

SAMPLE CYLINDERS AND NEEDLE VALVE WITH RUPTURE DISC

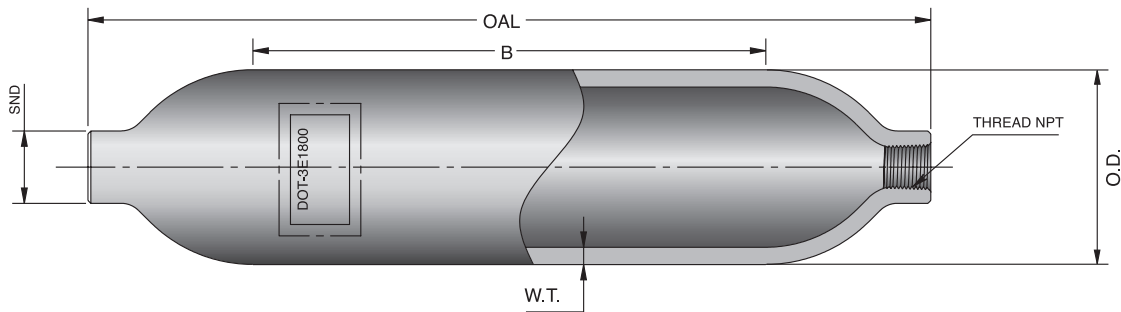


APPLICATION:

Sampling Cylinders permit the extraction of a sample from a remote process location and provide safe containment for storage and transportation to the laboratory for analysis. These cylinders are rated to 1800 psi at room temperature for liquids and gases. Some applications include hydrocarbon sampling in refineries, gas sampling in chromatography and condensate sampling in fossil-fuel and nuclear-power plants. In similar applications, petrochemical facilities and gas processing plants utilize sample cylinders. Pressure surge accumulators or reaction vessels are other common uses for sample cylinders.

PROPERTIES: TABLE 1

No.	Description	Material	Pressure Rating (psi)	DOT Stand	Min. Volume	Max. Weight	B	OAL	SND	Thread (NPT)	O.D.	W.T.
1	HSSC15-1BH	St.St.316	1800	3E	50 CC (3.05 IN ³)	0.5 LBS	1.64"	3.80"	0.72"	1/4-18	1.5"	0.083"
2	HSSC15-2BH				75 CC (4.6 IN ³)	0.6 LBS	2.72"	4.88"				
3	HSSC15-3BH				150 CC (9.2 IN ³)	1.0 LBS	6.09"	8.25"				
4	HSSC15-4BH				150 CC (9.2 IN ³)	1.0 LBS	6.09"	8.54"	0.85"	3/8-18		
5	HSSC20-1BH				300 CC (18.3 IN ³)	1.8 LBS	6.79"	9.25"	0.74"	1/4-18	2"	0.095"
6	HSSC20-2BH				500 CC (30.5 IN ³)	2.5 LBS	11.42"	13.88"	0.74"			



Material Traceability

Raw material is heat code traceable. This traceability follows each cylinder through manufacturing, heat treating, cleaning and pressure testing.

Cylinder Manufacturing Standards

DOT CFFC, FRP-1, FRP-2, 3A, 3AA, 3AL, 3E, 3HT, 39, NGV2, FMVSS, HSE FW1/FW2, TUV, KHK, MIL-C-7905, MS26545, MIL-R-8573, EN1975, 12245 and others.

Applicable Valves with Sample Cylinders

HAM-LET H-285 Needle Valve with Rupture disc.

■ The Sample Cylinders product variety in the catalog covers our standard line. Extensive options are available per request.

Notes:

1. Dimensioning and tolerancing per ANSI Y 14.5M.
2. Cylinder manufactured and inspected in accordance with DOT '49 CFR 178.42 Specification 3E.
3. Material: seamless cold-finished stainless steel tubing per ASTM A269.
4. Lot size 500 cylinders.
5. Heads formed using spinning process.
6. Sandblast inside surfaces.
7. Thread ends per ANSI B1.20.1.
8. Part is free of grease, machine oil & other debris inside and out. Acid wash and rinse with deionized water.
9. Rotation sand entire cylindrical outer surface to finish 32µInch.
10. Destructive acceptance criteria (one cylinder per lot) per DOT 3E:-
-Cylinder burst between 6,000 and 12,000 psi without fragmentation; or
-Cylinder holds 12,000 psi for 30 seconds without burst, and withstands flattening test to six times the wall thickness without cracking.
11. Non-destructive acceptance criteria (all cylinders) per DOT 3E: hydrostatic proof test at 3,000 +100/- 0 psi for 30 seconds minimum without failure or evidence of defect.
12. Minimum water volume: see table 1.
13. Maximum cylinder weight: see table 1.
14. Cylinder operating pressure: 1800 psi.

NEEDLE VALVE WITH RUPTURE DISC

FEATURES

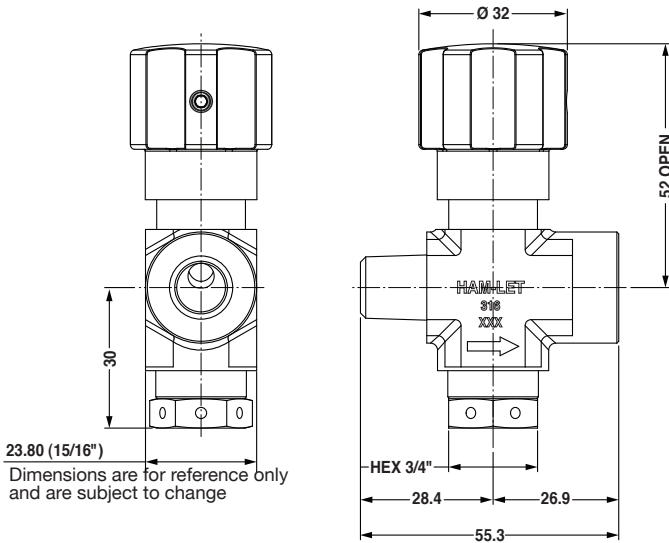
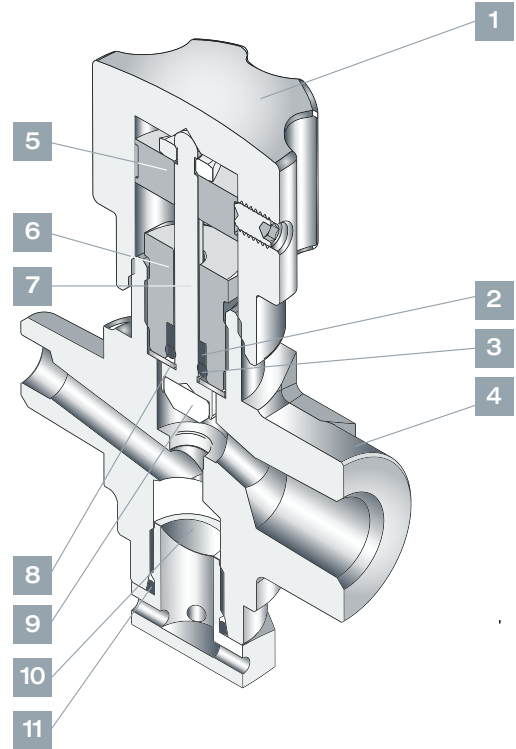
- Soft seat (PEEK) Non rotating stem
- MAWP 3000 Psi (206 Bar)
- Temperature working range -20°C to 122°C (-4°F to 252°F)
- Rupture disc pressure ratings: 1900 Psi (131 Bar), 2850 (196 Bar)
- Handle design prevents contaminants from entering in to valve's critical, functional parts
- Orifice size: 5.6 mm (0.218 inch)
- Flow Coefficient (Cv): 0.53
- Comply with TPED (2010/35/EU) as standard

GENERAL

HAM-LET Needle Valves with Rupture discs were designed to be mounted on HAM-LET sample cylinders, the Rupture disc provides protection against over pressure in sampling units by venting the media to the atmosphere. The Rupture disc element is welded to a carrier that is assembled to the Valve with an O-Ring seal. A Rupture Disc unit can be easily replaced in the field while the valve remains connected to the sampling unit.

MATERIAL OF CONSTRUCTION

No.	Component	Qty.	Material
1	Handle	1	Aluminium 6061
2	Back up O-Ring	1	PTFE
3	O-Ring	1	NBR
4	Body	1	St.St. ASTM A-182
5	Spool	1	Aluminium 6061
6	Packing Bolt	1	St.St. ASTM A-276
7	Stem	1	St.St. ASTM A-276
8	Washer	1	St.St. ASTM A-276
9	Stem Tip	1	PEEK
10	Rupture Disc Unit	1	St.St. ASTM A-276 + Alloy 600/B168
11	O-Ring	1	Fluorocarbon FKM
12	NUT	1	St.St. ASTM A-276



ORDERING INFORMATION

H - 285 - SS - N - P - 1/4 - RD1900

Stem Tip Material	Rupture Pressure
P PEEK	1900 1900 Psi
	2850 2850 Psi

ORDERING INFORMATION FOR RUPTURE DISC UNIT

Z - RDU - 1/4 - 1900

Rupture Pressure	Pressure rating
1900 1900 Psi	± 100 Psi @ 20°C
2850 2850 Psi	± 100 Psi @ 20°C

Sample Cylinder | Rupture Disc, Rev.01, January 2014

H-285 Nonrotating-stem Needle Valves User Instruction

TESTING

The designs of the Ham-Let H-285 Needle Valves have been tested for proof and burst.

Every H-285 Ham-let needle valve is tested at 1.2x MAWP according to ISO 14246, valves with Rupture disc are tested at 0.8x MAWP of the rupture disc. No detectable leakage is allowed during shell test.

Product Markings

Ham-Let TPED H-285 needle valve are marked with:

- Pi symbol (π)
- Identification number of the notified inspection body
- CE symbol and identification number of the notified inspection body on the rupture disk.
- Date of production (MM/YY)

Material of construction:			
No.	Component	Qty.	Material
1	CUP SET SCREW	2	SS304
2	HANDLE	1	ALUMINUM
3	NUT-M4	1	SS316
4	SPOOL-AL	1	ALUMINUM
5	PACK BOLT	1	SS316L
6	BACKUP RING	1	PTFE
7	O-RING	1	NBR
8	GASKET	1	SS316
9	STEM+PEEK	1	SS316L+PEEK
10	BODY	1	SS316L
11	O-RING	1	FKM
12	RUPTURE DISK	1	SS316

Pressure – Temperature Rating	
ASME Class	1250
Material Group	2.2
Material Name	316 SS
Stem Tip Material	PEEK
Temperature [c°]	Pressure [Bar]
37	206
65	192
93	177
122	169

DOCUMENTATION

Declaration of conformity is available for all Ham-Let TPED complaint products

Precautions

This device should be assembled and tested by a trained person only. Be sure to keep all needed precautions of compressed gas cylinders in accordance to the required specifications.

Warning!

The system designer and user have the sole responsibility for selecting products suitable for their special application requirements, ensuring their safe and trouble-free installation, operation, and maintenance. Application details, material compatibility and product ratings should all be considered for each selected product. Improper selection, installation or use of products can cause property damage or personal injury.

Safety instructions

Precautions

Valve With Rupture Disc Precautions

1. Do not use devices with rupture disc in a location where the release of the cylinder contents might create a hazard.
2. The rupture disc vents to the atmosphere through radial holes in the body. Pressure is released with loud noise, and gases release with high velocity.
3. Inspect rupture discs regularly. The strength of rupture discs deteriorates with time due to temperature, corrosion, and fatigue. Pulsating pressure, vacuum/ pressure cycling, heat, and corrosive fluids and atmospheres can reduce the disc's burst pressure.
4. Do not use rupture discs to protect vessels with volumes greater than 11 355 cm³ (3 gal) for compressed gases or 5680 cm³ (1 1/2 gal) for liquefied gases.
5. In cylinders with liquefied gases, a small temperature increase during transportation or storage will cause the liquid to expand and may cause the rupture disc to release its contents. See local regulations and other appropriate guidelines for safe filling limits for your application.

