



Vent Gas Recovery System

Model GRS-40

The need for a safe accurate gas accumulation system has become particularly acute due to tighter analyser outlet requirements and environmental regulations.

The *Interline vent gas recovery system* (or gas collection system) provides accumulation of spent gas samples from e.g. process analysers at barometric pressure and returns this gas to a suitable process point or into the flare gas line. The system is ideal where it is undesirable to discharge spent gasses into the ambient.

A wide range of optional equipment can be made available to meet specific requirements with respect to discharge pressure, gas sample specifications, wetted materials and system layout. The unit is skid mounted and compact design and can be used in combination with our standard LRS-series liquid recovery system, installed under the wall mounted version of the GRS-40 unit. This set-up will allow a complete spent sample collection system, requiring no more than one meter wall spacing.

Unique features and benefits

- Stand alone unit, suitable for wall or floor mounting
- Cost effective modular design: easy adaptation to specific customer applications
- Suitable for a wide range of hydro-carbon gas samples with minimum adaptation
- Wide range of pre-engineered options
- Slightly adjustable dome pressure
- Low differential pressure
- All stainless steel AISI-304 or 316
- Suitable for outdoor use if equipped with optional cover
- Over pressure / vacuum relief
- Suitable for Zone 1 and 2 hazardous area (CENELEC)
- Low maintenance
- Short pay-back time due to minimum environmental pollution and minimum product spillage

The system comprises of:

- Sample collection vessel with condensate trap and vent slot
- Pump unit
- Control unit

System description

The vent gas recovery system has been specifically designed to collect gaseous spent sample from process analysers at an atmospheric pressure.

Sample is led via the vent gas system and enters the recovery unit's dome from the bottom. Since the dome is precisely balanced (by means of counter weight) only the smallest differential pressure is sufficient to increase the dome volume. Differential pressure ± 20 Pa.

Silicone oil between the double wall construction prevents any gas escape to the environment.

As soon as the dome approaches the higher limit, a proximity switch activates the control system which starts the gas pump.

Gas is pumped out to a suitable location without disturbing the internal dome pressure. When the dome is approaching the lower limit, a proximity switch stops the pump action.

Standard specification

| | |
|-------------------------------|--|
| Operational gas volume | 40 litres |
| Recovery gas capacity | up to 1200 litre/hr (higher capacities with increased differential pressure) |
| Differential pressure | -/-20 < 0 < +20 Pa or better |
| Ex-execution | EEx-d IIB T3 acc. to CENELEC for use in Zone I and II areas |
| Material | dome AISI-304 tubing/pump AISI-316L frame CS/galvanised |
| Operating temperature | min. -15°C max. +40°C |
| Pump capacity | standard 25NI/min (subject to detailed design) |
| Power supply | 400 VAC 50Hz - 3 phase + N (other supplies on request) |
| Power consumption | 0,28 kW |
| Overall dimensions | 1570 x 950 x 550mm (hxwx d) |
| Weight | approx. 130 kg |
| Connections | 12mm or 1/2" OD tubing |
| Mounting | selfstanding / wall mounting |

Connections

| | | |
|----|---------------|-----------|
| N1 | Sample entry | 12 mm OD |
| N2 | Sample return | ¼" NPT-F |
| N3 | Vent | 6 mm OD |
| N4 | Drain | 6 mm OD |
| N5 | Seal drain | ¼" NPT-F |
| E1 | Power supply | M20 x 1,5 |

Part description drawing

| | |
|----|--------------------|
| 01 | Sample container |
| 02 | Ball valve |
| 04 | Pump unit |
| 06 | Level indicator |
| 07 | Condensate catcher |

Interline Systems BV has adopted the policy of continous product development.

Although this bulletin has been compiled with great care, current standard executions may deviate.

Available options

Collection Vessel

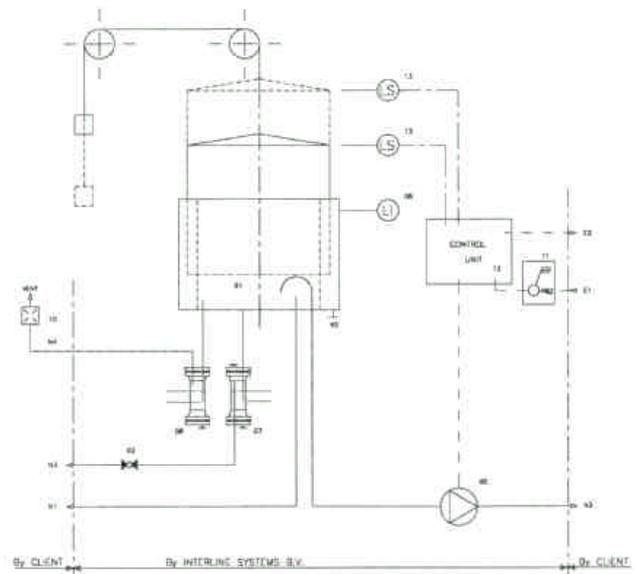
- Dome material in AISI-316
- Steam heated dome for condensation prevention of sample
- HiHi and/or LoLo alarm Volt free SPDT contact
- Heated seal oil for use with ambient temperature to -25°C
- Weather protective top hinged cover in epoxy coated carbon steel or AISI-304 sheet metal. Recommended for outdoor installation of the GRS-40 unit. In painted steel or AISI-304 execution plain or insulated
- Increased capacity pump units

Power Supplies

- 400 VAC/50-60Hz 3 Phase + N (4 Wire) (standard)
- 115 or 230 VAC/50-60 Hz Single Phase
- 400 or 415 VAC/50-60 Hz - 3 Wire
- 400 or 415 VAC/50-60 Hz - 4 Wire
- Dual power supply
 - 1 Ph 115 or 230 VAC for control unit
 - 3 Ph 400 or 415 VAC for pump unit
- Non standard power supplies are available on request

Electrical classification

- In explosion proof execution according to CENELEC Zone I or II - EEx-d IIB T3



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