



## 1. Capacitor

### > Application

The capacitors are designed for power factor correction and harmonics filtration in power network. They are all-film dielectric and impregnated with an environmentally friendly, Non-PCB biodegradable insulating oil.

In addition each capacitor is provided with an internal discharge resistor.

All SAMWHA capacitors comply with most national and international capacitor standards.

Capacitor benefits to

- Improve Power Factor
- Reduce Line Losses
- Decrease Voltage Drop

Through that it helps greater **Energy Efficiency**

### > Product Scope

- **Power Range**      Single Phase 25kvar to 1000kvar  
                              Three Phase 50kvar to 500kvar
- **Voltage Range**    Single Phase 1000V to 22000V  
                              Three Phase 1000V to 11000V
- **Frequency**            50Hz and 60Hz
- **Applicable Standards**    IEC, ANSI/IEEE, NEMA



### > Technical Data

Capacitor Loss [Under Stabilized Condition]	0.2W/kvar or Less with Internal Fuse	
	0.15W/kvar or Less without Internal Fuse	
Ambient Temperature	-40°C/A[+40°C],B[+45°C],C[+50°C],D[+55°C]	
Max overvoltage	$U_{max}$	$U_N + 10\%$ [up to 8 hours daily]
		$U_N + 15\%$ [up to 30 minutes daily]
		$U_N + 20\%$ [up to 5 minutes]
		$U_N + 30\%$ [up to 1 minute]
Max overcurrent	$I_s$	$1.3 * I_N$
Painting Color	Munsell No. 5Y7/1	
Reference Standard	IEC 60871	

### > Bushings Characteristics

BIL[kV]	Creepage Distance [mm]	Strike Distance [mm]	Total Height [mm]	60Hz Withstand		Weight [kg]
				Dry Test [kV]	Wet Test [kV]	
60	190.5	109.2	188.1	60	45	0.87
75	190.5	109.2	188.1	60	45	0.87
95	317.5	162.6	235.6	70	55	1.23
150	438.1	193.0	266.8	80	60	1.75
175	635	223.5	287.9	90	70	2.14
200	720	302.4	388.9	100	80	2.79

\* The standard terminal size is M12, but M16 could be applied according to rated voltage.

\* Same Bushing is used on 60 and 75kV BIL of capacitor units.

\* Bird Cap and Parallel-groove connector with all bushings is supplied, and it is applicable to Copper or Aluminum conductor[14~100mm<sup>2</sup> 2line].

\* Applied bushing could be changed by special requirements



# 1-1 High Voltage Power Capacitor

## ① Single Phase Capacitor

### ➤ Insulation Level 36kV[50/150]

#### • Capacitor without Internal Fuse

**System Voltage[V]**

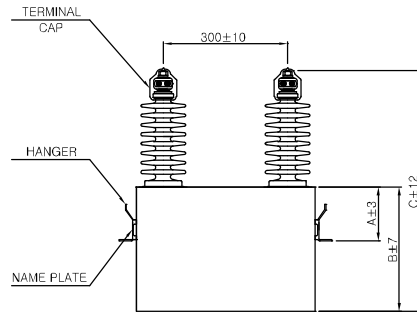
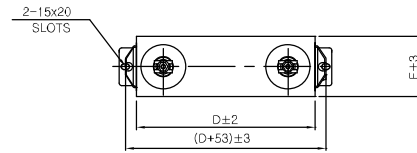
33000                      30000

**Capacitor Rated Voltage[V]**

19050/9530                      17320/8660

**Rated Power[kvar]**

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
100	130	260	530	430	145	27
200	130	430	700	430	145	42
300	180	580	850	430	145	55
400	220	630	900	430	175	69
500	220	760	1030	430	175	82
600	220	880	1150	430	175	94
700	220	1030	1300	430	175	109
800	220	1180	1450	430	175	123
900	220	1200	1470	430	175	126
1000	220	1280	1550	430	175	134



#### • Capacitor with Internal Fuse

**System Voltage[V]**

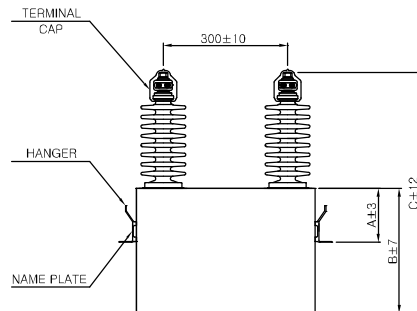
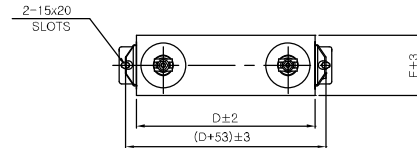
33000                      30000

**Capacitor Rated Voltage[V]**

9530                      8660

**Rated Power[kvar]**

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
300	220	630	900	430	145	59
400	220	830	1100	430	145	76
500	220	830	1100	430	175	89
600	220	980	1250	430	175	104
700	220	1130	1400	430	175	120
800	220	1160	1430	430	175	123
900	220	1300	1570	430	175	138
1000	220	1430	1700	430	175	151



- \* Single-Bushing Capacitor also could be provided.
- \* Applied bushing could be changed by special requirements[See Table under Bushing Characteristics]
- \* Approximate dimensions and weights are given above,Please contact to factory for exact dimensions of a particular unit before order.



## 1-1 High Voltage Power Capacitor

### ① Single Phase Capacitor

#### > Insulation Level 24kV[50/125]

#### • Capacitor without Internal Fuse

System Voltage[V]

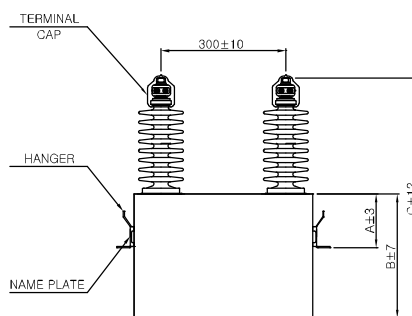
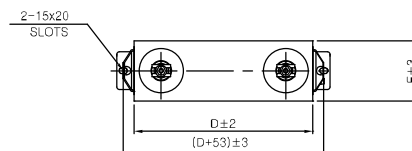
24000

Capacitor Rated Voltage[V]

13860/6930

Rated Power[kvar]

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
100	130	260	530	430	145	28
200	130	430	700	430	145	42
300	180	600	870	430	145	57
400	220	660	930	430	175	72
500	220	800	1070	430	175	87
600	220	960	1230	430	175	102
700	220	1080	1350	430	175	115
800	220	1130	1400	430	175	120
900	220	1160	1430	430	175	123
1000	220	1260	1530	430	175	134



#### • Capacitor with Internal Fuse

System Voltage[V]

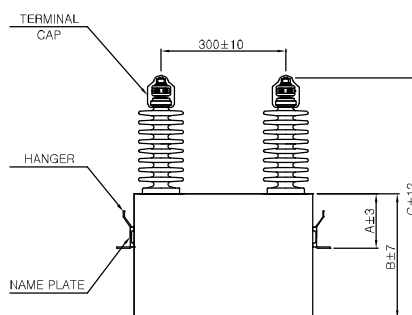
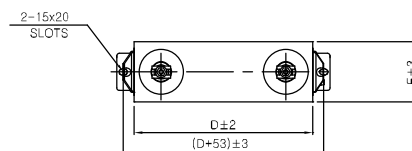
24000

Capacitor Rated Voltage[V]

13860/6930

Rated Power[kvar]

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
200	180	600	870	430	115	47
300	220	660	930	430	145	62
400	220	860	1130	430	145	79
500	220	860	1130	430	175	93
600	220	1030	1300	430	175	111
700	220	1180	1450	430	175	126
800	220	1200	1470	430	175	130
900	220	1260	1530	430	175	135
1000	220	1400	1670	430	175	149



\* Single-Bushing Capacitor also could be provided.

\* Applied bushing could be changed by special requirements[See Table under Bushing Characteristics]

\* Approximate dimensions and weights are given above, Please contact to factory for exact dimensions of a particular unit before order.



# 1-1 High Voltage Power Capacitor

## ① Single Phase Capacitor

### ➤ Insulation Level 17.5kV[38/95]

#### • Capacitor without Internal Fuse

System Voltage[V]

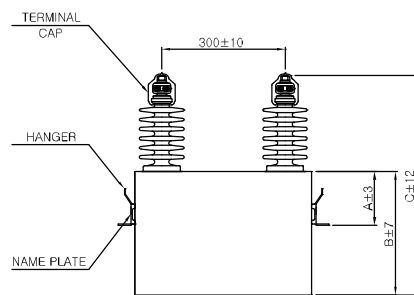
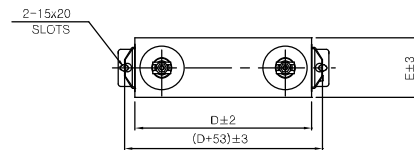
15000

Capacitor Rated Voltage[V]

8660

Rated Power[kvar]

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
100	130	260	530	430	145	28
200	130	430	700	430	145	42
300	180	600	870	430	145	57
400	220	660	930	430	175	72
500	220	800	1070	430	175	87
600	220	960	1230	430	175	102
700	220	1080	1350	430	175	115
800	220	1130	1400	430	175	120
900	220	1160	1430	430	175	123
1000	220	1260	1530	430	175	134



#### • Capacitor with Internal Fuse

System Voltage[V]

15000

13800

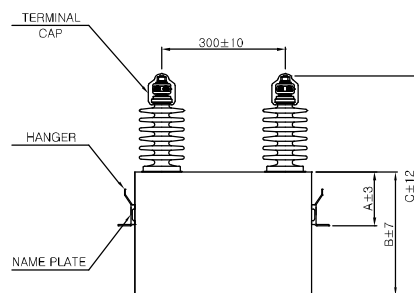
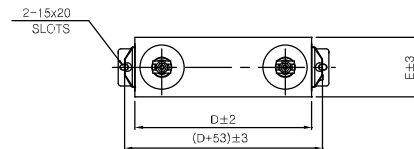
Capacitor Rated Voltage[V]

8660

7970

Rated Power[kvar]

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
300	220	660	890	430	145	61
400	220	830	1060	430	145	75
500	220	830	1060	430	175	88
600	220	1000	1230	430	175	106
700	220	1160	1390	430	175	122
800	220	1200	1430	430	175	127
900	220	1300	1530	430	175	140
1000	220	1460	1690	430	175	153



\* Single-Bushing Capacitor also could be provided.

\* Applied bushing could be changed by special requirements[See Table under Bushing Characteristics]

\* Approximate dimensions and weights are given above, Please contact to factory for exact dimensions of a particular unit before order.





# 1-1 High Voltage Power Capacitor

## ① Single Phase Capacitor

### > Insulation Level 7.2kV[20/60]

#### • Capacitor without Internal Fuse

##### System Voltage[V]

7200      6600      6300      6000

##### Capacitor Rated Voltage[V]

4160      3800      3640      3460

##### Rated Power[kvar]

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
100	130	260	445	430	145	27
200	130	430	615	430	145	41
300	180	560	745	430	145	52
400	220	630	815	430	175	68
500	220	760	945	430	175	81

#### • Capacitor with Internal Fuse

##### System Voltage[V]

7200      6600      6300      6000

##### Capacitor Rated Voltage[V]

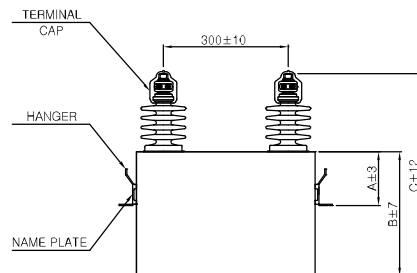
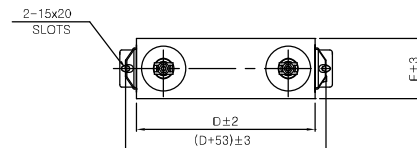
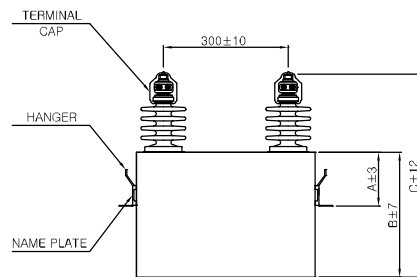
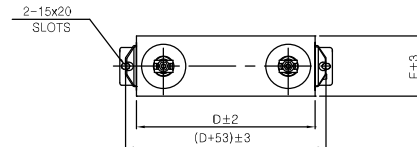
4160      3800      3640      3460

##### Rated Power[kvar]

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
200	180	560	745	430	115	43
300	220	630	815	430	145	57
400	220	800	985	430	145	72
500	220	800	985	430	175	85

\* Applied bushing could be changed by special requirements[See Table under Bushing Characteristics]

\* Approximate dimensions and weights are given above. Please contact to factory for exact dimensions of a particular unit before order.





## 1-1 High Voltage Power Capacitor

### ② Three Phase Capacitor

#### > Insulation Level 12kV[28/75]

##### • Capacitor

**System Voltage[V]**

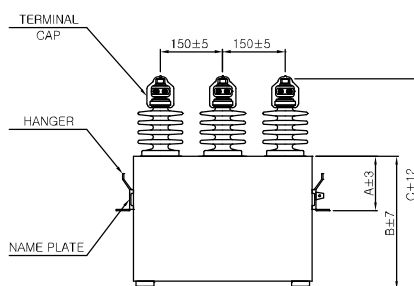
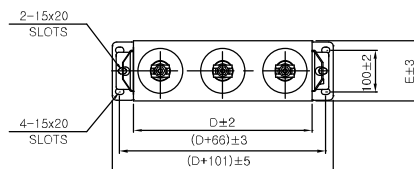
11000

**Capacitor Rated Voltage[V]**

11000

**Rated Power[kvar]**

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
100	130	280	465	430	145	30
200	130	450	635	430	145	44
300	180	620	805	430	145	59
400	220	680	865	430	175	74
500	220	810	995	430	175	87



#### > Insulation Level 7.2kV[20/60]

##### • Capacitor

**System Voltage[V]**

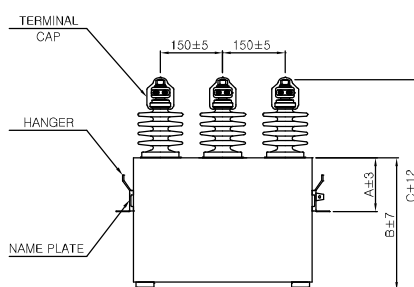
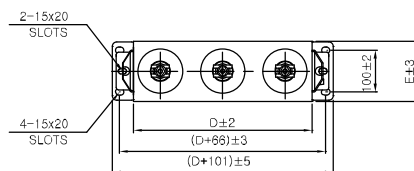
7200      6600      6300      6000

**Capacitor Rated Voltage[V]**

7200      6600      6300      6000

**Rated Power[kvar]**

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
100	130	280	465	430	145	29
200	130	420	605	430	145	41
300	180	600	785	430	145	56
400	220	620	805	430	175	67
500	220	790	975	430	175	83



\* Applied bushing could be changed by special requirements [See Table under Bushing Characteristics].

\* Approximate dimensions and weights are given above, Please contact to factory for exact dimensions of a particular unit before order.

\* Brackets are optional



# 1-1 High Voltage Power Capacitor

• **Capacitor with NCS(Neutral Current Sensor)**

**System Voltage[V]**

7200      6600      6300      6000

**Capacitor Rated Voltage[V]**

7200      6600      6300      6000

**Rated Power[kvar]**

Capacity [kvar]	Dimension[mm]					Weight [kg]
	A	B	C	D	E	
150	220	380	565	430	145	37
200	220	480	665	430	145	43
300	220	620	805	430	145	56
400	220	700	885	430	175	69
500	220	830	1015	430	175	82

\* Applied bushing could be changed by special requirements [See Table under Bushing Characteristics].

\* Approximate dimensions and weights are given above. Please contact to factory for exact dimensions of a particular unit before order.

\* Brackets are optional

