





For High Pressure

# 280 Cupla

For hydraulic pressure up to 27.5~31.5MPa (281~321kgf/cm<sup>2</sup>)

|  |  |   |
|--|--|---|
| <b>Working pressure</b>  | <b>Valve structure</b>   | <b>Applicable fluids</b>  |
| <br><b>31.5</b><br>31.5MPa<br>(321kgf/cm <sup>2</sup> ) | <br><b>27.5</b><br>27.5MPa<br>(281kgf/cm <sup>2</sup> ) | <br>Two-way shut-off |
| <br>Hydraulic oil                                       |  |   |

**Generic Cupla copes with high pressure lines in hydraulic equipment! Low pressure loss is ideal for hydraulic equipment.**

- Complys with international standard ISO 7241-1A.
- General purpose hydraulic Cuplas with the working pressure up to 27.5~31.5MPa (281~321kgf/cm<sup>2</sup>).
- Structure keeps pressure loss extremely low, particularly ideal for hydraulic applications requiring high flow rates.
- Both socket and plug have built-in automatic shut-off valves to prevent fluid spill out when disconnected. Easy to handle.
- Special steel body material is adopted for its excellent strength and additional quenching treatment is done to withstand hydro pressure impacts.
- Various end configurations.




| Specifications                                 |   |                  |                           |                   |
|--|---|------------------|---------------------------|-------------------|
| Body material                                  | Special steel (Bright chromate conversion coating : silver) |                  |                           |                   |
| Size   | 1/4" • 3/8"   | 1/2" • 3/4" • 1" |                           |                   |
| Working pressure MPa (kgf/cm <sup>2</sup> )    | 31.5 (321)  | 27.5 (281)       |                           |                   |
| Pressure resistance MPa (kgf/cm <sup>2</sup> ) | 47.3 (482)  | 41.3 (421)       |                           |                   |
| Seal material                                  | Seal material   | Mark             | Working temperature range | Remarks           |
| Working temperature range                      | Nitrile rubber  | NBR (SG)         | -20°C~+80°C               | Standard material |

| Max. Tightening Torque |  | N·m (kgf·cm) |          |          |            |            |
|------------------------|--|--------------|----------|----------|------------|------------|
| Size                   |  | 1/4"         | 3/8"     | 1/2"     | 3/4"       | 1"         |
| Torque                 |  | 28 (286)     | 40 (408) | 80 (816) | 100 (1020) | 180 (1836) |

**Flow Direction**

Fluid may flow in either direction from plug or from socket side when coupled.



**Interchangeability**  
Different sizes cannot be connected.

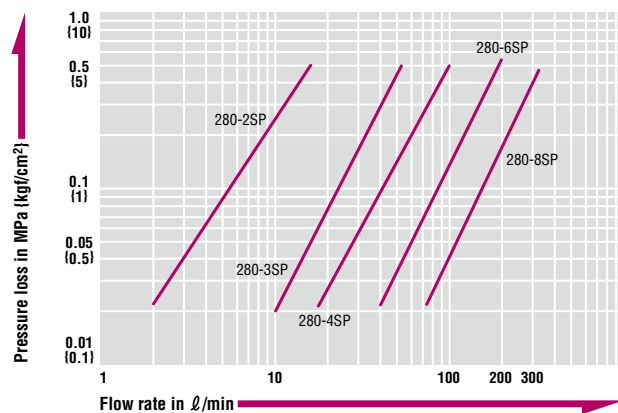
| Min. Cross-Sectional Area |  | (mm <sup>2</sup> ) |         |         |         |         |
|---------------------------|--|--------------------|---------|---------|---------|---------|
| Model                     |  | 280-2SP            | 280-3SP | 280-4SP | 280-6SP | 280-8SP |
| Min. cross-sectional area |  | 11.4               | 42.8    | 79.1    | 146.5   | 235.6   |

| Suitability for Vacuum |           | 1.3Pa (1 x 10 <sup>-2</sup> mmHg) |  |  |
|------------------------|-----------|-----------------------------------|--|--|
| Socket only            | Plug only | When connected                    |  |  |
| —                      | —         | Operational                       |  |  |

| Admixture of Air on Connection |  | (mℓ)    |         |         |         |         |
|--------------------------------|--|---------|---------|---------|---------|---------|
| Model                          |  | 280-2SP | 280-3SP | 280-4SP | 280-6SP | 280-8SP |
| Volume of air                  |  | 0.37    | 1.02    | 2.63    | 8.83    | 16.04   |

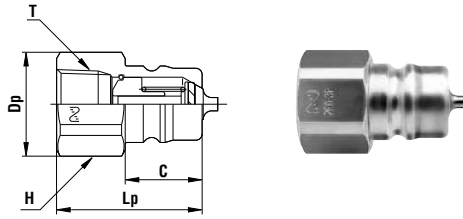
**Flow Rate – Pressure Loss Characteristics**

[Test conditions] • Fluid : Hydraulic oil • Temperature : 30°C ± 5°C  
• Fluid viscosity : 32 × 10<sup>-6</sup>m<sup>2</sup>/s • Density : 0.87 × 10<sup>3</sup>kg/m<sup>3</sup>



Models and Dimensions

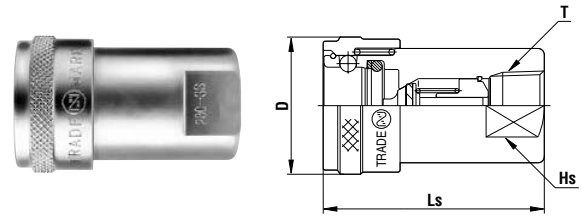
**Plug Female thread**



| Model  | Application | Mass (g) | Dimensions (mm) |      |      |        |        |
|--------|-------------|----------|-----------------|------|------|--------|--------|
|        |             |          | Lp              | øDp  | C    | H(WAF) | T      |
| 280-2P | R 1/4       | 35       | 31.5            | 20.5 | 15   | Hex.19 | Rc 1/4 |
| 280-3P | R 3/8       | 59       | 35              | 25   | 18.5 | Hex.23 | Rc 3/8 |
| 280-4P | R 1/2       | 115      | 44              | 32   | 24.5 | Hex.29 | Rc 1/2 |
| 280-6P | R 3/4       | 178      | 52.5            | 35   | 28   | Hex.32 | Rc 3/4 |
| 280-8P | R 1         | 331      | 63.5            | 44   | 35   | 41     | Rc 1   |

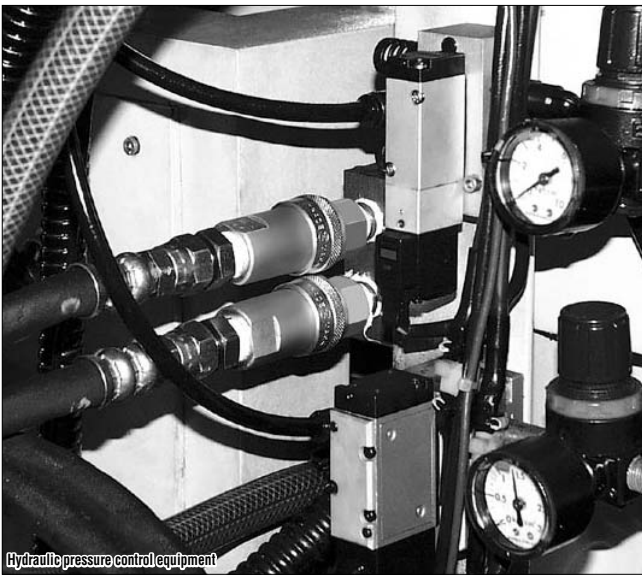
\* Internal structural design of 280-6S and 280-8S is partly different from the above drawing.

**Socket Female thread**

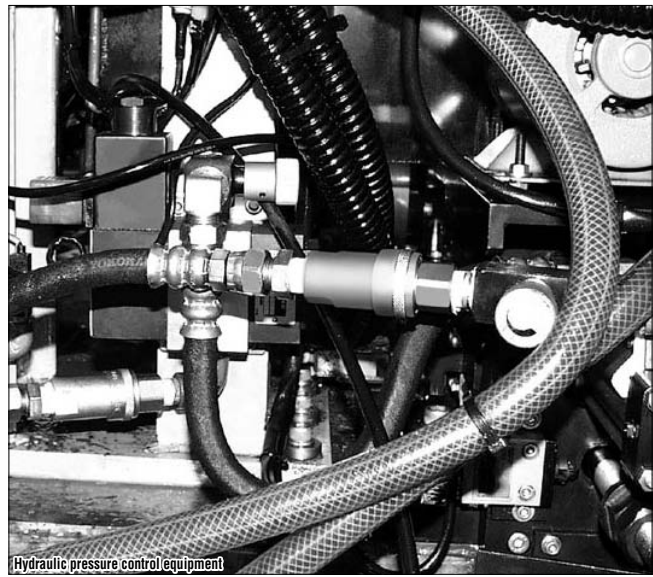


| Model  | Application | Mass (g) | Dimensions (mm) |    |         |        |
|--------|-------------|----------|-----------------|----|---------|--------|
|        |             |          | Ls              | øD | Hs(WAF) | T      |
| 280-2S | R 1/4       | 110      | 46              | 27 | 19      | Rc 1/4 |
| 280-3S | R 3/8       | 185      | 53              | 33 | 23      | Rc 3/8 |
| 280-4S | R 1/2       | 335      | 66.5            | 39 | 29      | Rc 1/2 |
| 280-6S | R 3/4       | 571      | 81              | 48 | 35      | Rc 3/4 |
| 280-8S | R 1         | 871      | 98              | 55 | 41      | Rc 1   |

**Application Example**



Hydraulic pressure control equipment



Hydraulic pressure control equipment