



Sample Cylinder Inspection Services



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Ensure Your Sample Cylinders are Inspected. Tested. Safe



Sample cylinders are heavily used items in process facilities and typically go through a lot on their journey from the sample point to the laboratory. They are handled by a variety of plant personnel, including technicians, operations, and laboratory staff. Cylinders may be connected and disconnected from a sample point multiple times per day. Throughout all of this, your cylinder can become critically damaged over time and thus may pose a safety risk in your facility.

Swagelok Thailand, we offer a Sample Cylinder Inspection Program as a quality assurance services that includes a full assessment of the cylinder to ensure quality and safety operation at your facility.



Sample Cylinder Inspection, basis of your quality and safety system control

In any industrial environment where spot or grab sampling is a part of regular operations, keeping your sample cylinders in safe working condition is a necessity. Damaged or malfunctioning cylinders can present a safety issue for staff, and may

compromise the accuracy and integrity of your sampling practices.

Periodic inspection of sample cylinder is important and used as **safety** and **quality control issue** in most oil and gas and petro-chemical companies.



For safety operation, we recommended to check the cylinder condition or components within maintenance schedule to make sure it can still used or worked with its purposes.

The factor such as fluid types, time in service, working pressure and temperature may degrade efficiency of sampling cylinder. Components like valves and quick connects can become critically damaged over time due to a frequency connected and disconnected from a sample point. For safety, user should be checks the cylinder condition or components within maintenance schedule to make sure it can still be used or worked.

Swagelok Thailand offer Sample Cylinder Inspection Program as a quality assurance services that includes a full assessment of the cylinder to ensure quality and safety operation.

What we can do for you?

1. Outside Visual Inspection
2. Leakage Testing
3. Thickness Inspection
4. Pressure Testing
5. Inside Borescope Checking*

*we need to disassembly and reassembly your sampling cylinder

Sample Cylinder Inspection Program included with:



Visual Inspection

We will inspect your cylinders and any related assemblies to ensure that the cylinder has not been deformed and is still within tolerance to operate safely under pressure. Then we assess the conditions of threads, needle valves, rupture disc valves, and fittings.



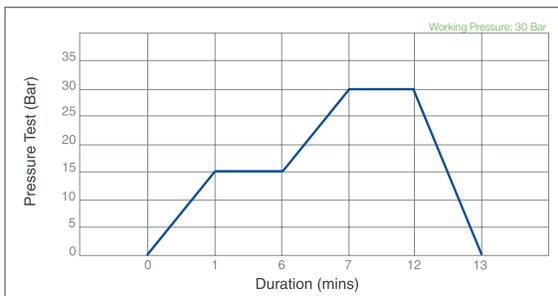
Leakage Testing

We will run a nitrogen test@10 bar (147 psi) and check leakage point using Snoop leak test solutions. Then using an Ultrasonic Leak Detector to quantify leak.



Pressure Testing

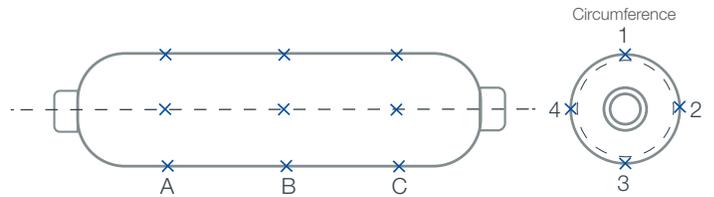
Pressure test is carried out to ensure that the cylinder maintain their integrity and resistance to the pressure. We will run a sequence step of pressure based on a customer working pressure as example below. The maximum pressure that we can tested is up to 68.9 bar.



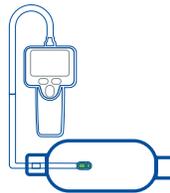
Thickness Inspection

Thickness test indicate the consistency inside of the cylinder that effect to pressure tolerance.

An average thickness of a cylinder will be calculated from 12 measurement points as shown below.



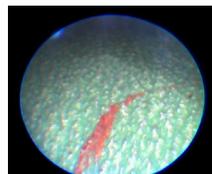
Inspection Point for Thickness Checking



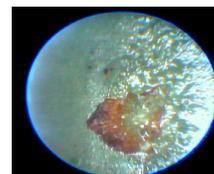
Inside Borescope Checking

Damage inside of cylinder is checked using a borescope. We can check a remaining chemical residue compound, corrosion, deep scratches, inside cracking, and verify Sulfinert® or PTFE coated condition inside of the cylinder.

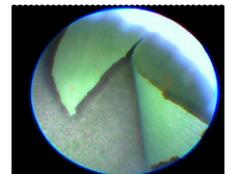
Example of common damage found using borescope:



Inside Contamination



Inside Corrosion



Inside PTFE Peeling

Example of Sample Inspection Report

Conclusion

Document No :
Revise :
Issue Date :

Laser Tag B18/002

Customer

Laser Tag B18/002

Part Number ; 1 304L-HDF4-500 1 ea
2 SS-14DKM4 1 ea
3 SS-14DKM4 1 ea
4 SS-QC4-S-4PF 1 ea
5 SS-QC4-S-4PF 1 ea
6
7

Technical Information

Project No : B18/002 (Item
Customer Tag S-1202

Cylinder Option Cylinder Working Condition

PTFE Coated Yes System Fluid : Ethylene (Gas)

Sulfinit Coated No Fluid Concentration :

Electropolishing No Pressure : 30 bar

Oxygen Cleans

Visual Check (Outside) for Cylinder

No Corrosion No Distortion
No Swelling No Cracking
Minor Scratches

Outer Dimension Check for Cylinder

Diameter(Drawing) 50.8 mm
Length(Drawing) 350.5 mm
Diameter (Actual) 50.8 mm
Length (Actual) 350.0 mm

Leakage Test

Test Pressure : 10 bar
Fluid : Nitrogen

Photo

Test Date

31/10/2018

Recommended Re-Inspection

31/10/2021

Thickness Inspection

Ref.Average Thick

Laser Tag B18/002

Inspection Location (for Thickness Checking)

Amount of Checking Point				Dimension Measurement		Cylinder Dimension Measurement	
	No	Diameter	Length	No	Diameter	Length	
Total Points on Axial :	3	Points		1	50.8	350	Diameter(Drawing) 50.8 mm
Total Points on Circumference :	4	Points		2	50.8		Length(Drawing) 350.5 mm
Total Points of Inspection :	12	Points		3	50.8	350	Average Diameter (Actual) 50.8 mm
				4	50.8		Average Length (Actual) 350.0 mm

Thickness Inspection Points

Axial	Cylinder Body Points (mm) / Circumference								Cylinder Neck Points (mm) / Side				
	1	2	3	4	5	6	7	8	Cir.	L1	L2	R1	R2
A	3.08	2.76	2.82	2.83									
B	2.90	3.06	2.97	2.86									
C	3.11	3.11	3.14	2.92									



Upon completion of the inspection, we will provide you with a detailed report including images, with recommendations on needed repairs and tests if required. All inspected cylinder will be stamped with

tested date as part of quality control process

Reserve your schedule now:

Taking advantage of this program to increase safety an integrity of your plant. Call Swagelok Thailand to reserve your schedule at 02-0621599 or live chat with us via Line @swagelokthailand

Sample Cylinder Assembly Services



Sample Cylinder Assembly Services

Our certified Field Engineers have a deep understanding with vapor gas, gas and liquid sampling applications in Oil and Gas and Petrochemical Refineries. They are readily available to perform an onsite consultation to understand your process and suggest customized solutions to meet your specific sampling requirements.

We can help you determine proper materials of construction, valves, quick connects, and accessories to provide you with the gas and vapor sampling reliability you need.



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