

# GMV Medium Voltage

## Generating Sets 800 - 3000 kVA

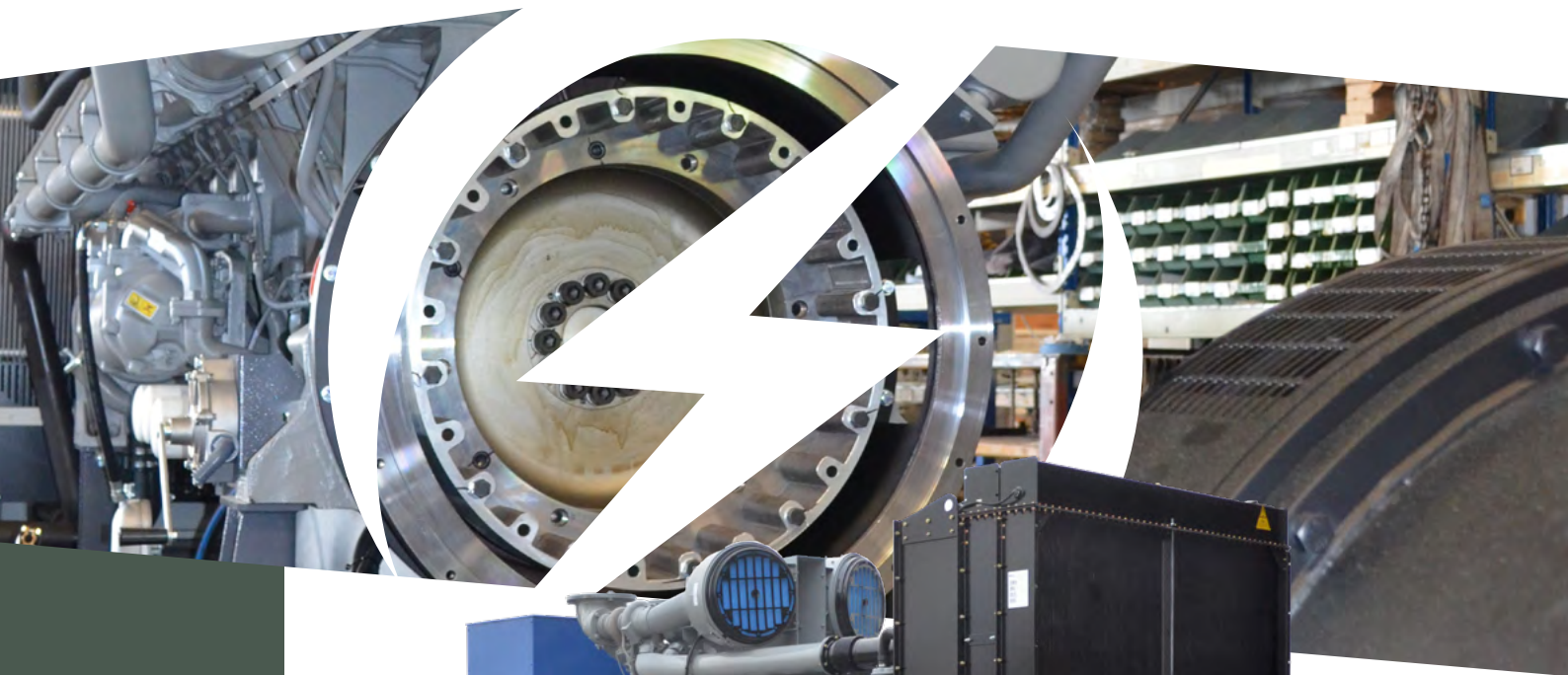
Diesel 1500-1800 RPM

50Hz 3.3kV - 6/6.3/6.6kV - 10/11kV

60Hz 4kV - 7.2/11.4kV - 12.4/13kV



**ELCOS**  
POWER GENERATORS



**Generating sets  
designed to offer  
power supply solutions**

The GMV series generators  
offer a wide range  
of power and engine brands



**Wide range of  
medium voltage**



**Fully factory tested  
and certified**

[www.elcos.net](http://www.elcos.net)

# GMV.BF

Power range 800-3000 kVA

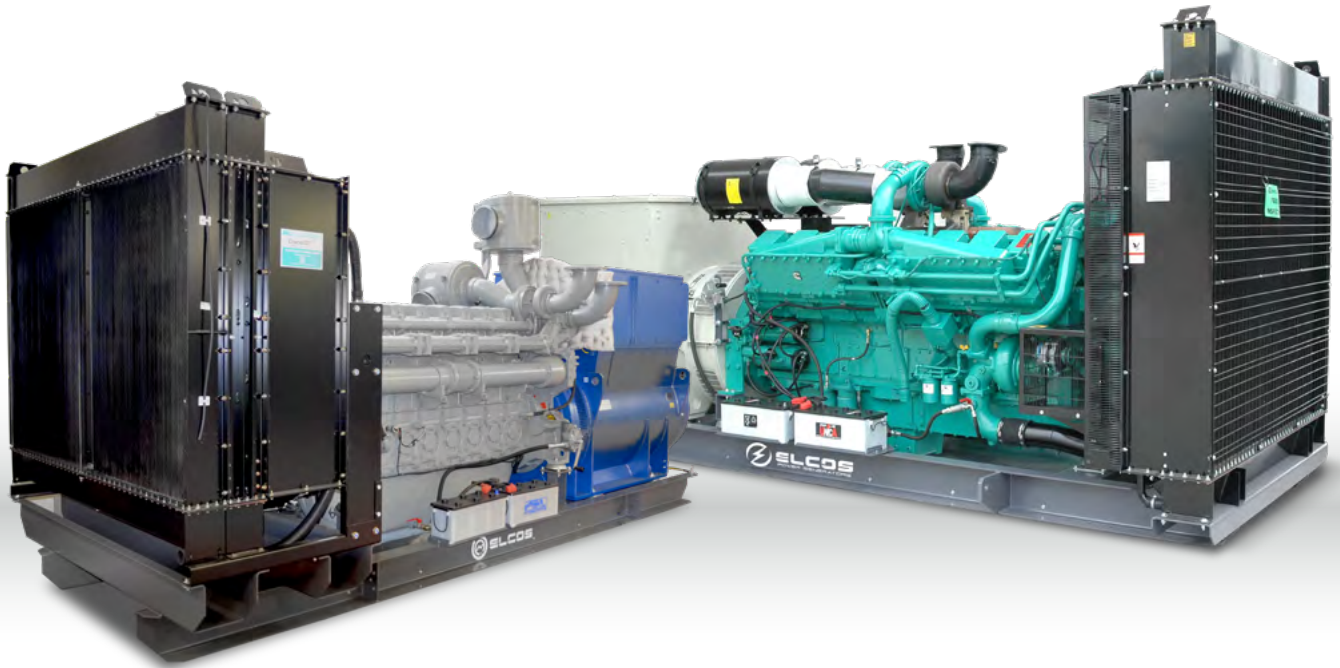
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60Hz 4kV - 7.2/11.4kV - 12.4/13kV



EU Standards  
Compliant



**Medium voltage Generators for genset room or Containers.**

The GMV range offers solutions for medium-voltage systems with a wide range of voltages to satisfy the growing technical requirements, coming from our customers around the world. They can be readily integrated with any onsite distribution system to create a complete power plant.



**Safe for the operator and easy to maintain.**

All operations, such as use, commissioning and maintenance are carried out in complete safety, thanks to all the protection devices.



**Fully customizable to fit all needs.**

Thanks to a wide range of accessories we can configure the generator to be perfectly suited to your needs.

Engine and Alternator Brands





**ELCOS**  
POWER GENERATORS

## Medium Voltage power supply solutions

ELCOS GMV generators offer a reliable energy source.

Often used as a primary distribution system in auto-production installations or as a mains emergency back-up system.

The GMV range ELCOS Generators allow management in parallel, stand-alone or as master and slave modes.

The GMV range covers the reference power from 800 to 3000 KVA, equipped with premium engines and alternators brand.

## Applications

These generators can be used in a variety of applications, such as:



**-Industries**



**-Data Centers**



**-Hospitals**



**-Airports**



**-Military applications**

**-Telecommunications**

**-Oil & Gas**

**-Harbors**

**-Chemicals**



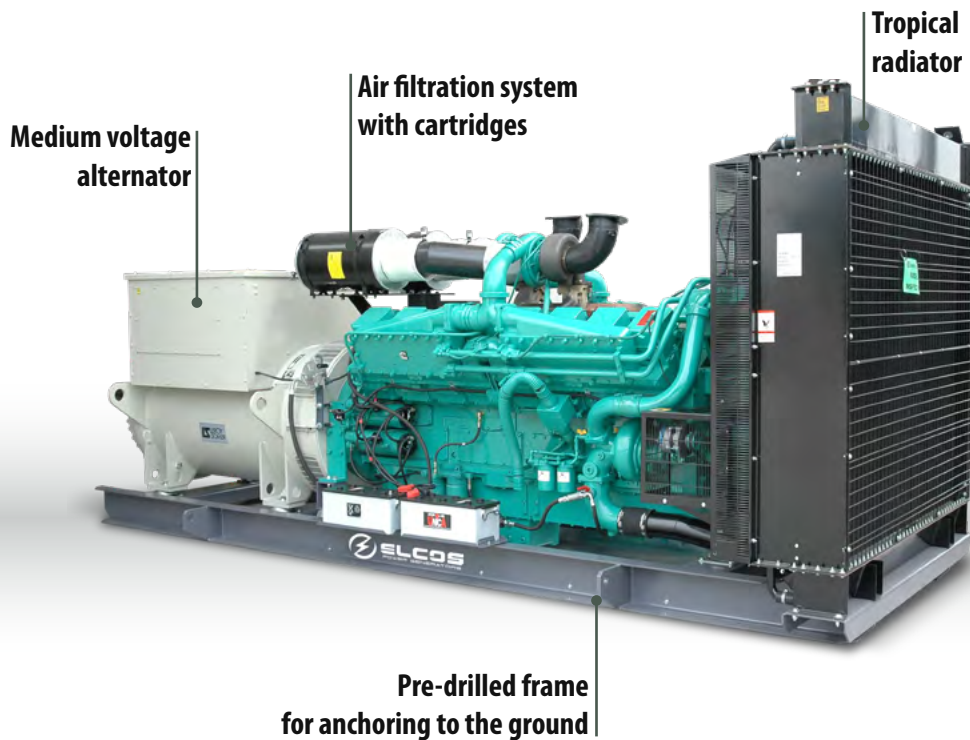
# GMV.BF

Power range **800-3000 kVA**

Diesel 1500-1800 RPM

50Hz **3.3kV - 6/6.3/6.6kV - 10/11kV**

60Hz **4kV - 7.2/11.4kV - 12.4/13kV**



**Battery holder**  
designed for easy maintenance and replacement



**Oil change pump**  
it facilitates oil change



**Rotating part guards**  
to prevent injuries to the user

## QPE POLYVALENT PANEL

### Applications

- ◆ Auto-production (island)
- ◆ Emergency to the mains

## MC4# evo



**+011**  
VARIANT

### Variant +011

#### Without integrated switching

With this variant the SWITCHING is externally managed through separate ATS panels (optional).



### Wiring

excellent degree of resistance with plug in connectors



### Engine heater

for easier cranking in cold environment



### Lifting lugs

allow lifting of the machine



### External Connectors

standard feature in models without tank



### Anti-vibration pads

attenuate the vibrations caused by the unit

# GMV.BF

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60Hz 4kV - 7.2/11.4kV - 12.4/13kV



50 HZ 60 HZ

50 HZ 60 HZ

BRAND

CODE

COOLING

STAGE

GOVERNOR

L x W x H

WEIGHT Kg

TANK It

## 800 kVA

<b>GMV.CU.890/800.BF</b>	886	1000	805	910	Cummins	QSK23G3	W50°	Stage 0	E	468x167x216	6898	No Tank
<b>GMV.MT.870/780.BF</b>	865	-	783	-	MTU	12V 2000 G26F	W50°	Stage 0	E	460x170x210	6487	No Tank
<b>GMV.PK.880/800.BF</b>	880	940	800	845	Perkins	4006-23TAG3A	W50°	Stage 0	E	440x175x220	6002	No Tank

## 1000 kVA

<b>GMV.CU.1101/1001.BF</b>	1100	-	1000	-	Cummins	KTA38G5	W50°	Stage 0	E	450x180x225	8568	No Tank
<b>GMV.CU.1100/1000.BF</b>	1100	1256	1000	1146	Cummins	QST30G4	W50°	Stage 0	E	420x200x235	7305	No Tank
<b>GMV.MT.1100/1000.BF</b>	1106	-	1005	-	MTU	16V 2000 G26F	W50°	Stage 0	E	450x200x215	7646	No Tank
<b>GMV.PK.1130/1000.BF</b>	1124	1125	1022	1000	Perkins	4008-TAG2A	W50°	Stage 0	E	470x175x220	7970	No Tank

## 1250 kVA

<b>GMV.CU.1390/1260.BF</b>	1386	1610	1260	1418	Cummins	KTA50G3	W50°	Stage 0	E	520x170x240	10184	No Tank
<b>GMV.MH.1390/1260.BF</b>	1390	1500	1280	1350	Mitsubishi	S12R-PTA	W50°	Stage 0	E	450x200x235	11544	No Tank
<b>GMV.MT.1370/1250.BF</b>	1370	-	1250	-	MTU	18V 2000 G26F	W50°	Stage 0	E	520x190x255	8837	No Tank
<b>GMV.PK.1380/1250.BF</b>	1378	1378	1253	1253	Perkins	4012-46TWG2A	W50°	Stage 0	E	485x180x235	9660	No Tank

## 1400 kVA

<b>GMV.CU.1540/1400.BF</b>	1540	-	1400	-	Cummins	KTA50G8	W50°	Stage 0	E	560x200x240	11209	No Tank
<b>GMV.MH.1540/1400.BF</b>	1520	1680	1380	1520	Mitsubishi	S12R-PTA2	W50°	Stage 0	E	450x200x235	11444	No Tank
<b>GMV.PK.1500/1370.BF</b>	1500	1500	1364	1364	Perkins	4012-46TWG3A	W50°	Stage 0	E	520x190x255	9778	No Tank

## 1500 kVA

<b>GMV.CU.1690/1540.BF</b>	1690	-	1540	-	Cummins	QSK50G4	W50°	Stage 0	E	480x200x340	12323	No Tank
<b>GMV.MH.1690/1540.BF</b>	1650	1880	1510	1700	Mitsubishi	S12R-PTAA2	W50°	Stage 0	E	480x200x340	11752	No Tank
<b>GMV.PK.1660/1500.BF</b>	1656	1656	1505	1505	Perkins	4012-46TWG4A	W50°	Stage 0	E	510x230x240	10104	No Tank

## 1700 kVA

<b>GMV.MH.1900/1730.BF</b>	1880	2000	1720	1820	Mitsubishi	S16R-PTA	W50°	Stage 0	E	530x200x260	14098	No Tank
<b>GMV.MT.1820/1650.BF</b>	1815	1875	1650	1700	MTU	12V 4000 G14F	W50°	Stage 0	E	500x200x250	12691	No Tank
<b>GMV.PK.1880/1700.BF</b>	1876	1880	1705	1710	Perkins	4012-46TAG3A	W50°	Stage 0	E	510x220x270	11915	No Tank

## 1900 kVA

<b>GMV.CU.2080/1890.BF</b>	2079	-	1890	-	Cummins	QSK60G3	W50°	Stage 0	E	600x250x330	13906	No Tank
<b>GMV.MH.2090/1900.BF</b>	2080	2280	1900	2070	Mitsubishi	S16R-PTA2	W50°	Stage 0	E	530x200x255	14528	No Tank
<b>GMV.MT.2040/1850.BF</b>	2035	2200	1850	2000	MTU	12V 4000 G24F	W50°	Stage 0	E	500x200x250	12901	No Tank
<b>GMV.PK.2030/1850.BF</b>	2028	-	1844	-	Perkins	4016-61TRG1	W50°	Stage 0	E	550x250x270	13473	No Tank

## 2000 kVA

<b>GMV.CU.2240/2040.BF</b>	2237	-	2034	-	Cummins	QSK60G4	W50°	Stage 0	E	600x250x340	14190	No Tank
<b>GMV.MH.2200/2000.BF</b>	-	-	-	-	Mitsubishi	S16R-PTAA2	W50°	Stage 0	E	602x215x255	14820	No Tank
<b>GMV.MT.2300/2100.BF</b>	2300	2500	2100	2275	MTU	16V 4000 G14F	W50°	Stage 0	E	610x230x300	14735	No Tank
<b>GMV.PK.2265/2060.BF</b>	2250	-	2000	-	Perkins	4016-61TRG2	W50°	Stage 0	E	600x220x255	13757	No Tank

## 2300 kVA

<b>GMV.PK.2500/2250.BF</b>	2500	-	2250	-	Perkins	4016-61TRG3	W50°	Stage 0	E	610x230x300	14216	No Tank
<b>GMV.MH.2500/2280.BF</b>	2500	-	2280	-	Mitsubishi	S16R2-PTAW	W50°	Stage 0	E	610x230x300	16966	No Tank
<b>GMV.MT.2530/2300.BF</b>	2530	2750	2300	2500	MTU	16V 4000 G24F	W50°	Stage 0	E	610x230x300	15714	No Tank
<b>GMV.MH.2640/2400.BF</b>	2640	-	2400	-	Mitsubishi	S16R2-PTAW-E	W50°	Stage 0	E	610x230x300	18298	No Tank

## 2500 kVA

<b>GMV.MT.2800/2550.BF</b>	2805	3125	2550	2813	MTU	20V 4000 G14F	W50°	Stage 0	E	665x232x278	19322	No Tank
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## 2800 kVA

<b>GMV.CU.3000/2750.BF</b>	3000	-	2750	-	Cummins	QSK78G9	W50°	Stage 0	E	650x200x275	18997	No Tank
<b>GMV.MT.3000/2800.BF</b>	3080	3438	2800	3125	MTU	20V 4000 G24F	W50°	Stage 0	E	650x200x275	19492	No Tank

## 3000 kVA

<b>GMV.MT.3360/3000.BF</b>	3355	3750	3050	3450	MTU	20V 4000 G34F	W50°	Stage 0	E	650x200x275	20033	No Tank
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## Engine

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- Heavy duty air filter
- Fuel/Water separator filter
- Engine liquids -40 °C
- Oil suction pump
- Dual redundant starter motors
- Super hot 230 Vac engine pre-heater
- Automatic oil refilling system



## Alternator

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- 230 Vac anti-condensation heaters
- RTD-PT100 probes on stator windings
- PT100 probe on bearings
- Temperature control unit up to 4 PT100 probes
- Joint and bell housing for coupling in double-bearing alternators



## Batteries

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- Redundant battery system
- DC isolator
- Maintenance free high efficiency starter batteries
- 24Vdc NiCd starter batteries



## Exhaust

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- Catalytic MC converter (CAT)
- Particulate filter (DPF)
- Spark arrestor
- Residential muffler -35 dBA
- Assembly of residential muffler on board
- Exhaust bellow with flexible joint







### Electrical system

#### QPE

- 16-relay module
- RS485 Converter LAN / USB
- MASTER / SLAVE device
- GSM remote management modem
- Remote panel
- Remote management software
- WEB remote management system via LAN/GSM/GPRS with GPS
- Option with QBM DSE 7320 on board
- Option with QBM ComAp AMF25 on board



#### QP.APM Parallel panel

- Automatic parallel panel with ComAp Intellivision control
- Module to manage multiple units in parallel to the Mains

#### Transformers



### Services

- Factory Acceptance Test (FAT)
- Vibration test



### Tanks

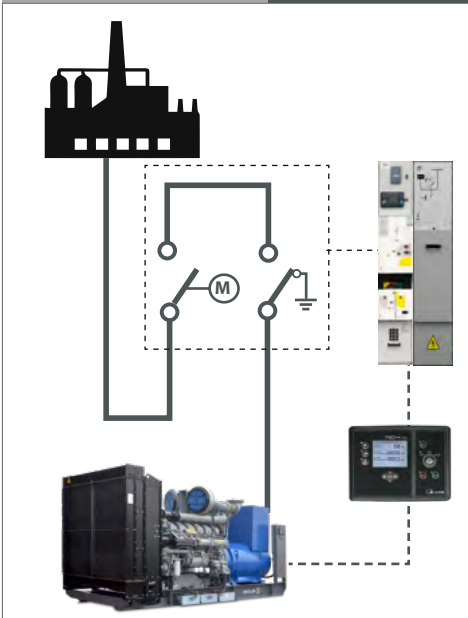
- Double wall fuel tanks with feet and tear valve
- Single wall fuel tank for outdoor with bunded base and roof
- External tanks and automatic fuel refilling systems**
- Automatic fuel refilling system with bunded base
- Tanks with bunded base on trestle

### Medium Voltage Parallel panel system



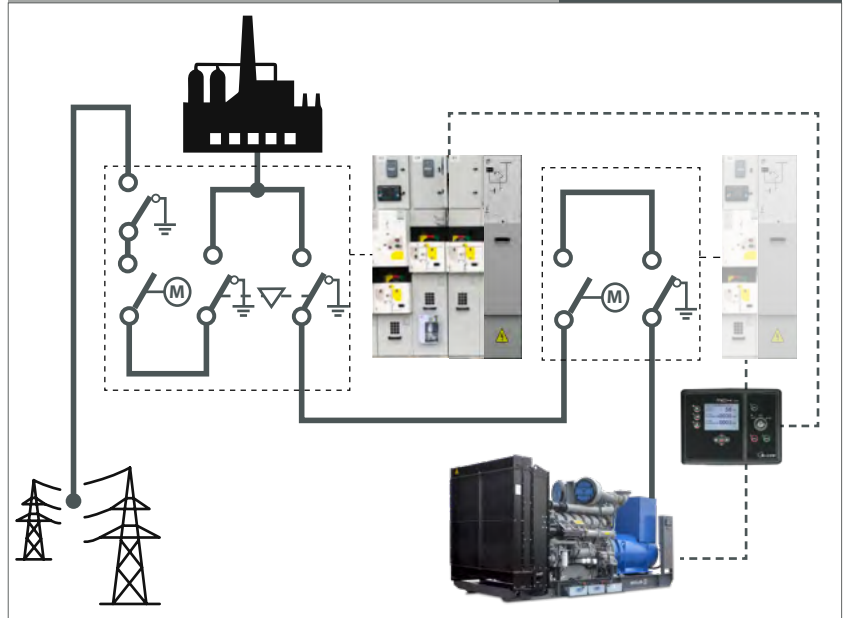
## QMV

### QMV.SWC-12KV Switching



MV switchgear from 3 to 12kV with motorized vacuum switch and SF6 disconnector, Sepam S10 protection relay + cable descent module

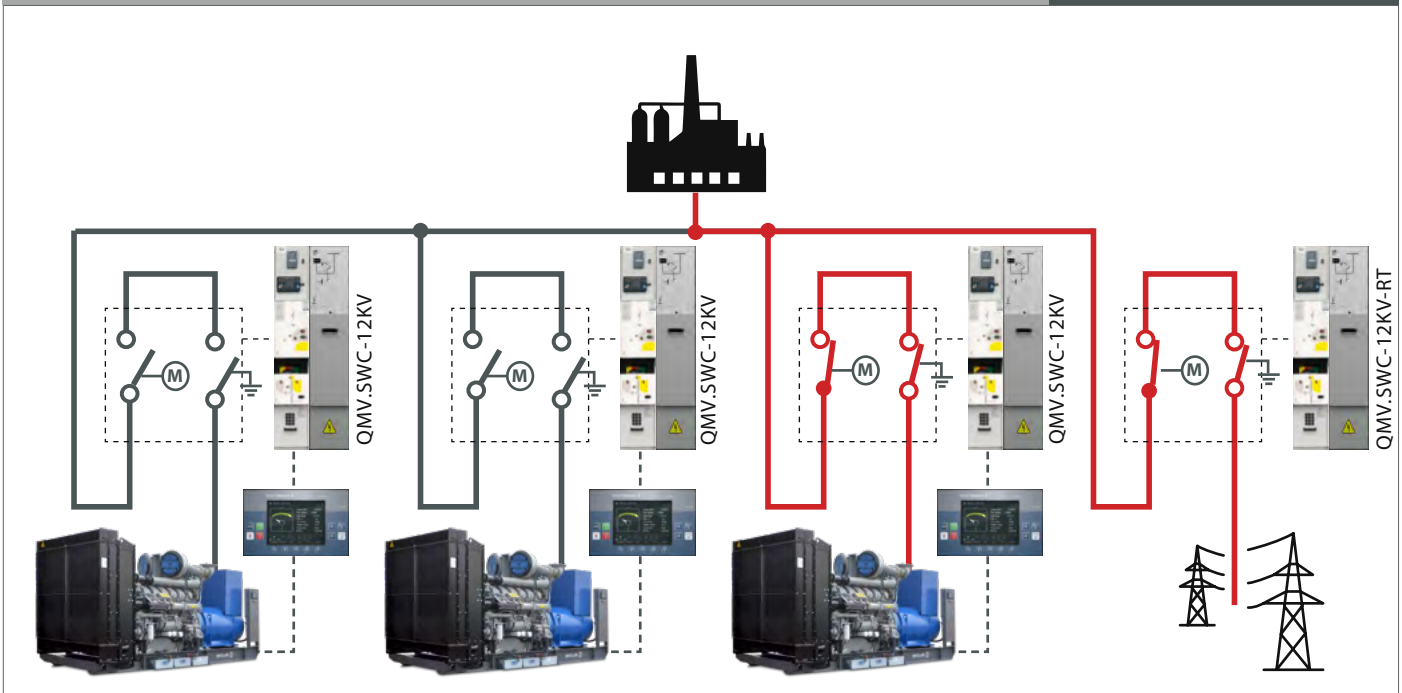
### QMV.QC-12KV-SWC-RT Commutation



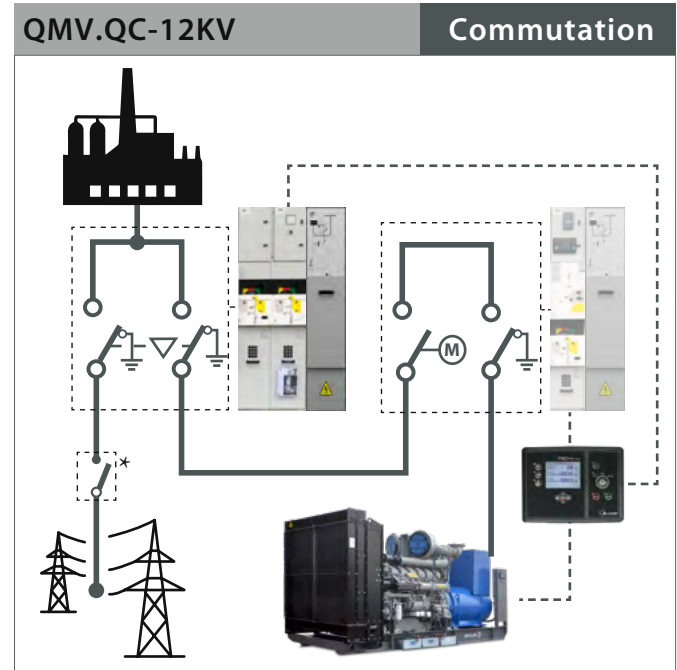
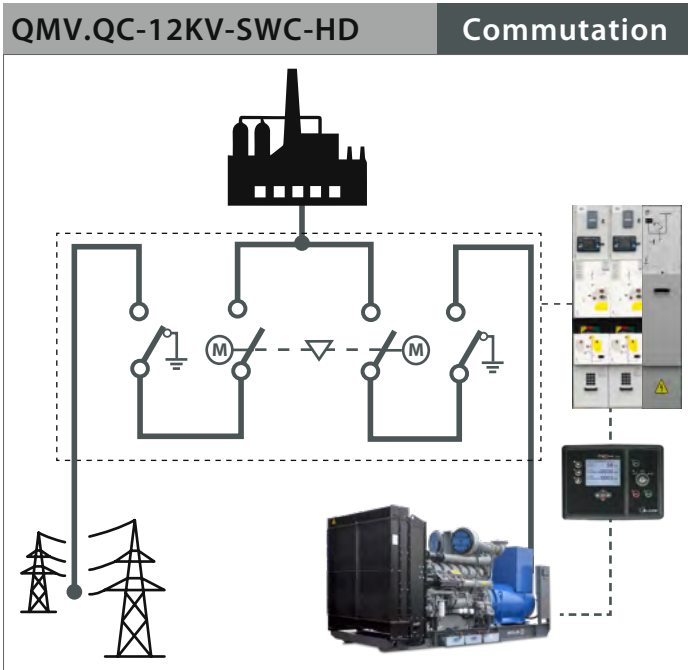
Switching panel from 3 to 12kV consisting of 2 MV switchgear with interlocked disconnectors, with mains-side protection switch, with Sepam S10 protection relay + cable descent module

### QMV.QC-12KV + QMV.SWC-12KV-RT

### Parallel system







HD switching panel from 3 to 12kV composed of 2 MV switchgear with disconnectors, with interlocked motorized vacuum breaker, with Sepam S10 protection relay + cable descent module

Switching panel from 3 to 12kV composed of 2 MV switchgear with interlocked disconnectors, without protection switch, without protection relay + cable descent module



**QMV Optional**

Installation of a single MV Panel in a container with auxiliary electrical connections (Medium Voltage Cables excluded)

Medium Voltage cables for installation up to 10 mt x 3 phases + cable headers

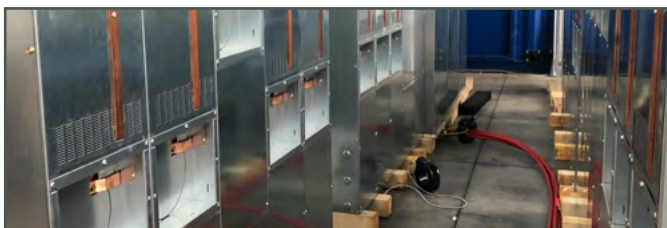
Sepam S20 protection relay for MV switchgear

Thytronic NA016 protection relay for MV switchgear (Italian market)



QMV.APM-GMV-SM Measurement compartment for parallel management on the MAINS side, equipped with a socket for cable entry and exit from the bottom, 3 TV for mains voltage readings

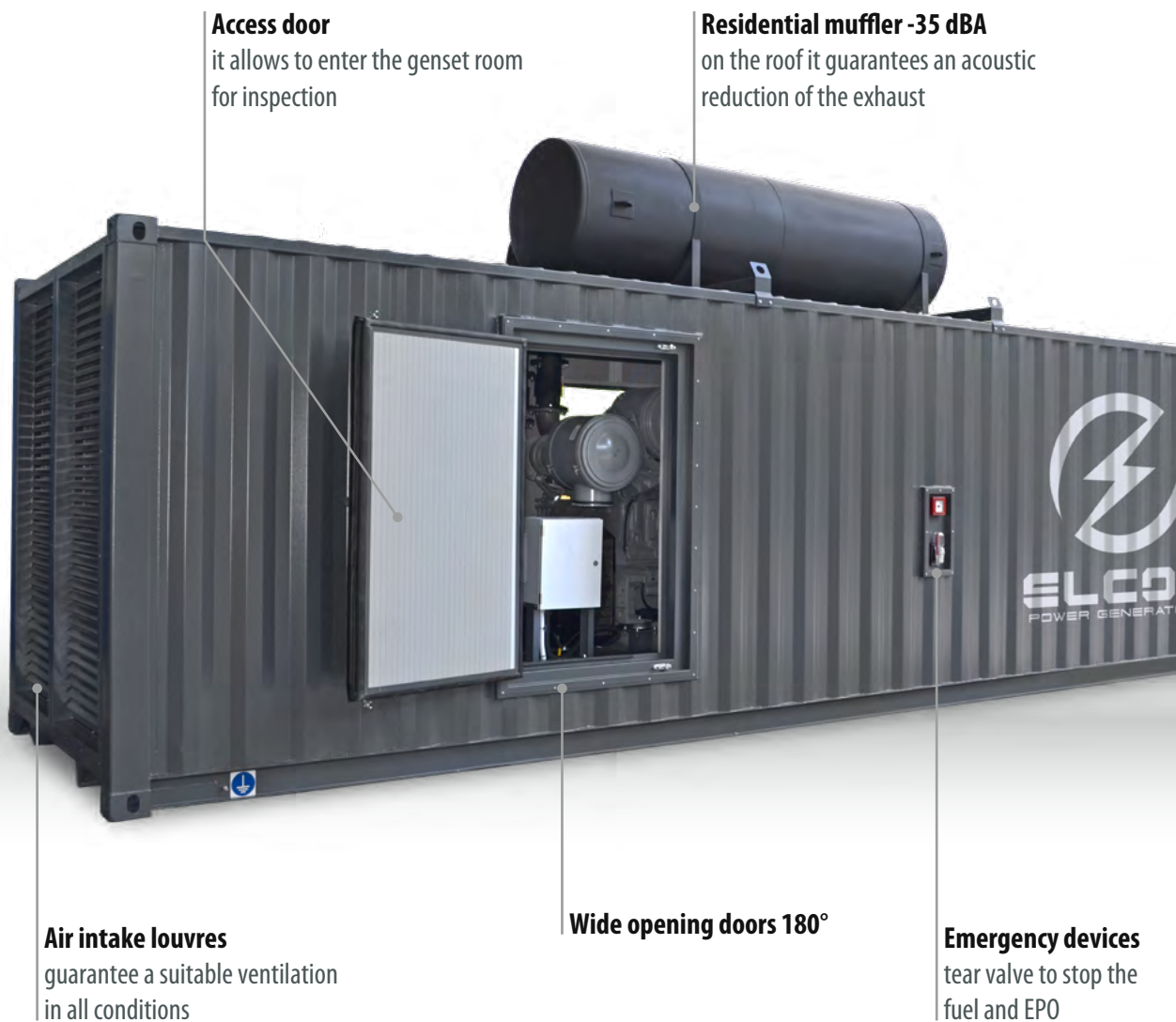
QMV.SWC-12KV-RT MV switchgear from 3 to 12kV 400A for parallel management of the network, with motorized vacuum switch and SF6 disconnector, Sepam S10 protection relay + cable descent module (it includes QP.IM-NT for more management GMV in parallel network)





# CONTAINER

Iso Range 20'/20'HC - 30'/30'HC - 40'/40' HC



### Access door

it allows to enter the genset room for inspection

### Residential muffler -35 dBA

on the roof it guarantees an acoustic reduction of the exhaust

### Air intake louvres

guarantee a suitable ventilation in all conditions

### Wide opening doors 180°

### Emergency devices

tear valve to stop the fuel and EPO



### Tear valve

interrupts the flow of diesel fuel in the event of an emergency



### Padding material

is composed of different types like class 1 micro-perforated panels



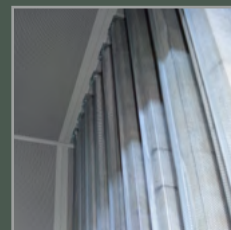
### Discharge passage

allows to connect the muffler outside the engine



### Electrical system

lighting and internal EMF facilitate the staff when inside



### Sound-absorbing partitions

reduce the noise perceived outside



**IP door gasket**  
it guarantees a remarkable tightness to isolate the generated noise



**Air intake louvres**  
and special attenuators for acoustic insulation



**Door lock**  
for soundproof and tamperproof



**Maintenance doors**  
they guarantee a comfortable inspection and maintenance

**\*Electrical Driven Radiator**



**70 EDR\* model**  
residential -40 dBA muffler built-in in the roof

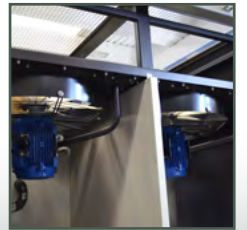
**ISO corner castings**



**Forklift tunnels**  
to ensure safe lifting and handling



**70 EDR\* model**  
fully removable machine, big tank on board and room forced ventilation



**70 EDR\* model**  
VSD driven fan remote radiator properly sized for the temperature



**Air outlet louvres**  
with metal mesh to protect the expulsion from leaves/dirt



**Emergency button**  
lever to stop the oil and EPO



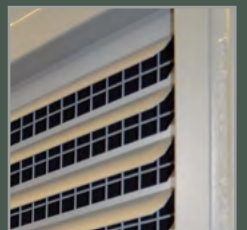
**Air intake louvres**  
guarantee a suitable ventilation in all conditions



**Control & Command panel IP 55**  
accessible from the outside



**Residential Muffler**  
on the roof it guarantees an acoustic reduction of the exhaust noise



**Louvres**  
special inclined grills to protect against rain and wire anti-mouse mesh





## Access

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Control panel cabinet inspection door (double door)

Control panel cabinet inspection door (single door)

Panic release pushbutton for service door

Expulsion compartment walkway

Double hinged door with wide (180°) opening

Shelter above access door (for single hinged control panel)

Shelter above access door (for double hinged control panel)

Doorstop



## Aspiration / Expulsion

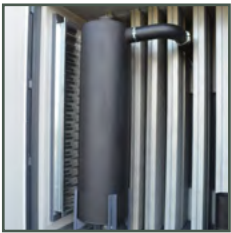
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Front vertical air outlet louvres

Vertical gravity louvres

Vertical motorized louvres

VSD driven fan remote radiator



## Exhaust

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External muffler with insulated casing

Internally mounted muffler



## Fuel Supply

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Tanks and automatic fuel refilling systems

Double wall tanks with feet and tear valve

4000/5000 Lts. tank space-optimized for containers

External refill with signal lamp

External refill with analogue level indicator

Fuel connections with 3-way valve & quick couplings

Bunded floor area with drainage to the outside

Tank installation in container with dividing fireproof wall



## Certifications

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Rina Certification

Atex Certification



### Fire Prevention System

Fire detection kit Including thermal and optical sensors, control unit, optical and acoustic indicator, emergency button

Fire extinguishing kit with CO2 gas, including: CO2 cylinder, gas collection manifolds, distribution piping and nozzles

Fire detection and extinguishing kit

PTFE oil hoses reinforced with stainless steel sleeve



### Electrical System

Installation and connection of power panel

Dedicated panel room with external access door

Cable entry from below

Outdoor container lighting

Door opening alarm system

Air extractor with ambient probe

Engine compartment electric heating kit

Automatic container temperature control system



### Painting

Total custom container painting

High resistance painting for corrosive environments



### Various

Galvanized checkered floor plates, thickness 3+2 mm

# Testing Rooms

## TR1

### Testing Room 1 from 5 to 1000 kW Certified for phonometric tests

#### LOW Voltage

50 Hz  
400 - 380 - 230 V  
60 Hz  
480 - 240 - 208 - 220 - 277 V

#### DC Voltage

48 VDC



#### Features of Testing Room N° 1

- 607 kW x 2 automatic test with 10 load steps
- 35 kW automatic test with 10 load steps
- 10 kW automatic test in DC with 10 load steps
- Full tests with 6 PT 100 probes, 3 thermal probes
- Air flow test with anemometer
- Vibrations test
- Phonometric test
- Data registration by MODBUS

## TR2

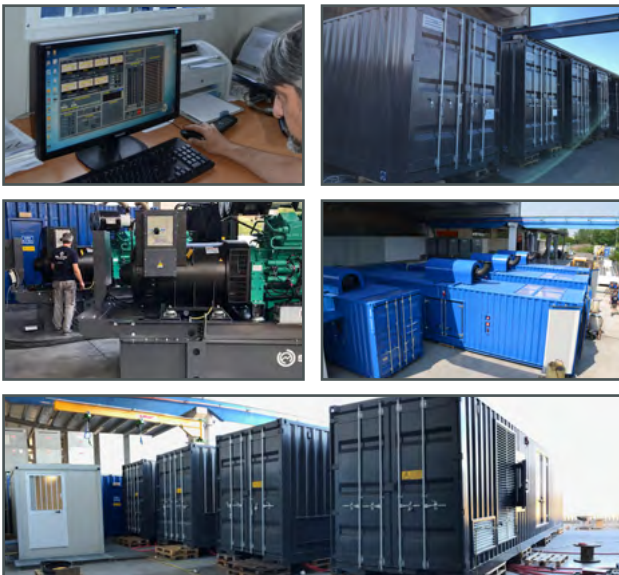
### Testing Room 2 from 250 to 4000 kW

#### LOW Voltage

50 Hz  
400 - 380 - 230 V  
60 Hz  
480 - 240 - 208 - 220 - 277 V

#### MEDIUM Voltage

50 Hz  
3/3.3 - 6/6.3/6.6 - 10/11 - 15 kV  
60 Hz  
4 - 7.2/11.4 - 12.4/13 kV



#### Features of Testing Room N° 2

- 3000 kW automatic test with 20 load steps
- Multi-voltage transformer with MV cells
- Full tests with 6 PT 100 probes, 3 thermal probes
- Parallel test for up to 6 containers
- Air flow test with anemometer
- Vibrations test
- Phonometric test
- Data registration by MODBUS



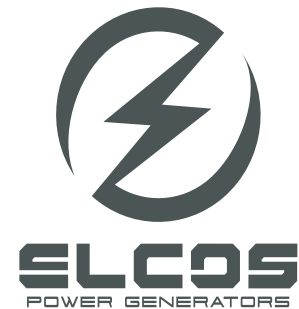
# About us



**45**  
Years of experience

## Company

Elcos is located in Northern Italy, in the province of Cremona. It has been operating in the domestic and international market for over forty-five years.



Elcos researches and develops products that use innovative technologies in order to optimize its production efficiency and performances provided by its systems, offering the user (from 1 to 3150 kVA) a customized product.

Elcos is an independent group that designs and produces in Italy power generation systems (emergency and self-production) intended for the international market. ELCOS has promoted an internal behavioural code based on customer satisfaction.

Product quality and customer satisfaction: the passions that guide us. The R&D department is constantly studying the possibilities of technological innovation to improve the products proposed, to explore the possibilities of new products and to improve production processes. Always focused on quality, ensuring conformity of the product and the processes according to legislation, by respecting environmental issues.



The R&D department implements existing systems and looks forward to future opportunities that can meet the needs of customers.

## Other Elcos products

<i><b>GE-RB</b></i>	<i><b>GE-SS</b></i>	<i><b>GE-BF</b></i>	<i><b>GE-TLC</b></i>	<i><b>GMV-BF</b></i>	<i><b>NO BREAK</b></i>
<i><b>GDC-HS</b></i>	<i><b>GDC-SAPS</b></i>	<i><b>GE-ECHO</b></i>	<i><b>GE-ZIP</b></i>	<i><b>TF</b></i>	<i><b>AGRIPLUS</b></i>

## Installations/References

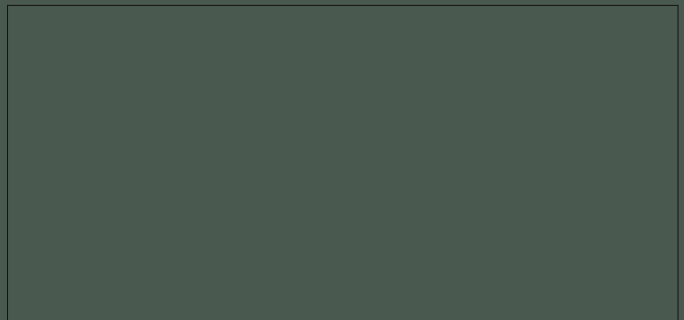


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