

## General Information



## Materials

| Material                              | Ordering Number Designator | Specification                                           |
|---------------------------------------|----------------------------|---------------------------------------------------------|
| <b>Glands, Bodies, and Nuts</b>       |                            |                                                         |
| 316L stainless steel                  | Standard                   | Bar stock: ASME SA479, ASTM A276<br>Forgings: ASME A182 |
| 316L secondary remelt stainless steel | -SLV                       | Bar stock: ASME SA479, ASTM A276<br>Forgings: ASME A182 |
| <b>Gaskets</b>                        |                            |                                                         |
| Nickel                                | -NI                        | ASTM B162                                               |
| 316L stainless steel                  | Standard                   | ASTM A240, ASTM A167                                    |

\* The product is fabricated in compliance with the VS001A process specification

## Dimensions

- Dimensions are for reference only and may change without prior notice
- The D1 dimension refers to the smallest nominal inside diameter of the part

## Pressure Ratings

- Ratings are based upon tests conducted using VFS assemblies
- All ratings comply with calculations per ANSI Code for Pressure Piping B31.3
- To determine pressure ratings in accordance with ANSI B31.3, multiply psig rating by 0.94
- Ratings determined at ambient temperature

| Components | Material                              | Temperature, °F (°C) |
|------------|---------------------------------------|----------------------|
| Fittings   | 316L stainless steel                  | 1000 (537)           |
|            | 316L secondary remelt stainless steel | 1000 (537)           |
| Gaskets    | 316L stainless steel                  | 1000 (537)           |
|            | Nickel                                | 600 (315)            |

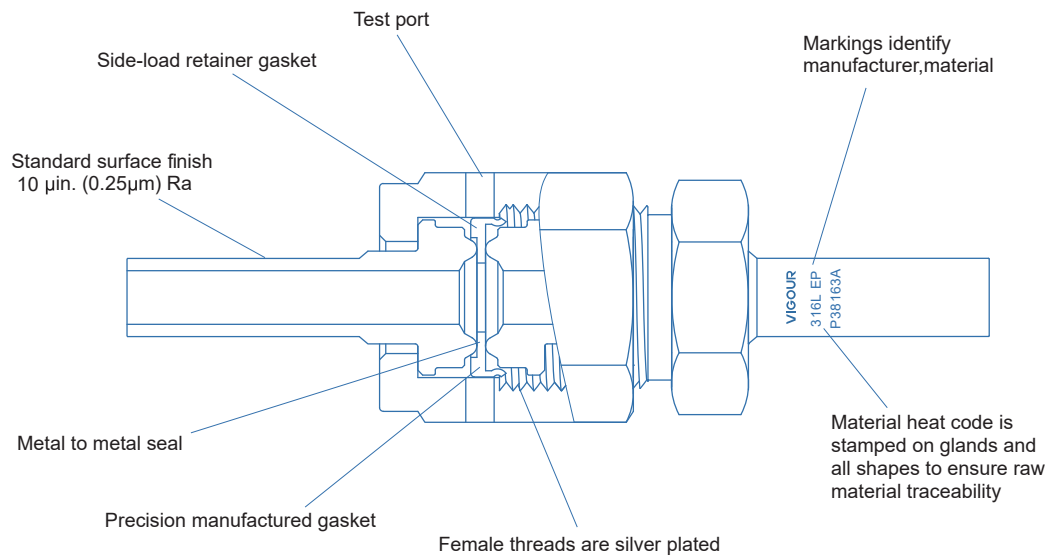
## Testing

The VFS assembly with silver plating has been helium leak tested to a rate of  $4 \times 10^{-9}$  mbar l/s He and the unplated gasket to a rate of  $4 \times 10^{-11}$  mbar l/s He without leakage.



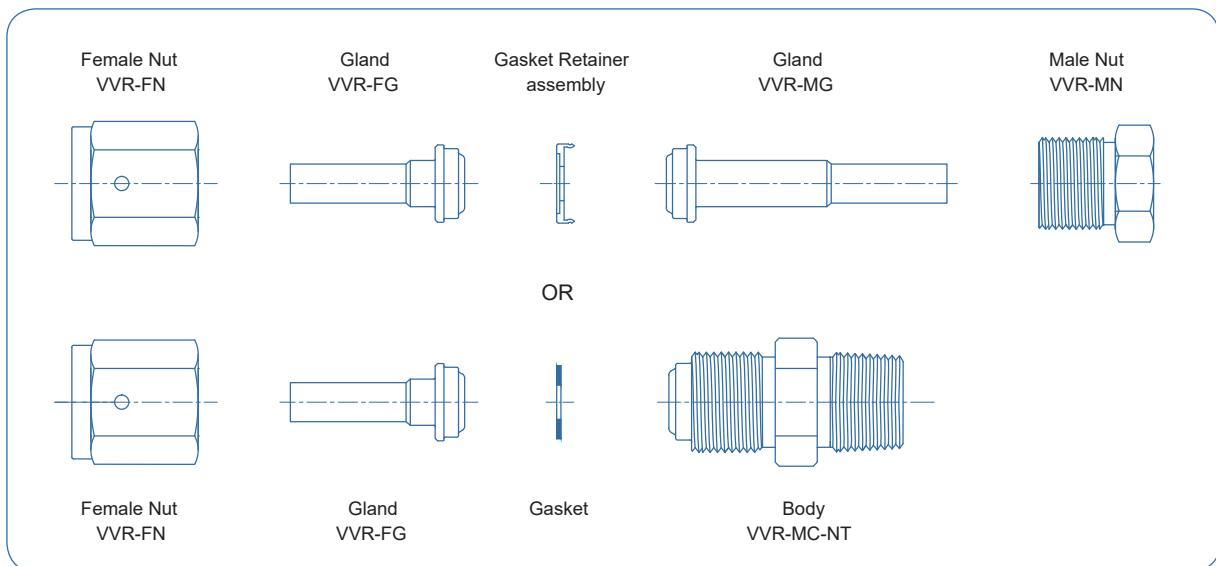
# Face Seal Fittings VVR Series

VIGOUR

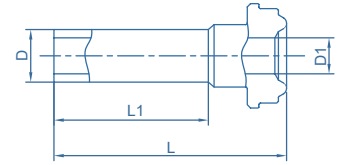


## Typical VFS Assemblies

VFS assemblies are made up of four or five basic components.



### Glands



### Short Tube Butt Weld

| D<br>Tube OD<br>in. | Wall<br>Thickness<br>in. | VFS<br>Size<br>in. | Material              | Ordering<br>Number  | Dimensions, in.(mm) |        |        | Working<br>Pressure<br>psig (bar) |
|---------------------|--------------------------|--------------------|-----------------------|---------------------|---------------------|--------|--------|-----------------------------------|
|                     |                          |                    |                       |                     | L1                  | D1     | L      |                                   |
| 1/8                 | 0.028                    | 1/8                | 316L                  | VVR-FG2-TB2 ①       | 0.75                | 0.07   | 1.08   | 8500                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG2-TB2-SLV ①   | (19.1)              | (1.8)  | (27.4) | (585)                             |
| 1/4                 | 0.035                    | 1/4                | 316L                  | VVR-FG4-TB4         | 0.75                | 0.18   | 1.10   | 5100                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG4-TB4-SLV     | (19.1)              | (4.6)  | (27.9) | (351)                             |
| 1/4                 | 0.035                    | 1/4                | 316L                  | VVR-FG4-TB4-L18     | 0.38                | 0.18   | 0.72   | 5100                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG4-TB4-L18-SLV | (9.6)               | (4.6)  | (18.3) | (351)                             |
| 1/4                 | 0.035                    | 1/4                | 316L                  | VVR-FG4-TB4-L15     | 0.25                | 0.18   | 0.60   | 5100                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG4-TB4-L15-SLV | (6.4)               | (4.6)  | (15.2) | (351)                             |
| 1/4                 | 0.035                    | 1/2                | 316L                  | VVR-FG8-TB4         | 0.75                | 0.18   | 1.12   | 4300                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG8-TB4-SLV     | (19.1)              | (4.6)  | (28.4) | (296)                             |
| 1/4                 | 0.035                    | 1/2                | 316L                  | VVR-FG8-TB4-L15     | 0.25                | 0.18   | 0.62   | 4300                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG8-TB4-L15-SLV | (19.1)              | (4.6)  | (15.7) | (296)                             |
| 1/4                 | 0.035                    | 1/2                | 316L                  | VVR-FG8-TB4-L19     | 0.75                | 0.18   | 0.76   | 4300                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG8-TB4-L19-SLV | (19.1)              | (4.6)  | (19.4) | (296)                             |
| 3/8                 | 0.035                    | 1/2                | 316L                  | VVR-FG8-TB6         | 0.75                | 0.31   | 1.12   | 3300                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG8-TB6-SLV     | (19.1)              | (7.9)  | (28.4) | (227)                             |
| 3/8                 | 0.035                    | 1/2                | 316L                  | VVR-FG8-TB6-L15     | 0.25                | 0.31   | 0.62   | 3300                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG8-TB6-L15-SLV | (6.4)               | (7.9)  | (15.7) | (227)                             |
| 1/2                 | 0.049                    | 1/2                | 316L                  | VVR-FG8-TB8         | 0.75                | 0.40   | 1.12   | 3700                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG8-TB8-SLV     | (19.1)              | (10.2) | (28.4) | (254)                             |
| 1/2                 | 0.049                    | 1/2                | 316L                  | VVR-FG8-TB8-L18     | 0.38                | 0.40   | 0.74   | 3700                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG8-TB8-L18-SLV | (9.6)               | (10.2) | (18.8) | (254)                             |
| 1/2                 | 0.049                    | 1/2                | 316L                  | VVR-FG8-TB8-L15     | 0.25                | 0.40   | 0.62   | 3700                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG8-TB8-L15-SLV | (6.4)               | (10.2) | (15.7) | (254)                             |
| 3/4                 | 0.065                    | 3/4                | 316L                  | VVR-FG12-TB12       | 0.81                | 0.62   | 1.25   | 2400                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG12-TB12-SLV   | (20.6)              | (15.7) | (32)   | (165)                             |
| 1                   | 0.065                    | 1                  | 316L                  | VVR-FG16-TB16       | 0.75                | 0.87   | 1.51   | 1900                              |
|                     |                          |                    | 316L secondary remelt | VVR-FG16-TB16-SLV   | (19.1)              | (22.1) | (38.6) | (130)                             |

① not design for gasket retainer assembly

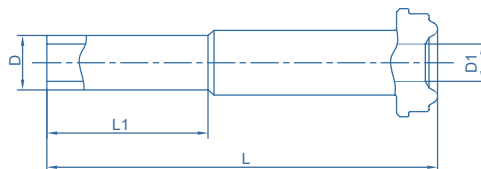
To order fittings manufactured for Surface Finish Ra(Average)<0.4 add BA to the ordering number.  
Example: VVR-FG4-TB4-BA



Dimensions are for reference only and may change without prior notice.  
The product is fabricated in compliance with the VS001A process specification.

## Glands

### Long Tube Butt Weld



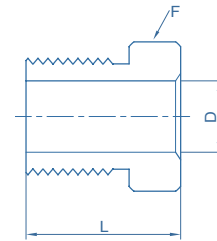
| D<br>Tube OD<br>in. | Wall<br>Thickness<br>in. | VFS<br>Size<br>in. | Material              | Ordering<br>Number  | Dimensions, in.(mm) |        |        | Working<br>Pressure<br>psig (bar) |
|---------------------|--------------------------|--------------------|-----------------------|---------------------|---------------------|--------|--------|-----------------------------------|
|                     |                          |                    |                       |                     | L1                  | D1     | L      |                                   |
| 1/8                 | 0.028                    | 1/8                | 316L                  | VVR-MG2-TB2 ①       | 0.75                | 0.07   | 1.42   | 8500                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG2-TB2-SLV ①   | (19.1)              | (1.8)  | (36.1) | (585)                             |
| 1/4                 | 0.035                    | 1/4                | 316L                  | VVR-MG4-TB4         | 0.75                | 0.18   | 1.70   | 5100                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG4-TB4-SLV     | (19.1)              | (4.6)  | (43.2) | (351)                             |
| 1/4                 | 0.035                    | 1/4                | 316L                  | VVR-MG4-TB4-L33     | 0.38                | 0.18   | 1.32   | 5100                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG4-TB4-L33-SLV | (9.6)               | (4.6)  | (33.5) | (351)                             |
| 1/4                 | 0.035                    | 1/4                | 316L                  | VVR-MG4-TB4-L30     | 0.25                | 0.18   | 1.20   | 5100                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG4-TB4-L30-SLV | (6.4)               | (4.6)  | (30.5) | (351)                             |
| 1/4                 | 0.035                    | 1/2                | 316L                  | VVR-MG8-TB4         | 0.75                | 0.18   | 1.79   | 4300                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG8-TB4-SLV     | (19.1)              | (4.6)  | (45.5) | (296)                             |
| 1/4                 | 0.035                    | 1/2                | 316L                  | VVR-MG8-TB4-L32     | 0.75                | 0.18   | 1.28   | 4300                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG8-TB4-L32-SLV | (19.1)              | (4.6)  | (32.7) | (296)                             |
| 1/4                 | 0.035                    | 1/2                | 316L                  | VVR-MG8-TB4-L37     | 0.75                | 0.18   | 1.47   | 4300                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG8-TB4-L37-SLV | (19.1)              | (4.6)  | (37.4) | (296)                             |
| 3/8                 | 0.035                    | 1/2                | 316L                  | VVR-MG8-TB6         | 0.75                | 0.31   | 1.79   | 3300                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG8-TB6-SLV     | (19.1)              | (7.9)  | (45.5) | (227)                             |
| 3/8                 | 0.035                    | 1/2                | 316L                  | VVR-MG8-TB6-L32     | 0.25                | 0.31   | 1.29   | 3300                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG8-TB6-L32-SLV | (6.4)               | (7.9)  | (32.8) | (227)                             |
| 1/2                 | 0.049                    | 1/2                | 316L                  | VVR-MG8-TB8         | 0.75                | 0.40   | 1.79   | 3500                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG8-TB8-SLV     | (19.1)              | (10.2) | (45.5) | (241)                             |
| 1/2                 | 0.049                    | 1/2                | 316L                  | VVR-MG8-TB8-L35     | 0.38                | 0.40   | 1.41   | 3500                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG8-TB8-L35-SLV | (9.6)               | (10.2) | (35.8) | (241)                             |
| 1/2                 | 0.049                    | 1/2                | 316L                  | VVR-MG8-TB8-L32     | 0.25                | 0.40   | 1.29   | 3500                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG8-TB8-L32-SLV | (6.4)               | (10.2) | (32.8) | (241)                             |
| 3/4                 | 0.065                    | 3/4                | 316L                  | VVR-MG12-TB12       | 0.75                | 0.65   | 2.03   | 2400                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG12-TB12-SLV   | (19.1)              | (16.5) | (51.6) | (165)                             |
| 1                   | 0.065                    | 1                  | 316L                  | VVR-MG16-TB16       | 0.75                | 0.87   | 2.32   | 2400                              |
|                     |                          |                    | 316L secondary remelt | VVR-MG16-TB16-SLV   | (19.1)              | (22.1) | (58.9) | (165)                             |

① not design for gasket retainer assembly

To order fittings manufactured for Surface Finish Ra(Average)<0.4 add BA to the ordering number.  
Example: VVR-MG4-TB4-BA

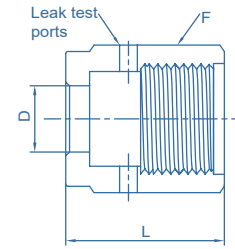


### Male Nut



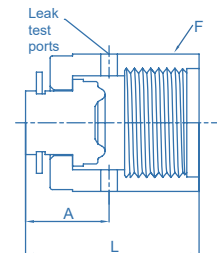
| VFS Size in. | Ordering Number | Material | F Hex Flat | Dimensions, in.(mm) |             |
|--------------|-----------------|----------|------------|---------------------|-------------|
|              |                 |          |            | L                   | D           |
| 1/8          | VVR-MN2         | 316L     | 3/8        | 0.50 (12.7)         | 0.21 (5.3)  |
| 1/4          | VVR-MN4         |          | 5/8        | 0.71 (18.0)         | 0.36 (9.1)  |
| 1/2          | VVR-MN8         |          | 15/16      | 0.81 (20.6)         | 0.61 (15.5) |
| 3/4          | VVR-MN12        |          | 1-5/16     | 1.00 (25.4)         | 0.89 (22.6) |
| 1            | VVR-MN16        |          | 1-5/8      | 1.19 (30.2)         | 1.20 (30.5) |

### Female Nut



| VFS Size in. | Ordering Number | Material | F Hex Flat | Dimensions, in.(mm) |             |
|--------------|-----------------|----------|------------|---------------------|-------------|
|              |                 |          |            | L                   | D           |
| 1/8          | VVR-FN2         | 316L     | 7/16       | 0.53 (13.5)         | 0.21 (5.3)  |
| 1/4          | VVR-FN4         |          | 3/4        | 0.81 (20.6)         | 0.36 (9.1)  |
| 1/2          | VVR-FN8         |          | 1-1/16     | 0.88 (22.4)         | 0.61 (15.5) |
| 3/4          | VVR-FN12        |          | 1-1/2      | 1.12 (28.4)         | 0.89 (22.6) |
| 1            | VVR-FN16        |          | 1-3/4      | 1.34 (34.0)         | 1.20 (30.5) |

### Cap

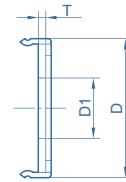


| VFS Size in. | Ordering Number | Material | F Hex Flat | Dimensions, in.(mm) |             |
|--------------|-----------------|----------|------------|---------------------|-------------|
|              |                 |          |            | L                   | A           |
| 1/8          | VVR-C2          | 316L     | 7/16       | 0.63 (16.0)         | 0.30 (7.6)  |
| 1/4          | VVR-C4          |          | 3/4        | 0.94 (23.9)         | 0.44 (11.2) |
| 1/2          | VVR-C8          |          | 1-1/16     | 1.01 (25.6)         | 0.45 (11.4) |
| 3/4          | VVR-C12         |          | 1-1/2      | 1.29 (32.8)         | 0.54 (13.7) |
| 1            | VVR-C16         |          | 1-3/4      | 1.54 (39.1)         | 0.63 (16.0) |



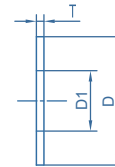
Dimensions are for reference only and may change without prior notice.  
The product is fabricated in compliance with the VS001A process specification.

## Gasket Retainer Assembly



| VFS Size in. | Ordering Number | Material | Dimensions, in.(mm) |             |             |
|--------------|-----------------|----------|---------------------|-------------|-------------|
|              |                 |          | D1                  | T           | D           |
| 1/4          | VVR-GKR-G4      | 316L     | 0.24 (6.1)          | 0.028 (0.7) | 0.50 (12.7) |
|              | VVR-GKR-G4-NI   | Nickel   |                     |             |             |
| 1/2          | VVR-GKR-G8      | 316L     | 0.44 (11.2)         | 0.028 (0.7) | 0.79 (20.1) |
|              | VVR-GKR-G8-NI   | Nickel   |                     |             |             |
| 3/4          | VVR-GKR-G12     | 316L     | 0.66 (16.8)         | 0.028 (0.7) | 1.14 (29.0) |
|              | VVR-GKR-G12-NI  | Nickel   |                     |             |             |
| 1            | VVR-GKR-G16     | 316L     | 0.89 (22.6)         | 0.028 (0.7) | 1.40 (35.6) |
|              | VVR-GKR-G16-NI  | Nickel   |                     |             |             |

## Filter Gaskets

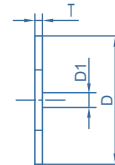


| VFS Size in. | Ordering Number | Material | Dimensions, in.(mm) |             |             |
|--------------|-----------------|----------|---------------------|-------------|-------------|
|              |                 |          | D1                  | T           | D           |
| 1/4          | VVR-GKF-G4      | 316L     | 0.22 (5.6)          | 0.028 (0.7) | 0.47 (11.9) |
|              | VVR-GKRF-G4     |          |                     |             |             |
| 1/2          | VVR-GKF-G8      | 316L     | 0.44 (11.2)         | 0.028 (0.7) | 0.78 (19.8) |
|              | VVR-GKRF-G8     |          |                     |             |             |

\* Element Nominal Pore Size (Option) : 0.5µm / 2µm / 5µm / 10µm / 20µm / 60µm

Ordering Example: VVR-GKF-G4-0.5

## Flow-limiting Gaskets

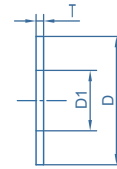


| VFS Size in. | Ordering Number       | Material | Dimensions, in.(mm) |             |             |
|--------------|-----------------------|----------|---------------------|-------------|-------------|
|              |                       |          | D1                  | T           | D           |
| 1/8          | VVR-GK-G2-O-*         | 316L     | *                   | 0.028 (0.7) | 0.26 (6.6)  |
|              | VVR-GK-G2-NI-O-*      | Nickel   |                     |             |             |
| 1/4          | VVR-GK-G4-O-*         | 316L     | *                   | 0.028 (0.7) | 0.47 (11.9) |
|              | VVR-GK-G4-NI-O-*      | Nickel   |                     |             |             |
|              | VVR-GK-G4-12.7-O-*    | 316L     |                     | 0.028 (0.7) | 0.50 (12.7) |
|              | VVR-GK-G4-12.7-NI-O-* | Nickel   |                     |             |             |
| 1/2          | VVR-GK-G8-O-*         | 316L     | *                   | 0.028 (0.7) | 0.78 (19.8) |
|              | VVR-GK-G8-NI-O-*      | Nickel   |                     |             |             |
| 3/4          | VVR-GK-G12-O-*        | 316L     | *                   | 0.028 (0.7) | 1.14 (29.0) |
|              | VVR-GK-G12-NI-O-*     | Nickel   |                     |             |             |
| 1            | VVR-GK-G16-O-*        | 316L     | *                   | 0.028 (0.7) | 1.40 (35.6) |
|              | VVR-GK-G16-NI-O-*     | Nickel   |                     |             |             |

\* Please consult the manufacturer for gasket size.

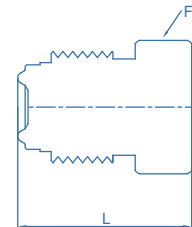


## Gaskets



| VFS<br>Size<br>in. | Ordering<br>Number | Material | Dimensions, in.(mm) |             |             |
|--------------------|--------------------|----------|---------------------|-------------|-------------|
|                    |                    |          | D1                  | T           | D           |
| 1/8                | VVR-GK-G2          | 316L     | 0.09 (2.3)          | 0.028 (0.7) | 0.26 (6.6)  |
|                    | VVR-GK-G2-NI       | Nickel   |                     |             |             |
| 1/4                | VVR-GK-G4          | 316L     | 0.22 (5.6)          | 0.028 (0.7) | 0.47 (11.9) |
|                    | VVR-GK-G4-NI       | Nickel   | 0.22 (5.6)          | 0.028 (0.7) | 0.50 (12.7) |
|                    | VVR-GK-G4-12.7     | 316L     |                     |             |             |
|                    | VVR-GK-G4-12.7-NI  | Nickel   |                     |             |             |
| 1/2                | VVR-GK-G8          | 316L     | 0.44 (11.2)         | 0.028 (0.7) | 0.78 (19.8) |
|                    | VVR-GK-G8-NI       | Nickel   |                     |             |             |
| 3/4                | VVR-GK-G12         | 316L     | 0.66 (16.8)         | 0.028 (0.7) | 1.14 (29.0) |
|                    | VVR-GK-G12-NI      | Nickel   |                     |             |             |
| 1                  | VVR-GK-G16         | 316L     | 0.89 (22.6)         | 0.028 (0.7) | 1.40 (35.6) |
|                    | VVR-GK-G16-NI      | Nickel   |                     |             |             |

## Plug



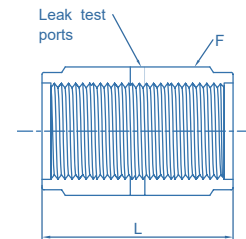
| VFS<br>Size<br>in. | Ordering<br>Number  | Material | Dimensions, in.(mm) |             |
|--------------------|---------------------|----------|---------------------|-------------|
|                    |                     |          | F<br>Hex Flat       | L           |
| 1/8                | VVR-P2 <sup>①</sup> | 316L     | 3/8                 | 0.68 (17.3) |
| 1/4                | VVR-P4 <sup>②</sup> |          | 5/8                 | 0.92 (23.4) |
| 1/2                | VVR-P8              |          | 15/16               | 1.08 (27.4) |
| 3/4                | VVR-P12             |          | 1-5/16              | 1.43 (36.3) |
| 1                  | VVR-P16             |          | 1-5/8               | 1.52 (38.6) |

① Not designed for gasket retainer assembly.

② Also available as a rotatable plug.

Ordering number: VVR-P8-R

## Coupling

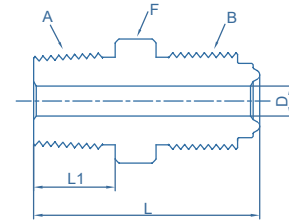


| VFS<br>Size<br>in. | Material | Ordering<br>Number | Dimensions, in.(mm) |        |
|--------------------|----------|--------------------|---------------------|--------|
|                    |          |                    | L                   | F      |
| 1/8                | 316L     | VVR-FU2            | 0.66 (16.8)         | 7/16   |
| 1/4                |          | VVR-FU4            | 1.19 (30.2)         | 3/4    |
| 1/2                |          | VVR-FU8            | 1.31 (33.3)         | 1-1/16 |
| 3/4                |          | VVR-FU12           | 1.68 (42.7)         | 1-1/2  |
| 1                  |          | VVR-FU16           | 2.04 (51.8)         | 1-3/4  |



Dimensions are for reference only and may change without prior notice.  
The product is fabricated in compliance with the VS001A process specification.

## Male NPT Connectors<sup>①</sup>

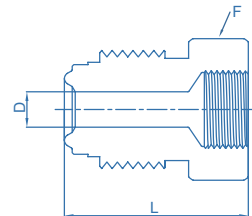


| A<br>NPT<br>Size<br>in. | B<br>VFS<br>Size<br>in. | Material | Ordering<br>Number      | Dimensions, in.(mm) |             |                         |        | Working Pressure<br>psig (bar) |            |
|-------------------------|-------------------------|----------|-------------------------|---------------------|-------------|-------------------------|--------|--------------------------------|------------|
|                         |                         |          |                         | L                   | L1          | D                       | F      | NI                             | SS         |
| 1/16                    | 1/8                     | 316L     | VVR-MC2-M1 <sup>①</sup> | 1.07 (27.2)         | 0.38 (9.6)  | 0.09 (2.3) <sup>③</sup> | 3/8    | 9000 (620)                     | 9000 (620) |
| 1/8                     | 1/8                     |          | VVR-MC2-M2 <sup>②</sup> | 1.07 (27.2)         | 0.38 (9.6)  | 0.09 (2.3) <sup>③</sup> | 7/16   | 9000 (620)                     | 9000 (620) |
| 1/8                     | 1/4                     |          | VVR-MC4-M2              | 1.31 (33.3)         | 0.38 (9.6)  | 0.18 (4.6)              | 5/8    | 10000 (689)                    | 6400 (440) |
| 1/4                     | 1/4                     |          | VVR-MC4-M4              | 1.49 (37.8)         | 0.56 (14.2) | 0.18 (4.6)              | 5/8    | 10000 (689)                    | 6400 (440) |
| 1/4                     | 1/2                     |          | VVR-MC8-M4              | 1.65 (41.9)         | 0.56 (14.2) | 0.28 (7.1) <sup>③</sup> | 15/16  | 4300 (296)                     | 2800 (192) |
| 3/8                     | 1/2                     |          | VVR-MC8-M6              | 1.65 (41.9)         | 0.56 (14.2) | 0.38 (9.6)              | 15/16  | 4300 (296)                     | 2800 (192) |
| 1/2                     | 1/2                     |          | VVR-MC8-M8              | 1.84 (46.7)         | 0.75 (19.1) | 0.4 (10.2)              | 15/16  | 4300 (296)                     | 2800 (192) |
| 3/4                     | 3/4                     |          | VVR-MC12-M12            | 2.19 (55.6)         | 0.75 (19.1) | 0.62 (15.7)             | 1-5/16 | 3700 (254)                     | 2400 (165) |
| 1                       | 1                       |          | VVR-MC16-M16            | 2.47 (62.7)         | 0.94 (23.9) | 0.87 (22.1)             | 1-5/8  | 2400 (165)                     | 3000 (206) |

- ① VFS components with fixed threads must remain stationary during installation.  
These fitting connections should be assembled only to glands with rotating male or female threaded nuts.  
② Not designed for gasket retainer assembly  
③ May contain internal diameter transitions

To order fittings manufactured for Surface finish Ra(Average)<0.4 add BA to the ordering number.  
Example: VVR-MC4-M4-BA

## Female NPT Connectors<sup>①</sup>



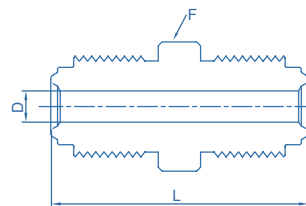
| NPT<br>Size<br>in. | VFS<br>Size<br>in. | Material | Ordering<br>Number      | Dimensions, in.(mm) |             |        | Working Pressure<br>psig (bar) |            |
|--------------------|--------------------|----------|-------------------------|---------------------|-------------|--------|--------------------------------|------------|
|                    |                    |          |                         | L                   | D           | F flat | NI                             | SS         |
| 1/16               | 1/8                | 316L     | VVR-MC2-F1 <sup>①</sup> | 1.10 (27.9)         | 0.09 (2.3)  | 7/16   | 6700 (461)                     | 6700 (461) |
| 1/8                | 1/8                |          | VVR-MC2-F2 <sup>②</sup> | 1.19 (30.2)         | 0.09 (2.3)  | 9/16   | 6500 (447)                     | 6500 (447) |
| 1/8                | 1/4                |          | VVR-MC4-F2              | 1.41 (35.8)         | 0.18 (4.6)  | 5/8    | 8000 (551)                     | 8000 (551) |
| 1/4                | 1/4                |          | VVR-MC4-F4              | 1.54 (39.1)         | 0.18 (4.6)  | 3/4    | 6600 (454)                     | 6600 (454) |
| 3/8                | 1/2                |          | VVR-MC8-F6              | 1.76 (44.7)         | 0.40 (10.2) | 15/16  | 3500 (241)                     | 4300 (296) |
| 1/2                | 1/2                |          | VVR-MC8-F8              | 1.99 (50.5)         | 0.40 (10.2) | 1-1/16 | 3500 (241)                     | 4300 (296) |
| 3/4                | 3/4                |          | VVR-MC12-F12            | 2.36 (59.9)         | 0.62 (15.7) | 1-5/16 | 3000 (206)                     | 3700 (254) |
| 1                  | 1                  |          | VVR-MC16-F16            | 2.51 (63.8)         | 0.87 (22.1) | 1-5/8  | 2400 (165)                     | 3000 (206) |

- ① VFS components with fixed threads must remain stationary during installation.  
These fitting connections should be assembled only to glands with rotating male or female threaded nuts.  
② Not designed for gasket retainer assembly

To order fittings manufactured for Surface finish Ra(Average)<0.4 add BA to the ordering number.  
Example: VVR-MC4-F4-BA



### Male Union<sup>①</sup>



| VFS Size in. | Material | Ordering Number      | Dimensions, in.(mm) |             |        | Working Pressure psig (bar) |             |
|--------------|----------|----------------------|---------------------|-------------|--------|-----------------------------|-------------|
|              |          |                      | L                   | D           | F      | NI                          | SS          |
| 1/8          | 316L     | VVR-MU2 <sup>②</sup> | 1.13 (28.7)         | 0.09 (2.3)  | 3/8    | 9000 (620)                  | 11200 (771) |
| 1/4          |          | VVR-MU4              | 1.55 (39.4)         | 0.18 (4.6)  | 5/8    | 8000 (551)                  | 10000 (689) |
| 1/2          |          | VVR-MU8              | 1.84 (46.7)         | 0.40 (10.2) | 15/16  | 3500 (241)                  | 4300 (296)  |
| 3/4          |          | VVR-MU12             | 2.44 (62.0)         | 0.62 (15.7) | 1-5/16 | 3000 (206)                  | 3700 (254)  |
| 1            |          | VVR-MU16             | 2.59 (65.8)         | 0.87 (22.1) | 1-5/8  | 2400 (165)                  | 3000 (206)  |

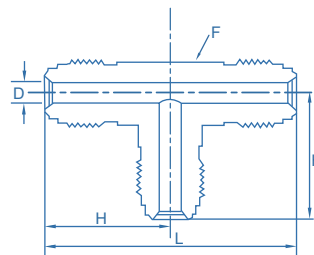
① VFS components with fixed threads must remain stationary during installation.

These fitting connections should be assembled only to glands with rotating male or female threaded nuts.

② Not designed for gasket retainer assembly

To order fittings manufactured for Surface finish Ra(Average)<0.4 add BA to the ordering number.  
Example: VVR-MU4-BA

### Male Union Tee



| VFS Size in. | Material | Ordering Number | Dimensions, in.(mm) |             |         |             | Working Pressure psig (bar) |             |
|--------------|----------|-----------------|---------------------|-------------|---------|-------------|-----------------------------|-------------|
|              |          |                 | L                   | D           | F       | H           | NI                          | SS          |
| 1/8          | 316L     | VVR-MUT-2       | 1.78 (45.2)         | 0.09 (2.3)  | 7/16    | 0.89 (22.6) | 9000 (620)                  | 11200 (771) |
| 1/4          |          | VVR-MUT-4       | 2.14 (54.4)         | 0.18 (4.6)  | 1/2     | 1.07 (27.2) | 8000 (551)                  | 10000 (689) |
| 1/2          |          | VVR-MUT-8       | 2.90 (73.7)         | 0.40 (10.2) | 13/16   | 1.45 (36.8) | 3500 (241)                  | 4300 (296)  |
| 3/4          |          | VVR-MUT-12      | 3.84 (97.5)         | 0.62 (15.7) | 1-1/4   | 1.92 (48.8) | 3000 (206)                  | 3700 (254)  |
| 1            |          | VVR-MUT-16      | 4.00 (102)          | 0.87 (22.1) | 1-11/16 | 2.00 (50.8) | 2400 (165)                  | 3000 (206)  |

To order fittings manufactured for Surface finish Ra(Average)<0.4 add BA to the ordering number.

Example: VVR-MUT-4-BA

### Fitting Lock Device

This device is intended for use on VIGOUR VFS metal gasket face seal assemblies with standard male and female nuts.



| Size in. | Material | Ordering Number |
|----------|----------|-----------------|
| 1/4      | 316L     | VVR-FLD-4       |
| 1/2      | 316L     | VVR-FLD-8       |



| Size in. | Material | Matching product | Ordering Number |
|----------|----------|------------------|-----------------|
| 1/4      | 316L     | VDV32            | VVR-FLD-DV32-4  |
|          |          | VDV33            | VVR-FLD-DV33-4  |
| 1/2      | 316L     | VDV32            | VVR-FLD-DV32-8  |
|          |          | VDV33            | VVR-FLD-DV33-8  |



Dimensions are for reference only and may change without prior notice.

The product is fabricated in compliance with the VS001A process specification.