Westinghouse Electric Corporation
Transformer Components Division
Five Parkway Center, Greentree Rd.
Pittsburgh, PA 15220

August 18, 1982
New Information
Mailed to: E, D, C/2048/DB

230 Kv and Above, Outdoor
900 Kv BIL and Above
60 Hertz

Type MSV Voltage Transformers

Application
The MSV is an oil filled outdoor voltage transformer designed for line to ground connection on a high voltage system. Two secondary windings are supplied, both tapped to provide double ratios.

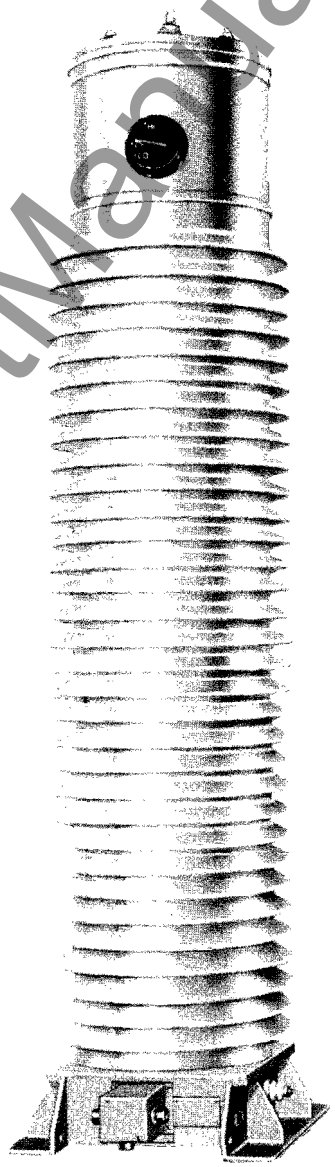
Accuracy
ANSI Accuracy Class (60 Hertz):
0.3 Class for W, X, M, Y, Z and ZZ Burdens

Design Features
The primary consists of several core and coil assemblies connected in series or cascade, mounted vertically inside a large porcelain bushing. High strength, spring loaded polyglass-epoxy treated tie rods provide support for these stacked assemblies. Coupling windings between the coil stages are used for interconnection of voltage and a resultant low impedance path for load current.

By distributing the total voltage among several coils, total insulation material requirements are reduced with resultant savings in weight and height. This is particularly true at high voltages (230 kv and above), as compared to conventional single core and coil construction.

Oil is contained inside the primary bushing, and an expansion cap is provided at the top. The complete unit is finished in ANSI No. 70 Light Gray.

Further Information
Prices: Price List 44-321

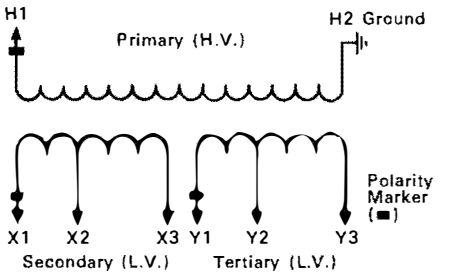


Selector Guide

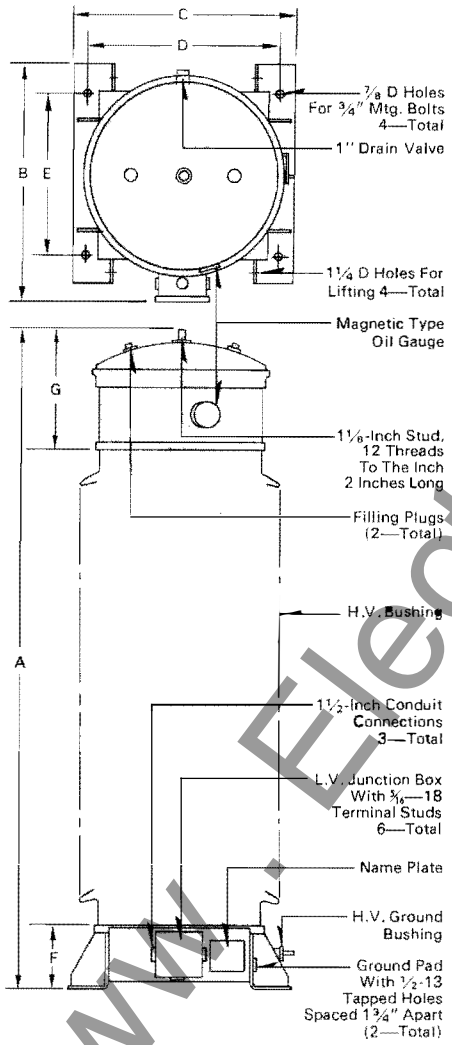
BIL: Kv	Normal Circuit Voltage	Winding Ratio Primary To Secondary or Tertiary	Transformer Voltage		Thermal Rating: Va①		ANSI Minimum Hv Bushing Creep Distance (Inches)	Style Numbers
			Primary	Secondary or Tertiary	All on One Lv Winding Secondary or Tertiary	Divided Equally Between Secondary and Tertiary		
900	230,000	2000/1200:1	138,000	69/115	6,000	7,000	135	889A745G02
1300	345,000	3000/1800:1	207,000	69/115	6,500	9,000	205	889A745G06
1675	500,000	4500/2500:1	287,500	63.89/115	8,000	10,000	318	889A746G02

① Applies to both full and tapped voltages.

Typical Wiring Diagram

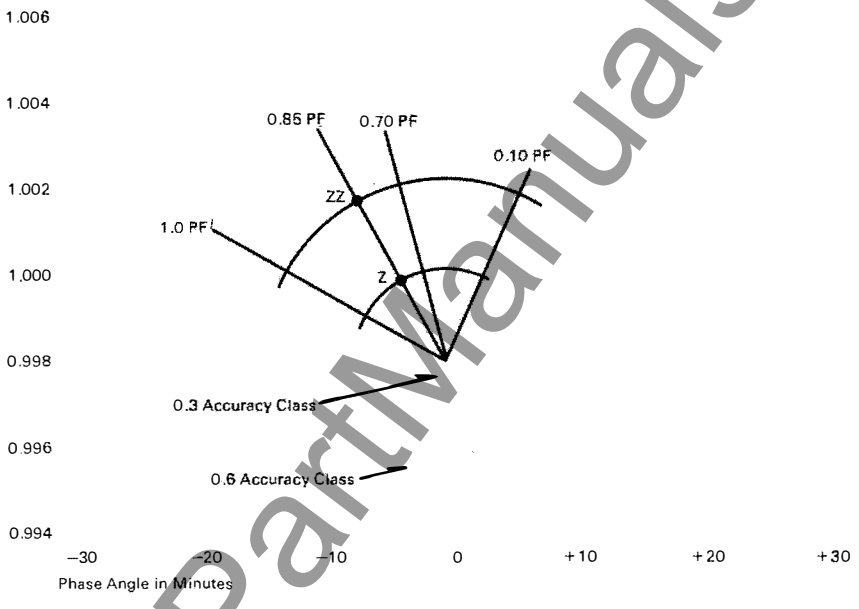


With rated primary voltage applied on high voltage winding, both secondary (X_1-X_3) and tertiary (Y_1-Y_3) will provide 115 volts. The tapped portions of the secondary (X_2-X_3) and tertiary (Y_2-Y_3) will provide approximately $115/\sqrt{3}$ volts. (Actual voltage is determined by winding ratio.)



Performance Curve

Typical ratio correction factors and phase angle values plotted for standard burdens, using the Farber Method ("The Analytical and Graphical Determination of Complete Potential Transformer Characteristics" – Settles, Farber, Conner – AIEE Transaction Paper 60-1246, October, 1960).



Dimensions In Inches and Weights

BIL: KV	Approximate Overall Dimensions-Inches							Wt. Lbs. Approx.		Approx. Gallons Oil
	A	B	C	D	E	F②	G②	Net	Shipping	
900	91⅛	32⅛	30	26	22	8½	17⅝	2500	2750	85
1300	130⅛	35⅜	31	26	22	8½	21⅝	3750	4375	130
1675	172	40	40	32	32	10	25	5800	6600③	230

② To Porcelain.
③ Shipped dry, filled with nitrogen.

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