概述 General description

本产品适用于工频交流(50Hz)电力系统中，用来提高功率因数，改善电压质量、降低设备及线路损耗。

Is suitable for power frequency alternating current (50Hz) power system, it’s used to enhance power factor, improve voltage quality, reduce loss of equipment and line.

型号说明 Model implication

B F M 11/$\sqrt{3}$ – 100 – 1 W

① ② ③ ④ ⑤ ⑥ ⑦

序号 NO.	含义 Implication
①	并联电容器 Parallel capacitor
②	浸渍剂（二芳基乙烷）Impregnating agent (diaryl ethane)
③	介质材料（全膜介质）Dielectric material (full film medium)
④	额定电压 Rated voltage (11 3 kV)
⑤	额定容量 Rated capacity (100kVar)
⑥	相数（单相）Phase (single)
⑦	户外使用 Outdoor use

注：

第一个字母 B 表示并联电容器。

第二个字母 W(或 B、F、A) 表示浸渍剂为烷基苯（或异丙基联苯、二芳基乙烷、苄基甲苯）。

第三个字母 F(或 M) 表示膜纸复合介质（或全膜介质）。

尾注呈 W(或 G、TH、H) 表示户外使用（或高原地区使用、湿热地区使用、污秽地区使用）无尾注号的为户内使用。

若呈 DW 则表示，电容器为三相四线制（带中心点出线）。

Note:

The first letter B denotes shunt capacitor.

The second letter W (or B, F, A) denotes impregnant alkylbenzene (isopropyldiphenyl, 1,2–Diphenylethane, Benzyltoluene).

The third letter F (or M) denotes film compound dielectric (or full film dielectric).

The end with W (or G, TH, H) denotes outdoor use (or high land,damp and hot area and polluted area), the end without code denotes indoor use.

DW means that the capacitor is of three phase four wire system (outgoing line with central point).

使用环境条件 Use environmental conditions

安装运行地区的海拔高度不超过 2000m，对于海拔高于此限值的地区可提供高原型电容器。安装地区环境空气温度范围为 -25/45℃和 -40/+40℃两种。户外（户内通用）使用，安装场所应无有害气体及蒸气，应无导电性或爆炸性尘埃，应无剧烈机械振动。适用于特殊环境条件的产品可按订货要求提供。

The altitude of installation and operation area shall not exceed 2000m, and the plateau type capacitor is provided for the area with the altitude larger than this limiting value. The ambient temperature ranges of the installation area are -25/45 ℃ and -40/+40 ℃. Outdoors (also for indoors) operation, and there is no harmful gas and vapor, no conductive or explosive dust, and no violent mechanical vibration in the installation area. The product used for special environmental conditions can be provided according to the order requirements.

操作过电压和过电流 Operating overvoltage and overcurrent

用不重击穿的开关投切电容器时可能发生第一个峰值不大于 2,2 倍施加电压（方均根值），持续时间不大于 1/2 周波的过渡过电压。相应的过渡过电流的峰值可能达到 100In。在这种情况下，允许每年操作 1000 次。当需对电容器作更为频繁的操作时，稳态过电压的量值和持续时间以及过渡过电流均应限制到一个较低的水平。其限值由制造厂和购买方协商确定。

The switching capacitor with non-heavy breakdown may produce the first transitional over-voltage with it first peak value not more than 2,2 times the applied voltage (rms value) and with the duration not longer than 1/2 cycle. The peak value of corresponding transitional over-current may reach 100In. In such condition, 1000 times of operation is allowed every year. When the more frequent operation is needed for the capacitor, the values of steady over-voltage, duration and transitional over-current shall be limited at a lower level. The values are determined by the manufacturer and the buyer after negotiation.

主要技术性能 The main technical performance

- 电容器的连续运行电压为 1.00Un，且能在如下表所规定的稳态过电压下运行相应的时间。
- 能为电容器所耐受而不受到显著损伤的过电压值取决于持续时间、总的次数和电容器的温度。
- 下表中高于 1.15Un 的过电压是以在电容器的寿命期间发生总共不超过 200 次为前提确定的。

- The continuous operating voltage of the capacitor is 1.00Un, and the capacitor can operate for a corresponding time according to the steady over-voltage specified in the following table.
- The over-voltage value which the capacitor can withstand without great damage is subject to the duration, total times and the capacitor temperature.
- The over-voltage higher than 1.15Un in the following table is determined under the premise of 200 times at most within the service life of the capacitor.

工频过电压 Power frequency overvoltage	最大持续时间 Maximum continuous time	说明 Description
1.10Un	长期 Long-term	指长期过电压的最高应不超过 1.10Un Refers To The Highest Long-Term Overvoltage Shall Not Exceed 1.10 Un
1.15Un	每 24 小时中 30 分钟 30 minutes every 24 hours	系统电压的调整与波动 System voltage adjustment and fluctuation
1.20Un	5 分钟 min	轻载荷时电压升高 When light load voltage rise
1.30Un	1 分钟 min	

高压电容器系列

- 允许在由于过电压和高次谐波造成的有效值为额定电流的 1.30 倍的稳态过电流下运行。对于电容具有最大正偏差的电容器，稳态过电压允许达到额定电流的 1.43 倍。
- 电容偏差为：–5%~+10%。
- 损耗角正切值 tanδ(在额定电压下，20℃时)

A、采用膜纸复合介质的产品不大于 0.0012。

B、采用全膜介质的产品不大于 0.0005(不含内熔丝)。带内熔丝的电容器损耗角正切值、在订货时协商确定。

- 电容器分户内型和户外型，并有适合于湿热地区，高原地区及污秽地区等各种特殊环境用的产品。
- 产品技术性能符合 GB/T11024–2001《高低压并联电容器》国家标准及 IEC871–1(1987) 要求。

- It allows the operation at a steady over–current with an effective value 1.3 times of rated current caused by over–voltage and high harmonic. As for the capacitor with the capacitance of max positive deviation, the value of the steady over–voltage is allowed to reach 1.43 times of rated current.
- Capacitance toleration: –5%~+10%.
- Loss angle tangent tanδ (at the rated voltage and 20℃)

A. 0.0012 at most for the product adopting film compound dielectric.

B. 0.0005 at most for the product adopting full film dielectric (without internal fuse). The loss angle tangent of the capacitor with internal fuse shall be determined through negotiation when the order is placed.

- The capacitors are classified into indoors type and outdoors type, and special type in various special areas, like damp and hot areas, plateau areas and dirty areas.
- The technical performances meet the requirements of GB/T11024–2001 High– and Low–Voltage Shunt Capacitor Installations and IEC871–1(1987).

结构特点 Structure characteristics

- 电容器主要由外壳和心子及出线套管组成，外壳用薄钢板或不锈钢板焊接制成，盖上焊有出线套管，两侧壁上均焊有供安装，吊运的吊攀，心子由元件、绝缘件组成。元件有用聚丙烯薄膜为介质与铝箔 (极板) 卷制而成或用聚丙烯薄膜和电容器纸为介质与铝箔卷制而成。
- 高电压并联电容器的内部联接一般为单相形式。用户需要时可提供三相产品。
- 部分高压并联电容器内部每个元件串有内熔丝，能及时切除击穿的元件，保证电容器整体的正常运行。
- 部分高压并联电容器内部装有放电器件，可使电容器断开电源后的剩余电压在 10min 内由$\sqrt{2}$ Vn 降至 75V 以下。根据购买方需要，可使装置在更短时间内减至更低电压。

- The capacitor consists of a enclosure, a core and outlet bushings. The enclosure is welded by sheet steel or stainless steel sheet, the cover is welded with outlet bushings, and both sides are mounted with hooks for installation and hoisting. The core consists of components and insulators. The components are made of wrapped aluminum foil with polypropylene film as dielectric, or with polypropylene film and capacitor paper as dielectric.
- The internal connection of the high–voltage shunt capacitor is generally single–phase type, and three–phase type is available as per customer's requirements.
- Inside some high–voltage shunt capacitors, each component has an internal fuse in series connection, which can cut off the breakdown component promptly to guarantee the normal operation of the whole capacitor.
- Inside some high–voltage shunt capacitors, there are discharge device, which can make the residual voltage reduce from 2 Vn to below 75V in 10 minutes after the power–off of the capacitor. A lower reduced voltage in a shorter time is available as per customer's requirements.

技术参数（三相）Technical parameter (three phase)

序号 No.	电压等级 Voltage grade	型号规格 Model Specifications BWF/BFF/BFM/BAM 系列 Series	额定电压 Un/kV Rated voltage	额定容量 Qn/kvar Rated capacity	额定电容 Cn/μF Rated capacity	相数 phase
1	6kV	6.3-20-3W	6.3	20	1.60	3
2		6.3-30-3W	6.3	30	2.41	3
3		6.3-50-3W	6.3	50	4.01	3
4		6.3-100-3W	6.3	100	8.02	3
5		6.3-150-3W	6.3	150	12.03	3
6		6.3-200-3W	6.3	200	16.04	3
7		6.3-300-3W	6.3	300	24.06	3
8		6.6-20-3W	6.6	20	1.46	3
9		6.6-30-3W	6.6	30	2.19	3
10		6.6-50-3W	6.6	50	3.65	3
11		6.6-100-3W	6.6	100	7.13	3
12		6.6-150-3W	6.6	150	10.96	3
13		6.6-200-3W	6.6	200	14.61	3
14		6.6-300-3W	6.6	300	21.92	3
15	10kV	11-20-3W	11	20	0.53	3
16		11-30-3W	11	30	0.79	3
17		11-50-3W	11	50	1.32	3
18		11-100-3W	11	100	2.63	3
19		11-150-3W	11	150	3.95	3
20		11-200-3W	11	200	5.26	3
21		11-300-3W	11	300	7.89	3
22		12-20-3W	12	20	0.44	3
23		12-30-3W	12	30	0.66	3
24		12-50-3W	12	50	1.11	3
25		12-100-3W	12	100	2.21	3
26		12-150-3W	12	150	3.32	3
27		12-200-3W	12	200	4.42	3
28		12-300-3W	12	300	6.63	3
29		11-4-3DW	11	4	0.11	3
30		11-14-3DW	11	14	0.37	3
31	带中心点出线 Zone center line 10KV	11-20-3DW	11	20	0.53	3
32		11-30-3DW	11	30	0.79	3
33		11-50-3DW	11	50	1.32	3
34		11-100-3DW	11	100	2.63	3
35		11-120-3DW	11	120	3.16	3
36		11-150-3DW	11	150	3.95	3
37		11-200-3DW	11	200	5.26	3
38		11-250-3DW	11	250	6.58	3
39		11-300-3DW	11	300	7.89	3
40		12-50-3DW	12	50	1.11	3
41		12-100-3DW	12	100	2.21	3
42		12-150-3DW	12	150	3.32	3
43		12-200-3DW	12	200	4.42	3
44		12-300-3DW	12	300	6.63	3

温度范围：-25℃ ~45℃或 -40℃ ~+40℃

注：订货时可按用户要求提供如下特殊使用要求的产品：

1、内置放电电阻 2、内置内熔丝 3、湿热地带地区使用 4、高原地区使用。5、外形及安装尺寸以订货为准。

Temperature range： -25℃ ~45℃或 -40℃ ~+40℃

Note: products with special requirement as follows can be made according to user's requirement:

1. Built-in discharge resistance 2. Built-in internal fuse 3. For damp and hot area

4. For high land 5.outline and installing size shall be subject to the order.

技术参数（单相）Technical parameter (single phase)

序号 No.	电压等级 Voltage grade	型号规格 Model specification BWF/BFF/BFM/BAM 系列 Series	额定电压 Rated voltage Un/kV	额定容量 Rated capacity Qn/kvar	额定电容 Rated capacitance Cn/μF	相数 Phase number
1		6.6/√3-30-1W	6.6/√3	30	6.58	1
2		6.6/√3-50-1W	6.6/√3	50	10.96	1
3		6.6/√3-100-1W	6.6/√3	100	21.92	1
4		6.6/√3-200-1W	6.6/√3	200	43.84	1
5		6.6/√3-300-1W	6.6/√3	300	65.77	1
6	6kV	6.3-18-1W	6.3	18	1.44	1
7		6.3-30-1W	6.3	30	2.41	1
8		6.3-50-1W	6.3	50	4.01	1
9		6.3-100-1W	6.3	100	8.02	1
10		6.3-200-1W	6.3	200	16.04	1
11		6.3-300-1W	6.3	300	24.06	1
12		10.5-18-1W	10.5	18	0.52	1
13		10.5-30-1W	10.5	30	0.87	1
14		10.5-50-1W	10.5	50	1.44	1
15		10.5-100-1W	10.5	100	2.89	1
16		10.5-200-1W	10.5	200	5.78	1
17		10.5-300-1W	10.5	300	8.66	1
18		11/√3-16-1W	11/√3	16	1.26	1
19		11/√3-25-1W	11/√3	25	1.97	1
20		11/√3-30-1W	11/√3	30	2.37	1
21	10kV	11/√3-50-1W	11/√3	50	3.95	1
22		11/√3-100-1W	11/√3	100	7.89	1
23		11/√3-150-1W	11/√3	150	11.84	1
24		11/√3-200-1W	11/√3	200	15.78	1
25		11/√3-300-1W	11/√3	300	23.68	1
26		11/√3-334-1W	11/√3	334	26.36	1
27		12/√3-100-1W	12/√3	100	6.63	1
28		12/√3-200-1W	12/√3	200	13.27	1
29		12/√3-300-1W	12/√3	300	19.90	1
30		12/√3-334-1W	12/√3	334	22.16	1
31		11-30-1W	11	30	0.79	1
32		11-50-1W	11	50	1.32	1
33		11-100-1W	11	100	2.63	1
34		11-150-1W	11	150	3.95	1
35		11-200-1W	11	200	5.26	1
36		11-300-1W	11	300	7.89	1
37	10kV/ 35kV	11-334-1W	11	334	8.79	1
38		12-30-1W	12	30	0.66	1
39		12-50-1W	12	50	1.11	1
40		12-100-1W	12	100	2.21	1
41		12-150-1W	12	150	3.32	1
42		12-200-1W	12	200	4.42	1
43		12-300-1W	12	300	6.63	1
44		12-334-1W	12	334	7.38	1

温度范围：-25℃ ~+45℃或 -40℃ ~+40℃

注：订货时可按用户要求提供如下特殊使用要求的产品：

1、内置放电电阻 2、内置内熔丝 3、湿热地带地区使用 4、高原地区使用。5、外形及安装尺寸以订货为准。

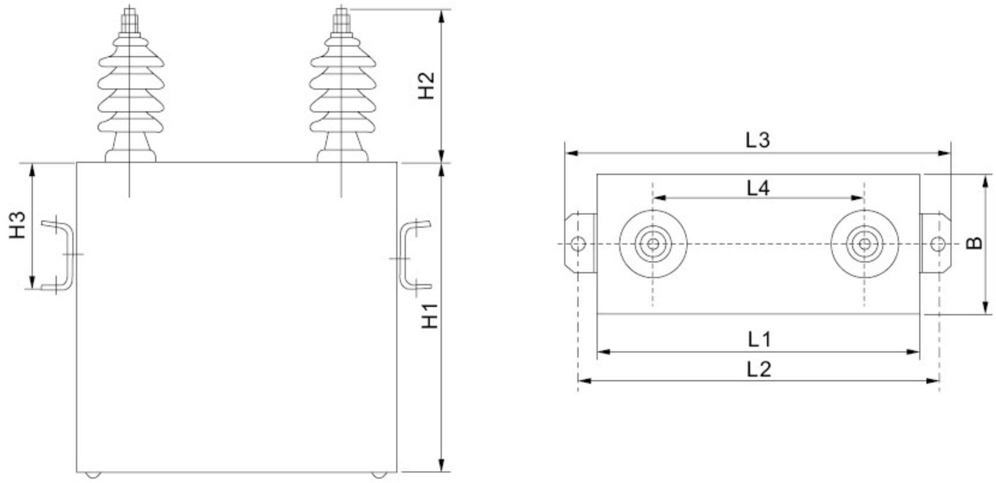
Temperature range： -25℃ ~45℃或 -40℃ ~+40℃

Note: products with special requirement as follows can be made according to user’s requirement:

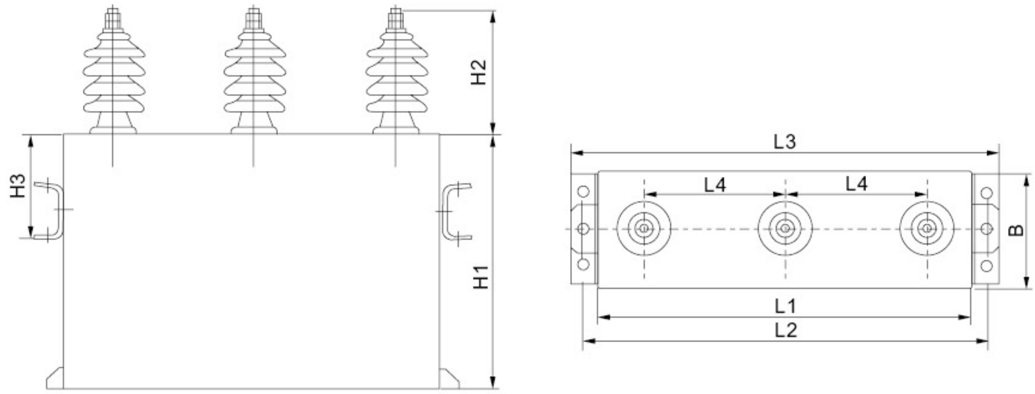
1. Built-in discharge resistance 2. Built-in internal fuse 3. For damp and hot area

4. For high land 5.outline and installing size shall be subject to the order.

外形及安装尺寸 Overall dimension



单相 Single-phase



三相 Three-phase

高压电容器系列