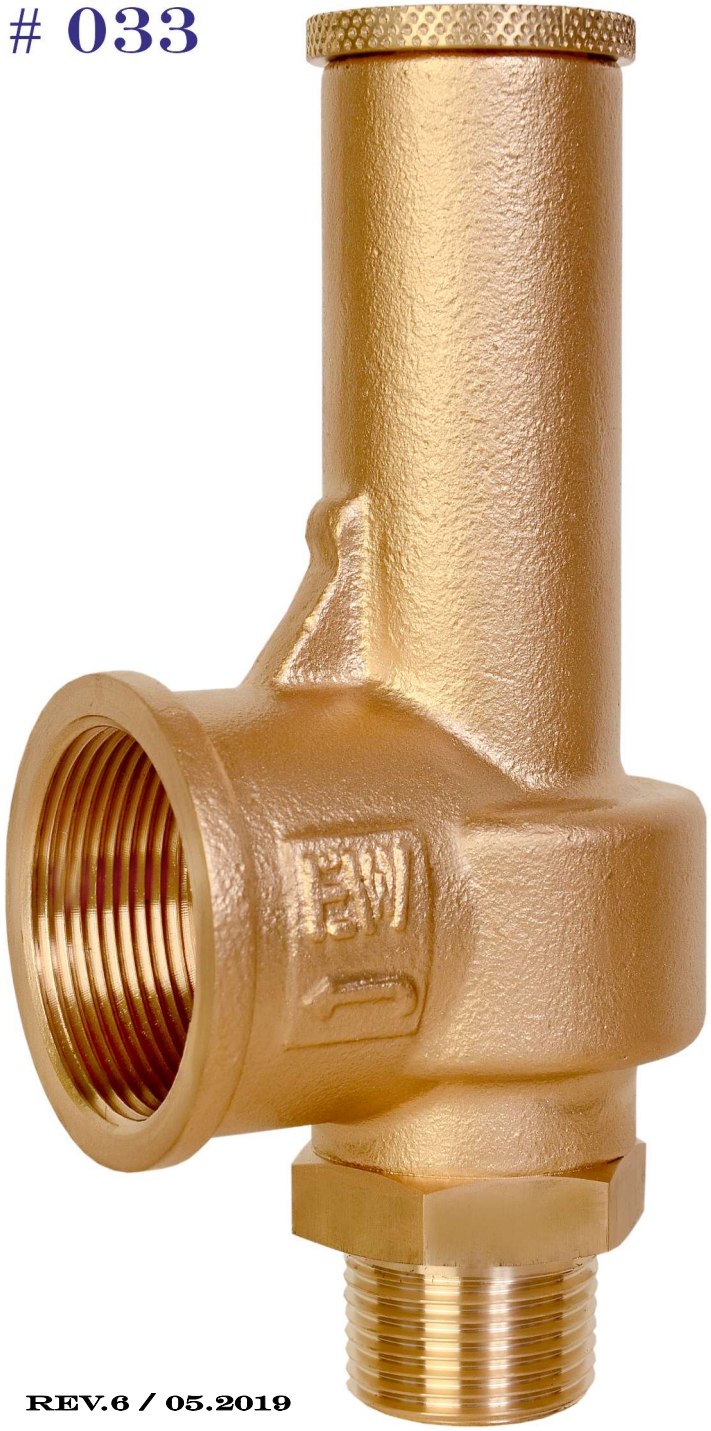
HARSHAD ENGINEERING WORKS

PROVIDES HIGH QUALITY OVER PRESSURE PROTECTION FOR AIR, GAS & STEAM IN SINGLE STANDARDIZED DESIGN

ISO 9001 CERTIFIED COMPANY

SAFETY VALVE

SERIES # 033



DESIGN FEATURES

- SAFETY VALVE MANUFACTURED IN ACCORDANCE WITH REQUIREMENT OF ASME SECTION VIII DIVISION 1, API 526, API 527, EN ISO 4126 PART 1, IS 12992
- DIRECT SPRING OPERATED, FULL LIFT, FULL NOZZLE, SINGLE TRIM & HIGH CAPACITY DESIGN
- FIXED BLOW DOWN, OVER PRESSURE 10% & NO MAINTENANCE DESIGN
- AVAILABLE IN METAL SEAT & VITON RUBBER SEAT
- BEST USE IN GAS LINE, RECIPROCATING & SCREW COMPRESSORS SYSTEM, PRESSURE VESSEL, AIR RECEIVER TANK, STEAM BOILERS, ETC.
- FULL NON FERROUS MATERIAL CONSTRUCTION.

TECHNICAL DATA : -

- SIZES : 1/2" X 1" TO 1" X 1-1/2"" (ORIFICE "D", "E" & "F")
- END CONNECTION : THREAD END (BSP, BSPT, NPT)
- SET PRESSURE RANGE : 1BARG TO 35BARG
- TEMPERATURE RANGE : -20*C TO 200*C
- APPLICATION : AIR, GAS, & WATER

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HARSHAD ENGINEERING WORKS

WORK & OFFICE ADDRESS : -
S-121 TO S-124, VIVEKANAND INDUSTRIAL ESTAE, NEAR RAKHIAL CROSS ROAD, RAKHIAL, AHMEDABAD - 380 023. GUJARAT, INDIA.

PH # :+91-9879355077, 9825035792
EMAIL : hew@hewvalve.com
WEB 1 : www.hewvalve.com
WEB 2 : www.hewsafetyvalves.com

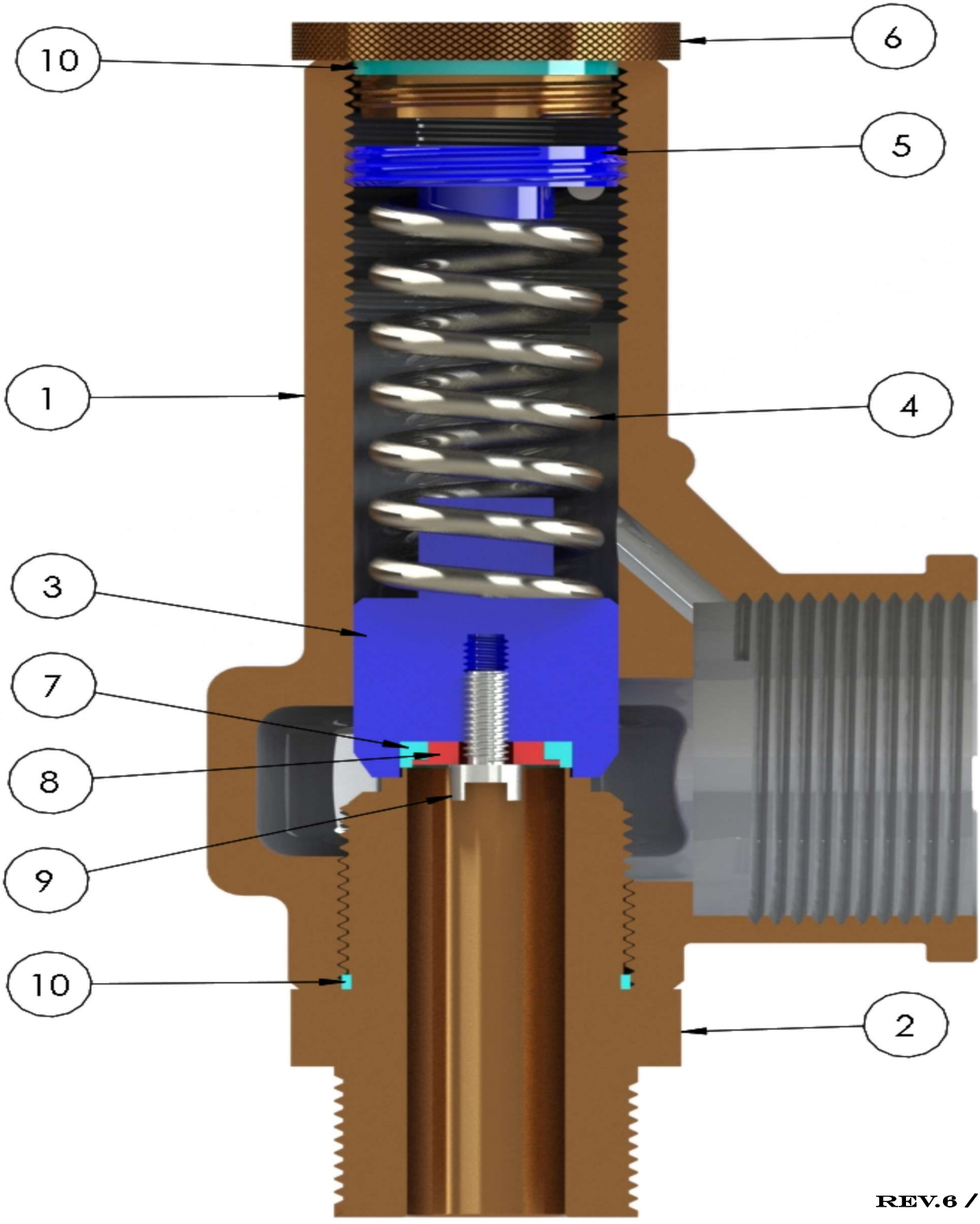
HARSHAD ENGINEERING WORKS

SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033

G.A.DRAWING



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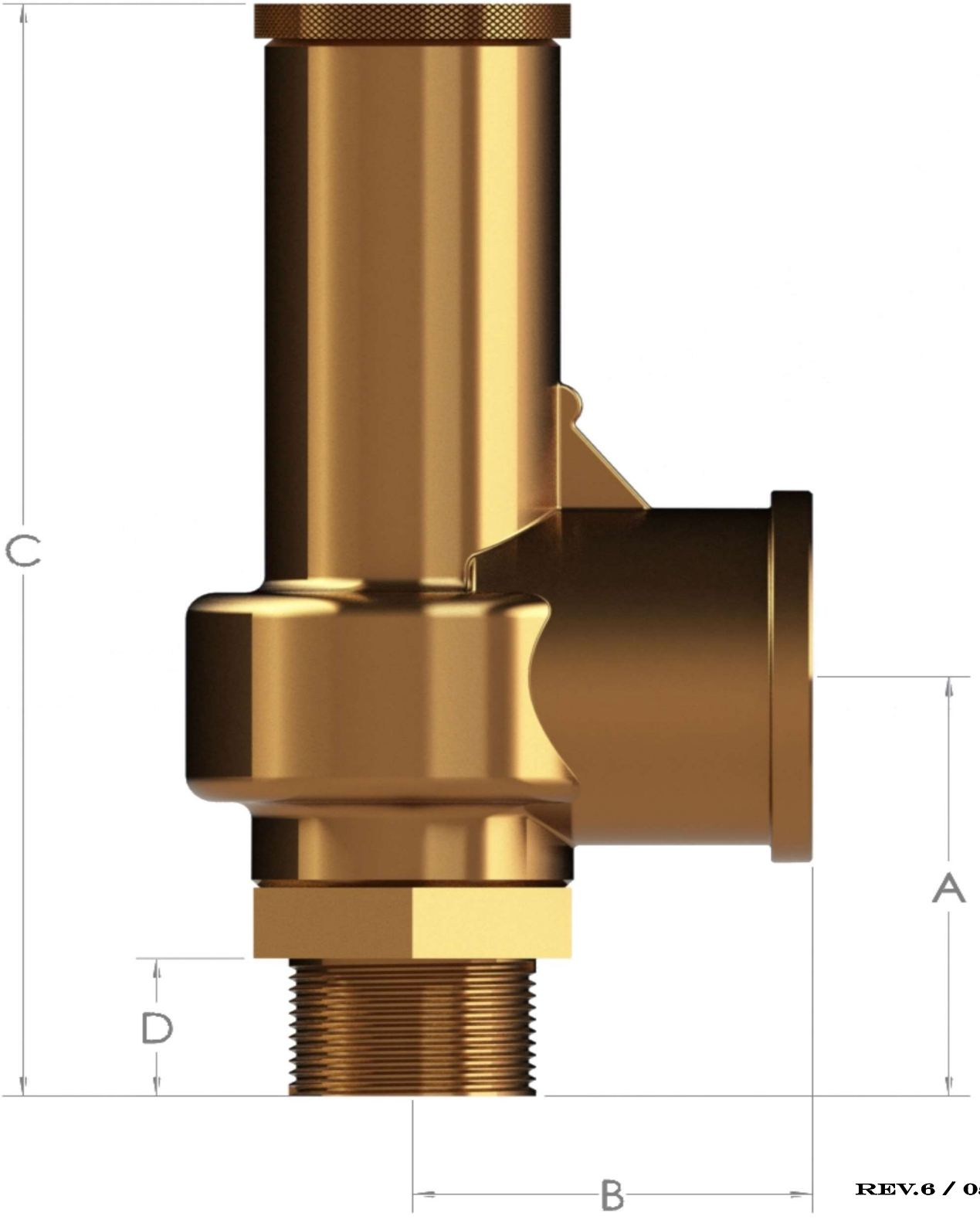
HARSHAD ENGINEERING WORKS
SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033
DIMENSION



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HARSHAD ENGINEERING WORKS
SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033

MATERIAL OF CONSTRUCTION

PART LIST		MODEL # 033 NON-FERROUS MATERIAL CONSTRUCTION
SR.NO.	DESCRIPTION	TEMPERATURE -20*C TO 200*C
01	BODY	GUN METAL (IS 318 GR.LTB2)
02	NOZZLE	BRASS (IS 319 GR.1)
03	PISTON / DISC	BRASS (IS 319 GR.1)
04	SPRING (ZINC COATED)	SPRING STEEL (IS 4454 GR.III)
05	CAP	BRASS (IS 319 GR.1)
06	SETTING SCREW	BRASS (IS 319 GR.1)
07	SEAT	VITON / SILICON RUBBER
08	DISC WASHER	BRASS (IS 319 GR.1)
09	RETAINER (ZINC COATED)	HIGH TENSILE SCREW
10	"O RING"	NITRILE RUBBER

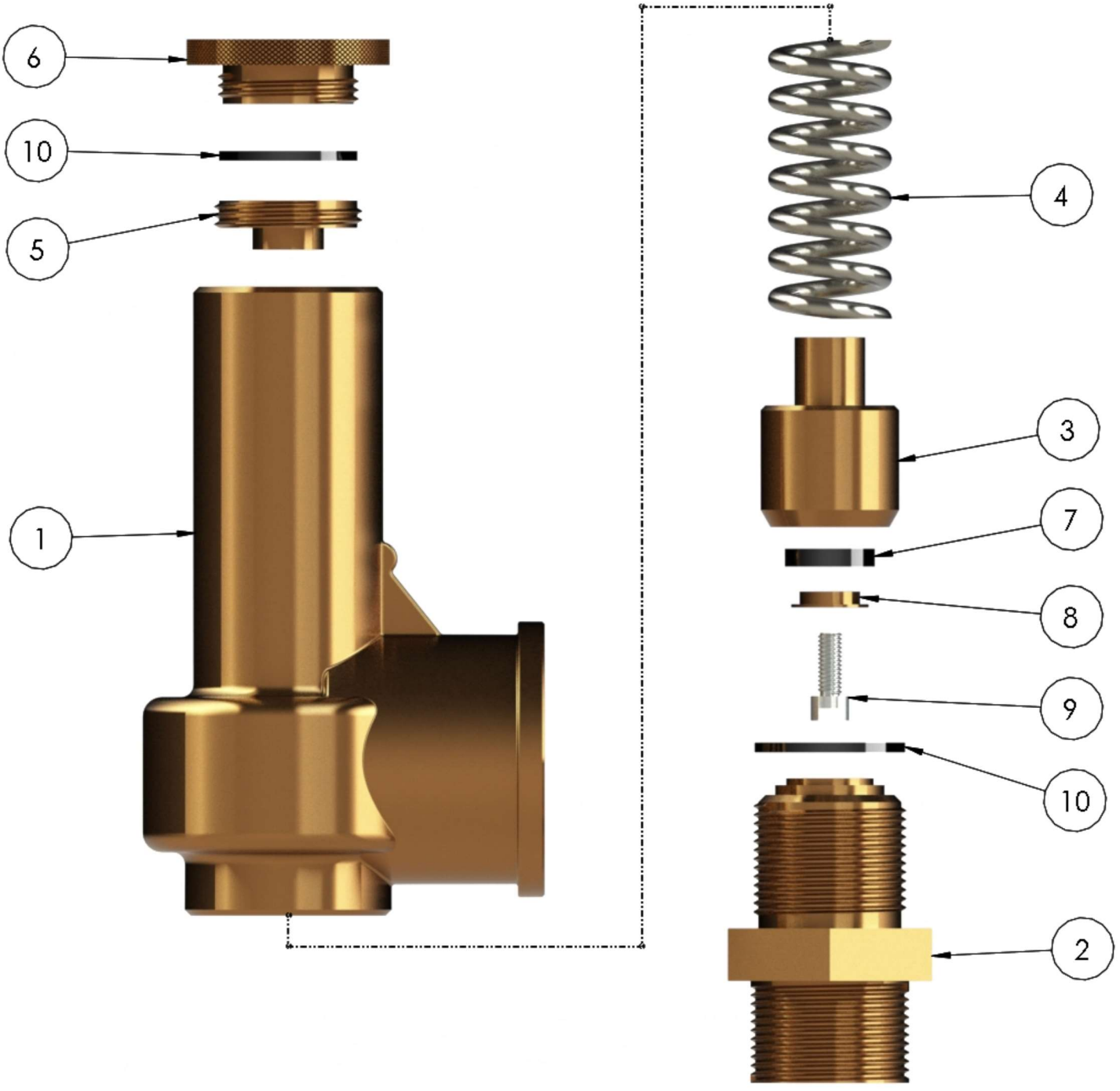
HARSHAD ENGINEERING WORKS

SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033

ASSEMBLY DRAWING



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HARSHAD ENGINEERING WORKS

SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033

TECHNICAL DETAIL

SIZES		ORIFICE (API526 & EN ISO 4126)		MAX SET PRESSURE (IN BARG) @ 38*C	A (MM) ± 5	B (MM) ± 5	C (MM) ± 5	D (MM) ± 2	A / F (MM) ± 2	APPROX WEIGHT (KG)
INLET	OUTLET	DESIGNATION & EFFECTIVE AREA (IN2)	ACTUAL AREA IN2 & INLET BRE (MM)							
1/2"	1"	"D" (0.110)	0.12 (10MM)	35	52	53	155	20	38	1.2
3/4"	1"	"E" (0.196)	0.23 (14MM)	35	52	53	155	21	38	1.5
3/4"	1-1/4"	"F" (0.307)	0.35 (17MM)	35	60	58	165	21	42	2.0
3/4"	1-1/2"	"F" (0.307)	0.35 (17MM)	35	60	58	165	21	42	2.0
1"	1-1/2"	"F" (0.307)	0.35 (17MM)	35	60	58	165	21	42	2.2

NOTE : -

1.) SERIES # 033 SAFETY VALVE IS AVAILABLE IN THREAD END CONNECTION ONLY. (BSP, BSPT, ISO7R & NPT OR AS PER CUSTOMER SPECIFICATION)
2.) HYDRO TEST IS CONDUCTED FOR NOZZLES AT 1.5 TIMES OF DESIGN PRESSURE OF SAFETY VALVE AS PER API 526, API 598, EN ISO 4126 PART 1 & IS 12992.
3.) PNEUMATIC NOZZLE TEST CONDUCT ON 7BARG (100PSIG) AS PER ASME PRESSURE VESSEL SECTION VIII DIVISION.1.
4.) SEAT LEAKAGE TEST IS CONDUCTED AS PER API 527 OR AS SPECIFIED.
5.) IT IS ALSO OFFER IN RUBBER SEATED DESIGN FOR CRITICAL & GAS APPLICATION.
6.) TECHNICAL DATA SHEET WILL BE PROVIDED ON REQUEST.
7.) WE OFFER THIRD PARTY INSPECTION IF REQUIRED.(TUV, LLYODS, BVQI, SGS, ETC.)
8.) SAFETY VALVE IS SUPPLIED WITH ONE SET OF TEST CERTIFICATE OF HYDRO TEST, SET PRESSURE TEST & SEAT LEAKAGE TEST.
9.) SAFETY VALVE COMES WITH GUARANTEE OF 18MONTHS FROM THE DATE OF SUPPLY OR 12 MONTHS FROM THE DATE OF INSTALLATION

HARSHAD ENGINEERING WORKS
SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033

INSTALLATION DIAGRAM

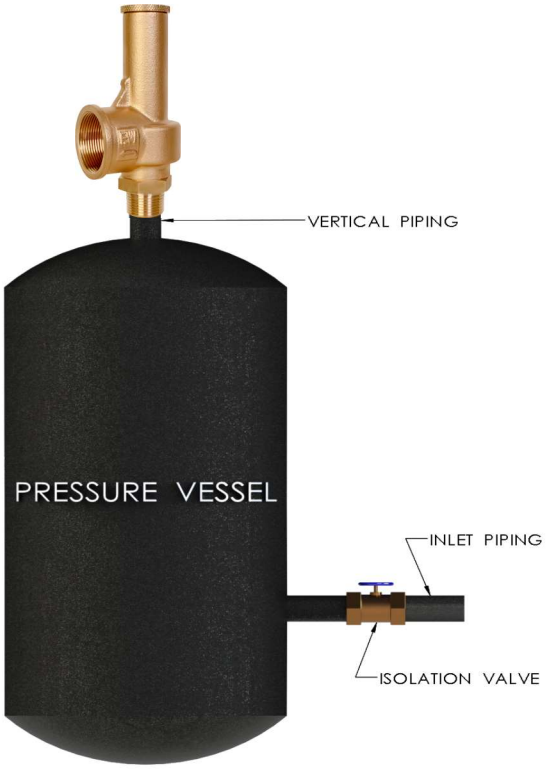

DIAGRAM A

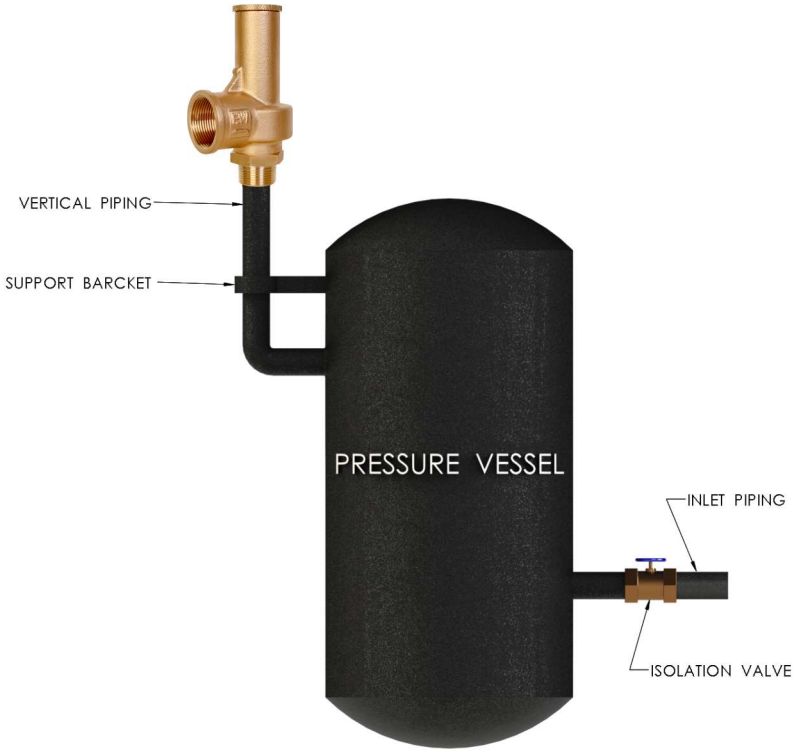

DIAGRAM B

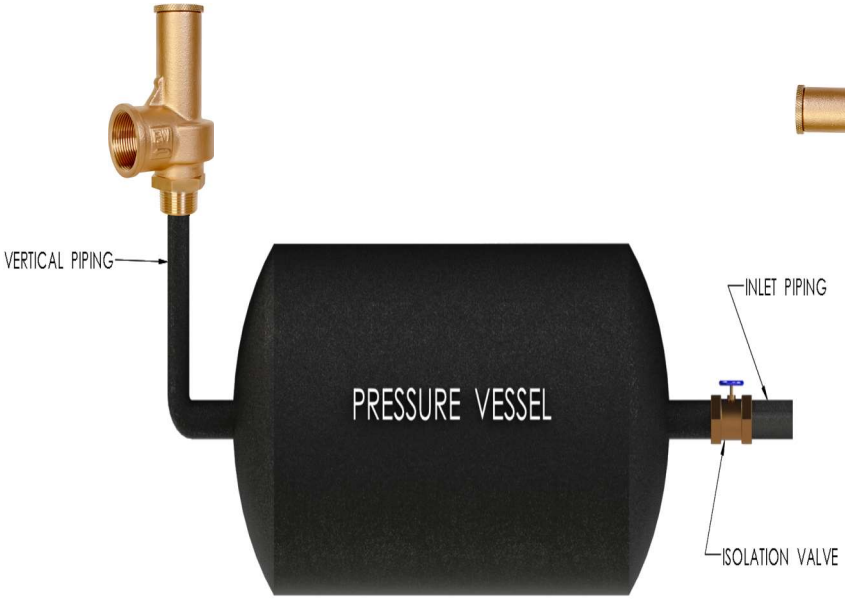

DIAGRAM C

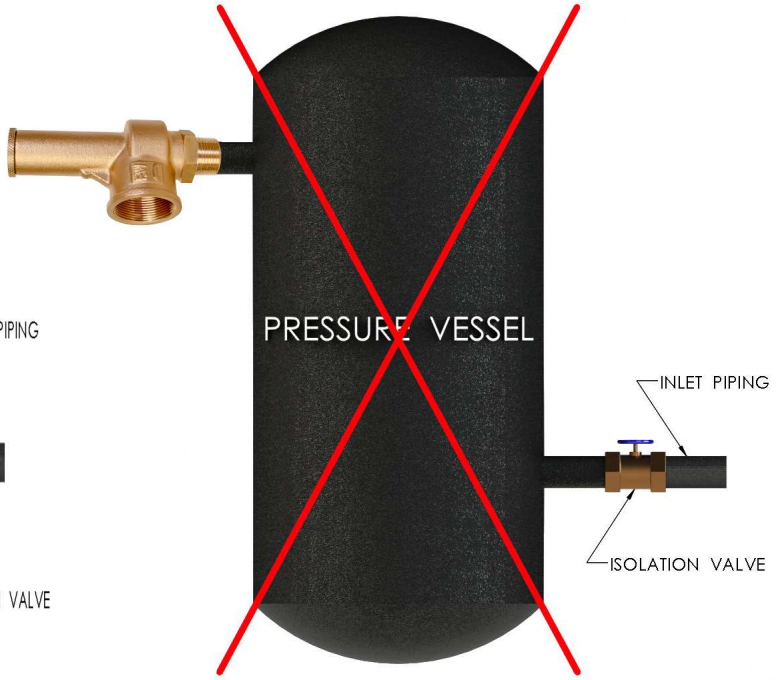

DIAGRAM D

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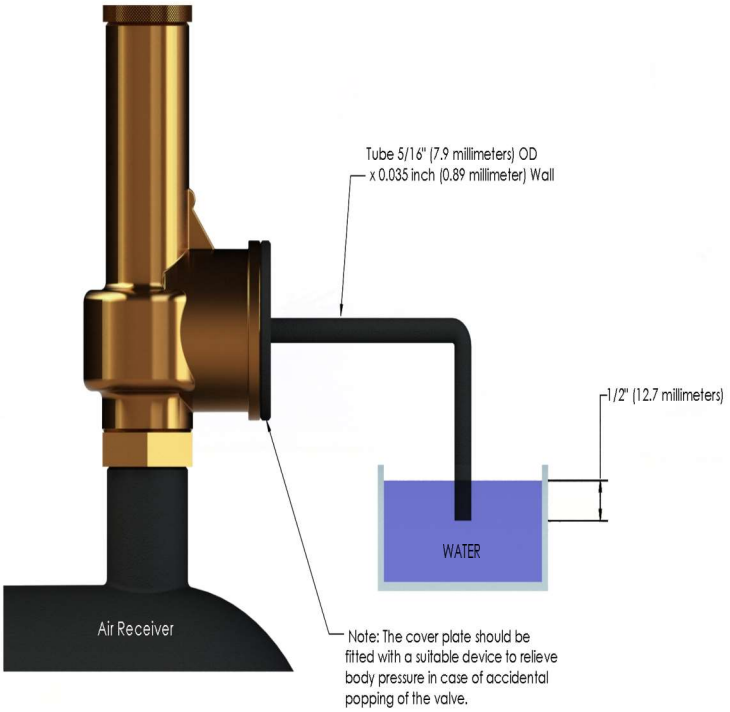
HARSHAD ENGINEERING WORKS
SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033
SEAT LEAKAGE & BACK PRESSURE TEST

SEAT LEAKAGE



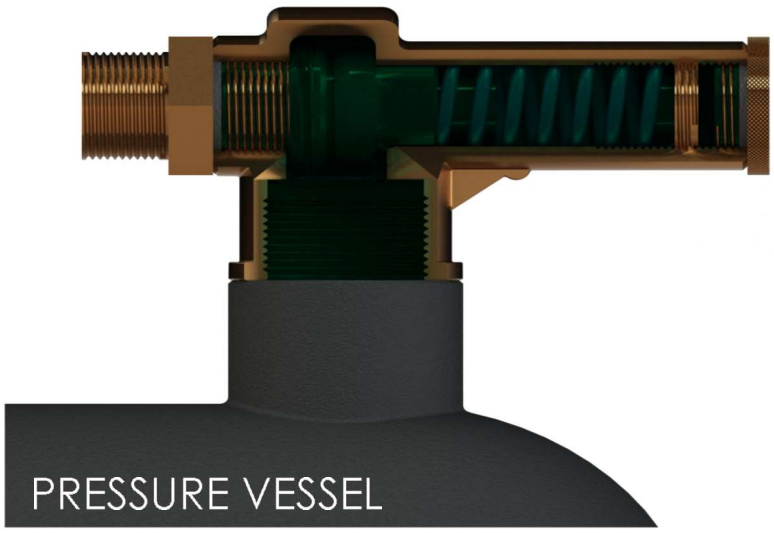
SEAT LEAKAGE ACCEPTANCE CRITERIA AS PER (API 527)

FOR A VALVE WITH METAL SEAT, THE LEAKAGE RATE IN BUBBLES PER MINUTE SHALL NOT EXCEED THE APPROPRIATE VALUE IN BELOW TABLE 1. FOR A SOFT SEATED SAFETY VALVE (RUBBER OR TEFLON), THERE SHALL BE NO LEAKAGE FOR ONE MINUTE (0 BUBBLE / MIN)

TABLE 1

SET PRESSURE PSIG (BARG)	EFFECTIVE ORIFICE SIZES 0.307IN2 AND SMALLER		EFFECTIVE ORIFICE SIZES LARGER THAN 0.307IN2	
	MAX BUBBLE PER MINUTE	APPROX LEAKAGE RATE PER 24 HOURS STD. CUBIC FEET	MAX BUBBLE PER MINUTE	APPROX LEAKAGE RATE PER 24 HOURS STD. CUBIC FEET
15-1000 (1.03 - 68.9)	40	0.60	20	0.30
1500 (103.4)	60	0.90	30	0.45
2000 (137.9)	80	1.20	40	0.60
2500 (172.4)	100	1.50	50	0.75
3000 (206.8)	100	1.50	60	0.90
4000 (275.8)	100	1.50	80	1.20
5000 (344.8)	100	1.50	100	1.50
6000 (413.7)	100	1.50	100	1.50

BACK PRESSURE TEST



- BACK PRESSURE TEST CONDUCT AT 7KG/CM2G BY AIR OR WATER FLUID AS PER SHOWN DIAGRAM.
- ZERO LEAKAGE ALLOWED.
- CHECK POINT ALL GASKET SEALANT, BODY & CAP.

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SERIES # 033

COLD DIFFERENTIAL TEST PRESSURE

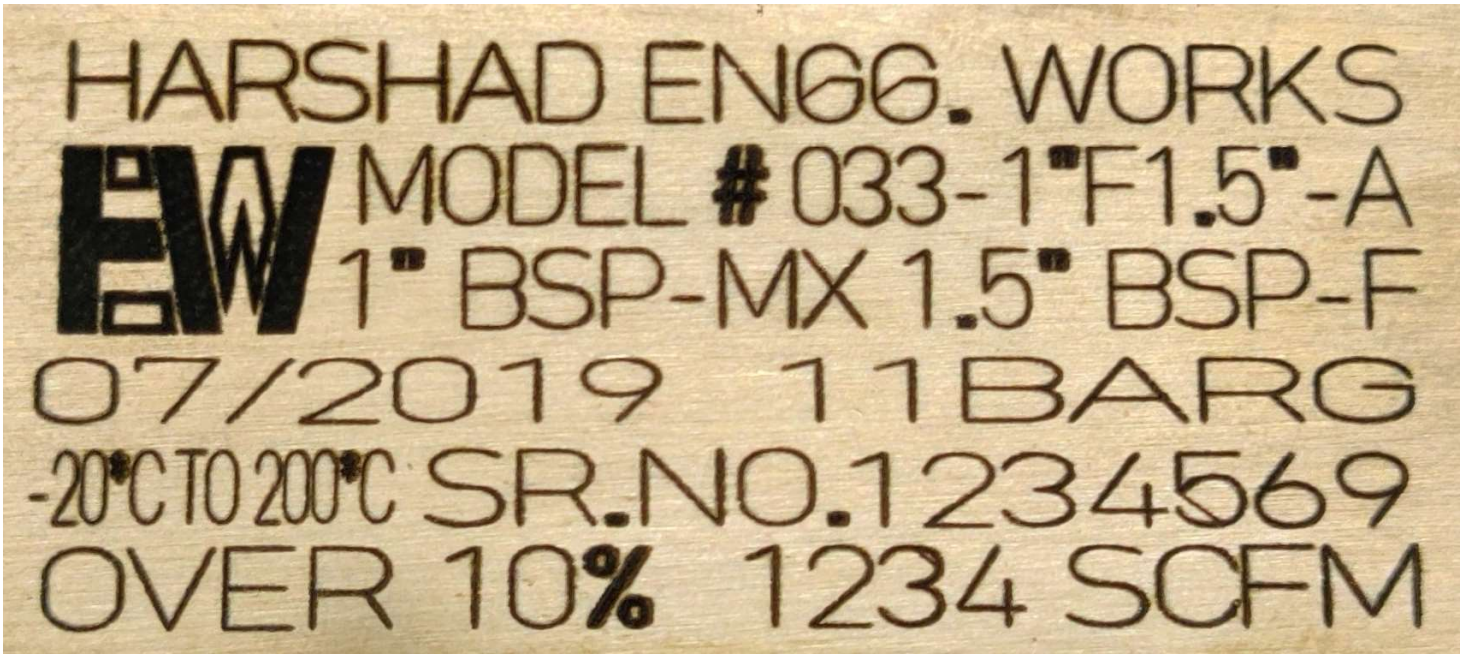
WHEN SETTING A VALVE INTENDED FOR USE AT HIGH TEMPERATURE ON A TEST RIG USING A TEST FLUID AT AMBIENT TEMPERATURES, IT IS NECESSARY TO SET THE VALVE AT SLIGHTLY HIGHER PRESSURE, SO THAT IT WILL OPEN AT THE CORRECT SET PRESSURE UNDER OPERATING CONDITIONS. THE NECESSARIES ALLOWANCE IS SHOWN IN THE FOLLOWING TABLE.

OPERATING TEMPERATURE (CENTIGRADE)	OPERATING TEMPERATURE (FAHRENHEIT)	% INCREASE IN SET PRESSURE AT (AMBIENT TEMPERATURE)
UPTO 121 *C	UPTO 250 *F	0 %
122 *C TO 316 *C	251 *F TO 600 *F	1 %
317 *C TO 427 *C	601 *F TO 800 *F	2 %
428 *C TO 538 *C	801 *F TO 1000 *F	3 %

HARSHAD ENGINEERING WORKS
SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033
MARKING DETAIL



EVERY SAFETY VALVE IS LASER MARKED ACCORDING TO ABOVE LABEL

LASER MARKING DETAIL

LINE NO. 01 = MANUFACTURER NAME AND LOGO
LINE NO. 02 = PART # / MODEL #
LINE NO. 03 = INLET X OUTLET SIZE & THREAD END TYPE
LINE NO. 04 = DATE OF MFG & SET PRESSURE
LINE NO. 05 = WORKING TEMP. RANGE & UNIQUE SR.NO.
LINE NO. 06 = OVER PRESSURE & FLOW RATE

HARSHAD ENGINEERING WORKS
SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033
AIR CAPACITY TABLE

Air Capacities in SCFM @ 15*C & 10% Over Pressure (API 520)			
SET PRESSURE (BARG)	ORIFICE AREA IN2 (MM2) & DISCHARGE CAPACITY IN SCFM		
	"D"	"E"	"F"
	0.12in2 (77.42mm2)	0.23in2 (148.39mm2)	0.35in2 (225.81mm2)
1	59	113	172
2	90	173	263
3	121	232	352
4	151	291	442
5	182	350	532
6	213	409	622
7	244	469	712
8	274	528	803
9	305	587	893
10	336	646	983
11	367	705	1072
12	397	764	1163
13	428	823	1253
14	459	883	1343
15	490	942	1433
16	520	1001	1523
17	551	1060	1613
18	582	1119	1703
19	613	1178	1793
20	643	1238	1883
21	674	1297	1973
22	705	1355	2063
23	736	1414	2153
24	766	1474	2243
25	797	1533	2333
26	828	1587	2415
27	859	1646	2505
28	890	1705	2594
29	920	1764	2684
30	951	1823	2774
31	982	1882	2863
32	1013	1941	2953
33	1043	2000	3042
34	1074	2059	3133
35	1105	2118	3222

NOTE : -

1.) CAPACITIES BELOW 2BARG SET PRESSURE ARE CALCULATED AT 0.2BAR OVER PRESSURE.

2.) TO DETERMINE CAPACITIES ON GASES OTHER THAN AIR OR VAPOURS, PLEASE CONSULT HARSHAD ENGINEERING WORKS (HEW).

HARSHAD ENGINEERING WORKS
SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033
WATER CAPACITY TABLE

WATER CAPACITIES IN LITRES PER MINUTE (LPM) @ 20*C & 10% OVER PRESSURE (API 520)			
SET PRESSURE (BARG)	ORIFICE AREA IN2 (MM2) & DISCHARGE CAPACITY IN LPM		
	"D"	"E"	"F"
	0.12in2 (77.42mm2)	0.23in2 (148.39mm2)	0.35in2 (225.81mm2)
1	46	87	133
2	65	124	188
3	79	152	230
4	91	175	266
5	102	196	297
6	112	214	325
7	121	231	352
8	129	247	376
9	137	262	399
10	144	277	421
11	151	290	441
12	158	303	461
13	165	315	480
14	171	327	498
15	177	339	515
16	183	350	532
17	188	361	548
18	194	371	564
19	199	381	580
20	204	391	595
21	209	401	610
22	214	410	624
23	219	420	638
24	224	429	651
25	228	437	665
26	233	446	678
27	237	455	691
28	241	463	704
29	246	471	716
30	250	479	729
31	254	487	740
32	258	495	752
33	262	502	764
34	266	510	776
35	270	517	787

NOTE : -

1.) CAPACITIES BELOW 2BARG SET PRESSURE ARE CALCULATED AT 0.2BAR OVER PRESSURE.

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2.) TO DETERMINE CAPACITIES ON GASES OTHER THAN AIR OR VAPOURS, PLEASE CONSULT HARSHAD ENGINEERING WORKS (HEW).

HARSHAD ENGINEERING WORKS

SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033

AIR CAPACITY TABLE

Air Capacities in KG/HR @ 15*C & 10% Over Pressure (ISO 4126 PART 1)			
SET PRESSURE (BARG)	ORIFICE AREA IN2 (MM2) & DISCHARGE CAPACITY IN KG/HR		
	"D"	"E"	"F"
	0.12in2 (77.42mm2)	0.23in2 (148.39mm2)	0.35in2 (225.81mm2)
1	123	236	359
2	187	358	545
3	251	481	732
4	315	604	919
5	379	726	1105
6	443	849	1292
7	507	972	1479
8	571	1094	1665
9	635	1217	1852
10	699	1340	2038
11	763	1462	2225
12	827	1585	2412
13	891	1708	2598
14	955	1830	2785
15	1019	1953	2972
16	1083	2076	3158
17	1147	2198	3345
18	1211	2321	3532
19	1275	2444	3718
20	1339	2566	3905
21	1403	2689	4092
22	1467	2812	4278
23	1531	2934	4465
24	1595	3057	4652
25	1659	3180	4838
26	1723	3302	5025
27	1787	3425	5212
28	1851	3548	5398
29	1915	3670	5585
30	1979	3793	5772
31	2043	3916	5958
32	2107	4038	6145
33	2171	4161	6332
34	2235	4284	6518
35	2299	4406	6705

NOTE : -

1.) CAPACITIES BELOW 2BARG SET PRESSURE ARE CALCULATED AT 0.2BAR OVER PRESSURE.

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2.) TO DETERMINE CAPACITIES ON GASES OTHER THAN AIR OR VAPOURS, PLEASE CONSULT HARSHAD ENGINEERING WORKS (HEW).

HARSHAD ENGINEERING WORKS

SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033

WATER CAPACITY TABLE

WATER CAPACITIES IN KG/HR @ 20*C & 10% OVER PRESSURE (ISO 4126 PART.1)			
SET PRESSURE (BARG)	ORIFICE AREA IN2 (MM2) & DISCHARGE CAPACITY IN KG/HR		
	"D"	"E"	"F"
	0.12in2 (77.42mm2)	0.23in2 (148.39mm2)	0.35in2 (225.81mm2)
1	2720	5213	7933
2	3846	7372	11218
3	4711	9029	13740
4	5439	10426	15865
5	6082	11656	17738
6	6662	12769	19431
7	7196	13792	20988
8	7693	14744	22437
9	8159	15639	23798
10	8601	16485	25085
11	9020	17289	26310
12	9421	18058	27479
13	9806	18795	28602
14	10176	19505	29681
15	10533	20189	30723
16	10879	20852	31731
17	11214	21493	32707
18	11539	22116	33655
19	11855	22722	34578
20	12163	23313	35476
21	12463	23888	36352
22	12757	24451	37207
23	13043	25000	38044
24	13324	25538	38862
25	13599	26064	39663
26	13868	26581	40449
27	14132	27087	41219
28	14391	27584	41976
29	14646	28072	42719
30	14897	28552	43449
31	15143	29024	44167
32	15385	29489	44874
33	15624	29946	45570
34	15859	30396	46255
35	16090	30840	46930

NOTE : -

1.) CAPACITIES BELOW 2BARG SET PRESSURE ARE CALCULATED AT 0.2BAR OVER PRESSURE.

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2.) TO DETERMINE CAPACITIES ON GASES OTHER THAN AIR OR VAPOURS, PLEASE CONSULT HARSHAD ENGINEERING WORKS (HEW).

HARSHAD ENGINEERING WORKS

SAFETY VALVE

ISO 9001 CERTIFIED COMPANY

SERIES # 033

INSTALLATION & PRESSURE ADJUSTMENT

GUIDELINE

1.) INSTALLATION GUIDELINE :-

- SAFETY VALVES SHOULD BE ALWAYS MOUNTED VERTICALLY ON THE PRESSURE VESSEL, BOILERS OR PIPELINE .
- ALL THE PACKING MATERIALS SHOULD BE REMOVED FROM THE VALVE CONNECTION PRIOR TO INSTALLATION.
- NEVER LIFT VALVE FROM ITS HANDLE OR LEVER, IT DAMAGES THE SPINDLE ALIGNMENT WHICH RESULTS IN MALFUNCTION OR NOT WORK AT ALL.
- IF SAFETY VALVE ONCE REACHED THE SITE AND ITS NOT GOING TO USE RIGHT AWAY THEN IT HAS TO STORE IN DRY, & FREE OF DIRT AND SHOULD MAINTAIN THE STORAGE TEMPERATURE -20*C TO 50*C. AND PROTECTIVE SHOULD NOT BE REMOVED WHEN IT IS NOT IN USE.
- WHILE INSTALLING SAFETY VALVE USE METAL OR PLASTIC SEAL WASHER ONLY. TEMPORARY SEAL MATERIAL SUCH AS PTFE / TEFLON TAPE OR LIQUID SEAL MATERIAL SHOULD NOT BE USED AS THIS TYPE OF MATERIAL BREAK OFF AND ENTER THE SAFETY VALVE AND DAMAGES THE SEAT OF VALVE WHICH RESULTS IN CONTINUOS LEAKAGE.

2.) INSTALLATION ON PRESSURE VESSELS:-

- WHEN FITTING A SAFETY VALVE ONTO PRESSURE VESSELS, THE INLET CONNECTION PIPE SHOULD BE AS SHORT AS POSSIBLE AND THE BORE SHOULD BE AT LEAST EQUIVALENT TO THE NOMINAL BORE SIZE OF THE VALVE. SO THAT THE PRESSURE DROP BETWEEN THE VESSEL AND THE VALVE SHOULD BE NO MORE THAN 3% RATED CAPACITY.
- IT IS ESSENTIAL THAT NEW INSTALLATIONS ARE FULLY FLUSHED AND ALL DEBRIS AND FOREIGN PARTICLES REMOVED PRIOR TO INSTALLING THE VALVE AS SERIOUS DAMAGE CAN BE CAUSED TO THE VALVE SEATS RESULTING IN SUBSEQUENT LEAKAGE AND MALFUNCTION.
- THERE SHALL BE NO INTERVENING STOP VALVES BETWEEN THE VESSEL AND SAFETY VALVES.

3.) INSTALLATION ON PIPELINES:-

WHEN FITTING A SAFETY VALVE INTO A PIPELINE, THE INLET CONNECTING PIPE LEADING FROM THE MAIN PIPELINE TO THE SAFETY VALVE SHOULD BE AS SHORT AS POSSIBLE, SO THAT THE INLET PRESSURE DROP IS NO MORE THAN3% OF RATED CAPACITY.

4.) PRESSURE ADJUSTMENT GUIDELINE :-

EVERY VALVE IS FITTED WITH A SUITABLE SPRING AND TESTED BEFORE LEAVING THE FACTORY. SAFETY VALVES CAN BE PRESET ON REQUEST BUT TO ALTER THE SET PRESSURE, THE ADJUSTING SCREW, WHEN VIEWED FROM THE TOP, SHOULD BE SCREWED DOWNWARDS IN A CLOCKWISE DIRECTION TO INCREASE THE SET PRESSURE AND UPWARDS IN AN ANTI-CLOCK WISE DIRECTION TO DECREASE IT. SET PRESSURE ADJUSTMENT MUST BE CARRIED OUT BE EXPERIENCED AND APPROVED PERSONNEL. ANY CHANGE IN SET PRESSURE MUST BE WITHIN THE RANGE OF EXISTING SPRING, IF IT EXCEEDS THE RANGE , A NEW SPRING WILL BE REQUIRED.

5.) BLOW - DOWN ADJUSTMENT :-

BLOW DOWN CAN'T BE ALTER, IT IS FIXED BLOW DOWN DESIGN. BLOW DOWN WILL BE BETWEEN 7 TO 10% OF SET PRESSURE.

6.) SERVICE, MAINTENANCE & CALIBRATION:-

- A SET PRESSURE FUNCTION TEST SHOULD BE CARRIED OUT AT LEAST ONCE A YEAR. THE DETAILED TEST PROCEDURE IS DETERMINED BY THE USER.
- SAFETY VALVE REQUIRES REGULAR MAINTENANCE AND CALIBRATION ONCE A YEAR.

7.) DISMANTLING THE VALVE :-

THE FOLLOWING POINTS MUST BE OBSERVED BEFORE DISMANTLING SAFETY VALVES :-

- THERE WOULD BE NO PRESSURE IN SYSTEM OR VESSEL BEFORE REMOVING SAFETY VALVE.
- MEDIUM OR APPLICATION MUST BE COOL & COMPLETELY DRAIN FROM VESSEL OR PIPELINE.
- ASSEMBLY WORK MUST BE CARRIED BY QUALIFIED PERSONNEL.

8.) REPAIRS :-

REPAIRS ON SAFETY VALVES CAN ONLY BE CARRIED BY AUTHORIZED PERSONNEL OR BY HARSHAD ENGINEERING WORKS.

ISO 9001 CERTIFIED COMPANY

SERIES # 033
WARRANTY POLICY

HARSHAD ENGINEERING WORKS (HEW) HEREBY WARRANTS THAT THE GOODS DELIVERED UNDER CONTRACT WILL BE FREE FROM DEFECT IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF 18MONTHS FROM SHIPMENT OR 12 MONTHS FROM INSTALLATION WHICHEVER IS EARLIER. WITHIN THIS PERIOD, ANY OF OUR PRODUCTS CLAIMED DEFECTIVE MAY BE RETURNED TO OUR FACTORY IN AHMEDABAD,INDIA AFTER WRITTEN NOTIFICATION TO AND AUTHORIZATION BY US, AND IF FOUND TO BE DEFECTIVE AFTER EXAMINATION BY US, THE PRODUCT WILL BE REPAIRED OR REPLACED FREE OF CHARGE. SUCH DEFECTS SHALL BE EXCLUSIVE OF THE EFFECTS OF CORROSION, EROSION, NORMAL WEAR OR IMPROPER HANDLING OR STORAGE. AFTER EXAMINATION IF IT IS MANUFACTURING DEFECT FREIGHT CHARGES INWARD AND OUTWARD WILL BE BORNE BY US.

HEW MAKES NO REPRESENTATION, WARRANTY OR GUARANTEE, EXPRESS OR IMPLIED, WITH REGARD TO OUR PRODUCTS EXCEPT AS SPECIFICALLY STATED. WHEN IN DOUBT AS TO THE PROPER APPLICATION OF AN PARTICULAR PRODUCT, YOU ARE INVITED TO CONTACT HEW OFFICE AT ANY TIME. WE CANNOT OTHERWISE BE RESPONSIBLE FOR THE SELECTION OF UNSUITABLE EQUIPMENT. SUITABILITY OF THE MATERIAL AND PRODUCT FOR THE USE CONTEMPLATED BY THE BUYER SHALL BE THE SOLE RESPONSIBILITY OF THE BUYER.

EXCEPT AS SPECIFICALLY SET FORTH ABOVE AND FOR WARRANTY OF TITLE, HEW MAKES NO WARRANTY, EXPRESS OR IMPLIED, OF ANY KIND INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

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