

the cylinder and tightened to the correct torque setting. After the hydrostatic test, the cylinder is then stamped on the shoulder of the cylinder with an identifying IDEST test centre stamp plus the date of test.

To complete the inspection or test , the cylinder is filled to the working pressure and leak tested.

Lastly a green quadrant sticker for visuals or a blue quadrant sticker for hydrostatic test, and a contents sticker are stuck on the cylinder. These identify when the next test is to be done and the proposed gas contents of the cylinder.

### **What if my cylinder fails the inspection or test?**

If either the Visual Inspection or the Hydrostatic Test revealed a problem you would be contacted to discuss how to move forward.

If the valve failed on thread stretch or damage then you would be quoted to fit a new valve. The failed valve would then be scrapped.

If the cylinder revealed a problem then we can quote for a new cylinder, and refit the original valve that passed.

An incomplete cylinder or valve cannot be allowed to leave the inspection/test centre in case a mismatch of threads occurs. This could result in the valve being ejected from the cylinder and, as you can imagine, could cause injury or even death, to the filler or you the user.

**Be safe**  
**ensure your air-gun cylinder**  
**is in test at all times.**

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### **IDEST**

Fully supported by the  
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*"Working towards your diving safety"*

# All About Cylinders

AIR-VS DIVING

CYLINDERS

SEPTEMBER 2022



**USEFUL INFORMATION FOR  
AIR-GUN OWNERS**

*from*



***Inspectorate for  
Diving Equipment  
Servicing and Testing***

## *Some questions answered*

### **What type of cylinder do I own?**

There are many types of cylinders available but the two main types are air-gun cylinders and scuba diving cylinders, made of either Aluminium or Steel.

### **Pressure rating**

Both scuba diving cylinders and air-gun cylinders can be charged to a working pressure of 200 bar to 300 bar depending on the pressure rating of the valve fitted.

### **Valve types**

The valve fitted to a scuba diving cylinder is different to that fitted to an air-gun cylinder.

A scuba diving cylinder valve is designed to take a scuba diving regulator that the diver uses to breathe underwater.

An air-gun cylinder valve normally has a pressure gauge fitted to it so that the pressure being supplied to the gun can be monitored.

Some cylinders that are produced as scuba diving cylinders can have the scuba diving cylinder valve removed

and replaced with an air-gun valve.

### **Why do I need to get my cylinder tested?**

Because some cylinders being used are scuba diving cylinders, they must be inspected every 2½ years and tested every 5 years, under the International Standard **BS EN ISO 18119:2018**.

These inspections and tests are carried out in order to check that the high pressure cylinder is safe to use. Checks are made for external damage, internal corrosion and faults on the valve system. This is for the safety of the fillers as well as you the air-gun user.

### **How often do I need to have the cylinder checked?**

A **Visual Inspection** is carried out every 2½ years and a **Hydrostatic Test** every five years. So when the cylinder is due a hydrostatic test it also gets a visual inspection at the same time.

### **What is the difference between these two checks?**

A **Visual Inspection** is just that; the valve is removed and both the cylinder neck threads and valve stem threads are

checked using calibrated thread gauges.

A thorough check is made of the external condition of the cylinder and any damage identified.

A droplight is put inside the cylinder to inspect the condition of the interior. The removed valve is stripped down and serviced using a new service kit. The cylinder wall and base thickness are checked using an ultrasonic gauge.

A **Hydrostatic Test** involves all of the Visual Inspection checks plus the actual Hydrostatic Test. The cylinder is filled with water and placed into a Volumetric Jacket full of water and sealed in. The Test Rig then pumps more water into the cylinder until it reaches its Test Pressure. After a period of time the pressure is then released and measurements taken to determine the Permanent Set, or 'Stretch', that the cylinder may have experienced. Providing the Permanent Set is less than 5% then the cylinder would pass.

The cylinder would then be dried.

In both cases the valve is refitted to