

### SA12/25/33 ASME Hard Seat Safety Valve



- Ideal for High Temperature i.e. After coolers & Intercoolers Where a Compact Size is Required
- Pressure Range: 50 to 350 PSI
- Set Pressure Tolerances:  $\pm 3\%$  of Set Pressure
- Maximum Temperature: 350° F
- Construction: All Brass with 17-7 ph Stainless Steel Spring and Stainless Steel Ball Seating on Brass Seat
- Stamped with UV and NB Symbols
- Sealant Standard

| Part No. | NPT  | Height | Hex    | Wt.     |
|----------|------|--------|--------|---------|
| SA12     | 1/8" | 2.11"  | 11/16" | 2.5 oz. |
| SA25     | 1/4" | 2.11"  | 11/16" | 2.5 oz. |
| SA33     | 3/8" | 2.11"  | 11/16" | 2.5 oz. |

### SN50 ASME Hard Seat Safety Valve



- Ideal for High Temperature Applications Where Large Flow is Required
- Pressure Range: 50-350 PSI
- Set Pressure Tolerances:  $\pm 3\%$  of Set Pressure
- Maximum Temperature: 350° F
- Construction: All Brass with Stainless Steel Spring, Ball, Sealing on Brass Seat
- Stamped with UV and NB Symbols
- Sealant Standard

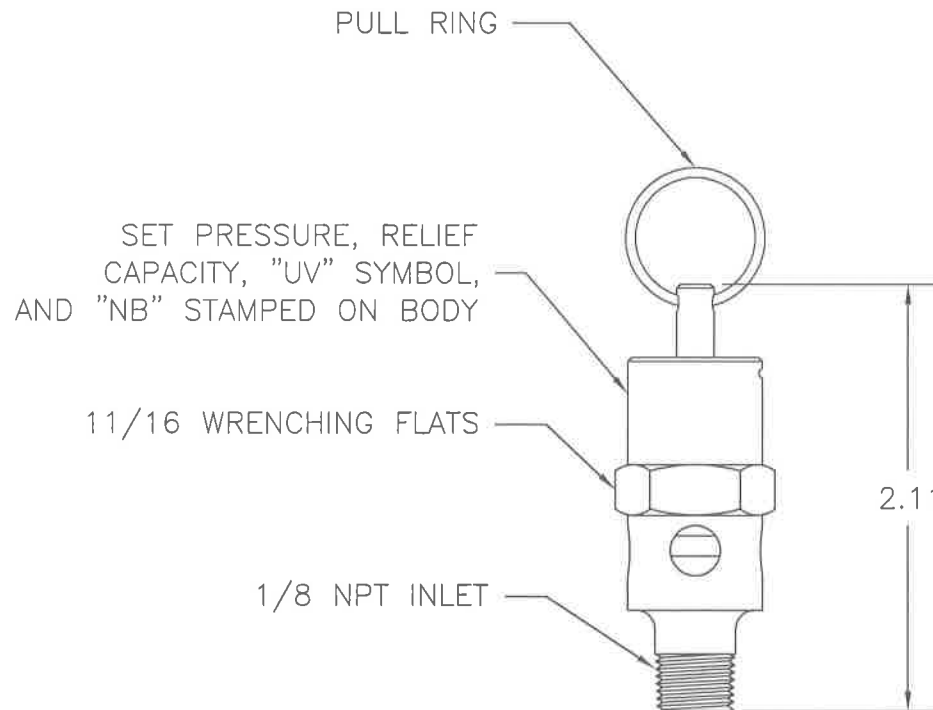
| Part No. | NPT  | Height | Hex  | Wt.     |
|----------|------|--------|------|---------|
| SN50     | 1/2" | 3.48"  | 7/8" | 6.4 oz. |

**Control Devices Hard Seat Safety Valve Capacity Chart**

| PSIG | SA12/25/33 | SN50 | PSIG | SA12/25/33 | SN50 |
|------|------------|------|------|------------|------|
| 25   | —          | —    | 205  | 172        | 420  |
| 30   | —          | —    | 210  | 176        | 430  |
| 35   | —          | —    | 215  | 180        | 440  |
| 40   | —          | —    | 220  | 184        | 449  |
| 45   | —          | —    | 225  | 188        | 459  |
| 50   | 50         | 122  | 230  | 192        | 468  |
| 55   | 54         | 132  | 235  | 196        | 478  |
| 60   | 58         | 141  | 240  | 200        | 488  |
| 65   | 62         | 151  | 245  | 203        | 497  |
| 70   | 66         | 160  | 250  | 207        | 507  |
| 75   | 70         | 170  | 255  | 211        | 517  |
| 80   | 74         | 180  | 260  | 215        | 526  |
| 85   | 77         | 189  | 265  | 219        | 536  |
| 90   | 81         | 199  | 270  | 223        | 545  |
| 95   | 85         | 209  | 275  | 227        | 555  |
| 100  | 89         | 218  | 280  | 231        | 565  |
| 105  | 93         | 228  | 285  | 235        | 574  |
| 110  | 97         | 237  | 290  | 239        | 584  |
| 115  | 101        | 247  | 295  | 243        | 594  |
| 120  | 105        | 257  | 300  | 247        | 603  |
| 125  | 109        | 266  | 305  | 251        | 613  |
| 130  | 113        | 276  | 310  | 255        | 622  |
| 135  | 117        | 286  | 315  | 259        | 632  |
| 140  | 121        | 295  | 320  | 263        | 642  |
| 145  | 125        | 305  | 325  | 267        | 651  |
| 150  | 129        | 314  | 330  | 270        | 661  |
| 155  | 133        | 324  | 335  | 274        | 671  |
| 160  | 137        | 334  | 340  | 278        | 680  |
| 165  | 140        | 343  | 345  | 282        | 690  |
| 170  | 144        | 353  | 350  | 286        | 699  |
| 175  | 148        | 363  | —    | —          | —    |
| 180  | 152        | 372  | —    | —          | —    |
| 185  | 156        | 382  | —    | —          | —    |
| 190  | 160        | 391  | —    | —          | —    |
| 195  | 164        | 401  | —    | —          | —    |
| 200  | 168        | 411  | —    | —          | —    |

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| DATE | SYM | REVISION RECORD | ECN NO. | CK. |
|------|-----|-----------------|---------|-----|
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|      |     |                 |         |     |
|      |     |                 |         |     |
|      |     |                 |         |     |
|      |     |                 |         |     |



#### NOTES

1. SET PRESSURE RANGE IS 50 TO 350 PSIG.
2. RELIEF CAPACITY IS GIVEN BY THE EQUATION  

$$Q = .716(1.1P + 14.7)$$
 WHERE  
 Q = RELIEF CAPACITY IN SCFM, AND  
 P = SET PRESSURE IN PSIG
3. MATERIALS OF CONSTRUCTION  
 BODY, ROD/CUP, SCREW - BRASS  
 SPRING - STAINLESS STEEL  
 BALL - STAINLESS STEEL  
 PULL RING - STAINLESS STEEL
4. MAX TEMPERATURE 400° F
5. MAX INSTALLATION TORQUE = 10 FT LBS

ALL DIMENSIONS ARE IN INCHES.

|                                 |             |                                                                                                                                                                     |                        |               |                 |
|---------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------|-----------------|
| TOLERANCES<br>(EXCEPT AS NOTED) |             |  control devices inc.<br>711 HANLEY INDUSTRIAL COURT ST. LOUIS, MISSOURI 63144 |                        |               |                 |
| DECIMAL<br>+                    |             | MATERIAL                                                                                                                                                            | SCALE<br><br>FULL      | SIZE<br><br>A | DRAWN BY<br>RMH |
| FRACTIONAL<br>+                 | APPROVED BY |                                                                                                                                                                     |                        |               |                 |
| ANGULAR<br>+                    |             | TITLE<br>VALVE, ASME SAFETY, 1/8 NPT                                                                                                                                |                        |               |                 |
| DATE<br>5/7/96                  |             | CAD FILE                                                                                                                                                            | DRAWING NUMBER<br>SA12 |               |                 |
| Q:\ENGR\PARTDWGS\SA12.DWG       |             |                                                                                                                                                                     |                        |               |                 |

## Operation Guidelines for Safety Valves

### Safety Relief Valve Pointers

- ASME Codes require that valves for air, steam and water service over 140 °F (60 °C) have test levers or pull rings.
- The safety valve is designed to protect equipment from overpressure. The valve should be handled with care, not subjected to heavy shock loads and protected from contamination. It should be installed as instructed below and correctly as to ASME Boiler and Pressure Code requirements. **FAILURE TO THIS CAN RESULT IN DAMAGE TO PROPERTY OR SERIOUS BODILY INJURY**
- Safety relief valves should be installed vertically with the drain holes open. Horizontal mounting could affect the alignment of the moving parts and hinder the operation of the valve. The valve should be installed in a location that will not direct the discharge air at nearby personnel. Mount the valve in a location that will subject it to the least amount of vibration. Vibration can cause the valve disc or piston to move against the seat which could possibly damage the valve and cause it to leak.
- When installing the valve care should be taken not to damage or distort the valve. Use only the wrench flats closest to the bottom of the valve during installation and use the proper size wrench to avoid damage to the surface of the valve and to prevent distortion which can interfere with the valve operation or may change the set pressure. Do not over tighten.
- ASME certified valves are factory sealed and are required to be used with ASME certified pressure vessels or systems. ASME certified valves can also be used in non certified or non-code systems.

### Maintenance

- Develop a regular program of visual inspection, looking for clogged drains and discharge, dirt build-up in and around the valve seat and broken or missing parts or seals.
- Test the valve every six to twelve months (depending on the plant's age and condition) by operating the pull ring.
- Do not paint, oil or otherwise cover any exterior, interior or working parts of any safety valve. They do not require any lubrication or protective coating to work properly.
- When safety/relief valves require repair, service adjustments, or set pressure changes, work must be accomplished by the manufacturer or holders of "UV" Stamp.