

**PRESSURE DENSITY CUP**

VF2095

MANUAL

**PRODUCT DESCRIPTION**

Density or specific gravity (SG) is affected by entrapped air bubbles in the liquid under test. The TQC VF2095 SG-cup has a fixed internal volume of 100 ml. which is to be compressed by the mechanism of the density cup.

After rotation, agitation or dispersion gas and air can be entrapped within the material. Under pressure the air will dissolve better into the liquid and any bubbles that are left undissolved will be compressed to a fraction of their original size. Density of the liquid is defined at a very high level of repeatability by weighing.

The TQC VF2095 can easily be taken apart to allow easy cleaning.

**1.1 Specifications**

Dimensions: LxWxH – 250x 90 x 50mm / 9,8x3,5x2,0 inch

Weight: Pressure density cup: 875 g / 1,93 lbs  
Cup, holder, brushes: 1750 g / 3,86 lbs

Material: Stainless steel

Compression 10bar

Volume 100ml\*

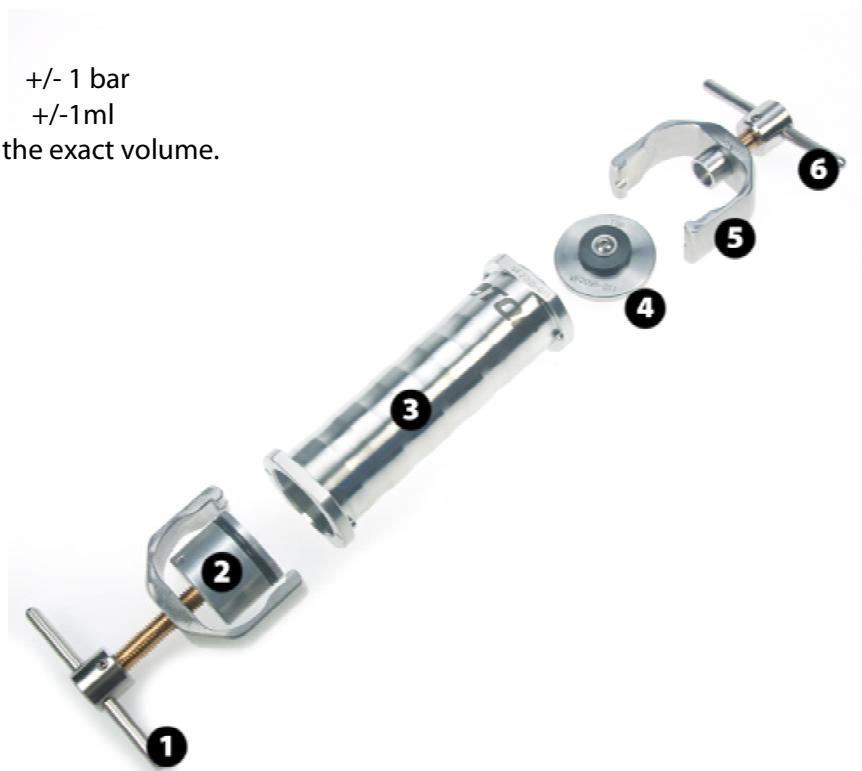
Accuracy: Valve: +/- 1 bar

Volume: +/-1ml

\*The calibration certificate describes the exact volume.

**1.2 Details**

- 1) Handle A
- 2) Plunger
- 3) Cylinder
- 4) Pressure release cap
- 5) Pressure release housing
- 6) Handle B

**2 STANDARDS**

EN ISO 2811-4

Look up the appropriate standard for a correct execution of the test.

The test may only be carried out if all parts of the pressure density cup have an identical serial number.

### 3 WHAT'S IN THE BOX?

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- Pressure density cup 100 ml
- Desktop holder
- Brush 25 mm and 40 mm
- Calibration certificate

### 4 PERFORM A MEASUREMENT

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- 1) Make sure all components are completely clean and dry.
- 2) Weigh cup (all components) and note the weight.
- 3) Remove pressure release housing (5) and cap (4) by turning handle B (6) anticlockwise.
- 4) Turn handle A (1) anticlockwise to unscrew plunger(2). The plunger (2) stays in the body of the cup.
- 5) Fill the cylinder (3) with the test sample until it's almost full. Make sure the test temperature is correct.
- 6) Replace the pressure release cap (4) and reassemble the pressure release housing (5), clamping the cap (4) in place. The cap (4) should be placed centrally with respect to the cup body.
- 7) To set the release pressure turn handle A (1) fully clockwise.
- 8) Hold on tight to the cylinder (3) with one hand. Point the pressure release housing (5) away from you, and make sure it points toward a suitable container or anything else that may catch expelled material.
- 9) Use the other hand to slowly turn handle B (6) clockwise until it's fully depressed. This increases the internal pressure to 10,3 bar (150 psi).
- 10) Wash off the expelled sample and dry the exterior of the cup thoroughly.
- 11) Put the pressure density cup in the desktop holder for 30 minutes to reach temperature equilibrium.
- 12) After 30 minutes take the pressure density cup out of the desktop holder, clean any expelled sample and weigh the pressure density cup.
- 13) Calculate the mass of the test sample by subtracting the empty weight (step 2) from the full weight (step 12). This is for 100ml +/- 1ml of sample.
- 14) To calculate density divide the mass (step 13) with the volume in millilitres (see calibration certificate for exact volume).
- 15) Disassemble the pressure density cup and clean all surfaces thoroughly (also see 7 maintenance) before the material dries or hardens.

## 5 CALIBRATIONS

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We recommend annual calibration. For calibration, send the instrument, together with a RMA form\* to TQC, Molenbaan 19, 2908 LL Capelle aan den IJssel, NL.

\*You can download the RMA form here: <http://www.tqc.eu/en/service/repairs-calibrations/>

## 6 MAINTENANCE

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- Though robust in design, this instrument is precision-machined. Never drop it or knock it over
- Always clean the instrument after use.
- Clean the instrument using a soft dry cloth and or the supplied brushes. Never clean the instrument by any mechanical means such as a wire brush or abrasive paper. This may cause, just like the use of aggressive cleaning agents, permanent damage.
- Do not use compressed air to clean the instrument.
- Always keep the instrument in the supplied desktop holder when not in use.
- We recommend annual calibration

## 7 DISCLAIMER

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The right of technical modifications is reserved.

The information given in this manual is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this manual without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. Whilst we endeavour to ensure that all advice we give about the product (whether in this manual or otherwise) is correct we have no control over either the quality or condition of the product or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this manual is liable to modification from time to time in the light of experience and our policy of continuous product development.