 TORUS	· Owner PRESSURE GAUGES AND LOCAL INDICATORS	Document No.	INS-DS-012		
		Revision / Date	A · September 29, 2026		
		Issue purpose	Issued for Review		
INSTRUMENTATION AND CONTROLS · PRESSURE GAUGES AND LOCAL INDICATORS					
Rev.	Date	Revision description	Prepared	Reviewed	Approved
A	2026-09-29	Issued for Review			

NOTES

1. This datasheet covers local pressure gauges, differential pressure gauges and the heater bath thermometer.
2. Controlling documents: GEN-DB-001, Basis of Design; INS-LST-001, Instrument Index; INS-LST-002, I/O List; INS-LST-003, Alarm and Trip Setpoints; INS-DWG-004, Instrument Installation Hook-up Typical (HU-G, HU-DP).
3. Values marked typical are budgetary. The vendor shall confirm them with its proposal and final data (HOLD H-15).
4. Units are US customary. Pressures are gauge unless stated as absolute. Operating cases C1 to C7 are defined in GEN-DB-001, Section 6; normal conditions are case C2, maximum operating conditions the envelope of C1 to C7, and design conditions those of GEN-DB-001, Section 7.
5. Gauges on PR-101 (PI-102) and on blowdown sections are read before a closure is opened or containment is broken; they are safety significant for maintenance, as the HAZOP recorded.

GENERAL

Table 1-1: General Data

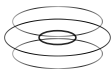
Item	Value	Item	Value
Project	 County,	Service	120 MMSCFD gas receipt into the receiving pipeline operator's
Form content	ISA-20; tag numbers to ISA-5.1	Electrical codes	NFPA 70 (2023) Articles 500 and 501; API RP 500
Safety instrumented tags	IEC 61511 and IEC 61508	Sour service	Not required; sweet gas, H ₂ S 4 ppmv maximum (NACE MR0175 not applied)

SITE CONDITIONS

Table 1-2: Site and Environmental Conditions

Item	Value	Item	Value
Ambient design temperature	-5 °F to 110 °F	Electronics rating	-40 °F to 158 °F (-40 °C to 70 °C)
Solar radiation	1,000 W/m ² ; sunshades where exposed	Elevation and atmosphere	1,150 ft MSL; 14.10 psia
Wind and ice	108 mph (ASCE 7-22, Exposure C); 0.5 in radial ice (HOLD H-06)	Area classification	Class I, Division 2, Group D in process areas; Division 1 within 5 ft of vents and relief outlets (Volume 6 area classification drawing)
Temperature class	T3 minimum (natural gas autoignition about 900 °F)	Enclosure	NEMA 4X (IP66) minimum; 316 SS or copper-free aluminum (below 0.4 % Cu), epoxy coated
Instrument power	24 VDC from the station UPS (GEN-DB-001, Section 9.8) unless noted		



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TAG SCHEDULE

Table 1-3 lists every tag in  INS-LST-001 that references this datasheet, and Table 1-4 gives the process conditions at each tag.

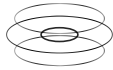
Table 1-3: Tag Schedule

Tag	Service	P&ID	Range or set	System	JB	Area classification
PI-101	Inlet local pressure gauge	 PRO-DWG-101	0 to 2,000 psig	Local, no I/O	None	Class I, Division 2, Group D
PI-102	PR-101 barrel pressure gauge	 PRO-DWG-101	0 to 2,000 psig	Local, no I/O	None	Class I, Division 2, Group D
PDI-103A	V-101 filter DP local gauge (teed off PDIT-103 impulse lines with 3-valve manifold)	 PRO-DWG-102	0 to 25 psid	Local, no I/O	None	Class I, Division 2, Group D
PI-103	V-101 local pressure gauge	 PRO-DWG-102	0 to 2,000 psig	Local, no I/O	None	Class I, Division 2, Group D
PI-115A	MOV-115 body-cavity bleed pressure gauge (seal check)	 PRO-DWG-103	0 to 2,000 psig	Local, no I/O	None	Class I, Division 2, Group D
PI-113	Meter inlet header local gauge	 PRO-DWG-103	0 to 2,000 psig	Local, no I/O	None	Class I, Division 2, Group D
TI-151A	H-101 bath local thermometer	 PRO-DWG-105	0 to 250 °F	Local, no I/O	None	Class I, Division 2, Group D
PI-156A	H-101 gas outlet local gauge	 PRO-DWG-105	0 to 2,000 psig	Local, no I/O	None	Class I, Division 2, Group D
PI-161A	Fuel gas intermediate pressure gauge (downstream PCV-161)	 PRO-DWG-106	0 to 300 psig	Local, no I/O	None	Class I, Division 2, Group D
PI-162A	Fuel gas supply pressure gauge (downstream PCV-162)	 PRO-DWG-106	0 to 60 psig	Local, no I/O	None	Class I, Division 2, Group D
PDI-161A	FG-101 filter DP gauge	 PRO-DWG-106	0 to 15 psid	Local, no I/O	None	Class I, Division 2, Group D
TI-161C	Fuel gas temperature downstream of PCV-161	 PRO-DWG-106	-50 to 150 °F	Local, no I/O	None	Class I, Division 2, Group D
PI-138	Gauge between SDV-102 and SDV-103	 PRO-DWG-107	0 to 2,000 psig	Local, no I/O	None	Class I, Division 2, Group D
PI-137	Control valve outlet local gauge	 PRO-DWG-107	0 to 2,000 psig	Local, no I/O	None	Class I, Division 2, Group D
PI-174	Outlet local gauge	 PRO-DWG-108	0 to 2,000 psig	Local, no I/O	None	Class I, Division 2, Group D

Table 1-4: Process Conditions

Tag	Normal P and T	Maximum operating P and T	Design P and T
PI-101	1,050 psig / 70 °F	1,150 psig / 45 to 120 °F	1,440 psig / -20 to 150 °F
PI-102	1,050 psig / 70 °F	1,150 psig / 45 to 120 °F	1,440 psig / -20 to 150 °F
PDI-103A	1,050 psig / 70 °F	1,150 psig / 45 to 120 °F	1,440 psig / -20 to 150 °F
PI-103	1,050 psig / 70 °F	1,150 psig / 45 to 120 °F	1,440 psig / -20 to 150 °F
PI-115A	1,050 psig / 70 °F	1,150 psig / 45 to 120 °F	1,440 psig / -20 to 150 °F



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Tag	Normal P and T	Maximum operating P and T	Design P and T
PI-113	1,050 psig / 70 °F	1,150 psig / 45 to 120 °F	1,440 psig / -20 to 150 °F
TI-151A	Atmospheric bath / 150 to 190 °F	Atmospheric / 200 °F	Vendor bath design / 250 °F
PI-156A	1,030 psig / 68 to 130 °F	1,150 psig / 140 °F	1,440 psig / 250 °F
PI-161A	150 psig / ambient	PSV-161 set / 110 °F	285 psig / -20 to 150 °F
PI-162A	25 psig / ambient	35 psig / 110 °F	285 psig / -20 to 150 °F
PDI-161A	1,050 psig / 70 °F	1,150 psig / 120 °F	1,440 psig / -20 to 150 °F
TI-161C	25 psig / ambient	PSV-161 set (Class 150) / 110 °F	285 psig (Class 150 at 100 °F) / -20 to 150 °F
PI-138	950 psig / 45 to 70 °F	1,180 psig (PIC-134 clamp); 1,225 psig OPSS trip / 19 to 120 °F	1,440 psig / -20 to 150 °F
PI-137	950 psig / 45 to 70 °F	1,180 psig (PIC-134 clamp); 1,225 psig OPSS trip / 19 to 120 °F	1,440 psig / -20 to 150 °F
PI-174	950 psig / 45 to 70 °F	1,180 psig (PIC-134 clamp); 1,225 psig OPSS trip / 19 to 120 °F	1,440 psig / -20 to 150 °F

SPECIFICATION

Table 1-5: Specification

Item	Requirement
Standard	ASME B40.100; accuracy Grade 2A (0.5 % of span) for pressure gauges, 1 % for differential gauges and the thermometer
Dial	4-1/2 in, white face, black figures, psig and kPa scales; thermometer 5 in every-angle bimetal
Case	316 SS, solid front, blowout back, safety pattern
Fill	Silicone liquid fill, suited to -5 °F ambient
Element and wetted parts	316 SS Bourdon tube and socket; differential gauges 316 SS piston or diaphragm, 2,000 psig static rating (PDI-103A, PDI-161A)
Connection	1/2 in NPT bottom, with block-and-bleed gauge valve and snubber (typical HU-G)
Range	Normal operation in the middle third of the scale: 0 to 2,000 psig for 950 to 1,150 psig service; PI-161A 0 to 300 psig; PI-162A 0 to 60 psig
Overrange	130 % of full scale without loss of accuracy; gauges shall be removed or isolated during the 2,160 psig hydrotest
Window	Laminated safety glass or polycarbonate
Thermometer TI-151A	In the heater bath well by the vendor, 0 to 250 °F, stem length per vendor
Tagging	316 SS tag wired to the case
Inspection and testing	Five-point calibration certificate per gauge

OPEN ITEMS

Table 1-6: Open Items

HOLD	Item	Responsible party
H-15	Gauge manufacturer	Vendor

