

VDE Prüf- und Zertifizierungsinstitut

GUTACHTEN MIT FERTIGUNGSÜBERWACHUNG CERTIFICATE OF CONFORMITY WITH FACTORY SURVEILLANCE

GRUPPO ENERGIA s.r.l.
Via Cavezzo 36
25045 CASTEGNATO BS
ITALY

ist berechtigt, für ihr Produkt /
is authorized to use for their product
**Leistungs-Parallelkondensator -
Dreiphaseneinheit in Dreieckschaltung**

die hier abgebildeten markenrechtlich geschützten Zeichen
für die so Blatt 2 aufgeführten Typen zu benutzen /
the legally protected Marks as shown below for the types referred to on page 2 of



Geeignet und zertifiziert nach /
Fitted and certified according to:

DN EN 60831-1 / VDE 0488-40:2014-11, EN 60831-2:2014
DN EN 60831-2 / VDE 0488-41:2014-11, EN 60831-2:2014



Identifikations- /
File ref.:
Anzahl/Nr.: 40045756 Blatt 1
Certificate No. /
Series identification number /
Order number, see certificate of conformity page
Ofenmarkt, 2017-01-30

VDE Prüf- und Zertifizierungsinstitut GmbH
VDE Testing and Certification Institute
Zertifizierungsstellen /
Certification Offices

VDE Zertifikate und ihre Gültigkeit für Zertifizierungen unter
VDE Zertifizierung sind nach ihrer Publikation zu
VDE

Marken und Logos sind geschützte
Signale und Kennzeichen



CERTIFICATE OF COMPLIANCE

Certificate Number 20140422-E365338
Report Reference E365338-20140422
Issue Date 2014-APRIL-22

Issued to: GRUPPO ENERGIA SRL
Via Cavezzo 36
25045 Castegnato Bs ITALY

This is to certify that COMPONENT - CAPACITORS, CONSTRUCTION ONLY
representative samples of Series L/L/M CP.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: U.S. National Standard: UL 810, standard for Capacitors
Canadian National Standard, CSA C22.2 No. 190,
Capacitors for Power Factor Correction

Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Recognized Component Marks for the U.S. and Canada should be
considered as being covered by UL's Recognition and Follow-Up Service and meeting the appropriate U.S. and
Canadian requirements.

The UL Recognized Component Mark for the U.S. generally consists of the manufacturer's identification and
catalog number, model number or other product designation as specified under "Marking" for the particular
Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that
have been produced under UL's Component Recognition Program, UL's Recognized Component Mark may
be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when
specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions. The
UL Recognized Component Mark for Canada consists of the UL Recognized Mark for Canada and the
manufacturer's identification and catalog number, model number or other product designation as specified under
"Marking" for the particular Recognition as published in the appropriate UL Directory.

Recognized components are incomplete in certain constructional features or restricted in performance
capabilities and are intended for use as components of complete equipment submitted for investigation rather
than for direct separate installation in the field. The final acceptance of the component is dependent upon its
installation and use in complete equipment submitted to UL LLC.

Look for the UL Recognized Component Mark on the product.

William R. Conroy
William R. Conroy, Director, North American Certification Programs
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please
contact a local UL Customer Service Representative at www.ul.com/customer-service.



CERTIFICATE OF COMPLIANCE

Certificate Number 20160402-E365338
Report Reference E365338-20160401
Issue Date 2016 APRIL 02

Issued to: GRUPPO ENERGIA SRL
Via Cavezzo 36, 25045 Castegnato Bs ITALY

This is to certify that COMPONENT - CAPACITORS, CONSTRUCTION ONLY
representative samples of USR, CNR Component - Capacitors, Construction Only,
Series DCM, may be prefixed by EP, followed by additional
letters and numbers; Series GCMR, followed by additional
letters and numbers. V ac rated capacitors

USR Component - Capacitors, Construction Only, Series
DCM, may be prefixed by EP, followed by additional letters
and numbers; Series GCMR, followed by additional letters
and numbers. V ac rated capacitors and V dc rated
capacitors.

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 810 Standard for Capacitors, CSA C22.2 No. 190:14
Standard for Capacitors for Power Factor Correction.

Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance
capabilities and are intended for use as components of complete equipment submitted for investigation rather
than for direct separate installation in the field. The final acceptance of the component is dependent upon its
installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.

Eric Mahoney
Eric Mahoney, Director North American Certification Program
UL LLC

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contact a local UL Customer Service Representative at <http://www.ul.com/customer-service>.



GRUPPO ENERGIA SRL

Registered and Operative Site:
Via Cavezzo, 36 - 25045 CASTEGNATO (BS) - ITALY

Bureau Veritas Italia spa certify that the Management System of the
above organisation has been audited and found to be in accordance
with the requirements of the management system standards detailed below

Standard

ISO 9001:2015

Scope of certification

Design and manufacture of single-phase and three-phase electrical
capacitors for power factor correction of industrial plants, lamps,
motors; design and manufacture of capacitors for power electronics
applications; development and production of contactors, regulators
and power factor reactors (chokias).

EA Sector(s) 18

Certification cycle start date: 10 January 2018

Subject to the continued satisfactory operation of the organisation's
Management System, this certificate expires on: 11 January 2021

Original certification date: 13 January 2006

Certificate No. 17241879

Version: N. 1 Revision date: 10 January 2015

ANDEA FERRI - Local National Manager

Certification Body
Bureau Veritas Italia SpA Viale Monza, 347 - 20122 Milano, Italia



Further specifications regarding the scope of this certificate and the applicability of the
management system requirements may be obtained by consulting the organisation.
To check the certificate validity status enter the website
<http://www.bureauveritas.com/ul>



MAIN FUNCTIONS OF ACTIVE HARMONIC FILTER

GE-AHF take care of several power quality problems, by combining different functions in a single easy-to-use device.

- Reduction of harmonic currents up to 50th harmonic level, THDi up to < 5%
- PFC even at high speed of both inductive and capacitive currents, PF close to 0,99
- Reduction in kVA and kVAh
- Ultra-fast reaction time
- Step-less and precise current compensation
- Compatible with diesel generator operation

OPERATION

In order to improve power factor to near to one and free the grid from dangerous harmonics, the filter monitors the loads of current waves and reacts immediately by using a set of transistors IGBT and capacitors, to filter (or clean) the current wave. It injects inverse currents to cancel out the undesired harmonic components and synchronizes the current and voltage. Gruppo Energia Active Power Filters use an advanced DSP microprocessor which analyses various network parameters and adjusts the output voltage.

The ultra-fast sensing and advanced control algorithm ensures step-less correction, instantaneous improvement of power factor and harmonic compensation.

TECHNICAL SPECIFICATIONS FOR GE-AHF

Electrical Specifications

Standards:	IEC 61000-4-7
Origin:	100% made in Italy
Connection type:	Three-phase (3P4W)
Voltage range:	400 V / 690 V (-15% +20%)
Frequency:	50 Hz / 60 Hz
Efficiency:	Up to 97,5 %
Filter Performance:	Up to THDi < 5%
CT Ratio:	From 150: 5 up to 6000 : 5
HMI:	Yes, with touch screen



Operations

Reactive Power Factor Correction:	Automatic to reach PF close to 0,99
Harmonic Compensation:	Adjustable from 2 up to 50 harmonic order
Work Temperature:	-10 °C ~ +40 °C (derating is required from 40°C to 50°C, increase every 1°C above 40°C, derate 2%, highest temperature allowed: 50°C)
Storage Temperature:	-40 °C ~ +70 °C
Operating Environment:	In-door, free from moisture, dust, corrosive or flammable gases, oil mist, vapor, water leakage or salt water
Altitude:	< 1500 m

Head Circuit Breaker Protection

Without circuit breaker:	Wall mounted type (GE-AHF must be protected by a circuit breaker on upstream switchboard)
With circuit breaker:	Floor standing type (On request for Wall mounted type)

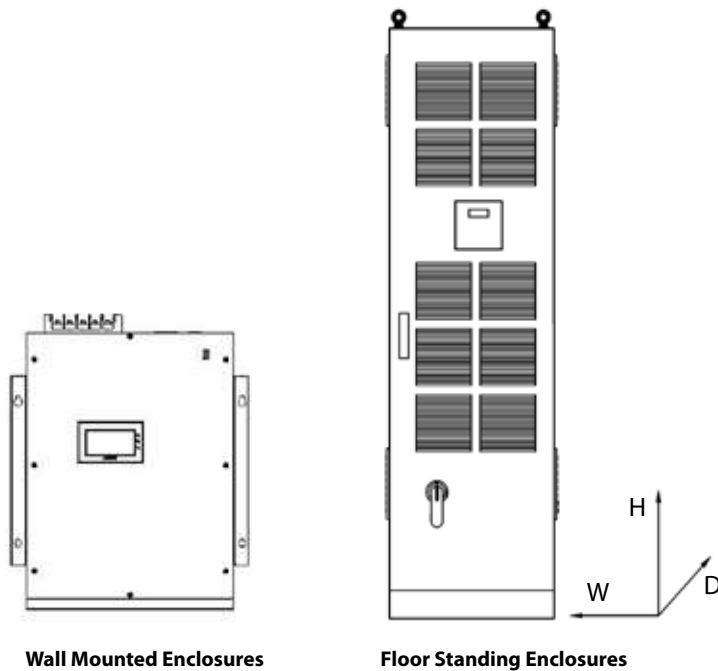
Enclosure

Degree of Protection:	IP 20 (Other on request)
Protection against direct contact, open door:	IP00 (other on request)
Color:	RAL7035

ORDER CODE	Compensation Current	Voltage	Frequency	Connection	Cooling	Encluse Size	Weight
	A	V	Hz			W x D x H (mm)*	Kg
GEAHF5044LWL	50	400	50/60	3P4W - TOP	Forced Integrated	420 x 206 x 531	28
GEAHF7544LWL	75	400	50/60	3P4W - TOP	Forced Integrated	420 x 206 x 531	28
GEAHF10044LWL	100	400	50/60	3P4W - TOP	Forced Integrated	506 x 233 x 612	40
GEAHF15044LWL	150	400	50/60	3P4W - TOP	Forced Integrated	576 x 251 x 621	50

ORDER CODE	Compensation Current	Voltage	Frequency	Connection	Cooling	Encluse Size	Max Weight
	A	V	Hz			W x D x H (mm)*	Kg
GEAHF5044LFL	50	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	600
GEAHF10044LFL	100	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	
GEAHF15044LFL	150	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	
GEAHF20044LFL	200	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	
GEAHF22544LFL	225	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	
GEAHF25044LFL	250	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	
GEAHF30044LFL	300	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	
GEAHF37544LFL	375	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	
GEAHF40044LFL	400	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	
GEAHF50044LFL	500	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	
GEAHF60044LFL	600	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	
GEAHF75044LFL	750	400	50/60	3P4W - BOTTOM	Forced Integrated	800 x 800 x 2100	

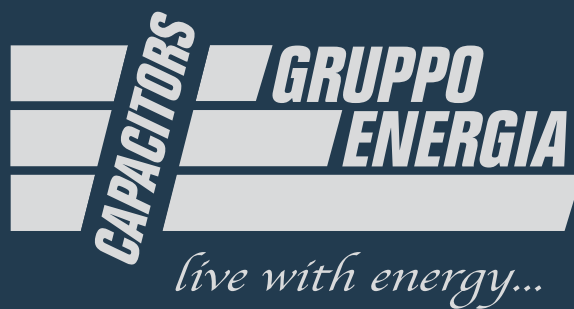
CONSTRUCTION DIAGRAM



* All dimensions will be confirmed at the time of order.



Scan this QR code to see the complete list of our products



MADE IN ITALY



WWW.GRUPPOENERGIA.COM

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ISO 9001-2008
BUREAU VERITAS
Certification
n. IT241879

