

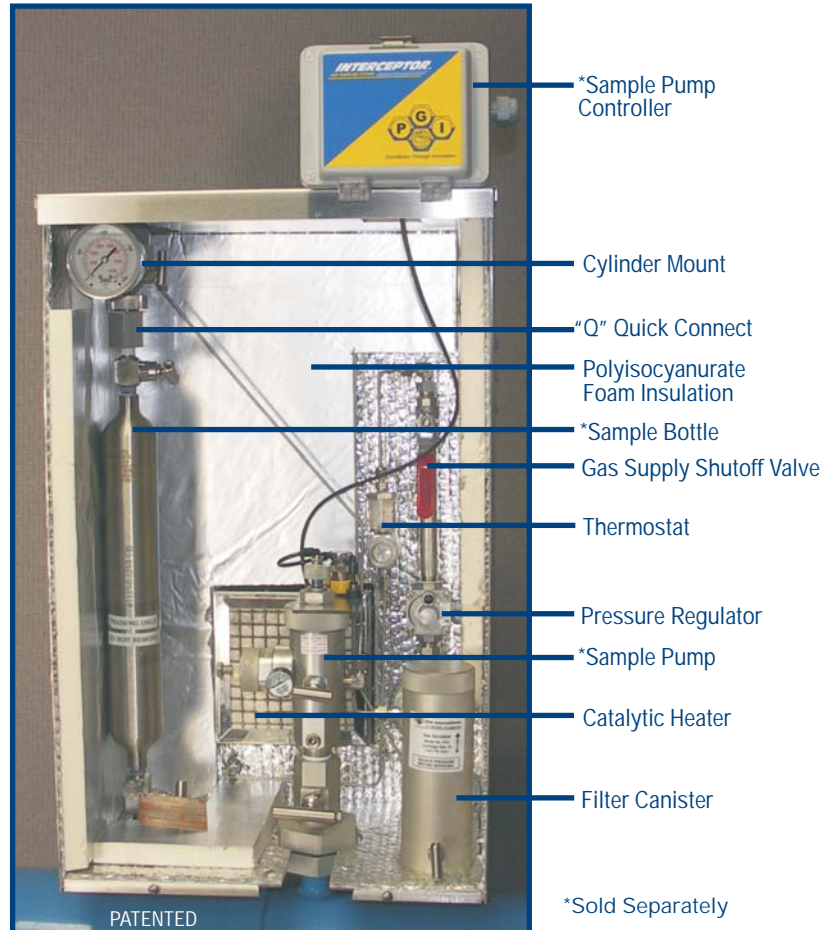
Heated Enclosure Systems

Over years of research and extensive testing to determine the best practices for collection and handling of natural gas samples for custody transfer, the American Petroleum Institute (API) continues to update Chapter 14.1 of the Manual of Petroleum Measurement Standards (MPMS). API 14.1 recommends all natural gas sample system components be maintained at least 30° above the hydrocarbon dew point temperature of the gas being sampled. If the temperature of any sampling system component drops below the hydrocarbon dew point, errors of more than 10% may occur.

PGI International's Hot-Shot Heated Enclosure Systems are engineered and designed to ensure natural gas samples and composite sampling system components are consistently maintained at a temperature above the natural gas' hydrocarbon dew point. Hot-Shot assures that your composite natural gas sample is a true representation of sample source.

PGI's Hot-Shot Heated Enclosure Systems meet the requirements of API 14.1. All sampling components are heated and maintained between 100° F and 140° F (37° C and 60° C). Utilizing proven catalytic heater technology, the system runs off the natural gas sample source. If the enclosure temperature exceeds 200° F, a patented thermostat design ensures overheat protection with a safety shut-off feature.

Two compact Hot-Shot Heated Enclosure styles are now available and provide unique mounting capabilities. An array of additional options to customize your system is available to meet your specific sampling needs.



Features

Complies with NEW API 14.1 (Latest Revision February 2006) recommendations for accurate sampling

Sample probe, pump and cylinder are heated to between 100°F and 140°F

Class 1 Division 1 Approved

Can be retrofitted in the field

Can be used with other manufacturer's gas samplers

Heater supply gas taken from sample probe

Propane powered and electric powered heaters available

Enclosure has overheat protection

Large capacity scrubber protects heater and sampler solenoid from moisture and H₂S

Many mounting configurations available to fit all applications

Field tested in hundreds of installations

Gas BTU range of 900-1100 BTU/Cu. Ft. Natural gas (See code BXX on Options list for gas supply outside this range)



HE-5 Ordering Information & Options

TO ORDER COMPLETE HE-5 ENCLOSURE *(Cylinders & Pumps Ordered Separately)*

HEATED ENCLOSURE SYSTEM		
Part Number Base	Pump Style	Options
HE-5	XXX	XXXXXXXX
	Blank = Enclosure Only P1 = PF1A to B P1E = PF1P P1K = PF1K to L P2 = PF2A to B P2E = PF2P P2K = PF2K to L P3 = PF3A to B P3E = PF3P P3K = PF3K to L YZ = YZ Sample Pump	A = Additional Installs into the HE <i>(see pg. 6 for Sampler model number selection)</i> B7 = Catalytic Heater for 600 - 800 BTU/Cu. Ft. Natural Gas B13 = Catalytic Heater for 1200 - 1400 BTU/Cu. Ft. Natural Gas B16 = Catalytic Heater for 1500 - 1700 BTU/Cu. Ft. Natural Gas B19 = Catalytic Heater for 1800 - 2000 BTU/Cu. Ft. Natural Gas C = 120V Electric Heater D = Propane Heater E = Electrical Start Up Leads Installed, 25' Length F = Mouse Preventor Kit GA = Visual Temperature Gauge on Door GPA = Genie Filter Adapter G = 0 - 2000 PSI Liquid Filled Pressure Gauge G1 = 0 - 1000 PSI Liquid Filled Pressure Gauge G2 = 0 - 100 PSI Liquid Filled Pressure Gauge G3 = 0 - 30 PSI Liquid Filled Pressure Gauge G6 = 0 - 600 PSI Liquid Filled Pressure Gauge HR = Heater Mounted on Right Side Kxxx = Temperature Switch (Open Std); Close @ xxx°F (10° increments only) L01 = Customer Probe Adapter (1/2" MNPT Standard) L02 = 2" Insertion Length (1/2" MNPT Standard) L03 = 3" Insertion Length (1/2" MNPT Standard) L06 = 6" Insertion Length (1/2" MNPT Standard) L10 = 10" Insertion Length (1/2" MNPT Standard) LS = Liquid Shut-Off Valve MF = Membrane Filter Assembly MP = Carbon Steel Pipe Mount Stabilizer Kit MP1 = 300 Series SS Pipe Mount Stabilizer Kit P = Pressure Transducer on Sample Cylinder QM = Sample Pump Quick Mount Assembly QN = 1/4" MNPT Nipple for Bottle Mount (Replaces "Q" Adapter) QS = Swagelok Quick Connect Bottle Mount (Replaces "Q" Adapter) R1 = 10" Probe Riser R7 = 7" Probe Riser S = 316 SS Tubing & Fitting T = 4 Wire 100 Ohm RTD with cable for Enclosure Temperature Monitoring



HE-5 BASE UNIT INCLUDES:

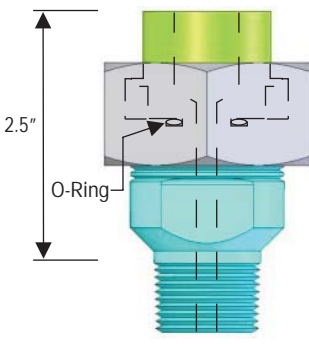
- 300 Series SS Enclosure, Heater & Pressure Regulator
- 140°F Control Thermostat with 200°F Overheat Protection
- Bottle Mount Including Male "Q" Adapter
- Filter canister with CO₂, H₂S and Moisture Scrubber Element
- Lockable Door for Added Security

NOTE: The heater is designed to operate with 900 - 1100 BTU/Cu. Ft. Natural Gas. For operations with gas outside of this range, see code BXX on Options list. If you are between options, select lower heater BTU range option.

See our Sample Cylinders & Accessories brochure for more product offerings!

HE-5 Accessories

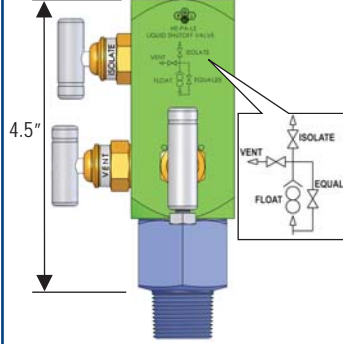
SAMPLE PUMP QUICK MOUNT ASSEMBLY (Union Style)



Part Number: HE-PA-QM
As System Option: QM

- Installs right below the pump to allow easy fast pump change out without disturbing the heated enclosure system.
- Hard anodized aluminum
- 2,000 PSI Max Pressure @ 400° F
- 3/4" MNPT Inlet x 3/4" FNPT Outlet

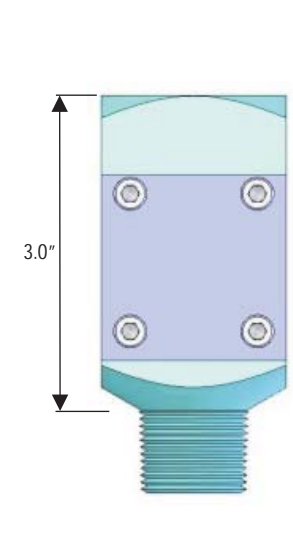
LIQUID SHUT-OFF VALVE



Part Number: HE-PA-LS
As System Option: LS

- Installs below the pump inside the enclosure
- Includes vent and equalize valves for resetting
- Hard anodized aluminum
- 2,000 PSI Max Pressure @ 200° F
- 3/4" MNPT Inlet x 3/4" FNPT Outlet

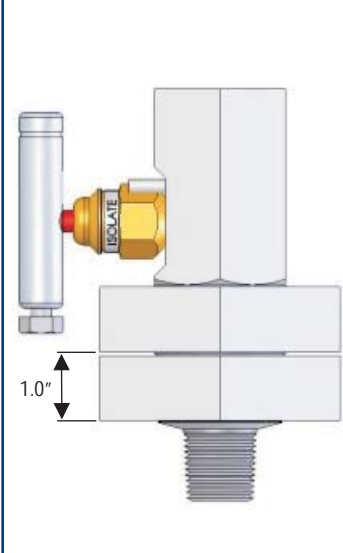
MEMBRANE FILTER ASSEMBLY



Part Number: HE-PA-MF
As System Option: MF

- Mounts directly below customer probe adapter outside the enclosure
- Customer supplied insulation required
- Hard anodized aluminum construction for heat transfer and corrosion resistance
- Uses industry standard membrane disks
- 2,000 PSI Max Pressure @ 200° F
- 3/4" MNPT Inlet x 3/4" FNPT Outlet

CUSTOMER PROBE ADAPTERS

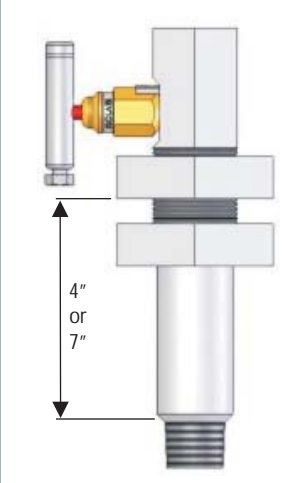


Part Number: HE-PA-PA-(NX)
As System Option: L01(NX)

(Blank) = 1/2" MNPT Inlet Std.
(N3) = 3/4" MNPT Inlet
(N4) = 1" MNPT Inlet

- To adapt any sample probe for heated enclosure mounting
- Integral soft seat full port shut-off valve
- Functions as a 4" probe riser when mounted on existing probe
- Hard anodized aluminum construction for heat transfer and corrosion resistance
- Customer supplied insulation required
- 2,000 PSI Max Pressure @ 200° F
- 3/4" MNPT Inlet x 3/4" FNPT Outlet

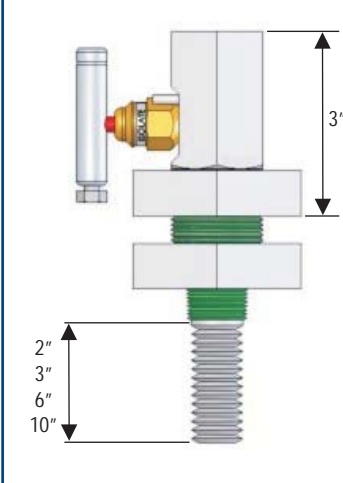
PROBE RISERS



Part Number: HE-PA-PR1 (10")
HE-PA-PR7 (7")
As System Option: R1 (10")
R7 (7")

- To raise enclosure for pipeline equipment clearance by 7" or 10" when mounted on existing probe
- Integral soft seat full port shut-off valve
- Hard anodized aluminum construction for heat transfer and corrosion resistance
- Customer supplied insulation required
- 3/4" MNPT Inlet x 3/4" FNPT Outlet
- 2,000 PSI Max Pressure @ 200° F

FINNED PROBE ASSEMBLY



Part Number: HE-P-STD-LXX(NX)

L02 = 2" Insertion length
L03 = 3" Insertion length
L06 = 6" Insertion length
L10 = 10" Insertion length
(Blank) = 1/2" MNPT Inlet Std.
(N3) = 3/4" MNPT Inlet
(N4) = 1" MNPT Inlet

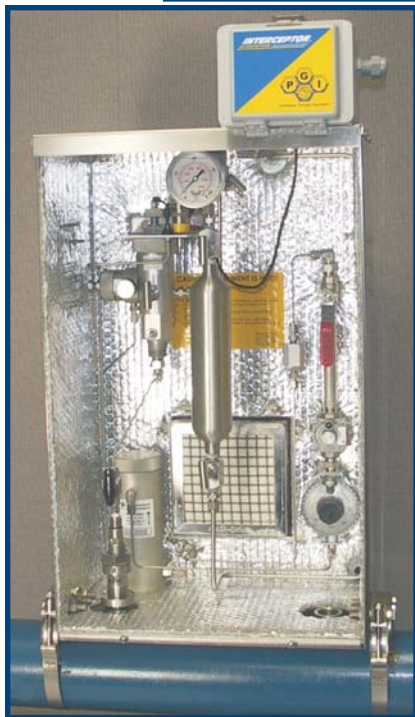
- Integral sample probe and enclosure mount
- Integral soft seat full port shut-off valve
- Hard anodized aluminum construction for heat transfer and corrosion resistance
- 2,000 PSI Max Pressure @ 200° F

HE-6 Ordering Information & Options

TO ORDER COMPLETE HE-6 ENCLOSURE *(Cylinders & Pumps Ordered Separately)*

HEATED ENCLOSURE SYSTEM

Part Number Base	Pump Style		Options
HE-6	XXX	-	XXXXXXXX
	P1 = PF1A to B P1E = PF1P P1K = PF1K to L P2 = PF2A to B P2E = PF2P P2K = PF2K to L P3 = PF3A to B P3E = PF3P P3K = PF3K to L		B7 = Catalytic Heater for 600 - 800 BTU/Cu. Ft. Natural Gas B13 = Catalytic Heater for 1200 - 1400 BTU/Cu. Ft. Natural Gas B16 = Catalytic Heater for 1500 - 1700 BTU/Cu. Ft. Natural Gas B19 = Catalytic Heater for 1800 - 2000 BTU/Cu. Ft. Natural Gas C = 120V Electric Heater *C1 = Pigtail Sized for 150cc Sample Bottle *C3 = Pigtail Sized for 300cc Sample Bottle *C5 = Pigtail Sized for 500cc Sample Bottle D = Propane Heater E = Electrical Start Up Leads Installed, 25' Length GA = Visual Temperature Gauge on Door G = 0 - 2000 PSI Liquid Filled Pressure Gauge G1 = 0 - 1000 PSI Liquid Filled Pressure Gauge G2 = 0 - 100 PSI Liquid Filled Pressure Gauge G3 = 0 - 30 PSI Liquid Filled Pressure Gauge G6 = 0 - 600 PSI Liquid Filled Pressure Gauge H2 = Genie Probe Length 2-3" (includes Shut Off Valve) H4 = Genie Probe Length 4" (includes Shut Off Valve) H6 = Genie Probe Length 6-8" (includes Shut Off Valve) H10 = Genie Probe Length 10-12" (includes Shut Off Valve) *J2 = Saddle Mount Bracket for 2" Pipe Size *J3 = Saddle Mount Bracket for 3" Pipe Size *J4 = Saddle Mount Bracket for 4" Pipe Size *J6 = Saddle Mount Bracket for 6" Pipe Size *J8 = Saddle Mount Bracket for 8" Pipe Size *J10 = Saddle Mount Bracket for 10" Pipe Size *J12 = Saddle Mount Bracket for 12" Pipe Size P = Pressure Transducer on Sample Pump QN = 1/4" MNPT Nipple for Bottle Mount (Replaces Tube Fitting) QS = Swagelok Quick Connect Bottle Mount (Replaces Tube Fitting) T = 4 Wire 100 Ohm RTD with cable for Enclosure Temperature Monitoring



HE-6 BASE UNIT INCLUDES:

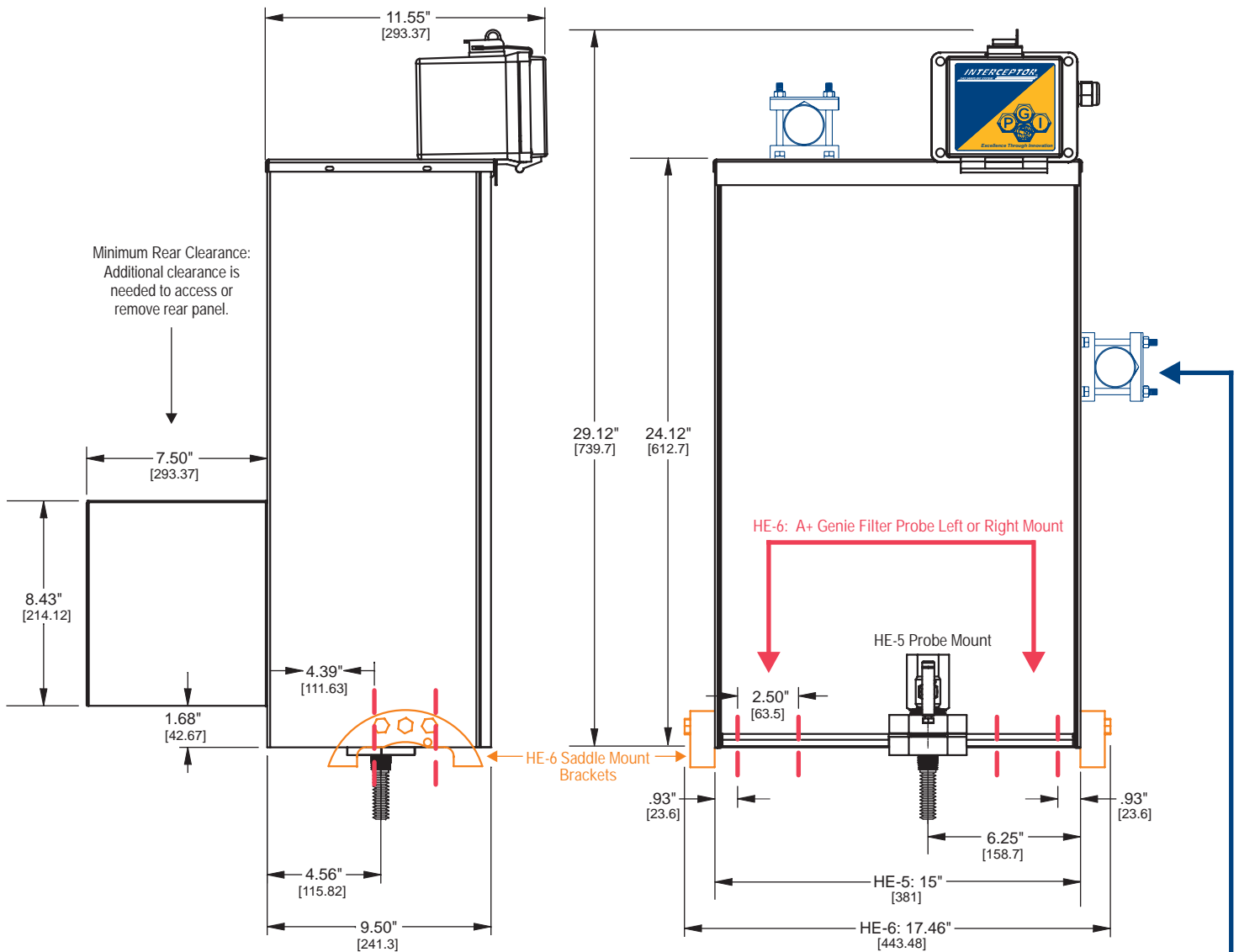
1. 300 Series SS Enclosure, Heater & Pressure Regulator
2. 316 SS Tubing and Fittings
3. 140°F Control Thermostat with 200°F Overheat Protection
4. Filter canister with CO₂, H₂S and Moisture Scrubber Element
5. Tubing to Mount Probe on Right or Left Side
6. 3 ft. Pigtail with 1/32" Orifice
7. PGI "Q" Adapter Cylinder Mount
8. Lockable Door for Added Security

NOTE: The heater is designed to operate with 900 - 1100 BTU/Cu. Ft. Natural Gas. For operations with gas outside of this range, see code BXX on Options list. If you are between options, select lower heater BTU range option.

***C and J Selection Required on HE-6.**

See our Sample Cylinders & Accessories brochure for more product offerings!

HE-5 and HE-6 Dimensions



PIPE MOUNT STABILIZER KITS

To accommodate 2" pipe support in high wind or vibration conditions. (Installed On-Site)

Includes Stabilizing Plate, (2) 2" [50.8] U-Bolt Brackets, (4) Split and Flat Washers, (2) O-Rings and (6) Hex Head Bolts.

Part Number: HE-MP Carbon Steel
HE-MP1 SS

Spare Parts & Accessories

* **HE-5 Only**

SAMPLE PUMP QUICK MOUNT "Q" ADAPTER O-RING

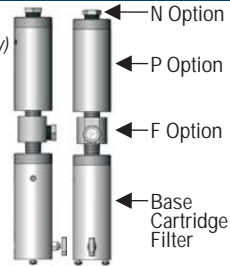
Part Number: P5-131-R1 Replacement O-Ring

H2S / H2O FILTER CARTRIDGE

Part Number: P7-147 Replacement cartridge for CO₂, H₂S and H₂O Filtration

* CARTRIDGE FILTER CANISTER ASSEMBLY

Part Number: CFU
CFU-C (Canada Only)



Drop in replacement for unit in heated enclosure system

OPTIONS: F =Indicator Plug Fitting
N =Indicator Plug
P =Piggy Back Canister

Optional configurations for heated enclosure include:
CFU-N, CFU-P, CFU-PN, CFU-FPN (add "C" for Canadian version)

"Q" BOTTLE MOUNT SERVICE KIT

Part Number: SK-HE-003 Bottle Mount, Spacer, Valve and Seat plus Mounting Screws.

* GENIE FILTER PROBE ADAPTER

Part Number: HE-PA-GPA Mounts to the Genie membrane filter sample probe and provides for enclosure mounting; aluminum construction; integral shut-off valve

HEATED ENCLOSURE THERMOSTAT ASSEMBLY

Part Number: HE-T-1420 Natural Gas Replacement thermostat assembly set between 100° - 140°F with
HE-T-1420-P Propane 200°F max overheat protection

SAMPLE BOTTLE QUICK MOUNT "Q" ADAPTERS

Includes a safety plug for guaranteed sample retention in transit

Part Number: QA-M-14-S 316 SS
QA-M-14-CS Carbon Steel

To order adapter without safety plug:

Part Number: HE-037-C0 316 SS
HE-037-10 Carbon Steel



Adapts a sample bottle having a female shut-off valve outlet for use with the heated enclosure system; includes safety plug and o-ring; 1/4" Male NPT Inlet x "Q" Adapter Outlet

Part Number: QA-F-14-S 316 SS
QA-F-14-CS Carbon Steel

To order adapter without safety plug:

Part Number: HE-080-C0 316 SS
HE-080-10 Carbon Steel



Adapts a sample bottle having a male shut-off valve outlet for use with the heated enclosure system; includes safety plug and o-ring; 1/4" Female NPT Inlet x "Q" Adapter Outlet

HE-5 and HE-6 Interceptor Samplers

BASE MODEL NUMBER				OPTIONS						
PUMP	SYSTEM	MOUNT								
PF		L	-							

PUMP STYLE

CODE	REGULATOR	OUTLET CONTROL	INLET PRESSURE
1	No	Spring Check	50 to 90 PSI (See S2 Options for under 50 PSI)
2	No	Balance Valve	90 to 1480 PSI Hazardous Locations (Requires Alternative Source to Operate Solenoid)
3	Yes	Balance Valve	90 to 1480 PSI (See Z2 Option for 1480 to 2200 PSI)

SYSTEM CONFIGURATION

CODE	CONTROLLER	SOLENOID	ELECTRONICS ENCLOSURE	BITE SIZE ADJUSTMENT	POWER
A	None	12 VDC	None	.1 .2 .3 .4 or .5cc Selectable	Customer Supplied
B	None	6 VDC	None	.1 .2 .3 .4 or .5cc Selectable	Customer Supplied
K	None	12 VDC	None	Adjustable from 0 to .5cc	Customer Supplied
L	None	6 VDC	None	Adjustable from 0 to .5cc	Customer Supplied
P	G6000	6 VDC	On Top of Heated Enclosure	Adjustable from 0 to .5cc	PF-2500 (14 amp hour Battery)

System Configuration Code P Replaces All Previous Electronic Controller Options (E, F, G, H and J)

MOUNTING METHODS

CODE	DESCRIPTION
HE-5 HEATED ENCLOSURE	
L	No Probe; 3/4" MNPT Pump Connection; Requires addition of a Probe Adapter, Probe or Riser Option [L01/L02/L03/L06/L10/R1 or R7] in the HE-5 Heated Enclosure Part No. Selection
HE-6 HEATED ENCLOSURE	
L	No Probe; 3/8" FNPT with Tubing Pump Connection (Genie Probe Selected in the HE-6 Heated Enclosure Part No. Selection)

OPTIONS

Note: First letter of an option is written once (Option 'N3' & 'N4' write as 'N34')

SOLENOID AND LOW-PRESSURE PUMP SET OPTIONS	
S1	25' Cable for System Configurations A or B Only (Replaces Standard 10' Cable)
S2	Low Pressure Solenoid, 12 VDC or 6 VDC, 50 PSI Max. Pipeline Pressure (15 to 50 PSI Factory-Set Spring Check)
S2P1	Low Pressure Solenoid, 5 to 15 PSI Factory-Set Spring Check (.5cc Min. Bite) PF1 Only
S2P2	Low Pressure Solenoid, Vacuum to 5 PSI Factory-Set Spring Check (.5cc Min. Bite) PF1 Only
S3	Replace 10' of Belden® Wire with 25' of Belden® Wire
S4	Replace 10' of Belden® Wire with 15' of Belden® Wire
S5	Solenoid Pipe-Away Vent to Bulkhead Fitting
MISCELLANEOUS OPTIONS	
X1	SealTite Cable Electrical Box Connector (Standard is Belden® Cable Box Connector)
X2	Kel-F® Purge Valve Seat (Delrin® Standard)
PUMP OPTIONS	
ZA	PF3 Low Temperature O-Rings (-40° F)
Z1	SS Tubing and Fittings to Solenoid (For System Configurations A, B, K or L Only)
Z2	316 SS Pump and Regulator for PF3 - Rated to 2200 PSI Maximum Inlet Pressure ●
Z3	316 SS Pump for PF1 and PF2 - Rating Changes to 2200 PSI Maximum Inlet Pressure for the PF2 Only ●
Z4	"E" Nickel / 316 SS Fittings to Solenoid for H ₂ S/CO ₂ Service Valid with Interceptor Electronics Enclosures Only
Z5	CO ₂ Service O-Rings
Z7	Install (1) V-556SDV-H8 into Hot Loop Port on Interceptor

◀ Requires A Minimum of 30 PSI Alternative Source to Operate Solenoid.

● 140°F Max Temp to Meet NACE MR0175/ISO 15156

