



## SERIES: **AX**



**INTERCHANGE:** ISO 16028

### MAIN APPLICATIONS

- Offshore - Marine
- Pharmaceutical
- Industrial equipment
- Food
- Chemical

The "AX" coupling series is the evolution of Stucchi's technology in the field of flat face couplings in stainless steel. The products are manufactured in AISI 316 stainless steel and suitable for high corrosion applications. The "AX" couplings come standard with Viton / Fluorocarbon seals and with the option of other seal materials upon request. The modular structure allows the flexibility to offer several types of threads or specialty ports, maintaining a compact dimension and increasing the performance of the coupler.



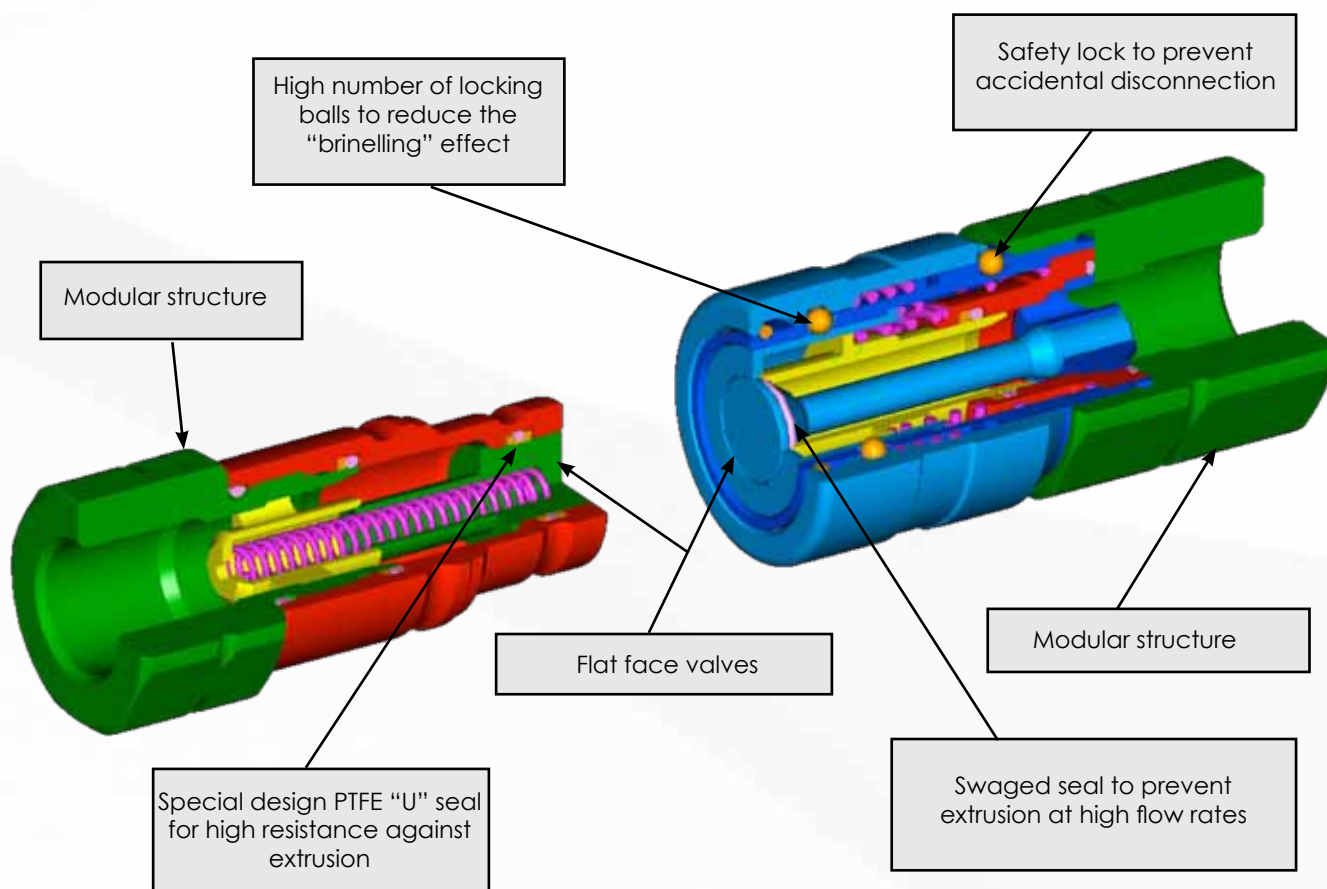
**Stucchi**<sup>®</sup>

A CONSTANT FLOW OF SOLUTIONS

## TECHNICAL FEATURES AND OPTIONS

- Interchangeability: ISO 16028 , HTMA (size 10)
- Valve system: Flat face
- Mechanical connection: Locking balls
- Connection system: Push to connect
- Disconnection system: Pulling back the sleeve of the female
- Connection with residual pressure: Not allowed
- Disconnection with residual pressure: Not allowed
- Threads available: BSP, BSP ED , Metric DIN S TYPE .
- Threads on request: NPT, SAE (J1926-1) , Metric DIN , ORFS and others .

- Construction material: AISI 316 ( stainless steel )
- External springs: AISI 302
- Internal springs: AISI 302
- Locking ball material : AISI 316
- Seals: standard in Viton
- Seals on request : NBR , EPDM , KALREZ and others
- Back-up ring ("U" seal) : PTFE
- Accessories on request :Caps in AISI 316 and Aluminium



## BENEFITS

- Flat face is easy to clean, helping to reduce the inclusion of contamination to the hydraulic circuit.
- Minimal fluid loss during connection / disconnection, reducing fluid loss to the environment.
- Minimal air inclusion during connection / disconnection, enhancing correct function of the circuit.
- Patented internal valve design creates minimal pressure drop, maintaining circuit efficiency in the system
- The modular design allows flexibility with the range of port configurations and increase the performance of the coupler.
- Good resistance at impulse pressures.
- Compact slim design.
- Safe and simple to use.
- Optimal resistance to the corrosion for long life of couplings.

## HOW TO USE

- Before to couple clean the flat mating surface of quick coupling to avoid the inclusion of dirty in the circuit.
- To couple push the male half towards the female half or vice versa.
- After connection turn the external sleeve to engage lock function, to prevent accidental disconnection.
- To uncouple turn the external sleeve until the sleeve lock groove corresponds with the safety lock ball and pull back the sleeve.

## WARNING!

- Do not use the female coupling disconnected with high impulse pressure frequency.
- Do not couple-uncouple with flow and/or pressure in the circuit.
- Do not couple-uncouple when the temperature inside of the circuit is higher than 80 °C (176 °F).
- When the couplings are disconnected, it is suggested to use the protection caps.
- The plastic caps of "FIRG-A" series are suitable for "AX" couplings.
- On request caps in stainless steel AISI 316 and in Aluminium .

## PERFORMANCE

| Description | Size | ISO Size | Rated Flow |       | Max. flow suggested |        | Connect force |      | Disconnect force |      | Spillage* |
|-------------|------|----------|------------|-------|---------------------|--------|---------------|------|------------------|------|-----------|
|             |      |          | l/min      | GPM   | l/min               | GPM    | N             | lbf  | N                | lbf  |           |
| AX7         | 1/4  | 6.3      | 12         | 3.18  | 24                  | 6.36   | 160           | 36   | 45               | 10.1 | 0.006     |
| AX9         | 3/8  | 10.0     | 23         | 6.10  | 46                  | 12.19  | 200           | 45   | 45               | 10.1 | 0.012     |
| AX13        | 1/2  | 12.5     | 45         | 11.93 | 90                  | 23.85  | 165           | 37.1 | 58               | 13   | 0.020     |
| AX17        | 3/4  | 19.0     | 100        | 26.50 | 200                 | 53.00  | 255           | 57.3 | 80               | 17.9 | 0.032     |
| AX21        | 1    | 25.0     | 189        | 50.09 | 378                 | 100.17 | 285           | 64.1 | 110              | 24.7 | 0.035     |

| Description | Max. operating pressure |      |      |      |        |      |
|-------------|-------------------------|------|------|------|--------|------|
|             | Coupled                 |      | Male |      | Female |      |
|             | MPa                     | psi  | MPa  | psi  | MPa    | psi  |
| AX7         | 35                      | 5075 | 35   | 5075 | 25     | 3625 |
| AX9         | 35                      | 5075 | 35   | 5075 | 35     | 3625 |
| AX13        | 33                      | 4785 | 33   | 4785 | 33     | 4785 |
| AX17        | 33                      | 4785 | 33   | 4785 | 33     | 4785 |
| AX21        | 30                      | 4350 | 30   | 4350 | 30     | 4350 |

(AX15 is available upon request ).

\* Spillage is an indicative value of the fluid loss per couple-uncouple cycle.

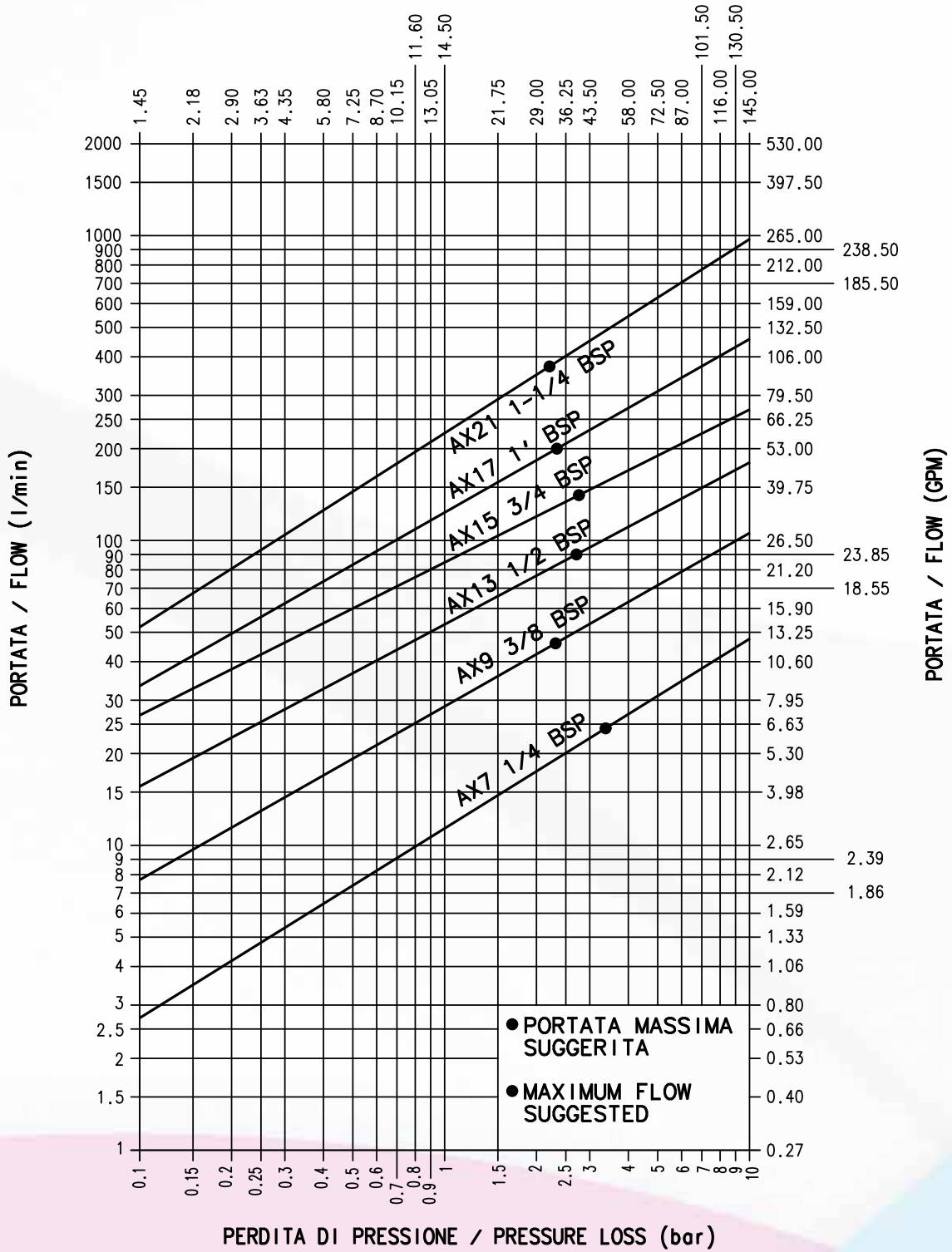
- Temperature range:
  - Seals in VITON : from -15°C to +180°C ( from +5 °F to +356 °F).
  - NBR (Nitrile) : from -20 °C to +100 °C ( from -4 °F to +212 °F).
  - EPDM (Ethylene Propylene) seals: from -40 °C to +150 °C ( from -40 °F to +302 °F).
  - KALREZ seals: from -25 °C to +300 °C ( from -13 °F to +572 °F).
 The couplings with Kalrez seals for high temperature use, can be used at max. operating pressure of 5 Mpa (725 psi).

- Tests:
  - The couplings have been tested at impulse with max. operating pressure for 100.000 impulses in according with ISO 7241-2.

## PRESSURE DROP

TESTS ESEGUITI IN CONFORMITA' A ISO 7241-2  
 TESTS IN ACCORDANCE WITH ISO 7241-2

### PERDITA DI PRESSIONE / PRESSURE LOSS (psi)

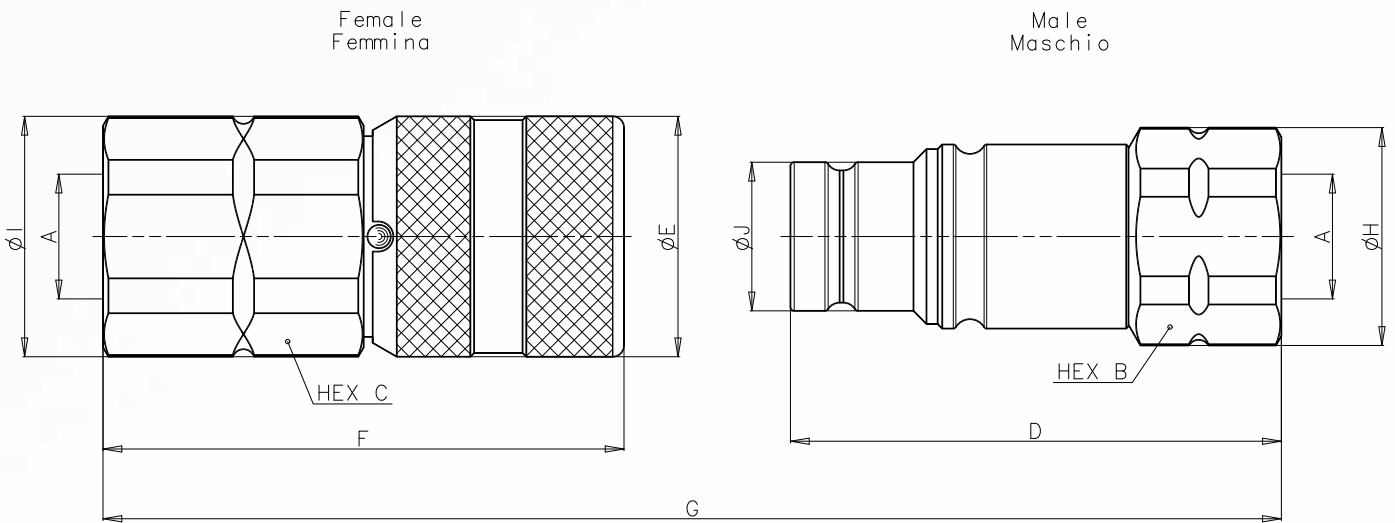


FLUIDO: OLIO ISO VG32  
 TEMPERATURA: 40°C  
 VISCOSITA': 28.8-35.2 mm<sup>2</sup>/s

FLUID: OIL ISO VG32  
 TEMPERATURE: 40°C  
 VISCOSITY: 28.8-35.2 mm<sup>2</sup>/s

# SERIES: AX

## OVERALL DIMENSIONS

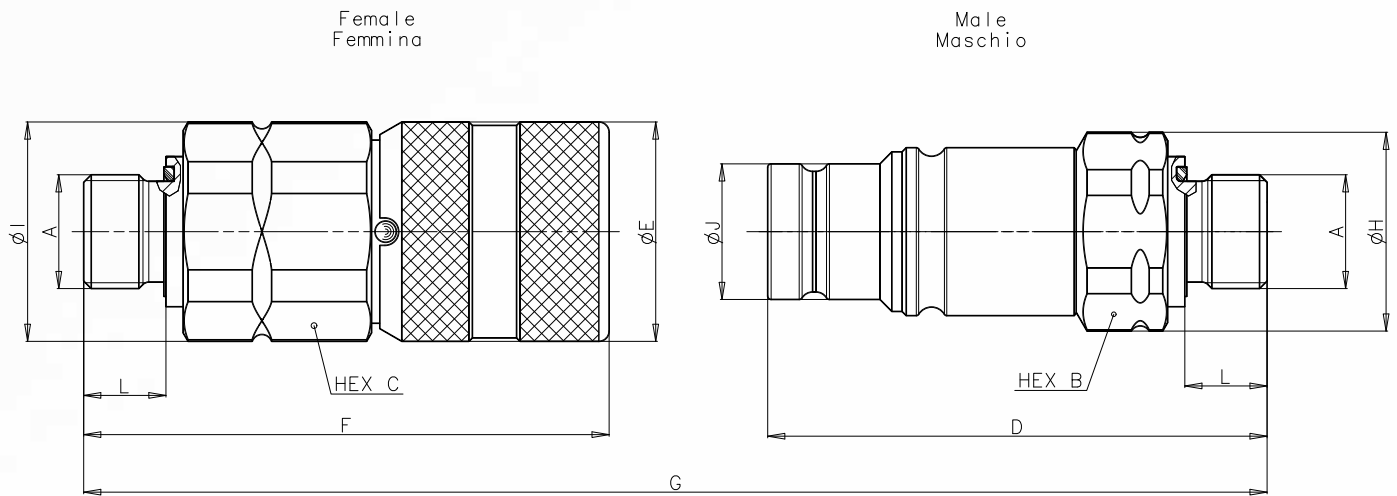


## FEMALE BSP THREAD (DIN 3852)

| Description     | A   | Unit       | B          | C          | D             | E          | F             | G              | H            | I            | J             | Unit     | Weight         |                |
|-----------------|-----|------------|------------|------------|---------------|------------|---------------|----------------|--------------|--------------|---------------|----------|----------------|----------------|
|                 |     |            |            |            |               |            |               |                |              |              |               |          | Male           | Female         |
| AX7<br>1/4 BSP  | 1/4 | mm<br>Inch | 22<br>0,87 | 27<br>1,06 | 56,7<br>2,23  | 28<br>1,10 | 53,1<br>2,09  | 99<br>3,90     | 23,8<br>0,94 | 29<br>1,14   | 16,1<br>0,635 | Kg<br>lb | 0,120<br>0,264 | 0,195<br>0,429 |
| AX9<br>3/8 BSP  | 3/8 | mm<br>Inch | 27<br>1,06 | 30<br>1,18 | 65,4<br>2,57  | 32<br>1,26 | 69,35<br>2,73 | 118,75<br>4,67 | 29<br>1,14   | 32<br>1,26   | 19,8<br>0,779 | Kg<br>lb | 0,155<br>0,341 | 0,300<br>0,660 |
| AX9<br>1/2 BSP  | 1/2 | mm<br>Inch | 27<br>1,06 | 30<br>1,18 | 67,35<br>2,65 | 32<br>1,26 | 74,35<br>2,93 | 125,7<br>4,95  | 29<br>1,14   | 32<br>1,26   | 19,8<br>0,779 | Kg<br>lb | 0,152<br>0,334 | 0,312<br>0,686 |
| AX13<br>1/2 BSP | 1/2 | mm<br>Inch | 32<br>1,26 | 36<br>1,42 | 77,5<br>3,05  | 38<br>1,50 | 76,9<br>3,03  | 137,1<br>5,40  | 35<br>1,38   | 40<br>1,57   | 24,5<br>0,964 | Kg<br>lb | 0,300<br>0,660 | 0,475<br>1,045 |
| AX13<br>3/4 BSP | 3/4 | mm<br>Inch | 36<br>1,42 | 36<br>1,42 | 79,5<br>3,13  | 38<br>1,50 | 86,9<br>3,42  | 149,1<br>5,87  | 40<br>1,57   | 40<br>1,57   | 24,5<br>0,964 | Kg<br>lb | 0,335<br>0,737 | 0,513<br>1,128 |
| AX17<br>3/4 BSP | 3/4 | mm<br>Inch | 46<br>1,81 | 46<br>1,81 | 85,7<br>3,37  | 48<br>1,89 | 103,8<br>4,09 | 167,5<br>6,59  | 49,5<br>1,95 | 49,8<br>1,96 | 30<br>1,18    | Kg<br>lb | 0,525<br>1,155 | 1,060<br>2,332 |
| AX21<br>1' BSP  | 1   | mm<br>Inch | 55<br>2,16 | 55<br>2,16 | 102<br>4,02   | 55<br>2,16 | 107,3<br>4,22 | 186,3<br>7,33  | 59,8<br>2,35 | 59,8<br>2,35 | 36<br>1,42    | Kg<br>lb | 0,920<br>2,024 | 1,480<br>3,256 |

# SERIES: AX

## OVERALL DIMENSIONS



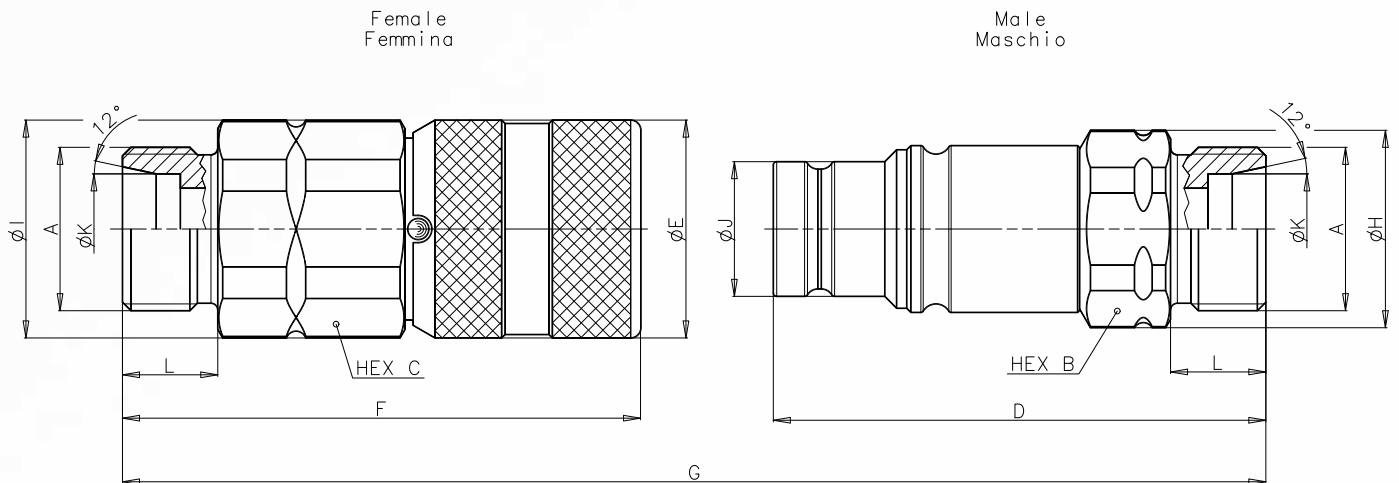
## MALE BSP ED THREAD (DIN 3852)

| Description          | A   | Unit       | B          | C          | D             | E          | F             | G             | H            | I            | J             | L          |
|----------------------|-----|------------|------------|------------|---------------|------------|---------------|---------------|--------------|--------------|---------------|------------|
| AX9ED<br>3/8 BSP EST | 3/8 | mm<br>Inch | 27<br>1,06 | 30<br>1,18 | 72,9<br>2,87  | 32<br>1,26 | 76,6<br>3,02  | 133,5<br>5,25 | 29<br>1,14   | 32<br>1,26   | 19,8<br>0,779 | 12<br>0,47 |
| AX13ED<br>½ BSP EST  | 1/2 | mm<br>Inch | 32<br>1,26 | 36<br>1,42 | 86,5<br>3,41  | 38<br>1,50 | 85,4<br>3,36  | 154,6<br>6,09 | 35<br>1,38   | 40<br>1,57   | 24,5<br>0,964 | 14<br>0,55 |
| AX17ED<br>¾ BSP EST  | 3/4 | mm<br>Inch | 46<br>1,81 | 46<br>1,81 | 101,7<br>4,00 | 48<br>1,89 | 112,4<br>4,42 | 192,1<br>7,56 | 49,5<br>1,95 | 49,8<br>1,96 | 30<br>1,18    | 16<br>0,63 |
| AX21ED<br>1" BSP EST | 1   | mm<br>Inch | 55<br>2,16 | 55<br>2,16 | 114,7<br>4,51 | 55<br>2,16 | 119,3<br>4,70 | 211<br>8,31   | 59,8<br>2,35 | 59,8<br>2,35 | 36<br>1,41    | 18<br>0,71 |

| Description          | A   | Unit     | Weight         |                |
|----------------------|-----|----------|----------------|----------------|
|                      |     |          | Male           | Female         |
| AX9ED<br>3/8 BSP EST | 3/8 | Kg<br>lb | 0,160<br>0,352 | 0,295<br>0,649 |
| AX13ED<br>½ BSP EST  | 1/2 | Kg<br>lb | 0,310<br>0,682 | 0,465<br>1,023 |
| AX17ED<br>¾ BSP EST  | 3/4 | Kg<br>lb | 0,540<br>1,188 | 1,020<br>2,244 |
| AX21ED<br>1" BSP EST | 1   | Kg<br>lb | 0,880<br>1,936 | 1,470<br>3,234 |

# SERIES: AX

## OVERALL DIMENSIONS



## MALE METRIC S THREAD ( ISO 8434-1 )

| Description | A       | Unit       | B          | C          | D             | E          | F             | G             | H            | I            | J             | L          |
|-------------|---------|------------|------------|------------|---------------|------------|---------------|---------------|--------------|--------------|---------------|------------|
| AX9 S16     | M24x1.5 | mm<br>Inch | 27<br>1,06 | 30<br>1,18 | 72,4<br>2,85  | 32<br>1,26 | 76,2<br>3,00  | 132,6<br>5,22 | 29<br>1,14   | 32<br>1,26   | 19,8<br>0,779 | 14<br>0,55 |
| AX13 S16    | M24x1.5 | mm<br>Inch | 32<br>1,26 | 36<br>1,42 | 83,5<br>3,29  | 38<br>1,50 | 82,4<br>3,24  | 148,6<br>5,85 | 35<br>1,38   | 40<br>1,57   | 24,5<br>0,964 | 14<br>0,55 |
| AX17 S20    | M30x2   | mm<br>Inch | 46<br>1,81 | 46<br>1,81 | 98,7<br>3,88  | 48<br>1,89 | 109,4<br>4,31 | 186,1<br>7,33 | 49,5<br>1,95 | 49,8<br>1,96 | 30<br>1,18    | 16<br>0,63 |
| AX21 S30    | M42x2   | mm<br>Inch | 55<br>2,16 | 55<br>2,16 | 113,7<br>4,48 | 55<br>2,16 | 118,3<br>4,66 | 209<br>8,23   | 59,8<br>2,35 | 59,8<br>2,35 | 36<br>1,417   | 20<br>0,79 |

| Description | A       | Unit     | Weight         |                |
|-------------|---------|----------|----------------|----------------|
|             |         |          | Male           | Female         |
| AX9 S16     | M24x1.5 | Kg<br>lb | 0,165<br>0,363 | 0,300<br>0,660 |
| AX13 S16    | M24x1.5 | Kg<br>Lb | 0,305<br>0,671 | 0,460<br>1,012 |
| AX17 S20    | M30x2   | Kg<br>lb | 0,535<br>1,177 | 1,015<br>2,233 |
| AX21 S30    | M42x2   | Kg<br>lb | 0,890<br>1,958 | 1,465<br>3,223 |

The texts, data and illustrations indicated in this catalogue, may be changed by Stucchi S.p.A at any time without notice. (CAT. AX-EN REV.0 June 2009).