

# HARSHAD

SAFETY VALVE MANUFACTURER

ISO 9001 CERTIFIED COMPANY

SAFETY VALVE

CE 1128

SERIES # 099

## DESIGN FEATURES

- SAFETY VALVE MANUFACTURED IN ACCORDANCE WITH REQUIREMENT OF ASME SECTION VIII DIVISION 1, API 527, EN ISO 4126 PART 1, IS 12992
- DIRECT SPRING OPERATED, FULL LIFT, FULL NOZZLE, SINGLE TRIM, LOW CAPACITY & ATMOSPHERIC DISCHARGE DESIGN
- FIXED BLOW DOWN & ZERO MAINTENANCE DESIGN.
- SUPERIOR SEAT TIGHTNESS PRECISION LAPPED FLAT METAL TO METAL SEAT
- BEST USE IN SMALL RECIPROCATING & SCREW COMPRESSORS, PRESSURE VESSEL, AIR RECEIVER TANK, BABY BOILERS, GENERATORS, ETC.

### TECHNICAL DATA : -

- SIZES : 1/4", 3/8" & 1/2" (ORIFICE "B" & "D")
- END CONNECTION : THREAD END (BSP, BSPT & NPT)
- SET PRESSURE RANGE : 1BARG TO 21BARG
- TEMPERATURE RANGE : -20°C TO 200°C
- APPLICATION : AIR, GAS, STEAM



REV.00 / 01.04.25

## HARSHAD ENGINEERING WORKS

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

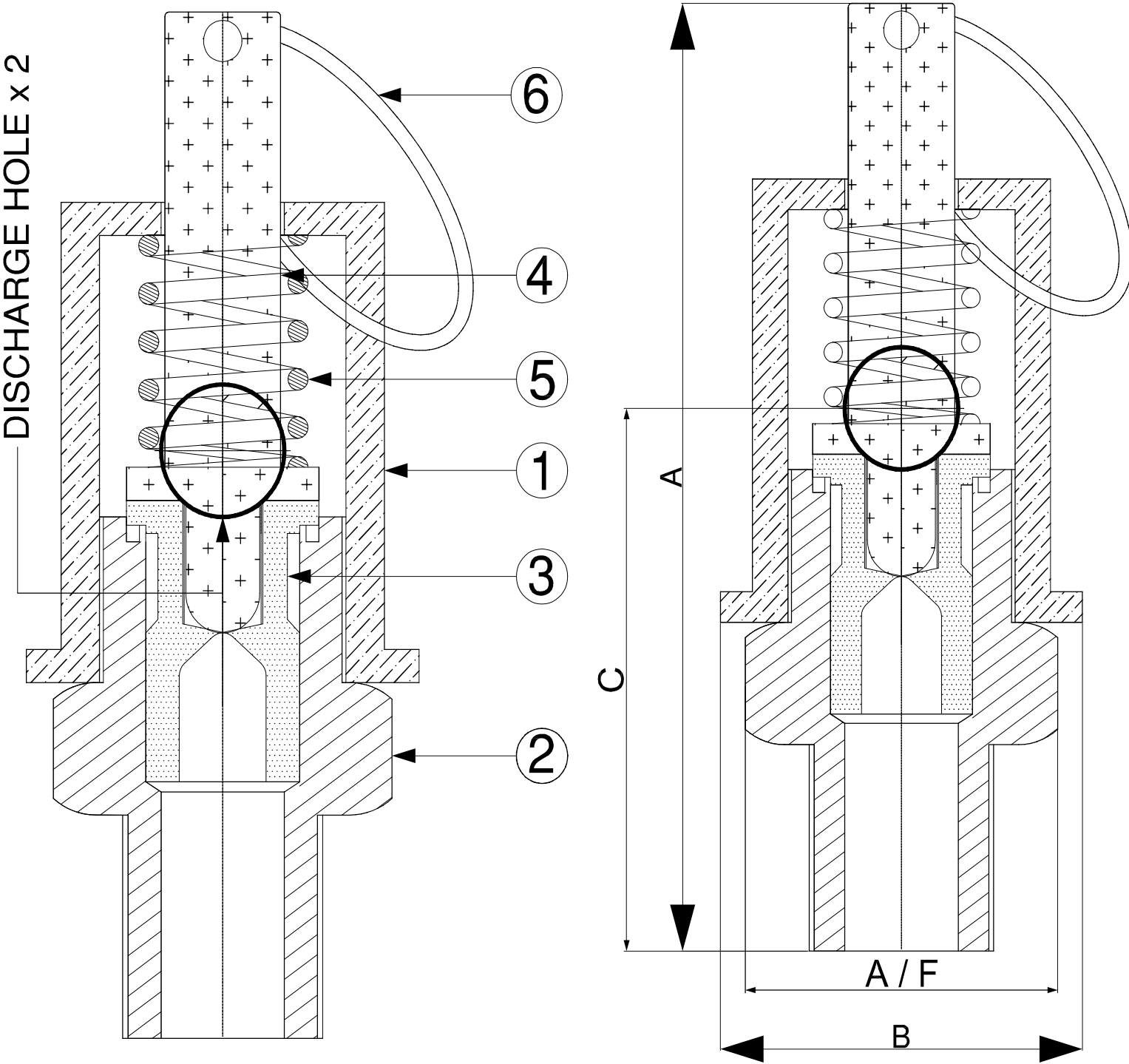
|       |                             |
|-------|-----------------------------|
| PH #  | :+91-9879355077, 9825035792 |
| EMAIL | : hew@hewvalve.com          |
| WEB 1 | : www.hewvalve.com          |
| WEB 2 | : www.hewsafetyvalves.com   |

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G.A.DRAWING



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## MATERIAL OF CONSTRUCTION

| PART LIST |                         | <u>MODEL # 099</u><br>BRASS<br>STANDARD<br>CONSTRUCTION |
|-----------|-------------------------|---------------------------------------------------------|
| SR.NO.    | DESCRIPTION             | TEMPERATURE<br>-20*C TO 200*C                           |
| 01        | BODY                    | BRASS<br>(IS 319 GR.1)                                  |
| 02        | NOZZLE                  | BRASS<br>(IS 319 GR.1)                                  |
| 03        | DISC                    | BRASS<br>(IS 319 GR.1)                                  |
| 04        | SPINDLE                 | BRASS<br>(IS 319 GR.1)                                  |
| 05        | SPRING<br>(ZINC COATED) | SPRING STEEL<br>(IS 4454 PART.1)                        |
| 06        | LIFTING PIN             | S.S.304                                                 |

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## TECHNICAL DETAIL

| SR.NO. | SIZES | ORIFICE<br>(API526 & EN ISO 4126)                     |                                                       | MAX<br>SET<br>PRESSURE<br>(IN BARG) | A<br>(MM)<br>± 3 | B<br>(MM)<br>± 2 | C<br>(MM)<br>± 2 | A / F<br>(MM)<br>± 2 | APPROX<br>WEIGHT<br>(KG) |
|--------|-------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------|------------------|------------------|------------------|----------------------|--------------------------|
|        |       | DESIGNATION<br>& EFFECTIVE<br>AREA (IN <sup>2</sup> ) | ACTUAL<br>AREA IN <sup>2</sup> &<br>INLET BRE<br>(MM) |                                     |                  |                  |                  |                      |                          |
| 1      | 1/4"  | "B"<br>(0.049)                                        | 0.06<br>(7.5MM)                                       | 21                                  | 60               | 26               | 38               | 19                   | 0.10                     |
| 2      | 3/8"  | "D"<br>(0.110)                                        | 0.12<br>(10MM)                                        | 21                                  | 65               | 29               | 36               | 24                   | 0.13                     |
| 3      | 1/2"  | "D"<br>(0.110)                                        | 0.12<br>(10MM)                                        | 21                                  | 70               | 29               | 42               | 24                   | 0.15                     |

NOTE :-

- 1.) SERIES # 099 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.) TECHNICAL DATA SHEET WILL BE PROVIDED ON REQUEST.
- 6.) WE OFFER THIRD PARTY INSPECTION IF REQUIRED.(TUV, LLYODS, BVQI, SGS, ETC.)
- 7.) SAFETY VALVE IS SUPPLIED WITH ONE SET OF TEST CERTIFICATE OF HYDRO TEST, SET PRESSURE TEST & SEAT LEAKAGE TEST.
- 8.) SAFETY VALVE COMES WITH WARRANTY OF 12MONTHS FROM THE DATE OF SUPPLY OR 18 MONTHS FROM THE DATE OF COMMISSIONING WHICH EVER IS EARLIER  
(CONDITION APPLY)

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## SERIES # 099 AIR CAPACITY TABLE

Air Capacities in Standard Cubic Metres Per Minute (SCFM) @ 15°C & 10% Over Pressure

| SET PRESSURE<br>(BARG) | ORIFICE AREA, Sq.In. (in2) & Discharge Capacities in SCFM |      |
|------------------------|-----------------------------------------------------------|------|
|                        | “B”                                                       | “D”  |
|                        | 0.06                                                      | 0.12 |
| 1                      | 32                                                        | 65   |
| 2                      | 45                                                        | 90   |
| 3                      | 60                                                        | 121  |
| 4                      | 76                                                        | 151  |
| 5                      | 91                                                        | 182  |
| 6                      | 106                                                       | 213  |
| 7                      | 121                                                       | 244  |
| 8                      | 131                                                       | 274  |
| 9                      | 153                                                       | 305  |
| 10                     | 168                                                       | 336  |
| 11                     | 183                                                       | 367  |
| 12                     | 199                                                       | 397  |
| 13                     | 214                                                       | 428  |
| 14                     | 229                                                       | 459  |
| 15                     | 245                                                       | 490  |
| 16                     | 260                                                       | 520  |
| 17                     | 276                                                       | 551  |
| 18                     | 291                                                       | 582  |
| 19                     | 306                                                       | 613  |
| 20                     | 322                                                       | 643  |
| 21                     | 337                                                       | 674  |

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)

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## STEAM CAPACITY TABLE

Steam Capacities in LBS/HR @ 10% Over Pressure as per ASME SECTION I & VIII

| SET PRESSURE<br>(BARG) | ORIFICE AREA, Sq.In. (in2) & Discharge Capacities in LBS/HR |      |
|------------------------|-------------------------------------------------------------|------|
|                        | “B”                                                         | “D”  |
|                        | 0.06                                                        | 0.12 |
| 1                      | 90                                                          | 180  |
| 2                      | 125                                                         | 250  |
| 3                      | 168                                                         | 335  |
| 4                      | 210                                                         | 421  |
| 5                      | 253                                                         | 506  |
| 6                      | 296                                                         | 592  |
| 7                      | 339                                                         | 677  |
| 8                      | 381                                                         | 763  |
| 9                      | 424                                                         | 848  |
| 10                     | 467                                                         | 934  |
| 11                     | 510                                                         | 1019 |
| 12                     | 552                                                         | 1105 |
| 13                     | 595                                                         | 1190 |
| 14                     | 638                                                         | 1276 |
| 15                     | 681                                                         | 1361 |
| 16                     | 723                                                         | 1447 |
| 17                     | 766                                                         | 1532 |
| 18                     | 809                                                         | 1618 |
| 19                     | 852                                                         | 1704 |
| 20                     | 895                                                         | 1789 |
| 21                     | 937                                                         | 1875 |

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