Electrification



HYpact-145g

99%
CO_2-eq. reduction, lowest carbon footprint, same dimensions!

SF_6-free Compact Hybrid Switchgear up to 145 kV

GE Vernova in Kassel, Germany, has more than 50 years of experience in the design, material selection, development, engineering, manufacturing, and servicing of air-insulated and gas-insulated high-voltage switchgear.

Reduced Carbon Footprint

Our HYpact-145g switchgear is available in a fully SF_6-free version using our g^3 technology, one of our alternative technologies to SF_6, allowing up to 99% CO_2-eq. reduction of the gas mixture contribution to global warming. The SF_6-free HYpact-145g matches the dimensions and performance of the SF_6 version, adds an advanced sealing system for improved gas tightness, and achieves the lowest possible carbon footprint. The optional integration of low-power instrument transformers (LPITs), also known as digital voltage and current transformers, further contributes to decarbonization and reduces the need for strategic raw material consumption.

All-in-One Solution

HYpact is a compact hybrid switchgear that combines gas-insulated and air-insulated components in a single solution. In addition to reducing space requirements and overall costs, HYpact significantly minimizes switchgear exposure to environmental conditions and enables innovative and improved substation designs.

Our HYpact meets the latest versions of national and international standards, such as IEC 62271-205. The entire development and production procedures are fully compliant with the latest ISO 9001, ISO 14001, and OHSAS 18001 quality standards.

Multiple Options, Flexible Configurations

HYpact integrates multiple functions into one compact device, including circuit breakers, disconnect switches, grounding switches, current transformers, voltage transformers*, and cable terminations*.

HYpact is available in a variety of substation configurations, including:

- Single-busbar substations
- Double-busbar substations*
- Three-phase or single-phase operation (IPO*)
- Digital monitoring and control system

** Available on request*

GE VERNOVA

The Path to Decarbonization

- The HYpact-145g is part of our GRiDEA portfolio designed to accelerate the decarbonization of the grid
- Lower carbon footprint over a 40-year substation lifecycle compared to the use of SF_6 products
- The g^3 gas mixture contribution to global warming is reduced by up to 99% compared to SF_6
- Same ratings, performance, and product footprint as the SF_6 switchgear

Digitally Native

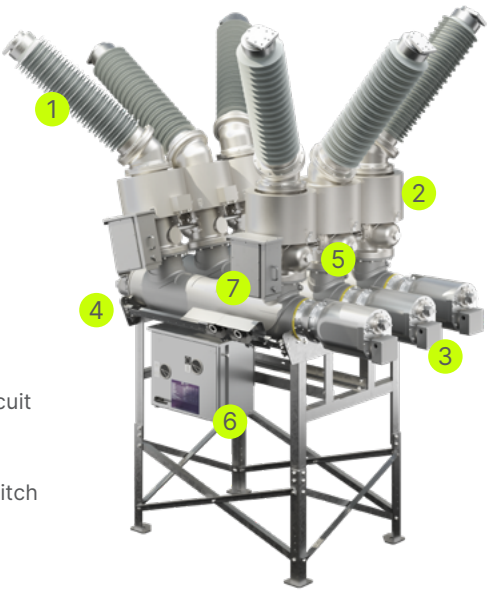
- Mechanically engineered to reach the accuracy required with advanced monitoring and control solutions
- Digital power sensing using LPITs

Key Benefits

- Compact design with space savings of 50% or more, depending on the application
- Fully enclosed switchgear design
- Reliable performance in the most demanding environments
- Flexible design customization
- Virtually maintenance-free operation
- Fast and easy installation



1. Composite bushing
2. Current transformer
3. Voltage transformer
4. Circuit breaker
5. Integrated disconnector/ earthing switch
6. Operating mechanism circuit breaker
7. Operating mechanism disconnector/earthing switch



Ratings

IEC		HYpact-145g
Rated voltage	kV	145
Rated lightning impulse withstand voltage	kV	650
Rated power frequency withstand voltage	kV	275
Rated frequency	Hz	50
Rated continuous current	A	3150
Rated short-circuit breaking current	kA	40
Rated peak withstand current	kA	100
Rated duration of short-circuit	s	3
Rated operating sequence		O-0.3s-CO-180-CO
First-pole-to-clear factor		1.5
Ambient air temperature	°C	-30.....+40
Mechanical endurance class		M2
Capacitive switching class		C2

Simplified Installation and Minimal Maintenance

HYpact is factory-adjusted and factory-tested, requiring no special tools for installation. Its compact, symmetrical footprint helps to reduce foundation costs and supports efficient substation layouts.

For transport, HYpact is shipped in a highly assembled state with sealed gas compartments, making it suitable for both truck and container shipment.

Gas Data

The functioning of this equipment relies upon SF_6 or a gas mixture based on CO_2/O_2 and 3.5% of an additive, C_4F_7N (also known as C_4-FN or Iso-C_3F_7CN), a fluorinated greenhouse gas, which helps preserve dimensions and performance equivalent to those of SF_6 equipment while reducing the gas carbon footprint.

	SF_6 VERSION	C_4F_7N additive**	g^3 gas mixture
Average mass of gas/ mixture in the equipment (kg)*	47.9	4.3	30.2
GWP_{100} of gas/mixture (CO_2-equivalent)	24,300	2,750	394
CO_2 -eq of gas/mixture in the equipment ($t_{co_2\text{-}eq}$)*	1164.7	11.9	11.9

**For information purposes only considering a typical GIS arrangement (double busbar cable bay). It varies depending on the equipment considered.*
*** This component's physical properties are essential to g^3.*

HYpact AR Experience

View in AR on your phone

Scan the QR code with your camera.
The selected variant opens directly.

ar.visionsbox.com/hypact/parallel

For more information, visit
gevernova.com/electrification

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