

Swagelok® Products Compliant with the Transportable Pressure Equipment Directive (TPED)



Products

- Double-ended sample cylinders in 304L and 316L stainless steel
- Rupture disc units and rupture disc tees
- Sample cylinder accessories

Transportable Pressure Equipment Directive (TPED)

The Transportable Pressure Equipment Directive (TPED) provides requirements relating to the design, manufacture, and testing of transportable pressure vessels and accessories, including sample cylinders and rupture discs. The intent of the directive is to provide a uniform level of product safety throughout the countries of the European Union.

Swagelok Compliance to TPED

- Swagelok *sample cylinders* comply with directive 99/36/EC (TPED) as established by a Notified Body and include an EC-type examination.
- Swagelok *rupture disc assemblies* comply with TPED by meeting the requirements of the Pressure Equipment Directive (PED) 97/23/EC, because TPED does not contain technical requirements specific to this type of product.
- Swagelok *rupture disc assemblies* comply with directive 97/23/EC (PED) as established by a Notified Body and include an EC-type examination.

General Information on TPED-Compliant Products

Pressure Ratings

- The pressure ratings for Swagelok *sample cylinders* shown in this catalog are in accordance with the EC-type examination for the product.

Product Markings

- Swagelok TPED-compliant *sample cylinders* are marked with the π symbol and the identification number of the Notified Body which performed the assessment.
- Swagelok TPED-compliant *rupture disc assemblies* are marked with the CE symbol and the identification number of the Notified Body which performed the assessment.

Ordering Numbers

- Swagelok TPED-compliant sample cylinders include a **-PD** designator at the end of the ordering number.

Documentation

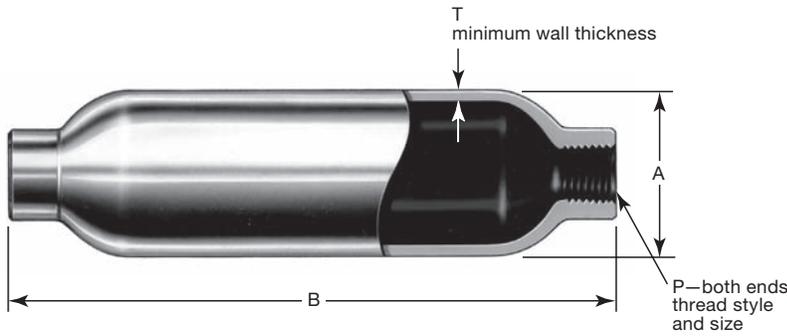
- A Declaration of Conformity is available for all Swagelok TPED-compliant products.

Related Information

For information on other Swagelok sample cylinders, overpressure protection devices, and accessories including cylinders compliant with U.S. DOT and Transport Canada requirements, see the Swagelok *Sample Cylinders, Accessories, and Outage Tubes* catalog, MS-01-177.

Sample Cylinders

Double-Ended Sample Cylinders



See the Swagelok *Sample Cylinders, Accessories, and Outage Tubes* catalog, MS-01-177.

TPED-Compliant Configurations

- Style: Double-ended cylinders
- Materials: 304L and 316L stainless steel
- Sizes: 40 to 3785 cm³ (1 gal)
- End connections: 1/8 to 1/2 in. female NPT and 1/4 in. female ISO 7/1

Testing

Each TPED-compliant sample cylinder is hydrostatically tested at 1.5 times the pressure rating.

Ordering Information and Dimensions

Dimensions, in millimeters (inches), are for reference only and are subject to change.

Material Grade	Pressure Rating at -50 to 50°C (-58 to 122°F) bar (psig)	Internal Volume cm ³ ± 5 %	P Thread	Ordering Number	Dimensions, mm (in.)			Weight lb (kg)	
					A	B	T		
304L SS	130 (1885)	40	1/8 in. NPT	304L-HDF2-40-PD	31.8 (1.25)	98.6 (3.88)	1.8 (0.070)	0.14 (0.31)	
		50	1/4 in. NPT	304L-HDF4-50-PD	38.1 (1.50)	95.2 (3.75)		0.17 (0.38)	
		75		304L-HDF4-75-PD		125 (4.94)		0.28 (0.62)	
	100 (1450)	150	1/4 in. NPT	304L-HDF4-150-PD	50.8 (2.00)	133 (5.25)	2.4 (0.093)	0.43 (0.94)	
			1/4 in. ISO 7/1	304L-HDF4RT-150-PD					
		300	1/4 in. NPT	304L-HDF4-300-PD				227 (8.94)	0.73 (1.6)
			1/4 in. ISO 7/1	304L-HDF4RT-300-PD					
		400	1/4 in. NPT	304L-HDF4-400-PD				290 (11.4)	0.95 (2.1)
			1/4 in. ISO 7/1	304L-HDF4RT-400-PD					
		500	1/4 in. NPT	304L-HDF4-500-PD				351 (13.8)	1.2 (2.6)
			1/4 in. ISO 7/1	304L-HDF4RT-500-PD					
		1000	1/4 in. NPT	304L-HDF4-1000-PD				88.9 (3.50)	277 (10.9)
	1/4 in. ISO 7/1			304L-HDF4RT-1000-PD					
	1/2 in. NPT		304L-HDF8-1000-PD	102 (4.00)	437 (17.2)	5.2 (0.206)	6.4 (14)		
			304L-HDF8-2250-PD						
2250	1/4 in. NPT	304L-HDF4-2250-PD	102 (4.00)	437 (17.2)	5.2 (0.206)	6.4 (14)			
	1/2 in. NPT	304L-HDF8-2250-PD							
3785 (1 gal)	1/4 in. NPT	304L-HDF4-1GAL-PD	102 (4.00)	678 (26.7)	9.5 (21)				
		304L-HDF8-1GAL-PD							
	1/2 in. NPT	304L-HDF8-1GAL-PD	102 (4.00)	678 (26.7)	9.5 (21)				
		304L-HDF8-1GAL-PD							
316L SS	100 (1450)	150	1/4 in. NPT	316L-HDF4-150-PD	50.8 (2.00)	133 (5.25)	2.4 (0.093)	0.43 (0.94)	
		300		316L-HDF4-300-PD				227 (8.94)	0.73 (1.6)
		500		316L-HDF4-500-PD				351 (13.8)	1.2 (2.6)
	300 (4350)	150		316L-50DF4-150-PD	48.2 (1.90)	203 (8.00)	6.1 (0.240)	1.4 (3.0)	
		300		316L-50DF4-300-PD				368 (14.5)	2.5 (5.6)
		500		316L-50DF4-500-PD				597 (23.5)	4.1 (9.1)

Overpressure Protection

Compressed gas cylinders may require the use of pressure-relief devices depending on the application. The user shall assess the applicable requirements regarding overpressure protection and the selection of pressure-relief devices.

- ⚠ **Be sure to use the correct pressure-relief device for the fluid being used.**
- ⚠ **Proper filling of the cylinder in accordance with the TPED, ADR/RID, and other local regulations, is critical in preventing overpressurization.**

Rupture Disc Precautions

1. Do not use rupture disc devices in a location where the release of the cylinder contents might create a hazard. The rupture disc vents to the atmosphere through six radial holes in the body. Pressure is released suddenly with a loud noise, and gases escape at high velocity.
2. Know the burst pressure. This rating is marked on the end face of the rupture disc unit.
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 5677 cm³ (1 1/2 gal) for liquefied gases.
5. Provide suitable means to isolate the sample cylinder from the system in case the rupture disc bursts while taking a sample.
6. 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.

Rupture Disc Units

Swagelok rupture disc units protect sample cylinders from overpressurization by venting the cylinder contents to atmosphere. The rupture disc is welded to a body that is threaded into a valve body or a rupture disc tee and sealed by an O-ring. The rupture disc can be easily replaced without removing the valve or the tee from the cylinder.



Materials of Construction

Component	Material Grade/ ASTM Specification
Body, inlet ring	316L/A479 or A213
O-ring	Fluorocarbon FKM
Rupture disc	Alloy 600/B168

Ordering Information

Nominal Burst Pressure at 20°C (70°F)	Ordering Number
196 bar ± 10 bar (2850 psig ± 150 psig)	SS-RDK-16-2850
131 bar ± 6.9 bar (1900 psig ± 100 psig)	SS-RDK-16-1900

Rupture Disc Tees

Tees are made of 316 stainless steel. Each tee includes a rupture disc unit.



Ordering Information

End Connections		Ordering Number
Inlet	Outlet	
With 196 bar (2850 psig) Rupture Disc		
1/4 in. male NPT	1/4 in. female NPT	SS-RTM4-F4-2
1/2 in. male NPT	1/4 in. female NPT	SS-RTM8-F4-2
With 131 bar (1900 psig) Rupture Disc		
1/4 in. male NPT	1/4 in. female NPT	SS-RTM4-F4-1
1/2 in. male NPT	1/4 in. female NPT	SS-RTM8-F4-1

For more information on rupture disc units and rupture disc tees, see the Swagelok *Sample Cylinders, Accessories, and Outage Tubes* catalog, MS-01-177.

Accessories

End Caps

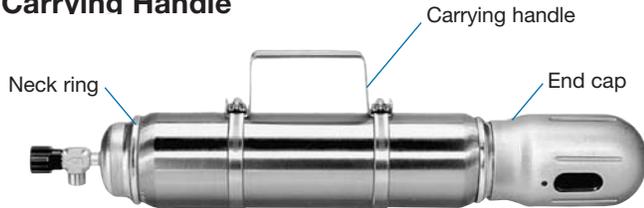
End caps protect valves from damage. Each cap threads onto a neck ring that has been peened to the cylinder neck. End caps are made from plated carbon steel and are available for use on 2250 and 3785 cm³ (1 gal) cylinders.



To order, insert **C** into the cylinder ordering number.

Example: 304L-HDF8-2250**C**-PD

Carrying Handle



This accessory provides a convenient way to carry sample cylinders. The handle is made from 304 stainless steel and is available for use on 400 cm³ and larger cylinders, as well as 300 cm³ cylinders rated to 300 bar (4350 psig).

To order a sample cylinder to be shipped with a carrying handle, add **H** into the cylinder ordering number.

Example: 304L-HDF4-400**H**-PD

To order a carrying handle as a separate component, use one of the following ordering numbers:

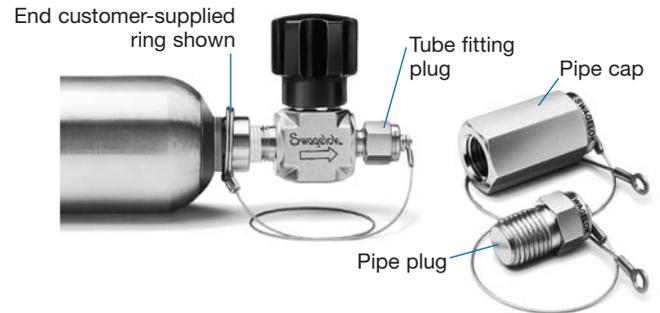
Cylinder OD in. (mm)	Ordering Number
48.2, 50.8 (1.9, 2)	MS-5K-CY-2"
88.9, 102 (3.5, 4)	MS-5K-CY-4"

To order a 2250 or 3785 cm³ (1 gal) sample cylinder with factory-assembled end caps and neck rings to be shipped with a carrying handle, add **CH** to the cylinder ordering number.

Example: 304L-HDF8-2250**CH**-PD

Caps and Plugs

Caps and plugs protect Swagelok tube fitting or NPT end connections on valves during cylinder transport. To order, contact your authorized Swagelok sales and service representative.



Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit swagelok.com or contact your authorized Swagelok representative.