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.



The AAR/D20 series are the ideal solution in three-phase networks with an operating voltage of **400 Vac** and **very high harmonic content in both current and voltage** with values that do not comply with EN50160 (foundries, induction furnaces, arc furnaces). The Heavy Duty capacitors with double elements and increased thickness allow use even in extremely heavy duty situations.

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=550; Umax 600

HARMONIC CONTENT

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

THD(U)max. = 20 % 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)
854140310062R	G6E	100	↓	144	2x25+50	4	250	HPR6	🖧	200
854140312562R	G6E	125	↓	180	25+2x50	5	315	HPR6	🖧	259
854140315072R	G6E	150	↓	216	2X25+2X50	6	400	HPR6	🖧	276
854140317562R	G6E	175	↓	252	25+3X50	7	400	HPR6	🖧	332
854140320072R	G9E	200	↓	288	25+2X50+75	8	500	HPR6	🖧	349
854140322572R	G9E	225	↑	324	25+50+2X75	9	500	HPR6	🖧	376
854140325072R	G9E	250	↑	360	2X25+50+2x75	10	630	HPR6	🖧	400
854140327572R	G9E	275	↑	432	25+2X50+2X75	11	630	HPR6	🖧	440
854140330072R	G9E	300	↑	504	25+50+3X75	12	630	HPR6	🖧	485
854140335072R	G9E	350	↑	576	50+4X75	7	800	HPR6	🖧	520
854140340062R	G9E (II)	400	↑	648	2X50+4X75	8	1000	HPR6	🖧	656
854140345062R	G9E (II)	450	↑	720	25+50+5X75	18	1000	HPR12	🖧	772
854140350062R	G9E (II)	500	↑	792	50+6x75	10	1250	HPR12	🖧	800
854140355062R	G9E (II)	550	↑	864	2X50+6X75	11	1250	HPR12	🖧	866
854140360062R	G9E (II)	600	↑	936	8X75	8	1600	HPR12	🖧	910
854140365062R	G9E (II)	650	↑	1010	50+6X75	13	800+630	HPR12	🖧	985
854140375062R	G9E (II)	750	↑	1080	6X75+2X150	10	800+800	HPR12	🖧	1050
854140382562R	G9E (III)	825	↑	1190	5X75+3X150	11	800+1000	HPR12	🖧	1220
854140390062R	G9E (III)	900	↑	1227	4X75+4X150	12	800+1250	HPR12	🖧	1300
854140397562R	G9E (III)	975	↑	1299	3X75+5X150	13	800+1250	HPR12	🖧	1380
854140410562R	G9E (III)	1050	↑	1445	2X75+6X150	14	800+1600	HPR12	🖧	1460

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