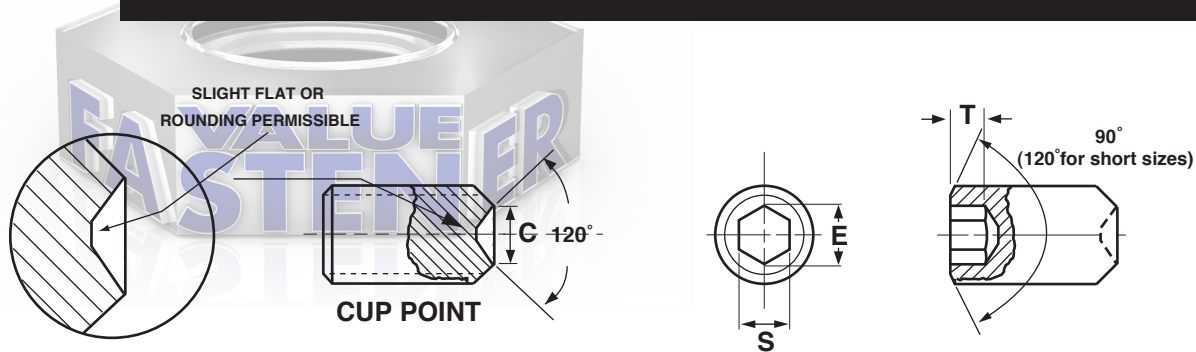


# Sockets

# METRIC Socket Set Screws

## Knurled Cup Point



| METRIC - SOCKET SET SCREWS, KNURLED CUP POINT |              |                |      |                            |                              |       |                                          |                      |                | ISO 4029 & 898/5                    |             |
|-----------------------------------------------|--------------|----------------|------|----------------------------|------------------------------|-------|------------------------------------------|----------------------|----------------|-------------------------------------|-------------|
| Nominal Size                                  | Thread Pitch | C              |      | E                          | S                            |       | Screws Below this Length are Short Sizes | T                    |                | Min Length of Screw for Torque Test | Test Torque |
|                                               |              | Point Diameter |      | Socket Size Across Corners | Socket Size Across the Flats |       |                                          | Key Engagement (Min) |                |                                     | N. m        |
|                                               |              | Max            | Min  | Min                        | Max                          | Min   |                                          | Short Sizes          | Long Sizes     |                                     |             |
| M3                                            | 0.5          | 1.40           | 1.15 | 1.73                       | 1.545                        | 1.520 | 5                                        | 1.2                  | 2              | 4                                   | 0.9         |
| M4                                            | 0.7          | 2.00           | 1.75 | 2.3                        | 2.045                        | 2.020 | 6                                        | 1.5                  | 2.5            | 5                                   | 2.5         |
| M5                                            | 0.8          | 2.50           | 2.25 | 2.87                       | 2.560                        | 2.520 | 6                                        | 2                    | 3              | 6                                   | 5           |
| M6                                            | 1            | 3.00           | 2.75 | 3.44                       | 3.071                        | 3.020 | 8                                        | 2                    | 3.5            | 8                                   | 8.5         |
| M8                                            | 1.25         | 5.0            | 4.7  | 4.58                       | 4.084                        | 4.020 | 10                                       | 3                    | 5              | 10                                  | 20          |
|                                               |              |                |      |                            |                              |       |                                          |                      |                |                                     |             |
| Tolerance on Length                           |              | 2-3mm: ±0.2    |      | 4-6mm: ±0.24               |                              |       | 8-10mm: ±0.29                            |                      | 12-16mm: ±0.35 |                                     |             |
|                                               |              | 20-30mm: ±0.42 |      |                            | 35-50mm: ±0.5                |       |                                          | 55-60mm: ±0.6        |                |                                     |             |

|                                 |                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>              | A headless screw threaded the entire length with a metric thread pitch. It has a hexagonal drive at one end and a knurled, cup-shaped indentation at the other end.                                                                                                                                                                                                                  |
| <b>Applications/ Advantages</b> | The cup point is the most popular type of set screw, designed for fast, permanent and semi-permanent location of parts on shafts with hardness differential of 10-15 Rockwell C points and where cutting in of cup edge on the shaft is acceptable.                                                                                                                                  |
| <b>Material</b>                 | Metric socket set screws shall be made from an alloy steel which conforms to the following chemical composition requirements--<br><b>Carbon:</b> 0.19-0.50%; <b>Phosphorous:</b> 0.05% maximum; <b>Sulfur:</b> 0.05% maximum; <b>Lead:</b> 0.35% maximum.<br>Set screws shall also contain one or more of these following elements: chromium, nickel, molybdenum, vanadium or boron. |
| <b>Heat Treatment</b>           | Metric socket set screws shall be heat treated by quenching in oil from above the transformation temperature and then tempered by reheating to meet the hardness requirements listed below.                                                                                                                                                                                          |
| <b>Hardness</b>                 | Rockwell HRC 45 - 53 (Vickers HV 450 - 560)                                                                                                                                                                                                                                                                                                                                          |
| <b>Torsional Strength</b>       | Metric socket set screws of a sufficient length to be tested (as listed in the above table) shall withstand application of the test torque specified in said table without evidence of the socket reaming or the screw bursting.                                                                                                                                                     |
| <b>Plating</b>                  | Metric socket set screws are usually supplied with a thermal black finish.                                                                                                                                                                                                                                                                                                           |