

SCORE (EUROPE) LIMITED

ENGINEERING RESEARCH • DESIGN • MANUFACTURE • REPAIR

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INVESTOR IN PEOPLE

FIRE TEST REPORT

**IN ACCORDANCE WITH
BS 6755 Pt 2: 1987**

CUSTOMER: Sento Oy Hogfors
CONTACT: Miikka Lang
P.O. NUMBER: SA 81184 MJL
VALVE: DN80 PN25
41101 CS & 41001 CS
Butterfly Valve

Report Compiled By: **Bob Hepburn**
Score Job Number: **143435 COW**

Date: **03/08/04**
Report No: **143435-1**



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Glasgow Office
 Lloyd's Register
 N. Campbell
 - 3 AUG 2004



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VALVE DETAILS AND TEST PREPARATION

On 03 August 2004 at Score (Europe) Limited, Cowdenbeath, Fife, Scotland, a Fire Test to BS6755 Pt2 1987 was carried out on behalf of Sento Oy Hogfors.

The valve was selected and supplied by the manufacturer Sento Oy Hogfors.

Details

Type:	Butterfly Valve	Score Report No:	143435-1
Manufacturer:	Sento Oy Hogfors	Size:	DN80
Full or Reduced Bore:		Rating:	PN25
Serial No:	No Data	Nameplate Date:	No Data
Manufacturer's I.D. No:	No Data	Drawing No:	2529364a 16.2.00
Operator:	Manual Lever		

Material:

Body: **ASTM A351 CF-8M**
Counter Flange: **EN 10028-7 1.4436**
Disc: **EN 10213-4 1.4408**
Seals: **Graphite**
Disc Seal: **EN10028-7 1.4436**

Markings on Valve:

Body Markings: T889

Test direction flow behind disc

Test Preparation

The valve was removed from transportation package and the above information correlated from the Manufacturer's nameplate/valve body. At the same time the Manufacturer's Test Certificate was checked to ensure the valve has passed their standard production pressure testing. Valve hard stamped with Score Unique Number 143435-1. Valve mounted into test stand with calorimeter cubes and flame environment thermocouples in their appropriate locations as per the standard, these in turn being connected through a Chessell Temperature Recorder with automatic printout facilities. The inlet/outlet pipework was connected to the valve. With the valve in the partially open position the system was checked for leaks by pressurising to 1.5 times the maximum permissible working pressure at 20°C.





TEST REPORT

<u>TIME</u>	<u>DESCRIPTION</u>	<u>ACTUAL LEAKAGE IN ML/IN/MIN</u>
<u>07:52 – 08:22</u>	Through seat leakage at high test pressure of 18.75 Barg during burn period of 30 min. - (measured Zero ml) Allowable 400 ml/in/min.	Zero ml/in/min.
<u>08:22 – 09:06</u>	Cool down period took 44 minutes for skin temperature to reach 100°C.	
<u>07:52 – 09:06</u>	External leakage (high test pressure) during the burn and cool down period - (measured Zero ml) Allowable 100 ml/in/min.	Zero ml/in/min.
<u>09:07 – 09:12</u>	Through seat leakage at low test pressure of 2.0 Barg for a period of 5 min (measured Zero ml) Allowable 40 ml/in/min.	Zero ml/in/min
<u>09:07 – 09:12</u>	External leakage at low test pressure of 2.0 Barg for a period of 5 mins (measured Zero ml) Allowable 20ml/inch/min.	Zero ml/in/min
<u>09:15</u>	Torque to operate valve against high test pressure of 18.75 Barg measured 20 Nm.	
<u>09:16 – 09:21</u>	External leakage with valve body pressurized to high test pressure of 18.75 Barg for 5 minutes (measured Zero ml). Allowable 200 ml/in/min.	Zero ml/in/min.

Test concluded at this point.





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TEST RESULTS

Calorimeter cubes and flame environment thermocouples temperature checks.

Probe numbers 7 through 12.

Burner ignited 07:52.

<u>No.7</u>	<u>No.8</u>	<u>No.9</u>	<u>No.10</u>	<u>No.11</u>	<u>No.12</u>
Stem	Body	Stem	Body	Not Used	Body
Flame	Flame	Calor.Cube	Calor.Cube		Skin
Temp.° C	Temp.° C	Temp.° C	Temp.° C		Temp.° C

Test and temperatures witnessed by Lloyd's Register EMEA



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- 3 AUG 2004



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TEST RESULTS

From the test results obtained, we confirm the valve tested has met the performance requirements stated in BS 6755 Pt2 1987 and the test is therefore recorded as a Pass.

Size: DN
80, 100, 125 & 150

Rating: PN Rating
25 & 40

Class: Class Rating
300, 400 & 600

Size: Size
3", 4", 5" & 6"

Test Witnessed by:

W. Campbell

Lloyd's Register EMEA

R. Hepburn
W. Hay

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