

# Chicago Valves & Controls

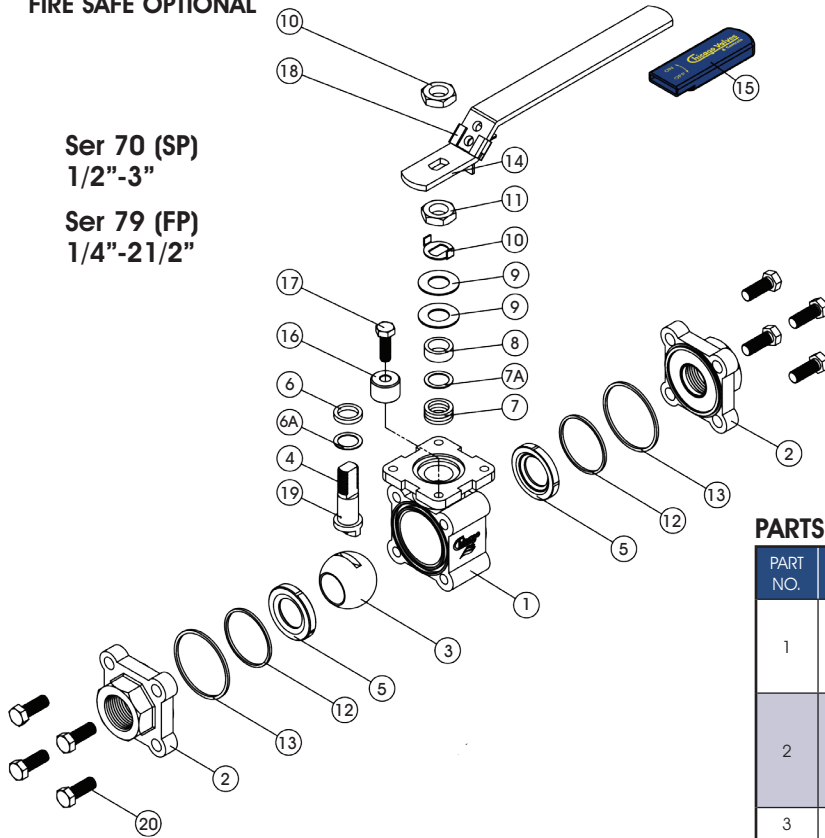


**SERIES 70/79**  
**FS 70/79**

**HIGH PERFORMANCE STANDARD/FULL PORT  
3 PIECE BALL VALVE**

Class 800 1/2"-2" SP  
 Class 800 1/4"-2" FP  
 Class 600 2 1/2"-4" SP  
 Class 600 2 1/2"-4" FP  
 HIGH CYCLE STEM PACKING  
 HEAVY DUTY STEM DESIGN  
 FULLY ENCAPSULATED DUEL BODY SEAL  
 FACILITATE WELDING WITHOUT DISASSEMBLY  
 INTEGRAL MOUNTING PAD  
 LOCKABLE HANDLE  
 CHOICE OF SEATS AND SEALS  
 API 608  
 FIRE SAFE OPTIONAL

## Series 70/79



Ser 70 (SP)  
 1/2"-3"

Ser 79 (FP)  
 1/4"-2 1/2"

### PARTS & MATERIAL

| PART NO. | PART NAME          | QTY. | MATERIAL                                                                                                                                                                 |          |          |
|----------|--------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|
| 1        | Body               | 1    | Carbon Steel ASTM A216 WCB<br>316 Stainless Steel ASTM A351 CF8M<br>Alloy 20 ASTM A351 CN7M<br>SMO 254® ASTM A351 CK3MCuN                                                |          |          |
| 2        | End Piece          | 2    | Carbon Steel ASTM A216 WCB<br>316 Stainless Steel ASTM A351 CF8M<br>316L Stainless Steel ASTM A351 CF3M (SW,BW)<br>Alloy 20 ASTM A351 CN7M<br>SMO 254® ASTM A351 CK3MCuN |          |          |
| 3        | Ball               | 1    | 316 Stainless Steel                                                                                                                                                      | Alloy 20 | SMO 254® |
| 4        | Stem               | 1    | 316 Stainless Steel                                                                                                                                                      | Alloy 20 | SMO 254® |
| 5        | Seat               | 2    | PTFE, RTFE, TFM, XN, PEEK, DELRIN                                                                                                                                        |          |          |
| 6        | Thrust Bearing     | 1    | XN                                                                                                                                                                       |          |          |
| 6A       |                    | 1    | PEEK                                                                                                                                                                     |          |          |
| 7        | Stem Packing       | **   | TFM, XN, Graphite                                                                                                                                                        |          |          |
| 7A       | Seal Protector     | 1    | PEEK                                                                                                                                                                     |          |          |
| 8        | Gland              | 1    | 300 Series Stainless Steel                                                                                                                                               |          |          |
| 9        | Belleville Washer  | 2    | 300 Series Stainless Steel                                                                                                                                               |          |          |
| 10       | Lock Tab           | 1    | 300 Series Stainless Steel                                                                                                                                               |          |          |
| 11       | Packing Nut        | 1    | 300 Series Stainless Steel                                                                                                                                               |          |          |
| 12       | Body Seal          | 2    | TFM                                                                                                                                                                      |          |          |
| 13       | Outer Body Seal    | 2    | TFM Graphite                                                                                                                                                             |          |          |
| 14       | Handle             | 1    | 300 Series Stainless Steel                                                                                                                                               |          |          |
| 15       | Handle Sleeve      | 1    | PVC                                                                                                                                                                      |          |          |
| 16       | Stopper            | 1    | 300 Series Stainless Steel                                                                                                                                               |          |          |
| 17       | Stopper Bolt       | 1    | 300 Series Stainless Steel                                                                                                                                               |          |          |
| 18       | Locking Device     | 1    | 300 Series Stainless Steel                                                                                                                                               |          |          |
| 19       | Anti-Static Device | 2    | 300 Series Stainless Steel                                                                                                                                               |          |          |
| 20       | Body Bolt          | 8/12 | B8M                                                                                                                                                                      |          |          |

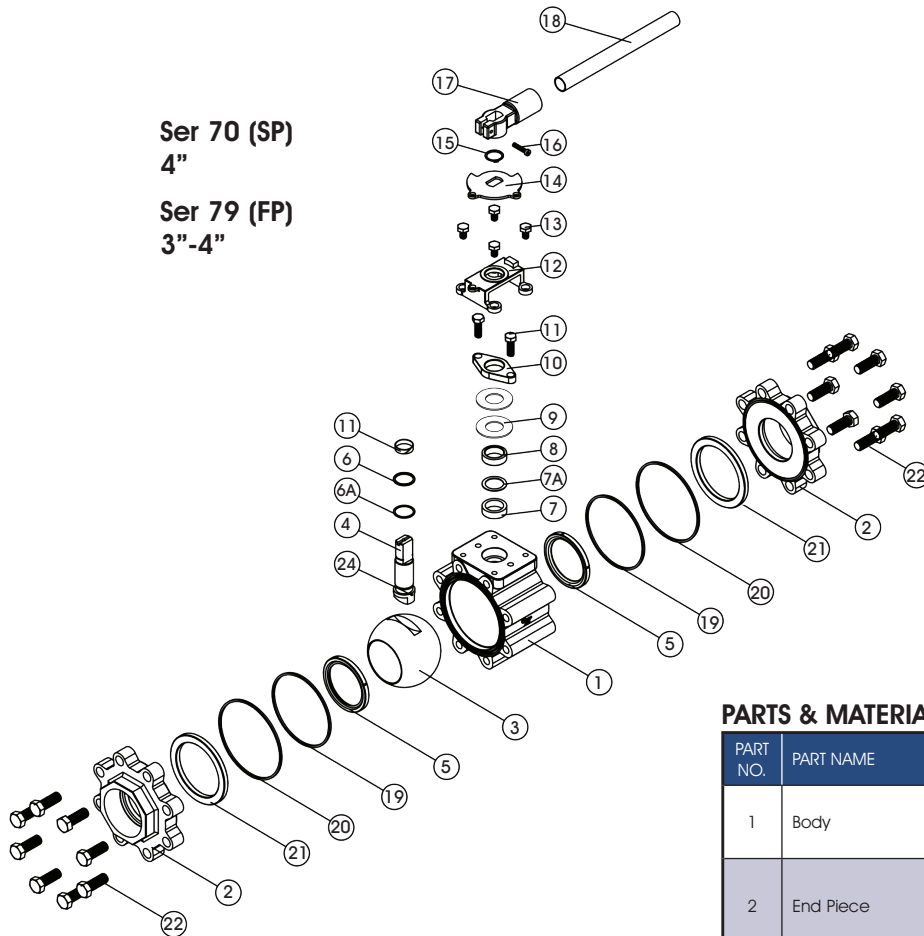
\*\* TFM XN 1/4"-1/2" 2PC  
 1/2"-2 1/2" 3PC  
 2 1/2"-3" 4PC  
 4" 3PC

Graphite 1PC (All Sizes)

# Series 70/79

Ser 70 (SP)  
4"

Ser 79 (FP)  
3"-4"



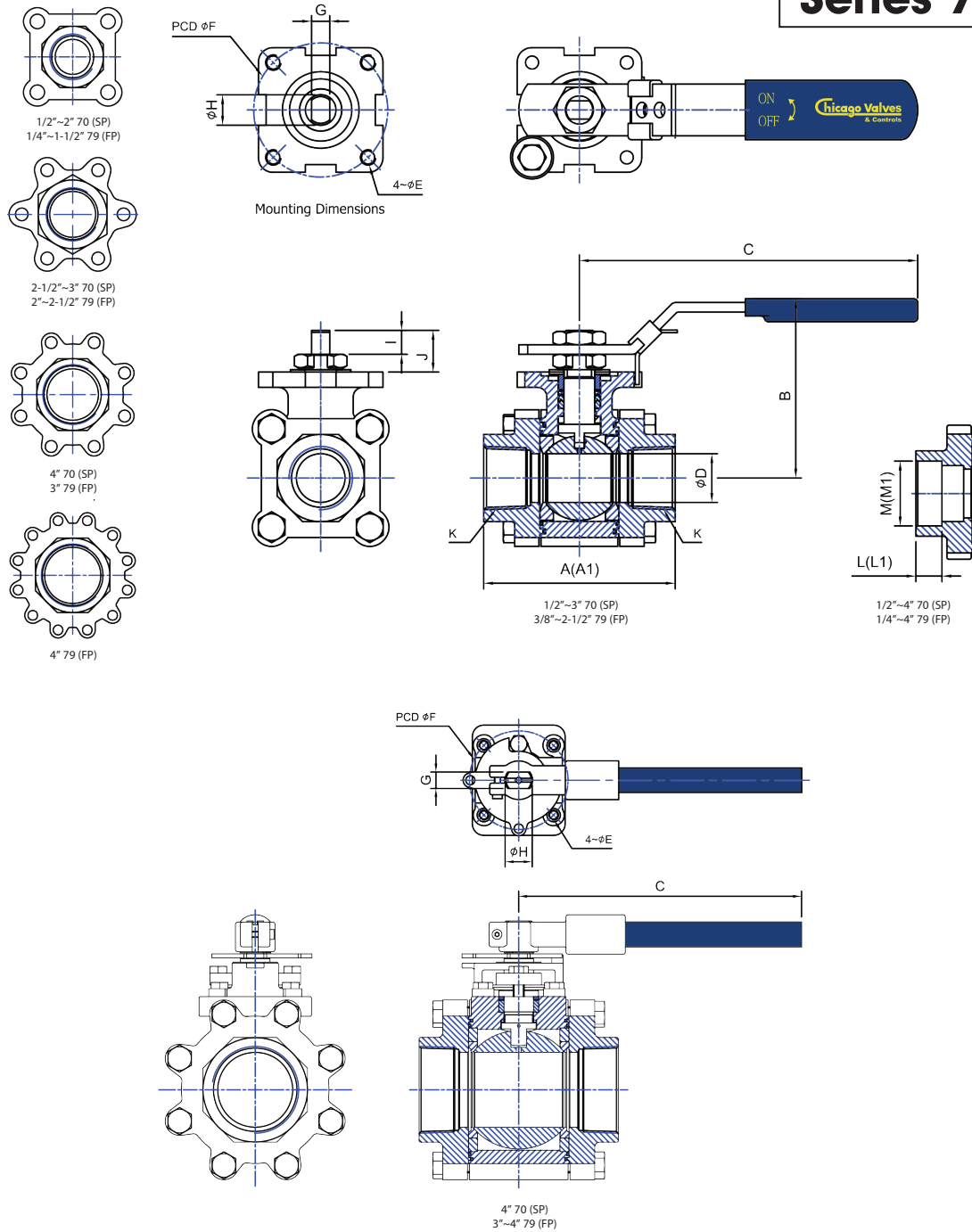
## PARTS & MATERIAL

| PART NO. | PART NAME          | QTY.  | MATERIAL                                                                                                                                   |
|----------|--------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | Body               | 1     | Carbon Steel ASTM A216 WCB<br>316 Stainless Steel ASTM A351 CF8M<br>Alloy 20 ASTM A351 CN7M                                                |
| 2        | End Piece          | 2     | Carbon Steel ASTM A216 WCB<br>316 Stainless Steel ASTM A351 CF8M<br>316L Stainless Steel ASTM A351 CF3M (SW,BW)<br>Alloy 20 ASTM A351 CN7M |
| 3        | Ball               | 1     | 316 Stainless Steel   Alloy 20                                                                                                             |
| 4        | Stem               | 1     | 316 Stainless Steel   Alloy 20                                                                                                             |
| 5        | Seat               | 2     | PTFE, RTFE, TFM, XN, PEEK, DELRIN                                                                                                          |
| 6        | Thrust Bearing     | 1     | XN                                                                                                                                         |
| 6A       |                    | 1     | PEEK                                                                                                                                       |
| 7        | Stem Packing       | **    | TFM, XN, Graphite                                                                                                                          |
| 7A       | Seal Protector     | 1     | PEEK                                                                                                                                       |
| 8        | Gland              | 1     | 304 Stainless Steel                                                                                                                        |
| 9        | Belleville Washer  | 2     | 300 Series Stainless Steel                                                                                                                 |
| 10       | Gland Flange       | 1     | 300 Series Stainless Steel                                                                                                                 |
| 11       | Gland Flange Bolt  | 2     | 300 Series Stainless Steel                                                                                                                 |
| 12       | Stopper Bridge     | 1     | 304 Stainless Steel                                                                                                                        |
| 13       | Bridge Bolts       | 4     | 300 Series Stainless Steel                                                                                                                 |
| 14       | Stop Plate         | 1     | 300 Series Stainless Steel                                                                                                                 |
| 15       | C Snap Ring        | 1     | Nickle Plated Carbon Steel                                                                                                                 |
| 16       | Handle Bolt        | 1     | 300 Series Stainless Steel                                                                                                                 |
| 17       | Handle Head        | 1     | 304 Stainless Steel                                                                                                                        |
| 18       | Handle Pipe        | 1     | 304 Stainless Steel                                                                                                                        |
| 19       | Body Seal          | 2     | TFM                                                                                                                                        |
| 20       | Outer Body Seal    | 2     | Graphite                                                                                                                                   |
| 21       | Seal Ring          | 2     | Carbon Steel ASTM A216 WCB<br>316 Stainless Steel ASTM A351 CF8M<br>Alloy 20 ASTM A351 CN7M                                                |
| 22       | Bolt               | 16-24 | B8M                                                                                                                                        |
| 24       | Anti-Static Device | 2     | 316 Stainless Steel ASTM A351 CF8M                                                                                                         |

\*\* Ser 70  
TFM, XN 1/2"-3" 3PC  
4" 4PC  
Graphite 1PC (All Sizes)

\*\* Ser 79  
TFM, XN 1/4"-3/8" 2PC  
1/2"-21/2" 3PC  
3" 4PC  
4"-3PC  
Graphite 1PC (All Sizes)

# Series 70/79



## DIMENSIONS (INCHES)

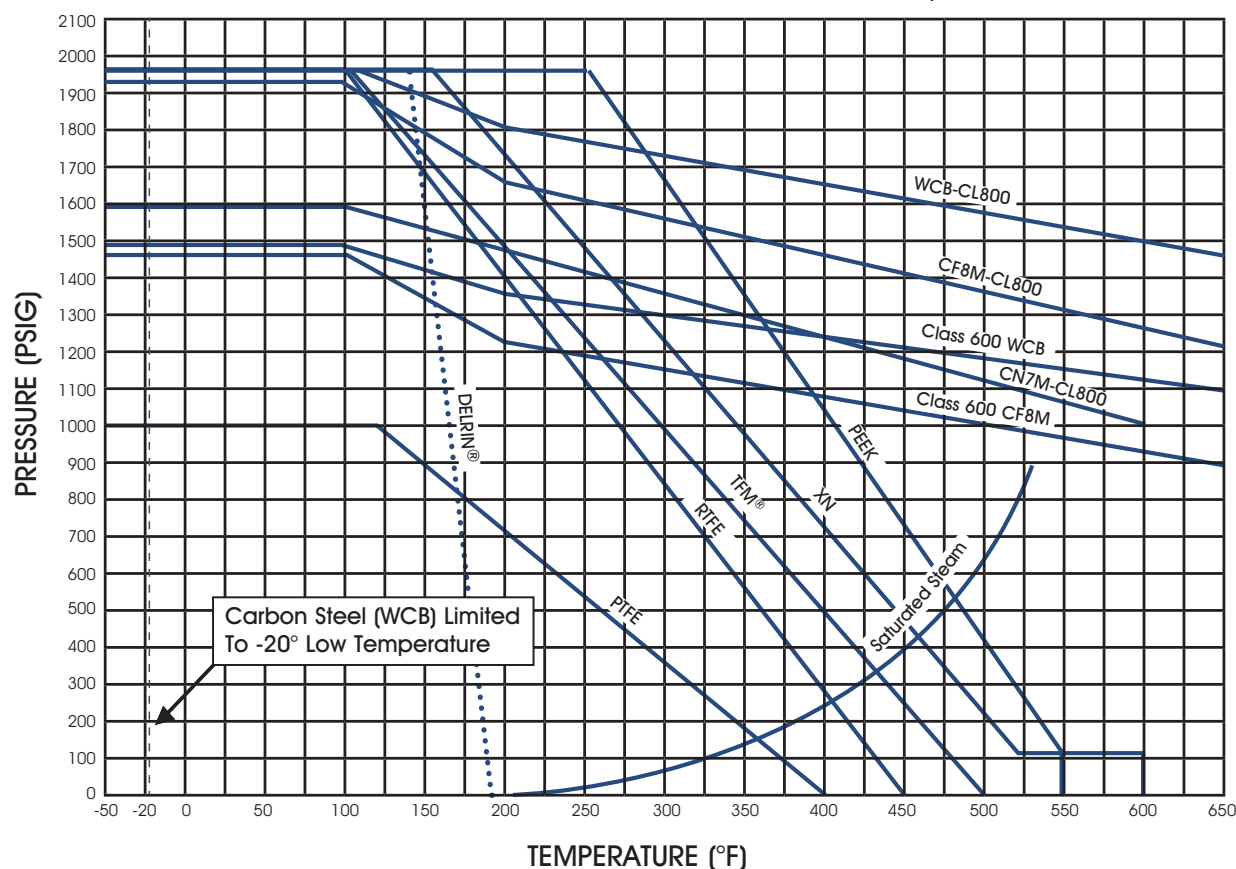
| SIZE<br>70 | SIZE<br>79 | 70<br>A1 | 79<br>A | B    | C     | D    | E       | F    | G    | H         | I    | J    | K   | 70<br>L1 | 79<br>L | 70<br>M1 | 79<br>M | ISO5211 |
|------------|------------|----------|---------|------|-------|------|---------|------|------|-----------|------|------|-----|----------|---------|----------|---------|---------|
| 1/2"       | 1/4"-3/8"  | 2.54     | 2.54    | 2.58 | 5.25  | 0.39 | M5X0.8  | 1.42 | 0.20 | 3/8-24UNF | 0.24 | 0.31 | NPT | 0.50     | 0.50    | 0.85     | 0.69    | F03     |
| 3/4"       | 1/2"       | 2.99     | 2.99    | 2.83 | 6.30  | 0.56 | M5X0.8  | 1.65 | 0.25 | 3/8-24UNF | 0.31 | 0.55 | NPT | 0.56     | 0.50    | 1.07     | 0.85    | F04     |
| 1"         | 3/4"       | 3.31     | 3.31    | 3.03 | 6.30  | 0.81 | M5X0.8  | 1.65 | 0.25 | 3/8-24UNF | 0.31 | 0.55 | NPT | 0.63     | 0.56    | 1.33     | 1.07    | F04     |
| 1 1/4"     | 1"         | 3.94     | 3.94    | 3.82 | 9.65  | 1.00 | M8X1.25 | 2.76 | 0.37 | 5/8-18UNF | 0.51 | 0.91 | NPT | 0.69     | 0.63    | 1.68     | 1.33    | F07     |
| 1 1/2"     | 1 1/4"     | 4.33     | 4.33    | 4.02 | 9.65  | 1.26 | M8X1.25 | 2.76 | 0.37 | 5/8-18UNF | 0.55 | 0.93 | NPT | 0.75     | 0.69    | 1.91     | 1.68    | F07     |
| 2"         | 1-1/2"     | 5.04     | 5.04    | 4.29 | 10.24 | 1.50 | M8X1.25 | 2.76 | 0.47 | 3/4-16UNF | 0.67 | 1.04 | NPT | 0.87     | 0.75    | 2.41     | 1.91    | F07     |
| 2 1/2"     | 2"         | 6.06     | 5.71    | 4.65 | 10.24 | 2.00 | M8X1.25 | 2.76 | 0.47 | 3/4-16UNF | 0.73 | 1.10 | NPT | 0.98     | 0.87    | 2.91     | 2.41    | F07     |
| 3"         | 2 1/2"     | 7.26     | 7.26    | 5.30 | 10.24 | 2.56 | M8X1.25 | 2.76 | 0.47 | 3/4-16UNF | 0.73 | 1.10 | NPT | 0.98     | 0.98    | 3.54     | 2.91    | F07     |
| 4"         | 3"         | 8.27     | 7.95    | 6.78 | 23.23 | 2.99 | M10x1.5 | 4.02 | 0.67 | 1.10      | 1.47 | 3.02 | NPT | 1.18     | 0.98    | 4.54     | 3.54    | F10     |
| -          | 4"         | -        | 9.06    | 7.73 | 23.23 | 4.02 | M10x1.5 | 4.02 | 0.67 | 1.10      | 1.47 | 3.02 | NPT | -        | 1.18    | -        | 4.54    | F10     |

### APPLICABLE STANDARDS

|                        |                        |
|------------------------|------------------------|
| BASIC DESIGN           | ASME B16.34            |
| THREADED & SOCKET WELD | ASME B16.11            |
| PRESSURE TEST          | API 598                |
| MOUNTING PADS          | ISO 5211               |
| NACE                   | MR 0175                |
| FIRE SAFE              | FS API 607 7TH EDITION |

| 70     | CV<br>(GPM) | WEIGHT<br>(LBS) | 79        | CV<br>(GPM) | WEIGHT<br>(LBS) |
|--------|-------------|-----------------|-----------|-------------|-----------------|
| 1/2"   | 18          | 1.90            | 1/4"-3/8" | 18          | 1.90            |
| 3/4"   | 33          | 2.50            | 1/2"      | 38          | 2.40            |
| 1"     | 44          | 3.70            | 3/4"      | 70          | 3.50            |
| 1 1/4" | 70          | 7.00            | 1"        | 110         | 6.40            |
| 1 1/2" | 125         | 9.25            | 1 1/4"    | 125         | 8.90            |
| 2"     | 240         | 13.00           | 1 1/2"    | 250         | 12.80           |
| 2 1/2" | 400         | 19.30           | 2"        | 430         | 18.75           |
| 3"     | 700         | 31.80           | 2 1/2"    | 700         | 31.40           |
| 4"     | 980         | 52.00           | 3"        | 1300        | 50.30           |
| -      | -           | -               | 4"        | 2400        | 90.00           |

## PRESSURE-TEMPERATURE RATINGS SERIES 70/79



### Standard Port

Class 800 1/2"-2"  
Class 600 2 1/2"-4"

### Full Port

Class 800 1/4"-2"  
Class 600 2 1/2"-4"

## Chicago Valves & Controls® Seat Materials

### T-Virgin PTFE

Polytetrafluoroethylene is a Fluorocarbon-based polymer. This seating material has excellent chemical resistance and low coefficient of friction. Its temperature range is -100°F to 400°F (-73°C to 204°C). Color - white.

### M-TFM® PTFE

Dyneon TFM® PTFE is a second generation PTFE with improved chemical and heat resistant properties and stress recovery. Its temperature range is -100°F to 500°F (-73°C to 260°C) Color - white.

### R-Reinforced Polytetrafluoroethylene (RTFE).

PTFE's mechanical properties are enhanced by adding 15% filler material to provide improved strength, stability and wear resistance. Its temperature range is from -320°F to 450°F (-196°C to 232°C). Color-off-white.

**XN** - is a free-flowing compound based on TFM® containing electro-graphitized carbon. It features: increased thermal dimensional stability and surface hardness, improved deformation under load, reduced friction and wear, and good chemical stability. It has a high limiting oxygen index (LOI), low coefficient of friction, very good mechanical properties and exceptional temperature resistance. It is used as a seat material in chemical processing and automotive industries. It is ideal to with steam and thermal fluid applications up to 550°F (228°C) and as low as -40°F (-40°C). Color - black.

### D-DELRIN

Provide excellent high pressure resistance with low torque, it can withstand pressure up to 6000 PSI (depending on valves size and class rating) Temperature limit to -70f - 180f

### P-PEEK (Unfilled) Polyetheretherketone

PEEK Polymer offers a unique combination of chemical, mechanical and thermal properties. Excellent for water and steam application at elevated temperatures up to 600°F (315°C). Color - beige.

### Other seat materials

Other seat materials are available according to the application, such as very high temperature or cryogenic conditions.

## HOW TO ORDER SERIES 70/79

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**Toll-Free (833) 831-2312**

**Local (312) 637-3557**

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