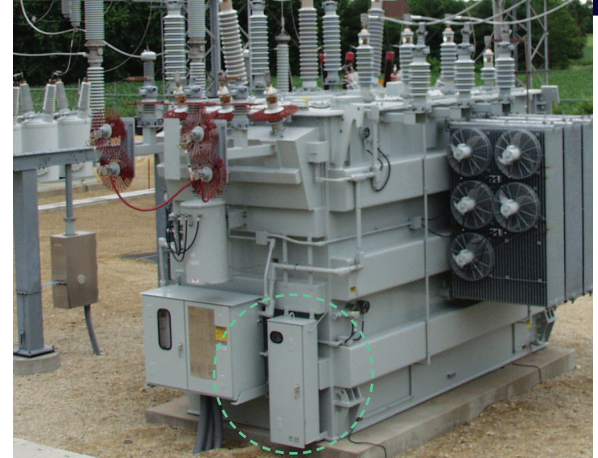


Inert Air Systems

Lasting Protection for Power Transformer Oil

Waukesha® positive pressure N2/inert air systems are designed to protect transformer oil in the main tank from oxidation and moisture absorption by keeping pressure in the tank at proper preset levels. Systems utilize a replaceable nitrogen cylinder and three-stage pressure gauge for low gas supply. Pressure alarms are provided for both low and high cylinder pressure.



Supply and cylinder pressure gauges on the N2/inert air systems are easily viewed through a large viewing port on the cabinet door.

MAINTAIN TRANSFORMER TANK PRESSURE

By utilizing preset gauges and valves, Waukesha® N2/inert air systems maintain transformer tank pressure between 0.5 psi and 5.0 psi. If tank pressure drops below 0.5 psi, nitrogen gas is sent from the nitrogen supply cylinder through the reducing valve assembly and into the transformer tank. As the pressure is restored to near the 0.5 psi level, the flow of nitrogen gas is slowly reduced to zero to stabilize as the 0.5 psi set point is reached. If tank pressure rises above 5.5 psi, a pressure relief valve automatically opens to bleed off excess tank pressure.

ALARM SYSTEM SIGNAL

Contacts are provided for installation of an alarm system to signal if gas pressure at the supply cylinder should drop below 200 psi. A visual indicator of supply cylinder pressure is provided by means of a pressure gauge. Alarm provisions are also available to signal when transformer tank pressure exceeds 5.5 psi and when tank pressure drops below 0.2 psi. Tank pressure contacts are located on the terminal block.

THREE-STAGE PRESSURE REDUCER ADJUSTMENT

The pressure reducer assembly regulates the flow of nitrogen gas from supply cylinder to transformer tank in three stages:

Stage 1 Reduces nitrogen gas flow pressure from the cylinder from 3000 psi to 65 psi.

Stage 2 Reduces gas pressure from 65 psi to 7 psi.

Stage 3 Reduces gas pressure from 7 psi to 0.5 psi and controls the flow of gas to the transformer tank. This third stage also includes a pressure relief system that maintains tank pressure between 0.2 psi and 5.5 psi.

TANK PURGING

The nitrogen gas pressurizing system may be used to quickly purge the transformer tank of contaminated gas or air. After evacuation of gas in the gas space through the transformer outlet purge valve, turning the by-pass regulating valve to the by-pass position allows fresh nitrogen to flow directly from the 2nd stage regulator, through a by-pass line, to the tank inlet.



Standard Cabinet
Nitrogen cylinder
mounted externally
(cylinder NOT
included)
Part #: N2-0

Full Length Cabinet
Nitrogen cylinder
enclosed in lockable
cabinet (cylinder
NOT included)
Part #: N2-1

CABINET SPECIFICATIONS (1/2" cabinet mounting hardware not included)

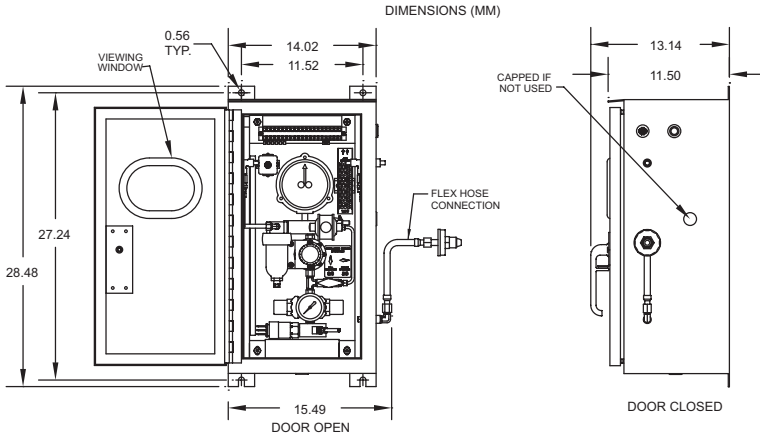
Materials	Cabinet - 12 gauge carbon steel; Hinge - Stainless steel, piano type, full length of enclosure; Cabinet Handle - Stainless steel with provision for locking; Door Stop - N2-1 and N2-2
Sealing Provisions	Rain shield and rubber door gasket
Viewing Port	5-1/4" x 7-1/2" polycarbonate
Vents	1" screened aluminum louvers
Regulator Panel Finish	Epoxy primer with white polyurethane topcoat; 3 mil. total thickness
Exterior Finish	Epoxy primer with ANSI 70 (gray) polyurethane topcoat; 5 mil. total thickness
External Seams	Continuously welded
Wiring	FEP wire with ring tongue terminals
Cabinet Heater	Included with all units

NOTE: We also offer drop-in replacement panels for all our systems and most other OEM designs. Contact us for information and part numbers.

N2-0 INERT AIR SYSTEM WITH STANDARD CABINET

Cylinder mounts externally.

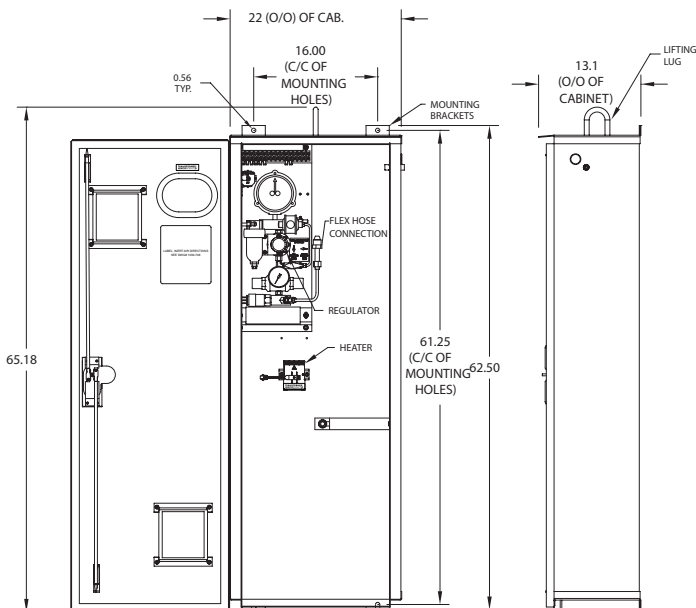
- Standard regulator panel enclosure
- 60" high pressure stainless steel flex hose
- 60W PTC heater included
- N2-0E option includes electrical convenience package with cabinet light and GFI outlet



N2-1 INERT AIR SYSTEM WITH FULL LENGTH CABINET

Single cylinder mounts inside cabinet.

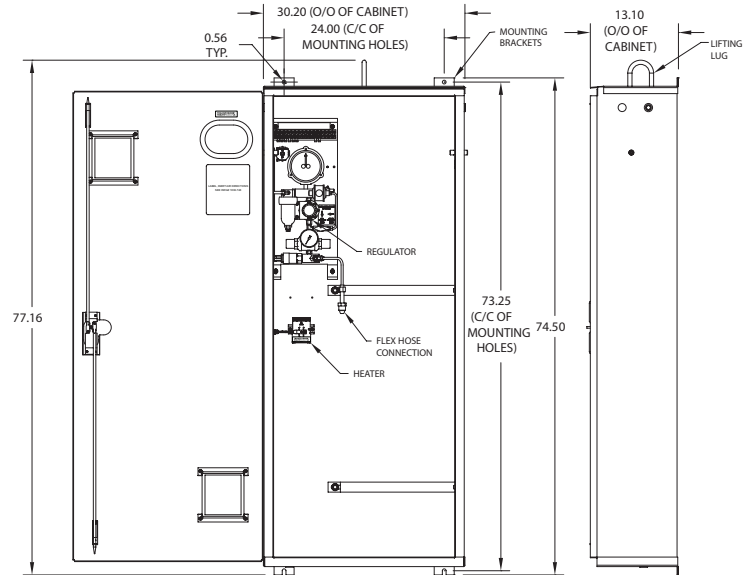
- Single cylinder enclosure
- Holds one nitrogen cylinder
- 48" high pressure stainless steel flex hose
- 200W PTC heater included
- N2-1E option includes electrical convenience package with cabinet light and GFI outlet



N2-2 INERT AIR SYSTEM WITH FULL LENGTH CABINET

Two cylinders mount inside cabinet.

- Dual cylinder enclosure
- Holds two nitrogen cylinders
- 48" high pressure stainless steel flex hose
- 200W PTC heater included
- N2-2E option includes electrical convenience package with cabinet light and GFI outlet



ADDITIONAL PRODUCT INFORMATION

- Recommended gas supply cylinder is a standard, commercially available, 244 cu. ft. nitrogen gas tank pressurized to 2000 psi. Replacement cylinders should meet all required pressure vessel specifications and be filled with oil-pumped nitrogen or nitrogen with a certified dew point of -40°C . Nitrogen consumption is dependent on transformer load variations and on the condition of gas pressurizing equipment.
- Cylinder must be replaced when supply pressure gauge reads 200 psi or below
- N2/Inert air systems do NOT ship with a nitrogen gas cylinder
- 1/2" cabinet mounting hardware not supplied with unit
- NEMA 4x rating prior to modification for N2 system components
- Standard alarm contacts support 125 VAC @ 1A and 30 VDC @ 2A
- Optional heavy duty alarm contacts support 125-480 VAC @ 15A, 125 VDC @ 0.5A and 250 VDC @ 0.25A

Custom configurations available; contact us for more information and part numbers. To download a technical manual, field maintenance manual and/or technical paper, visit our website.

To continually improve its products and services, Prolec-GE Waukesha, Inc., reserves the right to change specifications and features without notice. Please contact us for certified dimensions and drawings.

transformers | service | training | components

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