TECHNICAL DATA COMMON TO ALL SERIES IN STANDARD CONFIGURATION

Enclosure	Made of steel sheet, protected against corrosion by phosphating and epoxy powder coating. Colour RAL 7035. Segregazione: form 1 External degree of protection: panel type G3E, G4E IP30; G4RM IP40; G6E, G8E, G9E IP31 Internal degree of protection: panels with interlocked switch-disconnector IP20 on live parts; IP 20 protection in additional modules 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 G6, G8, G9 cabinets are equipped with eyebolts for lifting
Installation	Indoor installation, in a well ventilated position free from solar radiation. Pollution degree 1 Working temperature: -5 / +40 °C; Relative humidity RH50% @40°C 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. Auxiliary circuits are appropriately identified in accordance with current standards.
Bank insertion	The banks are driven by three-phase contactors (Class AC6-b). Series without tuning reactor have contactors with a pre-insertion resistor to limit peak inrush current 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 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) Over pressure safety device — Discharge resistor (75V within 3') PCB-free vegetable oil impregnation — Delta connection. Continuous service — Overvoltage: 1.1 x Un (8h / 24h) Current overload: 1.3 x In — Capacitance tollerance: -5% / +10% Dissipation losses: ≤0.4 W/kvar — Temperature category: -25 / D 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 Resin impregnation Dissipation loss (average): 6W/kvar Over-temperature control probe
Controller	Electronic, measurement type: varmetric on 4 quadrants. Current signal: via current transformer (user-supplied) with 5A secondary, class 1 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. 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 The symbol indicates that the equipment is equipped with CCS 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. Bank shut down for reactor overtemperature (where fitted) Dry contact NC for extreme internal temperature (>70°C) 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. 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) Equipment: IEC/EN 61439-1 / 2, IEC/EN 61921; 2014/35/EC Electromagnetic compatibility: 2014/30/EC.

AAR/100-ST

Automatic Power Factor Correction with with Tuning reactors and Static Insertion



The entire **AAR/100-ST** series is free of switching transients thanks to zero-crossing technology, and is designed to improve the performance of conventional equipment, such as: increasing capacitor bank life, decreasing equipment response time to follow rapid changes in loads. Suitable for applications with **high harmonic content** such as automotive, port facilities, machine shops, ...

PERFORMANCE DATA

- **Rated voltage** 400 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

THD(I)max. = 100 % in the grid

THD(U)max. = 3%. in the grid

p = 7% (189 Hz)

STANDARD CONFIGURATIONS

Code	Type	Qn (kvar)	Cable entry	In (A)	bank power (kvar)	Steps (n)	Disconnector (A)	Controller (type)	CCS	Weight (kg)
8611402750200	G8E	75	↑	108	2x12,5+50	5	160	HPR6	🛠	180
8611403100200	G8E	100	↑	144	2X25+50	4	200	HPR6	🛠	200
8611403125200	G8E	125	↑	180	25+2X50	5	315	HPR6	🛠	220
8611403150200	G8E	150	↑	216	25+50+75	6	400	HPR6	🛠	240
8611403175200	G8E	175	↑	252	25+3X50	7	400	HPR6	🛠	260
8611403200709	G9E	200	↑	288	25+2x50+75	8	500	HPR6	🛠	300
8611403225709	G9E	225	↑	324	25+50+2x75	9	500	HPR6	🛠	330
8611403250709	G9E	250	↑	360	2x25+50+2x75	10	630	HPR6	🛠	350
8611403300709	G9E	300	↑	432	25+50+3x75	12	800	HPR6	🛠	390
8611403350709	G9E	350	↑	504	50+4x75	9	800	HPR6	🛠	410
8611403400709	G9E (II)	400	↑	576	2x50+4x75	14	1000	HPR6	🛠	570
8611403450709	G9E (II)	450	↑	648	25+50+5x75	18	1000	HPR12	🛠	620
8611403500709	G9E (II)	500	↑	720	50+6x75	13	1250	HPR12	🛠	670
8611403550709	G9E (II)	550	↑	792	2x50+6x75	19	1250	HPR12	🛠	720
8611403600709	G9E (II)	600	↑	864	8x75	8	1600	HPR12	🛠	770
8611403650709	G9E (II)	650	↑	936	50+6x75+150	16	800+630	HPR12	🛠	820
8611403750709	G9E (II)	750	↑	1080	6x75+2x150	10	800+800	HPR12	🛠	870
8611403825709	G9E (III)	825	↑	1191	5x75+3x150	11	800+1000	HPR12	🛠	1030
8611403900709	G9E (III)	900	↑	1299	4x75+4x150	12	1000+1000	HPR12	🛠	1080
8611403975709	G9E (III)	975	↑	1407	3X75+5X150	13	1000+1000	HPR12	🛠	1130
8611404105709	G9E (III)	1050	↑	1516	2x75+6x150	14	1250+1250	HPR12	🛠	1180

Note

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