



TEST REPORT

TITLE : Testing of Valve

OUR REFERENCE NO. : J9533-2

DESCRIPTION OF SAMPLE : Bronze globe valves with female screwed ends; pressure rating PN16; to series B of BS5154; size: A) 25mm, B) 32mm, C) 40mm, D) 50mm, for both fresh water and sea/salt water application






SAMPLE SUBMITTED BY : Gate Way Valve & Fitting Ltd.
Flat F, 22/F., Luk Hop Industrial Bldg.,
8 Luk Hop Street, San Po Kong,
Kowloon, Hong Kong.

MANUFACTURER : Toyo Valve Co., Ltd.

COUNTRY OF ORIGIN : JAPAN

BRAND : TOYO

BODY MARKINGS :

Size of valve (mm)	Body markings	
25	RED - WHITE 	100 - 1 
32		100 - 1¼ 
40		100 - 1½ 
50		100 - 2 

MODEL : Fig. No. 210

METHOD OF TESTS : BSEN12288: 2003; BSEN12266-1: 2003

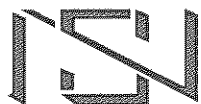
PERIOD OF TESTS : 4th to 10th March 2003

RESULTS: - (apply only to the samples tested)

1. DIMENSIONS (in millimetres)

	Sample			
	A	B	C	D
Nominal size	25	32	40	50
Height of valve, from top to bottom	110	135	162	179
Diameter of handwheel	63	70	80.3	90
Face to face dimension	63	73	82.1	98
Minimum stem diameter	9.0	10.5	10.8	12.5
Minimum body wall thickness	2.5	3.0	3.5	3.0

Note: the female threads at the inlet and outlet of each sample comply with BS21 and ISO7-1.



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2. HYDRAULIC PRESSURE TEST

		Nominal pressure PN (bar)	Body test (1.5 PN)			Seat test (1.1 PN)		
			Test pressure (bar)	Duration (s)	Remark	Test pressure (bar)	Duration (s)	Remark
Sample	25mm	16	24	15	Pass	18	15	Pass
	32mm	16	24	15	Pass	18	15	Pass
	40mm	16	24	15	Pass	18	15	Pass
	50mm	16	24	15	Pass	18	15	Pass
BSEN Requirement	15mm to 54mm	16	24	15	/	18	15	/

Note : no leakage was detected during the above test.

3. CHEMICAL COMPOSITION

The following test results apply to valve samples of size 25mm, 32mm, 40mm and 50mm

Component	Elements Compositions (%)							Designation to BSEN1982
	Cu	Zn	Pb	Sn	Ni	Fe	Other Impurities	
Body, bonnet	83.2	5.6	5.2	5.4	0.3	/	0.3	CC491K
Disc	83.4	5.3	5.1	5.5	0.3	/	0.4	CC491K
Stem	61.9	34.5	2.3	0.9	/	0.1	0.3	see Note 1

Note 1 : A further tensile test on this copper alloy material showed that its tensile strength (360N/mm²) and elongation (28.5%) are comparable to those of copper zinc alloy grade CW602N (tensile strength 280-430 N/mm², elongation 15-30%) of BSEN12164 recommended by BSEN12288. Accordingly, this material is considered acceptable.

4. SUMMARY OF RESULTS (apply only to the sample tested)

Dimensions -- Satisfactory
Hydraulic pressure test -- Satisfactory
Chemical composition -- Satisfactory

Remark :

- 1) The tests shown above were actually performed during the period from 4th to 10th March 2003; the test results were found complying with BS5154: 1991. However, BSEN12288: 2003 was referred to since the test results are found also complying with it.
- 2) The internal water passage surface of all valve samples does not have any metallic coating.

Date : 6th March 2010 Authorized signature : 

Nutek Systems is a testing agency,
approved by the Water Authority and
Government Supplies Department, for
testing water supply fittings.

Samson W.K. Yiu
(Director)