

# CAPACITOR CATALOG 丰明电容

工业·新能源类电容器  
Industrial Application&Renewable Energy Capacitor

为成功的企业配套。为企业的成功配套  
To support a successful enterprise  
To support the success of an enterprise



广东丰明电子科技有限公司  
GUANGDONG FENGMING ELECTRONIC TECH. CO., LTD.

广东省佛山市顺德区北滘镇黄龙村委会龙乐路1号  
NO.1, LONGLE ROAD, BEIJIAO TOWN, SHUNDE, FOSHAN, GUANGDONG, CHINA

☎ 0757-2360 2823  
☎ 0757-26331688  
✉ info@bm-cap.com  
🌐 www.bm-cap.cn/www.bm-cap.com



扫一扫二维码，简便  
获取更多产品资讯。







广东丰明电子科技有限公司，始创于2000年，占地3.3万平方米，拥有10万平米高标准厂房，日产电容器500万只，2019年产值9.1亿，其中工业事业部产值2亿。

丰明电子分设三大研究中心及六大产品事业部，从事多类薄膜电容器及金属化薄膜的应用研究、开发、设计、制造与销售。

As the leading MPP capacitor manufacturer in China, BM has been specialized in the development, manufacturing and sales of capacitor for decades.

BM capacitors are widely used in appliance, lighting, industrial equipment, solar, inverter, UPS etc. With stable quality and superior service, BM has been the long-term partner of world-wide customers.

BM has acquired certificates of ISO, CQC, VDE, UL, KC etc which could fulfill customers' versatile requirements.

For more info, please get on [www.bm-cap.com](http://www.bm-cap.com)

BM always assures you the best service.



丰明电子以“为企业成功配套，为企业的成功配套”为经营理念，以“专业化为主、多元化发展”的市场细分方针，陆续和格力、海尔、美的、格兰仕、九阳、苏泊尔、艾美特、开利、亨特、三星、LG等国内外知名品牌建立了良好而持久的合作关系。

“To support a successful enterprise, to support the success of an enterprise.” Fengming hold this operation principle, and stick on specialization and diversification, we established long and stable cooperation with many famous enterprise at home and abroad, such as Gree、Haier、Midea、Galanz、Joyoung、Supor、Airmate、Carrier、Hunter、Samsung、LG.



三大研究中心 3 Research Centers



产品开发中心  
Developing center



工艺研究中心  
Process Research Center



实验检测中心  
Testing Center

六大产品事业部 6 Product Divisions



交流电容器  
事业部  
AC Motor Caps Div



空调电容器  
事业部  
Air-con Motor Caps Div



安规电容器  
事业部  
X2 Caps Div



针式电容器  
事业部  
Induction heating Caps Div



工业电容器  
事业部  
Industrial Caps Div



真空镀膜  
事业部  
Metallisation Div



广东省著名商标  
Famous-brand in Guangdong Province



广东省名牌产品  
Famous-brand products in Guangdong Province



高新技术企业  
High-tech Enterprises



顺德区质量信用A级企业  
Quality Credit A Class Enterprises in Shunde Area



广东省著名商标  
Famous mark in Guangdong Province



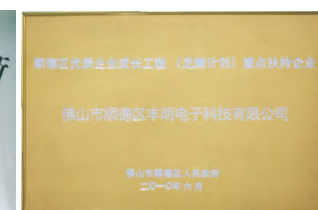
广东省名牌产品  
Famous-brand products in Guangdong Province



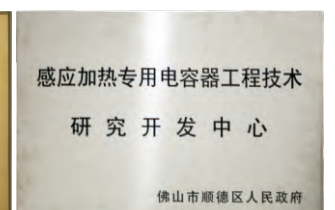
广东省民营科技企业  
Private Science and Technology Enterprises in Guangdong Province



广东欧博企业管理研究所  
工匠型企业实验基地  
Craftsman Enterprises Laboratory Base for OuBo Enterprises management Research Institute in Guangdong Province



顺德区龙腾企业  
LQ Enterprises in Shunde Area



顺德区感应加热专用电容器  
工程技术研究开发中心  
Induction Heating Capacitor Engineering R&D Center in Shunde Area





产品开发中心 R&D Center



工艺研究中心 Technology Research Center



实验检测中心 Testing Center



专利清单 Patent List：

实用新型专利 Utility model patent

| 申请人             | 申请号            | 授权日期       | 名称                |
|-----------------|----------------|------------|-------------------|
| 1.广东丰明电子科技有限公司  | 200720050835.3 | 2008-03-12 | 一种新型电容器绝缘塑料外壳     |
| 2.广东丰明电子科技有限公司  | 200920056248.4 | 2010-02-17 | 一种薄膜分切机的收卷轴       |
| 3.广东丰明电子科技有限公司  | 200920056247.X | 2010-02-17 | 一种电容器芯子包裹器        |
| 4.广东丰明电子科技有限公司  | 200920056249.9 | 2010-02-17 | 一种电容器外壳           |
| 5.广东丰明电子科技有限公司  | 200920058449.8 | 2010-05-26 | 一种电容器的自动包胶机       |
| 6.广东丰明电子科技有限公司  | 200920058450.0 | 2010-05-05 | 一种安全型金属化薄膜电容器     |
| 7.广东丰明电子科技有限公司  | 201020119520.1 | 2010-02-09 | 一种安规电容器的外壳        |
| 8.广东丰明电子科技有限公司  | 201020505949.4 | 2011-04-27 | 一种新型电容器外壳         |
| 9.广东丰明电子科技有限公司  | 201020538715.X | 2011-03-16 | 一种用于直流滤波电容器的外壳    |
| 10.广东丰明电子科技有限公司 | 201020572625.2 | 2011-04-27 | 一种用于外接引线的电容器      |
| 11.广东丰明电子科技有限公司 | 201020613387.5 | 2011-06-15 | 一种用于感应加热的模块式电容器   |
| 12.广东丰明电子科技有限公司 | 201020627485.4 | 2011-06-29 | 一种具有安全防爆的电容器      |
| 13.广东丰明电子科技有限公司 | 201120109690.6 | 2011-10-05 | 一种新型微波炉用干式结构电容器   |
| 14.广东丰明电子科技有限公司 | 201120136554.6 | 2011-12-14 | 一种用于直流滤波的中心散热式电容器 |
| 15.广东丰明电子科技有限公司 | 201120562909.8 | 2012-08-15 | 用于感应加热的外置型电容器     |
| 16.广东丰明电子科技有限公司 | 201320346909.3 | 2013-11-13 | 一种中心加强散热式电容器      |
| 17.广东丰明电子科技有限公司 | 201320375209.7 | 2013-11-13 | 一种全塑封式端子引出型电容器    |
| 18.广东丰明电子科技有限公司 | 201520582143.8 | 2015-12-09 | 一种圆芯方壳端子引出型电容器    |
| 19.广东丰明电子科技有限公司 | 201720098653.7 | 2017-10-24 | 一种高效防潮电容器         |
| 20.广东丰明电子科技有限公司 | 201720098661.1 | 2017-08-04 | 一种用于电磁感应加热的电容器    |
| 21.广东丰明电子科技有限公司 | 201821129180.3 | 2019-01-04 | 一种内串式金属化安全膜电容器    |
| 22.广东丰明电子科技有限公司 | 201821727726.5 | 2019-05-21 | 一种散热式模组电容器        |
| 23.广东丰明电子科技有限公司 | 201821812365.4 | 2019-04-23 | 一种便于定位结构的电容器      |
| 24.广东丰明电子科技有限公司 | 201821907973.3 | 2019-07-02 | 一种高压金属箔式电容器       |
| 25.广东丰明电子科技有限公司 | 201920033666.5 | 2019-08-13 | 一种内串式抗电晕金属化膜      |
| 26.广东丰明电子科技有限公司 | 201920492709.6 | 2019-11-22 | 一种快速换接引线型电容器      |
| 27.广东丰明电子科技有限公司 | 201920636823.1 | 2019-11-22 | 一种插入式安装耳的电容器外壳    |
| 28.广东丰明电子科技有限公司 | 201921524741.4 | 2020-04-03 | 一种内串式防爆薄膜电容器      |
| 29.广东丰明电子科技有限公司 | 202020269223.9 | 2020-10-16 | 一种降低冷热冲击应力的电容器    |

外观专利 Appearance patent

| 申请人            | 申请号            | 授权日期       | 名称          |
|----------------|----------------|------------|-------------|
| 1 广东丰明电子科技有限公司 | 201030569113.6 | 2011-02-09 | 电容器（CBB61）  |
| 2.广东丰明电子科技有限公司 | 201730307058.5 | 2017-12-12 | 方形电容器壳体     |
| 3.广东丰明电子科技有限公司 | 201830117513.X | 2018-03-20 | 安规电容器（标识设计） |



丰明电子全面执行ISO9001及ISO14001国际质量与环境体系标准。

Complied with ISO9001 and ISO14001 International quality and environment standard.

ISO9001及ISO14001国际质量与环境体系标准



IATF16949汽车质量管理体系认证



ROHS



UL



TUV



一、主要引用标准

Main reference standards

我司工业电容器主要引用标准是由中国国家标准委员会发布的GB/17702、GB/T3984.1、GB/T3984.2、GB/12747.1、GB/12747.2和GB/11024.1、GB/11024.2（分别等同于国际电工委员会制定的IEC61071、IEC60110-1、IEC60110-2、IEC60831-1、IEC60831-2和IEC60871-1、IEC60871-2）。同时为满足特殊应用场合需求（如铁路轨道、电动汽车等应用场合），我司也引用了TB/T3075、TB/T3058（分别等同于IEC61881、IEC61373）等标准作为补充。

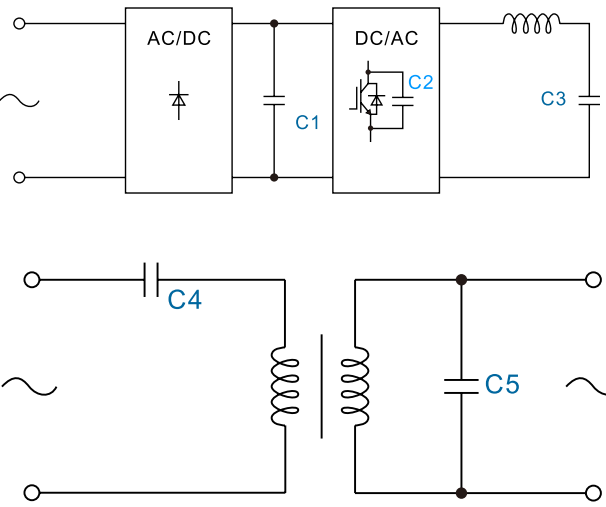
我司主要依据以上标准，制定了工业电容器各个型号产品的企业标准，以供内部引出。  
工业电容器主要引用标准列举如下：

The main standards of Fengming industrail capacitor are GB/17702,GB/T3984.1,GB/T3984.2;GB/12747.1,GB/12747.2 and GB/11024.1, GB/11024.2(these standards are equal to IEC61071;IEC60110-1,IEC60110-2;IEC60831-1.IEC60831-2;IEC60871-1,IEC60871-2,prepared by IEC), published by China National standardization committee. As supplementary, Fengming also refers to TB/T3075(IEC61881 idt),TB/T3058 Acording to the basic requirement of above standards, Fengming made detailed standards of various types of capacitors for internal use. The are corresponding specification lists as below for industrial capacitor:

| 主要引用标准    |                            |                                                                                                                                                                                                                                                                                         |
|-----------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 序号<br>NO. | 标准号<br>Standard NO.        | 标准名称<br>Standards                                                                                                                                                                                                                                                                       |
| 1         | GB/17702<br>(IEC61071)     | 电力电子电容器<br>Power electronic capacitors                                                                                                                                                                                                                                                  |
| 2         | GB/12747.1<br>(IEC60831-1) | 标称电压1KV及以下交流电力系统用自愈式并联电容器 第1部分：总则——性能、试验和额定——安全要求——安装和运行导则<br>Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 1 kV Part 1: General-Performance, testing and rating-Safety requirements-Guide for installation and operation |
| 3         | GB/12747.2<br>(IEC60831-2) | 标称电压1KV及以下交流电力系统用自愈式并联电容器 第2部分：老化试验、自愈性试验和破坏试验<br>Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage up to and including 1 kV Part 2: General-Ageing Test, Self-healing trial and Requirements for Disconnecting Internal Fuses                    |
| 4         | GB/11024.1<br>(IEC60871-1) | 标称电压1KV以上交流电力系统用自愈式并联电容器 第1部分：总则——性能、试验和额定——安全要求——安装和运行导则<br>Shunt power capacitors of the self-healing type for A.C. systems having a rated voltage above 1 kV Part 1: General-Performance, testing and rating-Safety requirements-Guide for installation and operation                |
| 5         | GB/11024.2<br>(IEC60871-2) | 标称电压1KV以上交流电力系统用自愈式并联电容器 第2部分：老化试验、自愈性试验和破坏试验<br>Shunt power capacitors of the self-healing type for a.c. systems having a rated voltage above 1 kV Part 2: General-Ageing Test, Self-healing trial and Requirements for Disconnecting Internal Fuses                                   |
| 6         | TB/T3075<br>(IEC61881)     | 铁路应用 机车车辆设备 电力电子电容器<br>Railway applications-Rolling stock equipment-capacitors for power electronics                                                                                                                                                                                    |
| 7         | TB/T3058<br>(IEC61373)     | 铁路应用 机车车辆设备 冲击和振动试验<br>Railway applications-Rolling stock equipment Shock and vibration tests                                                                                                                                                                                           |
| 8         | AEC-Q200                   | AEC-Q200 STRESS TEST                                                                                                                                                                                                                                                                    |
| 9         | GB/T3984.1<br>(IEC60110-1) | 感应加热装置用电力电容器 第1部分：总则<br>Power capacitors for induction heating installations-Part 1:General                                                                                                                                                                                             |
| 10        | GB/T3984.2<br>(IEC60110-2) | 感应加热装置用电力电容器 第2部分：老化试验、破坏试验和内部熔丝隔离要求<br>Power capacitors for induction heating installations-Part 2:Ageing Test, Destruction Test And Requirements for Disconnecting Internal Fuses                                                                                                     |

二、选型指引

Guide for capacitors selecting



| 选型指引            |                   |            |                                    |                                                      |
|-----------------|-------------------|------------|------------------------------------|------------------------------------------------------|
| 电容<br>Capacitor | 功能<br>Fuction     | 型号<br>Type | PCB安装系列<br>For PCB mounting series | 其他安装系列<br>Series                                     |
| C1              | 直流滤波<br>DC Link   | DKMJ       | DKMJ-P                             | DKMJ-C, DKMJ-X,<br>DKMJ-B, DKMJ-J,<br>DKMJ-Y, DJMJ-B |
| C2              | 缓冲吸收<br>Snubber   | SKMJ       | SKMJ-PN                            | SKMJ-PT, SKMJ-J,<br>SKMJ-Y                           |
| C3              | Lc谐振<br>Resonant  | RKMJ       | RKMJ-P                             | RKMJ-Y, RKMJ-J,<br>RKMJ-P                            |
| C4              | 耦合隔直<br>Coupling  | CKMJ       | CKMJ-P                             | CKMJ-C                                               |
| C5              | 交流滤波<br>AC filter | AKMJ       | AKMJ-P                             | AKMJ-C, AKMJ-B,<br>AJMJ-C, AJMJ-B                    |





三、标准术语

- 1、额定容量C<sub>N</sub>  
设计电容器时所规定的电容容量值。
- 2、电容的允许偏差Ctol  
实测电容量与额定容量之间的误差，其数值为：  
Ctol= ( C-C<sub>N</sub>) / C<sub>N</sub>\*100%  
C:电容器的实际测试电容量  
C<sub>N</sub>:电容器的额定容量  
电容的允许偏差决定其用途，允许偏差的优先值为±5% ( J级 ) ；  
±10% ( K级 ) 。
- 3、额定电压U<sub>N</sub>  
设计电容器时所规定的电压值。  
对采用GB/T3984.1/-2(IEC60 110-1/-2)、GB/12747.1/-2(IEC60831-1/-2)、GB/11024.1/-2 (IEC60871-1/-2)标准的电容器，额定电压指设计电容时规定的交流电压方均根值；  
对采用GB/ 17702 (IEC61071)标准的电容，可分为以下两种：  
  
额定交流电压（ U<sub>N</sub>）：  
设计电容时所采用的反复型波形的任一极性的最高运行峰值周期电压；  
额定直流电压（ U<sub>N</sub>）：  
设计电容时所采用的非反复型波形的任一极性的可连续运行的最高运行峰值电压。
- 4、有效电压Ur<sub>ms</sub>  
连续运行的最大正弦交流电压的方均根值
- 5、纹波电压Ur  
单向电压的峰到峰的交流分量
- 6、非周期性冲击电压Us  
由切换或系统中任何别的扰动所导致的峰值电压，此电压只允许持续比基本周期短的时间和出现有限的次数。
- 7、绝缘电压Ui  
电容元件和端子对外壳或对地电压的额定值（方均根值）。如果未作规定，此绝缘电压的方均根值等于额定电压除以√2
- 8、最大电流I<sub>max</sub>  
连续运行的最大电流的方均根值
- 9、最大峰值电流I  
在连续运行中瞬时发生的最大电流的幅值。其数值为：  
I=C<sub>N</sub>× (dv/dt)
- 10、最大冲击电流Is  
由切换或系统中任何别的扰动所导致的允许峰值电流，此电流只允许出现有限的次数。

Terminologies

- 1、Rated capacitance C<sub>N</sub>  
Capacitance value for which the capacitor has been designed .
- 2、Tolerance on rated capacitance Ctol  
The deviation of actual measured capacitance from rated capacitance, the value is following:  
Ctol= (C-C<sub>N</sub>) / C<sub>N</sub>\*100%  
C: Actual measured capacitance of a capacitor  
C<sub>N</sub>:Rated capacitance of a capacitor  
Tolerance on rated capacitance determines its application, its priority values are ±5% (J), ±10% (K).
- 3、Rated voltage U<sub>N</sub>  
Voltage assigned to the appliance by the manufacturer for the capacitor referenced to GB/T3984.1/-2(IEC60110-1/-2), GB/12747.1/-2(IEC60831-1/-2), GB/ 1024.1/-2 (IEC60871-1/-2),  
It means the r.m.s value of a.c. voltage for which the capacitor has been designed.  
For the capacitor referenced to GB/17702 (IEC61071), it is divided into the two following parts:  
Rated a.c. voltage (U<sub>N</sub>):  
Maximun operating peak voltage of either polarity of a reversing type waveform for which the capacitor has been designed.  
Rated d.c. voltage (U<sub>N</sub>):  
maximum operating peak voltage of either polarity but of a non -reversing type waveform for which the capacitor has been designd.
- 4、Rms voltage Ur<sub>ms</sub>  
Root mean square of manimum value of sinusoidal a.c. voltage in continuous operation.
- 5、Ripple voltage Ur  
Peak-to-peak alternating component of the unidirectional voltage
- 6、Non-recurrent surge voltage Us  
Peak voltage induced by a switching or any other disturbance of the system which is allowed for a limited number of times and for durations shorter than the basic period
- 7、Insulation voltage Ui  
R.M.S. value of the sine wave voltage designed for the insulation between terminals of capacitors to case or earth. If not specified, the R.M.S. value of the insulating voltage is equivalent to the rated voltage divided by √2 .
- 8、Maximum current I<sub>max</sub>  
Maximum R.M.S. current for continuous operation
- 9、Maximum peak current I  
Maximum peak current that can occur during continuous operation.  
The value is following:  
I=C<sub>N</sub>× (dv/dt)
- 10、Maximum surge current Is  
Peak non-repetitive current induced by switching or any other disturbance of the system which is allowed for a limited number of times, for durations shorter than the basic period.

- 11、额定频率f<sub>N</sub>  
设计电容器时所规定的频率
- 12、电容器的阻抗成为最小时的最低频率。  
Fr=1/(2π√LsC<sub>N</sub>)
- 13、电容器的损耗因数tgδ  
在规定的正弦交流电压和频率下，电容器耗散的有功功率与电容器的无功功率之比，其值为等效串联电阻与容抗的比值。
- 14、介质损耗因数tgδ<sub>0</sub>  
电容器的介质材料在额定电压和频率下的损耗常数。聚丙烯薄膜的介质损耗因数为2×10<sup>-4</sup>
- 15、等效串联电阻ESR  
一个有效电阻，当它和所探讨的电容器有相等电容值的理想电容器相串联时，在规定的运行条件下，该电阻中的损耗功率将等于该电容器中耗散的有功功率。
- 16、杂散电感L<sub>s</sub>  
一个有效电感，当它和所探讨的电容器有相等电容值的理想电容器相串联时，其谐振频率等于该电容器的谐振频率。
- 17、热阻R<sub>th</sub>  
电容器阻止热量传递能力的综合参量，表明了1W热量所引起的温升大小，单位为℃/W或K/W。
- 18、电容器的损耗P<sub>j</sub>  
电容器所消耗的有功功率，其数值为：  
P<sub>j</sub>=I<sub>rms</sub><sup>2</sup>×ESR
- 19、运行温度θ<sub>o</sub>  
电容器达到热平衡状态时的外壳最热点温度。
- 20、最高运行温度θ<sub>max</sub>  
电容器可以运行的最高外壳温度。
- 21、最低运行温度θ<sub>min</sub>  
电容器能正常工作时的最低温度
- 22、冷却空气温度θ<sub>amb</sub>  
在稳定状态条件下，在电容器组最热区域的两单元之间中途所测得的冷却空气的温度。如果仅涉及一单元，则为距电容器外壳大约0.1m和距基底三分之二高度处所测得的温度。

- 11、Rated frequency (of a capacitor ) f<sub>N</sub>  
Frequency for which the capacitor has been designed .
- 12、Resonance frequency  
Lowest frequency at which the impedance of the capacitor becomes minimum.  
The value is following:  
Fr=1/(2π√LsC<sub>N</sub>)
- 13、Tangent of the loss angle of a capacitor tgδ  
Ratio between the equivalent series resistance and the capacitive reactance of the capacitor at specified sinusoidal alternating voltage and frequency .
- 14、Dielectric dissipation factor tgδ<sub>0</sub>  
Constant dissipation factor of dielectric material for all capacitors at their rated frequency. The typical loss factor of polypropylene film is 2×10<sup>-4</sup>
- 15、Equivalent series resistance of a capacitor ESR  
Effective resistance which, if connected in series with an ideal capacitor of capacitance value equal to that of the capacitor in question, would have a power loss equals to active power dissipated in that capacitor under specified operating conditions
- 16、Self-inductance L<sub>s</sub>  
Effective inductance which, if connected in series with an ideal capacitor of capacitance value equal to that of the capacitor in question, would have the resonance frequency equals to the resonance frequency in that capacitor.
- 17、Thermal resistance R<sub>th</sub>  
A heat property and a measurement of a temperature difference by which a capacitor resists a heat flow. It shows the temperature difference when a unit of heat energy flows through a capacitor in unit time. It has the units °C/W or K/W.
- 18、Capacitor losses P<sub>j</sub>  
Active power dissipated in the capacitor. The value is following:  
P<sub>j</sub>=I<sub>rms</sub><sup>2</sup>×ESR
- 19、Operating temperature θ<sub>o</sub>  
Temperature of the hottest point on the case of the capacitor, when in thermal equilibrium.
- 20、Maximum operating temperature θ<sub>max</sub>  
Highest temperature at which the capacitor may be energized.
- 21、Lowest operating temperature θ<sub>min</sub>  
Lowest temperature at which the capacitor may be energized
- 22、Cooling-air temperature θ<sub>amb</sub>  
Temperature of the cooling air measured at the hottest position in bank ,under steady-state conditions ,midway between two units .  
If one unit is involved ,it is the temperature measured at a point approximately 0.1 m away from the capacitor container and two -thirds of the height from its base .





23、外壳温升 Δθcase  
外壳最热点温度和冷空气温度之差。

24、热点温度θhs  
电容器内部最热点处的温度。其数值为：  
θhs=θamb+Pj×Rth

25、气候类别  
电容器的气候类别用最低和最高允许电容器运行温度和湿热严酷度来表示，如：40/85/56

稳态湿热试验的天数（56天）

上限类别温度（+85℃）

下限类别温度（-40℃）

26、绝缘电阻IR  
绝缘电阻为电容器充电后所加的直流电压和流经电容器的漏电流值的比值，单位为MΩ。  
绝缘电阻也常以时间常数（τ）来表示，其值为  
绝缘电阻和电容量的乘积（即τ=IR×C<sub>N</sub>），单位为s。

27、自愈性  
仅适用于金属化薄膜电容器，自愈性是指电容器发生局部电介质击穿后迅速恢复电性能的能力。  
金属化薄膜电容的电极为薄膜上的金属层，此金属层是通过真空蒸发的方法将金属沉积在薄膜上，其厚度一般只有几十纳米，当介质上存在电弱点、杂质等，局部电击穿将可能发生，电击穿处的电弧放电所产生的能量迅速把击穿点邻近处的金属层蒸发，使击穿点与周围电极隔开，电容器的电气性能恢复正常。

28、电容器的失效率  
失效率为电容器工作到某一时刻尚未失效，在该时刻后，单位时间内发生失效的概率，单位为FIT（1FIT=1/(10<sup>9</sup>小时)）  
如：10000只电容在给定条件下工作10000小时出现10只失效，则  
λ=10/（10000×10000）=100FIT

29、电容器的预期寿命  
电容器的预期寿命是一个基于实践经验和理论计算的统计学数值，其值主要与运行电压和热点温度有关。一般而言，不同应用场合的电容器，其预期寿命是不同的，如：应用在直流滤波电路中的电容器，在额定电压和热点温度为70℃以内的应用条件下，其预期寿命一般可达100 000小时。  
电容器预期寿命粗略评估，可以这样认为：电容器使用的电压每上升10%其寿命下降一半，热点温度每上升10℃其寿命也下降一半。

23、Container temperature rise Δθcase  
Difference between the temperature of the hottest point of the container and the temperature of the cooling air.

24、Hotspot temperature θhs  
Temperature at the hottest spot inside the capacitor. The value is following:  
θhs=θamb+Pj×Rth

25、Climatic category  
The climatic category which the capacitor belongs to is expressed with minimum, maximum operating temperature and damp heat severity, such as 40/85/56

days relevant to the damp heat test(56 days)

the upper category temperature(+85℃)

the lower category temperature(-40℃)

26、Insulation resistance IR  
The insulation resistance is the ratio between an applied DC voltage and the resulting leakage current. It is expressed in MΩ.  
The insulation resistance is usually expressed with time constant(τ), the time constant in expressed in seconds with the following formula:  
τ=IR×C<sub>N</sub>

27、Self-healing  
It is only applicable to metallized film capacitor. Self-healing means the ability that the electrical properties of the capacitor are rapidly restored after a local breakdown of the dielectric.  
The electrode of metallized film capacitor is the metal coating of the metalized film, which are vacuum-deposited directly onto the plastic film, have a thickness of only several tens nm. At weak point or impurities in the dielectric, a dielectric breakdown would occur. The energy released by the arc discharge in the breakdown channel rapidly evaporate the thin matal coating in the vicinity of the channel. The insulated region thus resulting around the former faulty area will cause the capacitor to regain its full operation ability.

28、Failure rate  
Failure rate indicates the failure probability of capacitors in unit time after a certain point, while the capacitors haven't failed before the certain point. The unit is FIT（1FIT=1/(10<sup>9</sup> hour)）  
For example, 10000 pcs of the capacitors work at given conditions for 10000 hrs and 10 pcs of capacitors failed, so  
λ=10/（10000×10000）=100FIT.

29、Expected Lifetime of a capacitor  
Expected Lifetime is a statistical value calculated on the basis of experience and on theoretical evaluations, it depends on the applied voltage and the hot spot temperature during operation. Generally speaking, for capacitors applied in different situation, th designed average service lifes are different. For example, capacitors used in DC-Link circuits will have a expected lifetime of probable 100000 hrs at rated voltage and 70℃ hot spot temperature.  
A rough evaluation for the expected capacitor life-time can be indicated like this: 10% increase of the voltage, half long lifetime will lose. Also 10% increase of hotspot increase, half long lifetime will lose.

四、注意事项

1、产品使用注意事项  
1）电容器的选用取决于施加的最高电压，并受电流、频率和使用环境的影响。  
2）一般情况下，薄膜电容器外封装使用耐火性阻燃材料（如阻燃外壳、阻燃环氧等），但是如果持续高温或火焰仍可以使电容器芯子收缩变形导致外壳破裂，甚至出现芯子融化或燃烧。

2、产品存储注意事项  
1）不宜存放在高温高湿的环境中，应尽可能在以下条件下保存：  
温度：≤35℃  
湿度：≤80%RH，不允许有冷凝  
2）不宜存放在有腐蚀性气体的环境中，如硫化物、酸、碱、盐、有机溶剂等腐蚀性物质  
3）未拆开原包装的基础上，产品的存放时间不宜超过24个月（产品的包装或本体上的日期算起）

3、产品订购注意事项  
请尽可能提供以下信息  
1）应用的设备：如变频器、焊机、感应加热设备等  
2）应用的场合：如直流滤波、IGBT吸收、谐振等  
3）容量要求及允许偏差  
4）电压要求：如工作电压、纹波电压、非周期性电压等  
5）电流要求：如最大电流，脉冲电流等  
6）频率范围：如工作频率、脉冲频率等  
7）工作环境：如环境温度、环境湿度、散热方式等  
8）安装尺寸要求：如外形尺寸、引出方式

Caution items

1. Caution items in using plastic film capacitors  
1) The plastic film capacitor varies in the maximum applicable voltage depending on the applied voltage, current, frequency and operational environment.  
2) Generally speaking, aithough flame retardant shell or flame retardation epoxy is used in the coating or encapsulating of plastic film capacitor, continuous high temperature of firing will break the coating layer or plastic case of the capacitor, and may lead to melting and firing of the capacitor element.

2. Caution items in storing plastic film capacitors  
1) It shoudn't be located in paticularly high temperature and high humidity, it must submit to the following conditions:  
Temperature: ≤35℃  
Humidity: ≤80%RH, no dew allowed on the capacitor.  
2) Capacitors may not be stored in corrosive atmospheres, such as sulfides, acids, lye, salts, organic solvents or other corrosive substances.  
3) When unchanging primal package, it shoudn't be stored more than 24 months(from the date marked on the capacitor's body or the label glued to the package)

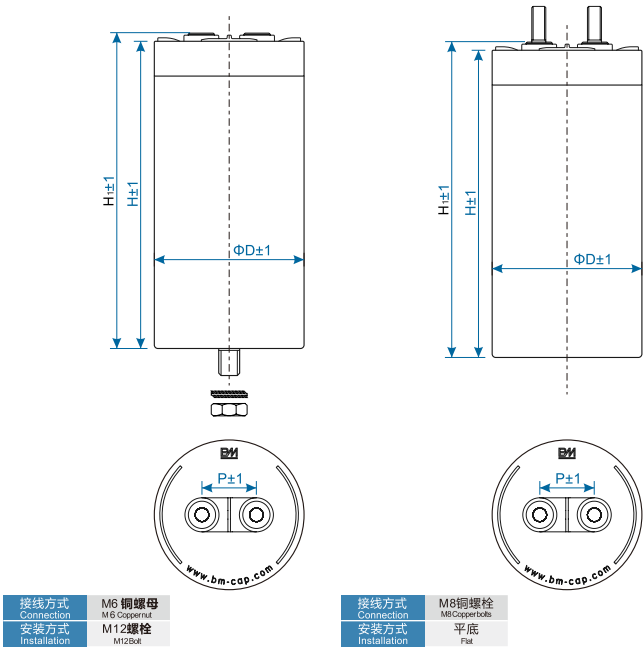
3. Caution items in ordering plastic film capacitors  
Please provide following information as possible as you can  
1)Applications: such as transducer, welding machine, induction heating machine  
2)Application situation: such as DC-Link, IGBT snubber, resonance, etc.  
3)Rated capacitance and tolerance  
4)Voltage: such as working voltage, ripple voltage, non-recurrent surge voltage, etc.  
5)Current: such as maximum current, pulse current, etc.  
6)Frequency: such as working frequency, pulse frequency, etc.  
7)Working environment: such as environment temperature, environment humidity, cooling mode, etc.  
8)Installation dimensions: such as external dimensions, terminal types, etc.





|                                    |                                                 |
|------------------------------------|-------------------------------------------------|
| 引用标准 Referenced standard           | GB/T17702, IEC61071                             |
| 气候类别 Climatic category             | 40/85/21                                        |
| 工作温度范围 Operating temperature range | -40~85℃                                         |
| 存储温度范围 Storage temperature range   | -40~85℃                                         |
| 最高使用海拔 Max.altitude                | 2000m                                           |
| 最大电极扭距 Max. torque of terminals    | M6 5Nm<br>M8 6Nm                                |
| 最大安装扭距 Max. torque of installation | 10Nm                                            |
| 预期寿命 Lifetime expectancy           | 100 000h(U <sub>n</sub> , θ <sub>ms</sub> ≤70℃) |
| 失效率 Failure rate                   | 50FIT                                           |

|                              |                                                                                  |
|------------------------------|----------------------------------------------------------------------------------|
| 电压范围 Voltage range           | 500~4000V.DC                                                                     |
| 容量范围 Capacitance range       | 20~5600μF                                                                        |
| 容量允许偏差 Capacitance tolerance | ±5% ( J ) /±10% ( K )                                                            |
| 介质损耗角正切值 tgδo                | 2×10 <sup>-4</sup>                                                               |
| 耐电压 withstanding voltage     |                                                                                  |
| 极壳 Between terminal and case | UN≤1500VDC 3000V.AC(10s,20±5℃,50Hz)<br>UN≥1500VDC 2Ui+1000V.AC(10s,20±5℃,50Hz)   |
| 极间 Between terminals         | 1.5Un(10s,20±5℃)                                                                 |
| 绝缘电阻 Insulation resistance   | IR×Cn≥5000S(60s,20±5℃,100V.DC)                                                   |
| 过电压 Over voltage             | 1.1Un 30% of on-load-dur<br>1.15Un 30min/day<br>1.2Un 5min/day<br>1.3Un 1min/day |



产品可通过THB1000h双85测试  
THB series are available upon request

常用规格 Dimension

| Un          | Cn<br>(μF) | Dimension(mm) |     |     |    | ESR (typ)<br>1KHz<br>(mΩ) | Ls<br>(nH) | Ipeak<br>(A) | Rth<br>(K/W) | Irms<br>@45℃ 10KHZ<br>(A) |
|-------------|------------|---------------|-----|-----|----|---------------------------|------------|--------------|--------------|---------------------------|
|             |            | ΦD            | H   | H1  | P  |                           |            |              |              |                           |
| 600<br>V.DC | 480        | 76            | 95  | 100 | 32 | 1.5                       | 45         | 1560         | 5.4          | 70                        |
|             | 650        | 76            | 120 | 125 | 32 | 1.9                       | 50         | 1560         | 4.9          | 70                        |
|             | 780        | 76            | 140 | 145 | 32 | 2.2                       | 55         | 1560         | 4.6          | 65                        |
|             | 820        | 76            | 155 | 160 | 32 | 1.5                       | 40         | 3060         | 4.3          | 70                        |
|             | 950        | 76            | 175 | 180 | 32 | 1.5                       | 45         | 3090         | 4.0          | 70                        |
|             | 650        | 86            | 95  | 100 | 32 | 1.2                       | 45         | 2120         | 5.1          | 70                        |
|             | 880        | 86            | 120 | 125 | 32 | 1.5                       | 50         | 2110         | 4.8          | 70                        |
|             | 1000       | 86            | 135 | 140 | 32 | 1.8                       | 55         | 2070         | 4.6          | 70                        |
|             | 1100       | 86            | 140 | 145 | 32 | 1.7                       | 55         | 2180         | 4.5          | 70                        |
|             | 1100       | 86            | 155 | 160 | 32 | 1.4                       | 40         | 4110         | 4.4          | 70                        |
|             | 1300       | 86            | 175 | 180 | 32 | 1.4                       | 45         | 4230         | 4.1          | 70                        |
|             | 2000       | 86            | 255 | 260 | 32 | 1.1                       | 55         | 6510         | 3.1          | 70                        |
|             | 1200       | 116           | 95  | 100 | 50 | 0.7                       | 45         | 3900         | 5.4          | 80                        |
|             | 1600       | 116           | 120 | 125 | 50 | 1.0                       | 50         | 3830         | 4.9          | 80                        |
|             | 2000       | 116           | 140 | 145 | 50 | 1.1                       | 55         | 3960         | 4.4          | 80                        |
|             | 2100       | 116           | 160 | 165 | 50 | 0.8                       | 40         | 7840         | 3.0          | 100                       |
|             | 2400       | 116           | 175 | 180 | 50 | 0.9                       | 45         | 7810         | 3.7          | 100                       |
|             | 3000       | 116           | 230 | 235 | 50 | 0.8                       | 50         | 11200        | 2.5          | 100                       |
|             | 5600       | 136           | 295 | 300 | 50 | 0.8                       | 60         | 15940        | 2.0          | 100                       |
| 800<br>V.DC | 200        | 76            | 72  | 77  | 32 | 4                         | 40         | 1000         | 5.7          | 40                        |
|             | 330        | 76            | 117 | 122 | 32 | 2.4                       | 45         | 3960         | 5.0          | 60                        |
|             | 420        | 76            | 145 | 150 | 32 | 1.1                       | 40         | 4200         | 4.5          | 60                        |

常用规格 Dimension

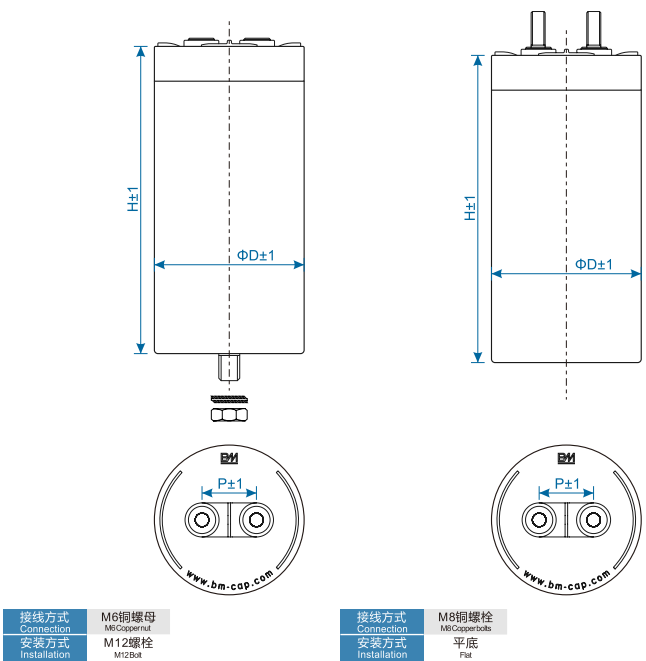
| Un           | Cn<br>(μF) | Dimension(mm) |     |     |    | ESR (typ)<br>1KHz<br>(mΩ) | Ls<br>(nH) | Ipeak<br>(A) | Rth<br>(K/W) | Irms<br>@45℃ 10KHZ<br>(A) |
|--------------|------------|---------------|-----|-----|----|---------------------------|------------|--------------|--------------|---------------------------|
|              |            | ΦD            | H   | H1  | P  |                           |            |              |              |                           |
| 800<br>V.DC  | 470        | 86            | 122 | 127 | 32 | 2.1                       | 50         | 4700         | 4.9          | 60                        |
|              | 490        | 86            | 125 | 130 | 32 | 2                         | 40         | 4900         | 4.9          | 70                        |
|              | 500        | 86            | 122 | 127 | 32 | 3.5                       | 75         | 5000         | 4.9          | 50                        |
|              | 500        | 116           | 80  | 85  | 50 | 3.0                       | 40         | 4500         | 5.7          | 70                        |
|              | 550        | 86            | 122 | 127 | 32 | 3.5                       | 75         | 3850         | 4.9          | 70                        |
|              | 650        | 86            | 145 | 150 | 32 | 1.6                       | 40         | 5200         | 4.5          | 70                        |
|              | 750        | 86            | 175 | 180 | 32 | 1.6                       | 50         | 6750         | 4.1          | 70                        |
|              | 1000       | 96            | 175 | 180 | 32 | 1.5                       | 50         | 8000         | 3.3          | 80                        |
|              | 1000       | 116           | 125 | 130 | 50 | 1.2                       | 60         | 4000         | 4.7          | 80                        |
|              | 1100       | 86            | 225 | 230 | 32 | 1.2                       | 50         | 7700         | 3.4          | 70                        |
|              | 1100       | 116           | 145 | 150 | 50 | 1.2                       | 40         | 6600         | 4.3          | 90                        |
|              | 1500       | 116           | 175 | 180 | 50 | 1.0                       | 50         | 9000         | 3.7          | 100                       |
|              | 2000       | 116           | 230 | 235 | 50 | 0.8                       | 60         | 18000        | 2.5          | 100                       |
|              | 2750       | 136           | 230 | 235 | 50 | 0.7                       | 60         | 19250        | 2.4          | 100                       |
|              | 3500       | 136           | 335 | 340 | 50 | 0.8                       | 60         | 12250        | 1.8          | 100                       |
| 900<br>V.DC  | 200        | 76            | 72  | 77  | 32 | 4                         | 40         | 1000         | 5.7          | 40                        |
|              | 330        | 76            | 117 | 122 | 32 | 2.4                       | 45         | 3960         | 5.0          | 60                        |
|              | 420        | 76            | 147 | 152 | 32 | 1.4                       | 40         | 4200         | 4.5          | 60                        |
|              | 470        | 86            | 122 | 127 | 32 | 2                         | 50         | 4700         | 4.9          | 60                        |
|              | 490        | 86            | 125 | 130 | 32 | 1.95                      | 40         | 4900         | 4.9          | 70                        |
|              | 500        | 86            | 122 | 127 | 32 | 3.5                       | 60         | 5000         | 4.9          | 50                        |
|              | 500        | 116           | 80  | 85  | 50 | 3.0                       | 40         | 4500         | 5.7          | 70                        |
|              | 550        | 86            | 122 | 127 | 32 | 3.5                       | 60         | 3850         | 4.9          | 70                        |
|              | 650        | 86            | 145 | 150 | 32 | 1.6                       | 40         | 5200         | 4.5          | 70                        |
|              | 750        | 86            | 175 | 180 | 32 | 1.6                       | 50         | 6750         | 4.1          | 70                        |
|              | 1000       | 96            | 175 | 180 | 32 | 1.5                       | 50         | 8000         | 3.3          | 80                        |
|              | 1000       | 116           | 125 | 130 | 50 | 1.2                       | 60         | 4000         | 4.7          | 80                        |
|              | 1100       | 86            | 255 | 260 | 32 | 1.2                       | 50         | 7700         | 3.4          | 70                        |
|              | 1100       | 116           | 150 | 155 | 50 | 1.2                       | 40         | 6600         | 4.2          | 90                        |
|              | 1500       | 116           | 175 | 180 | 50 | 1.0                       | 50         | 9000         | 3.7          | 100                       |
|              | 2000       | 116           | 230 | 235 | 50 | 0.8                       | 60         | 18000        | 2.5          | 100                       |
|              | 2750       | 136           | 230 | 235 | 50 | 0.7                       | 60         | 19250        | 2.4          | 100                       |
|              | 3500       | 136           | 335 | 340 | 50 | 0.4                       | 60         | 12250        | 1.8          | 100                       |
| 1100<br>V.DC | 250        | 76            | 120 | 125 | 32 | 4.7                       | 60         | 1500         | 4.9          | 50                        |
|              | 330        | 86            | 120 | 125 | 32 | 3.8                       | 60         | 1980         | 4.8          | 60                        |
|              | 360        | 86            | 120 | 125 | 32 | 3.8                       | 60         | 2160         | 4.8          | 50                        |
|              | 400        | 86            | 145 | 150 | 32 | 1.5                       | 45         | 2000         | 4.5          | 70                        |
|              | 420        | 86            | 136 | 140 | 32 | 2.5                       | 60         | 1680         | 4.6          | 65                        |
|              | 420        | 86            | 155 | 160 | 32 | 1.8                       | 50         | 3780         | 4.4          | 70                        |
|              | 500        | 86            | 175 | 180 | 32 | 1.8                       | 50         | 3000         | 4.1          | 70                        |
|              | 650        | 116           | 125 | 130 | 50 | 1.9                       | 60         | 3250         | 4.7          | 60                        |
|              | 680        | 86            | 225 | 230 | 32 | 1.8                       | 60         | 4080         | 3.4          | 60                        |
|              | 730        | 116           | 150 | 155 | 50 | 1.1                       | 45         | 2920         | 4.2          | 80                        |
|              | 900        | 136           | 125 | 130 | 50 | 1.4                       | 60         | 4050         | 3.0          | 60                        |
|              | 920        | 116           | 180 | 185 | 50 | 1.4                       | 60         | 5520         | 5.7          | 80                        |
|              | 1250       | 116           | 230 | 235 | 50 | 1.1                       | 60         | 7250         | 2.3          | 100                       |
|              | 1700       | 136           | 230 | 235 | 50 | 0.9                       | 60         | 7650         | 2.4          | 100                       |
|              | 2550       | 136           | 335 | 340 | 50 | 0.7                       | 60         | 10125        | 1.8          | 120                       |
| 1200<br>V.DC | 220        | 76            | 120 | 125 | 32 | 4.9                       | 60         | 1980         | 4.9          | 50                        |
|              | 250        | 86            | 120 | 125 | 32 | 4.5                       | 60         | 2250         | 4.8          | 50                        |
|              | 270        | 86            | 120 | 125 | 32 | 4.0                       | 60         | 2430         | 4.8          | 50                        |
|              | 330        | 86            | 155 | 160 | 32 | 3.5                       | 60         | 2640         | 4.7          | 60                        |
|              | 330        | 116           | 145 | 150 | 50 | 2.4                       | 80         | 1980         | 4.3          | 50                        |
|              | 420        | 86            | 175 | 180 | 32 | 1.8                       | 50         | 2520         | 4.1          | 70                        |
|              | 470        | 86            | 225 | 230 | 32 | 2.5                       | 60         | 2820         | 3.4          | 80                        |
|              | 500        | 116           | 130 | 135 | 50 | 1.6                       | 50         | 3000         | 4.6          | 90                        |
|              | 550        | 116           | 130 | 135 | 50 | 2.5                       | 30         | 2475         | 4.6          | 100                       |
|              | 680        | 116           | 180 | 185 | 50 | 1.3                       | 50         | 5440         | 3.6          | 80                        |
|              | 1000       | 136           | 175 | 180 | 50 | 1.1                       | 50         | 8000         | 2.7          | 100                       |
|              | 1000       | 116           | 230 | 235 | 50 | 1.3                       | 60         | 7000         | 2.5          | 85                        |
|              | 1200       | 136           | 230 | 235 | 50 | 1.2                       | 60         | 7800         | 2.4          | 100                       |
|              | 1800       | 136           | 335 | 340 | 50 | 0.9                       | 60         | 9900         | 1.8          | 120                       |
| 1500<br>V.DC | 90         | 76            | 95  | 100 | 32 | 5.3                       | 45         | 1200         | 5.4          | 50                        |
|              | 120        | 76            | 120 | 125 | 32 | 8                         | 55         | 1200         | 4.9          | 50                        |
|              | 120        | 86            | 95  | 100 | 32 | 4                         | 45         | 1200         | 5.1          | 60                        |
|              | 150        | 76            | 140 | 145 | 32 | 3.2                       | 45         | 1200         | 4.5          | 70                        |
|              | 170        | 76            | 175 | 180 | 32 | 3.8                       | 45         | 2300         | 4.0          | 65                        |



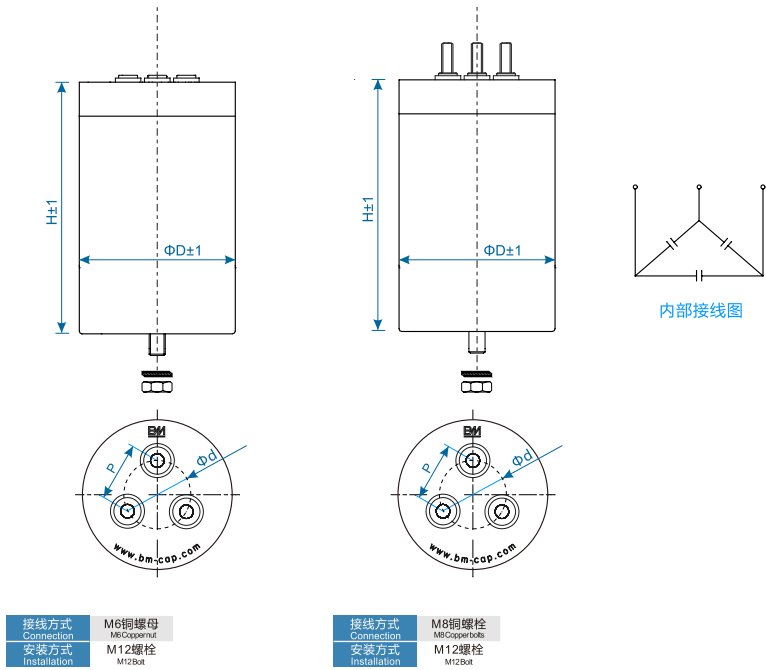


|                                    |                                                                      |
|------------------------------------|----------------------------------------------------------------------|
| 引用标准 Referenced standard           | GB/T17702, IEC61071                                                  |
| 气候类别 Climatic category             | 40/85/21                                                             |
| 工作温度范围Operating temperature range  | -40~85℃                                                              |
| 存储温度范围 Storage temperature range   | -40~85℃                                                              |
| 最高使用海拔 Max.altitude                | 2000m                                                                |
| 最大电极扭矩 Max. torque of terminals    | M6 5Nm<br>M8 6Nm                                                     |
| 最大安装扭矩 Max. torque of installation | 10Nm                                                                 |
| 预期寿命 Lifetime expectancy           | After 60 000h at U <sub>rms</sub> ,f <sub>n</sub> ,50℃,<br>IΔC/Ci≤3% |

|                              |                                     |
|------------------------------|-------------------------------------|
| 电压范围 Voltage range           | 400~1300V.AC                        |
| 容量范围 Capacitance range       | 6.8~820μF                           |
| 容量允许偏差Capacitance tolerance  | ±5% ( J ) /±10% ( K )               |
| 损耗角正切值 tgδ                   | 2×10 <sup>-3</sup> (100Hz,1V,20±5℃) |
| 耐电压 withstanding voltage     |                                     |
| 极壳 Between terminal and case | 3000V.AC(10s)                       |
| 极间 Between terminals         | 1.5Un(10s,20±5℃)                    |
| 绝缘电阻 Insulation resistance   | IR×Cn≥5000S                         |



| 常用规格 Dimension  |            |               |     |       |              |                           |                           |
|-----------------|------------|---------------|-----|-------|--------------|---------------------------|---------------------------|
| Un              | Cn<br>(μF) | Dimension(mm) |     |       | Rth<br>(K/W) | ESR(typ)<br>@1KHz<br>(mΩ) | Irms<br>@45℃ 10KHZ<br>(A) |
|                 |            | ΦD            | H   | P     |              |                           |                           |
| 400/450<br>V.AC | 50         | 76            | 70  | 32    | 5.2          | 2.5                       | 30                        |
|                 | 100        | 76            | 95  | 32    | 4.4          | 2.1                       | 40                        |
|                 | 150        | 76            | 125 | 32    | 4.0          | 1.5                       | 40                        |
|                 | 200        | 76            | 175 | 32    | 3.4          | 1.1                       | 60                        |
|                 | 250        | 86            | 175 | 32    | 3.2          | 1.3                       | 70                        |
|                 | 320        | 96            | 175 | 32/45 | 2.8          | 0.9                       | 80                        |
|                 | 350        | 96            | 175 | 32/45 | 2.1          | 0.9                       | 100                       |
| 500/550<br>V.AC | 420        | 116           | 175 | 50    | 1.9          | 0.6                       | 100                       |
|                 | 50         | 76            | 70  | 32    | 5.2          | 2.5                       | 40                        |
|                 | 100        | 86            | 95  | 32    | 4.4          | 2.1                       | 50                        |
|                 | 180        | 96            | 125 | 32    | 4.0          | 1.5                       | 60                        |
|                 | 200        | 86            | 175 | 32    | 3.4          | 1.1                       | 70                        |
|                 | 250        | 96            | 175 | 32/45 | 3.2          | 1.3                       | 85                        |
|                 | 350        | 96            | 225 | 32/45 | 2.8          | 0.9                       | 100                       |
| 690<br>V.AC     | 420        | 116           | 145 | 50    | 2.1          | 0.9                       | 100                       |
|                 | 50         | 76            | 95  | 32    | 5.2          | 2.5                       | 40                        |
|                 | 100        | 76            | 175 | 32    | 4.4          | 2.1                       | 60                        |
|                 | 200        | 96            | 225 | 32/45 | 4.0          | 1.5                       | 70                        |
|                 | 250        | 116           | 175 | 50    | 3.4          | 1.1                       | 80                        |
|                 | 300        | 116           | 225 | 50    | 2.8          | 0.9                       | 100                       |
|                 | 420        | 136           | 225 | 50    | 2.1          | 0.9                       | 100                       |

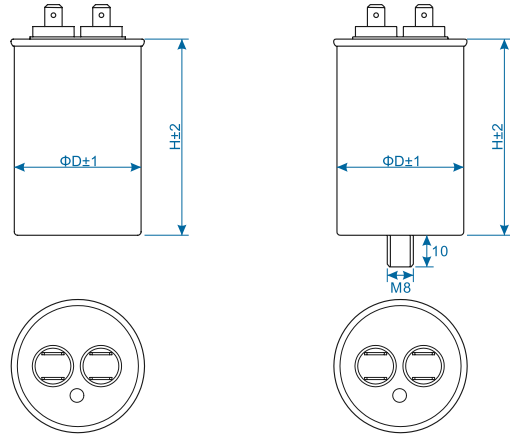


| 常用规格 Dimension  |            |               |     |      |    |             |              |                           |               |
|-----------------|------------|---------------|-----|------|----|-------------|--------------|---------------------------|---------------|
| Un              | Cn<br>(μF) | Dimension(mm) |     |      |    | ESL<br>(nH) | Rth<br>( KW) | ESR(typ)<br>@1KHz<br>(mΩ) | Irms<br>( A ) |
|                 |            | ΦD            | H   | P    | Φd |             |              |                           |               |
| 400/450<br>V.AC | 3×110      | 116           | 130 | 43.3 | 50 | 100         | 4.5          | 3×1.8                     | 3×50          |
|                 | 3×145      | 116           | 145 | 43.3 | 50 | 110         | 3.8          | 3×1.75                    | 3×60          |
|                 | 3×175      | 116           | 210 | 43.3 | 50 | 120         | 3.5          | 3×1.75                    | 3×75          |
|                 | 3×200      | 136           | 225 | 52   | 60 | 125         | 2.1          | 3×1.6                     | 3×85          |
| 500/550<br>V.AC | 3×100      | 116           | 180 | 43.3 | 50 | 100         | 4.5          | 3×1.8                     | 3×45          |
|                 | 3×120      | 116           | 145 | 43.3 | 50 | 110         | 3.8          | 3×1.75                    | 3×50          |
|                 | 3×125      | 136           | 180 | 52   | 60 | 120         | 3.5          | 3×1.65                    | 3×75          |
|                 | 3×135      | 136           | 225 | 52   | 60 | 130         | 2.1          | 3×1.6                     | 3×80          |
| 690<br>V.AC     | 3×49       | 116           | 225 | 43.3 | 50 | 120         | 2.1          | 3×2.2                     | 3×60          |
|                 | 3×55.7     | 136           | 225 | 52   | 60 | 130         | 3.8          | 3×2.1                     | 3×60          |
| 690<br>V.AC     | 3×41.9     | 116           | 225 | 43.3 | 50 | 120         | 2.1          | 3×2.2                     | 3×60          |
|                 | 3×55.7     | 136           | 225 | 52   | 60 | 130         | 1.8          | 3×1.85                    | 3×80          |



|                                   |                    |
|-----------------------------------|--------------------|
| 引用标准 Referenced standard          | GB/T17702,IEC61071 |
| 气候类别 Climatic category            | 40/55/21           |
| 工作温度范围Operating temperature range | -40~55℃            |
| 存储温度范围 Storage temperature range  | -40~85℃            |
| 最高使用海拔 Max.altitude               | 2000m              |
| 安全等级 Safety Class                 | S1/S2              |
| 放电性能 Discharge performance        | 3min, <75V         |

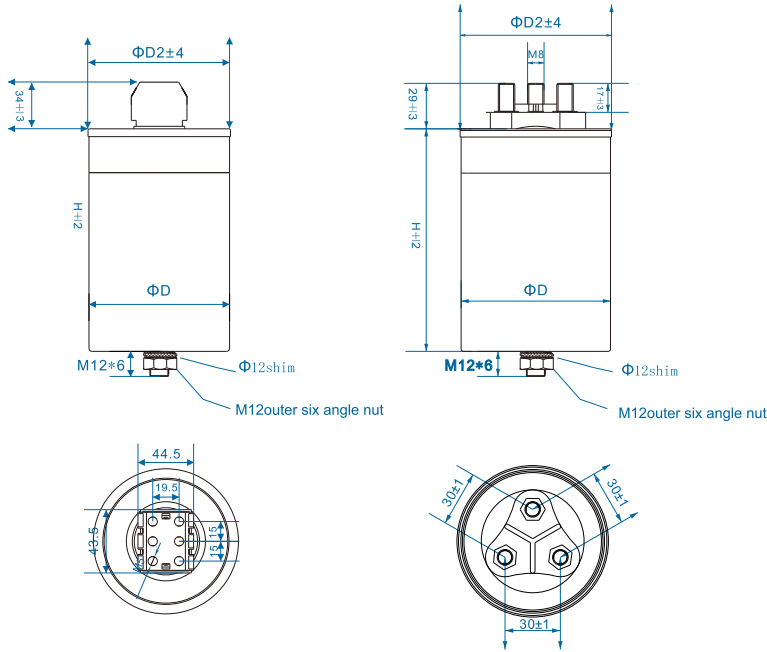
|                              |                                             |
|------------------------------|---------------------------------------------|
| 电压范围 Voltage range           | 400~690V.AC                                 |
| 容量范围 Capacitance range       | 10~200μF                                    |
| 容量允许偏差Capacitance tolerance  | ±5% ( J ) /±10% ( K )                       |
| 损耗角正切值 tgδ                   | 2×10 <sup>-3</sup>                          |
| 耐电压 withstanding voltage     |                                             |
| 极壳 Between terminal and case | 3000V.AC(10s)                               |
| 极间 Between terminals         | 2.15Un(10s,20±5℃)                           |
| 绝缘电阻 Insulation resistance   | IR×C <sub>N</sub> ≥5000S(60s,20±5℃,100V.DC) |



常用规格 Dimension

| Un              | C <sub>N</sub><br>(μF) | Dimension(mm) |     | ESR(typ)<br>@1KHz<br>(mΩ) |
|-----------------|------------------------|---------------|-----|---------------------------|
|                 |                        | ΦD            | H   |                           |
| 400/415<br>V.AC | 10                     | 40            | 65  | 16                        |
|                 | 15                     | 45            | 65  | 11                        |
|                 | 20                     | 45            | 65  | 8.0                       |
|                 | 25                     | 45            | 85  | 6.5                       |
|                 | 30                     | 50            | 85  | 5.5                       |
|                 | 40                     | 50            | 100 | 4.0                       |
|                 | 50                     | 50            | 110 | 3.5                       |
|                 | 60                     | 55            | 110 | 3.0                       |
|                 | 70                     | 55            | 125 | 2.5                       |
|                 | 80                     | 60            | 125 | 2.5                       |
| 450<br>V.AC     | 90                     | 60            | 125 | 2.0                       |
|                 | 100                    | 60            | 145 | 2.0                       |
|                 | 10                     | 40            | 75  | 16                        |
|                 | 15                     | 45            | 75  | 11                        |
|                 | 20                     | 45            | 85  | 8.0                       |
|                 | 25                     | 50            | 85  | 6.5                       |
|                 | 30                     | 50            | 100 | 5.5                       |
|                 | 40                     | 50            | 115 | 4.0                       |
|                 | 50                     | 55            | 125 | 3.5                       |
|                 | 60                     | 60            | 125 | 3.0                       |
| 500<br>V.AC     | 70                     | 60            | 135 | 2.5                       |
|                 | 80                     | 60            | 145 | 2.5                       |
|                 | 90                     | 65            | 145 | 2.0                       |
|                 | 100                    | 70            | 150 | 2.0                       |
|                 | 10                     | 45            | 75  | 16                        |
|                 | 15                     | 50            | 85  | 11                        |
|                 | 20                     | 50            | 100 | 8.0                       |
|                 | 25                     | 50            | 115 | 6.5                       |
|                 | 30                     | 55            | 125 | 5.5                       |
|                 | 40                     | 60            | 135 | 4.0                       |

|                                   |                                |
|-----------------------------------|--------------------------------|
| 引用标准 Referenced standard          | GB/T12747-1, IEC61071          |
| 气候类别 Climatic category            | 40/70/21                       |
| 工作温度范围Operating temperature range | -40~70℃                        |
| 存储温度范围 Storage temperature range  | -40~85℃                        |
| 最高使用海拔 Max.altitude               | 2000m                          |
| 最大电极扭矩 Max. torque of terminals   |                                |
| M6                                | 5Nm                            |
| M8                                | 6Nm                            |
| 最大安装扭矩Max. torque of installation | 10Nm                           |
| 预期寿命 Lifetime expectancy          | 100.000 hours at Un and Th≤70℃ |
| 安全等级 Safety Class                 | S1/S2                          |



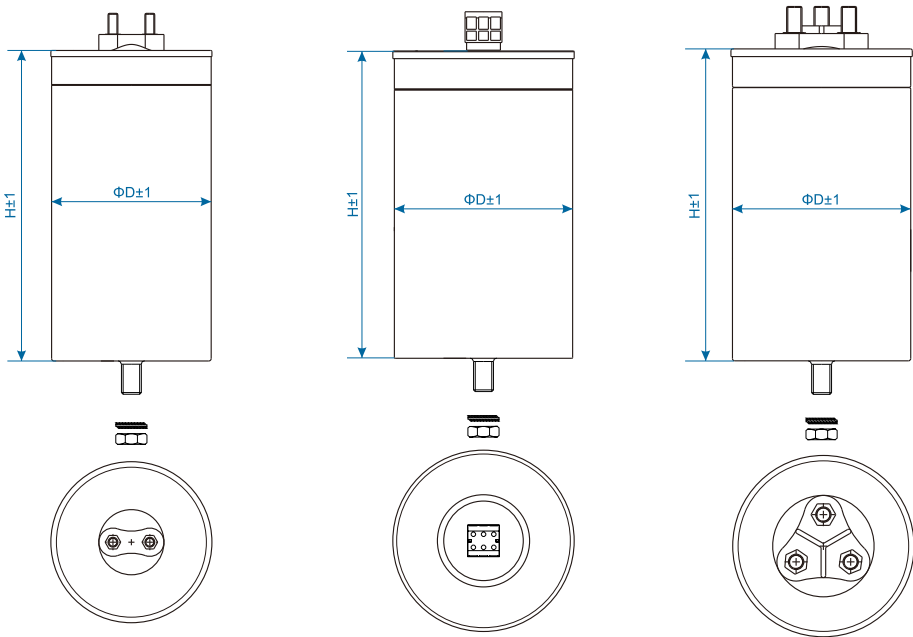
常用规格 Dimension

| Un          | C <sub>N</sub><br>(μF) | Dimension(mm) |     | Output Un<br>@50Hz<br>( kvar ) | ESR ( typ )<br>@1KHz<br>( mΩ ) | I <sub>peak</sub><br>( A ) | I <sub>rms</sub><br>@40℃<br>( A ) | I <sub>rms</sub><br>@55℃<br>( A ) | I <sub>rms</sub><br>@70℃<br>( A ) | R <sub>th</sub><br>( °C/W ) |
|-------------|------------------------|---------------|-----|--------------------------------|--------------------------------|----------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------|
|             |                        | ΦD            | H   |                                |                                |                            |                                   |                                   |                                   |                             |
| 230<br>V.AC | 3×201                  | 96            | 285 | 10                             | 3.1                            | 1674                       | 52                                | 36                                | 17                                | 5.69                        |
|             | 3×251                  | 106           | 285 | 12.5                           | 2.5                            | 2092                       | 59                                | 42                                | 19                                | 5.6                         |
|             | 3×301                  | 116           | 285 | 15                             | 2.1                            | 2510                       | 64                                | 45                                | 21                                | 5.6                         |
| 350<br>V.AC | 3×56                   | 76            | 205 | 6.5                            | 4.33                           | 715                        | 35                                | 23                                | 10                                | 9.2                         |
|             | 3×87                   | 86            | 240 | 10                             | 3.98                           | 1100                       | 40                                | 26                                | 12                                | 7.8                         |
| 400<br>V.AC | 3×108                  | 96            | 240 | 12.5                           | 3.2                            | 1375                       | 45                                | 29                                | 14                                | 7.3                         |
|             | 3×66                   | 96            | 205 | 10                             | 3.1                            | 962                        | 43                                | 29                                | 12                                | 8.7                         |
|             | 3×133                  | 106           | 285 | 20                             | 3.3                            | 1925                       | 50                                | 35                                | 14                                | 5.8                         |
| 440<br>V.AC | 3×167                  | 116           | 285 | 25                             | 2.7                            | 2887                       | 55                                | 38                                | 16                                | 5.8                         |
|             | 3×55                   | 86            | 205 | 10                             | 3.65                           | 875                        | 38                                | 26                                | 12                                | 9.1                         |
|             | 3×110                  | 106           | 240 | 20                             | 2.65                           | 1750                       | 50                                | 36                                | 15                                | 6.9                         |
| 480<br>V.AC | 3×164                  | 116           | 285 | 30                             | 2.68                           | 2624                       | 55                                | 38                                | 17                                | 5.7                         |
|             | 3×46                   | 86            | 205 | 10                             | 3.9                            | 805                        | 38                                | 26                                | 13                                | 9.0                         |
|             | 3×92                   | 106           | 240 | 20                             | 2.75                           | 1604                       | 52                                | 35                                | 16                                | 6.7                         |
| 525<br>V.AC | 3×138                  | 116           | 285 | 30                             | 2.85                           | 2406                       | 55                                | 38                                | 17                                | 5.6                         |
|             | 3×48                   | 86            | 240 | 12.5                           | 5.28                           | 920                        | 35                                | 24                                | 10                                | 7.6                         |
|             | 3×77                   | 96            | 285 | 20                             | 5.05                           | 1465                       | 38                                | 28                                | 12                                | 6.2                         |
| 550<br>V.AC | 3×96                   | 116           | 240 | 25                             | 2.53                           | 1835                       | 52                                | 36                                | 17                                | 7.2                         |
|             | 3×24                   | 86            | 240 | 10                             | 6.98                           | 585                        | 29                                | 20                                | 11                                | 7.8                         |
|             | 3×37                   | 106           | 240 | 15                             | 4.4                            | 878                        | 37                                | 25                                | 12                                | 7.7                         |
| 690<br>V.AC | 3×49                   | 116           | 240 | 20                             | 3.5                            | 1460                       | 42                                | 29                                | 14                                | 7.45                        |
|             | 3×23                   | 86            | 240 | 10                             | 7.28                           | 700                        | 29                                | 19                                | 9.0                               | 7.95                        |
|             | 3×33                   | 96            | 240 | 15                             | 5.12                           | 838                        | 36                                | 24                                | 11                                | 7.45                        |
| 850<br>V.AC | 3×56                   | 116           | 240 | 25                             | 3.35                           | 1395                       | 44                                | 30                                | 14                                | 7.25                        |
|             | 3×22                   | 96            | 240 | 15                             | 6.68                           | 679                        | 30                                | 20                                | 9.0                               | 7.87                        |
|             | 3×29                   | 106           | 240 | 20                             | 5.0                            | 906                        | 36                                | 24                                | 11                                | 7.5                         |
|             | 3×56                   | 136           | 240 | 38                             | 2.75                           | 1721                       | 49                                | 34                                | 16                                | 7.2                         |





|                                    |                         |                              |                                        |
|------------------------------------|-------------------------|------------------------------|----------------------------------------|
| 引用标准 Referenced standard           | GB/T12747-1, IEC60831-1 | 电压范围 Voltage range           | 400~690V.AC                            |
| 气候类别 Climatic category             | 40/55/21                | 容量范围 Capacitance range       | 5Kvar~50Kvar                           |
| 工作温度范围 Operating temperature range | -40~55℃                 | 容量允许偏差 Capacitance tolerance | ±5% ( J ) /±10% ( K )                  |
| 存储温度范围 Storage temperature range   | -40~85℃                 | 损耗角正切值 tgδ                   | ≤2×10 <sup>-3</sup> (100Hz, 1V, 20±5℃) |
| 最高使用海拔 Max.altitude                | 2000m                   | 耐电压 withstanding voltage     |                                        |
| 安全等级 Safety Class                  | S1/S2                   | 极壳 Between terminal and case | 3000V.AC(10s)                          |
| 放电性能 Discharge performance         | 3min, <75V              | 极间 Between terminals         | 2.15Un( 2s,20±5℃)                      |
|                                    |                         | 绝缘电阻 Insulation resistance   | IR×Cn≥5000S(60s,20±5℃,100V.DC)         |



单相式

三相压接式

三相共补式

| 常用规格 Dimension |               |            |               |     |              |             |
|----------------|---------------|------------|---------------|-----|--------------|-------------|
| Un             | Specification | Cn<br>(μF) | Dimension(mm) |     | Qn<br>(kvar) | Irms<br>(A) |
|                |               |            | ΦD            | H   |              |             |
| 400V.AC        | BGMJ0.4-20-3  | 398        | 116           | 245 | 20           | 29          |

| 常用规格 Dimension |                |            |               |     |              |             |
|----------------|----------------|------------|---------------|-----|--------------|-------------|
| Un             | Specification  | Cn<br>(μF) | Dimension(mm) |     | Qn<br>(kvar) | Irms<br>(A) |
|                |                |            | ΦD            | H   |              |             |
| 415<br>V.AC    | BGMJ0.415-5-3  | 92.5       | 76            | 145 | 5.0          | 7.0         |
|                | BGMJ0.415-10-3 | 184.9      | 76            | 205 | 10           | 13.9        |
|                | BGMJ0.415-12-3 | 221.8      | 86            | 205 | 12           | 16.7        |
|                | BGMJ0.415-15-3 | 277.3      | 96            | 205 | 15           | 20.9        |
|                | BGMJ0.415-20-3 | 369.8      | 106           | 205 | 20           | 27.9        |
|                | BGMJ0.415-25-3 | 462.1      | 116           | 205 | 25           | 34.8        |
|                | BGMJ0.415-30-3 | 554.5      | 116           | 235 | 30           | 41.7        |
|                | BGMJ0.415-40-3 | 739.5      | 136           | 235 | 40           | 55.7        |
| 450<br>V.AC    | BGMJ0.415-45-3 | 831.7      | 136           | 250 | 45           | 62.8        |
|                | BGMJ0.415-50-3 | 924.1      | 136           | 250 | 50           | 69.6        |
|                | BGMJ0.45-5-3   | 78.6       | 76            | 145 | 5.0          | 6.5         |
|                | BGMJ0.45-10-3  | 157.2      | 76            | 235 | 10           | 12.9        |
|                | BGMJ0.45-12-3  | 188.7      | 76            | 250 | 12           | 15.4        |
|                | BGMJ0.45-15-3  | 235.8      | 86            | 250 | 15           | 19.3        |
|                | BGMJ0.45-20-3  | 314.8      | 96            | 250 | 20           | 25.7        |
|                | BGMJ0.45-25-3  | 393.9      | 106           | 250 | 25           | 32.1        |
| 480<br>V.AC    | BGMJ0.45-30-3  | 471.6      | 116           | 250 | 30           | 38.5        |
|                | BGMJ0.45-40-3  | 628.8      | 116           | 295 | 40           | 51.4        |
|                | BGMJ0.45-45-3  | 707.4      | 136           | 280 | 45           | 57.8        |
|                | BGMJ0.45-50-3  | 785.9      | 136           | 280 | 50           | 64.3        |
|                | BGMJ0.48-5-3   | 69.1       | 76            | 175 | 5.0          | 6.0         |
|                | BGMJ0.48-10-3  | 138.2      | 76            | 235 | 10           | 12.1        |
|                | BGMJ0.48-12-3  | 165.8      | 86            | 235 | 12           | 14.4        |
|                | BGMJ0.48-15-3  | 207.3      | 86            | 250 | 15           | 18.1        |
| 525<br>V.AC    | BGMJ0.48-20-3  | 276.3      | 106           | 235 | 20           | 24.1        |
|                | BGMJ0.48-25-3  | 345.5      | 116           | 235 | 25           | 30.1        |
|                | BGMJ0.48-30-3  | 414.5      | 116           | 280 | 30           | 36.1        |
|                | BGMJ0.48-40-3  | 552.6      | 136           | 280 | 40           | 48.2        |
|                | BGMJ0.48-45-3  | 621.7      | 136           | 280 | 45           | 54.5        |
|                | BGMJ0.48-50-3  | 690.8      | 136           | 295 | 50           | 60.5        |
|                | BGMJ0.525-5-3  | 57.8       | 76            | 175 | 5.0          | 5.5         |
|                | BGMJ0.525-10-3 | 115.5      | 76            | 235 | 10           | 11          |
| 690<br>V.AC    | BGMJ0.525-12-3 | 138.6      | 86            | 235 | 12           | 13.2        |
|                | BGMJ0.525-15-3 | 173.5      | 96            | 235 | 15           | 16.5        |
|                | BGMJ0.525-20-3 | 231        | 106           | 235 | 20           | 22          |
|                | BGMJ0.525-25-3 | 288.8      | 116           | 235 | 25           | 27.5        |
|                | BGMJ0.525-30-3 | 346.5      | 116           | 280 | 30           | 33          |
|                | BGMJ0.525-40-3 | 462        | 136           | 280 | 40           | 44          |
|                | BGMJ0.525-45-3 | 520        | 136           | 295 | 45           | 49.5        |
|                | BGMJ0.525-50-3 | 577.5      | 136           | 295 | 50           | 55          |
| 690<br>V.AC    | BGMJ0.69-5-3   | 33.4       | 76            | 175 | 5.0          | 4.5         |
|                | BGMJ0.69-10-3  | 66.9       | 76            | 235 | 10           | 8.5         |
|                | BGMJ0.69-12-3  | 80.5       | 86            | 205 | 12           | 10          |
|                | BGMJ0.69-15-3  | 101        | 86            | 250 | 15           | 12.6        |
|                | BGMJ0.69-20-3  | 133.8      | 96            | 250 | 20           | 17          |
|                | BGMJ0.69-25-3  | 167.3      | 116           | 205 | 25           | 21          |
|                | BGMJ0.69-30-3  | 200.8      | 116           | 250 | 30           | 25          |
|                | BGMJ0.69-40-3  | 267.5      | 136           | 250 | 40           | 33.5        |
| 690<br>V.AC    | BGMJ0.69-45-3  | 301        | 136           | 280 | 45           | 37.8        |
|                | BGMJ0.69-50-3  | 334.5      | 136           | 280 | 50           | 42          |

可以根据用户需求，进行其它规格尺寸的产品设计生产；请告知您的需求，我们将竭诚服务。