



华蒙科技

FILM CAPACITOR
薄膜电容器

产品宣传册 BROCHURE

宁波市华蒙科技有限公司
Ningbo Huameng Technology Co., LTD

COMPANY PROFILE

I 企业简介

公司是一家专注于薄膜电容器的研发、生产、销售及服务于一体的制造企业，年生产电容器1000万多只，公司拥有国内外先进水平的薄膜电容器生产制造设备和高精度的试验检测设备。

AC薄膜电容事业部：主要产品包括CBB系列电容器，产品主要应用于洗衣机、风扇、空调、风机、电动水泵、工业电机、麻将机、洗碗机等电器，有助于马达电机的启动与运行。

电力电子及新能源电容事业部：要产品包括DC-Link系列电容器、三相交流功率补偿电容器，交流滤波电容器、光伏电容器、灯具电容等，有助于功率因素补偿、LCL滤波，改善效率和传输的工作状况，减少损耗，提高运行效率，降低能源消耗。

我公司秉承“质量为先、信誉为重、管理为本、服务为诚”是企业的经营宗旨，争创一流的产品和服务，是公司努力追求的目标；致力于家用电器、新能源等领域是公司未来发展的方向。

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The company is a focus on the research and development, production, sales and service of film capacitors in one of the manufacturing enterprises, the annual production of more than 10 million capacitors, the company has domestic and foreign advanced level of film capacitors manufacturing equipment and high-precision test and testing equipment.

AC Film Capacitor Division: The main products include CBB series capacitors, which are mainly used in washing machines, fans, air conditioners, fans, electric water pumps, industrial motors, mahjong machines, dishwashers and other electrical appliances, which help to start and run motor motors.

Power Electronics and New energy capacitors: The products include DC-Link series capacitors, three-phase AC power compensation capacitors, AC filter capacitors, photovoltaic capacitors, lamps capacitors, etc., which help to power factor compensation, LCL filtering, improve efficiency and transmission working conditions, reduce losses, improve operating efficiency, and reduce energy consumption.

Our company adhering to the "quality first, reputation, management, service for honesty" is the business purpose of the enterprise, striving for first-class products and services, is the company's goal; Committed to household appliances, new energy and other fields is the future development direction of the company.

ENERGY CONSERVATION

ENVIRONMENT PROTECTION



公司资质 COMPANY QUALIFICATION



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► 交流薄膜电容器

Ac film CBB series capacitors

一、CBB61系列 CBB61 series

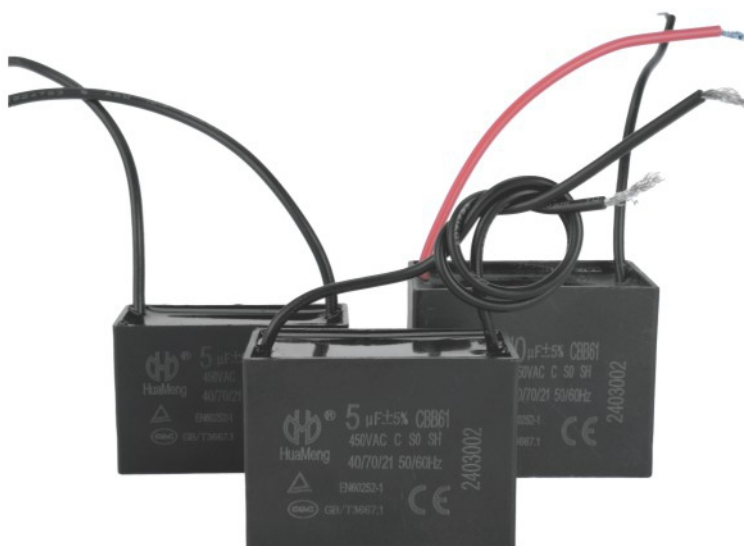
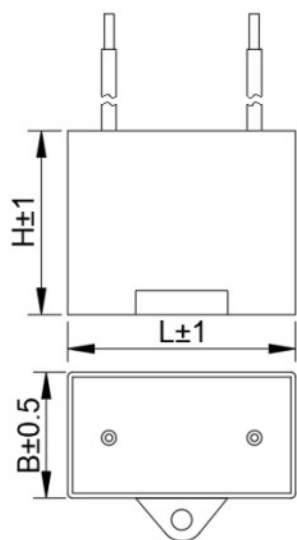
- 执行标准 Reference standard: EN60252-1、GB/T 3667.1、UL810、LVD指令。
- 特点 feature:
 - 金属化聚丙烯膜无感式工艺 Metallized polypropylene film non-inductive process;
 - 具有损耗小、优良的自愈性能 It has small loss、good self-healing performance;
 - 耐冲击电流、过载能力强 Strong impulse current resistance and overload capability;
 - 阻燃塑料或铝壳、内部填充环氧树脂
Flame-retardant plastic or aluminum shell, interior filled with epoxy resin;
 - 引出端电线、快捷端子等 Leading end wire, shortcut terminal, etc.
- 应用: 主要适用于风扇、麻将机、电动水泵等, 有助于电动机的启动与运行。
Application: Mainly suitable for fan, mahjong machine, electric water pump, etc., help to start and run the motor.

技术参数 Technical requirement

Rated voltage 额定电压	200VAC ~ 500VAC
Capacitance tolerance 容量偏差	±5%、-5 ~ 10%、±10%
Class of operation or life duration 运行等级或寿命	C(3000h)、B(10000h)
Rated frequency 额定频率	50/60Hz
Class of safety protection 安全防护等级(S.P)	S0、S3
Climatic category 气候类别	X/Y/21 X= 40、25 Y=85、75、70、65、60
Voltage test between terminals 终端电压 T-T	2Un 2s
Voltage test between terminals and case 引出端与外壳间电压试验 T-C	2400VAC 2s
Maximum Permissible voltage 最高允许电压	Be allowable to operate under 1.1Un
Maximum permissible current 最大允许电流	Be allowable to operate under 1.3In

01 CBB61电容器-电线类

CBB61 capacitors - Wire class



外形尺寸 Outline size

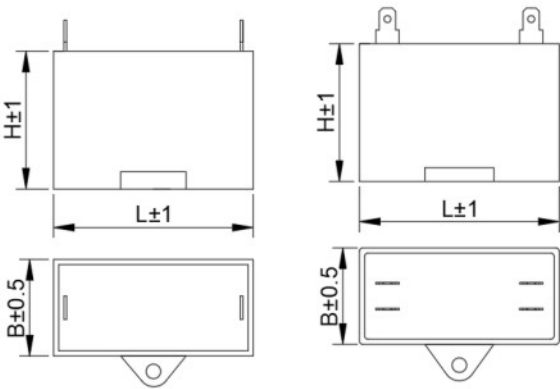
容量 C _N	电压 U _N 尺寸 Dim	250~300VAC			400~500VAC		
		L	B	H	L	B	H
1		31	10	19	33	11	21
2		33	10	21	37	16	29
2.5		37	10	20	37	16	29
3		37	10.5	21	37	18	32
3.3		37	11	21	37	18	32
4		37	12	23	47	18	31
5		37	14	25	47	20	34
10		47	20	34	58	28	40
12		47	20	34	58	28	40
15		47	22	34	58	30	44
18		47	24	38	67	33	46
20		47	26	38	67	33	46
25		58	28	40	68	36	49

注：表中所列为部分产品，其余规格电容可根据客户要求生产。

Note: other types besides the above listed can be produced according to customer's needs.

02 CBB61电容器-快捷端子类

CBB61 capacitors - quick-end subclass



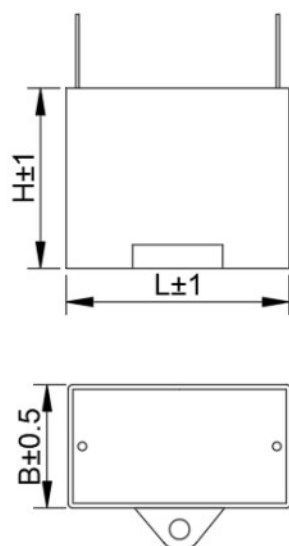
外形尺寸 Outline size

容量 C _N	电压 U _N 尺寸 Dim	250~300VAC			400~500VAC		
		L	B	H	L	B	H
1		31	10	19	33	11	21
2		33	10	21	37	16	29
2.5		37	10	20	37	16	29
3		37	10.5	21	37	18	32
3.3		37	11	21	37	18	32
4		37	12	23	47	18	31
5		37	14	25	47	20	34
10		47	20	34	58	28	40
12		47	20	34	58	28	40
15		47	22	34	58	30	44
18		47	24	38	67	33	46
20		47	26	38	67	33	46
25		58	28	40	68	36	49

注：表中所列为部分产品，其余规格电容可根据客户要求生产。
Note: other types besides the above listed can be produced according to customer's needs.

03 CBB61电容器-针式类

CBB61 capacitors - Needle class



外形尺寸 Outline size

容量 C _N	电压 U _N 尺寸 Dim	250~300VAC			400~500VAC		
		L	B	H	L	B	H
1		31	10	19	33	11	21
2		33	10	21	37	16	29
2.5		37	10	20	37	16	29
3		37	10.5	21	37	18	32
3.3		37	11	21	37	18	32
4		37	12	23	47	18	31
5		37	14	25	47	20	34
10		47	20	34	58	28	40
12		47	20	34	58	28	40
15		47	22	34	58	30	44
18		47	24	38	67	33	46
20		47	26	38	67	33	46
25		58	28	40	68	36	49

注：表中所列为部分产品，其余规格电容可根据客户要求生产。

Note: other types besides the above listed can be produced according to customer's needs.

► 交流薄膜电容器

Ac film CBB series capacitors

二、CBB60系列 CBB60 series

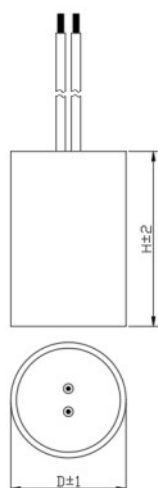
- 执行标准 Reference standard: EN60252-1、GB/T 3667.1、UL810、LVD指令。
- 特点 feature:
 - 金属化聚丙烯膜无感式工艺 Metallized polypropylene film non-inductive process;
 - 具有损耗小、优良的自愈性能 It has small loss、good self-healing performance;
 - 耐冲击电流、过载能力强 Strong impulse current resistance and overload capability;
 - 阻燃塑料或铝壳、内部填充环氧树脂 Flame-retardant plastic or aluminum shell, interior filled with epoxy resin;
 - 引出端电线、快捷端子等 Leading end wire, shortcut terminal, etc.
- 应用: 主要适用于水泵、电动工具、洗衣机、风机等单相交流电动机使用领域。
Application: Mainly suitable for pumps, power tools, washing machines, fans and other single-phase AC motor field.

技术参数 Technical requirement

Rated voltage 额定电压	200VAC ~ 500VAC
Capacitance tolerance 容量偏差	±5%、-5 ~ 10%、±10%
Class of operation or life duration 运行等级或寿命	C(3000h)、B(10000h)
Rated frequency 额定频率	50/60Hz
Class of safety protection 安全防护等级(S.P)	S0、S3
Climatic category 气候类别	X/Y/21 X= 40、25 Y=85、75、70、65、60
Voltage test between terminals 终端电压 T-T	2Un 2s
Voltage test between terminals and case 引出端与外壳间电压试验 T-C	2400VAC 2s
Maximum Permissible voltage 最高允许电压	Be allowable to operate under 1.1Un
Maximum permissible current 最大允许电流	Be allowable to operate under 1.3In

01 CBB60-单容值线类

CBB60-Single capacitance value wire class



外形尺寸 Outline size

容量 C _N	电压 U _N		200~250VAC		250~300VAC		370~450VAC		400~500VAC	
	尺寸 Dim		D	H	D	H	D	H	D	H
4			25	41	25	41	25	48	27	48
5			25	41	25	41	25	48	27	55
6			25	41	25	48	27	48	30	52
8			25	48	27	48	30	52	30	52
10			25	52	30	52	34	52	35	55
12			26	55	30	55	34	52	35	55
15			30	55	35	55	34	62	38	65
20			30	65	35	65	38	71	42	70
25			32	65	35	70	38	71	45	70
30			34	70	38	70	42	72	45	80
35			34	70	38	70	45	72	45	90
40			38	62	40	70	45	90	50	80
45			38	62	42	70	45	90	50	90
50			40	70	45	70	50	80	50	95
60			45	70	45	90	50	95	55	90

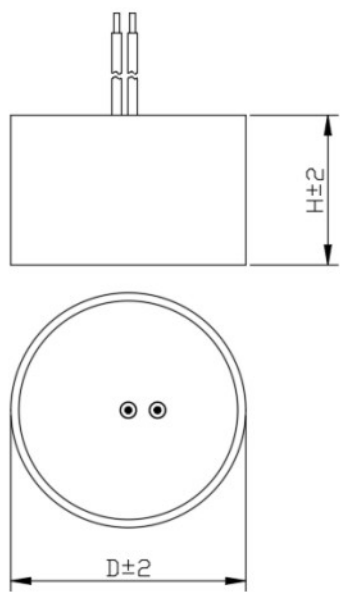
注：表中所列为部分产品，其余规格电容可根据客户要求生产。

Note: other types besides the above listed can be produced according to customer's needs.

02

CBB60油浸电容-高温线类

CBB60 Oil immersed capacitor - High temperature wire class



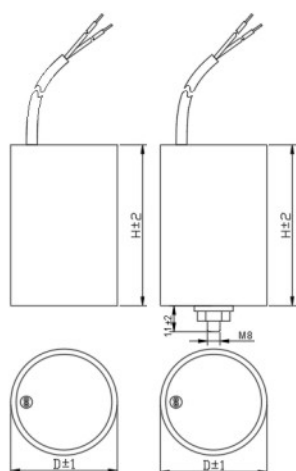
外形尺寸 Outline size

容量 C _N	电压 U _N 尺寸 Dim	250~300VAC		400~500VAC	
		D	H	D	H
8		-	-	35	53
10		-	-	35	53
15		-	-	35	65
25		40	60	42	70
30		42	60	60	55
35		45	60	55	60
40		50	60	67	49
45		50	60	73	49
50		50	65	73	49
60		55	65	65	65
80		60	70	75	63.5

注：表中所列为部分产品，其余规格电容可根据客户要求生产。
Note:other types besides the above listed can be produced according to customer's needs.

03 CBB60-护套线类

CBB60- sheathed wire class



外形尺寸 Outline size

容量 C _N	电压 U _N		200~250VAC		250~350VAC		370~450VAC		400~500VAC	
	尺寸 Dim		D	H	D	H	D	H	D	H
5	-	-	-	-	-	-	30	60	30	60
6	-	-	-	-	-	-	30	60	30	60
8	-	-	-	-	-	-	30	60	35	60
10	-	-	-	-	30	60	30	70	35	70
12	-	-	-	-	30	60	30	70	40	80
15	30	60	35	60	40	70	40	80	50	95
20	30	60	35	70	40	80	50	90	50	95
25	35	60	40	70	50	90	50	90	50	95
30	35	60	40	70	50	90	50	90	50	95
35	35	70	40	80	50	90	50	90	50	95
40	35	70	40	80	50	90	50	90	50	95
45	40	70	45	80	50	90	50	90	50	95
50	40	70	45	80	50	90	50	90	50	100
60	40	80	45	90	50	95	55	100	55	100
65	40	80	45	90	50	105	55	120	55	120

注：表中所列为部分产品，其余规格电容可根据客户要求生产。

Note: other types besides the above listed can be produced according to customer's needs.

04 CBB60-马达启动电容

CBB60- Motor starting capacitor



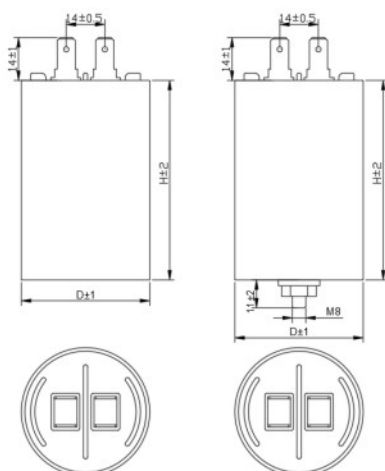
外形尺寸 Outline size

容量 C _N	电压 U _N 尺寸 Dim	250~300VAC		400~500VAC	
		D	H	D	H
75		40	80	40	80
100		40	80	40	80
100		50	95	50	95
120		40	85	42	85
120		50	95	50	95
150		42	85	42	85
150		50	95	50	95
200		42	85	50	95
200		50	95	50	95
250		50	105	50	105
300		50	105	50	105
350		55	105	55	105
400		55	105	55	105
450		60	120	60	120

注：表中所列为部分产品，其余规格电容可根据客户要求生产。
Note:other types besides the above listed can be produced according to customer's needs.

05 CBB60-快捷端子类

CBB60- Shortcut subclass



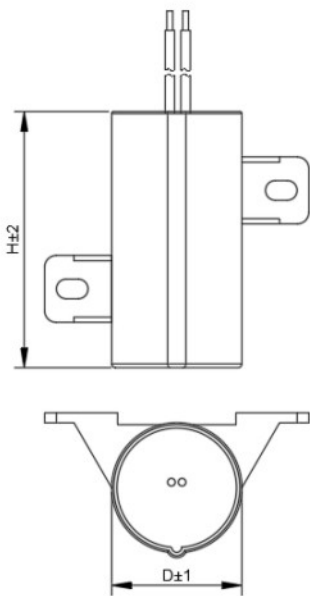
外形尺寸 Outline size

容量 C _N	电压 U _N		200~250VAC		250~300VAC		370~450VAC		400~500VAC	
	尺寸 Dim		D	H	D	H	D	H	D	H
5	-	-	-	-	-	-	30	60	30	60
6	-	-	-	-	-	-	30	60	30	60
8	-	-	-	-	-	-	30	60	35	60
10	-	-	30	60	30	60	30	70	35	70
12	-	-	30	60	30	60	30	70	40	80
15	30	60	35	60	35	60	40	70	40	80
20	30	60	35	70	35	70	40	80	50	95
25	35	60	40	70	40	70	50	90	50	95
30	35	60	40	70	40	70	50	90	50	95
35	35	70	40	80	40	80	50	90	50	95
40	35	70	40	80	40	80	50	90	50	95
45	40	70	45	80	45	80	50	90	50	95
50	40	70	45	80	45	80	50	90	50	100
60	40	80	45	90	45	90	50	95	55	100
65	40	80	45	90	45	90	50	105	55	120

注：表中所列为部分产品，其余规格电容可根据客户要求生产。

Note: other types besides the above listed can be produced according to customer's needs.

06 CBB60洗衣机单容值类
CBB60 washing machine single capacity value class



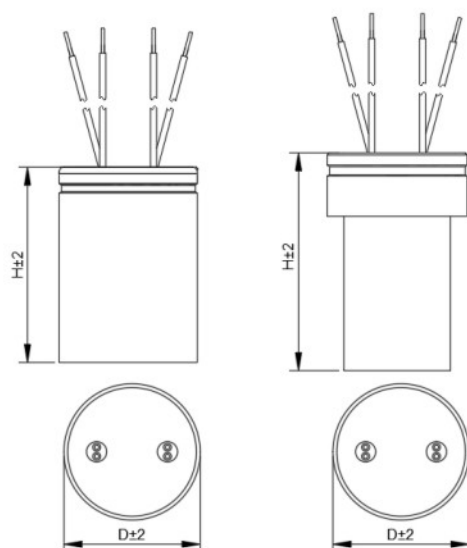
外形尺寸 Outline size

电压 U _N 容量 C _N	250~300VAC		400~500VAC	
	D	H	D	H
8	-	-	35	70
10	-	-	35	70
12	-	-	35	70
15	-	-	40	70
20	35	70	40	80
25	35	70	42	80
30	35	80	42	90
35	40	70	45	90
40	40	80	50	90
45	45	70	50	90
50	45	75	50	95

注：表中所列为部分产品，其余规格电容可根据客户要求生产。
Note: other types besides the above listed can be produced according to customer's needs.

07 CBB60洗衣机双容值类

CBB60 washing machine double capacity value class



外形尺寸 Outline size

电压 U_N 容量 C_N 尺寸 Dim	200~250VAC		250~300VAC		370~450VAC		400~500VAC	
	D	H	D	H	D	H	D	H
2+1	-	-	-	-	30	358	30	58
6+3	-	-	-	-	36	85	38	85
10+4	-	-	-	-	38	85	40	90
10+5	-	-	-	-	38	85	40	90
12+5	-	-	-	-	40	90	42	90
13+5	-	-	-	-	42	90	45	90
15+5	-	-	-	-	45	90	50	90
30+14	50	75	50	90	-	-	-	-
35+14	50	85	50	90	-	-	-	-
40+14	50	85	50	100	-	-	-	-

注：表中所列为部分产品，其余规格电容可根据客户要求生产。

Note: other types besides the above listed can be produced according to customer's needs.

► 交流薄膜电容器

Ac film CBB series capacitors

三、CBB65系列 CBB65 series

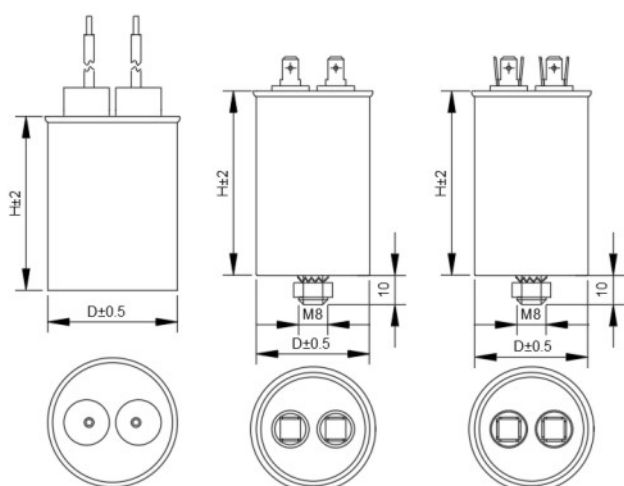
- 执行标准 Reference standard: EN60252-1、GB/T 3667.1、UL810、LVD指令。
- 特点 feature:
 - 金属化聚丙烯膜无感式工艺 Metallized polypropylene film non-inductive process;
 - 具有损耗小、优良的自愈性能 It has small loss、good self-healing performance;
 - 耐冲击电流、过载能力强 Strong impulse current resistance and overload capability;
 - 阻燃塑料或铝壳、内部填充环氧树脂或绝缘油
Flame-retardant plastic or aluminum shell, interior filled with epoxy resin or insulating oil;
 - 引出端电线、快捷端子等 Leading end wire, shortcut terminal, etc.
- 应用：空调、瓦斯炉、洗衣机、洗碗机等单相交流电动机使用领域家电领域，有助于电动机的启动与运行。
Application: air conditioning, gas stove, washing machine, dishwasher and other single-phase AC motor field of home appliances, help to start and run the motor.

技术参数 Technical requirement

Rated voltage 额定电压	250VAC ~ 500VAC
Capacitance tolerance 容量偏差	±5%、-5 ~ 10%、±10%
Class of operation or life duration 运行等级或寿命	C(3000h)、B(10000h)、B(30000h)
Rated frequency 额定频率	50/60Hz
Class of safety protection 安全防护等级(S.P)	S0、S1、S2、S3
Climatic category 气候类别	X/Y/21 X= 40、25 Y=85、70
Voltage test between terminals 终端电压 T-T	2Un 2s
Voltage test between terminals and case 引出端与外壳间电压试验 T-C	2400VAC 2s
Maximum Permissible voltage 最高允许电压	Be allowable to operate under 1.1Un
Maximum permissible current 最大允许电流	Be allowable to operate under 1.3In

01 CBB65-单容值类

CBB65- Single tolerance value class



外形尺寸 Outline size

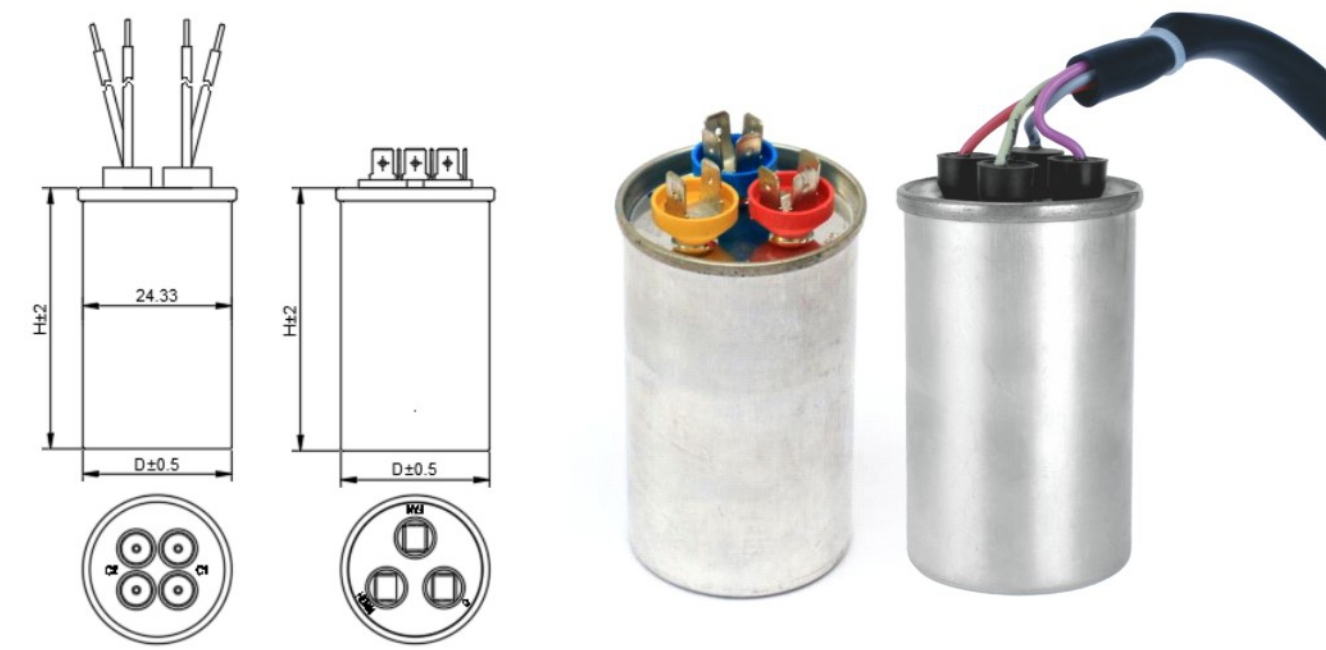
电压 U_N 容量 C_N	200~250VAC		250~300VAC		370~450VAC		400~500VAC	
	D	H	D	H	D	H	D	H
5	30	55	30	55	30	55	30	65
8	30	55	30	55	35	65	35	65
10	35	55	35	55	35	65	40	65
15	35	65	35	65	40	65	40	75
20	35	65	35	75	40	75	45	75
25	35	75	40	75	45	75	45	85
30	35	75	40	75	45	85	50	85
40	40	75	40	85	50	85	50	100
50	45	75	45	85	50	100	55	100
60	45	85	45	100	55	100	55	115
90	50	90	50	100	60	115	65	115

注：表中所列为部分产品，其余规格电容可根据客户要求生产。

Note: other types besides the above listed can be produced according to customer's needs.

02 CBB65-双容值类

CBB65- Double capacity value class



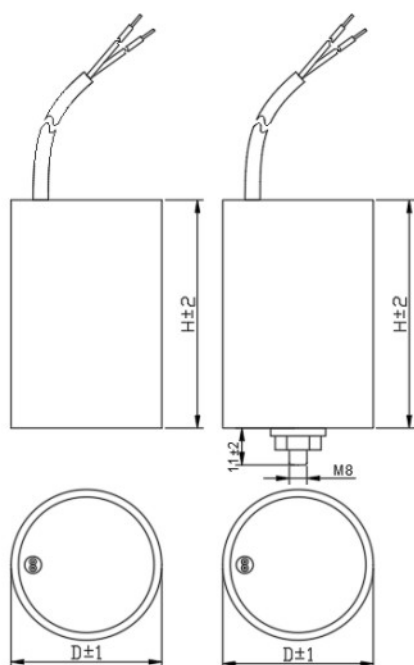
外形尺寸 Outline size

电压 U _N 容量 C _N 尺寸 Dim	250~300VAC		400~500VAC	
	D	H	D	H
10+4	-	-	45	85
10+5	-	-	45	85
12+5	-	-	45	85
13+5	-	-	45	85
14+6	-	-	45	85
30+5	-	-	50	90
35+5	-	-	50	100
40+6	-	-	50	120
30+15	50	85	-	-
35+14	50	100	-	-
40+14	50	100	-	-

注：表中所列为部分产品，其余规格电容可根据客户要求生产。
Note: other types besides the above listed can be produced according to customer's needs.

03 CBB65-干式安全膜电容器

CBB65- Dry safety film capacitor



外形尺寸 Outline size

容量 C_N	电压 U_N 尺寸 Dim	200~250VAC		250~300VAC		370~450VAC		400~500VAC	
		D	H	D	H	D	H	D	H
5		-	-	-	-	30	60	30	60
6		-	-	-	-	30	60	30	60
8		-	-	-	-	30	60	35	60
10		-	-	30	60	30	70	35	70
12		-	-	30	60	30	70	40	80
15		30	60	35	60	40	70	40	80
20		30	60	35	70	40	80	50	95
25		35	60	40	70	50	90	50	95
30		35	60	40	70	50	90	50	95

注：表中所列为部分产品，其余规格电容可根据客户要求生产。

Note: other types besides the above listed can be produced according to customer's needs.

► 电力电子及新能源电容

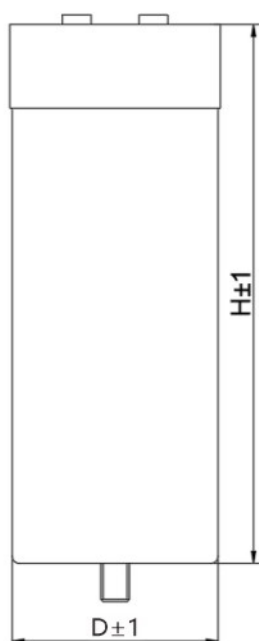
Power electronics and new energy capacitors

一、DC-Link电容器

- 执行标准 Reference standard: IEC61071。
- 特点 feature:
 - 金属化聚丙烯膜无感式工艺 Metallized polypropylene film non-inductive process;
 - 具有损耗小、优良的自愈性能 It has small loss、good self-healing performance;
 - 耐高浪涌电流能力 Ability to withstand high inrush current;
 - 性能稳定可靠 Stable and reliable performance;
 - 金属铝壳设计，内部填充阻燃环氧树脂
Metal aluminum shell design, filled with flame retardant epoxy resin.
- 产品应用：适用于风电、光伏逆变器及工业变频器。
Product Application: Suitable for wind power, photovoltaic inverter and industrial inverter.

技术参数 Technical requirement

额定电压Rated voltage(UN)	600VDC~1100VDC
额定容量Rated capacitance (CN)	180~1000μF
容量偏差Capacitance tolerance	±5% (J) , ±10% (K) ,
极间耐电压 Test voltage between Terminals (UT-T)	2.15Urms 10s
极壳耐电压Test voltage between terminals to case (UT-C)	4 000Vac 10s (50/60Hz)
介质损耗角正切 Dielectric dissipation factor (tan δ d)	≤2×10 ⁻⁴ (100Hz)
气候类别Climatic category	40/70/56
绝缘电阻 Insulation Resistance (IR×CN)	≥10 000s (20°C, 500V, 1min)
可运行温度范围(热点温度)Operating temperature range (θhs)	-40°C~85°C(建议使用Recommended to ensure θhs≤70°C)
贮存温度范围 Storage Temperature range (θs)	-40°C~70°C (建议贮存Recommended to storage θs < 70°C)
预期寿命 Expected lifetime	ΔC/C ≤5% after 100000h @ 0.8Urms, θhs ≤70°C
冷却方式Cooling	自然空气或强制冷却 Naturally air-cooled or force cooled
安装方向 Mounting position	垂直安装Vertical
最大安装扭矩 Max. Torque of Installation	6N·m
是否有放电电阻 Whether has the discharge resistor	-
最高海拔 Max. altitude	2 000m 电流不降额(No derating for current); 2000m to 4000m 电流每500m按3%降额(Decreasing factor 3% per 500m for current)



外形尺寸 Outline size

额定电压	C _N (μF)	D±1 (mm)	H±1 (mm)	I _{max} (A)	R _s (mΩ)
U _{rms} :250VAC U _N :350VAC	30	40	65	9	8.6
	50	50	75	14	5.9
	100	60	90	16	4.7
	200	76	130	27	4.0
U _{rms} :500VAC U _N :700VAC	30	60	90	15	7.1
	50	76	120	24	8.0
	100	76	200	53	1.4
	200	85	220	67	1.1
U _{rms} :600VAC U _N :850VAC	22	76	105	28	2.6
	50	76	170	41	2.1
	60	86	170	45	1.9
	100	76	250	52	2.2
U _{rms} :760VAC U _N :1100VAC	15	76	105	26	2.7
	22	76	145	25	4.4
	68	86	250	49	2.0
	82	96	250	52	1.8
	100	96	250	56	1.6

注：表中所列为部分产品，其余规格电容可根据客户要求生产。

Note: other types besides the above listed can be produced according to customer's needs.

► 电力电子及新能源电容

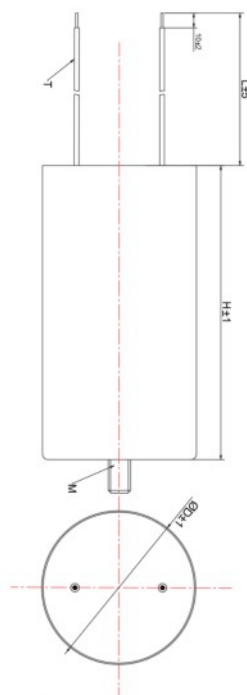
Power electronics and new energy capacitors

二、交流滤波电容器 Ac filter capacitor

- 执行标准 Reference standard: IEC61071。
- 特点 feature:
 - 金属化聚丙烯膜无感式工艺 Metallized polypropylene film non-inductive process;
 - 具有损耗小、优良的自愈性能 It has small loss、good self-healing performance;
 - 能承受较高的谐波电流及峰值电流、电压
Can withstand high harmonic current and peak current, voltage ;
 - 性能稳定可靠 Stable and reliable performance;
 - 金属铝壳设计, 内部填充阻燃环氧树脂
Metal aluminum shell design, filled with flame retardant epoxy resin.
- 产品应用: 适用于电力电子设备、UPS电源中的交流滤波电路。
Application: Suitable for AC filter circuit in power electronic equipment and UPS power supply.

技术参数 Technical requirement

额定均方根电压 Rated rms voltage (Urms)	250VAC~850VAC
额定频率 Rated Frequency (fN)	50/60Hz
额定容量 Rated capacitance (CN)	10~600μF
容量偏差 Capacitance tolerance	±5% (J) , ±10% (K) ,
极间耐电压 Test voltage between Terminals (UT-T)	2.15Urms 10s
极壳耐电压 Test voltage between terminals to case (UT-C)	4 000Vac 10s (50/60Hz)
介质损耗角正切 Dielectric dissipation factor (tan δ d)	≤2×10 ⁻⁴ (100Hz)
气候类别 Climatic category	40/70/56
绝缘电阻 Insulation Resistance (IR×CN)	≥10 000s (20°C, 500V, 1min)
可运行温度范围(热点温度) Operating temperature range (θhs)	-40°C~85°C(建议使用 Recommended to ensure θhs ≤70°C)
贮存温度范围 Storage Temperature range (θs)	-40°C~70°C (建议贮存 Recommended to storage θs < 70°C)
预期寿命 Expected lifetime	ΔC/C ≤5% after 100000h @ 0.8Urms, θhs ≤70°C
冷却方式 Cooling	自然空气或强制冷却 Naturally air-cooled or force cooled
安装方向 Mounting position	垂直安装 Vertical
最大安装扭矩 Max. Torque of Installation	6N·m
是否有放电电阻 Whether has the discharge resistor	-
最高海拔 Max. altitude	2 000m 电流不降额 (No derating for current); 2000m to 4000m 电流每500m按3%降额 (Decreasing factor 3% per 500m for



外形尺寸 Outline size

额定电压	C _N (μF)	D±1 (mm)	H±1 (mm)	I _{max} (A)	R _s (mΩ)
U _{rms} :250VAC U _N :350VAC	30	40	65	9	8.6
	50	50	75	14	5.9
	100	60	90	16	4.7
	200	76	130	27	4.0
U _{rms} :500VAC U _N :700VAC	30	60	90	15	7.1
	50	76	120	24	8.0
	100	76	200	53	1.4
	200	85	220	67	1.1
U _{rms} :600VAC U _N :850VAC	22	76	105	28	2.6
	50	76	170	41	2.1
	60	86	170	45	1.9
	100	76	250	52	2.2
U _{rms} :760VAC U _N :1100VAC	15	76	105	26	2.7
	22	76	145	25	4.4
	68	86	250	49	2.0
	82	96	250	52	1.8
	100	96	250	56	1.6

注：表中所列为部分产品，其余规格电容可根据客户要求生产。

Note: other types besides the above listed can be produced according to customer's needs.

► 电容器参数与哪些因素有关

What are the factors related to capacitor parameters

一、电容量与温度的关系 The relationship between capacitance and temperature

电容量在最高与最低温度之间的一定温度范围内会经历可逆的变化。这在本质上是由绝缘物质、电极的属性决定的，也与电容器的构造、测量参数有关。聚丙烯电容器具有负温度参数，例如，温度升高电容量降低。

The capacitance will undergo a reversible change in a certain temperature range between the highest and lowest temperature. This is essentially determined by the properties of the insulating material, the electrode, and also the construction of the capacitor and the measurement parameters. Polypropylene capacitors have negative temperature parameters, for example, the capacitance decreases as the temperature increases.

二、电容量与湿度的关系 The relation between capacitance and humidity

塑料外层电容器的电容量随着环境湿度的改变将会导致电容量的逆向变化。这个变化取决于电容器的不同型号，层与层之间的绝缘物质和有效空气间隙会在环境湿度中改变，并且会影响测得的电容量。在相对湿度低于30%时，湿度系数非常低，相对湿度高于85%时，湿度系数会有很大的不同。不同介质电容器的电容量与相对湿度的关系，聚丙烯膜电容器稍次20%~85%范围内电容量变化不到0.5%。

The capacitance of the plastic capacitor with the change of environmental humidity will lead to the reverse change of capacitance. This change depends on the capacitor model, the insulating material and effective air gap between layers will change in the ambient humidity, and will affect the measured capacitance. When the relative humidity is below 30%, the humidity coefficient is very low, and when the relative humidity is above 85%, the humidity coefficient will be very different. The capacitance of different dielectric capacitors is related to relative humidity, and the capacitance of polypropylene film capacitors varies less than 0.5% in the range of 20% to 85%.

三、电容量与频率的关系 The relationship between capacitance and frequency

不同介质电容器的电容量同样也随频率变化，聚丙烯膜电容器的电容量的频率特性非常好，当频率达到1KHz时，电容量仍不受频率有太大的影响。

The capacitance of different dielectric capacitors also changes with the frequency, and the frequency characteristics of the capacitance of polypropylene film capacitors are very good, and when the frequency reaches 1KHz, the capacitance is still not affected by the frequency.

四、电容量与时间的关系 The relationship between capacity and time

电容量随时间的不稳定性，在电容量漂移，如果电容器在高温范围度和相对湿度极限附近频繁的大范围的变换温度，电容量漂移可能会超过给定值。

Capacitance instability with time, capacitance drift, if the capacitor in the high temperature range and near the relative humidity limit frequent wide range of temperature changes, capacitance drift may exceed a given value.

五、损耗因数与频率的关系 Loss factor in relation to frequency

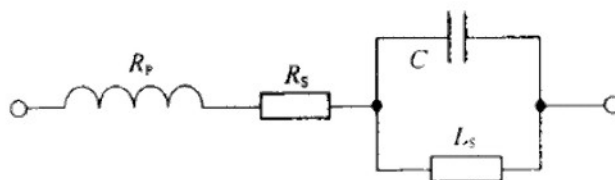
如果不考虑感抗 LS ，对于 $f < f_r$ ($f < f_r$ (其中 f_r 是振荡频率))，由电容器等效电路 (见图) 可知：损耗因数 $\tan\delta$ 由并联电阻部分的损耗因数 $\tan\delta_p$ 等效串联电阻部分的损耗因数 $\tan\delta_s$ 和绝缘介质部分的损耗因数 $\tan\delta_D$ 构成，薄膜电容器的整个损耗因数为式中，为介质自身特性。低频下损耗因数 $\tan\delta$ 仅由绝缘成分 $\tan\delta_D$ 决定，对于小容量的聚丙烯膜电容器，在频率上升至数兆赫以前，损耗因数几乎与频率无关，大约为 10^{-4} 。

然而，对于大容量电容器，随着频率的增加 ($f > 1\text{kHz}$)，等效串联电阻部分的损耗因数 $\tan\delta_s$ (与电容量成比例) 的迅速增加。聚丙烯膜电容器的损耗因数、等效串联电阻部分的损耗因数与频率的关系。等效串联电阻部分是连接电阻 (终端)、导线电阻、金属层和电极 (喷金层) 电阻的总和。

If the induced reactance LS is not considered, for If the induced reactance LS is not considered, for $f < f_r$ (where f_r is the oscillation frequency), it can be seen from the capacitor equivalent circuit (see figure):

The loss factor $\tan\delta$ is composed of the loss factor $\tan\delta_p$ of the parallel resistance part and the loss factor $\tan\delta_s$ of the series resistance part and the loss factor $\tan\delta_D$ of the insulating medium part. The entire loss factor of the film capacitor is in the formula, which is the characteristics of the medium itself. The loss factor $\tan\delta$ at low frequencies is only determined by the insulation component $\tan\delta_D$, and for small-capacity polypropylene film capacitors, the loss factor is almost independent of the frequency, about 10^{-4} .

Before the frequency rises to several megahertz. However, for high-capacity capacitors, the loss factor $\tan\delta_s$ (proportional to capacitance) of the equivalent series resistance portion increases rapidly with increasing frequency ($f > 1\text{kHz}$). The relationship between the loss factor of polypropylene film capacitor and the loss factor of the equivalent series resistance part and the frequency. The equivalent series resistance part is the sum of the connection resistance (terminal), wire resistance, metal layer and electrode (gold spray layer) resistance. r (where F is the oscillation frequency), it can be seen from the capacitor equivalent circuit (see figure): The loss factor $\tan\delta$ is composed of the loss factor $\tan\delta_p$ of the parallel resistance part and the loss factor $\tan\delta_s$ of the series resistance part and the loss factor $\tan\delta_D$ of the insulating medium part. The entire loss factor of the film capacitor is in the formula, which is the characteristics of the medium itself. The loss factor $\tan\delta$ at low frequencies is only determined by the insulation component $\tan\delta_D$, and for small-capacity polypropylene film capacitors, the loss factor is almost independent of the frequency, about 10^{-4} , before the frequency rises to several megahertz. However, for high-capacity capacitors, the loss factor $\tan\delta_s$ (proportional to capacitance) of the equivalent series resistance portion increases rapidly with increasing frequency ($f > 1\text{kHz}$). The relationship between the loss factor of polypropylene film capacitor and the loss factor of the equivalent series resistance part and the frequency. The equivalent series resistance part is the sum of the connection resistance (terminal), wire resistance, metal layer and electrode (gold spray layer) resistance.



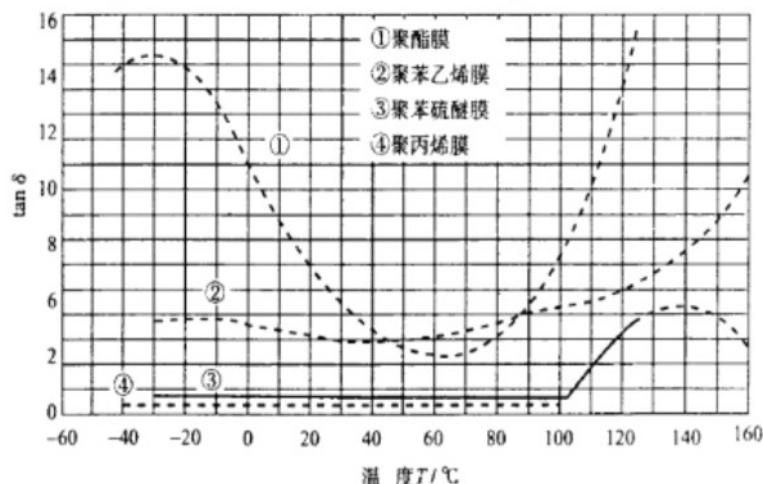
六、损耗因数与温度、湿度和电压的关系 The relationship between loss factor and temperature, humidity and voltage

薄膜电容器的损耗因数与温度的关系如图所示。其中聚丙烯膜电容器、聚苯硫醚膜电容器在 $-40^\circ\text{C} \sim 100^\circ\text{C}$ 范围内，其损耗因数与温度无关， 100°C 以上开始增加，到约 130°C 最高（约 4×10^{-3} ），聚酯膜电容器的损耗因数与温度的关系相对表现最差，其变化范围可以从 2×10^{-3} 到 14×10^{-3} ，从 $-30^\circ\text{C} \sim 60^\circ\text{C}$ 损耗因数随温度上升而下降， 80°C 以上又开始随温度上升， $50^\circ\text{C} \sim 80^\circ\text{C}$ 质检损耗因数为比较小、在约 70°C 时损耗因数最小。

通常，湿度增加使电容器的绝缘电阻（并联电阻）减小，因此，损耗因数在潮湿的情况下可能增加。

The relationship between loss factor and temperature of thin film capacitor is shown in the figure. Among them, polypropylene film capacitors and polyphenylene sulfide film capacitors are in the range of $-40^\circ\text{C} \sim 100^\circ\text{C}$, and their loss factor is independent of temperature, and they begin to increase above 100°C to about 130°C . The highest (about 4×10^{-3}), polyester film capacitor loss factor and temperature relative performance of the worst, its change range can be from 2×10^{-3} to 14×10^{-3} , from $-30^\circ\text{C} \sim 60^\circ\text{C}$ loss factor decreases with the temperature rise, 80°C and above began to rise with the temperature, The loss factor of $50^\circ\text{C} \sim 80^\circ\text{C}$ quality inspection is relatively small, and the loss factor is minimum at about 70°C .

Generally, the increase in humidity reduces the insulation resistance (parallel resistance) of the capacitor, so the loss factor may increase in the case of humidity.





质量为先 信誉为重 管理为本 服务为诚



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