



High Voltage Capacitor

2014/2015

High Voltage Capacitor

Brief Introduction

About CHINT Electric

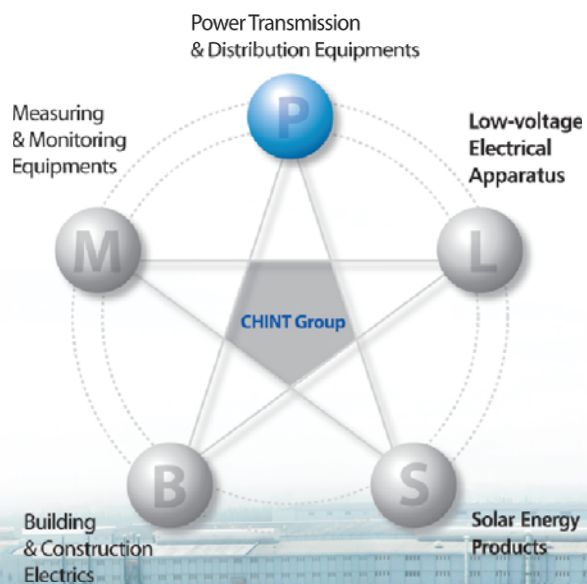
CHINT Electric is a subsidiary of CHINT Group Corporation. With an investment of 450 million USD, CHINT Electric possesses 4300 employees and 5 manufacturing business units with a factory area of 900,000m² located in Shanghai, which is one of the world's largest power transmission & distribution equipments manufacturing centers.

New Orders

Around 725 million USD in the year of 2012

Employee

4,300 employees





Product Range

- Power Transformer up to 750kV
- Distribution Transformer up to 35kV
- Dry-type Transformer up to 35kV
- Reactor up to 220kV
- GIS up to 252kV
- HV Circuit Breaker & Disconnecter up to 252kV
- VCB 12~40.5kV
- MV & LV Switchgear Panel, Prefabricated Substation up to 40.5kV
- LV Terminal Box, Bus Bar Duct
- Surge Arrester & Insulator up to 500kV, CT & PT up to 220kV
- Power Distribution Automation System
- Cable up to 36kV
- Capacitor
- Turn-key Solution

About CHINT Group

- CHINT is the leading player in the Power Transmission & Distribution industry and Low-voltage electrics industry in China. Founded in 1984 by a few local entrepreneurs and currently hiring 29,000 employees worldwide.
- National Employment Advanced Corporate (China State Council, 2012)
- Ranked in The 2011 BCG 100 New Global Challengers (The Boston Consulting Group, 2011)
- CHINT Low-voltage Electrics launched IPO at the Shanghai Stock Exchange of China (2010)
- No.2 in China Electricity Industry's Top 10 Most Competitive Enterprises (China Machinery Industry Information Institute, 2009)
- No.3 in China Electricity Industry (China Machinery Industry Information Institute, 2009)
- No.240 in Top 500 Chinese-Companies (China Enterprise Federation, 2009).
- No.1 in Power T&D and the controlling devices (China Machinery Summit, 2009)
- Ranked in Top 100 Best Employers in China (China Entrepreneurs Summit, 2008)
- No.15 in Top 100 Private & Public Companies in China (Forbes, 2006)
- National Quality Management Award(2004) (One of top honours for manufacturing companies in China)
- Worldwide business operation with 2,000 sales offices, agents, distributors, and local partners in domestic Chinese market and distributors & local partners in over 105 countries. International branches or regional offices set up in USA, UAE, Germany, Russia, Brazil, Ukraine, Hong Kong of China, UK and Nigeria.
- CHINT stretches its business to a new frontier of solar energy by setting up a branch company specialized in the solar energy products development.
- The R&D center of CHINT is recognized as the National Level R&D Center run by the companies, which means the R&D level of CHINT Group has reached the leading position in the industry of China.

Sales References

With a worldwide presence in over 125 countries such as, Italy, Germany, Estonia, USA, Russia, Japan, Australia, Saudi Arabia, Poland, Ukraine, Mongolia, Kazakhstan, Pakistan, Myanmar, Indonesia, Thailand, Egypt, Yemen, Algeria, Morocco, Congo, Tanzania, Mali, Kenya, South Africa, Ghana, Nigeria, Colombia, etc, CHINT Electric provides reliable and high-qualified products and solutions to clients engaged in different businesses.



Utility User

- ENEL-Italy
- CELEC S.A-Ecuador
- CNEL-Ecuador
- ICE-Costa Rica
- ENDESA-Chile
- Enersis-Chile
- UNE-Cuba
- Fingrid-Finland
- EAC-Cyprus
- HS ORKA HF-Iceland
- ENE-Angola
- ENA-Armenia
- Eesti.Energia-Estonia
- EVN-Vietnam
- NEA-Nepal
- TANESCO-Tanzania
- RECO-Rwanda
- SNEL-D.R. Congo
- MEPE-Myanmar
- KPLC-Kenya
- KENGEN-Kenya
- ZESCO-Zambia
- VRA-Ghana
- SONABEL-Burkina Faso
- SBEE-Benin
- REGIDESO-Burundi
- PEDEEEE-Syria
- TEIAS-Turkey
- PEEGT-Syria
- PEC-Yemen
- QESCO-Pakistan
- NEC-Sudan
- PHCN-Nigeria
- TATA Power-India
- WARD-Lebanon
- NEPCO-Jordan

Engineering & Contracting

- EIFFAGE-France
- HATCH-Canada
- FAST JV-Australia
- Downer EDI-Australia
- Genser Power-Ghana

EPC

- National Electricity Company-Pakistan
 - Saint Gobain-France
 - PEC-Yemen
 - NEA-Nepal
 - SMCO-D.R. Congo
 - TANESCO-Tanzania
- More >>>

Industrial End User

- BHP Billiton-Australia
- Fincantieri-Italy
- Chevron-USA
- AGGREKO-UK
- TATA Chemical-India
- INVISTA-USA
- JFE Steel-Japan
- VISY Paper-Australia
- Sasol-South Africa
- SHANGRI-LA Hotel-Phillippine
- De Beers-Botswana/South Africa
- CODELCO-Chile
- Barrick Gold-South Africa
- UML Steel-India
- Serebryabskiy Cement Plant-Russia
- Alake Aluminum Factory-Iran
- SIBAYAK geothermal Power Plant-Indonesia
- Industrial Training Center-Myanmar
- Kingdom Iron and Steel co.-Saudi Arabia
- SMCO-D.R. Congo



Contents

TBB type high-voltage shunt capacitor complete equipments	1
TBBF(X) type high-voltage shunt capacitor complete equipments	15
TBBS substation type auto-switched high-voltage shunt capacitor equipment	25
TBBX type high-voltage reactive on the spot compensating equipments	28
TBBZ pole-mounted Auto-switch High-voltage Shunt-capacitor Installation	33
TAL type alternating filter capacitor complete equipments	37
B _A ^F M all film high voltage shunt capacitor	39

High Voltage Capacitor

TBB type compensate installation of high voltage shunt capacitor



1. General Description

High-voltage shunt capacitor installations are applicable to 6-35KV electric power system to increase the power factor, reduce circuit losses and improve voltage quality.

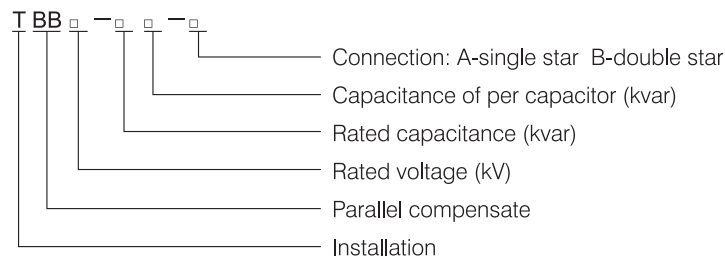
2. Executing Standards

- GB50227-2008
- JB/T7111-1993
- JB/T10577-2006
- DL/T604-2009

3. Application Ambient Conditions

- 3.1 Indoor: Cabinet type, outdoor: frame type.
- 3.2 Altitude $\leq 1000\text{m}$, consult us if the altitude $> 1000\text{m}$.
- 3.3 Operating temperature: Indoor equipment: $-25^{\circ}\text{C} \sim +45^{\circ}\text{C}$, Outdoor equipment: $-40^{\circ}\text{C} \sim +45^{\circ}\text{C}$.
- 3.4 No causticity gas, vapor, no inflammable gas, no blaze, no explosion risk, no frequent violent shake;

4. Type meaning and specification



5. Main Technical Parameter

5.1 Insulate level Unit: kV Table 1

Rated voltage of installation	The patience voltage (RMS value) with power frequency for 1min in primary circuit	Impulsion withstand voltage (RMS value)in primary circuit (1.2~5)/50 μs peak value	The patience voltage (RMS value) with power frequency for 1min in secondary circuit
6	32	60	2
10	42	75	2
35	95	200	2

5.2 Steady state over-voltage Table 2

Power frequency over-voltage	The longest persist time	Explain
1.10	Long time	The most value of over-voltage isn't exceed 1.1 U_n for long time.
1.15	30 min each 24 h	Adjust and fluctuate of system voltage.
1.20	5min	As light load, the voltage raise.
1.30	1min	As light load, the voltage raise.

6. The primary connecting line of compensate installation

6.1 Connecting line fashion of compensate installation: there are "Y" and "YY" connecting line fashion.

The neutral point don't connected to earth. The primary connecting line drawing and primary system connecting line principle drawing for every product to see drawing 1~2.

6.2 The configuration and setting of the compensate installation of shunt capacitor.

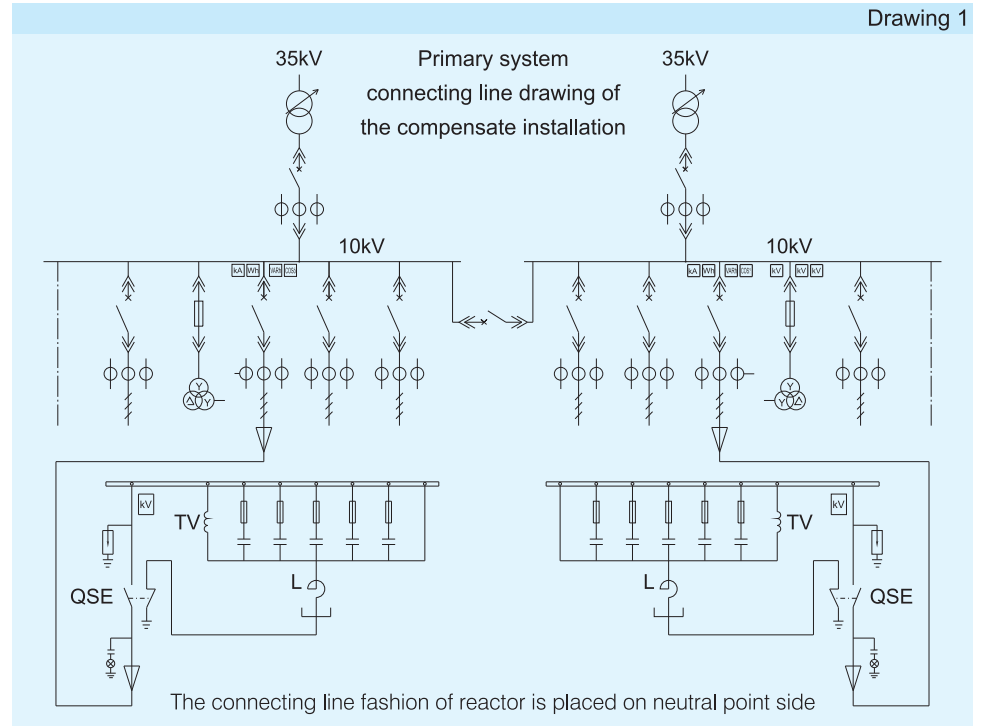
6.2.1 Configuration of cabinet.

High Voltage Capacitor

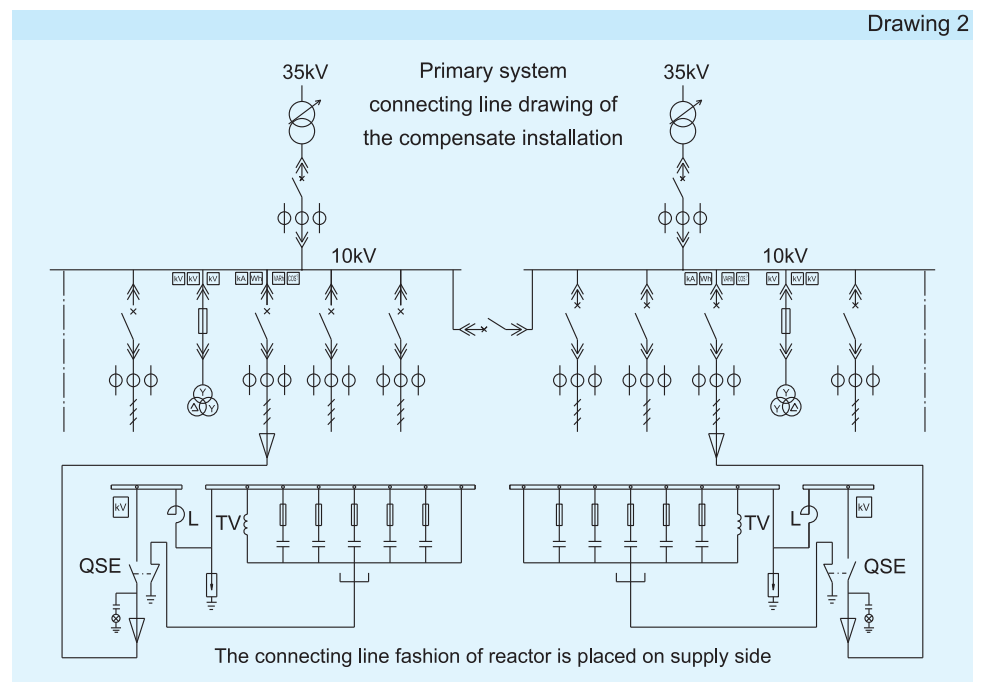
The technology parameter of compensate installation of shunt capacitor.

No.	Type spec	Ue(kV)	Rated parameter		Shunt capacitor	Outline dimension (L×W×H)	Drawing No.
			Ie(A)	Qe(kvar)			
1	TBB10-800/134-AK	11/√3	42	800	BFM11/√3-134-1	2200×1350×2600	3
2	TBB10-900/150-AK	11/√3	47.2	900	BFM11/√3-150-1		
3	TBB10-1000/167-AK	11/√3	52	1000	BFM11/√3-167-1		
4	TBB10-1200/200-AK	11/√3	63	1200	BFM11/√3-200-1		
5	TBB10-1500/250-AK	11/√3	78.7	1500	BFM11/√3-250-1		
6	TBB10-1600/267-AK	11/√3	84	1600	BFM11/√3-267-1		

Drawing 1



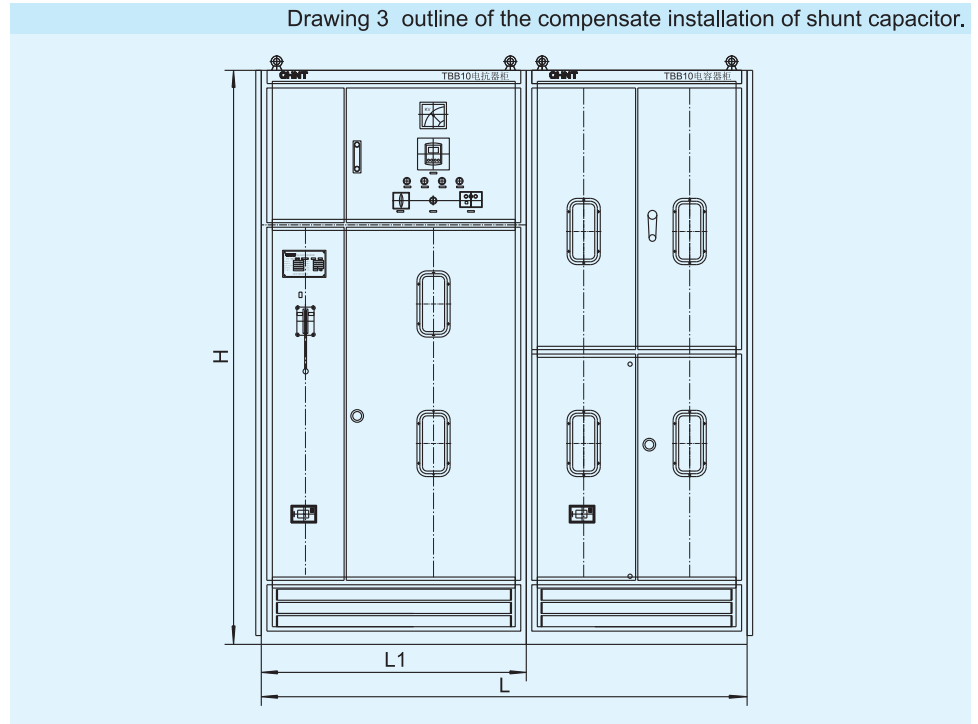
Drawing 2



High Voltage Capacitor

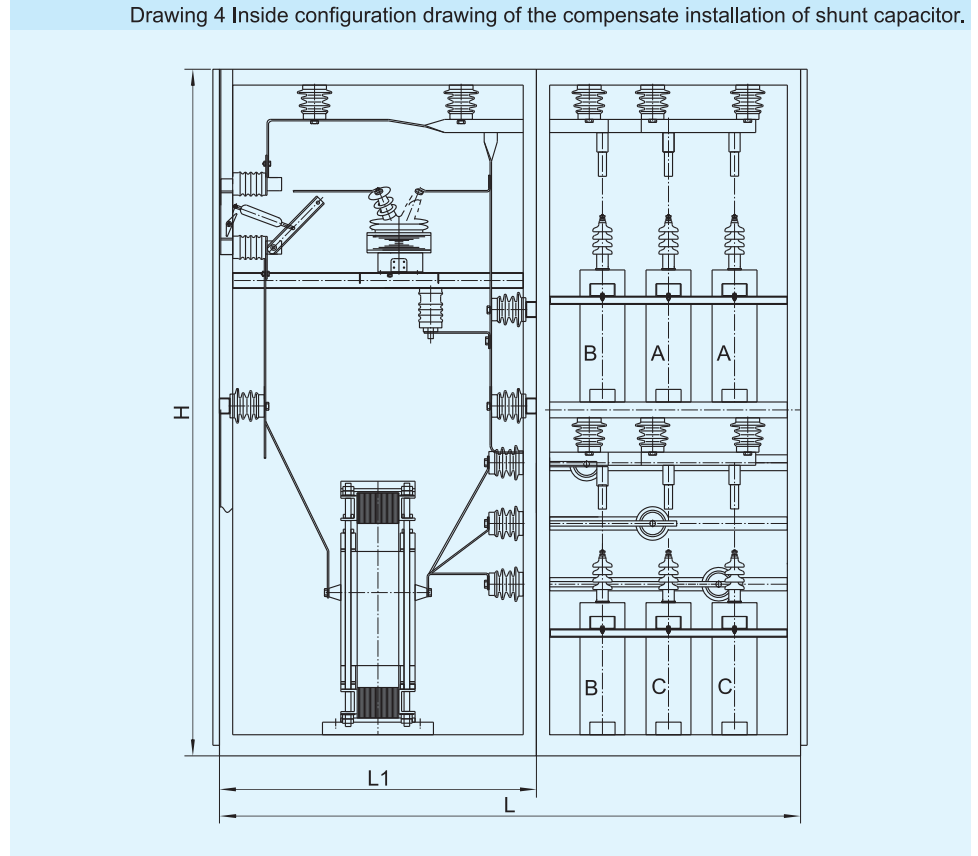
6.2.1.1 Outline drawing of the reactor is placed on neutral point side.

Drawing 3 outline of the compensate installation of shunt capacitor.



6.2.1.2 Inside configuration of the reactor is placed on neutral point side.

Drawing 4 Inside configuration drawing of the compensate installation of shunt capacitor.



High Voltage Capacitor

6.2.2 Another type of series reactor is placed on neutral point side.

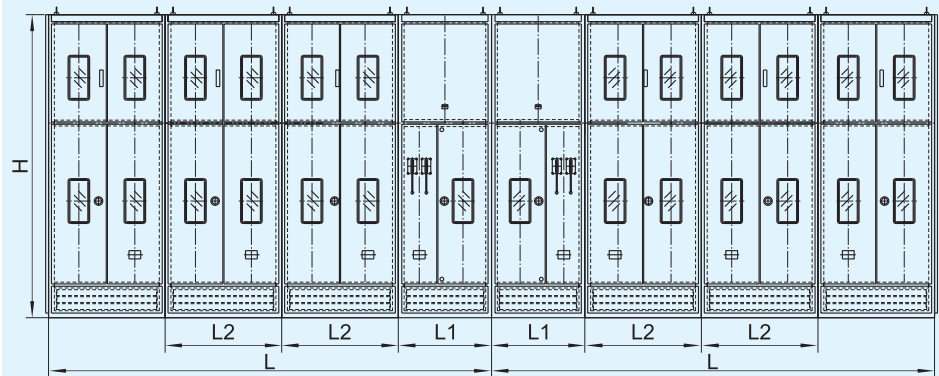
The technology parameter of compensate installation of shunt capacitor.

Table 2

No.	Type spec	Rated parameter			Shunt capacitor	Outline dimension (L×W×H)	Drawing No.
		Ue(kV)	Ie(A)	Qe(kvar)			
1	2×TBB10-1200/200-AK	11/√3	63	1200	BFM11/√3-200-1	7600×1400×2600	5
2	2×TBB10-1404/234-AK	11/√3	73.6	1404	BFM11/√3-234-1		
3	2×TBB10-1500/250-AK	11/√3	78.4	1500	BFM11/√3-250-1		
4	2×TBB10-1602/267-AK	11/√3	84	1602	BFM11/√3-267-1		
5	2×TBB10-1800/300-AK	11/√3	94.4	1800	BFM11/√3-300-1		
6	2×TBB10-2004/334-AK	11/√3	105	2004	BFM11/√3-334-1		
7	2×TBB10-2400/400-AK	11/√3	126	2400	BFM11/√3-400-1		

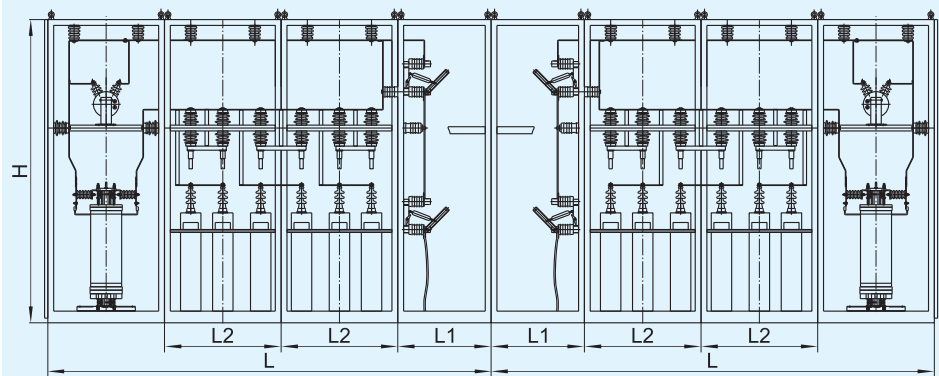
6.2.2.1 Outline of series reactor is placed on neutral point side.

Drawing 5 Outline and fixing dimension of the compensate installation of shunt capacitor.



6.2.2.2 Inside configuration drawing of series reactor is placed on neutral point side.

Drawing 6 Inside configuration of the compensate installation of shunt capacitor.



High Voltage Capacitor

6.3 Hollow reactor is placed on supply side.

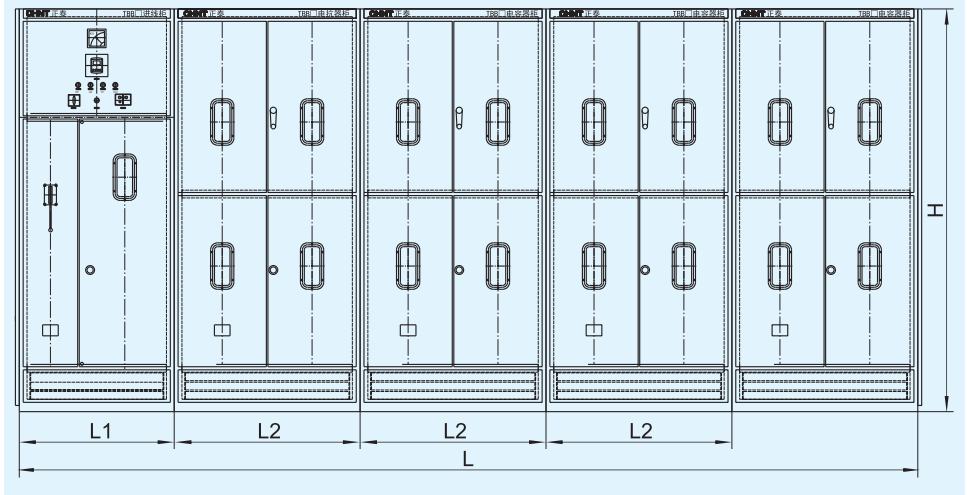
The technology parameter of compensate installation of shunt capacitor.

Table 3

No.	Type spec	Rated parameter			Shunt capacitor	Outline dimension (L×W×H)	Drawing No.
		Ue(kV)	Ie(A)	Qe(kvar)			
1	TBB10-4008/167-AK	11/ $\sqrt{3}$	210	4008	BFM11/ $\sqrt{3}$ -167-1	5800×1600×2600	7
2	TBB10-4800/200-AK	11/ $\sqrt{3}$	252	4800	BFM11/ $\sqrt{3}$ -200-1		
3	TBB10-5616/234-AK	11/ $\sqrt{3}$	295	5616	BFM11/ $\sqrt{3}$ -234-1		
4	TBB10-6000/250-AK	11/ $\sqrt{3}$	315	6000	BFM11/ $\sqrt{3}$ -250-1		
5	TBB10-6408/267-AK	11/ $\sqrt{3}$	336	6408	BFM11/ $\sqrt{3}$ -267-1		
6	TBB10-7200/300-AK	11/ $\sqrt{3}$	378	7200	BFM11/ $\sqrt{3}$ -300-1		
7	TBB10-8016/334-AK	11/ $\sqrt{3}$	420	8016	BFM11/ $\sqrt{3}$ -334-1		
8	TBB10-9600/400-AK	11/ $\sqrt{3}$	504	9600	BFM11/ $\sqrt{3}$ -400-1		

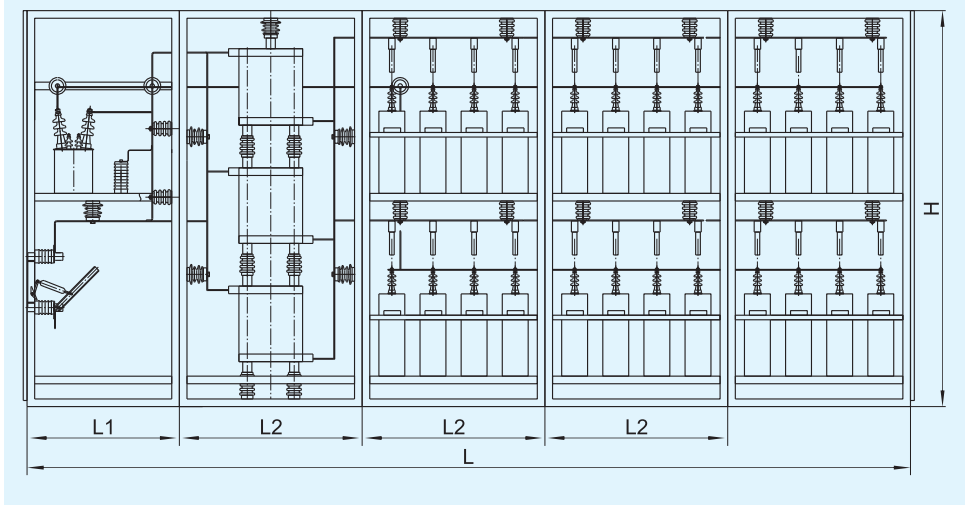
6.3.1 Outline and fixing of the compensate installation of shunt capacitor (using dry type hollow reactor).

Drawing 7 Outline of the compensate installation of shunt capacitor (reactor is placed on supply side).



6.3.2 Inside configuration drawing of series reactor is placed on supply side.

Drawing 8 Inside configuration of the compensate installation of shunt capacitor (reactor is placed on supply side).



High Voltage Capacitor

6.4 Another type of series reactor is placed on supply side.

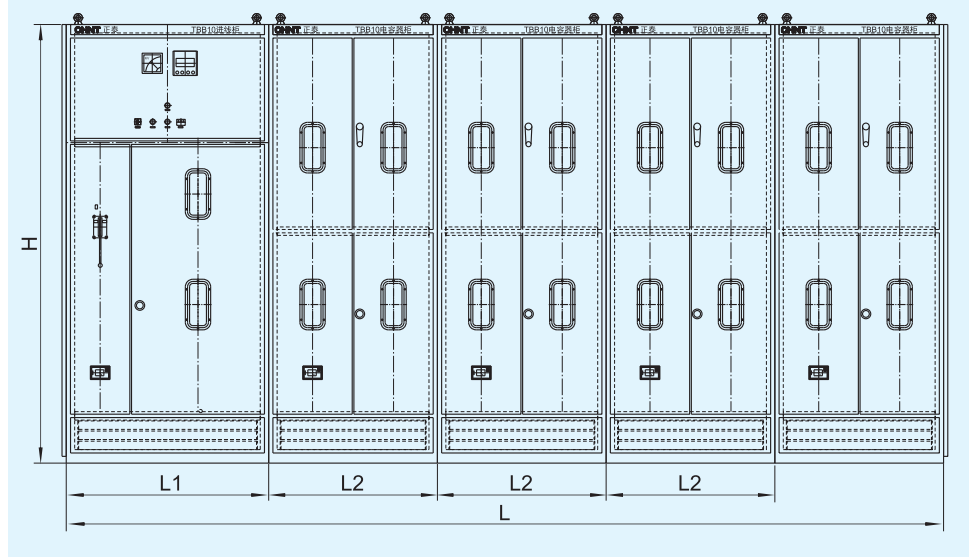
The technology parameter of compensate installation of shunt capacitor.

Table 4

No.	Type spec	Rated parameter			Shunt capacitor	Outline dimension (L×W×H)	Drawing No.
		Ue(kV)	Ie(A)	Qe(kvar)			
1	TBB10-2400/100-AK	11/√3	126	2400	BFM11/√3-100-1	5200×1200×2600	9
2	TBB10-3000/125-AK	11/√3	157.4	3000	BFM11/√3-125-1		
3	TBB10-3216/134-AK	11/√3	168.8	3216	BFM11/√3-134-1		
4	TBB10-3600/150-AK	11/√3	188.9	3600	BFM11/√3-150-1		
5	TBB10-4008/167-AK	11/√3	210.3	4008	BFM11/√3-167-1		
6	TBB10-4800/200-AK	11/√3	252	4800	BFM11/√3-200-1		

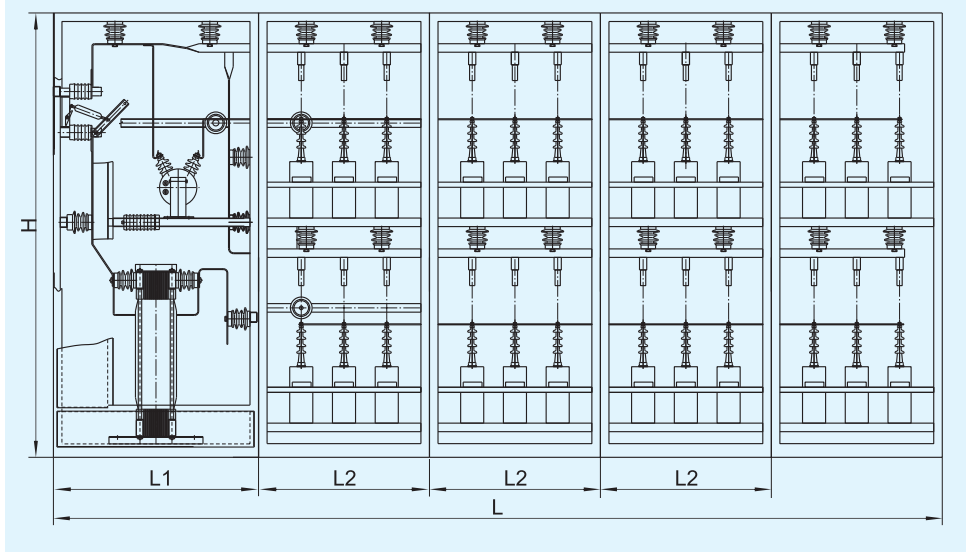
6.4.1 Another type of series reactor is placed on front side.

Drawing 9 Outline and fixing dimension of the compensate installation of shunt capacitor (reactor is placed on supply side).



6.4.2 Another inside configuration of series reactor is placed on supply side.

Drawing 10 Inside configuration drawing of the compensate installation of shunt capacitor (reactor is placed on supply side).



High Voltage Capacitor

6.5 The frame type of compensate installation of shunt capacitor.

6.5.1 The technology parameter of installation

Table 5

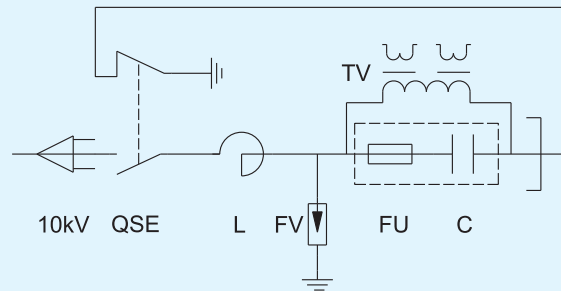
No.	Type spec	Rated parameter			Shunt capacitor	Outline dimension (L×W×H)	Drawing No.
		Ue(kV)	Ie(A)	Qe(kvar)			
1	TBB10-2400/200-AKW	11/√3	126	2400	BFM11/√3-200-1W	5400 × 3000 × 3920	11
2	TBB10-3000/200-AKW	11/√3	157	3000	BFM11/√3-200-1W	6200 × 3000 × 3920	
3	TBB10-4500/300-AKW	11/√3	236	4500	BFM11/√3-300-1W	6200 × 3000 × 3920	
4	TBB10-4800/400-AKW	11/√3	252	4800	BFM11/√3-400-1W	5400 × 3000 × 3920	
5	TBB10-6000/400-AKW	11/√3	315	6000	BFM11/√3-400-1W	6200 × 3000 × 3920	
6	TBB10-7500/500-AKW	11/√3	393	7500	BFM11/√3-500-1W	6800 × 3600 × 3920	
7	TBB10-9000/334-AKW	11/√3	472	9000	BFM11/√3-334-1W	7000 × 3600 × 3920	
8	TBB10-21600/450-BLW	11/√3	1134	21600	BFM11/√3-450-1W	7600 × 7000 × 3300	12
9	TBB10-2000+2000-AKW	11/√3	105+105	4000	BFM11/√3-334-1W	6600 × 4800 × 4300	13
10	TBB10-3000+3000-AKW	11/√3	157+157	6000	BFM11/√3-334-1W	7600 × 4800 × 4300	
11	TBB10-3600+3600-AKW	11/√3	189+189	7200	BFM11/√3-300-1W	7800 × 4800 × 4300	
12	TBB10-4800+4800-AKW	11/√3	252+252	9600	BFM11/√3-400-1W	7800 × 4800 × 4300	
13	TBB10-2100+4200-AKW	11/√3	110+220	6300	BFM11/√3-350-1W	7800 × 4800 × 4300	14
14	TBB10-2400+4800-AKW	11/√3	126+252	7200	BFM11/√3-400-1W	8000 × 5000 × 4300	
15	TBB10-4800+9600-AKW	11/√3	252+504	14400	BFM11/√3-400-1W	9000 × 6000 × 4300	
16	TBB35-4000/334-ACW	11×2	60	4000	BFM11-334-1W	6000 × 7000 × 3700	15
17	TBB35-6000/500-ACW	11×2	91	6000	BFM11-500-1W	6600 × 7200 × 3700	
18	TBB35-8000/334-ACW	11×2	120	8000	BFM11-334-1W	6000 × 7000 × 3700	
19	TBB35-9000/500-ACW	11×2	136	9000	BFM11-500-1W	6600 × 7200 × 3700	
20	TBB35-9600/400-ACW	11×2	145	9600	BFM11-400-1W	9000 × 7300 × 3700	
21	TBB35-12000/500-ACW	11×2	181	12000	BFM11-500-1W	6000 × 7200 × 3700	16
22	TBB66-10020/167AQW	20×2	83.5	10020	BFM20-167-1W	8000 × 8000 × 4000	
23	TBB66-15000/250-AQW	20×2	125	15000	BFM20-250-1W	8000 × 8000 × 4000	
24	TBB66-18000/300-AQW	20×2	150	18000	BFM20-300-1W	8000 × 8000 × 4000	
25	TBB66-20040/334-AQW	20×2	167	20040	BFM20-334-1W	8000 × 8000 × 4000	
26	TBB66-36000/500-AQW	20×2	300	36000	BFM20-500-1W	10000 × 10000 × 4000	
27	TBB110-12000/167-AQW	5.9×12	56	12000	BFM5.9-167-1W	21000 × 13000 × 6000	17
28	TBB110-28000/195-AQW	5.9×12	132	28000	BFM5.9-195-1W	21000 × 18000 × 6000	



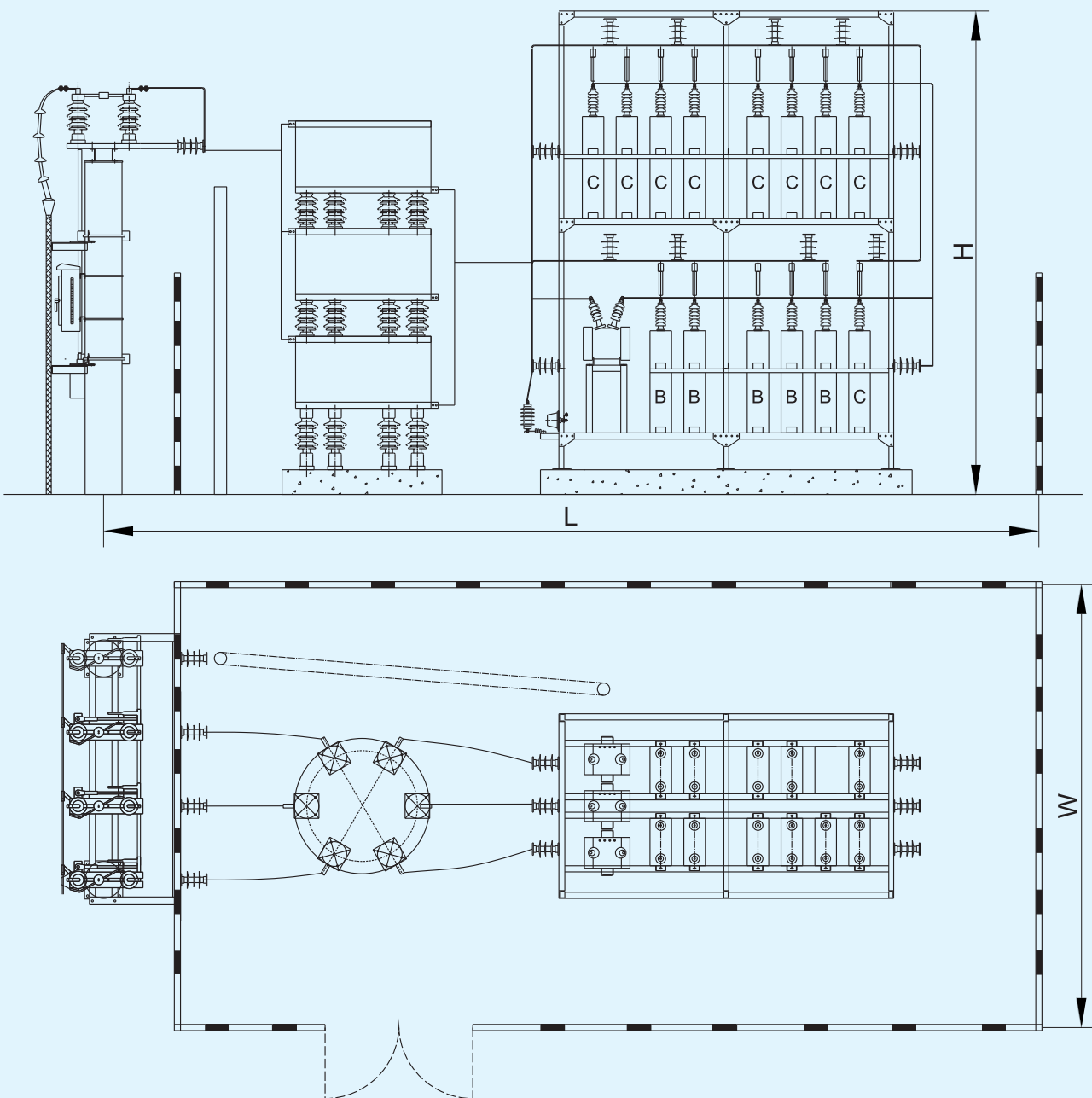
High Voltage Capacitor

6.5.2 Outline configuration of the installation

Drawing 11

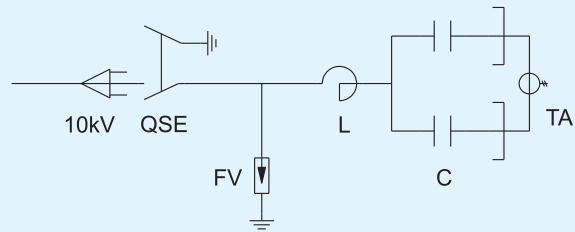


Primary principle drawing of the installation

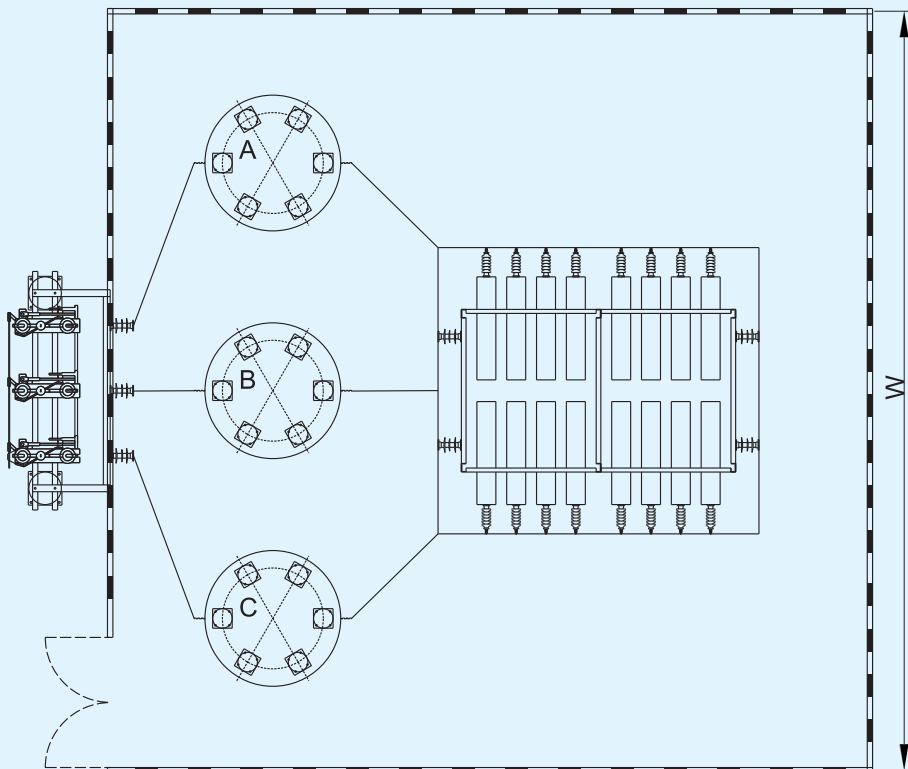
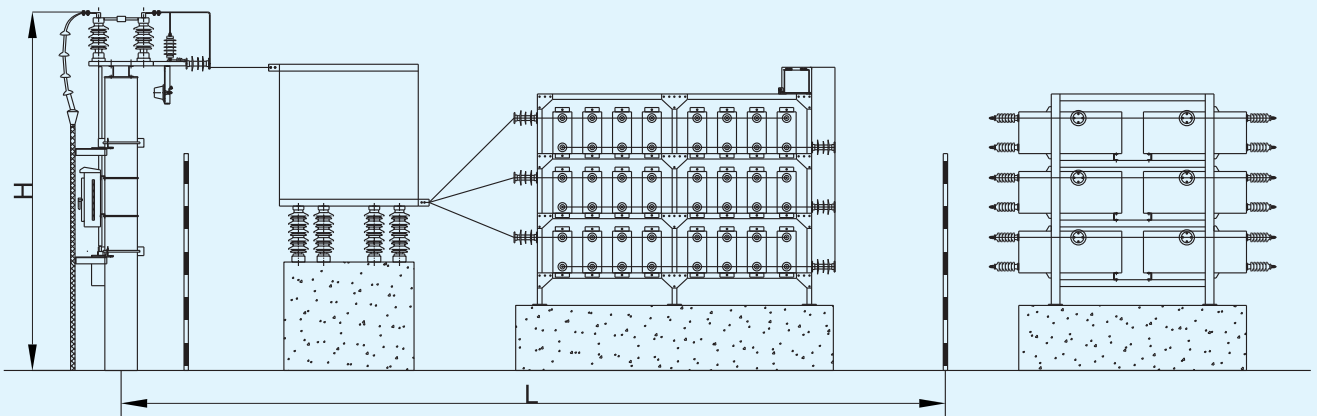


High Voltage Capacitor

Drawing 12

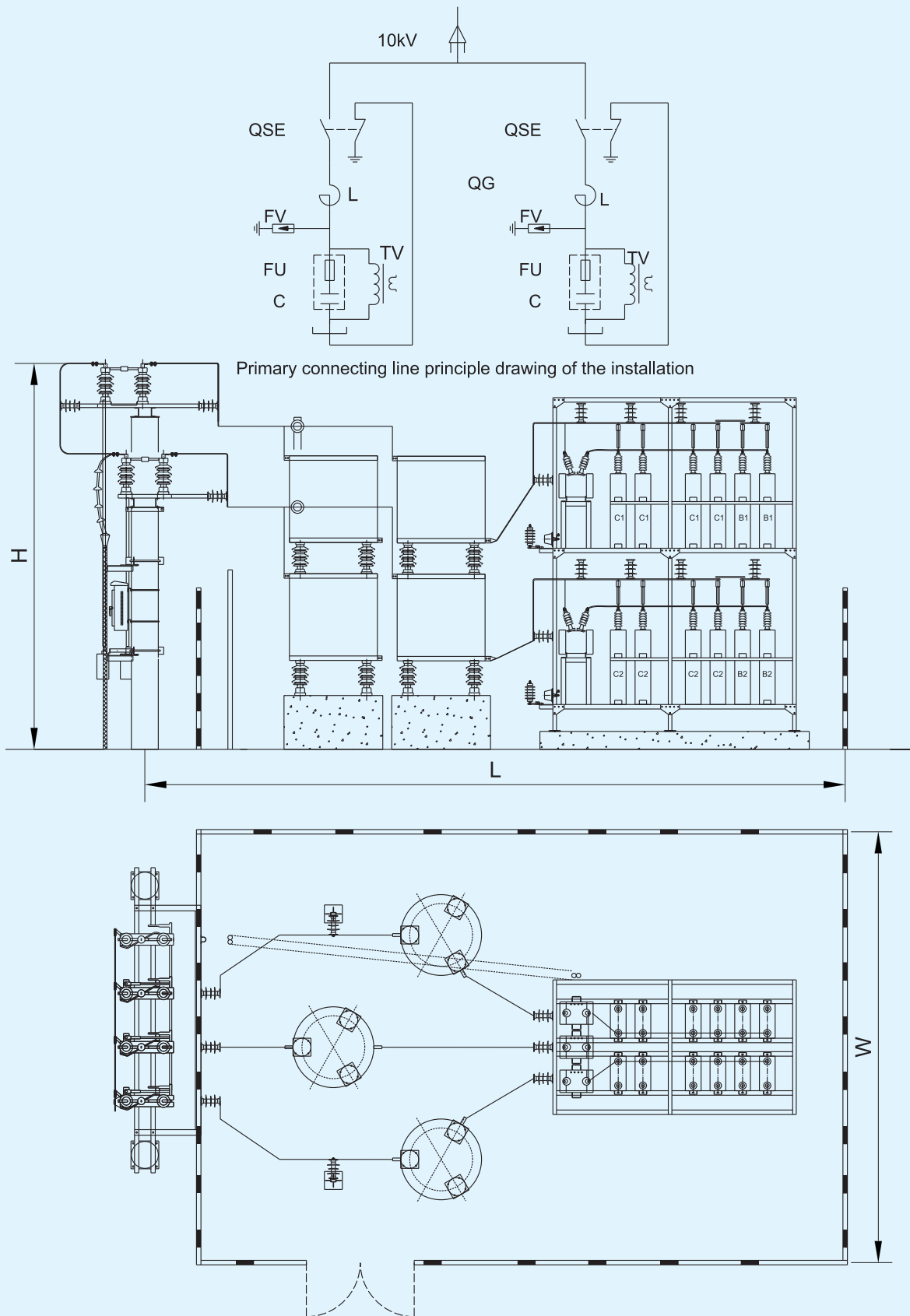


Primary principle drawing of the installation



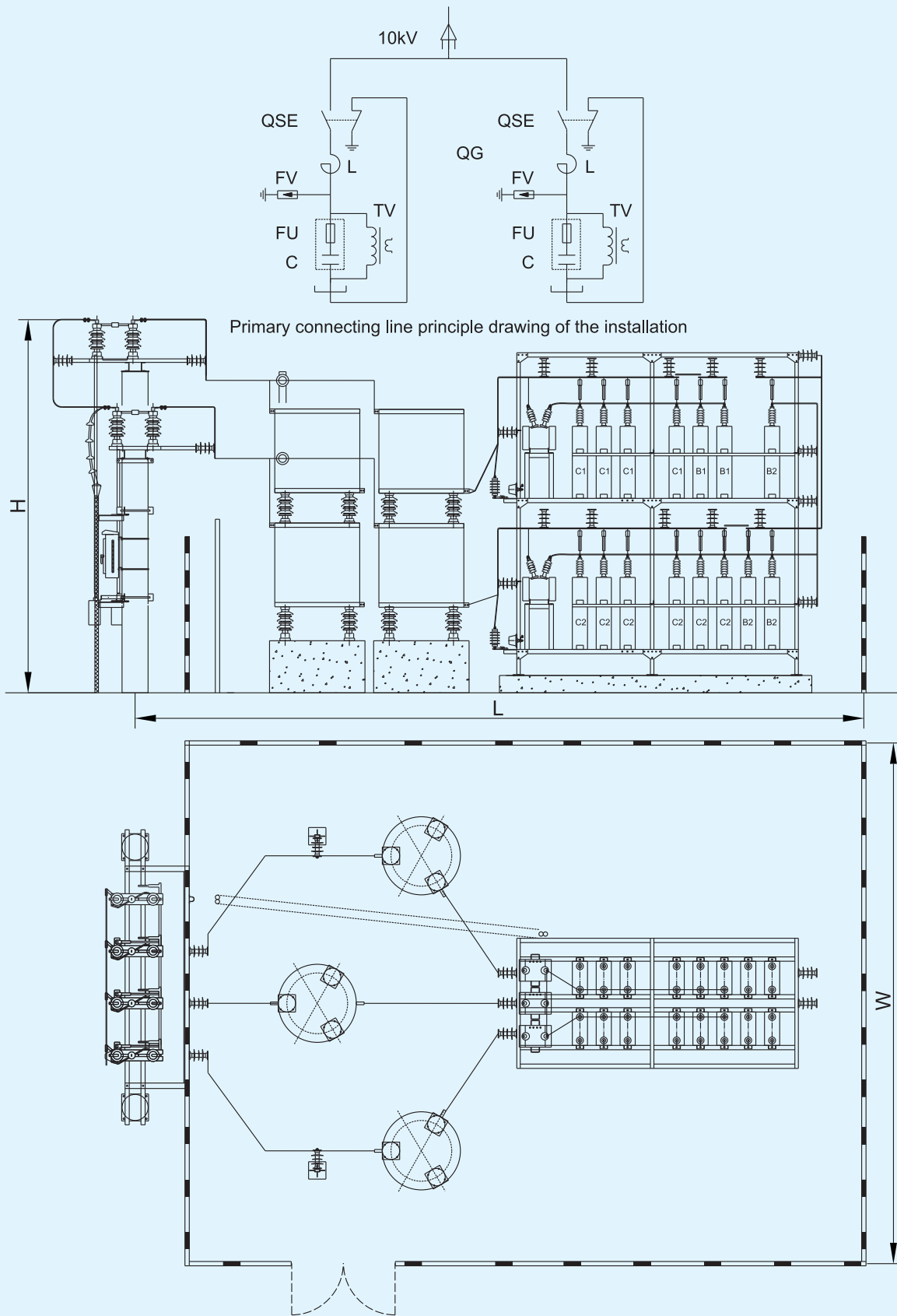
High Voltage Capacitor

Drawing 13



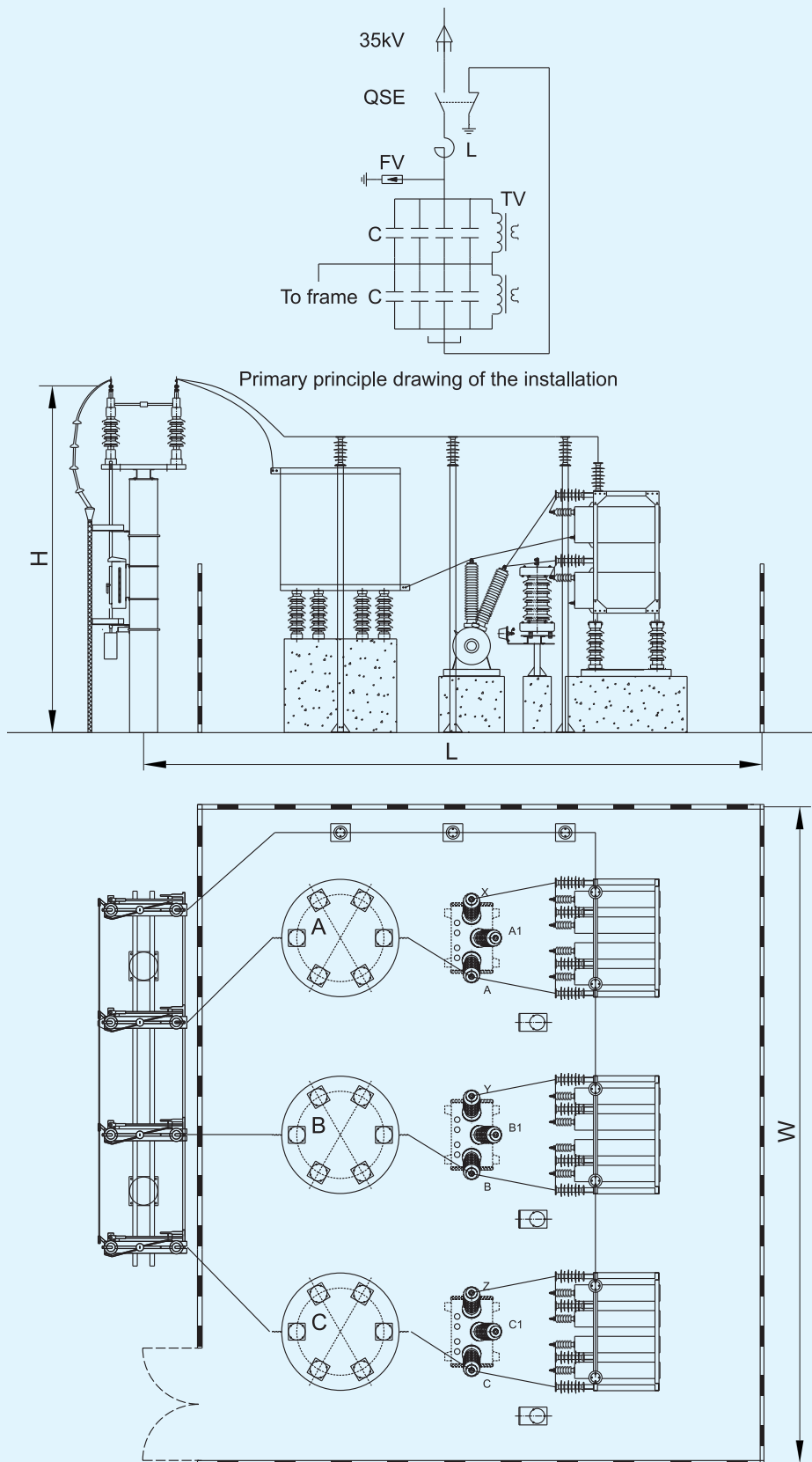
High Voltage Capacitor

Drawing 14



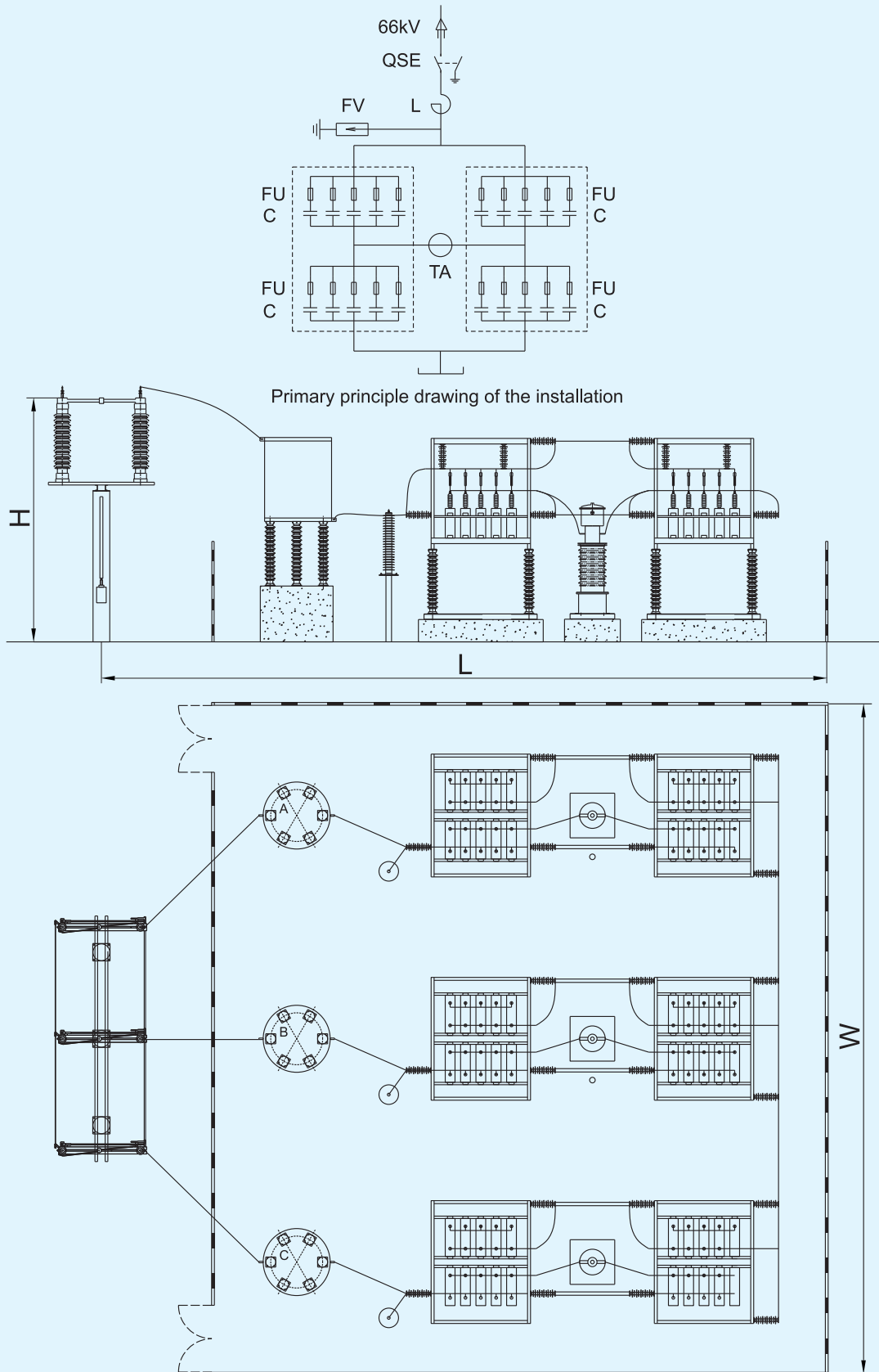
High Voltage Capacitor

Drawing 15



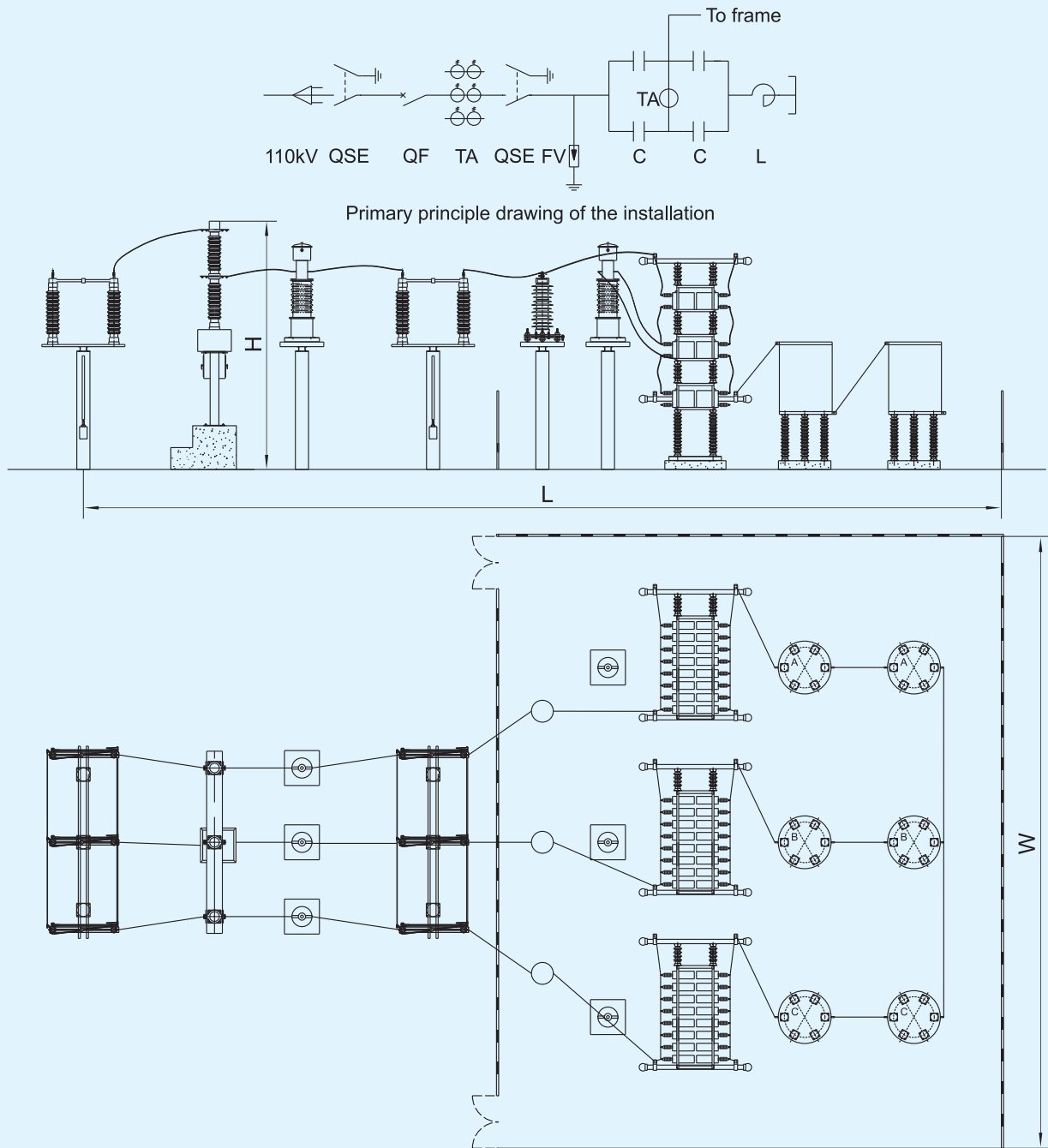
High Voltage Capacitor

Drawing 16



High Voltage Capacitor

Drawing 17



7. The notice of user subscribe for goods

- 7.1 The subscribe for goods by user want to write about type, spec, quantity and high order harmonic condition in network, and configure demand for discharge winding, series reactor and shunt capacitor.
- 7.2 User must provide fashion of primary connecting line and secondary protecting, and room plane disposal and dissect drawing (Up enter line or below enter line; left or right enter line; use cable or busbar).
- 7.3 The short circuit discharge capability S_d of compensate installation.
- 7.4 The altitude, temperature and air condition.
- 7.5 The time of deliver for goods and fashion of transport.
- 7.6 If there is special demand, deliver a letter to consult, please.

High Voltage Capacitor

TBBF(X) type High-voltage Shunt Capacitor Installation



TBBF



TBBFX

1. General Description

TBBF type high-voltage shunt capacitor installations are usually produced in forms of cabinet or frame. The equipments use vacuum contactor or vacuum breaker & reactive voltage auto-control equipment to control the capacitor bank, in this way, the capacitor bank will be auto-switched. The equipments are produced in purpose of increasing the power factor, reducing circuit losses and improving voltage quality.

According to the reactive gross which should be compensated, the equipment could be used as one whole group or some certain number of groups, with reasonable control & protect way, can easily realize auto-switched of the capacitor bank.

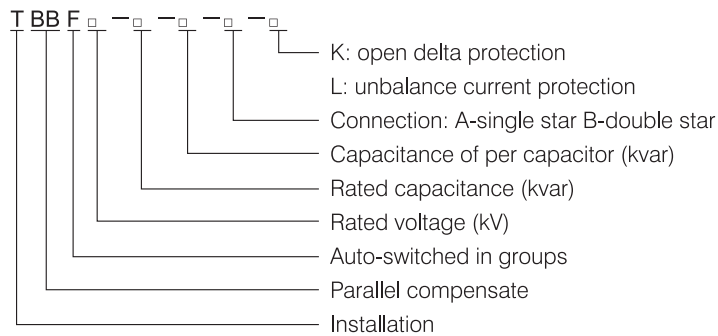
2. Executing Standards

- GB50227-2008
- JB/T7111-1993
- JB/T10577-2006
- DL/T604-2009

3. Application Ambient Conditions

- 3.1 Indoor: Cabinet type, outdoor: frame type.
- 3.2 Altitude $\leq 1000\text{m}$, consult us if the altitude $> 1000\text{m}$.
- 3.3 Operating temperature: $-25^{\circ}\text{C} \sim +45^{\circ}\text{C}$.
- 3.4 Relative humidity: daily mean $\leq 95\%$, monthly mean $\leq 90\%$.
- 3.5 No causticity gas, vapor, no inflammable gas, no blaze, no explosion risk, no frequent violent shake.

4. Type Meaning and Specification



Based on TBBF, we could make it in a preassemble chamber, which is similar to TBBF, and will excellently be suitable for outdoor use. We call the product TBBFX type.

High Voltage Capacitor

5. Main Technology Parameter

5.1 TBBF

Device type	TBBF6-□ /□ -AK(W)	TBBF10-□ /□ -AK(W)	TBBF35-□ /□ -AKW	
Rated voltage	6 kV	10kV	35 kV	
Rated current	A	A	A	
Rated capability	kvar	kvar	kvar	
Rated frequency	50Hz	50Hz	50Hz	
4s hot stabilization current(availability value)KA.		20、25、31.5		
Act stabilization current(peak value)KA.		50、63、80		
Type of capacitor unit	BFM6.6/ $\sqrt{3}$ -□ -1(W)	BFM11/ $\sqrt{3}$ -□ -1(W)	BFM11/ $\sqrt{3}$ -□ -1(W)	
Medium of capacitor unit		All film medium of M/DBT		
Reactance ratio of series reactor percent for collocate whole set.	XK=□ %	XK=□ %	XK=□ %	
Performance parameter	Tolerance of capacitor	0~+5%		
	Most ratio of 3 phases	≠1.02		
	Allow tolerance of inductance	0~+5%		
	Average tolerance of 3 phase inductance	≠±2%		
	Discharge capability of fuse	12kJ		
Protect fashion	Open delta voltage protect,Neutral imbalance current protect or owe-voltage, owe-current, and over-current protecting			
Device type	Cabinet type	Cabinet type	Frame type	
Connect line fashion	Single or double star type			
Insulate level of capacitor	1 min patience voltage in power frequency (RMS value)	between phases≥32kV,phase to earth≥32kV (Test value on altitude 1000m)	between phases≥42kV,phase to earth≥42kV (Test value on altitude 1000m)	between phases≥95kV,phase to earth≥95kV (Test value on altitude 1000m)
	Impact patience voltage to earth	≥60kV (Test value on altitude 1000m)	≥75kV (Test value on altitude 1000m)	≥200kV (Test value on altitude 1000m)
Insulate level of the installation	1 min patience voltage in power frequency (RMS value)	≥51kV (Test value on altitude 1000m)		
	Impact patience voltage to earth	≥75kV (Test value on altitude 1000m)		
Insulate level in secondary	≥2.0kV	≥2.0kV	≥2.0kV	
Surface deal, color	Spray lacquer, Chint B or other	Spray lacquer, Chint B or other	Hot plating or spray lacquer, Chint B	
protect grand(cabinet type)	IP20	IP20		

Remark: rated insulate level should be corrected according to altitude high.



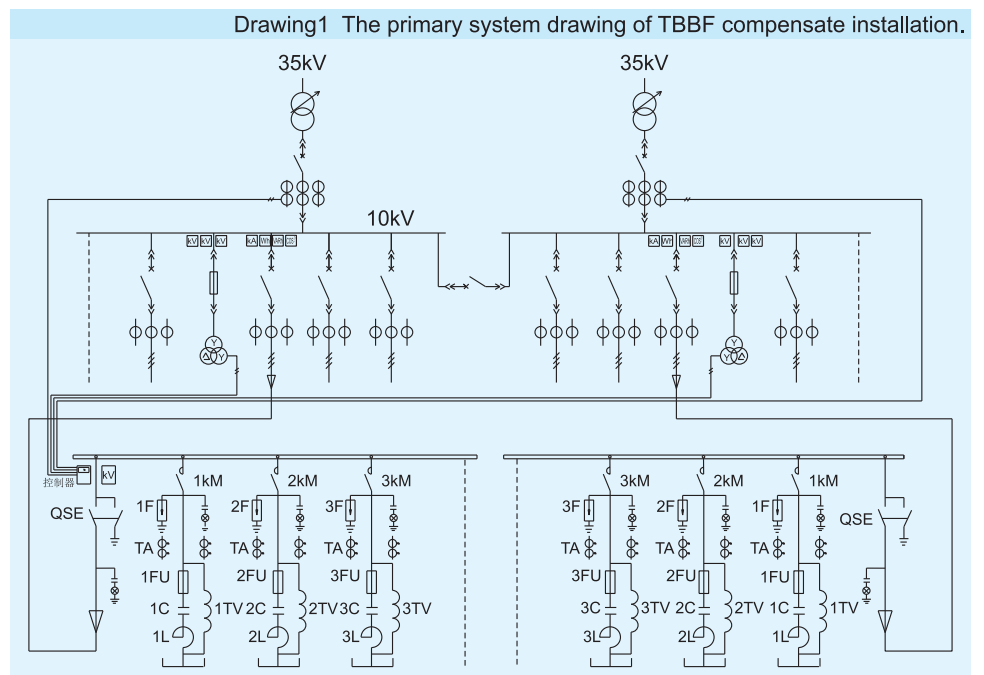
High Voltage Capacitor

5.2 TBBFX

Device type	TBBFX10□ / □ AK(W)	TBBFX6□ / □ AK(W)	
Rated voltage	10 kV	6 kV	
Rated current	A	A	
Rated capability	50Hz	50Hz	
Rated frequency	kvar	kvar	
4s hot stabilization current(availability value)KA.	20、25、31.5	20、25、31.5	
Act stabilization current(peak value)KA.	50、63、80	50、63、80	
Type of capacitor unit	BFM□ / $\sqrt{3}$ -□ -1(W)	BFM□ / $\sqrt{3}$ -□ -1(W)	
Medium of capacitor unit	All film medium of M/DBT	All film medium of M/DBT	
Reactive ratio of series reactor percent for collocate whole set.	XK=□ %	XK=□ %	
Performance parameter	Tolerance of capacitor	0~+5%	
	Most ratio of 3 phases	∇ 1.02	
	Allow tolerance of inductance	0~+5%	
	Average tolerance of 3 phase inductance	∇ \pm 2%	
	Discharge capability of fuse	12kJ	
Protect fashion	Open delta voltage protect,Neutral imbalance current protect or low-voltage, low-current, and over-current protect		
Device type	chamber type	chamber type	
Connect line fashion	Single or double star type	Single or double star type	
Insulate level of capacitor	1 min patience voltage in power frequency (RMS value)	between phases \geq 42kV ,phase to earth \geq 42kV (Test value on altitude 1000m)	between phases \geq 32kV ,phase to earth \geq 32kV (Test value on altitude 1000m)
	Impact patience voltage to earth	\geq 75kV (Test value on altitude 1000m)	\geq 60kV (Test value on altitude 1000m)
Insulate level of the installation	1 min patience voltage in power frequency (RMS value)	\geq 51kV (Test value on altitude 1000m)	\geq 51kV (Test value on altitude 1000m)
	Impact patience voltage to earth	\geq 75kV (Test value on altitude 1000m)	\geq 75kV (Test value on altitude 1000m)
Insulate level of secondary circuit	\geq 2.0kV		
Surface deal, color	Spray lacquer, Chint B or other		
protect grand(chamber type)	IP36		

6. Connect line fashion of compensate installation

Primary connect line fashion of compensate installation: It is as "Y" fashion and neutral point isn't to earth. To see primary connect drawing 1.



High Voltage Capacitor

7. Outline and fixing dimension

7.1 TBBF

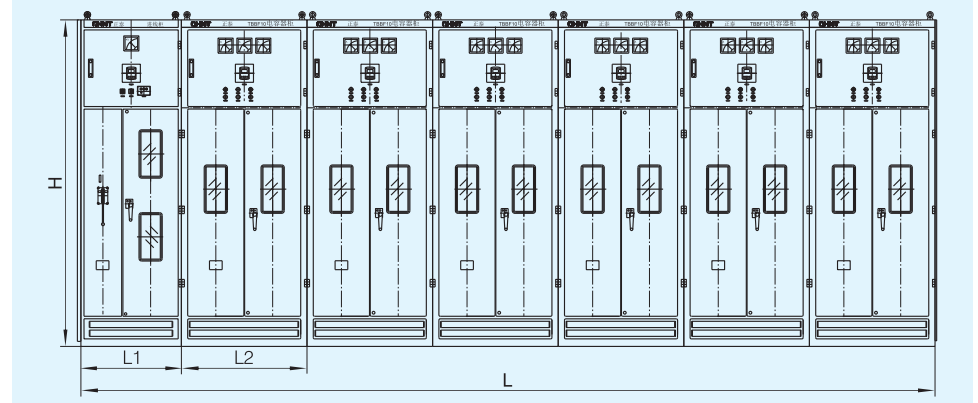
7.1.1.1. Technology parameter table of compensate installation.

Table 1

No.	Type spec	Rated parameter			Shunt capacitor	Outline dimension (L×W×H)
		Ue(kV)	Ie(A)	Qe(kvar)		
1	TBBF10-2400/200-AK	11/√3	126	2400	BFM11/√3-200-1	4800×1600×2600
2	TBBF10-2800/234-AK	11/√3	147	2800	BFM11/√3-234-1	4800×1600×2600
3	TBBF10-3000/250-AK	11/√3	157.5	3000	BFM11/√3-250-1	4800×1600×2600
4	TBBF10-3200/267-AK	11/√3	168	3200	BFM11/√3-267-1	4800×1600×2600
5	TBBF10-3600/300-AK	11/√3	189	3600	BFM11/√3-300-1	4800×1600×2600
6	TBBF10-4000/334-AK	11/√3	210	4000	BFM11/√3-334-1	4800×1600×2600
7	TBBF10-4800/400-AK	11/√3	252	4800	BFM11/√3-400-1	4800×1600×2600
8	TBBF10-6000/400-AK	11/√3	315	6000	BFM11/√3-400-1	5800×1600×2600
9	TBBF10-7200/400-AK	11/√3	378	7200	BFM11/√3-400-1	6800×1600×2600

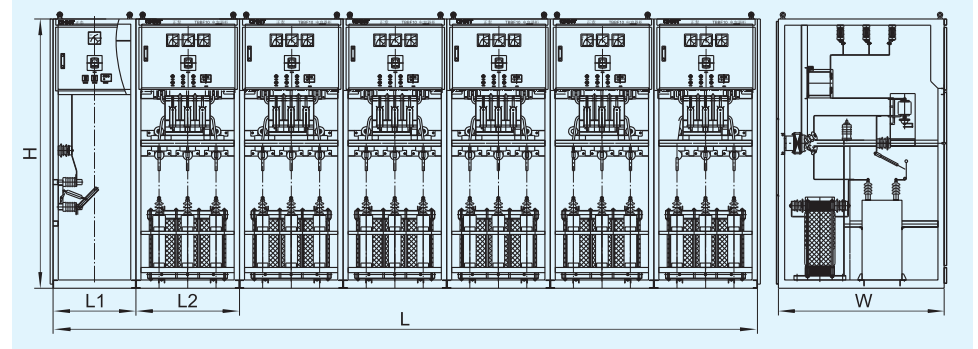
7.1.1.2 RVT outline of control fashion of power factor

Drawing2 Outline of compensate installation of shunt capacitor (RVT control fashion)



7.1.1.3 Inside configuration drawing of control fashion of RVT power factor.

Drawing3 Inside configuration drawing of compensate installation of shunt capacitor (RVT control fashion)



High Voltage Capacitor

7.1.2 WZK-III or one of RCBK voltage – reactive control fashion

7.1.2.1 Technology parameter of compensate installation

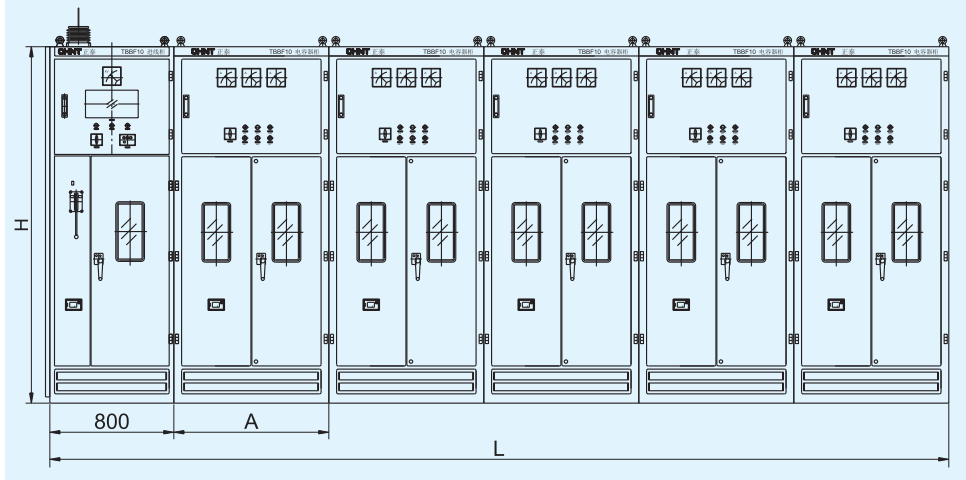
Table 2

No.	Type spec	Rated parameter			Shunt capacitor	Outline dimension (L×W×H)
		Ue(kV)	Ie(A)	Qe(kvar)		
1	TBBF10-2505/167-AK	11/ $\sqrt{3}$	131.5	2505	BFM11/ $\sqrt{3}$ -167-1	5800 × 1600 × 2600
2	TBBF10-3000/200-AK	11/ $\sqrt{3}$	157.5	3000	BFM11/ $\sqrt{3}$ -200-1	
3	TBBF10-3510/234-AK	11/ $\sqrt{3}$	184.2	3510	BFM11/ $\sqrt{3}$ -234-1	
4	TBBF10-3750/250-AK	11/ $\sqrt{3}$	196.8	3750	BFM11/ $\sqrt{3}$ -250-1	
5	TBBF10-4005/267-AK	11/ $\sqrt{3}$	210.2	4005	BFM11/ $\sqrt{3}$ -267-1	
6	TBBF10-4500/300-AK	11/ $\sqrt{3}$	236.2	4500	BFM11/ $\sqrt{3}$ -300-1	
7	TBBF10-5000/334-AK	11/ $\sqrt{3}$	262.4	5000	BFM11/ $\sqrt{3}$ -334-1	
8	TBBF10-6000/400-AK	11/ $\sqrt{3}$	317.1	6000	BFM11/ $\sqrt{3}$ -400-1	

According to table 2, WZK or RCBK voltage controller is used as protect instrument in enter line cabinet and has alarm function, GN19-12 insulate switch is placed in the cabinet. Capacitor bank is switch-on-off with JCZ5-12 or V12 vacuum contactor which can be automatic or manual. The reactor is used CKSC dry iron core type ,and the protecting of open delta voltage is achieved by FDG2 or FDGQ2. The installation is also used DWZK controller in center control room which has RS232 or RS485 communication interface and realize distance automatic control.

7.1.2.2 Outline drawing of RCBK control fashion

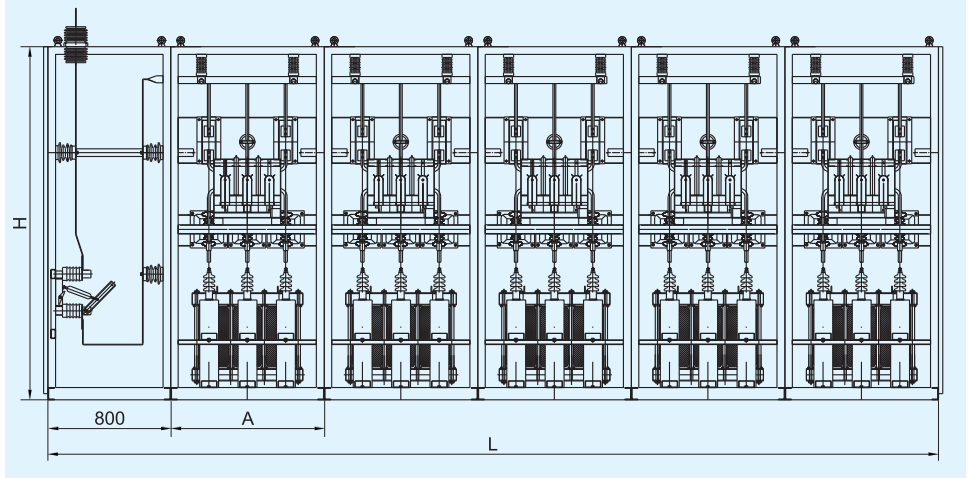
Drawing 4 Outline and fixing dimension of compensate installation of shunt capacitor by grouping in cabinet type



High Voltage Capacitor

7.1.2.3 Inside configuration drawing in RCBK control fashion.

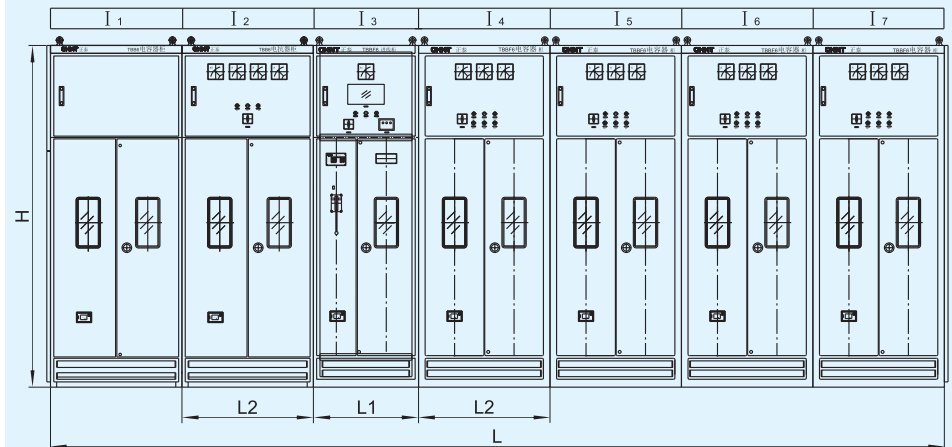
Drawing 5 Inside configuration drawing of compensate installation of shunt capacitor by grouping in cabinet type



7.1.3 The secondary fashion of WZK-III type or RCBK voltage-reactive control.

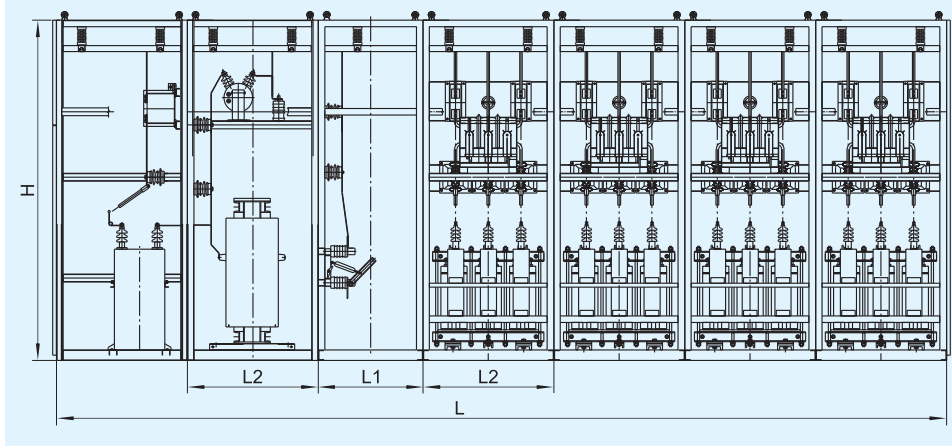
7.1.3.1 Outline drawing

Drawing 6 The combination between fixation group and adjust group



7.1.3.2 Inside configuration drawing.

Drawing 7 The configuration of fixation group and adjust group



High Voltage Capacitor

From drawing 6 and 7 can be known, there are a fixation group and 4 capacitor bank which is switch-on-off. RCBK voltage controller can protect the 4 bank, the controller can run 2 segment busbar which there are 8 capacitor bank, and can automatic or manual.

7.1.4 Grouping compensate installation for frame type.

7.1.4.1 Technology parameter of the installation.

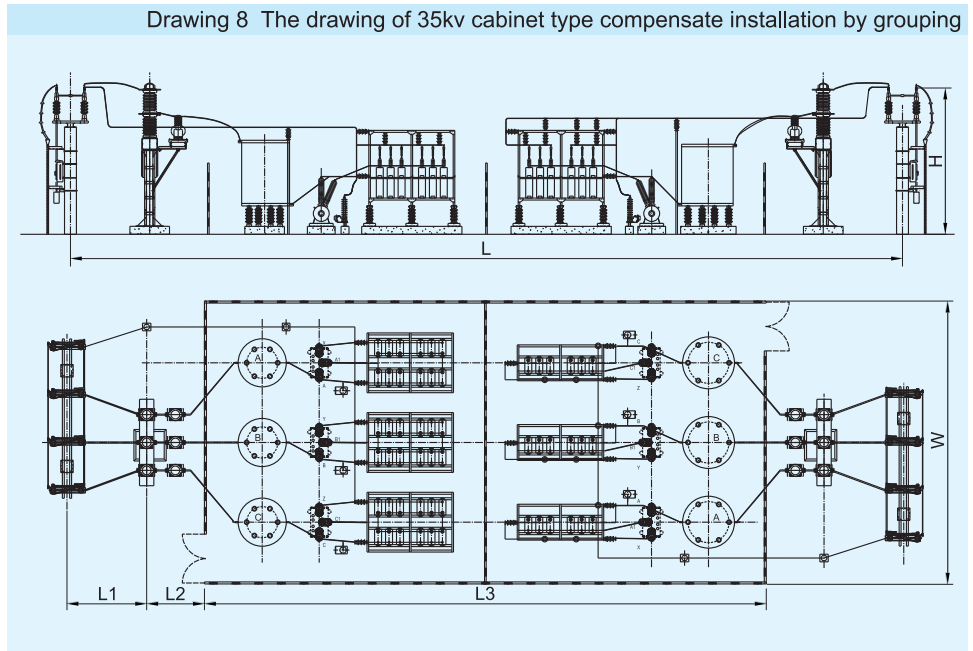
Table 3

No.	Type spec	Rated parameter			Shunt capacitor	Outline dimension (L×W×H)
		Ue(kV)	Ie(A)	Qe(kvar)		
1	TBBF35-2400+4800-AKW	11 × 2	109	7200	BAM11-400-1W	10000 × 6000 × 3700
2	TBBF35-3600+7200-AKW	11 × 2	162	10800	BAM11-300-1W	14000 × 6000 × 3700
3	TBBF35-4000+8000-AKW	11 × 2	182	12000	BAM11-334-1W	14000 × 6000 × 3700
4	TBBF35-4800+9600-AKW	11 × 2	218	14400	BAM11-400-1W	16000 × 8000 × 3700
5	TBBF35-6000+12000-AKW	11 × 2	273	18000	BAM11-334-1W	21000 × 7000 × 3700
6	TBBF35-12000+12000-AK	11 × 2	364	24000	BAM11-500-1W	11000 × 9000 × 3700

According to table 3,DWZK voltage control cabinet is placed in center control room, which is fixed RS-232 or RS-285 communication interface to realize distance control. enter line switch is GW4-35 or GW5-35,and capacitor bank is used SF6 breaker, and series reactor is used CKSKL dry hollow core, and discharge winding is used FBGEC, to realize difference voltage protecting. The outline configuration is at drawing 8.

7.1.4.2 Outline configuration of installation.

Drawing 8 The drawing of 35kv cabinet type compensate installation by grouping



High Voltage Capacitor

7.2 TBBFX

7.2.1 Technology parameter of compensate installation

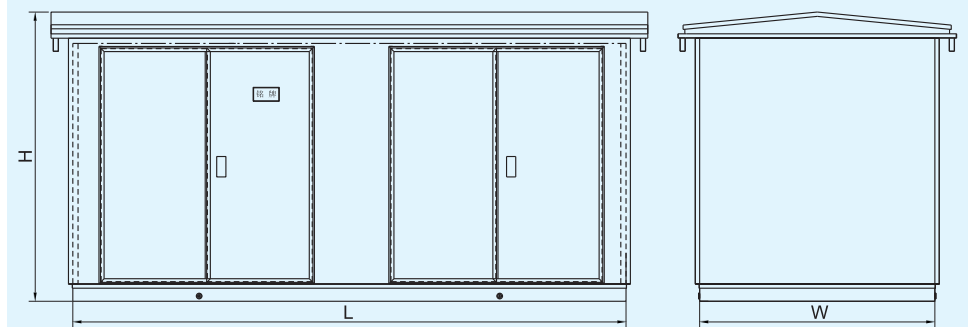
Table 1

No.	Type spec	Rated parameter			Shunt capacitor	Outline dimension (L×W×H)
		Ue(kV)	Ie(A)	Qe(kvar)		
1	TBBFX10-3000/167-AK	11/ $\sqrt{3}$	157.8	3006	BFM11/ $\sqrt{3}$ -167-1	6450×2800×3320
2	TBBFX10-3600/200-AK	11/ $\sqrt{3}$	189.0	3600	BFM11/ $\sqrt{3}$ -200-1	
3	TBBFX10-4200/234-AK	11/ $\sqrt{3}$	221.1	4212	BFM11/ $\sqrt{3}$ -234-1	
4	TBBFX10-4500/250-AK	11/ $\sqrt{3}$	236.2	4500	BFM11/ $\sqrt{3}$ -250-1	
5	TBBFX10-4800/267-AK	11/ $\sqrt{3}$	252.3	4806	BFM11/ $\sqrt{3}$ -267-1	
6	TBBFX10-5400/300-AK	11/ $\sqrt{3}$	283.4	5400	BFM11/ $\sqrt{3}$ -300-1	
7	TBBFX10-6000/334-AK	11/ $\sqrt{3}$	315.6	6012	BFM11/ $\sqrt{3}$ -334-1	
8	TBBFX10-7200/400-AK	11/ $\sqrt{3}$	377.9	7200	BFM11/ $\sqrt{3}$ -400-1	

According to table 1, enter line cabinet is used as KY28-12 the middle install type switch cabinet. Main switch is ZN63-12/630-25 (VS1) type breaker, and controller is RVT type which is placed in the cabinet. Capacitor bank is used for JCZ5-12 vacuum contactor to see drawing 3 and 4.

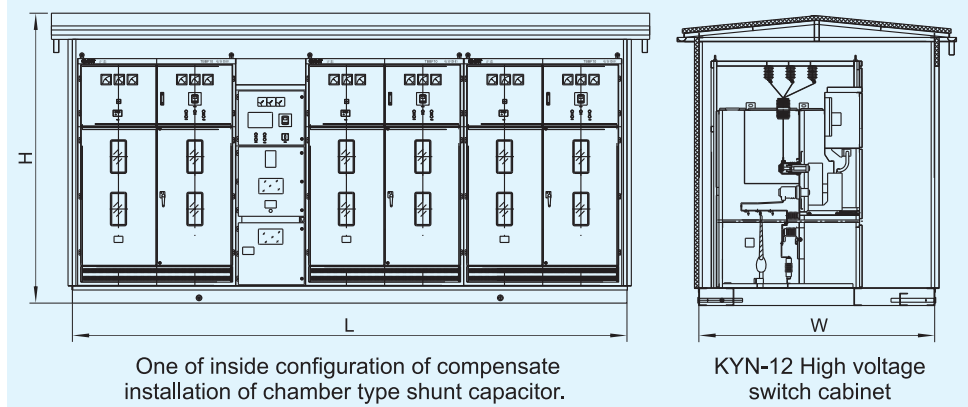
7.2.2 Outline drawing of chamber type configuration

Drawing 2 Outline of chamber type compensate installation of shunt capacitor



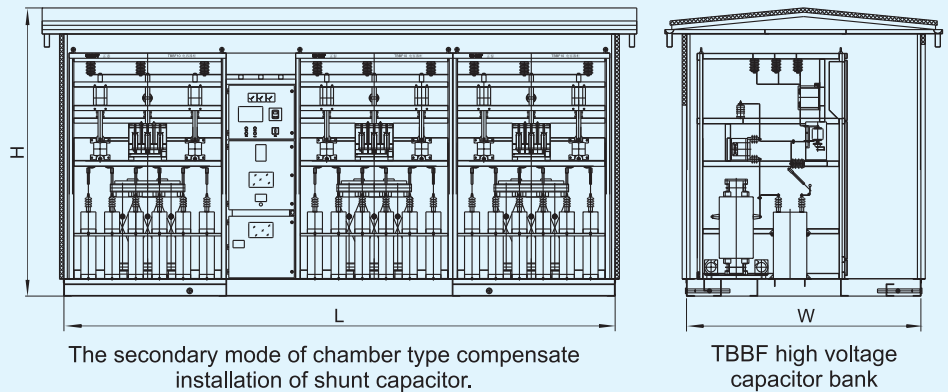
7.2.3 Inside configuration drawing of chamber type installation

Drawing 3



High Voltage Capacitor

Drawing 4



7.2.4 The disposal drawing of cabinet (another mode of chamber type configuration)

7.2.4.1 Technology parameter compensate installation

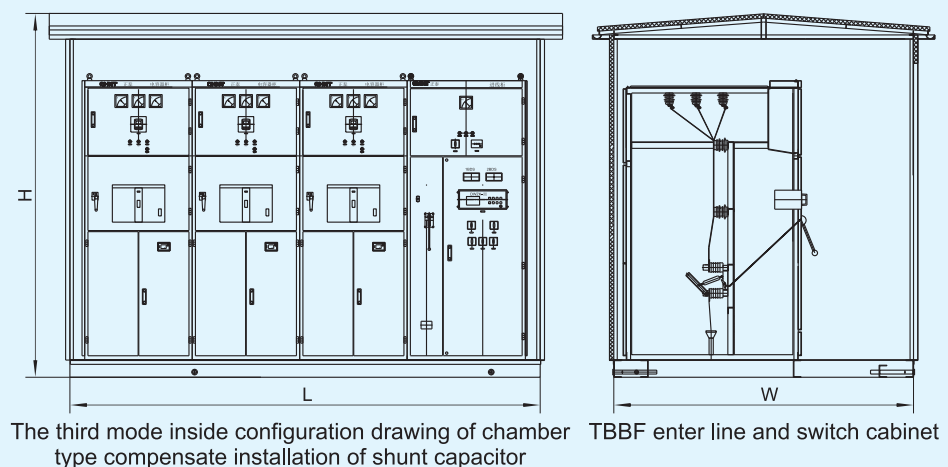
Table 2

No.	Type spec	Rated parameter			Shunt capacitor	Outline dimension (L×W×H)
		U _e (kV)	I _e (A)	Q _e (kvar)		
1	TBBFX10-1500/167-AK	11/√3	78.9	1503	BFM11/√3-167-1	4420×2800×3320
2	TBBFX10-1800/200-AK	11/√3	94.5	1800	BFM11/√3-200-1	
3	TBBFX10-2100/234-AK	11/√3	110.5	2106	BFM11/√3-234-1	
4	TBBFX10-2250/250-AK	11/√3	118.1	2250	BFM11/√3-250-1	
5	TBBFX10-2400/267-AK	11/√3	126.1	2403	BFM11/√3-2671	
6	TBBFX10-2700/300-AK	11/√3	141.7	2700	BFM11/√3-300-1	
7	TBBFX10-3000/334-AK	11/√3	157.8	3006	BFM11/√3-334-1	
8	TBBFX10-3600/400-AK	11/√3	189.0	3600	BFM11/√3-400-1	

According to table 2, GN19-12 switch is used in enter cabinet, and VQC controller is also placed in the cabinet. BSF02-12/630-25 magnetism-forever type vacuum breaker is used to switch on-off to capacitor bank which can automatic or manual. To see drawing 5 and 6.

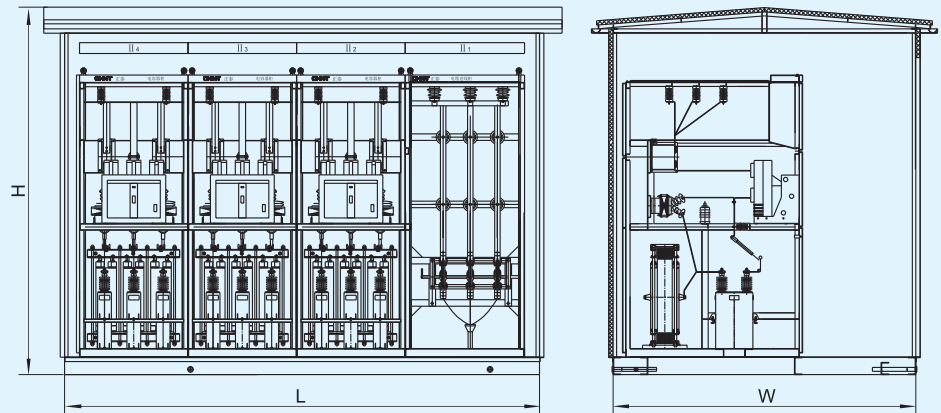
7.2.4.2 Inside configuration drawing of chamber type

Drawing 5



High Voltage Capacitor

Drawing 6



The fourth mode inside configuration drawing of chamber TBBF high voltage capacitor bank type compensate installation of shunt capacitor.

High Voltage Capacitor



TBBS Substation type Auto-switched High-voltage Shunt Capacitor Installation

1. General Description

TBBS substation type auto-switched high-voltage shunt capacitor installation is usually installed besides 10kV or 6kV system of the substation. The equipment can effectively increase the power factor, reduce circuit losses, improve voltage quality and compensate reactive power.

The equipment is divided to several capacitor banks, according to the load of system, with auto-switching of SF6 switch & controlling of micro-controller, we can realize auto compensating of the reactive power. Meanwhile, some protection, such as open-delta unbalance voltage, single capacitor error, short circuit, over current, over voltage, under voltage etc, are set up to make system stable and reliable.

2. Executing Standards

- GB50227-2008
- JB/T7111-1993
- DL/T604-2009

3. Application Ambient Conditions

3.1 temperature range: $-40^{\circ}\text{C} \sim +45^{\circ}\text{C}$.

3.2 altitude: $\leq 2000\text{m}$.

3.3 sunlight: extent(max) $0.1\text{W}/\text{cm}^2$.

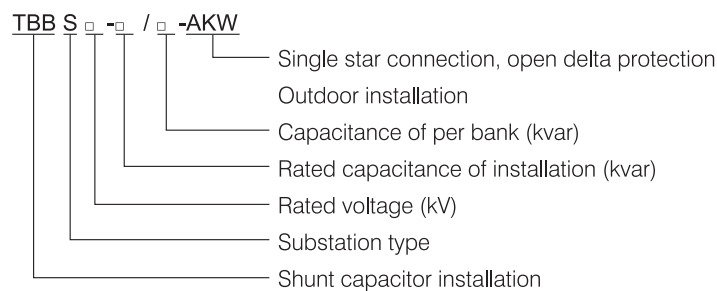
3.4 wind speed: $\leq 35\text{m}/\text{s}$.

3.5 earthquake: ≤ 8 degree.

3.6 No causticity gas, vapor, no inflammable gas, no blaze, no explosion risk, no frequent violent shake.

(Consult us if the environment condition is special.)

4. Type meaning and specification



5. Main Technical Parameters

5.1 rated voltage: 6KV or 10kv;

5.2 rated frequency: 50Hz;

5.3 equipment capacitance (max): 20000kvar;

5.4 single bank capacitance (max): 3000kvar;

5.5 rated reactance ratio: selected from 0.1%~1%, 4.5%~6%, 12%~13%.

High Voltage Capacitor

5.6 Insulate level

Rated voltage of the installation	The patience voltage in frequency for 1min in primary circuit (RMS value)	The impact patience voltage [(1.2~5)/50 μ s peak value] in primary circuit	The patience voltage in frequency for 1min in secondary circuit (RMS value)
6	32	60	2
10	42	75	

5.7 Steady state over-voltage.

Over-voltage in power frequency	Most persist time	Explain
1.10	Long time	The most value of over-voltage isn't exceed 1.1 Un for long time.
1.15	30 min each 24 h	Adjust and fluctuate of system voltage.
1.20	5min	When light load, the voltage raise.
1.30	1min	

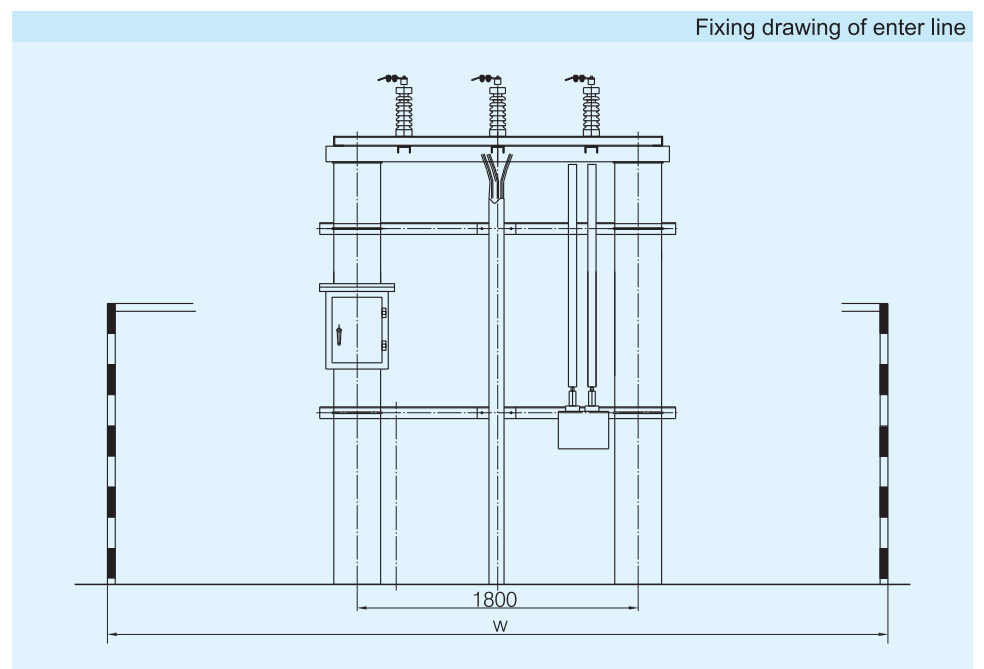
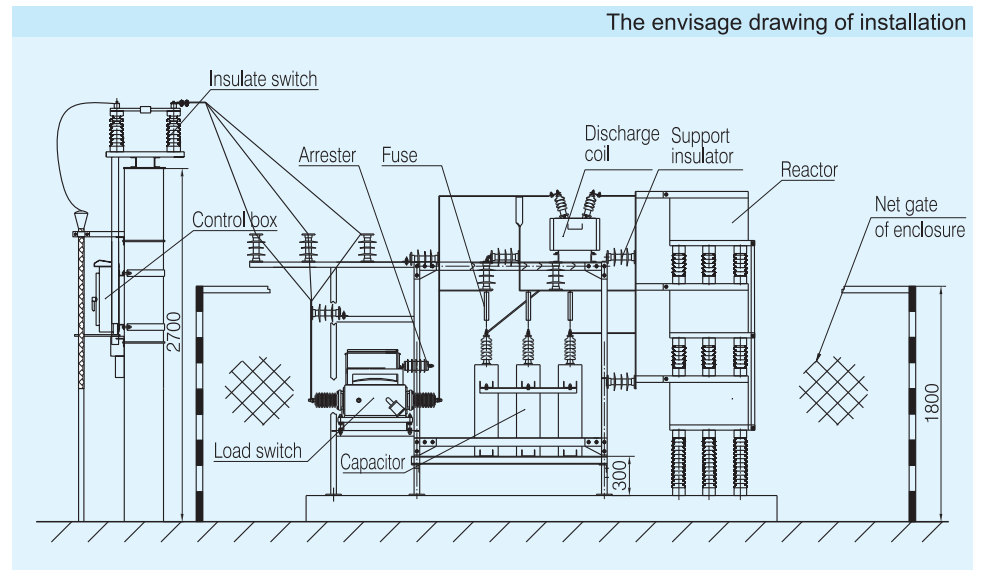
6. Primary principle drawing

	0	1	2	...	N	
Main circuit drawing				...		
	Name	Enter line	1#capacitor bank	2#capacitor bank	...	N#capacitor bank
Capability		Kvar	Kvar	...	Kvar	
Main organ	Insulate switch	1				
	Current transformer		2(switch inside)	2(switch inside)	...	2(switch inside)
	Load switch		1	1	...	1
	Arrester		3	3	...	3
	Fuse		According to single unit to deploy			
	Discharge coil		3	3	...	3
	Shunt capacitor		According to grouping capacitance or demand user.			
Series reactor		1	1	...	1	

Remark: The primary principle drawing is belong to a model of project and manufacturer can change from user demand.

High Voltage Capacitor

7. Fixing drawing



High Voltage Capacitor

TBBX type High-voltage Local Reactive Compensating Installation



1. General Description

TBBX type high-voltage local reactive compensating installations are cabinet type indoor installed. With rated voltage 6~10kV, rated frequency 50Hz, which are widely used in 6~10kV three-phase alternating motor to carry out reactive compensating on the spot. So as to reduce the electric energy loss, increase the quality of network voltage, improve the starting ability of electromotor. The biggest feature of the equipment is that the capacitor bank will put in while the motor start, and resect while stop. It's a new energy saving product with great effect, excel in centralized compensating.

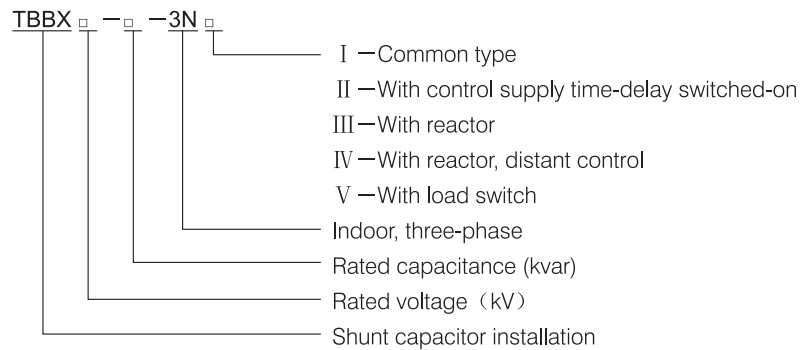
2. Executing Standards

- GB 50227-2008
- JB/T 10557-2006
- DL/T 604-2009

3. Application Ambient Conditions

- 3.1 Altitude \leq 1000m.
- 3.2 Indoor use only.
- 3.3 Temperature range: $-40^{\circ}\text{C} \sim +55^{\circ}\text{C}$.
- 3.4 No causticity gas, vapor, no inflammable gas, no blaze, no explosion risk, no frequent violent shake.
Do not expose it in powerful electric field & magnetic field;
- 3.5 Relative humidity: daily mean \leq 95%, monthly mean \leq 90%;

4. Type Meaning and Specification



High Voltage Capacitor

5. Main Technical Parameters

The parameter table of 6kV capacitor

Table 1

No.	Type	Rated voltage (kV)	Rated capacity of capacitor bank (kvar)	Rated current of capacitor bank (A)	Protect fashion	Type of shunt capacitor
1	TBBX6-90-3N	6	90	8.25	The fuse protect of unit capacitor	BFM6.3/√3-30-1
2	TBBX6-120-3N	6	120	11.0	The fuse protect of unit capacitor	BFM6.3/√3-40-1
3	TBBX6-150-3N	6	150	13.75	The fuse protect of unit capacitor	BFM6.3/√3-50-1
4	TBBX6-180-3N	6	180	16.5	The fuse protect of unit capacitor	BFM6.3/√3-60-1
5	TBBX6-210-3N	6	210	19.25	The fuse protect of unit capacitor	BFM6.3/√3-70-1
6	TBBX6-240-3N	6	240	22.0	The fuse protect of unit capacitor	BFM6.3/√3-80-1
7	TBBX6-300-3N	6	300	27.5	The fuse protect of unit capacitor	BFM6.3/√3-100-1
8	TBBX6-360-3N	6	360	32.0	The fuse protect of unit capacitor	BFM6.3/√3-120-1
9	TBBX6-450-3N	6	450	41.24	The fuse protect of unit capacitor	BFM6.3/√3-150-1
10	TBBX6-600-3N	6	600	55.0	The fuse protect of unit capacitor	BFM6.3/√3-200-1

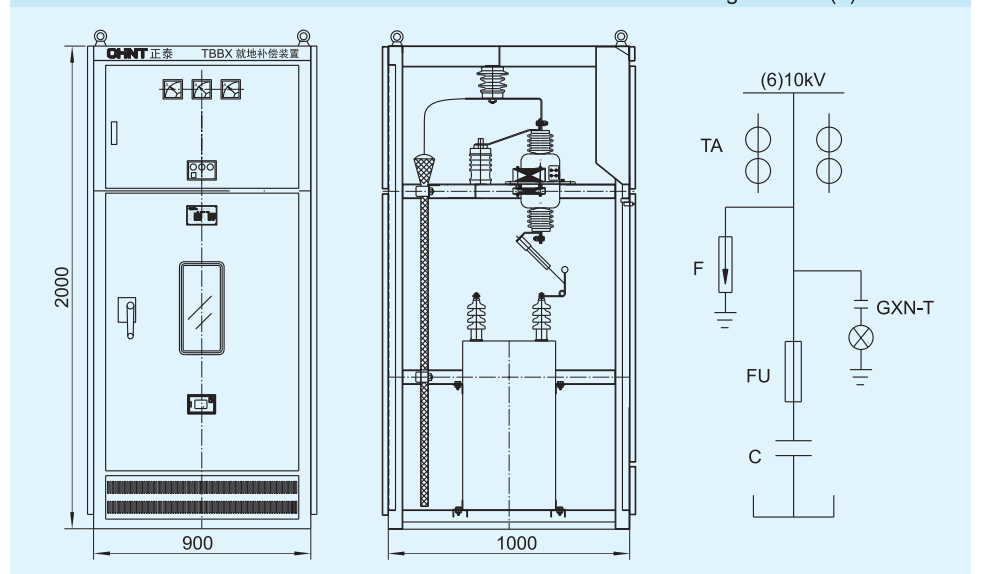
The parameter table of 10kV capacitor

Table 2

No.	Type	Rated voltage (kV)	Rated capacity of capacitor bank (kvar)	Rated current of capacitor bank (A)	Protect fashion	Type of shunt capacitor
11	TBBX10-90-3N	10	90	4.95	The fuse protect of unit capacitor	BFM10.5/√3-30-1
12	TBBX10-120-3N	10	120	6.6	The fuse protect of unit capacitor	BFM10.5/√3-40-1
13	TBBX10-150-3N	10	150	8.25	The fuse protect of unit capacitor	BFM10.5/√3-50-1
14	TBBX10-180-3N	10	180	9.9	The fuse protect of unit capacitor	BFM10.5/√3-60-1
15	TBBX10-210-3N	10	210	11.55	The fuse protect of unit capacitor	BFM10.5/√3-70-1
16	TBBX10-240-3N	10	240	13.2	The fuse protect of unit capacitor	BFM10.5/√3-80-1
17	TBBX10-300-3N	10	300	16.5	The fuse protect of unit capacitor	BFM10.5/√3-100-1
18	TBBX10-360-3N	10	360	19.8	The fuse protect of unit capacitor	BFM10.5/√3-120-1
19	TBBX10-450-3N	10	450	24.74	The fuse protect of unit capacitor	BFM10.5/√3-150-1
20	TBBX10-600-3N	10	600	33	The fuse protect of unit capacitor	BFM10.5/√3-200-1

6. TBBX outline, primary connect line and fixing dimension

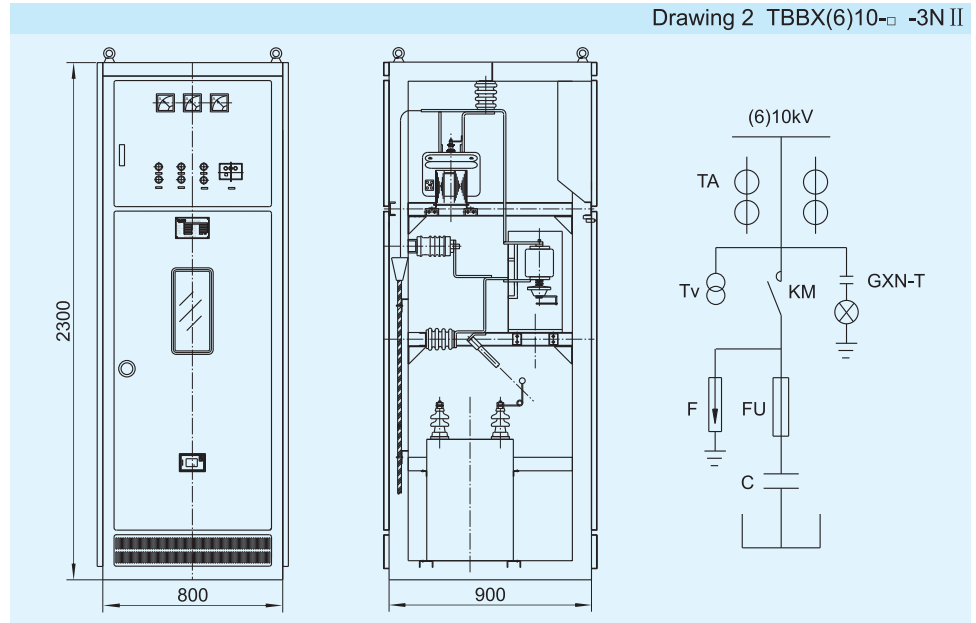
Drawing 1 TBBX(6)10-□ -3N I



High Voltage Capacitor

Type	Capacitor collocate
TBBX(6)10-□ -300/100-3N	BFM□ / $\sqrt{3}$ -100-1
TBBX(6)10-□ -400/134-3N	BFM□ / $\sqrt{3}$ -134-1
TBBX(6)10-□ -450/150-3N	BFM□ / $\sqrt{3}$ -150-1
TBBX(6)10-□ -500/167-3N	BFM□ / $\sqrt{3}$ -167-1

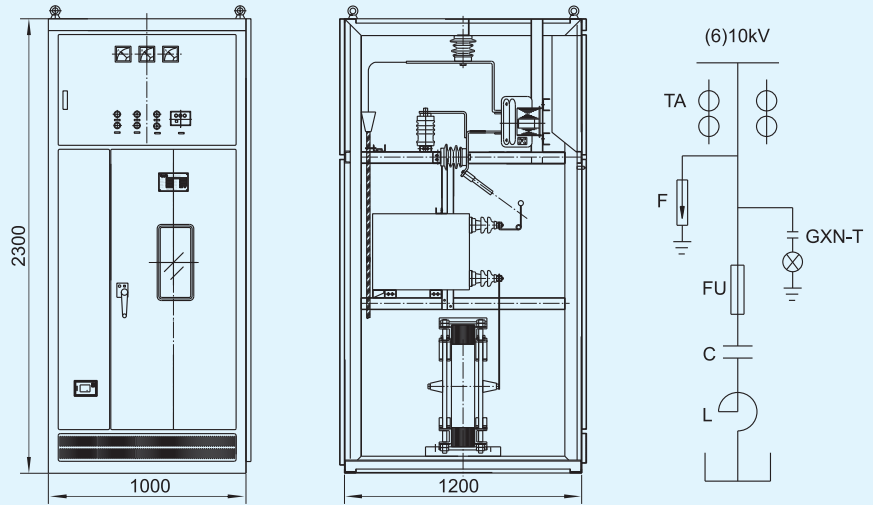
Drawing 2 TBBX(6)10-□ -3N II



Type	Capacitor collocate
TBBX(6)10-□ -300/100-AK	BFM□ / $\sqrt{3}$ -100-1
TBBX(6)10-□ -400/134-AK	BFM□ / $\sqrt{3}$ -134-1
TBBX(6)10-□ -450/150-AK	BFM□ / $\sqrt{3}$ -150-1
TBBX(6)10-□ -500/167-AK	BFM□ / $\sqrt{3}$ -167-1

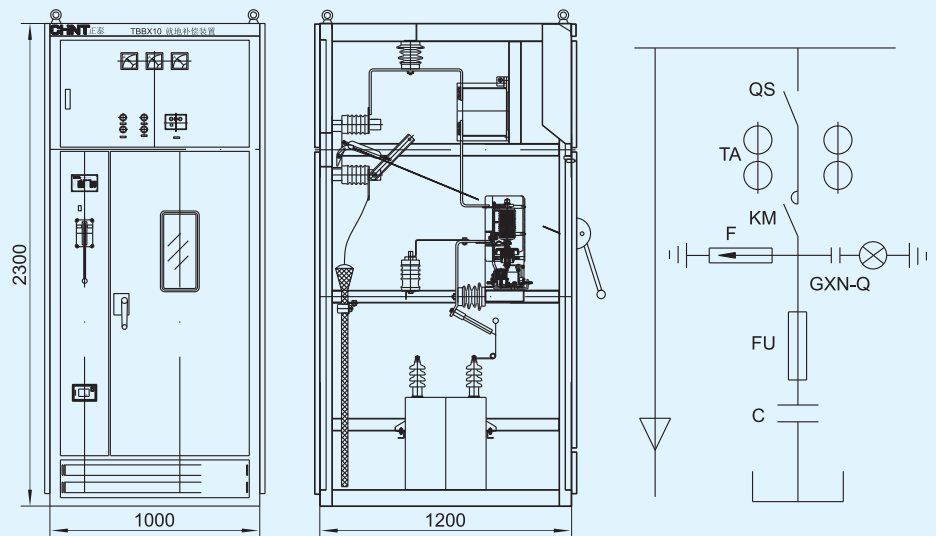
High Voltage Capacitor

Drawing 3 TBBX(6)10-□ -3NIII



Type	Capacitor collocate
TBBX(6)10-□ -300/100-3N	BFM□ / $\sqrt{3}$ -100-1
TBBX(6)10-□ -400/134-3N	BFM□ / $\sqrt{3}$ -134-1
TBBX(6)10-□ -450/150-3N	BFM□ / $\sqrt{3}$ -150-1
TBBX(6)10-□ -500/167-3N	BFM□ / $\sqrt{3}$ -167-1

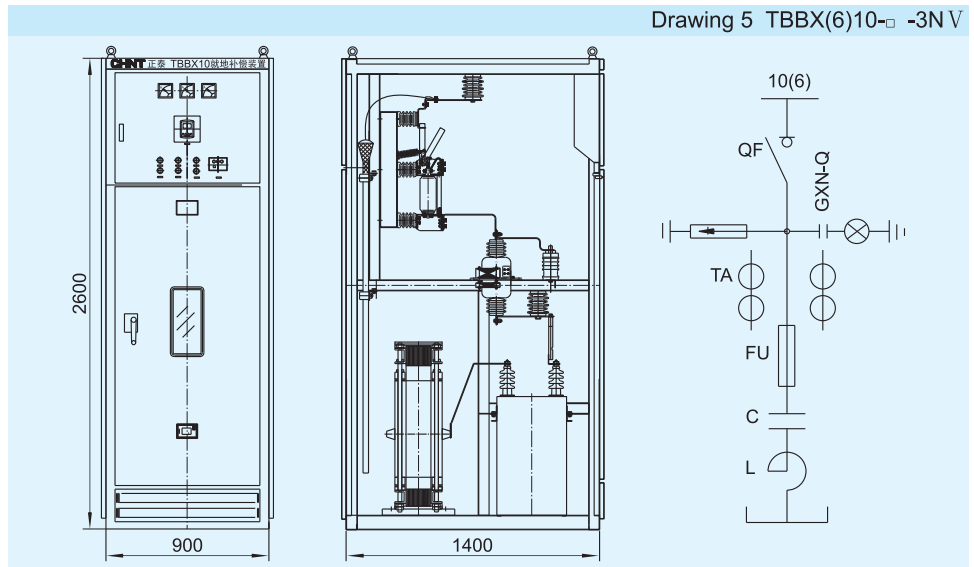
Drawing 4 TBBX(6)10-□ -3NIV



Type	Capacitor collocate
TBBX(6)10-□ -300/100-3N	BFM□ / $\sqrt{3}$ -100-1
TBBX(6)10-□ -400/134-3N	BFM□ / $\sqrt{3}$ -134-1
TBBX(6)10-□ -450/150-3N	BFM□ / $\sqrt{3}$ -150-1
TBBX(6)10-□ -500/167-AK	BFM□ / $\sqrt{3}$ -167-1

High Voltage Capacitor

Drawing 5 TBBX(6)10-□ -3N V



Type	Capacitor collocate
TBBX□ -200/67-3N	BFM□ / $\sqrt{3}$ -67-1
TBBX□ -700/234-3N	BFM□ / $\sqrt{3}$ -234-1
TBBX□ -750/250-3N	BFM□ / $\sqrt{3}$ -250-1
TBBX□ -800/267-3N	BFM□ / $\sqrt{3}$ -267-1
TBBX□ -900/300-3N	BFM□ / $\sqrt{3}$ -300-1

High Voltage Capacitor

TBBZ pole-mounted Auto-switch High-voltage Shunt-capacitor Installation

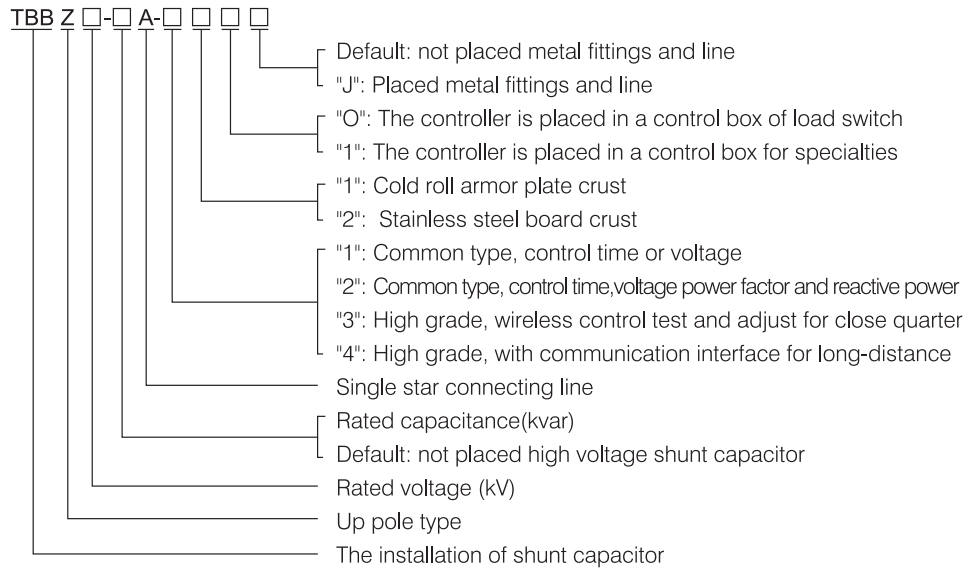


1 General Description

TBBZ series pole-mounted automatic-switching high-voltage shunt-capacitor on and off device are applicable to 10kV and 6kV distribution lines to increase the power factor, reduce circuit losses and improve voltage quality.

The device consists of all-film high-voltage shunt capacitor (have internal fuses and discharge resistances within), outdoor switching capacitor bank on and off specially high voltage SF6 load-switch (install CT within), power transformer PT controlling, outdoor high-voltage current transformer, zinc oxide surge arresters, drop-out fuses, reactive power compensation automatic-controller and so on. Based on circuit requirement and presetting by user, they can carry out auto-switching shunt-capacitors on and off (according to time, voltage, power factor or reactive power) to make power factor achieve prearranged value. At the same time, they have perfect protective functions against short-circuit, over-current, over-voltage, under-voltage, lacking-phase, making capacitors which still accumulate electric charge, and etc. FLW(B) outdoor AC high voltage SF6 load switches have the characteristics of long service time, no bounce at closing and no burn-back at opening. Auto-controllers have excellent ability to anti-interfere. So they can ensure that the device work reliably. The device is simple and compact in structure, convenient to be installed. Executing standards: JB/T7111-1993 , DL/T604-2009, Q/ZT273-2001.

2 Type Meaning and Specification



TBBZ type spec (Table 1)

Table 1

Type spec	Control physics: time, voltage	Time, voltage, power factor, reactive power	Close quarter control, Remote measure Remote adjust	With communication interface, "4 remote"	Cold roll steel board crust	Stainless steel board crust	The controller is placed inside switch	The controller is placed in special control box	The metal fittings and line are placed for match set
TBBZ□-□A-110	✓				✓		✓		
TBBZ□-□A-110J	✓				✓		✓		✓
TBBZ□-□A-111	✓				✓			✓	
TBBZ□-□A-111J	✓				✓			✓	✓
TBBZ□-□A-120	✓					✓	✓		
TBBZ□-□A-120J	✓					✓	✓		✓
TBBZ□-□A-121	✓					✓		✓	
TBBZ□-□A-121J	✓					✓		✓	✓
TBBZ□-□A-210		✓			✓		✓		
TBBZ□-□A-210J		✓			✓		✓		✓
TBBZ□-□A-211		✓			✓			✓	
TBBZ□-□A-211J		✓			✓			✓	✓

High Voltage Capacitor

Type spec	Control physics: time, voltage	Time, voltage, power factor, reactive power	Close quarter control , Remote measure Remote adjust	With communication interface, "4 remote"	Cold roll steel board crust	Stainless steel board crust	The controller is placed inside switch	The controller is placed in special control box	The metal fittings and line are placed for match set
TBBZ□-□A-220		✓				✓	✓		
TBBZ□-□A-220J		✓				✓	✓		✓
TBBZ□-□A-221		✓				✓		✓	
TBBZ□-□A-221J		✓				✓		✓	✓
TBBZ□-□A-310			✓		✓		✓		
TBBZ□-□A-310J			✓		✓		✓		✓
TBBZ□-□A-311			✓		✓			✓	
TBBZ□-□A-311J			✓		✓			✓	✓
TBBZ□-□A-320			✓			✓	✓		
TBBZ□-□A-320J			✓			✓	✓		✓
TBBZ□-□A-321			✓			✓		✓	
TBBZ□-□A-321J			✓			✓		✓	✓
TBBZ□-□A-410				✓	✓		✓		
TBBZ□-□A-410J				✓	✓		✓		✓
TBBZ□-□A-411				✓	✓			✓	
TBBZ□-□A-411J				✓	✓			✓	✓
TBBZ□-□A-420				✓		✓	✓		
TBBZ□-□A-420J				✓		✓	✓		✓
TBBZ□-□A-421				✓		✓		✓	
TBBZ□-□A-421J				✓		✓		✓	✓

Remark: " ✓ " means what the type spec product has content in the item

3 Using environment condition

3.1 Environment air temperature

3.2 Altitude : below 2000 m

3.3 Wind speed $\leq 35\text{m/s}$

3.4 Sunlight radiate(most) is 0.1W/cm^2

3.5 Earthquake: intensity is less than 8 degree

3.6 Chemistry condition : there aren't any nocuous air and steam isn't electric and blast dust

Remark : tableland type and special environment product will bargain on another fashion.

4 Main technology parameter

Table 2

Type	Rated voltage (kV)	Rated utensil group rated voltage(kV)	Rated capacitance (kvar)	Rated current (A)	Capacitor warp	Allow steady state over-voltage	Allow steady state current	Shunt capacitor type	Capacitor quantity
TBBZ10-100A	10	10.5	100	5.5				$B_{\text{F}}^{\text{A}}\text{M}10.5-100-3\text{WZ}$	1
TBBZ10-200A	10	10.5	200	11				$B_{\text{F}}^{\text{A}}\text{M}10.5-200-3\text{WZ}$	1
TBBZ10-300A	10	10.5 3	300	16.5				$B_{\text{F}}^{\text{A}}\text{M}10.5/\sqrt{3}-100-1\text{WZ}$	3
TBBZ10-360A	10	10.5 3	360	19.8				$B_{\text{F}}^{\text{A}}\text{M}10.5/\sqrt{3}-120-1\text{WZ}$	3
TBBZ10-450A	10	10.5 3	450	24.7				$B_{\text{F}}^{\text{A}}\text{M}10.5/\sqrt{3}-150-1\text{WZ}$	3
TBBZ10-600A	10	10.5 3	600	33				$B_{\text{F}}^{\text{A}}\text{M}10.5/\sqrt{3}-200-1\text{WZ}$	3
TBBZ10-900A	10	10.5 3	900	49.4	0~5%	1.1Un	1.3In	$B_{\text{F}}^{\text{A}}\text{M}10.5/\sqrt{3}-150-1\text{WZ}$	6
TBBZ10-1200A	10	10.5 3	1200	65.9				$B_{\text{F}}^{\text{A}}\text{M}10.5/\sqrt{3}-200-1\text{WZ}$	6
TBBZ6-100A	6	6.3	100	9.2				$B_{\text{F}}^{\text{A}}\text{M}6.3-100-3\text{WZ}$	1
TBBZ6-200A	6	6.3	200	18.3				$B_{\text{F}}^{\text{A}}\text{M}6.3-200-3\text{WZ}$	1
TBBZ6-300A	6	6.3 3	300	27.5				$B_{\text{F}}^{\text{A}}\text{M}6.3/\sqrt{3}-100-1\text{WZ}$	3
TBBZ6-360A	6	6.3 3	360	33				$B_{\text{F}}^{\text{A}}\text{M}6.3/\sqrt{3}-120-1\text{WZ}$	3
TBBZ6-450A	6	6.3 3	450	41.2				$B_{\text{F}}^{\text{A}}\text{M}6.3/\sqrt{3}-150-1\text{WZ}$	3
TBBZ6-600A	6	6.3 3	600	54.9				$B_{\text{F}}^{\text{A}}\text{M}6.3/\sqrt{3}-200-1\text{WZ}$	3

High Voltage Capacitor

5 Main electric device

5.1 main electric device collocate

Table 3

The type and name of the installation	Quantity	Remark
BAM BFM high voltage shunt capacitor	Table 2	
FLW(B)-12 special high voltage SF6 load switch to switch on-off capacitor	1	
YBK control power supply transformer	1	
RW10-10 fall off type fuse	3	The ratio is 10000/220 in 10kV line. The ratio is 6000/220 in 6kV line.
YH5WS zinc oxide arrester	3	The type is YH5WS-17/50 in 10kV line. The type is YH5WS-10/30 in 10kV line.
WZK-1 high voltage reactive compensator controller	1	
LZKW-10 high voltage current transformer outdoor	1	The product of common 1 type isn't used

5.2 Main electric device element parameter

5.2.1 FLW(B)-12 special SF6 load switch to switch on-off shunt capacitor

Table 4

Rated voltage (kV)	Rated current (A)	1 min power frequency patience voltage (kV)	Patience voltage under thunder(kV)	Rated short time patience current avail ability value (kA)	Rated patience current peak value(kA)	Rated short circuit by switch current (kA)	Machine life (times)	Operating supply voltage	SF6 air rated press	Control box protecting grand
12	100 200	42	75	12.5kA, 4s	31.5	31.5	30000	AC220V	0.05MPa (20°C)	IP33

5.2.2 YBK control supply transformer

Table 5

Rated voltage	Rated capacitance	1 min power frequency patience voltage	Patience voltage under thunder strike	The most allow warp of secondary voltage
10/0.22kV	1kVA (Transient)	High voltage side42kV	Low voltage side3kV	75kV
6/0.22kV	150VA (Transient)	High voltage side25kV	Low voltage side3kV	60kV

5.2.3 WZK-1 high voltage reactive compensator controller

Table 6

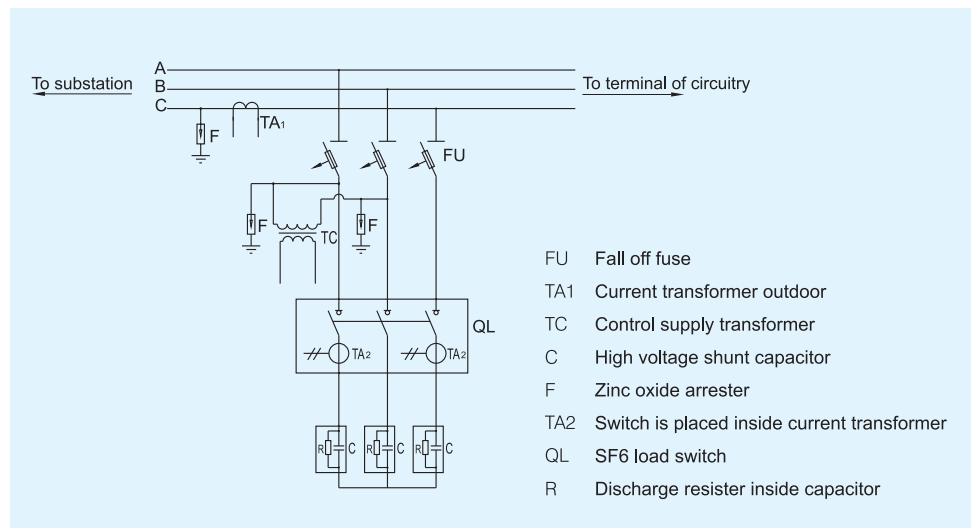
Rated voltage	Rated current	Power consume	Contact point rated current	Power frequency patience voltage for 1 min	Measure precision of voltage and current	Measure precision of reactive power	Clock warp
220V	5A	<5W	10A, AC220V	2500V	±0.5%	±0.3%	1s/d

5.2.4 LZKW-10 high voltage current transformer outdoor

Table 7

The highest work voltage	Rated frequency	Rated primary current	Rated secondary current	Rated insulation level	Rated capacitance	The most output capacitance	Nicety grand
12kV	50Hz	100~400A	5A	12/42/75kV	5VA	10VA	0.5

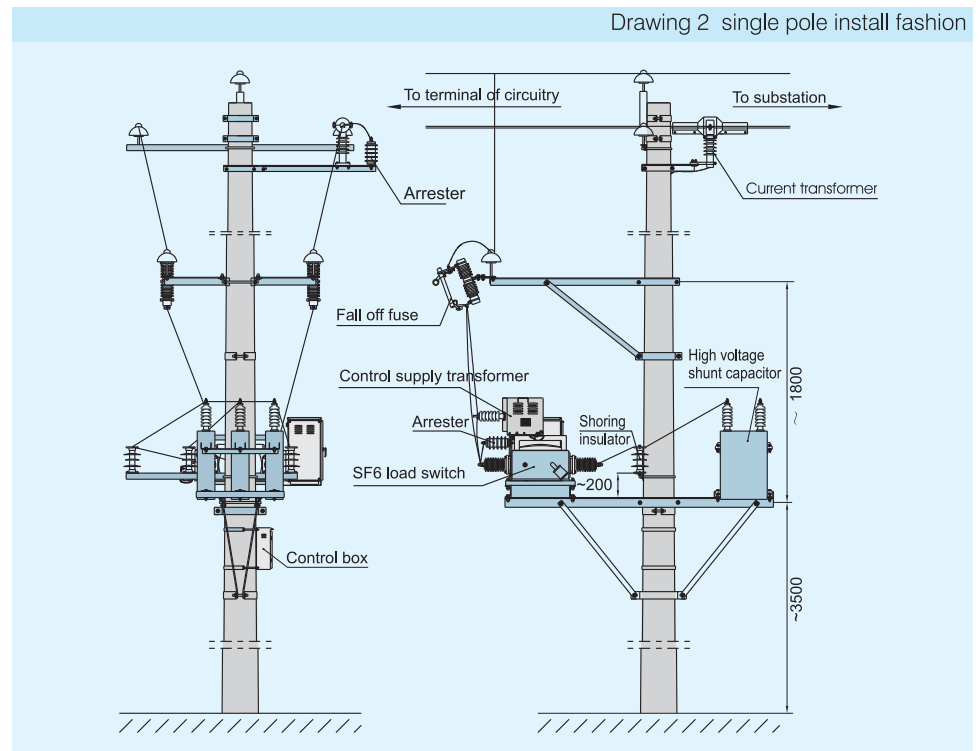
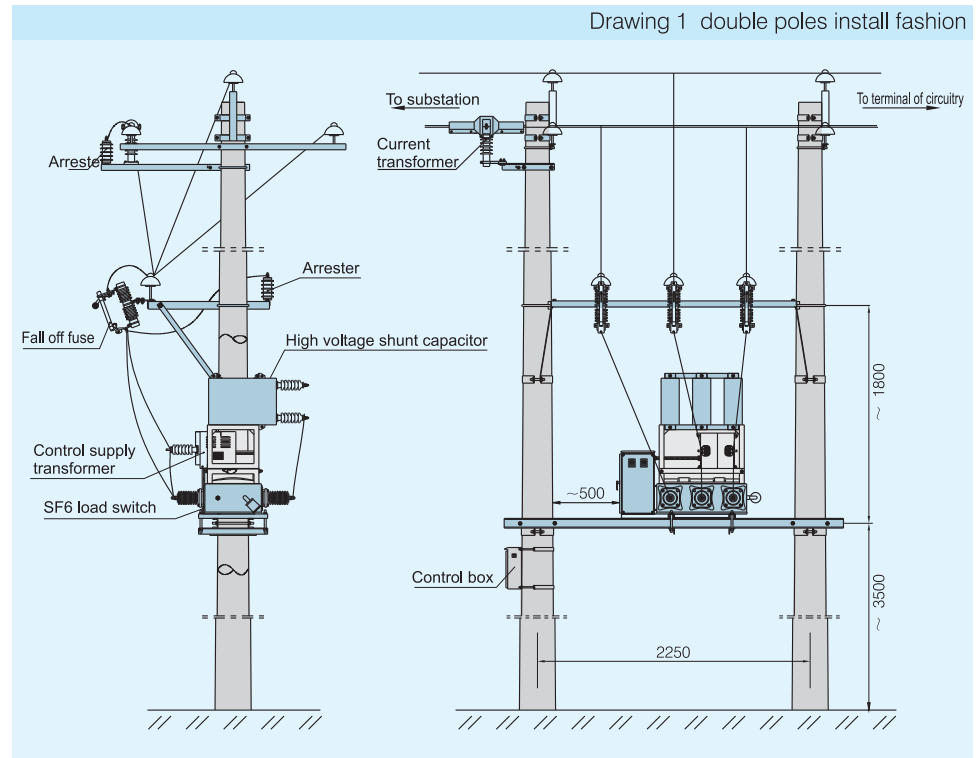
6 Primary principle drawing



High Voltage Capacitor

7 Outline and placed dimension

There are two install fashion in 600 kvar of the installation which are double pole and single pole . The double pole fashion is used on up 600 kvar (drawing 1 and 2)



8 subscribe goods notice

When subscribe goods, please offer hereinafter information:

- | | |
|---|---|
| 8.1 According to item 2, please give clear indication of type and spec. | 8.4 Install fashion. |
| 8.2 There is special demand element and parameter. | 8.5 The spec of pole (include length and tip diameter of the pole). |
| 8.3 The ratio of current transformer. | 8.6 The name and quantity of spare part. |
| | 8.7 The time of deliver the goods and transport fashion. |

High Voltage Capacitor



TAL type Alternating Filter Capacitor Installation

1. General Description

TAL type alternating filter capacitor installations are used in 6~35kV electric system, mainly installed in electric power, steel, metallurgy, chemical industry, coal mine, light industry, building materials and places where harmonic current comes out. The equipments work to absorb the harmonic current from harmonic sources, restrain harmonic, eliminate the pollution of electric harmonic. The TAL equipments operate in parallel with harmonic source, besides filtering, they can also compensate reactive power in the way of offering reactive power for system and increasing power factor.

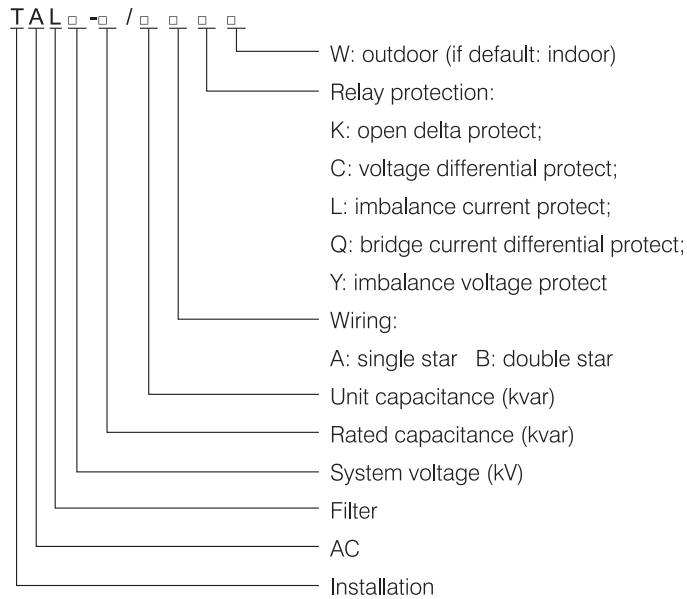
2. Executing Standards

- GB50227-2008
- JB/T7111-1993
- DL/T604-2009

3. Application Ambient Conditions

- 3.1 Installation: indoor/outdoor.
- 3.2 Altitude: $\leq 1000\text{m}$.
- 3.3 Temperature range: $-40^{\circ}\text{C} \sim +45^{\circ}\text{C}$.
- 3.4 Relative humidity: monthly mean $\leq 85\%$.
- 3.5 Antipollution ability: creepage distance ratio of outward insulation $\geq 25\text{mm/kV}$ (relative to highest system running voltage). Increase the ratio in heavy pollution area.
- 3.6 No causticity gas, vapor, no inflammable gas, no blaze, no explosion risk, no frequent violent shake.
- 3.7 Biggest wind velocity: $\leq 35\text{m/s}$
(consult us if the environment condition is special)

4. Type Meaning and Specification



High Voltage Capacitor

5. Main technology parameter

5.1 Insulate level

Unit: kV Table 1

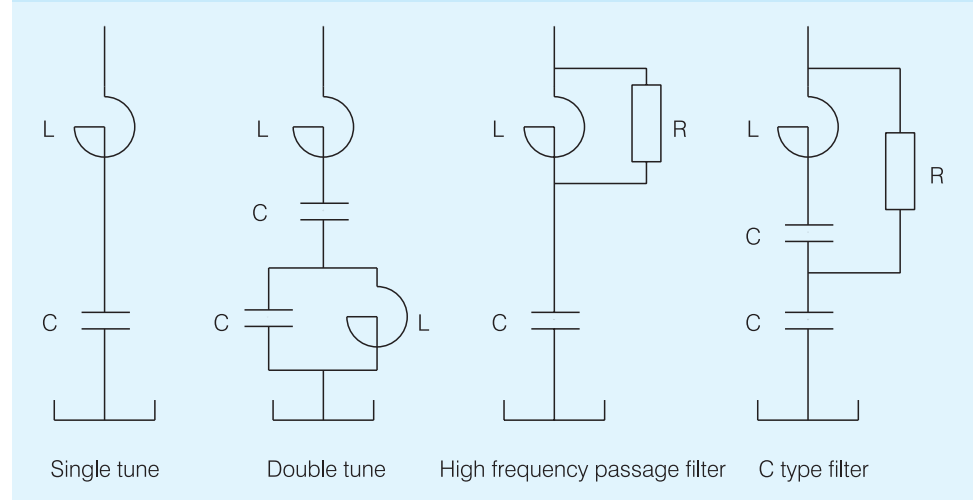
Rated voltage of the installation	The patience voltage in frequency for 1min in primary circuit (RMS value)	The impact patience voltage [(1.2~5)/50 μs peak value] in primary circuit.	The patience voltage in frequency for 1min in secondary circuit (RMS value).
6	32	60	2
10	42	75	2
35	95	200	2

5.2 steady state over-voltage

Table 2

Over-voltage in power frequency	Most persist time	Explain
1.10	Long time	The most value of over-voltage isn't exceed 1.1 Un for long time.
1.15	30 min each 24 h	Adjust and fluctuate of system voltage.
1.20	5min	When light load, the voltage raise.
1.30	1min	When light load, the voltage raise.

Drawing 1 The electric connect line drawing of every type



High Voltage Capacitor

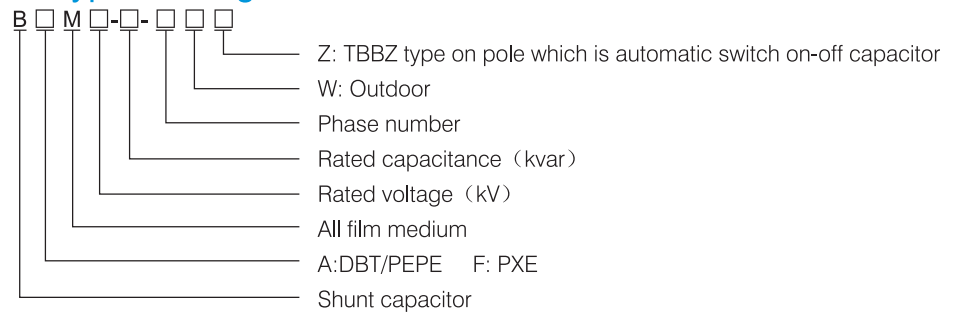
B_A^FM all film high voltage shunt capacitor



1. Application

All-Film High-Voltage Shunt Capacitors is suitable for using in power frequency AC power system with Rated voltage 1kV to increase power factor, improve voltage quality and reduce circuit losses. This product adopts double sided thin coarsing polypropylene film as solid dielectric, M/DBT or PEPE as liquid dielectric, and edge fold aluminum foil as plate electrode. It has advantages as less space and weight, lower losses, low temperature rise, fine self-discharge performance, long lifetime. It is available with internal or external fuses and discharge resistances in accordance with requirements. Standards: IEC60871-1 (2005), GB/T11024-2001

2. Type and Signification



3. Main technology parameter

- 3.1 Rated voltage: 1~21kv ,AC.
- 3.2 Rated frequency: 50 Hz or 60Hz.
- 3.3 Rated capability: 20~500kvar.
- 3.4 Error of capacitance: -5%~+10%.
- 3.5 Tag δ of waste angle: ≤ 0.0003 .
- 3.6 The highest allow over-voltage: 1.1Un.
- 3.7 The biggest over-current: 1.3In.
- 3.8 Discharge specialty: As supply stop, the voltage capacitor debase from $\sqrt{2}$ Un to under 75V.

4. Environment condition

- 4.1 BAM: -40°C ~ +45°C, BFM: -25°C ~ +50°C.
- 4.2 Altitude ≤ 1000 m.
- 4.3 Environment condition : No violent mechanical vibration ; no erode air and vapor, no electric dust.

5. Main technology parameter

Single phase capacitor data table

No.	Type	Rated voltage (kV)	Rated current (A)	Rated frequency (Hz)	Rated capacitance (μ F)	Oil weight (kg)	Weight (kg)	Dimension(mm)								Connect line head	Fig No.
								A	B	D	F	L	h1	h	H		
1	BAM6.3-50-1(W)	6.3	7.9	50	4.01	5.6	18	385	150	425	250	465	90	200	370	M12	1
2	BAM6.3-100-1(W)	6.3	15.9	50	8.02	7.9	27	385	150	425	250	465	230	320	490	M12	1
3	BAM6.3-150-1(W)	6.3	23.8	50	12.03	10	35	385	150	425	250	465	280	430	600	M12	2
4	BAM6.3-167-1(W)	6.3	26.5	50	13.4	11	38	385	173	425	250	465	280	410	580	M12	2
5	BAM6.3-200-1(W)	6.3	31.8	50	16.04	12	44	385	173	425	250	465	280	480	650	M12	2
6	BAM6.3-250-1(W)	6.3	39.7	50	20.05	15	53	385	173	425	250	465	350	580	750	M16	2
7	BAM6.3-300-1(W)	6.3	47.6	50	24.06	16	60	385	173	425	250	465	450	670	840	M16	2
8	BAM6.3-334-1(W)	6.3	53.0	50	26.79	17	66	385	173	425	250	465	520	730	900	M16	2
9	BAM6.3-500-1(W)	6.3	79.4	50	40.10	24	91	440	200	480	300	520	520	790	960	M16	2
10	BAM6.6/ $\sqrt{3}$ -50-1(W)	6.6/ $\sqrt{3}$	13.1	50	10.96	5.7	18	385	150	425	250	465	90	200	370	M12	1
11	BAM6.6/ $\sqrt{3}$ -100-1(W)	6.6/ $\sqrt{3}$	26.3	50	21.92	8.1	27	385	150	425	250	465	230	320	490	M12	1

High Voltage Capacitor

Continue table

No.	Type spec	Rated voltage (kV)	Rated current (A)	Rated frequency (Hz)	Rated capacitance (μ F)	Oil weight (kg)	Weight (kg)	Outline dimension (mm)							Connect ine head	Drawing	
								A	B	D	F	L	h1	h			H
12	BAM6.6/ $\sqrt{3}$ -150-1(W)	6.6/ $\sqrt{3}$	39.4	50	32.88	10	36	385	150	425	250	465	280	430	600	M16	2
13	BAM6.6/ $\sqrt{3}$ -167-1(W)	6.6/ $\sqrt{3}$	43.8	50	36.61	11	39	385	173	425	250	465	280	410	580	M16	2
14	BAM6.6/ $\sqrt{3}$ -200-1(W)	6.6/ $\sqrt{3}$	52.5	50	43.84	13	45	385	173	425	250	465	280	480	650	M16	2
15	BAM6.6/ $\sqrt{3}$ -250-1(W)	6.6/ $\sqrt{3}$	65.6	50	54.81	15	53	385	173	425	250	465	350	580	750	M16	2
16	BAM6.6/ $\sqrt{3}$ -300-1(W)	6.6/ $\sqrt{3}$	78.7	50	65.77	16	61	385	173	425	250	465	450	670	840	M16	2
17	BAM6.6/ $\sqrt{3}$ -334-1(W)	6.6/ $\sqrt{3}$	87.7	50	73.22	17	66	385	173	425	250	465	520	730	900	M16	2
18	BAM6.6/ $\sqrt{3}$ -500-1(W)	6.6/ $\sqrt{3}$	131.2	50	109.61	24	92	440	200	480	300	520	520	790	960	M16	2
19	BAM10.5/ $\sqrt{3}$ -50-1W	10.5/ $\sqrt{3}$	8.3	50	4.33	6	20	385	150	425	250	465	90	200	470	M12	1
20	BAM10.5/ $\sqrt{3}$ -100-1W	10.5/ $\sqrt{3}$	16.5	50	8.66	8	29	385	150	425	250	465	230	320	590	M12	1
21	BAM10.5/ $\sqrt{3}$ -150-1W	10.5/ $\sqrt{3}$	24.8	50	12.99	10	37	385	150	425	250	465	280	430	700	M12	2
22	BAM10.5/ $\sqrt{3}$ -167-1W	10.5/ $\sqrt{3}$	27.6	50	14.47	11	40	385	173	425	250	465	280	410	680	M12	2
23	BAM10.5/ $\sqrt{3}$ -200-1W	10.5/ $\sqrt{3}$	33.0	50	17.32	12	46	385	173	425	250	465	280	480	750	M12	2
24	BAM10.5/ $\sqrt{3}$ -250-1W	10.5/ $\sqrt{3}$	41.3	50	21.65	15	54	385	173	425	250	465	350	580	850	M16	2
25	BAM10.5/ $\sqrt{3}$ -300-1W	10.5/ $\sqrt{3}$	49.5	50	25.98	16	62	385	173	425	250	465	450	670	940	M16	2
26	BAM10.5/ $\sqrt{3}$ -334-1W	10.5/ $\sqrt{3}$	55.1	50	28.93	17	67	385	173	425	250	465	520	730	1000	M16	2
27	BAM10.5/ $\sqrt{3}$ -500-1W	10.5/ $\sqrt{3}$	82.5	50	43.31	24	93	440	200	480	300	520	520	790	1060	M16	2
28	BAM11/ $\sqrt{3}$ -50-1W	11/ $\sqrt{3}$	7.9	50	3.95	6	20	385	150	425	250	465	90	200	470	M12	1
29	BAM11/ $\sqrt{3}$ -100-1W	11/ $\sqrt{3}$	15.7	50	7.89	8	29	385	150	425	250	465	230	320	590	M12	1
30	BAM11/ $\sqrt{3}$ -150-1W	11/ $\sqrt{3}$	23.6	50	11.84	10	37	385	150	425	250	465	280	430	700	M12	2
31	BAM11/ $\sqrt{3}$ -167-1W	11/ $\sqrt{3}$	26.3	50	13.18	11	40	385	173	425	250	465	280	410	680	M12	2
32	BAM11/ $\sqrt{3}$ -200-1W	11/ $\sqrt{3}$	31.5	50	15.78	12	46	385	173	425	250	465	280	480	750	M12	2
33	BAM11/ $\sqrt{3}$ -250-1W	11/ $\sqrt{3}$	39.4	50	19.73	15	54	385	173	425	250	465	350	580	850	M16	2
34	BAM11/ $\sqrt{3}$ -300-1W	11/ $\sqrt{3}$	47.2	50	23.68	16	62	385	173	425	250	465	450	670	940	M16	2
35	BAM11/ $\sqrt{3}$ -334-1W	11/ $\sqrt{3}$	52.6	50	26.36	17	67	385	173	425	250	465	520	730	1000	M16	2
36	BAM11/ $\sqrt{3}$ -500-1W	11/ $\sqrt{3}$	78.7	50	39.46	24	92	440	200	480	300	520	520	790	1060	M16	2
37	BAM11-50-1W	11	4.6	50	1.32	6	19	385	150	425	250	465	90	200	470	M12	1
38	BAM11-100-1W	11	9.10	50	2.63	8	28	385	150	425	250	465	230	320	590	M12	1
39	BAM11-150-1W	11	13.7	50	3.95	10	37	385	150	425	250	465	280	430	700	M12	2
40	BAM11-167-1W	11	15.2	50	4.39	10	39	385	173	425	250	465	280	410	680	M12	2
41	BAM11-200-1W	11	18.2	50	5.26	12	45	385	173	425	250	465	280	480	750	M12	2
42	BAM11-250-1W	11	22.8	50	6.58	14	54	385	173	425	250	465	350	580	850	M12	2
43	BAM11-300-1W	11	27.3	50	7.89	16	61	385	173	425	250	465	450	670	940	M12	2
44	BAM11-334-1W	11	30.4	50	8.79	17	66	385	173	425	250	465	520	730	1000	M12	2
45	BAM11-500-1W	11	45.5	50	13.15	23	92	440	200	480	300	520	520	790	1060	M16	2
46	BAM19-334-1W	19	17.6	50	2.95	29	95	680	175	720	450	760	400	530	850	M16	2
47	BAM20-334-1W	20	16.7	50	2.66	29	95	680	175	720	450	760	400	530	850	M16	2
48	BAM21-334-1W	21	15.9	50	2.41	29	95	680	175	720	450	760	400	530	850	M16	2

High Voltage Capacitor

3 phase capacitor data table

No.	Type	Rated voltage (kV)	Rated current (A)	Rated frequency (Hz)	Rated capacitance (μF)	Oil weight (kg)	Weight (kg)	Dimension (mm)							Connect ine head	Drawing	
								A	B	D	F	L	h1	h			H
1	BAM6.3-50-3 (W)	6.3	4.6	50	4.01	7	22	390	116	430	275	470	150	270	490	M12	4
2	BAM6.3-100-3 (W)	6.3	9.2	50	8.02	11	32	390	126	430	275	470	230	400	620	M12	4
3	BAM6.3-150-3 (W)	6.3	13.8	50	12.03	13	41	600	113	640	250	680	280	440	610	M12	5
4	BAM6.3-200-3 (W)	6.3	18.3	50	16.04	15	50	600	135	640	250	680	280	440	610	M12	6
5	BAM6.3-250-3 (W)	6.3	22.9	50	20.05	19	66	600	173	640	250	680	280	440	610	M12	6
6	BAM6.3-300-3 (W)	6.3	27.5	50	24.06	22	74	600	200	640	250	680	280	440	610	M12	6
7	BAM6.3-350-3 (W)	6.3	32.1	50	28.07	24	82	600	200	640	250	680	330	490	660	M16	6
8	BAM6.3-400-3 (W)	6.3	36.7	50	32.08	24	87	640	200	680	260	720	330	490	660	M16	6
9	BAM6.6-30-3 (W)	6.6	2.6	50	2.19	8	19	390	116	430	275	470	100	220	440	M12	4
10	BAM6.6-50-3 (W)	6.6	4.4	50	3.65	8	22	390	116	430	275	470	150	270	490	M12	4
11	BAM6.6-100-3 (W)	6.6	8.8	50	7.31	11	32	390	126	430	275	470	230	400	620	M12	4
12	BAM6.6-150-3 (W)	6.6	13.1	50	10.96	12	44	600	113	640	250	680	280	440	610	M12	5
13	BAM6.6-200-3 (W)	6.6	17.5	50	14.61	15	50	600	135	640	250	680	280	440	610	M12	6
14	BAM6.6-250-3 (W)	6.6	21.9	50	18.27	20	65	600	173	640	250	680	280	440	610	M12	6
15	BAM6.6-300-3 (W)	6.6	26.3	50	21.92	22	74	600	200	640	250	680	280	440	610	M12	6
16	BAM6.6-350-3 (W)	6.6	30.6	50	25.58	24	82	600	200	640	250	680	330	490	660	M12	6
17	BAM6.6-400-3 (W)	6.6	35.0	50	29.23	25	87	640	200	680	260	720	330	490	660	M16	6
18	BAM10.5-30-3W	10.5	1.7	50	0.866	7	21	390	116	430	275	470	100	220	540	M12	4
19	BAM10.5-40-3W	10.5	2.2	50	1.16	7	22	390	116	430	275	470	100	240	560	M12	4
20	BAM10.5-50-3W	10.5	2.8	50	1.44	8	24	390	116	430	275	470	150	270	590	M12	4
21	BAM10.5-60-3W	10.5	3.3	50	1.73	8	26	390	116	430	275	470	170	310	630	M12	4
22	BAM10.5-80-3W	10.5	4.4	50	2.31	9	31	390	116	430	275	470	230	380	700	M12	4
23	BAM10.5-100-3W	10.5	5.5	50	2.89	10	34	390	126	430	275	470	230	400	720	M12	4
24	BAM10.5-150-3W	10.5	8.3	50	4.33	12	46	600	113	640	250	680	280	440	710	M12	5
25	BAM10.5-200-3W	10.5	11	50	5.77	15	53	600	135	640	250	680	280	440	710	M12	6
26	BAM10.5-250-3W	10.5	13.8	50	7.22	18	65	600	173	640	250	680	280	440	710	M12	6
27	BAM10.5-300-3W	10.5	16.5	50	8.66	20	77	600	200	640	250	680	280	440	710	M12	6
28	BAM10.5-400-3W	10.5	22.0	50	11.55	23	91	640	200	680	260	720	330	490	760	M12	6
29	BAM11-30-3W	11	1.6	50	0.79	7	21	390	116	430	275	470	100	220	540	M12	4
30	BAM11-40-3W	11	2.1	50	1.05	7	22	390	116	430	275	470	100	240	560	M12	4
31	BAM11-50-3W	11	2.6	50	1.32	8	24	390	116	430	275	470	150	270	590	M12	4
32	BAM11-60-3W	11	3.2	50	1.58	8	26	390	116	430	275	470	170	310	630	M12	4
33	BAM11-80-3W	11	4.2	50	2.1	10	31	390	116	430	275	470	230	380	700	M12	4
34	BAM11-100-3W	11	5.3	50	2.63	10	34	390	126	430	275	470	230	400	720	M12	4
35	BAM11-150-3W	11	7.9	50	3.95	12	46	600	113	640	250	680	280	440	710	M12	5
36	BAM11-200-3W	11	10.5	50	5.26	15	53	600	135	640	250	680	280	440	710	M12	6
37	BAM11-250-3W	11	13.1	50	6.58	19	65	600	173	640	250	680	280	440	710	M12	6
38	BAM11-300-3W	11	15.8	50	7.89	21	77	600	200	640	250	680	280	440	710	M12	6
39	BAM12-100-3W	12	4.8	50	2.21	10	34	390	126	430	275	470	230	400	720	M12	4
40	BAM12-200-3W	12	9.6	50	4.42	14	53	600	135	640	250	680	280	440	710	M12	6
41	BAM12-300-3W	12	14.4	50	6.63	21	76	600	200	640	250	680	280	440	710	M12	6
42	BAM12-400-3W	12	19.3	50	8.84	24	90	640	200	680	260	720	330	490	760	M12	6

High Voltage Capacitor

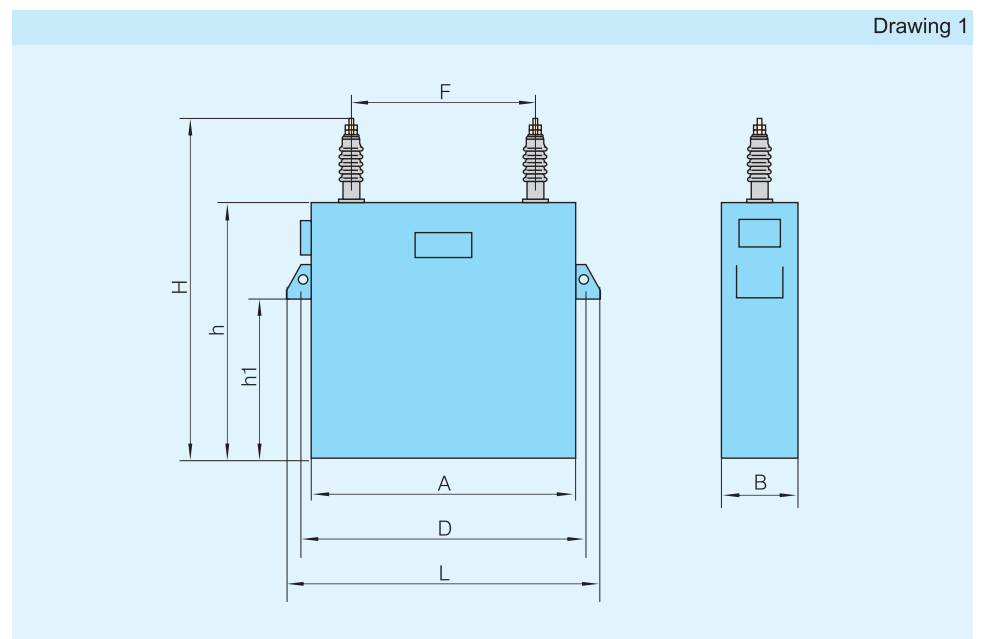
Shunt Capacitor for Load Switch

No.	Type	Rated voltage (kV)	Rated current (A)	Rated frequency (Hz)	Rated capacitance (μ F)	Oil weight (kg)	Weight (kg)	Dimension (mm)									Connect line head	Drawing
								A	B	D	F	L	h1	h	H			
1	BAM10.5/ $\sqrt{3}$ -100-1WZ	10.5/ $\sqrt{3}$	16.5	50	8.66	8	29	385	150	425	250	465	230	320	590	M12	2	
2	BAM10.5/ $\sqrt{3}$ -120-1WZ	10.5/ $\sqrt{3}$	19.8	50	10.39	9	32	385	150	425	250	465	230	370	640	M12	2	
3	BAM10.5/ $\sqrt{3}$ -134-1WZ	10.5/ $\sqrt{3}$	22.1	50	11.61	9	35	385	150	425	250	465	230	400	670	M12	2	
4	BAM10.5/ $\sqrt{3}$ -150-1WZ	10.5/ $\sqrt{3}$	24.8	50	12.99	10	37	385	150	425	250	465	280	430	700	M12	2	
5	BAM10.5/ $\sqrt{3}$ -167-1WZ	10.5/ $\sqrt{3}$	27.6	50	14.47	11	40	385	173	425	250	465	280	410	680	M12	2	
6	BAM10.5/ $\sqrt{3}$ -200-1WZ	10.5/ $\sqrt{3}$	33.0	50	17.32	12	46	385	173	425	250	465	280	480	750	M12	2	
7	BAM10.5-40-3WZ	10.5	2.2	50	1.16	7	22	390	116	430	275	470	100	240	560	M12	7	
8	BAM10.5-60-3WZ	10.5	3.3	50	1.73	8	26	390	116	430	275	470	170	310	630	M12	7	
9	BAM10.5-80-3WZ	10.5	4.4	50	2.31	9	31	390	116	430	275	470	230	380	700	M12	7	
10	BAM10.5-100-3WZ	10.5	5.5	50	2.89	10	34	390	126	430	275	470	230	400	720	M12	7	
11	BAM10.5-120-3WZ	10.5	6.6	50	3.46	11	38	390	126	430	275	470	280	460	780	M12	7	
12	BAM10.5-150-3WZ	10.5	8.3	50	4.33	12	46	600	113	640	250	680	280	440	710	M12	6	
13	BAM10.5-160-3WZ	10.5	8.8	50	4.62	13	49	600	123	640	250	680	280	440	710	M12	6	
14	BAM10.5-180-3WZ	10.5	9.9	50	5.20	13	50	600	123	640	250	680	280	440	710	M12	6	
15	BAM10.5-200-3WZ	10.5	11	50	5.77	15	53	600	135	640	250	680	280	440	710	M12	6	
16	BAM10.5-220-3WZ	10.5	12.1	50	6.35	15	57	640	135	680	260	720	280	440	710	M12	6	
17	BAM10.5-240-3WZ	10.5	13.2	50	6.93	16	60	640	145	680	260	720	280	440	710	M12	6	
18	BAM10.5-260-3WZ	10.5	14.3	50	7.51	21	69	640	173	680	260	720	280	440	710	M12	6	
19	BAM10.5-280-3WZ	10.5	15.4	50	8.08	20	69	640	173	680	260	720	280	440	710	M12	6	

Remark:

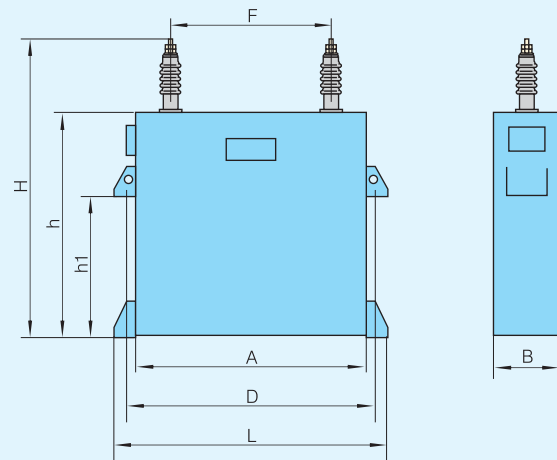
1. BFM type is same with BAM product data in this table.
2. Discharge resistor is usually fixed in 3 phase capacitor and single phase capacitor isn't fixed resistor if there isn't the demand.
3. The single capacitor Upward 150KV may be fixed fuse if there is other demand.

6. Outline and fixing dimension drawing

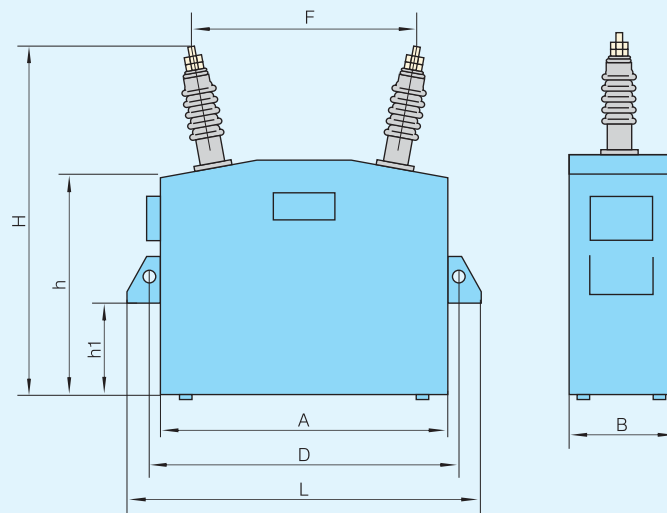


High Voltage Capacitor

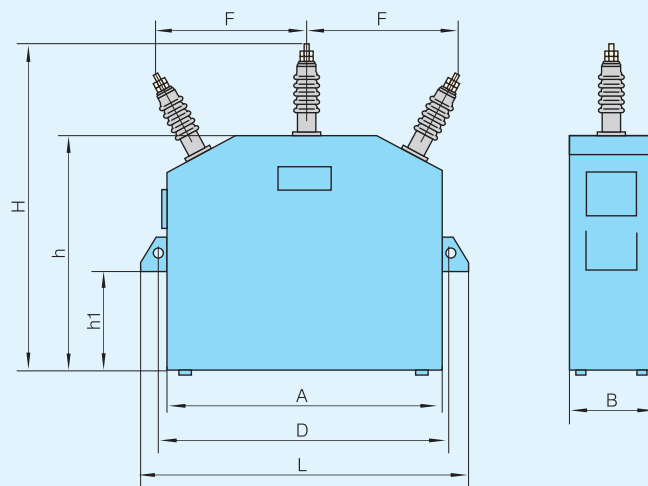
Drawing 2



Drawing 3

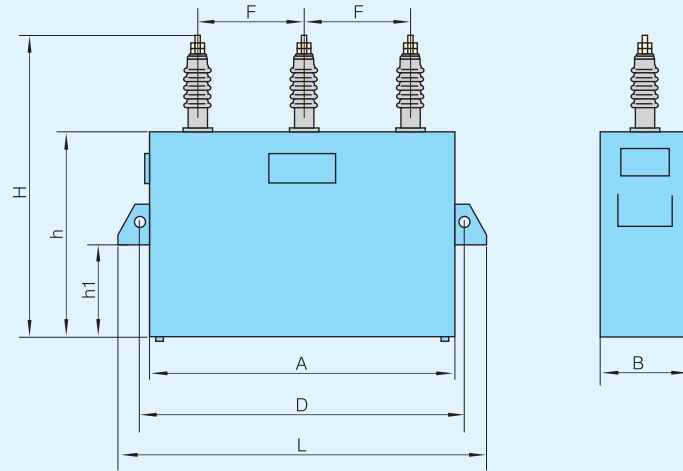


Drawing 4

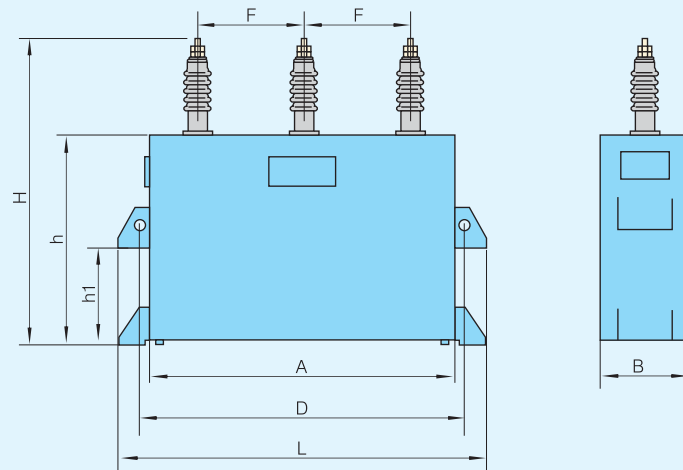


High Voltage Capacitor

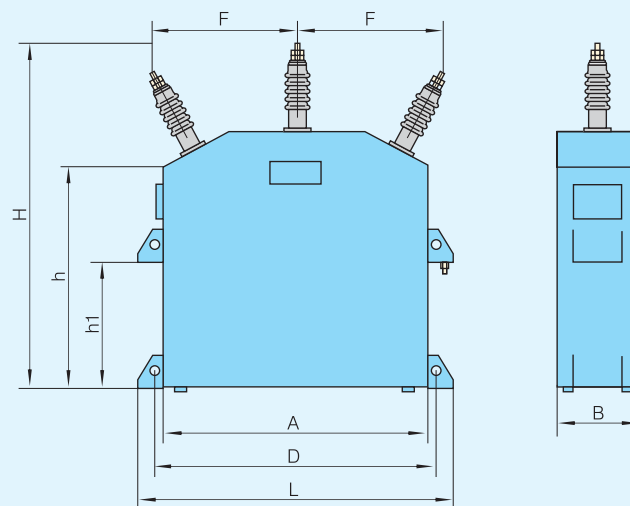
Drawing 5



Drawing 6



Drawing 7



Note

International Business:

Attributed to our reliable quality and perfect after-sales service, CHINT T&D has been relied on and entrusted with by many of our clients around the world. We will continue to supply best products and try hard to win more compliments through our best service.

For inquiries, further interests for products cooperation, partnership, international alliance, investment discussion with us, please contact the following representatives.

Area	Representative	Tel	E-mail
Asia-Pacific	Selina Peng	(+86) 21 6777 7777 ext.80917	pengxuan@chint.com
Latin America	Bill Han	(+86) 21 6777 7777 ext.80911	hanzl@chint.com
North America	Xufeng Jiang	(+86) 21 6777 7777 ext.80990	jxfeng@chint.com
Europe	York Zhi	(+86) 21 6777 7777 ext.80925	zhiy@chint.com
Africa & Middle East	Logan Liu	(+86) 21 6777 7777 ext.89006	lwgen@chint.com
Russia-Speaking Countries	Andrey Tao	(+86) 21 6777 7777 ext.80965	taozc0331@chint.com

Chint Electric Co., Ltd.

No.3255 Sixian Road, Songjiang District, 201614,
Shanghai, China

Tel: (+86)-21-6777 7777 ext. 89955

Fax: (+86)-21-6777 7722

E-mail: chintengineering@chint.com

[Http://en.chintelectric.com](http://en.chintelectric.com)

© CHINT. NO. 2014-007EN0125



The contents and data in this catalogue are for reference only. The real order requirements and technical agreements shall prevail. The catalogue is subject to change without further notice. The latest edition is recommended. CHINT reserves the right of interpretation.