



70550460-TDT 06-59784A

-4-

**PERSONS ATTENDING THE INSPECTION**

Mr Xiao'ou Zheng  
Wenzhou Cantor H.V. Electric Manufacturing Co. Ltd

**THE INSPECTION WAS CARRIED OUT BY**

Mr André W. van Boetzelaer  
KEMA Nederland B.V.

**PURPOSE OF THE INSPECTION**

Purpose of the inspection was to verify whether the arrester complies with the specified requirements.

**DESCRIPTION AND RESULTS OF THE TEST**

**0 INSPECTION OF THE TEST SET-UP**

The tests were carried out in the laboratory of China National Centre for Quality Supervision and Test of Insulators and Surge Arresters in Xi'an, China, who is therefore jointly responsible for the correctness of the results obtained. The measuring devices and the test set-up were checked by KEMA and where necessary calibrated.

**Result**

The inspection results did not give rise to remarks.

**1 COMPLETE ARRESTER**

**1.1 Reference voltage measurement**

The reference voltage of the arrester is defined as the power frequency voltage applied to the arrester when the resistive component of the current flowing through the arrester is 1 mA peak. The reference voltage should be greater than the value as stated in the material data. The reference voltage measurement was carried out on three complete arresters of the 42 kV type which is representative for the whole series. The results of this measurement are summarised in annex B.

**Result**

The test results fulfilled the requirements.

**1.2 Internal partial discharge test**

The internal partial discharges were measured when applying a power frequency voltage to the arrester. The voltage was first raised to the rated voltage, held for 10 s and then decreased to 1,05 times the continuous operating voltage at which level the partial discharges were measured. The partial discharge level should be below 10 pC. The reference voltage measurement was carried out on three complete arresters of the 42 kV type which is representative for the whole series. The results of this measurement are summarised in annex B.

**Result**

The test results fulfilled the requirements.

**1.3 Mechanical tests**

**1.3.1 MOISTURE INGRESS TEST**

One sample of a complete arrester of the 42 kV type which is representative for the whole series was submitted to the following test sequence:

- initial measurements: partial discharge-, watt losses- and residual voltage measurement
- terminal torque test at rated torque
- thermo mechanical test in four directions with rated cantilever load at temperatures of respectively +60 °C, -25 °C, +45 °C and -40 °C
- water immersion test in boiling water with NaCl for 42 hours
- visual inspection of the sample
- verification tests: partial discharge -, watt losses- and residual voltage measurement.

The results of this test are summarised in annex B.

The acceptance criteria are:

- no mechanical change
- increase of watt losses should be less than 20%
- partial discharges > 10 pC at 1,05 U<sub>cov</sub>
- change of residual voltage should be less than 5%.

**Result**

The test results fulfilled the requirements.

**1.3.2 WEATHER AGEING TEST**

One ratio arrester with an U<sub>i</sub> of 15 kV and an equivalent creepage distance was specially prepared for this test. This sample was submitted to the following test sequence:

- initial measurements: reference voltage- and partial discharge measurement
- test series A: 1000 hours at a constant power frequency voltage of U<sub>cov</sub> (12 kV) in a climate room sprayed with salt water and a flow rate of 0,4 ± 0,1 l/h/m<sup>3</sup>
- verification tests: reference voltage- and partial discharge measurement.

The results of this test are summarised in annex B.

The acceptance criteria are:

- change of reference voltage should be less than 5%
- partial discharges > 10 pC at 1,05 U<sup>cov</sup>.

### Result

The test results fulfilled the requirements.

## 2 ARRESTER HOUSING

### 2.1 Lightning impulse voltage test

One empty housing of the 42 kV type which is representative for the whole series was subjected to a standard lightning impulse voltage dry test with 15 impulses of positive polarity and 15 impulses of negative polarity and a crest value of 160 kV.

The results of this test are summarised in annex B.

The acceptance criterion is:

- not more than two external disruptive discharges per 15 impulses.

### Result

The test results fulfilled the requirements.

### 2.2 Power frequency voltage test, wet

One empty housing of the 42 kV type which is representative for the whole series was tested with a power frequency of 80 kV, 50 Hz during 1 minute under artificial rain in accordance with IEC 60060-1 (1989).

The results of this test are summarised in annex B.

The acceptance criterion is:

- no external disruptive discharge during the test

**Result**

The test results fulfilled the requirements.

**3 ARRESTER SECTION**

**3.1 Residual voltage test**

All residual voltage tests were carried out on the same three arrester sections. The rated voltage of one section is 3 kV and consisted of one metal-oxide block. By multiplying the measured residual voltage by the number of sections per arrester the equivalent residual voltage of the arrester was calculated.

**3.1.1 LIGHTNING IMPULSE**

Three lightning current impulses with a waveform of 8/20 µs with a peak value of respectively 5, 10 and 20 kA, this is respectively 0,5, 1 and 2 times the nominal discharge current, were applied to each of the three sections. The maximum value of the residual voltage was recorded. The results of this test are summarised in annex B.

The acceptance criterion is:

– the equivalent residual voltage of the arrester at nominal discharge current (10 kA) should be below the specified residual voltage in kV.

**Result**

The test results fulfilled the requirements.

**3.1.2 SWITCHING IMPULSE**

One switching impulse with a waveform of 30/60 µs and a peak value of 500 A was applied to each of the three sections. The maximum value of the residual voltage was recorded.

The results of this test are summarised in annex B.

The acceptance criterion is:

– the equivalent residual voltage of the arrester should be below the specified switching impulse residual voltage in kV.

**Result**

The test results fulfilled the requirements

**3.1.3 STEEP CURRENT**

One steep current impulse with a waveform of 1/10 µs and a peak value of 10 kA was applied to each of the three sections. The maximum value of the residual voltage was recorded.

The results of this test are summarised in annex B.

The acceptance criterion is:

- the equivalent residual voltage of the arrester at nominal discharge current should be below the specified steep current impulse residual voltage in kV.

**Result**

The test results fulfilled the requirements.

**3.2 Long duration current impulse withstand test**

The long duration current impulse withstand test was carried out on three arrester sections. The rated voltage of one section is 3 kV and consisted of one metal-oxide block. The line discharge class is 1.

Before this test the lightning impulse residual voltage at nominal discharge current and the switching impulse residual voltage at 125 A was measured. The latter was used for calculating the energy, which should be injected into the sample during every long duration impulse. This energy was determined as 2,98 kJ. The duration of the impulse is 2000 µs.

Each sample was tested with 18 long duration impulses divided in 6 groups. Between each impulse there is a pause of 50 to 60 s and between each group the samples are cooled down to ambient.

Following the test and after the samples are cooled down to ambient the lightning impulse residual voltage at nominal discharge current was measured. The results of this test are summarised in annex B.

The acceptance criteria are:

- no evidence of puncture, flashover or other significant damage
- change of residual voltage should be less than 5%.

**Result**

The test results fulfilled the requirements.

**3.3 Operating duty test**

The operating duty test was carried out on three arrester sections. The rated voltage of one section is 3 kV and consisted of one metal-oxide block. Successively the following three tests were carried out.

**3.3.4 ACCELERATED AGEING TEST**

This test is designed to determine the elevated test voltages and to decide whether new or aged samples shall be used in the operating duty test.  
The three samples were subjected to a long duration test with a corrected  $U_{cov}$  of 2,56 kV during 1000 hours. During the whole test duration the resistor power losses are measured. Taken into account the results of these loss measurements and using the calculation method described in the IEC standard the choice between aged and new samples for the following tests has to be made.

**3.3.5 CONDITIONING**

The conditioning test was made on three new samples. Before the conditioning test the lightning impulse residual voltage at nominal discharge current was determined. Following this the three samples were exposed to 20 lightning current impulses of 8/20  $\mu$ s with nominal discharge current. The impulses were applied while the sample was energized at  $1,2 \times U_{cov}$ . The 20 impulses are applied in four groups of 5 impulses. The interval between each impulse was 50-60 s and between each group 25-30 min.

**3.3.3 HIGH CURRENT IMPULSE OPERATING DUTY TEST, APPLICATION OF IMPULSES**

The operating duty test is made on the same samples as during conditioning, above. The samples were placed in a housing, which is thermal equivalent to the housing of a complete arrester.  
All three samples were tested with two high current impulses of 100 kA, 4/10  $\mu$ s. Before the application of the second impulse the samples were pre heated to a temperature of 60 °C. Immediately after the second application of the high current impulse, a power frequency of  $U_1$  during 10 s and  $U_{cov}$  during 30 min. was applied. During these 30 min. the power dissipation of the sample was measured.

Following this and after the samples are cooled down to ambient the lightning impulse residual voltage at nominal discharge current was measured. The results of this test are summarised in annex B. The acceptance criteria is:

- the measurement of the losses during the voltage application did not show thermal instability
- change of residual voltage should be less than 5%
- no evidence of puncture, flashover or other significant damage.

### Result

The test results fulfilled the requirements.



# Technical Data of Metal Oxide Surge Arrester (Type: YH10W-3~27kV)

CAUTOR  
(12mm)

Wenzhou Cantor H.V. Electric Manufacturing Co., LTD.

Manufacturer		Wenzhou Cantor H.V. Electric Manufacturing Co., LTD.										
Rated Voltage	生产商	额定电压	适用标准									
Nominal discharge current	标称放电电流	KV	3	6	9	12	15	18	21	24	27	
		KA	10	10	10	10	10	10	10	10	10	10
General Feature		一般特征	Unit									
Applicable standard		适用标准	IEC60099-4(2004)									
Type designation		型号	YH10W-3/8.5	YH10W-6/17	YH10W-9/25.5	YH10W-12/34	YH10W-15/42.5	YH10W-18/51	YH10W-21/59.5	YH10W-24/68	YH10W-27/76.5	
Housing material		外套材料	Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber	
With(out) gpps		结构类型 (有无间隙)	Without	Without	Without	Without	Without	Without	Without	Without	Without	
Ratings & characteristics		技术参数										
Rated frequency		额定频率	Hz									
2.1	Residual voltage at lightning impulse 8/20µs	残压	50	50	50	50	50	50	50	50	50	50
	-steep current impulse 1/10µs	-雷电	8.5	17	25.5	34	42.5	51	59.5	68	76.5	
	-switching impulse 30/60µs(10kA&up)	-陡坡	9.8	19.6	29.4	39.2	49	58.8	68.6	78.4	88.2	
	-switching surge(class 1)	-操作波	7.3	14.6	21.9	29.2	36.5	43.8	51.1	58.4	65.7	
2.3	Continuous operating voltage	持续运行电压	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
2.4	Power frequency reference voltage	工频参考电压	2.4	4.8	7.2	9.6	12	14.4	16.8	19.2	21.6	
2.5	Long duration current impulse withstand	长线冲击耐受	≥3	≥6	≥9	≥12	≥15	≥18	≥21	≥24	≥27	
	-line discharge chass(10kA& up)	-线路放电等级	I	I	I	I	I	I	I	I	I	
	-2ms rectangular current withstand	-方波耐受电流	A									
2.6	Operating duty	动作负载										
	-4/10µs high current impulse withstand	-大电流冲击耐受	KA	100	100	100	100	100	100	100	100	
2.7	Housing insulation level	外套绝缘水平										
	-lightning impulse	-雷电冲击	kV	12	25	35	45	60	70	80	95	110
	-power frequency, wet 1 min	-工频, 湿	kV	7	10	20	25	30	35	40	50	55

Manufacturer		Wenzhou Cantor H.V. Electric Manufacturing Co., LTD.									
Rated Voltage	额定电压	kV	3	6	9	12	15	18	21	24	27
Nominal discharge current	标称放电电流	kA	10	10	10	10	10	10	10	10	10
2.8 Partial discharge	局放	pC	<10								
2.9 Rated short-circuit withstand current	额定短路耐受电流	KA									
2.10 Power frequency voltage withstand versus time	工频电压时间特性		1.15U <sub>R</sub> -0.1s 1.10U <sub>R</sub> -1s 1.05U <sub>R</sub> -1s 1U <sub>R</sub> -1200s								
2.11 Other ratings & characteristics	其他参数										
-Reference voltage(1 mA DC)	-参考电压 (1mA DC)	kV	4.45	8.9	13.35	17.8	22.25	26.7	31.15	35.6	40.05
-Energy absorption capability	-能量吸收能力	KJ/KV									
3 Measurements & dimensions		尺寸/机械强度									
3.1 Creepage distance	爬距	mm	120	261	414	480	570	630	788	888	945
-creepage distance/rated voltage ratio	-爬电比距	mm/kV	40	43.5	46	40	38	35	37.5	37	35
3.2 Mechanical section length	本体高度 (不含螺栓)	mm	93	113	155	174	198	217	258	281	304
3.3 Insulation distance/electrical section length	绝缘距离	mm	61	81	123	142	166	185	226	249	272
3.4 Mechanical strength	机械强度										
-torsional	-抗扭 (水平)	Nm	50	50	50	50	50	50	50	50	50
-cantilever	-抗弯 (垂直)	N	147	147	147	147	147	147	147	147	147
-bending moment (10kA up & based mounted)	抗弯强度 (水平)	kg									
3.5 Blocks	电阻片										
-diameter	-直径	mm	φ53	φ53	φ53	φ53	φ53	φ53	φ53	φ53	φ53
-height	-高度	mm	22	22	22	22	22	22	22	22	22
-number of blocks	-数量		1	2	3	4	5	6	7	8	9
3.6 Arrestor dimension	避雷器尺寸										
-diameter (big shed)	-直径 (大伞径)	mm	155	155	155	155	155	155	155	155	155
-diameter (small shed)	-小伞径	mm	/	134	134	134	134	134	134	134	134
-number of sheds	-伞数		1	3	5	6	7	8	10	11	12
-core diameter	-芯径	mm	77	77	77	77	77	77	77	77	77
-arrestor height (with fittings)	-总高度	mm	160	178	220	239	262	281	323	346	365
3.7 Rated voltage/Insulation distance Ratio	额定电压/绝缘距离	kV/mm	0.049	0.074	0.073	0.085	0.090	0.097	0.093	0.096	0.099

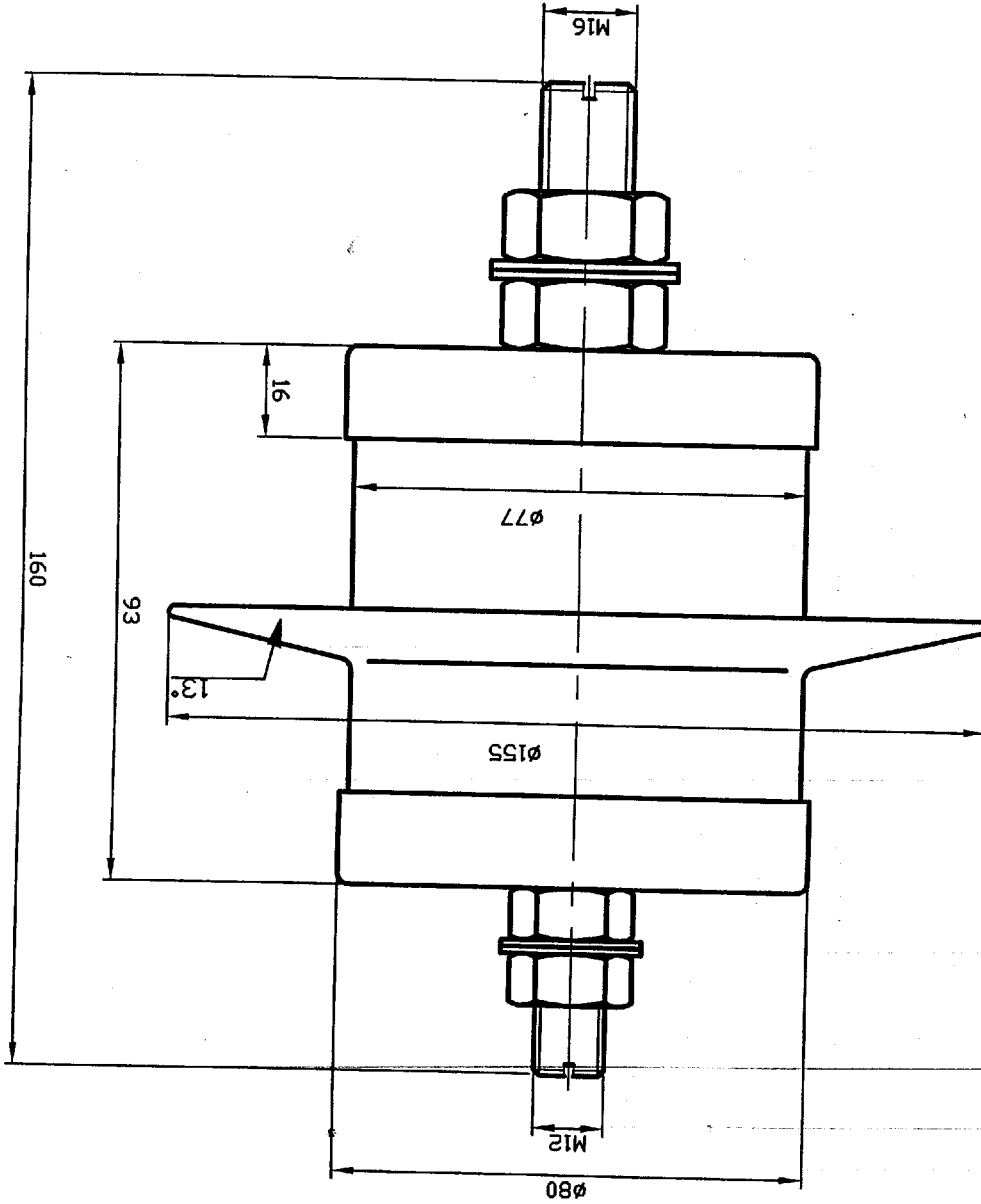
### Technical Data of Metal Oxide Surge Arrester (Type: YH10W-30~42kV)

Manufacturer		生产商		Wenzhou Cantor H.V. Electric Manufacturing Co., LTD.							
	Rated Voltage	额定电压	kV	30	33	36	39	42			
	Nominal discharge current	标称放电电流	kA	10	10	10	10	10			
1	General Feature	一般特征	Unit								
1.1	Applicable standard	适用标准		IEC60099-4(2004)							
1.2	Type designation	型号		YH10W-30/85	YH10W-33/93.5	YH10W-36/102	YH10W-39/110.5	YH10W-42/119			
1.3	Housing material	外套材料		Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber	Silicone rubber		
1.4	With(out) gaps	结构类型 (有无间隙)		Without	Without	Without	Without	Without	Without		
2	Rated frequency	额定频率	Hz	50	50	50	50	50	50		
2.1	Rated frequency	额定频率	Hz	50	50	50	50	50	50		
2.2	Residual voltage at lightning impulse 8/20μs	残压	kV	85	93.5	102	110.5	119			
	sleep current impulse 1/10μs	-陡坡	kV	98	107.8	117.6	127.4	137.2			
	-switching impulse 30/60μs(10kA&up)	-操作	kV	73	80.3	87.6	94.9	102.2			
	-switching surge(class 1)	-操作波	kA	0.5	0.5	0.5	0.5	0.5			
2.3	Continuous operating voltage	持续运行电压	kV	24	26.4	28.8	31.2	33.6			
2.4	Power frequency reference voltage	工频参考电压	kV	≥30	≥33	≥36	≥39	≥42			
2.5	Long duration current impulse withstand	长线冲击耐受									
	-line discharge chass(10kA&up)	-线路放电等级		I	I	I	I	I			
	-2ms rectangular current withstand	-方波耐受电流	A								
2.6	Operating duty	动作负载									
	-4/10μs high current impulse withstand	-大电流冲击耐受	kA	100	100	100	100	100			
2.7	Housing insulation level	外套绝缘水平									
	-lightning impulse	-雷电冲击	kV	120	135	150	155	160			
	-power frequency,wet 1 min	-工频, 湿	kV	60	65	70	75	80			

Manufacturer		Wenzhou Cantor H.V. Electric Manufacturing Co., LTD.							
Rated Voltage	生产商	额定电压	KV	30	33	36	39	42	
Nominal discharge current	标称放电电流	KA	10	10	10	10	10	10	
2.8 Partial discharge	局放	pC					<10		
2.9 Rated short-circuit withstand current	额定短路耐受电流	KA							
2.10 Power frequency voltage versus time	工频电压时间特性								
2.11 Other ratings & characteristics	其他参数								
	-Reference voltage(1 mA DC)	KV	44.5	48.95	53.4	57.85	62.3		
	-Energy absorption capability	KJ/KV							
3	Measurements & dimensions	尺寸/机械强度							
3.1	Creepage distance	爬距	mm	1095	1254	1350	1404	1512	
	-creepage distance/rated voltage ratio	-爬电比距	mm/kV	36.5	38	37.5	36	36	
3.2	Mechanical section length	本体高度 (不含螺栓)	mm	343	384	408	426	449	
3.3	Insulation distance/electrical section length	绝缘距离	mm	311	352	376	394	417	
3.4	Mechanical strength	机械强度							
	-torsional	-抗扭 (水平)	Nm	50	50	50	50	50	
	-cantilever	-抗弯 (垂直)	N	147	147	147	147	147	
	-bending moment (10KA up & based mounted)	抗弯强度 (水平)	kg						
3.5	Blocks	电阻片							
	-diameter	-直径	mm	φ53	φ53	φ53	φ53	φ53	
	-height	-高度	mm	22	22	22	22	22	
	-number of blocks	-数量		10	11	12	13	14	
3.6	Arrester dimension	避雷器尺寸							
	-diameter (big shed)	-直径 (大伞径)	mm	155	155	155	155	155	
	-diameter (small shed)	-小伞径	mm	134	134	134	134	134	
	-number of sheds	-伞数		14	16	17	18	19	
	-core diameter	-芯径	mm	77	77	77	77	77	
	-arrester height (with fittings)	-总高度	mm	407	449	472	491	514	
3.7	Rated voltage/Insulation distance Ratio	额定电压/绝缘距离	kV/mm	0.096	0.094	0.096	0.099	0.100	

Auditing	Shunyu Zhao	Date	2006-03-31	No.	Page	Total	Page	CTY1.02.03-1
	Technics	Sanction	Xiao'ou Zheng			1:1		
Drawing	Yong Zheng			Fig.No.	QTY	Scale	Wight	Exterior drawing
Design	Jianhua Hou	Check						Wenzhou CANTOR H.V.Electric Manufacturing Co.,LTD.
Mark	QTY	Change file No.	Sig.	Date				

**Metal Oxide Surge Arrester**  
**without gaps**  
**YH10W-3/8.5**

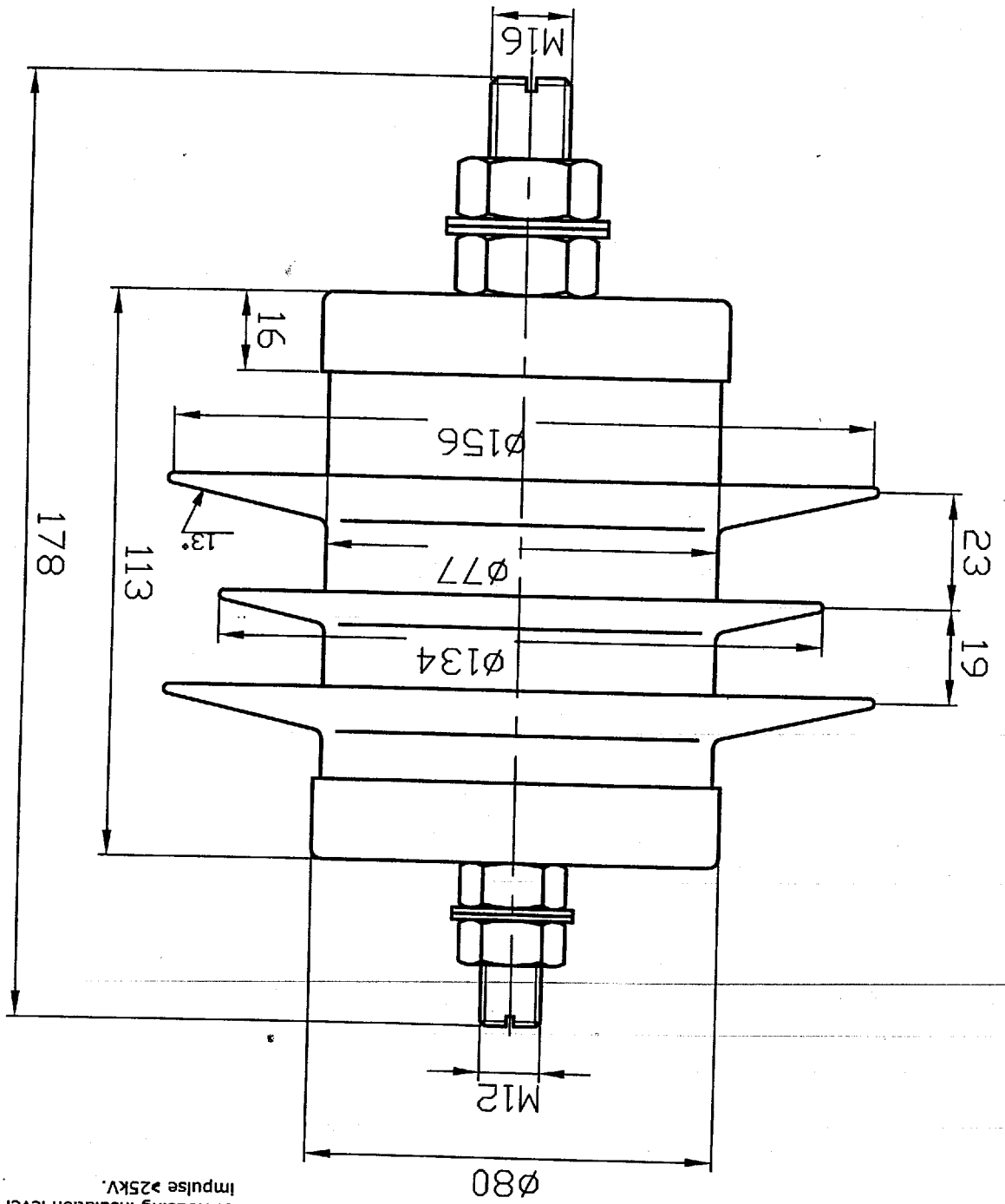


- Technical Data**
1. Applicable standard IEC60099-4(2004)
  2. Rated voltage 3kV.
  3. Continuous operating voltage 2.4kV.
  4. Power frequency reference voltage  $\geq 3kV$ .
  5. Residual voltage at lightning impulse  $8/20 \mu s \leq 8.5kV$ .
  6. Housing insulation level lightning impulse  $\geq 12kV$ .

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Inner A pages

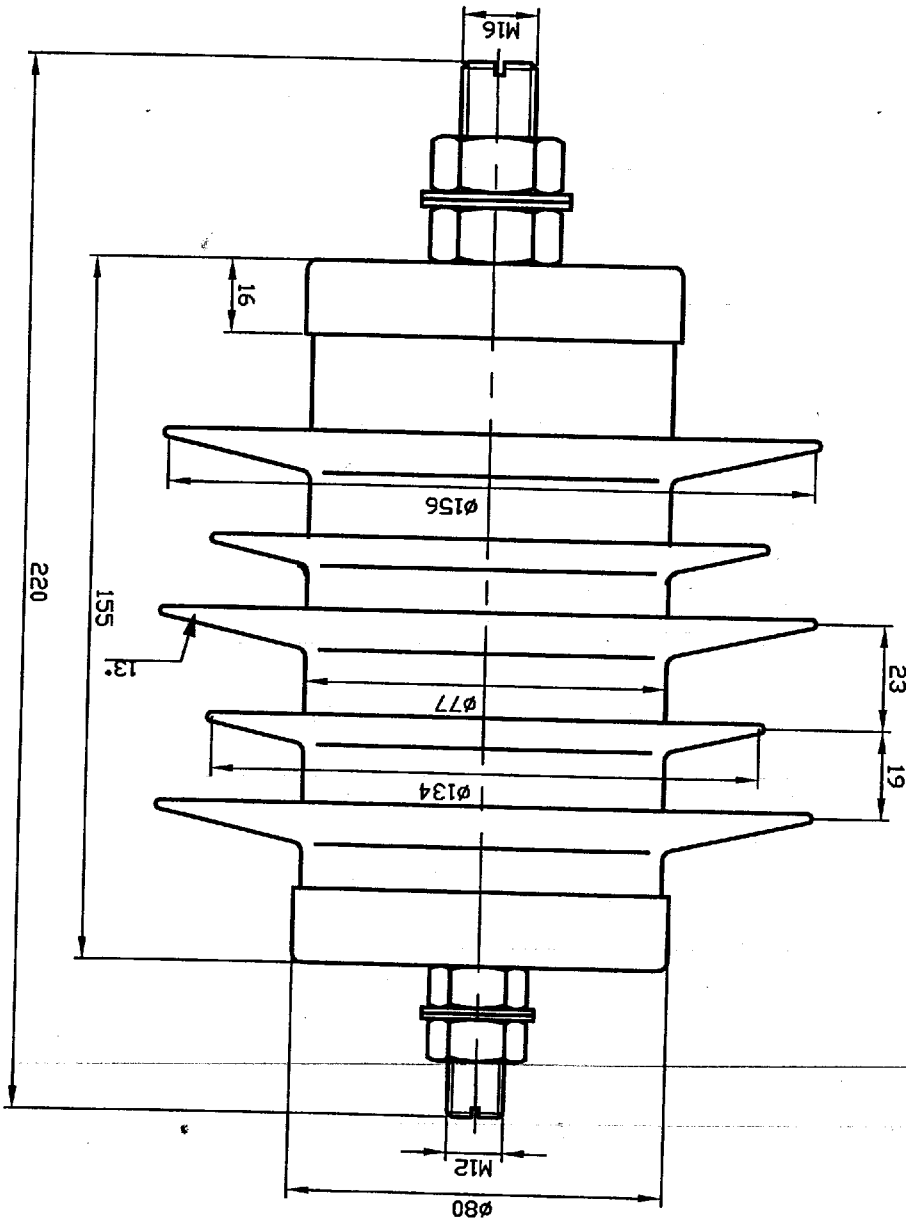
Auditing		Shunyu Zhao		Date		2006-03-31		No.		Page		Total		Page	
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Drawing		Yong Zheng		Check		Jianhua Hou		Fig.No.		QTY		Scale		Wight	
Design		Yong Zheng		Jianhua Hou		Check		YH10W-6/17		Metal Oxide Surge Arrester		without gaps		Wenzhou CANTOR H.V.Electric Manufacturing Co.,LTD.	
Mark		QTY		Change File No.		Sig.		Date							



- Technical Data**
1. Applicable standard IEC60099-4(2004)
  2. Rated voltage 6kV.
  3. Continuous operating voltage 4.8kV.
  4. Power frequency reference voltage >6kV.
  5. Residual voltage at lightning impulse 8/20 μs <17kV.
  6. Housing insulation level lightning impulse >25kV.

CTY1.02.06-1

Auditing	Shunyu Zhao	Date	2006-03-31	No.	Page	Total	Page	CTY1.02.09-1	
Technics		Sanction	Xiao'ou Zheng	Fig.No.	QTY	Scale	1:1	Exterior drawing	
Drawing	Yong Zheng	Check				Wight			
Design	Jianhua Hou	<b>Metal Oxide Surge Arrester</b> <b>without gaps</b> <b>YH10W-9/25.5</b>							Wenzhou CANTOR H.V.Electric Manufacturing Co.,LTD.
Mark	QTY								

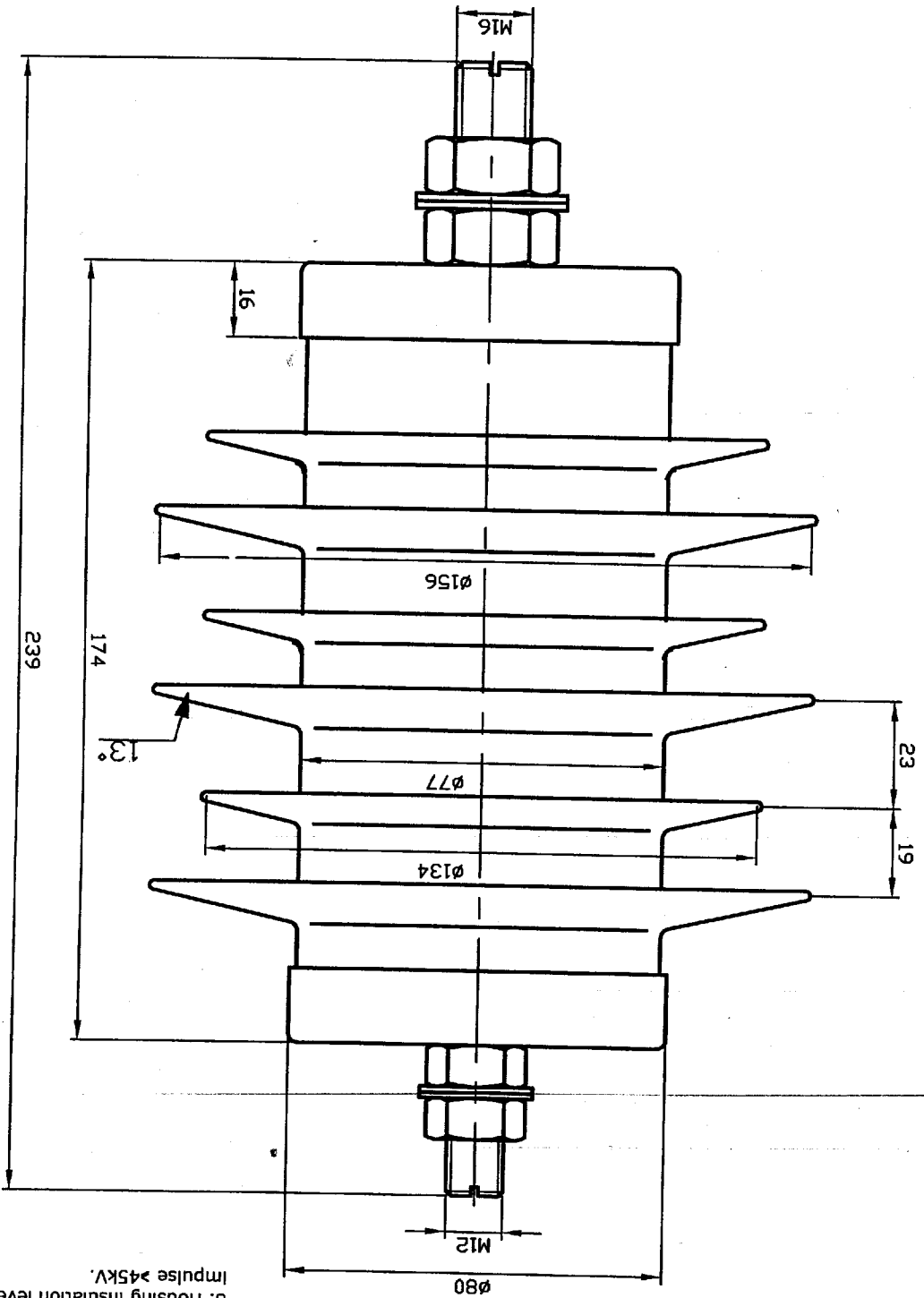


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- Technical Data**
1. Applicable standard IEC60099-4(2004)
  2. Rated voltage 9kV.
  3. Continuous operating voltage 7.2kV.
  4. Power frequency reference voltage >9kV.
  5. Residual voltage at lightning impulse 8/20 μs <25.5kV.
  6. Housing insulation level lightning impulse >35kV.

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Wenzhou CANTOR H.V. Electric Manufacturing Co., LTD.	Metal Oxide Surge Arrester without gaps YH10W-12/34	Fig. No.	QTY	Scale	Wight	Date	Sig.	Change File No.	QTY	Date	Design	Jianhua Hou	Check		Drawing	Yong Zheng	Technics		Auditing	Shunyu Zhao	Date	2006-03-31	No.	Page	Total	Page	CTY1.02.12-1
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**Technical Data**

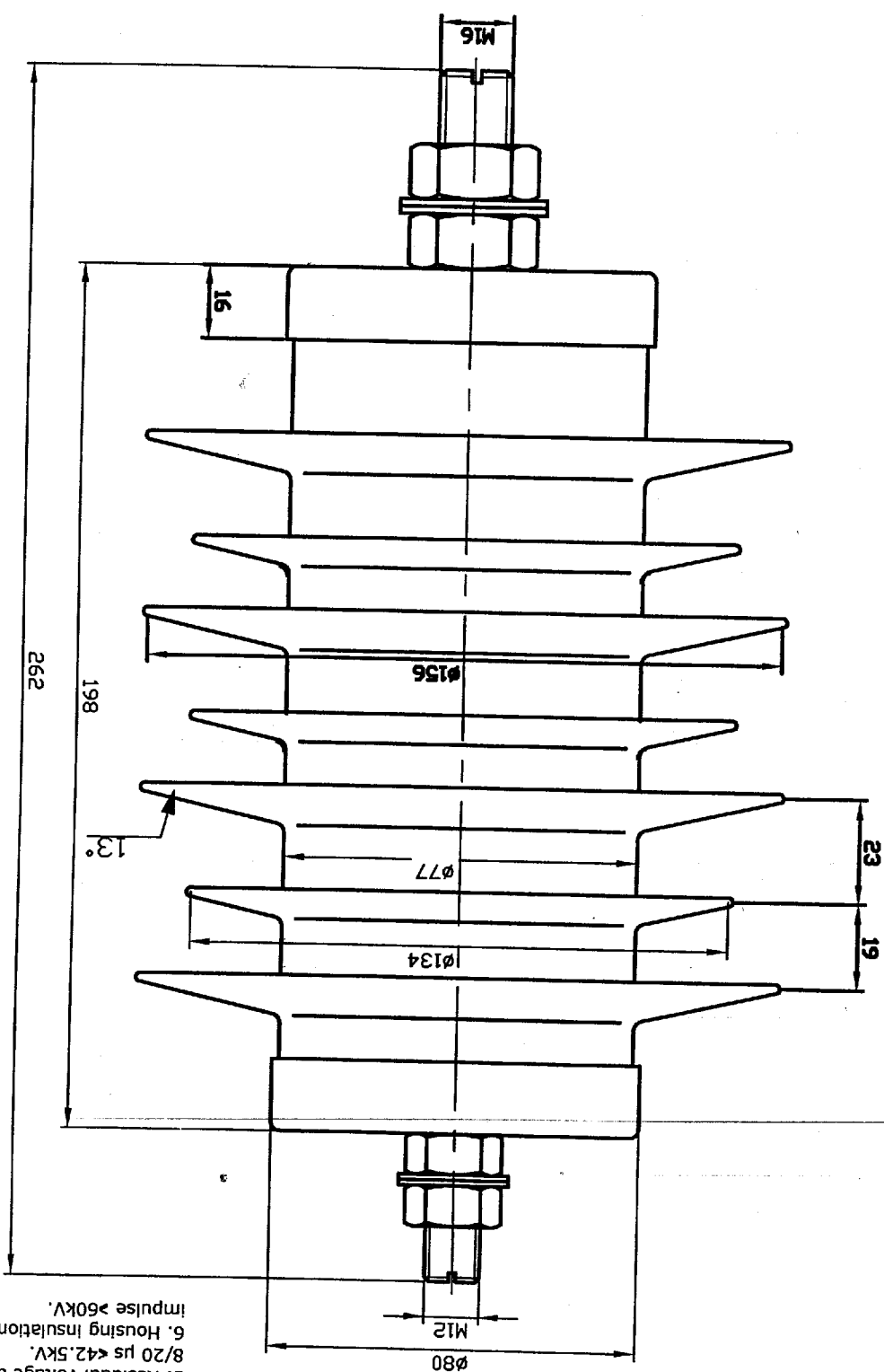
1. Applicable standard IEC60099-4(2004)
2. Rated voltage 12kV.
3. Continuous operating voltage 9.6kV.
4. Power frequency reference voltage >12kV.
5. Residual voltage at lightning impulse 6/20 μs <34kV.
6. Housing insulation level lightning impulse >45kV.

CTY1.02.12-1

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Auditing	Shunyue Zhao	Date	2006-03-31	No.	Page	Total	Page	CTY1.02.15-1
	Technics	Sanction	Xiao'ou Zheng	Fig.No.	QTY	Scale	Wight	
Design	Jianhua Hou	Check						Wenzhou CANTOR H.V.Electric Manufacturing Co.,LTD.
Mark	QTY	Change File No.	Sig.	Date				
<b>Metal Oxide Surge Arrester without gaps YH10W-15/42.5</b>								
Exterior drawing								



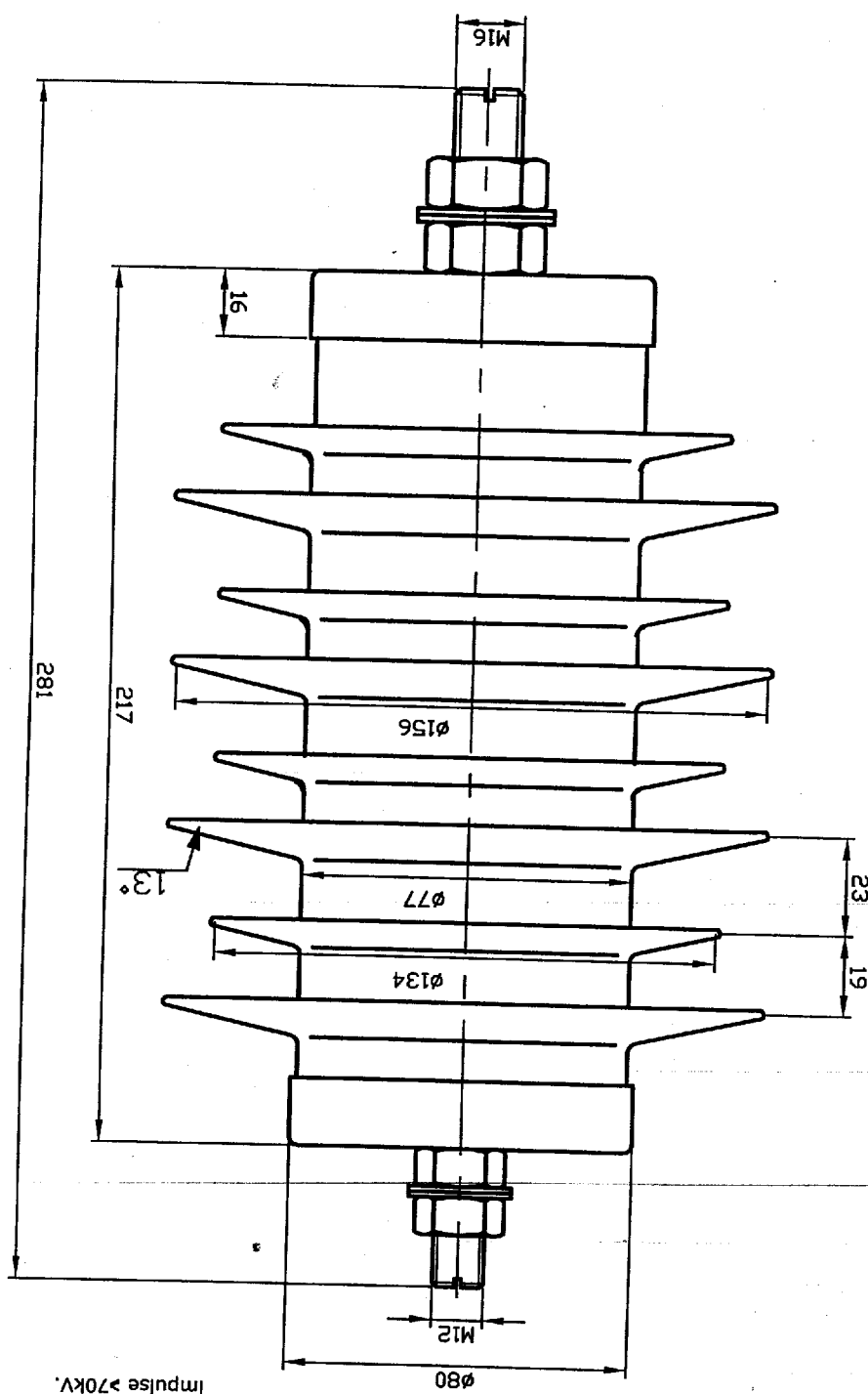
- Technical Data**
1. Applicable standard IEC60099-4(2004)
  2. Rated voltage 15kV.
  3. Continuous operating voltage 12kV.
  4. Power frequency reference voltage >15kV.
  5. Residual voltage at lightning impulse 8/20  $\mu$ s <42.5kV.
  6. Housing insulation level lightning impulse 260kV.

CTY1.02.15-1

Mark	QTY	Change File No.	Sig.	Date	Design	Jianhua Hou	Check								
Technics	Yong Zheng				Drawing	Yong Zheng									
Auditing	Shunyu Zhao	Date	2006-03-31	No.	Page	Total	Page								

Wenzhou CANTOR H.V. Electric Manufacturing Co., LTD. Exterior drawing CTY1.02.18-1

**Metal Oxide Surge Arrester**  
without gaps  
**YH10W-18/51**

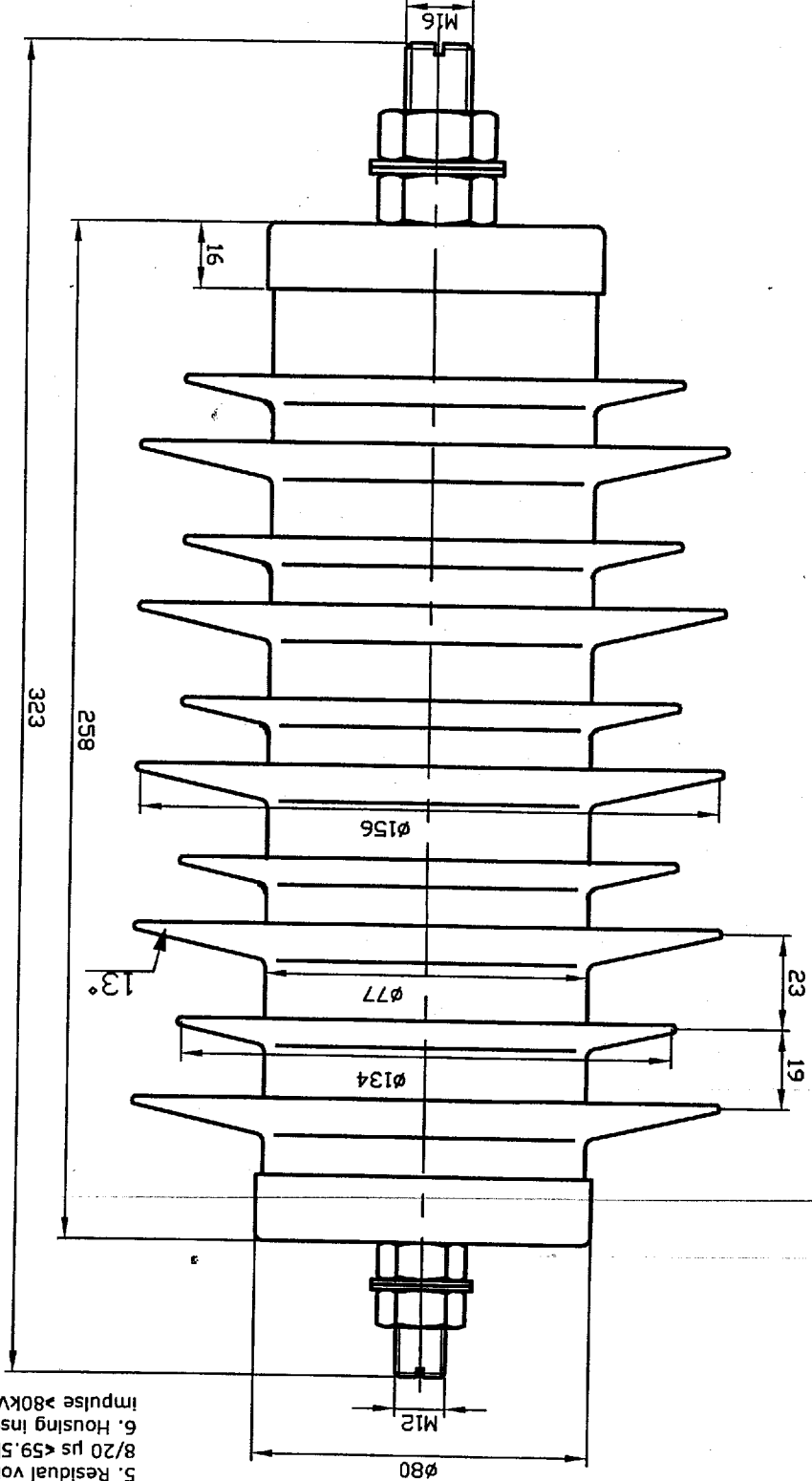


- Technical Data**
1. Applicable standard IEC60099-4(2004)
  2. Rated voltage 18kV.
  3. Continuous operating voltage 14.4kV.
  4. Power frequency reference voltage >18kV.
  5. Residual voltage at lightning impulse 8/20 μs <51kV.
  6. Housing insulation level lightning impulse >70kV.

CTY1.02.18-1

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Wenzhou CANTOR H.V. Electric Manufacturing Co., LTD.	Metal Oxide Surge Arrester without gaps YH10W-21/59.5	Mark	QTY	Change File No.	Sig.	Date
		Design	Jianhua Hou	Check		
Exterior drawing	Fig. No.	QTY	Scale	Wight	Technics	Sanction
					Xiao'ou Zheng	2006-03-31
CTY1.02.21-1	Page	Total	Page	No.	Date	Auditing
	1:1				2006-03-31	Shunyu Zhao



- Technical Data**
1. Applicable standard IEC60099-4(2004)
  2. Rated voltage 21kV.
  3. Continuous operating voltage 16.8kV.
  4. Power frequency reference voltage >21kV.
  5. Residual voltage at lightning impulse 8/20 μs <59.5kV.
  6. Housing insulation level lightning impulse >80kV.

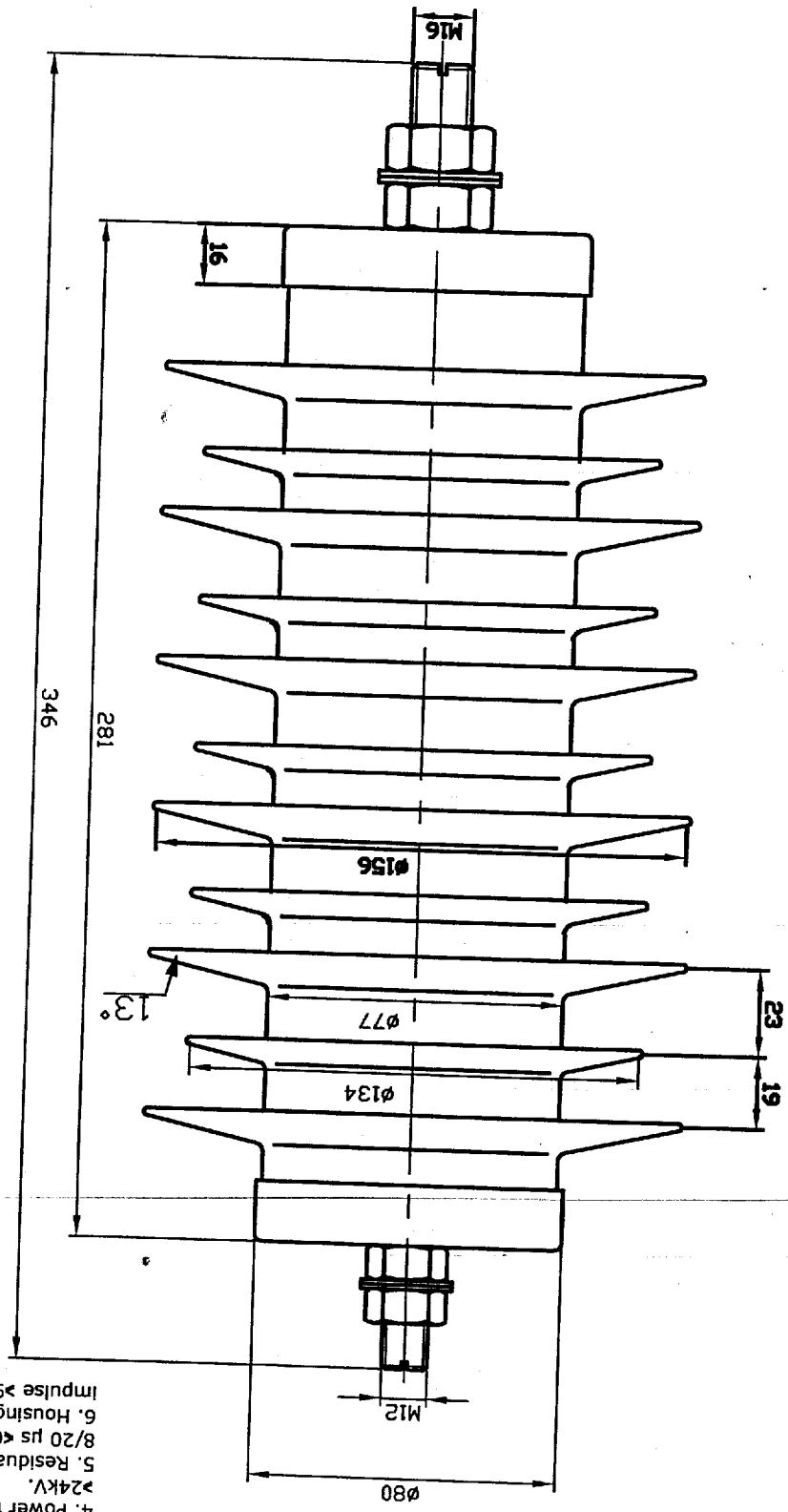
CTY1.02.21-1

Annex A page 11

Mark		QTY	Change File No.	Sig.	Date	Design		Jianhua Hou	Check	Drawing		Yong Zheng	Technics		Shunye Zhao	Auditing
No.		Page	Total	Page		Date		2006-03-31		Sanction		Xiao'ou Zheng				
Fig.No.		QTY	Scale	Wight		Exterior drawing										
Page		Total		Page		CTY1.02.24-1										

**Metal Oxide Surge Arrester  
without gaps  
YH10W-24/68**

Wenzhou CANTOR H.V.Electric  
Manufacturing Co.,LTD.



- Technical Data**
1. Applicable standard IEC60099-4(2004)
  2. Rated voltage 24KV.
  3. Continuous operating voltage 19.2KV.
  4. Power frequency reference voltage >24KV.
  5. Residual voltage at lightning impulse 8/20 μs <68KV.
  6. Housing insulation level lightning impulse >95KV.

CTY1.02.24-1

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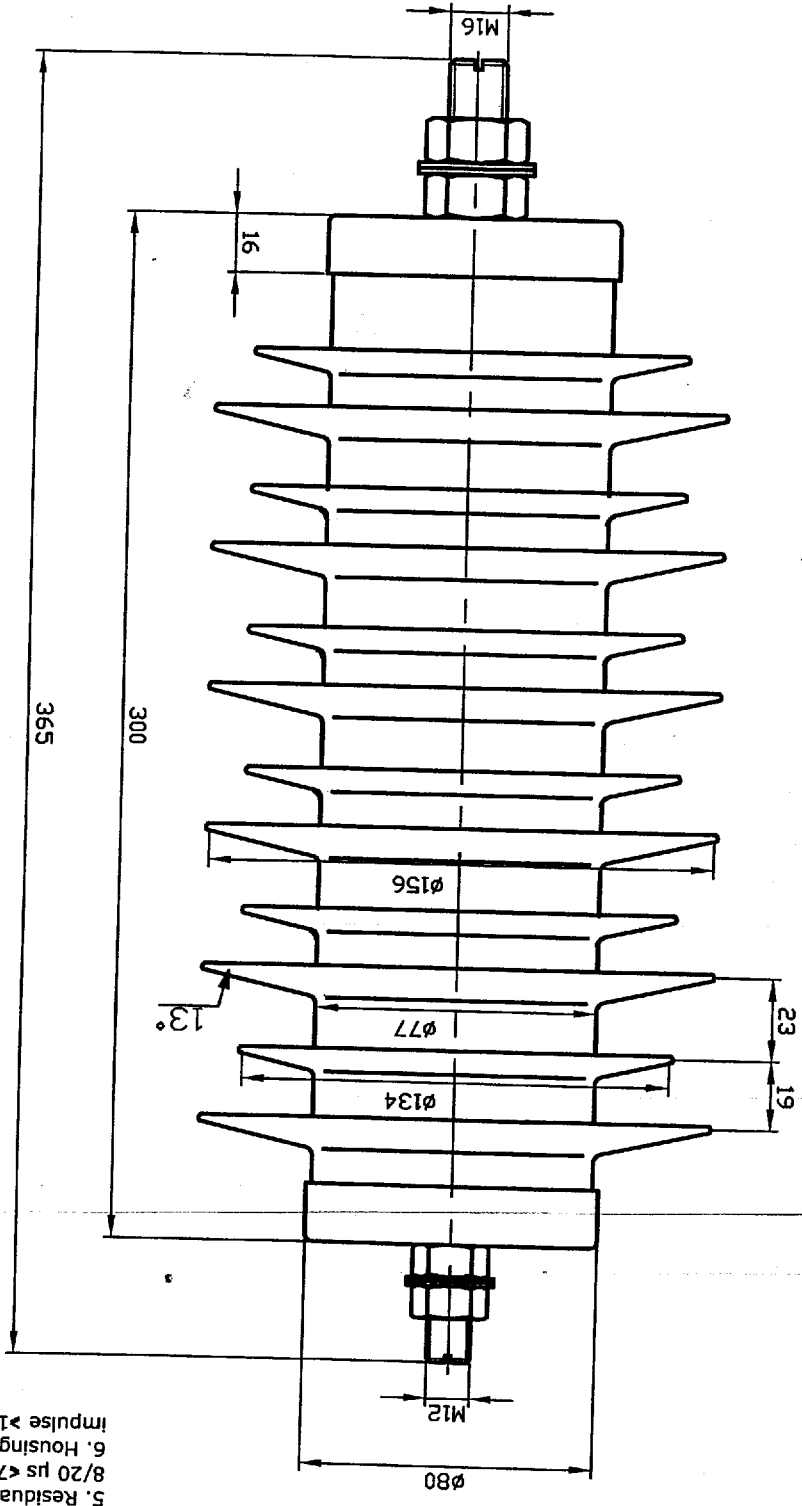
Auditing		Shunyu Zhao		Date	2006-03-31	No.	Page		Total		Page		
Technics		Xiao'ou Zheng		Sanction		Fig.No.	QTY		Scale		Wight		
Drawing		Yong Zheng											
Design		Jianhua Hou		Check									
Mark	QTY	Change File No.	Sig.	Date									

**Metal Oxide Surge Arrester  
without gaps  
YH10W-27/76.5**

Wenzhou CANTOR H.V.Electric  
Manufacturing Co.,LTD.

Exterior drawing

CTY1.02.27-1



- Technical Data**
1. Applicable standard IEC60099-4(2004)
  2. Rated voltage 27KV.
  3. Continuous operating voltage 21.6KV.
  4. Power frequency reference voltage  $\geq 27KV$ .
  5. Residual voltage at lightning impulse 8/20  $\mu s$   $\leq 76.5KV$ .
  6. Housing insulation level lightning impulse  $\geq 110KV$ .

CTY1.02.27-1

