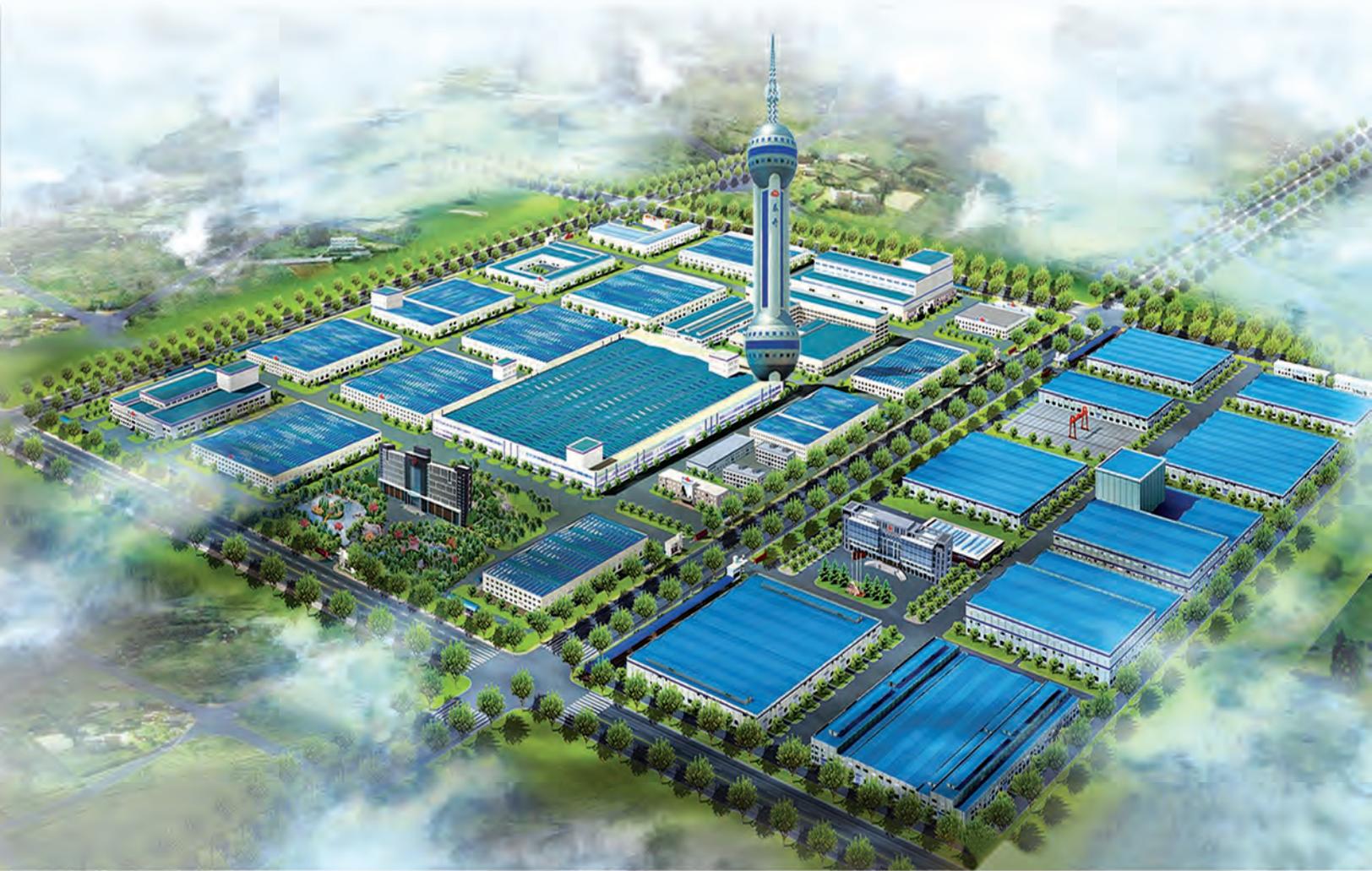




Integrity Honesty Pragmatic Innovation
Striving for excellence Contributing to society



SHANDONG TAIKAI INSTRUMENT TRANSFORMER CO., LTD

TAI' AN CHINA



Company Profile

Established in 1997, Shandong Taikai Instrument Transformer Co., Ltd is a wholly-owned subsidiary of Shandong Taikai Group Co., Ltd. With registered capital of 200 million and total assets of 535 million, Shandong Taikai Instrument Transformer Co., Ltd is specialized in manufacturing three products series of instrument transformer, surge arrester and complete testing equipment with voltage from 10kV to 1000kV. Shandong Taikai Instrument Transformer Co. Ltd has been honored as National High-technology Enterprise. The company is located at the foot of Mount Tai, and covering the area of 60,000 square meters, includes building area 32,000 square meters, and six purification workshops. We have the domestic first-class professional production lines for transformer, arrester and complete testing equipment. The technology and equipment reach the international advanced level.

Shandong Taikai Instrument Transformer Co., Ltd has been certified by ISO9001 QMS in 1997, and EMS, OHS&QMS in 2009. Owing the strong technical power, the company has participated in drafting of JJG-1021POWER INSTRUMENT TRANSFORMER VERIFICATION PROCEDURES and other national standards. Meanwhile, the company has also undertaken 22 items of provincial-above technical innovation projects, such as 1000kV standard voltage transformer project, obtained 44 items of nation patents, of which 6 items are utility patents. Cooperating with China Electric Power Research Institute, the company developed 1000kV series standard voltage transformer, standard capacitor, tank-type capacitive voltage transformer, which filled domestic gaps. The performance of this series has reached international advanced level. Of which 1000kV tank-type capacitive voltage transformer was successfully put into operation in Huainan station during the transmission of Huainan-Shanghai UHV AC transmission demonstration project from Anhui to East of China in 2013;The standard voltage transformer was successfully applied in the 1000 kV UHV AC pilot demonstration project of Jingmen-Nanyang-southeast of Shanxi in 2008. The successful application of 1000kV standard voltage transformer symbolized that China's power frequency voltage ratio standard technology has reached the world advanced level.

As one of the main suppliers of State Grid Corporation of China and China Southern Power Grid, the company ranks top in terms of the accepted contract amount in the bidding. Products of the company have been not only operated safely on National Important Projects, but also the power grid, railway and petrochemical industry covering more than 30 provinces. Passing the type test performed in laboratory of CESI and manufactured according to international standard, the products have been exported to more than 20 countries and regions such as Russia, Ukraine, Kyrgyzstan, Angola, Vietnam, and Laos operating under freezing cold, hot and humid, high altitude, windy and sandy condition. The company not only supplies quality product, but pays more attention to the idea of innovation. Shandong Taikai Instrument Transformer Co., Ltd provides the professional solution such as voltage withstand, partial discharge and error determination for power equipment, which have been well praised from domestic and foreign users.

Quality Policy: All posts put prevention first, continuously improve quality management system, supply zero defect products and sincere service to satisfy the customers.





Product Classification:



LVB series



TYD



LVQB series



TAIKAI PRODUCTS



JDQXF series



LB series



series



GIS auxiliary product series



Open-type assembled switch series



Testing equipment series



Surge arrester series



Qualification:

<p>CESI INSPECTION REPORT</p> <p>1 GENERAL</p> <p>This report covers the inspection of the instrument transformer Shandong, China, insulated, serial number...</p> <p>The inspection was performed on the short circuit test at the Center of Southstreet in Shenyang after the short circuit test of the TRANSFORMER of some type 2014.</p> <p>4.1 4.2</p> <p>5 ASSESSMENT</p> <p>6.1 6.2</p> <p>7 NON-CONFORMITIES</p> <p>8 COMMENTS</p> <p>CESI S.p.A. Via Ruffinotto 38 I-20138 Milano Tel. +39 02 21213 Fax. +39 02 21213440 e-mail: info@cesi.it www.cesi.it</p>	<p>CESI INSPECTION REPORT</p> <p>1 GENERAL</p> <p>This report covers the inspection of the instrument transformer Shandong, China, insulated, serial number...</p> <p>The inspection was performed on the short circuit test at the Center of Southstreet in Shenyang after the short circuit test of the TRANSFORMER of some type 2014.</p> <p>4.1 4.2</p> <p>5 ASSESSMENT</p> <p>6.1 6.2</p> <p>7 NON-CONFORMITIES</p> <p>8 COMMENTS</p> <p>CESI S.p.A. Via Ruffinotto 38 I-20138 Milano Tel. +39 02 21213 Fax. +39 02 21213440 e-mail: info@cesi.it www.cesi.it</p>	<p>CESI INSPECTION REPORT</p> <p>Client: _____</p> <p>Subject: _____</p> <p>Place and date of inspection: _____</p> <p>Notes: _____</p> <p>Partial reproduction of this report: _____</p> <p>N. of pages: 8</p> <p>Issue date: _____</p> <p>Prepared by: TCE/C</p> <p>Verified by: TCE/C</p> <p>Approved by: TCE/C</p> <p>CESI S.p.A. Via Ruffinotto 38 I-20138 Milano - Italy Tel. +39 02 21213 Fax. +39 02 21213440 e-mail: info@cesi.it www.cesi.it</p>	<p>CESI INSPECTION REPORT</p> <p>5 ASSESSMENT</p> <p>The adequacy of the instrument transformer used were verified, on the instruments used in AQCT and in Sha 4.2[1] and [2], the means of description of the measuring instrument. The laboratory staff...</p> <p>6 TESTS PERFORMED</p> <p>The tests performed were in accordance with the clause of the reference test report and the order as the tests were performed. The details of the tests are in 4.2[1] to [2].</p> <table border="1"> <thead> <tr> <th>Item</th> <th>Normative document</th> <th>Compliance</th> </tr> </thead> <tbody> <tr><td>1</td><td>IEC 61869-2</td><td>7.2</td></tr> <tr><td>2</td><td>IEC 61869-1</td><td>7.2</td></tr> <tr><td>3</td><td>IEC 61869-1</td><td>7.2</td></tr> <tr><td>4</td><td>IEC 61869-1</td><td>7.2</td></tr> <tr><td>5</td><td>IEC 61869-2</td><td>7.2</td></tr> <tr><td>6</td><td>IEC 61869-1</td><td>7.2</td></tr> <tr><td>7</td><td>IEC 61869-1</td><td>7.2</td></tr> <tr><td>8</td><td>IEC 61869-2</td><td>7.2</td></tr> <tr><td>9</td><td>IEC 61869-1</td><td>7.2</td></tr> <tr><td>10</td><td>IEC 61869-1</td><td>7.2</td></tr> <tr><td>11</td><td>IEC 61869-1</td><td>7.2</td></tr> <tr><td>12</td><td>IEC 61869-1</td><td>7.2</td></tr> <tr><td>13</td><td>IEC 61869-1</td><td>7.2</td></tr> </tbody> </table>	Item	Normative document	Compliance	1	IEC 61869-2	7.2	2	IEC 61869-1	7.2	3	IEC 61869-1	7.2	4	IEC 61869-1	7.2	5	IEC 61869-2	7.2	6	IEC 61869-1	7.2	7	IEC 61869-1	7.2	8	IEC 61869-2	7.2	9	IEC 61869-1	7.2	10	IEC 61869-1	7.2	11	IEC 61869-1	7.2	12	IEC 61869-1	7.2	13	IEC 61869-1	7.2	<p>CESI</p> <p>LVB-500</p> <p>LVB-230</p> <p>LVB-132</p> <p>TYD500</p> <p>TYD230</p> <p>TYD132</p>
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CVT cleaned rolling workshop



High voltage testing hall



CVT oil-injecting platform



Bending and torsion testing machine

Manufacturing site:



Double-ended wire winder



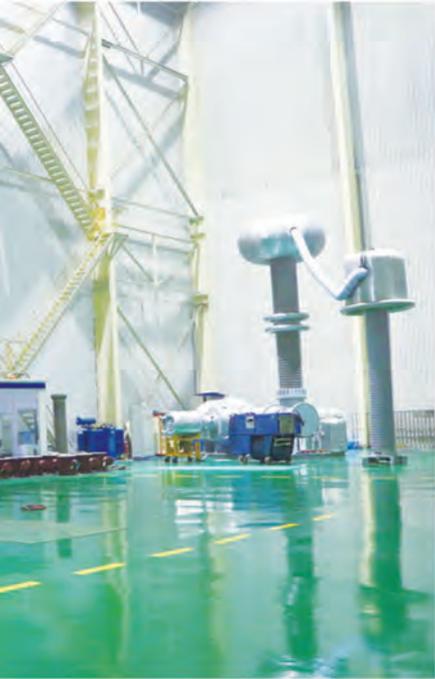
Salt spray test chamber



CVT dryer



SF6 shield assembling workshop



Vacuum dryer



LB oil-injecting platform



Automatic winding equipment



LVB oil-injecting platform



Product operation in China



Product operation abroad



Operation in Guyana



Operation in Ukraine



Operation in Kyrgyzstan



Operation in Egypt



Operation in Vietnam



Operation in Brazil



Operation in Bangladesh



Operation in Yemen



Operation in Jordan



Operation in Angola



LVB(T)-35-500 series oil-immersed inverted current transformer

◇ Main technical parameters:

Product Type	LVB(T)-35	LVB-66	LVB-110	LVB(T)-220	LVB(T)-500
Highest voltage for equipment(kV)	40.5	72.5	126	252	550
Rated frequency(Hz)	50				
Rated power-frequency withstand voltage(kV)	95	160	200/230	395/460	740
Rated lightning-impulse withstand voltage(kV)	200	350	480/550	950/1050	1675
Partial discharge(pC)/1.2Um	< 5				
Rated primary current(A)	300-800	300-4000	300-4000	300-4000	1000-4000
Rated secondary current(A)	5:1				
Accuracy class (combination as needed)	0.1;0.2;0.2s;0.5;0.5s;5P;10P;TPY				
Rated output(VA)	10-50				
Accuracy limit factor (ALF)	10;15;20;25;30;40				
Instrument security factor (FS)	5;10				
Short-time thermal current (kA/s)	50-63/3				
Rated dynamic stable current (kA)	125-160				
Overall dimension (mm) H1/H	1225/1780	1765/2390	1765/2390	3085/3850	5920/6960
Dimension of primary earthing block	110x130	110x130	110x130	110x180	160x180
Dimension of mounting hole on pedestal ΦG(mm)	4x F 24	4x F 24	4x F 24	4x F 24	4x F 30
Total mass(kg)	30/150	90/420	90/420	150/730	760/2800



LVB testing site



LVB manufacturing site



LVB ceramic bushing assembly



LVB manufacturing site



Insulation strapper



LVB manufacturing site



Power-frequency testing transformer



LVB product to be tested



LVB product exhibition

LVB-500

LVB-330

LVB-220

LVB-110

LVB-35



LVQB35-500 series SF6 current transformer

◇ Main technical parameters:

Product type	LVQB-35	LVQBT-35	LVQB-66	LVQB-110	LVQB(T)-220	LVQB(T)-330	LVQB(T)-550
Highest voltage for equipment(kV)	40.5		72.5	126	252	363	550
Rated frequency (Hz)	50		50	50	50	50	50
Rated power-frequency withstand voltage (kV)	95		160	230	460	510	740
Rated switching impulse withstand voltage (kV)	--		--	--	--	950	1175
Rated lightning-impulse withstand voltage	200		350	550	1050	1175	1675
Partial discharge (pC)/1.2Um	< 5		< 5	< 5	< 5	< 5	< 5
Rated primary current (A)	50-5000		100-2500		300-4000	1250-4000	1250-5000
Rated secondary current (A)	5 or 1		5 or 1	5 or 1	5 or 1	5 or 1	5 or 1
Accuracy class (combination as needed)	0.2;0.2S;0.5;;0.5S;5P;10P;TPY		0.2;0.2S;0.5;;0.5S;5P;10P		0.2;0.2S;0.5;0.5S;5P;10P;TPY	0.2;0.2S;0.5;;0.5S;5P;10P;TPY	0.2;0.2S;0.5;;0.5S;5P;10P;TPY
Rated output (VA)	15-60		15-60		15-60	10-60	10-60
Instrument security factor (FS)	5;10						
Accuracy limit factor (ALF)	10;15;20;		10;15;20		15;20;25;	15;20;25;30	15;20;25;30
Short-time thermal current (kA/s)	31.5/1	63/3	31.5-63/3		63/3	63/3	63/3
Rated dynamic stable current (kA)	30-125		80-160		125	125-160	125-160
SF6 Rated pressure (20℃) MPa	0.4		0.4		0.4	0.4	0.5
Rated filling pressure (20℃) MPa	0.35		0.35		0.35	0.35	0.35
Rated Annual leakage rate (%)	≤0.5		≤0.5		≤0.5	≤0.5	≤0.5
SF6 Moisture content (μ L/L)	≤150		≤150		≤150	≤150	≤150
Overall dimension							
H(mm)	1125	1764	2150		3600/3770	4550	6695
L(mm)	610	1466	1213Max		1300/1440	1660	2073
H1(mm)	960	1385	1870		3180/3240	3500	5913
Dimension of mounting hole on pedestal	4x Φ22	4x Φ22	4x Φ22		4x Φ22	4x Φ22	4x Φ26
4x Φd	430x430	430x430	475x475		550x550	660x660	900x900
B1XB2 (mm)	134	134	174.5		224	224	368
B3							
Primary outlet terminal dimension	See figure 1						
Total mass(kg)	100	600	400-500		900-1700	1100-1700	2300



LVQB product placement



SF6 assembly workshop

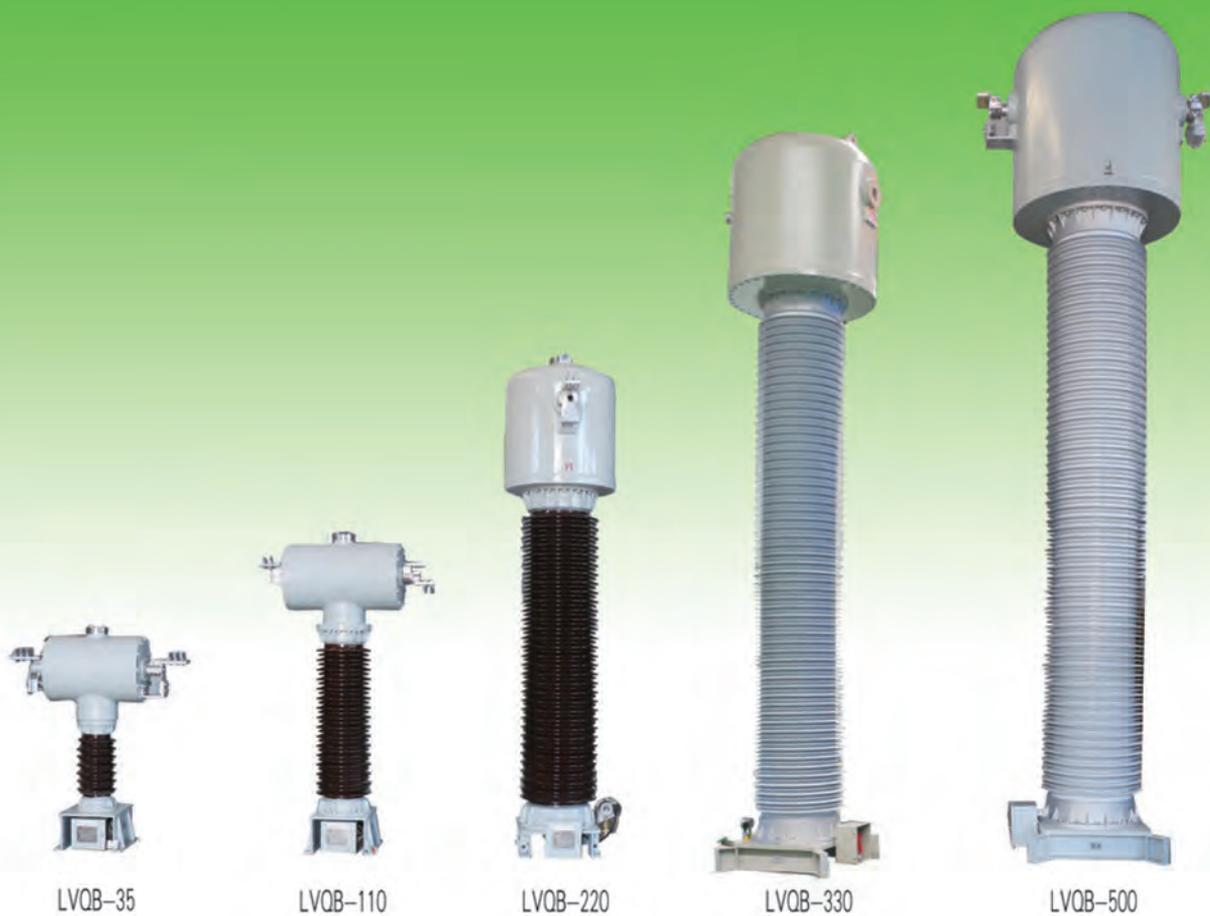


LVQB testing site



Semi-product testing station

Product exhibition



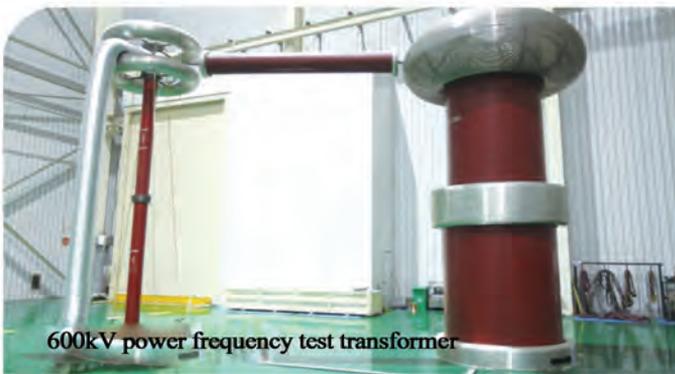


TYD35-765 series capacitive voltage transformer

◇ Main technical parameters:

Product type	TYD35/ -0.01HF	TYD35/ -0.02HF	TYD66/ -0.01HF	TYD66/ -0.02HF	TYD110/ -0.01HF	TYD110/ -0.02HF	TYD110/ -0.02HF	TYD220/ -0.005H	TYD220/ -0.01H	TYD220 /-0.01H	TYD330/ -0.005H	TYD600 /-0.005 H	TYD76 5/-0.0 05H
Highest voltage for equipment (kV)	40.5	40.5	72.5	72.5	110	110	110	220	220	220	330	660	800
Rated frequency (Hz)	50	50	50	50	50	50	50	50	50	50	50	50	50
Rated capacitance (pF)	10000	20000	10000	20000	10000	20000	20000	8000	8000	8000	8000	8000	8000
Rated voltage factor/time	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTINU OUS	1.2 CONTIN UOUS
Rated power/frequency withstand voltage (kV)	180	160	180	180	200/230	200/230	200/230	395/480	395/480	395/480	510	740	975
Rated lightning impulse withstand voltage (kV)	350	350	350	350	480/550	480/550	480/550	950/1050	950/1050	950/1050	1175	1675	2100
Partial discharge (pC/1.2UM)	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Accuracy class	0.2, 0.5	0.2, 0.5	0.2, 0.5	0.2, 0.5	0.2, 0.5	0.2, 0.5	0.2, 0.5	0.2, 0.5	0.2, 0.5	0.2, 0.5	0.2, 0.5	0.2, 0.5	0.2, 0.5
	Rate S OUT UTV A)	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120
Accuracy class	0.5, 3P	0.5, 3P	0.5, 3P	0.5, 3P	0.5, 3P	0.5, 3P	0.5, 3P	0.5, 3P	0.5, 3P	0.5, 3P	0.5, 3P	0.5, 3P	0.5, 3P
	Rate S OUT UTV A)	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120	<120
Accuracy class	3P, 6P	3P, 6P	3P, 6P	3P, 6P	3P, 6P	3P, 6P	3P, 6P	3P, 6P	3P, 6P	3P, 6P	3P, 6P	3P, 6P	3P, 6P
	Rate S OUT UTV A)	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Overall dimension													
Total mass(kg)	450	450	540	540	550	650	650	800	820	820	1200	2200	2350

Note: Different accuracy combination can be provided as request.



600kV power frequency test transformer



Manufacturing site



Pressing machine



CVT product testing area



CVT winding workshop



CVT cleaned rolling workshop



Manufacturing site



Dryer

Product exhibition

TD35 $\sqrt{3}$ -0.01/0.02H



TD110 $\sqrt{3}$ -0.01/0.02H



TD220 $\sqrt{3}$ -0.005/0.01H



TD330 $\sqrt{3}$ -0.005H



TD500 $\sqrt{3}$ -0.005H



TD765 $\sqrt{3}$ -0.005H





LB-35-220 Series Oil-immersed vertical current transformer

◇ Main technical parameters:

Product type	LB6-35	LB6-66	LB6-110	LB7-220
Highest voltage for equipment (kV)	40.5	72.5	126	252
Rated frequency (Hz)	50	50	50	50
Rated power-frequency withstand voltage (kV)	90	160	200/230	395/460
Rated lightning-impulse withstand voltage (kV)	200	350	480/550	950/1050
Partial discharge (pC)/1.2Um	<5	<5	<5	<5
Rated primary current (A)	5-2000	50-2500	50-2500	50-2500
Rated secondary current (A)	5 or 1	5 or 1	5 or 1	5 or 1
Accuracy class(combination as needed)	5P;10P;0.5;0.5S;0.2;0.2S			
Rated output (VA)	20-50	30-50	30-50	30-50
Accuracy limit factor (ALF)	10;15;20;25;30	10;15;20;25;30	10;15;20;25;30	15;20;25;30
Instrument security factor (FS)	5or10	5or10	5or10	5or10
Short-time thermal current (kA/s)	5.3-50/3	5.3-50/3	5.3-50/3	5.3-50/3
Rated dynamic stable current (kA)	13-125	13-125	13-125	13-125





JDQXF35-220series SF6 Voltage transformer

◇ Main technical parameters:

Product type		JDQX-35	JDQXF-66	JDQXF-110	JDQXF-220
Highest voltage for equipment (kV)		40.5	72.5	126	252
Rated frequency (Hz)		50	50	50	50
Rated power-frequency withstand voltage (kV)		1.9/8h	1.9/8h	1.5/30s	1.5/30s
Rated lightning-impulse withstand voltage (kV)		95	160	200/230	460
Partial discharge (pC) / 1.2Um		<5	<5	<5	<5
Primary winding\ (1a/1n)	Accuracy class	0.2;0.5	0.2;0.5	0.2;0.5	0.2;0.5
	Rated output(VA)	≦25	≦75	≦75	≦100
Secondary winding (2a/2n)	Accuracy class	3P;6P	3P;6P	3P;6P	3P;6P
	Rated output(VA)	≦25	≦75	≦100	≦100
Residual windings(da/dn)	Accuracy class	3P;6P	3P;6P	3P;6P	3P;6P
	Rated output(VA)	≦150	≦300	≦300	≦300
SF6 Rated pressure (20°C)(MPa)		0.4	0.4	0.4	0.45
SF6 Filling pressure (20°C)(MPa)		0.35	0.35	0.35	0.4
SF6 Annual leakage (%)		≦0.5	≦0.5	≦0.5	≦0.5
SF6 Moisture content (μL /L)		<150	<150	<150	<150
Product overall dimension					
Total mass(kg)		155	500	500	1700(Ceramic); 1300(composite)

Note:

- 1) Different accuracy class combination can be provided as request.
- 2) External insulation of 66 kV, 110 kV and 220kV can be chosen as customer's request between ceramic and composite one.
- 3) Subject to the parameters on the nameplate when there is difference between the specific parameters and the table above.



Automatic winding machine

Product exhibition





GIS auxiliary product

We mainly supply 72.5-550kV GIS voltage transformer, GIS current voltage and GIS surge arrester



Y10WF-200/520



JDQXF-500



电力工业电气设备质量检验检测中心
检测报告

一、委托单位
山东泰开互感器有限公司

二、试样名称
型 号: 电压互感器
材 质: 瓷
制 造 厂: 山东泰开互感器有限公司

三、检测标准
GB2087-2006 电压互感器
DL/T726-2000 电力电压互感器型式试验
GB1984-2003 高压交流断路器 第二部分: 机械试验方法和程序

四、检测结果
符合型式试验

五、检测日期
2013-05-31-2013-05-31

六、检测结论
依据 GB2087-2006 标准对工厂型式试验, 对山东泰开互感器有限公司提供的 JDQXF-500 型电压互感器型式试验合格, 再经型式试验合格。

七、有效期 五年

检测: 李华 黄永喜
校核: 李华
审核: 郭志勤
批准: [Signature]
日期: 2013-05-17

http://tkhq-wq.epppt.epppt.com.cn 第 1 页 共 13 页

XIHARI		检验报告	No. 121019
		第 1 页 共 13 页	
检验结论			
委托单位: 山东泰开互感器有限公司			
样品型号: 5700F-441/110kV			
试验名称: 交流无间隙金属氧化物避雷器型式试验			
制造单位: 山东泰开互感器有限公司			
检验类别: 型式试验			
试验的检验项目:			
交流耐受电压试验			
工频耐受电压试验			
雷电冲击试验			
直流冲击试验			
长期热稳定电流冲击试验			
[20kA, 200k, 18k]			
[10kA, 20k, 18k]			
雷电冲击试验			
工频电压耐受时间试验			
50% 击穿电压试验			
密封性能试验			
绝缘电阻试验			
耐压试验			
试验结论			
检验合格			
检验日期: 2013-05-31			
检验地点: 山东泰开互感器有限公司			
检验人员: 李华 黄永喜			
检验日期: 2013-05-31			



Surge arrester



Product place area



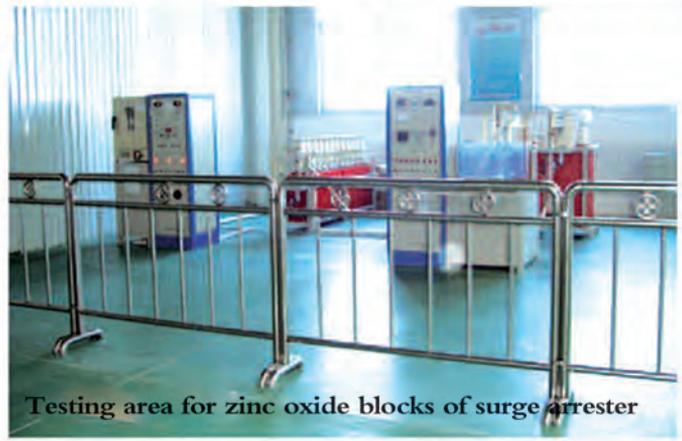
Y10WF-100/260S



Rubber injection molding machine

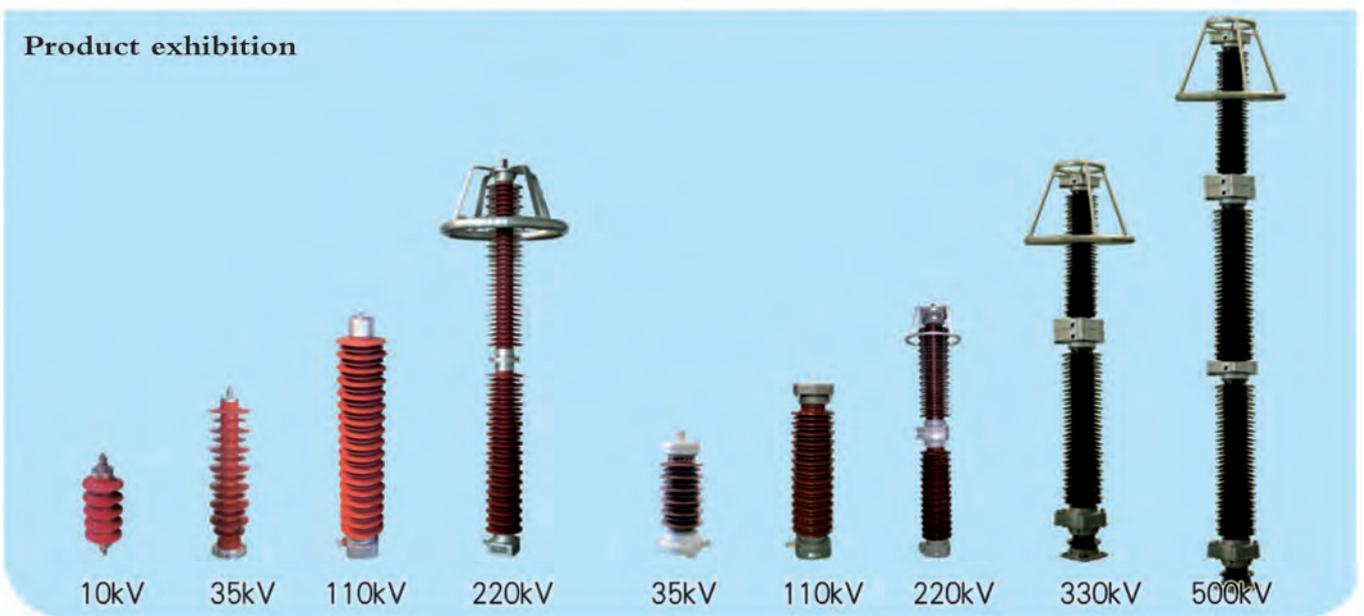


Rubber injection molding machine



Testing area for zinc oxide blocks of surge arrester

Product exhibition





Testing equipment



Integrated testing machine
(With test of withstand voltage partial discharge error and exciting integrated)



SF6 testing transformer



1200kV Standard vertical capacitor



Instrument transformer testing platform in all different working conditions

The high-volt testing equipments manufactured mainly include: AC voltage withstand apparatus, instrument transformer error testing equipment, scientific research platform for electrical equipment, standard quantity-transfer equipment, electrical teaching and practical training system and so on. Cooperating with China Electric Power Research Institute and other institutes, Shandong Taikai Instrument Transformer Co., Ltd developed 1000kV series of standard voltage transformer, inflatable resonance reactor, which filled the domestic gaps in the field and reached the internal advanced level.



Testing device for instrument transformer measuring test



Standard voltage transformer



Cast-resin type instrument transformer





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