

**Hydraulic consolidation cell for unsaturated samples**

**MAIN FEATURES**

- Hydraulic loading
- For saturated and unsaturated specimens
- Use of the High Air Entry Stone (HAES)
- Measurement of pore and back pressure during testing
- Accurate permeability measurements

**GENERAL DESCRIPTION**

The Hydrocon SWCC consolidation apparatus is used to determine the magnitude and rate of settlement and pressure of unsaturated soil specimens. Because of the low permeability of some materials, performing a drying and wetting stage can take several weeks. The Hydrocon SWCC cell is a flexible soil testing apparatus capable of applying uniaxial pressures of up to 3500 kPa to a 100 mm diameter specimen. Its base is fitted with a High Air Entry Stone (HAES) which enables a soil/water characteristic suction curve to be obtained. This type of stone allows water to pass through but not air so that the soil matrix potential can be controlled at various values: 1,5 and 15 bar. During a test it is possible to load the soil specimen in such a way that the overburden pressure in the field is recreated, whilst measuring the chamber and pore water pressure using a pressure transducer and the vertical settlement using a linear strain transducer.

As the Hydrocon SWCC is a confined consolidation system, it is possible to measure both pore and back pressure during testing and to make accurate permeability measurements.

For a complete system, see the table showing a typical test set configuration.

**TECHNICAL SPECIFICATIONS**

- Manufactured from anodized light alloy, complete with 4 valves, top loading porous disk, compensator ring, 2 bar High Air Entry Stone sealed on aluminium ring.
- For 100 mm dia. soil samples
- Maximum working pressure: 3500 kPa
- Overall dimensions (dxh): 260x450 mm
- Weight approx.: 10 kg

**ORDERING INFO**

**26-WF0346**

Hydrocon SWCC consolidation cell for 100 mm dia. unsaturated samples

**ACCESSORIES**

**High Air Entry Stone (HAES)**

Code	Capacity [bar]
------	----------------

## DATA SHEET

26-WF0346/1B	1
26-WF0346/5B	5
26-WF0346/15B	15

**Ex: 26-WF0346/1B**

1 bar High Air Entry Stone for 100 mm dial sample suitable for Hydrocon SWCC mod. 26-WF0346

### ADDITIONAL INFORMATION

#### Typical test set configuration

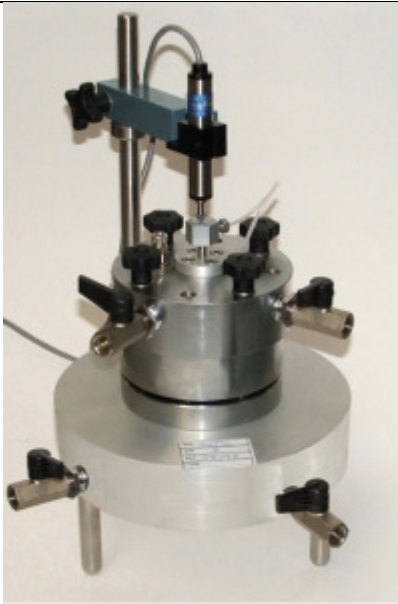
##### Hydrocone for SWCC curve

	Code	Qty.
Hydrocone for SWCC	26-WF0346	1
Air pressure system for top drainage		
Triaxial panel three-way for three pressures lines	28-WF4330	1
Compressor		
Air compressor 10 bar, 50 litres cap.	86-D2015	1
Air filter/water trap	28-WF2016/2	1
Pressure Hydraulic consolidation		
Hydromatic 3500kPa	28-WF45DG	1
Nylon tubing, OD 8mm/ 6mm, 10m	28-WF4191	1
De airing water system		
De-airing tank, 7 litres capacity	28-WF4220/A	1
Valve panel for de-airing tank	28-WF4225	1
Vacuum pump	28-WF2001	1
Rubber tube	28-WF2064	2
Air drying unit	86-D2005	1
Dearite	86-D0819	2
Electronic measuring system		
Linear pot.transducer 10 mm	30-WF6207	1
press transducer	28-WF6302/A	2

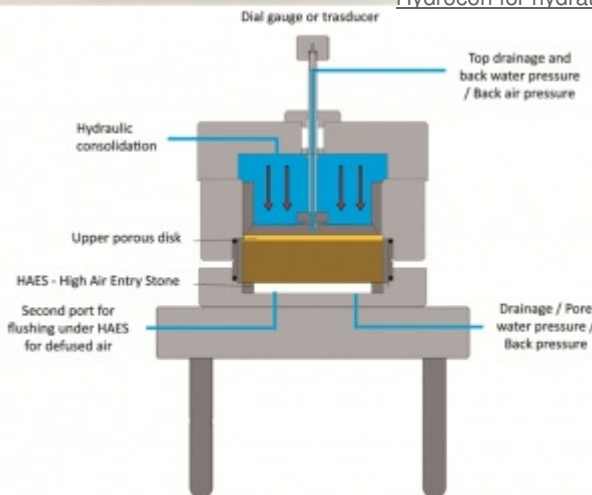
## DATA SHEET

De-airing block for pressure transducer	28-WF6310	2
Geodatalog	30-WF6008	1
	82-P9008/ELT	1
NOTE: PC provide locally		
Transducer extension cable 6 m long	30-WF6042	4 as opt
Hydrocon SWCC Template BS 1377 parte	30-WF6016/T13	1

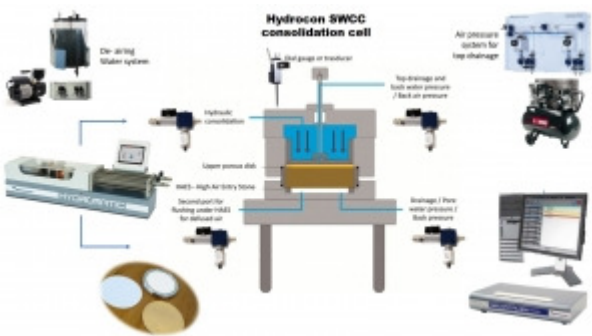
## DATA SHEET



Hydrocon for hydraulic consolidation 26-WF0346 with fitted linear transducer



Schematic layout of the hydraulic consolidation cell SWCC



Schematic representation of the test system