



# FF SERIES

## FLAT FACE COUPLERS MADE TO THE ISO 16028 STANDARD

The FF Series flat face couplers are AKJia's flagship products, known globally for their leak free performance in high pressure pulse, hammer circuits and many other applications. The flush valves eliminate spillage and air inclusion when connecting and disconnecting. Coupler and nipple bodies have a modular design with increased flexibility for end port options.

## Series FF // Carbon Steel

|                                  |   |
|----------------------------------|---|
| <b>Material</b>                  | Carbon Steel  |
| <b>Surface Finishing</b>         | Zinc-Nickel, Zinc-Plating   |
| <b>Standard Seal Material(s)</b> | NBR (Buna-N®), PTFE, <sup>2</sup>   |
| <b>Working Temperature</b>       | -25° C ... +100° C / -13° F ... +212° F   |
| <b>Valve Design</b>              | Flat Face   |
| <b>Connection</b>                | Push  |
| <b>Disconnection</b>             | Actuate Push Sleeve   |
| <b>Connect Under Pressure</b>    | not allowed   |
| <b>Application</b>               | Hammer circuits, High pressure pulse applications, Construction plant, mobile equipment, general industrial |
| <b>ISO Interchange</b>           | ISO 16028   |

<sup>2</sup> Alternative seal materials are available on request.

## Features

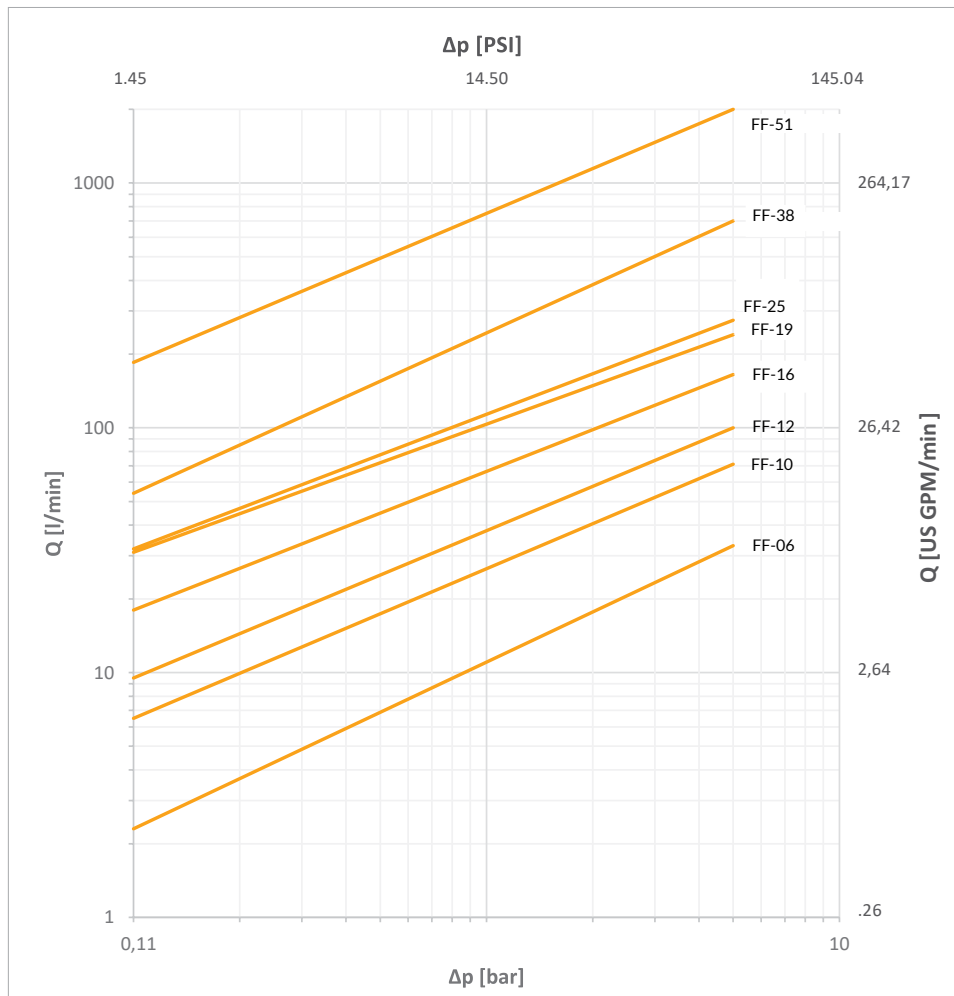
- Flush, non-spill valving
- Push to connect operation
- Global interchangeability with other ISO 16028 compliant couplings
- Standard sleeve lock guards against accidental disconnection
- Flat faces are easily wiped clean
- Flat face design prevents fluid loss during disconnection

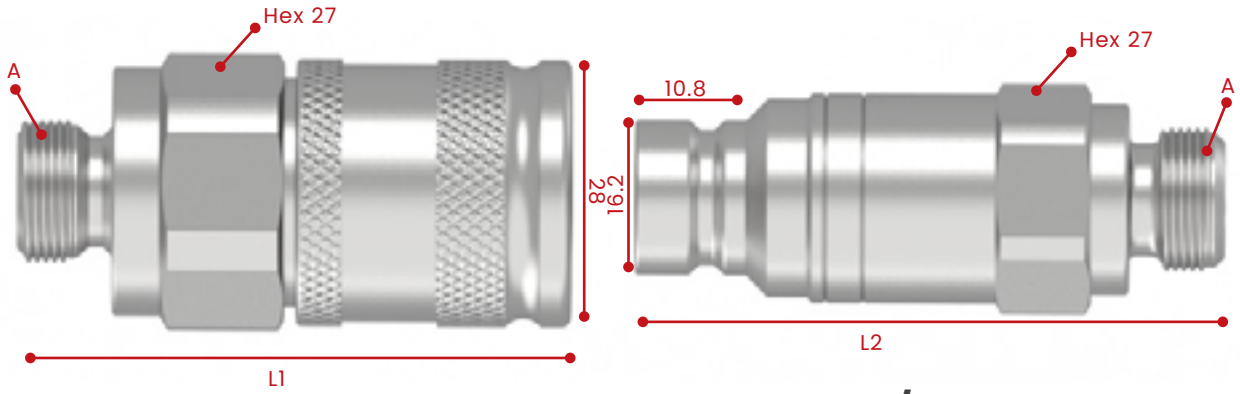
## Applications

- Hammer circuits
- High pressure pulse applications
- Leak free environments
- Construction plant
- mobile equipment
- general industrial
- nuclear
- **mining**
- agricultural industries
- oil and gas industries
- Skid loader attachments
- portable car lift
- hydraulic tools

| Series | DN<br>Inch | DN<br>Metric | Q <sub>max</sub> |        | Working<br>Pressure |      | bursting<br>pressure<br>coupled |       | female body |       | male tip |       | spillage<br>ml |
|--------|------------|--------------|------------------|--------|---------------------|------|---------------------------------|-------|-------------|-------|----------|-------|----------------|
|        |            |              | l/min            | US GPM | bar                 | psi  | bar                             | psi   | bar         | psi   | bar      | psi   |                |
| FF-06  | 1/4"       | 6,3          | 40               | 10.57  | 400                 | 5801 | 1700                            | 24656 | 1220        | 17695 | 1500     | 21756 | 0.01           |
| FF-10  | 3/8"       | 10           | 80               | 21.13  | 350                 | 5076 | 1500                            | 21756 | 1050        | 15229 | 1100     | 15954 | 0.015          |
| FF-12  | 1/2"       | 12,5         | 120              | 31.70  | 350                 | 5076 | 1200                            | 17404 | 1000        | 14504 | 1050     | 15229 | 0.02           |
| FF-16  | 5/8"       | 16           | 140              | 36.98  | 350                 | 5076 | 1200                            | 17404 | 1100        | 15954 | 1100     | 15954 | 0.02           |
| FF-19  | 3/4"       | 19           | 180              | 47.55  | 350                 | 5076 | 1450                            | 21030 | 1050        | 15229 | 1050     | 15229 | 0.032          |
| FF-25  | 1"         | 25           | 260              | 68.68  | 260                 | 3771 | 800                             | 11603 | 800         | 11603 | 800      | 11603 | 0.03           |
| FF-31  | 1 1/4"     | 31,5         | 600              | 158.50 | 300                 | 4351 | 1000                            | 14504 | 1000        | 14504 | 1000     | 14504 | 0.1            |
| FF-38  | 1 1/2"     | 38           | 1000             | 264.17 | 150                 | 2176 | 650                             | 9427  | 650         | 9427  | 700      | 10153 | 0.1            |
| FF-51  | 2"         | 51           | 2350             | 620.80 | 150                 | 2176 | 650                             | 9427  |             |       |          |       |                |

## Flow Characteristics

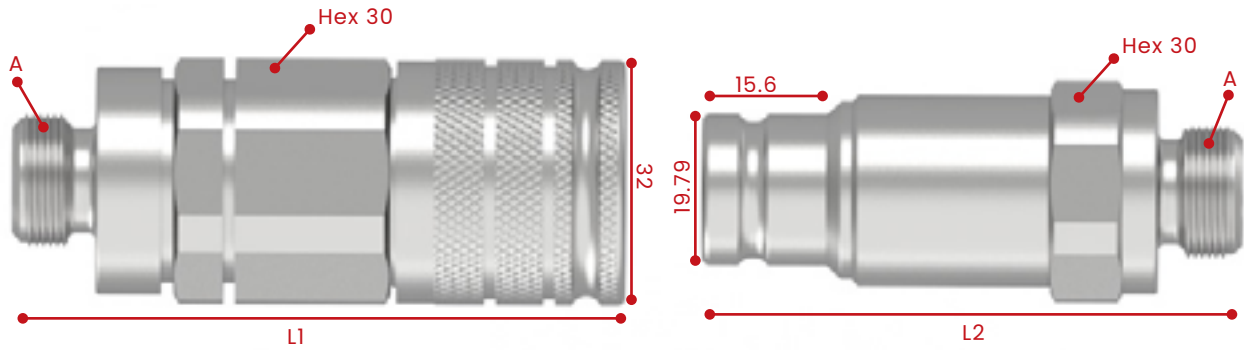




**Series FF - 06 / Nominal Size 6,3**

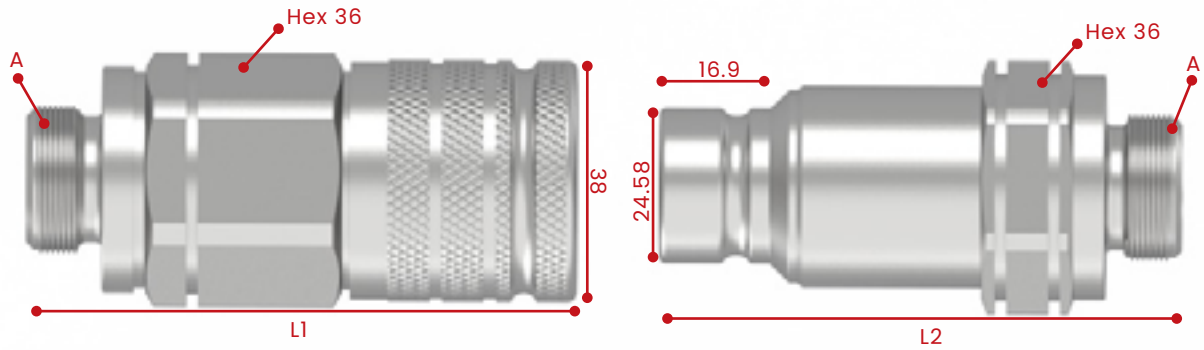
|  | Port A      | Dimensions |    |    |    | Female Body | Weight(g)      | Male Tip | Weight(g)      |     |
|--|-------------|------------|----|----|----|-------------|----------------|----------|----------------|-----|
|  |             | L1         | L2 | L3 | L4 |             |                |          |                |     |
| Female Thread According to DIN3852 - ANSI B 1.20.3 - SAE J1926-1   |             |            |    |    |    |             |                |          |                |     |
|  | G 1/4"      |            | 54 | 54 |    | 12          | FF-06 F G1/4   | 195      | FF-06 M G1/4   | 102 |
|  | NPT 1/4"-18 |            | 56 | 54 |    |             | FF-06 F NPT1/4 | 203      | FF-06 M NPT1/4 | 107 |
|  | UNF 9/16-18 |            | 54 | 55 |    | 12.8        | FF-06 F U1/4   | 193      | FF-06 M U1/4   | 103 |
| Male Thread with 24° Conical bore - according ISO8434-1            |             |            |    |    |    |             |                |          |                |     |
|  | M14x1.5     | 8L         | 58 | 62 | 10 |             | FF-06 F 8L     | 180      | FF-06 M 8L     | 113 |
|  | M16x1.5     | 10L        | 59 | 63 | 11 |             | FF-06 F 10L    | 182      | FF-06 M 10L    | 115 |
|  | M16x1.5     | 8S         | 60 | 64 | 12 |             | FF-06 F 8S     | 187      | FF-06 M 8S     | 120 |
|  | M18x1.5     | 10S        | 60 | 64 | 12 |             | FF-06 F 10S    | 189      | FF-06 M 10S    | 121 |
| Male Thread with 24° Conical bore - Bulkhead - according ISO8434-1 |             |            |    |    |    |             |                |          |                |     |
|  | M14x1.5     | 8L         | 73 | 77 | 25 |             | FF-06 F 8L BH  | 195      | FF-06 M 8L BH  | 128 |
|  | M16x1.5     | 10L        | 74 | 78 | 26 |             | FF-06 F 10L BH | 200      | FF-06 M 10L BH | 134 |
|  | M16x1.5     | 8S         | 75 | 79 | 27 |             | FF-06 F 8S BH  | 209      | FF-06 M 8S BH  | 141 |
|  | M18x1.5     | 10S        | 75 | 79 | 27 |             | FF-06 F 10S BH | 214      | FF-06 M 10S BH | 147 |

## Push To Connect



### Series FF - 10 / Nominal Size 10

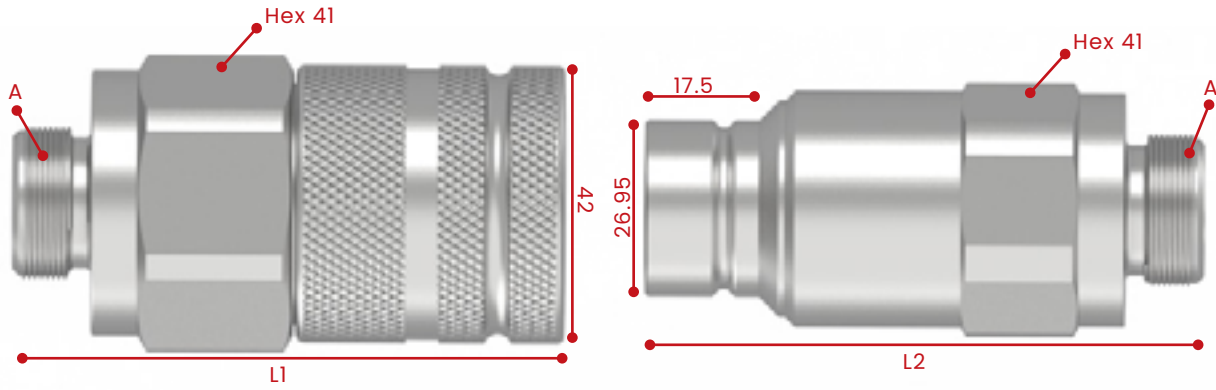
|  | Port A      | Dimensions |      |      |      | Female Body    | Weight(g) | Male Tip       | Weight(g) |
|--|-------------|------------|------|------|------|----------------|-----------|----------------|-----------|
|  |             | L1         | L2   | L3   | L4   |                |           |                |           |
| Female Thread According to DIN3852 - ANSI B 1.20.3 - SAE J1926-1   |             |            |      |      |      |                |           |                |           |
|  | G 3/8"      |            | 69   | 64.9 | 14.2 | FF-10 F G3/8   | 285       | FF-10 M G3/8   | 127       |
|  | G 1/2"      |            | 69   | 64.9 | 14.2 | FF-10 F G1/2   | 270       | FF-10 M G1/2   | 121       |
|  | NPT 3/8"-18 |            | 69   | 64.9 |      | FF-10 F NPT3/8 | 287       | FF-10 M NPT3/8 | 129       |
|  | NPT 1/2"-14 |            | 70   | 62.9 |      | FF-10 F NPT1/2 | 280       | FF-10 M NPT1/2 | 137       |
|  | UNF 3/4"-16 |            | 69   | 62.9 | 14.3 | FF-10 F U3/4   | 275       | FF-10 M U3/4   | 138       |
| Male Thread with 24° Conical bore - according ISO8434-1            |             |            |      |      |      |                |           |                |           |
|  | M16x1.5     | 10L        | 80   | 70.4 | 11   | FF-10 F 10L    | 300       | FF-10 M 10L    | 147       |
|  | M18x1.5     | 12L        | 80   | 70.4 | 11   | FF-10 F 12L    | 300       | FF-10 M 12L    | 147       |
|  | M22x1.5     | 15L        | 81   | 71.4 | 12   | FF-10 F 15L    | 307       | FF-10 M 15L    | 152       |
|  | M20x1.5     | 12S        | 81   | 71.4 | 12   | FF-10 F 12S    | 309       | FF-10 M 12S    | 154       |
|  | M24x1.5     | 16S        | 83   | 73.4 | 14   | FF-10 F 16S    | 316       | FF-10 M 16S    | 159       |
| Male Thread with 24° Conical bore - Bulkhead - according ISO8434-1 |             |            |      |      |      |                |           |                |           |
|  | M16x1.5     | 10L        | 87   | 85.4 | 26   | FF-10 F 10L BH | 286       | FF-10 M 10L BH | 165       |
|  | M18x1.5     | 12L        | 87   | 85.4 | 26   | FF-10 F 12L BH | 289       | FF-10 M 12L BH | 168       |
|  | M22x1.5     | 15L        | 88   | 86.4 | 27   | FF-10 F 15L BH | 306       | FF-10 M 15L BH | 184       |
|  | M20x1.5     | 12S        | 88   | 86.4 | 27   | FF-10 F 12S BH | 308       | FF-10 M 12S BH | 186       |
|  | M24x1.5     | 16S        | 89.6 | 88.4 | 29   | FF-10 F 16S BH | 324       | FF-10 M 16S BH | 199       |



### Series FF - 12 / Nominal Size 12,5

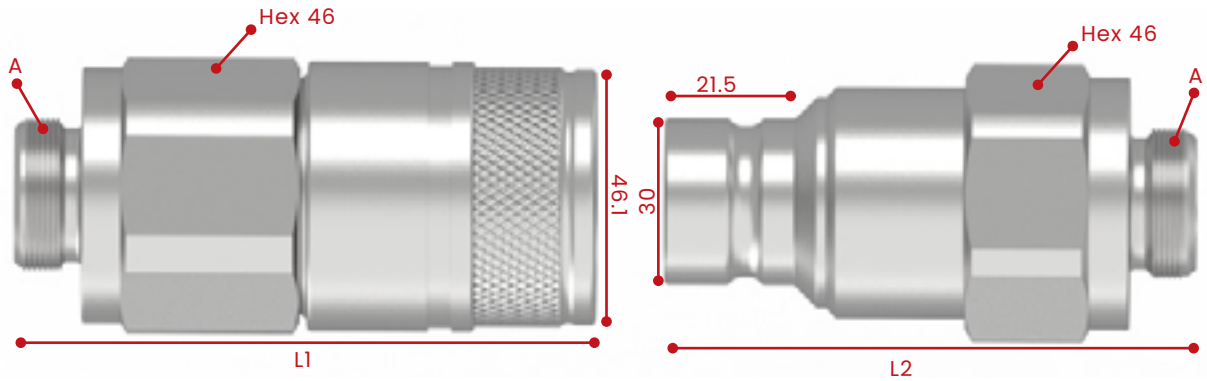
|  | Port A   | Dimensions |     |      |      | Female Body    | Weight(g) | Male Tip       | Weight(g) |
|--|--|------------|-----|------|------|----------------|-----------|----------------|-----------|
|  |  | L1         | L2  | L3   | L4   |                |           |                |           |
| Female Thread According to DIN3852 - ANSI B 1.20.3 - SAE J1926-1 |  |            |     |      |      |                |           |                |           |
|  | G 1/2"   |            | 84  | 71   | 14   | FF-12 F G1/2   | 500       | FF-12 M G1/2   | 255       |
|  | G 3/4"   |            | 84  | 72   | 18   | FF-12 F G3/4   | 466       | FF-12 M G3/4   | 235       |
|  | NPT 1/2"-14  |            | 84  | 71   |      | FF-12 F NPT1/2 | 507       | FF-12 M NPT1/2 | 260       |
|  | NPT 3/4"-14  |            | 84  | 72   |      | FF-12 F NPT3/4 | 477       | FF-12 M NPT3/4 | 241       |
|  | UNF 3/4"-16  |            | 84  | 72   | 14.3 | FF-12 F U3/4   | 509       | FF-12 M U3/4   | 263       |
|  | UNF 7/8"-14  |            | 84  | 72   | 16.7 | FF-12 F U7/8   | 490       | FF-12 M U7/8   | 253       |
|  | UN 1 1/16-12   |            | 84  | 76   | 19   | FF-12 F U12    | 456       | FF-12 M U12    | 245       |
| Male Thread with 24° Conical bore - according ISO8434-1          |  |            |     |      |      |                |           |                |           |
|  | M18x1,5  | 12L        | 86  | 81.5 | 11   | FF-12 F 12L    | 481       | FF-12 M 12L    | 277       |
|  | M22x1,5  | 15L        | 87  | 82.5 | 12   | FF-12 F 15L    | 486       | FF-12 M 15L    | 284       |
|  | M26x1,5  | 18L        | 87  | 82.5 | 12   | FF-12 F 18L    | 476       | FF-12 M 18L    | 287       |
|  | M30x2  | 22L        | 89  | 84.5 | 14   | FF-12 F 22L    | 482       | FF-12 M 22L    | 291       |
|  | M24x1,5  | 16S        | 89  | 84.5 | 14   | FF-12 F 16S    | 495       | FF-12 M 16S    | 293       |
|  | M30x2  | 20S        | 91  | 86.5 | 16   | FF-12 F 20S    | 505       | FF-12 M 20S    | 307       |
|  | Male Thread with 24° Conical bore - Bulkhead - according ISO8434-1 |            |     |      |      |                |           |                |           |
|  | M18x1,5  | 12L        | 91  | 94   | 26   | FF-12 F 12L BH | 424       | FF-12 M 12L BH | 280       |
|  | M22x1,5  | 15L        | 92  | 95   | 27   | FF-12 F 15L BH | 442       | FF-12 M 15L BH | 298       |
|  | M26x1,5  | 18L        | 92  | 95   | 27   | FF-12 F 18L BH | 457       | FF-12 M 18L BH | 313       |
|  | M30x2  | 22L        | 99  | 102  | 34   | FF-12 F 22L BH | 487       | FF-12 M 22L BH | 344       |
|  | M24x1,5  | 16S        | 94  | 97   | 29   | FF-12 F 16S BH | 455       | FF-12 M 16S BH | 316       |
|  | M30x2  | 20S        | 101 | 104  | 36   | FF-12 F 20S BH | 515       | FF-12 M 20S BH | 372       |

## Push To Connect



### Series FF - 16 / Nominal Size 16

|  | Port A       | Dimensions |     |      |    | Female Body    | Weight(g) | Male Tip       | Weight(g) |
|--|--------------|------------|-----|------|----|----------------|-----------|----------------|-----------|
|  |              | L1         | L2  | L3   | L4 |                |           |                |           |
| Female Thread According to DIN3852 - ANSI B 1.20.3 - SAE J1926-1   |              |            |     |      |    |                |           |                |           |
|  | G 3/4"       |            | 84  | 73   | 16 | FF-16 F G3/4   | 646       | FF-16 M G3/4   | 315       |
|  | G 1"         |            | 86  | 77.5 | 18 | FF-16 F G1     | 612       | FF-16 M G1     | 364       |
|  | NPT 3/4"-14  |            | 84  | 73   | 36 | FF-16 F NPT3/4 | 651       | FF-16 M NPT3/4 | 323       |
|  | UN 1 1/16-12 |            | 84  | 73   | 36 | FF-16 F U12    | 633       | FF-16 M U12    | 317       |
| Male Thread with 24° Conical bore - according ISO8434-1            |              |            |     |      |    |                |           |                |           |
|  | M22x1,5      | 15L        | 84  | 85   | 12 | FF-16 F 15L    | 588       | FF-16 M 15L    | 375       |
|  | M26x1,5      | 18L        | 84  | 85   | 12 | FF-16 F 18L    | 592       | FF-16 M 18L    | 379       |
|  | M30x2        | 22L        | 86  | 87   | 14 | FF-16 F 22L    | 597       | FF-16 M 22L    | 384       |
|  | M24x1,5      | 16S        | 86  | 87   | 14 | FF-16 F 16S    | 597       | FF-16 M 16S    | 385       |
|  | M30x2        | 20S        | 88  | 89   | 16 | FF-16 F 20S    | 613       | FF-16 M 20S    | 400       |
|  | M36x2        | 25S        | 90  | 91   | 18 | FF-16 F 25S    | 635       | FF-16 M 25S    | 483       |
| Male Thread with 24° Conical bore - Bulkhead - according ISO8434-1 |              |            |     |      |    |                |           |                |           |
|  | M22x1,5      | 15L        | 99  | 100  | 27 | FF-16 F 15L BH | 620       | FF-16 M 15L BH | 404       |
|  | M26x1,5      | 18L        | 99  | 100  | 27 | FF-16 F 18L BH | 634       | FF-16 M 18L BH | 418       |
|  | M30x2        | 22L        | 106 | 107  | 34 | FF-16 F 22L BH | 664       | FF-16 M 22L BH | 448       |
|  | M24x1,5      | 16S        | 101 | 102  | 29 | FF-16 F 16S BH | 638       | FF-16 M 16S BH | 422       |
|  | M30x2        | 20S        | 108 | 109  | 36 | FF-16 F 20S BH | 694       | FF-16 M 20S BH | 477       |
|  | M36x2        | 25S        | 110 | 111  | 38 | FF-16 F 25S BH | 746       | FF-16 M 25S BH | 591       |

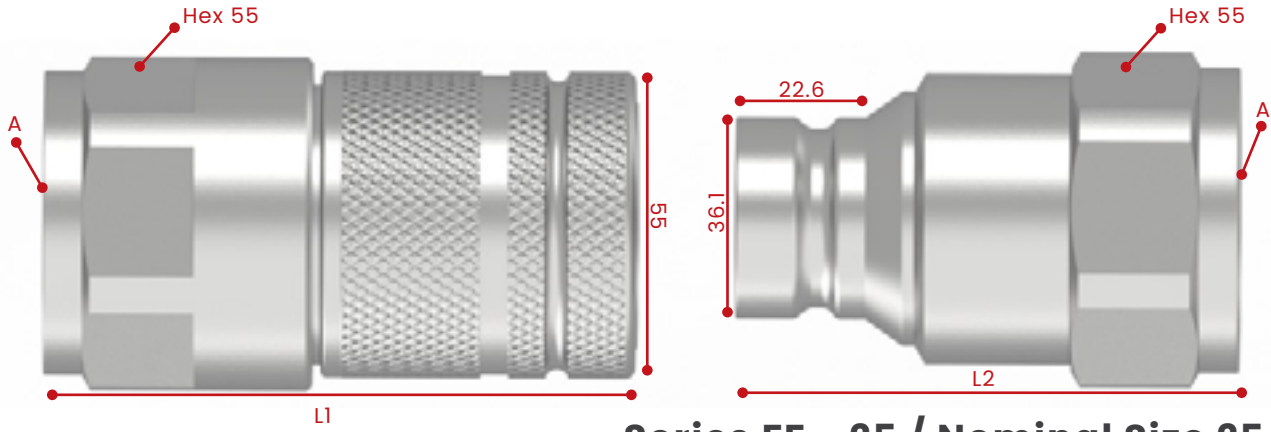


**Series FF - 19 / Nominal Size 19**

|  | Port A        | Dimensions |     |     |    | Female Body    | Weight(g) | Male Tip       | Weight(g) |
|--|---------------|------------|-----|-----|----|----------------|-----------|----------------|-----------|
|  |               | L1         | L2  | L3  | L4 |                |           |                |           |
| Female Thread According to DIN3852 - ANSI B 1.20.3 - SAE J1926-1   |               |            |     |     |    |                |           |                |           |
|  | G 3/4"        | 99         | 84  |     | 16 | FF-19 F G34    | 929       | FF-19 M G34    | 531       |
|  | G 1"          | 99         | 84  |     | 18 | FF-19 F G1     | 875       | FF-19 M G1     | 474       |
|  | NPT 3/4"-14   | 99         | 84  |     |    | FF-19 F NPT3/4 | 944       | FF-19 M NPT3/4 | 544       |
|  | NPT 1"-11 1/2 | 99         | 84  |     |    | FF-19 F NPT1   | 905       | FF-19 M NPT1   | 505       |
|  | UN 1" 1/16-12 | 99         | 84  |     | 19 | FF-19 F U12    | 931       | FF-19 M U12    | 530       |
|  | UN 1" 5/16-12 | 99         | 84  |     | 19 | FF-19 F U16    | 893       | FF-19 M U16    | 479       |
| Male Thread with 24° Conical bore - according ISO8434-1            |               |            |     |     |    |                |           |                |           |
|  | M26x1,5       | 18L        | 103 | 96  | 12 | FF-19 F 18L    | 911       | FF-19 M 18L    | 607       |
|  | M30x2         | 22L        | 105 | 98  | 14 | FF-19 F 22L    | 911       | FF-19 M 22L    | 598       |
|  | M36x2         | 28L        | 105 | 98  | 14 | FF-19 F 28L    | 903       | FF-19 M 28L    | 581       |
|  | M30x2         | 20S        | 107 | 100 | 16 | FF-19 F 20S    | 931       | FF-19 M 20S    | 625       |
|  | M36x2         | 25S        | 109 | 102 | 18 | FF-19 F 25S    | 947       | FF-19 M 25S    | 632       |
|  | M42x2         | 30S        | 111 | 104 | 20 | FF-19 F 30S    | 961       | FF-19 M 30S    | 637       |
| Male Thread with 24° Conical bore - Bulkhead - according ISO8434-1 |               |            |     |     |    |                |           |                |           |
|  | M26x1,5       | 18L        | 125 | 118 | 34 | FF-19 F 18L BH | 972       | FF-19 M 18L BH | 668       |
|  | M30x2         | 22L        | 125 | 118 | 34 | FF-19 F 22L BH | 977       | FF-19 M 22L BH | 665       |
|  | M36x2         | 28L        | 125 | 118 | 34 | FF-19 F 28L BH | 992       | FF-19 M 28L BH | 670       |
|  | M30x2         | 20S        | 129 | 120 | 36 | FF-19 F 20S BH | 1018      | FF-19 M 20S BH | 704       |
|  | M36x2         | 25S        | 129 | 124 | 38 | FF-19 F 25S BH | 1058      | FF-19 M 25S BH | 743       |
|  | M42x2         | 30S        | 131 | 124 | 38 | FF-19 F 30S BH | 1101      | FF-19 M 30S BH | 778       |

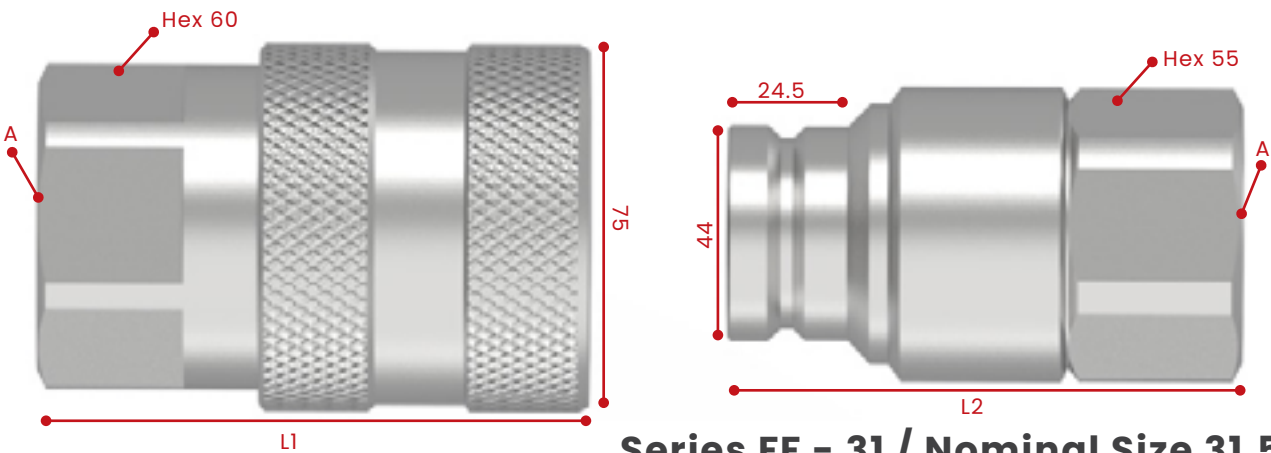


## Push To Connect



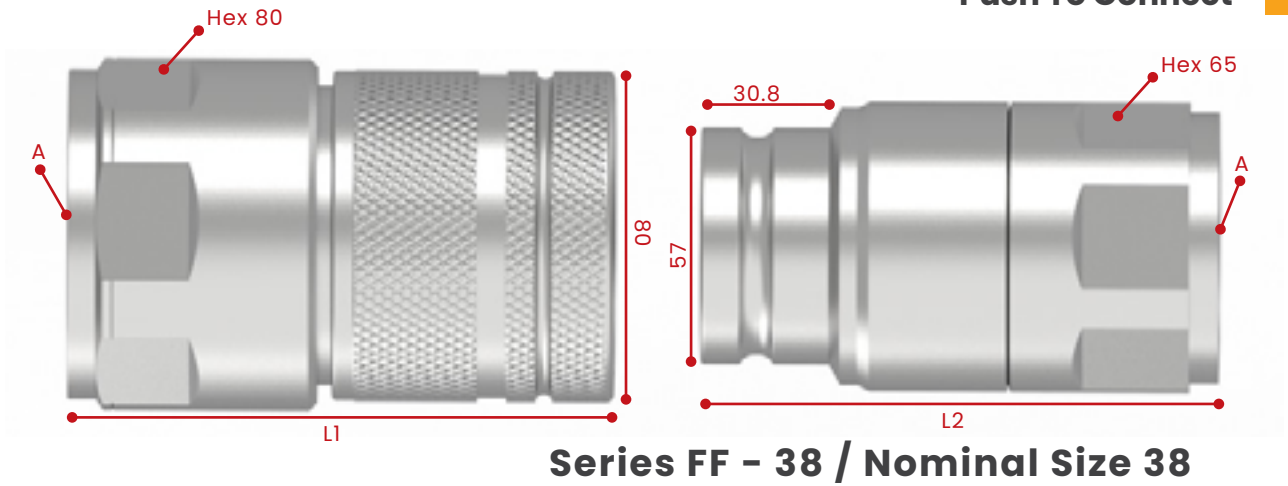
### Series FF - 25 / Nominal Size 25

|  | Port A           | Dimensions |    |    |                  | Female Body | Weight(g)        | Male Tip | Weight(g) |
|--|------------------|------------|----|----|------------------|-------------|------------------|----------|-----------|
|  |                  | L1         | L2 | L3 | L4               |             |                  |          |           |
| Female Thread According to DIN3852 - ANSI B 1.20.3 - SAE J1926-1 |                  |            |    |    |                  |             |                  |          |           |
|  | G 1"             | 106        | 90 | 18 | FF-25 F G1       | 1417        | FF-25 M G1       | 815      |           |
|  | G 1" 1/4         | 106        | 90 | 20 | FF-25 F G1 1/4   | 1301        | FF-25 M G1 1/4   | 714      |           |
|  | G 1" 1/2         | 106        | 90 | 22 | FF-25 F G1 1/2   | 1233        | FF-25 M G1 1/2   | 704      |           |
|  | NPT 1" 1/4-1 1/2 | 106        | 90 |    | FF-25 F NPT1 1/4 | 1337        | FF-25 M NPT1 1/4 | 736      |           |
|  | UN 1" 5/16-12    | 106        | 90 | 19 | FF-25 F U16      | 1405        | FF-25 M U16      | 808      |           |
|  | UN 1" 5/8-12     | 106        | 90 | 19 | FF-25 F U20      | 1321        | FF-25 M U20      | 720      |           |



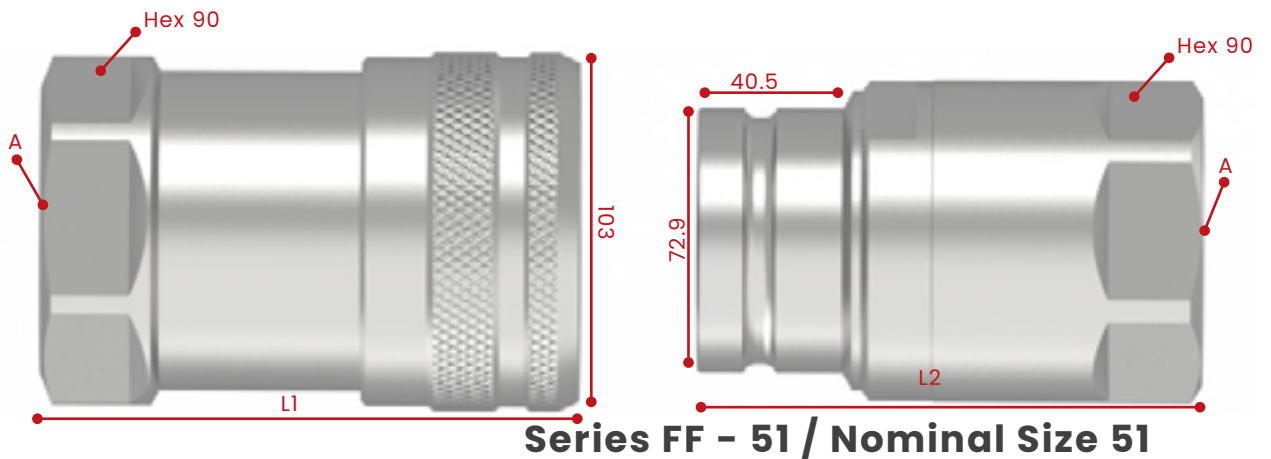
### Series FF - 31 / Nominal Size 31,5

|  | Port A       | Dimensions |     |    |                   | Female Body | Weight(g)         | Male Tip | Weight(g) |
|--|--------------|------------|-----|----|-------------------|-------------|-------------------|----------|-----------|
|  |              | L1         | L2  | L3 | L4                |             |                   |          |           |
| Female Thread According to DIN3852 - ANSI B 1.20.3 - SAE J1926-1 |              |            |     |    |                   |             |                   |          |           |
|  | G 1" 1/4     | 113        | 105 | 20 | FF-31 F G1 1/4    | 2376        | FF-31 M G1 1/4    | 1117     |           |
|  | NPT 1" 1/4   | 113        | 105 |    | FF-25 F NPT 1 1/4 | 2400        | FF-25 M NPT 1 1/4 | 1130     |           |
|  | UN 1" 5/8-12 | 113        | 105 | 19 | FF-25 F U20       | 2388        | FF-25 M U20       | 1120     |           |



**Series FF - 38 / Nominal Size 38**

|  | Port A       | Dimensions |     |    |    | Female Body      | Weight(g) | Male Tip         | Weight(g) |
|--|--------------|------------|-----|----|----|------------------|-----------|------------------|-----------|
|  |              | L1         | L2  | L3 | L4 |                  |           |                  |           |
| Female Thread According to DIN3852 - ANSI B 1.20.3 - SAE J1926-1 |              |            |     |    |    |                  |           |                  |           |
|  | G 1" 1/2     | 118        | 120 |    | 23 | FF-38 F G1 1/2   | 2703      | FF-38 M G1 1/2   | 1879      |
|  | NPT 1" 1/2   | 118        | 120 |    |    | FF-38 F NPT1 1/2 | 2718      | FF-38 M NPT1 1/2 | 1893      |
|  | UN 1" 7/8-12 | 118        | 120 |    | 19 | FF-38 F U20      | 2680      | FF-38 M U20      | 1840      |



**Series FF - 51 / Nominal Size 51**

|  | Port A       | Dimensions |     |    |    | Female Body      | Weight(g) | Male Tip         | Weight(g) |
|--|--------------|------------|-----|----|----|------------------|-----------|------------------|-----------|
|  |              | L1         | L2  | L3 | L4 |                  |           |                  |           |
| Female Thread According to DIN3852 - ANSI B 1.20.3 - SAE J1926-1 |              |            |     |    |    |                  |           |                  |           |
|  | G 2"         | 148        | 173 |    | 24 | FF-51 F G2       | 6015      | FF-51 M G2       | 5400      |
|  | NPT 2"       | 148        | 173 |    |    | FF-51 F NPT2     | 6045      | FF-51 M NPT2     | 5430      |
|  | SAE 1" 1/2   | 148        | 173 |    |    | FF-51 F SAE1 1/2 | 6440      | FF-51 M SAE1 1/2 | 6040      |
|  | UN 2" 1/2-12 | 148        | 173 |    |    | FF-51 F U30      | 5895      | FF-51 M U30      | 5280      |

## Dust Caps



| Size | Female Body | Male Tip   | Size   | Female Body | Male Tip   |
|------|-------------|------------|--------|-------------|------------|
| 1/4" | DC-FF-06 F  | DC-FF-06 M | 1"     | DC-FF-25 F  | DC-FF-25 M |
| 3/8" | DC-FF-10 F  | DC-FF-10 M | 1 1/4" | DC-FF-31 F  | DC-FF-31 M |
| 1/2" | DC-FF-12 F  | DC-FF-12 M | 1 1/2" | DC-FF-38 F  | DC-FF-38 M |
| 3/4" | DC-FF-19 F  | DC-FF-19 M | 2"     | DC-FF-51 F  | DC-FF-51 M |

The male coupler dust cap of the flat face quick coupling can be applied to any brand of quick couplings with corresponding interchangeable sizes couplings. The dimensions are 100% compatible. However, the outer diameter of the female coupler dust cap of the flat quick connector may be slightly different. It is more reasonable to purchase a matching dust cap when purchasing a quick coupling. If you purchase a dust cap separately, you need to pay attention to the outer diameter.