



**TRUSTED EXPERT BRAND**

UPSL/IPVT/4 Dt. 1st January 2023

# TOP CERTIFICATIONS

- ISO 9001 : 2015
- IATF 16949 : 2016
- ISO 14001 : 2015
- BS OHSAS 18001 : 2007
- ISO 17025
- AS 9100 : 2016
- NADCAP - HEAT TREATMENT
- CE MARKING
- NADCAP - NDT
- PED



*It's all about Quality*



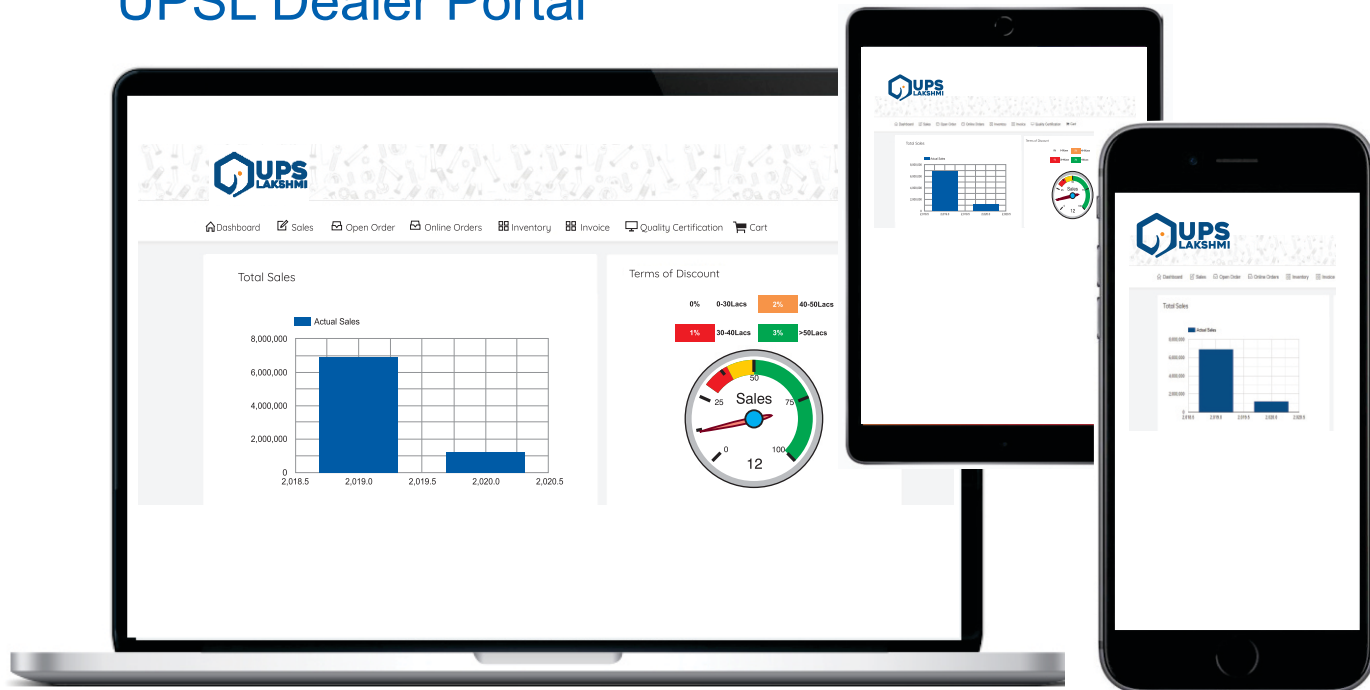
We have global customers presence in all the 5 continents of the world in 35 countries and have been serving the best of the distributors and OEMs across the World.

The company has the highest number of Quality Certifications and Quality Management systems in place. The manufacturing is running in line of Industry 4.0 with SAP (ERP).

We have also established in-house R&D Centre which is helping us to engage our customers from the design stage and it would be our efforts to build online and digital solutions to integrate the entire supply chain in a leanest way.

**Rajesh Jain**  
Managing Director

## UPSL Dealer Portal



### Benefits

- Dashboard
- Sales
- Open Orders
- Online Orders
- Inventory
- Invoice

**24x7**  
**Customer**  
**Connect**





**Price list**

## PRODUCTS LIST

 SOCKET HEAD CAP SCREWS

 SOCKET SET SCREWS

 SOCKET COUNTER SUNK SCREWS

 SOCKET BUTTON HEAD SCREWS

 HEXAGONAL WRENCHES

 HEXAGONAL HEAD BOLTS/SCREWS

 HEX NUTS

# SELECTOR GUIDE

| Product                             | Tensile Strength Property Class |                               | Size Range |               |              |                  | Equivalent Standards |                      |                   |                                |           |     |
|-------------------------------------|---------------------------------|-------------------------------|------------|---------------|--------------|------------------|----------------------|----------------------|-------------------|--------------------------------|-----------|-----|
|                                     |                                 |                               | Diameter   |               | Length       |                  | IS                   | ISO                  | DIN               | BS                             | ANSI/ASME | JIS |
|                                     |                                 |                               | Metric     | Inch*         | Metric       | Inch*            |                      |                      |                   |                                |           |     |
| Socket Head Cap Screw               | N/mm <sup>2</sup> Min.          | Psi Min.                      | M3 to M42  | 1/8" to 1"    | 4mm to 400mm | 3/8" to 10"      | 2269                 | 4762                 | 912               | B18.3.1M/<br>B 18.3            | B1176     |     |
| Socket Low Head Cap Screw           | (1220) (12.9)                   | 1,90,000                      | M3 to M42  | 1/8" to 1"    | 4mm to 400mm | 3/8" to 10"      | 2269                 | 4762                 | 912               | B18.3.1M/<br>B 18.3            | B1176     |     |
| Socket Counter Sunk Head Screws     | (1040) (10.9)                   | -----                         | M4 to M12  | ---           | 10mm to 80mm | ---              | ---                  | ---                  | 6912<br>7984      | -----                          | -----     |     |
| Socket Button Head Cap Screws       | (1220) (12.9)                   | 1,60,000                      | M3 to M24  | 1/4" to 5/8"  | 6mm to 150mm | 1/2" to 3"       | 6761                 | 10642                | 7991              | B18.3.5M/<br>B 18.3            | -----     |     |
| Socket Set Screws Knurled Cap Point | (1220)                          | (12.9)                        | M3 to M10  | ---           | 6mm to 50mm  | ---              | ---                  | 7380                 | 9427              | B18.3.4M/<br>B 18.3            | -----     |     |
| Socket Set Screws Special Points    | Hardness HRC 45 Min.            |                               | M3 to M12  | 3/16" to 1/2" | 3mm to 55mm  | 3/16" to 1. 1/2" | 6094                 | 4029                 | 916               | B18.3.6M/<br>B 18.3            | B1177     |     |
| Hex Head Bolts/Screws               | Hardness HRC 45 Min.            |                               | M3 to M16  | 3/16" to 1/2" | 3mm to 55mm  | 3/16" to 1. 1/2" | ---                  | 4026<br>4027<br>4028 | 915<br>916<br>914 | B 18.3                         |           |     |
| Hex Nuts                            | 800/830 (8.8)<br>1,040 (10.9)   | Grade R<br>Grade S<br>Grade V | M3 to M42  | 1/4" to 1"    | 8mm to 400mm | 3/8" to 12"      | 1364                 | 4014<br>4017         | 931<br>933        | BSF/BSW<br>BS:1083             | B1180     |     |
| Special Products                    | 1,040 (Proof Stress) (10)       | Grade 8<br>Grade R<br>Grade 5 | M4 to M42  | 5/16" to 1"   | -----        | -----            | 1364                 | 4032                 | 934               | UNC/UNF BS :1768               | B1181     |     |
|                                     | 800/830 (8.8)<br>1,040 (10.9)   |                               | M5 to M42  | 1/4" to 1"    | 6mm to 400mm | 3/8" to 12"      |                      |                      |                   | As per customer specifications |           |     |

\* Thread type in any of the following inch series BSW, BSF, BA, UNC & UNF  
 \* All Standards are for latest version.

## THREAD SIZE COMPARISON

| METRIC PRODUCTS |              |        |             |        |           |       | UNIFIED INCH PRODUCTS |        |     |           | B.S. INCH PRODUCTS |        |     |           |        |           |
|-----------------|--------------|--------|-------------|--------|-----------|-------|-----------------------|--------|-----|-----------|--------------------|--------|-----|-----------|--------|-----------|
| SIZE            | THREAD PITCH |        |             |        | MAJOR DIA |       | SIZE                  | T.P.I. |     | MAJOR DIA | SIZE               | T.P.I. |     | MAJOR DIA | T.P.I. | MAJOR DIA |
|                 | COARSE       |        | FINE        |        |           |       |                       | UNC    | UNF |           |                    | Inch   | BSW |           |        |           |
|                 | PITCH<br>mm  | T.P.I. | PITCH<br>mm | T.P.I. | mm        | inch  |                       |        |     | Inch      |                    |        |     |           |        |           |
| <b>M3</b>       | 0.50         | 51.00  |             |        | 3.00      | 0.118 | <b>#5</b>             | 40     | 44  | 0.125     | <b>1/8</b>         | 40     |     | 0.125     |        |           |
|                 |              |        |             |        |           |       | <b>#6</b>             | 32     | 40  | 0.138     | <b>5BA</b>         |        |     |           | 43.1   | 0.126     |
|                 |              |        |             |        |           |       |                       |        |     |           | <b>4BA</b>         |        |     |           | 38.5   | 0.142     |
| <b>M4</b>       | 0.70         | 36.00  |             |        | 4.00      | 0.157 | <b>#8</b>             | 32     | 36  | 0.164     | <b>3BA</b>         |        |     |           | 34.8   | 0.161     |
| <b>M5</b>       | 0.80         | 32.00  |             |        | 5.00      | 0.197 | <b>#10</b>            | 24     | 32  | 0.190     | <b>3/16"</b>       | 24     |     | 0.187     |        |           |
|                 |              |        |             |        |           |       |                       |        |     |           | <b>2BA</b>         |        |     |           | 31.3   | 0.185     |
|                 |              |        |             |        |           |       |                       |        |     |           | <b>1BA</b>         |        |     |           | 28.2   | 0.209     |
| <b>M6</b>       | 1.00         | 25.00  |             |        | 6.00      | 0.236 | <b>1/4"</b>           | 20     | 28  | 0.250     | <b>OBA</b>         |        |     |           | 25.4   | 0.236     |
|                 |              |        |             |        |           |       |                       |        |     |           | <b>1/4"</b>        | 20     | 26  | 0.250     |        |           |
| <b>M8</b>       | 1.25         | 20.00  | 1.00        | 25     | 8.00      | 0.315 | <b>5/16"</b>          | 18     | 24  | 0.313     | <b>5/16"</b>       | 18     | 22  | 0.313     |        |           |
| <b>M10</b>      | 1.50         | 17.00  | 1.25        | 20     | 10.00     | 0.394 |                       |        |     |           |                    |        |     |           |        |           |
|                 |              |        | 1.00        | 25     | 10.00     | 0.394 | <b>3/8"</b>           | 16     | 24  | 0.375     | <b>3/8"</b>        | 16     | 20  | 0.375     |        |           |
|                 |              |        |             |        |           |       | <b>7/16"</b>          | 14     | 20  | 0.438     |                    |        |     |           |        |           |
| <b>M12</b>      | 1.75         | 14.50  | 1.50        | 17     | 12.00     | 0.472 |                       |        |     |           |                    |        |     |           |        |           |
|                 |              |        | 1.25        | 20     | 12.00     | 0.472 | <b>1/2"</b>           | 13     | 20  | 0.500     | <b>1/2"</b>        | 12     | 16  | 0.500     |        |           |
| <b>(M14)</b>    | 2.00         | 12.50  | 1.50        | 17     | 14.00     | 0.551 |                       |        |     |           |                    |        |     |           |        |           |
| <b>M16</b>      | 2.00         | 12.50  | 1.50        | 17     | 16.00     | 0.630 | <b>5/8"</b>           | 11     | 18  | 0.625     | <b>5/8"</b>        | 11     | 14  | 0.625     |        |           |
| <b>(M18)</b>    | 2.50         | 10.00  | 1.50        | 17     | 18.00     | 0.709 |                       |        |     |           |                    |        |     |           |        |           |
| <b>M20</b>      | 2.50         | 10.00  | 1.50        | 17     | 20.00     | 0.787 | <b>3/4"</b>           | 10     | 16  | 0.750     | <b>3/4"</b>        | 10     | 12  | 0.750     |        |           |
| <b>M22</b>      | 2.50         | 10.00  | 1.50        | 17     | 22.00     | 0.866 | <b>7/8"</b>           | 9      | 14  | 0.875     | <b>7/8"</b>        | 9      | 11  | 0.875     |        |           |
| <b>M24</b>      | 3.00         | 8.50   | 2.00        | 13     | 24.00     | 0.945 | <b>1"</b>             | 8      | 12  | 1.000     | <b>1"</b>          | 8      | 10  | 1.000     |        |           |
|                 |              |        |             |        | 24.00     | 0.945 |                       |        |     |           |                    |        |     |           |        |           |
| <b>M27</b>      | 3.00         | 8.50   |             |        | 27.00     | 1.060 | <b>1.1/8"</b>         | 7      | 12  | 1.125     | <b>1.1/8"</b>      | 7      | 9   | 1.125     |        |           |
| <b>M30</b>      | 3.50         | 7.30   |             |        | 30.00     | 1.181 | <b>1.1/4"</b>         | 7      | 12  | 1.250     | <b>1.1/4"</b>      | 7      | 9   | 1.250     |        |           |
| <b>M33</b>      | 3.50         | 7.30   |             |        | 33.00     | 1.299 |                       |        |     |           |                    |        |     |           |        |           |
| <b>M36</b>      | 4.00         | 6.30   |             |        | 36.00     | 1.417 | <b>1.1/2"</b>         | 6      | 12  | 1.500     | <b>1.1/2"</b>      | 6      | 8   | 1.500     |        |           |
| <b>M42</b>      | 4.50         | 5.60   |             |        | 42.00     | 1.653 |                       |        |     |           |                    |        |     |           |        |           |

**Note :**

**Surface Finish :** All the UPSL Products, unless otherwise ordered specifically, are supplied in black thermal finish with a coat of rust preventive oil.

**Packing :** All the "UPSL" products are supplied in standard packing which is mentioned in Price Table.

**Plating :** UPSL recommends that no plating should be carried out on Socket Head products & do not stand any guarantee, as plating adds embrittlement to the strength level of product & configuration which may lead to failures in use.

The prices specifications and other particulars contained in this Price List are subject to change without notice.





## SOCKET HEAD CAP SCREWS

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST

METRIC  
SERIES

EFFECTIVE FROM 1st January, 2023

| Diameter     | M3     | M4     | M5     | M6     | M8     | M10    | M12    | M14    | M16    |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|              | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench |
| Length (mm)  | 2.5mm  | 3mm    | 4mm    | 5mm    | 6mm    | 8mm    | 10mm   | 12mm   | 14mm   |
| 4            | 1233   |        |        |        |        |        |        |        |        |
| 5            | 1249   | 1272   |        |        |        |        |        |        |        |
| 6            | 1075   | 1015   | 870    | 1456   |        |        |        |        |        |
| 8            | 786    | 717    | 741    | 1006   | 1499   |        |        |        |        |
| 10           | 656    | 572    | 410    | 665    | 1283   | 2056   |        |        |        |
| 12           | 656    | 515    | 410    | 632    | 975    | 1461   | 4810   |        |        |
| 14           |        | 825    | 762    | 869    | 1633   |        |        |        |        |
| 16           | 654    | 537    | 448    | 599    | 811    | 1352   | 3975   |        |        |
| 18           |        |        | 798    | 897    | 1042   |        |        |        |        |
| 20           | 654    | 576    | 481    | 667    | 874    | 1236   | 3545   | 9169   | 7808   |
| 22           |        | 930    | 882    | 947    | 1149   |        |        |        |        |
| 25           | 718    | 631    | 515    | 748    | 896    | 1369   | 3084   | 8013   | 7752   |
| 30           | 841    | 748    | 624    | 845    | 1042   | 1467   | 2960   | 8013   | 7752   |
| 35           | 1051   | 820    | 686    | 927    | 1073   | 1584   | 3011   | 6740   | 6361   |
| 40           | 1203   | 905    | 748    | 1006   | 1229   | 1784   | 3041   | 6897   | 6525   |
| 45           | 1332   | 1033   | 811    | 1089   | 1378   | 1957   | 3237   | 7017   | 6796   |
| 50           | 1945   | 1185   | 820    | 1187   | 1429   | 2130   | 3162   | 7185   | 6773   |
| 55           |        | 1905   | 1403   | 1293   | 1571   | 2302   | 3493   | 7269   | 7096   |
| 60           |        | 2432   | 1798   | 2391   | 1687   | 2481   | 3692   | 7714   | 7285   |
| 65           |        | 3149   | 1949   | 2480   | 1801   | 2650   | 3886   | 7818   | 7615   |
| 70           |        |        | 2098   | 2587   | 1927   | 2822   | 4096   | 8437   | 8216   |
| 75           |        |        | 2555   | 2829   | 2032   | 3004   | 4278   | 9805   | 8693   |
| 80           |        |        | 2698   | 3065   | 3058   | 4362   | 5122   | 9343   | 9091   |
| 85           |        |        | 2956   | 3292   | 4322   | 5154   | 6826   | 9552   | 10263  |
| 90           |        |        | 2979   | 3292   | 3530   | 4965   | 5786   | 11835  | 9296   |
| 100          |        |        | 4016   | 3717   | 4194   | 5839   | 6698   | 12867  | 11537  |
| 110          |        |        | 8438   | 4923   | 5232   | 6887   | 8034   | 13904  | 12532  |
| 120          |        |        | 9422   | 5487   | 6107   | 6971   | 9249   | 16104  | 13543  |
| 130          |        |        | 10531  | 5920   | 7504   | 9589   | 11233  | 17235  | 15680  |
| 140          |        |        | 12623  | 6354   | 8060   | 10720  | 12511  | 18371  | 16784  |
| 150          |        |        | 13890  | 6756   | 8709   | 11909  | 13804  | 19913  | 17884  |
| 160          |        |        | 19923  | 12457  | 9898   | 16324  | 22744  |        | 35590  |
| 170          |        |        | 22457  |        | 10685  |        | 25016  |        | 39628  |
| 180          |        |        | 22457  | 14579  | 11264  | 18363  | 25016  |        | 39628  |
| 200          |        |        | 25578  | 20526  | 12447  | 19629  | 27069  |        | 43796  |
| 220          |        |        |        |        |        | 25218  | 31226  |        | 45807  |
| 240          |        |        |        |        |        | 38613  | 46880  |        | 47834  |
| 260          |        |        |        |        |        |        | 53572  |        | 49850  |
| 280          |        |        |        |        |        |        | 56126  |        | 51866  |
| 300          |        |        |        |        |        |        | 94711  |        | 53898  |
| Qty. Per Box | 200    |        | 100    |        |        | 50     |        | 25     | 10     |

- |     |                                 |   |                             |
|-----|---------------------------------|---|-----------------------------|
| (1) | Material                        | : | High Grade Alloy Steel      |
| (2) | Threads                         | : | IS-4218                     |
| (3) | Specifications                  | : | IS-2269 DIN 912 ISO-4762    |
| (4) | Mechanical Properties           | : | IS-1367 Property Class 12.9 |
| (5) | Shaded sizes are fully threaded | : |                             |



## SOCKET HEAD CAP SCREWS

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST  
EFFECTIVE FROM 1st January, 2023

METRIC  
SERIES

| Diameter     | M18    | M20    | M22    | M24    | M27    | M30#   | M33 #  | M36 #  | M42 #  |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|              | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench |
| Length (mm)  | 14mm   | 17mm   | 17mm   | 19mm   | 19mm   | 22mm   | 24mm   | 27mm   | 32mm   |
| 25           |        | 19052  |        |        |        |        |        |        |        |
| 30           | 20958  | 18990  |        |        |        |        |        |        |        |
| 35           | 21231  | 19240  |        |        |        |        |        |        |        |
| 40           | 18580  | 16366  | 24752  |        |        |        |        |        |        |
| 45           | 18711  | 16941  | 26188  | 20901  |        |        |        |        |        |
| 50           | 18869  | 16240  | 21927  | 20021  |        | 48780  |        |        |        |
| 55           | 18989  | 16716  | 24645  | 22519  |        |        |        |        |        |
| 60           | 19130  | 16461  | 25341  | 23147  | 42933  | 43997  |        |        |        |
| 65           | 19298  | 16995  | 28221  | 25681  |        |        |        | 102165 |        |
| 70           | 20612  | 18678  | 27383  | 26252  | 46570  | 47781  |        | 102165 |        |
| 75           | 21948  | 19333  | 32040  | 27818  | 48936  | 47781  | 71803  | 102165 |        |
| 80           | 22377  | 19269  | 32040  | 29243  | 49672  | 49672  | 74767  | 89341  | 145638 |
| 85           |        | 20824  |        | 35164  |        |        |        |        |        |
| 90           | 22823  | 20102  | 33595  | 30672  | 54531  | 53409  | 80973  | 97422  | 145638 |
| 100          | 23933  | 21668  | 35433  | 32348  | 58297  | 58297  | 84754  | 100204 | 159546 |
| 110          | 26489  | 23983  | 38512  | 35176  | 61816  | 61816  | 89341  | 105645 | 163882 |
| 120          | 29012  | 26298  | 41628  | 38020  | 65587  | 65587  | 97422  | 110210 | 178218 |
| 130          | 31563  | 28583  | 58721  | 40859  | 66226  | 70179  | 102014 | 113882 | 182051 |
| 140          | 34087  | 30879  | 63948  | 43687  | 72871  | 72871  | 108492 | 125704 | 196982 |
| 150          | 36611  | 33291  | 85246  | 46540  | 77464  | 77464  | 113882 | 130236 | 201115 |
| 160          | 41505  | 42670  | 107441 | 75548  | 121988 | 121988 | 151388 | 175266 | 281271 |
| 170          |        | 48724  |        | 84149  |        |        |        |        |        |
| 180          | 51054  | 48724  | 118174 | 80831  | 134934 | 134934 | 167580 | 195826 | 298521 |
| 200          | 53228  | 50809  | 126483 | 86524  | 146805 | 146805 | 182149 | 212223 | 323409 |
| 220          |        | 55341  | 135199 | 92593  | 182960 | 182149 | 225856 | 262396 | 405729 |
| 240          |        | 89726  | 150013 | 99946  | 202651 | 195912 | 243394 | 269613 | 422919 |
| 260          |        | 106396 | 161041 | 103433 | 220740 | 209669 | 254454 | 288747 | 451095 |
| 280          |        | 126041 | 167396 | 108667 | 235560 | 223431 | 268484 | 307942 | 479296 |
| 300          |        | 135044 | 179356 | 116432 | 235560 | 237184 | 289526 | 327300 | 507490 |
| 320          |        | 149086 |        | 116432 | 300402 | 250063 |        | 361311 | 531695 |
| 340          |        | 149086 |        | 120992 | 317045 | 308122 |        | 380646 | 531695 |
| 360          |        |        |        | 206686 |        | 360983 |        | 399981 | 558281 |
| 380          |        |        |        |        |        | 390983 |        | 419314 | 584866 |
| 400          |        |        |        |        |        | 393671 |        | 438649 | 611451 |
| Qty. Per Box | 10     | 5      | 10     |        |        | 5      |        |        | 10     |

- (1) Material : High Grade Alloy Steel  
 (2) Threads : IS-4218  
 (3) Specifications : IS-2269 DIN 912 ISO-4762  
 (4) Mechanical Properties : IS-1367 Property Class 12.9  
 (5) Shaded sizes are fully threaded  
 (6) # Hot forged items, delivery period ex-stock or minimum one month can be extended upto 3 months.



## SOCKET HEAD CAP SCREWS

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST  
EFFECTIVE FROM 1st January, 2023

INCH  
SERIES  
BSW

| Diameter     | 1/8"   | 3/16"  | 1/4"   | 5/16"  | 3/8"   | 7/16"  | 1/2"   | 5/8"   | 3/4"   | 7/8"   | 1"     |   |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---|
|              | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench |   |
| Length (mm)  | 3/32"  | 5/32"  | 3/16"  | 7/32"  | 5/16"  | 5/16"  | 3/8"   | 1/2"   | 9/16"  | 9/16"  | 5/8"   |   |
| 3/8"         | 1398   | 596    |        |        |        |        |        |        |        |        |        |   |
| 1/2"         | 1398   | 596    | 692    | 984    | 1488   |        |        |        |        |        |        |   |
| 5/8"         | 1552   | 526    | 677    | 838    | 1445   |        |        |        |        |        |        |   |
| 3/4"         | 1552   | 596    | 712    | 899    | 1240   |        | 3794   |        | 21288  |        |        |   |
| 7/8"         | 1645   | 632    | 736    |        |        | 3447   |        |        |        |        |        |   |
| 1"           | 1645   | 666    | 798    | 975    | 1376   | 3335   | 3224   | 7172   | 18396  |        |        |   |
| 1.1/4"       |        | 737    | 877    | 1117   | 1508   | 3335   | 3380   | 6232   | 17897  |        |        |   |
| 1.1/2"       |        | 841    | 1006   | 1251   | 1679   | 3399   | 3438   | 6451   | 15784  | 25419  | 23828  |   |
| 1.3/4"       |        | 958    | 1232   | 1478   | 2007   |        | 3673   | 6862   | 16144  | 27162  |        |   |
| 2"           |        | 958    | 1199   | 1478   | 2084   | 3635   | 3755   | 7187   | 16596  | 26424  | 25238  |   |
| 2.1/4"       |        |        | 2429   | 1776   | 2407   | 4178   | 4331   |        | 16954  |        | 27967  |   |
| 2.1/2"       |        | 1261   | 2500   | 1776   | 2586   | 4376   | 4331   | 8028   | 16954  | 28465  | 27967  |   |
| 2.3/4"       |        |        |        |        | 2893   |        |        | 8573   |        |        | 31498  |   |
| 3"           |        |        | 2923   | 2105   | 2893   | 4804   | 5438   | 8813   | 19295  | 32074  | 30642  |   |
| 3.1/4"       |        |        |        |        |        |        |        |        | 20047  |        |        |   |
| 3.1/2"       |        |        | 3407   | 3617   | 4338   | 6214   | 6518   | 9961   | 19501  | 35373  | 33789  |   |
| 4"           |        |        | 3860   | 4292   | 5092   | 7197   | 7662   | 12208  | 21018  | 37320  | 37323  |   |
| 4.1/2"       |        |        |        | 6922   | 7719   |        | 9262   | 12600  | 24858  | 43884  | 41810  |   |
| 5"           |        |        |        | 7800   | 9158   |        | 11401  | 13897  | 27007  | 48462  | 46313  |   |
| 5.1/2"       |        |        |        | 12055  | 11006  |        | 12553  | 17741  | 30719  | 50458  | 48207  |   |
| 6"           |        |        |        | 14564  | 11651  |        | 12993  | 19332  | 33717  | 55243  | 53799  |   |
| 6.1/2"       |        |        |        |        |        |        | 25780  | 39947  | 43101  | 95908  | 88511  |   |
| 7"           |        |        |        | 23894  | 26128  |        | 26297  | 41060  | 44099  | 95908  | 91693  |   |
| 7.1/2"       |        |        |        | 42635  |        |        | 27328  | 42635  | 46014  | 99375  | 94972  |   |
| 8"           |        |        |        | 29454  | 28511  |        | 29272  | 44056  | 46014  | 98771  | 98155  |   |
| 8.1/2"       |        |        |        |        |        |        |        | 59258  | 54884  |        |        |   |
| 9"           |        |        |        |        |        |        | 50075  | 57768  | 54883  |        | 110426 |   |
| 10"          |        |        |        |        |        |        | 51569  | 75590  | 60983  |        | 122695 |   |
| 11"          |        |        |        |        |        |        |        | 112266 |        |        |        |   |
| Qty. per Box | 200    | 100    | 50     |        |        |        | 25     |        | 10     |        |        | 5 |

- (1) Material : High Grade Alloy Steel RC-38-44  
 (2) Threads : BS-84 (BSW)  
 (3) Specifications : BS-2470  
 (4) Mechanical Properties : BS-2470  
 (5) Shaded sizes are fully threaded :



## SOCKET SET SCREWS

**METRIC  
SERIES**

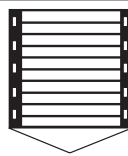
**RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST**

**EFFECTIVE FROM 1st January, 2023**

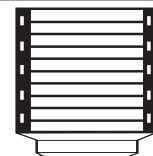
| Diameter     | M3     | M4     | M5     | M6     | M8     | M10    | M12    | M16    | M20    |  |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
|              | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench |  |
| Length (mm)  | 1.5mm  | 2mm    | 2.5mm  | 3mm    | 4mm    | 5mm    | 6mm    | 8mm    | 10mm   |  |
| 3            | 422    |        |        |        |        |        |        |        |        |  |
| 4            | 426    | 349    |        |        |        |        |        |        |        |  |
| 5            | 432    | 349    | 243    | 482    |        |        |        |        |        |  |
| 6            | 417    | 354    | 246    | 257    | 508    |        |        |        |        |  |
| 8            | 423    | 379    | 246    | 280    | 307    | 653    |        |        |        |  |
| 10           | 445    | 385    | 268    | 316    | 326    | 507    | 998    |        |        |  |
| 12           | 474    | 426    | 324    | 362    | 371    | 591    | 837    |        |        |  |
| 16           |        | 582    | 376    | 463    | 450    | 787    | 1002   | 2622   |        |  |
| 20           |        | 707    | 462    | 523    | 584    | 970    | 1269   | 2950   | 7084   |  |
| 25           |        | 766    | 571    | 647    | 885    | 1341   | 1741   | 3606   | 8203   |  |
| 30           |        |        | 684    | 853    | 1070   | 1653   | 2014   | 4130   | 9483   |  |
| 35           |        |        |        | 1307   | 1477   | 2005   | 2732   | 4965   | 10812  |  |
| 40           |        |        |        | 1479   | 1725   | 2283   | 3263   | 5717   | 11651  |  |
| 45           |        |        |        |        | 1998   | 2607   | 4016   | 7055   | 16840  |  |
| 50           |        |        |        |        | 2271   | 3029   | 4399   | 8005   | 18357  |  |
| 55           |        |        |        |        |        | 4759   | 7567   | 10747  | 20519  |  |
| 60           |        |        |        |        |        | 5901   | 6771   | 11242  | 21804  |  |
| 65           |        |        |        |        |        |        |        | 16390  | 24572  |  |
| 70           |        |        |        |        |        |        |        | 22946  | 25939  |  |
| 75           |        |        |        |        |        |        |        | 25674  | 28201  |  |
| 80           |        |        |        |        |        |        |        | 26224  |        |  |
| Qty. per Box | 200    |        |        |        |        | 100    |        |        |        |  |



**FLAT  
DIN 913  
ISO-4026**



**CONE  
DIN 914  
ISO-4027**



**HALF DOG  
DIN 915  
ISO-4028**

- (1) **Material** : **High Grade Alloy Steel**  
 (2) **Threads** : **Metric IS-4218**  
 (3) **Specifications** : **IS-6094**  
 (4) **Mechanical Properties** : **45H as per IS:1367**  
 (5) **Note : Prices for special points shown above will be 40% extra**





## SOCKET SET SCREWS

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST  
EFFECTIVE FROM 1st January, 2023

**INCH  
SERIES  
BSW**  
(Knurled  
Cup Point)

| Diameter     | 3/16"  | 1/4"   | 5/16"  | 3/8"   | 1/2"   | 5/8"   |
|--------------|--------|--------|--------|--------|--------|--------|
|              | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench |
| Length (mm)  | 3/32"  | 1/8"   | 5/32"  | 3/16"  | 1/4"   | 5/16"  |
| 3/16"        | 254    |        |        |        |        |        |
| 1/4"         | 246    | 293    |        |        |        |        |
| 5/16"        | 260    | 310    | 310    |        |        |        |
| 3/8"         | 268    | 324    | 324    | 425    |        |        |
| 1/2"         | 308    | 330    | 338    | 502    | 866    |        |
| 5/8"         |        | 430    | 418    | 593    | 972    | 2295   |
| 3/4"         |        | 654    | 548    | 885    | 1345   | 2363   |
| 7/8"         |        | 661    | 706    | 917    |        |        |
| 1"           |        | 637    | 766    | 1180   | 2114   | 3545   |
| 1.1/4"       |        | 741    | 1836   | 1287   | 2115   | 6649   |
| 1.1/2"       |        | 1253   | 1836   | 2557   | 4907   | 8966   |
| 1.3/4"       |        |        |        |        |        | 8966   |
| 2"           |        |        |        |        |        | 8153   |
| 2.1/2"       |        |        |        |        |        | 11879  |
| Qty. Per Box | 200    |        |        |        | 100    | 100    |

- |     |                       |   |                        |
|-----|-----------------------|---|------------------------|
| (1) | Material              | : | High Grade Alloy Steel |
| (2) | Threads               | : | BS-84 (BSW)            |
| (3) | Specifications        | : | BS-2470                |
| (4) | Mechanical Properties | : | BS-2470                |



## SOCKET COUNTER SUNK SCREWS

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST  
EFFECTIVE FROM 1st January, 2023

METRIC  
SERIES

| Diameter     | M3     | M4     | M5     | M6     | M8     | M10    | M12    | M16    | M20    | M24    |
|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|              | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench |
| Length (mm)  | 2mm    | 2.5mm  | 3mm    | 4mm    | 5mm    | 6mm    | 8mm    | 10mm   | 12mm   | 14mm   |
| 6            | 1040   | 997    |        |        |        |        |        |        |        |        |
| 8            | 1228   | 666    | 975    | 762    |        |        |        |        |        |        |
| 10           | 1319   | 666    | 545    | 769    | 1566   |        |        |        |        |        |
| 12           | 1415   | 672    | 566    | 660    | 1002   |        |        |        |        |        |
| 16           | 1603   | 760    | 760    | 822    | 974    | 1629   | 4941   |        |        |        |
| 20           | 1791   | 783    | 777    | 885    | 1046   | 1400   | 3158   |        |        |        |
| 25           | 1983   | 954    | 914    | 1024   | 1199   | 1618   | 2954   | 7026   |        |        |
| 30           |        | 1147   | 1147   | 1179   | 1370   | 1854   | 3368   | 5745   |        |        |
| 35           |        | 2367   | 1524   | 1339   | 1559   | 2121   | 3655   | 6190   | 10452  |        |
| 40           |        | 2540   | 2367   | 1575   | 1828   | 2430   | 3941   | 6614   | 10452  |        |
| 45           |        | 2875   | 2697   | 2805   | 2052   | 2744   | 4461   | 7064   | 11200  |        |
| 50           |        | 3221   | 3010   | 3509   | 3215   | 3079   | 4867   | 7515   | 12353  |        |
| 55           |        |        |        | 3859   | 3840   | 3493   | 5467   | 7934   | 13240  |        |
| 60           |        |        |        | 5231   | 4187   | 3865   | 5891   | 8384   | 14575  | 29611  |
| 65           |        |        |        |        |        |        | 6630   | 9222   | 15745  |        |
| 70           |        |        |        |        | 5562   |        | 7138   | 9694   | 16777  | 33863  |
| 75           |        |        |        |        |        |        | 7678   | 10171  | 17809  | 35988  |
| 80           |        |        |        |        |        |        | 8264   | 10683  | 18842  | 38111  |
| 90           |        |        |        |        |        |        | 11809  | 12113  | 19874  | 42364  |
| 100          |        |        |        |        |        |        | 13684  | 14647  | 24003  | 48172  |
| 110          |        |        |        |        |        |        |        | 19923  | 27874  | 53980  |
| 120          |        |        |        |        |        |        |        | 23807  | 30562  | 59790  |
| 130          |        |        |        |        |        |        |        | 27566  | 33250  | 65599  |
| 140          |        |        |        |        |        |        |        | 28819  | 49235  | 69521  |
| 150          |        |        |        |        |        |        |        | 31005  | 53995  | 69585  |
| 160          |        |        |        |        |        |        |        |        | 58754  | 74805  |
| 180          |        |        |        |        |        |        |        |        | 63514  | 82587  |
| 200          |        |        |        |        |        |        |        |        | 68773  | 99229  |
| Qty. Per Box | 200    |        |        |        | 100    |        | 50     | 25     | 10     |        |

- |     |                                 |   |                             |
|-----|---------------------------------|---|-----------------------------|
| (1) | Material                        | : | High Grade Alloy Steel      |
| (2) | Threads                         | : | IS-4218                     |
| (3) | Specifications                  | : | DIN-7991, IS 6761           |
| (4) | Mechanical Properties           | : | IS-1367 Property Class 12.9 |
| (5) | Shaded sizes are fully threaded | : |                             |



## SOCKET BUTTON HEAD SCREWS

METRIC  
SERIES

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST

EFFECTIVE FROM 1st January, 2023

| Diameter     | M3     | M4     | M5     | M6     | M8     | M10    |
|--------------|--------|--------|--------|--------|--------|--------|
|              | Wrench | Wrench | Wrench | Wrench | Wrench | Wrench |
| Length (mm)  | 2mm    | 2.5mm  | 3mm    | 4mm    | 5mm    | 6mm    |
| 5            |        | 1036   |        |        |        |        |
| 6            | 857    | 618    | 1126   | 2297   |        |        |
| 8            | 694    | 618    | 1073   | 1310   |        |        |
| 10           | 797    | 618    | 618    | 813    | 1360   |        |
| 12           | 886    | 679    | 679    | 852    | 1152   |        |
| 14           |        |        |        |        |        |        |
| 16           | 1122   | 827    | 797    | 946    | 985    | 1875   |
| 18           |        |        |        |        |        |        |
| 20           | 1949   | 842    | 891    | 1019   | 1210   | 1540   |
| 22           |        |        |        |        |        |        |
| 25           | 2141   | 1147   | 1042   | 1062   | 1417   | 1781   |
| 30           |        | 1629   | 1257   | 1108   | 1624   | 2032   |
| 35           |        |        | 1810   | 1605   | 1838   | 2319   |
| 40           |        |        | 1822   | 1834   | 2095   | 2570   |
| 45           |        |        | 2282   | 2683   | 3051   | 3719   |
| 50           |        |        | 2817   | 3086   | 3329   | 4190   |
| Qty. Per Box | 200    |        |        |        | 100    |        |

- |     |                                 |   |                                   |
|-----|---------------------------------|---|-----------------------------------|
| (1) | Material                        | : | High Grade Alloy Steel            |
| (2) | Threads                         | : | ISO Metric as per IS-4218         |
| (3) | Specifications                  | : | Generally confirming to ISO: 7380 |
| (4) | Mechanical Properties           | : | IS-1367, Property Class 12.9      |
| (5) | Shaded sizes are fully threaded | : |                                   |



## HEXAGONAL WRENCHES

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST

INCH  
&  
METRIC

EFFECTIVE FROM 1st January, 2023

| DIMENSIONS<br>ACROSS FLATS<br>(inch) | NET PRICE<br>PER 100<br>Pcs. | QTY.<br>PER<br>BOX |
|--------------------------------------|------------------------------|--------------------|
| 1/16"                                | 1328                         | 100                |
| 5/64"                                | 1464                         | 100                |
| 3/32"                                | 1464                         | 100                |
| 1/8"                                 | 1464                         | 100                |
| 5/32"                                | 1735                         | 100                |
| 3/16"                                | 2247                         | 100                |
| 7/32"                                | 3055                         | 50                 |
| 1/4"                                 | 4426                         | 50                 |
| 5/16"                                | 7353                         | 25                 |
| 3/8"                                 | 10876                        | 25                 |
| 1/2"                                 | 25093                        | 10                 |
| 9/16"                                | 32107                        | 10                 |
| 5/8"                                 | 46882                        | 10                 |
| 3/4"                                 | 75809                        | 5                  |

| DIMENSIONS<br>ACROSS FLATS<br>(mm) | NET PRICE<br>PER 100<br>Pcs. | QTY.<br>PER<br>BOX |
|------------------------------------|------------------------------|--------------------|
| 1.5                                | 1328                         | 100                |
| 2                                  | 1328                         | 100                |
| 2.5                                | 1328                         | 100                |
| 3                                  | 1464                         | 100                |
| 4                                  | 2298                         | 100                |
| 5                                  | 2804                         | 100                |
| 6                                  | 3993                         | 75                 |
| 8                                  | 7518                         | 25                 |
| 10                                 | 12548                        | 25                 |
| 12                                 | 23604                        | 10                 |
| 14                                 | 34719                        | 10                 |
| 17                                 | 54910                        | 10                 |
| 19                                 | 75773                        | 10                 |
| 22                                 | 119429                       | 5                  |
| 24                                 | 160575                       | 5                  |
| 27                                 | 270328                       | 2                  |
| 32                                 | 475403                       | 2                  |

## HEXAGONAL WRENCHES SETS

| TYPE                 | SIZES ACROSS FLATS OF WRENCHES                                    | PRICES/SET |
|----------------------|---|------------|
| STANDARD<br>(Metric) | 1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm, 8mm, 10mm                  | 412        |
| STANDARD<br>(inch)   | 1/16", 5/64", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8" | 432        |

- |                           |   |  |
|---------------------------|---|--|
| (1) Material              | : | High Grade Alloy Steel                                     |
| (2) Specifications        | : | Inch Series BS-2470<br>Metric Series : IS :3082, DIN : 911 |
| (3) Mechanical Properties | : | Hardness HRC 47 Min.                                       |





## HEXAGONAL HEAD BOLTS/SCREWS

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST

METRIC  
SERIES  
GRADE  
8.8/10.9

EFFECTIVE FROM 1st January, 2023

| Diameter \ Length (mm) | M3           | M4         | M5         | M6          | M8          | M10         | M12         | M14         | M16         | M18         | M20         | M22         | M24         |
|------------------------|--------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
|                        | Wrench 5.5mm | Wrench 7mm | Wrench 8mm | Wrench 10mm | Wrench 13mm | Wrench 16mm | Wrench 18mm | Wrench 21mm | Wrench 24mm | Wrench 27mm | Wrench 30mm | Wrench 34mm | Wrench 36mm |
| 6                      |              |            |            | 1200        |             |             |             |             |             |             |             |             |             |
| 8                      |              | 404        | 698        | 633         |             |             |             |             |             |             |             |             |             |
| 10                     | 439          | 360        | 382        | 496         | 842         | 1964        |             |             |             |             |             |             |             |
| 12                     | 439          | 374        | 389        | 523         | 712         | 1930        |             |             |             |             |             |             |             |
| 14                     |              |            | 520        | 532         |             |             |             |             |             |             |             |             |             |
| 16                     | 439          | 614        | 571        | 542         | 723         | 1256        | 2271        |             |             |             |             |             |             |
| 18                     |              |            | 629        | 549         | 670         | 1248        |             |             |             |             |             |             |             |
| 20                     | 467          | 531        | 507        | 542         | 605         | 1178        | 1934        | 4690        | 4373        |             |             |             |             |
| 22                     |              |            | 539        | 558         | 736         | 1296        | 2039        |             |             |             |             |             |             |
| 25                     |              | 540*       | 531*       | 560         | 735         | 1272        | 2039        | 3166        | 4404        |             |             |             |             |
| 30                     |              | 539        | 574*       | 586*        | 823         | 1315        | 2024        | 3256        | 4654        | 11624       | 9741        |             |             |
| 35                     |              | 553        | 580        | 628*        | 855*        | 1415        | 2136        | 3589        | 4668        |             | 9598        |             |             |
| 40                     |              | 587        | 614        | 657*        | 974*        | 1663*       | 2232*       | 3576        | 4724        | 8575        | 9598        |             | 20002       |
| 45                     |              | 659        | 671        | 699*        | 1058*       | 1729*       | 2602*       | 3750*       | 5064        | 8937        | 9741        |             | 16149       |
| 50                     |              | 734        | 808        | 748*        | 1140*       | 1869*       | 2790*       | 4234*       | 5365        | 9213        | 9980        | 12823       | 16149       |
| 55                     |              |            |            | 823         | 1250*       | 1992*       | 2895*       | 4467*       | 5726*       | 9843        | 10485       | 13803       | 16204       |
| 60                     |              |            |            | 899         | 1364*       | 2134*       | 3047*       | 4494*       | 6151*       | 10151       | 11104       | 14298       | 16789       |
| 65                     |              |            |            | 975         | 1410*       | 2274*       | 3255*       | 4773*       | 6499*       | 10495       | 11466*      | 16058       | 16789       |
| 70                     |              |            |            | 1051        | 1520*       | 2415*       | 3562*       | 5316*       | 6902*       | 11104       | 11774*      | 16593       | 18424       |
| 75                     |              |            |            | 1060        | 1596*       | 2557*       | 3709*       | 5580*       | 7388*       | 11766       | 12378*      | 17164       | 19105       |
| 80                     |              |            |            | 1116        | 1705*       | 2978*       | 3924*       | 5886*       | 8064*       | 11766       | 12715*      | 17825       | 20991*      |
| 85                     |              |            |            | 1453        | 2122        | 3602*       | 5212*       |             | 9179*       |             | 15300*      |             |             |
| 90                     |              |            |            | 1259        | 2136        | 3305*       | 4300*       | 6443        | 8620*       | 12510       | 14305*      | 18987       | 22404*      |
| 95                     |              |            |            |             | 2990        | 4416*       | 6230*       |             | 10169*      |             |             |             |             |
| 100                    |              |            |            | 1399        | 2386        | 3590*       | 5023*       | 7430        | 9372*       | 13268       | 15300*      | 21028       | 24219*      |
| 110                    |              |            |            |             | 2699        | 3896        | 5580*       | 8433        | 10172*      | 14590       | 16157*      | 22056       | 25180*      |
| 120                    |              |            |            |             | 3437        | 4598        | 5942*       | 8927        | 11348*      | 15383       | 18000*      | 23537       | 26648*      |
| 125                    |              |            |            |             |             | 6256        | 7206        |             |             |             |             |             |             |
| 130                    |              |            |            |             | 3625        | 5531        | 6317        | 9346        | 13567*      | 16072       | 19100*      | 24825       | 28251*      |
| 140                    |              |            |            |             | 4327        | 5719        | 7498        | 13566       | 13845*      | 16789       | 20400*      | 26056       | 30246*      |
| 150                    |              |            |            |             | 4836        | 6948        | 10537       | 14973       | 16378*      | 17957       | 21445*      | 27288       | 32406*      |
| 160                    |              |            |            |             | 5846        | 7408        | 10910       | 16719       | 17060       | 19912       | 22900       | 29702       | 33368       |
| 170                    |              |            |            |             |             | 8334        | 11864       |             | 20827       |             | 25694       |             | 33285       |
| 180                    |              |            |            |             | 6307        |             | 11834       |             | 19189       | 21562       | 25390       | 32234       | 37356       |
| 200                    |              |            |            |             | 7116        | 9363        | 15648       |             | 20775       | 23204       | 27800       | 38697       | 41169       |
| 220                    |              |            |            |             |             | 20710       | 23484       |             | 27990       | 27928       | 44643       | 61170       | 70412       |
| 240                    |              |            |            |             |             | 24162       | 24063       |             | 30124       | 31008       | 46882       | 66260       | 72933       |
| 260                    |              |            |            |             |             |             | 24581       |             | 30734       | 33592       | 49121       | 68809       | 75459       |
| 280                    |              |            |            |             |             |             | 26845       |             | 33929       | 36177       | 53588       | 76477       | 82987       |
| 300                    |              |            |            |             |             |             | 28762       |             | 39734       | 38762       | 58032       | 81943       | 101452      |
| 320                    |              |            |            |             |             |             |             |             |             |             | 72700       |             | 159719      |
| 340                    |              |            |            |             |             |             |             |             |             |             | 84360       |             | 193599      |
| 360                    |              |            |            |             |             |             |             |             |             |             | 101230      |             | 260590      |
| 380                    |              |            |            |             |             |             |             |             |             |             | 131590      |             | 309451      |
| 400                    |              |            |            |             |             |             |             |             |             |             | 164499      |             | 364455      |
| Qty. / Box             | 200          |            |            | 100         | 50          | 25          | 10          |             |             | 5           |             |             |             |

- (1) Specifications : IS-1364, ISO:4014/4017/4032 EN 24014/24017/24032
- (2) Threads : IS-4218
- (3) Supply Condition : IS-1367
- (4) Extra Charges for zinc passivated finish
- (5) Shaded sizes are fully threaded
- (6) \*These sizes are available fully threaded also
- (7) \*Hot forged items, Delivery period ex. stock or minimum one month can be extended upto three months



## HEXAGONAL HEAD BOLTS/ SCREWS

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST EFFECTIVE FROM 1st January, 2023

METRIC  
SERIES  
GRADE  
10.9

| Diameter    | M27    | M30    | M33 #  | M36 #  | M42 #  |
|-------------|--------|--------|--------|--------|--------|
|             | Wrench | Wrench | Wrench | Wrench | Wrench |
| Length (mm) | 41mm   | 46mm   | 50mm   | 55mm   | 65mm   |
| 50          |        | 47675  |        |        |        |
| 60          | 37012  | 47675  |        |        |        |
| 65          |        |        |        |        |        |
| 70          | 37012  | 47675  |        |        |        |
| 75          | 39805  | 47675  | 67348  | 83585  |        |
| 80          | 41488  | 49613  | 68184  | 85193  |        |
| 85          |        |        |        |        |        |
| 90          | 45347  | 53855  | 72401  | 91680  | 134445 |
| 95          |        |        |        |        |        |
| 100         | 49064  | 57957  | 77333  | 95375  | 142172 |
| 110         | 52906  | 63751  | 83317  | 101862 | 149939 |
| 120         | 54248  | 65158  | 85003  | 103836 | 151095 |
| 125         |        |        |        |        |        |
| 130         | 56034  | 68093  | 89972  | 109275 | 157475 |
| 140         | 59582  | 72316  | 95597  | 115510 | 166239 |
| 150         | 63129  | 76378  | 105368 | 121701 | 174984 |
| 160         | 66786  | 85070  | 105421 | 127921 | 183739 |
| 170         |        |        |        |        |        |
| 180         | 73813  | 93837  | 115614 | 148634 | 200429 |
| 200         | 80485  | 102277 | 125800 | 160936 | 209497 |
| 220         | 111036 | 123344 | 152162 | 192926 | 268723 |
| 240         | 119497 | 132138 | 163405 | 206966 | 288667 |
| 260         | 127567 | 140926 | 175714 | 221014 | 308673 |
| 280         | 135311 | 149713 | 187987 | 234693 | 328641 |
| 300         | 141614 | 159662 | 199940 | 281795 | 348594 |
| 320         |        | 208840 |        | 417680 | 459447 |
| 340         |        | 188511 |        | 484508 | 517922 |
| 360         |        | 245669 |        | 534916 | 580575 |
| 380         |        | 325790 |        | 584751 | 643708 |
| 400         |        | 344265 |        | 643227 | 710056 |
| Qty. / Box  | 5      |        |        |        |        |



## HEX NUTS

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST EFFECTIVE FROM 1st January, 2023

METRIC  
SERIES

| Size              | Grade | Prize | Qty. Per Box |
|-------------------|-------|-------|--------------|
| M4x0.70           | 8     | 112   | 1000         |
| M5x0.80           | 8     | 139   | 1000         |
| M6x1              | 8     | 193   | 1000         |
| M8x1.25           | 8     | 252   | 500          |
| M10x1/1.25/1.5    | 8     | 489   | 200          |
| M12x1.25/1.5/1.75 | 8     | 763   | 200          |
| M10x1.5           | 10    | 565   | 200          |
| M12x1.5/1.75      | 10    | 869   | 200          |
| M14x1.5/2         | 10    | 1519  | 200          |

| Size      | Grade | Prize  | Qty. Per Box |
|-----------|-------|--------|--------------|
| M16x1.5/2 | 10    | 1877   | 200          |
| M18x2.5   | 10    | 2902   | 125          |
| M20x2.5   | 10    | 3611   | 100          |
| M22x2.5   | 10    | 5058   | 80           |
| M24x3     | 10    | 6389   | 50           |
| M27x3     | 10    | 10616  | 30           |
| M30x3.5   | 10    | 15286  | 25           |
| M33x3.5   | 10    | 21030  | 15           |
| M36x4     | 10    | 27148  | 12           |
| M42x4.5   | 10    | 45530  | 10           |
| M48x5     | 10    | 65463  | 10           |
| M56x5.5   | 10    | 100184 | 6            |
| M60x5.5   | 10    | 182526 | 4            |
| M64x6     | 10    | 189023 | 4            |

- (1) Specifications : Hex Bolt : IS-1364, ISO : 4014/4017  
Hex Nut : IS-1364, ISO-4032  
(2) Threads : IS-4218  
(3) Supply Condition : IS-1367  
(4) Extra Charges for zinc passivated finish : IS-1367  
(5) Shaded sizes are fully threaded  
(6) # Hot forged items, Delivery, period ex. stock or minimum one month can be extended up to three months



## HEXAGONAL HEAD BOLTS / SCREWS

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST

INCH  
SERIES  
UNC/UNF  
GR.S  
GR.5/GR.8

EFFECTIVE FROM 1st January, 2023

| Diameter     | 1/4"   |     | 5/16"  |      | 3/8"   |      | 7/16"  |      | 1/2"   |       | 5/8"     |       | 3/4"   |       | 7/8"     |       | 1"     |       |
|--------------|--------|-----|--------|------|--------|------|--------|------|--------|-------|----------|-------|--------|-------|----------|-------|--------|-------|
|              | Wrench |     | Wrench |      | Wrench |      | Wrench |      | Wrench |       | Wrench   |       | Wrench |       | Wrench   |       | Wrench |       |
| Length (mm)  | 7/16"  |     | 1/2"   |      | 9/16"  |      | 5/8"   |      | 3/4"   |       | 1.5/1.6" |       | 1.1/8" |       | 1.5/1.6" |       | 1.1/2" |       |
|              | UNF    | UNC | UNF    | UNC  | UNF    | UNC  | UNF    | UNC  | UNF    | UNC   | UNF      | UNC   | UNF    | UNC   | UNF      | UNC   | UNF    | UNC   |
| 3/8"         |        |     |        |      |        |      |        |      |        |       |          |       |        |       |          |       |        |       |
| 1/2"         | 582    | 615 | 778    | 821  |        |      |        |      |        |       |          |       |        |       |          |       |        |       |
| 5/8"         | 724    | 763 | 778    | 786  |        | 1283 |        |      |        |       |          |       |        |       |          |       |        |       |
| 3/4"         | 658    | 694 | 719    | 756  | 1111   | 1118 |        | 1562 |        | 2409  |          |       |        |       |          |       |        |       |
| 7/8"         |        |     |        | 827  |        | 1352 |        | 1758 |        |       |          |       |        |       |          |       |        |       |
| 1"           | 649    | 683 | 785    | 823  | 1088   | 1104 | 1881   | 1758 | 2574   | 2539  |          | 4436  |        |       |          |       |        |       |
| 1.1/4"       |        | 699 |        | 906  | 1215   | 1233 | 1907   | 1782 | 2782   | 2833  |          | 4953  |        |       |          |       |        |       |
| 1.1/2"       |        | 775 |        | 1103 | 1378   | 1394 | 2059   | 1925 | 2966   | 3021  | 5161     | 5195  | 9929   | 9382  |          | 20335 |        | 19919 |
| 1.3/4"       | 994    | 848 |        | 1235 |        | 1626 |        | 2442 |        | 3248  |          | 5543  |        | 9739  |          | 22338 |        | 19919 |
| 2"           | 994    | 931 |        | 1316 | 1768   | 1786 | 2612   | 2442 | 3489   | 3537  | 5802     | 5822  | 10470  | 10376 |          | 24533 |        | 20938 |
| 2.1/4"       |        |     | 1477   | 1446 |        | 1956 |        |      |        | 3906  |          | 6340  |        | 11396 |          |       |        | 21749 |
| 2.1/2"       |        |     | 1528   | 1589 |        | 2147 |        | 3068 | 4108   | 4159  | 6906     | 6429  | 11679  | 11955 |          | 19780 |        | 22748 |
| 2.3/4"       |        |     |        | 1719 |        | 2392 |        |      |        | 5049  |          | 7496  |        | 13041 |          | 19780 |        | 24252 |
| 3"           |        |     | 1841   | 1807 |        | 2534 | 3718   | 3475 | 4976   | 5049  | 8041     | 8081  | 13366  | 13553 |          | 20724 |        | 26562 |
| 3.1/4"       |        |     |        |      |        |      |        |      | 5454   | 5415  |          | 8603  |        | 14148 |          |       |        | 27592 |
| 3.1/2"       |        |     | 2103   | 2078 | 3040   | 2879 | 4137   | 3866 | 5526   | 5601  |          | 9114  |        | 15294 |          | 22854 |        | 28752 |
| 3.3/4"       |        |     |        |      |        | 3528 |        |      |        | 5893  |          |       |        | 16416 |          |       |        |       |
| 4"           |        |     | 2835   |      |        | 3792 |        | 5086 |        | 6140  |          | 10347 |        | 17177 |          | 25689 |        | 31649 |
| 4.1/4"       |        |     |        |      |        | 4218 |        |      |        | 6521  |          |       |        |       |          | 27232 |        |       |
| 4.1/2"       |        |     |        |      |        | 4465 |        |      |        | 7103  |          | 11107 |        | 18413 |          | 28529 |        | 34895 |
| 5"           |        |     |        |      |        | 4959 |        |      |        | 7758  |          | 12504 |        | 19586 |          | 30698 |        | 38935 |
| 5.1/2"       |        |     |        |      |        |      |        |      |        | 9471  |          | 14384 |        | 21995 |          | 32341 |        | 42083 |
| 6"           |        |     |        |      |        |      |        |      |        | 11501 |          | 15080 |        | 22579 |          | 34327 |        | 44032 |
| 6.1/2"       |        |     |        |      |        |      |        |      |        | 14129 |          | 17592 |        | 24400 |          | 36226 |        | 47751 |
| 7"           |        |     |        |      |        |      |        |      |        | 17281 |          | 18946 |        | 24400 |          | 39987 |        | 51465 |
| 7.1/2"       |        |     |        |      |        |      |        |      |        |       |          | 20298 |        | 26218 |          |       |        | 55067 |
| 8"           |        |     |        |      |        |      |        |      |        | 19752 |          | 20669 |        | 28728 |          | 43910 |        | 57618 |
| 9"           |        |     |        |      |        |      |        |      |        |       |          | 23251 |        | 30034 |          |       |        |       |
| 10"          |        |     |        |      |        |      |        |      |        |       |          | 25838 |        | 33789 |          |       |        |       |
| 11"          |        |     |        |      |        |      |        |      |        |       |          | 39582 |        | 35914 |          |       |        |       |
| 12"          |        |     |        |      |        |      |        |      |        |       |          | 46566 |        | 39179 |          |       |        |       |
| Qty. per Box | 200    |     | 100    |      | 50     |      | 25     |      |        |       | 10       |       |        |       | 5        |       |        |       |

- (1) Specifications : UNC & UNF  
 (2) Threads : BS-1768, ANSI B-18,2.1  
 (3) Supply Condition : BS-1580, B1.1  
 (4) Extra Charges for zinc passivated finish : as per BS:1768 & SAE : J-429  
 (5) Shaded sizes are fully threaded



## HEXAGONAL HEAD BOLTS/ SCREWS

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST  
EFFECTIVE FROM 1st January, 2023

INCH  
SERIES  
BSF/BSW  
GR.R

| Diameter<br>Length (mm) | 1/4" | 5/16" |      | 3/8" |      | 7/16" | 1/2" |      | 5/8"  |
|-------------------------|------|-------|------|------|------|-------|------|------|-------|
|                         | BSF  | BSF   | BSW  | BSF  | BSW  | BSF   | BSW  | BSF  | BSF   |
| 1/2"                    | 582  | 778   |      |      |      |       |      |      |       |
| 5/8"                    |      | 778   |      |      |      |       |      |      |       |
| 3/4"                    | 658  | 719   |      | 1111 | 1111 |       |      |      |       |
| 7/8"                    |      |       |      |      |      |       |      |      |       |
| 1"                      | 649  | 785   |      | 1088 | 1088 |       | 2574 | 2574 |       |
| 1.1/4"                  | 662  | 868   |      |      | 1216 |       | 2783 |      |       |
| 1.1/2"                  |      | 1053  | 1053 | 1378 | 1378 |       | 2966 |      | 5161  |
| 1.3/4"                  |      |       |      |      |      |       |      | 3201 |       |
| 2"                      |      | 1265  |      | 1768 |      | 2612  | 3489 | 3489 | 5802  |
| 2.1/4"                  |      |       |      |      |      |       |      | 3958 |       |
| 2.1/2"                  |      | 1528  |      | 2122 |      | 3283  |      | 4108 | 6906  |
| 2.3/4"                  |      |       |      |      |      |       |      | 4735 |       |
| 3"                      |      | 1841  |      | 2504 |      | 3718  |      | 4976 | 8041  |
| 3.1/4"                  |      |       |      | 3004 |      |       |      |      | 9203  |
| 3.1/2"                  |      |       |      | 3040 |      | 4137  | 5526 | 5526 | 9081  |
| 4"                      |      |       |      |      |      |       |      | 6070 | 10315 |
| Qty. / Box              | 200  | 100   |      | 50   |      | 25    |      | 10   |       |

- (1) Specifications
- (2) Threads
- (3) Supply Condition
- (4) Extra Charges for zinc passivated finish
- (5) Shaded sizes are fully threaded

INCH (BSF/BSW)

BS-1083  
BS-84  
as per BS " 1083

**Hardness Washer  
As per ISO : 7089**

| Size | Price / 100 INR |
|------|-----------------|
| M12  | 614             |
| M16  | 1069            |
| M20  | 1563            |
| M22  | 1864            |
| M24  | 2860            |
| M27  | 3664            |
| M30  | 4565            |
| M36  | 7434            |



RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST  
EFFECTIVE FROM 1st January, 2023

INCH  
SERIES

| Size inch         | GRADE | Net Price Per100 pcs. | Qty. Per Box |
|-------------------|-------|-----------------------|--------------|
| 5/16" UNC UNF/BSF | S     | 283                   | 200          |
| 3/8" UNC UNF/BSF  | S     | 419                   | 200          |
| 7/16" UNC UNF/BSF | S     | 931                   | 200          |
| 1/2" UNC UNF      | S     | 947                   | 200          |
| 1/2" BSF          | R     | 1044                  | 200          |

| Size inch | GRADE | Net Price Per100 pcs. | Qty. Per Box |
|-----------|-------|-----------------------|--------------|
| 5/8" UNC  | 8     | 1991                  | 500          |
| 5/8" BSF  | 8     | 2359                  | 200          |
| 3/4" UNC  | 8     | 3920                  | 125          |
| 7/8" UNC  | 8     | 6385                  | 60           |
| 1" UNC    | 8     | 7140                  | 50           |

UNC/UNF

- (1) Specifications : BS-1768, ANSI:B18,2.2
- (2) Threads Fit : BS-1580 B1.1
- (3) Supply Condition : BS 1768, B18.2, SAE :J-429

BSF

BS-1083  
BS-84  
BS 1083

1. Specification : Generally confirm to 300 HV Minimum. With black finish.

2. No guarantee can given for UPSLamshi products which are plated by users or by outside platers.

3. Products can be supplied with electoplated, Geomat or Hot Dip Galvanised, price provide according to customer requirement.



## HIGH STRENGTH STRUCTURAL BOLTS (STD. IS 3757)

RECOMMENDED CONSUMER NET PRICES IN RUPEES PER 100 PIECES  
EXCLUSIVE OF GST EFFECTIVE FROM 1st January, 2023

METRIC  
SERIES  
GRADE  
10.9

| Diameter<br>Length (mm) | M 16  | M 20  | M 22  | M 24  | M 27  | M 30   | M 36   |
|-------------------------|-------|-------|-------|-------|-------|--------|--------|
|                         | 40    | 5481  | 10131 |       |       |        |        |
| 45                      | 5971  | 10903 |       |       |       |        |        |
| 50                      | 6281  | 11400 | 15462 |       |       |        |        |
| 55                      | 6487  | 11907 | 15901 | 20137 |       |        |        |
| 60                      | 6918  | 12724 | 16553 | 20848 | 42453 |        |        |
| 65                      | 7297  | 13284 | 18067 | 22580 |       |        |        |
| 70                      | 7712  | 13760 | 18927 | 22928 | 44437 |        |        |
| 75                      | 8253  | 14284 | 19518 | 24940 | 47168 | 56972  |        |
| 80                      | 9063  | 14687 | 20205 | 25423 | 49287 | 58989  |        |
| 90                      | 9504  | 15611 | 22212 | 28091 | 52366 | 60619  |        |
| 100                     | 10310 | 16512 | 22717 | 30171 | 56221 | 65005  |        |
| 110                     | 11134 | 17150 | 24524 | 30912 | 58435 | 70762  |        |
| 120                     | 12278 | 18603 | 26145 | 32123 | 60162 | 72135  | 127524 |
| 130                     | 14098 | 20006 | 27604 | 33517 | 61885 | 75601  | 134812 |
| 140                     | 14323 | 20623 | 28867 | 34956 | 65606 | 80081  | 141889 |
| 150                     | 16982 | 21736 | 30269 | 36535 | 69286 | 84401  | 149246 |
| 160                     | 18380 | 25890 | 34347 | 41517 | 76313 | 95360  | 156253 |
| 170                     | 19518 | 26986 | 36950 | 44997 | 83990 | 104996 | 163660 |
| 180                     | 20655 | 28088 | 37226 | 47030 | 84029 | 104605 | 170548 |
| 200                     | 23298 | 31497 | 40017 | 50527 | 91192 | 113799 | 184280 |
| 220                     |       | 42869 |       | 71725 |       | 122994 | 198293 |
| 240                     |       |       |       | 72576 |       | 132190 | 212309 |
| 260                     |       |       |       | 72576 |       | 141387 | 227023 |
| 280                     |       |       |       |       |       |        | 241037 |
| 300                     |       |       |       |       |       |        | 255051 |

## High Strength Structural Nuts STD. IS 6623

METRIC

| Diameter       | M 16 | M 20 | M 22 | M 24 | M 27  | M 30  | M 36  |
|----------------|------|------|------|------|-------|-------|-------|
| Price/100 Pcs. | 2678 | 5424 | 6333 | 9089 | 14712 | 18610 | 32092 |

## High Strength Structural Washers STD. IS 6649

METRIC

| Diameter       | M 16 | M 20 | M 22 | M 24 | M 27 | M 30 | M 36 |
|----------------|------|------|------|------|------|------|------|
| Price/100 Pcs. | 1696 | 2123 | 3023 | 3196 | 5138 | 6392 | 9740 |

1. Specifications : Bolts IS 3757, Nuts IS 6623, Washers IS 6649
2. Threads : As per IS 4218
3. Supply Conditions / Property Class : As per IS 1367 / 10.9 S for Bolts
4. Nuts : Property Class 10S as per IS 1367 , Washer : Hardness : HRC 38-45 as per IS 6649
5. Plating : No guarantee can given for UPSL Products which are plated by users or by outside plates.
6. Plating charges extra. If you required in plating / Hot dip condition.

### Punch Washer as per std. DIN 125A

| Size | Price/ 100 Pcs. |
|------|-----------------|
| 5    | 65              |
| 6    | 87              |
| 8    | 131             |
| 10   | 305             |
| 12   | 446             |
| 16   | 789             |
| 20   | 1307            |
| 24   | 2450            |
| 27   | 3430            |
| 30   | 4029            |
| 36   | 6533            |



**Our  
Other  
Product  
Range**

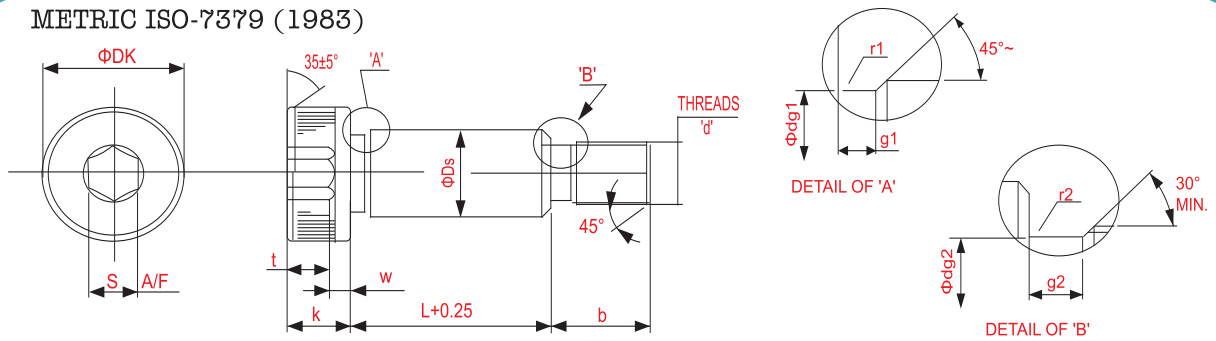




# ISO 7379-1983 Hexagon Socket Shoulder Screws-Alloy Steel



METRIC ISO-7379 (1983)



## Range & General Specification

|                           |   |
|---------------------------|---|
| Product Standard          | ISO 7379-1983 ( For Shoulder Dia Less Than 6.0MM Refer Our NORM 1016 )  |
| Mechanical Property Class | 012.9 - ( 39-43 HRC) As per ISO 898-Part1 (However 010.9 class can be supplied against specific requirement)  |
| Surface Finish            | Shoulder as GROUND Finish and other surface as Thermal Blackened.<br>Over all Surface Coating of Geomet or, Dacro, or Zinc Flake etc, can be provided against specific requirement. |
|                           | Electro Zinc Plating as per ISO 4042 is not advisable due to hazard of residual of Hydrogen Em-brittlement, even baking for 8 hours after Zinc Plating.                             |

| Shoulder Dia "Ds " | Nominal | *6.0 | 6.5 | 8.0 | 10.0 | *12.0 | 13.0 | 16.0 | 20.0 | *24.0 | 25.0 |
|--------------------|---------|------|-----|-----|------|-------|------|------|------|-------|------|
| 6                  |         |      |     |     |      |       |      |      |      |       |      |
| 8                  |         |      |     |     |      |       |      |      |      |       |      |
| 10                 |         |      |     |     |      |       |      |      |      |       |      |
| 12                 |         |      |     |     |      |       |      |      |      |       |      |
| 16                 |         |      |     |     |      |       |      |      |      |       |      |
| 20                 |         |      |     |     |      |       |      |      |      |       |      |
| 25                 |         |      |     |     |      |       |      |      |      |       |      |
| 30                 |         |      |     |     |      |       |      |      |      |       |      |
| 35                 |         |      |     |     |      |       |      |      |      |       |      |
| 40                 |         |      |     |     |      |       |      |      |      |       |      |
| 45                 |         |      |     |     |      |       |      |      |      |       |      |
| 50                 |         |      |     |     |      |       |      |      |      |       |      |
| 60                 |         |      |     |     |      |       |      |      |      |       |      |
| 70                 |         |      |     |     |      |       |      |      |      |       |      |
| 80                 |         |      |     |     |      |       |      |      |      |       |      |
| 90                 |         |      |     |     |      |       |      |      |      |       |      |
| 100                |         |      |     |     |      |       |      |      |      |       |      |
| 110                |         |      |     |     |      |       |      |      |      |       |      |
| 120                |         |      |     |     |      |       |      |      |      |       |      |
| 130                |         |      |     |     |      |       |      |      |      |       |      |
| 140                |         |      |     |     |      |       |      |      |      |       |      |
| 150                |         |      |     |     |      |       |      |      |      |       |      |
| 160                |         |      |     |     |      |       |      |      |      |       |      |
| 180                |         |      |     |     |      |       |      |      |      |       |      |
| 200                |         |      |     |     |      |       |      |      |      |       |      |

Range : Standard ■ UPS ■



## Dimension & Technical Specification

|   |                         |         |         |         |          |          |         |          |         |         |         |
|---|-------------------------|---------|---------|---------|----------|----------|---------|----------|---------|---------|---------|
| <b>** Shoulder Dia<br/>"Ds, Tol. f9"</b>          | Nominal                 | *6.0    | 6.5     | 8.0     | 10.0     | *12.0    | 13.0    | 16.0     | 20.0    | *24.0   | 25.0    |
|   | Max.                    | 5.990   | 6.487   | 7.987   | 9.987    | 11.984   | 12.984  | 15.984   | 19.980  | 23.980  | 24.980  |
|   | Min.                    | 5.960   | 6.451   | 7.951   | 9.951    | 11.941   | 12.941  | 15.941   | 19.928  | 23.928  | 24.928  |
|   | Max. After Coating***   | 6.055   | 6.555   | 8.055   | 10.055   | 12.060   | 13.060  | 16.060   | 20.065  | 24.065  | 25.065  |
| <b>Thread "d"</b>                                 | Thread Class "5g6g"**** | M5 X0.8 | M5 X0.8 | M6 X1.0 | M8 X1.25 | M10 X1.5 | M10X1.5 | M12X1.75 | M16X2.0 | M20X2.5 | M20X2.5 |
| <b>Thread Length "b"</b>                          | Nominal                 | 9.50    | 9.50    | 11.00   | 13.00    | 16.00    | 16.00   | 18.00    | 22.00   | 27.00   | 27.00   |
|   | Max.                    | 9.75    | 9.75    | 11.25   | 13.25    | 16.40    | 16.40   | 18.40    | 22.40   | 27.40   | 27.40   |
|   | Min.                    | 9.25    | 9.25    | 10.75   | 12.75    | 15.60    | 15.60   | 17.60    | 21.60   | 26.60   | 26.60   |
| <b>Head Dia "Dk"</b>                              | Nominal                 | 10.00   | 10.00   | 13.00   | 16.00    | 18.00    | 18.00   | 24.00    | 30.00   | 36.00   | 36.00   |
|   | Max.                    | 10.22   | 10.22   | 13.27   | 16.27    | 18.27    | 18.27   | 24.33    | 30.33   | 36.39   | 36.39   |
|   | Min.                    | 9.78    | 9.78    | 12.73   | 15.73    | 17.73    | 17.73   | 23.67    | 29.67   | 35.61   | 35.61   |
| <b>Head Height "k"</b>                            | Nominal                 | 4.50    | 4.50    | 5.50    | 7.00     | 9.00     | 9.00    | 11.00    | 14.00   | 16.00   | 16.00   |
|   | Max.                    | 4.50    | 4.50    | 5.50    | 7.00     | 9.00     | 9.00    | 11.00    | 14.00   | 16.00   | 16.00   |
|   | Min.                    | 4.32    | 4.32    | 5.32    | 6.78     | 8.78     | 8.78    | 10.73    | 13.73   | 15.73   | 15.73   |
| <b>Socket Size "s"</b>                            | Nominal                 | 3.00    | 3.00    | 4.00    | 5.00     | 6.00     | 6.00    | 8.00     | 10.00   | 12.00   | 12.00   |
|   | Max.                    | 3.080   | 3.080   | 4.095   | 5.095    | 6.095    | 6.095   | 8.115    | 10.115  | 12.142  | 12.142  |
|   | Min.                    | 3.020   | 3.020   | 4.020   | 5.020    | 6.020    | 6.020   | 8.025    | 10.025  | 12.032  | 12.032  |
| <b>Socket Depth "t"</b>                           | Max.                    | 3.32    | 3.32    | 4.17    | 5.18     | 6.99     | 6.98    | 8.73     | 10.53   | 12.48   | 12.48   |
|   | Min.                    | 2.40    | 2.40    | 3.30    | 4.20     | 4.90     | 4.90    | 6.60     | 8.80    | 10.00   | 10.00   |
| <b>Wall thickness "w"</b>                         | Min.                    | 1.00    | 1.00    | 1.15    | 1.60     | 1.80     | 1.80    | 2.00     | 3.20    | 3.25    | 3.25    |
| <b>Shoulder Neck Detail</b>                       | Dia "dg1" Max.          | 5.42    | 5.92    | 7.42    | 9.42     | 11.42    | 12.42   | 15.42    | 19.42   | 23.42   | 24.42   |
|   | Width "g1" Max.         | 2.50    | 2.50    | 2.50    | 2.50     | 2.50     | 2.50    | 2.50     | 2.50    | 3.00    | 3.00    |
|   | Radius "r1" Min.        | 0.25    | 0.25    | 0.40    | 0.60     | 0.60     | 0.60    | 0.60     | 0.80    | 0.80    | 0.80    |
| <b>Thread Neck Detail</b>                         | Dia "dg2" Min.          | 3.68    | 3.68    | 4.40    | 6.03     | 7.69     | 7.69    | 9.35     | 12.96   | 16.30   | 16.30   |
|   | Width "g2" Max.         | 2.00    | 2.00    | 2.50    | 3.10     | 3.70     | 3.70    | 4.40     | 5.00    | 6.30    | 6.30    |
|   | Radius "r2" Min.        | 0.50    | 0.50    | 0.50    | 0.60     | 0.75     | 0.75    | 0.85     | 1.10    | 1.35    | 1.35    |
| <b>Tensile Load Based on Min Thread Neck Area</b> | Newtons                 | 12970   | 12970   | 18550   | 34840    | 56660    | 56660   | 75300    | 144800  | 229000  | 229000  |
| <b>Single Shear Load at Shoulder Neck</b>         | Newtons                 | 27500   | 27500   | 31600   | 51000    | 74900    | 88600   | 129800   | 216800  | 315300  | 342800  |
| <b>Single Shear Load at Thread Neck</b>           | Newtons                 | 7780    | 7780    | 11100   | 20900    | 33950    | 33950   | 47700    | 91700   | 145000  | 145000  |
| <b>Seating Torque</b>                             | NM                      | 6       | 6       | 10      | 26       | 54       | 54      | 88       | 235     | 460     | 460     |

## Shoulder Diameter Sizes As Per Other Class Of Tolerance ( ISO 7379)

|  |                       |       |       |       |        |        |        |        |        |        |        |
|--|-----------------------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| <b>Shoulder Dia "Ds,<br/>Tol. "h8"</b> | Nominal               | *6.0  | 6.5   | 8.0   | 10.0   | *12.0  | 13.0   | 16.0   | 20.0   | *24.0  | 25.0   |
|  | Max.                  | 6.000 | 6.500 | 8.000 | 10.000 | 12.000 | 13.000 | 16.000 | 20.000 | 24.000 | 25.000 |
|  | Min.                  | 5.982 | 6.478 | 7.978 | 9.978  | 11.973 | 12.973 | 15.973 | 19.967 | 23.967 | 24.967 |
|  | Max. After Coating*** | 6.075 | 6.575 | 8.075 | 10.075 | 12.090 | 13.090 | 16.090 | 20.095 | 24.095 | 24.095 |

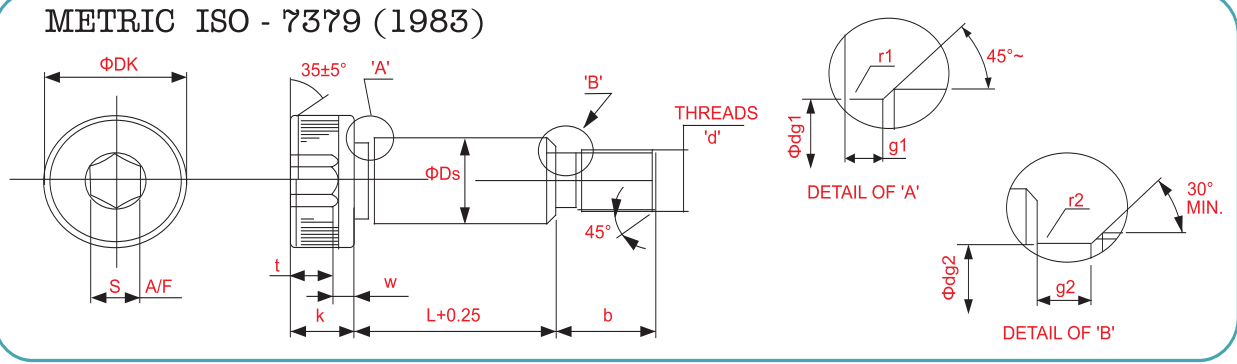
- Note :
- \* Specification for Shoulder Diameter 6.0, 12.0, & 24.0 are as per UPS norms in line with the standard as these sizes are not specified in ISO 7379.
  - \*\* The tolerance (Tol. class "f9" ) on Shoulder diameter "ds" will be maintained before coating ( Geomet, Dacromet) and maximum after Coating as per table.
  - \*\*\* For Surface Coating like Geomet, Darcromet, Zinc Flake, the thread class will be "6e" before coating & "6h" Max.after coating. And Max Shoulder Dia as above tabulated.



# ISO 7379-1983 Hexagon Socket Shoulder Screws-Stainless Steel



METRIC ISO - 7379 (1983)



## Range & General Specification of Stainless Steel

|                  |   |
|------------------|---|
| Product Standard | ISO 7379-1983 (For Shoulder Dia Less Than 6.0 MM Refer Our Norm 1016) |
| Material         | Austenitic Stainless Steel AISI 304 (A2) and AISI 316 (A4)            |
| Surface Finish   | Shoulder as GROUND Finish and other Surfaces Machined & Cold formed.  |

| Shoulder Dia " Ds " | Nominal | *6.0 | 6.5 | 8.0 | 10.0 | *12.0 | 13.0 | 16.0 | 20.0 | *24.0 | 25.0 |
|---------------------|---------|------|-----|-----|------|-------|------|------|------|-------|------|
| Length              | 6       |      |     |     |      |       |      |      |      |       |      |
|                     | 8       |      |     |     |      |       |      |      |      |       |      |
|                     | 10      |      |     |     |      |       |      |      |      |       |      |
|                     | 12      |      |     |     |      |       |      |      |      |       |      |
|                     | 16      |      |     |     |      |       |      |      |      |       |      |
|                     | 20      |      |     |     |      |       |      |      |      |       |      |
|                     | 25      |      |     |     |      |       |      |      |      |       |      |
|                     | 30      |      |     |     |      |       |      |      |      |       |      |
|                     | 35      |      |     |     |      |       |      |      |      |       |      |
|                     | 40      |      |     |     |      |       |      |      |      |       |      |
|                     | 45      |      |     |     |      |       |      |      |      |       |      |
|                     | 50      |      |     |     |      |       |      |      |      |       |      |
|                     | 60      |      |     |     |      |       |      |      |      |       |      |
|                     | 70      |      |     |     |      |       |      |      |      |       |      |
|                     | 80      |      |     |     |      |       |      |      |      |       |      |
|                     | 90      |      |     |     |      |       |      |      |      |       |      |
|                     | 100     |      |     |     |      |       |      |      |      |       |      |
|                     | 110     |      |     |     |      |       |      |      |      |       |      |
|                     | 120     |      |     |     |      |       |      |      |      |       |      |
|                     | 130     |      |     |     |      |       |      |      |      |       |      |
| 140                 |         |      |     |     |      |       |      |      |      |       |      |
| 150                 |         |      |     |     |      |       |      |      |      |       |      |
| 160                 |         |      |     |     |      |       |      |      |      |       |      |
| 180                 |         |      |     |     |      |       |      |      |      |       |      |
| 200                 |         |      |     |     |      |       |      |      |      |       |      |

| Dimension & Technical Specification        |                     |        |        |        |         |         |         |          |         |         |         |
|--|---------------------|--------|--------|--------|---------|---------|---------|----------|---------|---------|---------|
|  | Nominal             | *6.0   | 6.5    | 8.0    | 10.0    | *12.0   | 13.0    | 16.0     | 20.0    | *24.0   | 25.0    |
| Shoulder Dia "Ds,<br>Tol. f9"              | Max.                | 5.990  | 6.487  | 7.987  | 9.987   | 11.984  | 12.984  | 15.984   | 19.980  | 23.980  | 24.980  |
|  | Min.                | 5.960  | 6.451  | 7.951  | 9.951   | 11.941  | 12.941  | 15.941   | 19.928  | 23.928  | 24.928  |
|  | Thread Class "5g6g" | M5X0.8 | M5X0.8 | M6X1.0 | M8X1.25 | M10X1.5 | M10X1.5 | M12X1.75 | M16X2.0 | M20X2.5 | M20X2.5 |
| Thread Length "b"                          | Nominal             | 9.50   | 9.50   | 11.00  | 13.00   | 16.00   | 16.00   | 18.00    | 22.00   | 27.00   | 27.00   |
|  | Max.                | 9.75   | 9.75   | 11.25  | 13.25   | 16.40   | 16.40   | 18.40    | 22.40   | 27.40   | 27.40   |
|  | Min.                | 9.25   | 9.25   | 10.75  | 12.75   | 15.60   | 15.60   | 17.60    | 21.60   | 26.60   | 26.60   |
| Head Dia "Dk"                              | Nominal             | 10.00  | 10.00  | 13.00  | 16.00   | 18.00   | 18.00   | 24.00    | 30.00   | 36.00   | 36.00   |
|  | Max.                | 10.22  | 10.22  | 13.27  | 16.27   | 18.27   | 18.27   | 24.33    | 30.33   | 36.39   | 36.39   |
|  | Min.                | 9.78   | 9.78   | 12.73  | 15.73   | 17.73   | 17.73   | 23.67    | 29.67   | 35.61   | 35.61   |
| Head Height "k"                            | Nominal             | 4.50   | 4.50   | 5.50   | 7.00    | 9.00    | 9.00    | 11.00    | 14.00   | 16.00   | 16.00   |
|  | Max.                | 4.50   | 4.50   | 5.50   | 7.00    | 9.00    | 9.00    | 11.00    | 14.00   | 16.00   | 16.00   |
|  | Min.                | 4.32   | 4.32   | 5.32   | 6.78    | 8.78    | 8.78    | 10.73    | 13.73   | 15.73   | 15.73   |
| Socket Size "s"                            | Nominal             | 3.00   | 3.00   | 4.00   | 5.00    | 6.00    | 6.00    | 8.00     | 10.00   | 12.00   | 12.00   |
|  | Max.                | 3.080  | 3.080  | 4.095  | 5.095   | 6.095   | 6.095   | 8.115    | 10.115  | 12.142  | 12.142  |
|  | Min.                | 3.020  | 3.020  | 4.020  | 5.020   | 6.020   | 6.020   | 8.025    | 10.025  | 12.032  | 12.032  |
| Socket Depth "t"                           | Max.                | 3.32   | 3.32   | 4.17   | 5.18    | 6.99    | 6.98    | 8.73     | 10.53   | 12.48   | 12.48   |
|  | Min.                | 2.40   | 2.40   | 3.30   | 4.20    | 4.90    | 4.90    | 6.60     | 8.80    | 10.00   | 10.00   |
| Wall thickness "w"                         | Min.                | 1.00   | 1.00   | 1.15   | 1.60    | 1.80    | 1.80    | 2.00     | 3.20    | 3.25    | 3.25    |
| Shoulder Neck Detail                       | Dia "dg1" Max.      | 5.42   | 5.92   | 7.42   | 9.42    | 11.42   | 12.42   | 15.42    | 19.42   | 23.42   | 24.42   |
|  | Width "g1" Max.     | 2.50   | 2.50   | 2.50   | 2.50    | 2.50    | 2.50    | 2.50     | 2.50    | 3.00    | 3.00    |
|  | Radius "r1" Min.    | 0.25   | 0.25   | 0.40   | 0.60    | 0.60    | 0.60    | 0.60     | 0.80    | 0.80    | 0.80    |
| Thread Detail                              | Dia "dg2" Min.      | 3.68   | 3.68   | 4.40   | 6.03    | 7.69    | 7.69    | 9.35     | 12.96   | 16.30   | 16.30   |
|  | Width "g2" Max.     | 2.00   | 2.00   | 2.50   | 3.10    | 3.70    | 3.70    | 4.40     | 5.00    | 6.30    | 6.30    |
|  | Radius "r2" Min.    | 0.50   | 0.50   | 0.50   | 0.60    | 0.75    | 0.75    | 0.85     | 1.10    | 1.35    | 1.35    |
| Tensile Load Based on Min Thread Neck Area | Newtons             | 6900   | 6900   | 9850   | 18500   | 30100   | 30100   | 41900    | 80800   | 127800  | 127800  |
| Single Shear Load at Shoulder Neck         | Newtons             | 8900   | 14600  | 16500  | 26900   | 39700   | 46900   | 68600    | 108900  | 158400  | 172200  |
| Single Shear Load at Thread Neck           | Newtons             | 4100   | 4100   | 5850   | 11050   | 17950   | 17950   | 25100    | 48400   | 76600   | 76600   |
| Seating Torque                             | NM                  | 2.5    | 2.5    | 4.5    | 12      | 25      | 25      | 38       | 98      | 190     | 190     |

| Shoulder Diameter Sizes As Per Other Class Of Tolerance (ISO 7379) |         |       |       |       |        |        |        |        |        |        |        |
|--|---------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
|  | Nominal | *6.0  | 6.5   | 8.0   | 10.0   | *12.0  | 13.0   | 16.0   | 20.0   | *24.0  | 25.0   |
| Shoulder Dia "Ds,<br>Tol. "h8"                                     | Max.    | 6.000 | 6.500 | 8.000 | 10.000 | 12.000 | 13.000 | 16.000 | 20.000 | 24.000 | 25.000 |
|  | Min.    | 5.982 | 6.478 | 7.978 | 9.978  | 11.973 | 12.973 | 15.973 | 19.967 | 23.967 | 24.967 |

Note : \*Specification for Shoulder Diameter 6.0,12.0, & 24.0 are as per UPS norms in line with the standard as these sizes are specified in ISO 7379.

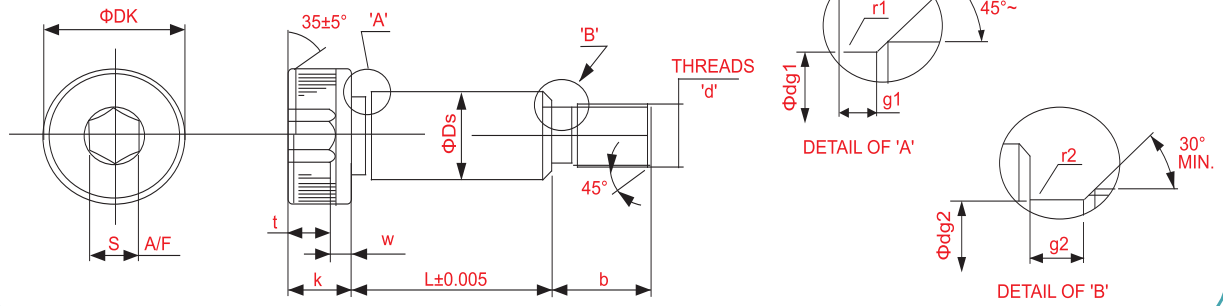
\* Tensile load is calculated on base of 600mpa. min.



# ANSI B 18.3-2012 Hexagon Socket Head Shoulder Screw-Alloy Steel



HEX SOCKET SHOULDER SCREWS - INCHES ANSI B 18.3



## Range & General Specification

|                  |   |
|------------------|---|
| Product Standard | ANSI B 18.3-2012 Hexagon Socket Head Shoulder Screw   |
| Mechanical       | High Grade Alloy Steel ( Hardness 37-43 HRC)  |
| Surface Finish   | Shoulder as GROUND Finish and other surfaces as Thermal Blackened<br>Over all surface coating of Geomet or Dacro etc. can be provided against specific requirement.<br>Electro Zinc Plating is not advisable due to hazard of residual of Hydrogen em-brittlement even baking for 8 hours after Zinc Plating. |

| Shoulder Dia " Ds " | Nominal | Φ1/4 | Φ5/16 | Φ3/8 | Φ1/2 | Φ5/8 | Φ3/4 | Φ1 | Φ1 1/4 |
|---------------------|---------|------|-------|------|------|------|------|----|--------|
| Length              | 1/8"    |      |       |      |      |      |      |    |        |
|                     | 3/16"   |      |       |      |      |      |      |    |        |
|                     | 1/4"    |      |       |      |      |      |      |    |        |
|                     | 5/16"   |      |       |      |      |      |      |    |        |
|                     | 3/8"    |      |       |      |      |      |      |    |        |
|                     | 1/2"    |      |       |      |      |      |      |    |        |
|                     | 5/8"    |      |       |      |      |      |      |    |        |
|                     | 3/4"    |      |       |      |      |      |      |    |        |
|                     | 7/8"    |      |       |      |      |      |      |    |        |
|                     | 1       |      |       |      |      |      |      |    |        |
|                     | 1-1/4"  |      |       |      |      |      |      |    |        |
|                     | 1-1/2"  |      |       |      |      |      |      |    |        |
|                     | 1-3/4"  |      |       |      |      |      |      |    |        |
|                     | 2       |      |       |      |      |      |      |    |        |
|                     | 2-1/4"  |      |       |      |      |      |      |    |        |
|                     | 2-1/2"  |      |       |      |      |      |      |    |        |
|                     | 2-3/4"  |      |       |      |      |      |      |    |        |
|                     | 3       |      |       |      |      |      |      |    |        |
|                     | 3-1/4"  |      |       |      |      |      |      |    |        |
|                     | 3-1/2"  |      |       |      |      |      |      |    |        |
|                     | 3-3/4"  |      |       |      |      |      |      |    |        |
|                     | 4"      |      |       |      |      |      |      |    |        |
|                     | 4-1/2"  |      |       |      |      |      |      |    |        |
|                     | 5       |      |       |      |      |      |      |    |        |
|                     | 5-1/2"  |      |       |      |      |      |      |    |        |
|                     | 6"      |      |       |      |      |      |      |    |        |
|                     | 6-1/2"  |      |       |      |      |      |      |    |        |
|                     | 7"      |      |       |      |      |      |      |    |        |
| 7-1/2"              |         |      |       |      |      |      |      |    |        |
| 8"                  |         |      |       |      |      |      |      |    |        |
| 8-1/2"              |         |      |       |      |      |      |      |    |        |
| 9                   |         |      |       |      |      |      |      |    |        |
| 9-1/2"              |         |      |       |      |      |      |      |    |        |
| 10                  |         |      |       |      |      |      |      |    |        |

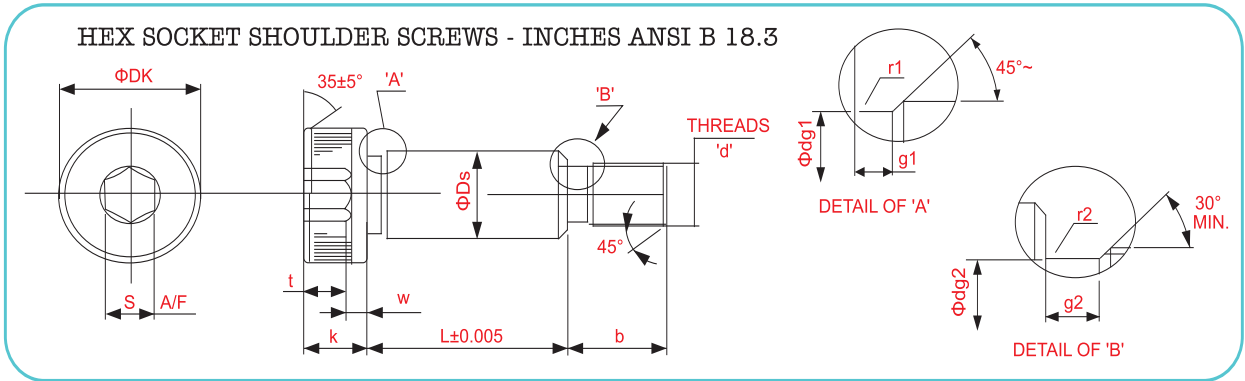
Range : ■ UPS

## Dimensional & Technical Specification

|   | Nominal             | Φ1/4             | Φ5/16            | Φ3/8              | Φ1/2             | Φ5/8             | Φ3/4             | Φ1               | Φ1 1/4          |
|---|---------------------|------------------|------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|
| Shoulder Dia "Ds "                                    | Max.                | 0.2480           | 0.3105           | 0.3730            | 0.4980           | 0.6230           | 0.7480           | 0.9980           | 1.248           |
|   | Min.                | 0.2460           | 0.3085           | 0.3710            | 0.4960           | 0.6210           | 0.7460           | 0.9960           | 1.246           |
|   | Thread Class        | #10-24<br>UNC-3A | 1/4-20<br>UNC-3A | 5/16-18<br>UNC-3A | 3/8-16<br>UNC-3A | 1/2-13<br>UNC-3A | 5/8-11<br>UNC-3A | 3/4-10<br>UNC-3A | 7/8-9<br>UNC-3A |
| Thread Length "b"                                     | Nominal             | 3/8              | 7/16             | 1/2               | 5/8              | 3/4              | 7/8              | 1                | 1 1/8           |
|   | Max.                | 0.375            | 0.438            | 0.500             | 0.625            | 0.750            | 0.875            | 1.000            | 1.125           |
|   | Min.                | 0.355            | 0.418            | 0.480             | 0.595            | 0.720            | 0.845            | 0.970            | 1.095           |
| Head Dia "Dk"   | Nominal             | 3/8              | 7/16             | 9/16              | 3/4              | 7/8              | 1                | 1 5/16           | 1 3/4           |
|   | Max.                | 0.375            | 0.438            | 0.562             | 0.750            | 0.875            | 1.000            | 1.312            | 1.750           |
|   | Min.                | 0.357            | 0.419            | 0.543             | 0.729            | 0.853            | 0.977            | 1.287            | 1.723           |
| Head Height "k"                                       | Nominal             | 3/16             | 7/32             | 1/4               | 5/16             | 3/8              | 1/2              | 5/8              | 3/4             |
|   | Max.                | 0.188            | 0.219            | 0.250             | 0.312            | 0.375            | 0.500            | 0.625            | 0.750           |
|   | Min.                | 0.177            | 0.209            | 0.240             | 0.302            | 0.365            | 0.490            | 0.610            | 0.735           |
| Socket Size "s"                                       | Nominal             | 1/8              | 5/32             | 3/16              | 1/4              | 5/16             | 3/8              | 1/2              | 5/8             |
|   | Max.                | 0.1270           | 0.1587           | 0.1900            | 0.2530           | 0.3160           | 0.3790           | 0.5050           | 0.6310          |
|   | Min.                | 0.1250           | 0.1562           | 0.1875            | 0.2500           | 0.3125           | 0.3750           | 0.5000           | 0.6250          |
| Socket Depth "t"                                      | Max.                | 0.128            | 0.154            | 0.175             | 0.227            | 0.275            | 0.330            | 0.425            | 0.525           |
|   | Min.                | 0.094            | 0.117            | 0.141             | 0.188            | 0.234            | 0.281            | 0.375            | 0.469           |
| Wall Thickness "w"<br>( Not specified in ANSI B 18.3) | Min.                | 0.060            | 0.065            | 0.075             | 0.085            | 0.100            | 0.170            | 0.200            | 0.225           |
| Shoulder Neck Detail                                  | Dia "dg1"<br>Min    | 0.227            | 0.289            | 0.352             | 0.477            | 0.602            | 0.727            | 0.977            | 1.227           |
|   | Width "g1"<br>Max.  | 0.093            | 0.093            | 0.093             | 0.093            | 0.093            | 0.093            | 0.125            | 0.125           |
|   | Radius "r1"<br>Min. | 0.009            | 0.012            | 0.015             | 0.020            | 0.024            | 0.030            | 0.040            | 0.050           |
| Thread Neck Detail                                    | Dia "dg2"<br>Min.   | 0.133            | 0.182            | 0.237             | 0.291            | 0.397            | 0.502            | 0.616            | 0.726           |
|   | Width "g2"<br>Max.  | 0.083            | 0.100            | 0.111             | 0.125            | 0.154            | 0.182            | 0.200            | 0.222           |
|   | Radius "r2"<br>Min. | 0.017            | 0.022            | 0.025             | 0.029            | 0.036            | 0.045            | 0.049            | 0.056           |
| Ultimate Tenile Load Based<br>on Min Thread Neck Area | Pounds              | 2431             | 4553             | 7720              | 11639            | 21044            | 33647            | 50664            | 70374           |
| Single Shear Load at<br>Shoulder Neck                 | Pounds              | 4249             | 6888             | 10218             | 18764            | 29032            | 42341            | 76468            | 120609          |
| Single Shear Load at<br>Thread Neck                   | Pounds              | 1459             | 2732             | 4632              | 6983             | 12626            | 20188            | 30399            | 42224           |



# ANSI B 18.3-2012 Hexagon Socket Head Shoulder Screw (Austenitic Stainless Steel AISI 304 & AISI 316)



## Range & General Specification

|                  |   |
|------------------|---|
| Product Standard | ANSI B 18.3-2012 Hexagon Socket Head Shoulder Screw                     |
| Material         | Austenitic Stainless Steel AISI 304 & AISI 316.                         |
| Surface Finish   | Shoulder as GROUND Finish and other surfaces as Machined & Cold Formed. |

| Shoulder Dia "Ds" | Nominal | Φ1/4 | Φ5/16 | Φ3/8 | Φ1/2 | Φ5/8 | Φ3/4 | Φ1 | Φ1 1/4 |
|-------------------|---------|------|-------|------|------|------|------|----|--------|
| Length            | 1/8"    |      |       |      |      |      |      |    |        |
|                   | 3/16"   |      |       |      |      |      |      |    |        |
|                   | 1/4"    |      |       |      |      |      |      |    |        |
|                   | 5/16"   |      |       |      |      |      |      |    |        |
|                   | 3/8"    |      |       |      |      |      |      |    |        |
|                   | 1/2"    |      |       |      |      |      |      |    |        |
|                   | 5/8"    |      |       |      |      |      |      |    |        |
|                   | 3/4"    |      |       |      |      |      |      |    |        |
|                   | 7/8"    |      |       |      |      |      |      |    |        |
|                   | 1       |      |       |      |      |      |      |    |        |
|                   | 1-1/4"  |      |       |      |      |      |      |    |        |
|                   | 1-1/2"  |      |       |      |      |      |      |    |        |
|                   | 1-3/4"  |      |       |      |      |      |      |    |        |
|                   | 2       |      |       |      |      |      |      |    |        |
|                   | 2-1/4"  |      |       |      |      |      |      |    |        |
|                   | 2-1/2"  |      |       |      |      |      |      |    |        |
|                   | 2-3/4"  |      |       |      |      |      |      |    |        |
|                   | 3       |      |       |      |      |      |      |    |        |
|                   | 3-1/4"  |      |       |      |      |      |      |    |        |
|                   | 3-1/2"  |      |       |      |      |      |      |    |        |
| 3-3/4"            |         |      |       |      |      |      |      |    |        |
| 4"                |         |      |       |      |      |      |      |    |        |
| 4-1/2"            |         |      |       |      |      |      |      |    |        |
| 5                 |         |      |       |      |      |      |      |    |        |
| 5-1/2"            |         |      |       |      |      |      |      |    |        |
| 6"                |         |      |       |      |      |      |      |    |        |
| 6-1/2"            |         |      |       |      |      |      |      |    |        |
| 7"                |         |      |       |      |      |      |      |    |        |
| 7-1/2"            |         |      |       |      |      |      |      |    |        |
| 8"                |         |      |       |      |      |      |      |    |        |
| 8-1/2"            |         |      |       |      |      |      |      |    |        |
| 9                 |         |      |       |      |      |      |      |    |        |
| 9-1/2"            |         |      |       |      |      |      |      |    |        |
| 10                |         |      |       |      |      |      |      |    |        |

Range : ■ UPS

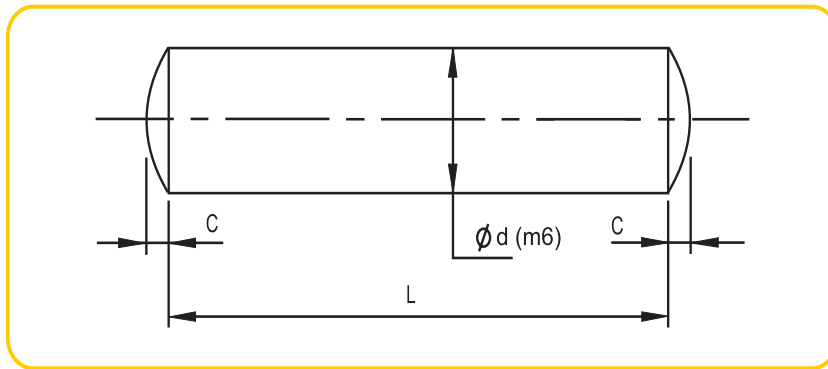


## Dimensional & Technical Specification

|   | Nominal             | Φ1/4             | Φ5/16            | Φ3/8              | Φ1/2             | Φ5/8             | Φ3/4             | Φ1               | Φ1 1/4          |
|---|---------------------|------------------|------------------|-------------------|------------------|------------------|------------------|------------------|-----------------|
| Shoulder Dia "Ds "                                    | Max.                | 0.2480           | 0.3105           | 0.3730            | 0.4980           | 0.6230           | 0.7480           | 0.9980           | 1.248           |
|   | Min.                | 0.2460           | 0.3085           | 0.3710            | 0.4960           | 0.6210           | 0.7460           | 0.9960           | 1.246           |
|   | Thread Class        | #10-24<br>UNC-3A | 1/4-20<br>UNC-3A | 5/16-18<br>UNC-3A | 3/8-16<br>UNC-3A | 1/2-13<br>UNC-3A | 5/8-11<br>UNC-3A | 3/4-10<br>UNC-3A | 7/8-9<br>UNC-3A |
| Thread Length "b"                                     | Nominal             | 3/8              | 7/16             | 1/2               | 5/8              | 3/4              | 7/8              | 1                | 1 1/8           |
|   | Max.                | 0.375            | 0.438            | 0.500             | 0.625            | 0.750            | 0.875            | 1.000            | 1.125           |
|   | Min.                | 0.355            | 0.418            | 0.480             | 0.595            | 0.720            | 0.845            | 0.970            | 1.095           |
| Head Dia "Dk"   | Nominal             | 3/8              | 7/16             | 9/16              | 3/4              | 7/8              | 1                | 1 5/16           | 1 3/4           |
|   | Max.                | 0.375            | 0.438            | 0.562             | 0.750            | 0.875            | 1.000            | 1.312            | 1.750           |
|   | Min.                | 0.357            | 0.419            | 0.543             | 0.729            | 0.853            | 0.977            | 1.287            | 1.723           |
| Head Height "k"                                       | Nominal             | 3/16             | 7/32             | 1/4               | 5/16             | 3/8              | 1/2              | 5/8              | 3/4             |
|   | Max.                | 0.188            | 0.219            | 0.250             | 0.312            | 0.375            | 0.500            | 0.625            | 0.750           |
|   | Min.                | 0.177            | 0.209            | 0.240             | 0.302            | 0.365            | 0.490            | 0.610            | 0.735           |
| Socket Size "s"                                       | Nominal             | 1/8              | 5/32             | 3/16              | 1/4              | 5/16             | 3/8              | 1/2              | 5/8             |
|   | Max.                | 0.1270           | 0.1587           | 0.1900            | 0.2530           | 0.3160           | 0.3790           | 0.5050           | 0.6310          |
|   | Min.                | 0.1250           | 0.1562           | 0.1875            | 0.2500           | 0.3125           | 0.3750           | 0.5000           | 0.6250          |
| Socket Depth "t"                                      | Max.                | 0.128            | 0.154            | 0.175             | 0.227            | 0.275            | 0.330            | 0.425            | 0.525           |
|   | Min.                | 0.094            | 0.117            | 0.141             | 0.188            | 0.234            | 0.281            | 0.375            | 0.469           |
| Wall Thickness "w"<br>( Not specified in ANSI B 18.3) | Min.                | 0.060            | 0.065            | 0.075             | 0.085            | 0.100            | 0.170            | 0.200            | 0.225           |
| Shoulder Neck Detail                                  | Dia "dg1"<br>Min.   | 0.227            | 0.289            | 0.352             | 0.477            | 0.602            | 0.727            | 0.977            | 1.227           |
|   | Width "g1"<br>Max.  | 0.093            | 0.093            | 0.093             | 0.093            | 0.093            | 0.093            | 0.125            | 0.125           |
|   | Radius "r1"<br>Min. | 0.009            | 0.012            | 0.015             | 0.020            | 0.024            | 0.030            | 0.040            | 0.050           |
| Thread Neck Detail                                    | Dia "dg2"<br>Min.   | 0.133            | 0.182            | 0.237             | 0.291            | 0.397            | 0.502            | 0.616            | 0.726           |
|   | Width "g2"<br>Max.  | 0.083            | 0.100            | 0.111             | 0.125            | 0.154            | 0.182            | 0.200            | 0.222           |
|   | Radius "r2"<br>Min. | 0.017            | 0.022            | 0.025             | 0.029            | 0.036            | 0.045            | 0.049            | 0.056           |
| Ultimate Tenile Load Based<br>on Min Thread Neck Area | Pounds              | 1320             | 2471             | 4191              | 6318             | 11141            | 17813            | 26822            | 37257           |
| Single Shear Load at<br>Shoulder Neck                 | Pounds              | 2307             | 3739             | 5547              | 10186            | 15370            | 22416            | 40483            | 63852           |
| Single Shear Load at<br>Thread Neck                   | Pounds              | 792              | 1483             | 2515              | 3791             | 6684             | 10688            | 16093            | 22354           |



## DIN 7- 1981 Tolerance Class "m6" (Interference fit) Unhardened & Ground Dowel Pin



|               |  |
|---------------|--|
| Specification | DIN 7- 1981-Tol Class"m6"                                  |
|               | (For Tol. "h8" refer separate sheet)                       |
| Material      | Free Cutting Steel   |
|               | Austenitic Stainless Steel (AISI 302/303/304/316)          |
| Hardness      | Free Cutting Steel : 125 - 245 Hv30 (Per ISO 2338)         |
|               | Austenitic Stainless Steel : 210 - 280 Hv30 (Per ISO 2338) |
| Note          | Nominal length 'L' is Excluding Crowned Ends.              |

### Range & General Specification

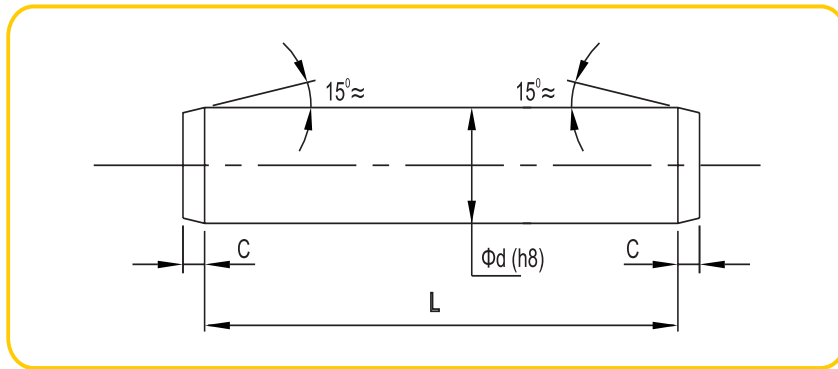
| Diameter " $\phi d$ " Tol. m6 |        |        | Radius 'r' | Radius Length 'c' | Standard Range of Length 'L' |      | UPS Range of Length 'L' |      |
|-------------------------------|--------|--------|------------|-------------------|------------------------------|------|-------------------------|------|
| Nominal                       | Max.   | Min.   | Approx     | Max.              | Max.                         | Min. | Max.                    | Min. |
| 1.5                           | 1.508  | 1.502  | 1.5        | 0.2               | 14                           | 3    | 30                      | 3    |
| 2.0                           | 2.008  | 2.002  | 2.0        | 0.3               | 16                           | 4    | 40                      | 4    |
| 2.5                           | 2.508  | 2.502  | 2.5        | 0.4               | 20                           | 4    | 40                      | 4    |
| 3.0                           | 3.008  | 3.002  | 3.0        | 0.5               | 32                           | 4    | 60                      | 4    |
| 4.0                           | 4.012  | 4.004  | 4.0        | 0.6               | 40                           | 5    | 80                      | 5    |
| 5.0                           | 5.012  | 5.004  | 5.0        | 0.8               | 50                           | 5    | 80                      | 5    |
| 6.0                           | 6.012  | 6.004  | 6.0        | 0.9               | 60                           | 6    | 100                     | 6    |
| 8.0                           | 8.015  | 8.006  | 8.0        | 1.2               | 90                           | 8    | 100                     | 8    |
| 10.0                          | 10.015 | 10.006 | 10.0       | 1.8               | 100                          | 10   | 120                     | 10   |
| 12.0                          | 12.018 | 12.007 | 12.0       | 1.8               | 120                          | 10   | 200                     | 10   |
| 14.0                          | 14.018 | 14.007 | 14.0       | 2.0               | 160                          | 14   | 200                     | 14   |
| 16.0                          | 16.018 | 16.007 | 16.0       | 2.5               | 180                          | 16   | 200                     | 16   |
| 20.0                          | 20.021 | 20.008 | 20.0       | 3.0               | 200                          | 20   | 250                     | 20   |
| 25.0                          | 25.021 | 25.008 | 25.0       | 4.0               | 200                          | 24   | 250                     | 24   |
| 30.0                          | 30.021 | 30.008 | 30.0       | 4.5               | 200                          | 32   | 300                     | 32   |
| 40.0                          | 40.025 | 40.009 | 40.0       | 6.0               | 200                          | 40   | 300                     | 40   |
| 50.0                          | 50.025 | 50.009 | 50.0       | 7.5               | 200                          | 50   | 300                     | 50   |

### Tolerance on length 'L'

|              |            |            |            |            |
|--------------|------------|------------|------------|------------|
| Length Above | 2.0        | 12.0       | 65.0       | 200.0      |
| Length Up to | 10.0       | 50.0       | 200.0      | 300.0      |
| Tolerance    | + 0.3/-0.0 | + 0.6/-0.0 | + 0.8/-0.0 | + 1.0/-0.0 |



## DIN 7- 1981 Tolerance Class "h8" (Slip Fit) Unhardened & Ground Dowel Pin



|               |  |
|---------------|--|
| Specification | DIN 7- 1981-Tol Class" h8"                                 |
|               | For Tol. "m6" Refer Separate Sheet                         |
| Material      | Free Cutting Steel   |
|               | Austenitic Stainless Steel (AISI 302/303/304/316)          |
| Hardness      | Free Cutting Steel : 125 - 245 Hv30 (Per ISO 2338)         |
|               | Austenitic Stainless Steel : 210 - 280 Hv30 (Per ISO 2338) |
| Note          | Nominal Length 'L' is Excluding Chamfered Ends.            |

### Range & General Specification

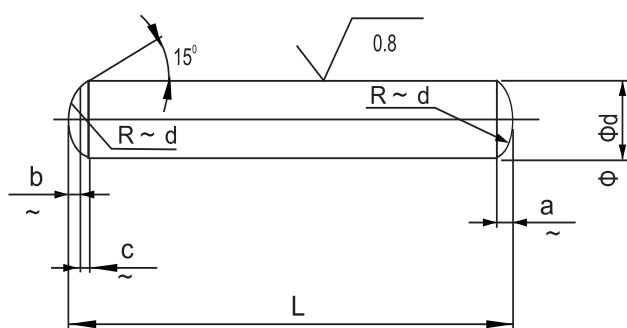
| Diameter "Φd(h8)" Tol. h8 |        |        | Chamfer Length 'c' | Standard Range of Length 'L' |      | UPS Range of Length 'L' |      |
|---------------------------|--------|--------|--------------------|------------------------------|------|-------------------------|------|
| Nominal                   | Max.   | Min.   |                    | Max.                         | Min. | Max.                    | Min. |
| 1.5                       | 1.500  | 1.486  | 0.2                | 14                           | 3    | 30                      | 3    |
| 2.0                       | 2.000  | 1.986  | 0.3                | 16                           | 4    | 40                      | 4    |
| 2.5                       | 2.500  | 2.486  | 0.4                | 20                           | 4    | 40                      | 4    |
| 3.0                       | 3.000  | 2.986  | 0.5                | 32                           | 4    | 60                      | 4    |
| 4.0                       | 4.000  | 3.982  | 0.6                | 40                           | 5    | 80                      | 5    |
| 5.0                       | 5.000  | 4.982  | 0.8                | 50                           | 5    | 80                      | 5    |
| 6.0                       | 6.000  | 5.982  | 0.9                | 60                           | 6    | 100                     | 6    |
| 8.0                       | 8.000  | 7.978  | 1.2                | 80                           | 8    | 100                     | 8    |
| 10.0                      | 10.000 | 9.978  | 1.8                | 100                          | 10   | 120                     | 10   |
| 12.0                      | 12.000 | 11.973 | 1.8                | 120                          | 10   | 200                     | 10   |
| 14.0                      | 14.000 | 13.973 | 2.0                | 160                          | 14   | 200                     | 14   |
| 16.0                      | 16.000 | 15.973 | 2.5                | 180                          | 16   | 200                     | 16   |
| 20.0                      | 20.000 | 19.967 | 3.0                | 200                          | 20   | 250                     | 20   |
| 25.0                      | 25.000 | 24.967 | 4.0                | 200                          | 24   | 250                     | 24   |
| 30.0                      | 30.000 | 29.967 | 4.5                | 200                          | 32   | 300                     | 32   |
| 40.0                      | 40.000 | 39.961 | 6.0                | 200                          | 40   | 300                     | 40   |
| 50.0                      | 50.000 | 49.961 | 7.5                | 200                          | 50   | 300                     | 50   |

### Tolerance on length 'L'

|              |            |              |            |            |
|--------------|------------|--------------|------------|------------|
| Length Above | 2.0        | 12.0         | 55.0       | 200.0      |
| Length Up to | 10.0       | 50.0         | 200.0      | 300.0      |
| Tolerance    | + 0.5/-0.0 | + 0.5/ - 0.0 | + 1.5/-0.0 | + 2.0/-0.0 |



## DIN 6325- 1971 Tolerance Class "m6" (Interference Fit) Hardened & Ground Dowel Pin



|                   |                                     |
|-------------------|-------------------------------------|
| Specification     | DIN 6325 - 1971                     |
| Material          | High Grade Alloy Steel " 100 Cr 6 " |
| Hardness          | Through Hardened to 58 - 62 HRC     |
| Surface Roughness | $Ra \leq 0.8$                       |

### Range & General Specification

| Diameter "d" Tol. m6" |        |        | Chamfer Length 'c' | Distance "b" | Distance "a" | Tolerance on 'L' | Standard Range of Length 'L' |               | UPS Range of Length 'L' |      |
|-----------------------|--------|--------|--------------------|--------------|--------------|------------------|------------------------------|---------------|-------------------------|------|
| Nominal               | Max.   | Min.   |                    |              |              |                  | Max.                         | Min.          | Max.                    | Min. |
| 1.5                   | 1.508  | 1.502  | 0.5                | 0.12         | 0.23         | js14             | 16                           | 4             | 30                      | 4    |
| 2.0                   | 2.008  | 2.002  | 0.6                | 0.18         | 0.3          | js14             | 20                           | 6             | 40                      | 4    |
| 2.5                   | 2.508  | 2.502  | 0.7                | 0.25         | 0.4          | js14             | 24                           | 6             | 40                      | 5    |
| 3.0                   | 3.008  | 3.002  | 0.8                | 0.3          | 0.45         | js14             | 32                           | 8             | 60                      | 6    |
| 4.0                   | 4.012  | 4.004  | 1.0                | 0.4          | 0.6          | js14             | 40                           | 10            | 60                      | 6    |
| 5.0                   | 5.012  | 5.004  | 1.2                | 0.5          | 0.75         | js14             | 50                           | 12            | 60                      | 8    |
| 6.0                   | 6.012  | 6.004  | 1.5                | 0.6          | 0.9          | js14             | 60                           | 14            | 100                     | 10   |
| 8.0                   | 8.015  | 8.006  | 1.8                | 0.8          | 1.2          | js14             | 80                           | 16            | 120                     | 14   |
| 10.0                  | 10.015 | 10.006 | 2.0                | 1            | 1.5          | js14             | 100                          | 24            | 120                     | 16   |
| 12.0                  | 12.018 | 12.007 | 2.5                | 1.3          | 1.8          | js14             | 100                          | 28            | 120                     | 20   |
| 14.0                  | 14.018 | 14.007 | 2.5                | 1.5          | 2            | js14             | 120                          | 36            | 120                     | 24   |
| 16.0                  | 16.018 | 16.007 | 3.0                | 1.7          | 2.5          | js14             | 120                          | 40            | 120                     | 24   |
| 20.0                  | 20.021 | 20.008 | 4.0                | 2            | 3            | js14             | 120                          | 50            | 120                     | 40   |
| 25.0                  | 25.021 | 25.008 | 5.0                | 2.6          | 3.5          | js14             | Not Specified                | Not Specified | 150                     | 45   |
| 30.0                  | 30.021 | 30.008 | 6.0                | 3.1          | 4            | js14             | Not Specified                | Not Specified | 180                     | 50   |



## DIN 6325- 1971 Tolerance Class "h6" (SLIP Fit) against Demand

### Diameter "d" Tolerance m6"

| Nominal | 1.5   | 2.0   | 2.5   | 3.0   | 4.0   | 5.0   | 6.0   | 8.0   | 10.0   | 12.0   | 14.0   | 16.0   | 20.0   | 25.0   | 30.0   |
|---------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| Max.    | 1.500 | 2.000 | 2.500 | 3.000 | 4.000 | 5.000 | 6.000 | 8.000 | 10.000 | 12.000 | 14.000 | 16.000 | 20.000 | 25.000 | 30.000 |
| Min.    | 1.494 | 1.994 | 2.494 | 2.994 | 3.992 | 4.992 | 5.992 | 7.991 | 9.991  | 11.989 | 13.989 | 15.989 | 19.987 | 24.987 | 29.987 |

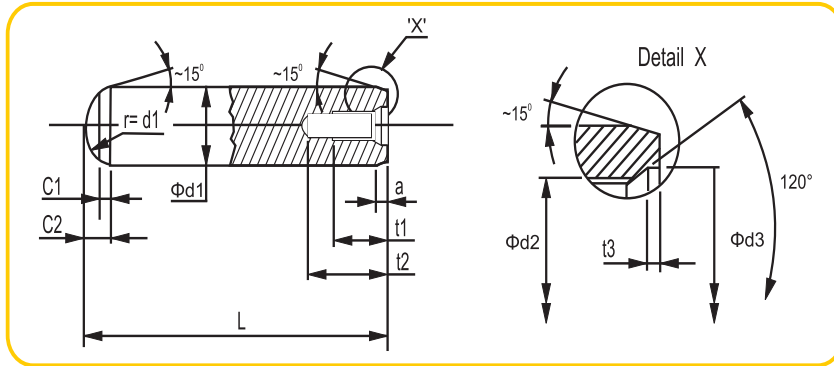
Chamfer "c", Distance "a", Distance "b" Standard Range for length etc are same as that of Din 6325 with Tolerance class "m6"

### Value of Tolerance Class "js14"

| Length Above    | 3.0      | 6.0      | 10.0     | 18.0     | 30.0     | 50.0     | 80.0     | 120.0    |
|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|
| Length Up to    | 6.0      | 10.0     | 18.0     | 30.0     | 50.0     | 80.0     | 120.0    | 180.0    |
| Value of "js14" | +/- 0.15 | +/- 0.18 | +/- 0.21 | +/- 0.26 | +/- 0.31 | +/- 0.38 | +/- 0.44 | +/- 0.50 |



## DIN 7979 FORM D - 1977 Tolerance Class "m6" ( Interference Fit) Hardened & Ground Pin with Internal Thread



|               |   |
|---------------|---|
| Specification | DIN 7979 FORM D - 1977  |
| Material      | High Grade Alloy Steel " 100 Cr 6 "   |
| Hardness      | Through Hardened to 58 - 62 HRC   |
| Note (a)      | Dia 4, 5, & 13 are not specified in DIN 7979D however these sizes are supplied as per UPS Norm in line with Din 7979D   |
| (b)           | Internal thread length "t1" & Drill Depth "t2" for length less than Min specified in DIN 7979D will be as per UPS norms. For example, pin of length 12mm of dia 10.0mm, will have Thread depth 4.0mm (against 10mm) and drill depth will be 10.5 Max. (against 16 Min.) |

### Range & General Specification

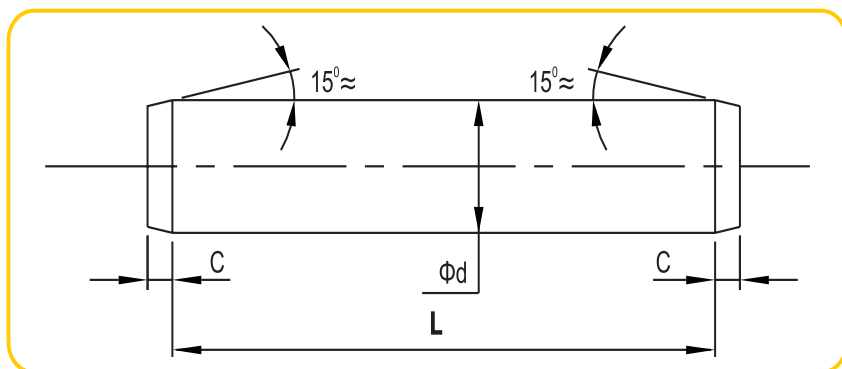
| Diameter "d1" | Tol. m6 |        | Chamfer 'a' | Chamfer 'c1' | Crown & Chamfer 'c2' | Internal Threads 'd2' | Thread Pitch 'P' | Radius 'r' | Tap Length 't1' | Drill Length 't2' | Length 't3' | Dia 'd3' | Standard Range of Length 'L' |        | UPS Range of Length 'L' |        |
|---------------|---------|--------|-------------|--------------|----------------------|-----------------------|------------------|------------|-----------------|-------------------|-------------|----------|------------------------------|--------|-------------------------|--------|
|               | Nominal | Max.   |             |              |                      |                       |                  |            |                 |                   |             |          | Min.                         | Approx | Approx                  | Approx |
| * 4.0         | 4.012   | 4.004  | 0.6         | 0.4          | 1.4                  | M2/3                  | 0.4              | 4.0        | 3.5             | 6                 | 0.5         | 2.2      | 40                           | 16     | 45                      | 8      |
| * 5.0         | 5.012   | 5.004  | 0.6         | 0.5          | 1.5                  | M3                    | 0.5              | 5.0        | 5               | 8                 | 1           | 3.3      | 50                           | 16     | 60                      | 10     |
| 6.0           | 6.012   | 6.004  | 0.8         | 0.6          | 2.1                  | M4                    | 0.7              | 6.0        | 6               | 10                | 1           | 4.3      | 60                           | 16     | 80                      | 10     |
| 8.0           | 8.015   | 8.006  | 1.0         | 0.8          | 2.6                  | M5                    | 0.8              | 8.0        | 8               | 12                | 1.2         | 5.3      | 80                           | 20     | 100                     | 10     |
| 10.0          | 10.015  | 10.006 | 1.2         | 1.0          | 3.0                  | M6                    | 1                | 10.0       | 10              | 16                | 1.2         | 6.4      | 100                          | 24     | 120                     | 12     |
| 12.0          | 12.018  | 12.007 | 1.6         | 1.2          | 3.8                  | M6                    | 1                | 12.0       | 10              | 16                | 1.2         | 6.4      | 120                          | 28     | 150                     | 14     |
| 13.0          | 13.018  | 13.007 | 1.6         | 1.2          | 3.8                  | M6                    | 1                | 13.0       | 10              | 16                | 1.2         | 6.4      | 120                          | 28     | 150                     | 16     |
| 14.0          | 14.018  | 14.007 | 1.8         | 1.4          | 4.0                  | M8                    | 1.25             | 14.0       | 12              | 20                | 1.2         | 8.4      | 140                          | 28     | 150                     | 18     |
| 16.0          | 16.018  | 16.007 | 2.0         | 1.6          | 4.7                  | M8                    | 1.25             | 16.0       | 12              | 20                | 1.5         | 8.4      | 160                          | 32     | 200                     | 18     |
| 20.0          | 20.021  | 20.008 | 2.5         | 2.0          | 6.0                  | M10                   | 1.5              | 20.0       | 16              | 25                | 1.5         | 10.5     | 200                          | 36     | 250                     | 24     |
| 25.0          | 25.021  | 25.008 | 3.0         | 2.5          | 6.0                  | M16                   | 2                | 25.0       | 24              | 34                | 2           | 17       | 200                          | 45     | 250                     | 36     |
| 30.0          | 30.008  | 30.021 | 4.0         | 3.0          | 7.0                  | M20                   | 2.5              | 30.0       | 30              | 42                | 2           | 21       | 200                          | 55     | 250                     | 45     |
| 40.0          | 40.009  | 40.025 | 5.0         | 4.0          | 8.0                  | M20                   | 2.5              | 40.0       | 30              | 42                | 2.5         | 21       | 200                          | 90     | 280                     | 70     |
| 50.0          | 50.009  | 50.025 | 6.3         | 5.0          | 10.0                 | M24                   | 3                | 50.0       | 36              | 50                | 2.5         | 25       | 200                          | 110    | 280                     | 90     |

### Value of Tolerance Class "js15"

|                 |          |          |          |          |          |          |          |          |           |          |
|-----------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|
| Length Above    | 3.0      | 6.0      | 10.0     | 18.0     | 30.0     | 50.0     | 80.0     | 120.0    | 180.0     | 250.0    |
| Length Up to    | 6.0      | 10.0     | 18.0     | 30.0     | 50.0     | 80.0     | 120.0    | 180.0    | 250.0     | 315.0    |
| Value of "js15" | +/- 0.24 | +/- 0.29 | +/- 0.35 | +/- 0.42 | +/- 0.50 | +/- 0.60 | +/- 0.70 | +/- 0.80 | +/- 0.925 | +/- 1.05 |



## ISO 2338 - 1998 Unhardened & Ground Dowel Pin



|               |   |
|---------------|---|
| Specification | ISO 2338 - 1998<br>(Revised Version of Din7-1981 & DIN En 22338-1992)               |
| Material      | Free Cutting Steel<br>Austenitic Stainless Steel (AISI 302/303/304/316)             |
| Hardness      | Free Cutting Steel : 125 to 245 HV30<br>Austenitic Stainless Steel : 210 - 280 HV30 |
| Note          | Overall Length is same as NOMINAL length  |

### Range & General Specification

| Diameter "d" | Tolerance m6" (Interference Fit) |        | Tolerance h8" (Slip Fit) |        | Chamfer "C" | Standard Range of Length 'L' |      | UPS Range of Length 'L' |      |
|--------------|----------------------------------|--------|--------------------------|--------|-------------|------------------------------|------|-------------------------|------|
|              | Max.                             | Min.   | Max.                     | Min.   |             | Approx                       | Max. | Min.                    | Max. |
| 1.5          | 1.508                            | 1.502  | 1.500                    | 1.486  | 0.30        | 16                           | 4    | 30                      | 4    |
| 2.0          | 2.008                            | 2.002  | 2.000                    | 1.986  | 0.35        | 20                           | 6    | 40                      | 6    |
| 2.5          | 2.508                            | 2.502  | 2.500                    | 2.486  | 0.40        | 24                           | 6    | 40                      | 6    |
| 3.0          | 3.008                            | 3.002  | 3.000                    | 2.986  | 0.50        | 30                           | 8    | 60                      | 8    |
| 4.0          | 4.012                            | 4.004  | 4.000                    | 3.982  | 0.63        | 40                           | 8    | 80                      | 8    |
| 5.0          | 5.012                            | 5.004  | 5.000                    | 4.982  | 0.80        | 50                           | 10   | 80                      | 10   |
| 6.0          | 6.012                            | 6.004  | 6.000                    | 5.982  | 1.20        | 60                           | 12   | 100                     | 12   |
| 8.0          | 8.015                            | 8.006  | 8.000                    | 7.978  | 1.60        | 80                           | 14   | 100                     | 14   |
| 10.0         | 10.015                           | 10.006 | 10.000                   | 9.978  | 2.00        | 95                           | 18   | 120                     | 18   |
| 12.0         | 12.018                           | 12.007 | 12.000                   | 11.973 | 2.50        | 140                          | 22   | 200                     | 22   |
| 16.0         | 16.018                           | 16.007 | 16.000                   | 15.973 | 3.00        | 180                          | 26   | 200                     | 26   |
| 20.0         | 20.021                           | 20.008 | 20.000                   | 19.967 | 3.50        | 200                          | 35   | 250                     | 35   |
| 25.0         | 25.021                           | 25.008 | 25.000                   | 24.967 | 4.00        | 200                          | 50   | 250                     | 50   |

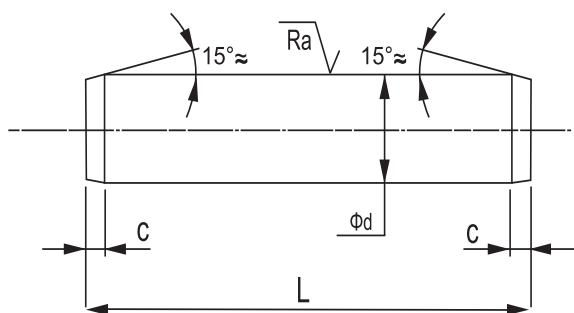
### Tolerance on Length 'L'

|                       |          |          |          |         |
|-----------------------|----------|----------|----------|---------|
| Length Above          | 2.0      | 10.0     | 55.0     | 200.0   |
| Length Up to          | 10.0     | 50.0     | 200.0    | 300.0   |
| Tolerance on Length L | +/- 0.25 | +/- 0.50 | +/- 0.75 | +/- 1.0 |





## ISO 8734 - 1997 Hardened & Ground Dowel Pin



|                           |   |   |
|---------------------------|---|---|
| Specification             | ISO 8734 - 1997   |   |
| Material & Heat Treatment | Type A  | High Grade Alloy Steel-100Cr6 Through Hardened-52 to 58 HRC                       |
|                           | Type B  | Low Carbon Case Hardening Steel with Case Hardness 55-61 HRC, Case depth 0.25 Min |
| Surface Roughness         | $Ra \leq 0.8$   |   |
| Note                      | Pin from Martensitic Stainless Steel (AISI 416) with hardness 36-42 HRC can be supplied against order |   |

### Range & General Specification

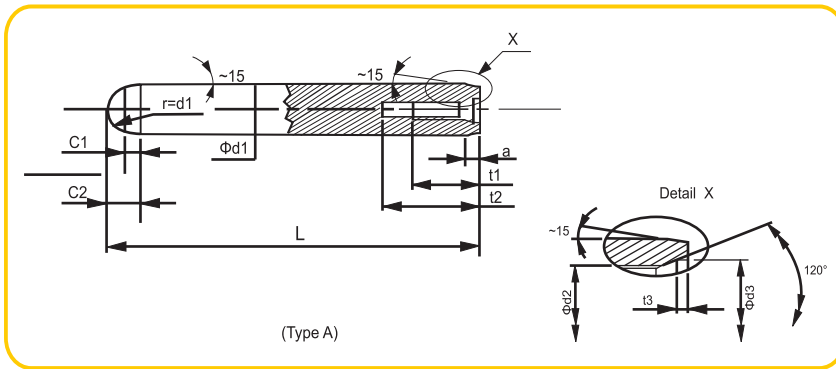
| Diameter "d" for Tol. Class m6 |        |        | Chamfer "C" | Standard Range of Length 'L' |      | UPS Range of Length 'L' |      |
|--------------------------------|--------|--------|-------------|------------------------------|------|-------------------------|------|
| Nominal                        | Max.   | Min.   |             | Approx                       | Max. | Min.                    | Max. |
| 1.5                            | 1.508  | 1.502  | 0.30        | 16                           | 4    | 30                      | 4    |
| 2.0                            | 2.008  | 2.002  | 0.35        | 20                           | 5    | 40                      | 5    |
| 2.5                            | 2.508  | 2.502  | 0.40        | 24                           | 6    | 40                      | 6    |
| 3.0                            | 3.008  | 3.002  | 0.50        | 30                           | 8    | 60                      | 8    |
| 4.0                            | 4.012  | 4.004  | 0.63        | 40                           | 10   | 60                      | 10   |
| 5.0                            | 5.012  | 5.004  | 0.80        | 50                           | 12   | 60                      | 12   |
| 6.0                            | 6.012  | 6.004  | 1.20        | 60                           | 14   | 100                     | 14   |
| 8.0                            | 8.015  | 8.006  | 1.60        | 80                           | 18   | 120                     | 18   |
| 10.0                           | 10.015 | 10.006 | 2.00        | 100                          | 22   | 120                     | 22   |
| 12.0                           | 12.018 | 12.007 | 2.50        | 100                          | 26   | 120                     | 26   |
| 16.0                           | 16.018 | 16.007 | 3.00        | 100                          | 40   | 150                     | 40   |
| 20.0                           | 20.021 | 20.008 | 3.50        | 100                          | 50   | 150                     | 50   |

### Tolerance on Length 'L'

|              |          |         |          |          |
|--------------|----------|---------|----------|----------|
| Length Above | 3.0      | 10.0    | 50.0     | 200.0    |
| Length Up to | 10.0     | 50.0    | 100.0    | 150.0    |
| Tolerance    | +/- 0.25 | +/- 0.5 | +/- 0.75 | +/- 1.00 |



# ISO 8735 - 1998 Hardened & Ground Pin with Internal Thread



| Specification  | DIN EN ISO 8735 - 1998 |  |
|----------------|------------------------|--|
| Material &     | Type A                 | High Grade Alloy Steel-100Cr6 Through Hardened-52 to 58 HRC  |
| Heat Treatment | Type B                 | Low Carbon Case Hardening Steel with Case Hardness 55-61 HRC, Case depth 0.25 Min  |
| Note           | (a)                    | Dia 4, 5 & 14 are not specified in DIN En ISO 8735 however these sizes are supplied as per UPS Norm in line with Din En ISO 8735   |
|                | (b)                    | Internal Thread Length "t1" & Drill Depth "t2" for Length less than min. specified in DIN En ISO 8735 will be as per UPS Norm. For example: pin of length 12mm of dia 10.0mm, will have Thread depth 4.0mm (against 10mm) and drill depth will be 10.5 Max. ( against 16 Min.) |
|                | (c)                    | Pin from Martensitic Stainless Steel ( AISI 416) with hardness 36-42 HRC can be supplied against order   |

## Range & General Specification

| Diameter "d1" Tol. m6' |        | Chamfer 'a' | Chamfer 'c1' | Crown & Chamfer 'c2' | Internal Threads 'd2' | Thread Pitch 'P' | Radius 'r' | Tap Length 't1' | Drill Length 't2' | Length 't3' | Dia 'd3' | Standard Range of Length 'L' |     | UPS Range of Length 'L' |     |    |
|------------------------|--------|-------------|--------------|----------------------|-----------------------|------------------|------------|-----------------|-------------------|-------------|----------|------------------------------|-----|-------------------------|-----|----|
| Nominal                | Max.   | Approx      | Approx       | Approx               | Class -6H             |                  | Approx     | Approx          | Min.              |             |          |                              |     |                         |     |    |
| * 4.0                  | 4.012  | 4.004       | 0.6          | 0.4                  | 1.4                   | M2/3             | 0.4        | 4.0             | 3.5               | 6           | 0.5      | 2.2                          | 40  | 16                      | 45  | 8  |
| * 5.0                  | 5.012  | 5.004       | 0.6          | 0.5                  | 1.5                   | M3               | 0.5        | 5.0             | 5                 | 8           | 1        | 3.3                          | 50  | 16                      | 60  | 10 |
| 6.0                    | 6.012  | 6.004       | 0.8          | 0.6                  | 2.1                   | M4               | 0.7        | 6.0             | 6                 | 10          | 1        | 4.3                          | 60  | 16                      | 80  | 10 |
| 8.0                    | 8.015  | 8.006       | 1.0          | 0.8                  | 2.6                   | M5               | 0.8        | 8.0             | 8                 | 12          | 1.2      | 5.3                          | 80  | 20                      | 100 | 10 |
| 10.0                   | 10.015 | 10.006      | 1.2          | 1.0                  | 3.0                   | M6               | 1          | 10.0            | 10                | 16          | 1.2      | 6.4                          | 100 | 24                      | 120 | 12 |
| 12.0                   | 12.018 | 12.007      | 1.6          | 1.2                  | 3.8                   | M6               | 1          | 12.0            | 10                | 16          | 1.2      | 6.4                          | 120 | 28                      | 150 | 14 |
| 13.0                   | 13.018 | 13.007      | 1.6          | 1.2                  | 3.8                   | M6               | 1          | 13.0            | 10                | 16          | 1.2      | 6.4                          | 120 | 28                      | 150 | 16 |
| 14.0                   | 14.018 | 14.007      | 1.8          | 1.4                  | 4.0                   | M8               | 1.25       | 14.0            | 12                | 20          | 1.2      | 8.4                          | 140 | 28                      | 150 | 18 |
| 16.0                   | 16.018 | 16.007      | 2.0          | 1.6                  | 4.7                   | M8               | 1.25       | 16.0            | 12                | 20          | 1.5      | 8.4                          | 160 | 32                      | 200 | 18 |
| 20.0                   | 20.021 | 20.008      | 2.5          | 2.0                  | 6.0                   | M10              | 1.5        | 20.0            | 16                | 25          | 1.5      | 10.5                         | 200 | 36                      | 250 | 24 |
| 25.0                   | 25.021 | 25.008      | 3.0          | 2.5                  | 6.0                   | M16              | 2          | 25.0            | 24                | 34          | 2        | 17                           | 200 | 45                      | 250 | 36 |
| 30.0                   | 30.008 | 30.021      | 4.0          | 3.0                  | 7.0                   | M20              | 2.5        | 30.0            | 30                | 42          | 2        | 21                           | 200 | 55                      | 250 | 45 |
| 40.0                   | 40.009 | 40.025      | 5.0          | 4.0                  | 8.0                   | M20              | 2.5        | 40.0            | 30                | 42          | 2.5      | 21                           | 200 | 90                      | 280 | 70 |
| 50.0                   | 50.009 | 50.025      | 6.3          | 5.0                  | 10.0                  | M24              | 3          | 50.0            | 36                | 50          | 2.5      | 25                           | 200 | 110                     | 280 | 90 |

## Tolerance on Length 'L'

|              |          |         |          |          |
|--------------|----------|---------|----------|----------|
| Length Above | 3.0      | 10.0    | 50.0     | 200.0    |
| Length Up to | 10.0     | 50.0    | 200.0    | 300.0    |
| Tolerance    | +/- 0.25 | +/- 0.5 | +/- 0.75 | +/- 1.00 |

## COMPARISON OF DIFFERENT STRENGTH GRADES

| SAE        | B.S. | I.S.<br>I.S.O<br>DIN | ULTIMATE TENSILE STRENGTH RANGE |                         |                                      | HARDNESS       |            |         |
|------------|------|----------------------|---------------------------------|-------------------------|--------------------------------------|----------------|------------|---------|
|            |      |                      | (Kgf/mm <sup>2</sup> )          | Newtons/mm <sup>2</sup> | Pounds/Inch <sup>2</sup><br>(P.S.I.) | BHN            | HRB        | HRC     |
|            |      | 4.6                  | 40.8/81.5                       | 400/800                 | 58000/116400                         | 114<br>238     | 67<br>99.5 |         |
| GRADE<br>1 |      |                      | 42.2/81.5                       | 414/800                 | 59000/116400                         | (121)<br>(241) | 70<br>100  |         |
|            |      | 4.8                  | 42.8/81.5                       | 420/800                 | 59000/116400                         | 124<br>238     | 71<br>99   |         |
|            |      | 5.6                  | 5.1/81.5                        | 500/800                 | 72000/116400                         | 147<br>238     | 79<br>99   |         |
| GRADE<br>2 |      |                      | 51.3/81.5                       | 502/800                 | 72000/116400                         | (150)<br>(241) | 80<br>100  |         |
|            |      | 5.8                  | 53/81.5                         | 520/800                 | 75000/116400                         | 152<br>238     | 82<br>99.5 |         |
|            | P    |                      | 55/81.5                         | 579/800                 | 75000/116400                         | 152<br>240     | 82<br>99.5 |         |
|            |      | 6.8                  | 61/81.5                         | 600/800                 | 87000/116400                         | 181<br>238     | 89<br>99.5 |         |
|            | R    |                      | 71/98                           | 696/965                 | 101500/140000                        | 201<br>285     | 93         | 30      |
|            | S    |                      | 79/108                          | 770/1060                | 112100/154200                        | 223<br>310     |            | (20/33) |
|            |      | 8.8                  | 81.6/106                        | 800/1040 upto M16       | 116500/150000                        | 238/304        |            | 22/32   |
|            |      |                      | 84.6/111                        | 830/1090 above M16      | 120800/158600                        | 242/318        |            | 23/34   |
| GRADE<br>5 |      |                      | 87/111                          | 852/1090                | 124000/158500                        | 253<br>318     |            | 25/34   |
|            | T    |                      | 86/115                          | 840/1127                | 123000/164000                        | 247/335        |            | 24/36   |
|            | U    |                      | 93/115                          | 916/1127                | 132000/164000                        | 271/335        |            | 28/36   |
|            | V    |                      | 101/128                         | 995/1255                | 144000/182000                        | 295/370        |            | 31/40   |
| GRADE<br>8 |      |                      | 108/124                         | 1060/1220               | 154000/177000                        | 312<br>362     |            | (33/39) |
|            |      | 10.9                 | 106/124                         | 1040/1220               | 156000/177000                        | 304<br>362     |            | (32/39) |
|            | W    |                      | 108/132                         | 1060/1293               | 154000/190000                        | 312<br>381     |            | (33/41) |
|            | X    |                      | 118/146                         | 1156/1430               | 169000/210000                        | 341<br>410     |            | (37/44) |
|            |      | 12.9                 | 124/146                         | 1220/1430               | 177000/210000                        | 362<br>410     |            | (39/44) |
|            | Y    |                      | 124/151                         | 1220/1484               | 177000/216000                        | 362<br>432     |            | (39/46) |
|            | Z    |                      | 148/166                         | 1455/1630               | 210000/237100                        | 425/475        |            | (45/49) |

1Kgf= 9.81 Newtons

1 kgf/mm<sup>2</sup>= 1421.7 Psi

# GENERAL CONDITIONS FOR SALE

All Quotations, Orders of Contracts are subject to the following conditions of Sale. Any qualifications of these conditions made by the Purchaser, will not apply expressly accepted in writing by UPS Lakshmi (hereinafter called the company)

This price list supersedes all previous price lists.

1. Prices prevailing at the time of physical dispatch would apply, latest price list would be the reference document for the same.
2. **PRICES** : Prices to be charged at the time of dispatch shall be determined by deducting the agreed discount from current List Price. The price determined as above shall be Ex works Rohtak / Destination basis. GST and other taxes levied by the Government shall be to the purchaser's account.
3. **LOSS OR DAMAGE** : The company's responsibility ceases on handling over goods to the carriers. The company is not responsible for any loss or damage to goods in transit.
4. **PACKING** : Prices quoted are for packing in cartons.
5. **PAYMENTS** : Payment shall be advanced against performa invoice / against delivery of material within stipulated time as per the terms and conditions to be offered on the beginning of each financial year. Any delays in payment beyond the due date panel interest @ 18% per annum will be payable by the customer.
6. **DELIVERY** : All Ex-stock offers are subject to goods remaining unsold at the time of receipt of the order. For forward delivery dates are given without any guarantee and no responsibility can be accepted by the Company for delay in delivery of failure to deliver due to circumstances beyond the Company's control. Delivery/dispatch may be made in one lot or several lots.
7. **FORCE MAJEURE** : The company shall not be responsible for failure or delay in delivery of goods or any part thereof (or any consequential damages) due to acts of God, enemies to the Government of India, wars, revolution, embargo, riots, civil or political disturbance, strikes, lockouts, stoppages of labour, shortage of raw material and/or labour, shortage of motive-power, non-availability of shipping spaces or import or export licences, break-down of machinery, restraints imposed on the company by the Government, municipality or any other cause beyond the Company's control, such failure/delay shall not entitle the Purchaser to cancel the contract nor is the Company liable to make good any damage arising from such failure to deliver or delay in delivery.
8. **INFRINGEMENT OF PATENT & TRADE MARK** :

When products are forged to customer's drawings/specifications, the responsibility to ensure that these do not result in infringement of any patent or trade mark will lie entirely with the customer concerned who shall be responsible for consequences if any in case of any such infringement.

9. **CONFIRMATION** : The company accepts no responsibility for orders booked by Company salesman or agents till it is confirmed in writing by the company.

10. **ACCEPTANCE & RETURN** : Wrong dispatches should be notified/reported to the company within 15 days from the date of receipt of the goods along with the copy of packing slip and the company's consent should be obtained in writing before return to such goods.

11. **ROAD PERMITS** : Applicable as per Government rules.

12. **CANCELLATION OF ORDERS** : The company reserves the right to refuse the cancellation of the order once it has been accepted. Failure on the part of purchasers to accept the delivery and make payments will be considered a breach of contract and the company shall be entitled to cancel the contract and forfeit the deposit paid the purchaser if any.

13. **GUARANTEE** : We undertake free replacement of goods against manufacturing defects only. The company shall not be responsible for any contingent or resulting liabilities or loss arising though any defect in goods supplied.

14. Supplies shall be in the black finish unless otherwise specified. For supply in zinc plating or any other finish the rate shall be extra.

15. The dealer will not deal in fasteners of sub-standard quality bearing deceptively similar monograms as employed on our products. Such an act will deprive the dealer of dealing in our products.

16. Any disputes or claims arising on or out of, or in connection with quotations, orders or contracts for the supply of goods by the company shall be referred to the sole Arbitrator appointed by the Managing Director/Partner/Proprietor of the company and the award made by such Arbitrator shall be final and binding on both the parties. All disputes will be settled in ROHTAK jurisdiction only.

## TRUSTED BY WORLD RENOWNED OEMS

- FORD
- CONTINENTAL
- DASSAULT AVIATION
- HONDA
- HONEYWELL AEROSPACE
- FORCE MOTORS
- SIEMENS GAMESA
- KOHLER
- TATA MOTORS
- MARUTI SUZUKI INDIA LTD.
- TOYOTA
- HYUNDAI
- BROSE
- FAURECIA

# PRECISION MACHINING CAPABILITIES

- FORGING (COLD/HOT)
- PARTING
- STRAIGHTENING
- FACING & CENTERING
- CNC TURNING
- KNURLING
- MILLING
- DRILLING
- TAPPING
- GROOVING
- THREAD ROLLING
- HEAT TREATMENT OPERATIONS
  - NORMALIZING, CASE CARBURISING
  - HARDENING, ANNEALING, TEMPERING



- SHOT BLASTING
- CENTRE LAPPING
- CYLINDRICAL GRINDING
- CENTRE LESS GRINDING
- MAGNETIC CRACK DETECTION
- BUFFING
- BROACHING
- STAMPING
- ULTRA SONIC CLEANING
- PHOSPHATING-ZN & MG
- FLUORESCENT PARTICLE IDENTIFICATION
- SUPER FINISHING MACHINE

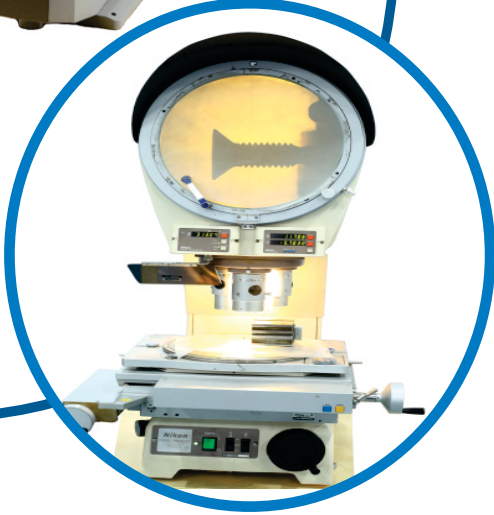
*It's all about Reliability*



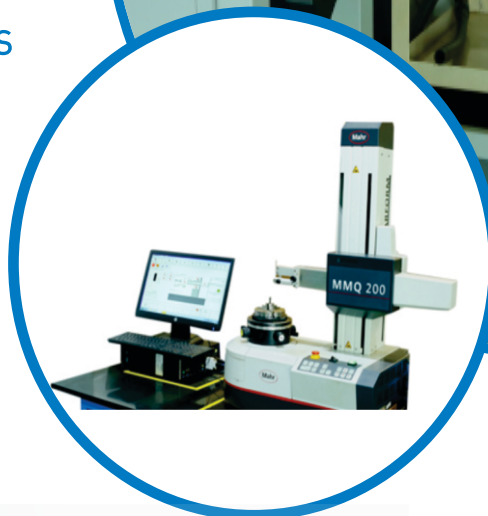
## 17025 CERTIFIED TESTING INFRASTRUCTURE



- HARDNESS TESTER (ROCKWELL/BRINELL/VICKER)
- IMPACT TESTING MACHINE
- SPECTROMETER FOR MATERIAL ANALYSIS
- ELECTRONIC TENSOMETER-2 TONS
- DELTASCOPE (FOR COATING THICKNESS)
- SALT SPRAY CHAMBER
- TORQUE TENSION EQUIPMENT
- UNIVERSAL TESTING MACHINE
- MICROSCOPE (METALLURGICAL)
- MILLIPORE TESTING
- CONTOUR MEASURING MACHINE



- X-RAY COATING THICKNESS MACHINE
- OPTICAL SORTING MACHINE
- GRIND POLISH MACHINE
- PROFILE PROJECTOR
- TENSILE MACHINE WITH HIGH TEMP - 10 TONS
- LASER SCAN MICROMETER
- ROUNDNESS TESTER
- EMISSION SPECTROMETER
- SURFACE ROUGHNESS TESTER
- EDDY CURRENT SORTING
- MAGNETIC PARTICAL INSPECTION
- FLORESCENT PENETRANT INSPECTION



*It's all about Consistency*

## RAW MATERIAL

### MATERIAL & GRADES

- Low Carbon Steel      Unhardened Pins ISO 898 (5,8 & 14H)
- Alloy Steel      ISO 898 (8,8,10,9,22H, 33H, 45H)  
ASTM A354 (BC & BD), A 574, F835, F 912,35NCD 16)
- High Grade Alloy Steel      Hardened Pins, ASTM A193 (B7 & B16)
- Stainless Steel      ISO 3506 (A2,A4) ASTM F837 (CW)ASTM F879 (CW),  
ASTM F880 (CW), ASTM A193 (BB & B8M)
- Special Purpose Stainless A-286, 15-5 PH, 17-A PH, AISI 431, AISI 416
- Brass      ● Inconel      ● Titanium
- Nimonic 80A & 90      ● Cobalt Base L605



## FINISHES

### COATING

- Zinc Plating in White, Blue, Yellow, Green & Black (ISO 4042)
- Dacromet Coating, Geomet Coating, Zinc, Flake Coating (ISO 10683)
- Zinc Iron & Zinc Managnese Plating.
- Trivalent or Hexa Chrome Free Plating (ROHS)
- Cadmium Plating
- Hot Dip Galvanizing
- Zinc Phosphating & magnise Phosphating
- Stainless Steel Passivation (AMS 2700)
- Titanium & Aluminium Anodizing





Universal Precision Screws  
N.H. 10, Delhi-Rohtak Road,  
Kharawar Bye-Pass, Rohtak-124001  
Ph: +91 -1262 - 205262  
Fax: +91 -1262 - 205111, 112  
Email : north.region@upsind.com  
east.region@upsind.com  
west.region@upsind.com  
south.region@upsind.com  
rfq@upsind.com  
website: www.upsind.com

#### **Mumbai Office**

Ground Floor, Jai Jalaram Compound  
Bhiwandi Road, Pimplas, Thane-421302  
GSTIN/UIN : 27AABFU6927B1Z9  
State Name : Maharashtra  
(M) +91-98202-67562

Corporate escalations and feedback  
Mob. :+91-9896100240  
Email :india@upsind.com