

# VR SERIES

## THREADED POPPET COUPLERS German Screw Coupler

### The VR Series German Screw Coupler

uses a low leakage-style valve for the sealing mechanism and threads as the mechanical connection, to ensure connection with some residual pressure. The rugged design makes the VR particularly well-suited for heavy-duty service conditions and a variety of hydraulic applications, including the mobile construction and industrial fields.

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### FEATURES

**Size range:** 3/8" thru 1 1/4"

**Port options:** BSP, DIN

**Interchangeable with** German market couplings

- Internal components purposely designed to reduce turbulence
- Friction ring prevents accidental disconnection
- Various seals and wide range of ports on request

### APPLICATIONS

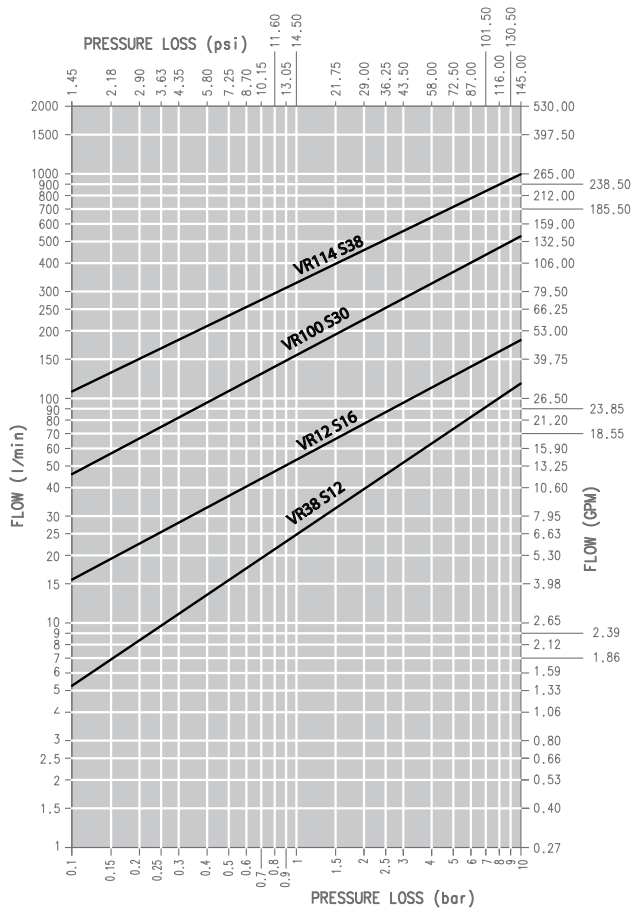
Particularly well-suited for heavy-duty service conditions

- Cover various fields of hydraulic applications
- Used in mobile cranes, trucks and industrial plant applications

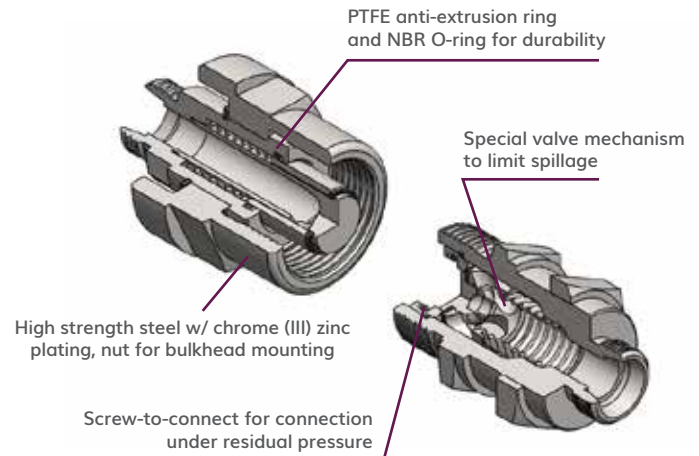




## PRESSURE DROP



OIL = ISO VG32, TEMP = 40C, VISCOSITY = 28.8-35.2 MM²/S



THREADED POPPET  
COUPLERS

## PERFORMANCE

| DESCRIPTION | MAX. OPERATING PRESSURE |      |      |      |        |      | BURST PRESSURE |       |      |       |        |       |
|-------------|-------------------------|------|------|------|--------|------|----------------|-------|------|-------|--------|-------|
|             | COUPLED                 |      | MALE |      | FEMALE |      | COUPLED        |       | MALE |       | FEMALE |       |
|             | MPa                     | psi  | MPa  | psi  | MPa    | psi  | MPa            | psi   | MPa  | psi   | MPa    | psi   |
| VR38        | 40                      | 5800 | 20   | 2900 | 40     | 5800 | 200            | 29000 | 70   | 10150 | 100    | 14500 |
| VR12        | 30                      | 4350 | 17   | 2465 | 30     | 4350 | 200            | 29000 | 70   | 10150 | 100    | 14500 |
| VR34        | 35                      | 5075 | 20   | 2900 | 35     | 5075 | 150            | 21750 | 80   | 11600 | 100    | 14500 |
| VR100       | 30                      | 4350 | 20   | 2900 | 30     | 4350 | 120            | 17400 | 80   | 11600 | 120    | 17400 |
| VR114       | 42                      | 6090 | 42   | 6090 | 42     | 6090 | 120            | 17400 | 90   | 13050 | 100    | 14500 |

| DESCRIPTION | RATED FLOW |            |       |                     |        |                 |        |                    |        |            |
|-------------|------------|------------|-------|---------------------|--------|-----------------|--------|--------------------|--------|------------|
|             | SIZE       | RATED FLOW |       | MAX. FLOW SUGGESTED |        | CONNECT TORQUE* |        | DISCONNECT TORQUE* |        | SPILLAGE** |
|             |            | L/min      | GPM   | L/min               | GPM    | NM              | LBF FT | NM                 | LBF FT |            |
| VR38        | 3/8        | 23         | 6.10  | 46                  | 12.19  | 2               | 1.47   | 1.8                | 1.33   | 0.012      |
| VR12        | 1/2        | 45         | 11.93 | 90                  | 23.85  | 1.3             | 0.96   | 0.7                | 0.52   | 0.02       |
| VR34        | 3/4        | 106        | 28.10 | 212                 | 56.20  | 2.2             | 1.62   | 1.7                | 1.25   | 0.4        |
| VR100       | 1          | 189        | 50.11 | 378                 | 100.21 | 4.3             | 3.17   | 2.5                | 1.84   | 1          |
| VR114       | 1 1/4      | 288        | 76.35 | 576                 | 152.7  | 6.0             | 4.42   | 4.0                | 2.95   | 1          |

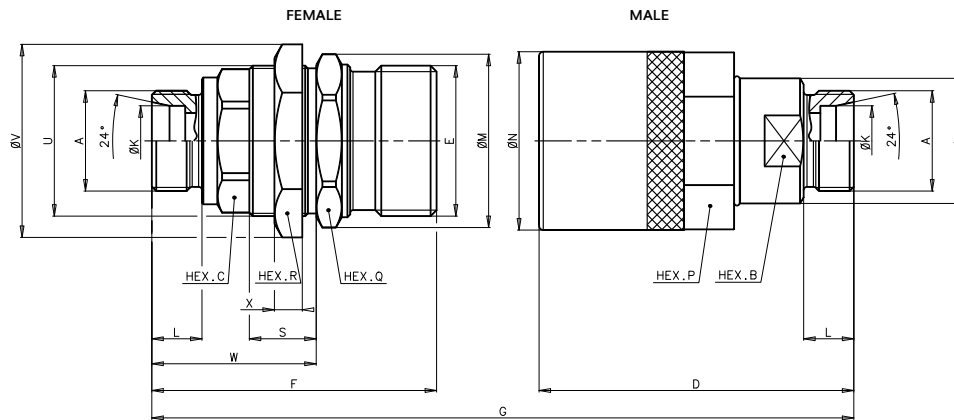
\* Connect and disconnect torque without residual pressure. Torque will increase with residual pressure.

\*\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle without residual pressure.

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### SIZE DIAGRAM DIN THREAD (LIGHT)

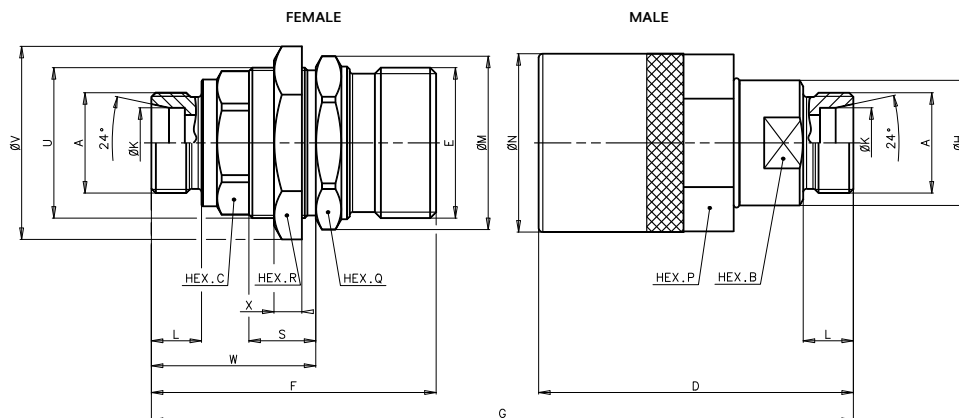


| DESCRIPTION | BODY SIZE | BG | A       | E       | U       | UNIT | HEX B | HEX C | D    | F    | G     | H    | K    |
|-------------|-----------|----|---------|---------|---------|------|-------|-------|------|------|-------|------|------|
| VR38 L10    | 3/8       | 2  | M16X1.5 | 32X3 SP | M30X1   | mm   | 22    | -     | 61.6 | 60   | 107.5 | 25   | 10.2 |
|             |           |    |         |         |         | inch | 0.87  | -     | 2.43 | 2.36 | 4.23  | 0.98 | 0.40 |
| VR38 L12    | 3/8       | 2  | M18X1.5 | 32X3 SP | M30X1   | mm   | 22    | -     | 61.6 | 60   | 107.5 | 25   | 12.2 |
|             |           |    |         |         |         | inch | 0.87  | -     | 2.43 | 2.36 | 4.23  | 0.98 | 0.48 |
| VR38 L15    | 3/8       | 2  | M22X1.5 | 32X3 SP | M30X1   | mm   | 22    | -     | 62.6 | 61   | 109.5 | 25   | 15.2 |
|             |           |    |         |         |         | inch | 0.87  | -     | 2.46 | 2.40 | 4.31  | 0.98 | 0.60 |
| VR12 L15    | 1/2       | 3  | M22X1.5 | 36X3 SP | M36X1   | mm   | 24    | -     | 71.6 | 69.7 | 123.8 | 28   | 15.2 |
|             |           |    |         |         |         | inch | 0.94  | -     | 2.82 | 2.74 | 4.87  | 1.10 | 0.60 |
| VR100 L18   | 1         | 6  | M26X1.5 | 54X4 SP | M54X1.5 | mm   | 41    | 46    | 107  | 96.2 | 174.5 | 44.9 | 18.2 |
|             |           |    |         |         |         | inch | 1.61  | 1.81  | 4.21 | 3.79 | 6.87  | 1.77 | 0.72 |
| VR100 L22   | 1         | 6  | M30X2   | 54X4 SP | M54X1.5 | mm   | 41    | 46    | 109  | 98.2 | 178.5 | 44.9 | 22.2 |
|             |           |    |         |         |         | inch | 1.61  | 1.81  | 4.29 | 3.87 | 7.03  | 1.77 | 0.87 |
| VR100 L28   | 1         | 6  | M36X2   | 54X4 SP | M54X1.5 | mm   | 41    | 46    | 109  | 98.2 | 178.5 | 44.9 | 28.2 |
|             |           |    |         |         |         | inch | 1.61  | 1.81  | 4.29 | 3.87 | 7.03  | 1.77 | 1.11 |

| DESCRIPTION | BODY SIZE | BG | L    | M    | N    | HEX P | HEX Q | HEX R | S     | V     | W    | X    |
|-------------|-----------|----|------|------|------|-------|-------|-------|-------|-------|------|------|
| VR38 L10    | 3/8       | 2  | 11   | 41.4 | 38.7 | 32    | 36    | 36    | 19    | 41.4  | 36   | 7    |
|             |           |    | 0.43 | 1.63 | 1.52 | 1.26  | 1.42  | 1.52  | 1.26  | 1.42  | 1.42 | 0.75 |
| VR38 L12    | 3/8       | 2  | 11   | 41.4 | 38.7 | 32    | 36    | 36    | 19    | 41.4  | 36   | 7    |
|             |           |    | 0.43 | 1.63 | 1.52 | 1.26  | 1.42  | 1.52  | 1.26  | 1.42  | 1.42 | 0.75 |
| VR38 L15    | 3/8       | 2  | 12   | 41.4 | 38.7 | 32    | 36    | 36    | 19    | 41.4  | 37   | 7    |
|             |           |    | 0.47 | 1.63 | 1.52 | 1.26  | 1.42  | 1.52  | 1.26  | 1.42  | 1.42 | 0.75 |
| VR12 L15    | 1/2       | 3  | 12   | 47.2 | 54   | 46    | 41    | 41    | 22.4  | 47.15 | 40.1 | 8    |
|             |           |    | 0.47 | 1.86 | 2.13 | 1.81  | 1.61  | 2.13  | 1.81  | 1.61  | 1.61 | 0.88 |
| VR100 L18   | 1         | 6  | 12   | 62.2 | 64   | 55    | 55    | 60    | 22.75 | 69    | 53   | 10   |
|             |           |    | 0.47 | 2.45 | 2.52 | 2.17  | 2.17  | 2.52  | 2.17  | 2.17  | 2.36 | 0.90 |
| VR100 L22   | 1         | 6  | 14   | 62.2 | 64   | 55    | 55    | 60    | 22.75 | 69    | 55   | 10   |
|             |           |    | 0.55 | 2.45 | 2.52 | 2.17  | 2.17  | 2.52  | 2.17  | 2.17  | 2.36 | 0.90 |
| VR100 L28   | 1         | 6  | 14   | 62.2 | 64   | 55    | 55    | 60    | 22.75 | 69    | 55   | 10   |
|             |           |    | 0.55 | 2.45 | 2.52 | 2.17  | 2.17  | 2.52  | 2.17  | 2.17  | 2.36 | 0.90 |



## SIZE DIAGRAM DIN THREAD (HEAVY)



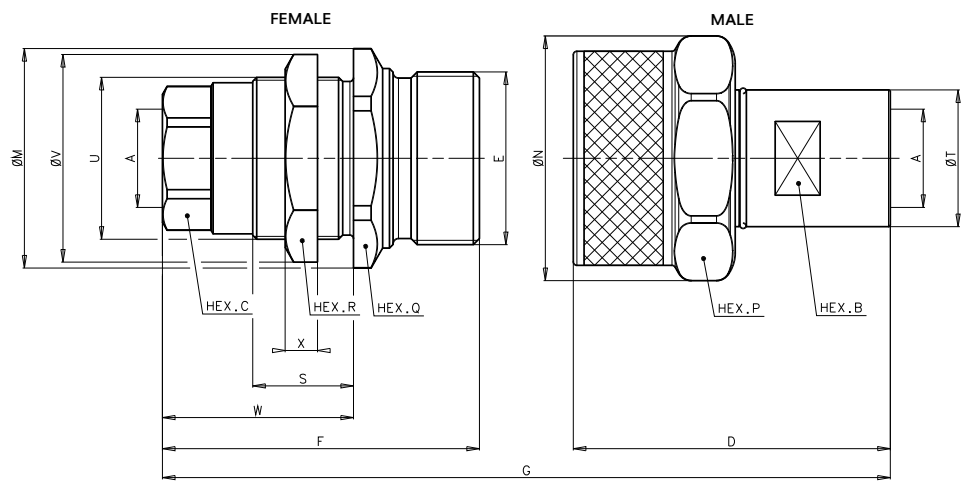
| DESCRIPTION | BODY SIZE | BG | A       | E       | U       | UNIT | HEX B | HEX C | D     | F     | G     | H    | K    |
|-------------|-----------|----|---------|---------|---------|------|-------|-------|-------|-------|-------|------|------|
| VR38 S10    | 3/8       | 2  | M18X1.5 | 32X3 SP | M30X1   | mm   | -     | -     | -     | 61    | -     | -    | 12   |
|             |           |    |         |         |         | inch | -     | -     | -     | 2.40  | -     | -    | 0.47 |
| VR38 S12    | 3/8       | 2  | M20X1.5 | 32X3 SP | M30X1   | mm   | 22    | -     | 62.6  | 61    | 109.5 | 25   | 12   |
|             |           |    |         |         |         | inch | 0.87  | -     | 2.46  | 2.40  | 4.31  | 0.98 | 0.47 |
| VR38 S14    | 3/8       | 2  | M22X1.5 | 32X3 SP | M30X1   | mm   | 22    | -     | 64.6  | 63    | 113.5 | 25   | 14   |
|             |           |    |         |         |         | inch | 0.87  | -     | 2.54  | 2.48  | 4.47  | 0.98 | 0.55 |
| VR12 S16    | 1/2       | 3  | M24X1.5 | 36X3 SP | M36X1   | mm   | 24    | -     | 73.6  | 71.7  | 127.8 | 28   | 14   |
|             |           |    |         |         |         | inch | 0.94  | -     | 2.90  | 2.82  | 5.03  | 1.10 | 0.55 |
| VR100 S20   | 1         | 6  | M30X2   | 54X4 SP | M54X1.5 | mm   | 41    | 46    | 111   | 100.2 | 182.5 | 44.9 | 16   |
|             |           |    |         |         |         | inch | 1.61  | 1.81  | 4.37  | 3.94  | 7.19  | 1.77 | 0.63 |
| VR100 S25   | 1         | 6  | M36X2   | 54X4 SP | M54X1.5 | mm   | 41    | 46    | 113   | 102.2 | 186.5 | 44.9 | 18   |
|             |           |    |         |         |         | inch | 1.61  | 1.81  | 4.45  | 4.02  | 7.34  | 1.77 | 0.71 |
| VR100 S30   | 1         | 6  | M42X2   | 54X4 SP | M54X1.5 | mm   | 41    | 46    | 115   | 104.2 | 190.5 | 44.9 | 20   |
|             |           |    |         |         |         | inch | 1.61  | 1.81  | 4.53  | 4.10  | 7.50  | 1.77 | 0.79 |
| VR114 S38   | 1 1/4     | 8  | M52X2   | 79X4 SP | M80X2   | mm   | 55    | 55    | 136.4 | 129   |       | 60.8 | 22   |
|             |           |    |         |         |         | inch | 2.17  | 2.17  | 5.37  | 5.08  | 8.86  | 2.39 | 0.87 |

| DESCRIPTION | BODY SIZE | BG | L    | M    | N    | HEX P | HEX Q | HEX R | S     | V     | W    | X    |
|-------------|-----------|----|------|------|------|-------|-------|-------|-------|-------|------|------|
| VR38 S10    | 3/8       | 2  | 41.4 | 41.4 | -    | -     | 36    | 36    | 19    | 41.4  | 37   | 7    |
|             |           |    | 1.63 | 1.63 | -    | -     | 1.42  | 1.42  | 0.75  | 1.63  | 1.46 | 0.28 |
| VR38 S12    | 3/8       | 2  | 41.4 | 41.4 | 38.7 | 32    | 36    | 36    | 19    | 41.4  | 37   | 7    |
|             |           |    | 1.63 | 1.63 | 1.52 | 1.26  | 1.42  | 1.42  | 0.75  | 1.63  | 1.46 | 0.28 |
| VR38 S14    | 3/8       | 2  | 41.4 | 41.4 | 38.7 | 32    | 36    | 36    | 19    | 41.4  | 39   | 7    |
|             |           |    | 1.63 | 1.63 | 1.52 | 1.26  | 1.42  | 1.42  | 0.75  | 1.63  | 1.54 | 0.28 |
| VR12 S16    | 1/2       | 3  | 47.2 | 47.2 | 54   | 46    | 41    | 41    | 22.4  | 47.15 | 42.1 | 8    |
|             |           |    | 1.86 | 1.86 | 2.13 | 1.81  | 1.61  | 1.61  | 0.88  | 1.86  | 1.66 | 0.31 |
| VR100 S20   | 1         | 6  | 62.2 | 62.2 | 64   | 55    | 55    | 60    | 22.75 | 69    | 57   | 10   |
|             |           |    | 2.45 | 2.45 | 2.52 | 2.17  | 2.17  | 2.36  | 0.90  | 2.72  | 2.24 | 0.39 |
| VR100 S25   | 1         | 6  | 62.2 | 62.2 | 64   | 55    | 55    | 60    | 22.75 | 69    | 59   | 10   |
|             |           |    | 2.45 | 2.45 | 2.52 | 2.17  | 2.17  | 2.36  | 0.90  | 2.72  | 2.32 | 0.39 |
| VR100 S30   | 1         | 6  | 62.2 | 62.2 | 64   | 55    | 55    | 60    | 22.75 | 69    | 61   | 10   |
|             |           |    | 2.45 | 2.45 | 2.52 | 2.17  | 2.17  | 2.36  | 0.90  | 2.72  | 2.40 | 0.39 |
| VR114 S38   | 1 1/4     | 8  | 90   | 90   | 89.7 | -     | 85    | 90,5* | 35    | 100   | 71   | 14   |
|             |           |    | 3.54 | 3.54 | 3.53 | -     | 3.35  | 3,56* | 1.38  | 3.94  | 2.80 | 0.55 |

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THREADED POPPET COUPLERS German Screw Coupler

SIZE DIAGRAM DIN THREAD (LIGHT)



| DESCRIPTION | BODY SIZE | BG | A      | E        | U       | UNIT | HEX B | HEX C | D    | F    | G     | M    |
|-------------|-----------|----|--------|----------|---------|------|-------|-------|------|------|-------|------|
| VR34 BSP    | 3/8       | 4  | G 3/4" | M48X3 SP | M45X1.5 | mm   | 32    | 36    | 88,1 | 88,1 | 152,1 | 61   |
|             |           |    |        |          |         | inch | 1.26  | 1.42  | 3.47 | 3.47 | 5.99  | 2.40 |

| DESCRIPTION | BODY SIZE | BG | A      | N    | HEX P | HEX Q | HEX R | S    | T    | V    | W    | X    |
|-------------|-----------|----|--------|------|-------|-------|-------|------|------|------|------|------|
| VR34 BSP    | 3/8       | 4  | G 3/4" | 68   | 60    | 55    | 50    | 26.9 | 38   | 57.5 | 53.1 | 9    |
|             |           |    |        | 2.68 | 2.36  | 2.17  | 1.97  | 1.06 | 1.50 | 2.26 | 2.09 | 0.35 |



## VR DIN Thread SCHOTT (DIN Bulkhead) | Screw Poppet Interchange

| PART    | BODY SIZE | THREAD TYPE | PORT SERIES | PORT THREAD | ORDER CODE | DESCRIPTION  |
|---------|-----------|-------------|-------------|-------------|------------|--------------|
| COUPLER | 3/8       | DIN         | L           | M 16X1.5    | 809608002  | F. VR38 L10  |
| NIPPLE  | 3/8       | DIN         | L           | M 16X1.5    | 809608003  | M. VR38 L10  |
| COUPLER | 3/8       | DIN         | L           | M 18X1.5    | 809608004  | F. VR38 L12  |
| NIPPLE  | 3/8       | DIN         | L           | M 18X1.5    | 809608005  | M. VR38 L12  |
| COUPLER | 3/8       | DIN         | L           | M 22X1.5    | 809608006  | F. VR38 L15  |
| NIPPLE  | 3/8       | DIN         | L           | M 22X1.5    | 809608007  | M. VR38 L15  |
| COUPLER | 3/8       | DIN         | S           | M 18X1.5    | 809609002  | F. VR38 S10  |
| COUPLER | 3/8       | DIN         | S           | M 20X1.5    | 809609004  | F. VR38 S12  |
| NIPPLE  | 3/8       | DIN         | S           | M 20X1.5    | 809609005  | M. VR38 S12  |
| COUPLER | 3/8       | DIN         | S           | M 22X1.5    | 809609006  | F. VR38 S14  |
| NIPPLE  | 3/8       | DIN         | S           | M 22X1.5    | 809609007  | M. VR38 S14  |
| COUPLER | 3/8       | DIN         | S           | M 24X1.5    | 809609016  | F. VR38 S16  |
| NIPPLE  | 3/8       | DIN         | S           | M 24X1.5    | 809609017  | M. VR38 S16  |
| COUPLER | 1/2       | DIN         | L           | M 22X1.5    | 809608000  | F. VR12 L15  |
| NIPPLE  | 1/2       | DIN         | L           | M 22X1.5    | 809608001  | M. VR12 L15  |
| COUPLER | 1/2       | DIN         | S           | M 24X1.5    | 809609000  | F. VR12 S16  |
| NIPPLE  | 1/2       | DIN         | S           | M 24X1.5    | 809609001  | M. VR12 S16  |
| COUPLER | 3/4       | DIN         | S           | M 30X2      | 809609018  | F. VR34 S20  |
| NIPPLE  | 3/4       | DIN         | S           | M 30X2      | 809609019  | M. VR34 S20  |
| COUPLER | 1         | DIN         | L           | M 26X1.5    | 809608008  | F. VR100 L18 |
| NIPPLE  | 1         | DIN         | L           | M 26X1.5    | 809608009  | M. VR100 L18 |
| COUPLER | 1         | DIN         | L           | M 30X2      | 809608010  | F. VR100 L22 |
| NIPPLE  | 1         | DIN         | L           | M 30X2      | 809608011  | M. VR100 L22 |
| COUPLER | 1         | DIN         | L           | M 36X2      | 809608012  | F. VR100 L28 |
| NIPPLE  | 1         | DIN         | L           | M 36X2      | 809608013  | M. VR100 L28 |
| COUPLER | 1         | DIN         | S           | M 30X2      | 809609008  | F. VR100 S20 |
| NIPPLE  | 1         | DIN         | S           | M 30X2      | 809609009  | M. VR100 S20 |
| COUPLER | 1         | DIN         | S           | M 36X2      | 809609010  | F. VR100 S25 |
| NIPPLE  | 1         | DIN         | S           | M 36X2      | 809609011  | M. VR100 S25 |
| COUPLER | 1         | DIN         | S           | M 42X2      | 809609012  | F. VR100 S30 |
| NIPPLE  | 1         | DIN         | S           | M 42X2      | 809609013  | M. VR100 S30 |
| COUPLER | 1 1/4     | DIN         | S           | M 52X2      | 809609014  | F. VR114 S38 |
| NIPPLE  | 1 1/4     | DIN         | S           | M 52X2      | 809609015  | M. VR114 S38 |



Coupler



Nipple

THREADED POPPET  
COUPLERS

## VR BSP Thread

| PART    | BODY SIZE | THREAD TYPE | PORT SERIES | PORT THREAD | ORDER CODE | DESCRIPTION |
|---------|-----------|-------------|-------------|-------------|------------|-------------|
| COUPLER | 3/4       | BSP         | 3/4         | FEMALE      | 809600000  | F. VR34 BSP |
| NIPPLE  | 3/4       | BSP         | 3/4         | FEMALE      | 809600001  | M. VR34 BSP |

## VR Series Accessories Protective Caps and Plugs

| PART  | BODY SIZE | ORDER CODE      |              | MATERIAL      |
|-------|-----------|-----------------|--------------|---------------|
|       |           | PLUG FOR FEMALE | CAP FOR MALE |               |
| VR38  | 3/8       | 814900012       | 814900013    | PLASTIC - RED |
| VR12  | 1/2       | 814900014       | 814900015    | ALUMINUM      |
| VR34  | 3/4       | 814906016       | 814906017    | ALUMINUM      |
| VR100 | 1         | 814906018       | 814906019    | ALUMINUM      |
| VR114 | 1 1/4     | 814906020       | 814906021    | ALUMINUM      |