

**KHIMJI FLOW EQUIPMENTS PVT. LTD.**

Block No. 67/E, 67/F, Tarihal - Revadihal Road,

REVADIHAL VILLAGE - 580 026

Karnataka, India



**FIRE SAFE TEST CERTIFICATE**

According to API-607-7<sup>th</sup> Edition, June 2016

**Report NO: 005**

Customer Name : Flow link systems (P) Ltd, Coimbatore  
Test Location : Khimji flow equipments Pvt. Ltd.  
Date of testing : 15<sup>th</sup> March 2021  
Valve Description : Ball valve  
Size & Rating : Full port 2" class 150 RF  
Valve Drawing : 10303052001 Rev. 0

**Valve Material:**

Body and Adapter : ASTM A352 Gr.LCC  
Trim : ASTM A479 Gr.316 & ASTM A182-F316  
Seals : SOFT SEALS  
Valve Serial No : 1000101001

The above valve was tested in accordance with the standard API-607-7<sup>th</sup> Edition June 2016, the test equipment and Testing procedures are confirming to the required specifications.

All the tests conducted as per API-607-7<sup>th</sup> Edition June 2016, requirements and found accepted.

**Range Qualified:**

This valve qualifies following sizes and class rating as per API-607-7<sup>th</sup> Edition June 2016,

**Qualified sizes** : NPS 2" and below, 2 1/2", 3" & 4" (DN 50 and below, 65, 80 & 100)

**Qualified Ratings** : 150 & 300 (PN 20 & 50)

Tested by

M.E.BHUTE

Approved by

R.BASKARAN

Witnessed by

KRISHNA KALWAD







# FIRE SAFE TEST CERTIFICATE

REPORT NO: 005

Customer: Flow link systems (P) Ltd, Coimbatore

Test Standard: API-607-7<sup>th</sup> Edition, June 2016

Place: <b>KHIMJI FLOW EQUIPMENTS PVT. LTD.</b> Hubli , Karnataka, India		Test SL. NO :005	Date : 15-03-2021
<b>OBSERVATIONS</b>			
1	Water level in water vessel before Fire Test (h1) mm	960	
2	Water level after Cooling (h2) mm	936	
3	Seat Leakage during		
	a) Burn period ( HP) – ( V1)ml	2100	
	b) Cooling down period ( HP) – (V2)ml	560	
	c) After Cool down period (LP) – (V3)ml	280	
4	External leakage :		
	a) After cool down period ( LP) – ( V4)ml	150	
	b) External during burn & cool down period ( HP) - (V5)ml [Total Volume consumed i.e., Difference in water level H * Water level constant – V1+V2+V3+V4 ]	1422	
	External leakage after operation test ( HP) – (V6)ml	180	
5	Test durations:		
	a) Burn period – (t1) min	30	
	b) Fire test period (up to cool down) – (t2) min	35	
	c) Low pressure test period – (t3) min	5	
	d) External HP test period after operational – (t4) min	5	
6	Water Vessel Calibration constant – ( K) ml/min	188	
7	Cavity Volume(initially measured ) – (V7) ml	360	
8	Difference in Water Lever – (H=h1-h2)mm	24	
9	Total Volume Consumed – H*188	4512	

## TEST RESULTS

Leakage	Test Condition	Formula	Leakage Rate Actual ( ml/min)	Allowable Max ( ml/min)	
1	Seat	Burn Period	V1/t1	70	800
2	Seat	After Cool down period	V3/t3	56	80
3	External	Fire test period	V5/t2	40.6	200
4	External	After Cool down period	V4/t3	30	50
5	External	After Operational test	V6/t4	36	50

Test Result: PASSED

Tested by

M.E.BHUTE



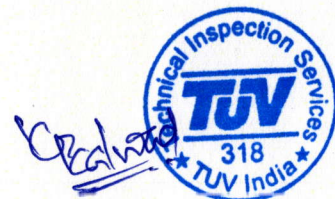
Approved by

R.BASKARAN



Witnessed by

KRISHNA KALWAD







**FLOW LINK SYSTEMS (P) Ltd, Coimbatore**

**FIRE SAFE TEST CERTIFICATE**

FIRE SAFE TEST REPORT NO : 005

1. TEST CONDUCTED AT	: KHIMJI FLOW EQUIPMENTS PVT LTD	7. WEIGHT OF THE VALVE	: 11.4 kgs
2. DESIGN STANDARD OF VALVE	: API-6D & API 608	8. VALVE SERIAL NO	: 1000101001
3. TESTING STANDARD	: API-607 & API-598	9. TEST DATE	: 15-03-2021
4. TEST VALVE	: NPS 2" CLASS 150	10. MATERIAL OF CONSTRUCTION OF TEST VALVE	
	: RF FLANGE ENDS BALL VALVE FP	a) BODY & ADAPTER	: ASTM A352 Gr. LCC
5. RANGE OF VALVES COVERED	: NPS 2" & BELOW , 2 1/2", 3" & 4"	b) BALL & STEM	: F316 & 316
	: CLASS 150 & 300	c) SEAT	: SOFT SEALS
6. TEST VALVE DRAWING NO	: 10303052001 REV 0	d) BODY SEAL	: SOFT SEALS
		e) STUD	: ASTM A320 Gr. L7M
		f) NUT	: ASTM A194 Gr. 7M

TEST VALVE PASSED HYDROSTATIC SHELL & SEAT TEST BEFORE FIRE SAFE TEST

**TABULATION**

**FIRE TEST TEMPERATURE / PRESSURE MEASUREMENT DETAILS**

SL.NO:	TIME (MIN)	GAUGE PRESSURE Bar		FLAME THEROCOUPLE TEMPERATURE (°C)			BODY AND ADAPTER THERMOCOUPLE TEMPERATURE (°C)		CALORIMETER CUBE THERMOCOUPLE TEMPERATURE (°C)			REMARKS
		UPSTREAM	CAVITY	BELOW BODY	NEAR STEM	AVG (T1)	BODY (T2)	ADAPTER (T3)	BELOW BODY	NEAR ADAPTER	AVG (T4)	
1	0.0	2	2	246	158	202	59	68	150	166	158	
2	0.5	2	2	260	164	212	95	89	180	178	179	
3	1.5	2	2	425	170	297.5	110	105	250	84	167	
4	2.0	2	2	428	178	303	146	140	324	192	258	
5	2.5	2	2	458	184	321	198	188	354	221	287.5	
6	3.0	2	2	460	205	332.5	224	222	364	254	309	
7	3.5	2	2	469	225	347	258	165	480	256	368	
8	4.0	2	2	580	264	422	315	315	519	260	389.5	
9	4.5	2	2	670	289	479.5	332	325	544	258	401	
10	5.0	2	2	680	308	494	348	339	571	269	420	
11	5.5	2	2	745	334	539.5	386	355	598	324	461	
12	5.0	2	2	775	356	565.5	400	374	609	335	472	
13	6.0	2	2	780	375	577.5	416	394	626	358	492	
14	6.5	2	2	785	392	588.5	428	415	638	389	513.5	
15	7.0	2	2	794	402	598	440	426	657	408	532.5	
16	7.5	2	2	795	426	610.5	451	432	659	415	537	
17	8.0	2	2	798	454	626	462	461	682	428	555	
18	8.5	2	2	799	485	642	476	487	690	458	574	
19	9.0	2	2	801	506	653.5	480	498	701	518	609.5	
20	9.5	2	2	815	541	678	514	508	715	529	622	
21	10.0	2	2	816	558	687	529	532	718	549	633.5	
22	10.5	2	3	823	584	703.5	568	564	724	589	656.5	
23	11.0	2	3	815	609	712	580	574	730	607	668.5	
24	11.5	2	3	827	620	723.5	608	582	742	628	685	
25	12.0	2	4	829	638	733.5	615	604	734	654	694	
26	12.5	2	4	831	654	742.5	628	615	754	668	711	
27	13.0	2	5	830	676	753	635	624	761	689	725	
28	13.5	2	5	828	698	763	649	635	759	694	726.5	
29	14.0	2	2	824	715	769.5	655	649	770	708	739	
30	14.5	2	2	835	723	779	661	665	794	714	754	
31	15.0	2	2	840	742	791	678	670	705	724	714.5	
32	15.5	2	2	822	759	790.5	680	688	718	749	733.5	
33	16.0	2	2	830	774	802	686	704	735	754	744.5	
34	16.5	2	2	818	782	800	692	715	746	769	757.5	

WITNESS BY:

INSPECTOR TUV NORD INDIA  
KRISHNA KALWAD



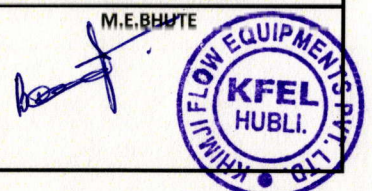
APPROVED BY

R. BASKARAN



TESTED BY KFEL HUBLI

M.E. BHUTE







**FLOW LINK SYSTEMS (P) Ltd, Coimbatore**

**FIRE SAFE TEST CERTIFICATE**

FIRE SAFE TEST REPORT NO : 005

- |                             |                                    |  |                     |
|-----------------------------|------------------------------------|--|---------------------|
| 1. TEST CONDUCTED AT        | : KHIMJI FLOW EQUIPMENTS PVT LTD   | 7. WEIGHT OF THE VALVE                     | : 11.4 kgs          |
| 2. DESIGN STANDARD OF VALVE | : API-6D & API 608                 | 8. VALVE SERIAL NO                         | : 1000101001        |
| 3. TESTING STANDARD         | : API-607 & API-598                | 9. TEST DATE                               | : 15-03-2021        |
| 4. TEST VALVE               | : NPS 2" CLASS 150                 | 10. MATERIAL OF CONSTRUCTION OF TEST VALVE |                     |
|                             | : RF FLANGE ENDS BALL VALVE FP     | a) BODY & ADAPTER                          | : ASTM A352 Gr. LCC |
| 5. RANGE OF VALVES COVERED  | : NPS 2" & BELOW , 2 1/2", 3" & 4" | b) BALL & STEM                             | : F316 & 316        |
|                             | : CLASS 150 & 300                  | c) SEAT                                    | : SOFT SEALS        |
| 6. TEST VALVE DRAWING NO    | : 10303052001 REV 0                | d) BODY SEAL                               | : SOFT SEALS        |
|                             |                                    | e) STUD                                    | : ASTM A320 Gr.L7M  |
|                             |                                    | f) NUT                                     | : ASTM A194 Gr. 7M  |

TEST VALVE PASSED HYDROSTATIC SHELL & SEAT TEST BEFORE FIRE SAFE TEST

**TABULATION**

**FIRE TEST TEMPERATURE / PRESSURE MEASUREMENT DETAILS**

SL.NO:	TIME (MIN)	GAUGE PRESSURE Bar		FLAME THEROCOUPLE TEMPERATURE (°C)			BODY AND ADAPTER THEROCOUPLE TEMPERATURE (°C)		CALORIMETER CUBE THEROCOUPLE TEMPERATURE (°C)			REMARKS
		UPSTREAM	CAVITY	BELOW BODY	NEAR STEM	AVG (T1)	BODY (T2)	ADAPTER (T3)	BELOW BODY	NEAR ADAPTER	AVG (T4)	
35	17.0	2	2	824	785	804.5	704	718	756	768	762	
36	17.5	2	2	832	801	816.5	714	725	784	784	784	
37	18.0	2	2	850	812	831	728	734	824	801	812.5	
38	18.5	2	2	855	834	844.5	736	745	827	812	819.5	
39	19.0	2	2	860	851	855.5	745	754	831	819	825	
40	19.5	2	2	872	854	863	755	766	842	825	833.5	
41	20.0	2	3	887	859	873	768	774	845	831	838	
42	20.5	2	3	865	862	863.5	780	778	850	846	848	
43	21.0	2	4	860	875	867.5	804	780	864	857	860.5	
44	21.5	2	4	854	864	859	817	804	871	864	867.5	
45	22.0	2	4	850	852	851	825	815	887	860	873.5	
46	22.5	2	5	845	826	835.5	834	826	885	861	873	
47	23.0	2	5	840	831	835.5	855	842	864	858	861	
48	23.5	2	7	840	820	830	864	864	854	840	847	
49	24.0	2	8	845	804	824.5	860	874	848	831	839.5	
50	24.5	2	10	832	818	825	875	884	850	828	839	
51	25.0	2	12	828	819	823.5	887	892	851	814	832.5	
52	25.5	2	8	820	824	822	890	901	848	808	828	
53	26.0	2	6	812	834	823	897	908	835	820	827.5	
54	26.5	2	5	810	835	822.5	901	912	824	826	825	
55	27.0	2	4	810	841	825.5	889	904	817	834	825.5	
56	27.5	2	2	784	828	806	878	899	824	818	821	
57	28.0	2	2	774	820	797	880	864	829	828	828.5	
58	28.5	2	2	780	814	797	856	858	824	834	829	
59	29.0	2	2	785	801	793	845	860	829	820	824.5	
60	29.5	2	2	790	784	787	834	867	818	801	809.5	
61	30.0	2	2	712	814	763	822	824	814	788	801	
62	30.5	2	2	654	780	717	700	745	756	712	734	
63	31.0	2	2	610	745	677.5	641	714	710	658	684	
64	31.5	2	2	584	700	642	601	634	664	554	609	
65	32.0	2	2	499	624	561.5	521	542	620	461	540.5	
66	32.5	2	2	415	580	497.5	452	456	512	401	456.5	
67	33.0	2	2	354	450	402	324	324	458	328	393	
68	33.5	2	2	266	380	323	289	241	345	284	314.5	

**WITNESS BY:**

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**APPROVED BY**

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