



South Asia

1. TESTING STANDARD :

API - 607, VIII Edition, September 2010 - Testing Of Valves - Fire Type - Testing Requirements - Testing Of Valves - Fire Type - Testing Requirements

2) TEST VALVE :

50FB 2WAY 3PC 300# CFB BALL VALVE WITH HANDLE

3) RANGE OF VALVE QUALIFIED :

All Sizes Below 50mm; 65mm; 80mm; 100mm, Pressure Classes 300#, 400# and 600#

4) VALVE SERIAL NO. :

21346

5) VALVE DRAWING NO. :

KVAATA VALVES 50FB 300# 00

6) WEIGHT (Approx.) :

12.8kg

7) TEST DATE :

Aug 2 2016

8) MARKING :

KAVAATA VALVES 50FB 300# CFB

9) MANUFACTURING STANDARD :

ISO 17292

Fire safe test conducted at :

"RAJEEV AND COMPANY"

Manufacturers of KAVAATA VALVES, 103/3 Dewarwad village, Chandgad, Kolhapur-426507

Valve passed hydrostatic & Pneumatic Test before fire safe test.

Choose certainty. Add value.

TABULATION

TIME	TEMPERATURE (°C)								INLET PRESSURE (BarG)	REMARKS
	THERMO COUPLE T1	THERMO COUPLE T2	THERMO COUPLE T3	THERMO COUPLE T4	AVERAGE TA	THERMO COUPLE T5	THERMO COUPLE T6	AVERAGE TB		
	BODY	CONNET	ENVIRON- MENT 1	ENVIRON- MENT 2	(T3+T4) / 2	CALORI- METER 1	CALORI- METER 2	(T5+T6) / 2		
11:05:00	628	305	725	805	745	568	574	571	2	All are within limit
11:05:30	635	319	804	790	827	589	591	595	2	All are within limit
11:06:00	668	321	817	797	857	602	610	606	2	All are within limit
11:06:30	688	350	956	740	853	627	617	619.5	2	All are within limit
11:07:00	702	395	910	860	804	635	625	630	2	All are within limit
11:07:30	722	412	950	860	800	638	633	635.5	2	All are within limit
11:08:00	734	432	873	814	818.5	634	641	637.5	2	All are within limit
11:08:30	740	445	880	797	838.5	645	654	649.5	2	All are within limit
11:09:00	747	456	854	821	837.5	657	659	658	2	All are within limit
11:09:30	751	458	816	829	822.5	666	668	667	2	All are within limit
11:10:00	732	459	880	808	859	674	672	675.5	2	All are within limit
11:10:30	725	460	935	885	910	684	683	683.5	2	All are within limit
11:11:00	711	475	913	860	891.5	692	688	690	2	All are within limit
11:11:30	694	499	817	855	881	685	718	701.5	2	All are within limit
11:12:00	653	526	806	871	838.5	693	728	710.5	2	All are within limit
11:12:30	592	528	809	856	832.5	708	733	720.5	2	All are within limit
11:13:00	574	565	846	808	827	715	738	726.5	2	All are within limit
11:13:30	544	587	851	817	834	705	746	725.5	2	All are within limit
11:14:00	542	566	882	825	853.5	672	756	713.5	2	All are within limit
11:14:30	532	605	897	831	864	675	741	708	2	All are within limit
11:15:00	538	631	861	846	833.5	685	758	721.5	2	All are within limit
11:15:30	529	662	855	858	856.5	684	776	730	2	All are within limit
11:16:00	585	668	907	869	888	666	763	734.5	2	All are within limit
11:16:30	536	682	899	865	862	654	750	702	2	All are within limit
11:17:00	517	694	809	842	879.5	669	720	694.5	2	All are within limit
11:17:30	582	704	820	854	887	675	692	683.5	2	All are within limit
11:18:00	555	715	827	869	892.5	682	685	683.5	2	All are within limit
11:18:30	568	724	909	861	886	712	695	703.5	2	All are within limit
11:19:00	574	729	918	879	898.5	715	676	695.5	2	All are within limit
11:19:30	565	732	889	884	886.5	722	662	692	2	All are within limit
11:20:00	536	736	875	866	870.5	714	653	683.5	2	All are within limit
11:20:30	574	741	881	895	865	688	648	668	2	All are within limit
11:21:00	586	755	898	839	867.5	678	681	694.5	2	All are within limit
11:21:30	550	729	891	848	874.5	669	679	649	2	All are within limit
11:22:00	535	766	886	869	877.5	685	615	650	2	All are within limit
11:22:30	521	785	938	877	892.5	674	638	656	2	All are within limit
11:23:00	514	774	915	889	902	682	668	690	2	All are within limit
11:23:30	502	776	890	863	876.5	685	722	703.5	2	All are within limit
11:24:00	483	765	884	855	869.5	645	731	688	2	All are within limit
11:24:30	509	742	872	848	860	658	747	702.5	2	All are within limit
11:25:00	521	723	868	867	867.5	636	766	701	2	All are within limit
11:25:30	528	745	865	865	865	643	772	706.5	2	All are within limit
11:26:00	552	748	828	820	824	633	750	691	2	All are within limit
11:26:30	547	755	858	858	858	626	742	685	2	All are within limit
11:27:00	536	759	867	840	857.5	613	731	677	2	All are within limit
11:27:30	562	765	865	819	862	619	729	674	2	All are within limit
11:28:00	585	754	838	868	878	606	708	657	2	All are within limit
11:28:30	599	786	886	899	882.5	612	689	640.5	2	All are within limit
11:29:00	574	791	876	874	878	614	654	634	2	All are within limit
11:29:30	541	787	895	861	878	611	691	654.5	2	All are within limit
11:30:00	551	768	889	850	869.5	624	697	660.5	2	All are within limit
11:30:30	584	765	875	848	861.5	623	702	667.5	2	All are within limit
11:31:00	562	761	871	843	857	628	710	669	2	All are within limit
11:31:30	535	764	878	855	867	631	712	672.5	2	All are within limit
11:32:00	512	783	885	865	875.5	639	695	667	2	All are within limit
11:32:30	518	722	889	889	879	628	664	657	2	All are within limit

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INSPECTION ENGINEER
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South Asia

11:33:00	517	701	872	875	875	615	675	645	2	All are within limit
11:34:30	514	685	870	885	877.5	508	685	645.5	2	All are within limit
11:34:00	542	666	858	882	874	601	681	642	2	All are within limit
11:34:30	563	697	865	892	878.5	622	696	639	2	All are within limit
11:35:00	544	644	861	875	868	615	650	632.5	2	All are within limit
11:35:30	548	628	852	868	860	624	671	647.5	2	All are within limit
11:36:00	568	635	844	853	848.5	623	670	646.5	2	All are within limit
11:36:30	554	624	835	852	843.5	675	654	669.5	2	All are within limit

- T1 BODY TEMP >560 AT LEAST FOR 5MINUTES
- T2 BONNET TEMP >550 AT LEAST FOR 15MINUTES
- AVG T3+T4 ENVIRONMENT TEMP >700 FOR 30 MINUTES
- AVG T5+T6 CALORIMETER CUBE >650 FOR 15MINUTES

OBSERVATION

- a) Test pressure during burn and cool down period =
- b) Water level reading of water reservoir, before firing =
- c) Through valve seat leakage during burning period (i.e. 32 minutes) =
- d) Time required for cooling below 100 degree centigrade =
- e) Water level reading of water reservoir, at the end of cooling =
- f) Through valve seat leakage during burn and cooling period (i.e. 32 minutes) =
- g) Low test pressure =
- h) Through valve seat leakage at low test pressure (20barG) for 5 minutes after cool down =
- i) External leakage at low test pressure for 5minutes =
- j) External leakage for 5minutes when the valve is full – open position at high test pressure (15barG) =
- k) Time taken for burn period =
- l) Total water consumption from the reservoir until the end of cooling =

NOTE: ON CALIBRATED SIGHT GAUGE 12.4mm EQUALS 1 LITRE OF WATER.

- 2 bar
- 16 cm
- 1910ml
- 4 min 22sec
- 13.5 cm
- 1920ml
- 2 bar
- 18ml
- 0.1612 ltr
- 96ml
- 32min
- 2.177 ltr

Test valve operation against high test pressure (15barG) to fully open position - OK.

CALCULATIONS

DESCRIPTION	AS PER STANDARD (w/hr)	ACTUAL (ml/min)
1. Through valve seat leakage during the burn period (low test pressure) C/32	200	59.68
2. Through valve seat leakage after cool down (low test pressure) h/5	80	5
3. External leakage during burn & cool down (low test pressure) (i - f) / 32	50	8.03
4. External leakage after operational test in full open position (high test pressure) j/5	50	16.2

Remarks: Both Through Valve Leakage Rates and External Valve Leakage Rates are within allowable limits. Hence the Test Valve and the corresponding range of valves mentioned above are qualified as per following standards: API – 607, 8th Edition, September 2010 Testing Of Valves - Fire Type – Testing Requirements

Fire Type

List of Inclusions : 1) Valve Test Report

- 2) Calibration Report of Thermo-couple & Pressure Gauges
- 3) Material Test Certificate

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1

2

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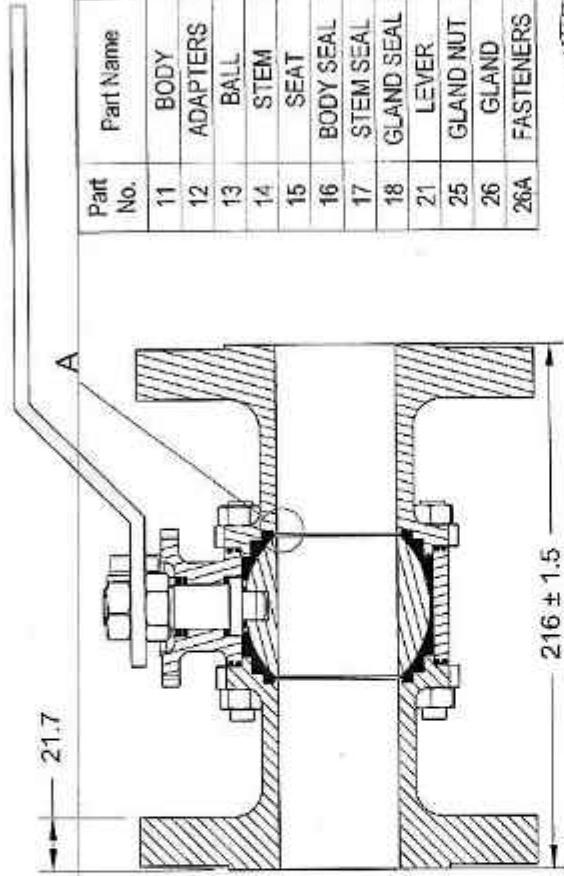
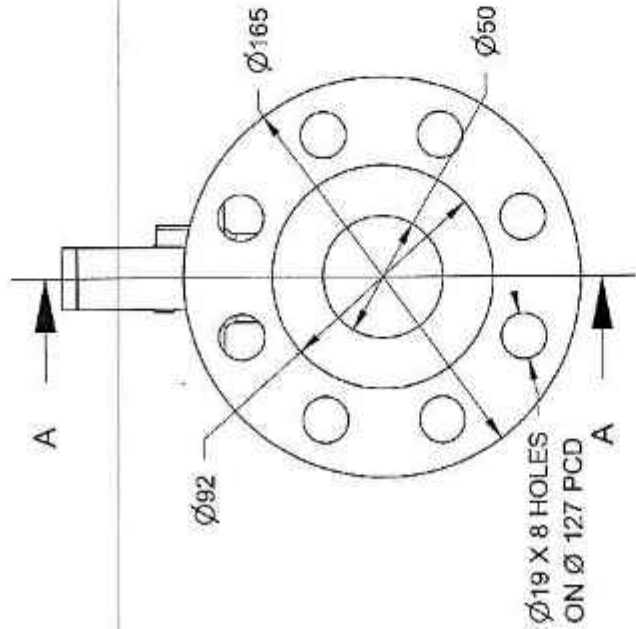
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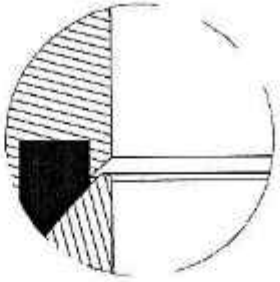
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RevNo	Revision note	Date	Signature	Checked



Section A-A



Detail A

PRESSURE RATING	ASA 300#
DESIGN STANDARD	ISO 17292/ ASME B16.34
DESIGN TEMP.	65-180 DEG C
FLANGE DESIGN	ASME B 16.5
END CONNECTION	ASME B 16.10 FLANGED END (RF)
FLANGE DRILLING	ASME B 16.5

TEST PRESSURE	HYDROSTATIC	PNEUMATIC
SHELL	55 BAR	-
SEAT	77 BAR	80 PSI

Part No.	Part Name	Material
11	BODY	ASTM A351 Gr CF8
12	ADAPTERS	ASTM A351 Gr CF8
13	BALL	ASTM A351 Gr CF8M
14	STEM	SS304
15	SEAT	RPTFE
16	BODY SEAL	PTFE/GRAPHITE
17	STEM SEAL	PTFE/GRAPHITE
18	GLAND SEAL	PTFE/GRAPHITE
21	LEVER	MS ZN PLATED
25	GLAND NUT	CS
26	GLAND	SS304
26A	FASTENERS	B7/2H

Note: All dimensions are in mm unless stated.

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Item ref	Quantity	Title/Name, designation, material, dimension etc:	Article No./Reference
Drawn by	MH	Checked by	RR
Approved by	AR	File name	6/6/16
Scale	NTS	Date	6/6/16
RAJEEV & Company		GAD OF 50FB 2WAY CAVITY FILLED FIRESAFE FLANGED END CLASS 300# BALL VALVE	
KV 2W 50 FB FE CF FS 300 00		Edition	0
Sheet		1/1	

2

3

4

5

6



South Asia

Choose certainty.
Add value.

1) TESTING STANDARD :

API - 607, VIII Edition, September 2010 - Testing Of Valves - Fire Type - Testing Requirements - Testing Of Valves - Fire Type - Testing Requirements

2) TEST VALVE :

50FB 2WAY 2PC 150# CF8 BALL VALVE WITH HANDLE

3) RANGE OF VALVE QUALIFIED :

All Sizes Below 50mm, 65mm, 80mm, 100mm, Pressure Class 150# and Class 300#

4) VALVE SERIAL NO. :

25367

5) VALVE DRAWING NO. :

KV 2W 2P 50 FB FF CF FS 150 00

6) WEIGHT (Approx.) :

7.8kg

7) TEST DATE :

Aug 2 2016

8) MARKING :

KAWAATA VALVES 50# 150# CF8

9) MANUFACTURING STANDARDS :

ISO 17292

Fire safe test conducted at :

"RAJEEV AND COMPANY"

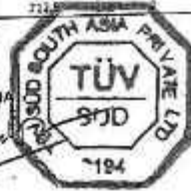
Manufacture of KAWAATA VALVES, 103/3 Dewarwall village, Chendigar, Kolhapur-416507

Value passed Hydrostatic & Pneumatic Test before fire safe test.

TABULATION

TIME	TEMPERATURE (° C)								INLET PRESSURE (Barg)	REMARKS
	THERMO COUPLE T1	THERMO COUPLE T2	THERMO COUPLE T3	THERMO COUPLE T4	AVERAGE TA	THERMO COUPLE T5	THERMO COUPLE T6	AVERAGE TB		
HOURS	BODY	BONNET	ENVIRON- MENT 1	ENVIRON- MENT 2	(T3+T4) / 2	CALORI- METER 1	CALORI- METER 2	(T5+T6) / 2		
12:00:00	716	505	850	798	824	565	565	574.5	2	All are within limit
12:00:30	722	508	869	820	844.5	571	592	581.5	2	All are within limit
12:01:00	780	575	875	830	847.5	583	596	591	2	All are within limit
12:01:30	830	660	810	810	810	605	572	588	2	All are within limit
12:02:00	829	688	821	742	783.5	592	588	590	2	All are within limit
12:02:30	830	522	806	716	751	566	611	618.5	2	All are within limit
12:03:00	823	560	804	825	814.5	700	585	642.5	2	All are within limit
12:03:30	771	568	788	829	808.5	709	562	635.5	2	All are within limit
12:04:00	636	510	779	825	802	700	566	673	2	All are within limit
12:04:30	656	565	710	835	772.5	682	655	668.5	2	All are within limit
12:05:00	598	583	715	766	740.5	692	659	675.5	2	All are within limit
12:05:30	543	542	723	822	772.5	633	666	653	2	All are within limit
12:06:00	500	636	738	730	734	635	701	678	2	All are within limit
12:06:30	530	644	733	810	772.5	660	685	672.5	2	All are within limit
12:07:00	535	599	755	870	812.5	618	635	656.5	2	All are within limit
12:07:30	515	615	782	880	831	615	685	650	2	All are within limit
12:08:00	518	709	755	841	798	656	718	686.5	2	All are within limit
12:08:30	570	707	742	784	763	671	673	672	2	All are within limit
12:09:00	545	780	755	830	792.5	667	670	668.5	2	All are within limit
12:09:30	565	759	777	885	821	676	690	683	2	All are within limit
12:10:00	597	755	760	866	813	688	643	666	2	All are within limit
12:10:30	605	691	738	881	806.5	725	660	692.5	2	All are within limit
12:11:00	612	790	766	854	830	748	665	706.5	2	All are within limit
12:11:30	620	770	766	824	846	775	654	714.5	2	All are within limit
12:12:00	600	760	744	771	757.5	733	652	717.5	2	All are within limit
12:12:30	600	760	712	785	748.5	796	656	726	2	All are within limit
12:13:00	581	207	730	775	752.5	779	660	719.5	2	All are within limit
12:13:30	579	766	780	808	794	757	661	709	2	All are within limit
12:14:00	578	778	792	753	772.5	753	660	706.5	2	All are within limit
12:14:30	585	686	782	831	798	752	662	709.5	2	All are within limit
12:15:00	580	758	725	776	750.5	772	661	710	2	All are within limit
12:15:30	591	745	760	785	772.5	745	658	701.5	2	All are within limit
12:16:00	556	695	740	816	770	689	654	671.5	2	All are within limit
12:16:30	548	669	756	750	750	625	643	659	2	All are within limit
12:17:00	542	694	754	798	776	672	640	658.5	2	All are within limit
12:17:30	567	790	760	780	770	686	636	663	2	All are within limit
12:18:00	546	670	750	785	767.5	655	645	650	2	All are within limit
12:18:30	550	728	788	796	774	620	685	651.5	2	All are within limit
12:19:00	580	675	847	807	827	602	731	666.5	2	All are within limit
12:19:30	600	707	829	820	813.5	614	725	669.5	2	All are within limit
12:20:00	574	760	809	782	791.5	645	680	662.5	2	All are within limit
12:20:30	585	706	790	782	785	736	693	684.5	2	All are within limit
12:21:00	618	686	798	816	807	717	638	687.5	2	All are within limit
12:21:30	618	700	808	805	811.5	780	640	710	2	All are within limit
12:22:00	610	652	788	850	819	786	641	721.5	2	All are within limit

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12:02:30	620	665	774	807	790.5	758	637	697.5	2	All are within limit
12:03:00	611	710	782	824	803	738	634	681.5	2	All are within limit
12:03:30	610	686	768	792	760	750	636	693	2	All are within limit
12:04:00	588	533	755	878	817	732	639	685.5	2	All are within limit
12:04:30	555	524	747	707	727	619	683	558	2	All are within limit
12:05:00	547	478	730	700	735	570	741	655.5	2	All are within limit
12:05:30	515	466	712	825	730.5	572	702	637	2	All are within limit
12:06:00	533	407	762	897	814.5	588	710	454	2	All are within limit
12:06:30	540	464	800	815	807.5	569	712	640.5	2	All are within limit
12:07:00	407	456	815	867	841	585	685	625	2	All are within limit
12:07:30	639	447	823	868	836.5	638	674	501	2	All are within limit
12:08:00	595	456	790	818	815.5	604	656	615	2	All are within limit
12:08:30	558	655	790	810	800	582	670	604	2	All are within limit
12:09:00	531	495	792	756	774	567	620	593.5	2	All are within limit
12:09:30	567	463	770	740	755	565	616	590.5	2	All are within limit
12:10:00	578	545	500	800	754	551	627	594	2	All are within limit
12:10:30	587	573	780	783	784.5	562	637	593.5	2	All are within limit

T1	BODY TEMP >550 AT LEAST FOR 30 MINUTES
T2	BONNET TEMP >550 AT LEAST FOR 15 MINUTES
AVG T3+T4	ENVIRONMENT TEMP >700 FOR 30 MINUTES
AVG T5+T6	CALORIMETER CURVE >850 FOR 15 MINUTES

OBSERVATION

- a) Test pressure during burn and cool down period =
- b) Water level reading of water reservoir, before firing =
- c) Through valve seat leakage during burning period (ie, 31 minutes) =
- d) Time required for cooling below 100 degree centigrade =
- e) Water level reading of water reservoir, at the end of cooling =
- f) Through valve seat leakage during burn and cooling period (ie, 31 minutes) =
- g) Low test pressure =
- h) Through valve seat leakage at low test pressure (20barG) for 5 minutes after cool down =
- i) External leakage at low test pressure for 5 minutes =
- j) External leakage for 5 minutes when the valve is fully open position at high test pressure (13.8barG) =
- k) Time taken for burn period =
- l) Total water consumption from the reservoir until the end of cooling =

NOTE: ON CALIBRATED SIGHT GAUGE 12.4mm EQUALS 1 LITRE OF WATER.

- 2 bar
- 17.8cm
- 60 ml
- 7 minutes
- 17.6cm
- 70 ml
- 2 bar
- 50 ml
- 0 ml
- 70 ml
- 31 minutes
- 0.325 ltr

Test valve operation against high test pressure (13.8barG) to fully open position - OK

CALCULATIONS

DESCRIPTION	AS PER STANDARD (ml/min)	ACTUAL (ml/min)
1. Through valve seat leakage during the burn period (low test pressure) (21)	200	1.935
2. Through valve seat leakage after cool down (low test pressure) (1/5)	80	2
3. External leakage during burn & cool down (low test pressure) (1) - (1/2) (1)	50	8.32
4. External leakage after operational test in full open position (high test pressure) (2)	50	14

Remarks: Both Through Valve leakage Rates and External Valve Leakage Rates are within allowable limits Hence the Test Valve and the corresponding range of valves mentioned above are qualified as per following standards.

API - 107, 9th Edition, September 2010 Testing Of Valves - fire Type - Testing Requirements

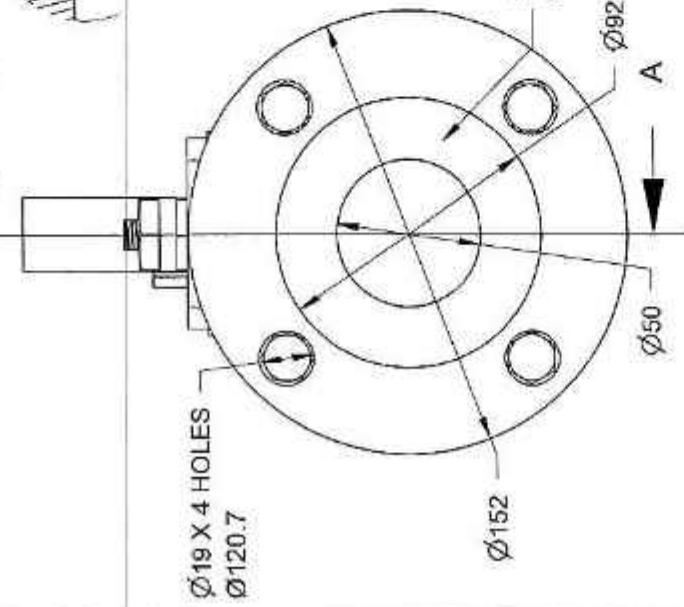
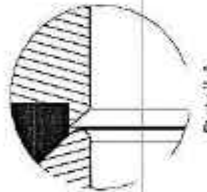
Fire Type

Lot of Enclosure: 1) Valve Test Report

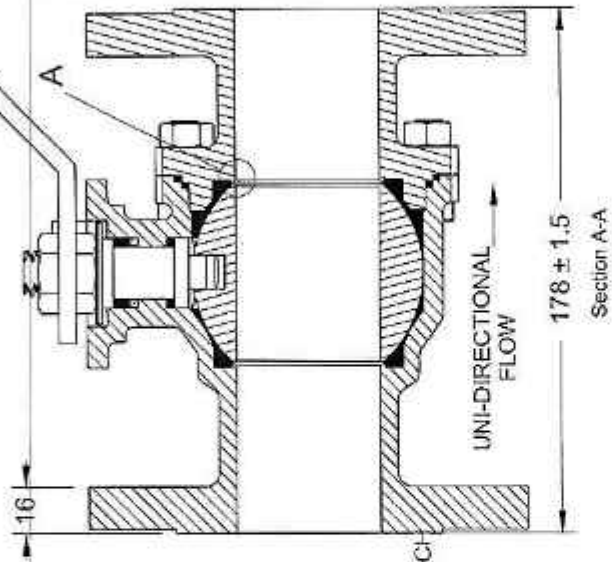
- 2) Calibration Report of Thermo couple & Pressure Gauges
- 3) Material Test Certificate

Screen

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Part No.	Part Name	Material
11	BODY	ASTM A351 Gr CF8
12	ADAPTERS	ASTM A351 Gr CF8
13	BALL	ASTM A351 Gr CF8M / SS316
14	STEM	SS304
15	SEAT	RPTFE
16	BODY SEAL	PTFE/GRAPHITE
17	STEM SEAL	PTFE/GRAPHITE
18	GLAND SEAL	PTFE/GRAPHITE
21	LEVER	MS ZN PLATED
25	GLAND NUT	SS304
26	GLAND	SS304
26A	FASTENERS	B7/2H
27	BELLEVILLE WASHER	SPRING STEEL



TEST PRESSURES	HYDROSTATIC	PNEUMATIC	DURATION SECONDS
SEAT	22 BAR	6 BAR	15 ≤ 50NB > 60
SHELL	33 BAR	-	

PRESSURE RATING	ASA 150#
DESIGN STANDARD	ISO 17292/ ASME B16.34
DESIGN TEMP.	65-180 DEG C
FLANGE DESIGN	ASME B 16.5
END CONNECTION	FLANGED END (RF)
FACE TO FACE	ASME B 16.10

Itemref	Quantity	Title/Name, designation, material, dimension etc.	Article No./Reference
Drawn by MH	Checked by RR	Approved by - date AR- 2/8/16	Date 2/8/16
File name	Scale	NTS	



GAD OF 50FB 2WAY CAVITY FILLED FIRESAFE
FLANGED END CLASS 150# BALL VALVE
KV 2W 2P 50 FB FE CF FS 150 00

Note: All dimensions are in mm unless stated.