The BLUE series offers high durability and premium quality. These transformers are designed, engineered and built to last.



The SILVER series conforms to NEA loss standards. Most appropriate for use by electric cooperatives and other private distribution utilities.

NEA Compliant Disteribution Transformers



The GOLD series is First Philec's high efficiency distribution transformer line. The core is made of amorphous metal which ensures lower No Load Losses (NLL) of as much as 30% than its SiFe counterparts. Ensures high efficiency and cost savings in the long run.

Amorphous Metal Distribution Transformers (AMDT)



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A Lopez Group Company

Standard Dimensions (standard values only and may differ from actual product dimensions)

BLUE SERIES for PDUs										
A. Silicon Models										
HV Rating,	LV Rating,	Taps	KVA	Number of LV Bushings	Dimensions (mm)				Weight	Figure
BIL	BIL				Α	В	C	D	(kg)	rigure
	120/240, 30kV BIL		25	3	665	590	745	1000	179	2
		14400,	37.5	3	670	470	680	1020	227	2
		13800,	50	3	735	715	935	1190	316	2 2
14.4/24.94Y kV,		13200,	75	3	770	805	940	1195	363	
125kV BIL		12870,	100	3	790	950	935	1190	424	2
		· ·	167	4	915	1040	1020	1275	607	2
	240/480,	12540	25	3	635	565	845	1100	187	2
	30kV BIL		50	3	735	805	935	1190	369	2
	120/240, 30kV BIL		15	3	630	565	785	1040	171	2
			25	3	665	590	805	1060	216	2
13.8/23.9Y kV, 125kV BIL			37.5	3	705	630	825	1080	248	2
			50	3	735	660	885	1140	301	2
		2A2B,	75 3 805 750	750	935	1190	409	2		
		2.5%	100	3	830	840	935	1190	440	2
	240/480, 30kV BIL		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: Dimensions and weight are all in approximate values.

SILVER SERIES (NEA Compliant)										
A. Silicon Models										
HV Rating,			KVA	Number of LV	Dimensions (mm)				Weight	Figure
BIL	BIL	Taps		Bushings	Α	В	С	D	(kg)	
			10	3	630	565	745	1000	166	2
	120/240, 30kV BIL		15	3	595	525	815	1015	160	2
7620/13.2Y kV,		2A2B,	25	3	640	565	745	945	183	2
95kV BIL			37.5	3	665	590	805	1005	243	2
93KV DIL		2.5%	50	3	705	630	825	1025	282	2
			75	3	805	695	935	1135	388	2
			100	3	885	815	940	1140	496	2
B. Amorphous Mode	els									
HV Rating,	LV Rating,	Taps	KVA	Number of LV Bushings	Dimensions (mm)				Weight	Figure
BIL BIL	BIL				Α	В	С	D	(kg)	. igaic
	120/240, 30kV BIL		10	3	630	565	785	985	181	2
7620/13.2Y kV, 95kV BIL			15	3	660	590	805	1005	210	2
		2420	25	3	705	630	825	1025	276	2
		2A2B, - 2.5% -	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

Note: Dimensions and weight are all in approximate values.



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BLUE SERIES										
A. Silicon Models	LV Dating			Number of LV						
HV Rating, BIL	LV Rating, BIL	Taps	KVA	Bushings			ons (mm)		Weight	Figure
DIL	DIL		40		A	B	<u>C</u>	D 040	(kg)	
			10 15	3	570 570	505 505	710 710	910 910	118 132	2
			25	3	605	530	820	1020	180	2
			37.5	3	670	595	890	1080	227	2
7620/13.2Y kV,	120/240,	2A2B,	50	3	670	650	940	1140	266	2
95kV BIL	30kV BIL	2.5%	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
			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
7620/13.2Y kV,	240/480,	2A2B,	50	3	670	650	940	1140	266	2
95kV BIL	30kV BIL	2.5%	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
	120/240, 30kV BIL		10	3	595	530	710	965	134	2
			15	3	595	530	750	1005	143	2
		14400.	25	3	640	565	790	1045	177	2
44.4/04.04/4.11/		13800,	37.5		680	1020	227	2		
14.4/24.94Y kV,		13200,	). 50 3 670		650	940	1195	266	2	
125kV BIL		12870,	75	3	770	805	940	1195	363	2
		12540	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
	240/480, 30kV BIL	14400, 13800, 13200, 12870, 12540	10	3	595	530	710	965	134	2
			15	3	595	530	750	1005	145	2
14.4/24.94Y kV, 125kV BIL			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	770 905	940 1085	940 940	1190	424 589	2
			167 250	4	920	1335	1060	1195 1320	828	2
			333	4	1055	1330	1115	1370	982	2
34.5GrdY/19.92 kV, 150kV BIL			10	3	595	530	750	1140	142	1
	120/240, 30kV BIL			3	635	565	750	1140	162	<u> </u> 1
		1A3B, 2.5%	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	<u>.</u> 1
			100	3	930	935	990	1380	440	1
34 ECrdV/40 03 1-1/	120/277	1000	167	4	905	1040	940	1330	583	1
34.5GrdY/19.92 kV,	139/277, 30kV BIL	1A3B,	250	4	960	1330	1065	1455	842	1
150kV BIL	SUKV DIL	2.5%	333	4	1015	1290	1180	1570	1004	1

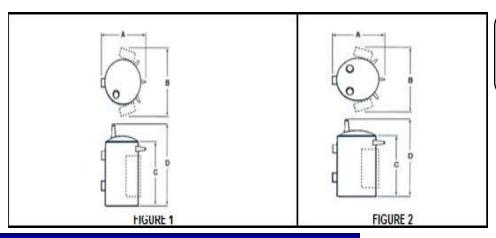
Note: Dimensions and weight are all in approximate values.







## **General Description**



## **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 primer 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



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## Maximum:

- KVA rating 667 KVA (special)
- Voltage Rating: Up to 69KV

## **Warranty Provision**

- 18 months from date of delivery or 12 months from date of energization whichever comes first.
- Manufacturer's warranty against defects occurring from normal operating conditions.

Our in-house Technical Services Department has a full complement of highly qualified and experienced technical personnel on call to service client concerns. Being a local manufacturer, immediate action on customer concerns is assured.

#### **Standard Tests**

#### **Routine Tests**

- Turns Ratio Test
- Voltage Ratio Test
- No Load Loss & Load Loss Tests
- Impedance Voltage Test
- Applied Potential Test
- Induced Potential Test

## Type Tests

- · Impulse Test
- Temperature Rise Test



#### **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

First Philec distribution transformers uses a combination of standard Copper-Aluminum or Copper-Copper winding materials.

#### INSULATING DI-ELECTRIC FLUID

The dielectric fluid used are either Mineral oil or an environment friendly high fire point fluid.

#### COIL SUPPORT

First Philec uses 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.



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