DIN EN 816:2017-10 (E)

Sanitary tapware - Automatic shut-off valves PN 10

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 7

4 Designation 7

5 Marking - Identification 7
5.1 Marking 7
5.2 Identification 8

6 Materials 8
6.1 Chemical and hygienic characteristics 8
6.2 Exposed surface condition and quality of coating 8

7 Backflow protection 8

8 Dimensional characteristics 8
8.1 General 8
8.2 Tap with visible body for horizontal surfaces (see Figure 1 and Table 3) 9
8.3 Taps with visible body for mounting on vertical surfaces (see Figure 2 and Table 4) 10
8.4 In-line tapware with threaded inlet and outlet 10
8.4.1 Inlets and outlets aligned (see Figure 3 and Table 5) 10
8.4.2 Inlets and outlets at right angles (see Figure 4 and Table 5) 11
8.5 Concealed tapware for vertical surfaces 11
8.6 Mixer for horizontal surface (see Figures 5, 6 and 7 and Table 6) 12
8.7 Mixer with visible body for mounting on vertical surfaces 16
8.7.1 Mixers with parallel inlets 16
8.7.2 Mixer with opposed inlets (see Figure 11 and Table 5) 18
8.8 Nozzle outlets for use with flow rate regulators 18
8.9 Special cases 18
8.9.1 Special taps and mixers for installation on horizontal surfaces 18
8.9.2 Special taps and mixers for installation on vertical surfaces 19

9 Leaktightness characteristics 19
9.1 General 19
9.2 Leaktightness tests 19
9.2.1 Principle 19
9.2.2 Apparatus 19
9.2.3 Leaktightness of tapware upstream of the obturator 19
9.2.4 Leaktightness of tapware downstream of the obturator with the obturator open 20
9.3 Summary of the leaktightness tests 21

10 Pressure resistance characteristics 22
10.1 General 22
10.2 Test of mechanical behaviour 22
10.2.1 Principle 22

10.2.2 Apparatus 22

10.2.3 Test of the mechanical behaviour upstream of the obturator, with the obturator in the closed position 22
10.2.4 Test of mechanical behaviour downstream of the obturator, with the obturator in the open position 22
10.3 Summary of the pressure tests 23

11 Hydraulic characteristics 23
11.1 General 23
11.2 Test method 23
11.2.1 Principle 23
11.2.2 Test apparatus 23
11.2.3 Mounting of single self-closing taps 26
11.2.4 Mounting of mixers (see Figures 14 a), 14 b) and 14 c)) 26
11.3 Principle of the flow test 27
11.4 Requirements 28
11.4.1 Flow rate 28
11.4.2 Flow rate curve 28
11.4.3 Flow duration 28
11.4.4 Specific characteristics of mixers 29
11.4.5 Testing at minimum pressure 31

12 Mechanical properties - Operating force 31
12.1 General 31
12.2 Procedure 31
12.3 Requirement 31

13 Mechanical endurance or wear resistance characteristics 31
13.1 General 31
13.2 Procedure 31
13.3 Cycle for a single tap 32
13.4 Cycle for a mixer 32
13.5 Minimum requirements 32

14 Acoustic characteristics 33
14.1 General 33
14.2 Procedure 33
14.2.1 Fitting and operating conditions for tapware 33
14.2.2 Test method 33
14.3 Requirements 33
14.3.1 Expression of the results 33
14.3.2 Determination of the acoustic group 33
14.3.3 Flow class 34

Annex A (normative) Pressure take off tees 35

Annex B (informative) Acoustic classification (example) 37

B.1 Tapware with nozzle 37
B.2 Tapware with shower head outlet 37
B.3 Tapware with nozzle and shower or shower head outlet 37