Pressure Testing Machine Model DPC
for hydrostatic testing of fire extinguisher cylinders and high pressure cylinders with test pressures up to 500 bar (7112 PSI) model DPC 01

Model DPC 01
Simultaneous testing of several cylinders and cartridges is possible. For repeated pressure testing of CO2 high-pressure and breathing air cylinders.

The number of test stands can be adapted to the special requirements.

Testing of high-pressure cylinders up to 30 litre is possible without any problems.

Technical Data:
Test pressure: 25 - 500 bar
Power supply: 230 V, 1 Ph, 50 / 60 Cy
Air supply: 8 bar
Weight: approx. 250 kg
Dimensions: 800 x 1500 x 2500 mm

VULKAN was founded 1921 as fire extinguisher production
VULKAN has been making filling and testing equipment since 1965 for all types of fire extinguishers. VULKAN supplies not only a perfect technology but also the necessary know-how to cope with all works can arise when providing service.

Filling and testing machines
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Our experience -your advantage consult us!
Pressure Testing Machine
for hydrostatic testing of fire extinguisher cylinders and high pressure cylinders
with test pressures up to 500 bar (7112 PSI) model DPC 01

Brief technical description
This plant is used for the pressure testing of single fire extinguisher cylinders and propellant air bottles with a test pressure up to 500 bar. Pressure testing is necessary to ensure safety by testing the cylinders regularly. Testing pressure as a rule is 1.3 - 1.5 times the allowed operating pressure. Various specifically regulations and standards for each country have to be observed. The plants are equipped with a pneumatically driven high-pressure pump. In the standard plant, the water is fed directly out of the main. As an alternative, we also offer a water circulation with an appropriate receptacle and a transfer pump. The advantage of the water circulation is that an emulsion may be admixed to prevent corrosion inside the cylinders. The cylinders are placed on a vertically adjustable table and retained by a quick-acting clamping device. For propellant gas bottles the machine is equipped with a fixed connection with suitable thread adapter.

Function
Propellant gas bottles to be tested are directly screwed into the suitable thread adapter. Cylinders have to be equipped additionally with a fitting according to the customer’s requirements and are connected with quick-acting couplings, installed at the pressure hoses. Afterwards the test cylinders are filled completely with water by means of the mains water pressure or the transfer pump. The air inside the bottle is let off through a relief tube. The roll front should not be closed before water is running out without any bubbles at the overflow nozzle.
After pressing the roll front switch, the pressure transformer may be switched on. After reaching the test pressure the pressure transformer is cut off by a pre adjusted contact switch at the pressure gauge.

For the following inside drying of the cylinders we offer our cylinder drying device type BT 30.

Technical Data

<table>
<thead>
<tr>
<th>Performance</th>
<th>DPC01</th>
<th>Test pressure</th>
<th>20 bis 500</th>
<th>bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test pressure</td>
<td>20 bis 500</td>
<td>358 bis 7112</td>
<td>PSI</td>
<td></td>
</tr>
<tr>
<td>Air supply:</td>
<td>8 [bar]</td>
<td>230 / 1 / 50</td>
<td>V/Ph/Hz</td>
<td></td>
</tr>
<tr>
<td>Power supply:</td>
<td>roll front with locking system</td>
<td>shock-proof window at the side</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety equipment:</td>
<td>schlagfeste Sichtfenster</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimension:</td>
<td>150 x 80 x 210</td>
<td>cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight:</td>
<td>250</td>
<td>kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Testing connection with thread connection
for testing of small propellant-cylinder

Protection equipment
a solid roller shutter made of aluminium
Basic width: 1000 mm
Protection equipment extension
Additional width: 2 x 500 mm

Pairs of extension hoses, 1600 mm lg.
for testing with expansion measurement

Working place lighting
highly shackle-resistant and splash-proof

Testing connection
for pressure cylinder equipped with a quick clamping device and height-adjustable table to support the cylinder, filling hose and venting hose with coupling for thread adapter.
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for hydrostatic testing of fire extinguisher cylinders and high pressure cylinders
with test pressures up to 500 bar (7112 PSI) model DPC 01
The equipment is custom-built and equipped with various testing connections.
Examples:

DPC01-2-2x0
with 2 x
Testing connection
for pressure cylinder equipped with a quick clamping device and height-adjustable table to support the cylinder, filling hose and venting hose with coupling for thread adapter.

and without of
Testing connection with thread connection
for testing of small propellant-cylinder

The wide of the cabinet are 1 meter

DPC01-2-3x1
with 3 x
Testing connection
for pressure cylinder equipped with a quick clamping device and height-adjustable table to support the cylinder, filling hose and venting hose with coupling for thread adapter.

and 1 x
Testing connection with thread connection
for testing of small propellant-cylinder

The wide of the cabinet are 2 meter

DPC01-2-10x0 D
with 10 x
Testing connection
for pressure cylinder equipped with a quick clamping device and height-adjustable table to support the cylinder, filling hose and venting hose with coupling for thread adapter.

and without of Testing connection with thread connection
for testing of small propellant-cylinder
The wide of the cabinet are 2 x 2,5 meter

All other selection and combination of testing connections are possible by customers request.
Pressure Testing Machine
for hydrostatic testing of fire extinguisher cylinders and high pressure cylinders
with test pressures up to 500 bar (7112 PSI) model DPC 01

Expansion measurement test equipment
in which the pressure container are put in during the water pressure test to measure the permanent expansion in accordance with

- the US - DOT regulations,
- the Compressed Gas Association pamphlet C-1,
- the NFPA 10 Standard for portable fire extinguisher,
- the British Standard 5430 Part 3

This device consists of a container with cover into which the cylinder to be tested is placed in order to measure the expansion remaining after the pressure test.

For this purpose, the cylinder to be tested is suspended on the cover of this container with an adapter in such a way that the cylinder can freely expand in all directions.

**Dimension:** approx. diam. 300 mm X 1000 mm

The cylinder to be tested is closed with an adapter and is connected on the down side of the cover with the quick-acting coupling. The hose line and the venting line are connected on the upper side of the cover with the quick-acting coupling. There are two other connections on this cover; one for the feed of water and the other for the venting and the transfer of the water to the digital measuring scale. The measuring scale is provided with tare set and a digital display to read the water levels in order to measure the permanent expansion.

The container has on its top a water outlet tap to drain the water after the testing so that no water flows out when the cover is then opened. This cover is retained by clamping hooks. The hooks must be adjusted so that the cover sits properly on its sealing all around and that no water can escape.

Prepared breathing apparatus high pressure cylinder to hydrostatic test

Calibrated manometer
necessary for the pressure testing in accordance with

- the US - DOT regulations, the Compressed Gas Association pamphlet C-1,
- the NFPA 10 Standard for portable fire extinguisher

one manometer with a range 600 bar, minimum reading 5 bar ( mid point reading 2,5 bar )

Calibrated test cylinder
necessary for the pressure testing in accordance with

- the US - DOT regulations, the Compressed Gas Association pamphlet C-1,
- the NFPA 10 Standard for portable fire extinguisher

to calibrate the Expansion measure test equipment.

- **Material:** Steel
- **Max. Test Pressure:** 7,250 psi / 500 bar
- **Expansion at Test Press.:** 84 cc
- **Dry weight:** 19 kg
Pressure Testing Machine
for hydrostatic testing of fire extinguisher cylinders and high pressure cylinders
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Expansion measurement test equipment

**Performance of the test**

1) Close the cylinder with the appropriate connection adapter.

2) Suspend the cylinder on the underside of the cover by means of the quick-acting coupling, place the cover together with the cylinder on the container and close it with the clamping hook. The handle on the threaded adapter must be removed beforehand because it does not fit into the container.

3) Connect the two hose lines for the water feed and the water outlet on the cover.

4) Open the tap on the water feed line and let the water flow into the container until it flows out at the pressure connection of the cover. Then close the water tap.

5) Connect the pressure line with the double hose on the nipple on top of the cover.

6) Open the water tap again and let such a quantity of water flow in until the water is visible in the lower part of the measuring tube. Then close the tap.

7) Set the lower marking arrow on the water level in the measuring tube.

8) Now the pressure test of the high-pressure cylinder can take place as described above. During the pressure test, the cylinder expands which causes that the water in the container is displaced and rises in the measuring tube. When the pre-set test pressure is reached, the maximum expansion is reached as well. Now set the top pointer at the measuring tube on this water level*. The overall expansion of the cylinder is documented and can be read at the marking.

9) At the end of the pressure test, the cylinder to be tested is released. The pressure cylinder which had been deformed before, shrinks back to its original form. The water level in the measuring tube falls accordingly. The overall expansion is noted, then the upper marking arrow is set to the new level the remaining expansion is read and also noted. Then the permanent expansion can be calculated

10) Turn the 3-way-cock at the bottom of the measuring tube so that the water in the measuring tube can flow out. Then turn the cock back to its initial position.

11) Detach the pressure line from the cover, open the tap on top of the container so that the water in the upper part can flow off.

12) Then remove the hose lines from the cover, open the cover and remove the tested cylinder.
Pressure Testing Machine
Additional Equipment to complete our hydrostatic pressure testing machine.

Water circulation
with water reservoir, pump and drainage basin. It is possible to add a compound to the water to prevent corrosion in the tested container.

Adapter
for container and cylinder, complete with pin nipple for connection to the testing machine, according to your details.

Pressure progress recorder
to record the pressure during the testing. At bursting test the max. value will be recorded and can be used as evidence.

Container dryer model BT 30
for inside drying of the containers of various sizes after the hydraulic test.
Drying is performed by a temperature adjustable heater fan at 4 drying stations with interchangeable receiving lugs fitted acc. to different container sizes.
The drying capacity depends largely on the inner surface and the volume of the container.
Our experience gives a drying time average, depending on the container size.

Drying period: approx. 5 to 10 min
Heating capacity: 3,0 kW
Electric supply: 400 V, 3 Ph, 50 / 60 cycle

Cylinder rumbling roller model BR02
for refurbishing the interior of light corroded cylinders with inside rotated slide grinding ceramic pellets.

With tilting roller frame for easy emptying the cylinder from the ceramic pellets.

Refurbishing period: approx. 15 min
Electric supply: 230 V, 1 Ph, 50 / 60 cycle
Pressure Testing Machine
Additional Equipment to complete our hydrostatic pressure testing machine.

Cylinder clamping device model BS101-BS
heavy design mounted on a floor frame,
to opened and closed of cylinder valves before
and after high pressure testing.
With pneumatic cylinder, operated by hand switch.

Compressed air supply: 8 bar

Working position of the Hydrostatic testing machine to test high pressure cylinder