突波吸收電容器
Surge Absorbing Capacitors

用途 / Application:

突波吸收用電容器:
用於連接線路與大地間，緩和、降低傳導至線路上的突波及斷路器等開關時產生的暫態突波，以保護變壓器、轉動機械、敏感性電子設備等。與被保護的設備並聯使用，不需隔離開關保護。

接地用電容器:
用於連接變壓器的二次側線路與大地之間，補償線路與大地之間的靜電電容，即使在負載側發生接地事故，仍供應充分電流，使接地繼電器或漏電斷路器動作。

Surge absorbing capacitors:
It is developed to connect between line and ground, and to absorb and reduce surge voltages which may be generated from breaker turns on or off and lighting surge which may be delivered by connecting transmission line and ground. To protect transformers, rotating machines, and sensitive electronic equipment, etc. They are intended to be applied directly in parallel with the protected apparatus, with no separate protection.

Grounding capacitors:
It is developed to connect between the secondary side power lines of transformer and ground to compensate the capacitance between line and ground. It can supply required current to active ground relay or leakage breaker even if a fault occurred on load side.

ISO 9001:2008 認證工廠 Ver. 2016.09

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規範及特性 / Specification and Performance

型　　式 Type	高壓電力電容器 Power Capacitoors	突波吸收電容器 Surge Absorbing
依據標準 Standards	IEC 60871; CNS 1372, 3739; JIS C 4902	JEM 1362, IEC 60871, CNS 1372
產品認證 Quality approval	正字標記認證 (台正字第2846號) CNS mark (No. 2846)	
工廠認證 Factory approval	ISO 9001(2015年版) 認證，TAF ISO 17025(2017年版)測試實驗室認證 ISO 9001:2015 certificated，TAF ISO 17025:2017 Testing Laboratory Certificated	
絕緣油 Insulation oil	非PCB絕緣油 Non-PCB fluid	
頻率 Frequency	60Hz (50Hz available on request.)	50/60Hz共用
容量誤差 Tolerance	-5% / +10%(三相相間容量誤差在3%以內) -5%～+10%(The capacity error between three phases is within 3%)	-5%～+10% (三相相間容量最大值與最小值比<1.08) -5%～+10% (In three-phase units, the ratio of maximum to minimum value of capacitance measured between any two terminals <1.08)
周圍溫度 Ambient temperature	-25˚C / A [+40˚C] ,mean 30˚C / day, mean 20˚C / year -25˚C / B [+45˚C] ,mean 35˚C / day, mean 25˚C / year -25˚C / C [+50˚C] ,mean 40˚C / day, mean 30˚C / year -25˚C / D [+55˚C] ,mean 45˚C / day, mean 35˚C / year	-20˚C～+50˚C (24小時平均溫度小於45˚C) [其他溫度種類可訂製] -20˚C～+50˚C (24hours average below 45˚C) [Other ambient temperature categories on request]
最大容許過電壓 Maximum permissible voltage	額定電壓110% (24小時平均值下) 110% of rated voltage (average voltage in every 24 hrs) 額定電壓115% (24小時中30分鐘以內) 115% of rated voltage (30 min in every 24 hrs) 額定電壓120% (5分鐘最多200次) 120% of rated voltage (5 min / max. 200times) 額定電壓130% (1分鐘最多200次) 130% of rated voltage (1 min / max. 200times)	額定電壓110% (24小時平均值下) 110% of rated voltage (average voltage in every 24 hrs) 額定電壓115% (24小時中30分鐘以內) 115% of rated voltage (30 min in every 24 hrs) 額定電壓120% (5分鐘以內) 120% of rated voltage (within 5 min) 額定電壓130% (1分鐘以內) 130% of rated voltage (within 1 min) 額定電壓182% (2秒鐘以內) 182% of rated voltage (within 2 sec) (大於115%額定電壓，在電容器壽命中不得超過200次) (The having value higher than 115% of rated voltage do not occur more than 200 times in the capacitor's life.)
最大容許過電流 Maximum permissible current	額定電流135% 135% of rated current	
損失率 Dissipation factor	小於0.05% 或 0.5W / kVAR Less than 0.05% or 0.5W / kVAR	小於0.5% Less than 0.5%
溫升 Temperature rise	周溫低於35˚C時，溫升25˚C以下 below 25˚C at ambient temperature 35˚C.	
密閉性 Sealing	80˚C恆溫槽中4小時加熱，電容器外表無漏油痕跡 No oil leaking after heating at 80˚C for 4hrs.	
絕緣電阻(T-C) Insulation resistance	1000MΩ以上 above 1000MΩ	
內部等效電感值 Residual Inductance (T-C)	Exemptions	2uH以下 Less than 2uH
放電特性 Discharge character	內裝放電電阻， 電容器切離電源5分鐘後其殘留電壓降至50V以下 With built-in discharge resistor, residual voltage drops to lower than 50V after capacitor is disconnected from power for 5 minutes.	無設計 Exemptions
串聯電阻 Series resistor	無設計 Exemptions	串聯電阻規格依製造者 Series resistor, the specification is according manufacturer.
端子間耐電壓 Test voltage between terminals	額定電壓×2VAC，施加10秒 Rated voltage x 2 Vac, 10 second.	3.3、3.45 kVAC @ 16 kVAC(1 minute) 4.16 kVAC @ 18 kVAC(1 minute) 6.0、6.6、6.9 kVAC @ 22 kVAC(1 minute) 11、11.95 kVAC @ 28 kVAC(1 minute) 13.8 kVAC @ 33.5 kVAC(1 minute) 15 kVAC @ 35 kVAC(1 minute) 22 kVAC @ 50 kVAC(1 minute) 24 kVAC @ 54 kVAC(1 minute)
端子與外殼間耐電壓 Test voltage between terminals and case	依額定電壓不同，試驗值依標準規定值實施 Depend on rated voltage, test value is according to the requirements of standards.	Exemptions
衝擊電壓(BIL) Impulse voltage (BIL)	依額定電壓不同，試驗值依標準規定值實施 Depend on rated voltage, test value is according to the requirements of standards.	Exemptions

【其他規格規範均可承製】Other specification available on request

結構 / Construction:

電介質 / Dielectric	聚丙烯塑膠膜 / Polypropylene film
絕緣油 / Insulation fluid	非 PCB 絕緣油 / Non-PCB fluid
套管及顏色 Bushing & Color	硬質瓷濕製法製成，顏色: 淺天藍色, Munsell 5B 8/4 Wet process porcelain, Color: Baby blue, Munsell 5B 8/4
外殼材質 Case material	鋼板 (可指定採用不銹鋼) Steel (Stainless steel available upon request)
塗裝 / 顏色 Paint / Color	防銹、耐酸鹼及耐候樹脂塗裝，顏色: 沙色, Munsell 7.5Y 7/2 Epoxy / Urethane system with corrosion, acid and alkali, and weather resistant; Color: Sand, Munsell 7.5Y 7/2
接地方式 Earth connection	一邊掛耳附接地端子 (可依要求掛耳底不塗裝接地用) One side bracket has ground terminal (On request for unpainted area under the brackets for earthing)

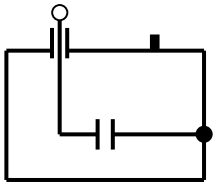
型式說明 / Type Formation:

Y H E □ – □ **K** □ □

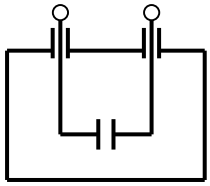
1 2 3 4 5 6 7 8

1	裕昌牌	**Y**uhchang brand
2	高壓電容器	**H**igh voltage power capacitors
3	介質為聚丙烯膜	Dielectric is polypropylene film
4	頻率: **A**為60Hz, **B**為50Hz	Frequency: **A** is 60Hz, **B** is 50Hz
5	額定電壓/100	Rated voltage /100
6	額定容量以**K**var為單位	Unit of capacity in **K**var
7	額定容量Kvar值	Value of Kvar capacity
8	相數: **S**為單相, **T**為三相	Phase: **S** is single phase, **T** is three phases

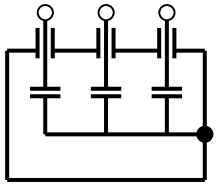
內部結線 / Internal Connection:



單絕緣套管
1-Phase & 1 bushing



兩絕緣套管
1-Phase & 2 bushings



三絕緣套管
3-Phases & 3 bushings

一般選佣電容值(線對地) / Typical Capacitance Values (Line to ground):

額定系統電壓 (kV) Rated system Voltage	電容值 (uF) Capacitance
2.4 - 6.9	0.5
13.8	0.25
24.0	0.125
34.5	0.0833[a]

a. 以 1 台 13.8kV 0.25uF 及 1 台 24kV 0.125uF 串聯使用，其中有 1 台要對地絕緣)
One 13.8kV 0.25uF in series with one 24kV 0.125uF (one capacitor unit must be insulated from ground).

外型圖 / Outline Drawing

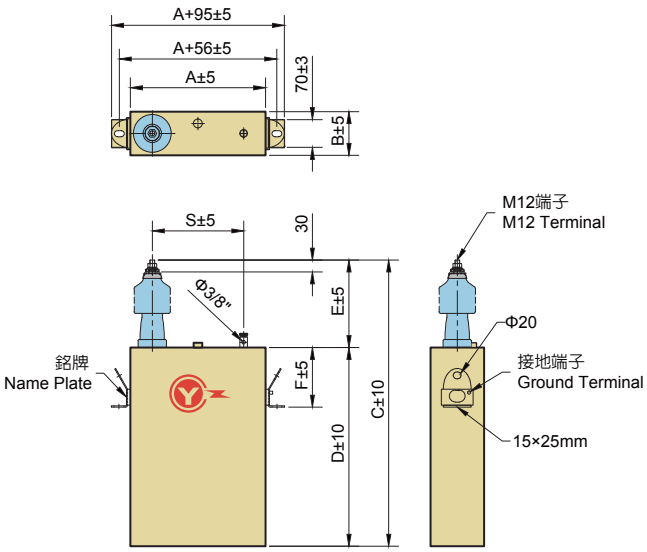


Fig.1

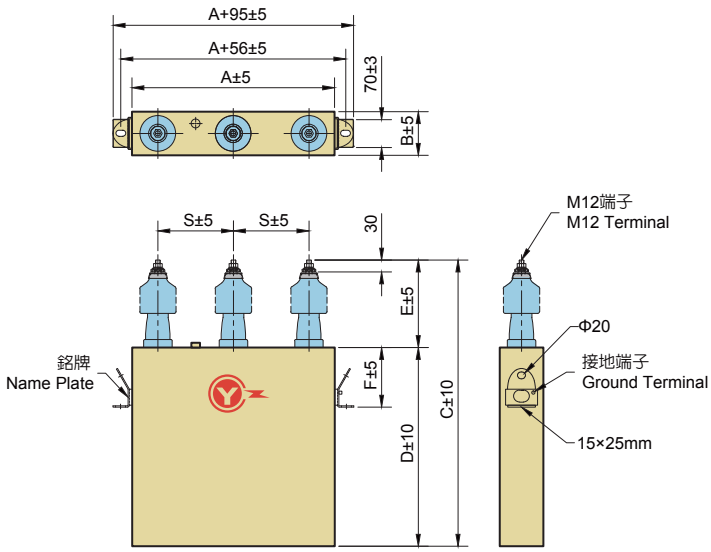


Fig.2

尺寸規格表 / Specification Size

突波吸收 / Surge Absorbing

1Ø / 3Ø, 50 / 60Hz

線路電壓 Line Voltage kV	容量 Capacitance (μF) x Phase	尺寸 Size (mm)							概略重量 Weight kg	參考圖 Diagram
		A	B	C	D	E	F	S		
3.45	0.5X3	510	110	400	240	160	120	190	21.4	Fig.2
3.45	0.4X3	510	110	360	200	160	120	190	18.7	Fig.2
3.45	0.3X3	510	110	360	200	160	120	190	18.7	Fig.2
3.45	0.1X3	510	110	360	200	160	120	190	18.7	Fig.2
4.16	0.5X3	510	110	460	300	160	150	190	25.8	Fig.2
4.16	0.3X3	510	110	360	200	160	120	190	18.0	Fig.2
4.16	0.1X3	510	110	360	200	160	120	190	18.0	Fig.2
6.6	0.5X3	510	110	620	400	220	150	190	37.0	Fig.2
6.9	0.5X3	510	110	620	400	220	150	190	34.6	Fig.2
6.9	0.3X3	510	110	500	280	220	150	190	25.7	Fig.2
6.9	0.2X3	510	110	420	200	220	120	190	20.2	Fig.2
6.9	0.5X1	340	110	450	230	220	120	230	13.5	Fig.1
11	0.25X3	510	110	620	400	220	150	190	37.0	Fig.2
11.95	0.3X3	510	110	660	440	220	150	190	39.2	Fig.2
11.95	0.2X3	510	110	500	360	220	150	190	26.0	Fig.2
11.95	0.1X3	510	110	500	360	220	150	190	25.7	Fig.2
11.95	0.5X1	340	135	620	400	220	150	230	28.0	Fig.1
11.95	0.3X1	340	110	540	320	220	150	230	17.3	Fig.1
13.8	0.3X3	510	110	947	680	267	150	190	59.9	Fig.2
13.8	0.25X3	510	110	867	600	267	150	190	53.0	Fig.2
13.8	0.1X3	510	110	547	280	267	150	190	28.0	Fig.2
13.8	0.25X1	340	135	547	280	267	150	230	20.0	Fig.1
15	0.1X3	510	110	567	300	267	150	190	29.9	Fig.2
15	0.5X1	340	140	747	480	267	150	230	33.6	Fig.1
15	0.3X1	340	135	607	340	267	150	230	19.1	Fig.1
15	0.125X1	340	110	487	220	267	120	230	12.3	Fig.1
22	0.1X3	510	110	867	600	267	150	190	54.0	Fig.2
22	0.1X1	340	110	587	320	267	150	230	17.9	Fig.1
24	0.125X3	630	140	727	460	267	150	190	60.3	Fig.2
24	0.1X3	510	110	867	600	267	150	190	53.6	Fig.2
24	0.125X1	340	110	687	420	267	150	230	23.6	Fig.1
24	0.1X1	340	110	587	320	267	150	230	17.9	Fig.1
24	0.5X3	830	280	867	600	267	150	300	184	Fig.2

【其他規格規範均可承製】Other specification available on request