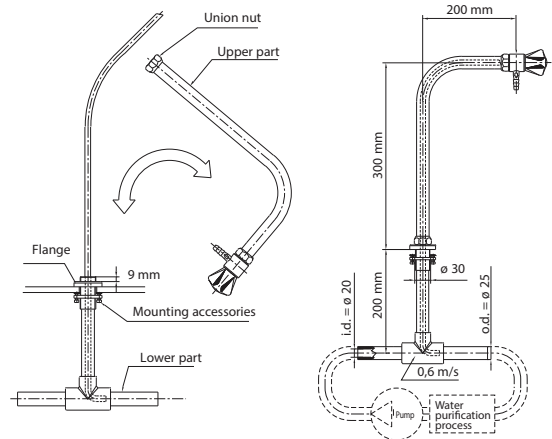


TECHNICAL INFORMATION - FULLY RECIRCULATING FITTINGS

INSTALLATION

Unscrew the union nut and lift off the upper part of the valve. Unscrew the flange and mount the lower part from under the table and up into a $\varnothing 30$ mm hole. Remount the flange leaving 9 mm free thread above the flange for the union nut. Use the mounting accessories to fix the lower part. Remount the upper part by sticking the inner tube into the upper part. Place the upper part in the correct position and mount the union nut to the 9 mm M28x1.5 thread with a torque of 20-30 Nm. Connect the valve to the recirculating special water system.



WORKING TEMPERATURE AND PRESSURES

Circulating flow rate:

The flow rate in the main water flow has to be so high, that the water velocity passing the bent inner tube in the main stream is more than 0,6 m/s.

$$Q = (\pi/4) \times d^2 \times v$$

Q = Flow rate [m³/s]
d = Inside diameter of main tubing [m]
(standard: d = $\varnothing 20,4\text{mm} = \varnothing 0,024\text{m}$)
v = Water velocity (> 0.6 m/s) [m/s]

Example:

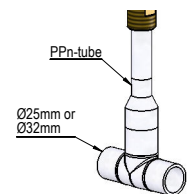
standard; d = $\varnothing 20,4\text{mm}$
 $Q = (\pi/4) \times 0,024^2 \times 0,6 = 2,71 \times 10^{-4} \text{ m}^3/\text{s} = 16,3 \text{ l}/\text{min}$

Please note that Q = 16.3 l/min should be obtained even with open point of use valves in other parts of the system.

JOINTING METHODS

PP-n:

- The wetted components below the table top are made of PP-n-parts from G+F, Progef Natural.
- The BCF-welding (Bead and Crevice Free Fusion) is applied during the manufacturing process in order to achieve the highest possible quality of the connection. We recommend also that the material used on site is PP-n and furthermore that BCF-welding is used as well.



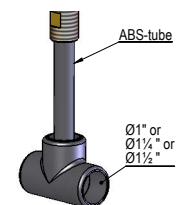
If the PP-n material is welded to other types of PP on site, then the following precautions are important to follow:

- The welding of PP-n to PP-h is possible only with conventional butt fusion (DVS 2207-11) or socket fusion.
- IR-welding (Infra Red) is officially not allowed because of the different melting range temperatures and BCF-welding is not allowed for the same reason.

ABS (bench mounted fittings only):

- The wetted components below the table top are made of ABS parts.
- ABS parts are glued together and if ABS material is also used on site, then the same jointing method should be applied

For other possible jointing methods please contact your BROEN-LAB sales representative.



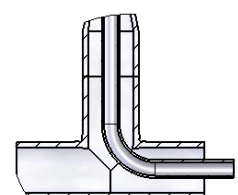
Kv - VALUES FOR TEE-PIECE

PP-n, OD 25 mm:

- flow in same direction as inner tubing: Kv=15,7 m³/hbar
- flow against direction of inner tubing: Kv=14,0 m³/hbar

PP-n, OD 32 mm:

- flow in same direction as inner tubing: Kv=33,6 m³/hbar
- flow against direction of inner tubing: Kv =29,0 m³/hbar



Cross section of the Tee-piece with inner tubing