

REPORT OF WITNESS FIRE SAFETY TEST – MODULAR DBB VALVE

Valve Manufacturer : PT Korosi Specindo,

Jl. Pangeran Jayakarta No. 76,

Jakarta 10730

Scope of Service : Third Party Witness – Fire Safety Test of Valve

Product : Modular Body Full Bore Double Block and Bleed (DBB) Valve with Symmetrical Floating Ball Design

Test Facility : PT Alphacon Valfindo,

Jl Raya Rangkas Bitung KM 10,

Ds. Maja Sari, Kec. Jawilan,

Serang Banten 42177

Test Date : 7th August 2015

Test Record Ref No.: TRID-IS-1303209408-01

Result : Fire Test Result Satisfactory – Refer Test Record for details.



Witnessed By
(Harry Putra)




Authorised Inspector TUV Rheinland
(Ramaiyer Ramachandran)

**TEST RECORD TRID-IS-1303209409-01**

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**1. Product Description
Design**

Drawing No. : 090468-15 Rev.0
Type : Modular Double Double Block and Bleed (DBB) Valve
ANSI Class : 2500
Nominal size : 2 Inch
Serial No. : Heat No. 214539

Material :

Ball/Seat Ring/Stem : AISI 316 SS
Seat Seal : Graphite Filled PTFE
Stem Seal/Packing : Graphite Filled PTFE
Body Connection Packing : AISI 316 SS

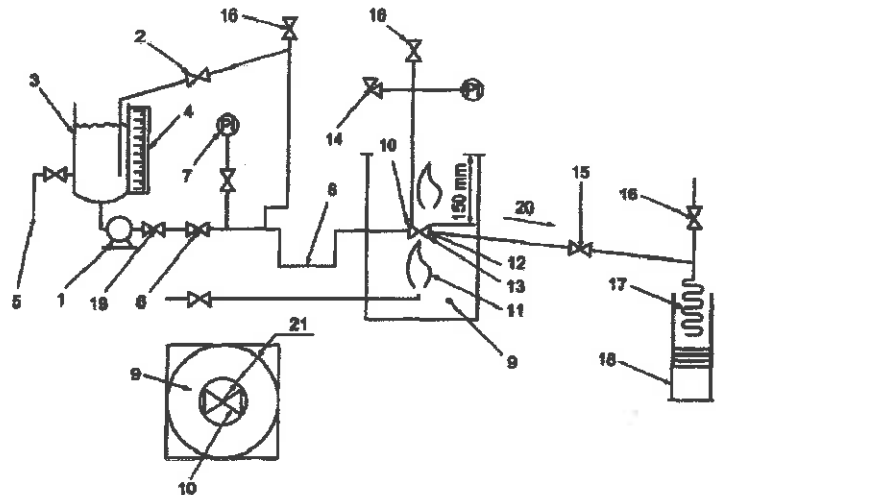
2. Test Specification

As per Fire Safety test procedure AV-OP-QA-8.2-09A , of PT Alphacon Valfindo, based on API -STD 607.

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3. Test Apparatus

Typical fire test system confirming to API – STD 607



Key

- | | | |
|---------------------------------|---|------------------------------|
| 1 pressure source | 8 piping arranged to provide vapor trap (see 5.3.2) | 15 shut-off valve |
| 2 pressure regulator and relief | 9 enclosure for test | 16 vent valve |
| 3 vessel for water | 10 test valve mounted horizontally with stem in horizontal position (see 5.6.1) | 17 condenser |
| 4 calibrated sight gauge | 11 fuel gas supply and burners | 18 container (see 5.3.2) |
| 5 water supply | 12 calorimeter cubes (see 5.3.2) | 19 check valve |
| 6 shut-off valve | 13 flame environment and body thermocouples (see 5.3.2) | 20 slope |
| 7 pressure gauge | 14 pressure gauge and relief valve (see 5.3.2) | 21 clearance: 150 mm (6 in.) |

Fig-1 System Layout

The measuring instruments had valid calibration records.

Exception – In view of the size of the valve, only one number thermocouple and one number calorimeter were installed, located at 25mm from body.

4. Test Procedure

Test procedure was based on PT Alphacon Valfindo procedure (confirmation to API 607) with primary isolation valve in open position & secondary isolation valve in closed position.

5. Test Performance

5.1 Fire Test High Pressure

Flame Temp reached 800°C within 2 min.

During the test, test pressure and temp were measured, maintained and recorded continuously. After 30 minute of fire test system and test valve were cooled to <100°C within 9 minutes in atmosphere. Loss of water (collected) was weighed and measured using a calibrated container.


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Result – Fire Test High Pressure

LEAKAGE	PERIOD – VALVE POSITION	LEAKAGE RATE (ml/minute)	
		Allowable	Actual
With Test Pressure applied (4500 Psi)		Allowable	Actual
Through Seat	Burning (30 min) – Valve Closed	800 max	25.83
External	Cooling down – Valve Closed	200 max	0*

*Valve cooled down below 100°C within 9 minutes.
 From the result above the Valve has been operated SATISFACTORILY to the fully closed position against **4500 Psi** pressure during 30 minutes burning and cooling down time.

5.2 Fire Test Low Pressure

Test pressure was decreased to 30 psi and maintained the pressure for 5 minutes with valve in closed position, and the leakage measured and recorded.

Result – Fire Test at low Pressure

LEAKAGE	PERIOD – VALVE POSITION	LEAKAGE RATE (ml/minute)	
		Allowable	Actual
With Test Pressure applied (30 Psi)		Allowable	Actual
Through Seat	After cool down (5 min) – Valve Closed	80 max	0
External	After cool down (5 min) – Valve Closed	50 max	0

From the result above the Valve has been operated SATISFACTORILY to the fully closed position against **30 Psi** pressure during 5 minutes after cooling down time.

5.3 Operational Test

Open the test valve against the high pressure 4500 psi differential. Maintained for 5 min. External leakage measured & recorded.

Result -Operational Test

LEAKAGE	PERIOD – VALVE POSITION	LEAKAGE RATE (ml/minute)	
		Allowable	Actual
With Test Pressure applied (4500 Psi)		Allowable	Actual
External	Test Valve in open position	50 max	0*

*Valve is in the open position against the high test pressure differential within 5 minutes.
 From the result above the Valve has been operated SATISFACTORILY to the partially open position against **4500 Psi** High Test Pressure differential.