 TORUS	· Owner COMPOSITE SAMPLER SMP-146	Document No.	MEA-DS-007		
		Revision / Date	A · September 29, 2026		
		Issue purpose	Issued for Review		
MEASUREMENT · COMPOSITE SAMPLER SMP-146					
Rev.	Date	Revision description	Prepared	Reviewed	Approved
A	2026-09-29	Issued for Review			

NOTES

1. This sheet defines the flow-proportional composite sampler that collects the monthly custody sample.
2. Values marked typical are budgetary. The vendor shall confirm them with its proposal and final data (HOLD H-15).
3. Units are US customary. Pressures are gauge unless stated as absolute; standard volumes are at 14.73 psia and 60 °F.
4. Operating cases C1 to C7 are defined in  GEN-DB-001, Basis of Design, Section 6.

GENERAL

Table 1-1: General Data

Item	Value	Item	Value
Tag	SMP-146	Service	Flow-proportional composite sample for custody verification and extended analysis
Standards	API MPMS Chapter 14.1, GPA 2166	Location	Analyzer shelter B-101
Area classification	Interior of B-101, Class I, Division 2, Group D, T3 ( GEN-DB-001 Section 8.1); electrical to confirm	Quantity	1 sampler, 2 cylinders

PROCESS DATA

Table 1-2: Process Data

Item	Requirement
Sample source	SP-141 line-pressure port through 1/4"-G-1139-T1, heat traced to 120 °F
Line pressure	885 to 1,135 psig (design 1,440 psig)
Temperature	At or above 35 °F (tariff cricondenthem 15 °F plus a 20 °F margin)
Design pressure / temperature	1,440 psig / -20 to 150 °F

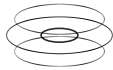
SAMPLER AND CYLINDER

Sizing is developed in  MEA-CAL-004, Section 8.

Table 1-3: Sampler and Cylinder

Item	Requirement
Type	Displacement pump sampler, electrically actuated (no gas-driven pneumatics); bite taken at line pressure
Bite volume	0.5 cm ³ fixed (adjustable 0.1 to 1.0 cm ³); 36.2 scc at C5, 51.6 scc at C1
Actuation	Pulse from FQI-110; interval equal to the forecast period volume divided by 700 bites, limited to 0.4 to 5.0 MMscf per bite; 5.0 MMscf per bite at 120 MMSCFD
Cylinder	Constant-pressure floating-piston cylinder, 500 cm ³ , 316 SS, MAWP 1,800 psig minimum, with mixing ball, pre-charge gauge, relief device and position indicator
Fill limit	80 % (400 cm ³); a cylinder-full switch to FQI-110 stops sampling and alarms



 TORUS	· Owner	Document No.	MEA-DS-007
		Revision / Date	A · September 29, 2026
		Issue purpose	Issued for Review
MEASUREMENT · COMPOSITE SAMPLER SMP-146			
Item	Requirement		
Period	One calendar month (HOLD H-01); 744 bites and 74 % fill at 120 MMSCFD with a 5.0 MMscf interval		
Quantity	One sampler; two cylinders (one in service, one in transit)		
Heating	Cylinder kept in the heated shelter or a heated jacket, 35 °F minimum		

UTILITIES AND OUTPUTS

Table 1-4: Utilities and Outputs

Item	Requirement
Power	24 VDC from the station UPS ( GEN-DB-001 Section 9.8); 120 VAC only where stated
Inputs	Bite pulse from FQI-110
Outputs	Bite confirmation, cylinder full, fault
Enclosure	Explosion-proof or flameproof

OPEN ITEMS

Table 1-5: Open Items

HOLD	Item	Responsible party
H-01	Sampling period and laboratory analysis requirements	Owner and receiving pipeline operator
H-15	Vendor data	Vendor