

CERTIFICATE OF QUALITY

合格证

Type:

型号

4GY6681-1ZY

Rated voltage:

额定电压

23 / 0.65 kV

Serial No.:

系列号

E1712 762

Manufacturing date:

制造年月

2018年9月

The 3-Phase GEAFOL[®] Dry Type Transformer has been inspected and tested. All technical results conform to the specification. The transformer is approved for delivery to customer.

此三相GEAFOL[®]干式变压器已经检验和试验，各项技术指标均符合出厂要求，准予出厂。

DT Quality Management Department
配变质量管理部

Prepared by:

编制:

林西河

Approved:

批准:

李亚飞

广州西门子
变压器有限公司
产品检验合格

Siemens Transformer (Guang Zhou) Co., Ltd

广州西门子变压器有限公司

Type: 4GY6681-1ZY	3 - Phase GEAFOL® - Transformer				Sheet 1 of 1
Year of manuf.: 2018					Serial No.: E1712762
Order-No.: 4504767296	Vestas Neo				
	Work No.: 5391 5660				
	Item No.29110317 / Vestas Spec. 0056-7547 VER02				
Standard IEC 60076-11:2004	Tap	Volts	HV	LV	Values at 120 °C
Category LT	5-6	V	24150		and ratio 23000 V / 650 V
Service DB	4-6	V	23575		P ₀ kW P _k kW Imped. U _z %
Type of cooling AF	4-7	U _N V	23000	650	Guarant. 7.500 31.800 9.00
Rated frequency 50 Hz	3-7	V	22425		Tolerance + 15.0 % + 15.0 % - 10.0 / + 10.0 %
max. sh. Circ.-duration 2s	3-8	V	21850		Factory test 6.825 31.449 8.79
Insul. Class HV / LV F / F	I _{rat.}	A	100.4	3553	
Type of protection IP00	P _{rat.}	kVA	4000		Transformer weight 7.45 t
U _m 36.0/1.1 kV	Imped. U _z	%	8.79		
Inrush current (ratio): I _{ES} /I _N 7.3	Tapping		4-7		Diagr. of connect.
Half-crest-value time 0.59 s	Vector-group		Dyn5		O.-No. J66Z54
Environment class: E2	Insul. level HV/LV	AC70-LI170 / AC3			WA 41144701
Climate class: C2					Dimension drawing 80312484-R0
Firecat class: F1					Winding Material HV / LV : AL/ AL

Tapping		Measurement of winding resistance				Value in Ohms at 26.3 °C			
Connection	4-7								
1U-1V	0.608				2U-2V	0.0005481			
1V-1W	0.607				2V-2W	0.0005518			
1W-1U	0.606				2W-2U	0.0005656			

Voltage ratio measurement									
Voltage and vector-group checked according to rating plate. Ratio Tol. ± 0,5 %									
Tapping		3-8	3-7	4-7	4-6	5-6			
Ratio guar.		58.22	59.76	61.29	62.82	64.35			
Ratio meas.		58.28	59.78	61.28	62.87	64.37			
Deviation %		≤ 0.10	≤ 0.04	≤ -0.01	≤ 0.08	≤ 0.03			

Measurement of no-load losses and current									
Connection : 2U-2V-2W					at 50 Hz				
U	V	I	A		I ₀ /I _N %	Instrument transf. range		Losses kW	
		I _{0U}	I _{0V}	I _{0W}	I ₀ average	Cu	CI	P ₀	
650		12.755	10.090	12.056	11.634	0.33	1000	20	6.825

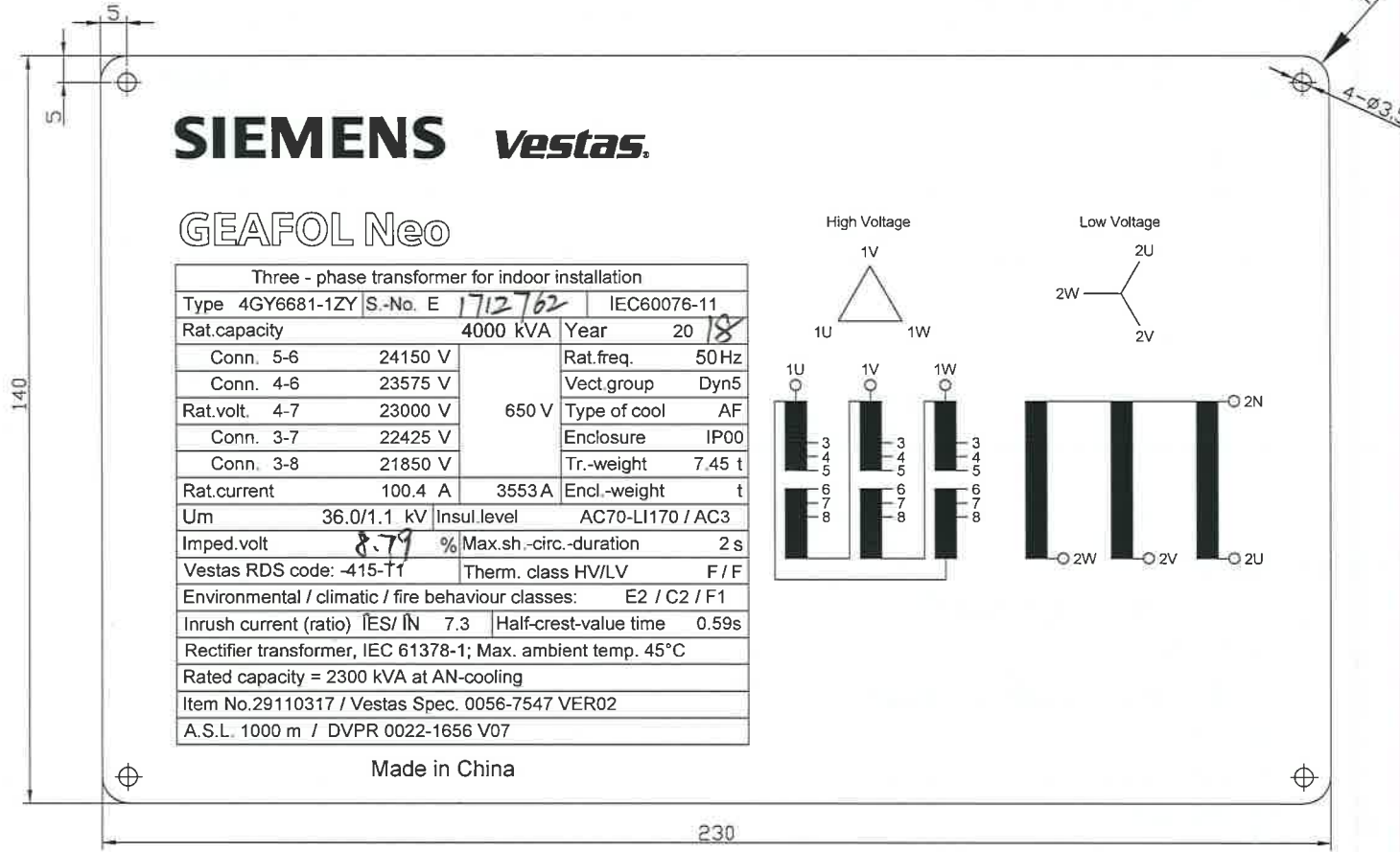
Measurement of load losses and imped. voltage									
Connection : 1U-1V-1W Short circ.: 2U-2V-2W					at 50 Hz				
Tapping	I	A	U	V	U _z %	U _z %	Instrument transf. range		Losses kW
					at 26.6 °C	at 120 °C	Cu	CI	P _k (I _N) at 26.6 °C P _k (I _N) at 120 °C
4-7	69.9		1405.0		8.77	8.79	2000	50	25.773 31.449

AC withstand voltage tests					Losses at 26.6 °C				Losses at 120 °C			
		U	kV	f Hz	t min	Tapping		4-7	Tapping		4-7	
Applied voltage test	HV	70		50	1	P _k (I _N)=		25.773 kW	Σ I _N ² ·R=		27.028 kW	
Applied voltage test	LV	3		50	1	Σ I _N ² ·R=		19.711 kW	P _z =		4.421 kW	
Induced voltage test	LV	1.300		150	0.67	P _z =		6.062 kW	P _k (I _N)=		31.449 kW	

Partial discharge measurement									
According to IEC standard PD-measurement at 130% of U _r : 1U: 3 pC 1V: 3 pC 1W: 3 pC									

Rectifier transformer, IEC 61378-1; Max. ambient temp. 45 °C Rated capacity = 2300 kVA at AN-cooling A.S.L. 1000 m / DVPR 0022-7547 V07 Vestas DVPR : 0022-1654 VER00, 0022-1655 VER00		Temperature sensor resistance measurement PT100 resistance in Ohm at 26.5 °C		Temperature sensor insulation withstand test Insulation test passed.	
		Winding	Core		
		Phase U =	111.3 / 111.3		111.0 / 111.0
		Phase V =	111.3 / 111.3		111.0 / 111.0
		Phase W =	111.3 / 111.3		111.0 / 111.0

Testfield, Guangzhou		Tester: Linxhe	Checked: Vision
		Date: 2018.09.10	Date: 2018.9.10



The payment of damages.All rights are reserved in the event of grant and a patent or registration of a utility model of design.

额定容量: 4,000 kVA 电压等级: 23.0±2X2.5%/0.65kV 联结组别: Dyn5	通用公差标准 ISO 2768-c		表面公差标准 DIN ISO 1302		材料 1mm 不锈钢板	KLASSE: Z01
	设计	2018.8.1	姓名	黄桂	铭牌 Vestas 西门子公司 变压器有限公司 330014200 品检合格	
	校核	2018.8.1	姓名	谢静		
	审核	2018.8.1	姓名	侯军		
WERK-NR.:				29110317 DK NEO - A4		Blatt 1 1 B1
序号	更改序号	日期	姓名	校核	Urspr.:	Ers. f.:
SIEMENS				STGZ		

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