

Rock permeability equipment

GENERAL DESCRIPTION

This apparatus, originally designed for soil mechanics test applications, can also be used to provide an infinitely variable constant pressure and is used in conjunction with the Hoek cell fit with the permeability end caps, for the investigation of the permeability of rock at high confining pressure, in the laboratory. The apparatus comprises: motorized hydraulic pump; honed piston/spring assembly; precision test gauge 0-3500 kPa range; cylindrical oil/water interchange vessel; valves; 2 kg of high viscosity oil.

The lateral pressure can be applied with the 45-D0588 Low friction pressure maintainer or, as alternative, with the 45-D7022/S Sercomp S or 45-C7022/RCK Sercomp Rock, servo-hydraulic control console which is part of the Automatic Uniaxial and Triaxial test systems.

- Pressure range: 0 to 3500 kPa
- Overall dimensions: 310x300x390 mm
- Weight approx.: 16 kg

As alternative to oil-water constant pressure system 28-WF4312 it is possible to use new HYDROMATIC standalone closed loop pressure/volume controller:

- 28-WF45SG: powers 1 hydraulic pressure line and measures the associated volume change. Used for applying 1 level of pressure higher than atmospheric pressure.
- 28-WF45DG: powers 2 hydraulic pressure line and measures the associated volume change. Used for applying 2 levels of pressure higher than atmospheric pressure.

For typical configurations of Rock permeability test set see Additional information.

ORDERING INFO

Oil-water constant pressure systems

28-WF4312 Oil and Water constant pressure apparatus for pressures up to 3500 kPa. 230 V, 50-60 Hz, 1 ph

Standalone pressure volume controller HYDROMATIC

28-WF45SG HYDROMATIC standalone closed loop pressure/volume controller. Powers one hydraulic pressure line and measures the associated volume change. Max pressure: 3500 kPa. 1
10-240V, 50-60Hz, 1 ph

28-WF45DG HYDROMATIC standalone closed loop pressure/volume controller. Powers two hydraulic pressure lines and measure the associated volume change. Max pressure: 3500 kPa.
110-240V, 50-60Hz, 1 ph

DATA SHEET

ACCESSORIES

Permeability end caps

- 45-D0553/3** Permeability end cap, AX size, dia. 30.10 x 60 mm
- 45-D0554/3** Permeability end cap, 1.5 in. size, dia. 38.10 x 75 mm
- 45-D0555/3** Permeability end cap, BX size, dia. 42.04 x 85 mm
- 45-D0556/3** Permeability end cap, NX size, dia. 54.74 x 100 mm

Connecting hose

- 45-D0556/KIT** Hydraulic kit for Hydromatic stand-alone system with Hoex cell for rock permeability application
- 28-WF4191** Connecting hose to the Hoek cell

High viscosity oil

- 28-WF4302/1** High viscosity oil 5 l can



DATA SHEET

Oil /Water constant pressure apparatus model 28-WF4312 with Hoek cell, permeability end caps, burette, support base and metal / glass sleeve

ADDITIONAL INFORMATION

Typical configurations of Rock permeability test set

Manual Rock permeability system - Oil and water pressure apparatus

Code	Description	Qty
28-WF4312	Oil and water constant pressure apparatus	1
28-WF0490	Nylon tubing 6x4 mm dia., 20 m coil	1
45-D0556 ⁽¹⁾	Hoek cell NX size, 54.74 mm dia. x 100 mm	1
45-D0556/3	Permeability end caps for NX Hoek cell. Set of two.	1
28-WF4191	Connecting hose to the Hoek cell	1
86-D1160	Graduated glass burette 25 ml cap. x 1.1 ml div.	1
86-D1445	Support base 200x130 mm complete with rod 10 mm dia. x 500 mm	1
86-D1451	Double sleeve metal/glass	1
45-D0558	Low friction pressure maintainer	1
45-C7022/S ⁽²⁾	Sercomp Rock control console	1

Automatic Rock permeability system - 1 level of pressure with HYDROMATIC standalone pressure / volume controller

Code	Description	Qty
28-WF45SG	HYDROMATIC standalone closed loop pressure/volume controller. Powers one hydraulic pressure line	1
45-D0556/KIT	Hydraulic kit for Hudromatic stand-alone system with Hoex cell for rock permeability application	1
45-D0556 ⁽¹⁾	Hoek cell NX size, 54.74 mm dia. x 100 mm	1
45-D0556/3	Permeability end caps for NX Hoek cell. Set of two.	1
28-WF4191	Connecting hose to the Hoek cell	1
86-D1160	Graduated glass burette 25 ml cap. x 1.1 ml div.	1

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86-D1445	Support base 200x130 mm complete with rod 10 mm dia. x 500 mm	1
86-D1451	Double sleeve metal/glass	1
45-D0558	Low friction pressure maintainer	1
45-C7022/S ⁽²⁾	Sercomp Rock control console	1

Automatic Rock permeability system- 2 levels of pressure with HYDROMATIC standalone pressure / volume controller

Code	Description	Qty
28-WF45DG	HYDROMATIC standalone closed loop pressure/volume controller. Powers two hydraulic pressure lines	1
45-D0556/KIT	Hydraulic kit for Hudromatic stand-alone system with Hoex cell for rock permeability application	1
45-D0556 ⁽¹⁾	Hoek cell NX size, 54.74 mm dia. x 100 mm	1
45-D0556/3	Permeability end caps for NX Hoek cell. Set of two.	1
28-WF4191	Connecting hose to the Hoek cell	1
45-D0558	Low friction pressure maintainer	1
45-C7022/S ⁽²⁾	Sercomp Rock control console	1

(1) Other models are available. See Hoek cell details

(2) An alternative to the manual model 45-D0558