 TORUS	Owner PROCESS DATASHEET, PSV-101 PRESSURE RELIEF VALVE	Document No.	PRO-DS-004		
		Revision / Date	A - September 29, 2026		
		Issue purpose	Issued for Review		
PROCESS · PROCESS DATASHEET, PSV-101 PRESSURE RELIEF VALVE					
Rev.	Date	Revision description	Prepared	Reviewed	Approved
A	2026-09-29	Issued for Review			

GENERAL

Item	Value	Item	Value
Tag	PSV-101	Service	Filter separator relief
Protected equipment	V-101 and inlet section	Governing contingency	External fire, unwetted vessel
Code	ASME Section XIII, API 520, API 526		

RELIEVING CONDITIONS

Item	Value	Item	Value
Set pressure	1,440 psig	Allowable overpressure	21 %
Relieving pressure	1,756.5 psia	Required capacity	15,800 lb/h
Fluid	Natural gas, MW 18.46	Relieving temperature	302 °F
Compressibility Z	0.964	Ideal-gas k	1.222

SIZING AND SELECTION

Item	Value	Item	Value
Required area	0.171 in ²	Selected orifice	API 526 E, 0.196 in ²
Rated capacity	18,100 lb/h	Inlet loss	0.1 % of set
Built-up back pressure	4.9 % of set	Superimposed back pressure	Atmospheric, vent header
Reaction force, open discharge	758 lbf	Discharge	Vent header to VS-101

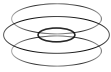
VALVE

Item	Value	Item	Value
Inlet	1 in Class 600 RF (API 526 1E2)	Outlet	2 in Class 150 RF
Inlet piping	NPS 2, car-sealed-open isolation valve	Outlet line	3"-V-1071-S1
Type	Conventional, closed bonnet, metal seat	Materials	LCC body, 316 SS trim
Seat tightness	API 527		

NOTES

- Sizing per PRO-CAL-007. The required area is the API 520 area for the API 521 fire load, which exceeds the direct API 521 area formula and governs.
- A blocked outlet is not a relieving case while the upstream lateral MAOP does not exceed 1,440 psig (HOLD H-16). Otherwise the load is 245,000 lb/h, needing an API 526 L orifice.
- Certified capacity: Vendor to confirm (HOLD H-15).
- Process data only. The mechanical, instrument and electrical datasheets complete the purchase specification.



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- Pressures are gauge unless stated. Standard conditions are 14.73 psia and 60 °F; local atmospheric pressure is 14.10 psia.
- Values marked HOLD H-15 are typical and shall be confirmed by the selected vendor.

