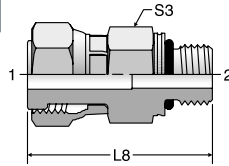


**F687OML** Full Dimensions

Swivel ISO 6149 Connector  
ORFS Swivel / ISO 6149



| TUBE<br>FITTING<br>PART # | END SIZE   |       |         | L8<br>(mm) | S3<br>HEX<br>(mm) | STANDARD<br>Dynamic<br>Pressure<br>(x 1,000 PSI) |    |
|---------------------------|------------|-------|---------|------------|-------------------|--------------------------------------------------|----|
|                           | 1          |       | 2       |            |                   | S                                                | SS |
|                           | (mm)       | (in.) | ISO 261 |            |                   |                                                  |    |
| 4M12F687OML               | 6          | 1/4   | M12x1.5 | 37         | 17                | 9.2                                              |    |
| 6M12F687OML               | 8, 10      | 3/8   | M12x1.5 | 39.2       | 19                | 9.2                                              |    |
| 6M14F687OML               | 8, 10      | 3/8   | M14x1.5 | 39.2       | 19                | 9.2                                              |    |
| 6M16F687OML               | 8, 10      | 3/8   | M16x1.5 | 43.5       | 22                | 9.2                                              |    |
| 8M16F687OML               | 12         | 1/2   | M16x1.5 | 47.8       | 22                | 9.2                                              |    |
| 10M22F687OML              | 14, 15, 16 | 5/8   | M22x1.5 | 53         | 27                |                                                  |    |
| 10M27F687OML              | 14, 15, 16 | 5/8   | M27x2   | 57         | 32                |                                                  |    |
| 12M27F687OML              | 18, 20     | 3/4   | M27x2   | 59.5       | 32                | 6.0                                              |    |
| 16M33F687OML              | 22, 25     | 1     | M33x2   | 67.5       | 41                | 6.0                                              |    |

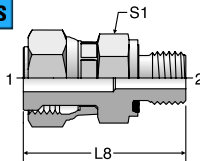
**F682EDML** Full Dimensions

Swivel Metric Connector  
ORFS Swivel / Metric-ED

| TUBE<br>FITTING<br>PART # | END SIZE   |       |         | L8<br>(mm) | S1<br>HEX<br>(mm) | STANDARD<br>Dynamic<br>Pressure<br>(x 1,000 PSI) |    |
|---------------------------|------------|-------|---------|------------|-------------------|--------------------------------------------------|----|
|                           | 1          |       | 2       |            |                   | S                                                | SS |
|                           | (mm)       | (in.) | Metric  |            |                   |                                                  |    |
| 4M12F682EDML              | 6          | 1/4   | M12x1.5 | 38.2       | 17                | 9.2                                              |    |
| 6M14F682EDML              | 8, 10      | 3/8   | M14x1.5 | 40.2       | 19                |                                                  |    |
| 8M16F682EDML              | 12         | 1/2   | M16x1.5 | 47.3       | 22                |                                                  |    |
| 10M22F682EDML             | 14, 15, 16 | 5/8   | M22x1.5 | 51.8       | 27                | 6.0                                              |    |
| 12M27F682EDML             | 18, 20     | 3/4   | M27x2   | 57.2       | 32                |                                                  |    |
| 16M33F682EDML             | 22, 25     | 1     | M33x2   | 67         | 41                | 6.0                                              |    |

**F642EDML** Full Dimensions

Swivel BSPP Connector  
ORFS Swivel / BSPP-ED

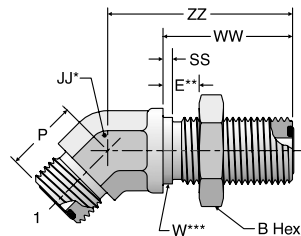


| TUBE<br>FITTING<br>PART # | END SIZE   |       |      | L8<br>(mm) | S1<br>HEX<br>(mm) | STANDARD<br>Dynamic<br>Pressure<br>(x 1,000 PSI) |    |
|---------------------------|------------|-------|------|------------|-------------------|--------------------------------------------------|----|
|                           | 1          |       | 2    |            |                   | S                                                | SS |
|                           | (mm)       | (in.) | BSPP |            |                   |                                                  |    |
| 6F642EDML                 | 8, 10      | 3/8   | 1/4  | 40.2       | 19                | 9.2                                              |    |
| 8F642EDML                 | 12         | 1/2   | 3/8  | 47.3       | 22                | 9.2                                              |    |
| 10F642EDML                | 14, 15, 16 | 5/8   | 1/2  | 51.8       | 27                | 6.0                                              |    |
| 12F642EDML                | 18, 20     | 3/4   | 3/4  | 57.2       | 32                | 6.0                                              |    |
| 16F642EDML                | 22, 25     | 1     | 1    | 67         | 46                |                                                  |    |

**WNLO** Full Dimensions

45° Bulkhead Union Elbow  
ORFS / ORFS

SAE 520801  
WNLO-WLNL - Body with Locknut  
(See [page A12](#) for WLNL)



| TUBE<br>FITTING<br>PART # | END SIZE |       | B<br>HEX<br>(in.) | E<br>MAX<br>(in.) | JJ<br>(in.) | P<br>(in.) | SS<br>(in.) | W<br>DIA<br>(in.) | WW<br>(in.) | ZZ<br>(in.) | STANDARD<br>Dynamic<br>Pressure<br>(x 1,000 PSI) |     |
|---------------------------|----------|-------|-------------------|-------------------|-------------|------------|-------------|-------------------|-------------|-------------|--------------------------------------------------|-----|
|                           | 1        | 2     |                   |                   |             |            |             |                   |             |             | -S                                               | -SS |
|                           | (in.)    | (in.) |                   |                   |             |            |             |                   |             |             |                                                  |     |
| 4 WNLO                    | 1/4      | 1/4   | 13/16             | 0.53              | 9/16        | 0.63       | 0.06        | 0.56              | 1.24        | 1.73        | 9.2                                              |     |
| 6 WNLO                    | 3/8      | 3/8   | 1                 | 0.53              | 3/4         | 0.74       | 0.06        | 0.69              | 1.34        | 1.91        | 9.2                                              |     |
| 8 WNLO                    | 1/2      | 1/2   | 1 1/8             | 0.53              | 3/4         | 0.80       | 0.06        | 0.81              | 1.44        | 2.01        | 9.2                                              |     |
| 10 WNLO                   | 5/8      | 5/8   | 1 5/16            | 0.52              | 1 1/16      | 0.92       | 0.06        | 1.00              | 1.60        | 2.23        | 6.0                                              |     |
| 12 WNLO                   | 3/4      | 3/4   | 1 1/2             | 0.50              | 1 3/16      | 1.02       | 0.06        | 1.19              | 1.64        | 2.39        | 6.0                                              |     |
| 16 WNLO                   | 1        | 1     | 1 3/4             | 0.51              | 1 7/16      | 1.18       | 0.06        | 1.44              | 1.66        | 2.56        | 6.0                                              |     |
| 20 WNLO                   | 1 1/4    | 1 1/4 | 2                 | 0.51              | 1 5/8       | 1.26       | 0.06        | 1.69              | 1.66        | 2.64        | 5.0                                              |     |
| 24 WNLO                   | 1 1/2    | 1 1/2 | 2 3/8             | 0.51              | 1 7/8       | 1.45       | 0.06        | 2.00              | 1.66        | 2.64        | 4.0                                              |     |

\* JJ – Across wrench flats.

\*\* E – Maximum bulkhead thickness.

\*\*\* W – Bulkhead pilot diameter. Recommended clearance hole is W + 0.015".

Dimensions and pressures for reference only, subject to change.

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