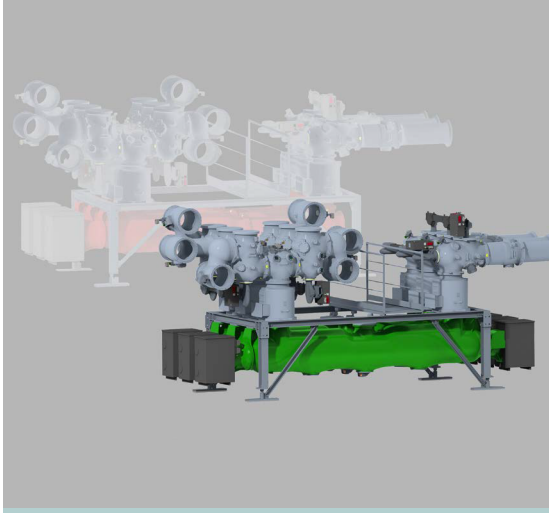
Grid Solutions



# T155 DUAL GAS

## 420 kV (63 kA, 5,000 A) Gas-Insulated Substation Compatible with $SF_6$ or $g^3$ gas

GE Vernova has more than 50 years of experience in the design, material selection, development, engineering, manufacturing, and servicing of gas-insulated substations (GIS).

Our T155 Dual Gas GIS bay – compatible with either $SF_6$ or $g^3$ gas – meets the challenges of networks up to 420 kV for power generation, transmission, and energy-intensive industry applications.

### Future-proofed for flexibility

Anticipating future $SF_6$ regulations, this dual gas equipment is available with either $SF_6$ or $g^3$. Because of its identical foundational design, transmission system operators can utilize the $SF_6$ version today and easily make the switch to GE Vernova's $g^3$ solution at a later time.

All bay components, except the circuit breaker, are $g^3$ or $SF_6$ compatible. They have been type tested to demonstrate the same performances and ratings with both gases.

### The environmental advantage

The T155 is available in a fully $SF_6$-free version using GE Vernova's $g^3$ technology, allowing for a 99% $CO_2$ reduction. While it has the same performance and ratings as $SF_6$, its advanced sealing system and improved tightness reveal a lower environmental impact.

### A universal solution

The design of GE Vernova's T155 Dual Gas GIS is grounded in more than 50 years of field experience in $SF_6$ and five years in $g^3$ technology. Its fully digital monitoring control and protection capabilities enable easy implementation processes and the same operational and maintenance procedures.

### Improved Sustainability

- Lower carbon footprint during a 40-year substation life cycle
- First-in-class gas sealing system
- Improved tightness due to sealing length divided by two, compared to the previous version
- The gas contribution to global warming is reduced by 99% using GE Vernova's $g^3$ gas instead of $SF_6$

### Smart Grid Features

- Fully digital monitoring, control, and protection
- Digital power sensing using low power instrument transformers

### Easy Upgrades

- Bays are completely factory-assembled, wired, and tested before shipment
- Easily make the switch to $SF_6$-free whenever you're ready
- Similar operational and maintenance procedures as with $SF_6$ GIS for simple integration
- Compact design that's applicable to all substation applications, including extension of existing substations
- State-of-the-art maintenance isolating device

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## Specifications (*)

| GIS TYPE | $g^3$ T155G 420 kV | Combined $g^3$ Bay-$SF_6$ CB T155 420 kV | $SF_6$ T155 420 kV |
|---|---|---|---|
| Reference electrotechnical standards | IEC | IEC/IEEE | IEC/IEEE |
| Rated voltage | 362-420 kV | 362-420 kV | 362-420 kV |
| Withstand voltages | | | |
| Short-duration power-frequency, phase-to-earth/across open switching device | 650/815 kV | 650/815 kV | 650/815 kV |
| Switching impulse, phase-to-earth / across isolating distance | 1050/900(+345) kVp | 1050/900(+345) kVp | 1050/900(+345) kVp |
| Lightning impulse, phase-to-earth / across open switching device | 1425/1425(+240) kVp | 1425/1425(+240) kVp | 1425/1425(+240) kVp |
| Frequency | 50 Hz | 50/60 Hz | 50/60 Hz |
| Continuous current | up to 5000 A | up to 5000 A | up to 5000 A |
| Short-time withstand current | 63 kA | 63 kA | 63 kA |
| Peak withstand current | 170 kAp | 170 kAp | 170 kAp |
| Duration of short-circuit | 3s | 3s | 3s |
| Installation | indoor/outdoor | indoor/outdoor | indoor/outdoor |
| **CIRCUIT BREAKER RATINGS** | | | |
| First-pole-to-clear factor | 1.3-1.5 | 1.3-1.5 | 1.3 - 1.5 |
| Short-circuit breaking current | 63 kA | 63 kA | 63 kA |
| Short-circuit making current | 170 kAp | 170 kAp | 170 kAp |
| Operating sequence | O-0.3s-CO-3 min-CO/ CO-15s-CO | O-0.3s-CO-3 min-CO/ CO-15s-CO | O-0.3s-CO-3 min-CO/CO-15s-CO |
| Drive type | Pure-spring | Pure-spring | Pure-spring |
| Mechanical endurance | M2 class | M2 class | M2 class |
| Capacitive switching | C2 class | C2 class | C2 class |
| **DISCONNECTOR AND LOW-SPEED EARTHING SWITCH RATINGS** | | | |
| Capacitive current switching | 0.5 A | 0.5 A | 0.5 A |
| Bus-transfer current switching capability | 3000 A / 25 V | 3000 A / 25 V | 3000 A / 25 V |
| Mechanical endurance | M2 class | M2 class | M2 class |
| **MAKE-PROOF EARTHING SWITCH RATINGS** | | | |
| Making current capability | 170 kAp | 170 kAp | 170 kAp |
| Switching capability-electromagnetic coupling | 160 A / 10 kV | 160 A / 10 kV | 160 A / 10 kV |
| Switching capability-electrostatic coupling | 18 A / 20 kV | 18 A / 20 kV | 18 A / 20 kV |
| Mechanical endurance | M1 class | M1 class | M1 class |

*(*) typical ratings, other values on request*

For more information, visit
**gevernova.com/grid-solutions**



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