GBE S.p.A. TEST REPORT

Order | Customer VESTFOLD TRAFO ENERGI AS

Type ED3O24.0800 | Serial Number 17423.1/1 | Phase 3 | KVA 800

Voltage ratio (V) 22.000- +2-4 X 2,50 % / 240 - | 50 Hz

Connection Dyn11(d0)

Currents 20,99 - / 1.924,50 -

Insulation Class A / A | Temperature Class 65 °C / 65 °C

Voltage ratio

Pos.	Theoretical	U Measured	V Measured	W Measured
7	146,86	82,56	82,56	82,56
6	150,83	84,88	84,88	84,88
5	154,80	87,19	87,19	87,19
4	158,77	89,51	89,51	89,51
3	162,74	91,83	91,83	91,83
2	166,71	94,15	94,15	94,15
1	170,68	96,47	96,47	96,47
	174,65	0,000	0,000	0,000

Insulation test

Voltage test applied to the primary against secondary and ground:

Test voltage 50000 V t = 60 Sec Result: POSITIVE

Voltage test applied to the secondary against primary and ground:

Test voltage 3000 V t = 60 Sec Result: POSITIVE

Induced voltage test

Supplied voltage 480 V f = 100 Hz t = 60 Sec Result: POSITIVE

Note

Measurement of no-load loss and current

Winding supply : Secondary | Measured at 240,0 V | Frequency 50 Hz

Voltage K = 1 | Current K 1 | K W = 1 | Note

VMuv	VMuw	VMvw	VMm	Iu	Iv	Iw	Averag	W tot
415,38	413,82	417,24	415,48	1,03	0,98	1,38	1,13	627,18

I0 = 0,06 % | **P0 = 627,18 W**

Winding resistance measurement, Voltamperometric method **t. amb. : 30 C°** | Note

Primary winding 22.000 V

Terminals	Volt	Amp.	Ohm
1U1V	10,4186	1,9767	5,2706
1U1W	10,4244	1,9695	5,2928
1V1W	10,4297	1,9629	5,3135

Average resistance (30,0 C°) 5,2923 Ohm

Average resistance

Secondary winding 240 V

Terminals	mVolt	Amp.	mOhm
2U2V	25,1940	14,9685	1,6831
2U2W	25,3755	14,9683	1,6953
2V2W	25,2243	14,9685	1,6852

Average resistance (30,0 C°) 1,6879 mOhm

Average resistance

Measurement of short circuit impedence and load loss

Winding supply : Primary | A Current 20,99 A | Frequency 50 Hz

Voltage K = 1 | Current K 1 | K W = 1 | Note

Vuv	Vuw	Vvw	Vm	Iu	Iv	Iw	Averag	W tot
1.330,	1.327,	1.331,	1.329,	19,95	20,10	20,10	20,05	6.648,28

Determination of short circuit impedance and load loss

Ratio 22.000 / 240 V | Primary winding Aluminium | Secondary winding Aluminium

Ambient temperature	30,0 °C	Reference temperature	75 °C	K Temp	1,18 / 1,18
Vcc at rated current	1.392,29 V	RIn % = RIp % * KTemp	1,07 %	Ohmic losses primary windings	4.116,5 W
ZIp% = (VCC/VNcc)*100 =	6,33 %	XIn% = XIp%	6,26 %	Ohmic losses secondary	11.031,8
RIp % (WCup/PN)*100	0,91 %	ZIn % = ((XIn%)² + (RIn%)²) =	**6,35 %**	Additional losses	-4750,2 W
XIp % = ((ZIp%)²-(RIp%)²) ½	6,26 %	**Load losses**	**10398,1 W**		
Pcc at rated current	7287,5 W				

Efficiency			Voltage drop (%)	
load	Cos F =0,8	Cos F =1	Cos F =0,8	Cos F =1
100 %	98,306 %	98,641 %	4,855 %	1,490 %
75 %	98,669 %	98,932 %	3,626 %	1,082 %
50 %	99,002 %	99,200 %	2,407 %	0,698 %

Tests carried out according to IEC 60076 Standards.

Instrument used Norma D5255 and Norma 4000.

The transformer is delievered with the following ratio 22.000 / 240 V

Customer | Manufacturer

Date 15/06/2021