



## KUNKLE MODEL 537 SAFETY RELIEF VALVE

SAFETY AND RELIEF PRODUCTS

A safety relief valve that meet ASME section IV, 'HV', for low pressure hot water boilers and is National Board certified



### FEATURES

- Extra heavy construction helps provide long life.
- Top guided disc assembly incorporates resilient seal in seating area.
- Isolating diaphragm protects working parts from corrosion caused by discharged liquid.
- Pivot between disc and spring designed to correct misalignment and compensates for spring side thrust.
- Heavy duty lift lever.
- Tested and inspected for pressure setting and leakage.

### GENERAL APPLICATION

These valves serve the dual purpose of relieving overpressure created by thermal expansion under normal firing conditions and overpressure in the form of water or steam created in over-firing due to failure of electrical or other controls on hot water boilers, heat exchangers and generators.

### TECHNICAL DATA

Connections: FNPT  
Temperature range: -20° to 250°F (-29° to 121°C)  
Pressure range: 15 to 160 psig (1.0 to 11 barg)  
Code: ASME IV



# KUNKLE MODEL 537 SAFETY RELIEF VALVE

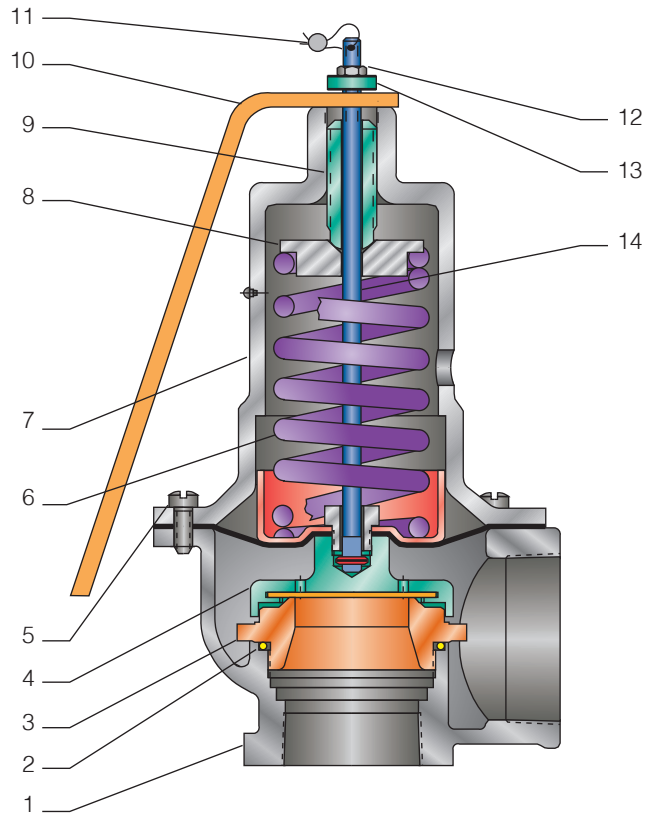
## SAFETY AND RELIEF PRODUCTS

### MODEL 537

| No. | Part name         | Materials                               |
|-----|-------------------|---|
| 1   | Body              | <sup>[1]</sup>                          |
| 2   | Seat O-ring       | NBR <sup>[2]</sup>                      |
| 3   | Seat              | Bronze, B584 alloy 84400 <sup>[2]</sup> |
| 4   | Disc holder       | Brass, B16 <sup>[3]</sup>               |
|     | Insert            | Ethylene propylene (EPDM)               |
|     | Diaphragm         | NBR/nylon                               |
|     | Guide             | Brass, B36 alloy C26000 <sup>[4]</sup>  |
|     | Lock nut          | Brass, B16                              |
| 5   | Screw             | SS                                      |
| 6   | Spring            | SS, A313-631                            |
| 7   | Bonnet            | <sup>[1]</sup>                          |
| 8   | Spring step       | Brass, B16                              |
| 9   | Compression screw | Brass, B16                              |
| 10  | Lever             | Steel, zinc plated                      |
| 11  | Seal and wire     | Lead seal and SS wire                   |
| 12  | Lift washer nut   | SS                                      |
| 13  | Lift washer       | SS                                      |
| 14  | Stem              | SS, A479-316                            |
|     | Spring pin        | SS                                      |
|     | Disc locknut      | Brass                                   |

### NOTES

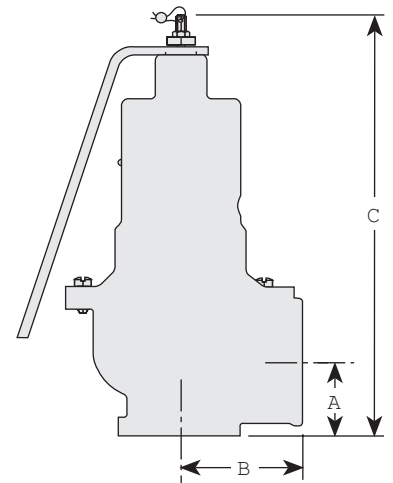
- 3/4" and 1": bronze, B584 alloy 84400.  
1 1/2" and 2": cast iron, A126 class A/B.
- 3/4" and 1" sizes have an integral seat. 1 1/2" and 2" sizes have an insert seat above a NBR O-ring body seat.
- 1 1/2" size: brass, B283 alloy 37700.  
2" size: bronze, B584 alloy 84400.
- 3/4" size: brass, B16.



### SPECIFICATIONS

| Size   | Inlet  | Outlet | Dimensions, in |        |        | Weight (lb) |
|--------|--------|--------|----------------|--------|--------|-------------|
|        |        |        | A              | B      | C      |             |
| 3/4"   | 1"     | 1"     | 1 5/16         | 1 7/8  | 6 1/8  | 2           |
| 1"     | 1 1/4" | 1 1/4" | 1 5/16         | 2 3/8  | 7 1/8  | 5           |
| 1 1/2" | 2"     | 2"     | 1 3/4          | 2 5/16 | 10 1/8 | 12          |
| 2"     | 2 1/2" | 2 1/2" | 2 1/8          | 3 9/16 | 11 3/4 | 22          |

Dimensions are for reference only.



# KUNKLE MODEL 537 SAFETY RELIEF VALVE

## SAFETY AND RELIEF PRODUCTS

### Capacities

#### ASME SECTION IV STEAM (Hot water boiler)

| Set pressure<br>(psig) | Orifice area, in <sup>2</sup> |         |                          |         |                          |          |                          |          |
|------------------------|-------------------------------|---------|--------------------------|---------|--------------------------|----------|--------------------------|----------|
|                        | ¾"                            |         | 1"                       |         | 1½"                      |          | 2"                       |          |
|                        | (0.533 in <sup>2</sup> )      |         | (0.833 in <sup>2</sup> ) |         | (1.767 in <sup>2</sup> ) |          | (3.142 in <sup>2</sup> ) |          |
|                        | lb/h                          | BTU/h   | lb/h                     | BTU/h   | lb/h                     | BTU/h    | lb/h                     | BTU/h    |
| 15                     | 690                           | 690278  | 1079                     | 1078802 | 2288                     | 2288408  | 4069                     | 4069144  |
| 20                     | 812                           | 811962  | 1269                     | 1268976 | 2692                     | 2691813  | 4786                     | 4786461  |
| 30                     | 1055                          | 1055329 | 1649                     | 1649323 | 3499                     | 3498623  | 6221                     | 6221095  |
| 40                     | 1299                          | 1298696 | 2030                     | 2029670 | 4305                     | 4305434  | 7656                     | 7655729  |
| 50                     | 1542                          | 1542064 | 2410                     | 2410017 | 5112                     | 5112244  | 9090                     | 9090363  |
| 60                     | 1785                          | 1785431 | 2790                     | 2790364 | 5919                     | 5919055  | 10525                    | 10524997 |
| 70                     | 2029                          | 2028798 | 3171                     | 3170711 | 6726                     | 6725865  | 11960                    | 11959631 |
| 80                     | 2272                          | 2272165 | 3551                     | 3551058 | 7533                     | 7532676  | 13394                    | 13394265 |
| 90                     | 2516                          | 2515533 | 3931                     | 3931405 | 8339                     | 8339486  | 14829                    | 14828899 |
| 100                    | 2759                          | 2758900 | 4312                     | 4311752 | 9146                     | 9146296  | 16264                    | 16263533 |
| 110                    | 3002                          | 3002267 | 4692                     | 4692098 | 9953                     | 9953107  | 17698                    | 17698167 |
| 120                    | 3246                          | 3245634 | 5072                     | 5072445 | 10760                    | 10759917 | 19133                    | 19132801 |
| 125                    | 3367                          | 3367318 | 5263                     | 5262619 | 11163                    | 11163323 | 19850                    | 19850119 |
| 130                    | 3489                          | 3489002 | 5453                     | 5452792 | 11567                    | 11566728 | 20567                    | 20567436 |
| 140                    | 3732                          | 3732369 | 5833                     | 5833139 | 12374                    | 12373538 | 22002                    | 22002070 |
| 150                    | 3976                          | 3975736 | 6213                     | 6213486 | 13180                    | 13180349 | 23437                    | 23436704 |
| 160                    | 4219                          | 4219103 | 6594                     | 6593833 | 13987                    | 13987159 | 24871                    | 24871338 |

# KUNKLE MODEL 537 SAFETY RELIEF VALVE

## SAFETY AND RELIEF PRODUCTS

---

### SELECTION GUIDE

|  |   |          |          |           |          |          |          |             |
|--|---|----------|----------|-----------|----------|----------|----------|-------------|
| <b>Example:</b>                        | <b>0537</b>                                   | <b>-</b> | <b>D</b> | <b>01</b> | <b>-</b> | <b>H</b> | <b>M</b> | <b>0160</b> |
| <b>Model</b>                           | <b>0537</b>                                   |          |          |           |          |          |          |             |
| <b>Connection size</b>                 |   |          |          |           |          |          |          |             |
| <b>D</b>                               | ¾" inlet x 1" outlet                          |          |          |           |          |          |          |             |
| <b>E</b>                               | 1" inlet x 1¼" outlet                         |          |          |           |          |          |          |             |
| <b>G</b>                               | 1½" inlet x 2" outlet                         |          |          |           |          |          |          |             |
| <b>H</b>                               | 2" inlet x 2½" outlet                         |          |          |           |          |          |          |             |
| <b>Variation</b>                       |   |          |          |           |          |          |          |             |
| <b>01</b>                              | Catalog standard                              |          |          |           |          |          |          |             |
| <b>Design revision</b>                 |   |          |          |           |          |          |          |             |
| Indicates non-interchangeable revision |   |          |          |           |          |          |          |             |
| <b>-</b>                               | Original design (connection sizes E, G and H) |          |          |           |          |          |          |             |
| <b>A</b>                               | Revision A (connection size D)                |          |          |           |          |          |          |             |
| <b>Service</b>                         |   |          |          |           |          |          |          |             |
| <b>H</b>                               | Steam ASME section IV - hot water             |          |          |           |          |          |          |             |
| <b>Spring material</b>                 |   |          |          |           |          |          |          |             |
| <b>M</b>                               | SST   |          |          |           |          |          |          |             |
| <b>Set pressure</b>                    |   |          |          |           |          |          |          |             |
| <b>0015</b>                            | 15 psig                                       |          |          |           |          |          |          |             |
| <b>0160</b>                            | 160 psig                                      |          |          |           |          |          |          |             |