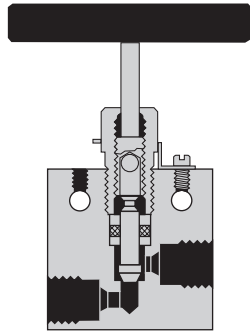
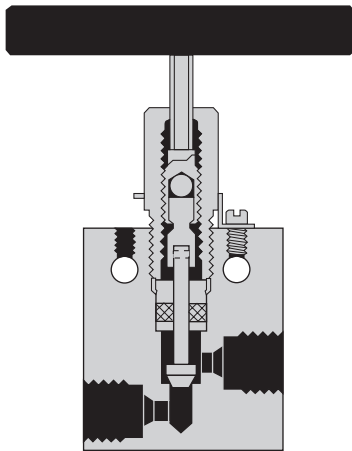




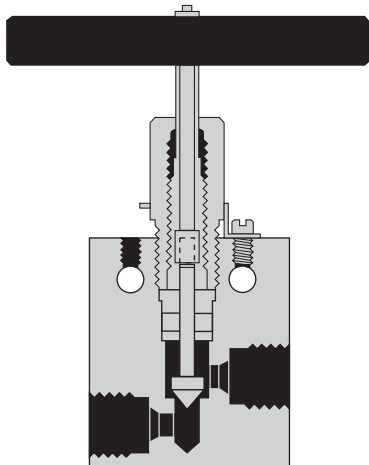
## High Pressure Equipment



LF4 ( $\frac{1}{4}$ " ) and LF6 ( $\frac{3}{8}$ " )



LF9 ( $\frac{9}{16}$ " )



LF12 ( $\frac{3}{4}$ " ) and LF16 (1" )\*

### 20,000 psi Medium Pressure Valves

**Medium Pressure (coned & threaded)** type connections for  $\frac{1}{4}$ " ,  $\frac{3}{8}$ " ,  $\frac{9}{16}$ " ,  $\frac{3}{4}$ " , and 1" O.D. tubing.

**Non-rotating tip stems** are standard for on-off service and insure long life on valve seats. Regulating tip stems are available for all valves at no additional cost, add - REG to part number.

**Glands and collars** for tubing are supplied with each valve unless otherwise requested (glands and collars shown on pages 3.4 and 3.A).

**Materials** include high tensile type 316 stainless steel bodies and hardened 17-4PH stainless steel lower section stems.

**Packing** is Teflon (450°F) standard with optional Viton (350°F), BUNA-N (200°F) and Grafoil (800°F) available at no additional cost.

**Air operators** for remote control operation are available for all valves. (Select required valve and add "HIPCO". Refer to section 7.0 for additional data).

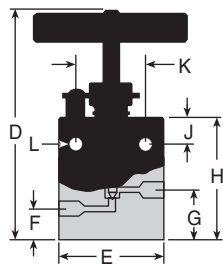
**High temperatures** can be accommodated by using extended stuffing boxes (see page 6.4).

#### Valve Features

- Non-rotating stem tips
- Packing below stem threads
- Type 316 ss high tensile bodies
- Positive gland lock device
- No stem adjustment needed
- Black T-handles or choice of 4 colors
- Tube sizes  $\frac{1}{4}$ " through 1"

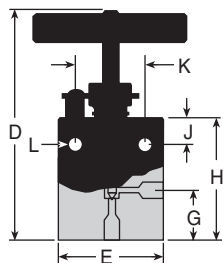
\*Note: 10,000 psi large orifice is offered in  $\frac{3}{4}$ " and 1" size.

## Two Way Straight Valves



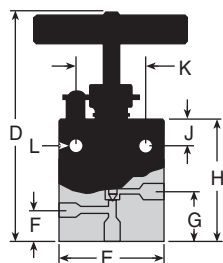
Tubing	Catalog No.	psi	Connection	Orifice	D	E	F	G	H	J	K	L	Thickness
1/4" O.D.	20-11LF4	20,000	LF4	1/8"	4 <sup>3</sup> / <sub>8</sub> "	2"	3/8"	1 <sup>3</sup> / <sub>16</sub> "	2"	3/8"	1 1/4"	7/32"	3/4"
3/8" O.D.	20-11LF6	20,000	LF6	1 <sup>3</sup> / <sub>64</sub> "	4 <sup>3</sup> / <sub>8</sub> "	2"	3/8"	1 <sup>3</sup> / <sub>16</sub> "	2"	3/8"	1 1/4"	7/32"	3/4"
9/16" O.D.	20-11LF9	20,000	LF9	5/16"	6 <sup>7</sup> / <sub>8</sub> "	2 1/2"	1/2"	1 1/8"	2 <sup>7</sup> / <sub>8</sub> "	1/2"	1 3/8"	11/32"	1"
3/4" O.D.	20-11LF12	20,000	LF12	7/16"	7"	3"	3/4"	1 1/2"	3 <sup>3</sup> / <sub>4</sub> "	5/8"	1 3/4"	7/16"	1 3/8"
3/4" O.D.	10-11LF12	10,000	LF12	3 <sup>3</sup> / <sub>64</sub> "	7"	3"	3/4"	1 1/2"	3 <sup>3</sup> / <sub>4</sub> "	5/8"	1 3/4"	7/16"	1 3/8"
1" O.D.	20-11LF16	20,000	LF16	9/16"	8 <sup>27</sup> / <sub>64</sub> "	4 1/8"	7/8"	1 <sup>13</sup> / <sub>16</sub> "	4 <sup>5</sup> / <sub>8</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"
1" O.D.	10-11LF16	10,000	LF16	11/16"	8 <sup>27</sup> / <sub>64</sub> "	4 1/8"	7/8"	1 <sup>13</sup> / <sub>16</sub> "	4 <sup>5</sup> / <sub>8</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"

## Two Way Angle Valves



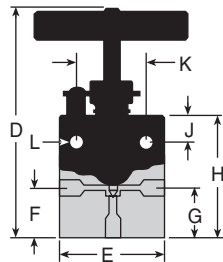
Tubing	Catalog No.	psi	Connection	Orifice	D	E	F	G	H	J	K	L	Thickness
1/4" O.D.	20-12LF4	20,000	LF4	1/8"	4 <sup>13</sup> / <sub>16</sub> "	2"	—	1 1/4"	2 <sup>1</sup> / <sub>16</sub> "	3/8"	1 1/4"	7/32"	3/4"
3/8" O.D.	20-12LF6	20,000	LF6	1 <sup>3</sup> / <sub>64</sub> "	4 <sup>13</sup> / <sub>16</sub> "	2"	—	1 1/4"	2 <sup>1</sup> / <sub>16</sub> "	3/8"	1 1/4"	7/32"	3/4"
9/16" O.D.	20-12LF9	20,000	LF9	5/16"	6 <sup>5</sup> / <sub>8</sub> "	2 1/2"	—	1 5/8"	3 <sup>3</sup> / <sub>8</sub> "	1/2"	1 3/8"	11/32"	1"
3/4" O.D.	20-12LF12	20,000	LF12	7/16"	7 1/2"	3"	—	2"	4 1/4"	5/8"	1 3/4"	7/16"	1 3/8"
3/4" O.D.	10-12LF12	10,000	LF12	3 <sup>3</sup> / <sub>64</sub> "	7 1/2"	3"	—	2"	4 1/4"	5/8"	1 3/4"	7/16"	1 3/8"
1" O.D.	20-12LF16	20,000	LF16	9/16"	9 <sup>3</sup> / <sub>8</sub> "	4 1/8"	—	2 <sup>9</sup> / <sub>16</sub> "	5 <sup>1</sup> / <sub>16</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"
1" O.D.	10-12LF16	10,000	LF16	11/16"	9 <sup>3</sup> / <sub>8</sub> "	4 1/8"	—	2 <sup>9</sup> / <sub>16</sub> "	5 <sup>1</sup> / <sub>16</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"

## Three Way Valves / Two Pressure Connections



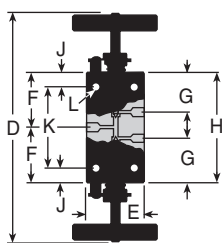
Tubing	Catalog No.	psi	Connection	Orifice	D	E	F	G	H	J	K	L	Thickness
1/4" O.D.	20-13LF4	20,000	LF4	1/8"	5"	2"	1"	1 <sup>7</sup> / <sub>16</sub> "	2 <sup>5</sup> / <sub>8</sub> "	3/8"	1 1/4"	7/32"	3/4"
3/8" O.D.	20-13LF6	20,000	LF6	1 <sup>3</sup> / <sub>64</sub> "	5"	2"	1"	1 <sup>7</sup> / <sub>16</sub> "	2 <sup>5</sup> / <sub>8</sub> "	3/8"	1 1/4"	7/32"	3/4"
9/16" O.D.	20-13LF9	20,000	LF9	5/16"	6 <sup>7</sup> / <sub>8</sub> "	2 1/2"	1 1/4"	1 <sup>7</sup> / <sub>8</sub> "	3 <sup>5</sup> / <sub>8</sub> "	1/2"	1 3/8"	11/32"	1"
3/4" O.D.	20-13LF12	20,000	LF12	7/16"	7 1/8"	3"	2 <sup>5</sup> / <sub>8</sub> "	2 <sup>3</sup> / <sub>8</sub> "	4 <sup>5</sup> / <sub>8</sub> "	5/8"	1 3/4"	7/16"	1 3/8"
3/4" O.D.	10-13LF12	10,000	LF12	3 <sup>3</sup> / <sub>64</sub> "	7 1/8"	3"	2 <sup>5</sup> / <sub>8</sub> "	2 <sup>3</sup> / <sub>8</sub> "	4 <sup>5</sup> / <sub>8</sub> "	5/8"	1 3/4"	7/16"	1 3/8"
1" O.D.	20-13LF16	20,000	LF16	9/16"	9 <sup>3</sup> / <sub>4</sub> "	4 1/8"	2 1/8"	3 <sup>1</sup> / <sub>16</sub> "	5 <sup>7</sup> / <sub>8</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"
1" O.D.	10-13LF16	10,000	LF16	11/16"	9 <sup>3</sup> / <sub>4</sub> "	4 1/8"	2 1/8"	3 <sup>1</sup> / <sub>16</sub> "	5 <sup>7</sup> / <sub>8</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"

## Three Way Valves / One Pressure Connection



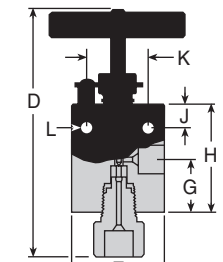
Tubing	Catalog No.	psi	Connection	Orifice	D	E	F	G	H	J	K	L	Thickness
1/4" O.D.	20-14LF4	20,000	LF4	1/8"	4 <sup>13</sup> / <sub>16</sub> "	2"	1 1/4"	1 1/4"	2 <sup>1</sup> / <sub>16</sub> "	3/8"	1 1/4"	7/32"	3/4"
3/8" O.D.	20-14LF6	20,000	LF6	1 <sup>3</sup> / <sub>64</sub> "	4 <sup>13</sup> / <sub>16</sub> "	2"	1 1/4"	1 1/4"	2 <sup>1</sup> / <sub>16</sub> "	3/8"	1 1/4"	7/32"	3/4"
9/16" O.D.	20-14LF9	20,000	LF9	5/16"	6 <sup>5</sup> / <sub>8</sub> "	2 1/2"	1 5/8"	1 5/8"	3 <sup>3</sup> / <sub>8</sub> "	1/2"	1 3/8"	11/32"	1"
3/4" O.D.	20-14LF12	20,000	LF12	7/16"	7 1/2"	3"	2"	2"	4 1/4"	5/8"	1 3/4"	7/16"	1 3/8"
3/4" O.D.	10-14LF12	10,000	LF12	3 <sup>3</sup> / <sub>64</sub> "	7 1/2"	3"	2"	2"	4 1/4"	5/8"	1 3/4"	7/16"	1 3/8"
1" O.D.	20-14LF16	20,000	LF16	9/16"	9 <sup>3</sup> / <sub>8</sub> "	4 1/8"	2 <sup>5</sup> / <sub>8</sub> "	2 <sup>5</sup> / <sub>8</sub> "	5 <sup>1</sup> / <sub>16</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"
1" O.D.	10-14LF16	10,000	LF16	11/16"	9 <sup>3</sup> / <sub>8</sub> "	4 1/8"	2 <sup>5</sup> / <sub>8</sub> "	2 <sup>5</sup> / <sub>8</sub> "	5 <sup>1</sup> / <sub>16</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"

## Three Way / Two Stem Connection Valves



Tubing	Catalog No.	psi	Connection	Orifice	D	E	F	G	H	J	K	L	Thickness
1/4" O.D.	20-15LF4	20,000	LF4	1/8"	5 <sup>3</sup> / <sub>4</sub> "	2"	1 <sup>11</sup> / <sub>16</sub> "	1 <sup>3</sup> / <sub>16</sub> "	3 <sup>3</sup> / <sub>8</sub> "	3/8"	1 1/4"	7/32"	3/4"
3/8" O.D.	20-15LF6	20,000	LF6	1 <sup>3</sup> / <sub>64</sub> "	5 <sup>3</sup> / <sub>4</sub> "	2"	1 <sup>11</sup> / <sub>16</sub> "	1 <sup>3</sup> / <sub>16</sub> "	3 <sup>3</sup> / <sub>8</sub> "	3/8"	1 1/4"	7/32"	3/4"
9/16" O.D.	20-15LF9	20,000	LF9	5/16"	8 <sup>7</sup> / <sub>8</sub> "	2 1/2"	2 <sup>2</sup> / <sub>16</sub> "	1 <sup>3</sup> / <sub>4</sub> "	5 <sup>1</sup> / <sub>8</sub> "	1/2"	1 3/8"	11/32"	1"
3/4" O.D.	20-15LF12	20,000	LF12	7/16"	9 <sup>3</sup> / <sub>4</sub> "	3"	3 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub> "	6 <sup>1</sup> / <sub>2</sub> "	5/8"	1 3/4"	7/16"	1 3/8"
3/4" O.D.	10-15LF12	10,000	LF12	3 <sup>3</sup> / <sub>64</sub> "	9 <sup>3</sup> / <sub>4</sub> "	3"	3 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub> "	6 <sup>1</sup> / <sub>2</sub> "	5/8"	1 3/4"	7/16"	1 3/8"
1" O.D.	20-15LF16	20,000	LF16	9/16"	12 <sup>3</sup> / <sub>16</sub> "	4 1/8"	4 1/8"	2 <sup>13</sup> / <sub>16</sub> "	8 <sup>1</sup> / <sub>4</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"
1" O.D.	10-15LF16	10,000	LF16	11/16"	12 <sup>3</sup> / <sub>16</sub> "	4 1/8"	4 1/8"	2 <sup>13</sup> / <sub>16</sub> "	8 <sup>1</sup> / <sub>4</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"

## Replaceable Seat Valves



Tubing	Catalog No.	psi	Connection	Orifice	D	E	F	G	H	J	K	L	Thickness
1/4" O.D.	20-12LF4-R	20,000	LF4	1/8"	5 <sup>5</sup> / <sub>8</sub> "	2"	—	1 1/4"	2 <sup>1</sup> / <sub>16</sub> "	3/8"	1 1/4"	7/32"	3/4"
3/8" O.D.	20-12LF6-R	20,000	LF6	1 <sup>3</sup> / <sub>64</sub> "	5 <sup>5</sup> / <sub>8</sub> "	2"	—	1 1/4"	2 <sup>1</sup> / <sub>16</sub> "	3/8"	1 1/4"	7/32"	3/4"
9/16" O.D.	20-12LF9-R	20,000	LF9	5/16"	8"	2 1/2"	—	1 5/8"	3 <sup>3</sup> / <sub>8</sub> "	1/2"	1 3/8"	11/32"	1"
3/4" O.D.	20-12LF12-R	20,000	LF12	7/16"	8 <sup>7</sup> / <sub>8</sub> "	3"	—	2"	4 1/4"	5/8"	1 3/4"	7/16"	1 3/8"
3/4" O.D.	10-12LF12-R	10,000	LF12	3 <sup>3</sup> / <sub>64</sub> "	8 <sup>7</sup> / <sub>8</sub> "	3"	—	2"	4 1/4"	5/8"	1 3/4"	7/16"	1 3/8"
1" O.D.	20-12LF16-R	20,000	LF16	9/16"	11 <sup>1</sup> / <sub>8</sub> "	4 1/8"	—	2 <sup>9</sup> / <sub>16</sub> "	5 <sup>1</sup> / <sub>16</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"
1" O.D.	10-12LF16-R	10,000	LF16	11/16"	11 <sup>1</sup> / <sub>8</sub> "	4 1/8"	—	2 <sup>9</sup> / <sub>16</sub> "	5 <sup>1</sup> / <sub>16</sub> "	1 1/8"	2 1/2"	9/16"	1 3/4"