



Smart solutions.  
Strong relationships.

# Gas Insulated Switchgear



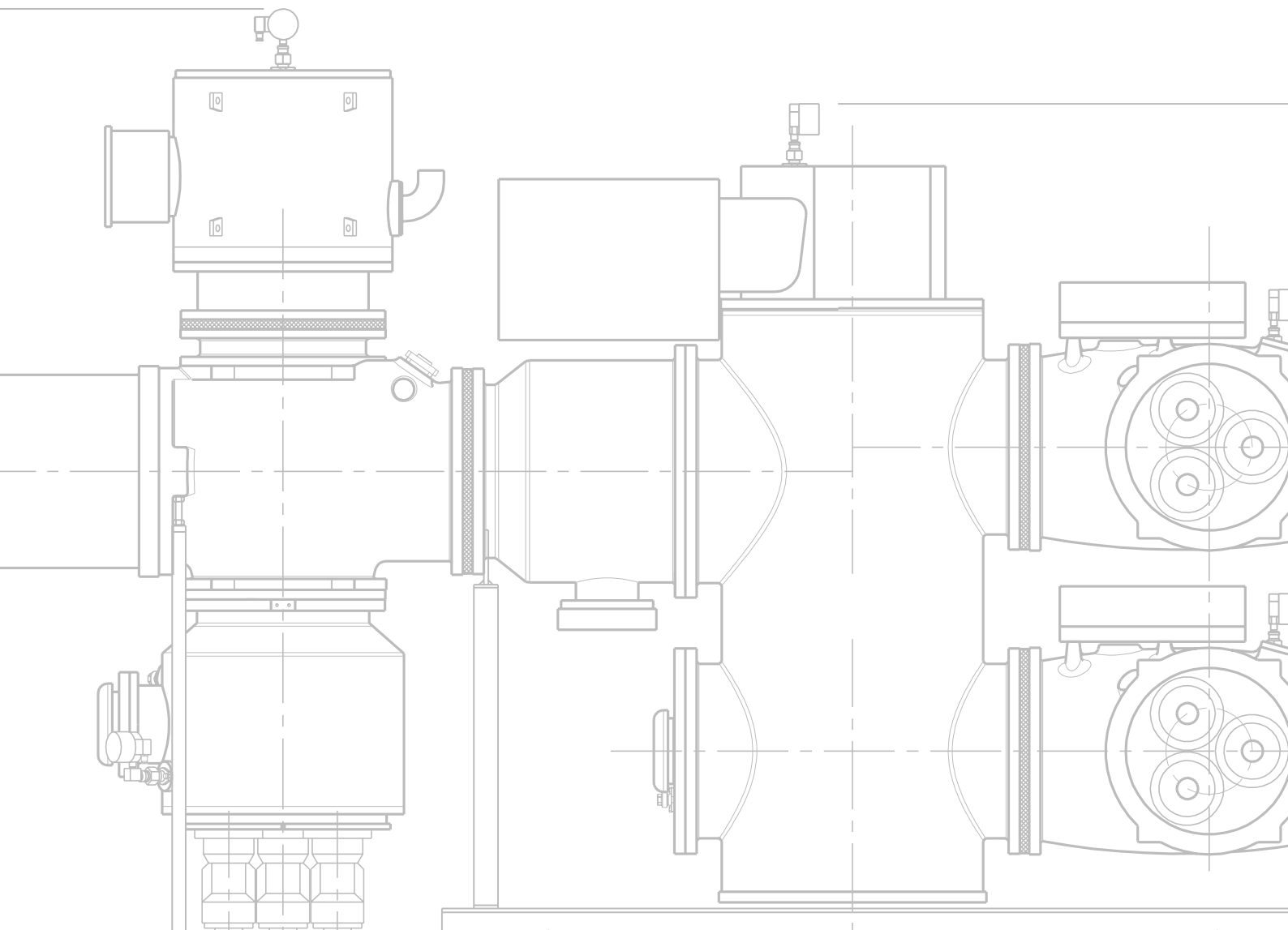
Your partner in energy solutions

CG Electric Systems Hungary (previously known as Ganz Electric) has a history of over a 130 years as a high technology company with a strong reputation for global engineering capabilities. Currently the company has three main manufacturing units: high-voltage switchgear, power transformers and rotating machines. The product line of high-voltage switchgear unit includes gas insulated switchgear (GIS). Switchgear products are provided for application voltage range of 72.5-300 kV, normal currents up to 4000 A and short-time current of 40 kA.

Many years of working experiences have proved and the continuous technical research and development have improved the following important general features of the new GIS type substations: small space requirement, easy and fast installation, high reliability, resistance against environmental and climatic effects, maximal safety for the personnel, minimal maintenance and long service life.

All GIS products were developed by R&D centre located in Budapest. Experienced development engineers and powerful state-of-the-art design and analysis software ensure optimised design to meet the requirements of all relevant IEC standards. Calculations include mechanical and electrical Finite Element Method analysis, as well as gas flow analysis for circuit breaker design.

Design department, production factory, assembly workshop and test stations are working on the basis of a complex and very strict Quality Assurance System in compliance with the ISO 9001 standard. The factory also operates an Environment Management System certified to ISO14001. The systematic inspections and test measurements ensure the conformity of the end product to the Client's requirements and to International standard specifications.

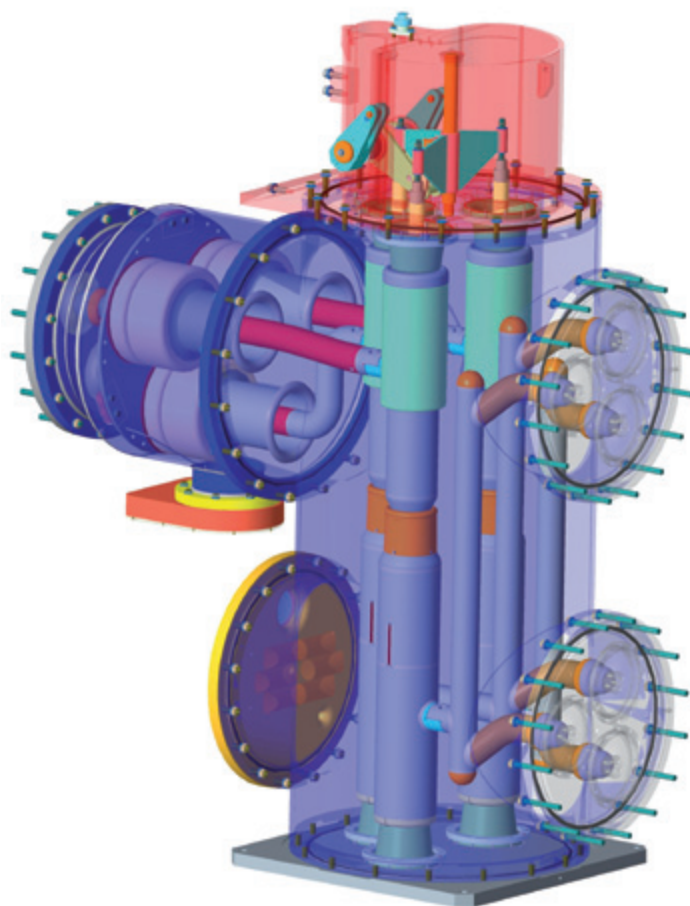


### General features of GT01 type compact GIS

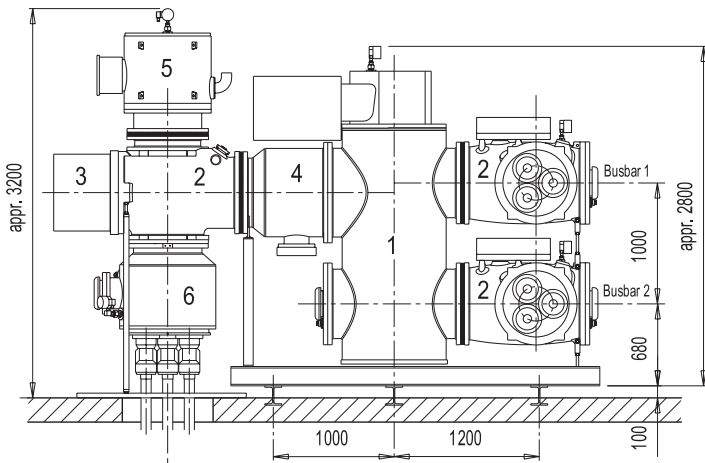
- > Suitable for indoor and outdoor installation
- > Continuous earthed enclosures assuring maximum protection against electrical shocks for operating personnel
- > Light-weight corrosion resistant aluminium enclosures
- > Three-phase enclosed modular system with uniform connection flanges
- > Sealing system ensures excellent gas tightness
- > 3-phase epoxy resin barrier and support insulators
- > Several gas compartments, each equipped with gas filter, rupture disc, contact manometer and gas valves
- > Aluminium current carrying tubes and tulip type contacts with copper fingers, silver plated at the contact surfaces
- > Two bays per shipping unit assembled and factory tested ensures quick site installation
- > Spring drive operated circuit breaker with 3rd generation arcing chamber
- > Combined disconnector-earthing switches with inspection windows

### Technical data

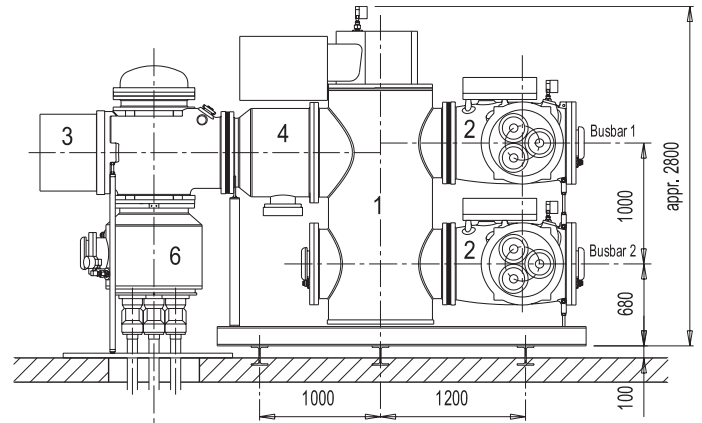
Type	GT01
Rated voltage	145 kV
Application range	72.5-145 kV
Rated power frequency withstand voltage	
- phase to earth	275 kV
- across isolation distance	315 kV
Rated lightning impulse withstand voltage	
- phase to earth	650 kV peak
- across isolation distance	750 kV peak
Rated frequency	50 Hz
Rated normal current	3150 A
Rated short-time current (3 sec.)	40 kA
Rated peak withstand current	100 kA peak



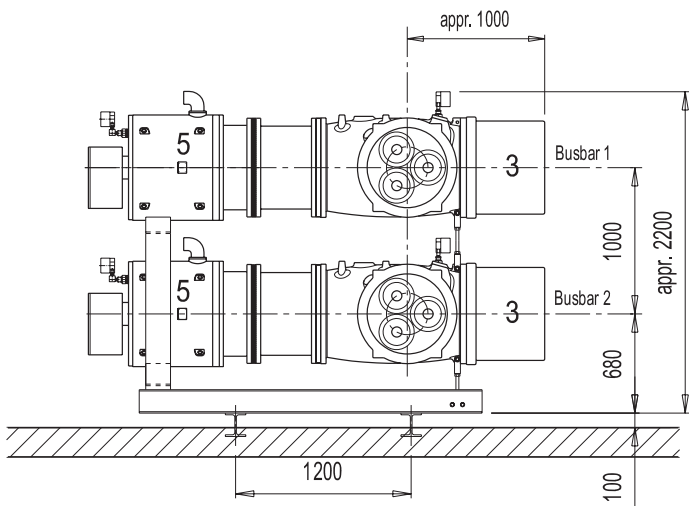
Circuit breaker pole with current transformer



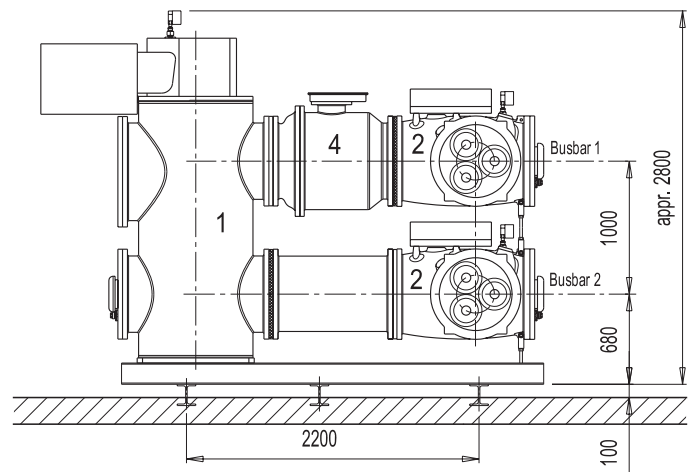
Feeder bay with VT



Transformer bay



Busbar earthing & measuring bay



Bus coupler bay

- 1 Circuit breaker
- 2 Combined disconnector and maintenance earthing switch
- 3 High-speed earthing switch
- 4 Current transformer
- 5 Voltage transformer
- 6 Cable sealing end enclosure

All dimensions in millimetres.

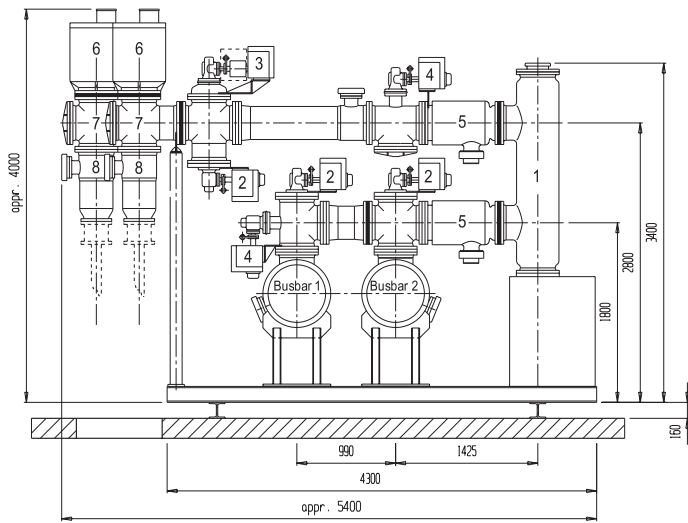
### General features of GAI1 type compact GIS

- > Suitable for indoor and outdoor installation
- > Continuous earthed enclosures assuring maximum protection against electrical shocks for operating personnel
- > Light-weight corrosion resistant aluminium enclosures
- > Single/Three-phase enclosed modular system with uniform connection flanges
- > Sealing system ensures excellent gas tightness
- > Epoxy-resin barrier and support insulators
- > Several gas compartments, each equipped with gas filter, rupture disc, contact manometer and gas valves
- > Aluminium current carrying tubes and tulip type contacts with copper fingers, silver plated at the contact surfaces
- > One bay per shipping unit assembled and factory tested ensures quick site installation
- > Hydraulic drive operated puffer type circuit breaker
- > Disconnectors and earthing switches with inspection windows

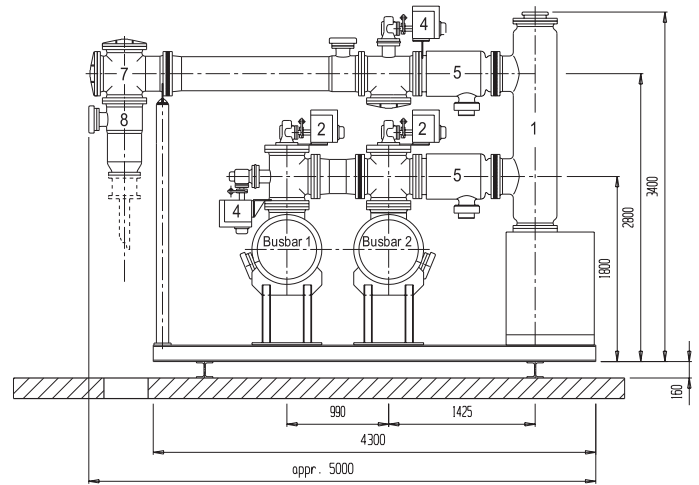
### Technical data

Type	GAI1
Rated voltage	170 kV
Application range	145-170 kV
Rated power frequency withstand voltage	
- phase to earth	325 kV
- across isolation distance	375 kV
Rated lightning impulse withstand voltage	
- phase to earth	750 kV peak
- across isolation distance	860 kV peak
Rated frequency	50 Hz
Rated normal current	3150 A
Rated short-time current (3 sec.)	40 kA
Rated peak withstand current	100 kA peak

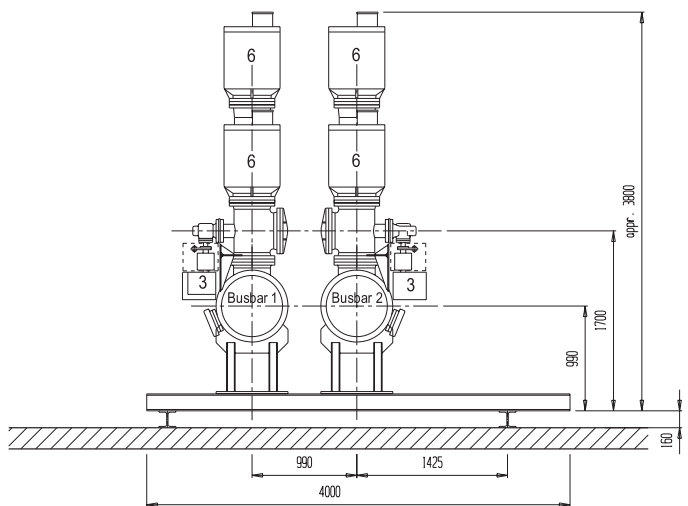




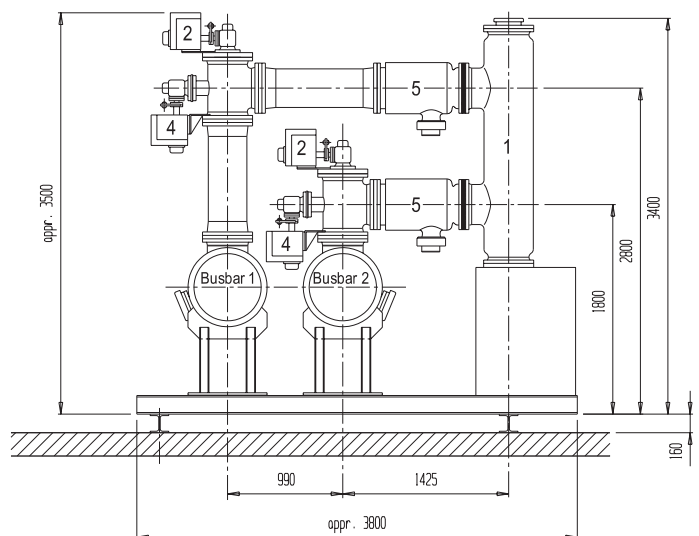
Feeder bay with VT



Transformer bay



Busbar earthing & measuring bay



Bus coupler bay

- 1 Circuit breaker
- 2 Disconnecter
- 3 High-speed earthing switch
- 4 Maintenance earthing switch
- 5 Current transformer
- 6 Voltage transformer
- 7 Removable element
- 8 Cable sealing end

All dimensions in millimetres.

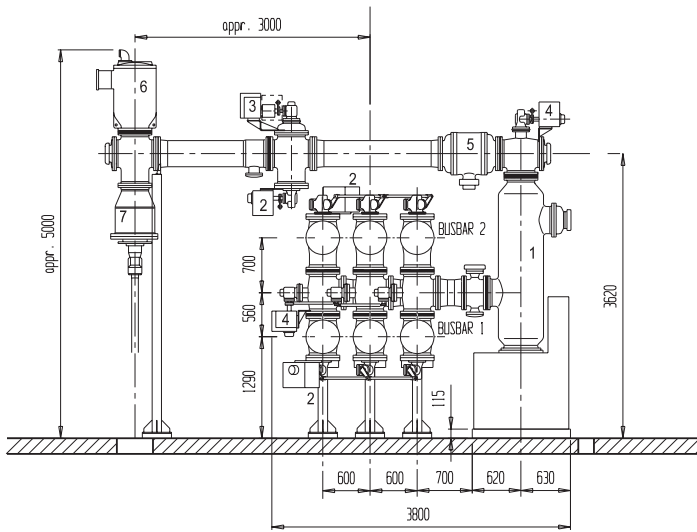
## General features of GAI3 type compact GIS

- > Suitable for indoor and outdoor installation
- > Continuous earthed enclosures assuring maximum protection against electrical shocks for operating personnel
- > Light-weight corrosion resistant aluminium enclosures
- > Single-phase enclosed modular system with uniform connection flanges
- > Sealing system ensures excellent gas tightness
- > Single-phase epoxy resin barrier and support insulators
- > Several gas compartments, each equipped with gas filter, rupture disc, contact manometer and gas valves
- > Aluminium current carrying tubes and tulip type contacts with copper fingers, silver plated at the contact surfaces
- > Hydraulic drive operated puffer type circuit breaker
- > Disconnectors and earthing switches with inspection windows

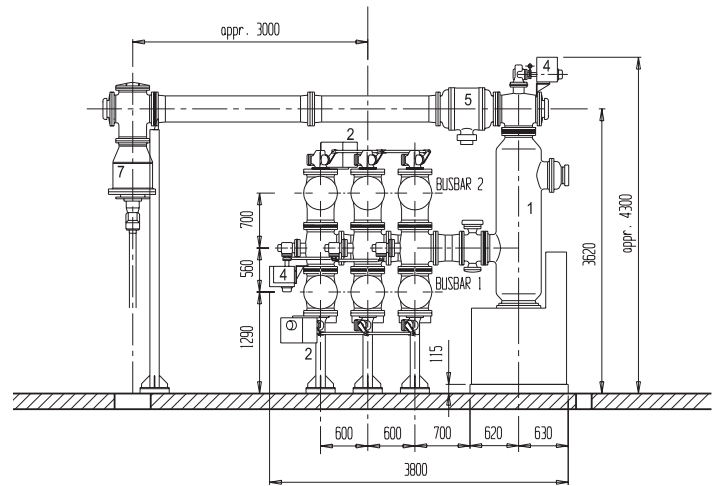
## Technical data

Type	GAI3	GAI3
Rated voltage	245 kV	300 kV
Application range	170-300 kV	170-300 kV
Rated power frequency withstand voltage		
- phase to earth	460 kV	380 kV
- across isolation distance	530 kV	435 kV
Rated lightning impulse withstand voltage		
- phase to earth		1050 kV peak
- across isolation distance	1200 kV peak	1050+170 kV peak
Rated switching impulse withstand voltage		
- phase to earth		850 kV peak
- across isolation distance		700+245 kV peak
Rated frequency	50 Hz	50 Hz
Rated normal current	3150 A	3150 A
Rated short-time current (3 sec.)	50 kA	40kA
Rated peak withstand current	130 kA peak	100 kA peak

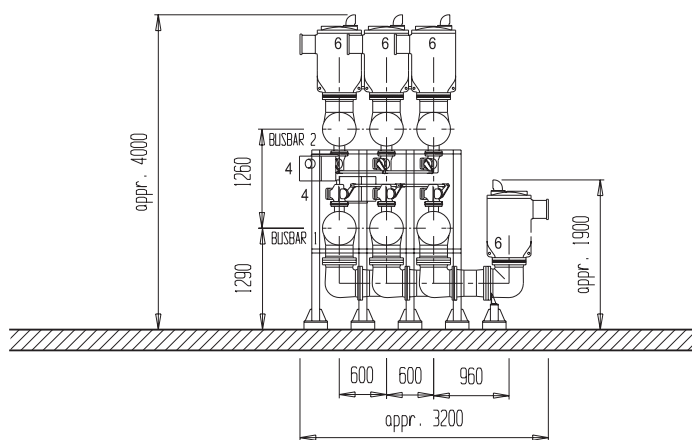




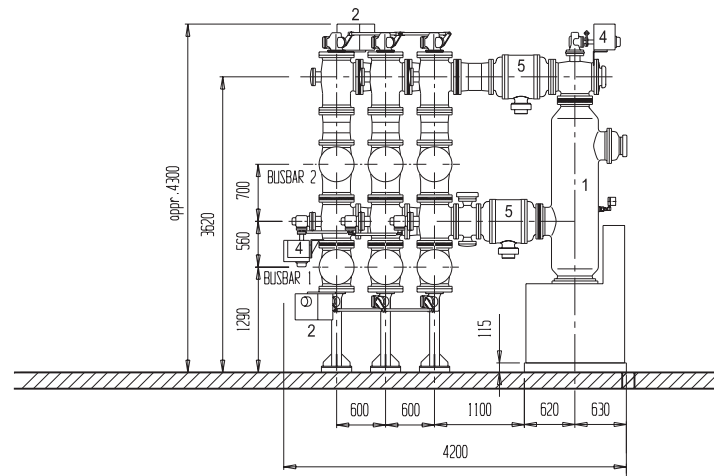
Feeder bay with VT



Transformer bay



Busbar earthing & measuring bay



Bus coupler bay

- 1 Circuit breaker
- 2 Disconnecter
- 3 High-speed earthing switch
- 4 Maintenance earthing switch
- 5 Current transformer
- 6 Voltage transformer
- 7 Cable-end enclosure

All dimensions in millimetres.

**Office**

**CG Electric Systems Hungary Zrt**

Registered Office  
 Máriassy utca 7, Floor IV  
 1095 Budapest, Hungary  
 T + 36 1 483 6762  
 info.hu@cgglobal.com

**Sales**

**CG Holdings Belgium NV**

Antwerpssteenweg 167  
 B-2800 Mechelen, Belgium  
 T + 32 15 283 632  
 F + 32 15 283 300

[jo.renique@cgglobal.com](mailto:jo.renique@cgglobal.com) - [www.cgglobal.com](http://www.cgglobal.com)