

LVS SUP-R-SEAL  
MODEL ES  
GATE VALVES

LOUISIANA VALVE SOURCE INC.



PROUDLY MADE AND ASSEMBLED IN USA

ENGINEERING BULLETIN | 2014



## LVS SUP-R-SEAL MODEL “ES” GATE VALVE

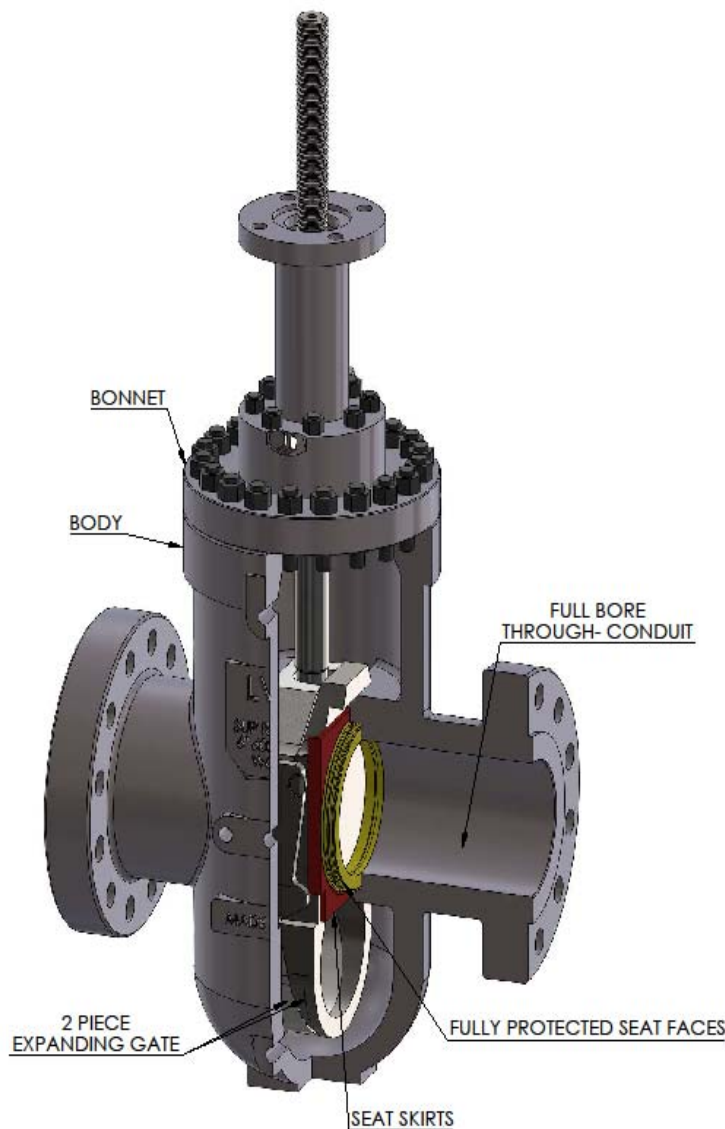
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## LVS SUP-R-SEAL MODEL "ES" GATE VALVE

### Design Advantages:



- **PROTECTION OF SEAT FACES.** Seat faces are protected from contact with line flow by remaining in contact with the gate in both the open and closed positions. This allows for extended life for the seats.
- **BLOCK AND BLEED CAPABILITY.** When the LVS SUP-R-SEAL is in the fully closed position, it forms a tight seal on both seats which allows for the body of the valve to be bled.



## LVS SUP-R-SEAL MODEL “ES” GATE VALVE

### Operating Principles

The LVS SUP-R-SEAL gate valve is a through conduit expanding gate valve. The expanding gate of this valve provides a tight seal that holds up to most pressures with a variety of flow mediums. The seats are equipped with plastic sealing surfaces to provide the best seal for multiple mediums, pressures, and temperatures.

The continuous bore design allows for pigs to pass through without interference. It also provides a pressure drop that is consistent to pipe of the same length.

The body is casted here in USA.

The two piece gate-segment design allows for easy movement in transition from the fully closed and open positions all while providing a tight seal in those “finishing” positions. Stops are used to serve as contact points for the gate-segment assemblies causing the assemblies to wedge, thus providing a good seal.

The LVS SUP-R-SEAL does not depend on lubricants to provide a seal in most operations although it is recommended that the seat areas be lubricated to provide for smooth operation. Also, lubricants can be added in emergency situations to aid in the sealing off of this valve if the seal areas happen to become damaged.

The stem is sealed by a compressed packing set that includes a lantern ring to allow for injectable packing. The injectable packing is used to energize the packing and does not serve as a primary seal. It is recommended that the stem area be injected with packing every 35-40 cycles of the valve or every three months to ensure that the packing is energized properly to provide the best seal.

All valve bonnets are sealed with O-rings.

All LVS SUP-R-SEAL gate valves are repairable in line due to its top entry design.

LVS SUP-R-SEAL gate valves are offered with gear operators, electric actuators, hand wheel operators, or bare stem (no gearing). The stroke of the valve is pre-determined in manufacturing and will not get out of adjustment in most situations.

Other configurations, such as yoke tube or stem extensions are available upon special request by the customer. Also, a variety of coatings outside of the standard coating are available. This includes, but is not limited to, three coat paint, tar coating, and epoxy coating.



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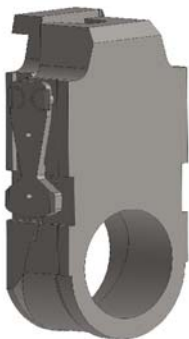
### Features:

#### In-Line Repair

LVS Sup-R-Seal valves can be repaired while still in line. The gate, seat, and all other internal parts can be removed and replaced without having to remove the valve from line. This allows for shorter shutdown time.

#### Gate Centralizer

LVS Sup-R-Seal valves 6 in. and larger contain a lever lock arm which keeps the gate and segment together when in the neutral position and while the gate assembly is traveling all while allowing expansion at the moment of seating in the open and closed positions.



#### Gate and Segment Stems

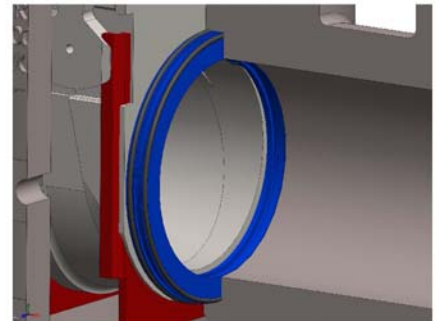
The gates of the LVS Sup-R-Seal are Nickel Plated. The gate, segment, and sealing surfaces can have a HF-6 overlay upon request. LVS Sup-R-Seal stems are 17-4 stainless steel.



by keeping clear of the flow when in the open or closed position.

#### Dual-Sealing Replaceable Seats

The seats of the LVS Sup-R-Seal can be removed and replaced while the valve is in line. Each seat is sealed with PTFE unless otherwise specified. In the case that the PTFE seal fails, the face of the seat serves as a metal seal. Alternative seat seal are available on request.



#### Through Conduit Design: Smooth Bore, Protected Seat Faces, Minimum Pressure Drop

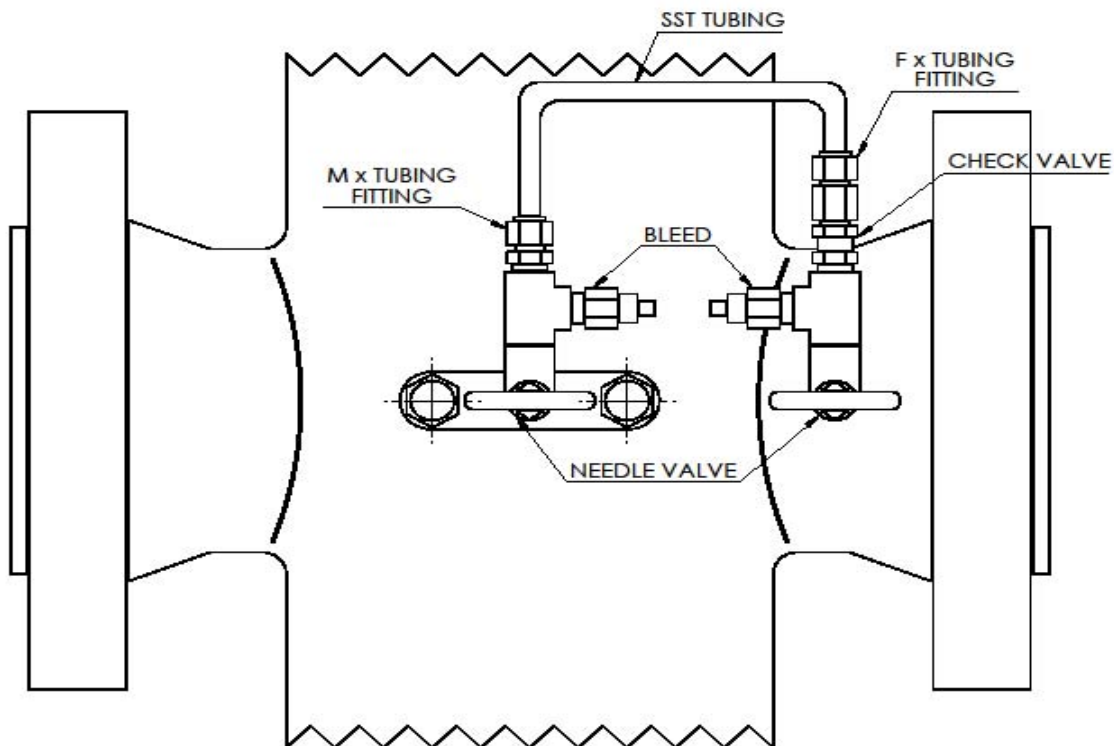
The full bore design of the LVS Sup-R-Seal makes it possible to run pigs and scrapers through the valves without the danger of damaging of the valve or its parts. This design also minimizes turbulence and pressure drop. This also allows the seat faces to be protected



## LVS SUP-R-SEAL MODEL "ES" GATE VALVE

### Thermal Relief System:

Due to the split design of the gate, pressure can develop in the body of the valves. A thermal relief system can provide the relief of this excess pressure build up by allowing it to be released back into the upstream portion of the valve. When the body pressure is greater than the pressure in the upstream conduit of the valve, a check valve unseats allowing the excess pressure to be relieved. The needle valves should remain open while the valve is in service. The needle valves can be used in order to isolate pressures as needed for inline repair. A diagram of this system is shown below. It should be noted that a thermal relief system may add to the cost of an item. Consult LVS's sales team for further details regarding the function and extra cost of this system. Customer specified DTR systems can also be utilized.





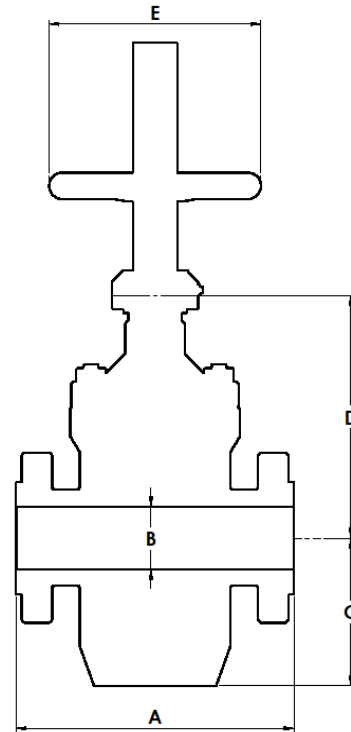
**LVS SUP-R-SEAL MODEL "ES" GATE VALVE**

3 in. and 4 in.

Hand wheel Operated

| MAX STANDARD WP @ 100 ° |               |
|-------------------------|---------------|
| <b>CLASS 600</b>        | 1480 psi WP   |
|                         | 2250 psi TEST |
| <b>CLASS 900</b>        | 2225 psi WP   |
|                         | 3350 psi TEST |

\*300# class available upon request\*



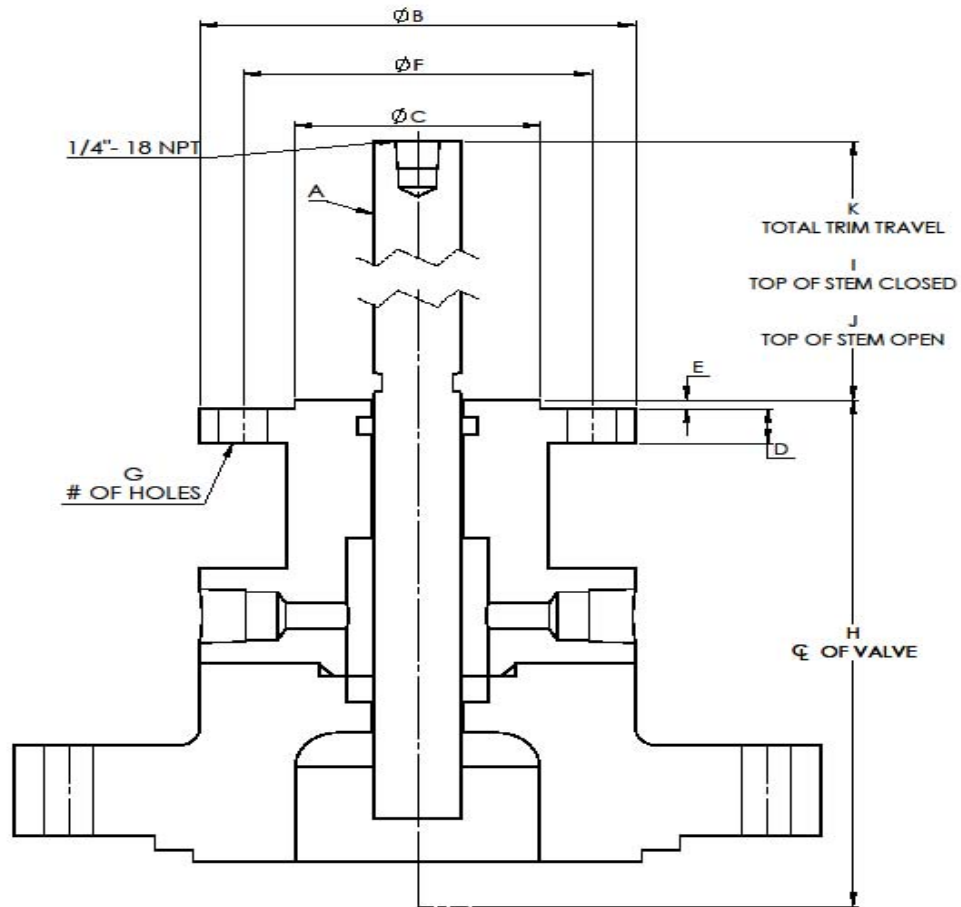
'T' = # of turns

| LVS SUP-R-SEAL 600 CLASS |         |         |        |         |         |         |      |        |
|--------------------------|---------|---------|--------|---------|---------|---------|------|--------|
| SIZE                     |         |         |        |         |         |         |      |        |
| (in.)                    | A (RF)  | A (RTJ) | B      | C       | D       | E       | T    | WEIGHT |
| 3                        | 14.000" | 14.125" | 3.188" | 7.000"  | 12.813" | 12.000" | 20   | 230    |
| 4                        | 17.000" | 17.125" | 4.063" | 10.000" | 15.625" | 16.000" | 19.5 | 382    |
| LVS SUP-R-SEAL 900 CLASS |         |         |        |         |         |         |      |        |
| 3                        | 15.000" | 15.125" | 3.188" | 7.000"  | 12.813" | 12.000" | 20   | 243    |
| 4                        | 18.000" | 18.125" | 4.063" | 10.000" | 15.625" | 16.000" | 19.5 | 398    |



**LVS SUP-R-SEAL MODEL "ES" GATE VALVE**

**LVS SUP-R-SEAL TOP WORKS (3"- 4")**



| SIZE (in.) | CLASS     | A-STEM                         | B     | C     | D     | E     | F     | G     | H      | I      | J      | K     |
|------------|-----------|--------------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|-------|
| 3"         | 3-9 CLASS | 1"- 5 NA 2G LH SINGLE LEAD     | 5.000 | 2.810 | 0.875 | 0.125 | 4.000 | 4.000 | 12.813 | 8.500  | 12.000 | 3.500 |
| 4"         | 3-9 CLASS | 1-1/4"- 4 NA 2G LH SINGLE LEAD | 5.250 | 3.305 | 0.875 | 0.125 | 4.250 | 4.000 | 15.625 | 10.250 | 14.750 | 4.500 |





**LVS SUP-R-SEAL MODEL "ES" GATE VALVE**

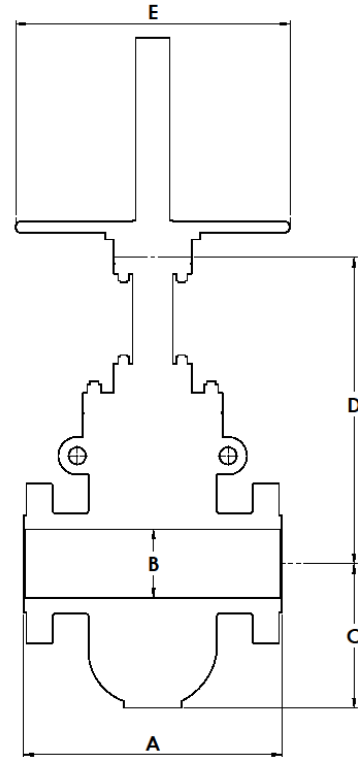
Hand Wheel Operated/ Bare Stem

6 in. – 12 in.

\*\*6", 8", 10", and 12" valves come standard with bevel gears\*\*

| MAX STANDARD WP @ 100 ° |               |
|-------------------------|---------------|
| <b>CLASS 600</b>        | 1480 psi WP   |
|                         | 2225 psi TEST |
| <b>CLASS 900</b>        | 2220 psi WP   |
|                         | 3350 psi TEST |

\*300# class available upon request\*

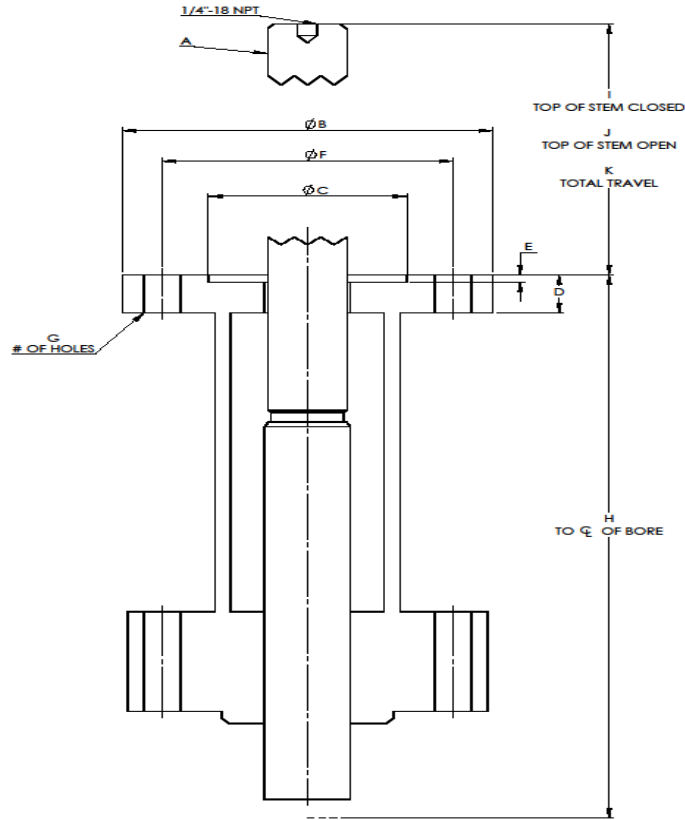


| LVS SUP-R-SEAL 600 CLASS |         |         |         |         |         |         |     |        |
|--------------------------|---------|---------|---------|---------|---------|---------|-----|--------|
| SIZE                     |         |         |         |         |         |         |     |        |
| (in.)                    | A (RF)  | A (RTJ) | B       | C       | D       | E       | T   | WEIGHT |
| 6                        | 22.000" | 22.125" | 6.063"  | 12.750" | 28.000" | 18.000" | 28  | 712    |
| 8                        | 26.000" | 26.125" | 8.063"  | 15.440" | 33.183" | ---     | --- | 1104   |
| 10                       | 31.000" | 31.125" | 10.000" | 19.750" | 39.687" | ---     | --- |        |
| 12                       | 33.000" | 33.125" | 12.000" | 23.000" | 45.130" | ---     | --- |        |
| LVS SUP-R-SEAL 900 CLASS |         |         |         |         |         |         |     |        |
| 6                        | 24.000" | 24.125" | 6.063"  | 12.750" | 28.000" | ---     | --- | 751    |
| 8                        | 29.000" | 29.125" | 8.063"  | 15.440" | 33.183" | ---     | --- | 1174   |



**LVS SUP-R-SEAL MODEL "ES" GATE VALVE**

**LVS SUP-R-SEAL TOP WORKS (6" - 20")**



| SIZE (in.) | CLASS     | A-STEM                              | B      | C     | D     | E     | F      | G | H      | I      |
|------------|-----------|-------------------------------------|--------|-------|-------|-------|--------|---|--------|--------|
| 6"         | 3-9 CLASS | 1-1/2"- 4 NA 2G LH SINGLE LEAD      | 7.000  | 3.770 | 1.000 | 0.250 | 5.500  | 4 | 28.000 | 8.313  |
| 8"         | 3-9 CLASS | 1-3/4"- 4 NA 2G LH SINGLE LEAD      | 7.000  | 3.770 | 1.000 | 0.250 | 5.500  | 4 | 33.183 | 8.438  |
| 10"        | 3-6 CLASS | 2-1/4"- 3 NA 2G LH SINGLE LEAD      | 9.000  | 5.020 | 1.250 | 0.125 | 6.500  | 8 | 39.687 | 9.375  |
| 12"        | 3-6 CLASS | 2-1/4"- 3 NA 2G LH SINGLE LEAD      | 9.000  | 5.020 | 1.250 | 0.125 | 6.500  | 8 | 45.130 | 11.500 |
| 16"        | 6 CLASS   | 2-1/2"- 2-1/2 NA 2G LH DOUBLE LEAD  | 11.500 | 6.020 | 2.000 | 0.250 | 10.000 | 8 | 56.500 | 10.188 |
| 20"        | 6 CLASS   | 2-3/4"- 2-1/2" NA 2G LH DOUBLE LEAD | 13.625 | 7.020 | 2.750 | 0.250 | 11.750 | 8 | 70.313 | 11.500 |



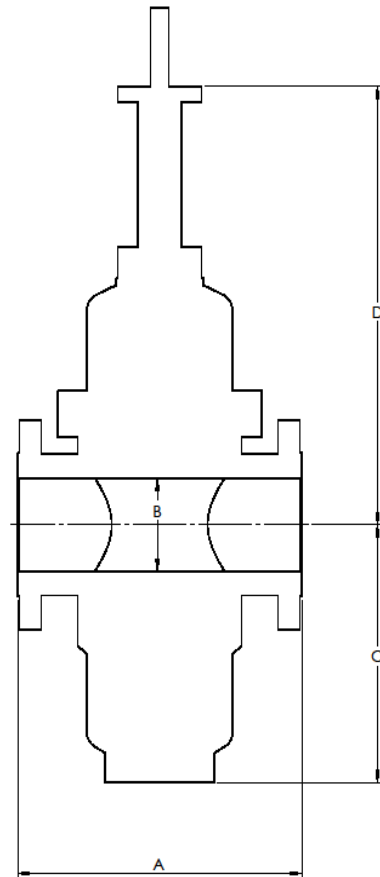
**LVS SUP-R-SEAL MODEL "ES" GATE VALVE**

Bare Stem

16 in. – 20 in.

\*\*16" and 20" valves come standard with a bare stem\*\*

| <b>MAX STANDARD WP @ 100 °</b> |               |
|--------------------------------|---------------|
| <b>CLASS 600</b>               | 1480 psi WP   |
|                                | 2225 psi TEST |
| <b>CLASS 900</b>               | 2220 psi WP   |
|                                | 3350 psi TEST |



| <b>LVS SUP-R-SEAL 600 CLASS</b> |         |         |         |         |         |
|---------------------------------|---------|---------|---------|---------|---------|
| <b>SIZE</b>                     |         |         |         |         |         |
| (in.)                           | A (RF)  | A (RTJ) | B       | C       | D       |
| 16                              | 39.000" | ---     | 15.250" | 31.250" | 56.500" |
| 20                              | 47.000" | ---     | 19.250" | 38.250' | 70.313  |



**LVS SUP-R-SEAL MODEL “ES” GATE VALVE**

Flow Coefficients ( $C_v$ ) :

| VALVE SIZE (in.) | 600   | 900  |
|------------------|-------|------|
| 3                | 1109  | 1072 |
| 4                | 1944  | 1890 |
| 6                | 4577  | 4383 |
| 8                | 8886  | 8416 |
| 10               | 14533 | ---  |
| 12               | 21157 | ---  |
| 16               | 35433 | ---  |
| 20               | 57782 | ---  |

Flow Coefficients ( $K_v$ ) :

| VALVE SIZE (in.) | 600   | 900  |
|------------------|-------|------|
| 3                | 956   | 924  |
| 4                | 1676  | 1629 |
| 6                | 3945  | 3778 |
| 8                | 7660  | 7255 |
| 10               | 12527 | ---  |
| 12               | 18237 | ---  |
| 16               | 30543 | ---  |
| 20               | 49808 | ---  |



**Model Numbering System**

SRS

- 3 (Valve Size, NPS)
- 4
- 6
- 8
- 10
- 12
- 16
- 20

- 15 ANSI CL150
- 30 ANSI CL300
- 60 ANSI CL600
- 90 ANSI CL900

- RF (End Connection)
- RTJ
- WE
- FXW

- 1 BUNA
- 2 VITON
- 3 HNBR/ HSN
- 4 PEROXIDE CURED

- 1 CS/ ENP
- 2 CS/ H F
- 3 CUSTOM

- WC WCC
- LC LCC
- CF CF8M

- G GEAR OP
- H HANDWHEEL OP
- B BARE STEM
- M MOV ADAPT

- 1 C/S
- 2 SST
- 3 CUSTOM

- ES (Model)
- SS

(XXXX) (Special Spec)

**EXAMPLE VALVE ID: SRS860RF21WCG2ES**

SRS    8        60        RF        2        1        WC        G        2        ES

**Louisiana Valve Source, Inc.**

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