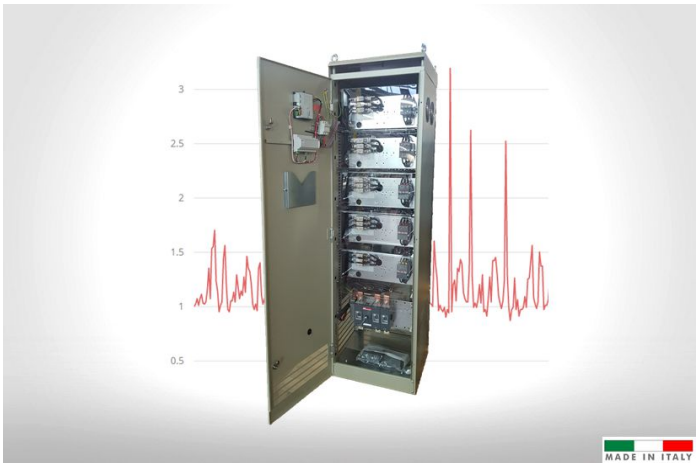
AAR/100

Automatic P.F.C. equipment with Detuning Reactors



PERFORMANCE DATA

Rated voltage	**400 Vac** (others on request)
Rated frequency	**50 Hz** (60 Hz on request)
Insulation voltage	690 Vac
auxiliary voltage	230 Vac (110 Vac on request)
Overvoltage	1,1 Un (rated voltage)
Temperature range	-5 / +40 °C
Impulse withstand	6 kV (G4E); 8 kV (G4RM, G6E, G8E)

AAR/100 series equipment are particularly suitable for three-phase networks with **high harmonic distortion.** These equipment guarantee an accurate P.F.C., thanks to a multi-step design that effectively divides the power. In addition, on the G6E and G8E cabinet, all the capacitors banks are assembled on racks, easily removable from the front of the panel, for simple management and maintenance.

HARMONIC CONTENT

THD(I)max. = 100%	on the network
THD(U)max. = 3%	on the network
p = 7%	

TECHNICAL DATA

Enclosures	Made of sheet steel, protected against corrosion by phosphating and epoxy powder coating. RAL 7035 colour (others on request). Degree of protection: external panel IP 31, with the exception of type G4E with IP30 (others on request); internal panel IP 20 at the input of power cables (IP 20 with open doors on request).
Installation	Indoor installation, in a well ventilated position away from heat sources.
Ventilation	Forced.
Switch isolator	Tri-polar under-load type with door lock.
Wiring	The internal connections are made with flame retardant cables with very low smoke emission (other types of cables on request). On the non-pre-insulated terminals the connection point is covered with a long-life heat-shrinking sheath. The auxiliary voltage are appropriately identified in compliance with current regulations.
3-pole contactors	Each battery is switched on / off by a three-pole contactor (Class AC6-b) to offer high reliability.
Fuses	Each capacitors bank is protected by fuses. The protection system of both the power circuits (NH-00 curve gG fuses) and the auxiliary ones (isolable fuse holders and 10.3x38 fuses) foresees the use of high breaking power fuses (100kA).
Capacitors	Single-phase capacitors in self-healing metallized polypropylene (MKP), equipped with an anti-burst device and discharge resistance. They are impregnated in vegetable oil, PCB free. Delta connection. Type of continuous service. • rated voltage: 500 Vac (maximum voltage 550 Vac) • overvoltage: 1.1 x A (8h / 24h) • current overload: 1.3 x In • capacity tolerance: -5% / + 10% • losses due to dissipation: ≤0.4 W / kvar • temperature category: -25 / D
Detuning reactors	Tuning frequency: 189 Hz (p = 7%) Power losses: 6 W / kvar (AVG) Max. Harmonic distortion of the voltage allowed on the networks is: THDU = 3% (189 Hz). On request: AAR / 6 (THDU = 10%).
Controller	• type of measurement: varmetric. • amperometric signal: by means of an amperometric transformer with secondary 5A, class 1 - 5VA (by the user) • amperometric signal sensitivity: 2.5% for BMR series, 0.3% for HPR series • standard capacitors on / off times: 25 "÷ 30" (others on request)

QUALITY AND TESTING

Regulations	Capacitors: IEC/EN 60831-1 / 2 certified by IMQ (V1927); Equipment: IEC/EN 61439-1 / 2, IEC/EN 61921.
European directives	Low voltage: 2014/35/CE; Electromagnetic compatibility: 2014/30/CE.

COMAR Condensatori

Testing 100% of the automatic equipment is subject to visual inspection, insulation test: phase-phase and phase-earth, battery efficiency and ventilation circuit control: the report is included in the documentation. The capacitors are tested in three consecutive stages of the production process: after winding, regeneration and before labeling.

CONFIGURATION

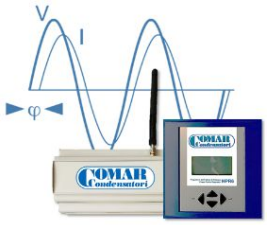
General notes

- For dimensions, please consult the cabinet drawings, referring to the "Type" column.
- The indication for cable entry (power supply) is as follows: ↑ from the bottom, ↙ side up, ↓ from the top
- The rated power is expressed at 400 V - 50 Hz.

The choice of supply cables depends on the installation conditions, the length of the same and the ambient temperature. For a correct sizing, refer to the IEC 60364-5, CEI 64-8 and the UNEL 35024/01 standards.

Cloud Control System (CCS)

The symbol indicates that CCS, the remote monitoring system, is pre-installed on the P.F.C. equipment. For any specific information, and to find out the advantages of the Cloud Control System service, refer to the appropriate brochure available on www.comarcond.com or directly on request.



Table

THD(I)max. = 100% THD(U)max. = 3% p = 7%

Code	Type	Qn	Cable entry	In	Banks size								Steps	Switch isolator	Controller	CCS	Weight
		(kvar)		(A)	(kvar)								(n)	(A)	(type)		(kg)
8561402250700	G4E	25	↙	36	6,25	6,25	12,5						4	160	BMR4		88
8561402310700	G4E	31	↙	44	6,25	12,5	12,5						5	160	BMR4		90
8561402435700	G4E	43,5	↙	63	6,25	12,5	25						7	160	BMR4		100
8561402500700	G4RM	50	↓	72	12,5	12,5	25						4	160	BMR4		105
8561402625700	G4RM	62,5	↓	90	12,5	25	25						5	160	BMR4		115
8561402750700	G4RM	75	↓	108	12,5	12,5	25	25					6	160	BMR4		125
8561403100700	G4RM	100	↓	144	25	25	25	25					4	200	BMR4		145
8561403125700	G6E	125	↓	180	25	50	50						5	315	HPR6	((•))	200
8561403150700	G6E	150	↓	216	25	50	75						6	400	HPR6	((•))	220
8561403175700	G6E	175	↓	252	25	50	50	50					7	400	HPR6	((•))	250
8561403200700	G6E	200	↓	288	25	50	50	75					8	500	HPR6	((•))	270
8561403225700	G6E	225	↓	324	25	50	75	75					9	500	HPR6	((•))	300
8561403250700	G6E	250	↓	360	25	25	50	75	75				10	630	HPR6	((•))	320
8561403275700	G6E	275	↓	397	25	50	50	75	75				11	630	HPR6	((•))	340
8561403300700	G6E	300	↓	432	25	50	75	75	75				12	800	HPR6	((•))	360
8561403350700	G8E	350	↑	504	50	75	75	75	75				9	800	HPR6	((•))	390
8561403375700	G8E	375	↑	541	25	50	75	75	75	75			15	800	HPR6	((•))	410
8561403400700	G8E (II)	400	↑	576	50	50	75	75	75	75			14	1000	HPR6	((•))	550
8561403450700	G8E (II)	450	↑	648	25	50	75	75	75	75	75		18	1000	HPR12	((•))	600
8561403500700	G8E (II)	500	↑	720	50	75	75	75	75	75	75		13	1250	HPR12	((•))	650
8561403550700	G8E (II)	550	↑	792	50	50	75	75	75	75	75	75	19	1250	HPR12	((•))	700
8561403600700	G8E (II)	600	↑	864	75	75	75	75	75	75	75	75	8	1250	HPR12	((•))	750
8561403650700	G8E (II)	650	↑	936	50	75	75	75	75	75	75	150	16	800+630	HPR12	((•))	800
8561403750700	G8E (II)	750	↑	1080	75	75	75	75	75	75	150	150	10	800+800	HPR12	((•))	850
8561403825700	G8E (III)	825	↑	1191	75	75	75	75	75	150	150	150	11	800+1000	HPR12	((•))	1000
8561403900700	G8E (III)	900	↑	1299	75	75	75	75	150	150	150	150	12	800+1250	HPR12	((•))	1050
8561403975700	G8E (III)	975	↑	1407	75	75	75	150	150	150	150	150	13	800+1250	HPR12	((•))	1100
8561404105700	G8E (III)	1050	↑	1516	75	75	150	150	150	150	150	150	14	800+1600	HPR12	((•))	1150

Other solutions are available on request.