

Losses Between Dry Type Transformers And Oil Transformers

Based on C802-94

<u>Oil/Liquid Type (Three Phase)*</u>				<u>Dry Type</u>						
				<u>95 kV BIL **</u>			<u>125 kV BIL **</u>			
KVA	No-Load (W)	Full Load (W)	Total	KVA	No-Load (W)	Full Load (W)	Total	No-Load (W)	Full Load (W)	Total
500	1,330	3,600	4,930	500	2,400	7,600	10,000	2,500	8,900	11,400
750	1,760	6,140	7,900	750	3,000	12,000	15,000	3,700	13,000	16,700
1,000	2,020	6,700	8,720	1,000	3,400	13,000	16,400	4,400	15,000	19,400
1,500	2,810	11,070	13,880	1,500	4,500	18,000	22,500	5,000	18,000	23,000
2,000	3,390	12,920	16,310	2,000	5,400	21,000	26,400	6,400	23,000	29,400

* Oil is not affected by voltage

** BIL category is for the high voltage winding

The more the losses the more money it costs per year.

Example @ Full Load:

<u>2000 KVA MiniSub</u>	<u>VS</u>	<u>2000 KVA Dry Type</u>
16,310 W (losses)		26,400 W (losses) @ 95 BIL
8760 hrs/yr X 10.09 kW (difference) X 0.06 (charge per kW/hr) = \$5,303.30 per year		
\$ 5,303.30 per yr X 30 Years (avg. life of transformer) = \$159,099.00		
\$159,099.00 extra needed for life of the dry type transformers.		

Example @ Half Load:

<u>2000 KVA MiniSub</u>	<u>VS</u>	<u>2000 KVA Dry Type</u>
9850 W (losses)		15900 W (losses) @ 95 BIL
8760 hrs/yr X 6.05 kW (difference) X 0.06 (charge per kW/hr) = \$3,179.88 per year		
\$ 3,179.88 per yr X 30 Years (avg. life of transformer) = \$95,396.40		
\$95,396.40 extra needed for life of the dry type transformers.		

NOTE:

IT WOULD NOT EVEN COST THIS MUCH TO BUY THE MINISUB.