

## 机车专用电容器

## Locomotive Capacitors

## 应用/Applications

电力机车功补系统/Electric locomotives var compensating system

电力机车谐波滤波/Electric locomotives harmonic filtering

电力机车牵引变电所并联补偿/Electric locomotives traction substation shunt capacitors

电力机车过压保护、移相/ Electric locomotives overvoltage protection

列车直流供电/Locomotive DC power supply

## [1]并联/滤波电容器/Shunt/Filtering Capacitors



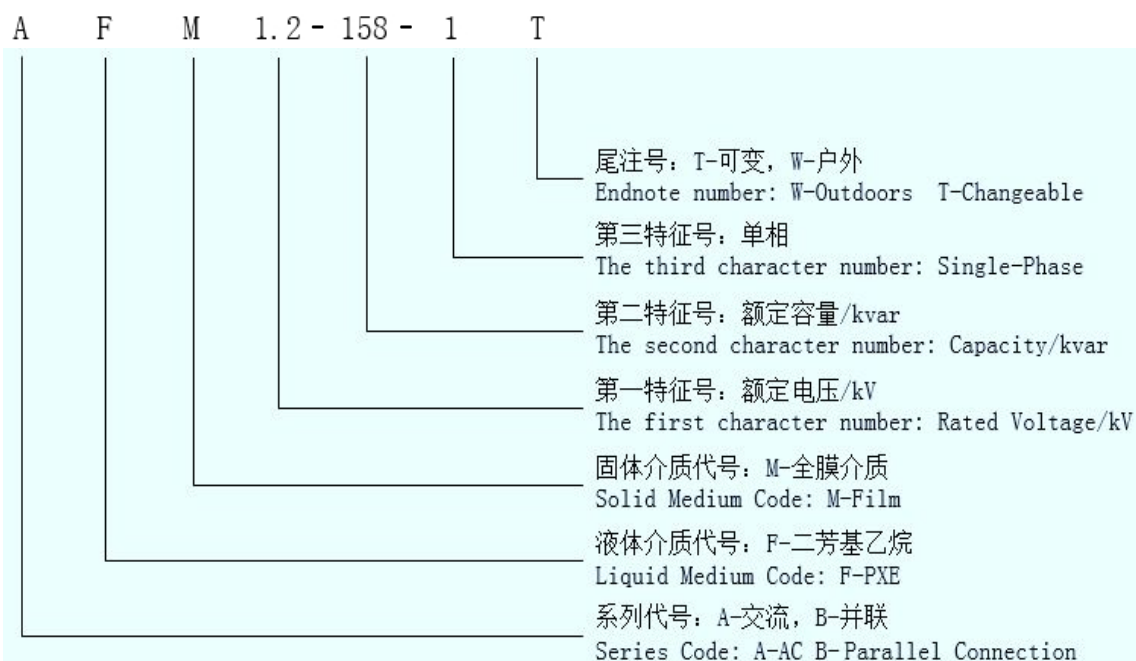
## 电气参数/Electrical characteristics

|                                               |                                            |
|-----------------------------------------------|--------------------------------------------|
| 容量范围/Var power Qn                             | 100-334kvar                                |
| 容量偏差/Tolerance on Cn                          | -5%~+10%                                   |
| 直流额定电压范围 Un/DC Rated Voltage range            | 1.2kV to 8.4kV(AC)                         |
| 损耗角正切值 Tan $\delta$ /Loss factor tan $\delta$ | $\leq 0.00065$ (20℃, 工频额定电压下/At 20℃, 50Hz) |
| 允许长期运用电压/Maximum stable overvoltage           | 1.1Un                                      |
| 使用环境温度/Ambient temperature                    | -25℃~+50℃                                  |
| 使用海拔高度/Permit height above sea level          | 1500m, 可生产更高海拔/Higher height on request    |
| 浸渍剂/Impregnant                                | M/DBT oil NO PCB                           |
| 执行标准/Standard reference                       | GB 11024.1-2001                            |

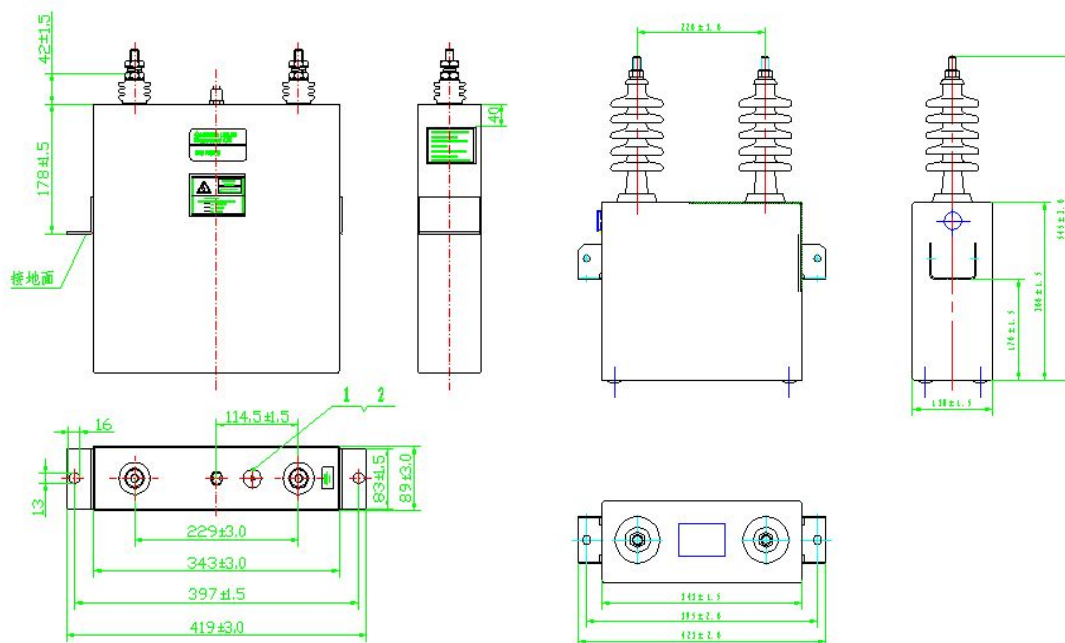
规格表/Table of values

| 序号<br>No. | 型号<br>Type               | 额定电压<br>(kV)  | 额定容量<br>(kvar) | 额定电容<br>(μF) | 外形尺寸 (mm) |     |     |     |     | 适用范围<br>Applications |
|-----------|--------------------------|---------------|----------------|--------------|-----------|-----|-----|-----|-----|----------------------|
|           |                          |               |                |              | L         | L1  | B   | H   | h   |                      |
| 1         | AFM1.2-158-1             | 1.2           | 158            | 350          | 460       | 380 | 170 | 575 | 450 | SS7A                 |
| 2         | AFM1.2-158-1T            | 1.2           | 158            | 270+80       | 460       | 380 | 170 | 575 | 450 | SS7A                 |
| 3         | AFM1.2-211-1             | 1.2           | 211            | 467          | 470       | 390 | 170 | 600 | 500 | SS7C                 |
| 4         | AFM1.2-211-1T            | 1.2           | 211            | 270+197      | 470       | 390 | 170 | 600 | 500 | SS7C                 |
| 5         | AFM1.3-148-1             | 1.3           | 148            | 279          | 370       | 340 | 170 | 520 | 420 | SS4B, SS4 改, SS6B    |
| 6         | AFM2.1-150-1             | 2.1           | 150            | 110          | 410       | 380 | 170 | 575 | 450 | SS4                  |
| 7         | AFM2.1-150-1T            | 2.1           | 150            | 77+33        | 410       | 380 | 170 | 575 | 450 | SS4                  |
| 8         | BFM11 $\sqrt{3}$ -100-1W | 11 $\sqrt{3}$ | 100            | 7.9          | 440       | 380 | 136 | 680 | 430 | 牵引变电站<br>Substations |
| 9         | BFM8.4-100-1W            | 8.4           | 100            | 4.5          | 460       | 380 | 136 | 680 | 430 | 牵引变电站<br>Substations |

型号介绍/Type Explanation



## 典型外形图/Typical Figure Drawing



## [2]金属化电容器/Metallized film capacitor

### 电气参数/Electrical characteristics

|                                      |                                                     |
|--------------------------------------|-----------------------------------------------------|
| 额定容量范围/Capacitance range Qn          | 6-13000μF                                           |
| 容量偏差/Tolerance on Cn                 | -10%~+10%                                           |
| 额定电压范围Un/AC Voltage range Un         | AC: <2kV; DC: <4kV                                  |
| 损耗角正切值 Tan δ /Loss factor tan δ      | ≤0.002 (20℃, 工频额定电压下 At 20℃, 50Hz)                  |
| 使用环境温度/Ambient temperature           | -25℃~+50℃, 可生产更高温度电容器 Higher temperature on request |
| 使用海拔高度/Permit height above sea level | 1000m, 可生产更高海拔/Higher height on request             |

|                         |                                     |
|-------------------------|-------------------------------------|
| 浸渍剂/Impregnant          | Dry or oil NO PCB                   |
| 执行标准/Standard reference | IEC61881, GB/T 12747-91, GB/T 25121 |

### (1) 过压保护电容器/Overvoltage Protection Capacitors

规格表/Table of values

| 序号<br>No. | 型号<br>Type | 额定电压<br>(kV) | 额定电容<br>( $\mu$ F) | 外形尺寸/Shell size |     |     |     | 适用车型<br>Applications                 |
|-----------|------------|--------------|--------------------|-----------------|-----|-----|-----|--------------------------------------|
|           |            |              |                    | L               | W   | h   | H   |                                      |
| 1         | CH84A      | 1.7          | 18                 | 144             | 100 | 280 | 322 | SS4, SS3B, SS4 改, SS6B, SS8, SS9, 8K |
| 2         | CH84E      | 2            | 6                  | 144             | 100 | 280 | 338 | AC-DC, AC-DC-AC                      |
| 3         | CH69A      | 1.7          | 6                  | 144             | 100 | 330 | 308 | SS3, SS7C, SS7D, SS7E                |
| 4         | CH69BS     | 2            | 6                  | 144             | 100 | 280 | 338 | 160KM 机车                             |

产品展示/Presentation



## (2) 移相电容器/Transpose Phase Capacitors

规格表/Table of values

| 型号<br>Type      | 额定电压<br>(kV) | 额定容量<br>(kavr) | 额定电容<br>(μF) | 外形尺寸/Shell size |     |     | 适用车型<br>Applications |
|-----------------|--------------|----------------|--------------|-----------------|-----|-----|----------------------|
|                 |              |                |              | L               | W   | H   |                      |
| BKMJ0.525-12-1J | 0.525        | 12             | 138.6        | 232             | 170 | 270 | 各类型电力机车              |

产品展示/Presentation



## (3) 直流支撑电容器/ DC Link Capacitors

规格表/Table of values

| 序号 | 型号<br>Type     | 额定电压<br>(kV) | 额定电容<br>(μF) | 外形尺寸/Shell size |     |     | 适用车型<br>Applications |
|----|----------------|--------------|--------------|-----------------|-----|-----|----------------------|
|    |                |              |              | L               | W   | H   |                      |
| 1  | DZMJ0.8-5210   | 0.8          | 5210         | 340             | 209 | 357 | SS8, SS9, SS7E       |
| 2  | DZMJ0.75-10000 | 0.75         | 10000        | 710             | 120 | 275 | 地铁                   |
| 3  | DZMJ0.75-15000 | 0.75         | 15000        | 710             | 230 | 275 | 地铁                   |

|   |               |     |      |     |     |     |      |
|---|---------------|-----|------|-----|-----|-----|------|
| 4 | DZMJ1.8-2250  | 1.8 | 2250 | 305 | 115 | 686 | 内燃机车 |
| 5 | DGMJ2.4-1566  | 2.4 | 1566 | 340 | 115 | 510 | HXD1 |
| 6 | DGMJ3.3-1600  | 3.3 | 1600 | 330 | 230 | 600 | HXD3 |
| 7 | DGMJ0.7-8000A | 700 | 8000 | 300 | 92  | 435 | 地铁   |

## 型号介绍/Type Explanation

D Z M J 0.8 - 5210

第二特征号：额定电容/μF  
The second character number: Rated Capacitance/μF

第一特征号：额定电压/kV  
The first character number: Rated Voltage/kV

固体介质：MJ-金属化膜  
Solid Medium Code: MJ-Metalized Film

液体介质：Z-菜籽油  
Liquid Medium Code: Z-Cloza Oil

系列代号：D-直流滤波  
Series Code: D-DC Filtering

## 产品展示/Presentation



## 典型外形图/Typical Figure Drawing

