## TECHNICAL DATA COMMON TO ALL SERIES IN STANDARD CONFIGURATION

| | |
|---|---|
| Enclosure | Made of steel sheet, protected against corrosion by phosphating and epoxy powder coating.<br>Colour RAL 7035.<br>Segregazione: form 1<br>External degree of protection: panel type G3E, G4E IP30; G4RM IP40; G6E, G8E, G9E IP31<br>Internal degree of protection: panels with interlocked switch-disconnector IP20 on live parts; IP 20 protection in additional modules<br>In the G6, G8 and G9 cabinets, capacitor banks are assembled on drawers that can be pulled out from the front of the cabinet for quick maintenance<br>G6, G8, G9 cabinets are equipped with eyebolts for lifting |
| Installation | Indoor installation, in a well ventilated position free from solar radiation.<br>Pollution degree 1<br>Working temperature: -5 / +40 °C; Relative humidity RH50% @40°C<br>Altitude: <1000 asl |
| Main Disconnector | Three-phase off-load disconnector with mechanical door interlock. |
| Wiring | Power connections are made with FS17-450/750V insulated, flame-retardant low smoke emission cables. On non-preinsulated cable lugs, the connection point is covered with a durable heat-shrink sleeve.<br>Auxiliary circuits are appropriately identified in accordance with current standards. |
| Bank insertion | The banks are driven by three-phase contactors (Class AC6-b).<br>Series without tuning reactor have contactors with a pre-insertion resistor to limit peak inrush current<br>Static insertion series are fitted with thyristor insertion modules controlled by microprocessor such that switching on/off occurs when the potential difference between the mains and the capacitors is zero. (zero crossing). The switching time for the insertion of the capacitor banks is approximately 200 ms. |
| Fuses | The capacitive banks are protected by high breaking capacity fuses (100kA). The protection system for the power circuits uses NH-00 curve gG fuses; for the auxiliary circuits sectionable fuse holders and 10.3x38 fuses. |
| Auxiliary circuits | 400 Vac for G3E, G4E, G4RM<br>230 Vac for G6E, G8E, G9E Internal transformer |
| Impulse withstand | 6 kV for type G3E, G4E; 8 kV for G4RM, G6E, G8E, G9E |
| Capacitors | Single-phase capacitors made of self-healing (SH) metallised polypropylene (MKP)<br>Over pressure safety device — Discharge resistor (75V within 3')<br>PCB-free vegetable oil impregnation — Delta connection.<br>Continuous service — Overvoltage: 1.1 x Un (8h / 24h)<br>Current overload: 1.3 x In — Capacitance tollerance: -5% / +10%<br>Dissipation losses: ≤0.4 W/kvar — Temperature category: -25 / D<br>In the higher-performance series, **'Heavy Duty'** capacitors made of high thickness film and multiple elements in series are installed to reduce the effect of high currents on the element heads |
| Tuning reactor (where present) | Iron core with oriented crystals; aluminium windings<br>Resin impregnation<br>Dissipation loss (average): 6W/kvar<br>Over-temperature control probe |
| Controller | Electronic, measurement type: varmetric on 4 quadrants.<br>Current signal: via current transformer (user-supplied) with 5A secondary, class 1<br>Current signal sensitivity: 2.5% for BMR series, 0.3% for HPR series |
| Ventilation | Natural for series without de-tuning chokes and power below 200 kvar.<br>Forced by high-efficiency fans with top expulsion for all other equipment |
| CCS | remote monitoring system for real time data display, emailing of alarms, historical data storage. Included on DMP-FTV, AAR/6, AAR/D20 series; on request on other series<br>The symbol indicates that the equipment is equipped with CCS<br>The symbol indicates that the CCS system is installable on the equipment |
| Safety | Automatic equipment shut-down in case of high THD(I), over-temperature >50°C, under and overvoltage.<br>Bank shut down for reactor overtemperature (where fitted)<br>Dry contact NC for extreme internal temperature (>70°C)<br>In addition on HPR controller: auto shut-down for high THD(U), loss of capacitance of the bank |
| Testing | 100% of the equipment undergoes visual inspection, phase-to-phase and phase-to-ground insulation tests, bank efficiency and ventilation circuit checks.<br>Capacitors are tested for capacitance, dissipation factor [tan(δ)], verification of insulation to earth and overvoltage resistance at three consecutive points of the production process: after winding, during ageing process and at final assembly |
| Regulation | Capacitors: IEC/EN 60831-1 / 2 certified by IMQ (V1927)<br>Equipment: IEC/EN 61439-1 / 2, IEC/EN 61921; 2014/35/EC<br>Electromagnetic compatibility: 2014/30/EC. |

# B50

Automatic power factor correction



The B50 series are suitable for three-phase networks with an operating voltage of **400 Vac** and **medium harmonic content**. The use of Heavy Duty double-element technology increases the life of the capacitor even in harsh situations . They are suitable for industrial users with continuous duty cycles.

## PERFORMANCE DATA

- **Rated voltage** 415 Vac (others on request)
- **Rated frequency** 50 Hz (60 Hz on request)
- **Insulation voltage** 800 Vac
- **Voltage overload** 1.1 Un (rated voltage)
- **Capacitors** Un=500; Umax 550

## HARMONIC CONTENT

### RESONANCE NOT ADMITTED

**THD(I)max. = 35 %** in the grid

**THD(Ic)max. = 80 %** on capacitors

## STANDARD CONFIGURATIONS

| Code | Type | Qn | Cable entry | In | bank power | Steps | Disconnector | Controller | CCS | Weight |
|---|---|---|---|---|---|---|---|---|---|---|
| | | (kvar) | | (A) | (kvar) | (n) | (A) | (type) | | (kg) |
| 8681412102350 | G3E | 10,2 | ↙ | 14 | 3x3,4 | 3 | 40 | BMR4 | | 14 |
| 8681412159350 | G3E | 15,9 | ↙ | 22 | 3,4+2x6,25 | 5 | 40 | BMR4 | | 15 |
| 8681412221350 | G3E | 22,15 | ↙ | 31 | 3,4+6,25+12,5 | 7 | 80 | BMR4 | | 16 |
| 8681412310350 | G3E | 31,25 | ↙ | 43 | 6,25+2x12,5 | 5 | 80 | BMR4 | | 18 |
| 8681412435350 | G3E | 43,75 | ↙ | 61 | 6,25+12,5+25 | 7 | 100 | BMR4 | | 22 |
| 8681412500350 | G3E | 50 | ↙ | 70 | 2x12,5+25 | 4 | 100 | BMR4 | | 23 |
| 8681412625350 | G3E | 62,5 | ↙ | 87 | 12,5+2x25 | 5 | 160 | BMR4 | | 26 |
| 8681412750350 | G4E | 75 | ↙ | 104 | 2x12.5+2x25 | 6 | 200 | BMR4 | | 38 |
| 8681413100350 | G4E | 100 | ↙ | 139 | 2x12,5+25+50 | 8 | 200 | BMR4 | | 43 |
| 8681413125355 | G4RM | 125 | ↙ | 174 | 25+2x50 | 5 | 250 | BMR4 | | 80 |
| 8681413150355 | G4RM | 150 | ↙ | 209 | 2x25+2x50 | 6 | 315 | BMR4 | | 85 |
| 8681413175355 | G4RM | 175 | ↙ | 243 | 25+3x50 | 7 | 400 | BMR4 | | 87 |
| 8681413200355 | G4RM | 200 | ↙ | 278 | 2x25+50+100 | 8 | 400 | BMR4 | | 89 |
| 8681413225355 | G4RM | 225 | ↙ | 313 | 25+2x50+100 | 9 | 500 | BMR4 | | 95 |
| 8681413250355 | G4RM | 250 | ↙ | 348 | 25+50+75+100 | 10 | 500 | BMR4 | | 102 |
| 8681410000345 | G6E | 300 | ↓ | 417 | 25+50+3x75 | 12 | 630 | HPR6 | 🛠 | 175 |
| 8681410050345 | G6E | 350 | ↓ | 487 | 50+4x75 | 9 | 800 | HPR6 | 🛠 | 192 |
| 8681413400345 | G6E | 400 | ↓ | 556 | 2x50+4x75 | 14 | 800 | HPR6 | 🛠 | 207 |
| 8681413450345 | G6E | 450 | ↓ | 626 | 3x50+2x75+150 | 16 | 1000 | HPR6 | 🛠 | 240 |
| 8681413500345 | G6E | 500 | ↓ | 696 | 50+4x75+150 | 13 | 1000 | HPR6 | 🛠 | 255 |
| 8681413525450 | G8E | 525 | ↑ | 731 | 7x75 | 7 | 1250 | HPR12 | 🛠 | 315 |
| 8681413600450 | G8E | 600 | ↑ | 836 | 8x75 | 8 | 1250 | HPR12 | 🛠 | 330 |
| 8681413675450 | G8E | 675 | ↑ | 940 | 7x75+150 | 9 | 1600 | HPR12 | 🛠 | 350 |
| 8681413750450 | G8E | 750 | ↑ | 1045 | 6x75+2x150 | 10 | 1600 | HPR12 | 🛠 | 380 |
| 8681413825450 | G8E (II) | 825 | ↑ | 1149 | 5x75+3x150 | 11 | 800+1000 | HPR12 | 🛠 | 510 |
| 8681413900450 | G8E (II) | 900 | ↑ | 1254 | 4x75+4x150 | 12 | 1000+1000 | HPR12 | 🛠 | 530 |
| 8681413975450 | G8E (II) | 975 | ↑ | 1358 | 3x75+5x150 | 13 | 1000+1250 | HPR12 | 🛠 | 550 |
| 8681414105450 | G8E (II) | 1050 | ↑ | 1462 | 2x75+6x150 | 14 | 1000+1250 | HPR12 | 🛠 | 650 |
| 8681414120450 | G8E (II) | 1200 | ↑ | 1671 | 2x75+5x150+300 | 16 | 1250+1250 | HPR12 | 🛠 | 690 |
| 8681414135450 | G8E (II) | 1350 | ↑ | 1880 | 2x75+4x150+2x300 | 18 | 1600+1250 | HPR12 | 🛠 | 730 |

For dimensions, please refer to the mechanical drawings section, referring to the 'Type' column.

- The cable entry (power supply) legend is as follows: ↑ from below, ↙ side up, ↓ from above,
- Rated power is expressed at rated voltage (Un)
- 🖧 indicates that the equipment is equipped with CCS
- 🛠 indicates that the CCS system is installable on the equipment