AGRU-4

HIGHEST ACCURACY & LOWEST COST

SF_6 Gas RecoveryUnit

AGRU-4

-Storage capacity: 22,7 Kg

- Vacuum Capacity: (with optional upgrade)

  + 10m³/h (60Hz – 110V) --> 17 m³/h (upgrade)

  + 8,5m³/h (50Hz – 220V) --> 14 m³/h (upgrade)

-Evacuate pressure < 0,67 mbar

- Weight: 225 lbs - 103 Kg

- Dimensions: 46”x22”x24” - 1170x560x610 mm - (H x W x D)

Optional:

Tank heater, Insulation blanket, SS tubing and hoses

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www.amperis.com

AMPERIS PRODUCTS S.L
Agricultura,34
27003, Lugo, Spain

Contact

+T [+34] 982 20 99 20 | F [+34] 982 20 99 11
info@amperis.com | www.amperis.com

This cart is ideally suited for servicing smallvolume SF_6 equipment. All processes required forservicing SF_6 equipment can be performed withthis cart.The equipment is designed for the recovery, temporarystorage, conditioning, and dispensing of SF_6 Gas. The equipment is designed for use in field service ofinsulated metal clad switchgear, bus ducts and individual circuit breakers.The AGRU-4 SF_6 Gas Servicing Cart shall be fully assembled on a two-wheeled heavy-duty handcart,which shall be sufficiently braced to minimize vibration. Handcart will be complete with lifting eye, hosehook and power cable storage.

Funtions:

- Recover, purify and store SF6 Gas from the switchgear to the storage tank.
- Evacuation:
- Service hoses < 1.33 mbar.
- SF_6 Gas cart down <0.67 mbar.
- Air and moisture from the switchgear< 0.67 mbar.
- Purify SF6 Gas by recirculating through the filter system:
  - (D1) - Dryer Filter - Contains activated alumina to aid in the drying and purification of SF_6 Gas.
  - (P1) - Purification Filter - Contains Molecular Sieve 13X to remove arcing by-products.
  - (F1) - Particulate Filter - Will filter all particulate matter down to 0.1 micron nominal.
- Pressure regulated recharging of SF_6 Gas to the switchgear from the storage tank.
- Evacuate SF_6 Gas from the cart to an external storage tank for maintenance purposes.

CIRCUIT BREAKER - 72,5kV:
Weight of SF_6: 29 lbs – 13 Kg

Features:

-Mounted of a convenient hand cart with 10" (250mm) pneumatic tires for ease of movement.
- Very easy to operate - only two valves to switchoperating modes
- High pressure, direct-drive oil-less compressor with 1000:1 compression ratio (capable of1000psi – 69 bar).
- Capable of liquid SF_6 storage (50lbs.@60°F /22.7 kgs.@15.5 °C)
- Purifies, dries and filters to 0.1 microns duringrecovery and re-pressurization.
- Filters are easily changed without disconnecting any tubing or using any special tools.
- Auxiliary connection allows for infinitely expandable storage through use of external tanks.
- Comes complete with 9.8ft / 3m hoses and power cable.
- Colour change moisture indicator to monitor moisture in gas.

Applications:

- Recover and purify SF_6.
- Evacuate air and moisture prior to filling.
- Consolidate SF_6 cylinders.
- Store SF_6 in liquid state in onboard storage orauxiliary bottles.
- Regulated filling of SF_6 equipment.
- Purification of SF_6 (removes particles,moisture, and SF_6 decompositionproducts.

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AGRU-4 Specifications

Type	Portable SF_6 Gas Recovery Unit.
Physical specifications	21-1/2" (546 mm) Wide x 23" (585 mm) Deep x46" (1,168 mm) // 225 lbs. (102 kgs.).
Input power	120Vac/60Hz - 220Vac/50Hz - other available configuration (choose it in the order).
SF_6 Compressor	One High Pressure Single Stage Direct Drive Oil-less Compressor – up to 1,000 psig (69 bar). Motor 0.24kW, 3550 rpm. Metal valve construction.
Suction pressure regulator	One Suction pressure regulator, brass body, 0-30 psig (0-2 bar) spring.
Equalization circuit	One Equalization circuit, to allow for high-pressure restarts of the compressor.
Dischargecheckvalve	One Discharge check valve, brass, prevents high pressure going back to compressor whenperforming a low-pressure equalization.
Condenser	One High efficiency, 4-pass, air-cooled SF_6 condenser to aid in liquificationof SF_6 at higherambient temperatures.
Dischargepressure	One High discharge pressure switch set to automatically shut unit down when it reachesmaximum allowable pressure.
VacuumPump	Motor: 0.37 kW, 1750 RPM, TEFC electric motor. Displacement: - 6 CFM - 10 m^3/h (60Hz – 110V) – Optional upgrade to 10 CFM -17 m^3/h - 5 CFM – 8.5 m^3/h (50Hz – 220V) – Optional upgrade to 8.25 CFM -14 m^3/h Blank off pressure: 20 microns (0.03 mbar). Pump also includes: positive antisuckback valve, isolation valve, gas ballast, and automatic oil return system.
Storage Tank	Volume: 1215 Cu. In. - 0.02 m^3. Designed for: 500 PSIG(35 bar), 250°F (121°C). According to: Fabricated and labelled to ASME SectionVIII Div. 1. High liquid level shut-off switch set to automatically shut unit down when there is 50lbs.@60°F /22.7 kgs.@15.5 °C of liquid SF_6 @ Tank also includes: reliefvalve and inlet/outlet valves.
Filters	(D1) - Dryer Filter - Contains activated alumina to aid in the drying and purification of SF_6 Gas. (P1) - Purification Filter - Contains Molecular Sieve 13X to remove arcing by-products. (F1) - Particulate Filter - Will filter all particulate matter down to 0.1 micron nominal.
Valves	Designed for pressure, temperatureand flow.Bronze body with Teflon seats and seals, quarter turn.
Pressure Gauges	One for suction pressure (compound). One for discharge pressure. One for regulated pressure.
Vacuum Gauge	0-30"Hg (0 to -1 bar) for vacuum system.
PressureRegulator	One Pressure Regulator, Brass body, 0-100 psig (0-6.9 bar) spring, to allow for saferegulated filling of SF_6 equipment.
Hoses	Two Permeation Rubber Resistant Hoses: 1/4" (6 mm) I.D. X 10 Ft. (0.91 meter) Long, complete withquick disconnect self-sealing end fittings. Hoses will be suitable for system pressure, temperatureand flow.

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AGRU-4 - Optional Upgrades and Accessories

Stainless Steel (SS) Tubing	Unit can be supplied with stainless steel tubing replacing the standard copper tubing.
Stainless Steel Hoses	Unit can be supplied with stainless steel hoses replacing the standard rubber hoses.
Vacuum Gauge 0-40 torr (53mbar)	High accuracy barometrically compensated vacuum gauge can besupplied with unit to measure vacuum when drying out the SF_6 equipment
Storage TankHeater	300 W storage tank heater. Heater comes with its own power cable andhas a thermostat preset at 125 °F (52 °C) and is protected from overheating. by a thermal cut-off. Theheater maintains an even temperature for a constant positive pressure that speeds up the chargingprocess.
Storage TankInsulationBlanket	Storage tank insulation blanket can be provided to help keep the storage tank warm whenperforming the charging process.
DN-8 Style Quick Connections	Unit can be supply with DN-8 style quick connections on equipment and hoses.
Increase Hose Length	Unit can be supply with 6m. hoses instead of 3m.

AGRU-4 – Spare Parts

Filter D-1	Dryer Filter – recommended to change each 50 hours of compressor work.
Filter P-1	Purification Filter – recommended to change each 50 hours of compressor work.
Filter F-1	Particulate Filter – recommended to change each 50 hours of compressor work.
Vacuum Pump Oil	Vacuum pump oil level has to be checked each time you turn it on. Available in two quantities: 946 ml or 3780 ml.

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