

GBE S.p.A. TEST REPORT

Order					Customer VESTFOLD TRAF0 ENERGI AS				
Type ED3012.0800		Serial Number 16202.1/1		Phase3		KVA 800			
Voltage ratio (V) 11.000-		+2-4 X 2,50 % /		415 -		50 Hz			
Connection Dyn11									
Currents 41,99 -		/ 1.112,96 -							
Insulation Class A		/ A		Temperature Class 65 °C		/ 65 °C			

Voltage ratio					Insulation test				
Pos.	Theoretical	U Measured	V Measured	W Measured	Voltage test applied to the primary against secondary and ground:				
7	41,32	41,37	41,37	41,37	Test voltage 28000 V t = 60Sec Result: POSITIVE				
6	42,47	42,51	42,51	42,51	Voltage test applied to the secondary against primary and ground:				
5	43,61	43,64	43,64	43,64	Test voltage 3000 V t = 60Sec Result: POSITIVE				
4	44,76	44,78	44,78	44,78	Induced voltage test				
3	45,91	45,92	45,92	45,92	Supplied voltage 830 V f = 100 Hz t = 60 Sec Result: POSITIVE				
2	47,06	47,05	47,05	47,05					
1	48,21	48,19	48,19	48,19					
					Note				

Measurement of no-load loss and current									
Winding supply :				Secondary		Measured at 415,0 V		Frequency 50 Hz	
Voltage K = 1				Current K 1		K W = 1		Note	
VMuv	VMuw	VMvw	VMm	Iu	Iv	Iw	Averag	W tot	
414,16	413,65	417,49	415,10	1,97	1,99	1,45	1,81	640,45	
I0 = 0,16 %				P0 = 640,45 W					
Winding resistance measurement, Voltamperometric method t. amb. : 27 C°									
Primary winding 11.000 V				Secondary winding 415 V				Note	
Terminals	Volt	Amp.	Ohm	Terminals	mVolt	Amp.	mOhm		
1U1V	7,0668	6,1665	1,1460	2U2V	27,5823	14,9655	1,8431		
1U1W	7,0697	6,1629	1,1471	2U2W	27,6237	14,9655	1,8458		
1V1W	7,0822	6,1473	1,1521	2V2W	27,7893	14,9653	1,8569		
Average resistance (27,0 C°) 1,1484 Ohm				Average resistance (27,0 C°) 1,8486 mOhm					
Average resistance				Average resistance					

Measurement of short circuit impedance and load loss									
Winding supply :				Primary		A Current 41,99 A		Frequency 50 Hz	
Voltage K = 1				Current K 1		K W = 1		Note	
Vuv	Vuw	Vvw	Vm	Iu	Iv	Iw	Averag	W tot	
673,32	663,04	669,42	668,59	40,95	40,39	40,79	40,71	6.791,82	

Determination of short circuit impedance and load loss					
Ratio 11.000 /	415 V	Primary winding Aluminium		Secondary winding Aluminium	
Ambient temperature	27,0 °C	Reference temperature		75 °C	K Temp 1,19 / 1,19
Vcc at rated current	689,61 V	Rln % = Rlp % * KTemp		1,08 %	Ohmic losses primary windings 3.615,6 W
Zlp % = (VCC/VNcc)*100 =	6,27 %	Xln % = Xlp %		6,20 %	Ohmic losses secondary 4.089,0 W
Rlp % (WCup/PN)*100	0,90 %	Zln % = ((Xln%)² + (Rln%)²) =		6,30 %	Additional losses 633,1 W
Xlp % = ((Zlp%)²-(Rlp%)²) ½	6,20 %	Load losses		8337,7 W	
Pcc at rated current	7225,6 W				

Efficiency			Voltage drop (%)	
load	Cos F =0,8	Cos F =1	Cos F =0,8	Cos F =1
100 %	98,617 %	98,890 %	4,650 %	1,233 %
75 %	98,902 %	99,119 %	3,471 %	0,889 %
50 %	99,156 %	99,323 %	2,303 %	0,569 %

Tests carried out according to IEC 60076 Standards.
Instrument used Norma D5255 and Norma 4000.

The transformer is delivered with the following ratio		11.000 / 415 V
Customer	Manufacturer Date 21/05/2020	