
Requested by	Joramark Oy Satulasepänkatu 6-8 FI - 70700 Kuopio FINLAND
Order	Quality control contract VTT-V-41562-09, 9.11.2009
Contact person	VTT Expert Services Oy Expert Ville Matveinen Kemistintie 3, Espoo PB 1001, FI-02044 VTT, FINLAND Tel. +358 20 722 5511

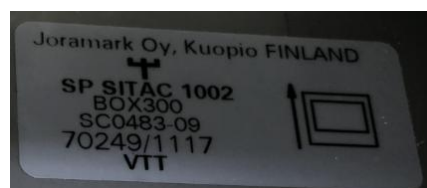
Task **Quality control tests of mixer box BOX300**

Product and test sample

Mixer boxes BOX300 are manufactured from 1,5 mm stainless steel in different dimensions. The mixer box is meant for inspectable concealed installations of water mixer and its pipe connections in order to prevent water damages. BOX300 has SP type approval certification no. SC0483-09.

Joramark Oy delivered on 7.12.2017 a BOX300, dim. 300x300x80 with bushings Merika 2219 for 28 mm or 25 mm protection pipe och plugs Box300 76024 (5 pcs, tightness of plugs tested VTT-S-01994-17). For tightness testing the screw fastening cover plate of the service opening had no openings for a mixer. The mixer box delivered with an mounting instructions, Fig. 1 and 2.

Inside surface of the backside:



70100-REV01

Outside of the front part:
BOX 300x300 etulevy

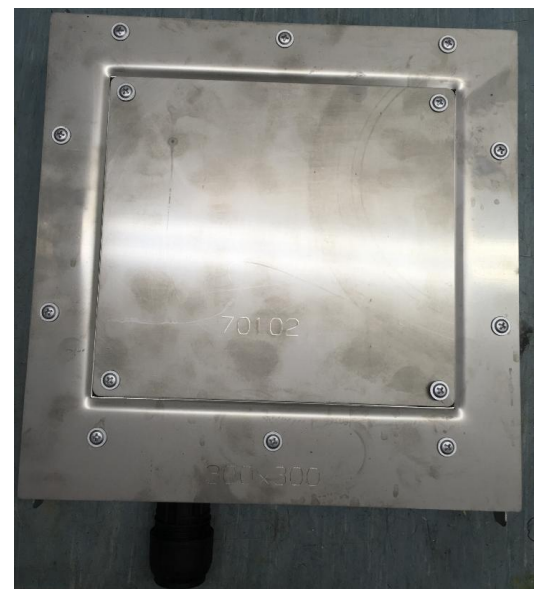


Fig.1. Marking.

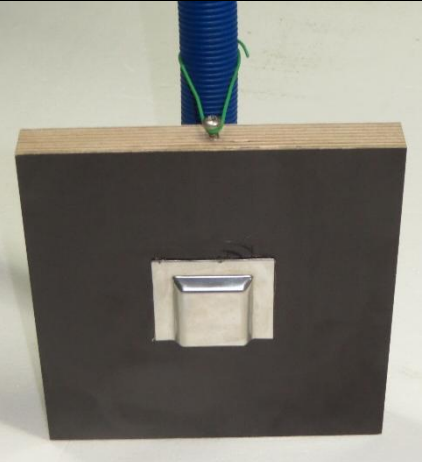
Fig.2. Test sample with a cover plate on the service opening, one bushing mounted.

The test results relate only to the tested samples.

Test method

Visual inspection and the following tests from *Pipe in tube systems. Nordtest Method NT VVS 129. 2002*: 6.4.9 Watertightness by internal splashing, 6.4.10 Watertightness of bushings and 6.4.11 Water capacity of the drain.

Water capacity measurement of the drain:

<p>Water was supplied to the mixer box so that water level was steady 10 mm under the lower edge of the service opening. Supplied flow rate was measured by a magnetic flow meter. Drain pipe: - 28 mm protection pipe, length: 2,0 m, - height difference between the middle level of the mixer box and pipe end below cover plate 1,0 m</p> <p><i>Fig.3. The cover plate for covering the end of the drain pipe, mounted in plywood for measuring water capacity of the drain.</i></p>	
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Result

The mixer box was identical to the test sample in Ref. /1/.

Test (NT VVS 129)	Result	Requirement
6.4.9 Watertightness by internal splashing	no leakage	No leakage
6.4.10 Watertightness of bushings	no leakage ¹⁾	leakage
6.4.11 Water capacity of the drain	> 0,25 l/s	≥ 0,25 l/s

1) 4 samples

Remark: Bushing Merika 2219 is included in Meriser Oy:s certificate for components of the protection pipe system, testing in accordance with *Nordtest Method NT VVS 129*, product certificate VTT-C-10979-14

Espoo, 22.12.2017

Ville Matveinen
Expert

Karl Holmström
Product Manager

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The test results relate only to the tested samples.