



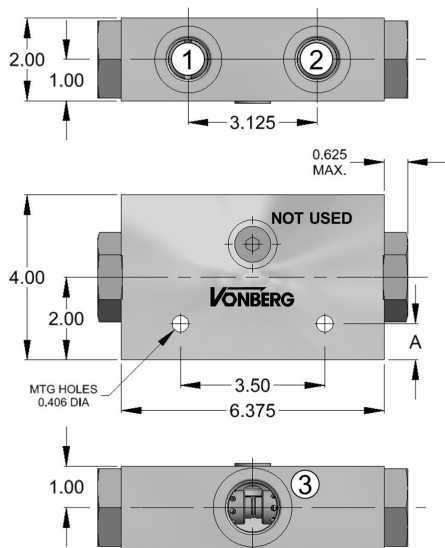
PRODUCT CATALOG



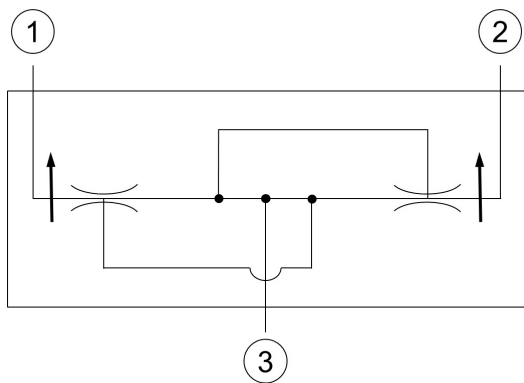
FLOW REGULATING VALVES



PRODUCT



SCHEMATIC



DESCRIPTION

AN IN-LINE SPOOL TYPE FLOW DIVIDER, INTENDED FOR SUPPLYING FLOWS TO MULTIPLE CIRCUITS WITH A COMMON SUPPLY, OR FOR COMBINING FLOWS FROM MULTIPLE CIRCUITS INTO A COMMON LINE.

OPERATION

- FLOWS FROM (1) AND (2) ARE COMBINED INTO (3) WITHIN THE FLOW TOLERANCE.
- FLOW FROM (3) IS DIVIDED EQUALLY BETWEEN (1) AND (2) WITHIN THE FLOW TOLERANCE.

FEATURES

- TAMPER RESISTANT
- BUNA-N 90 DURO O-RINGS
- ALUMINUM BODY, STEEL SPOOLS
- PRESSURE COMPENSATED
- HYDRAULIC FLUIDS - GENERAL.
- ALTERNATE DIVIDE RATIOS AVAILABLE UPON REQUEST.

SPECIFICATIONS

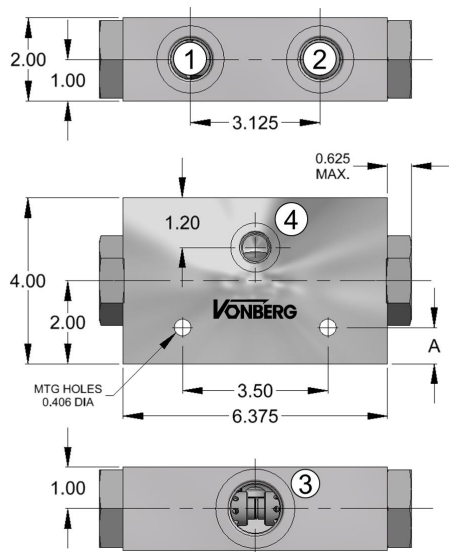
| | |
|---------------------------------------|---------------------|
| DIVIDE / COMBINE RATIO | 50:50 |
| FLOW ADJUSTMENT RANGE | 100 PSI |
| MAX. PRESSURE DIFFERENTIAL "1" TO "2" | +/- 10% |
| PRESSURE RANGE | 250 PSI TO 4500 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

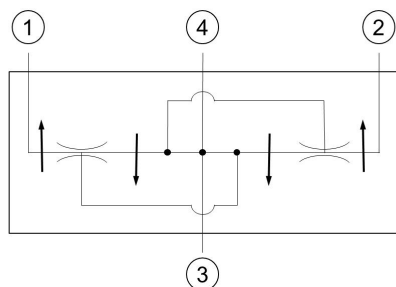
| | | | | | |
|---|---|---|---|---|----|
| 270 | X | 1 | - | 2 | XX |
| <p>SERIES NUMBER _____</p> <p>MAX FLOW INDICATOR _____</p> <p>5..... 25 – 50 GPM</p> <p>6..... 30 – 60 GPM</p> <p>SAE PORT "3" SIZE _____</p> | | | | | |

| MODEL | PORTS 1 & 2 | PORT 3 | FLOW RANGE | A |
|-----------|---------------------|---------------------|------------------|-------|
| 27051-216 | -12 SAE - 1 1/16-12 | -16 SAE - 1 5/16-12 | 25.0 TO 50.0 GPM | 0.875 |
| 27051-220 | -16 SAE - 1 5/16-12 | -20 SAE - 1 5/8-12 | 30.0 TO 60.0 GPM | 0.375 |
| 27061-220 | -16 SAE - 1 5/16-12 | -20 SAE - 1 5/8-12 | 30.0 TO 60.0 GPM | 0.375 |

PRODUCT



SCHEMATIC



DESCRIPTION

AN IN-LINE SPOOL TYPE FLOW DIVIDER, INTENDED FOR SUPPLYING FLOWS TO MULTIPLE CIRCUITS WITH A COMMON SUPPLY, OR FOR COMBINING FLOWS FROM MULTIPLE CIRCUITS INTO A COMMON LINE.

OPERATION

- -08 SAE GAGE PORT AT (4)
- FLOW FROM (3) IS DIVIDED EQUALLY BETWEEN (1) AND (2) WITHIN THE FLOW TOLERANCE.
- FLOWS FROM (1) AND (2) ARE COMBINED INTO (3) WITHIN THE FLOW TOLERANCE.

FEATURES

- ALTERNATE DIVIDE RATIOS AVAILABLE UPON REQUEST.
- TAMPER RESISTANT
- BUNA-N 90 DURO O-RINGS
- PRESSURE COMPENSATED
- HYDRAULIC FLUIDS - GENERAL.
- ALUMINUM BODY, STEEL INTERNALS

SPECIFICATIONS

| | |
|---------------------------------------|---------------------|
| DIVIDE / COMBINE RATIO | 50:50 |
| FLOW TOLERANCE | +/- 10% |
| MAX. PRESSURE DIFFERENTIAL "1" TO "2" | 100 PSI |
| PRESSURE RANGE | 250 PSI TO 4500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

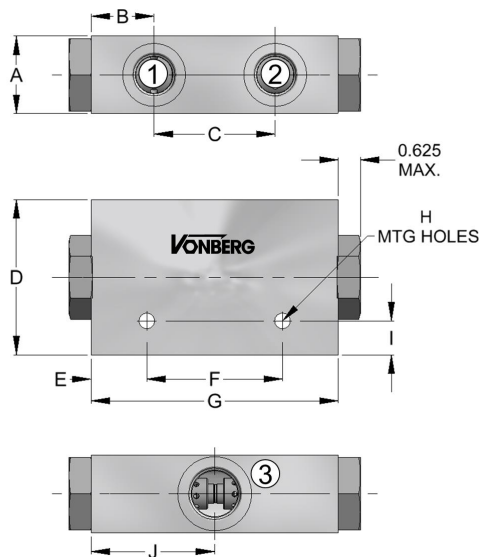
ORDERING INFORMATION

27903

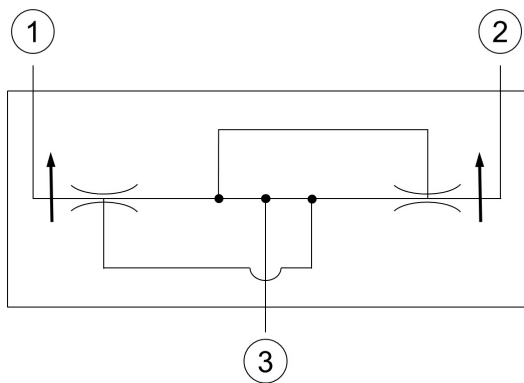
SERIES NUMBER _____

| Model | PORTS 1 & 2 | PORT 3 | PORT 4 | FLOW RANGE | A |
|-------|---------------------|---------------------|------------------|------------------|-------|
| 27903 | -12 SAE - 1 1/16-12 | -16 SAE - 1 5/16-12 | -08 SAE - 3/4-16 | 10.0 TO 30.0 GPM | 0.975 |

PRODUCT



SCHEMATIC



DESCRIPTION

AN IN-LINE SPOOL TYPE FLOW DIVIDER, INTENDED FOR SUPPLYING FLOWS TO MULTIPLE CIRCUITS WITH A COMMON SUPPLY, OR FOR COMBINING FLOWS FROM MULTIPLE CIRCUITS INTO A COMMON LINE.

OPERATION

- FLOWS FROM (1) AND (2) ARE COMBINED INTO (3) WITHIN THE FLOW TOLERANCE.
- FLOW FROM (3) IS DIVIDED EQUALLY BETWEEN (1) AND (2) WITHIN THE FLOW TOLERANCE.

FEATURES

- TAMPER RESISTANT
- ALTERNATE DIVIDE RATIOS AND PORT SIZES AVAILABLE UPON REQUEST.
- BUNA-N 90 DURO O-RINGS
- HYDRAULIC FLUIDS - GENERAL.
- PRESSURE COMPENSATED
- ALUMINUM BODY, STEEL SPOOLS

SPECIFICATIONS

| | |
|---------------------------------------|---------------------|
| DIVIDE / COMBINE RATIO | 50:50 |
| FLOW TOLERANCE | +/- 10% |
| MAX. PRESSURE DIFFERENTIAL "1" TO "2" | 150 PSI |
| PRESSURE RANGE | 250 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

27 X X 0 - 2 XX

SERIES NUMBER _____

BLOCK SIZE INDICATOR _____

| | FLOW INDICATOR | | | | |
|------------|----------------|---|---|---|---|
| | 2 | 3 | 4 | 5 | 6 |
| 0 - SMALL | | | | | |
| 1 - MEDIUM | | | | | |
| 2 - LARGE | | | | | |

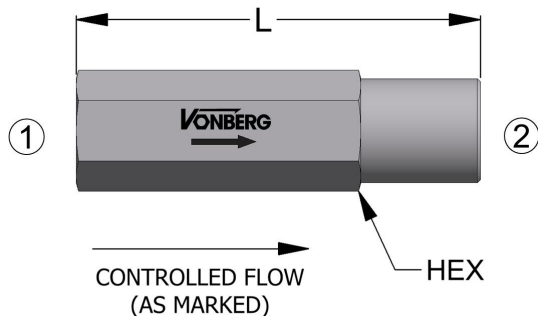
FLOW RANGE INDICATOR _____

2..... 1 - 5 GPM 5.....31 - 45 GPM
 3..... 6 - 15 GPM 6.....46 - 60 GPM
 4.....16 - 30 GPM

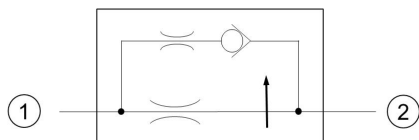
SAE PORT "3" SIZE _____

| Model | PORTS 1 & 2 | PORT 3 | TOTAL FLOW RANGE | A | B | C | D | E | F | G | H | I | J |
|-----------|---------------------|---------------------|------------------|------|------|------|------|------|------|------|------|------|------|
| 270X0-208 | -06 SAE - 9/16-18 | -08 SAE - 3/4-16 | 2.0 TO 15.0 GPM | 1.50 | 1.25 | 2.00 | 2.50 | 0.34 | 3.81 | 4.50 | 0.28 | .038 | 2.25 |
| 270X0-210 | -08 SAE - 3/4-16 | -10 SAE - 7/8-14 | 2.0 TO 20.0 GPM | 1.50 | 1.25 | 2.00 | 2.50 | 0.34 | 3.81 | 4.50 | 0.28 | 0.38 | 2.25 |
| 271X0-212 | -10 SAE - 7/8-14 | -12 SAE - 1 1/16-12 | 5.0 TO 30.0 GPM | 1.50 | 1.25 | 2.00 | 3.00 | 0.34 | 3.81 | 4.50 | 0.28 | 0.38 | 2.25 |
| 272X0-216 | -12 SAE - 1 1/16-12 | -16 SAE - 1 5/16-12 | 30.0 TO 50.0 GPM | 2.00 | 1.62 | 2.12 | 4.00 | 1.44 | 3.50 | 6.38 | 0.41 | 0.38 | 3.14 |
| 272X0-220 | -16 SAE - 1 5/16-12 | -20 SAE - 1 5/8-12 | 30.0 TO 60.0 GPM | 2.00 | 1.62 | 2.12 | 4.00 | 1.44 | 3.50 | 6.38 | 0.41 | 0.38 | 3.14 |

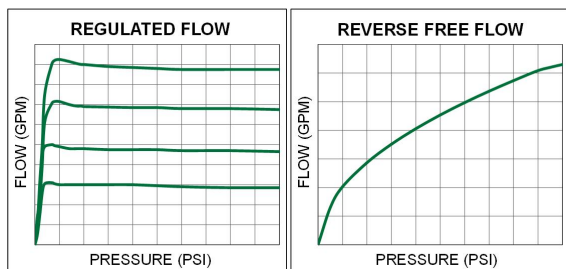
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, PRESSURE-COMPENSATED, NONADJUSTABLE FLOW REGULATOR WITH FEMALE NPTF PORTS, INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- IN THE CONTROLLED DIRECTION THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE THROUGHOUT A SPECIFIED PRESSURE RANGE.
- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.

FEATURES

- NO INTERNAL PACKINGS.
- HYDRAULIC FLUIDS - GENERAL.
- ALUMINUM BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

13
XX
- X -
XX

SERIES NUMBER _____

THREAD SIZE _____

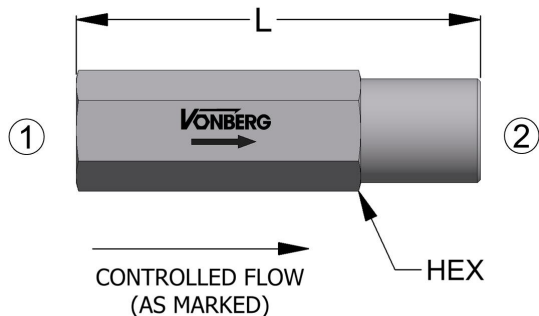
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DAMPENED (S.I.D.) - 1 _____

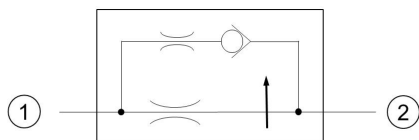
REGULATED FLOW RATE (GPM) _____

| Model | INLET/OUTLET | FLOW RANGE | L | HEX |
|-------|-------------------|-----------------|------|-------|
| 1302 | 1/4-18 NPTF | 0.25 TO 6.0 GPM | 3.50 | 0.938 |
| 1303 | 3/8-18 NPTF | 0.5 TO 8.0 GPM | 3.38 | 0.875 |
| 1304 | 1/2-14 NPTF | 0.5 TO 15.0 GPM | 4.00 | 1.125 |
| 1306 | 3/4-14 NPTF | 1.0 TO 30.0 GPM | 4.75 | 1.375 |
| 1308 | 1-11 1/2 NPTF | 2.0 TO 50.0 GPM | 5.50 | 1.625 |
| 1312 | 1 1/2-11 1/2 NPTF | 5.0 TO 75.0 GPM | 6.29 | 2.250 |

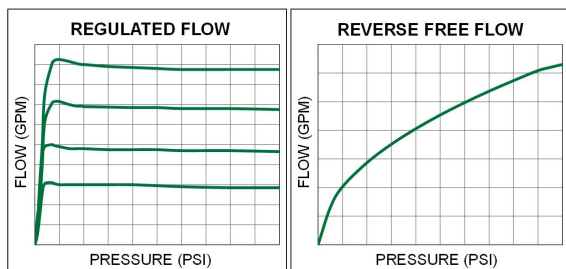
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, PRESSURE-COMPENSATED, NONADJUSTABLE FLOW REGULATOR WITH FEMALE NPTF PORTS, INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 60 PSI MAX. AT 150% OF CONTROLLED FLOW.
- IN THE CONTROLLED DIRECTION THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

- NO INTERNAL PACKINGS.
- HYDRAULIC FLUIDS - GENERAL.
- ALUMINUM BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

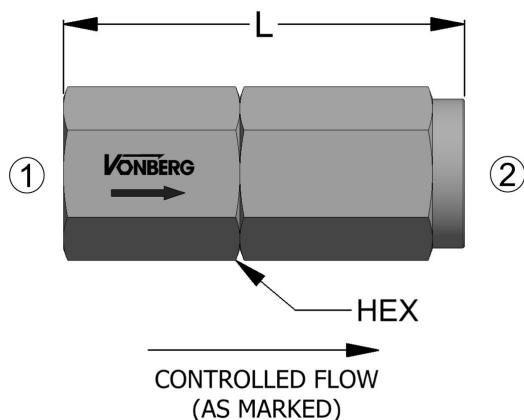
| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 25 PSI TO 3000 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

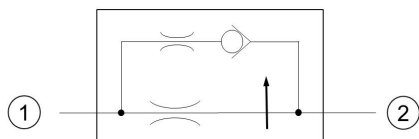
| | | | | | | |
|---------------|-------------|--------------|--------------------|-----------------------|---------------------------|----|
| 13 | XX | L | - | X | - | XX |
| SERIES NUMBER | THREAD SIZE | LOW PRESSURE | UNDAMPENED - BLANK | DAMPENED (S.I.D.) - 1 | REGULATED FLOW RATE (GPM) | |

| Model | INLET/OUTLET | FLOW RANGE | L | HEX |
|-------|-------------------|-----------------|------|-------|
| 1302L | 1/4-18 NPTF | 0.2 TO 2.0 GPM | 3.50 | 0.938 |
| 1303L | 3/8-18 NPTF | 0.2 TO 3.0 GPM | 3.38 | 0.875 |
| 1304L | 1/2-14 NPTF | 0.5 TO 6.0 GPM | 4.00 | 1.125 |
| 1306L | 3/4-14 NPTF | 1.0 TO 10.0 GPM | 4.75 | 1.375 |
| 1308L | 1-11 1/2 NPTF | 2.0 TO 20.0 GPM | 5.50 | 1.625 |
| 1312L | 1 1/2-11 1/2 NPTF | 2.0 TO 40.0 GPM | 6.29 | 2.250 |

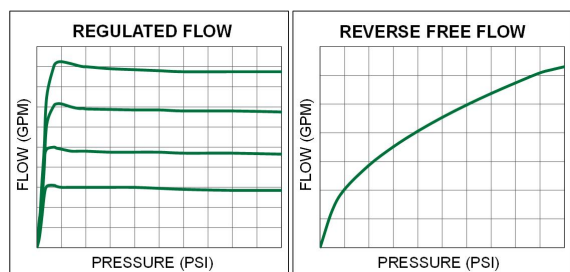
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, PRESSURE-COMPENSATED, NONADJUSTABLE FLOW REGULATOR WITH FEMALE NPTF PORTS, INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.
- IN THE CONTROLLED DIRECTION THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

- NO INTERNAL PACKINGS.
- HYDRAULIC FLUIDS - GENERAL.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

135
X
-
X
-
XX

SERIES NUMBER _____

THREAD SIZE _____

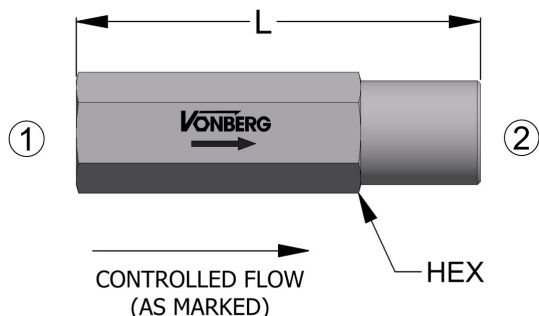
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DAMPENED (S.I.D.) – 1 _____

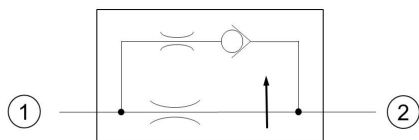
REGULATED FLOW RATE (GPM) _____

| Model | INLET/OUTLET | FLOW RANGE | L | HEX |
|-------|--------------|-----------------|------|-------|
| 1352 | 1/4-18 NPTF | 0.25 TO 4.0 GPM | 2.50 | 0.938 |
| 1353 | 3/8-18 NPTF | 0.25 TO 5.0 GPM | 2.50 | 0.938 |
| 1354 | 1/2-14 NPTF | 0.5 TO 10.0 GPM | 2.88 | 1.062 |

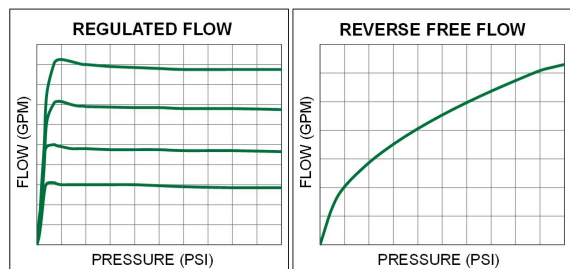
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, PRESSURE-COMPENSATED, NONADJUSTABLE FLOW REGULATOR WITH FEMALE SAE PORTS, INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.
- IN THE CONTROLLED DIRECTION THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

- NO INTERNAL PACKINGS.
- HYDRAULIC FLUIDS - GENERAL.
- ALUMINUM BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

14
XX
- X -
XX

SERIES NUMBER _____

THREAD SIZE _____

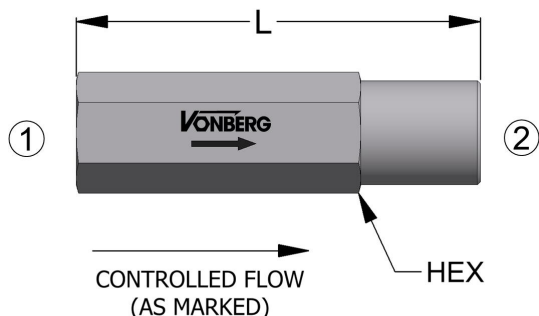
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DAMPENED (S.I.D.) - 1 _____

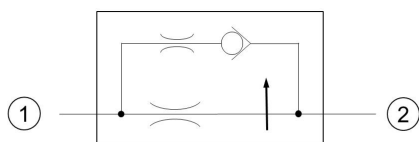
REGULATED FLOW RATE (GPM) _____

| Model | INLET/OUTLET | THREAD | FLOW RANGE | L | HEX |
|-------|--------------|-----------|-----------------|------|-------|
| 1406 | -06 SAE | 9/16-18 | 0.25 TO 8.0 GPM | 3.00 | 0.750 |
| 1408 | -08 SAE | 3/4-16 | 0.5 TO 15.0 GPM | 4.00 | 1.000 |
| 1410 | -10 SAE | 7/8-14 | 0.5 TO 15.0 GPM | 4.00 | 1.125 |
| 1412 | -12 SAE | 1 1/16-12 | 1.0 TO 30.0 GPM | 4.75 | 1.375 |
| 1416 | -16 SAE | 1 5/16-12 | 2.0 TO 50.0 GPM | 5.50 | 1.625 |
| 1424 | -24 SAE | 1 7/8-12 | 5.0 TO 75.0 GPM | 5.50 | 2.250 |

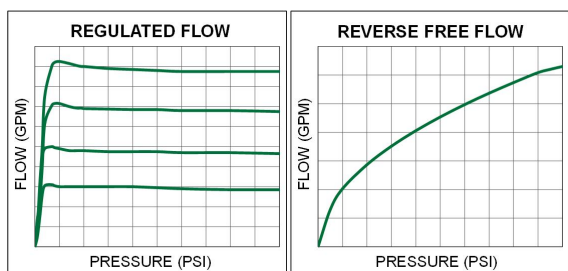
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, PRESSURE-COMPENSATED, NONADJUSTABLE FLOW REGULATOR WITH FEMALE SAE PORTS, INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 60 PSI MAX. AT 150% OF CONTROLLED FLOW.
- IN THE CONTROLLED DIRECTION THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

- NO INTERNAL PACKINGS.
- HYDRAULIC FLUIDS - GENERAL.
- ALUMINUM BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

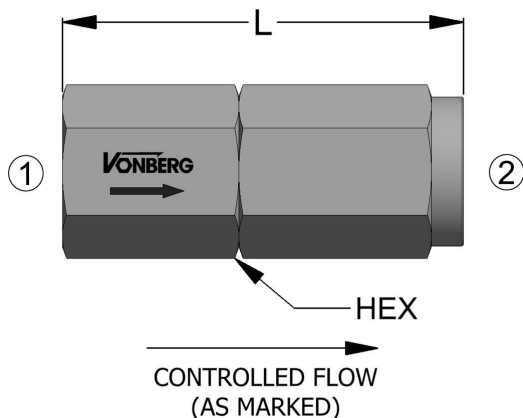
| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 25 PSI TO 3000 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

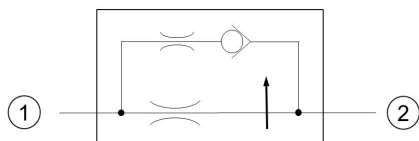
| | | | | | | |
|---------------|-------------|--------------|--------------------|-----------------------|---------------------------|----|
| 14 | XX | L | - | X | - | XX |
| SERIES NUMBER | THREAD SIZE | LOW PRESSURE | UNDAMPENED - BLANK | DAMPENED (S.I.D.) - 1 | REGULATED FLOW RATE (GPM) | |

| Model | INLET/OUTLET | THREAD | FLOW RANGE | L | HEX |
|-------|--------------|-----------|-----------------|------|-------|
| 1406L | -06 SAE | 9/16-18 | 0.2 TO 2.0 GPM | 3.00 | 0.750 |
| 1408L | -08 SAE | 3/4-16 | 0.2 TO 3.0 GPM | 4.00 | 1.000 |
| 1410L | -10 SAE | 7/8-14 | 0.5 TO 6.0 GPM | 4.00 | 1.125 |
| 1412L | -12 SAE | 1 1/16-12 | 1.0 TO 10.0 GPM | 4.75 | 1.375 |
| 1416L | -16 SAE | 1 5/16-12 | 2.0 TO 20.0 GPM | 5.50 | 1.625 |
| 1424L | -24 SAE | 1 7/8-12 | 2.0 TO 40.0 GPM | 5.50 | 2.250 |

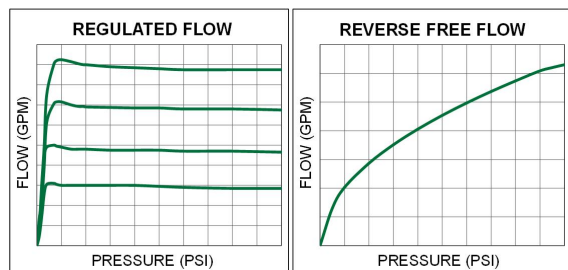
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, PRESSURE-COMPENSATED, NONADJUSTABLE FLOW REGULATOR WITH FEMALE SAE PORTS, INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.
- IN THE CONTROLLED DIRECTION THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

- NO INTERNAL PACKINGS.
- HYDRAULIC FLUIDS - GENERAL.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

145 **X** - **X** - **XX**

SERIES NUMBER _____

THREAD SIZE _____

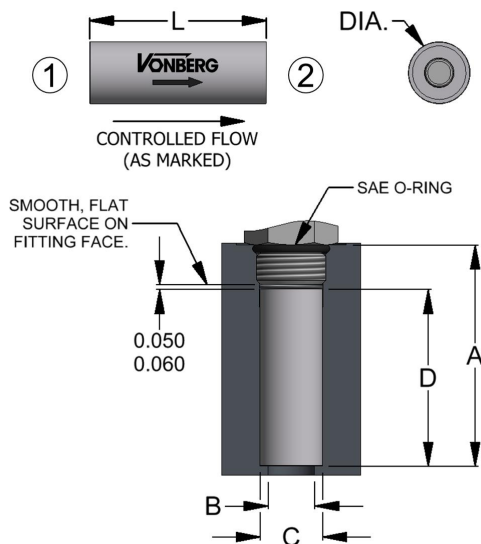
UNDAMPENED - BLANK _____

DAMPENED (S.I.D.) - 1 _____

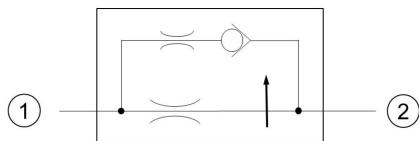
REGULATED FLOW RATE (GPM) _____

| Model | INLET/OUTLET | FLOW RANGE | L | HEX |
|-------|-------------------|-----------------|------|-------|
| 1454 | -04 SAE - 7/16-20 | 0.25 TO 4.0 GPM | 2.25 | 0.750 |
| 1456 | -06 SAE - 9/16-18 | 0.25 TO 5.0 GPM | 2.50 | 0.938 |
| 1458 | -08 SAE - 3/4-16 | 0.5 TO 10.0 GPM | 2.88 | 1.062 |

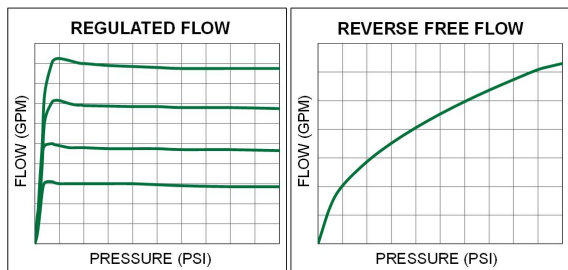
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, SLIP-IN CARTRIDGE, PRESSURE-COMPENSATED, NONADJUSTABLE FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.
- CARTRIDGE BODY SEATS ON SMOOTH, FLAT SURFACE OF FITTING IN THE REGULATED FLOW DIRECTION.
- BORE DEPTHS ASSUME THE USE OF A STD. O-RING BOSS CONNECTOR WITH THREAD LENGTHS BASED ON SAE J514.
- IN THE CONTROLLED DIRECTION THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

- HYDRAULIC FLUIDS - GENERAL.
- NO INTERNAL PACKINGS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.
- ALUMINUM BODY, STEEL INTERNALS.

SPECIFICATIONS

| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

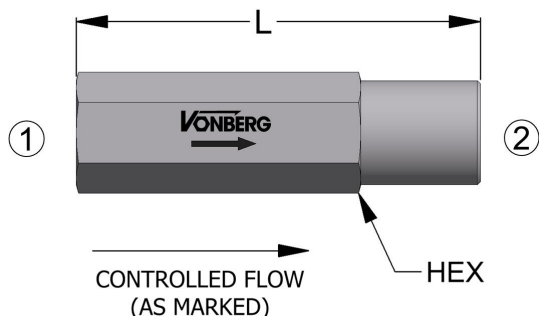
SERIES NUMBER 15
 PORT SIZE XX
 UNDAMPENED - BLANK -
 DAMPENED (S.I.D.) - 1 X
 REGULATED FLOW RATE (GPM) XX

| Model | VALVE DIA. | FLOW RANGE | L | A | B (MAX.) | C | D |
|-------|------------|-----------------|------|-------------|----------|---------------|-------------|
| 1508 | 0.670 | 0.25 TO 8.0 GPM | 1.90 | 2.40 / 2.41 | 0.500 | 0.672 / 0.677 | 1.96 / 1.97 |
| 1510 | 0.795 | 0.5 TO 15.0 GPM | 2.03 | 2.59 / 2.60 | 0.625 | 0.797 / 0.802 | 2.09 / 2.10 |
| 1512 | 0.970 | 1.0 TO 30.0 GPM | 2.78 | 3.43 / 3.44 | 0.812 | 0.972 / 0.977 | 2.84 / 2.85 |
| 1514 | 1.095 | 1.0 TO 30.0 GPM | 3.00 | 3.65 / 3.66 | 0.812 | 1.097 / 1.102 | 3.06 / 3.07 |
| 1516 | 1.220 | 2.0 TO 50.0 GPM | 3.19 | 3.84 / 3.85 | 0.937 | 1.222 / 1.227 | 3.24 / 3.25 |
| 1524 | 1.783 | 5.0 TO 75.0 GPM | 3.25 | 3.90 / 3.91 | 1.437 | 1.787 / 1.792 | 3.31 / 3.32 |

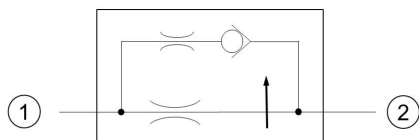
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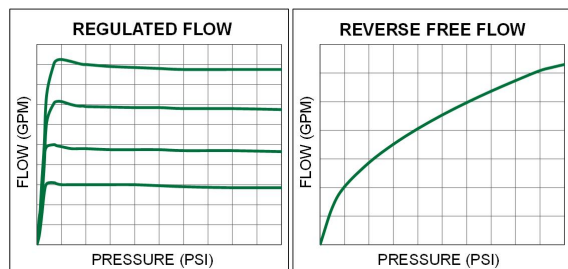
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, PRESSURE-COMPENSATED, NONADJUSTABLE FLOW REGULATOR WITH FEMALE NPTF PORTS, INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- IN THE CONTROLLED DIRECTION THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE THROUGHOUT A SPECIFIED PRESSURE RANGE.
- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.

FEATURES

- NO INTERNAL PACKINGS.
- HYDRAULIC FLUIDS - GENERAL.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

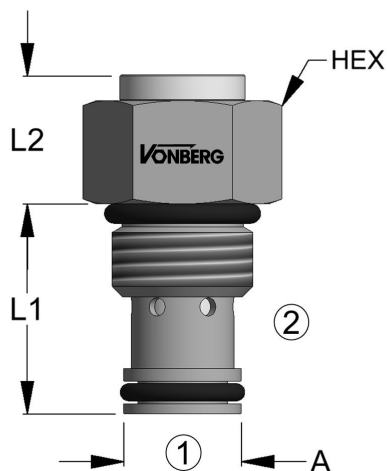
| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 5000 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

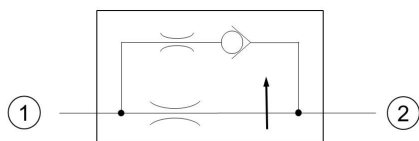
| | | | | | |
|---------------------------|----------------|-----------------------|-----------|-------------------------------|-------------------------------------|
| 23 | X | XX | X | - | XX |
| SERIES NUMBER | UNDAMPENED - 0 | DAMPENED (S.I.D.) - 1 | PORT SIZE | STEEL BODY (STANDARD) - BLANK | STAINLESS STEEL BODY (OPTIONAL) - S |
| REGULATED FLOW RATE (GPM) | | | | | |

| Model | INLET/OUTLET | FLOW RANGE | L | HEX |
|-------|-------------------|-----------------|------|-------|
| 23002 | 1/4-18 NPTF | 0.25 TO 6.0 GPM | 3.50 | 0.938 |
| 23003 | 3/8-18 NPTF | 0.5 TO 8.0 GPM | 3.38 | 0.875 |
| 23004 | 1/2-14 NPTF | 0.5 TO 15.0 GPM | 4.00 | 1.125 |
| 23006 | 3/4-14 NPTF | 1.0 TO 30.0 GPM | 4.75 | 1.375 |
| 23008 | 1-11 1/2 NPTF | 2.0 TO 50.0 GPM | 5.50 | 1.625 |
| 23012 | 1 1/2-11 1/2 NPTF | 5.0 TO 75.0 GPM | 6.29 | 2.250 |

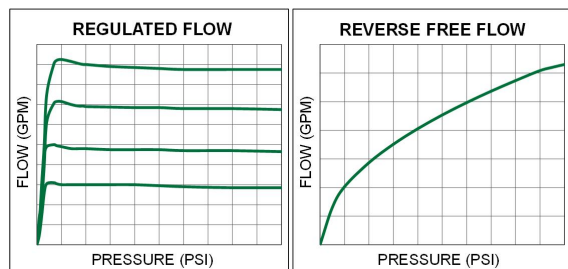
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A NON-ADJUSTABLE, CARTRIDGE STYLE, PRESSURE-COMPENSATED, FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.
- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (2) THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

- INDUSTRY COMMON CAVITY.
- HYDRAULIC FLUIDS - GENERAL.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

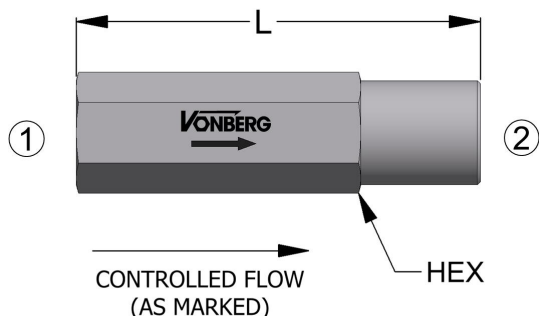
| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

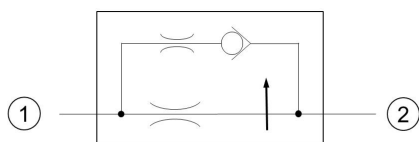
| | | | | |
|--|----|----|-------|---------|
| 24 XX - X - XX - XX | | | | |
| SERIES NUMBER | 24 | XX | - X - | XX - XX |
| CAVITY SIZE | | | | |
| UNDAMPENED - BLANK | | | | |
| DAMPENED (S.I.D.) - 1 | | | | |
| REGULATED FLOW RATE (GPM) | | | | |
| BODY PORT SIZE CODE | | | | |
| BLANK..... CARTRIDGE ONLY | | | | |
| SERIES CODE.... SEE "CARTRIDGE BODIES", X-2 SERIES | | | | |

| Model | THREAD | FLOW RANGE | CAVITY | L1 | L2 | HEX | A | TORQUE |
|-------|-------------|-----------------|--------|------|------|------|---------------|-----------|
| 2404 | 7/16 - 20 | 0.4 TO 2.0 GPM | VC04-2 | 0.94 | 0.55 | 0.56 | 0.277 / 0.278 | 10 ft-lbs |
| 2406 | 9/16 - 18 | 0.4 TO 4.0 GPM | FC06-2 | 0.84 | 0.53 | 0.69 | 0.467 / 0.468 | 15 ft-lbs |
| 2408 | 3/4 - 16 | 0.4 TO 8.0 GPM | VC08-2 | 1.10 | 0.85 | 0.88 | 0.495 / 0.497 | 20 ft-lbs |
| 2410 | 7/8 - 14 | 0.5 TO 10.0 GPM | VC10-2 | 1.25 | 0.80 | 1.00 | 0.621 / 0.623 | 25 ft-lbs |
| 2412 | 1 1/16 - 12 | 2.0 TO 20.0 GPM | VC12-2 | 1.81 | 1.35 | 1.25 | 0.870 / 0.873 | 40 ft-lbs |
| 2416 | 1 5/16 - 12 | 2.0 TO 30.0 GPM | VC16-2 | 1.75 | 1.35 | 1.50 | 1.121 / 1.123 | 60 ft-lbs |

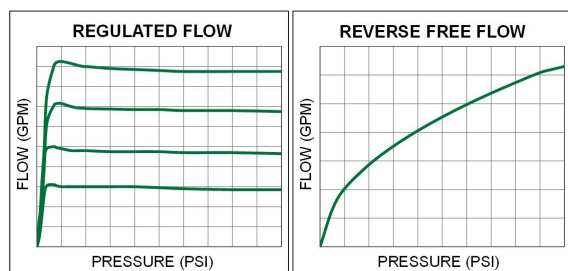
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, PRESSURE-COMPENSATED, NONADJUSTABLE FLOW REGULATOR WITH FEMALE SAE PORTS, INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.
- IN THE CONTROLLED DIRECTION THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

- NO INTERNAL PACKINGS.
- HYDRAULIC FLUIDS - GENERAL.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 5000 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

| | | | | | |
|---------------------------|----------------|-----------------------|-----------|-------------------------------|-------------------------------------|
| 24 | X | XX | X | - | XX |
| SERIES NUMBER | UNDAMPENED - 0 | DAMPENED (S.I.D.) - 1 | PORT SIZE | STEEL BODY (STANDARD) - BLANK | STAINLESS STEEL BODY (OPTIONAL) - S |
| REGULATED FLOW RATE (GPM) | | | | | |

| Model | INLET/OUTLET | THREAD | FLOW RANGE | L | HEX |
|-------|--------------|-----------|-----------------|------|-------|
| 24006 | -06 SAE | 9/16-18 | 0.25 TO 8.0 GPM | 3.00 | 0.750 |
| 24008 | -08 SAE | 3/4-16 | 0.5 TO 15.0 GPM | 4.00 | 1.000 |
| 24010 | -10 SAE | 7/8-14 | 0.5 TO 15.0 GPM | 4.00 | 1.125 |
| 24012 | -12 SAE | 1 1/16-12 | 1.0 TO 30.0 GPM | 4.75 | 1.375 |
| 24016 | -16 SAE | 1 5/16-12 | 2.0 TO 50.0 GPM | 5.50 | 1.625 |
| 24024 | -24 SAE | 1 7/8-12 | 5.0 TO 75.0 GPM | 5.50 | 2.250 |

DESCRIPTION

A NON-ADJUSTABLE, CARTRIDGE STYLE, PRESSURE-COMPENSATED, FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (2) THROUGHOUT A SPECIFIED PRESSURE RANGE.
- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.

FEATURES

- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.
- STEEL BODY, STEEL INTERNALS.
- HYDRAULIC FLUIDS - GENERAL.
- INDUSTRY COMMON CAVITY.

SPECIFICATIONS

| | |
|----------------|--------------------|
| FLOW TOLERANCE | +/- 20% to +/- 10% |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |

| MODEL | THREAD | FLOW RANGE | CAVITY | L1 | L2 | HEX | A | TORQUE |
|-------|----------|----------------|--------|-------|------|-------|---------------|-----------|
| 2408T | 3/4 - 16 | 0.1 TO 0.5 GPM | VC08-2 | 1.120 | 0.40 | 0.875 | 0.495 / 0.497 | 20 ft-lbs |

DESCRIPTION

A NON-ADJUSTABLE, CARTRIDGE STYLE, PRESSURE-COMPENSATED, FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.
- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (2) THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

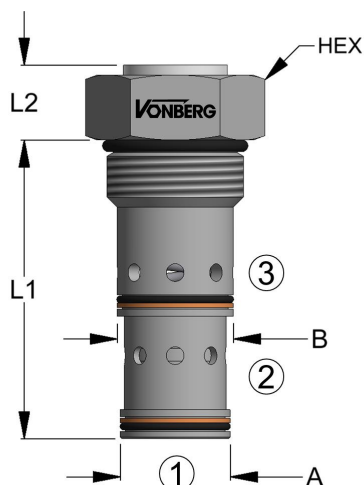
- T-SERIES CAVITY.
- HYDRAULIC FLUIDS - GENERAL.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

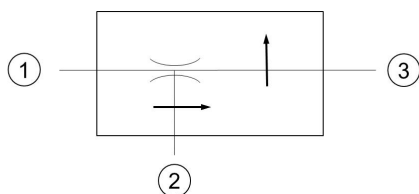
| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 5000 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

| Model | THREAD | FLOW RANGE | CAVITY | L1 | L2 | HEX | A | B | SD | TORQUE |
|--------|-------------|-----------------|--------|------|------|-------|---------------|---------------|-------|-----------|
| 24T162 | M16 X 1.5 | 0.4 TO 8.0 GPM | T-162A | 1.12 | 0.79 | 0.75 | 0.512 / 0.513 | 0.653 / 0.654 | 0.290 | 15 FT-LBS |
| 24T13 | M20 X 1.5 | 0.5 TO 10.0 GPM | T-13A | 1.38 | 0.88 | 0.88 | 0.683 / 0.685 | 0.807 / 0.809 | 0.225 | 25 FT-LBS |
| 24T5 | 1" X 14 UNS | 2.0 TO 20.0 GPM | T-5A | 1.63 | 1.13 | 1.125 | 0.871 / 0.873 | 1.027 / 1.029 | 0.280 | 35 FT-LBS |
| 24T16 | M36 X 2.0 | 2.0 TO 30.0 GPM | T-16A | 1.81 | 1.34 | 1.63 | 1.246 / 1.247 | 1.433 / 1.435 | 0.220 | 45 FT-LBS |

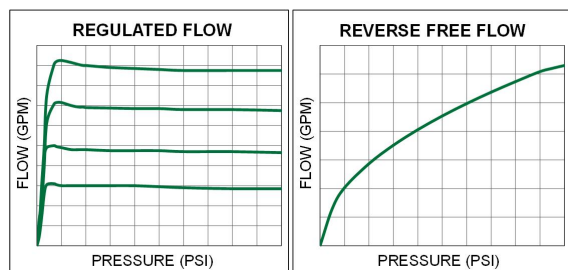
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A NONADJUSTABLE, CARTRIDGE STYLE, PRESSURE-COMPENSATED, PRIORITY FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- WHEN INLET FLOW EXCEEDS THE PRIORITY SETTING, THE SURPLUS FLOW IS DIVERTED TO (2), THE BYPASS.
- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (3) THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

- INDUSTRY COMMON CAVITY.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.
- HYDRAULIC FLUIDS - GENERAL.

SPECIFICATIONS

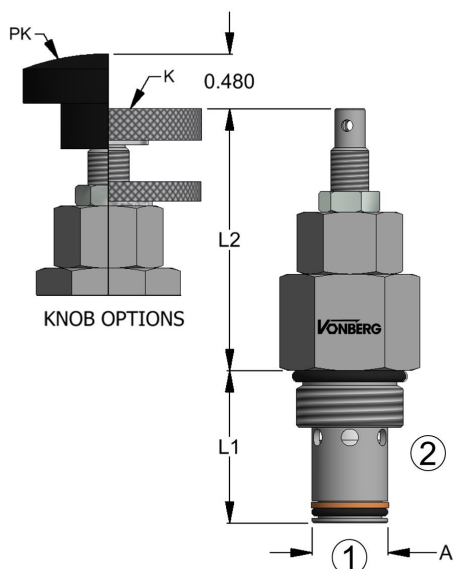
| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

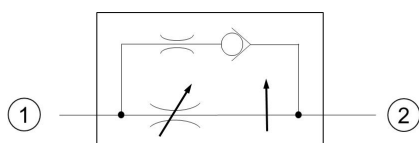
| | | | | | | | | |
|---------------------------|------------------------------------|----|---|---|---|----|---|----|
| SERIES NUMBER | 25 | XX | - | X | - | XX | - | XX |
| CAVITY SIZE | | | | | | | | |
| UNDAMPENED - BLANK | | | | | | | | |
| DAMPENED (S.I.D.) - 1 | | | | | | | | |
| REGULATED FLOW RATE (GPM) | | | | | | | | |
| BODY PORT SIZE CODE | | | | | | | | |
| BLANK..... | CARTRIDGE ONLY | | | | | | | |
| SERIES CODE.... | SEE "CARTRIDGE BODIES", X-3 SERIES | | | | | | | |

| MODEL | THREAD | FLOW RANGE | CAVITY | L1 | L2 | HEX" | A | B | TORQUE |
|-------|-------------|-----------------|--------|------|------|------|---------------|---------------|-----------|
| 2508 | 3/4 - 16 | 0.4 TO 5.0 GPM | VC08-3 | 1.60 | 0.65 | 0.88 | 0.558 / 0.560 | 0.621 / 0.623 | 20 ft-lbs |
| 2510 | 7/8 - 14 | 0.5 TO 8.0 GPM | VC10-3 | 1.79 | 0.42 | 1.00 | 0.621 / 0.623 | 0.683 / 0.685 | 25 ft-lbs |
| 2512 | 1 1/16 - 12 | 1.0 TO 15.0 GPM | VC12-3 | 2.63 | 1.00 | 1.25 | 0.870 / 0.873 | 0.933 / 0.935 | 40 ft-lbs |
| 2516 | 1 5/16 - 12 | 2.0 TO 25.0 GPM | VC16-3 | 2.88 | 0.75 | 1.50 | 1.058 / 1.060 | 1.121 / 1.123 | 60 ft-lbs |

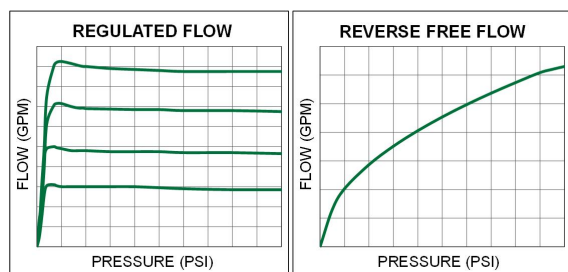
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A FULLY ADJUSTABLE, CARTRIDGE STYLE, PRESSURE-COMPENSATED, FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (2) THROUGHOUT A SPECIFIED PRESSURE RANGE.
- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED, PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AND 150% OF CONTROLLED FLOW.
- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE FLOW.

FEATURES

- FULLY ADJUSTABLE
- INDUSTRY COMMON CAVITY.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.
- HYDRAULIC FLUIDS - GENERAL.

SPECIFICATIONS

| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 120 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

| | |
|-----------------------------------|---|
| 26XX-X-X-XX-XX | |
| SERIES NUMBER | 26 |
| CAVITY SIZE | XX |
| ADJUSTING SCREW | X |
| UNDAMPENED - BLANK | - |
| DAMPENED (S.I.D.) - 1 | - |
| PRESET FLOW RATE (OPTIONAL) (GPM) | - |
| BODY PORT SIZE CODE | XX |
| BLANK..... | 1/8" SOCKET HEX** WITH LOCK NUT |
| K..... | 1.50" DIA. ADJ. KNOB WITH LOCKING KNOB** |
| PK..... | 1.375" DIA. PLASTIC ADJ. KNOB WITH LOCK NUT |
| SERIES CODE... | SEE "CARTRIDGE BODIES", X-2 SERIES |

** 5/64 HEX, 0.88 DIA. KNOB FOR MODEL 2606

| Model | THREAD | FLOW RANGE | CAVITY | L1 | L2 (MAX.) | HEX | A | TORQUE |
|-------|-------------|-----------------|--------|------|-----------|------|---------------|-----------|
| 2606 | 9/16 - 18 | 0.4 TO 4.0 GPM | FC06-2 | 0.84 | 1.08 | 0.69 | 0.467 / 0.468 | 15 ft-lbs |
| 2608 | 3/4 - 16 | 0.4 TO 8.0 GPM | VC08-2 | 1.10 | 2.20 | 0.88 | 0.495 / 0.497 | 20 ft-lbs |
| 2610 | 7/8 - 14 | 0.5 TO 10.0 GPM | VC10-2 | 1.25 | 2.25 | 1.00 | 0.621 / 0.623 | 25 ft-lbs |
| 2612 | 1 1/16 - 12 | 2.0 TO 20.0 GPM | VC12-2 | 1.81 | 2.75 | 1.25 | 0.870 / 0.873 | 40 ft-lbs |
| 2616 | 1 5/16 - 12 | 2.0 TO 30.0 GPM | VC16-2 | 1.75 | 2.75 | 1.50 | 1.121 / 1.123 | 60 ft-lbs |

DESCRIPTION

A FULLY ADJUSTABLE, CARTRIDGE STYLE, PRESSURE-COMPENSATED, FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (2) THROUGHOUT A SPECIFIED PRESSURE RANGE.
- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED, PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AND 150% OF CONTROLLED FLOW.
- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE FLOW.

FEATURES

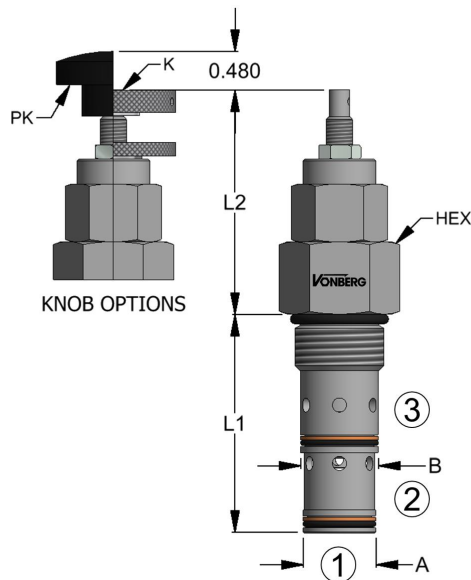
- FULLY ADJUSTABLE
- T-SERIES CAVITY.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.
- HYDRAULIC FLUIDS - GENERAL.

SPECIFICATIONS

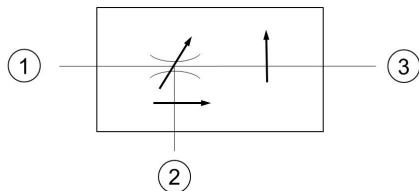
| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 120 PSI TO 5000 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

| Model | THREAD | FLOW RANGE | CAVITY | L1 | L2 (MAX.) | HEX | A | B | SD | TORQUE |
|--------|-------------|-----------------|--------|------|-----------|------|---------------|---------------|-------|-----------|
| 26T162 | M16 X 1.5 | 0.4 TO 8.0 GPM | T-162A | 1.21 | 2.05 | 0.75 | 0.512 / 0.513 | 0.653 / 0.654 | 0.290 | 15 FT-LBS |
| 26T13 | M20 X 1.5 | 0.5 TO 10.0 GPM | T-13A | 1.38 | 2.14 | 0.88 | 0.683 / 0.685 | 0.807 / 0.809 | 0.225 | 25 FT-LBS |
| 26T5 | 1" X 14 UNS | 2.0 TO 20.0 GPM | T-5A | 1.63 | 2.85 | 1.13 | 0.871 / 0.873 | 1.027 / 1.029 | 0.280 | 35 FT-LBS |
| 26T16 | M36 X 2.0 | 2.0 TO 30.0 GPM | T-16A | 1.81 | 3.01 | 1.63 | 1.246 / 1.247 | 1.433 / 1.435 | 0.220 | 45 FT-LBS |

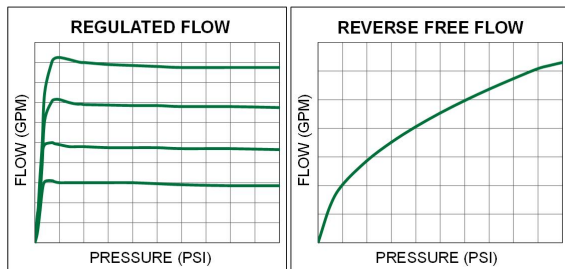
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A FULLY ADJUSTABLE, CARTRIDGE STYLE, PRESSURE-COMPENSATED, PRIORITY FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE FLOW.
- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (3) THROUGHOUT A SPECIFIED PRESSURE RANGE.
- WHEN INLET FLOW EXCEEDS THE PRIORITY SETTING, THE SURPLUS FLOW IS DIVERTED TO (2), THE BYPASS.

FEATURES

- FULLY ADJUSTABLE
- INDUSTRY COMMON CAVITY.
- HYDRAULIC FLUIDS - GENERAL.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

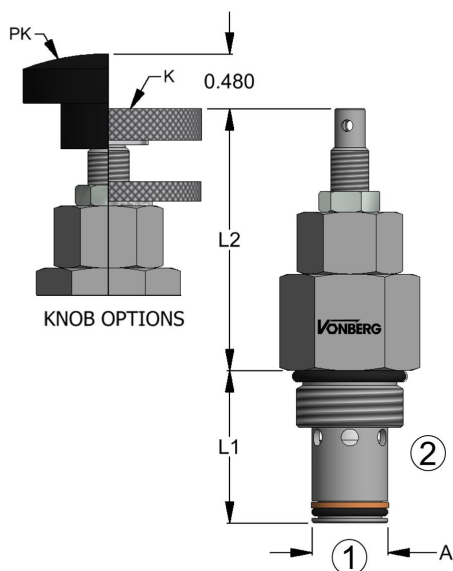
| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

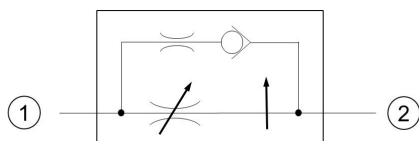
SERIES NUMBER 27
 CAVITY SIZE XX
 ADJUSTING SCREW X
 BLANK..... 1/8" SOCKET HEX** WITH LOCK NUT
 K..... 1.50" DIA. ADJ. KNOB WITH LOCKING KNOB**
 PK..... 1.375" DIA. PLASTIC ADJ. KNOB WITH LOCK NUT
 UNDAMPENED - BLANK
 DAMPENED (S.I.D.) - 1
 PRESET FLOW RATE (OPTIONAL) (GPM) XX
 BODY PORT SIZE CODE XX
 BLANK..... CARTRIDGE ONLY
 SERIES CODE... SEE "CARTRIDGE BODIES", X-3 SERIES
 ** 5/64 HEX, 0.88 DIA. KNOB FOR MODEL 2706

| MODEL | THREAD | FLOW RANGE | CAVITY | L1 | L2 (MAX.) | HEX | A | B | TORQUE |
|-------|-------------|-----------------|--------|------|-----------|------|---------------|---------------|-----------|
| 2708 | 3/4 - 16 | 0.4 TO 5.0 GPM | VC08-3 | 1.60 | 1.95 | 0.88 | 0.558 / 0.560 | 0.621 / 0.623 | 20 ft-lbs |
| 2710 | 7/8 - 14 | 0.5 TO 8.0 GPM | VC10-3 | 1.79 | 1.72 | 1.00 | 0.621 / 0.623 | 0.683 / 0.685 | 25 ft-lbs |
| 2712 | 1 1/16 - 12 | 1.0 TO 15.0 GPM | VC12-3 | 2.63 | 2.30 | 1.25 | 0.870 / 0.873 | 0.933 / 0.935 | 40 ft-lbs |
| 2716 | 1 5/16 - 12 | 2.0 TO 25.0 GPM | VC16-3 | 2.88 | 2.05 | 1.50 | 1.058 / 1.060 | 1.121 / 1.123 | 60 ft-lbs |

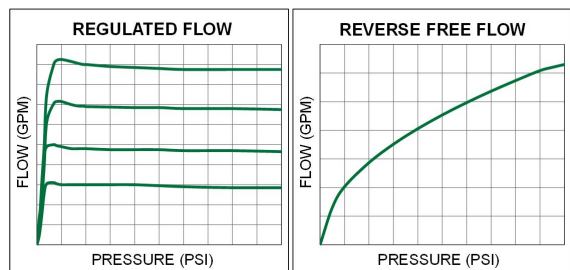
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A PARTIALLY ADJUSTABLE, CARTRIDGE STYLE, PRESSURE-COMPENSATED, FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE FLOW.
- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (2) THROUGHOUT A SPECIFIED PRESSURE RANGE.
- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED, PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.

FEATURES

- PARTIALLY ADJUSTABLE
- INDUSTRY COMMON CAVITY.
- STEEL BODY, STEEL INTERNALS.
- HYDRAULIC FLUIDS - GENERAL.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

| | |
|-----------------------|---------------------------------|
| FLOW ADJUSTMENT RANGE | +/- 25% OF NOMINAL FLOW |
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 120 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

| | | | | | | | | |
|---|----|---|---|---|---|----|---|----|
| 28 | XX | X | - | X | - | XX | - | XX |
| <p>SERIES NUMBER _____</p> <p>CAVITY SIZE _____</p> <p>ADJUSTING SCREW _____</p> <p>BLANK..... 1/8" SOCKET HEX** WITH LOCK NUT</p> <p>K..... 1.50" DIA. ADJ. KNOB WITH LOCKING KNOB**</p> <p>PK..... 1.375" DIA. PLASTIC ADJ. KNOB WITH LOCK NUT</p> <p>UNDAMPENED - BLANK _____</p> <p>DAMPENED (S.I.D.) - 1 _____</p> <p>NOMINAL FLOW RATE (GPM) _____</p> <p>BODY PORT SIZE CODE _____</p> <p>BLANK..... CARTRIDGE ONLY</p> <p>SERIES CODE... SEE "CARTRIDGE BODIES", X-2 SERIES</p> <p>** 5/64 HEX, 0.88 DIA. KNOB FOR MODEL 2806</p> | | | | | | | | |

| Model | THREAD | FLOW RANGE | CAVITY | L1 | L2 (MAX.) | HEX | A | TORQUE |
|-------|-------------|-----------------|--------|------|-----------|------|---------------|-----------|
| 2806 | 9/16 - 18 | 0.4 TO 4.0 GPM | FC06-2 | 0.84 | 1.08 | 0.69 | 0.467 / 0.468 | 15 ft-lbs |
| 2808 | 3/4 - 16 | 0.4 TO 6.0 GPM | VC08-2 | 1.10 | 2.20 | 0.88 | 0.495 / 0.497 | 20 ft-lbs |
| 2810 | 7/8 - 14 | 0.5 TO 8.0 GPM | VC10-2 | 1.25 | 2.25 | 1.00 | 0.621 / 0.623 | 25 ft-lbs |
| 2812 | 1 1/16 - 12 | 2.0 TO 15.0 GPM | VC12-2 | 1.81 | 2.75 | 1.25 | 0.870 / 0.873 | 40 ft-lbs |
| 2816 | 1 5/16 - 12 | 2.0 TO 25.0 GPM | VC16-2 | 1.75 | 2.75 | 1.50 | 1.121 / 1.123 | 60 ft-lbs |

This document, as well as all catalogs, price lists and information provided by Vonberg Valve, Inc., is intended to provide product information for further consideration by users having substantial technical expertise due to the variety of operating conditions and applications for these valves, the user, through its own analysis, testing and evaluation, is solely responsible for making the final selection of the products and ensuring that all safety, warning and performance requirements of the application or use are met. The valves described herein, including without limitation, all component features, specifications, designs, pricing and availability, are subject to change at any time at the sole discretion of Vonberg Valve, Inc. without prior notification.

1/15/19, 5:53 PM

DESCRIPTION

A PARTIALLY ADJUSTABLE, CARTRIDGE STYLE, PRESSURE-COMPENSATED, FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE FLOW.
- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (2) THROUGHOUT A SPECIFIED PRESSURE RANGE.
- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED, PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.

FEATURES

- PARTIALLY ADJUSTABLE
- T-SERIES CAVITY.
- STEEL BODY, STEEL INTERNALS.
- HYDRAULIC FLUIDS - GENERAL.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

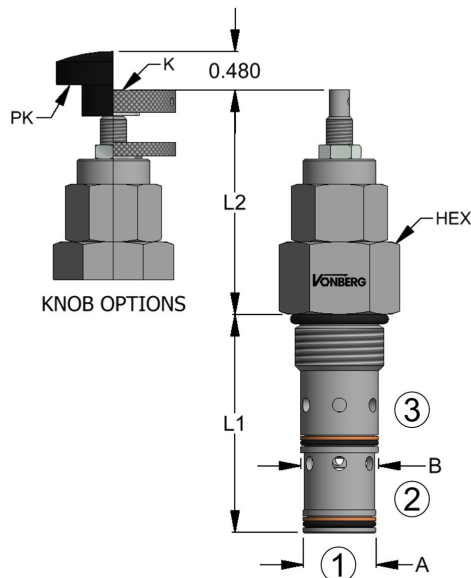
| | |
|-----------------------|---------------------------------|
| FLOW ADJUSTMENT RANGE | +/- 25% OF NOMINAL FLOW |
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 120 PSI TO 5000 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

| Model | THREAD | FLOW RANGE | CAVITY | L1 | L2 (MAX.) | HEX | A | B | SD | TORQUE |
|--------|-------------|-----------------|--------|------|-----------|------|---------------|---------------|-------|-----------|
| 28T162 | M16 X 1.5 | 0.4 TO 6.0 GPM | T-162A | 1.21 | 2.05 | 0.75 | 0.512 / 0.513 | 0.653 / 0.654 | 0.290 | 15 FT-LBS |
| 28T13 | M20 X 1.5 | 0.5 TO 8.0 GPM | T-13A | 1.38 | 2.14 | 0.88 | 0.683 / 0.685 | 0.807 / 0.809 | 0.225 | 25 FT-LBS |
| 28T5 | 1" - 14 UNS | 2.0 TO 15.0 GPM | T-5A | 1.63 | 2.85 | 1.13 | 0.871 / 0.873 | 1.027 / 1.029 | 0.280 | 35 FT-LBS |
| 28T16 | M36 X 2.0 | 2.0 TO 25.0 GPM | T-16A | 1.81 | 3.01 | 1.63 | 1.246 / 1.247 | 1.433 / 1.435 | 0.220 | 45 FT-LBS |

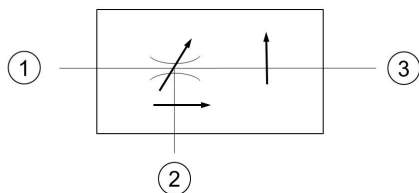
This document, as well as all catalogs, price lists and information provided by Vonberg Valve, Inc., is intended to provide product information for further consideration by users having substantial technical expertise due to the variety of operating conditions and applications for these valves, the user, through its own analysis, testing and evaluation, is solely responsible for making the final selection of the products and ensuring that all safety, warning and performance requirements of the application or use are met. The valves described herein, including without limitation, all component features, specifications, designs, pricing and availability, are subject to change at any time at the sole discretion of Vonberg Valve, Inc. without prior notification.

7/8/20, 9:27 PM

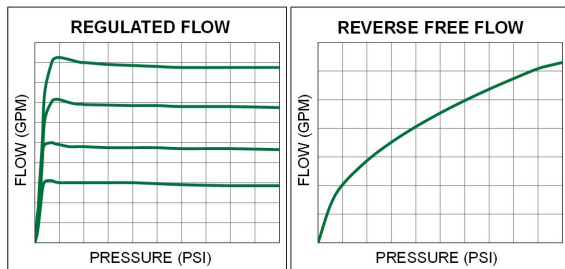
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A FULLY ADJUSTABLE, CARTRIDGE STYLE, PRESSURE-COMPENSATED, PRIORITY FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (3) THROUGHOUT A SPECIFIED PRESSURE RANGE.
- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE FLOW.
- WHEN INLET FLOW EXCEEDS THE PRIORITY SETTING, THE SURPLUS FLOW IS DIVERTED TO (2), THE BYPASS.

FEATURES

- PARTIALLY ADJUSTABLE.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.
- STEEL BODY, STEEL INTERNALS.
- HYDRAULIC FLUIDS - GENERAL.
- INDUSTRY COMMON CAVITY.

SPECIFICATIONS

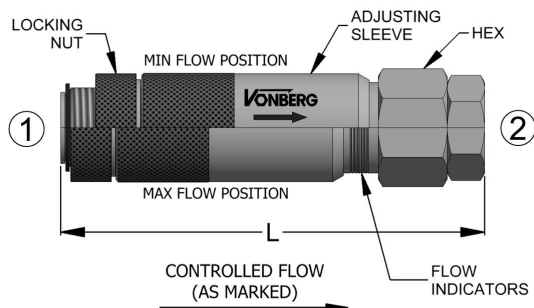
| | |
|-----------------------|---------------------------------|
| FLOW ADJUSTMENT RANGE | +/- 25% OF NOMINAL FLOW SETTING |
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

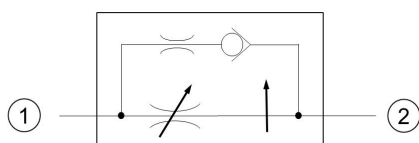
| | | | | | | | | |
|---|----|---|---|---|---|----|---|----|
| 29 | XX | X | - | X | - | XX | - | XX |
| <p>SERIES NUMBER _____</p> <p>CAVITY SIZE _____</p> <p>ADJUSTING SCREW _____</p> <p>BLANK..... 1/8" SOCKET HEX** WITH LOCK NUT</p> <p>K..... 1.50" DIA. ADJ. KNOB WITH LOCKING KNOB**</p> <p>PK..... 1.375" DIA. PLASTIC ADJ. KNOB WITH LOCK NUT</p> <p>UNDAMPENED - BLANK _____</p> <p>DAMPENED (S.I.D.) - 1 _____</p> <p>NOMINAL FLOW RATE (GPM) _____</p> <p>BODY PORT SIZE CODE _____</p> <p>BLANK..... CARTRIDGE ONLY</p> <p>SERIES CODE... SEE "CARTRIDGE BODIES", X-3 SERIES</p> <p>** 5/64 HEX, 0.88 DIA. KNOB FOR MODEL 2906</p> | | | | | | | | |

| MODEL | THREAD | FLOW RANGE | CAVITY | L1 | L2 (MAX.) | HEX | A | B | TORQUE |
|-------|-------------|-----------------|--------|------|-----------|------|---------------|---------------|-----------|
| 2908 | 3/4 - 16 | 0.4 TO 5.0 GPM | VC08-3 | 1.60 | 1.95 | 0.88 | 0.558 / 0.560 | 0.621 / 0.623 | 20 ft-lbs |
| 2910 | 7/8 - 14 | 0.5 TO 8.0 GPM | VC10-3 | 1.79 | 1.72 | 1.00 | 0.621 / 0.623 | 0.683 / 0.685 | 25 ft-lbs |
| 2912 | 1 1/16 - 12 | 1.0 TO 15.0 GPM | VC12-3 | 2.63 | 2.30 | 1.25 | 0.870 / 0.873 | 0.933 / 0.935 | 40 ft-lbs |
| 2916 | 1 5/16 - 12 | 2.0 TO 25.0 GPM | VC16-3 | 2.88 | 2.05 | 1.50 | 1.058 / 1.060 | 1.121 / 1.123 | 60 ft-lbs |

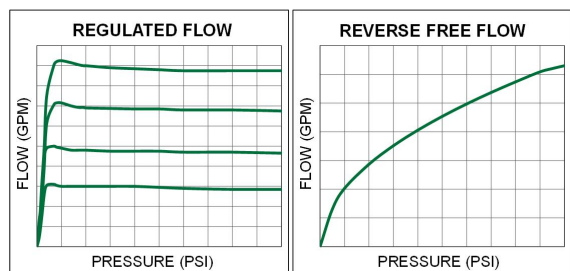
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A FULLY ADJUSTABLE, INLINE STYLE, PRESSURE-COMPENSATED, FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE FLOW.
- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (2) THROUGHOUT A SPECIFIED PRESSURE RANGE.
- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.

FEATURES

- HYDRAULIC FLUIDS - GENERAL.
- ALUMINUM AND STEEL BODY, STEEL INTERNALS.
- UNIQUE AXIAL ROTATION FOR FULL ADJUSTABILITY.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

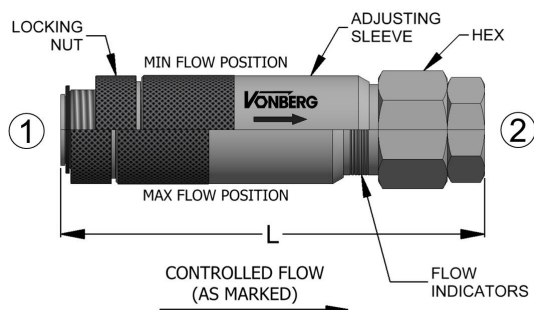
| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

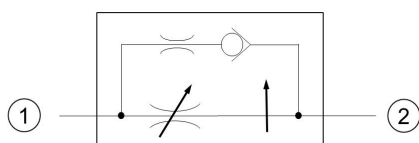
| | | | |
|-----------------------|--|--|--|
| 3100 X - X | | | |
| SERIES NUMBER | | | |
| PORT SIZE | | | |
| UNDAMPENED - BLANK | | | |
| DAMPENED (S.I.D.) - 1 | | | |

| Model | INLET/OUTLET | FLOW RANGE | L | HEX |
|-------|------------------|----------------|------|-------|
| 31002 | 1/4-18 NPTF PORT | 0.2 TO 6.0 GPM | 4.66 | 1.125 |

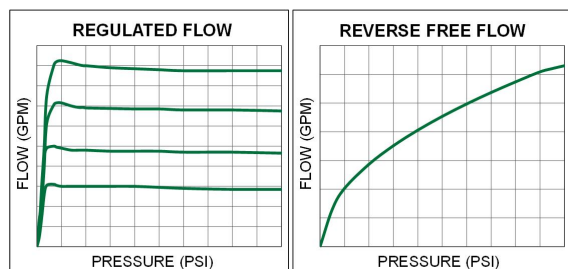
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A FULLY ADJUSTABLE, INLINE STYLE, PRESSURE-COMPENSATED, FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (2) THROUGHOUT A SPECIFIED PRESSURE RANGE.
- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE FLOW.
- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.

FEATURES

- HYDRAULIC FLUIDS - GENERAL.
- ALUMINUM AND STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.
- UNIQUE AXIAL ROTATION FOR FULL ADJUSTABILITY.

SPECIFICATIONS

| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

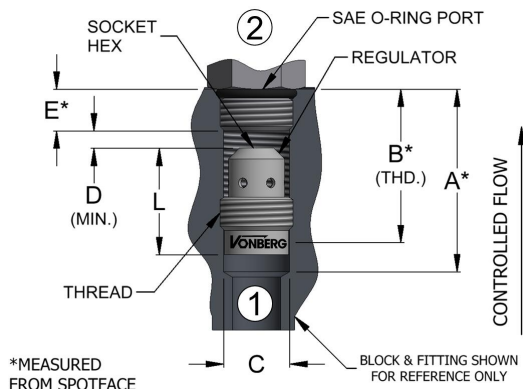
ORDERING INFORMATION

3200 X - X

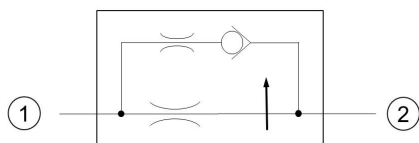
SERIES NUMBER _____
 PORT SIZE _____
 UNDAMPENED – BLANK _____
 DAMPENED (S.I.D.) – 1 _____

| Model | INLET/OUTLET | FLOW RANGE | L | HEX |
|-------|--------------|----------------|------|-------|
| 32004 | -04 SAE PORT | 0.2 TO 5.0 GPM | 4.75 | 1.125 |
| 32006 | -06 SAE PORT | 0.5 TO 6.0 GPM | 3.85 | 1.000 |
| 32008 | -08 SAE PORT | 1.0 TO 8.0 GPM | 4.50 | 1.250 |

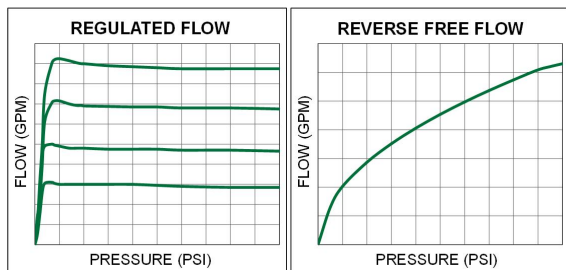
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A NON-ADJUSTABLE, THREADED INSERTABLE IN-LINE, PRESSURE-COMPENSATED, FLOW REGULATOR INTENDED FOR FIXED DISPLACEMENT HYDRAULIC CIRCUIT APPLICATIONS.

OPERATION

- REVERSE FLOW PASSES THROUGH THE CONTROLLING ORIFICE AND IS UNCONTROLLED PRODUCING A PRESSURE DIFFERENTIAL OF 120 PSI MAX. AT 150% OF CONTROLLED FLOW.
- THIS REGULATOR WILL MAINTAIN A CONSTANT FLOW RATE FROM (1) TO (2) THROUGHOUT A SPECIFIED PRESSURE RANGE.

FEATURES

- NO INTERNAL PACKINGS
- HYDRAULIC FLUIDS - GENERAL.
- STEEL BODY, STEEL INTERNALS.
- SURGES INTERNALLY DAMPENED FEATURE IS OPTIONAL FOR LOAD LOWERING APPLICATIONS.

SPECIFICATIONS

| | |
|-------------------|---------------------------------|
| FLOW TOLERANCE | +/- 10% (+/- 15% UNDER 1.5 GPM) |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

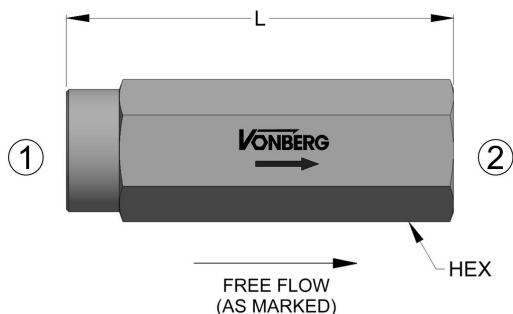
SERIES NUMBER - -
 PORT SIZE
 UNDAMPENED - BLANK
 DAMPENED (S.I.D.) - 1
 REGULATED FLOW RATE (GPM)

| Model | THREAD | FLOW RANGE | L | A | B | C | D | E | HEX | TORQUE |
|-------|-------------|-----------------|-------|------|------|---------------|------|-------|-------|-----------|
| 6506 | 9/16 - 18 | 0.25 TO 2.5 GPM | 0.875 | 1.50 | 1.22 | 0.502 - 0.515 | 0.10 | 0.391 | 0.187 | 5 ft-lbs |
| 6508 | 3/4 - 16 | 0.5 TO 5.0 GPM | 1.100 | 1.90 | 1.46 | 0.682 - 0.696 | 0.18 | 0.438 | 0.250 | 8 ft-lbs |
| 6510 | 7/8 - 14 | 0.5 TO 15.0 GPM | 1.100 | 2.12 | 1.58 | 0.798 - 0.814 | 0.25 | 0.500 | 0.250 | 12 ft-lbs |
| 6512 | 1 1/16 - 12 | 1.0 TO 20.0 GPM | 1.780 | 3.00 | 2.24 | 0.972 - 0.990 | 0.31 | 0.594 | 0.312 | 18 ft-lbs |
| 6516 | 1 5/16 - 12 | 1.0 TO 25.0 GPM | 1.875 | 3.25 | 2.42 | 1.222 - 1.240 | 0.38 | 0.594 | 0.375 | 30 ft-lbs |

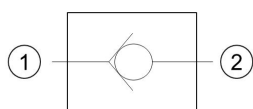
DIRECTIONAL VALVES



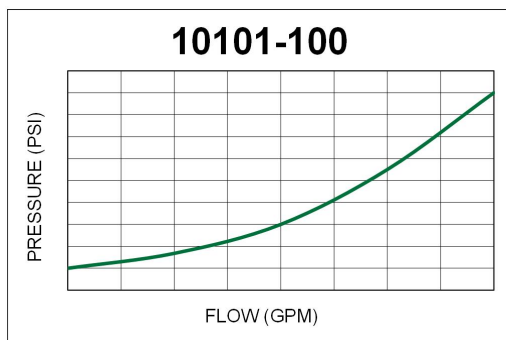
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, BALL TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

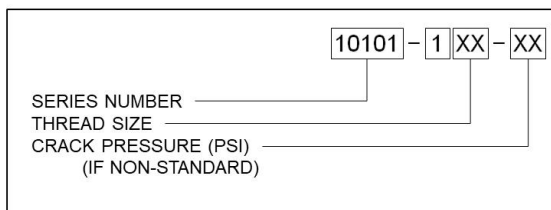
FEATURES

- NO INTERNAL PACKINGS.
- STEEL BODY AND CHROME BALL.
- LOW INTERNAL LEAKAGE, 5 DPM.

SPECIFICATIONS

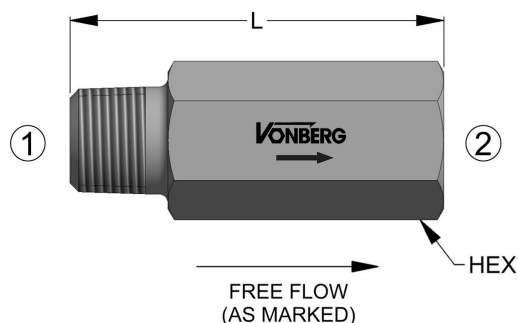
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

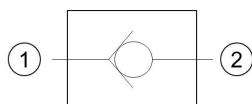


| MODEL | INLET / OUTLET | FLOW CAPACITY | L | HEX |
|-----------|----------------|---------------|------|------|
| 10101-102 | 1/4-18 NPTF | 3.0 GPM | 2.40 | 0.75 |
| 10101-103 | 3/8-18 NPTF | 6.0 GPM | 2.75 | 0.88 |
| 10101-104 | 1/2-14 NPTF | 10.0 GPM | 3.50 | 1.13 |

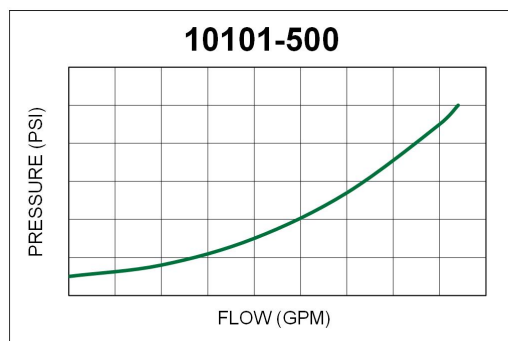
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, BALL TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

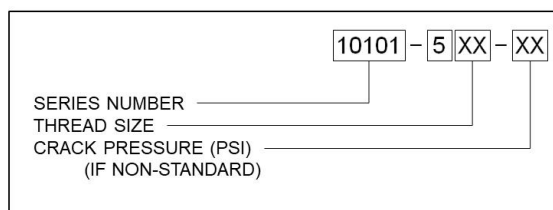
FEATURES

- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND CHROME BALL.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION



| MODEL | INLET 1 | OUTLET 2 | FLOW CAPACITY | L | HEX |
|-----------|------------------|------------------|---------------|------|------|
| 10101-502 | 1/4-18 NPTF BOSS | 1/4-18 NPTF PORT | 3.0 GPM | 1.94 | 0.75 |
| 10101-503 | 3/8-18 NPTF BOSS | 3/8-18 NPTF PORT | 6.0 GPM | 2.38 | 0.88 |
| 10101-504 | 1/2-14 NPTF BOSS | 1/2-14 NPTF PORT | 10.0 GPM | 3.00 | 1.13 |

DESCRIPTION

AN IN-LINE STYLE, BALL TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

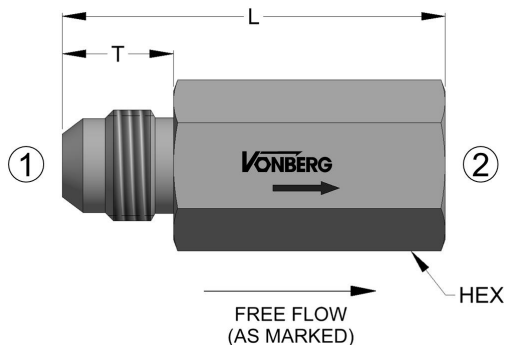
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- NO INTERNAL PACKINGS.
- LOW PRESSURE DROP
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND CHROME BALL

SPECIFICATIONS

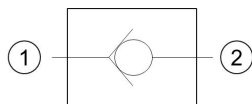
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

| MODEL | INLET 1 | OUTLET 2 | FLOW CAPACITY | L | T | HEX |
|-----------|-------------------|------------------|---------------|------|-------|------|
| 10101-606 | -06 JIC - 9/16-18 | 1/4-18 NPTF PORT | 3.0 GPM | 1.94 | 0.562 | 0.75 |
| 10101-608 | - 08 JIC - 3/4-16 | 3/8-18 NPTF PORT | 6.0 GPM | 2.38 | 0.656 | 0.88 |

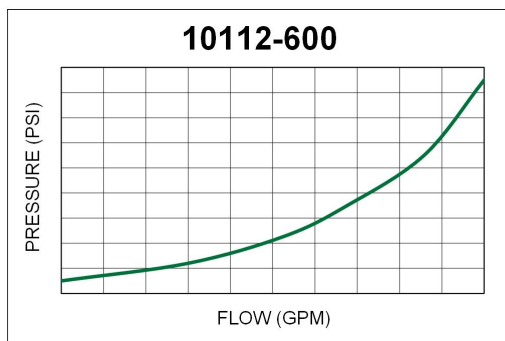
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, BALL TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

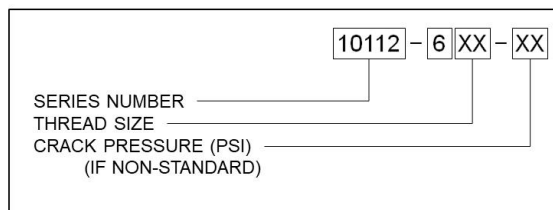
FEATURES

- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND CHROME BALL.

SPECIFICATIONS

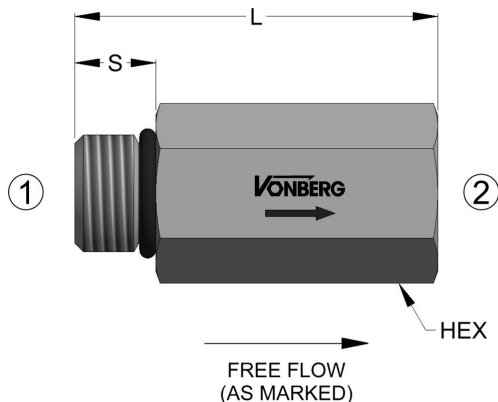
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|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

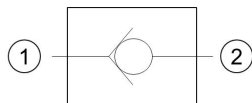


| MODEL | INLET 1 | OUTLET 2 | THREAD | FLOW CAPACITY | L | HEX |
|-----------|---------|--------------|---------|---------------|------|-------|
| 10112-604 | -04 JIC | -04 SAE PORT | 7/16-20 | 2.0 GPM | 1.93 | 0.625 |
| 10112-606 | -06 JIC | -06 SAE PORT | 9/16-18 | 4.0 GPM | 1.94 | 0.750 |
| 10112-608 | -08 JIC | -08 SAE PORT | 3/4-16 | 6.0 GPM | 2.56 | 0.938 |
| 10112-610 | -10 JIC | -10 SAE PORT | 7/8-14 | 10.0 GPM | 2.82 | 1.000 |

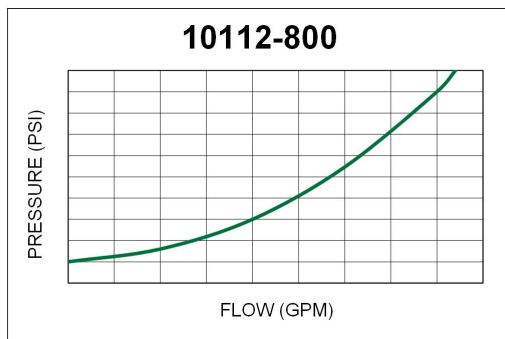
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, BALL TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.
- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.

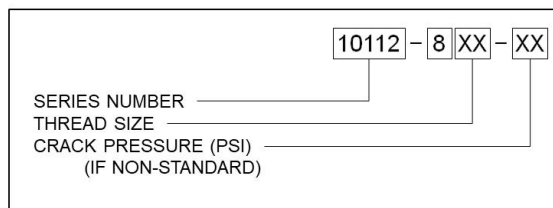
FEATURES

- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND CHROME BALL.

SPECIFICATIONS

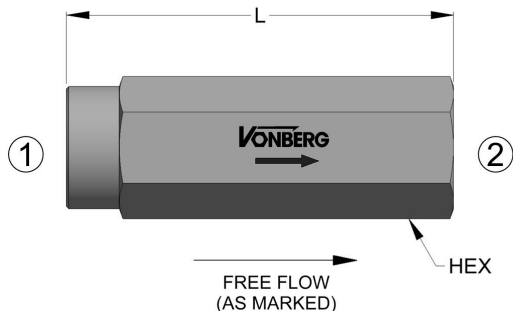
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

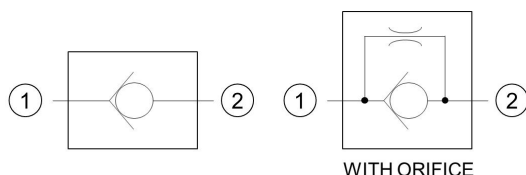


| MODEL | INLET 1 | OUTLET 2 | THREAD | FLOW CAPACITY | L | HEX |
|-----------|---------|--------------|---------|---------------|------|-------|
| 10112-804 | -04 SAE | -04 SAE PORT | 7/16-20 | 2.0 GPM | 1.72 | 0.625 |
| 10112-806 | -06 SAE | -06 SAE PORT | 9/16-18 | 4.0 GPM | 1.75 | 0.750 |
| 10112-808 | -08 SAE | -08 SAE PORT | 3/4-16 | 6.0 GPM | 2.31 | 0.938 |
| 10112-810 | -10 SAE | -10 SAE PORT | 7/8-14 | 10.0 GPM | 2.56 | 1.000 |

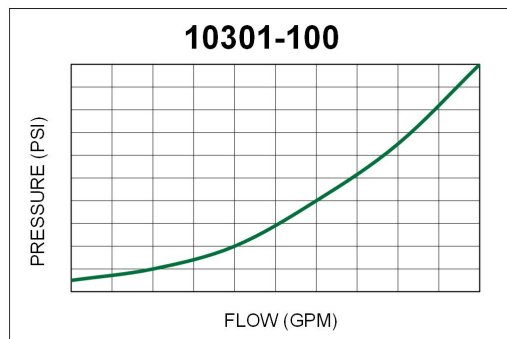
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- ALUMINUM BODY AND STEEL POPPET.
- LOW INTERNAL LEAKAGE, 5 DPM.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

10301 - 1 XX - XX

SERIES NUMBER _____

THREAD SIZE _____

CRACK PRESSURE (PSI) _____

(IF NON-STANDARD)

ORIFICE DIAMETER (0.001") _____

(OPTIONAL)

| MODEL | INLET / OUTLET | FLOW CAPACITY | L | HEX |
|-----------|---------------------|---------------|------|-------|
| 10301-101 | 1/8-27 NPTF | 2.0 GPM | 1.80 | 0.562 |
| 10301-102 | 1/4-18 NPTF | 5.0 GPM | 2.40 | 0.750 |
| 10301-103 | 3/8-18 NPTF | 10.0 GPM | 2.75 | 0.875 |
| 10301-104 | 1/2-14 NPTF | 20.0 GPM | 3.50 | 1.125 |
| 10301-106 | 3/4-14 NPTF | 40.0 GPM | 4.00 | 1.375 |
| 10301-108 | 1 - 11 1/2 NPTF | 50.0 GPM | 4.78 | 1.625 |
| 10301-110 | 1 1/4 - 11 1/2 NPTF | 60.0 GPM | 4.90 | 2.000 |
| 10301-112 | 1 1/2 - 11 1/2 NPTF | 80.0 GPM | 7.00 | 2.250 |

This document, as well as all catalogs, price lists and information provided by Vonberg Valve, Inc., is intended to provide product information for further consideration by users having substantial technical expertise due to the variety of operating conditions and applications for these valves, the user, through its own analysis, testing and evaluation, is solely responsible for making the final selection of the products and ensuring that all safety, warning and performance requirements of the application or use are met. The valves described herein, including without limitation, all component features, specifications, designs, pricing and availability, are subject to change at any time at the sole discretion of Vonberg Valve, Inc. without prior notification.

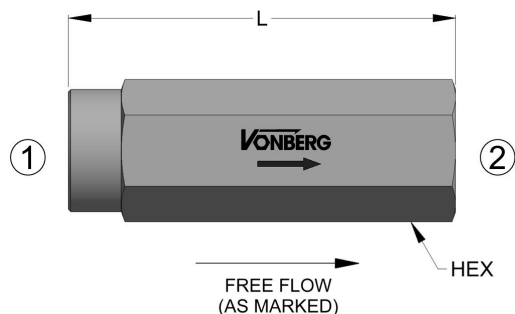
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Vonberg Valve, inc.
Hydraulic Valve Specialists

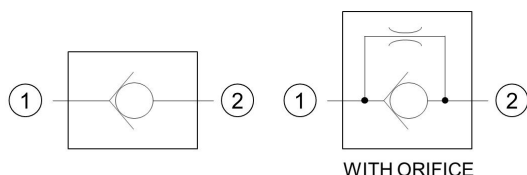
1380 Norwood Avenue • Itasca, IL 60143 USA © 2015
phone: 847-259-3800 • fax: 847-259-3997 • email: info@vonberg.com

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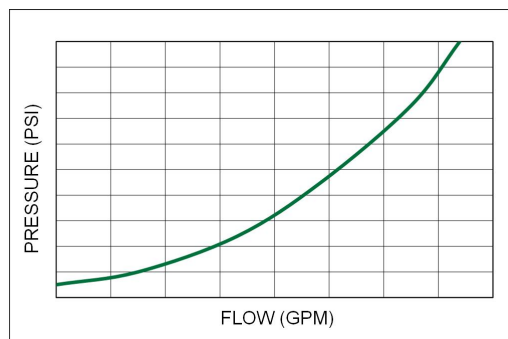
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- ALUMINUM BODY AND STEEL POPPET.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- NO INTERNAL PACKINGS.
- LOW PRESSURE DROP.
- LOW INTERNAL LEAKAGE, 5 DPM.

SPECIFICATIONS

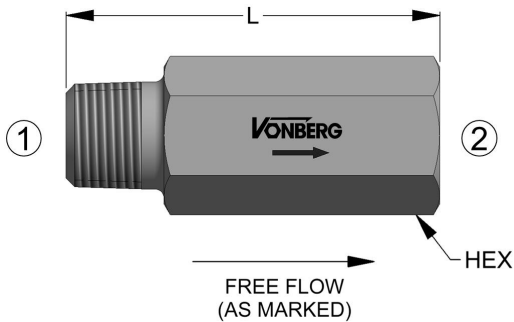
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

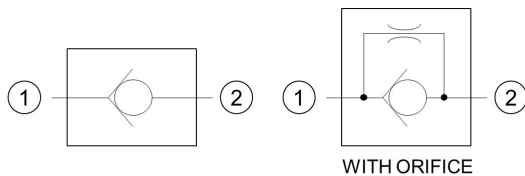
| | | | | | | | |
|---------------------------|-------|---|---|----|---|---|----|
| | 10301 | - | 1 | XX | G | - | XX |
| SERIES NUMBER | | | | | | | |
| THREAD SIZE | | | | | | | |
| CRACK PRESSURE (PSI) | | | | | | | |
| (IF NON-STANDARD) | | | | | | | |
| ORIFICE DIAMETER (0.001") | | | | | | | |
| (OPTIONAL) | | | | | | | |

| MODEL | INLET / OUTLET | FLOW CAPACITY | L | HEX |
|------------|----------------|---------------|------|-------|
| 10301-101G | G 1/8-28 | 4.0 GPM | 1.50 | 0.500 |
| 10301-102G | G 1/4-19 | 10.0 GPM | 2.15 | 0.750 |
| 10301-103G | G 3/8-19 | 15.0 GPM | 2.50 | 0.875 |
| 10301-104G | G 1/2-14 | 30.0 GPM | 3.00 | 1.062 |
| 10301-106G | G 3/4-14 | 40.0 GPM | 3.60 | 1.375 |

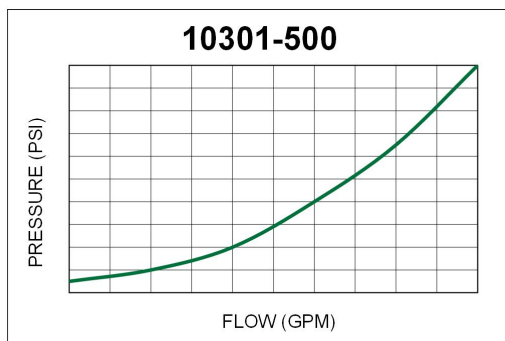
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

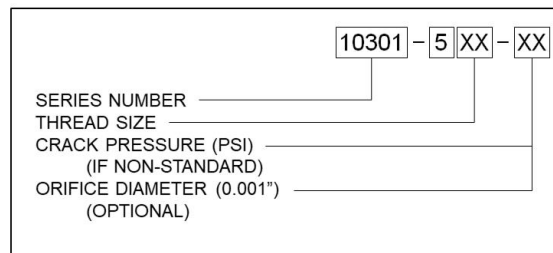
FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- NO INTERNAL PACKINGS.
- LOW PRESSURE DROP
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND POPPET.

SPECIFICATIONS

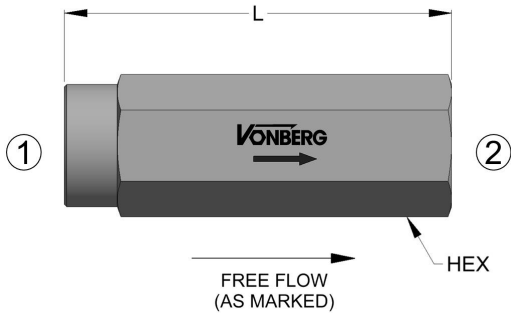
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

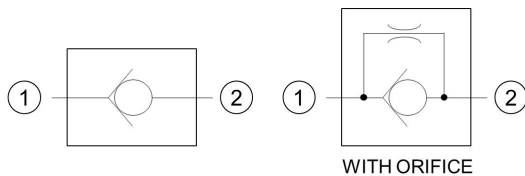


| MODEL | INLET 1 | OUTLET 2 | FLOW CAPACITY | L | HEX |
|-----------|--------------------|--------------------|---------------|------|------|
| 10301-502 | 1/4-18 NPTF BOSS | 1/4-18 NPTF PORT | 5.0 GPM | 1.94 | 0.75 |
| 10301-503 | 3/8-18 NPTF BOSS | 3/8-18 NPTF PORT | 10.0 GPM | 2.38 | 0.88 |
| 10301-504 | 1/2-14 NPTF BOSS | 1/2-14 NPTF PORT | 20.0 GPM | 3.00 | 1.13 |
| 10301-506 | 3/4-14 NPTF BOSS | 3/4-14 NPTF PORT | 40.0 GPM | 3.65 | 1.38 |
| 10301-508 | 1-11 1/2 NPTF BOSS | 1-11 1/2 NPTF PORT | 50.0 GPM | 4.40 | 1.63 |

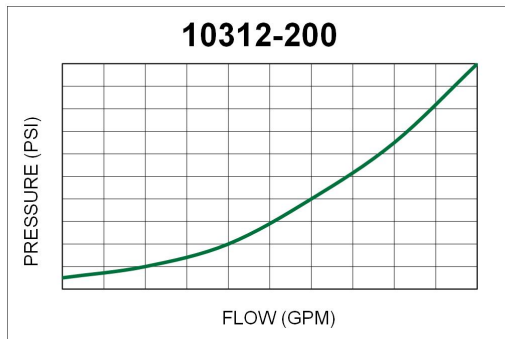
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

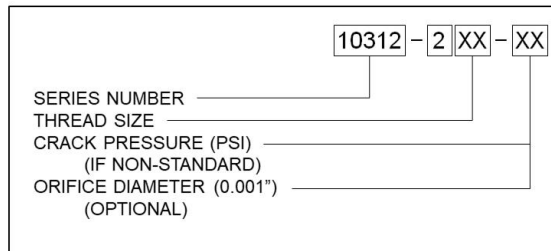
FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- ALUMINUM BODY AND STEEL POPPET.

SPECIFICATIONS

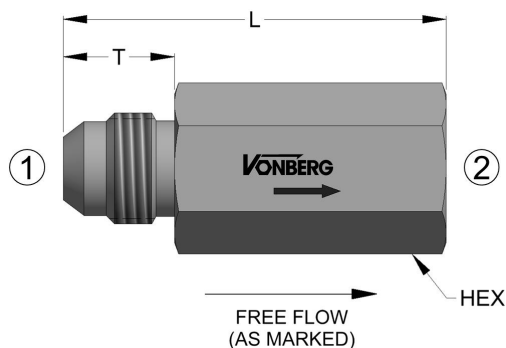
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

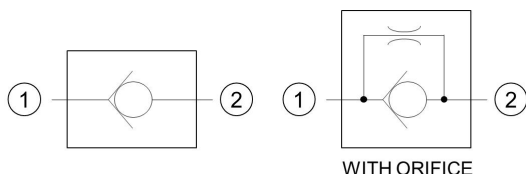


| MODEL | INLET / OUTLET | THREAD | FLOW CAPACITY | L | HEX |
|-----------|----------------|-----------|---------------|------|-------|
| 10312-204 | -04 SAE | 7/16-20 | 5.0 GPM | 2.05 | 0.625 |
| 10312-206 | -06 SAE | 9/16-18 | 10.0 GPM | 2.15 | 0.750 |
| 10312-208 | -08 SAE | 3/4-16 | 20.0 GPM | 2.90 | 0.937 |
| 10312-210 | -10 SAE | 7/8-14 | 30.0 GPM | 3.40 | 1.125 |
| 10312-212 | -12 SAE | 1 1/16-12 | 40.0 GPM | 3.90 | 1.375 |
| 10312-216 | -16 SAE | 1 5/16-12 | 50.0 GPM | 4.78 | 1.625 |
| 10312-220 | -20 SAE | 1 5/8-12 | 60.0 GPM | 4.78 | 2.000 |

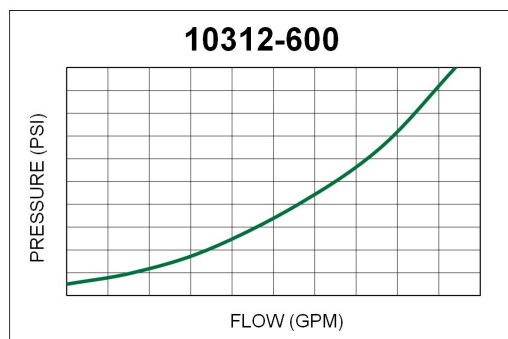
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

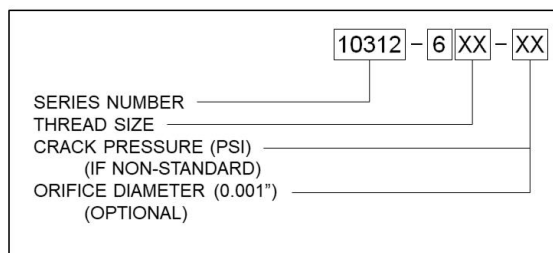
FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- ALUMINUM BODY AND STEEL POPPET.

SPECIFICATIONS

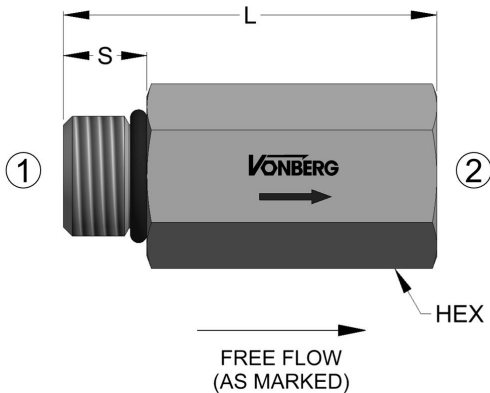
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

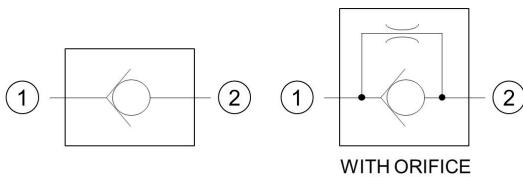


| MODEL | INLET 1 | OUTLET 2 | THREAD | FLOW CAPACITY | L | HEX |
|-----------|---------|--------------|-----------|---------------|------|-------|
| 10312-604 | -04 JIC | -04 SAE PORT | 7/16-20 | 3.0 GPM | 1.93 | 0.625 |
| 10312-606 | -06 JIC | -06 SAE PORT | 9/16-18 | 5.0 GPM | 1.94 | 0.750 |
| 10312-608 | -08 JIC | -08 SAE PORT | 3/4-16 | 20.0 GPM | 2.72 | 0.938 |
| 10312-610 | -10 JIC | -10 SAE PORT | 7/8-14 | 30.0 GPM | 3.25 | 1.125 |
| 10312-612 | -12 JIC | -12 SAE PORT | 1 1/16-12 | 40.0 GPM | 3.75 | 1.250 |
| 10312-616 | -16 JIC | -16 SAE PORT | 1 5/16-12 | 50.0 GPM | 4.50 | 1.625 |

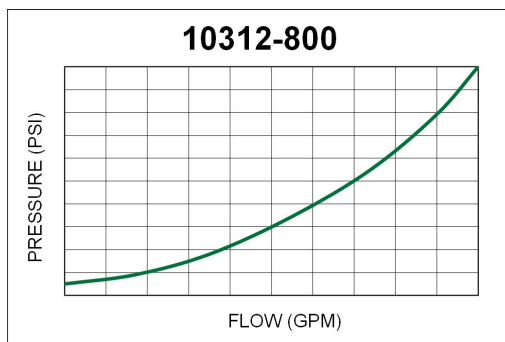
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- NO INTERNAL PACKINGS.
- LOW PRESSURE DROP.
- ALUMINUM BODY AND STEEL POPPET.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.

SPECIFICATIONS

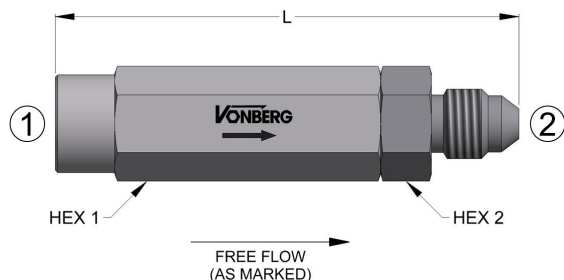
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|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

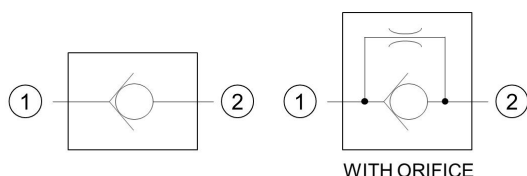
| | | | | | | |
|---------------------------|-------|---|---|----|---|----|
| | 10312 | - | 8 | XX | - | XX |
| SERIES NUMBER | | | | | | |
| THREAD SIZE | | | | | | |
| CRACK PRESSURE (PSI) | | | | | | |
| (IF NON-STANDARD) | | | | | | |
| ORIFICE DIAMETER (0.001") | | | | | | |
| (OPTIONAL) | | | | | | |

| MODEL | INLET 1 | OUTLET 2 | THREAD | FLOW CAPACITY | L | HEX |
|-----------|---------|--------------|-----------|---------------|------|-------|
| 10312-804 | -04 SAE | -04 SAE PORT | 7/16-20 | 3.0 GPM | 1.74 | 0.625 |
| 10312-806 | -06 SAE | -06 SAE PORT | 9/16-18 | 10.0 GPM | 1.78 | 0.750 |
| 10312-808 | -08 SAE | -08 SAE PORT | 3/4-16 | 20.0 GPM | 2.50 | 0.938 |
| 10312-810 | -10 SAE | -10 SAE PORT | 7/8-14 | 30.0 GPM | 3.00 | 1.125 |
| 10312-812 | -12 SAE | -12 SAE PORT | 1 1/16-12 | 40.0 GPM | 3.48 | 1.250 |
| 10312-816 | -16 SAE | -16 SAE PORT | 1 5/16-12 | 50.0 GPM | 4.18 | 1.625 |

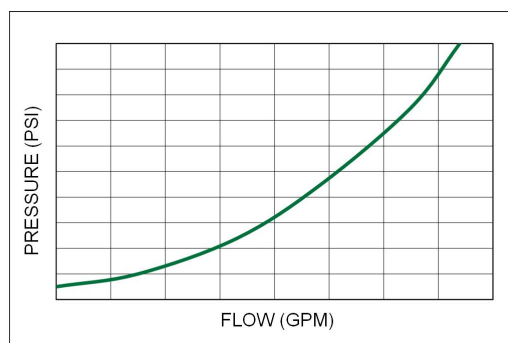
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- ALUMINUM / STEEL BODY AND STEEL POPPET.

SPECIFICATIONS

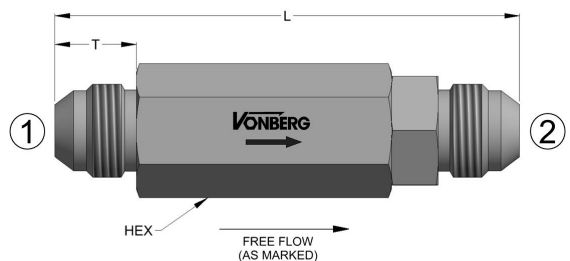
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

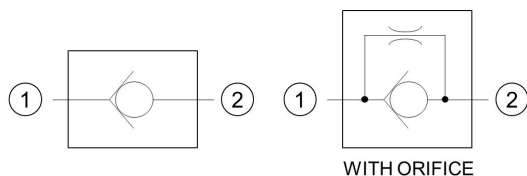
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|---|-------|---|----|
| 10412 - 2 XX - XX | | | |
| SERIES NUMBER | 10412 | THREAD SIZE | 2 |
| CRACK PRESSURE (PSI) (IF NON-STANDARD) | XX | ORIFICE DIAMETER (0.001") (OPTIONAL) | XX |

| MODEL | INLET 1 | OUTLET 2 | THREAD | FLOW CAPACITY | L | HEX 1 | HEX 2 |
|-----------|---------|----------|-----------|---------------|------|-------|-------|
| 10412-204 | -04 SAE | -04 JIC | 7/16-20 | 5.0 GPM | 2.90 | 0.63 | 0.56 |
| 10412-206 | -06 SAE | -06 JIC | 9/16-18 | 10.0 GPM | 3.06 | 0.75 | 0.69 |
| 10412-208 | -08 SAE | -08 JIC | 3/4-16 | 20.0 GPM | 3.94 | 0.94 | 0.88 |
| 10412-210 | -10 SAE | -10 JIC | 7/8-14 | 30.0 GPM | 4.61 | 1.13 | 1.00 |
| 10412-212 | -12 SAE | -12 JIC | 1 1/16-12 | 40.0 GPM | 5.28 | 1.38 | 1.25 |
| 10412-216 | -16 SAE | -16 JIC | 1 5/16-12 | 50.0 GPM | 6.23 | 1.63 | 1.50 |

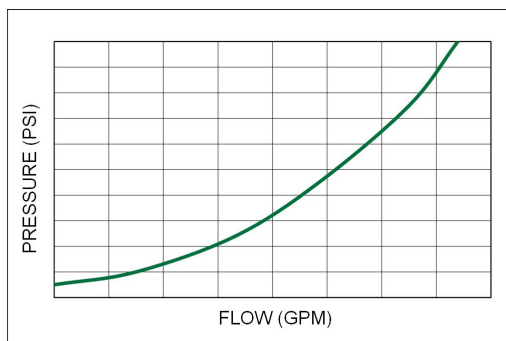
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- ALUMINUM BODY AND STEEL POPPET.

SPECIFICATIONS

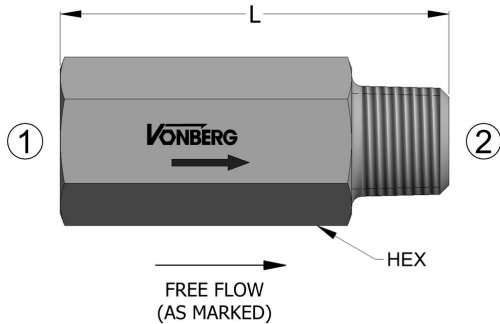
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|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

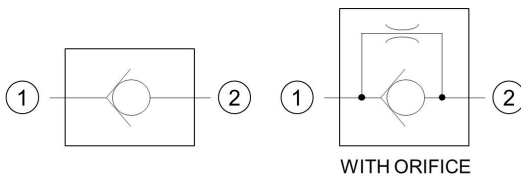
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|---------------------------|-------|---|---|----|---|----|
| | 10412 | - | 6 | XX | - | XX |
| SERIES NUMBER | | | | | | |
| THREAD SIZE | | | | | | |
| CRACK PRESSURE (PSI) | | | | | | |
| (IF NON-STANDARD) | | | | | | |
| ORIFICE DIAMETER (0.001") | | | | | | |
| (OPTIONAL) | | | | | | |

| MODEL | INLET / OUTLET | THREAD | FLOW CAPACITY | L | HEX |
|-----------|----------------|-----------|---------------|------|-------|
| 10412-604 | -04 JIC | 7/16-20 | 5.0 GPM | 2.72 | 0.625 |
| 10412-606 | -06 JIC | 9/16-18 | 5.0 GPM | 2.85 | 0.750 |
| 10412-608 | -08 JIC | 3/4-16 | 20.0 GPM | 3.75 | 0.937 |
| 10412-610 | -10 JIC | 7/8-14 | 30.0 GPM | 4.45 | 1.125 |
| 10412-612 | -12 JIC | 1 1/16-12 | 40.0 GPM | 5.13 | 1.375 |
| 10412-616 | -16 JIC | 1 5/16-12 | 50.0 GPM | 5.95 | 1.625 |
| 10412-620 | -20 JIC | 1 5/8-12 | 60.0 GPM | 6.35 | 2.000 |

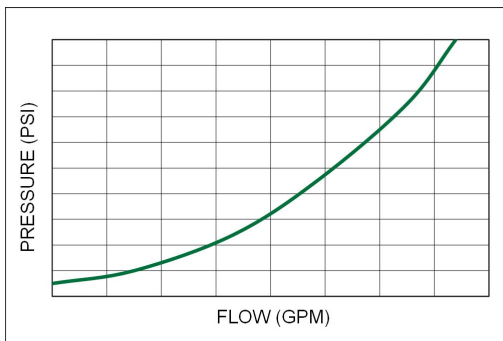
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- NO INTERNAL PACKINGS.
- LOW PRESSURE DROP
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND POPPET.

SPECIFICATIONS

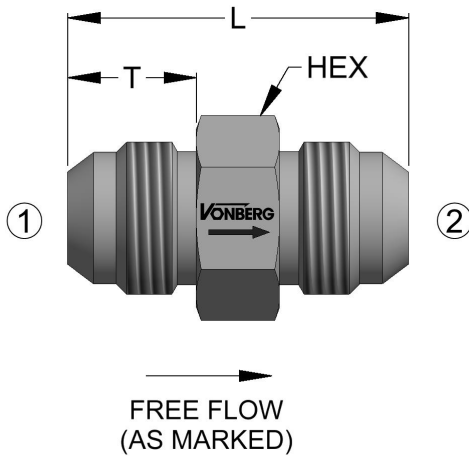
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|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

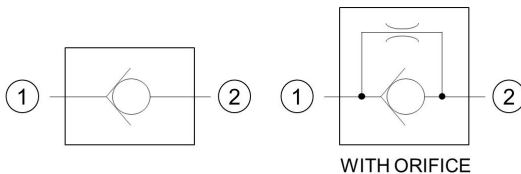
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|---|-------|---|----|
| 10901 - 1 XX - XX | | | |
| SERIES NUMBER | 10901 | 1 | XX |
| THREAD SIZE | | | |
| CRACK PRESSURE (PSI) (IF NON-STANDARD) | | | |
| ORIFICE DIAMETER (0.001") (OPTIONAL) | | | |

| MODEL | INLET 1 | OUTLET 2 | FLOW CAPACITY | L | HEX |
|-----------|--------------------|--------------------|---------------|------|------|
| 10901-102 | 1/4-18 NPTF PORT | 1/4-18 NPTF BOSS | 4.0 GPM | 1.75 | 0.75 |
| 10901-103 | 3/8-18 NPTF PORT | 3/8-18 NPTF BOSS | 5.0 GPM | 1.88 | 0.88 |
| 10901-104 | 1/2-14 NPTF PORT | 1/2-14 NPTF BOSS | 10.0 GPM | 2.60 | 1.13 |
| 10901-106 | 3/4-14 NPTF PORT | 3/4-14 NPTF BOSS | 15.0 GPM | 3.40 | 1.38 |
| 10901-108 | 1-11 1/2 NPTF PORT | 1-11 1/2 NPTF BOSS | 30.0 GPM | 4.00 | 1.63 |

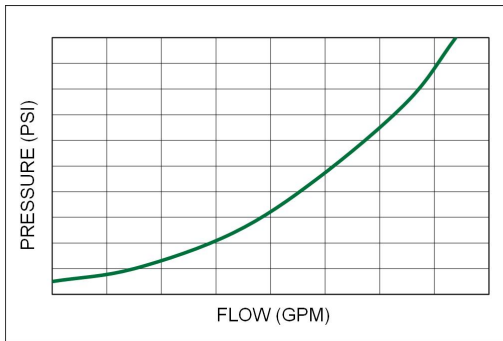
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.
- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.

FEATURES

- HIGH FLOW CAPACITY.
- LOW INTERNAL LEAKAGE, 5 DPM.
- NO SNAP-RING.
- STEEL BODY AND POPPET.
- FULLY ENCAPSULATED SPRING.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.

SPECIFICATIONS

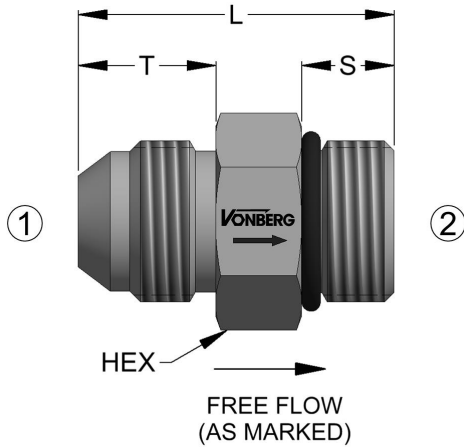
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

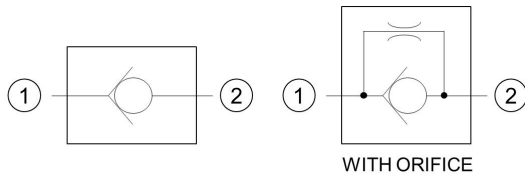
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|--|----|---|----|
| 11 | XX | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | |

| MODEL | INLET/OUTLET | THREAD | L | T | HEX |
|-------|--------------|-----------|------|-------|-------|
| 1104 | -04 JIC | 7/16-20 | 1.45 | 0.550 | 0.562 |
| 1106 | -06 JIC | 9/16-18 | 1.45 | 0.555 | 0.750 |
| 1108 | -08 JIC | 3/4-16 | 1.82 | 0.655 | 0.875 |
| 1110 | -10 JIC | 7/8-14 | 2.00 | 0.760 | 1.000 |
| 1112 | -12 JIC | 1 1/16-12 | 2.45 | 0.860 | 1.250 |
| 1116 | -16 JIC | 1 5/16-12 | 2.60 | 0.910 | 1.500 |
| 1120 | -20 JIC | 1 5/8-12 | 2.75 | 0.960 | 1.875 |

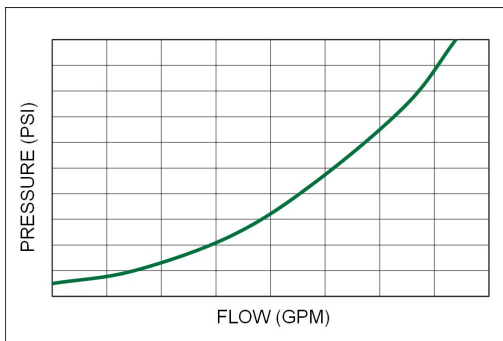
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.
- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.
- HIGH FLOW CAPACITY.
- NO SNAP-RING.
- FULLY ENCAPSULATED SPRING.
- STEEL BODY AND POPPET.

SPECIFICATIONS

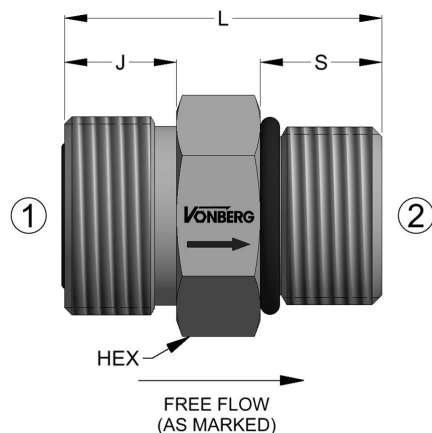
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

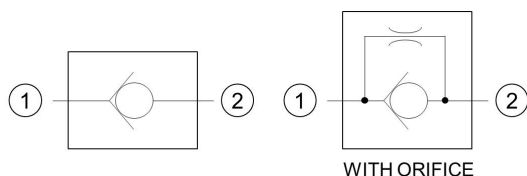
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|--|----|---|---|----|
| 11 | XX | F | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | INLET 1 | OUTLET 2 | THREAD | L | T | S | HEX |
|-------|---------|----------|-----------|------|-------|-------|-------|
| 1104F | -04 JIC | -04 SAE | 7/16-20 | 1.23 | 0.550 | 0.360 | 0.562 |
| 1106F | -06 JIC | -06 SAE | 9/16-18 | 1.28 | 0.555 | 0.390 | 0.750 |
| 1108F | -08 JIC | -08 SAE | 3/4-16 | 1.60 | 0.655 | 0.440 | 0.875 |
| 1110F | -10 JIC | -10 SAE | 7/8-14 | 1.93 | 0.760 | 0.500 | 1.000 |
| 1112F | -12 JIC | -12 SAE | 1 1/16-12 | 2.18 | 0.860 | 0.594 | 1.250 |
| 1116F | -16 JIC | -16 SAE | 1 5/16-12 | 2.50 | 0.910 | 0.594 | 1.500 |
| 1120F | -20 JIC | -20 SAE | 1 5/8-12 | 2.57 | 0.960 | 0.594 | 1.875 |

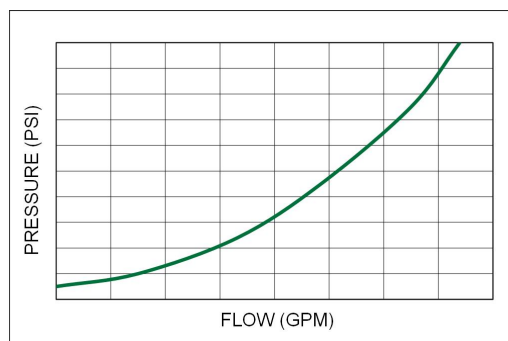
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- HIGH FLOW CAPACITY.
- LOW INTERNAL LEAKAGE, 5 DPM.
- NO SNAP-RING.
- FULLY ENCAPSULATED SPRING.
- STEEL BODY AND POPPET.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

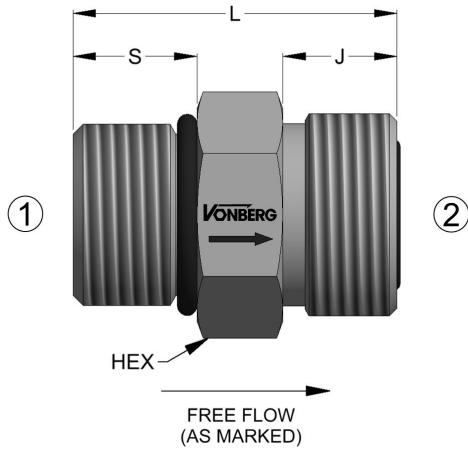
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|--|----|---|---|----|
| 11 | XX | J | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | INLET 1 | OUTLET 2 | L | J | S | HEX |
|-------|----------------------|---------------------|------|------|------|-------|
| 1104J | -04 ORS - 9/16-18 | -04 SAE - 7/16-20 | 1.07 | 0.38 | 0.43 | 0.625 |
| 1106J | -06 ORS - 11/16-16 | -06 SAE - 9/16-18 | 1.16 | 0.44 | 0.47 | 0.750 |
| 1108J | -08 ORS - 13/16-16 | -08 SAE - 3/4-16 | 1.40 | 0.50 | 0.55 | 0.875 |
| 1110J | -10 ORS - 1-14 | -10 SAE - 7/8-14 | 1.65 | 0.61 | 0.63 | 1.125 |
| 1112J | -12 ORS - 1 3/16-12 | -12 SAE - 1 1/16-12 | 1.90 | 0.67 | 0.73 | 1.250 |
| 1116J | -16 ORS - 1 7/16-12 | -16 SAE - 1 5/16-12 | 2.00 | 0.69 | 0.73 | 1.50 |
| 1120J | -20 ORS - 1 11/16-12 | -20 SAE - 1 5/8-20 | 2.45 | 0.69 | 0.73 | 1.875 |
| 1124J | -24 ORS - 2-12 | -24 SAE - 1 7/8-12 | 2.80 | 0.69 | 0.73 | 2.13 |

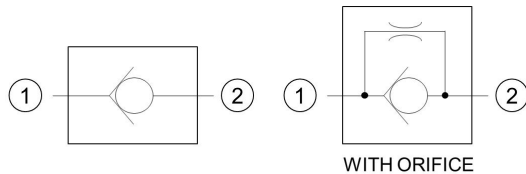
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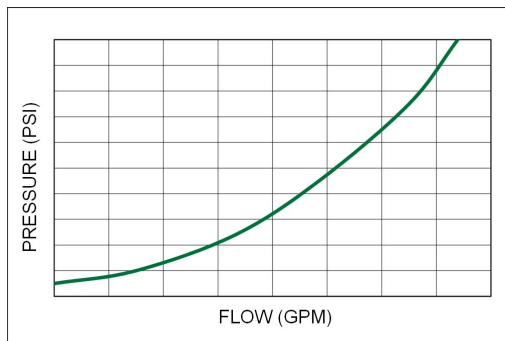
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- HIGH FLOW CAPACITY.
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND POPPET.
- NO SNAP-RING.
- FULLY ENCAPSULATED SPRING.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

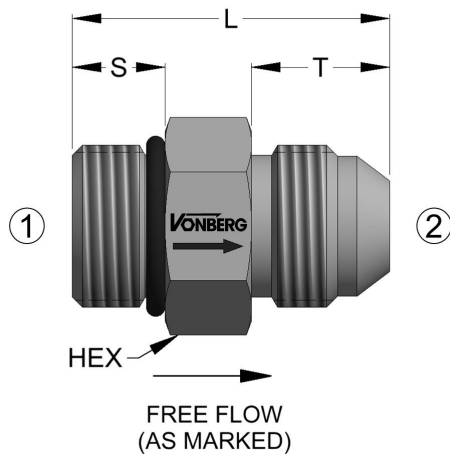
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|--|----|---|---|----|
| 11 | XX | K | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | INLET 1 | OUTLET 2 | L | J | S | HEX |
|-------|---------------------|----------------------|------|------|------|-------|
| 1104K | -04 SAE - 7/16-20 | -04 ORS - 9/16-18 | 1.07 | 0.38 | 0.43 | 0.625 |
| 1106K | -06 SAE - 9/16-18 | -06 ORS - 11/16-16 | 1.16 | 0.44 | 0.47 | 0.750 |
| 1108K | -08 SAE - 3/4-16 | -08 ORS - 13/16-16 | 1.40 | 0.50 | 0.55 | 0.875 |
| 1110K | -10 SAE - 7/8-14 | -10 ORS - 1-14 | 1.65 | 0.61 | 0.63 | 1.125 |
| 1112K | -12 SAE - 1 1/16-12 | -12 ORS - 1 3/16-12 | 1.90 | 0.67 | 0.73 | 1.250 |
| 1116K | -16 SAE - 1 5/16-12 | -16 ORS - 1 7/16-12 | 2.00 | 0.69 | 0.73 | 1.500 |
| 1120K | -20 SAE - 1 5/8-12 | -20 ORS - 1 11/16-12 | 2.45 | 0.69 | 0.73 | 1.875 |
| 1186K | -08 SAE - 3/4-16 | -06 ORS - 11/16-16 | 1.30 | 0.44 | 0.55 | 0.875 |

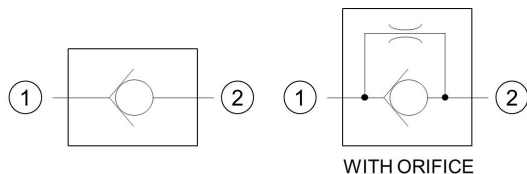
This document, as well as all catalogs, price lists and information provided by Vonberg Valve, Inc., is intended to provide product information for further consideration by users having substantial technical expertise due to the variety of operating conditions and applications for these valves, the user, through its own analysis, testing and evaluation, is solely responsible for making the final selection of the products and ensuring that all safety, warning and performance requirements of the application or use are met. The valves described herein, including without limitation, all component features, specifications, designs, pricing and availability, are subject to change at any time at the sole discretion of Vonberg Valve, Inc. without prior notification.

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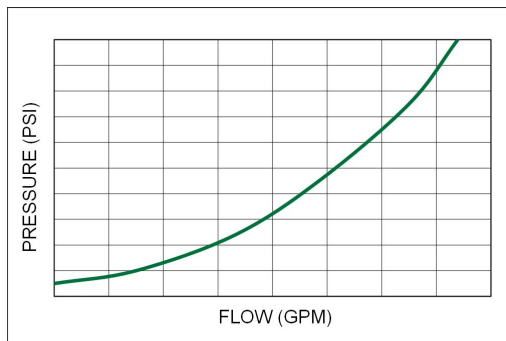
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- FULLY ENCAPSULATED SPRING.
- HIGH FLOW CAPACITY.
- NO SNAP-RING.
- STEEL BODY AND POPPET.
- LOW INTERNAL LEAKAGE, 5 DPM.

SPECIFICATIONS

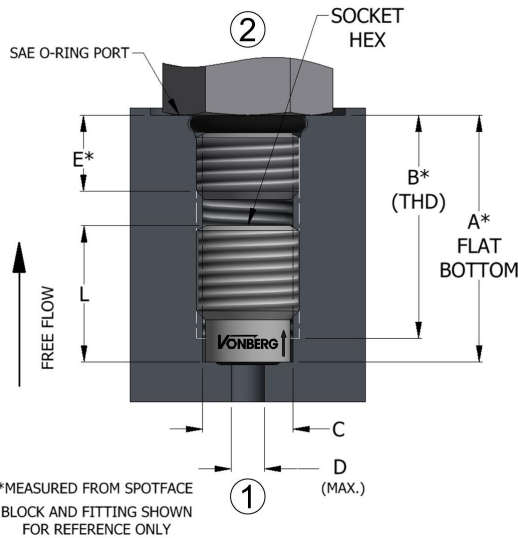
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

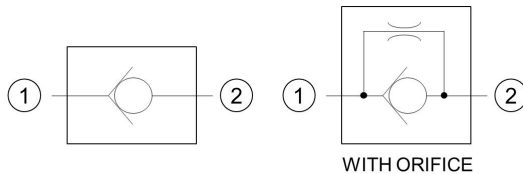
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|--|----|---|---|----|
| 11 | XX | R | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | INLET 1 | OUTLET 2 | THREAD | L | T | S | HEX |
|-------|---------|----------|--------------|------|-------|-------|-------|
| 1104R | -04 SAE | -04 JIC | 7/16-20 UNF | 1.26 | 0.550 | 0.360 | 0.562 |
| 1106R | -06 SAE | -06 JIC | 9/16-18 UNF | 1.28 | 0.555 | 0.390 | 0.750 |
| 1108R | -08 SAE | -08 JIC | 3/4-16 UNF | 1.60 | 0.655 | 0.440 | 0.875 |
| 1110R | -10 SAE | -10 JIC | 7/8-14 UNF | 1.86 | 0.760 | 0.500 | 1.000 |
| 1112R | -12 SAE | -12 JIC | 1 1/16-12 UN | 2.18 | 0.860 | 0.594 | 1.250 |
| 1116R | -16 SAE | -16 JIC | 1 5/16-12 UN | 2.50 | 0.910 | 0.594 | 1.500 |
| 1120R | -20 SAE | -20 JIC | 1 5/8-12 UN | 2.57 | 0.960 | 0.594 | 1.875 |

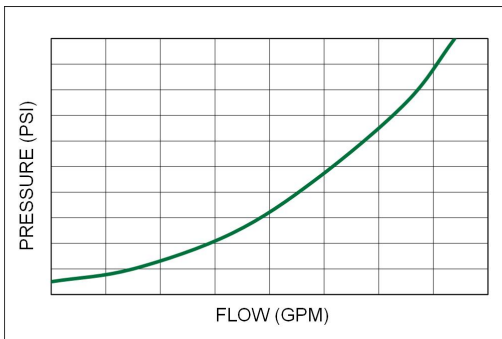
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE THREADED INSERTABLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- HIGH FLOW CAPACITY.
- LOW INTERNAL LEAKAGE, 5 DPM.
- NO SNAP-RING.
- FULLY ENCAPSULATED SPRING.
- STEEL BODY AND POPPET.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

12 XX J - XX

SERIES NUMBER _____

THREAD SIZE _____

CRACK PRESSURE (PSI) _____

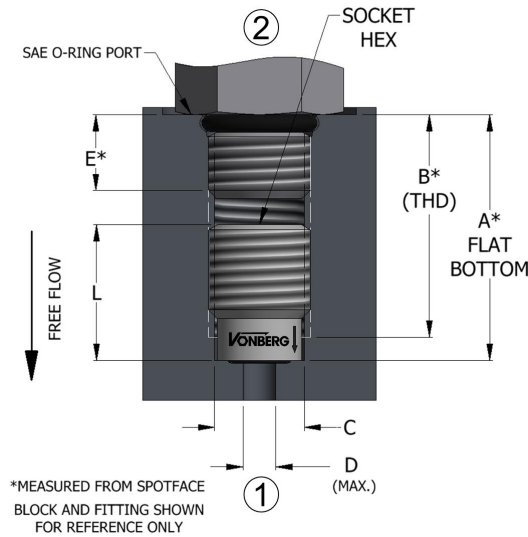
(IF NON-STANDARD)

ORIFICE DIAMETER (0.001") _____

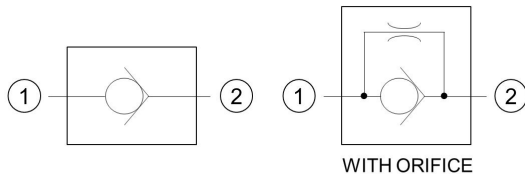
(OPTIONAL)

| MODEL | THREAD | L | A | B | C | D | E | HEX | TORQUE |
|-------|---------|------|------|------|---------------|-------|------|-------|-----------|
| 1204J | 7/16-20 | 0.58 | 0.97 | 0.87 | 0.383 - 0.392 | 0.141 | 0.36 | 0.125 | 30 in-lbs |
| 1206J | 9/16-18 | 0.87 | 1.30 | 1.15 | 0.502 - 0.515 | 0.250 | 0.39 | 0.187 | 5 ft-lbs |
| 1208J | 3/4-16 | 1.15 | 1.63 | 1.45 | 0.682 - 0.696 | 0.359 | 0.44 | 0.250 | 8 ft-lbs |
| 1210J | 7/8-14 | 1.40 | 1.95 | 1.60 | 0.798 - 0.814 | 0.406 | 0.50 | 0.312 | 12 ft-lbs |

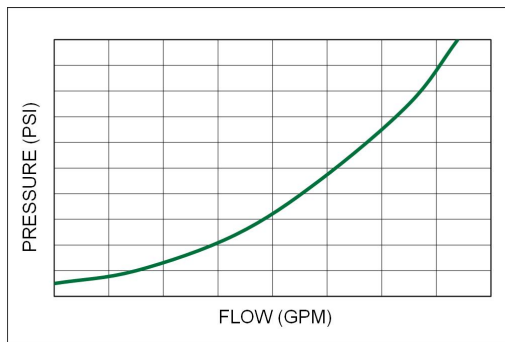
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE THREADED INSERTABLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (1) TO (2) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (2) TO (1) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- HIGH FLOW CAPACITY.
- LOW INTERNAL LEAKAGE, 5 DPM.
- NO SNAP-RING.
- FULLY ENCAPSULATED SPRING.
- STEEL BODY AND POPPET.

SPECIFICATIONS

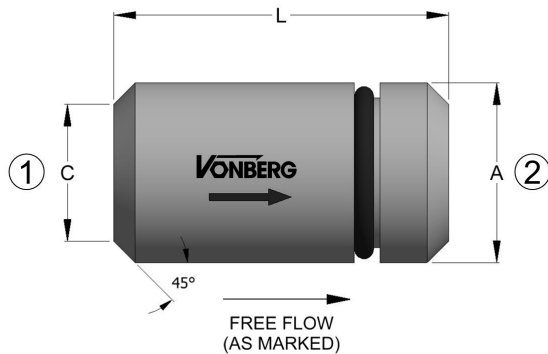
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

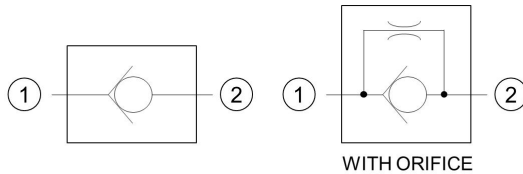
| | | | | |
|--|----|---|---|----|
| 12 | XX | K | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | THREAD | L | A | B | C | D | E | HEX | TORQUE |
|-------|---------|------|------|------|---------------|-------|------|-------|-----------|
| 1204K | 7/16-20 | 0.58 | 0.97 | 0.87 | 0.383 - 0.392 | 0.141 | 0.36 | 0.125 | 30 in-lbs |
| 1206K | 9/16-18 | 0.87 | 1.30 | 1.15 | 0.502 - 0.515 | 0.250 | 0.39 | 0.187 | 5 ft-lbs |
| 1208K | 3/4-16 | 1.15 | 1.63 | 1.45 | 0.682 - 0.696 | 0.359 | 0.44 | 0.250 | 8 ft-lbs |
| 1210K | 7/8-14 | 1.40 | 1.95 | 1.60 | 0.798 - 0.814 | 0.406 | 0.50 | 0.312 | 12 ft-lbs |

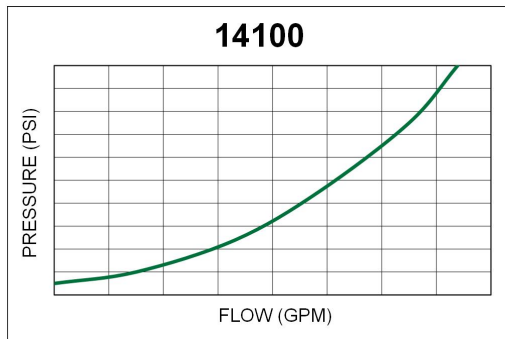
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.
- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.

FEATURES

- EXTERNAL O-RING INCLUDED (EXCEPT MODEL 14101).
- *MODEL 14101 REQUIRES EXTERNAL SEAL #008 AT INLET CHAMFER.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW PRESSURE DROP.
- STEEL BODY AND HARDENED POPPET.
- METAL TO METAL SEAT

SPECIFICATIONS

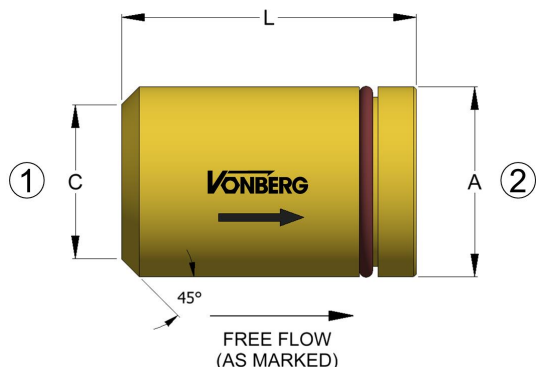
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

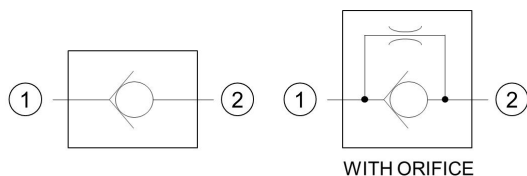
| | | | |
|---------------|-----------|----------------------|---------------------------|
| 141 | XX | - | XX |
| SERIES NUMBER | PORT SIZE | CRACK PRESSURE (PSI) | ORIFICE DIAMETER (0.001") |
| | | (IF NON-STANDARD) | (OPTIONAL) |

| MODEL | FLOW RANGE | A | C | L | REC. BORE DIA. | ASSEMBLED GAP |
|--------|-----------------|---------------|-------|---------------|-----------------|---------------|
| 14101* | 0.1 TO 1.0 GPM | 0.306 / 0.311 | 0.172 | 0.620 / 0.630 | 0.3125 / 0.3145 | 0.015 / 0.025 |
| 14103 | 1.0 TO 5.0 GPM | 0.494 / 0.499 | 0.420 | 0.835 / 0.845 | 0.5000 / 0.5020 | 0.015 / 0.025 |
| 14106 | 2.0 TO 10.0 GPM | 0.650 / 0.655 | 0.500 | 1.215 / 1.225 | 0.6562 / 0.6582 | 0.015 / 0.025 |
| 14108 | 5.0 TO 20.0 GPM | 0.806 / 0.811 | 0.640 | 1.490 / 1.500 | 0.8125 / 0.8145 | 0.015 / 0.025 |

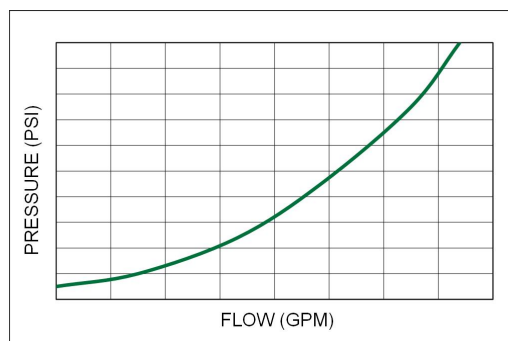
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- *MODEL 14203 REQUIRES AN EXTERNAL SEAL #012 AT INLET CHAMFER.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- EXTERNAL O-RING INCLUDED (EXCEPT MODEL 14203).
- LOW PRESSURE DROP.
- SOFT SEAT.
- BRASS BODY.

SPECIFICATIONS

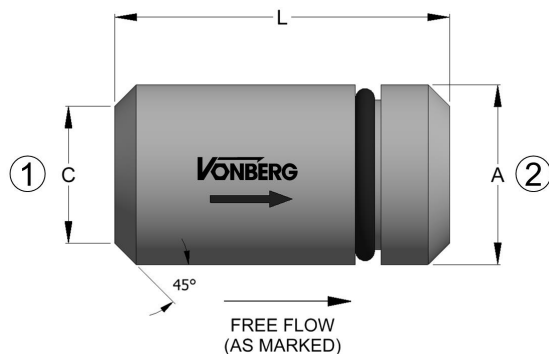
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

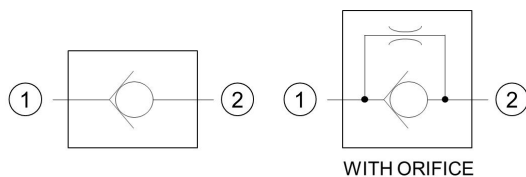
| | | | |
|---------------------------|--|--|--|
| 142 XX - XX | | | |
| SERIES NUMBER | | | |
| PORT SIZE | | | |
| CRACK PRESSURE (PSI) | | | |
| (IF NON-STANDARD) | | | |
| ORIFICE DIAMETER (0.001") | | | |
| (OPTIONAL) | | | |

| MODEL | FLOW RANGE | A | C | L | REC. BORE DIA. | ASSEMBLED GAP |
|--------|-----------------|---------------|-------|---------------|-----------------|---------------|
| 14203* | 0.5 TO 3.0 GPM | 0.494 / 0.499 | 0.312 | 0.835 / 0.845 | 0.5000 / 0.5020 | 0.015 / 0.025 |
| 14206 | 1.0 TO 5.0 GPM | 0.650 / 0.655 | 0.469 | 1.215 / 1.225 | 0.6562 / 0.6582 | 0.015 / 0.025 |
| 14208 | 2.0 TO 10.0 GPM | 0.806 / 0.811 | 0.625 | 1.490 / 1.500 | 0.8125 / 0.8145 | 0.015 / 0.025 |
| 14210 | 5.0 TO 20.0 GPM | 0.994 / 0.999 | 0.812 | 1.545 / 1.555 | 1.0000 / 1.0020 | 0.015 / 0.025 |
| 14212 | 5.0 TO 30.0 GPM | 1.212 / 1.217 | 1.031 | 1.930 / 1.940 | 1.2188 / 1.2208 | 0.015 / 0.025 |
| 14216 | 5.0 TO 50.0 GPM | 1.681 / 1.686 | 1.406 | 2.615 / 2.625 | 1.6875 / 1.6895 | 0.015 / 0.025 |

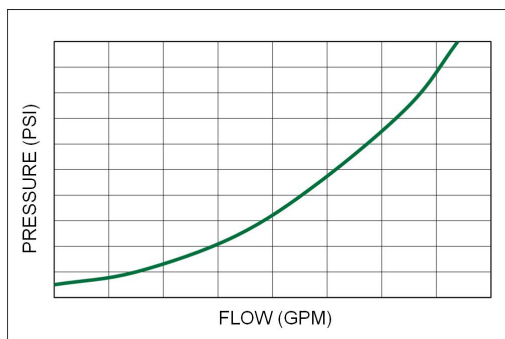
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.
- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- URETHANE O-RING INCLUDED.
- LOW PRESSURE DROP.
- METAL TO METAL SEAT
- STEEL BODY AND HARDENED POPPET.

SPECIFICATIONS

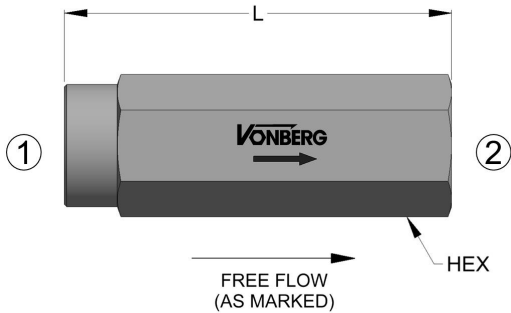
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

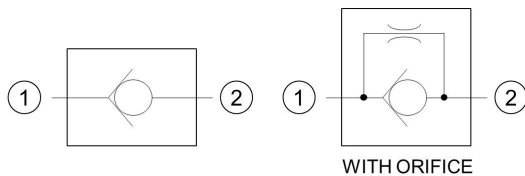
| | | | |
|---|-----|----|----|
| 151 XX - XX | | | |
| SERIES NUMBER | 151 | XX | XX |
| PORT SIZE | | | |
| CRACK PRESSURE (PSI) (IF NON-STANDARD) | | | |
| ORIFICE DIAMETER (0.001") (OPTIONAL) | | | |

| MODEL | FLOW RANGE | A | C | L | REC. BORE DIA. | ASSEMBLED GAP |
|-------|-----------------|---------------|-------|---------------|-----------------|---------------|
| 15103 | 1.0 TO 5.0 GPM | 0.494 / 0.499 | 0.420 | 0.835 / 0.845 | 0.5000 / 0.5020 | 0.015 / 0.025 |
| 15106 | 2.0 TO 10.0 GPM | 0.650 / 0.655 | 0.500 | 1.215 / 1.225 | 0.6562 / 0.6582 | 0.015 / 0.025 |
| 15108 | 5.0 TO 20.0 GPM | 0.806 / 0.811 | 0.640 | 1.490 / 1.500 | 0.8125 / 0.8145 | 0.015 / 0.025 |

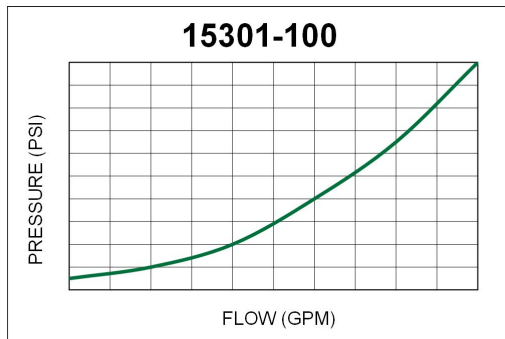
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

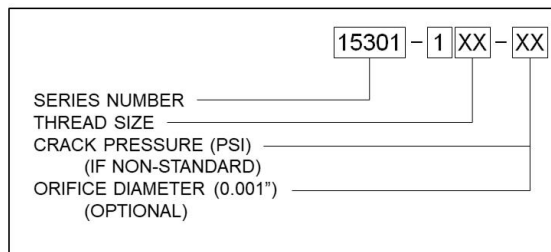
FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- HARDENED STEEL POPPET
- STEEL BODY

SPECIFICATIONS

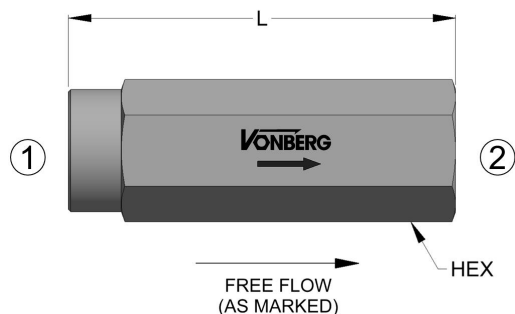
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

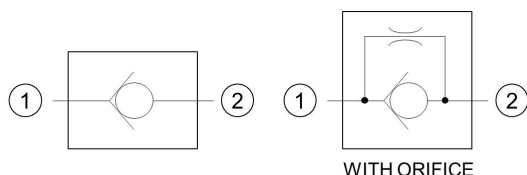


| MODEL | INLET / OUTLET | FLOW CAPACITY | L | HEX |
|-----------|---------------------|---------------|------|-------|
| 15301-101 | 1/8-27 NPTF | 2.0 GPM | 1.80 | 0.562 |
| 15301-102 | 1/4-18 NPTF | 5.0 GPM | 2.40 | 0.750 |
| 15301-103 | 3/8-18 NPTF | 10.0 GPM | 2.75 | 0.875 |
| 15301-104 | 1/2-14 NPTF | 20.0 GPM | 3.50 | 1.125 |
| 15301-106 | 3/4-14 NPTF | 40.0 GPM | 4.00 | 1.375 |
| 15301-108 | 1 - 11 1/2 NPTF | 50.0 GPM | 4.78 | 1.625 |
| 15301-110 | 1 1/4 - 11 1/2 NPTF | 60.0 GPM | 4.90 | 2.000 |
| 15301-112 | 1 1/2 - 11 1/2 NPTF | 80.0 GPM | 7.00 | 2.250 |

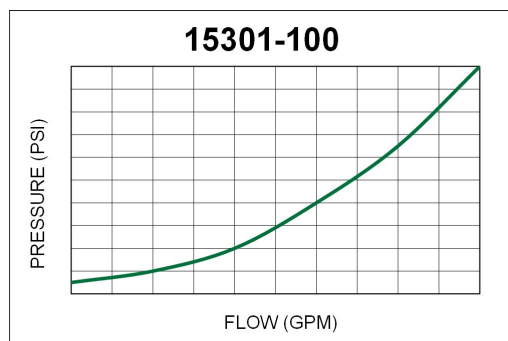
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.
- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- STEEL BODY AND HARDENED STEEL POPPET.

SPECIFICATIONS

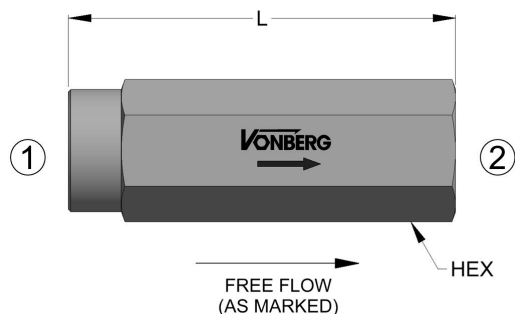
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

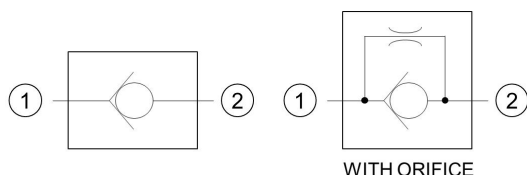
| | | | | |
|---|-------|--|--|--|
| 15301 - 1 XX G - XX | | | | |
| SERIES NUMBER | 15301 | | | |
| THREAD SIZE | 1 | | | |
| CRACK PRESSURE (PSI) (IF NON-STANDARD) | XX | | | |
| ORIFICE DIAMETER (0.001") (OPTIONAL) | XX | | | |

| MODEL | INLET / OUTLET | FLOW CAPACITY | L | HEX |
|------------|----------------|---------------|------|-------|
| 15301-101G | G 1/8-28 | 4.0 GPM | 1.50 | 0.500 |
| 15301-102G | G 1/4-19 | 10.0 GPM | 2.15 | 0.750 |
| 15301-103G | G 3/8-19 | 15.0 GPM | 2.50 | 0.875 |
| 15301-104G | G 1/2-14 | 30.0 GPM | 3.00 | 1.062 |
| 15301-106G | G 3/4-14 | 40.0 GPM | 3.60 | 1.375 |

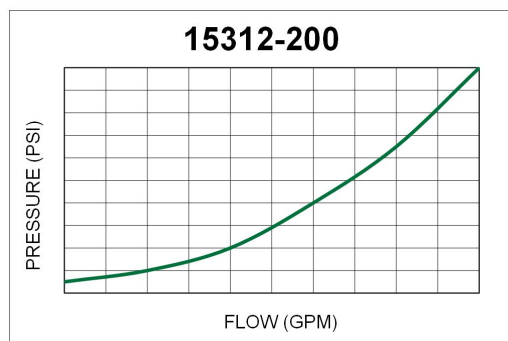
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- LOW PRESSURE DROP.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- HARDENED STEEL POPPET.
- STEEL BODY.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

15312

 -

2

XX

 -

XX

SERIES NUMBER _____

THREAD SIZE _____

CRACK PRESSURE (PSI) _____

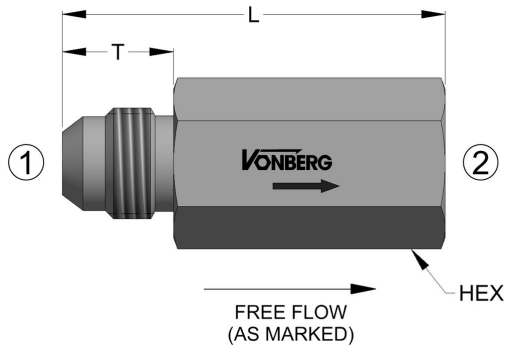
(IF NON-STANDARD)

ORIFICE DIAMETER (0.001") _____

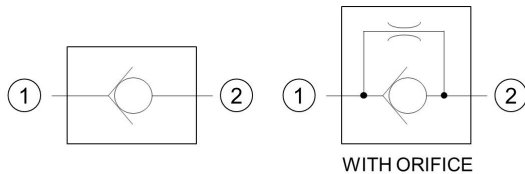
(OPTIONAL)

| MODEL | INLET / OUTLET | THREAD | FLOW CAPACITY | L | HEX |
|-----------|----------------|-----------|---------------|------|-------|
| 15312-204 | -04 SAE | 7/16-20 | 5.0 GPM | 2.05 | 0.625 |
| 15312-206 | -06 SAE | 9/16-18 | 10.0 GPM | 2.15 | 0.750 |
| 15312-208 | -08 SAE | 3/4-16 | 20.0 GPM | 2.90 | 0.937 |
| 15312-210 | -10 SAE | 7/8-14 | 30.0 GPM | 3.40 | 1.125 |
| 15312-212 | -12 SAE | 1 1/16-12 | 40.0 GPM | 3.90 | 1.375 |
| 15312-216 | -16 SAE | 1 5/16-12 | 50.0 GPM | 4.78 | 1.625 |
| 15312-220 | -20 SAE | 1 5/8-12 | 60.0 GPM | 4.78 | 2.000 |

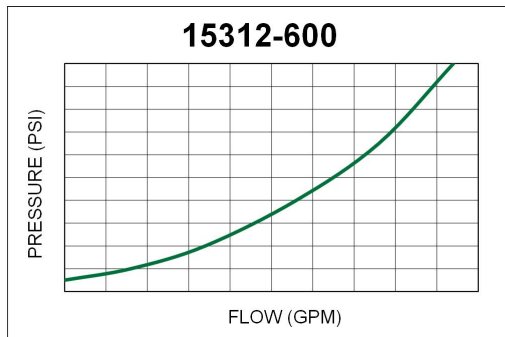
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

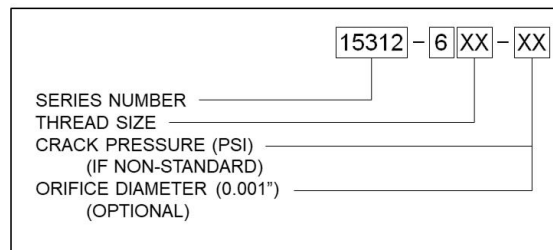
FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- HARDENED STEEL POPPET.
- STEEL BODY.

SPECIFICATIONS

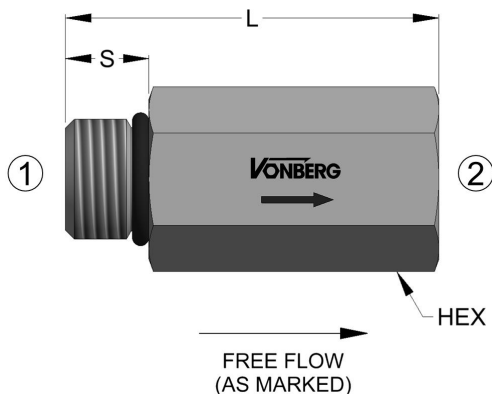
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

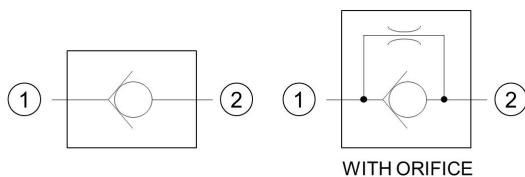


| MODEL | INLET 1 | OUTLET 2 | THREAD | FLOW CAPACITY | L | HEX |
|-----------|---------|--------------|-----------|---------------|------|-------|
| 15312-604 | -04 JIC | -04 SAE PORT | 7/16-20 | 3.0 GPM | 1.93 | 0.625 |
| 15312-606 | -06 JIC | -06 SAE PORT | 9/16-18 | 10.0 GPM | 1.94 | 0.750 |
| 15312-608 | -08 JIC | -08 SAE PORT | 3/4-16 | 20.0 GPM | 2.72 | 0.938 |
| 15312-610 | -10 JIC | -10 SAE PORT | 7/8-14 | 30.0 GPM | 3.25 | 1.125 |
| 15312-612 | -12 JIC | -12 SAE PORT | 1 1/16-12 | 40.0 GPM | 3.75 | 1.250 |
| 15312-616 | -16 JIC | -16 SAE PORT | 1 5/16-12 | 50.0 GPM | 4.50 | 1.625 |

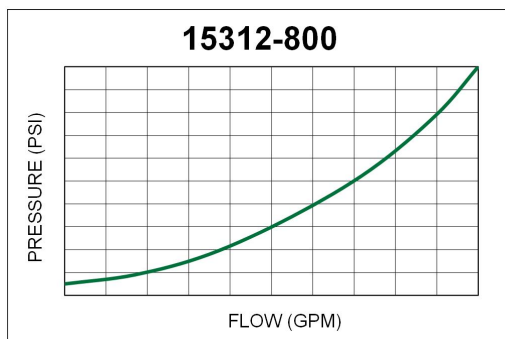
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- HARDENED STEEL POPPET.
- STEEL BODY.

SPECIFICATIONS

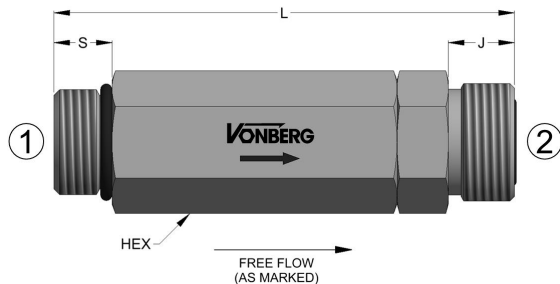
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

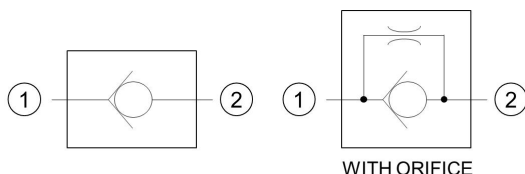
| | | | |
|----------------------|-------|---------------------------|----|
| 15312 - 8 XX - XX | | | |
| SERIES NUMBER | 15312 | THREAD SIZE | 8 |
| CRACK PRESSURE (PSI) | XX | ORIFICE DIAMETER (0.001") | XX |
| (IF NON-STANDARD) | | (OPTIONAL) | |

| MODEL | INLET 1 | OUTLET 2 | THREAD | FLOW CAPACITY | L | HEX |
|-----------|---------|--------------|-----------|---------------|------|-------|
| 15312-804 | -04 SAE | -04 SAE PORT | 7/16-20 | 3.0 GPM | 1.74 | 0.625 |
| 15312-806 | -06 SAE | -06 SAE PORT | 9/16-18 | 10.0 GPM | 1.78 | 0.750 |
| 15312-808 | -08 SAE | -08 SAE PORT | 3/4-16 | 20.0 GPM | 2.50 | 0.938 |
| 15312-810 | -10 SAE | -10 SAE PORT | 7/8-14 | 30.0 GPM | 3.00 | 1.125 |
| 15312-812 | -12 SAE | -12 SAE PORT | 1 1/16-12 | 40.0 GPM | 3.48 | 1.250 |
| 15312-816 | -16 SAE | -16 SAE PORT | 1 5/16-12 | 50.0 GPM | 4.18 | 1.625 |

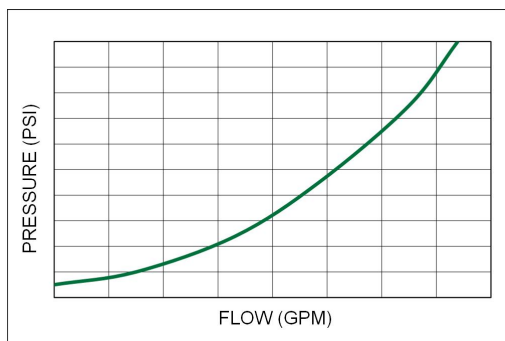
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW PRESSURE DROP.
- LOW INTERNAL LEAKAGE, 5 DPM
- HARDENED STEEL POPPET.
- STEEL BODY.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

15414 - 8 XX - XX

SERIES NUMBER _____

THREAD SIZE _____

CRACK PRESSURE (PSI) _____

(IF NON-STANDARD)

ORIFICE DIAMETER (0.001") _____

(OPTIONAL)

| MODEL | INLET 1 | OUTLET 2 | FLOW CAPACITY | L | J | S | HEX |
|-----------|---------------------|---------------------|---------------|------|------|------|------|
| 15414-804 | -04 SAE - 7/16-20 | -04 ORS - 9/16-18 | 3.0 GPM | 2.44 | 0.38 | 0.43 | 0.63 |
| 15414-806 | -06 SAE - 9/16-18 | -06 ORS - 11/16-16 | 6.0 GPM | 2.56 | 0.44 | 0.47 | 0.75 |
| 15414-808 | -08 SAE - 3/4-16 | -08 ORS - 13/16-16 | 20.0 GPM | 3.39 | 0.50 | 0.55 | 0.88 |
| 15414-810 | -10 SAE - 7/8-14 | -10 ORS - 1-14 | 30.0 GPM | 4.07 | 0.61 | 0.63 | 1.13 |
| 15414-812 | -12 SAE - 1 1/16-12 | -12 ORS - 1 3/16-12 | 40.0 GPM | 4.67 | 0.67 | 0.73 | 1.25 |
| 15414-816 | -16 SAE - 1 5/16-12 | -16 ORS - 1 7/16-12 | 50.0 GPM | 5.43 | 0.69 | 0.73 | 1.63 |

This document, as well as all catalogs, price lists and information provided by Vonberg Valve, Inc., is intended to provide product information for further consideration by users having substantial technical expertise due to the variety of operating conditions and applications for these valves, the user, through its own analysis, testing and evaluation, is solely responsible for making the final selection of the products and ensuring that all safety, warning and performance requirements of the application or use are met. The valves described herein, including without limitation, all component features, specifications, designs, pricing and availability, are subject to change at any time at the sole discretion of Vonberg Valve, Inc. without prior notification.

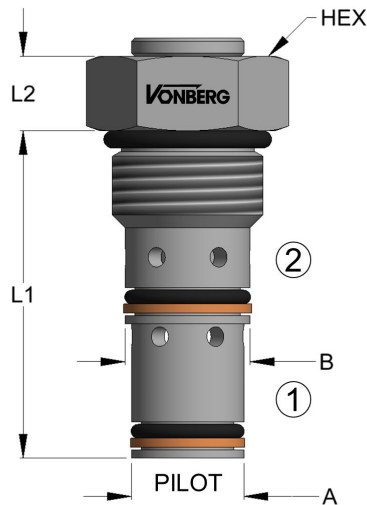
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Vonberg Valve, inc.
Hydraulic Valve Specialists

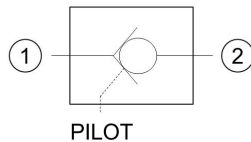
1380 Norwood Avenue • Itasca, IL 60143 USA © 2015
phone: 847-259-3800 • fax: 847-259-3997 • email: info@vonberg.com

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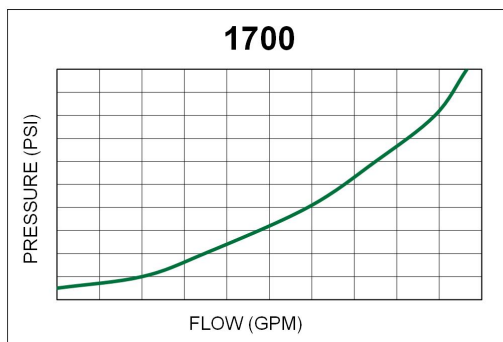
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, POPPET TYPE PILOT TO OPEN CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- THE CARTRIDGE HAS A STANDARD 4:1 PILOT RATIO TO ALLOW FLOW FROM (2) TO (1).
- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 30 PSI.

FEATURES

- SPECIAL PILOT RATIOS AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM MAX.
- INDUSTRY COMMON CAVITY.
- STEEL BODY AND POPPET.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 30 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

| | | | | |
|---|----|---|---|----|
| 17 | XX | X | - | XX |
| <p>SERIES NUMBER _____</p> <p>CAVITY SIZE _____</p> <p>PILOT PISTON TYPE _____</p> <p>BLANK..... UNSEALED</p> <p>P..... O-RING SEALED</p> <p>BODY PORT SIZE CODE _____</p> <p>BLANK..... CARTRIDGE ONLY</p> <p>SERIES CODE.... SEE "CARTRIDGE BODIES", X-3 SERIES</p> | | | | |

| MODEL | THREAD | RATED FLOW | CAVITY | L1 | L2 | HEX | A | B | TORQUE |
|-------|-------------|------------|--------|------|------|------|---------------|---------------|-----------|
| 1706 | 9/16 - 18 | 3.0 GPM | FC06-3 | 1.23 | 0.27 | 0.69 | 0.438 / 0.439 | 0.467 / 0.468 | 15 ft-lbs |
| 1708 | 3/4 - 16 | 6.0 GPM | VC08-3 | 1.63 | 0.37 | 0.88 | 0.558 / 0.560 | 0.621 / 0.623 | 20 ft-lbs |
| 1710 | 7/8 - 14 | 10.0 GPM | VC10-3 | 1.82 | 0.43 | 1.00 | 0.621 / 0.623 | 0.683 / 0.685 | 25 ft-lbs |
| 1712 | 1 1/16 - 12 | 20.0 GPM | VC12-3 | 2.63 | 0.52 | 1.25 | 0.870 / 0.873 | 0.933 / 0.935 | 40 ft-lbs |
| 1716 | 1 5/16 - 12 | 30.0 GPM | VC16-3 | 2.88 | 0.63 | 1.50 | 1.058 / 1.060 | 1.121 / 1.123 | 60 ft-lbs |

DESCRIPTION

A CARTRIDGE STYLE, DUAL PILOT TO OPEN CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW

OPERATION

- FLOW FROM (2) TO (1) OR (3) TO (4) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.
- FLOW FROM (1) TO (2) OR (4) TO (3) IS NORMALLY BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- THE CARTRIDGE HAS A 4:1 PILOT RATIO TO ALLOW FLOW FROM (1) TO (2) OR (4) TO (3).

FEATURES

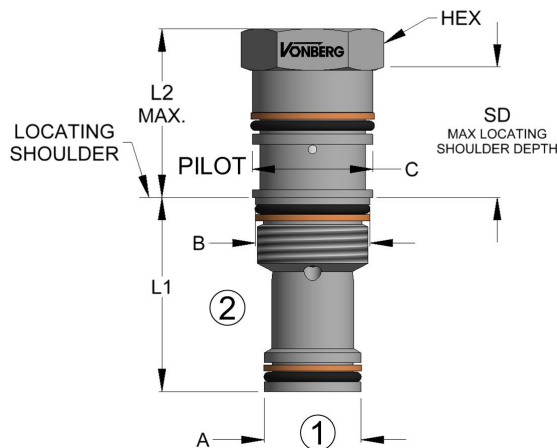
- INDUSTRY COMMON CAVITY.
- LOW INTERNAL LEAKAGE, 5 DPM.
- STANDARD PILOT RATIO: 4:1 WITH SPECIAL PILOT RATIOS AVAILABLE UPON REQUEST.
- STEEL COMPONENTS.

SPECIFICATIONS

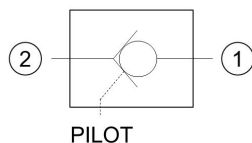
| | |
|------------------|--------------------------------|
| INTERNAL LEAKAGE | 5 DROPS / MIN. @ 3000 PSI MAX. |
| PRESSURE RANGE | 50 PSI TO 3500 PSI |

| MODEL | THREAD | CAVITY | RATED FLOW | L1 | L2 | A | B | C | HEX |
|-------|--------|--------|------------|------|------|-------------|-------------|-------------|------|
| 1708D | 3/4-16 | VC08-4 | 2.0 GPM | 2.15 | 0.38 | 0.497/0.495 | 0.559/0.557 | 0.622/0.620 | 0.88 |

PRODUCT



SCHEMATIC



DESCRIPTION

A CARTRIDGE STYLE, POPPET TYPE PILOT TO OPEN CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- THE CARTRIDGE HAS A STANDARD 3:1 PILOT RATIO TO ALLOW FLOW FROM (2) TO (1).
- FLOW FROM (1) TO (2) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (2) TO (1) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 30 PSI.

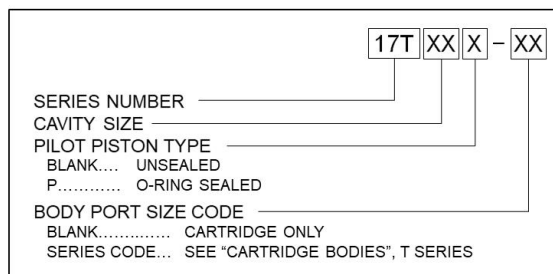
FEATURES

- SPECIAL PILOT RATIOS AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM MAX.
- STEEL BODY AND POPPET.

SPECIFICATIONS

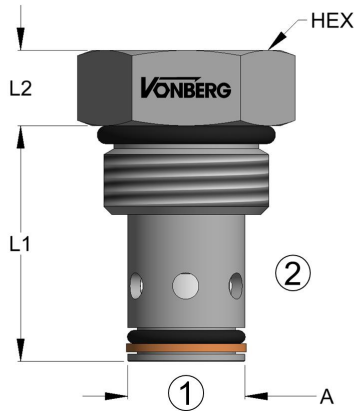
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 30 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

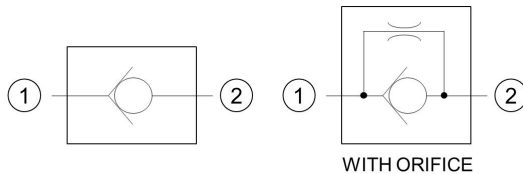


| MODEL | THREAD | RATED FLOW | CAVITY | L1 | L2 | HEX | A | B | C | SD(MAX) | TORQUE |
|--------|-----------|------------|--------|------|------|-------|-------|-------|-------|---------|-----------|
| 17T163 | M16 X 1.5 | 7.0 GPM | T-163A | 1.21 | 0.98 | 0.750 | 0.513 | 0.654 | 0.701 | 0.68 | 20 ft-lbs |
| 17T11 | M20 X 1.5 | 15.0 GPM | T-11A | 1.38 | 1.20 | 0.875 | 0.685 | 0.809 | 0.857 | 0.90 | 30 ft-lbs |
| 17T2 | 1-14 | 20.0 GPM | T-2A | 1.38 | 1.37 | 1.125 | 0.871 | 1.027 | 1.074 | 0.90 | 45 ft-lbs |
| 17T17 | M36 x 2.0 | 60.0 GPM | T-17A | 1.81 | 1.70 | 1.63 | 1.246 | 1.433 | 1.558 | 1.18 | 95 ft-lbs |

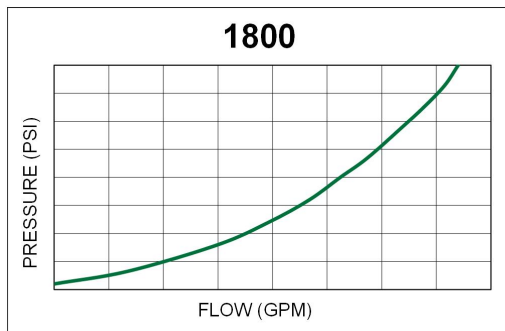
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, POPPET TYPE, STANDARD FLOW CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- INDUSTRY COMMON CAVITY
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND POPPET.

SPECIFICATIONS

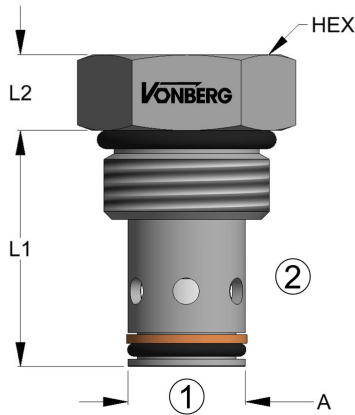
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

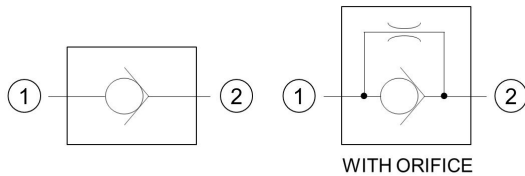
| | | | | | | |
|---|------------------------------------|----|---|----|---|----|
| SERIES NUMBER | 18 | XX | - | XX | - | XX |
| CAVITY SIZE | | | | | | |
| CRACK PRESSURE (PSI) (IF NON-STANDARD) | | | | | | |
| ORIFICE DIAMETER (0.001") (OPTIONAL) | | | | | | |
| BODY PORT SIZE CODE | | | | | | |
| BLANK..... | CARTRIDGE ONLY | | | | | |
| SERIES CODE... | SEE "CARTRIDGE BODIES", X-2 SERIES | | | | | |

| MODEL | THREAD | RATED FLOW | CAVITY | L1 | L2 | HEX | A | TORQUE |
|-------|-------------|------------|--------|------|------|------|---------------|-----------|
| 1804 | 7/16 - 20 | 2.0 GPM | VC04-2 | 0.94 | 0.44 | 0.56 | 0.277 / 0.278 | 10 ft-lbs |
| 1806 | 9/16 - 18 | 4.0 GPM | FC06-2 | 0.84 | 0.26 | 0.69 | 0.467 / 0.468 | 15 ft-lbs |
| 1808 | 3/4 - 16 | 6.0 GPM | VC08-2 | 1.10 | 0.36 | 0.88 | 0.495 / 0.497 | 20 ft-lbs |
| 1810 | 7/8 - 14 | 10.0 GPM | VC10-2 | 1.25 | 0.40 | 1.00 | 0.621 / 0.623 | 25 ft-lbs |
| 1812 | 1 1/16 - 12 | 20.0 GPM | VC12-2 | 1.81 | 0.49 | 1.25 | 0.870 / 0.873 | 40 ft-lbs |
| 1816 | 1 5/16 - 12 | 30.0 GPM | VC16-2 | 1.75 | 0.55 | 1.50 | 1.121 / 1.123 | 60 ft-lbs |

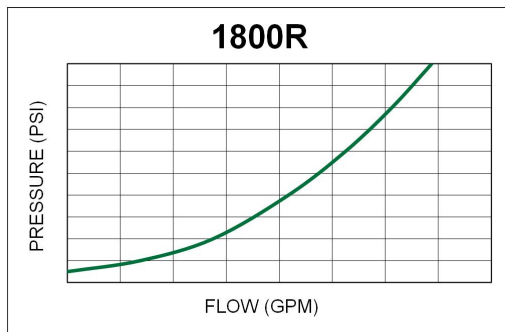
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, POPPET TYPE, REVERSE FLOW CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (1) TO (2) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (2) TO (1) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 25 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.
- INDUSTRY COMMON CAVITY.
- STEEL BODY AND POPPET.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 25 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

| | | | | | | | |
|---|------------------------------------|----|---|---|----|---|----|
| | 18 | XX | R | - | XX | - | XX |
| SERIES NUMBER | | | | | | | |
| CAVITY SIZE | | | | | | | |
| CRACK PRESSURE (PSI) (IF NON-STANDARD) | | | | | | | |
| ORIFICE DIAMETER (0.001") (OPTIONAL) | | | | | | | |
| BODY PORT SIZE CODE | | | | | | | |
| BLANK..... | CARTRIDGE ONLY | | | | | | |
| SERIES CODE... | SEE "CARTRIDGE BODIES", X-2 SERIES | | | | | | |

| MODEL | THREAD | RATED FLOW | CAVITY | L1 | L2 | HEX | A | TORQUE |
|-------|-------------|------------|--------|------|------|------|---------------|-----------|
| 1804R | 7/16 - 20 | 2.0 GPM | VC04-2 | 0.94 | 0.52 | 0.56 | 0.277 / 0.278 | 10 ft-lbs |
| 1806R | 9/16 - 18 | 4.0 GPM | FC06-2 | 0.84 | 0.52 | 0.69 | 0.467 / 0.468 | 15 ft-lbs |
| 1808R | 3/4 - 16 | 6.0 GPM | VC08-2 | 1.10 | 0.36 | 0.88 | 0.495 / 0.497 | 20 ft-lbs |
| 1810R | 7/8 - 14 | 10.0 GPM | VC10-2 | 1.25 | 0.40 | 1.00 | 0.621 / 0.623 | 25 ft-lbs |
| 1812R | 1 1/16 - 12 | 20.0 GPM | VC12-2 | 1.81 | 0.49 | 1.25 | 0.870 / 0.873 | 40 ft-lbs |
| 1816R | 1 5/16 - 12 | 30.0 GPM | VC16-2 | 1.75 | 0.55 | 1.50 | 1.121 / 1.123 | 60 ft-lbs |

DESCRIPTION

A CARTRIDGE STYLE, POPPET TYPE, STANDARD FLOW CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

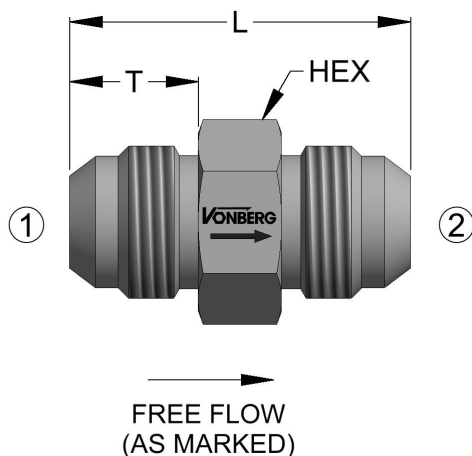
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND POPPET.
- ZINC-NICKEL PLATING AS STANDARD

SPECIFICATIONS

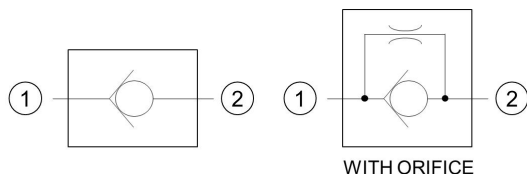
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|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

| MODEL | THREAD | RATED FLOW | CAVITY | A | B | HEX | SD | L1 | L2 | TORQUE |
|--------|-------------|------------|--------|---------------|---------------|-------|-------|------|-------|-----------|
| 18T162 | M16 X 1.5 | 10.0 GPM | T-162A | 0.512 / 0.513 | 0.653 / 0.654 | 0.75 | 0.290 | 1.21 | 0.810 | 15 ft-lbs |
| 18T13 | M20 X 1.5 | 20.0 GPM | T-13A | 0.683 / 0.685 | 0.807 / 0.809 | 0.875 | 0.225 | 1.38 | 0.845 | 25 ft-lbs |
| 18T5 | 1" - 14 UNS | 40.0 GPM | T-5A | 0.871 / 0.873 | 1.027 / 1.029 | 1.00 | 0.280 | 1.62 | .0760 | 35 ft-lbs |
| 18T16 | M36 X 2.0 | 80.0 GPM | T-16A | 1.246 / 1.247 | 1.433 / 1.435 | 1.50 | 0.220 | 2.43 | .0957 | 45 ft-lbs |

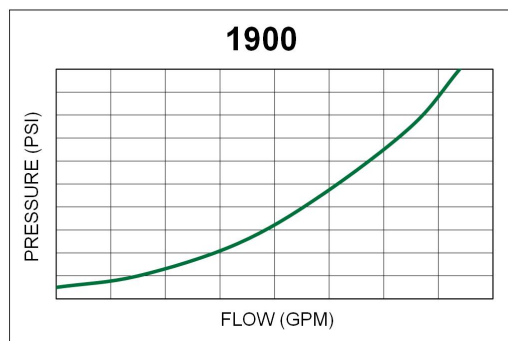
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE WITH MALE JIC CONNECTIONS INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.
- NO INTERNAL PACKINGS
- STEEL BODY AND POPPET.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

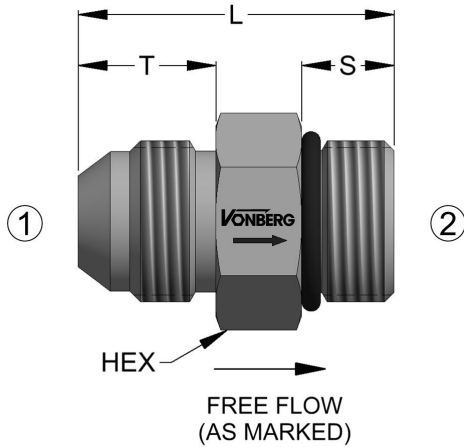
| | | | |
|---------------------------|--|--|--|
| 19 XX - XX | | | |
| SERIES NUMBER | | | |
| THREAD SIZE | | | |
| CRACK PRESSURE (PSI) | | | |
| (IF NON-STANDARD) | | | |
| ORIFICE DIAMETER (0.001") | | | |
| (OPTIONAL) | | | |

| MODEL | INLET / OUTLET | THREAD | CAPACITY | L | T | HEX |
|-------|----------------|-----------|----------|------|-------|-------|
| 1904 | -04 JIC | 7/16-20 | 2 GPM | 1.42 | 0.540 | 0.562 |
| 1906 | -06 JIC | 9/16-18 | 4 GPM | 1.60 | 0.540 | 0.750 |
| 1908 | -08 JIC | 3/4-16 | 8 GPM | 1.68 | 0.655 | 0.875 |
| 1910 | -10 JIC | 7/8-14 | 12 GPM | 1.88 | 0.760 | 1.000 |
| 1912 | -12 JIC | 1 1/16-12 | 15 GPM | 2.12 | 0.860 | 1.250 |
| 1916 | -16 JIC | 1 5/16-12 | 40 GPM | 2.55 | 0.880 | 1.500 |
| 1920 | -20 JIC | 1 5/8-12 | 50 GPM | 3.15 | 0.950 | 1.875 |
| 1924 | -24 JIC | 1 7/8-12 | 80 GPM | 3.50 | 0.950 | 2.125 |

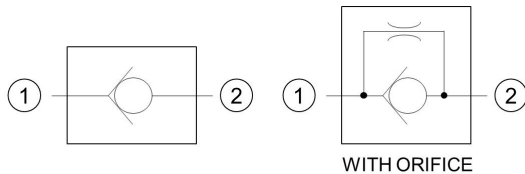
This document, as well as all catalogs, price lists and information provided by Vonberg Valve, Inc., is intended to provide product information for further consideration by users having substantial technical expertise due to the variety of operating conditions and applications for these valves, the user, through its own analysis, testing and evaluation, is solely responsible for making the final selection of the products and ensuring that all safety, warning and performance requirements of the application or use are met. The valves described herein, including without limitation, all component features, specifications, designs, pricing and availability, are subject to change at any time at the sole discretion of Vonberg Valve, Inc. without prior notification.

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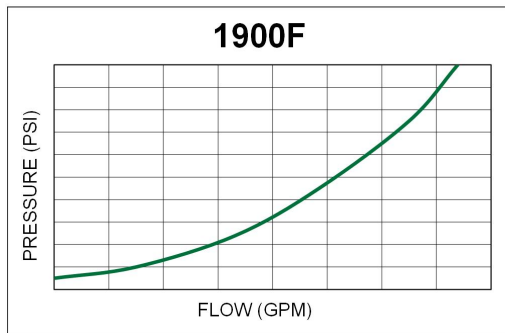
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- STEEL BODY AND POPPET.
- LOW INTERNAL LEAKAGE, 5 DPM.

SPECIFICATIONS

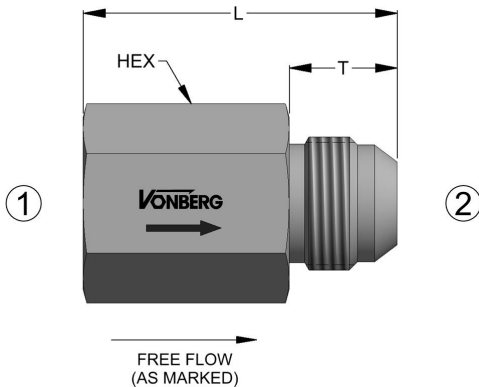
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

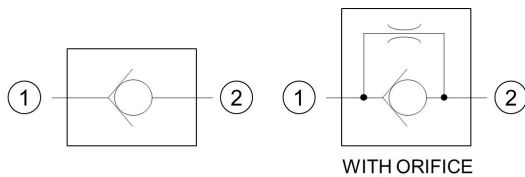
| | | | | |
|--|----|---|---|----|
| 19 | XX | F | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | INLET 1 | OUTLET 2 | THREAD | CAPACITY | L | T | S | HEX |
|-------|---------|----------|-----------|----------|------|-------|-------|-------|
| 1904F | -04 JIC | -04 SAE | 7/16-20 | 2 GPM | 1.23 | 0.540 | 0.360 | 0.562 |
| 1906F | -06 JIC | -06 SAE | 9/16-18 | 4 GPM | 1.45 | 0.540 | 0.390 | 0.750 |
| 1908F | -08 JIC | -08 SAE | 3/4-16 | 8 GPM | 1.47 | 0.655 | 0.440 | 0.875 |
| 1910F | -10 JIC | -10 SAE | 7/8-14 | 12 GPM | 1.62 | 0.760 | 0.500 | 1.000 |
| 1912F | -12 JIC | -12 SAE | 1 1/16-12 | 30 GPM | 2.00 | 0.860 | 0.594 | 1.250 |
| 1916F | -16 JIC | -16 SAE | 1 5/16-12 | 40 GPM | 2.27 | 0.910 | 0.594 | 1.500 |
| 1920F | -20 JIC | -20 SAE | 1 5/8-12 | 50 GPM | 2.75 | 0.960 | 0.594 | 1.875 |
| 1924F | -24 JIC | -24 SAE | 1 7/8-12 | 80 GPM | 3.50 | 1.080 | 0.594 | 2.125 |

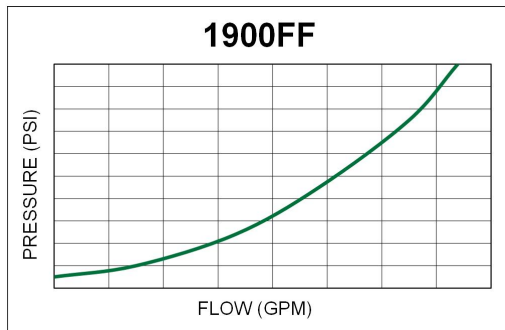
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- STEEL BODY AND POPPET.
- LOW INTERNAL LEAKAGE, 5 DPM.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.

SPECIFICATIONS

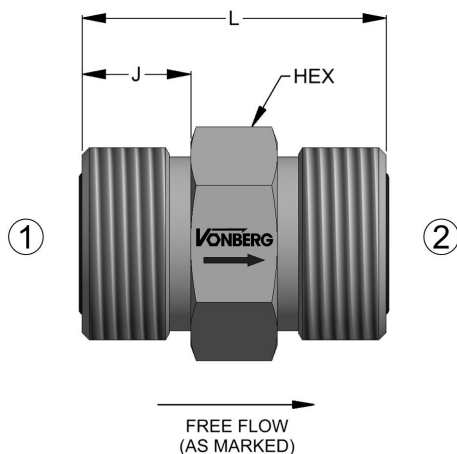
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

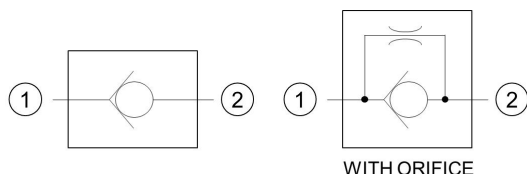
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|--|----|----|---|----|
| 19 | XX | FF | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | INLET 1 | OUTLET 2 | THREAD | CAPACITY | L | T | HEX |
|--------|--------------|----------|-----------|----------|------|-------|-------|
| 1904FF | -04 JIC PORT | -04 JIC | 7/16-20 | 2 GPM | 1.72 | 0.530 | 0.625 |
| 1906FF | -06 JIC PORT | -06 JIC | 9/16-18 | 4 GPM | 1.94 | 0.545 | 0.750 |
| 1908FF | -08 JIC PORT | -08 JIC | 3/4-16 | 8 GPM | 1.88 | 0.635 | 0.938 |
| 1910FF | -10 JIC PORT | -10 JIC | 7/8-14 | 12 GPM | 2.38 | 0.760 | 1.125 |
| 1912FF | -12 JIC PORT | -12 JIC | 1 1/16-12 | 20 GPM | 2.50 | 0.860 | 1.375 |
| 1916FF | -16 JIC PORT | -16 JIC | 1 5/16-12 | 40 GPM | 3.19 | 0.880 | 1.625 |
| 1920FF | -20 JIC PORT | -20 JIC | 1 5/8-12 | 50 GPM | 4.00 | 0.950 | 2.000 |

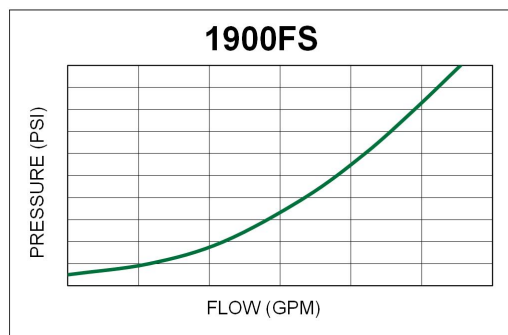
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE WITH MALE ORS CONNECTIONS INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.
- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.

FEATURES

- NO INTERNAL PACKINGS
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND POPPET.

SPECIFICATIONS

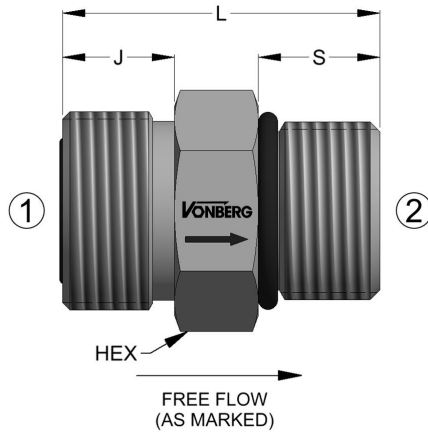
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

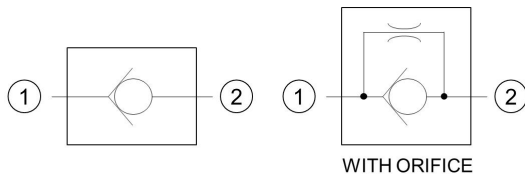
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|--|----|----|---|----|
| 19 | XX | FS | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | INLET / OUTLET | THREAD | CAPACITY | L | J | HEX |
|--------|----------------|------------|----------|-------|-------|-------|
| 1904FS | -04 ORS | 9/16-18 | 2 GPM | 1.070 | 0.385 | 0.625 |
| 1906FS | -06 ORS | 11/16-16 | 4 GPM | 1.250 | 0.440 | 0.750 |
| 1908FS | -08 ORS | 13/16-16 | 8 GPM | 1.375 | 0.500 | 0.875 |
| 1910FS | -10 ORS | 1-14 | 12 GPM | 1.700 | 0.610 | 1.062 |
| 1912FS | -12 ORS | 1 3/16-12 | 15 GPM | 1.875 | 0.670 | 1.250 |
| 1916FS | -16 ORS | 1 7/16-12 | 40 GPM | 2.125 | 0.690 | 1.500 |
| 1920FS | -20 ORS | 1 11/16-12 | 50 GPM | 2.450 | 0.690 | 1.750 |

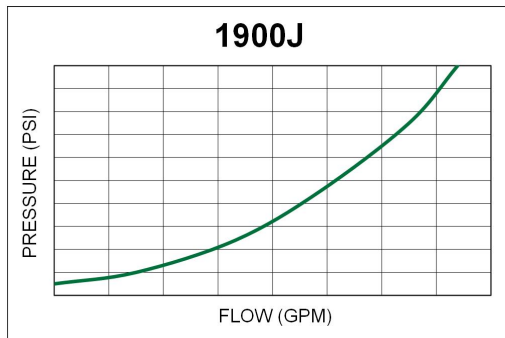
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- LOW INTERNAL LEAKAGE, 5 DPM.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- STEEL BODY AND POPPET.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

19XXJ-XX

SERIES NUMBER

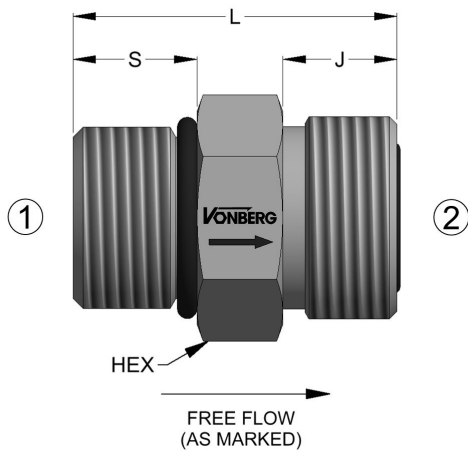
THREAD SIZE

CRACK PRESSURE (PSI)
(IF NON-STANDARD)

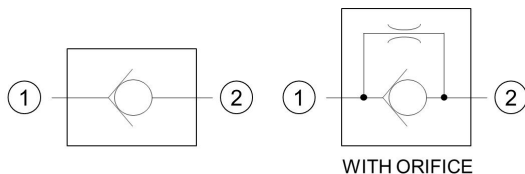
ORIFICE DIAMETER (0.001")
(OPTIONAL)

| MODEL | INLET 1 | OUTLET 2 | CAPACITY | L | J | S | HEX |
|-------|----------------------|---------------------|----------|------|------|------|-------|
| 1904J | -04 ORS - 9/16-18 | -04 SAE - 7/16-20 | 2 GPM | 1.06 | 0.38 | 0.43 | 0.625 |
| 1906J | -06 ORS - 11/16-16 | -06 SAE - 9/16-18 | 4 GPM | 1.42 | 0.44 | 0.47 | 0.750 |
| 1908J | -08 ORS - 13/16-16 | -08 SAE - 3/4-16 | 8 GPM | 1.42 | 0.50 | 0.55 | 0.875 |
| 1910J | -10 ORS - 1-14 | -10 SAE - 7/8-14 | 12 GPM | 1.62 | 0.61 | 0.63 | 1.125 |
| 1912J | -12 ORS - 1 3/16-12 | -12 SAE - 1 1/16-12 | 30 GPM | 2.00 | 0.67 | 0.73 | 1.250 |
| 1916J | -16 ORS - 1 7/16-12 | -16 SAE - 1 5/16-12 | 40 GPM | 2.27 | 0.69 | 0.73 | 1.500 |
| 1920J | -20 ORS - 1 11/16-12 | -20 SAE - 1 5/8-12 | 50 GPM | 2.40 | 0.69 | 0.73 | 1.875 |

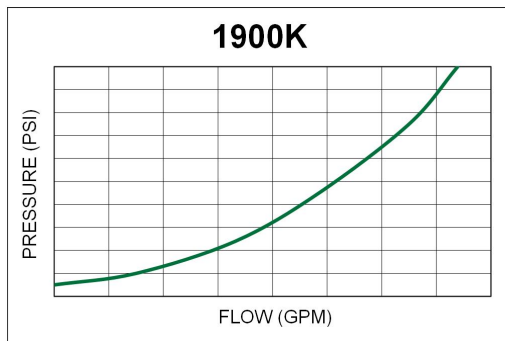
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.
- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND POPPET.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 5000 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

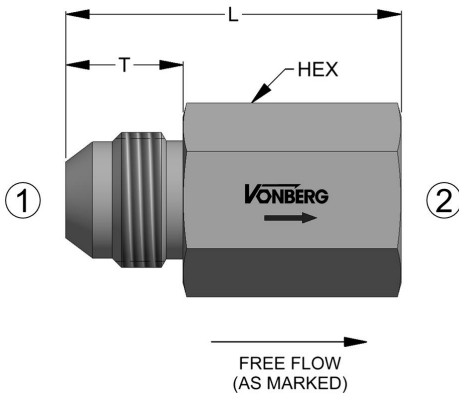
ORDERING INFORMATION

19
XX
K
-XX

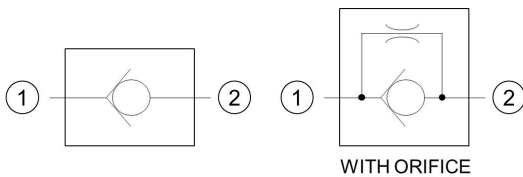
SERIES NUMBER _____
 THREAD SIZE _____
 CRACK PRESSURE (PSI) _____
 (IF NON-STANDARD)
 ORIFICE DIAMETER (0.001") _____
 (OPTIONAL)

| MODEL | INLET 1 | OUTLET 2 | CAPACITY | L | J | S | HEX |
|-------|---------------------|----------------------|----------|------|------|------|-------|
| 1904K | -04 SAE - 7/16-20 | -04 ORS - 9/16-18 | 2 GPM | 1.07 | 0.38 | 0.43 | 0.625 |
| 1906K | -06 SAE - 9/16-18 | -06 ORS - 11/16-16 | 4 GPM | 1.42 | 0.44 | 0.47 | 0.750 |
| 1908K | -08 SAE - 3/4-16 | -08 ORS - 13/16-16 | 8 GPM | 1.42 | 0.50 | 0.55 | 0.875 |
| 1910K | -10 SAE - 7/8-14 | -10 ORS - 1-14 | 12 GPM | 1.62 | 0.61 | 0.63 | 1.125 |
| 1912K | -12 SAE - 1 1/16-12 | -12 ORS - 1 3/16-12 | 30 GPM | 1.92 | 0.67 | 0.73 | 1.250 |
| 1916K | -16 SAE - 1 5/16-12 | -16 ORS - 1 7/16-12 | 40 GPM | 2.27 | 0.69 | 0.73 | 1.500 |
| 1920K | -20 SAE - 1 5/8-12 | -20 ORS - 1 11/16-12 | 50 GPM | 2.45 | 0.69 | 0.73 | 1.875 |

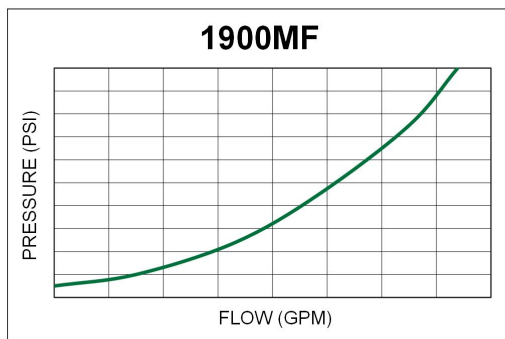
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND POPPET.

SPECIFICATIONS

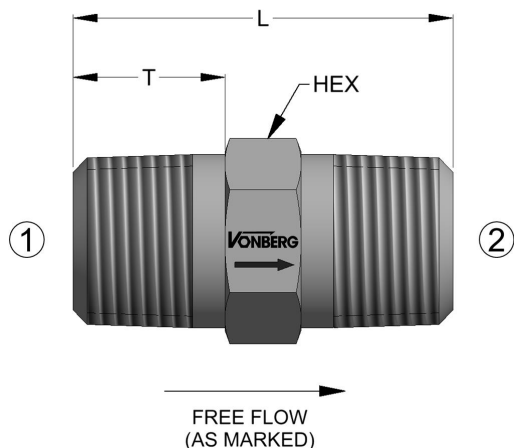
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

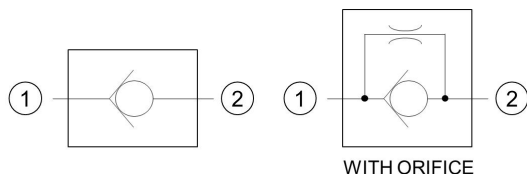
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|--|----|----|---|----|
| 19 | XX | MF | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | INLET 1 | OUTLET 2 | THREAD | CAPACITY | L | T | HEX |
|--------|---------|--------------|-----------|----------|------|-------|-------|
| 1904MF | -04 JIC | -04 JIC PORT | 7/16-20 | 2 GPM | 1.72 | 0.530 | 0.625 |
| 1906MF | -06 JIC | -06 JIC PORT | 9/16-18 | 4 GPM | 1.94 | 0.545 | 0.750 |
| 1908MF | -08 JIC | -08 JIC PORT | 3/4-16 | 8 GPM | 1.88 | 0.635 | 0.938 |
| 1910MF | -10 JIC | -10 JIC PORT | 7/8-14 | 12 GPM | 2.38 | 0.760 | 1.125 |
| 1912MF | -12 JIC | -12 JIC PORT | 1 1/16-12 | 25 GPM | 2.50 | 0.860 | 1.375 |
| 1916MF | -16 JIC | -16 JIC PORT | 1 5/16-12 | 40 GPM | 3.19 | 0.880 | 1.625 |
| 1920MF | -20 JIC | -20 JIC PORT | 1 5/8-12 | 50 GPM | 4.00 | 0.950 | 2.000 |

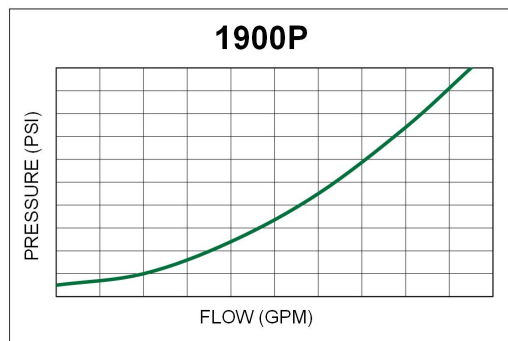
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE WITH MALE NPTF CONNECTIONS INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.
- NO INTERNAL PACKINGS
- STEEL BODY AND POPPET.

SPECIFICATIONS

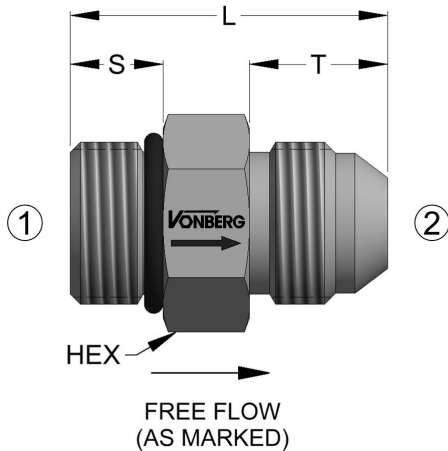
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

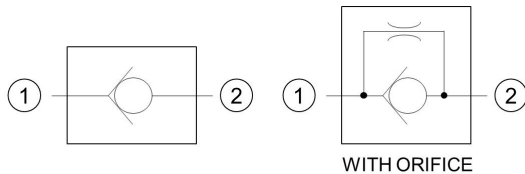
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|--|----|---|---|----|
| 19 | XX | P | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | INLET / OUTLET | FLOW CAPACITY | L | T | HEX |
|-------|----------------|---------------|------|------|------|
| 1901P | 1/8-27 NPTF | 2 GPM | 1.00 | 0.38 | 0.50 |
| 1902P | 1/4-18 NPTF | 4 GPM | 1.38 | 0.56 | 0.63 |
| 1903P | 3/8-18 NPTF | 8 GPM | 1.45 | 0.56 | 0.75 |
| 1904P | 1/2-14 NPTF | 12 GPM | 1.88 | 0.75 | 0.88 |
| 1906P | 3/4-14 NPTF | 15 GPM | 1.96 | 0.75 | 1.13 |
| 1908P | 1-11 1/2 NPTF | 30 GPM | 2.34 | 0.94 | 1.38 |

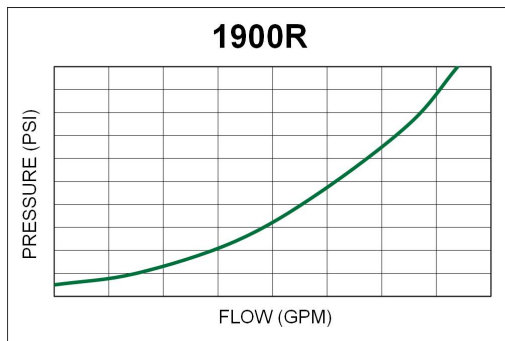
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND POPPET.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

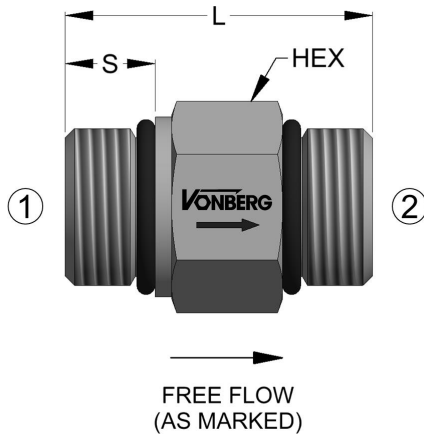
| | | | | |
|--|----|---|---|----|
| 19 | XX | R | - | XX |
| SERIES NUMBER _____ THREAD SIZE _____ CRACK PRESSURE (PSI) _____ (IF NON-STANDARD) ORIFICE DIAMETER (0.001") _____ (OPTIONAL) | | | | |

| MODEL | INLET 1 | OUTLET 2 | THREAD | CAPACITY | L | T | S | HEX |
|-------|---------|----------|-----------|----------|------|-------|-------|-------|
| 1904R | -04 SAE | -04 JIC | 7/16-20 | 2 GPM | 1.23 | 0.540 | 0.360 | 0.562 |
| 1906R | -06 SAE | -06 JIC | 9/16-18 | 4 GPM | 1.45 | 0.540 | 0.390 | 0.750 |
| 1908R | -08 SAE | -08 JIC | 3/4-16 | 8 GPM | 1.47 | 0.655 | 0.440 | 0.875 |
| 1910R | -10 SAE | -10 JIC | 7/8-14 | 12 GPM | 1.62 | 0.760 | 0.500 | 1.000 |
| 1912R | -12 SAE | -12 JIC | 1 1/16-12 | 30 GPM | 2.00 | 0.860 | 0.594 | 1.250 |
| 1916R | -16 SAE | -16 JIC | 1 5/16-12 | 40 GPM | 2.27 | 0.910 | 0.594 | 1.500 |
| 1920R | -20 SAE | -20 JIC | 1 5/8-12 | 50 GPM | 2.75 | 0.960 | 0.594 | 1.875 |
| 1924R | -24 SAE | -24 JIC | 1 7/8-12 | 80 GPM | 3.50 | 1.080 | 0.594 | 2.125 |

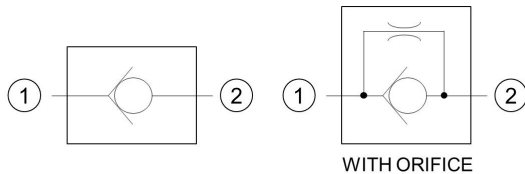
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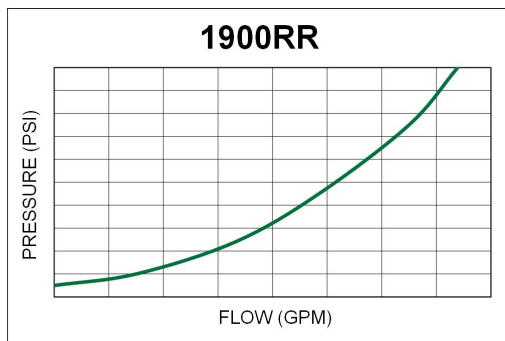
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.
- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.

FEATURES

- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- NO INTERNAL PACKINGS
- LOW INTERNAL LEAKAGE, 5 DPM.
- STEEL BODY AND POPPET.

SPECIFICATIONS

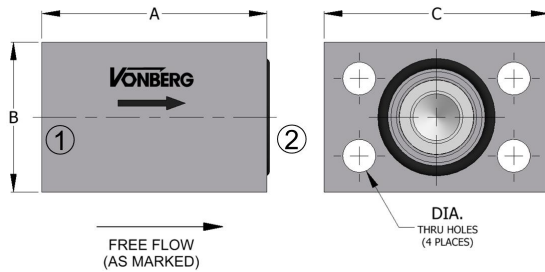
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

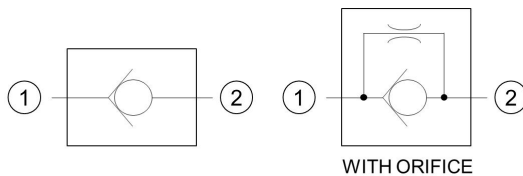
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|---|----|----|----|-----|
| SERIES NUMBER | 19 | XX | RR | -XX |
| THREAD SIZE | | | | |
| CRACK PRESSURE (PSI) (IF NON-STANDARD) | | | | |
| ORIFICE DIAMETER (0.001") (OPTIONAL) | | | | |

| MODEL | INLET / OUTLET | THREAD | CAPACITY | L | S | HEX |
|--------|----------------|-----------|----------|------|-------|-------|
| 1904RR | -04 SAE | 7/16-20 | 2 GPM | 1.14 | 0.360 | 0.562 |
| 1906RR | -06 SAE | 9/16-18 | 4 GPM | 1.45 | 0.390 | 0.750 |
| 1908RR | -08 SAE | 3/4-16 | 8 GPM | 1.47 | 0.440 | 0.875 |
| 1910RR | -10 SAE | 7/8-14 | 12 GPM | 1.62 | 0.500 | 1.000 |
| 1912RR | -12 SAE | 1 1/16-12 | 15 GPM | 2.00 | 0.595 | 1.250 |
| 1916RR | -16 SAE | 1 5/16-12 | 40 GPM | 2.27 | 0.595 | 1.500 |
| 1920RR | -20 SAE | 1 5/8-12 | 50 GPM | 2.75 | 0.595 | 1.875 |

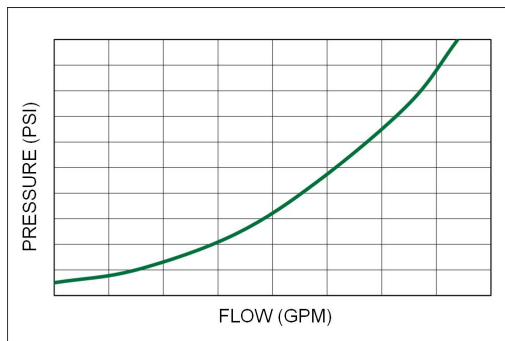
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- INCLUDES O-RING.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- HYDRAULIC OILS - GENERAL.
- BOLT PATTERN FOR SAE STANDARD PRESSURE (CODE 61).
- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- ALUMINUM BODY AND STEEL POPPET.

SPECIFICATIONS

| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

90175 - XXX - XX

SERIES NUMBER _____

FLANGE SIZE _____

CRACK PRESSURE (PSI) _____

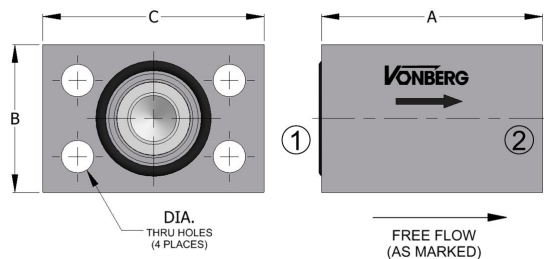
(IF NON-STANDARD)

ORIFICE DIAMETER (0.001") _____

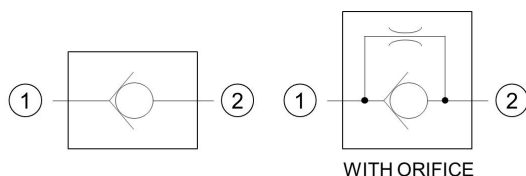
(OPTIONAL)

| MODEL | SAE FLANGE SIZE | FLOW CAPACITY | A | B | C | DIA. |
|-----------|-----------------|---------------|------|------|------|------|
| 90175-100 | 1.00 | 35 GPM | 3.00 | 2.00 | 3.00 | 0.44 |
| 90175-125 | 1.25 | 60 GPM | 3.00 | 2.50 | 3.25 | 0.47 |
| 90175-150 | 1.50 | 95 GPM | 4.00 | 2.50 | 4.00 | 0.56 |
| 90175-200 | 2.00 | 130 GPM | 4.00 | 3.00 | 4.00 | 0.56 |

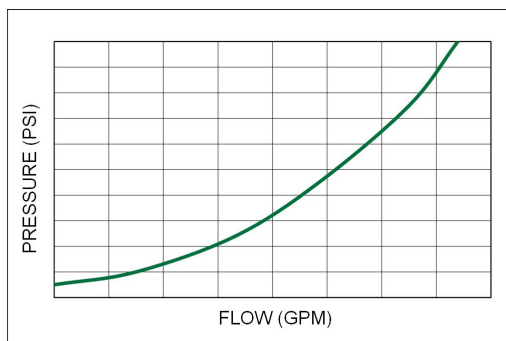
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, POPPET TYPE CHECK VALVE INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLOW FROM (2) TO (1) IS BLOCKED WITH A SPRING BIAS TO ASSIST IN STATIC AND LOW LOAD CONDITIONS.
- FLOW FROM (1) TO (2) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 3-5 PSI.

FEATURES

- INCLUDES O-RING.
- SPECIAL CRACK PRESSURES AVAILABLE UPON REQUEST.
- BOLT PATTERN FOR SAE STANDARD PRESSURE (CODE 61).
- HYDRAULIC OILS - GENERAL.
- LOW PRESSURE DROP.
- NO INTERNAL PACKINGS.
- LOW INTERNAL LEAKAGE, 5 DPM.
- ALUMINUM BODY AND STEEL POPPET.

SPECIFICATIONS

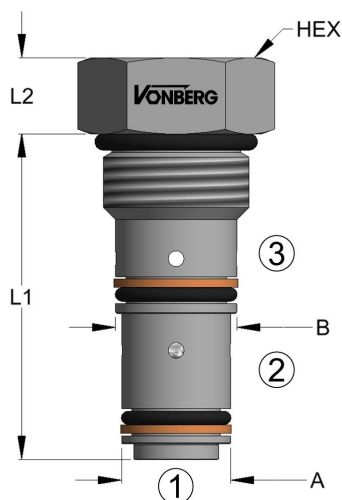
| | |
|-------------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| STANDARD CRACK PRESSURE | 3-5 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

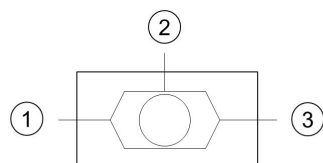
| | |
|---|-------|
| 90200 - XXX - XX | |
| SERIES NUMBER | 90200 |
| FLANGE SIZE | XXX |
| CRACK PRESSURE (PSI) (IF NON-STANDARD) | XX |
| ORIFICE DIAMETER (0.001") (OPTIONAL) | |

| MODEL | SAE FLANGE SIZE | FLOW CAPACITY | A | B | C | DIA. |
|-----------|-----------------|---------------|------|------|------|------|
| 90200-100 | 1.00 | 35 GPM | 3.00 | 2.00 | 3.00 | 0.44 |
| 90200-125 | 1.25 | 60 GPM | 3.00 | 2.50 | 3.25 | 0.47 |
| 90200-150 | 1.50 | 95 GPM | 4.00 | 2.50 | 4.00 | 0.56 |
| 90200-200 | 2.00 | 130 GPM | 4.00 | 3.00 | 4.00 | 0.56 |

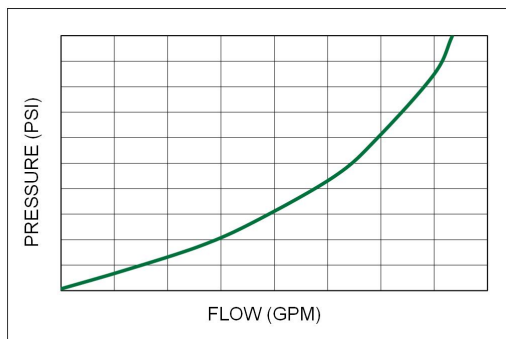
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, BALL TYPE SHUTTLE VALVE FOR USE IN CIRCUITS WHERE THE PRIORITY OF FLOW DIRECTION IS GRANTED TO THE GREATER OF TWO INLETS.

OPERATION

- FLOW FROM (1) TO (3) AND (3) TO (1) IS BLOCKED.
- FLOW FROM (1) OR (3) TO (2) IS ALLOWED.

FEATURES

- NO INTERNAL PACKINGS.
- INDUSTRY COMMON CAVITY.
- HARDENED STEEL SEATS.
- STEEL BODY AND CHROME BALL.

SPECIFICATIONS

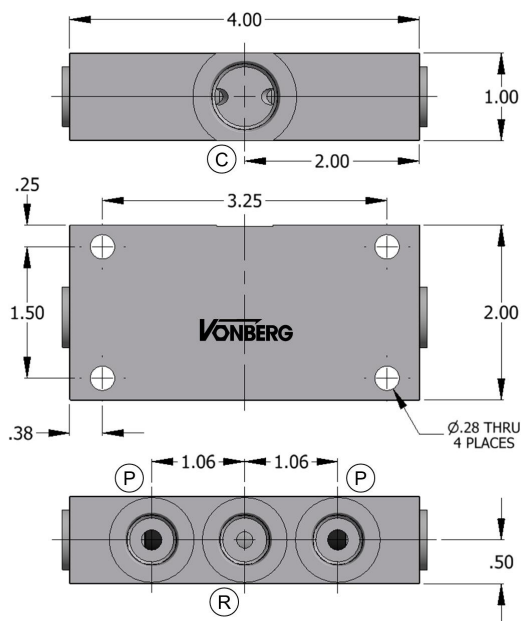
| | |
|--------------------|-----------------------|
| INTERNAL LEAKAGE | 5 DPM @ 3500 PSI MAX. |
| OPERATING PRESSURE | 3500 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

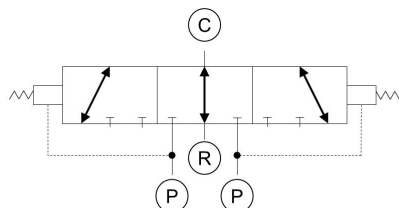
| | | | | |
|---------------------|------------------------------------|----|---|----|
| SERIES NUMBER | 32 | XX | - | XX |
| CAVITY SIZE | | | | |
| BODY PORT SIZE CODE | | | | |
| BLANK..... | CARTRIDGE ONLY | | | |
| SERIES CODE.... | SEE "CARTRIDGE BODIES", X-3 SERIES | | | |

| MODEL | THREAD | RATED FLOW | CAVITY | L1 | L2 | HEX | A | B |
|-------|----------|------------|--------|------|------|------|---------------|---------------|
| 3204 | 7/16-20 | 1.5 GPM | C04-3 | 1.24 | 0.30 | 0.56 | 0.308 / 0.310 | 0.340 / 0.342 |
| 3208 | 3/4 - 16 | 5.0 GPM | VC08-3 | 1.67 | 0.31 | 0.88 | 0.558 / 0.560 | 0.621 / 0.623 |
| 3210 | 7/8-14 | 8.0 GPM | VC10-3 | 1.85 | 0.31 | 1.00 | 0.621 / 0.623 | 0.683 / 0.685 |

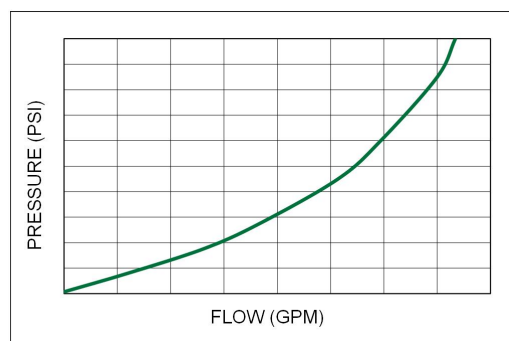
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, SPOOL TYPE SHUTTLE VALVE FOR USE IN SPRING APPLIED BRAKE CIRCUITS.

OPERATION

- IN THE SHUTTLED POSITION, FLOW FROM (P) TO (C) IS ALLOWED.
- SHIFT PRESSURE IS REQUIRED, EACH DIRECTION (SEE TABLE)
- IN THE NORMALLY CENTERED POSITION, FLOW FROM (C) TO (R) IS ALLOWED.

FEATURES

- HYDRAULIC OILS - GENERAL.
- HIGHER SHIFT PRESSURE AVAILABLE UPON REQUEST.
- SPRING BIAS NORMALLY CENTERED.
- ALUMINUM BODY AND SPOOL.
- NO INTERNAL PACKINGS.

SPECIFICATIONS

| | |
|--------------------|------------------|
| OPERATING PRESSURE | 3500 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

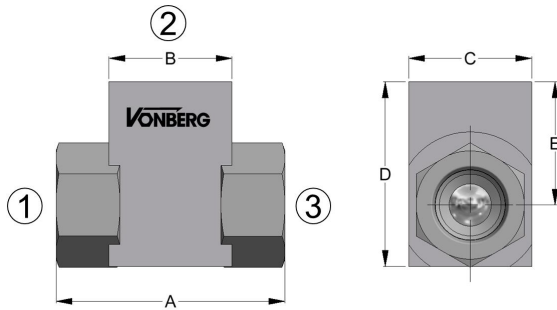
| | | | |
|-------------------|----------|----|---|
| SERIES NUMBER | 601 | XX | X |
| SHIFT PRESSURE ID | | | |
| BODY MATERIAL | | | |
| BLANK.... | ALUMINUM | | |
| S..... | STEEL | | |

| MODEL | PORT SIZE (C) | PORT SIZE (P, R) | CRACK (P-C) | HOLD (P-C) |
|-------|------------------|-------------------|---------------|-----------------|
| 60101 | -08 SAE - 3/4-16 | -06 SAE - 9/16-18 | 12 PSI (MIN.) | 22.5 PSI (MIN.) |
| 60112 | -08 SAE - 3/4-16 | -06 SAE - 9/16-18 | 50 PSI (MIN.) | 80 PSI (MIN.) |

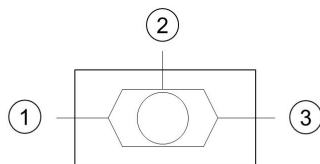
This document, as well as all catalogs, price lists and information provided by Vonberg Valve, Inc., is intended to provide product information for further consideration by users having substantial technical expertise due to the variety of operating conditions and applications for these valves, the user, through its own analysis, testing and evaluation, is solely responsible for making the final selection of the products and ensuring that all safety, warning and performance requirements of the application or use are met. The valves described herein, including without limitation, all component features, specifications, designs, pricing and availability, are subject to change at any time at the sole discretion of Vonberg Valve, Inc. without prior notification.

9/26/18, 4:58 PM

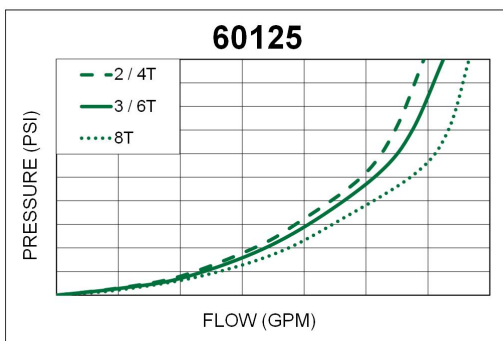
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, BALL TYPE SHUTTLE VALVE FOR USE IN CIRCUITS WHERE THE PRIORITY OF FLOW DIRECTION IS GRANTED TO THE GREATER OF TWO INLETS.

OPERATION

- FLOW FROM (1) OR (3) TO (2) IS ALLOWED.
- FLOW FROM (1) TO (3) AND (3) TO (1) IS BLOCKED.

FEATURES

- NO INTERNAL PACKINGS.
- HARDENED STEEL SEATS
- ALUMINUM BODY AND CHROME BALL.

SPECIFICATIONS

| | |
|--------------------|-----------------------|
| INTERNAL LEAKAGE | 5 DPM @ 3500 PSI MAX. |
| OPERATING PRESSURE | 3500 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

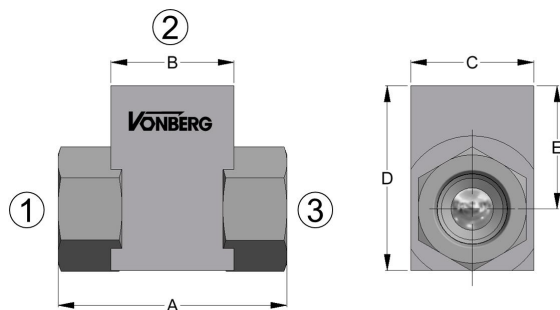
60125 - **XX** - **XX**

SERIES NUMBER _____
 INLET PORTS ID _____
 OUTLET PORT ID** _____

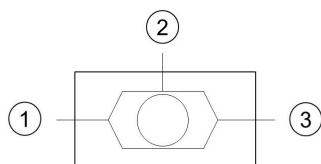
** WHEN INLET AND OUTLET PORTS MATCH, ONLY ONE SUFFIX IS NECESSARY

| MODEL | PORT SIZE | A | B | C | D | E |
|----------|-------------------|------|------|------|------|------|
| 60125-2 | 1/4-18 NPTF | 2.22 | 1.00 | 1.00 | 1.50 | 1.00 |
| 60125-3 | 3/8-18 NPTF | 2.22 | 1.00 | 1.00 | 1.50 | 1.00 |
| 60125-4T | -04 SAE - 7/16-20 | 1.86 | 1.00 | 1.00 | 1.50 | 1.00 |
| 60125-6T | -06 SAE - 9/16-18 | 1.86 | 1.00 | 1.00 | 1.50 | 1.00 |
| 60125-8T | -08 SAE - 3/4-16 | 2.82 | 1.00 | 1.00 | 1.50 | 1.00 |

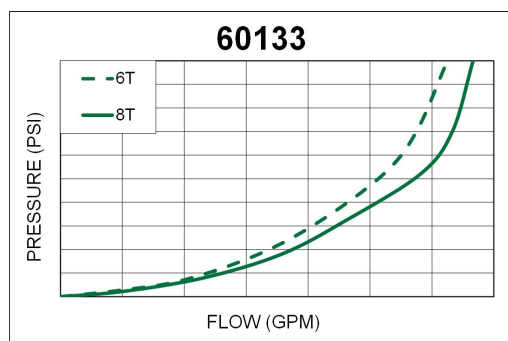
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, BALL TYPE SHUTTLE VALVE FOR USE IN CIRCUITS WHERE THE PRIORITY OF FLOW DIRECTION IS GRANTED TO THE GREATER OF TWO INLETS.

OPERATION

- FLOW FROM (1) OR (3) TO (2) IS ALLOWED.
- FLOW FROM (1) TO (3) AND (3) TO (1) IS BLOCKED.

FEATURES

- NO INTERNAL PACKINGS.
- ALUMINUM BODY AND CHROME BALL.
- LOW PRESSURE DROP.
- HARDENED STEEL SEATS

SPECIFICATIONS

| | |
|--------------------|-----------------------|
| INTERNAL LEAKAGE | 5 DPM @ 3500 PSI MAX. |
| OPERATING PRESSURE | 3500 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

60133-XX-XX

SERIES NUMBER

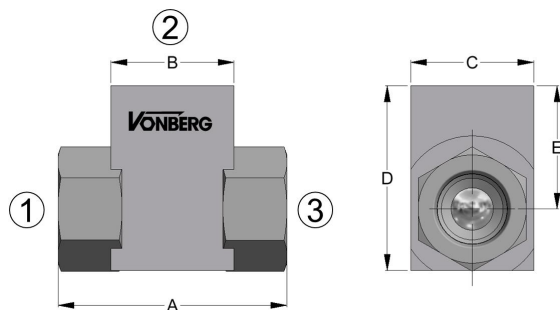
INLET PORTS ID

OUTLET PORT ID**

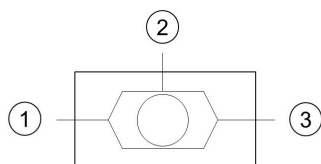
** WHEN INLET AND OUTLET PORTS MATCH, ONLY ONE SUFFIX IS NECESSARY

| MODEL | PORT SIZE | A | B | C | D | E |
|----------|-------------------|------|------|------|------|------|
| 60133-6T | -06 SAE - 9/16-18 | 1.94 | 1.00 | 1.00 | 1.50 | 1.00 |
| 60133-8T | -08 SAE - 3/4-16 | 2.70 | 1.00 | 1.00 | 1.75 | 1.25 |

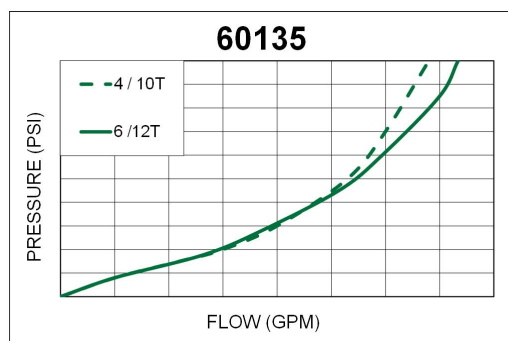
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, BALL TYPE SHUTTLE VALVE FOR USE IN CIRCUITS WHERE THE PRIORITY OF FLOW DIRECTION IS GRANTED TO THE GREATER OF TWO INLETS.

OPERATION

- FLOW FROM (1) OR (3) TO (2) IS ALLOWED.
- FLOW FROM (1) TO (3) AND (3) TO (1) IS BLOCKED.

FEATURES

- NO INTERNAL PACKINGS.
- HARDENED STEEL SEATS
- ALUMINUM BODY AND CHROME BALL.

SPECIFICATIONS

| | |
|--------------------|-----------------------|
| INTERNAL LEAKAGE | 5 DPM @ 3500 PSI MAX. |
| OPERATING PRESSURE | 3500 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

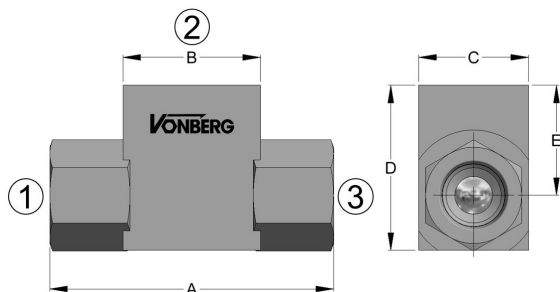
60135 - **XX** - **XX**

SERIES NUMBER _____
 INLET PORTS ID _____
 OUTLET PORT ID** _____

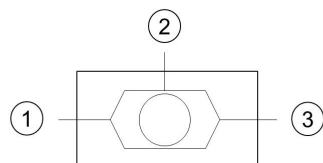
** WHEN INLET AND OUTLET PORTS MATCH, ONLY ONE SUFFIX IS NECESSARY

| PORT ID. | PORT SIZE | A | B | C | D | E |
|-----------|---------------------|------|------|------|------|------|
| 60135-4 | 1/2-14 NPTF | 4.00 | 1.75 | 1.75 | 2.50 | 1.60 |
| 60135-6 | 3/4-14 NPTF | 4.00 | 1.75 | 1.75 | 2.50 | 1.60 |
| 60135-10T | -10 SAE - 7/8-14 | 4.00 | 1.75 | 1.75 | 2.50 | 1.60 |
| 60135-12T | -12 SAE - 1 1/16-12 | 4.00 | 1.75 | 1.75 | 2.50 | 1.60 |

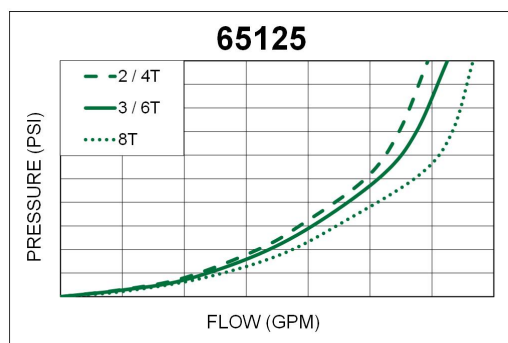
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, BALL TYPE SHUTTLE VALVE FOR USE IN CIRCUITS WHERE THE PRIORITY OF FLOW DIRECTION IS GRANTED TO THE GREATER OF TWO INLETS.

OPERATION

- FLOW FROM (1) OR (3) TO (2) IS ALLOWED.
- FLOW FROM (1) TO (3) AND (3) TO (1) IS BLOCKED.

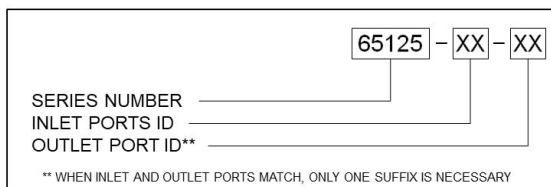
FEATURES

- NO INTERNAL PACKINGS.
- HARDENED STEEL SEATS
- STEEL BODY AND CHROME BALL.

SPECIFICATIONS

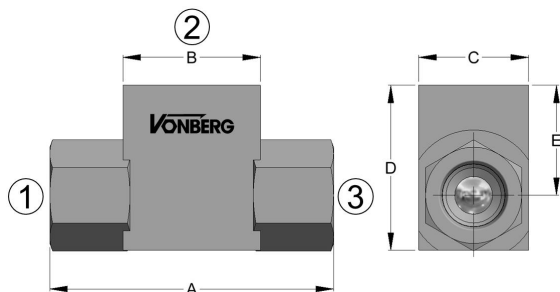
| | |
|--------------------|-----------------------|
| INTERNAL LEAKAGE | 5 DPM @ 3500 PSI MAX. |
| OPERATING PRESSURE | 5000 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

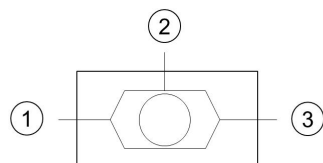


| PORT ID. | PORT SIZE | A | B | C | D | E |
|----------|-------------------|------|------|------|------|------|
| 65125-2 | 1/4-18 NPTF | 2.58 | 1.25 | 1.00 | 1.50 | 1.00 |
| 65125-3 | 3/8-18 NPTF | 2.78 | 1.25 | 1.00 | 1.50 | 1.00 |
| 65125-4T | -04 SAE - 7/16-20 | 2.58 | 1.25 | 1.00 | 1.50 | 1.00 |
| 65125-6T | -06 SAE - 9/16-18 | 2.58 | 1.25 | 1.00 | 1.50 | 1.00 |
| 65125-8T | -08 SAE - 3/4-16 | 2.82 | 1.25 | 1.00 | 1.50 | 1.00 |

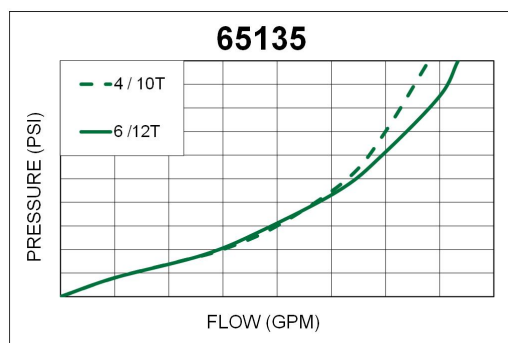
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE STYLE, BALL TYPE SHUTTLE VALVE FOR USE IN CIRCUITS WHERE THE PRIORITY OF FLOW DIRECTION IS GRANTED TO THE GREATER OF TWO INLETS.

OPERATION

- FLOW FROM (1) OR (3) TO (2) IS ALLOWED.
- FLOW FROM (1) TO (3) AND (3) TO (1) IS BLOCKED.

FEATURES

- NO INTERNAL PACKINGS.
- STEEL BODY AND CHROME BALL.
- HARDENED STEEL SEATS

SPECIFICATIONS

| | |
|--------------------|-----------------------|
| INTERNAL LEAKAGE | 5 DPM @ 3500 PSI MAX. |
| OPERATING PRESSURE | 5000 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

65135 - XX - XX

SERIES NUMBER _____
 INLET PORTS ID _____
 OUTLET PORT ID** _____

** WHEN INLET AND OUTLET PORTS MATCH, ONLY ONE SUFFIX IS NECESSARY

| PORT ID. | PORT SIZE | A | B | C | D | E |
|-----------|---------------------|------|------|------|------|------|
| 65135-4 | 1/2-14 NPTF | 4.24 | 1.88 | 2.00 | 2.50 | 1.60 |
| 65135-6 | 3/4-14 NPTF | 4.24 | 1.88 | 2.00 | 2.50 | 1.60 |
| 65135-10T | -10 SAE - 7/8-14 | 4.24 | 1.88 | 2.00 | 2.50 | 1.60 |
| 65135-12T | -12 SAE - 1 1/16-12 | 4.24 | 1.88 | 2.00 | 2.50 | 1.60 |

SAFETY VALVES



DESCRIPTION

AN IN-LINE, SLIP-IN CARTRIDGE STYLE FLOW LIMITER THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BORE DEPTHS ASSUME THE USE OF A STANDARD O-RING BOSS CONNECTOR WITH THREAD LENGTHS BASED ON SAE J514.
- VALVE BODY IS LEFT WITH APPROX. 0.060" OF SLACK IN THE CAVITY TO PREVENT DAMAGING VALVE.
- VALVE BODY SEATS ON SMOOTH, FLAT SURFACE OF FITTING IN THE CLOSING FLOW DIRECTION.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.
- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3500 PSI.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- STEEL COMPONENTS.
- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- RAPID RESPONSE.
- FAIL SAFE DESIGN.

SPECIFICATIONS

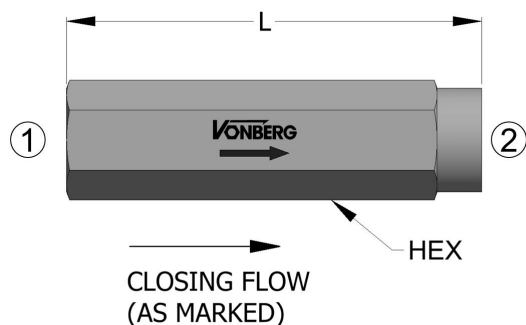
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

| Model | DIA. | L | FLOW RANGE | A | B (MAX.) | C | D |
|-----------|-------|------|-----------------|-------------|----------|---------------|-------------|
| 21850-006 | 0.506 | 1.70 | 0.5 TO 10.0 GPM | 2.15 / 2.16 | 0.375 | 0.510 / 0.515 | 1.76 / 1.77 |
| 21850-008 | 0.670 | 1.88 | 0.5 TO 25.0 GPM | 2.38 / 2.39 | 0.500 | 0.672 / 0.677 | 1.94 / 1.95 |
| 21850-010 | 0.795 | 1.90 | 2.0 TO 40.0 GPM | 2.46 / 2.47 | 0.625 | 0.797 / 0.802 | 1.96 / 1.97 |
| 21850-012 | 0.970 | 1.90 | 2.0 TO 40.0 GPM | 2.56 / 2.57 | 0.812 | 0.972 / 0.977 | 1.96 / 1.97 |
| 21850-014 | 1.095 | 2.14 | 2.0 TO 50.0 GPM | 2.80 / 2.81 | 0.812 | 1.097 / 1.102 | 2.20 / 2.21 |
| 21850-016 | 1.220 | 2.14 | 2.0 TO 50.0 GPM | 2.80 / 2.81 | 0.937 | 1.222 / 1.227 | 2.20 / 2.21 |
| 21850-024 | 1.783 | 3.25 | 5.0 TO 80.0 GPM | 3.91 / 3.92 | 1.437 | 1.787 / 1.792 | 3.31 / 3.32 |

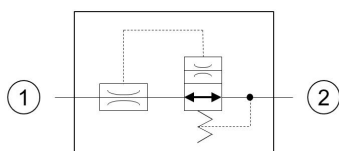
This document, as well as all catalogs, price lists and information provided by Vonberg Valve, Inc., is intended to provide product information for further consideration by users having substantial technical expertise due to the variety of operating conditions and applications for these valves, the user, through its own analysis, testing and evaluation, is solely responsible for making the final selection of the products and ensuring that all safety, warning and performance requirements of the application or use are met. The valves described herein, including without limitation, all component features, specifications, designs, pricing and availability, are subject to change at any time at the sole discretion of Vonberg Valve, Inc. without prior notification.

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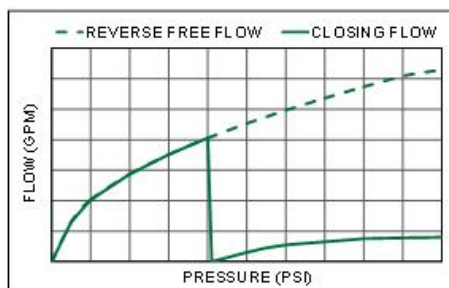
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE FLOW LIMITER WITH FEMALE NPTF PORTS THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3000 PSI
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.
- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

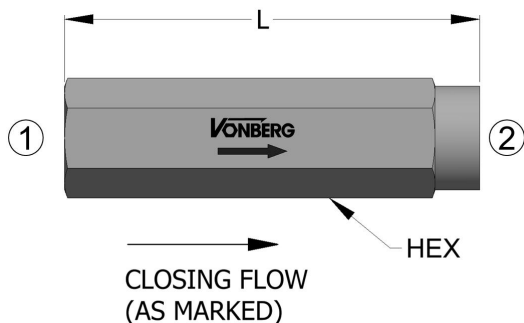
ORDERING INFORMATION

28050-1XX-XX

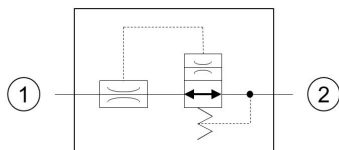
SERIES NUMBER _____
 PORT SIZE _____
 CLOSING FLOW (GPM) _____

| Model | INLET / OUTLET | FLOW RANGE | L | HEX |
|-----------|----------------|-----------------|------|-------|
| 28050-102 | 1/4-18 NPTF | 0.5 TO 10.0 GPM | 3.18 | 0.750 |
| 28050-103 | 3/8-18 NPTF | 0.5 TO 25.0 GPM | 3.50 | 0.875 |
| 28050-104 | 1/2-14 NPTF | 2.0 TO 40.0 GPM | 3.85 | 1.125 |
| 28050-106 | 3/4-14 NPTF | 2.0 TO 50.0 GPM | 4.20 | 1.375 |

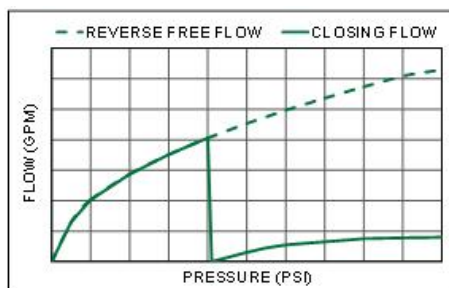
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE FLOW LIMITER WITH FEMALE SAE PORTS THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3000 PSI
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.

FEATURES

- STEEL COMPONENTS.
- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- RAPID RESPONSE.
- FAIL SAFE DESIGN.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28050-2XX-XX

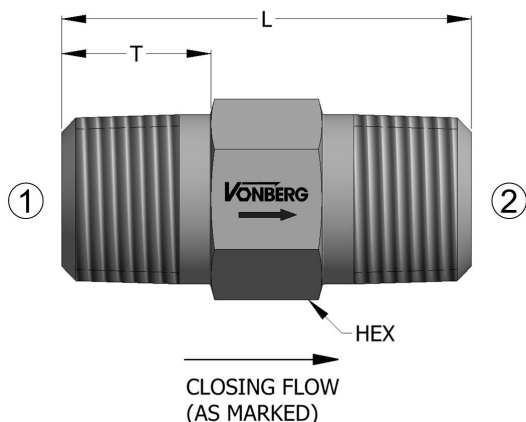
SERIES NUMBER

PORT SIZE

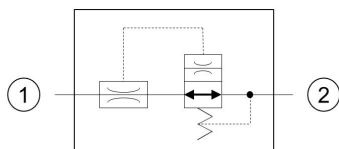
CLOSING FLOW (GPM)

| Model | INLET / OUTLET | FLOW RANGE | L | HEX |
|-----------|----------------|-----------------|------|-------|
| 28050-204 | -04 SAE | 0.1 TO 4.0 GPM | 2.75 | 0.625 |
| 28050-206 | -06 SAE | 0.5 TO 10.0 GPM | 3.00 | 0.750 |
| 28050-208 | -08 SAE | 0.5 TO 25.0 GPM | 3.38 | 0.938 |
| 28050-210 | -10 SAE | 2.0 TO 40.0 GPM | 3.75 | 1.125 |
| 28050-212 | -12 SAE | 2.0 TO 50.0 GPM | 4.25 | 1.375 |

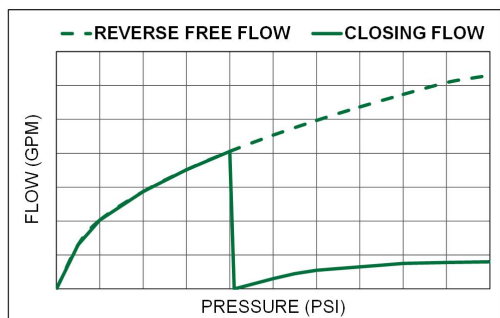
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE FLOW LIMITER WITH MALE NPTF CONNECTIONS THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3500 PSI.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.

FEATURES

- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.
- RAPID RESPONSE.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28050-5XX-XX

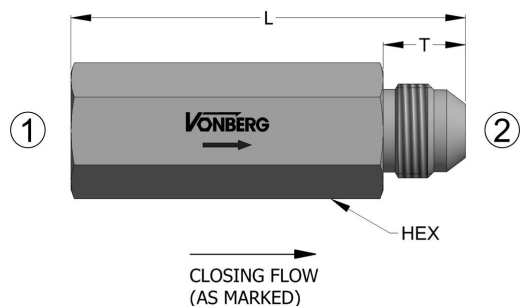
SERIES NUMBER

PORT SIZE

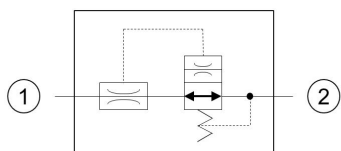
CLOSING FLOW (GPM)

| Model | INLET / OUTLET | FLOW RANGE | L | T | HEX |
|-----------|-------------------|-----------------|------|------|------|
| 28050-502 | 1/4-18 NPTF | 0.1 TO 4.0 GPM | 2.05 | 0.56 | 0.63 |
| 28050-503 | 3/8-18 NPTF | 0.5 TO 10.0 GPM | 1.75 | 0.60 | 0.75 |
| 28050-504 | 1/2-14 NPTF | 0.5 TO 25.0 GPM | 2.06 | 0.75 | 0.88 |
| 28050-506 | 3/4-14 NPTF | 2.0 TO 40.0 GPM | 2.00 | 0.75 | 1.13 |
| 28050-508 | 1-11 1/2 NPTF | 2.0 TO 50.0 GPM | 2.34 | 0.92 | 1.38 |
| 28050-512 | 1 1/2-11 1/2 NPTF | 2.0 TO 80.0 GPM | 4.75 | 1.00 | 2.00 |

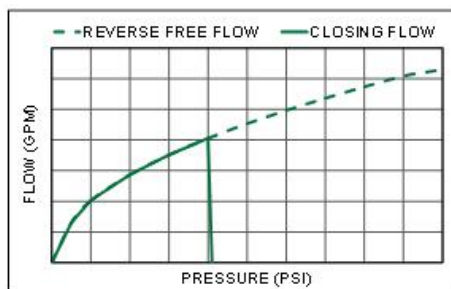
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE FLOW LIMITER WITH A FEMALE NPTF PORT INLET AND A MALE JIC OUTLET THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3500 PSI.

FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.
- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28051-1XX-XX

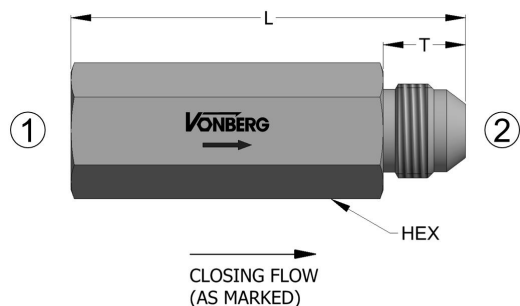
SERIES NUMBER

PORT SIZE

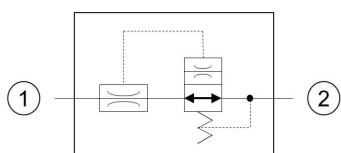
CLOSING FLOW (GPM)

| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX |
|-----------|-------------|-------------------|-----------------|------|-------|
| 28051-102 | 1/4-18 NPTF | -04 JIC - 7/16-20 | 0.1 TO 4.0 GPM | 2.78 | 0.750 |
| 28051-103 | 3/8-18 NPTF | -06 JIC - 9/16-18 | 1.0 TO 25.0 GPM | 3.10 | 0.875 |
| 28051-104 | 1/2-14 NPTF | -08 JIC - 3/4-16 | 2.0 TO 40.0 GPM | 3.30 | 1.125 |

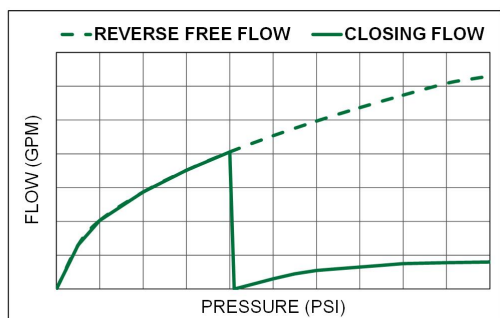
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE FLOW LIMITER WITH A FEMALE SAE O-RING PORT INLET AND A MALE JIC OUTLET THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3500 PSI.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.

FEATURES

- STEEL COMPONENTS.
- FAIL SAFE DESIGN.
- RAPID RESPONSE.
- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28051-2XX-XX

SERIES NUMBER

PORT SIZE

CLOSING FLOW (GPM)

| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX |
|-----------|---------------------|---------------------|-----------------|------|------|
| 28051-204 | -04 SAE - 7/16-20 | -04 JIC - 7/16-20 | 0.1 TO 4.0 GPM | 2.40 | 0.63 |
| 28051-206 | -06 SAE - 9/16-18 | -06 JIC - 9/16-18 | 0.5 TO 10.0 GPM | 2.90 | 0.75 |
| 28051-208 | -08 SAE - 3/4-16 | -08 JIC - 3/4-16 | 1.0 TO 25.0 GPM | 3.15 | 0.94 |
| 28051-210 | -10 SAE - 7/8-14 | -10 JIC - 7/8-14 | 2.0 TO 40.0 GPM | 3.40 | 1.13 |
| 28051-212 | -12 SAE - 1 1/16-12 | -12 JIC - 1 1/16-12 | 2.0 TO 50.0 GPM | 3.95 | 1.38 |

DESCRIPTION

AN IN-LINE FLOW LIMITER WITH A MALE NPTF INLET AND A MALE JIC OUTLET WITH THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.

FEATURES

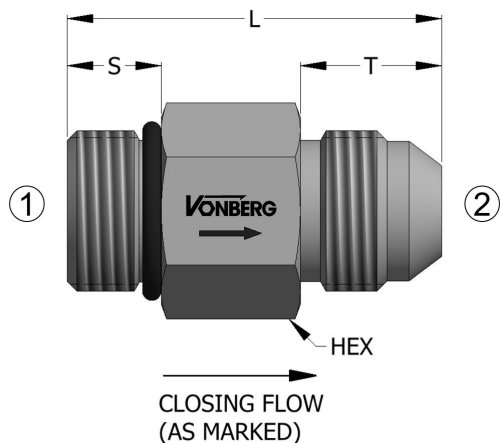
- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.
- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.

SPECIFICATIONS

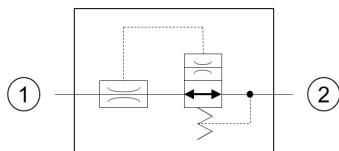
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX |
|-----------|-------------------|--------------------|-----------------|------|-------|
| 28051-502 | 1/4-18 NPTF | -04 JIC - 7/16-20 | 0.1 TO 4.0 GPM | 2.30 | 0.625 |
| 28051-503 | 3/8-18 NPTF | -06 JIC - 9/16-18 | 0.5 TO 10.0 GPM | 2.30 | 0.750 |
| 28051-504 | 1/2-14 NPTF | -08 JIC - 3/4-16 | 1.0 TO 25.0 GPM | 2.34 | 0.875 |
| 28051-506 | 3/4-14 NPTF | -12 JIC - 1 1/6-12 | 2.0 TO 40.0 GPM | 2.75 | 1.250 |
| 28051-508 | 1-11 1/2 NPTF | -16 JIC - 1 5/6-12 | 2.0 TO 50.0 GPM | 3.25 | 1.375 |
| 28051-512 | 1 1/2-11 1/2 NPTF | -24 JIC - 1 7/8-12 | 5.0 TO 80.0 GPM | 4.85 | 2.000 |

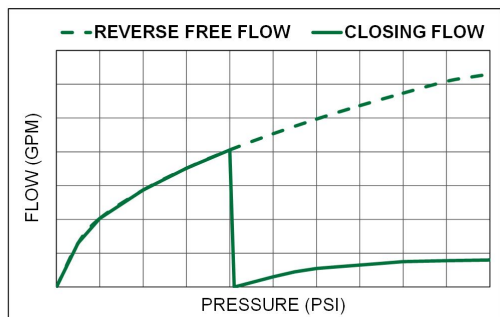
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE FLOW LIMITER WITH A MALE SAE O-RING INLET AND A MALE JIC OUTLET THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3500 PSI.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.

FEATURES

- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28051-8XX-XX

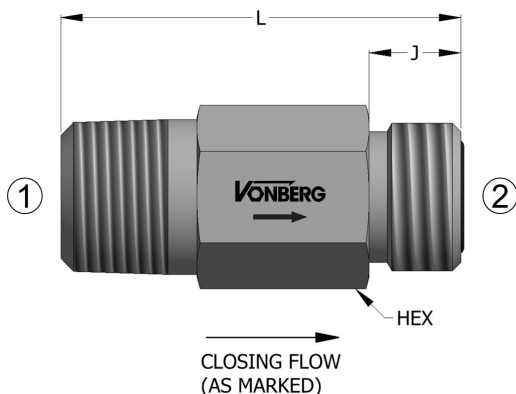
SERIES NUMBER

PORT SIZE

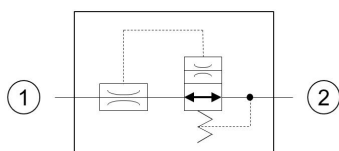
CLOSING FLOW (GPM)

| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX |
|-----------|---------------------|---------------------|-----------------|------|-------|
| 28051-804 | -04 SAE - 7/16-20 | -04 JIC - 7/16-20 | 0.1 TO 4.0 GPM | 3.06 | 0.625 |
| 28051-806 | -06 SAE - 9/16-18 | -06 JIC - 9/16-18 | 0.1 TO 4.0 GPM | 1.61 | 0.750 |
| 28051-808 | -08 SAE - 3/4-16 | -08 JIC - 3/4-16 | 0.5 TO 10.0 GPM | 1.75 | 0.875 |
| 28051-810 | -10 SAE - 7/8-14 | -10 JIC - 7/8-14 | 1.0 TO 25.0 GPM | 2.06 | 1.000 |
| 28051-812 | -12 SAE - 1 1/16-12 | -12 JIC - 1 1/6-12 | 2.0 TO 40.0 GPM | 1.97 | 1.250 |
| 28051-816 | -16 SAE - 1 5/16-12 | -16 JIC - 1 5/16-12 | 2.0 TO 50.0 GPM | 2.50 | 1.500 |
| 28051-824 | -24 SAE - 1 7/8-12 | -24 JIC - 1 7/8-12 | 2.0 TO 80.0 GPM | 4.47 | 2.125 |

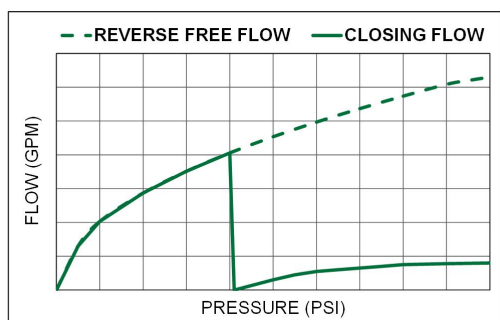
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE FLOW LIMITER WITH A MALE NPTF INLET AND A MALE ORS OUTLET THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3000 PSI.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.

FEATURES

- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.
- RAPID RESPONSE.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28059-5XX-XX

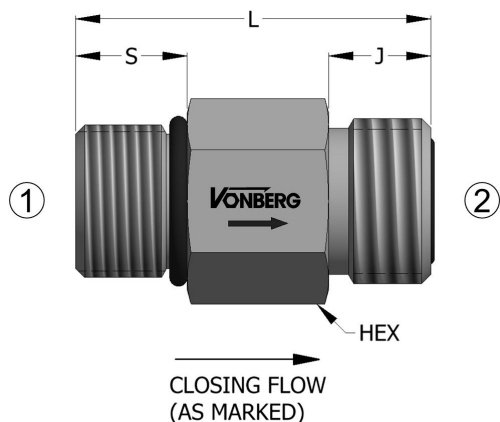
SERIES NUMBER

PORT SIZE

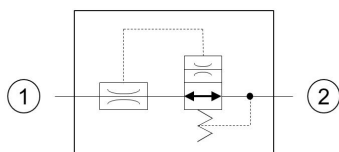
CLOSING FLOW (GPM)

| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX | J |
|-----------|-------------------|---------------------|-----------------|------|-------|-------|
| 28059-502 | 1/4-18 NPTF | -04 ORS - 9/16-18 | 0.1 TO 4.0 GPM | 2.30 | 0.625 | 0.389 |
| 28059-503 | 3/8-18 NPTF | -06 ORS - 11/16-16 | 0.5 TO 10.0 GPM | 2.10 | 0.750 | 0.441 |
| 28059-504 | 1/2-14 NPTF | -08 ORS - 13/16-16 | 1.0 TO 25.0 GPM | 2.34 | 0.875 | 0.504 |
| 28059-506 | 3/4-14 NPTF | -12 ORS - 1 3/16-12 | 2.0 TO 40.0 GPM | 2.75 | 1.250 | 0.670 |
| 28059-508 | 1-11 1/2 NPTF | -16 ORS - 1 7/16-12 | 2.0 TO 50.0 GPM | 3.25 | 1.375 | 0.689 |
| 28059-512 | 1 1/2-11 1/2 NPTF | -24 ORS - 2-12 | 5.0 TO 80.0 GPM | 4.85 | 2.125 | 0.689 |

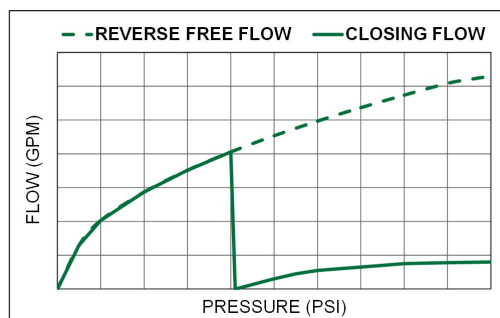
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE FLOW LIMITER WITH A MALE SAE INLET AND A MALE ORS OUTLET THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3000 PSI.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 5000 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28059-8XX-XX

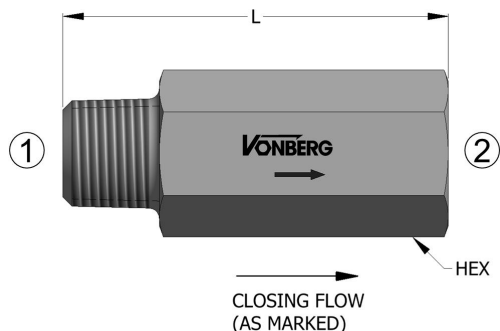
SERIES NUMBER

PORT SIZE

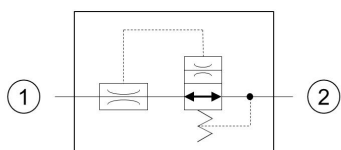
CLOSING FLOW (GPM)

| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX | S | J |
|-----------|---------------------|---------------------|-----------------|------|-------|-------|-------|
| 28059-806 | -06 SAE - 9/16-18 | -06 ORS - 11/16-16 | 0.1 TO 4.0 GPM | 1.60 | 0.750 | 0.472 | 0.441 |
| 28059-808 | -08 SAE - 3/4-16 | -08 ORS - 13/16-16 | 0.5 TO 10.0 GPM | 1.75 | 0.875 | 0.551 | 0.504 |
| 28059-810 | -10 SAE - 7/8-14 | -10 ORS - 1-14 | 1.0 TO 25.0 GPM | 1.90 | 1.125 | 0.630 | 0.610 |
| 28059-812 | -12 SAE - 1 1/16-12 | -12 ORS - 1 3/16-12 | 2.0 TO 40.0 GPM | 2.00 | 1.250 | 0.728 | 0.670 |
| 28059-816 | -16 SAE - 1 5/16-12 | -16 ORS - 1 7/16-12 | 2.0 TO 50.0 GPM | 2.40 | 1.500 | 0.728 | 0.689 |
| 28059-824 | -24 SAE - 1 7/8-12 | -24 ORS - 2-12 | 5.0 TO 80.0 GPM | 3.25 | 2.125 | 0.728 | 0.689 |

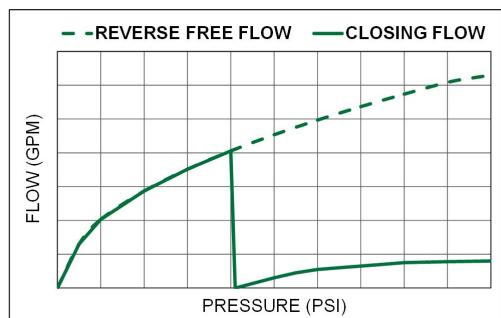
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE FLOW LIMITER WITH A MALE NPTF INLET AND A FEMALE NPTF OUTLET THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3000 PSI.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

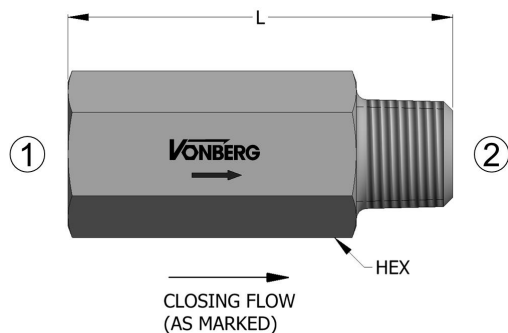
ORDERING INFORMATION

28950 - 5 XX - XX

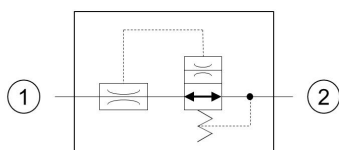
SERIES NUMBER _____
 PORT SIZE _____
 CLOSING FLOW (GPM) _____

| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX |
|-----------|---------------|--------------------|-----------------|------|-------|
| 28950-502 | 1/4-18 NPTF | 1/4-18 NPTF PORT | 0.1 TO 4.0 GPM | 2.70 | 0.750 |
| 28950-503 | 3/8-18 NPTF | 3/8-18 NPTF PORT | 0.5 TO 10.0 GPM | 2.70 | 0.875 |
| 28950-504 | 1/2-14 NPTF | 1/2-14 NPTF PORT | 1.0 TO 25.0 GPM | 3.00 | 1.125 |
| 28950-506 | 3/4-14 NPTF | 3/4-14 NPTF PORT | 2.0 TO 40.0 GPM | 3.20 | 1.375 |
| 28950-508 | 1-11 1/2 NPTF | 1-11 1/2 NPTF PORT | 2.0 TO 50.0 GPM | 3.80 | 1.625 |

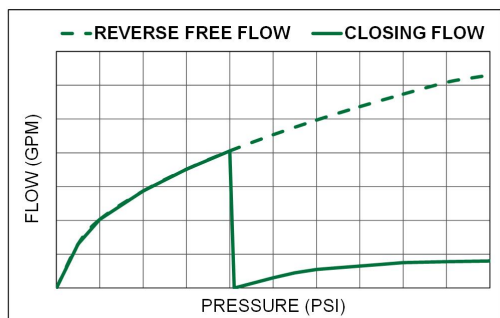
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE FLOW LIMITER WITH A FEMALE NPTF INLET AND A MALE NPTF OUTLET THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3000 PSI.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28951 - 1 XX - XX

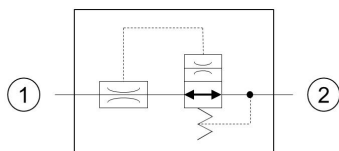
SERIES NUMBER _____
 PORT SIZE _____
 CLOSING FLOW (GPM) _____

| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX |
|-----------|------------------|-------------|-----------------|------|-------|
| 28951-102 | 1/4-18 NPTF PORT | 1/4-18 NPTF | 0.5 TO 10.0 GPM | 2.85 | 0.750 |
| 28951-103 | 3/8-18 NPTF PORT | 3/8-18 NPTF | 1.0 TO 25.0 GPM | 3.25 | 0.875 |
| 28951-104 | 1/2-14 NPTF PORT | 1/2-14 NPTF | 2.0 TO 40.0 GPM | 3.30 | 1.125 |
| 28951-106 | 3/4-14 NPTF PORT | 3/4-14 NPTF | 2.0 TO 50.0 GPM | 3.65 | 1.375 |

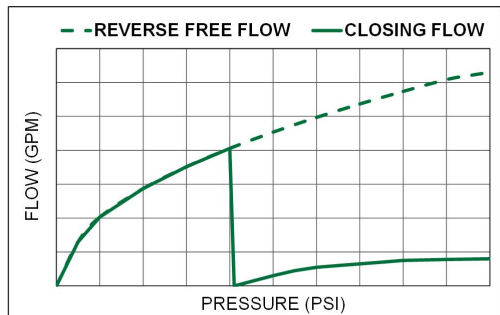
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE FLOW LIMITER THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3000 PSI.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.

FEATURES

- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- POSITIVE CLOSE.
- RAPID RESPONSE.
- INDUSTRY COMMON CAVITY.
- STEEL COMPONENTS.

SPECIFICATIONS

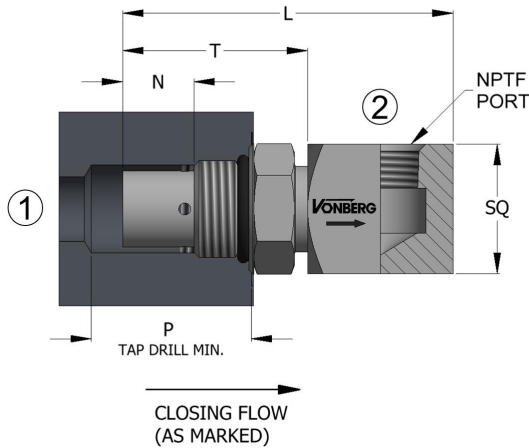
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

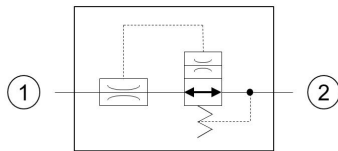
| | | | | | |
|----------------|------------------------------------|---|--------------------|---|---------------------|
| 82 | XX | - | XX | - | XX |
| SERIES NUMBER | CAVITY SIZE | | CLOSING FLOW (GPM) | | BODY PORT SIZE CODE |
| BLANK..... | CARTRIDGE ONLY | | | | |
| SERIES CODE... | SEE "CARTRIDGE BODIES", X-2 SERIES | | | | |

| MODEL | THREAD | FLOW RANGE | CAVITY | L1 | L2 | HEX | A | TORQUE |
|-------|-------------|-----------------|--------|------|------|------|---------------|-----------|
| 8204 | 7/16 - 20 | 0.2 TO 2.0 GPM | VC04-2 | 0.94 | 0.55 | 0.56 | 0.277 / 0.278 | 10 ft-lbs |
| 8206 | 9/16 - 18 | 0.5 TO 3.0 GPM | FC06-2 | 0.84 | 0.53 | 0.69 | 0.467 / 0.468 | 15 ft-lbs |
| 8208 | 3/4 - 16 | 0.2 TO 5.0 GPM | VC08-2 | 1.10 | 0.50 | 0.88 | 0.495 / 0.497 | 20 ft-lbs |
| 8210 | 7/8 - 14 | 0.5 TO 8.0 GPM | VC10-2 | 1.25 | 0.75 | 1.00 | 0.621 / 0.623 | 25 ft-lbs |
| 8212 | 1 1/16 - 12 | 1.0 TO 15.0 GPM | VC12-2 | 1.81 | 0.75 | 1.25 | 0.870 / 0.873 | 40 ft-lbs |
| 8216 | 1 5/16 - 12 | 2.0 TO 25.0 GPM | VC16-2 | 1.75 | 0.75 | 1.50 | 1.121 / 1.123 | 60 ft-lbs |

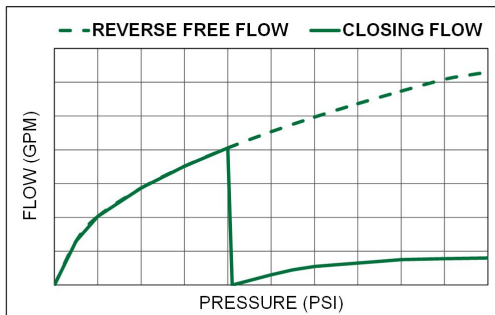
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, 90° SWIVEL ELBOW FLOW LIMITER WITH AN NPTF OUTLET PORT THAT PROVIDES PARTIAL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE. ALLOWS RESTRICTED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3000 PSI.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- RAPID RESPONSE.
- POSITIVE CLOSE
- SWIVEL DESIGN FOR EASY ALIGNMENT.
- 90° ELBOW FOR LOW PROFILE APPLICATIONS.
- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- STEEL COMPONENTS.
- FAIL SAFE DESIGN.

SPECIFICATIONS

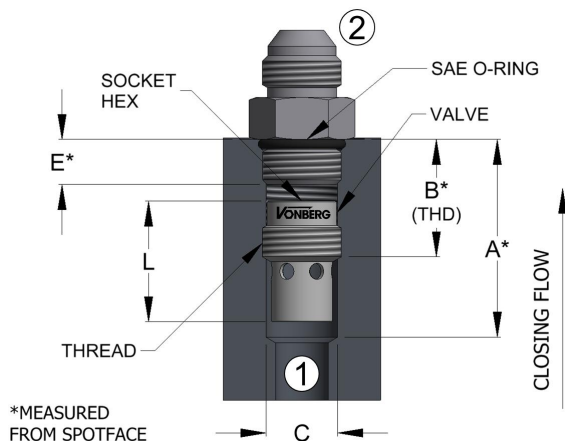
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

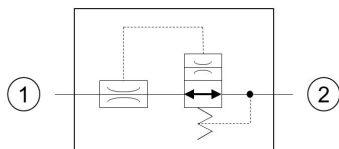
| | | | |
|---|----|---|----|
| 84 | XX | - | XX |
| SERIES NUMBER _____ OUTLET PORT SIZE _____ CLOSING FLOW (GPM) _____ | | | |

| Model | PORT 1 | PORT 2 | FLOW RANGE | L | T | N | P (MIN) | SQ |
|-------|---------------------|-------------|-----------------|-------|-------|-------|---------|-------|
| 8402 | -06 SAE - 9/16-18 | 1/4-18 NPTF | 0.2 TO 8.0 GPM | 2.125 | 1.160 | 0.390 | 1.000 | 0.875 |
| 8403 | -08 SAE - 3/4-16 | 3/8-18 NPTF | 0.5 TO 15.0 GPM | 2.555 | 1.430 | 0.550 | 1.250 | 1.000 |
| 8404 | -10 SAE - 7/8-14 | 1/2-14 NPTF | 1.0 TO 25.0 GPM | 3.230 | 1.870 | 0.850 | 1.688 | 1.125 |
| 8406 | -12 SAE - 1 1/16-12 | 3/4-14 NPTF | 2.0 TO 40.0 GPM | 3.625 | 2.065 | 0.905 | 1.980 | 1.375 |

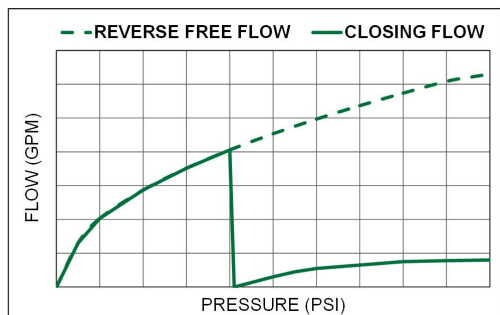
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A IN-LINE, THREADED INSERTABLE FLOW LIMITER THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3000 PSI.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.

FEATURES

- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- POSITIVE CLOSE.
- RAPID RESPONSE.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

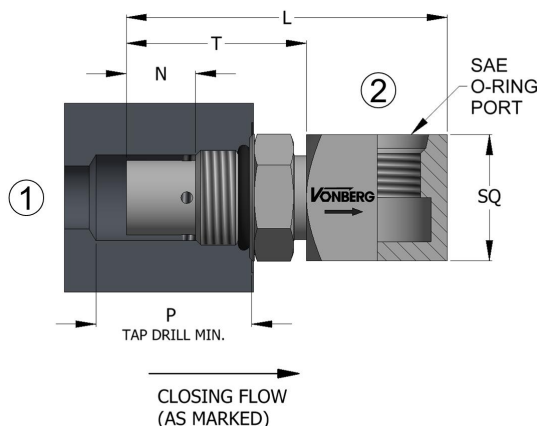
ORDERING INFORMATION

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XX

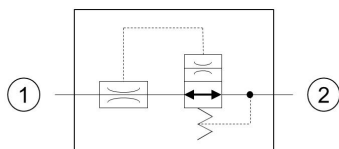
SERIES NUMBER _____
 THREAD SIZE _____
 CLOSING FLOW (GPM) _____

| MODEL | THREAD | FLOW RANGE | L | A | B | C | E | HEX | TORQUE |
|-------|-------------|-----------------|------|------|------|---------------|-------|-------|-----------|
| 8604 | 7/16 - 20 | 0.2 TO 4.0 GPM | 0.66 | 1.30 | 0.80 | 0.390 - 0.395 | 0.360 | 0.125 | 25 in-lbs |
| 8606 | 9/16 - 18 | 0.2 TO 8.0 GPM | 0.72 | 1.41 | 0.87 | 0.502 - 0.515 | 0.391 | 0.187 | 5 ft-lbs |
| 8608 | 3/4 - 16 | 0.5 TO 15.0 GPM | 1.15 | 1.95 | 1.15 | 0.682 - 0.696 | 0.438 | 0.312 | 8 ft-lbs |
| 8610 | 7/8 - 14 | 1.0 TO 25.0 GPM | 1.25 | 2.15 | 1.05 | 0.798 - 0.814 | 0.500 | 0.375 | 12 ft-lbs |
| 8612 | 1 1/16 - 12 | 2.0 TO 40.0 GPM | 1.50 | 2.50 | 1.30 | 0.972 - 0.990 | 0.594 | 0.438 | 18 ft-lbs |
| 8616 | 1 5/16 - 12 | 5.0 TO 50.0 GPM | 1.50 | 2.67 | 1.30 | 1.222 - 1.240 | 0.594 | 0.500 | 30 ft-lbs |
| 8620 | 1 5/8 - 12 | 5.0 TO 65.0 GPM | 1.85 | 3.05 | 1.30 | 1.535 - 1.553 | 0.594 | 0.625 | 40 ft-lbs |
| 8624 | 1 7/8 - 12 | 5.0 TO 80.0 GPM | 2.13 | 3.38 | 1.37 | 1.785 - 1.803 | 0.594 | 0.687 | 50 ft-lbs |

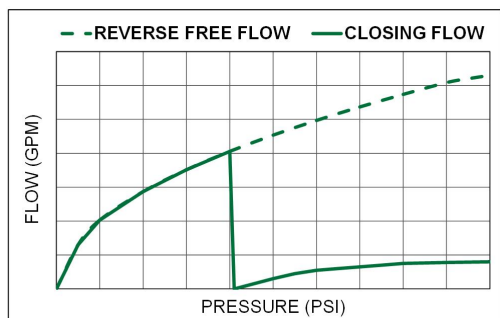
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, 90° SWIVEL ELBOW FLOW LIMITER WITH AN SAE O-RING OUTLET PORT THAT PREVENTS FREE FALL IN THE EVENT OF A LINE FAILURE, BUT ALLOWS A METERED FLOW AFTER CLOSING.

OPERATION

- BLEED RATE AFTER CLOSING IS 2.0 - 3.0 GPM AT 3500 PSI.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS LIMITED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- RAPID RESPONSE.
- POSITIVE CLOSE
- SWIVEL DESIGN FOR EASY ALIGNMENT.
- 90° ELBOW FOR LOW PROFILE APPLICATIONS.
- NON-STANDARD BLEED FLOW RATES ARE AVAILABLE UPON REQUEST.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.
- SAE O-RING PORT OUTLET FOR LEAK FREE CONNECTIONS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

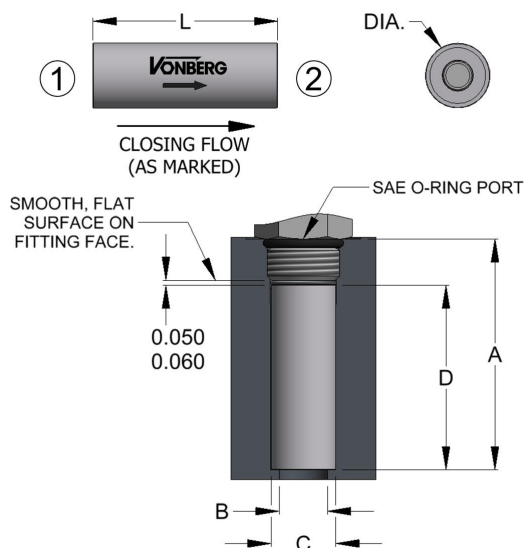
ORDERING INFORMATION

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XX
XX

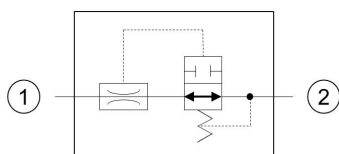
SERIES NUMBER _____
 OUTLET PORT SIZE _____
 CLOSING FLOW (GPM) _____

| MODEL | PORT 1 | PORT 2 | FLOW RANGE | L | T | N | P (MIN) | SQ |
|-------|---------------------|---------------------|-----------------|-------|-------|-------|---------|-------|
| 8804 | -04 SAE - 7/16-20 | -04 SAE - 7/16-20 | 0.2 TO 4.0 GPM | 1.770 | 1.110 | 0.400 | 0.950 | 0.750 |
| 8806 | -06 SAE - 9/16-18 | -06 SAE - 9/16-18 | 0.2 TO 8.0 GPM | 2.125 | 1.160 | 0.390 | 1.000 | 0.875 |
| 8808 | -08 SAE - 3/4-16 | -08 SAE 3/4-16 | 0.5 TO 15.0 GPM | 2.555 | 1.430 | 0.550 | 1.250 | 1.000 |
| 8810 | -10 SAE - 7/8-14 | -10 SAE - 7/8-14 | 1.0 TO 25.0 GPM | 3.230 | 1.870 | 0.850 | 1.688 | 1.125 |
| 8812 | -12 SAE - 1 1/6-12 | -12 SAE - 1 1/16-12 | 2.0 TO 40.0 GPM | 3.625 | 2.065 | 0.905 | 1.980 | 1.375 |
| 8816 | -16 SAE - 1 5/16-12 | -16 SAE - 1 5/16-12 | 5.0 TO 50.0 GPM | 3.825 | 2.200 | 0.885 | 2.000 | 1.625 |

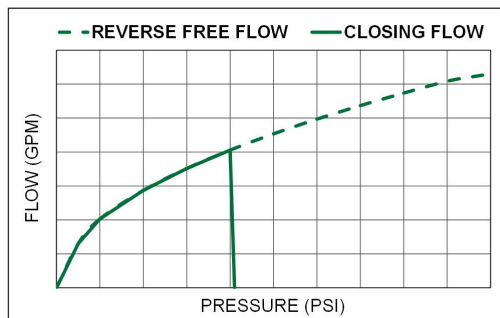
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, SLIP-IN CARTRIDGE STYLE VELOCITY FUSE THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- VALVE BODY SEATS ON SMOOTH, FLAT SURFACE OF FITTING IN THE CLOSING FLOW DIRECTION.
- VALVE BODY IS LEFT WITH APPROX. 0.060" OF SLACK IN THE CAVITY TO PREVENT DAMAGING VALVE.
- BORE DEPTHS ASSUME THE USE OF A STANDARD O-RING COSS CONNECTOR WITH THREAD LENGTHS BASED ON SAE J514.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

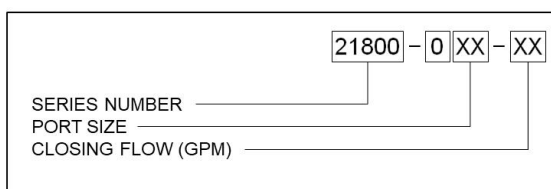
FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

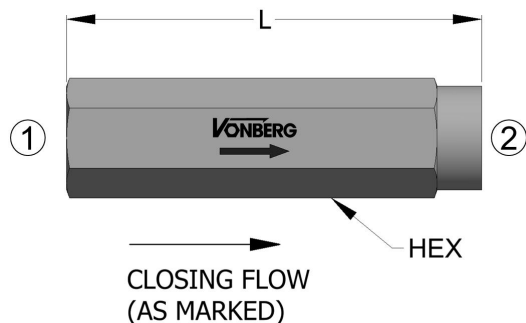


| Model | DIA. | L | FLOW RANGE | A | B (MAX.) | C | D |
|-----------|-------|------|-----------------|-------------|----------|---------------|-------------|
| 21800-006 | 0.506 | 1.70 | 0.5 TO 10.0 GPM | 2.15 / 2.16 | 0.375 | 0.510 / 0.515 | 1.76 / 1.77 |
| 21800-008 | 0.670 | 1.88 | 0.5 TO 25.0 GPM | 2.38 / 2.39 | 0.500 | 0.672 / 0.677 | 1.94 / 1.95 |
| 21800-010 | 0.795 | 1.90 | 2.0 TO 40.0 GPM | 2.46 / 2.47 | 0.625 | 0.797 / 0.802 | 1.96 / 1.97 |
| 21800-012 | 0.970 | 1.90 | 2.0 TO 40.0 GPM | 2.56 / 2.57 | 0.812 | 0.972 / 0.977 | 1.96 / 1.97 |
| 21800-014 | 1.095 | 2.14 | 2.0 TO 50.0 GPM | 2.80 / 2.81 | 0.812 | 1.097 / 1.102 | 2.20 / 2.21 |
| 21800-016 | 1.220 | 2.14 | 2.0 TO 50.0 GPM | 2.80 / 2.81 | 0.937 | 1.222 / 1.227 | 2.20 / 2.21 |
| 21800-024 | 1.783 | 3.25 | 5.0 TO 80.0 GPM | 3.91 / 3.92 | 1.437 | 1.787 / 1.792 | 3.31 / 3.32 |

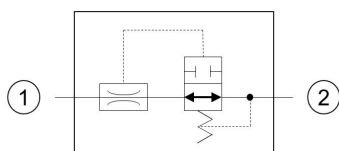
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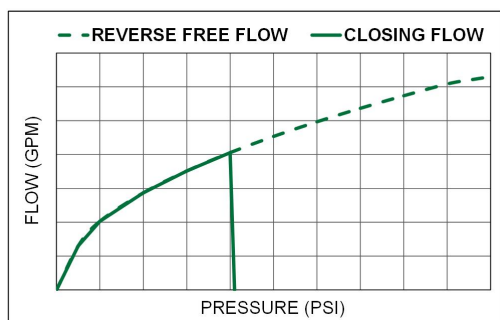
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH FEMALE NPTF PORTS THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

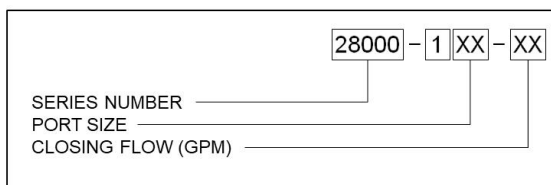
FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

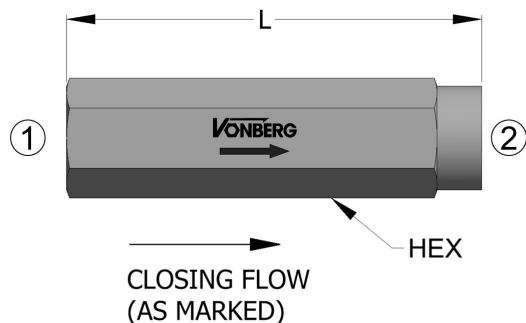
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

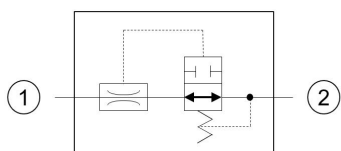


| Model | INLET / OUTLET | FLOW RANGE | L | HEX |
|-----------|----------------|-----------------|------|-------|
| 28000-102 | 1/4-18 NPTF | 0.5 TO 10.0 GPM | 3.18 | 0.750 |
| 28000-103 | 3/8-18 NPTF | 0.5 TO 25.0 GPM | 3.50 | 0.875 |
| 28000-104 | 1/2-14 NPTF | 2.0 TO 40.0 GPM | 3.85 | 1.125 |
| 28000-106 | 3/4-14 NPTF | 2.0 TO 50.0 GPM | 4.20 | 1.375 |

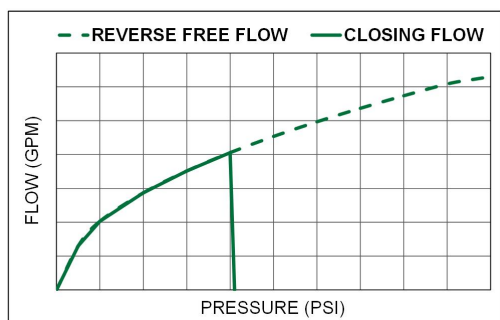
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH FEMALE SAE PORTS THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

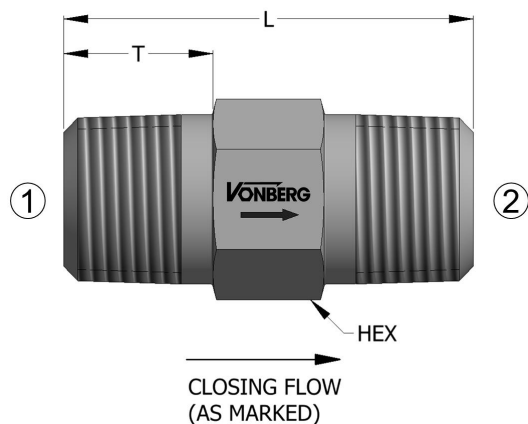
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

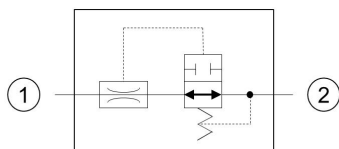


| Model | INLET / OUTLET | THREAD | FLOW RANGE | L | HEX |
|-----------|----------------|-----------|-----------------|------|-------|
| 28000-204 | -04 SAE | 7/16-20 | 0.1 TO 4.0 GPM | 2.75 | 0.625 |
| 28000-206 | -06 SAE | 9/16-18 | 0.5 TO 10.0 GPM | 3.00 | 0.750 |
| 28000-208 | -08 SAE | 3/4-16 | 0.5 TO 25.0 GPM | 3.38 | 0.938 |
| 28000-210 | -10 SAE | 7/8-14 | 2.0 TO 40.0 GPM | 3.75 | 1.125 |
| 28000-212 | -12 SAE | 1 1/16-12 | 2.0 TO 50.0 GPM | 4.25 | 1.375 |

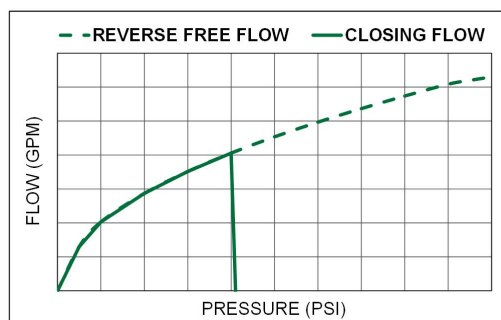
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH MALE NPTF CONNECTIONS THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

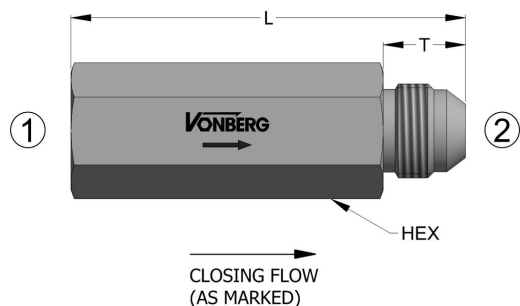
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

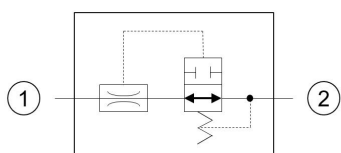


| Model | INLET/OUTLET | FLOW RANGE | L | T | HEX |
|-----------|-------------------|-----------------|-------|--------|--------|
| 28000-502 | 1/4-18 NPTF | 0.1 TO 4.0 GPM | 2.05" | 0.560" | 0.625" |
| 28000-503 | 3/8-18 NPTF | 0.5 TO 10.0 GPM | 1.75" | 0.600" | 0.750" |
| 28000-504 | 1/2-14 NPTF | 1.0 TO 25.0 GPM | 2.06" | 0.750" | 0.875" |
| 28000-506 | 3/4-14 NPTF | 2.0 TO 40.0 GPM | 2.00" | 0.750" | 1.125" |
| 28000-508 | 1-11 1/2 NPTF | 2.0 TO 50.0 GPM | 2.34" | 0.922" | 1.375" |
| 28000-512 | 1 1/2-11 1/2 NPTF | 2.0 TO 80.0 GPM | 4.75" | 1.000" | 2.000" |

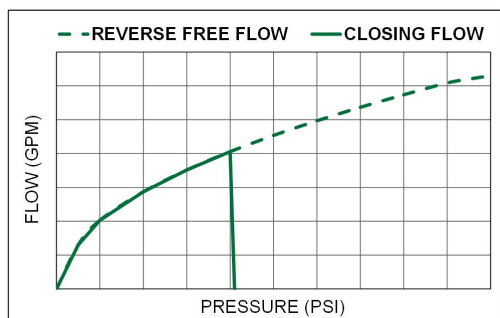
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH A FEMALE NPTF PORT INLET AND A MALE JIC OUTLET THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.

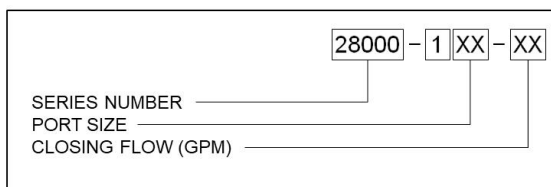
FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

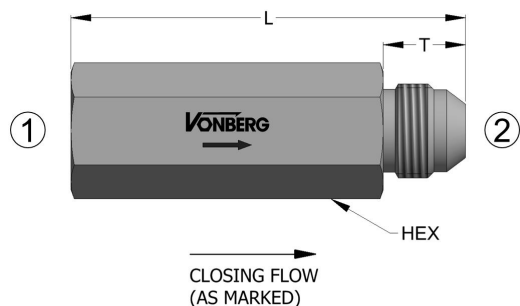
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

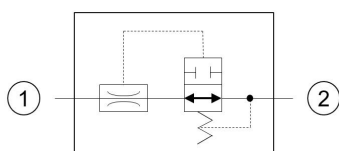


| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX |
|-----------|-------------|-------------------|-----------------|------|-------|
| 28001-102 | 1/4-18 NPTF | -04 JIC - 7/16-20 | 0.1 TO 4.0 GPM | 2.78 | 0.750 |
| 28001-103 | 3/8-18 NPTF | -06 JIC - 9/16-18 | 1.0 TO 25.0 GPM | 3.10 | 0.875 |
| 28001-104 | 1/2-14 NPTF | -08 JIC - 3/4-16 | 2.0 TO 40.0 GPM | 3.30 | 1.125 |

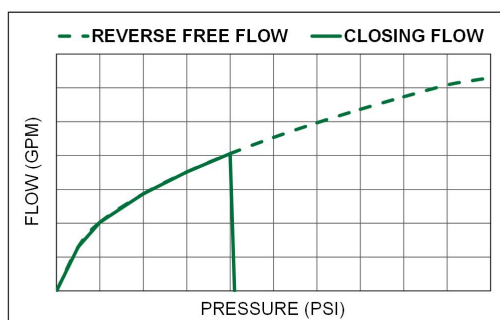
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH A FEMALE SAE O-RING INLET AND A MALE JIC OUTLET THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.

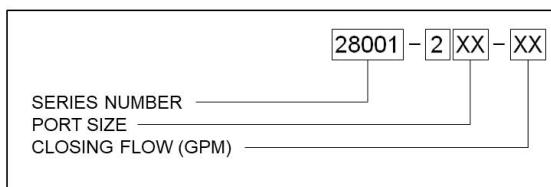
FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

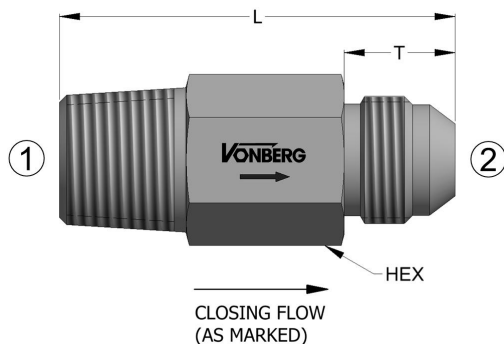
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

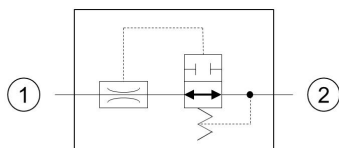


| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX |
|-----------|---------------------|---------------------|-----------------|------|-------|
| 28001-204 | -04 SAE - 7/16-20 | -04 JIC - 7/16-20 | 0.1 TO 4.0 GPM | 2.65 | 0.625 |
| 28001-206 | -06 SAE - 9/16-18 | -06 JIC - 9/16-18 | 0.5 TO 10.0 GPM | 2.90 | 0.750 |
| 28001-208 | -08 SAE - 3/4-16 | -08 JIC - 3/4-16 | 1.0 TO 25.0 GPM | 3.15 | 0.938 |
| 28001-210 | -10 SAE - 7/8-14 | -10 JIC - 7/8-14 | 2.0 TO 40.0 GPM | 3.40 | 1.125 |
| 28001-212 | -12 SAE - 1 1/16-12 | -12 JIC - 1 1/16-12 | 2.0 TO 50.0 GPM | 3.95 | 1.375 |

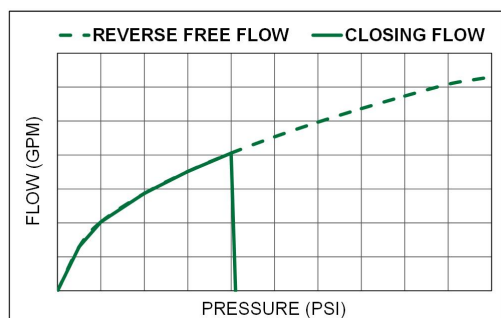
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH A MALE NPTF INLET AND A MALE JIC OUTLET THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.

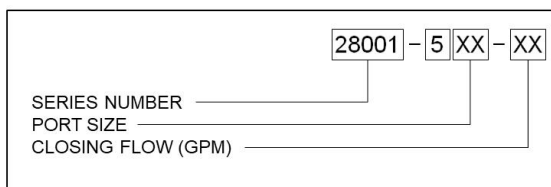
FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

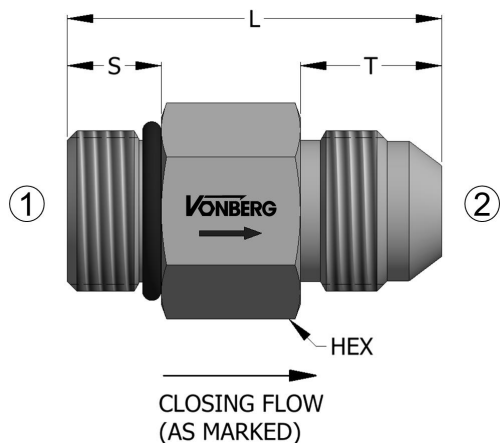
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

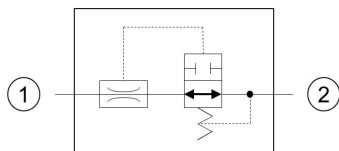


| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | S | T | HEX |
|-----------|-------------------|--------------------|-----------------|-------|--------|--------|--------|
| 28001-502 | 1/4-18 NPTF | -04 JIC - 7/16-20 | 0.1 TO 4.0 GPM | 2.56" | 0.560" | 0.550" | 0.625 |
| 28001-503 | 3/8-18 NPTF | -06 JIC - 9/16-18 | 0.5 TO 10.0 GPM | 2.30" | 0.600" | 0.550" | 0.750 |
| 28001-504 | 1/2-14 NPTF | -08 JIC - 3/4-16 | 1.0 TO 25.0 GPM | 2.34" | 0.750" | 0.656" | 0.875 |
| 28001-506 | 3/4-14 NPTF | -12 JIC - 1 1/8-12 | 2.0 TO 40.0 GPM | 2.75" | 0.750" | 0.864" | 1.125" |
| 28001-508 | 1-11 1/2 NPTF | -16 JIC - 1 5/8-12 | 2.0 TO 50.0 GPM | 3.25" | 0.920" | 0.910" | 1.375 |
| 28001-512 | 1 1/2-11 1/2 NPTF | -24 JIC - 1 7/8-12 | 5.0 TO 80.0 GPM | 5.10" | 1.000" | 1.080" | 2.000 |

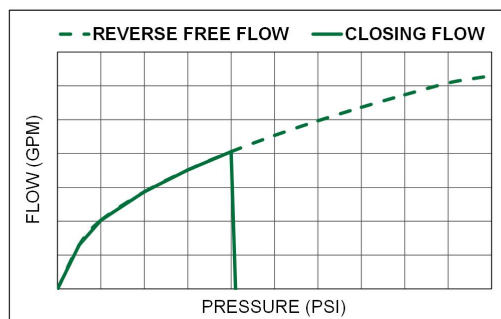
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH A MALE SAE O-RING INLET AND A MALE JIC OUTLET THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.

FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28001-8XX-XX

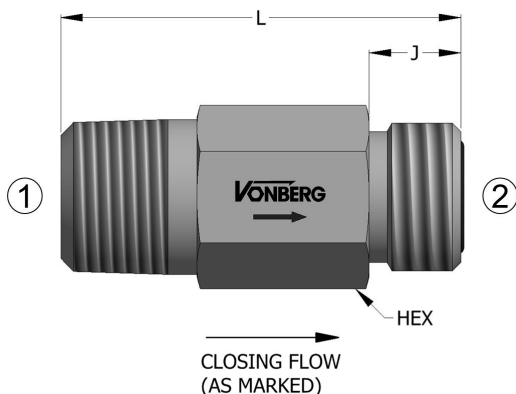
SERIES NUMBER

PORT SIZE

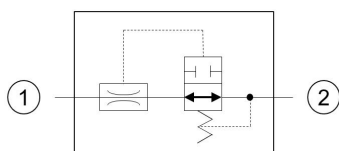
CLOSING FLOW (GPM)

| MODEL | INLET 1 | OUTLET 2 | FLOW RANGE | L | S | T | HEX |
|-----------|---------------------|---------------------|-----------------|-------|--------|--------|-------|
| 28001-804 | -04 SAE - 7/16-20 | -04 JIC - 7/16-20 | 0.1 TO 4.0 GPM | 3.06" | 0.360" | 0.550" | 0.625 |
| 28001-806 | -06 SAE - 9/16-18 | -06 JIC - 9/16-18 | 0.1 TO 4.0 GPM | 1.61" | 0.390" | 0.560" | 0.750 |
| 28001-808 | -08 SAE - 3/4-16 | -08 JIC - 3/4-16 | 0.5 TO 10.0 GPM | 1.75" | 0.440" | 0.660" | 0.875 |
| 28001-810 | -10 SAE - 7/8-14 | -10 JIC - 7/8-14 | 1.0 TO 25.0 GPM | 2.06" | 0.500" | 0.755" | 1.000 |
| 28001-812 | -12 SAE - 1 1/6-12 | -12 JIC - 1 1/6-12 | 2.0 TO 40.0 GPM | 1.97" | 0.594" | 0.860" | 1.250 |
| 28001-816 | -16 SAE - 1 5/16-12 | -16 JIC - 1 5/16-12 | 2.0 TO 50.0 GPM | 2.50" | 0.594" | 0.910" | 1.500 |
| 28001-824 | -24 SAE - 1 7/8-12 | -24 JIC - 1 7/8-12 | 5.0 TO 80.0 GPM | 4.47" | 0.594" | 1.080" | 2.125 |

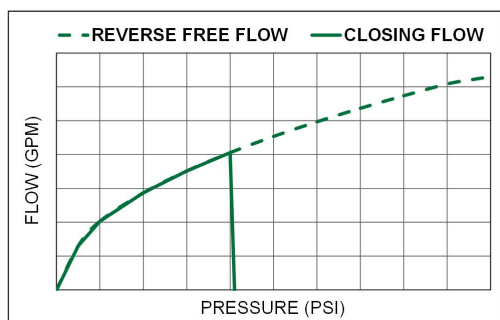
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH A MALE NPTF INLET AND A MALE ORS OUTLET THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28900-5XX-XX

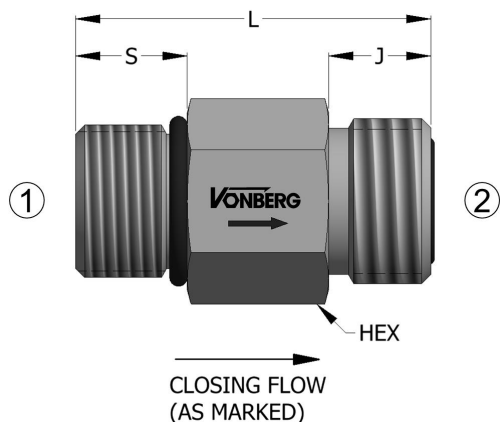
SERIES NUMBER

PORT SIZE

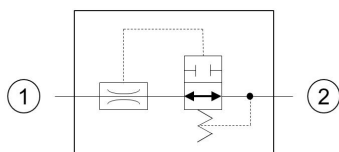
CLOSING FLOW (GPM)

| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX | J |
|-----------|-------------------|---------------------|-----------------|------|-------|-------|
| 28009-502 | 1/4-18 NPTF | -04 ORS - 9/16-18 | 0.1 TO 4.0 GPM | 2.30 | 0.625 | 0.386 |
| 28009-503 | 3/8-18 NPTF | -06 ORS - 11/16-16 | 0.5 TO 10.0 GPM | 2.10 | 0.750 | 0.441 |
| 28009-504 | 1/2-14 NPTF | -08 ORS - 13/16-16 | 1.0 TO 25.0 GPM | 2.34 | 0.875 | 0.504 |
| 28009-506 | 3/4-14 NPTF | -12 ORS - 1 3/16-12 | 2.0 TO 40.0 GPM | 2.75 | 1.250 | 0.670 |
| 28009-508 | 1-11 1/2 NPTF | -16 ORS - 1 7/16-12 | 2.0 TO 50.0 GPM | 3.25 | 1.375 | 0.689 |
| 28009-512 | 1 1/2-11 1/2 NPTF | -24 ORS - 2-12 | 5.0 TO 80.0 GPM | 4.85 | 2.125 | 0.689 |

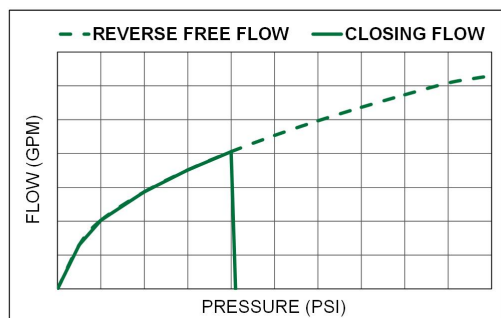
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH A MALE SAE INLET AND A MALE ORS OUTLET THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.

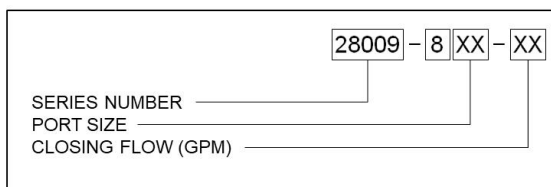
FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

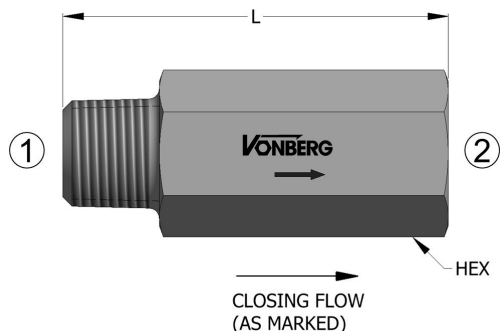
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 5000 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

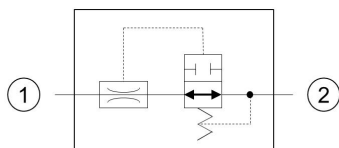


| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | S | J | HEX |
|-----------|---------------------|---------------------|-----------------|-------|--------|--------|--------|
| 28009-806 | -06 SAE - 9/16-18 | -06 ORS - 11/16-16 | 0.1 TO 4.0 GPM | 1.60" | 0.470" | 0.440" | 0.750" |
| 28009-808 | -08 SAE - 3/4-16 | -08 ORS - 13/16-16 | 0.5 TO 10.0 GPM | 1.75" | 0.550" | 0.505" | 0.875" |
| 28009-810 | -10 SAE - 7/8-14 | -10 ORS - 1-14 | 1.0 TO 25.0 GPM | 1.90" | 0.630" | 0.610" | 1.125" |
| 28009-812 | -12 SAE - 1 1/16-12 | -12 ORS - 1 3/16-12 | 2.0 TO 40.0 GPM | 2.00" | 0.728" | 0.670" | 1.250" |
| 28009-816 | -16 SAE - 1 5/16-12 | -16 ORS - 1 7/16-12 | 2.0 TO 50.0 GPM | 2.40" | 0.728" | 0.689" | 1.500" |
| 28009-824 | -24 SAE - 1 7/8-12 | -24 ORS - 2-12 | 5.0 TO 80.0 GPM | 3.25" | 0.723" | 0.705" | 2.125" |

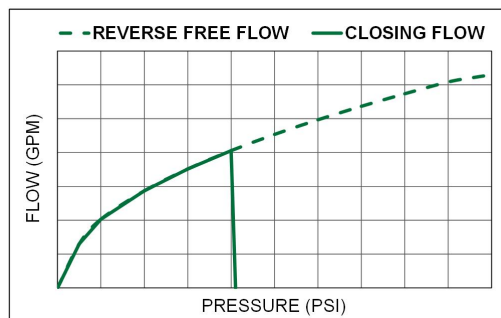
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH A MALE NPTF INLET AND A FEMALE NPTF OUTLET THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

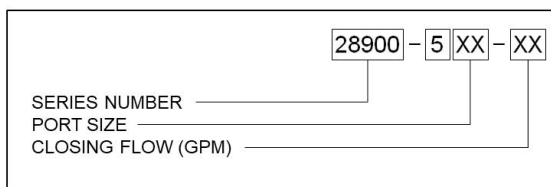
FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

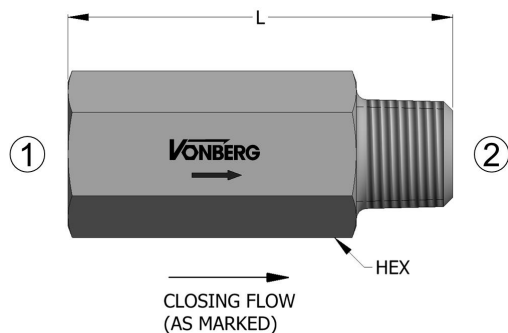
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

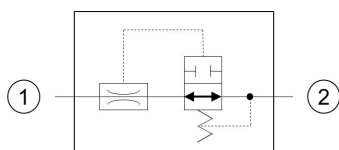


| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX |
|-----------|---------------|--------------------|-----------------|------|------|
| 28900-502 | 1/4-18 NPTF | 1/4-18 NPTF PORT | 0.1 TO 4.0 GPM | 2.70 | 0.75 |
| 28900-503 | 3/8-18 NPTF | 3/8-18 NPTF PORT | 0.5 TO 10.0 GPM | 2.70 | 0.88 |
| 28900-504 | 1/2-14 NPTF | 1/2-14 NPTF PORT | 1.0 TO 25.0 GPM | 3.00 | 1.13 |
| 28900-506 | 3/4-14 NPTF | 3/4-14 NPTF PORT | 2.0 TO 40.0 GPM | 3.20 | 1.38 |
| 28900-508 | 1-11 1/2 NPTF | 1-11 1/2 NPTF PORT | 2.0 TO 50.0 GPM | 3.80 | 1.63 |

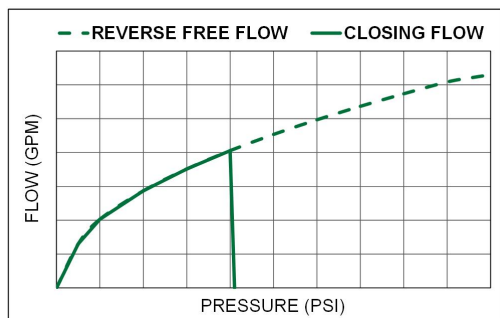
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE VELOCITY FUSE WITH A FEMALE NPTF INLET AND A MALE NPTF OUTLET THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

28901-1XX-XX

SERIES NUMBER

PORT SIZE

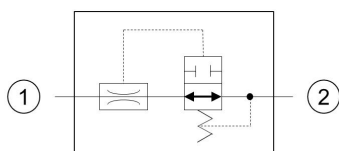
CLOSING FLOW (GPM)

| Model | INLET 1 | OUTLET 2 | FLOW RANGE | L | HEX |
|-----------|------------------|-------------|-----------------|------|-------|
| 28901-102 | 1/4-18 NPTF PORT | 1/4-18 NPTF | 0.5 TO 10.0 GPM | 2.85 | 0.750 |
| 28901-103 | 3/8-18 NPTF PORT | 3/8-18 NPTF | 1.0 TO 25.0 GPM | 3.25 | 0.785 |
| 28901-104 | 1/2-14 NPTF PORT | 1/2-14 NPTF | 2.0 TO 40.0 GPM | 3.30 | 1.125 |
| 28901-106 | 3/4-14 NPTF PORT | 3/4-14 NPTF | 2.0 TO 50.0 GPM | 3.65 | 1.375 |

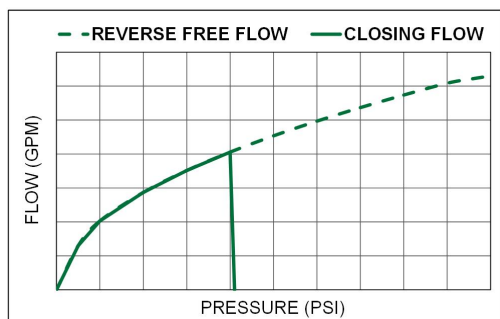
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE VELOCITY FUSE THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

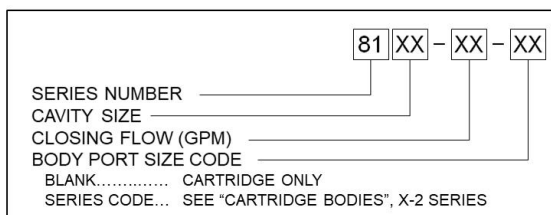
FEATURES

- STEEL COMPONENTS.
- INDUSTRY COMMON CAVITY.
- RAPID RESPONSE.
- POSITIVE CLOSE.

SPECIFICATIONS

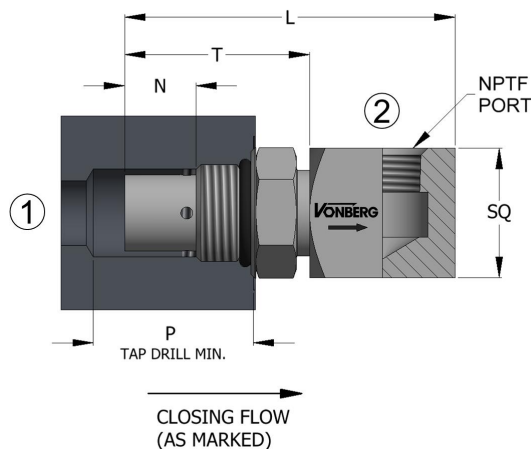
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

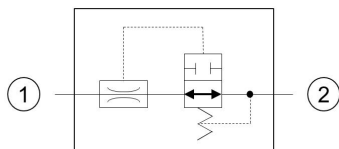


| MODEL | THREAD | FLOW RANGE | CAVITY | L1 | L2 | HEX | A | TORQUE |
|-------|-------------|-----------------|--------|------|------|------|---------------|-----------|
| 8104 | 7/16 - 20 | 0.2 TO 2.0 GPM | VC04-2 | 0.94 | 0.55 | 0.56 | 0.277 / 0.278 | 10 ft-lbs |
| 8106 | 9/16 - 18 | 0.5 TO 3.0 GPM | FC06-2 | 0.84 | 0.53 | 0.69 | 0.467 / 0.468 | 15 ft-lbs |
| 8108 | 3/4 - 16 | 0.2 TO 5.0 GPM | VC08-2 | 1.10 | 0.50 | 0.88 | 0.495 / 0.497 | 20 ft-lbs |
| 8110 | 7/8 - 14 | 0.5 TO 8.0 GPM | VC10-2 | 1.25 | 0.75 | 1.00 | 0.621 / 0.623 | 25 ft-lbs |
| 8112 | 1 1/16 - 12 | 1.0 TO 15.0 GPM | VC12-2 | 1.81 | 0.75 | 1.25 | 0.870 / 0.873 | 40 ft-lbs |
| 8116 | 1 5/16 - 12 | 2.0 TO 25.0 GPM | VC16-2 | 1.75 | 0.75 | 1.50 | 1.121 / 1.123 | 60 ft-lbs |

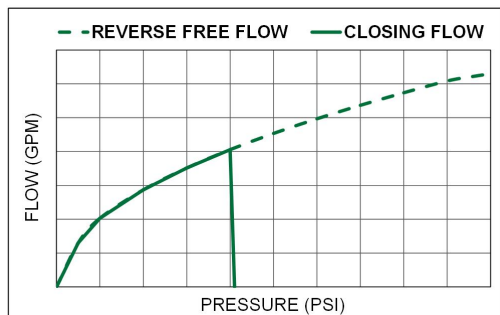
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, 90° SWIVEL ELBOW VELOCITY FUSE WITH AN NPTF OUTLET PORT THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- 90° ELBOW FOR LOW PROFILE APPLICATIONS.
- SWIVEL DESIGN FOR EASY ALIGNMENT.
- POSITIVE CLOSE
- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

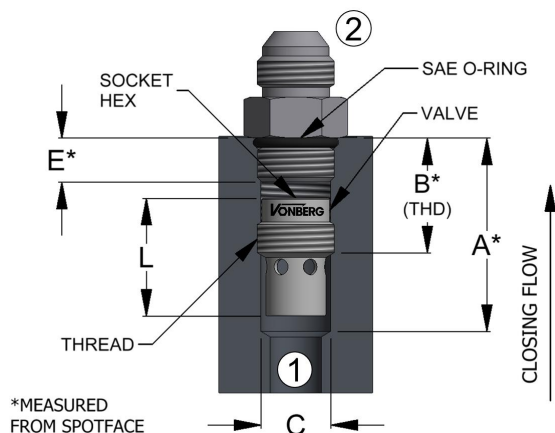
ORDERING INFORMATION

83
XX
- XX

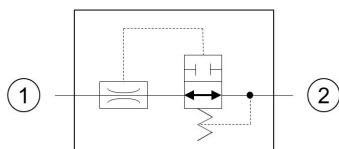
SERIES NUMBER _____
 OUTLET PORT SIZE _____
 CLOSING FLOW (GPM) _____

| Model | PORT 1 | PORT 2 | FLOW RANGE | L | T | N | P (MIN) | SQ |
|-------|---------------------|-------------|-----------------|-------|-------|-------|---------|-------|
| 8302 | -06 SAE - 9/16-18 | 1/4-18 NPTF | 0.2 TO 8.0 GPM | 2.125 | 1.160 | 0.390 | 1.000 | 0.875 |
| 8303 | -08 SAE - 3/4-16 | 3/8-18 NPTF | 0.5 TO 15.0 GPM | 2.555 | 1.430 | 0.550 | 1.250 | 1.000 |
| 8304 | -10 SAE - 7/8-14 | 1/2-14 NPTF | 1.0 TO 25.0 GPM | 3.230 | 1.870 | 0.850 | 1.688 | 1.125 |
| 8306 | -12 SAE - 1 1/16-12 | 3/4-14 NPTF | 2.0 TO 40.0 GPM | 3.625 | 2.065 | 0.905 | 1.980 | 1.375 |

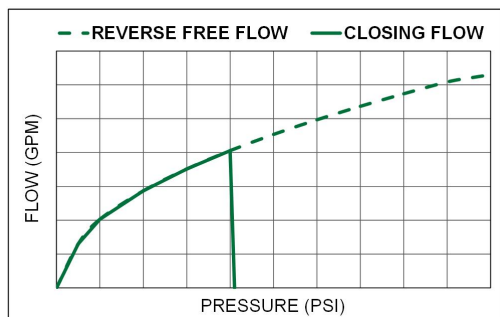
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A IN-LINE, THREADED INSERTABLE VELOCITY FUSE THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- POSITIVE CLOSE.
- RAPID RESPONSE.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

85XX-XX

SERIES NUMBER

THREAD SIZE

CLOSING FLOW (GPM)

| MODEL | THREAD | FLOW RANGE | L | A | B | C | E | HEX | TORQUE |
|-------|-------------|-----------------|------|------|------|---------------|-------|-------|-----------|
| 8504 | 7/16 - 20 | 0.2 TO 4.0 GPM | 0.66 | 1.30 | 0.80 | 0.390 - 0.395 | 0.360 | 0.125 | 25 in-lbs |
| 8506 | 9/16 - 18 | 0.2 TO 8.0 GPM | 0.72 | 1.41 | 0.87 | 0.502 - 0.515 | 0.391 | 0.187 | 5 ft-lbs |
| 8508 | 3/4 - 16 | 0.5 TO 15.0 GPM | 1.15 | 1.95 | 1.15 | 0.682 - 0.696 | 0.438 | 0.312 | 8 ft-lbs |
| 8510 | 7/8 - 14 | 1.0 TO 25.0 GPM | 1.25 | 2.15 | 1.05 | 0.798 - 0.814 | 0.500 | 0.375 | 12 ft-lbs |
| 8512 | 1 1/16 - 12 | 2.0 TO 40.0 GPM | 1.50 | 2.50 | 1.30 | 0.972 - 0.990 | 0.594 | 0.438 | 18 ft-lbs |
| 8516 | 1 5/16 - 12 | 5.0 TO 50.0 GPM | 1.50 | 2.67 | 1.30 | 1.222 - 1.240 | 0.594 | 0.500 | 30 ft-lbs |
| 8520 | 1 5/8-12 | 5.0 TO 65.0 GPM | 1.85 | 3.05 | 1.30 | 1.535 - 1.553 | 0.594 | 0.625 | 40 ft-lbs |
| 8524 | 1 7/8-12 | 5.0 TO 80.0 GPM | 2.13 | 3.38 | 1.37 | 1.785 - 1.803 | 0.594 | 0.687 | 50 ft-lbs |

DESCRIPTION

A IN-LINE, THREADED INSERTABLE VELOCITY FUSE THAT PROVIDES FULLLINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.

FEATURES

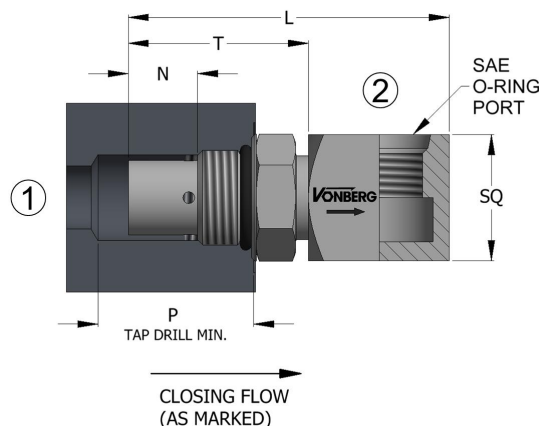
- STEEL COMPONENTS.
- RAPID RESPONSE.
- POSITIVE CLOSE

SPECIFICATIONS

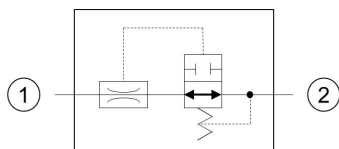
| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

| MODEL | THREAD | FLOW RANGE | A | B | C | E | L | HEX |
|-------|------------|----------------|------|------|------|------|------|-------|
| 8502G | G 1/4 - 19 | 0.1 - 6.0 GPM | 1.45 | 0.85 | .464 | 0.43 | 0.72 | 5 MM |
| 8503G | G 3/8 - 19 | 0.5 - 12.0 GPM | 1.80 | 1.00 | .600 | 0.49 | 1.00 | 6 MM |
| 8504G | G 1/2 - 14 | 1.0 - 20.0 GPM | 2.15 | 1.05 | .760 | .500 | 1.18 | 9 MM |
| 8506G | G 3/4 - 14 | 2.0 - 35.0 GPM | 2.50 | 1.30 | .970 | .594 | 1.50 | 11 MM |

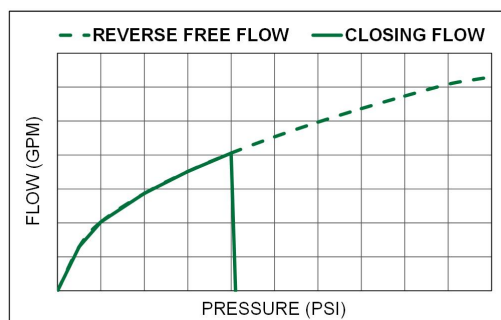
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, 90° SWIVEL ELBOW VELOCITY FUSE WITH AN SAE O-RING OUTLET PORT THAT PROVIDES FULL-LINE SHUT-OFF IN THE EVENT OF A LINE FAILURE.

OPERATION

- FLOW FROM (2) TO (1) PASSES THROUGH THE CONTROLLING ORIFICE BUT IS UNCONTROLLED.
- FLOW ABOVE THE SPECIFIED LIMIT IS ASSUMED TO BE A LINE FAILURE AND IS BLOCKED.
- A FLOW BELOW THE SPECIFIED LIMIT IS ALLOWED FROM (1) TO (2).

FEATURES

- SAE O-RING PORT OUTLET FOR LEAK FREE CONNECTIONS.
- SWIVEL DESIGN FOR EASY ALIGNMENT.
- 90° ELBOW FOR LOW PROFILE APPLICATIONS.
- POSITIVE CLOSE
- RAPID RESPONSE.
- FAIL SAFE DESIGN.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|------------------------|------------------|
| CLOSING FLOW TOLERANCE | +15% / -0% |
| OPERATING PRESSURE | 3500 PSI |
| REOPENING DIFFERENTIAL | 50 PSI |
| TEMPERATURE RANGE | 250° F TO -40° F |

ORDERING INFORMATION

87
XX
XX

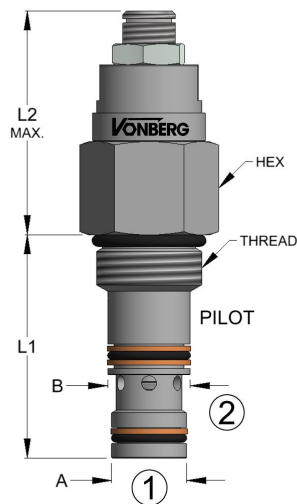
SERIES NUMBER _____
 OUTLET PORT SIZE _____
 CLOSING FLOW (GPM) _____

| Model | PORT 1 | PORT 2 | FLOW RANGE | L | T | N | P (MIN) | SQ |
|-------|---------------------|---------------------|-----------------|-------|-------|-------|---------|-------|
| 8704 | -04 SAE - 7/16-20 | -04 SAE - 7/16-20 | 0.2 TO 4.0 GPM | 1.770 | 1.110 | 0.400 | 0.950 | 0.750 |
| 8706 | -06 SAE - 9/16-18 | -06 SAE - 9/16-18 | 0.2 TO 8.0 GPM | 2.125 | 1.160 | 0.390 | 1.000 | 0.875 |
| 8708 | -08 SAE - 3/4-16 | -08 SAE - 3/4-16 | 0.5 TO 15.0 GPM | 2.555 | 1.430 | 0.550 | 1.250 | 1.000 |
| 8710 | -10 SAE - 7/8-14 | -10 SAE - 7/8-14 | 1.0 TO 25.0 GPM | 3.230 | 1.870 | 0.850 | 1.688 | 1.125 |
| 8712 | -12 SAE - 1 1/16-12 | -12 SAE - 1 1/16-12 | 2.0 TO 40.0 GPM | 3.625 | 2.065 | 0.905 | 1.980 | 1.375 |
| 8716 | -16 SAE - 1 5/16-12 | -16 SAE - 1 5/16-12 | 5.0 TO 50.0 GPM | 3.825 | 2.200 | 0.885 | 2.000 | 1.625 |

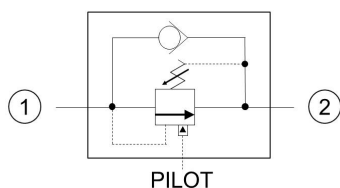
PRESSURE CONTROLS



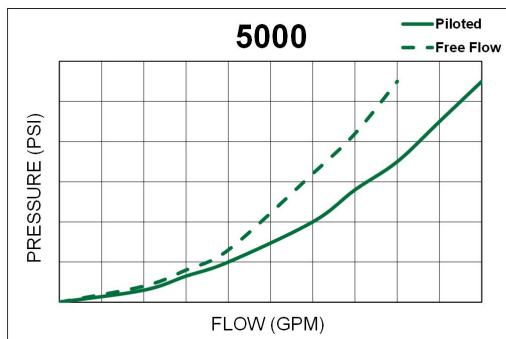
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, THREE PORT, PILOT TO OPEN COUNTERBALANCE VALVE WITH AN INTERNALLY VENTED SPRING CHAMBER AND FREE REVERSE FLOW CHECK, INTENDED FOR MOTION CONTROL AND OVER-CENTER LOAD HOLDING APPLICATIONS.

OPERATION

- BACK PRESSURE AT PORT (2) IS ADDITIVE TO RELIEF SETTING.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL A PILOT PRESSURE INVERSELY PROPORTIONAL TO THE LOAD PRESSURE IS APPLIED TO THE PILOT PORT.
- FLOW FROM (2) TO (1) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 25 PSI.

FEATURES

- PILOT RATIOS UP TO 10:1 AVAILABLE (HIGHER PILOT RATIOS MAY REDUCE FLOW CAPACITY)
- LOW RELIEF HYSTERESIS.
- INDUSTRY COMMON CAVITY.
- QUIET, STABLE OPERATION.
- SEALED PILOT PISTON, LOW INTERNAL LEAKAGE.
- ADJUSTABLE WITH LOCKING NUT.
- CLOCKWISE ADJUSTMENT TO INCREASE RELIEF SETTING.

SPECIFICATIONS

| | |
|-------------------------|-------------------|
| INTERNAL LEAKAGE | 5 DROPS/MIN. MAX. |
| OPERATING PRESSURE | 5000 PSI |
| RELIEF SETTING RANGE | 500 - 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| STANDARD CRACK PRESSURE | 25 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

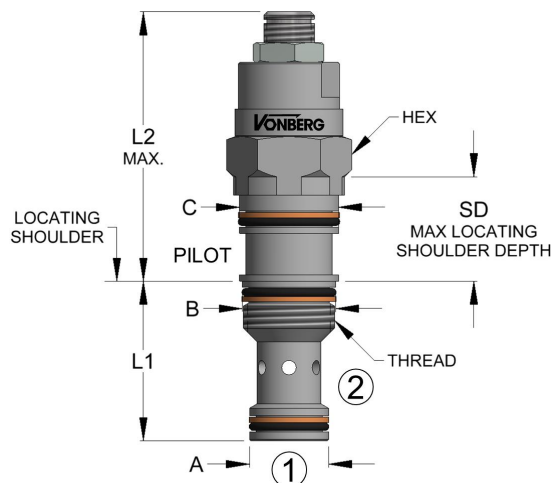
| | | | | | | | |
|---------------|-------------|-------------|----------------------|---------------------|---------------------------|---|--|
| 50 | XX | - | X | - | XXXX | - | XX |
| SERIES NUMBER | CAVITY SIZE | PILOT RATIO | RELIEF SETTING (PSI) | BODY PORT SIZE CODE | BLANK..... CARTRIDGE ONLY | SERIES CODE..... SEE "CARTRIDGE BODIES", X-3 SERIES | D SERIES CODE... SEE "CARTRIDGE BODIES", X-3D SERIES |

| MODEL | THREAD | FLOW CAPACITY | CAVITY | L1 | L2 (MAX.) | HEX | A | B | TORQUE |
|-------|-------------|---------------|---------|------|-----------|------|---------------|---------------|-----------|
| 5006 | 9/16 - 18 | 3.0 GPM | FC06-3 | 1.23 | 1.30 | 0.69 | 0.438 / 0.439 | 0.467 / 0.468 | 15 ft-lbs |
| 5008 | 3/4 - 16 | 7.0 GPM | VC08-3 | 1.63 | 1.38 | 0.88 | 0.558 / 0.560 | 0.621 / 0.623 | 20 ft-lbs |
| 5010 | 7/8 - 14 | 15.0 GPM | VC10-3 | 1.85 | 1.78 | 1.00 | 0.621 / 0.623 | 0.683 / 0.685 | 25 ft-lbs |
| 5010S | 7/8 - 14 | 15.0 GPM | VC10-S3 | 1.85 | 2.00 | 1.00 | 0.683 / 0.685 | 0.746 / 0.748 | 25 ft-lbs |
| 5012 | 1 1/16 - 12 | 25.0 GPM | C12-3S | 2.25 | 1.78 | 1.25 | 0.870 / 0.873 | 0.933 / 0.935 | 40 ft-lbs |

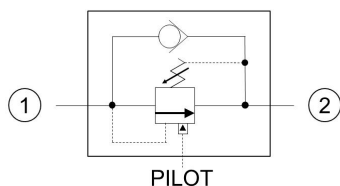
This document, as well as all catalogs, price lists and information provided by Vonberg Valve, Inc., is intended to provide product information for further consideration by users having substantial technical expertise due to the variety of operating conditions and applications for these valves, the user, through its own analysis, testing and evaluation, is solely responsible for making the final selection of the products and ensuring that all safety, warning and performance requirements of the application or use are met. The valves described herein, including without limitation, all component features, specifications, designs, pricing and availability, are subject to change at any time at the sole discretion of Vonberg Valve, Inc. without prior notification.

9/27/18, 5:23 PM

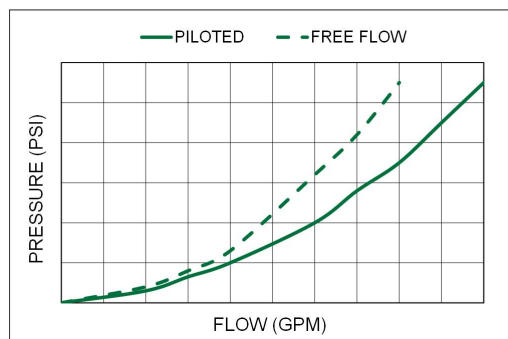
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, THREE PORT, PILOT TO OPEN COUNTERBALANCE VALVE WITH AN INTERNALLY VENTED SPRING CHAMBER AND FREE REVERSE FLOW CHECK, INTENDED FOR MOTION CONTROL AND OVER-CENTER LOAD HOLDING APPLICATIONS.

OPERATION

- BACK PRESSURE AT PORT (2) IS ADDITIVE TO RELIEF SETTING.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL A PILOT PRESSURE INVERSELY PROPORTIONAL TO THE LOAD PRESSURE IS APPLIED TO THE PILOT PORT.
- FLOW FROM (2) TO (1) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 25 PSI.

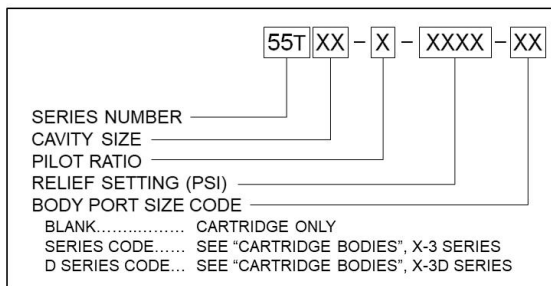
FEATURES

- PILOT RATIOS UP TO 10:1 AVAILABLE (HIGHER PILOT RATIOS MAY REDUCE FLOW CAPACITY)
- LOW RELIEF HYSTERESIS.
- QUIET, STABLE OPERATION.
- SEALED PILOT PISTON, LOW INTERNAL LEAKAGE.
- ADJUSTABLE WITH LOCKING NUT.
- CLOCKWISE ADJUSTMENT TO INCREASE RELIEF SETTING.
- THE 55T17 IS LIMITED TO A 4000 PSI SETTING

SPECIFICATIONS

| | |
|-------------------------|-------------------|
| INTERNAL LEAKAGE | 5 DROPS/MIN. MAX. |
| OPERATING PRESSURE | 5000 PSI |
| RELIEF SETTING RANGE | 500 - 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| STANDARD CRACK PRESSURE | 25 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

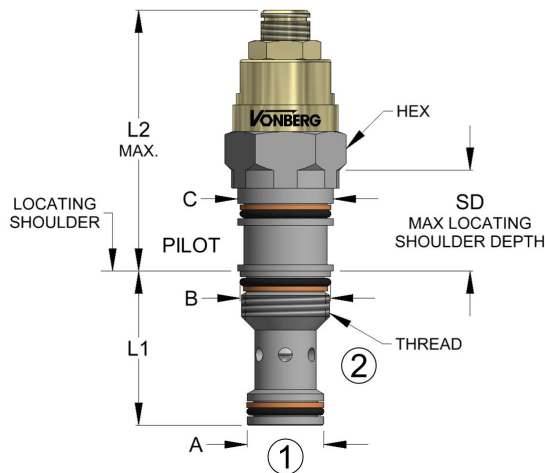


| MODEL | THREAD | FLOW CAPACITY | CAVITY | L1 | L2 (MAX.) | HEX | A | B | C | SD (MAX.) | TORQUE |
|--------|-----------|---------------|--------|------|-----------|-------|---------------|---------------|---------------|-----------|-----------|
| 55T163 | M16 X 1.5 | 5.0 GPM | T-163A | 1.22 | 1.80 | 0.750 | 0.512 / 0.513 | 0.653 / 0.654 | 0.700 / 0.701 | 0.650 | 20 ft-lbs |
| 55T11 | M20 X 1.5 | 15.0 GPM | T-11A | 1.38 | 2.25 | 0.938 | 0.683 / 0.685 | 0.807 / 0.809 | 0.855 / 0.857 | 0.850 | 30 ft-lbs |
| 55T2 | 1-14 | 25.0 GPM | T-2A | 1.38 | 2.50 | 1.125 | 0.871 / 0.873 | 1.027 / 1.029 | 1.074 / 1.076 | 0.870 | 45 ft-lbs |
| 55T17 | M36 X 2.0 | 60.0 GPM | T-17A | 1.81 | 4.50 | 1.625 | 1.246 / 1.247 | 1.433 / 1.435 | 1.558 / 1.559 | 1.18 | 95 ft-lbs |

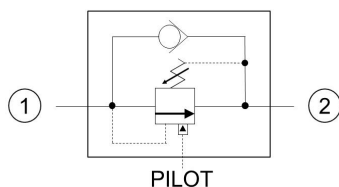
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6/17/20, 12:00 AM

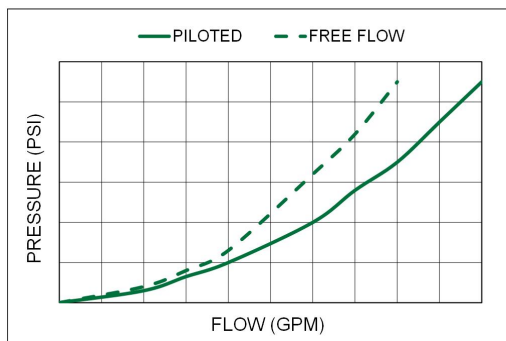
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, THREE PORT, PILOT TO OPEN COUNTERBALANCE VALVE WITH AN INTERNALLY VENTED SPRING CHAMBER AND FREE REVERSE FLOW CHECK, INTENDED FOR MOTION CONTROL AND OVER-CENTER LOAD HOLDING APPLICATIONS.

OPERATION

- FLOW FROM (2) TO (1) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 25 PSI.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- BACK PRESSURE AT PORT (2) IS ADDITIVE TO RELIEF SETTING.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL A PILOT PRESSURE INVERSELY PROPORTIONAL TO THE LOAD PRESSURE IS APPLIED TO THE PILOT PORT.

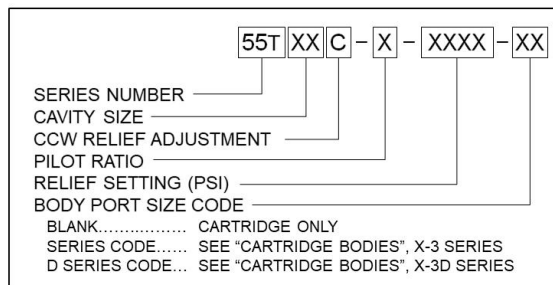
FEATURES

- LOW RELIEF HYSTERESIS.
- PILOT RATIOS UP TO 10:1 AVAILABLE (HIGHER PILOT RATIOS MAY REDUCE FLOW CAPACITY)
- QUIET, STABLE OPERATION.
- ADJUSTABLE WITH LOCKING NUT.
- SEALED PILOT PISTON, LOW INTERNAL LEAKAGE.
- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE RELIEF SETTING.

SPECIFICATIONS

| | |
|-------------------------|-------------------|
| INTERNAL LEAKAGE | 5 DROPS/MIN. MAX. |
| OPERATING PRESSURE | 5000 PSI |
| RELIEF SETTING RANGE | 500 - 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| STANDARD CRACK PRESSURE | 25 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION



| MODEL | THREAD | FLOW CAPACITY | CAVITY | L1 | L2 (MAX.) | HEX | A | B | C | SD (MAX.) | TORQUE |
|--------|-----------|---------------|--------|------|-----------|-------|---------------|---------------|---------------|-----------|-----------|
| 55T11C | M20 X 1.5 | 15.0 GPM | T-11A | 1.38 | 2.25 | 0.938 | 0.683 / 0.685 | 0.807 / 0.809 | 0.855 / 0.857 | 0.850 | 30 ft-lbs |
| 55T2C | 1-14 | 25.0 GPM | T-2A | 1.38 | 2.50 | 1.125 | 0.871 / 0.873 | 1.027 / 1.029 | 1.074 / 1.076 | 0.870 | 45 ft-lbs |

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8/9/19, 1:17 PM

DESCRIPTION

A CARTRIDGE STYLE, THREE PORT, PILOT TO OPEN COUNTERBALANCE VALVE WITH AN INTERNALLY VENTED SPRING CHAMBER AND FREE REVERSE FLOW CHECK, INTENDED FOR MOTION CONTROL AND OVER-CENTER LOAD HOLDING APPLICATIONS.

OPERATION

- FLOW FROM (2) TO (1) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 4 PSI.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- BACK PRESSURE AT PORT (2) IS ADDITIVE TO RELIEF SETTING.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL A PILOT PRESSURE INVERSELY PROPORTIONAL TO THE LOAD PRESSURE IS APPLIED TO THE PILOT PORT.

FEATURES

- LOW RELIEF HYSTERESIS.
- PILOT RATIOS UP TO 10:1 AVAILABLE (HIGHER PILOT RATIOS MAY REDUCE FLOW CAPACITY)
- QUIET, STABLE OPERATION.
- ADJUSTABLE WITH LOCKING NUT.
- SEALED PILOT PISTON, LOW INTERNAL LEAKAGE.
- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE RELIEF SETTING.

SPECIFICATIONS

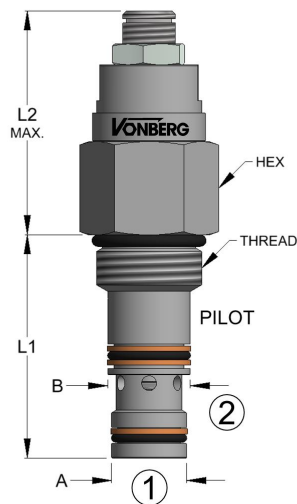
| | |
|-------------------------|-------------------|
| INTERNAL LEAKAGE | 5 DROPS/MIN. MAX. |
| OPERATING PRESSURE | 5000 PSI |
| RELIEF SETTING RANGE | 500 - 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| STANDARD CRACK PRESSURE | 4 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

| MODEL | THREAD | FLOW CAPACITY | CAVITY | L1 | L2 (MAX.) | HEX | A | B | C | SD (MAX.) | TORQUE |
|---------|-----------|---------------|--------|------|-----------|-------|-------|---------------|---------------|-----------|-----------|
| 55T11LC | M20 X 1.5 | 15.0 GPM | T-11A | 1.38 | 2.25 | 0.938 | 0.850 | 0.807 / 0.809 | 0.855 / 0.857 | 0.850 | 30 ft-lbs |

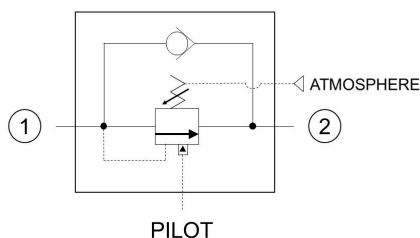
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7/8/20, 9:27 PM

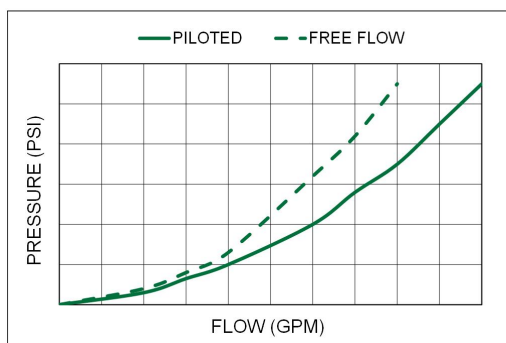
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, THREE PORT, PILOT TO OPEN COUNTERBALANCE VALVE WITH AN ATMOSPHERICALLY VENTED SPRING CHAMBER AND FREE REVERSE FLOW CHECK, INTENDED FOR MOTION CONTROL AND OVER-CENTER LOAD HOLDING APPLICATIONS.

OPERATION

- BACK PRESSURE AT PORT (2) DOES NOT AFFECT RELIEF SETTING.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL A PILOT PRESSURE INVERSELY PROPORTIONAL TO THE LOAD PRESSURE IS APPLIED TO THE PILOT PORT.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- FLOW FROM (2) TO (1) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 25 PSI.

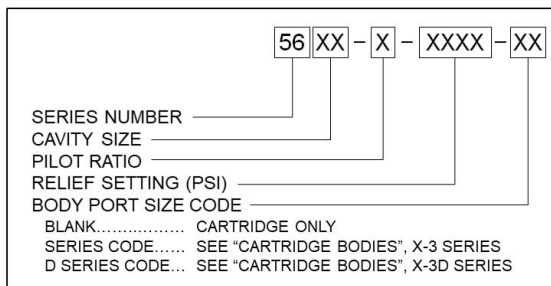
FEATURES

- LOW RELIEF HYSTERESIS.
- CLOCKWISE ADJUSTMENT TO INCREASE RELIEF SETTING.
- SEALED PILOT PISTON, LOW INTERNAL LEAKAGE.
- QUIET, STABLE OPERATION.
- INDUSTRY COMMON CAVITY.
- ADJUSTABLE WITH LOCKING NUT.
- PILOT RATIOS UP TO 10:1 AVAILABLE (HIGHER PILOT RATIOS MAY REDUCE FLOW CAPACITY)

SPECIFICATIONS

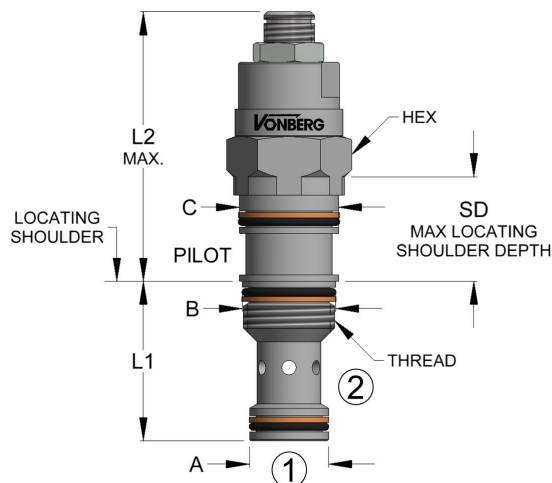
| | |
|-------------------------|-------------------|
| INTERNAL LEAKAGE | 5 DROPS/MIN. MAX. |
| OPERATING PRESSURE | 5000 PSI |
| RELIEF ADJUSTMENT RANGE | 500 - 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| STANDARD CRACK PRESSURE | 25 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

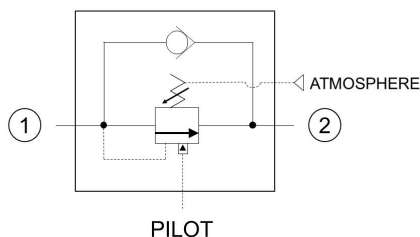


| MODEL | THREAD | FLOW CAPACITY | CAVITY | L1 | L2 (MAX.) | HEX | A | B | TORQUE |
|-------|----------|---------------|--------|------|-----------|------|---------------|---------------|-----------|
| 5610 | 7/8 - 14 | 10.0 GPM | VC10-3 | 1.85 | 2.00 | 1.00 | 0.621 / 0.623 | 0.683 / 0.685 | 25 ft-lbs |

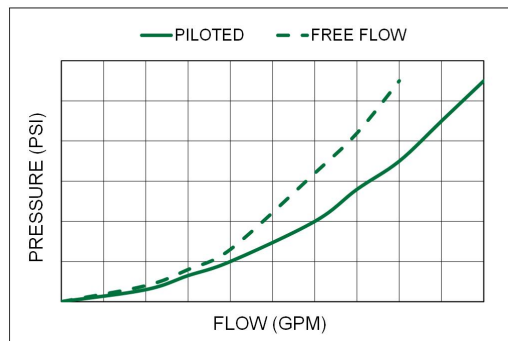
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, THREE PORT, PILOT TO OPEN COUNTERBALANCE VALVE WITH AN ATMOSPHERICALLY VENTED SPRING CHAMBER AND FREE REVERSE FLOW CHECK, INTENDED FOR MOTION CONTROL AND OVER-CENTER LOAD HOLDING APPLICATIONS.

OPERATION

- BACK PRESSURE AT PORT (2) DOES NOT AFFECT RELIEF SETTING.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL A PILOT PRESSURE INVERSELY PROPORTIONAL TO THE LOAD PRESSURE IS APPLIED TO THE PILOT PORT.
- FLOW FROM (2) TO (1) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 25 PSI.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

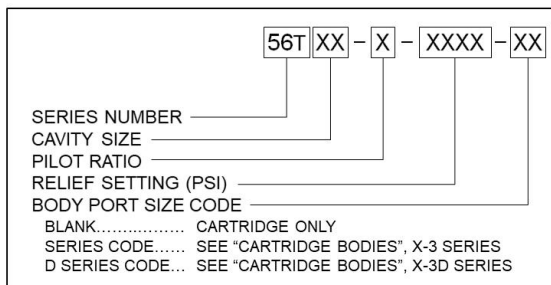
FEATURES

- LOW RELIEF HYSTERESIS.
- SEALED PILOT PISTON, LOW INTERNAL LEAKAGE.
- QUIET, STABLE OPERATION.
- ADJUSTABLE WITH LOCKING NUT.
- CLOCKWISE ADJUSTMENT TO INCREASE RELIEF SETTING.
- PILOT RATIOS UP TO 10:1 AVAILABLE (HIGHER PILOT RATIOS MAY REDUCE FLOW CAPACITY)

SPECIFICATIONS

| | |
|-------------------------|-------------------|
| INTERNAL LEAKAGE | 5 DROPS/MIN. MAX. |
| OPERATING PRESSURE | 5000 PSI |
| RELIEF SETTING RANGE | 500 - 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| STANDARD CRACK PRESSURE | 25 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

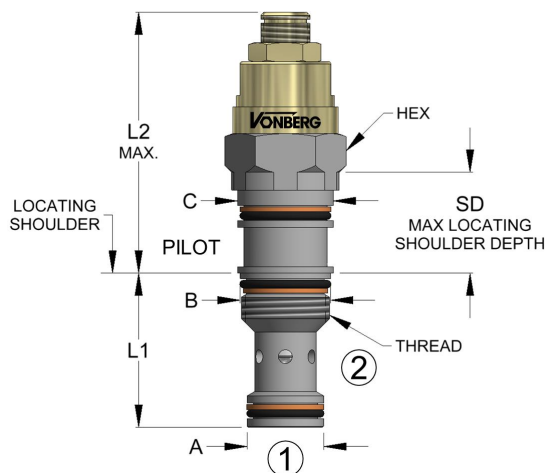


| MODEL | THREAD | FLOW CAPACITY | CAVITY | L1 | L2 (MAX.) | HEX | A | B | C | SD (MAX.) | TORQUE |
|-------|-----------|---------------|--------|------|-----------|-------|---------------|---------------|---------------|-----------|-----------|
| 56T11 | M20 X 1.5 | 15.0 GPM | T-11A | 1.38 | 2.45 | 0.938 | 0.683 / 0.685 | 0.807 / 0.809 | 0.855 / 0.857 | 0.850 | 30 ft-lbs |
| 56T2 | 1-14 | 30.0 GPM | T-2A | 1.38 | 2.75 | 1.125 | 0.871 / 0.873 | 1.027 / 1.029 | 1.074 / 1.076 | 0.870 | 45 ft-lbs |

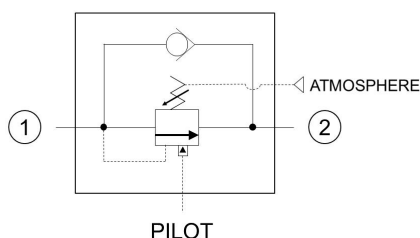
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12/11/19, 5:44 PM

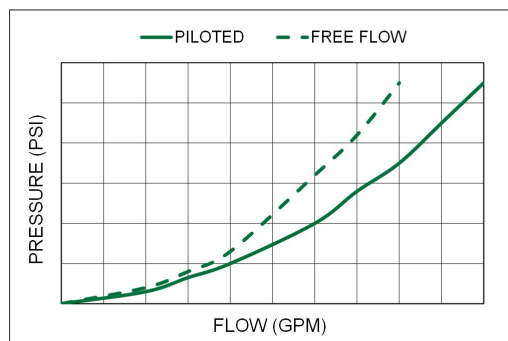
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, THREE PORT, PILOT TO OPEN COUNTERBALANCE VALVE WITH AN ATMOSPHERICALLY VENTED SPRING CHAMBER AND FREE REVERSE FLOW CHECK, INTENDED FOR MOTION CONTROL AND OVER-CENTER LOAD HOLDING APPLICATIONS.

OPERATION

- BACK PRESSURE AT PORT (2) DOES NOT AFFECT RELIEF SETTING.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL A PILOT PRESSURE INVERSELY PROPORTIONAL TO THE LOAD PRESSURE IS APPLIED TO THE PILOT PORT.
- FLOW FROM (2) TO (1) IS ALLOWED WITH A STANDARD CRACK PRESSURE OF 25 PSI.

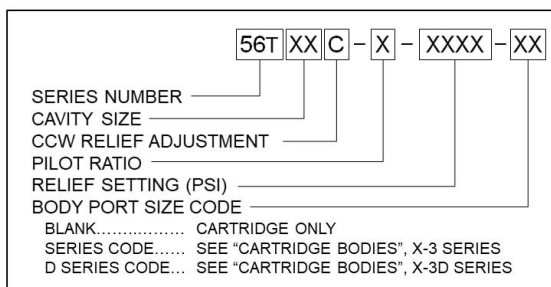
FEATURES

- PILOT RATIOS UP TO 10:1 AVAILABLE (HIGHER PILOT RATIOS MAY REDUCE FLOW CAPACITY)
- LOW RELIEF HYSTERESIS.
- SEALED PILOT PISTON, LOW INTERNAL LEAKAGE.
- QUIET, STABLE OPERATION.
- COUNTERCLOCKWISE ADJUSTMENT TO INCREASE RELIEF SETTING.
- ADJUSTABLE WITH LOCKING NUT.

SPECIFICATIONS

| | |
|-------------------------|-------------------|
| INTERNAL LEAKAGE | 5 DROPS/MIN. MAX. |
| OPERATING PRESSURE | 5000 PSI |
| RELIEF SETTING RANGE | 500 - 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| STANDARD CRACK PRESSURE | 25 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

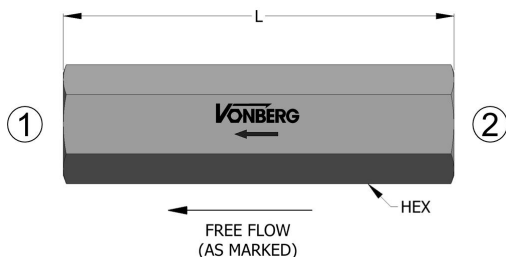


| MODEL | THREAD | FLOW CAPACITY | CAVITY | L1 | L2 (MAX.) | HEX | A | B | C | SD (MAX.) | TORQUE |
|--------|-----------|---------------|--------|------|-----------|-------|---------------|---------------|---------------|-----------|-----------|
| 56T11C | M20 X 1.5 | 10.0 GPM | T-11A | 1.38 | 2.45 | 0.938 | 0.683 / 0.685 | 0.807 / 0.809 | 0.855 / 0.857 | 0.850 | 30 ft-lbs |

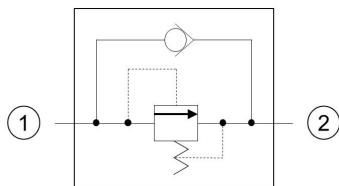
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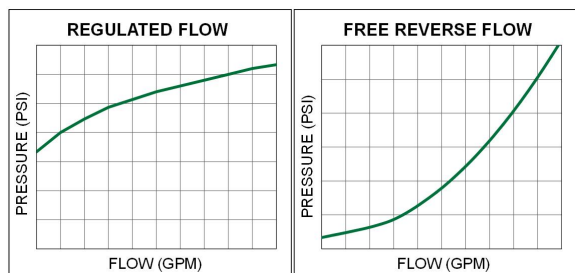
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIFFERENTIAL AREA RELIEF VALVE WITH FREE REVERSE FLOW THAT LIMITS MAXIMUM SYSTEM PRESSURE OR ALLOWS SEQUENCING OF PRESSURES WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS UNRESTRICTED WITH A 5-10 PSI CRACK PRESSURE.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

FEATURES

- LOW PRESSURE DROP.
- INTERNAL PACKING - BUNA N.
- LOW INTERNAL LEAKAGE.
- ALUMINUM BODY, STEEL INTERNALS.

SPECIFICATIONS

| | |
|--------------------|---------------------------------|
| OPERATING PRESSURE | 3000 PSI |
| RELIEF TOLERANCE | +/- 10% (+/- 20% BELOW 150 PSI) |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

49023 - XXXX

SERIES NUMBER _____

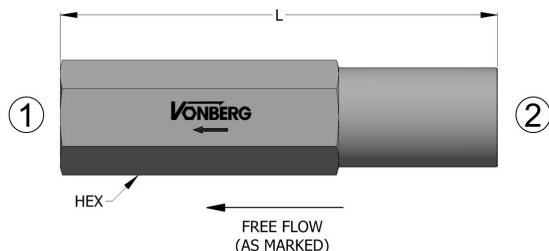
RELIEF PRESSURE (PSI) _____

100 - 1250 (PSI)*

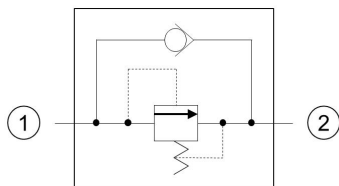
* AVAILABLE IN 50 PSI INCREMENTS 100-1250 PSI

| MODEL | INLET / OUTLET | THREAD | FLOW CAPACITY | L | HEX |
|-------|----------------|-----------|---------------|------|-------|
| 49023 | -12 SAE PORT | 1 1/16-12 | 30 GPM | 5.25 | 1.250 |

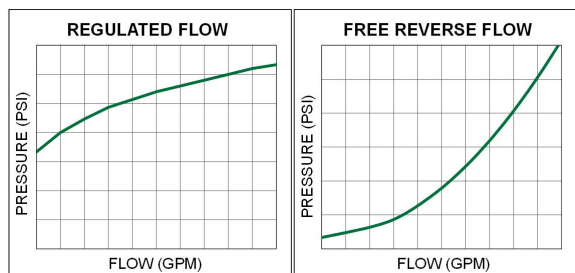
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIFFERENTIAL AREA RELIEF VALVE WITH FREE REVERSE FLOW THAT LIMITS MAXIMUM SYSTEM PRESSURE OR ALLOWS SEQUENCING OF PRESSURES WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS UNRESTRICTED WITH A 5-10 PSI CRACK PRESSURE.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

FEATURES

- LOW PRESSURE DROP.
- INTERNAL PACKING - BUNA N.
- LOW INTERNAL LEAKAGE.
- ALUMINUM BODY, STEEL INTERNALS.

SPECIFICATIONS

| | |
|--------------------|---------------------------------|
| OPERATING PRESSURE | 3000 PSI |
| RELIEF TOLERANCE | +/- 10% (+/- 20% BELOW 150 PSI) |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

49040 - XXXX

SERIES NUMBER _____

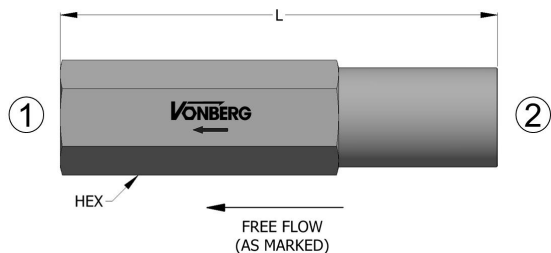
RELIEF PRESSURE (PSI) _____

100 - 1250 (PSI)*

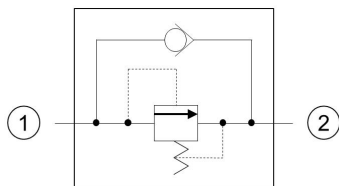
* AVAILABLE IN 50 PSI INCREMENTS 100-1250 PSI

| MODEL | INLET / OUTLET | THREAD | FLOW CAPACITY | L | HEX |
|-------|----------------|--------|---------------|------|------|
| 49040 | -08 SAE PORT | 3/4-16 | 20 GPM | 4.12 | 0.94 |

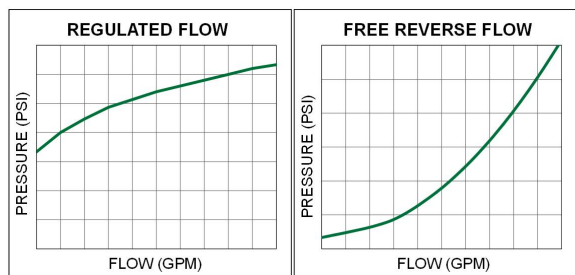
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIFFERENTIAL AREA RELIEF VALVE WITH FREE REVERSE FLOW THAT LIMITS MAXIMUM SYSTEM PRESSURE OR ALLOWS SEQUENCING OF PRESSURES WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- FLOW FROM (2) TO (1) IS UNRESTRICTED WITH A 5-10 PSI CRACK PRESSURE.

FEATURES

- LOW PRESSURE DROP.
- INTERNAL PACKING - BUNA N.
- ALUMINUM BODY, STEEL INTERNALS.
- LOW INTERNAL LEAKAGE.

SPECIFICATIONS

| | |
|--------------------|---------------------------------|
| OPERATING PRESSURE | 3000 PSI |
| RELIEF TOLERANCE | +/- 10% (+/- 20% BELOW 150 PSI) |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

49080 - XXXX

SERIES NUMBER _____

RELIEF PRESSURE (PSI) _____

100 - 1250 (PSI)*

* AVAILABLE IN 50 PSI INCREMENTS 100-1250 PSI

| MODEL | INLET / OUTLET | THREAD | FLOW CAPACITY | L | HEX |
|-------|----------------|---------|---------------|------|------|
| 49080 | -06 SAE PORT | 9/16-18 | 5.0 GPM | 3.50 | 0.75 |

DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.

FEATURES

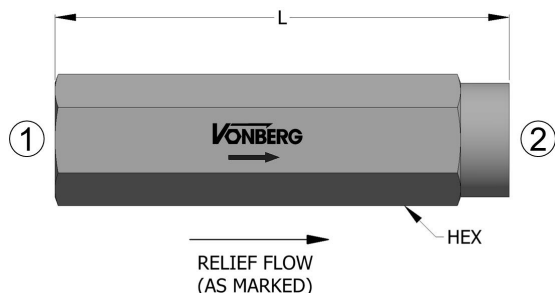
- CHROME STEEL BALL / HARDENED SEAT.
- LOW INTERNAL LEAKAGE.
- STEEL COMPONENTS.

SPECIFICATIONS

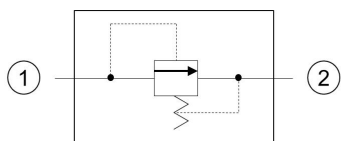
| | |
|--------------------|----------------|
| OPERATING PRESSURE | 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

| MODEL | INLET / OUTLET | L | HEX |
|-----------|----------------|------|-------|
| 4030X-102 | 1/4-18 NPTF | 3.85 | 0.750 |
| 4030X-103 | 3/8-18 NPTF | 3.65 | 0.875 |
| 4030X-104 | 1/2-14 NPTF | 4.50 | 1.125 |

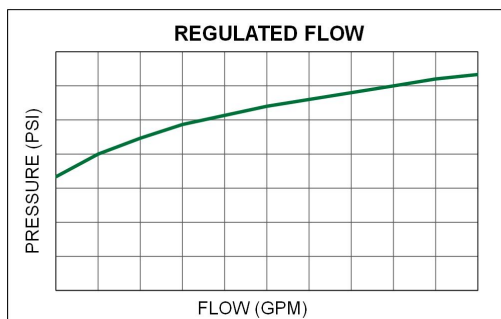
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

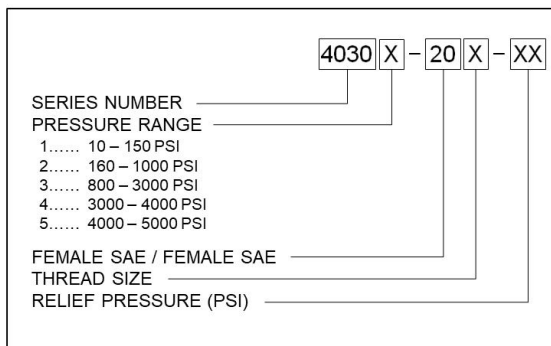
FEATURES

- LOW INTERNAL LEAKAGE.
- CHROME STEEL BALL / HARDENED SEAT.
- STEEL COMPONENTS.

SPECIFICATIONS

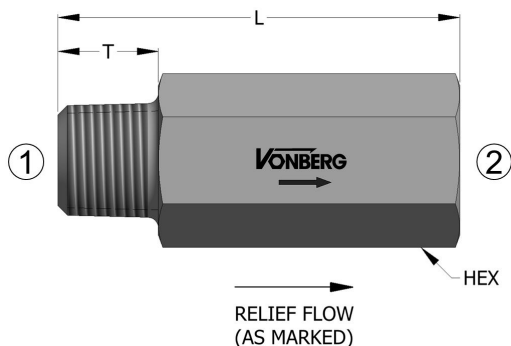
| | |
|--------------------|----------------|
| OPERATING PRESSURE | 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

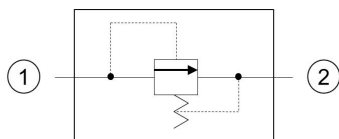


| MODEL | INLET / OUTLET | THREAD | L | HEX |
|-----------|----------------|---------|------|------|
| 4030X-204 | -04 SAE | 7/16-20 | 3.20 | 0.63 |
| 4030X-206 | -06 SAE | 9/16-18 | 3.70 | 0.75 |
| 4030X-208 | -08 SAE | 3/4-16 | 4.00 | 0.94 |

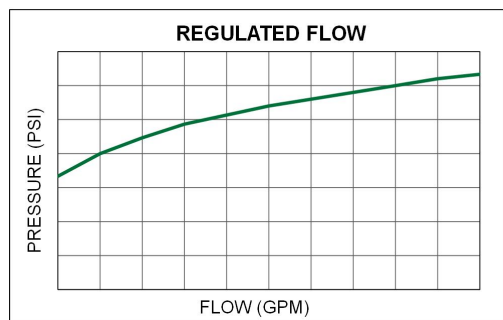
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

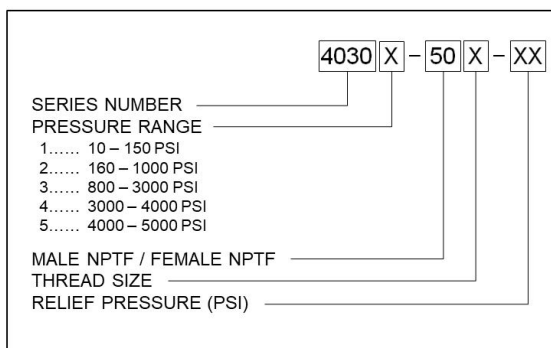
FEATURES

- LOW INTERNAL LEAKAGE.
- CHROME STEEL BALL / HARDENED SEAT.
- STEEL COMPONENTS.

SPECIFICATIONS

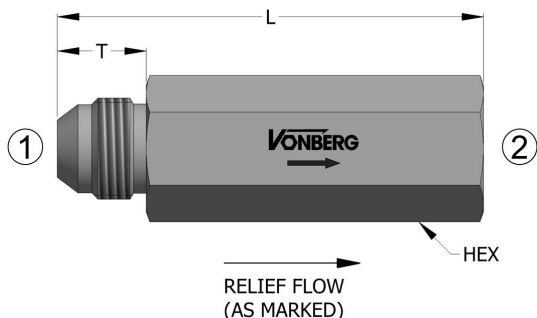
| | |
|--------------------|----------------|
| OPERATING PRESSURE | 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

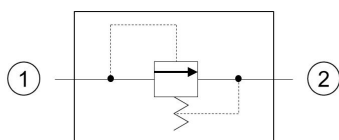


| MODEL | INLET 1 | OUTLET 2 | L | T | HEX |
|-----------|-------------|------------------|------|-------|-------|
| 4030X-502 | 1/4-18 NPTF | 1/4-18 NPTF PORT | 3.70 | 0.563 | 0.750 |
| 4030X-503 | 3/8-18 NPTF | 3/8-18 NPTF PORT | 2.94 | 0.625 | 0.875 |
| 4030X-504 | 1/2-14 NPTF | 1/2-14 NPTF PORT | 3.50 | 0.750 | 1.125 |

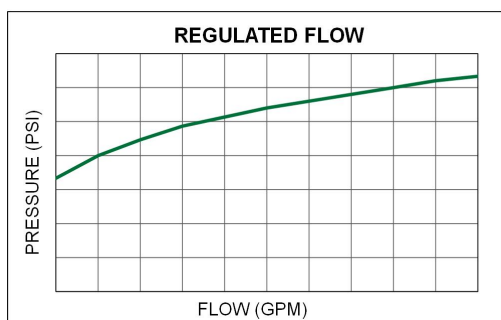
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE WITH THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.

FEATURES

- STEEL COMPONENTS.
- LOW INTERNAL LEAKAGE.
- CHROME BALL / HARDENED SEAT.

SPECIFICATIONS

| | |
|--------------------|----------------|
| OPERATING PRESSURE | 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

4030

X

-

60

X

-

XX

SERIES NUMBER

PRESSURE RANGE

1..... 10 – 150 PSI

2..... 160 – 1000 PSI

3..... 800 – 3000 PSI

4..... 3000 – 4000 PSI

5..... 4000 – 5000 PSI

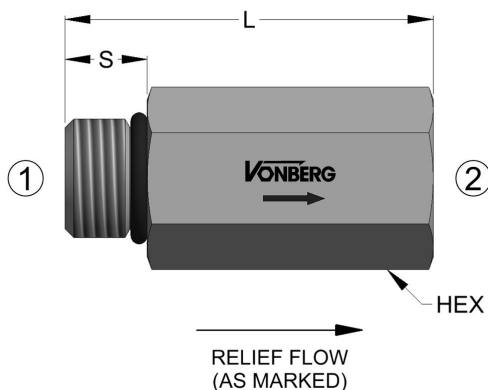
MALE JIC / FEMALE SAE

THREAD SIZE

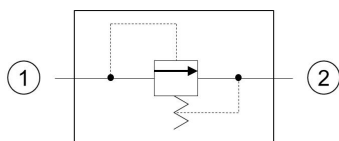
RELIEF PRESSURE (PSI)

| MODEL | INLET 1 | OUTLET 2 | THREAD | L | T | HEX |
|-----------|---------|--------------|---------|------|-------|-------|
| 4030X-604 | -04 JIC | -04 SAE PORT | 7/16-20 | 3.20 | 0.550 | 0.625 |
| 4030X-606 | -06 JIC | -06 SAE PORT | 9/16-18 | 3.56 | 0.560 | 0.750 |
| 4030X-608 | -08 JIC | -08 SAE PORT | 3/4-14 | 3.70 | 0.660 | 0.938 |

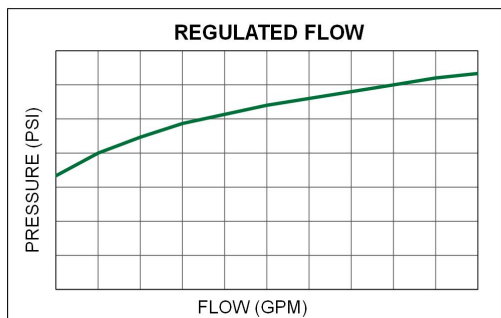
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE WITH THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

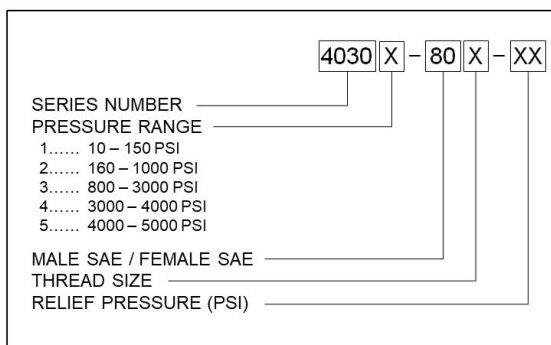
FEATURES

- LOW INTERNAL LEAKAGE.
- CHROME BALL / HARDENED SEAT.
- STEEL COMPONENTS.

SPECIFICATIONS

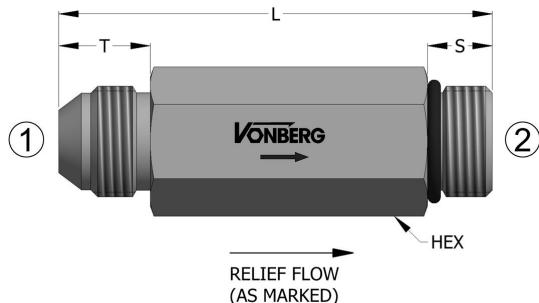
| | |
|--------------------|----------------|
| OPERATING PRESSURE | 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

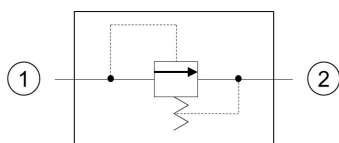


| MODEL | INLET 1 | OUTLET 2 | THREAD | L | T | HEX |
|-----------|---------|--------------|---------|------|-------|-------|
| 4030X-804 | -04 SAE | -04 SAE PORT | 7/16-20 | 3.00 | 0.360 | 0.625 |
| 4030X-806 | -06 SAE | -06 SAE PORT | 9/16-18 | 3.40 | 0.390 | 0.750 |
| 4030X-808 | -08 SAE | -08 SAE PORT | 3/4-14 | 3.50 | 0.440 | 0.938 |

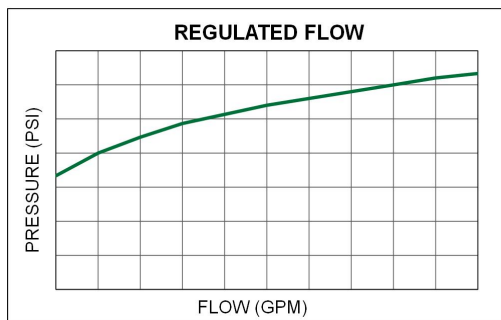
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE WITH THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

FEATURES

- LOW INTERNAL LEAKAGE.
- CHROME BALL / HARDENED SEAT.
- STEEL COMPONENTS.

SPECIFICATIONS

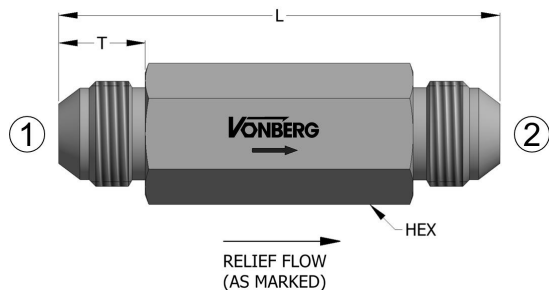
| | |
|--------------------|----------------|
| OPERATING PRESSURE | 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

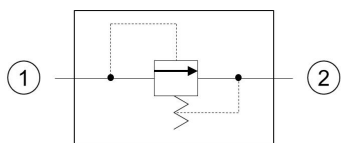
| | | | | | | |
|-----------------------|-----------------|---|----|---|---|----|
| 4031 | X | - | 60 | X | - | XX |
| SERIES NUMBER | | | | | | |
| PRESSURE RANGE | | | | | | |
| 1..... | 10 – 150 PSI | | | | | |
| 2..... | 160 – 1000 PSI | | | | | |
| 3..... | 800 – 3000 PSI | | | | | |
| 4..... | 3000 – 4000 PSI | | | | | |
| 5..... | 4000 – 5000 PSI | | | | | |
| MALE JIC / MALE SAE | | | | | | |
| THREAD SIZE | | | | | | |
| RELIEF PRESSURE (PSI) | | | | | | |

| MODEL | INLET 1 | OUTLET 2 | THREAD | L | HEX |
|-----------|---------|----------|--------|------|-------|
| 40310-608 | -08 JIC | -08 SAE | 3/4-16 | 2.98 | 0.875 |

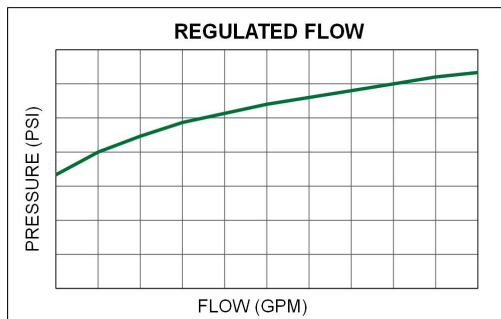
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE WITH MALE JIC CONNECTIONS THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

FEATURES

- LOW INTERNAL LEAKAGE.
- CHROME BALL / HARDENED SEAT.
- STEEL COMPONENTS.

SPECIFICATIONS

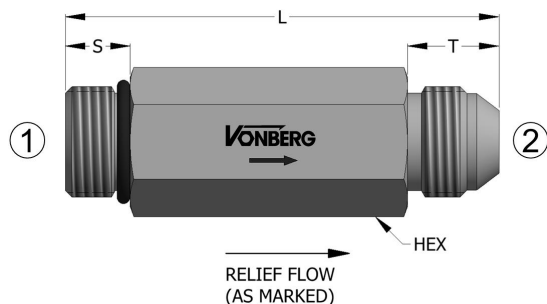
| | |
|--------------------|----------------|
| OPERATING PRESSURE | 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

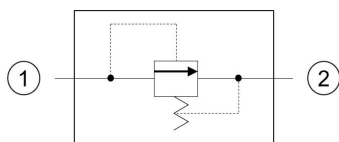
| | | | | | | | |
|-----------------------|-----------------|---|---|----|---|---|----|
| SERIES NUMBER | 4033 | X | - | 60 | X | - | XX |
| PRESSURE RANGE | | | | | | | |
| 1..... | 10 – 150 PSI | | | | | | |
| 2..... | 160 – 1000 PSI | | | | | | |
| 3..... | 800 – 3000 PSI | | | | | | |
| 4..... | 3000 – 4000 PSI | | | | | | |
| 5..... | 4000 – 5000 PSI | | | | | | |
| MALE JIC / MALE JIC | | | | | | | |
| THREAD SIZE | | | | | | | |
| RELIEF PRESSURE (PSI) | | | | | | | |

| MODEL | INLET / OUTLET | THREAD | FLOW CAPACITY | L | HEX |
|-----------|----------------|--------|---------------|------|------|
| 4033X-608 | -08 JIC | 3/4-16 | 5 GPM | 3.16 | 0.88 |

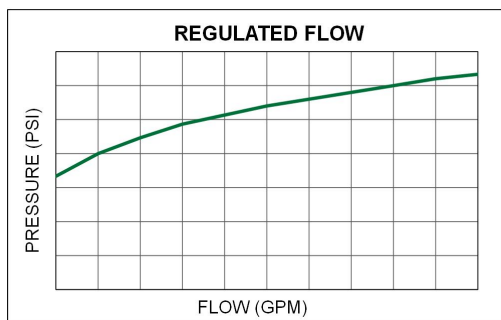
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE WITH THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

FEATURES

- LOW INTERNAL LEAKAGE.
- CHROME BALL / HARDENED SEAT.
- STEEL COMPONENTS.

SPECIFICATIONS

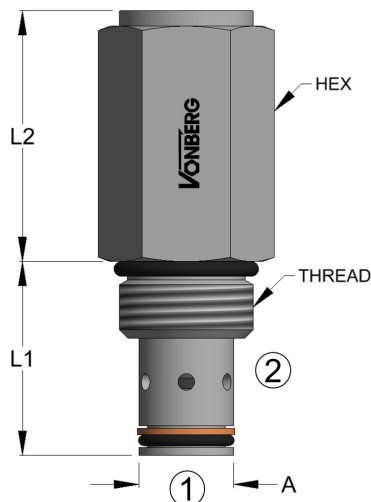
| | |
|--------------------|----------------|
| OPERATING PRESSURE | 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

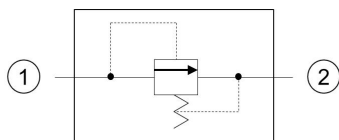
| | | | | | | |
|------------------------|---|---|----|---|---|----|
| 4033 | X | - | 80 | X | - | XX |
| SERIES NUMBER | | | | | | |
| PRESSURE RANGE | | | | | | |
| 1..... 10 – 150 PSI | | | | | | |
| 2..... 160 – 1000 PSI | | | | | | |
| 3..... 800 – 3000 PSI | | | | | | |
| 4..... 3000 – 4000 PSI | | | | | | |
| 5..... 4000 – 5000 PSI | | | | | | |
| MALE SAE / MALE JIC | | | | | | |
| THREAD SIZE | | | | | | |
| RELIEF PRESSURE (PSI) | | | | | | |

| MODEL | INLET 1 | OUTLET 2 | THREAD | L | HEX |
|-----------|---------|----------|--------|------|-------|
| 4033X-808 | -08 SAE | -08 JIC | 3/4-14 | 2.94 | 0.875 |

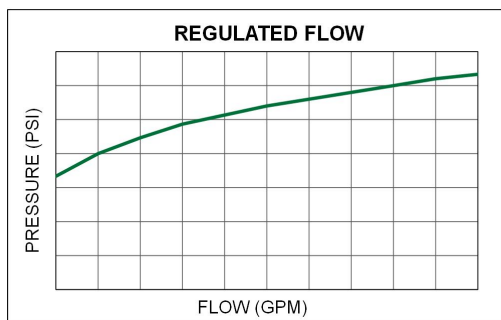
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

A CARTRIDGE STYLE, DIRECT ACTING RELIEF VALVE THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

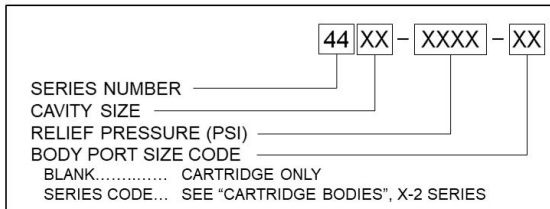
FEATURES

- INDUSTRY COMMON CAVITY.
- QUIET OPERATION.
- LOW INTERNAL LEAKAGE.
- HARDENED SEAT.
- GUIDED POPPET.
- STEEL COMPONENTS.

SPECIFICATIONS

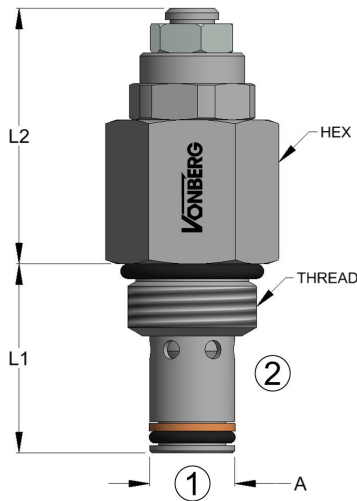
| | |
|--------------------|-------------------|
| OPERATING PRESSURE | 5000 PSI |
| PRESSURE RANGE | 50 PSI - 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

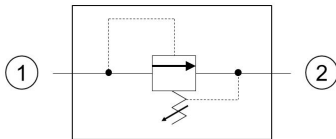


| MODEL | THREAD | FLOW CAPACITY | CAVITY | L1 | L2 | HEX | A | TORQUE |
|-------|-----------|---------------|--------|------|------|------|---------------|-----------|
| 4404 | 7/16 - 20 | 1.0 GPM | VC04-2 | 0.94 | 0.83 | 0.56 | 0.277 / 0.278 | 10 ft-lbs |
| 4406 | 9/16-18 | 3.0 GPM | FC06-2 | 0.84 | 1.50 | 0.69 | 0.467 / 0.468 | 15 ft-lbs |
| 4408 | 3/4-16 | 5.0 GPM | VC08-2 | 1.10 | 1.65 | 0.88 | 0.496 / 0.497 | 20 ft-lbs |
| 4410 | 7/8-14 | 8.0 GPM | VC10-2 | 1.25 | 1.70 | 1.00 | 0.622 / 0.623 | 25 ft-lbs |

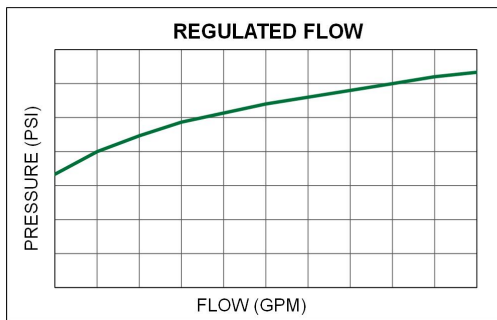
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

ADJUSTABLE CARTRIDGE STYLE, DIRECT ACTING RELIEF VALVE THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.

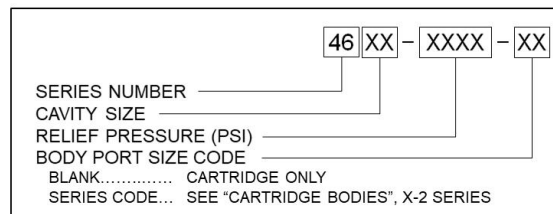
FEATURES

- ADJUSTABLE
- LOW INTERNAL LEAKAGE.
- QUIET OPERATION.
- INDUSTRY COMMON CAVITY.
- HARDENED SEAT.
- GUIDED POPPET.
- STEEL COMPONENTS.

SPECIFICATIONS

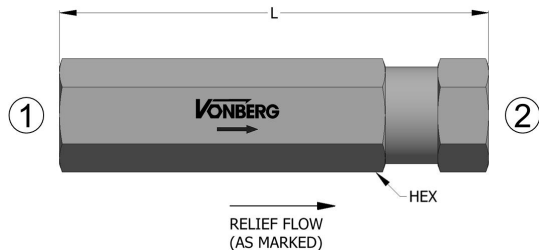
| | |
|--------------------|-------------------|
| OPERATING PRESSURE | 5000 PSI |
| PRESSURE RANGE | 50 PSI - 5000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

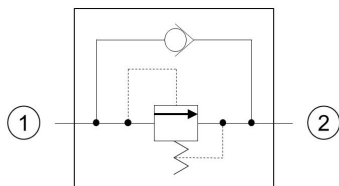


| MODEL | THREAD | FLOW CAPACITY | CAVITY | L1 | L2 | HEX | A | TORQUE |
|-------|---------|---------------|---------|------|------|------|-------------|-----------|
| 4604 | 7/16-20 | 1.0 GPM | VC04-2 | 0.94 | 0.92 | 0.56 | 0.277/0.278 | 10 ft-lbs |
| 4606 | 9/16-18 | 3.0 GPM | FC06-2 | 0.84 | 1.40 | 0.69 | 0.467/0.468 | 15 ft-lbs |
| 4608 | 3/4-16 | 5.0 GPM | VC08-2 | 1.10 | 1.70 | 0.88 | 0.496/0.497 | 20 ft-lbs |
| 4610 | 7/8-14 | 8.0 GPM | VC010-2 | 1.25 | 1.70 | 1.00 | 0.622/0.623 | 25 ft-lbs |

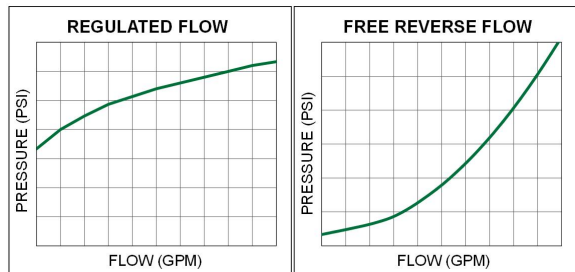
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE WITH FREE REVERSE FLOW THAT LIMITS MAXIMUM SYSTEM PRESSURE OR ALLOWS SEQUENCING OF PRESSURES WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS UNRESTRICTED WITH A 5-10 PSI CRACK PRESSURE.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

FEATURES

- LOW PRESSURE DROP.
- INTERNAL PACKING - BUNA N.
- ALUMINUM BODY, STEEL INTERNALS.
- LOW INTERNAL LEAKAGE.

SPECIFICATIONS

| | |
|--------------------|----------------|
| OPERATING PRESSURE | 3000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

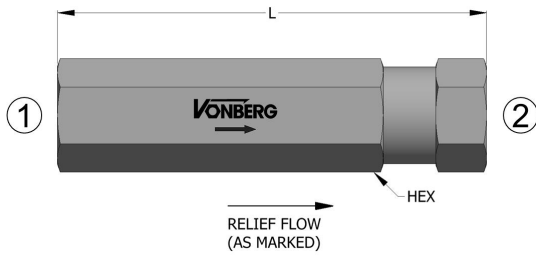
49000 - 1 XX - XX

SERIES NUMBER _____
 THREAD SIZE _____
 RELIEF PRESSURE (PSI) _____
 10 - 150 (PSI)*

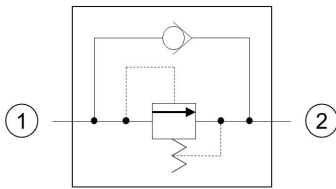
* AVAILABLE IN 10 PSI INCREMENTS UP TO A MAXIMUM OF 150 PSI
 FOR HIGHER PRESSURE APPLICATIONS, SEE 49005 SERIES

| MODEL | INLET / OUTLET | FLOW CAPACITY | L | HEX |
|-----------|------------------|---------------|------|-------|
| 49000-103 | 3/8-18 NPTF PORT | 15 GPM | 4.13 | 0.875 |

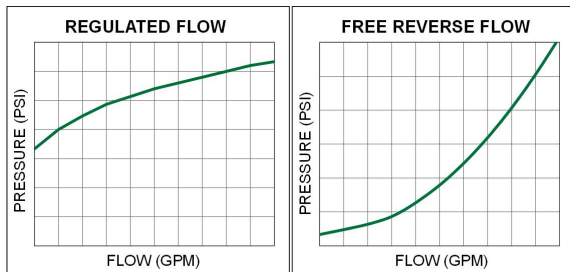
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE WITH FREE REVERSE FLOW THAT LIMITS MAXIMUM SYSTEM PRESSURE OR ALLOWS SEQUENCING OF PRESSURES WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- FLOW FROM (2) TO (1) IS UNRESTRICTED WITH A 5-10 PSI CRACK PRESSURE.

FEATURES

- LOW PRESSURE DROP.
- ALUMINUM BODY, STEEL INTERNALS.
- LOW INTERNAL LEAKAGE.
- INTERNAL PACKING - BUNA N.

SPECIFICATIONS

| | |
|--------------------|----------------|
| OPERATING PRESSURE | 3000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

49000 - 2 XX - XX

SERIES NUMBER _____

THREAD SIZE _____

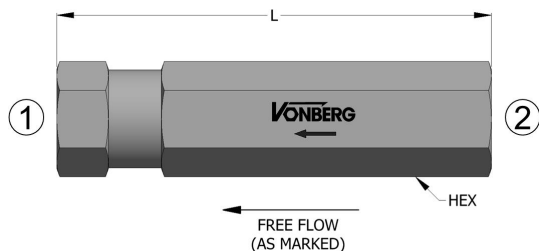
RELIEF PRESSURE (PSI) _____

10 - 150 (PSI)*

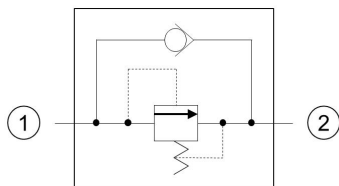
* AVAILABLE IN 10 PSI INCREMENTS UP TO A MAXIMUM OF 150 PSI
FOR HIGHER PRESSURE APPLICATIONS, SEE 49005 SERIES

| MODEL | INLET / OUTLET | THREAD | FLOW CAPACITY | L | HEX |
|-----------|----------------|--------|---------------|------|------|
| 49000-208 | -08 SAE PORT | 3/4-16 | 15 GPM | 4.13 | 0.88 |

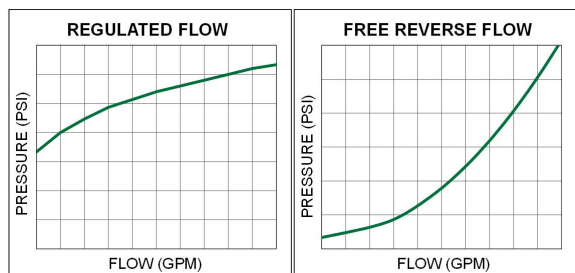
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN IN-LINE, DIRECT ACTING RELIEF VALVE WITH FREE REVERSE FLOW THAT LIMITS MAXIMUM SYSTEM PRESSURE OR ALLOWS SEQUENCING OF PRESSURES WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.
- FLOW FROM (2) TO (1) IS UNRESTRICTED WITH A 5-10 PSI CRACK PRESSURE.

FEATURES

- LOW INTERNAL LEAKAGE.
- INTERNAL PACKING - BUNA N.
- LOW PRESSURE DROP.
- ALUMINUM BODY, STEEL INTERNALS.

SPECIFICATIONS

| | |
|--------------------|----------------|
| OPERATING PRESSURE | 3000 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

49005 - XXXX

SERIES NUMBER _____

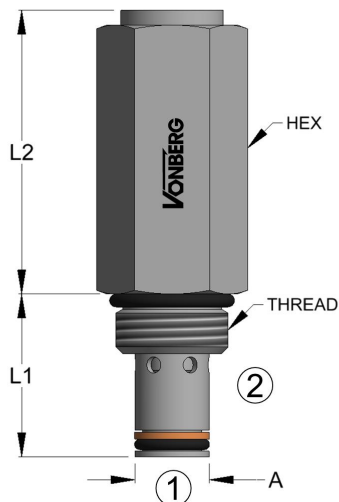
RELIEF PRESSURE (PSI) _____

100 - 1000 (PSI)*

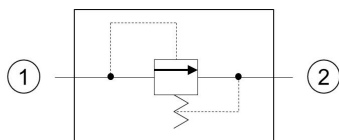
* AVAILABLE IN 50 PSI INCREMENTS 100-500 PSI 100 PSI INCREMENTS 500+ PSI
FOR LOW PRESSURE APPLICATIONS. SEE 49000 SERIES

| MODEL | INLET / OUTLET | FLOW RANGE | L | HEX |
|-------|----------------|-----------------|------|------|
| 49005 | 3/8-18 NPTF | 2.0 TO 12.0 GPM | 4.13 | 0.88 |

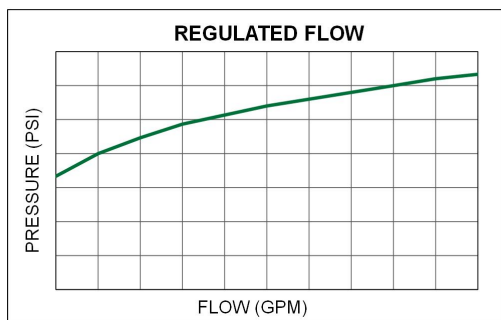
PRODUCT



SCHEMATIC



TYPICAL PERFORMANCE



DESCRIPTION

AN CARTRIDGE STYLE, DIRECT ACTING RELIEF VALVE THAT LIMITS MAXIMUM SYSTEM PRESSURE OR MAINTAINS A DESIRED PRESSURE WITHIN A CIRCUIT.

OPERATION

- FLOW FROM (2) TO (1) IS ALWAYS BLOCKED.
- FLOW FROM (1) TO (2) IS BLOCKED UNTIL THE SPECIFIED RELIEF PRESSURE SETTING HAS BEEN EXCEEDED.

FEATURES

- LIMITED ADJUSTABILITY.
- INDUSTRY COMMON CAVITY.
- QUIET OPERATION.
- LOW INTERNAL LEAKAGE.
- HARDENED SEAT.
- GUIDED POPPET.
- STEEL COMPONENTS.

SPECIFICATIONS

| | |
|--------------------|----------------|
| OPERATING PRESSURE | 3500 PSI |
| RELIEF TOLERANCE | +/- 10% |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

49045

-

XXXX

-

XX

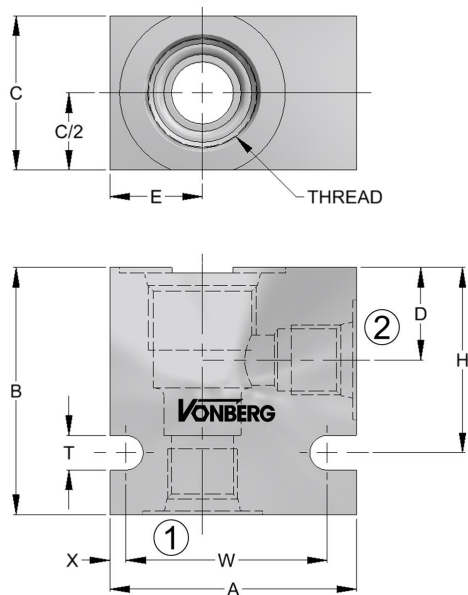
SERIES NUMBER _____
 RELIEF PRESSURE (PSI) _____
 100 – 3500 (PSI)* _____
 BODY PORT SIZE CODE _____
 BLANK..... CARTRIDGE ONLY
 SERIES CODE... SEE "CARTRIDGE BODIES", X-2 SERIES
* AVAILABLE IN 50 PSI INCREMENTS 100-3500 PSI

| MODEL | THREAD | FLOW CAPACITY | CAVITY | L1 | L2 | HEX | A | TORQUE |
|-------|----------|---------------|--------|------|------|------|---------------|-----------|
| 49045 | 3/4 - 16 | 6.0 GPM | 8-2 | 1.00 | 3.09 | 0.88 | 0.495 / 0.497 | 20 ft-lbs |

CARTRIDGE BODIES



PRODUCT



DESCRIPTION

STANDARD 2 WAY CARTRIDGE BODY FOR INDUSTRY COMMON CAVITIES WITH O-RING PORTS CONFORMING TO SAE J1926.

OPERATION

- FLOW DIRECTION IS DEPENDENT ON VALVE TO BE INSTALLED, CONSULT CARTRIDGE VALVE LITERATURE.

FEATURES

- TO ORDER A CARTRIDGE VALVE IN A BODY AS AN ASSEMBLY, ADD THE PORT DESIGNATOR DIGITS OF THE BODY PART NUMBER TO THE END OF THE CARTRIDGE VALVE NUMBER. EXAMPLE: 1810-3P
- CONSULT FACTORY FOR AVAILABILITY OF ALTERNATE MATERIALS.
- MANY PORT SIZE AND THREAD OPTIONS AVAILABLE.
- STANDARD BODIES ARE ALUMINUM

SPECIFICATIONS

| | |
|-------------------|--------------------|
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

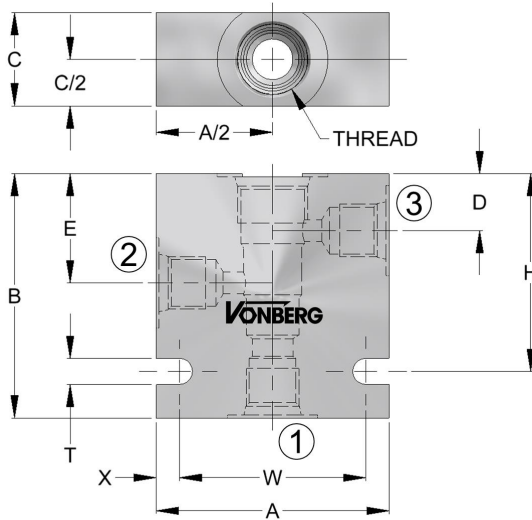
CAVITY SIZE _____
 CAVITY TYPE _____
 (1) & (2) PORT DESIGNATOR _____

X - 2 - XX

| PORT | SIZE | CAVITY → | 4 | 6 | 8 | 10 | 12 | 16 |
|------|------|----------|---|---|---|----|----|----|
| 2P | 1/4" | NPTF | | | | | | |
| 3P | 3/8" | | | | | | | |
| 4P | 1/2" | | | | | | | |
| 6P | 3/4" | | | | | | | |
| 8P | 1" | SAE | | | | | | |
| 4T | -04 | | | | | | | |
| 6T | -06 | | | | | | | |
| 8T | -08 | | | | | | | |
| 10T | -10 | | | | | | | |
| 12T | -12 | | | | | | | |
| 16T | -16 | | | | | | | |

| MODEL | THREAD | A | B | C | D | E | H | T | W | X |
|-------|-------------|------|------|------|------|------|------|------|------|------|
| 4-2 | 7/16 - 20 | 1.50 | 1.50 | 0.75 | 0.55 | 0.60 | 1.25 | 0.20 | 1.25 | 0.13 |
| 6-2 | 9/16 - 18 | 1.75 | 1.75 | 1.00 | 0.55 | 0.70 | 1.25 | 0.28 | 1.38 | 0.19 |
| 8-2 | 3/4 - 16 | 2.00 | 2.00 | 1.00 | 0.60 | 0.75 | 1.50 | 0.28 | 1.63 | 0.13 |
| 10-2 | 7/8 - 14 | 2.00 | 2.00 | 1.25 | 0.75 | 0.75 | 1.50 | 0.28 | 1.63 | 0.13 |
| 12-2 | 1 1/16 - 12 | 3.00 | 3.00 | 2.00 | 1.06 | 1.13 | 2.25 | 0.34 | 2.56 | 0.16 |
| 16-2 | 1 5/16 - 12 | 3.00 | 3.00 | 2.00 | 1.00 | 1.13 | 2.25 | 0.34 | 2.56 | 0.16 |

PRODUCT



DESCRIPTION

STANDARD 3 WAY CARTRIDGE BODY FOR INDUSTRY COMMON CAVITIES WITH NPTF PORTS OR O-RING PORTS CONFORMING TO SAE J1926.

OPERATION

- FLOW DIRECTION IS DEPENDENT ON VALVE TO BE INSTALLED, CONSULT CARTRIDGE VALVE LITERATURE.

FEATURES

- CONSULT FACTORY FOR AVAILABILITY OF ALTERNATE MATERIALS.
- STANDARD BODIES ARE ALUMINUM
- TO ORDER A CARTRIDGE VALVE IN A BODY AS AN ASSEMBLY, ADD THE PORT DESIGNATOR DIGITS OF THE BODY PART NUMBER TO THE END OF THE CARTRIDGE VALVE NUMBER. EXAMPLE: 1710-2P
- MANY PORT SIZE AND THREAD OPTIONS AVAILABLE.

SPECIFICATIONS

PRESSURE RANGE 50 PSI TO 3500 PSI

TEMPERATURE RANGE 250°F TO -40°F

ORDERING INFORMATION

CAVITY SIZE X - 3 - XX X
 CAVITY TYPE _____
 PORT DESIGNATOR _____

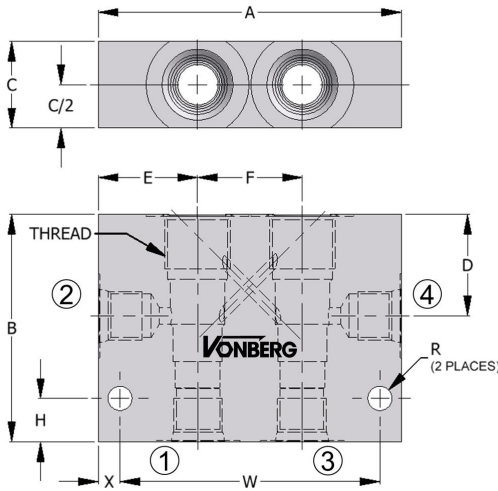
| PORT | SIZE | CAVITY → | 6 | 8 | 10 | 12 | 16 |
|------|------|----------|---|---|----|----|----|
| 2P | 1/4" | NPTF | | | | | |
| 3P | 3/8" | | | | | | |
| 4P | 1/2" | | | | | | |
| 6P | 3/4" | | | | | | |
| 8P | 1" | | | | | | |
| 4T | -.04 | SAE | | | | | |
| 6T | -.06 | | | | | | |
| 8T | -.08 | | | | | | |
| 10T | -.10 | | | | | | |
| 12T | -.12 | | | | | | |
| 16T | -.16 | | | | | | |

PORT (3) INDICATOR _____
 BLANK..... ALL PORTS SAME SIZE
 C..... 1/4" NPTF OR -.06 SAE* AT PORT (3)

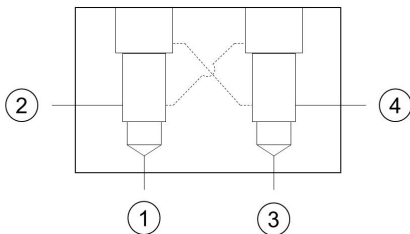
* -.04 SAE PORT IF 6T

| MODEL | THREAD | A | B | C | D | E | H | T | W | X |
|----------|-------------|------|------|------|------|------|------|------|------|------|
| 6-3-XX | 9/16 - 18 | 2.00 | 2.00 | 1.00 | 0.55 | 0.95 | 1.75 | 0.20 | 1.75 | 0.13 |
| 8-3-XX | 3/4 - 16 | 2.50 | 2.62 | 1.00 | 0.60 | 1.17 | 2.12 | 0.28 | 2.00 | 0.25 |
| 8-3S-XX | 3/4 - 16 | 2.50 | 2.50 | 1.00 | 0.51 | 1.06 | 2.00 | 0.28 | 2.00 | 0.25 |
| 10-3-XX | 7/8 - 14 | 2.50 | 2.62 | 1.25 | 0.75 | 1.36 | 2.12 | 0.28 | 2.00 | 0.25 |
| 10-3S-XX | 7/8 - 14 | 2.50 | 2.62 | 1.25 | 0.59 | 1.25 | 2.12 | 0.28 | 2.00 | 0.25 |
| 12-3-XX | 1 1/16 - 12 | 4.00 | 4.00 | 2.00 | 1.15 | 2.12 | 3.25 | 0.34 | 3.62 | 0.19 |
| 12-3S-XX | 1 1/16 - 12 | 3.25 | 3.50 | 1.50 | 0.91 | 1.66 | 3.00 | 0.34 | 2.50 | 0.38 |
| 16-3-XX | 1 5/16 - 12 | 4.00 | 4.00 | 2.00 | 1.00 | 2.12 | 3.25 | 0.34 | 3.62 | 0.19 |

PRODUCT



SCHEMATIC



DESCRIPTION

STANDARD 3 WAY DUAL CARTRIDGE BODY WITH CROSS-PILOTED INDUSTRY COMMON CAVITIES, WITH NPTF PORTS OR O-RING PORTS CONFORMING TO SAE J1926.

OPERATION

- FLOW DIRECTION IS DEPENDENT ON VALVE TO BE INSTALLED, CONSULT CARTRIDGE VALVE LITERATURE.

FEATURES

- STANDARD BODIES ARE ALUMINUM
- CONSULT FACTORY FOR AVAILABILITY OF ALTERNATE MATERIALS.
- TO ORDER A CARTRIDGE VALVE IN A BODY AS AN ASSEMBLY, ADD THE PORT DESIGNATOR DIGITS OF THE BODY PART NUMBER TO THE END OF THE CARTRIDGE VALVE NUMBER. EXAMPLE: 5008-3-3000-D8T
- MANY PORT SIZE AND THREAD OPTIONS AVAILABLE.

SPECIFICATIONS

| | |
|-------------------|--------------------|
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

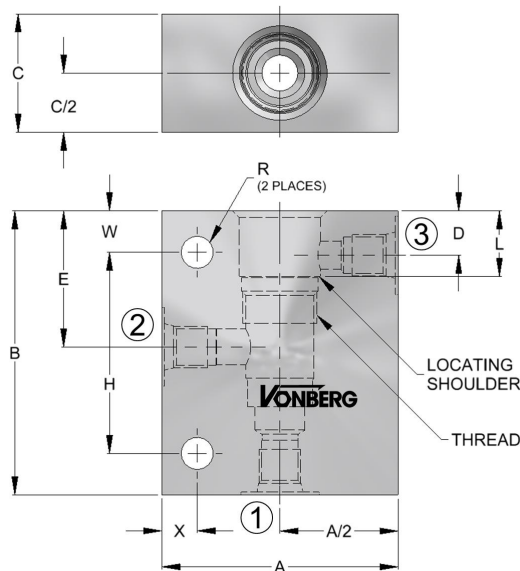
ORDERING INFORMATION

X - 3 - D XX
 CAVITY SIZE _____
 CAVITY TYPE _____
 PORT DESIGNATOR _____

| PORT | SIZE | CAVITY → | 6 | 8 | 10 | 12 | 16 |
|------|------|----------|---|---|----|----|----|
| 2P | 1/4" | NPTF | | | | | |
| 3P | 3/8" | | | | | | |
| 4P | 1/2" | | | | | | |
| 6P | 3/4" | | | | | | |
| 8P | 1" | | | | | | |
| 4T | -04 | SAE | | | | | |
| 6T | -06 | | | | | | |
| 8T | -08 | | | | | | |
| 10T | -10 | | | | | | |
| 12T | -12 | | | | | | |
| 16T | -16 | | | | | | |

| MODEL | THREAD | A | B | C | D | E | F | H | R | W | X |
|-----------|-------------|------|------|------|------|------|------|------|------|------|------|
| 6-3-DXX | 9/16 - 18 | 3.00 | 2.00 | 1.00 | 0.95 | 1.00 | 1.00 | 0.38 | 0.28 | 2.50 | 0.25 |
| 8-3-DXX | 3/4 - 16 | 3.50 | 2.62 | 1.00 | 1.17 | 1.15 | 1.20 | 0.50 | 0.28 | 3.00 | 0.25 |
| 8-3S-DXX | 3/4 - 16 | 3.50 | 2.50 | 1.00 | 1.06 | 1.15 | 1.20 | 0.38 | 0.28 | 3.00 | 0.25 |
| 10-3-DXX | 7/8 - 14 | 4.00 | 2.62 | 1.25 | 1.36 | 1.33 | 1.34 | 0.50 | 0.34 | 3.00 | 0.50 |
| 10-3S-DXX | 7/8 - 14 | 4.00 | 2.62 | 1.25 | 1.25 | 1.33 | 1.34 | 0.50 | 0.34 | 3.00 | 0.50 |
| 12-3-DXX | 1 1/16 - 12 | 5.00 | 4.00 | 2.00 | 2.12 | 1.60 | 1.80 | 0.75 | 0.34 | 4.25 | 0.38 |
| 12-3S-DXX | 1 1/16 - 12 | 5.00 | 3.50 | 2.00 | 1.66 | 1.60 | 1.80 | 0.50 | 0.34 | 4.25 | 0.38 |
| 16-3-DXX | 1 5/16 - 12 | 5.50 | 4.00 | 2.00 | 2.12 | 1.75 | 2.00 | 0.75 | 0.34 | 4.75 | 0.38 |

PRODUCT



DESCRIPTION

3 WAY CARTRIDGE BODY FOR T SERIES CAVITIES WITH NPTF PORTS OR O-RING PORTS CONFORMING TO SAE J1926.

OPERATION

- FLOW DIRECTION IS DEPENDENT ON VALVE TO BE INSTALLED, CONSULT CARTRIDGE VALVE LITERATURE.

FEATURES

- MANY PORT SIZE AND THREAD OPTIONS AVAILABLE.
- STANDARD BODIES ARE ALUMINUM
- CONSULT FACTORY FOR AVAILABILITY OF ALTERNATE MATERIALS.
- TO ORDER A CARTRIDGE VALVE IN A BODY AS AN ASSEMBLY, ADD THE PORT DESIGNATOR DIGITS OF THE BODY PART NUMBER TO THE END OF THE CARTRIDGE VALVE NUMBER. EXAMPLE: 55T11-4-3000-8T

SPECIFICATIONS

| | |
|-------------------|--------------------|
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

T

XX

- XX

MANIFOLD SERIES _____
 FOR INTEGRATED MANIFOLD USE COUNTERBALANCE
 PART NUMBER WITH PORT DESIGNATOR ONLY

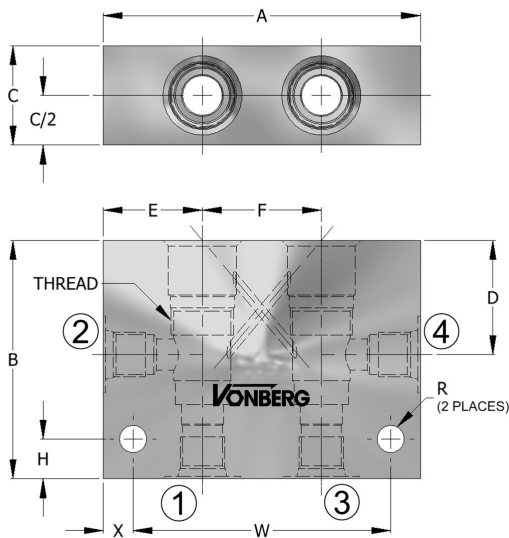
MANIFOLD DESIGNATOR _____
 163..... T-163A CAVITY 11..... T-11A CAVITY
 2 T-2A CAVITY 17..... T-17A CAVITY

PORT DESIGNATOR _____

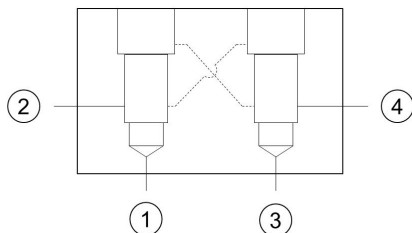
| | PORTS (1) & (2) | PORT (3) | T163 | T11 | T2 | T17 |
|-----|-----------------|----------|------|-----|----|-----|
| 2P | 1/4 NPTF | | | | | |
| 3P | 3/8 NPTF | | | | | |
| 4P | 1/2 NPTF | 1/4 NPTF | | | | |
| 6P | 3/4 NPTF | | | | | |
| 8P | 1 NPTF | | | | | |
| 4T | -.04 SAE | | | | | |
| 64T | -.06 SAE | -.04 SAE | | | | |
| 6T | -.06 SAE | | | | | |
| 8T | -.08 SAE | | | | | |
| 10T | -.10 SAE | -.06 SAE | | | | |
| 12T | -.12 SAE | | | | | |
| 16T | -.16 SAE | | | | | |

| MODEL | THREAD | A | B | C | D | E | H | R | W | X | L (MIN.) |
|---------|--------------|------|------|------|------|-------|------|------|------|------|----------|
| T163-XX | M16 X 1.5-6H | 2.00 | 3.00 | 1.00 | 0.44 | 1.27 | 2.13 | 0.28 | 0.44 | 0.28 | 0.61 |
| T11-XX | M20 X 1.5-6H | 2.50 | 3.00 | 1.25 | 0.47 | 1.44 | 2.13 | 0.34 | 0.44 | 0.38 | 0.69 |
| T2-XX | 1-14 UNS-2B | 3.00 | 3.25 | 1.50 | 0.59 | 1.50 | 2.25 | 0.42 | 0.50 | 0.50 | 0.72 |
| T17-XX | M36 X 2.0-6H | 4.00 | 4.25 | 2.25 | 0.81 | 2.125 | 2.75 | 0.42 | 0.75 | 0.75 | 0.91 |

PRODUCT



SCHEMATIC



DESCRIPTION

3 WAY DUAL CARTRIDGE BODY WITH CROSS-PILOTED T SERIES CAVITIES WITH NPTF PORTS OR O-RING PORTS CONFORMING TO SAE J1926.

OPERATION

- FLOW DIRECTION IS DEPENDENT ON VALVE TO BE INSTALLED, CONSULT CARTRIDGE VALVE LITERATURE.

FEATURES

- TO ORDER A CARTRIDGE VALVE IN A BODY AS AN ASSEMBLY, ADD THE PORT DESIGNATOR DIGITS OF THE BODY PART NUMBER TO THE END OF THE CARTRIDGE VALVE NUMBER. EXAMPLE: 55T2-3-3000-D6P
- MANY PORT SIZE AND THREAD OPTIONS AVAILABLE.
- STANDARD BODIES ARE ALUMINUM
- CONSULT FACTORY FOR AVAILABILITY OF ALTERNATE MATERIALS.

SPECIFICATIONS

| | |
|-------------------|--------------------|
| PRESSURE RANGE | 50 PSI TO 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

ORDERING INFORMATION

T

XX

-

D

XX

MANIFOLD SERIES _____
FOR INTEGRATED MANIFOLD USE COUNTERBALANCE ASSEMBLY NUMBER WITH PORT DESIGNATOR ONLY

MANIFOLD DESIGNATOR _____
 163..... T-163A CAVITY 11..... T-11A CAVITY
 2 T-2A CAVITY

PORT DESIGNATOR _____

| | ALL PORTS | T163 | T11 | T2 |
|-----|-----------|------|-----|----|
| 2P | 1/4 NPTF | | | |
| 3P | 3/8 NPTF | | | |
| 4P | 1/2 NPTF | | | |
| 6P | 3/4 NPTF | | | |
| 4T | -04 SAE | | | |
| 6T | -06 SAE | | | |
| 8T | -08 SAE | | | |
| 10T | -10 SAE | | | |
| 12T | -12 SAE | | | |

| MODEL | THREAD | A | B | C | D | E | F | H | R | X | W |
|----------|-------------|------|------|------|------|------|------|------|------|------|------|
| T163-DXX | M16X1.5-6H | 3.00 | 3.00 | 1.00 | 1.27 | 0.96 | 1.08 | 0.28 | 0.28 | 0.25 | 2.50 |
| T11-DXX | M20X1.5-6H | 4.00 | 3.00 | 1.25 | 1.44 | 1.25 | 1.50 | 0.50 | 0.34 | 0.38 | 3.25 |
| T2-DXX | 1-14 UNS-2B | 4.50 | 3.25 | 1.50 | 1.50 | 1.50 | 1.50 | 0.50 | 0.34 | 0.50 | 3.50 |

DESCRIPTION

A CARTRIDGE STYLE, 2-WAY CAVITY PLUG INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLUID FLOW IS BLOCK IN BOTH DIRECTIONS.

FEATURES

- STEEL BODY.
- BUNA O-RINGS AND BACK-UP RINGS.
- INDUSTRY COMMON CAVITY.
- ALTERNATE SEAL MATERIAL IS AVAILABLE ON REQUEST.

SPECIFICATIONS

| | |
|--------------------|----------------|
| OPERATING PRESSURE | 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

| MODEL | THREAD | CAVITY | L1 | L2 | HEX | A | TORQUE (FT-LBS.) |
|-------|-----------|--------|------|------|------|-------------|------------------|
| 9204 | 7/16-20 | VC04-2 | 0.94 | 0.19 | 0.56 | 0.277/0.278 | 10 |
| 9206 | 9/16-18 | FC06-2 | 0.84 | 0.19 | 0.69 | 0.467/0.468 | 15 |
| 9208 | 3/4-16 | VC08-2 | 1.10 | 0.30 | 0.88 | 0.495/0.497 | 20 |
| 9210 | 7/8-14 | VC10-2 | 1.25 | 0.30 | 1.00 | 0.621/0.623 | 25 |
| 9212 | 1 1/16-12 | VC12-2 | 1.81 | 0.34 | 1.25 | 0.870/0.873 | 40 |
| 9216 | 1 5/16-12 | VC16-2 | 1.75 | 0.38 | 1.50 | 1.121/1.123 | 60 |

DESCRIPTION

A CARTRIDGE STYLE, 3-WAY CAVITY PLUG INTENDED FOR BLOCKING FLUID FLOW.

OPERATION

- FLUID FLOW IS BLOCKED IN ALL DIRECTIONS.
- SPECIAL PORT CONFIGURATIONS AVAILABLE, SEE ORDERING INFORMATION.

FEATURES

- STEEL BODY.
- BUNA O-RINGS AND BACK-UP RINGS.
- INDUSTRY COMMON CAVITY.
- ALTERNATE SEAL MATERIAL IS AVAILABLE ON REQUEST.

SPECIFICATIONS

| | |
|--------------------|----------------|
| OPERATING PRESSURE | 3500 PSI |
| TEMPERATURE RANGE | 250°F TO -40°F |

| Model | Thread | Cavity | L1 | L2 | HEX | A | B | Torque (ft-lbs.) |
|-------|-------------|---------|------|------|------|-------------|-------------|------------------|
| 9304 | 7/16 - 20 | C04-3 | 1.24 | 0.30 | 0.56 | 0.309/0.310 | 0.340/0.341 | 10 |
| 9306 | 9/16 - 18 | FC06-3 | 1.23 | 0.30 | 0.69 | 0.438/0.439 | 0.467/0.468 | 15 |
| 9308 | 3/4 - 16 | VC08-3 | 1.63 | 0.30 | 0.88 | 0.558/0.560 | 0.621/0.623 | 20 |
| 9310 | 7/8 - 14 | VC10-3 | 1.85 | 0.30 | 1.00 | 0.621/0.623 | 0.683/0.685 | 25 |
| 9310S | 7/8 - 14 | VC10-S3 | 1.85 | 0.30 | 1.25 | 0.683/0.685 | 0.746/0.748 | 25 |
| 9312 | 1 1/16 - 12 | VC12-3 | 2.63 | 0.31 | 1.25 | 0.870/0.873 | 0.933/0.935 | 40 |
| 9312S | 1 1/16 - 12 | C12-3S | 2.25 | 0.31 | 1.25 | 0.870/0.873 | 0.933/0.935 | 40 |
| 9316 | 1 5/16 - 12 | VC16-3 | 2.88 | 0.38 | 1.50 | 1.058/1.060 | 1.121/1.123 | 60 |