

FIRE TEST QUALIFICATION CERTIFICATE



Score (Europe) Ltd



Customer	Valvtechnologies Inc.
Item	FB Nextech Trunnion Ball Valve
Size	8"
Class	300
PO No	052257-00
Unique No	228194-2
Serial No	09012529
Body Material	A216 - WCB
Seat	4130 / RAM 31
Manufactured by	Valvtechnologies Inc.
In accordance with job number	228194 COW
In accordance with drawing number	N5C6T-RF-FP-BS-8 Rev 1, Dated 11/06/09

The above valve was tested by Score (Europe) Ltd at their Specialised Valve Research and Test Centre, Cowdenbeath, Scotland and the results have been recorded as a PASS, having complied with the minimum performance requirements stated in

specification

BS EN ISO 10497:2004, Second Edition August 2004 and ANSI/API Standard 607, Fifth Edition June 2005

Test date

09/06/09

Other sizes qualified

8" and above

Other pressure ranges qualified

300, 400, 600 & PN 40, 63, 100

Tested by

S. Fox / S. Penman

Witnessed by

W Campbell Lloyd's Register EMEA



This certificate must be read in conjunction with the full Score Test Report Number

228194-2



Score (Europe) Limited
The Paragon Works
Woodend Place
Cowdenbeath
Fife
KY4 8EE
Scotland
U.K.

Tel: +44 (0) 1383 510510 Fax: +44 (0) 1383 514512
E-mail: customersupport@score-group.com
Web: www.score-group.com

FIRE TEST REPORT

IN ACCORDANCE WITH BS EN ISO 10497:2004 Second Edition August 2004 & ANSI/API Standard 607 Fifth Edition June 2005

CUSTOMER: Valvtechnologies Inc.

CONTACT: E. Ackling

P.O. NUMBER: 052257-00

VALVE: 8" NB ANSI 300, FB, Nextech Trunnion Ball Valve

Report Compiled By: **D. Wood**

Date: **09/06/09**

Score Job Number: **228194 COW**

Report No: **228194-2**



228194-2



1





Specialised Valve Fire and Cryogenic Test facility

CONTENTS

	<u>Page Nos.</u>
Front Page	1 of 6
Contents	2 of 6
Valve Details and Test Preparation	3 of 6
Test Report/Results	4 of 6 5 of 6
Certificate/Statement on Production Pressure Tests	6 of 6
Fire Test Certificate	Appendix (a)
Lloyds Certificate	Appendix (b)





Specialised Valve Fire and Cryogenic Test facility

VALVE DETAILS AND TEST PREPARATION

On 9th June 2009 at Score (Europe) Limited, Cowdenbeath, Fife, Scotland, a Fire Test to BS EN ISO 10497:2004, Second Edition August 2004 and ANSI/API Standard 607, Fifth Edition June 2005 was carried out on behalf of Valvtechnologies Inc.

The valve was selected and supplied by the manufacturer Valvtechnologies Inc. and was gearbox driven

Details

Type:	Nextech Ball Valve	Score Report No:	228194-2
Manufacturer:	Valvtechnologies Inc.	Size:	8"
Full or Reduced Bore:	Full	Rating:	300
Serial No:	09012529	Drawing No:	N5C6T-RF-FP-BS-8 Rev 1, Dated 11/06/09
Model No:	N5C6T-RF-FP-BS-8		

Material:

Body/End Cap: A216 - WCB
Seal/Packing: Grafoil
Seat: 4130 / RAM 31

Gearbox:

Manufacturer: Exeeco (Rotork)
Type : IW6/IR1 (420:1)
Serial No: T1927101-001
Handwheel: 32"

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 was hard stamped with Score Unique Number 228194-2. 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 and Pressure Recorder with automatic data storage facilities. The inlet/outlet pipe work was connected to the valve. With the valve in the partially open position the system was checked for leaks by pressurising to 1.4 times the maximum permissible working pressure at 20°C.





Specialised Valve Fire and Cryogenic Test facility

TEST REPORT

<u>TIME</u>	<u>DESCRIPTION</u>	<u>ACTUAL LEAKAGE IN ML/MIN</u>
<u>09:01 – 09:31</u>	Through seat leakage at test pressure of 38.3 BARG during burn period of 30 min. - (measured Zero ml) Allowable 3200 ml/min.	Zero ml/min.
<u>09:32 – 09:42</u>	Cool down period took 10 minutes for skin temperature to reach 100°C.	
<u>09:01 – 09:42</u>	External leakage during the burn and cool down period - (measured Zero ml) Allowable 800 ml/min.	Zero ml/min.
<u>09:45 – 09:50</u>	Through seat leakage on low pressure test at 2 BARG for 5 mins (measured Zero ml) Allowable 320 ml/min.	Zero ml/min.
<u>09:55 – 10:00</u>	External leakage at 38.3 BARG in open position following operational test for 5 minutes (measured Zero ml) Allowable 200 ml/min.	Zero ml/min.

Test concluded at this point.





Specialised Valve Fire and Cryogenic Test facility

TEST RESULTS

Calorimeter cubes and flame environment thermocouples temperature checks.

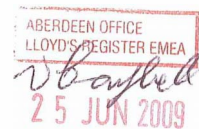
Probe numbers 7 through 12.

Burner ignited 09:01.

<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	Bottom	Stem	Bottom	Trunnion	Body
Flame	Flame	Calor.Cube	Calor.Cube	Calor.Cube	Skin
Temp.° C	Temp.° C	Temp.° C	Temp.° C	Temp.° C	Temp.° C

For the duration of this test all temperatures recorded complied with BS EN ISO 10497:2004, Second Edition August 2004 and ANSI/API Standard 607, Fifth Edition June 2005

Test and temperatures witnessed by Lloyd's Register EMEA.





Specialised Valve Fire and Cryogenic Test facility

TEST RESULTS

From the test results obtained, we confirm the valve tested has met the performance requirements stated in BS EN ISO 10497:2004, Second edition August 2004 and ANSI/API Standard 607 Fifth Edition June 2005 and the test is therefore recorded as a PASS.

Range qualified by this test:

Size: 8" and above

Rating: CLASS
300, 400, 600 & PN 40, 63, 100

Test Witnessed by:

W Campbell

Lloyd's Register EMEA

S Fox
S Penman
D Wood

Score (Europe) Limited
Score (Europe) Limited
Score (Europe) Limited

E Ackling
L Deneville

Valvtechnologies Inc.
Valvtechnologies Inc.





Fire Test

Project: **VALVTECHNOLOGIES.**

Client: **Score Europe Ltd**

Office: **Aberdeen**

Clients Order Number: **93374**

Date: **25 June 2009**

Order Status: **Complete.**

Inspection Dates

First: **09 June 2009**

Final: **25 June 2009**

This certificate is issued to **Score (Europe) Limited, as at their request the undersigned Surveyor did attend their Works at Woodend, Cowdenbeath, Fife, for the purpose of witnessing a Fire Test on a Ball Valve stated to be manufactured by VALVTECHNOLOGIES Drawing Number N5C6T-RF-FP-BS-8 dated 11.06.09 Rev 1 Order No 052257-00.**

Details of the valve are as follows:-

Size: 8" NB ANSI 300 Full Port Nextech Carbon Steel Trunnion Style Metal Seated Zero Leakage Ball Valve.

Serial No 09012529.

Gearbox Driven: IW6/IR1. Ratio : 420:1. Exeeco (Rotork) Serial No.T1927101-001.

Class: 300.

Seat: 4130 / RAM 31.

Body/End Cap: A216 WCB.

Seal.Grafoil. Packing Grafoil.

Valve stamped: Score Unique No.228194-2

Temperature thermocouples were placed as follows:-

7. "Stem Flame" Temperature °C.
8. "Bottom Flame" Temperature °C.
9. "Stem Calorimeter Cube" Temperature °C.
10. "Bottom Calorimeter Cube" Temperature °C.
11. "Trunnion Calorimeter Cube" Temperature °C.
12. "Skin" Temperature. °C.

The Fire Test was carried out in accordance with BS EN ISO 10497:2004 Second Edition August 2004 and ANSI/API Standard 607 Fifth Edition June 2005. and Score Report Number 228194-2.

The valve was mounted into test stand with the Calorimeter Cubes and Flame Environment Thermocouples in their appropriate locations, which were connected to a Chessell Model 6180A temperature and pressure recorder, Serial Number GB-15998-1-1-0409-PL1 18 calibration of which was verified.

Lloyd's Register, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as the 'Lloyd's Register Group'. The Lloyd's Register Group assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register Group entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.

All measuring and test equipment used was correctly calibrated.

Both the inlet and outlet pipework were connected to the valve, with the valve in the partially open position the system was filled with water and the air purged out. The system was checked for leaks by pressurising to 1.4 times maximum permissible working pressure and found tight.

During burn period the pressure was maintained at 38.8 Bar G by occasional manual adjustment.

On completion of the burn period of 30 minutes duration the valve was force cooled to 100°C.

Cool down took 10 minutes for skin temperature to reach 100°C.

The results of the Fire Test were then recorded as follows:-

Through Seat Leakage at test pressure of 38.8 Bar G during burn period over 30 minutes = 0 ml = 0 ml/min (allowable 3200 ml/min).

External leakage (test pressure 38.8 Bar G during burn and cool down periods = 0 ml = 0 ml/min (allowable 800 ml/min).

Through seat leakage at test pressure of 2 Bar G after cool down over 5 minutes measured 0 ml = 0 ml/min (allowable 320 ml/min).

External leakage with valve pressurised to 38.8 Bar G in fully open position over 5 minutes = 0 ml = 0 ml/min (allowable 200 ml/min).

The test was concluded at this point.

The valve was dis-assembled and examined to verify compliance with Drawing Number N5C6T-RF-FP-BS-8 dated 11.06.09 Rev 1 and found to comply.

In respect of the test results now stated, it is considered that the valve complies with the requirements of BS EN ISO 10497:2004 Second Edition August 2004 and ANSI/API Standard 607 Fifth Edition June 2005. See Score Report Number 228194-2 for full details.

WL Campbell. 
Surveyor to Lloyd's Register EMEA

A member of the Lloyd's Register Group