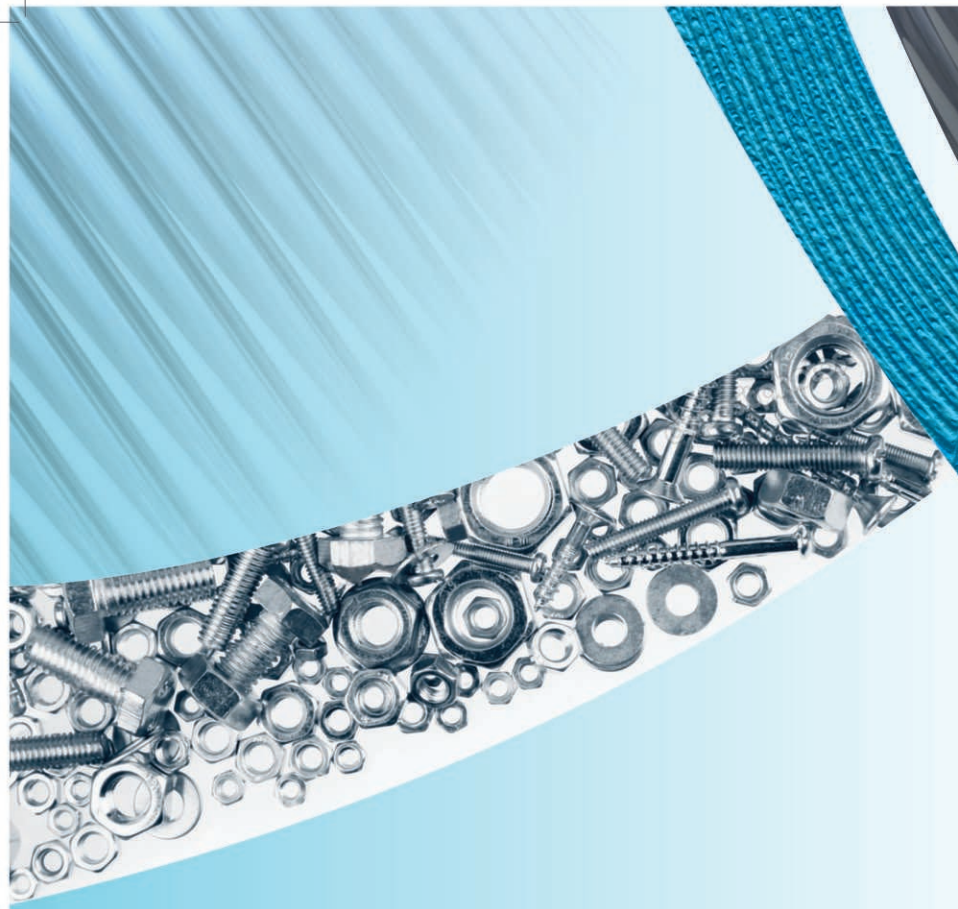

FIT-RIGHT

**FIT-RIGHT NUTS & BOLTS PVT. LTD.**

**MANUFACTURERS & EXPORTERS OF STAINLESS STEEL & HIGH TENSILE FASTENERS**

620, ARUN CHAMBERS, TARDEO,
MUMBAI - 400034, MAHARASHTRA, INDIA.
Tel.: 91-22-6615 7219/20
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# One Right Solution for all Fit Fasteners

FIT-RIGHT

**FIT-RIGHT NUTS & BOLTS PVT. LTD.**
**MANUFACTURERS OF FASTENERS & COMPONENTS**

# About us

We are India's premier manufacturers of Cold Forged Stainless Steel and Alloy Steel Fasteners such as Bolts, Nuts, Studs, Screws etc. Also various high Nickel and other exotic MOC's are manufactured with completely In-house state-of-the-art facilities. Our key point is Ex-Stock availability of more than 5000 types of fasteners and we are constantly developing new range of fasteners.

We are located at Ambernath, Maharashtra, India. Our location is easily accessible from Mumbai & JNPT port which assures quicker delivery. Our plant layout is designed to ensure the most efficient flow, from raw material stage to finished product stage with expert Material Handling System. The plant frequently undergoes positive changes to include the latest methods and technological innovation in the field along with training the employees to use the same.

We have alliance with experienced RM mills & vendors, which allows us to deliver products on time and with 100% Lot traceability. We supply all the materials in export sea-worthy packaging like cartons, pallets etc. Small and customized packing solutions are also made available on special request.

Our consistent, efficient and accurate system of manufacturing high quality products has gained us ISO 9001-2008 certification. Our skilled and experienced work force gives us the power to manufacture and export fasteners as per various National and International Standards such as DIN/IS/ASTM/BS/JS etc, we also supply as per customised specifications according to customers needs.

Versatility, flexibility and reliability are the benchmarks of our company's philosophy. We are dedicated to Efficiency, Quality, Cost & Delivery (EQCD) principles to achieve 100% customer satisfaction.



## Quality System

We continuously improve our products and services to satisfy the need of our customers with timely delivery and zero defects. Providing products according to customers' specifications at reasonable price and ex-stock of wide range of fasteners develops a strong relationship with the customers and we are proud to say that the relationships have become more healthier over the years. This is achieved with constant innovation, the best and latest technology along with the support of a very dedicated and skilled work force.

## Manufacturing Process

We use the Cold Forged method to manufacture fasteners. Benefits of Cold Forged manufacturing are speed, Improvement in mechanical properties, greater strength to weight ratio, unbroken grain flow, superior surface, precise dimensional accuracy and increased strength.

Our machines include 4-station & 3-station High speed transfer and progressive headers. 5-Station and 4-Station High-Speed Cold Nut Former's, High speed Flat Die Thread Rolling machine and Dual Spindle Nut Tappers of National and International make. These machines offers fast production and excellence in product manufacturing. We have well equipped state-of-the-art modern tool-room which enables us to offer shorter lead time to customers.

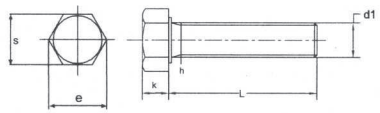
# Product Specifications & Range

## Range Products:

Some of the standards in which products are regularly manufactured by us are replicated here-under for your ready reference

### Hex Bolt - DIN 933

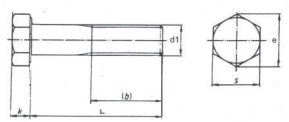
Values in mm
DIN 933 (ISO 4017 - NEN 1568 - ANSI B18.2.3.1M)
Hexagon Head Screw




| $d_1$ | k | s | e | $h_{max}$ |
|---|---|---|---|---|
| M6 | 4 | 10 | 11.05 | 3 |
| M7 | 4.8 | 11 | 12.12 | - |
| M8 | 5.3 | 13 | 14.38 | 3.75 |
| M10[1)] | 6.4 | 16 (17) | 18.90 | 4.5 |
| M12[1)] | 7.5 | 18 (19) | 21.10 | 5.25 |
| M14[1)] | 8.8 | 21 (22) | 24.49 | 6 |
| M16 | 10 | 24 | 26.75 | 6 |
| M18 | 11.5 | 27 | 30.14 | 7.5 |
| M20 | 12.5 | 30 | 33.53 | 7.5 |

### Hex Bolt - DIN 931

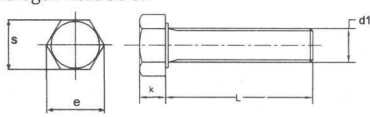
Values in mm
DIN 931 (ISO 4014 - NEN 1555 - ANSI B18.2.3.1M)
Hexagon Head Bolt




| $d_1$ | k | s | b | b | e |
|---|---|---|---|---|---|
| M6 | 4 | 10 | 18 | - | 11.05 |
| M7 | 4.8 | 11 | 20 | - | 12.12 |
| M8 | 5.3 | 13 | 22 | - | 14.38 |
| M10[1)] | 6.4 | 16 (17) | 26 | 45 | 18.90 |
| M12[1)] | 7.5 | 18 (19) | 30 | 49 | 21.10 |
| M14[1)] | 8.8 | 21 (22) | 34 | 53 | 24.49 |
| M16 | 10 | 24 | 38 | 57 | 26.75 |
| M18 | 11.5 | 27 | 42 | 61 | 30.14 |
| M20 | 12.5 | 30 | 46 | 65 | 33.53 |

### Hex Bolt - BS 1083

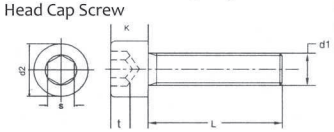
Hexagon Head Screw




| (d1) | 1/4" | 5/16" | 3/8" | 1/2" | 5/8" |
|---|---|---|---|---|---|
| Head Height (K) | 4.34 | 5.41 | 6.48 | 8.56 | 10.46 |
| Threads | 20-BSW-M | 18-BSW-M | 16-BSW/M | 12-BSW-M | 11-BSW-M |
| A/F (S) | 11.21 | 13.24 | 15.14 | 20.72 | 25.53 |

### Hex Bolt - DIN 912

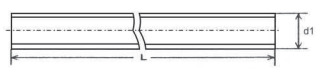
Values in mm
DIN 912 (ISO 4762 - NEN 1241 - ANSI B18.2.3.1M)
Hexagon Socket Head Cap Screw




| $d_1$ | $d_2$ | b | k | s | $t_{min}$ |
|---|---|---|---|---|---|
| M6 | 10 | 24 | 6 | 5 | 3 |
| M8 | 13 | 28 | 8 | 6 | 4 |
| M10 | 16 | 32 | 10 | 8 | 5 |
| M12 | 18 | 36 | 12 | 10 | 6 |
| M14 | 21 | 40 | 14 | 12 | 7 |
| M16 | 24 | 44 | 16 | 14 | 8 |

### Stud DIN 975

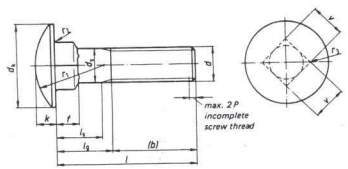
Threaded Bar




**Dimensions** : DIN 975
**Tolerence** : ...
**Threads** : 6g-ISO 965

### Carriage Bolt DIN 603

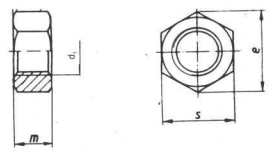
Dimensions in mm




| Screw Thread of | | M6 | M8 | M10 | M12 | M16 | M20 |
|---|---|---|---|---|---|---|---|
| P | 1) | 1 | 1.25 | 1.5 | 1.75 | 2 | 2.5 |
| $d_k$ | max. | 16.55 | 20.65 | 24.65 | 30.65 | 38.8 | 46.8 |
| | min. | 15.45 | 19.35 | 23.35 | 29.35 | 37.2 | 45.2 |
| $d_s$ (5) | max. | 6 | 8 | 10 | 12 | 16 | 20 |
| | min. | 5.52 | 7.42 | 9.42 | 11.3 | 15.3 | 19.16 |
| f | | 4.6 | 5.6 | 6.6 | 8.75 | 12.9 | 15.9 |
| | | 3.4 | 4.4 | 5.4 | 7.25 | 11.1 | 14.1 |
| k | max. | 3.88 | 4.88 | 5.38 | 6.95 | 8.95 | 11.05 |
| | min. | 3.12 | 4.12 | 4.62 | 6.05 | 8.05 | 9.95 |
| $r_1$ | = | 12.6 | 16 | 19.2 | 24.1 | 29.3 | 33.9 |
| $r_2$ | max. | 0.5 | 0.5 | 0.5 | 1 | 1 | 1 |
| $r_3$ (6) | max. | 0.9 | 1.2 | 1.5 | 1.8 | 2.4 | 3 |
| v (5) | max. | 6.48 | 8.58 | 10.58 | 12.7 | 16.7 | 20.84 |
| | min. | 5.52 | 7.42 | 9.42 | 11.3 | 15.3 | 19.16 |

### Hex Nuts DIN 934

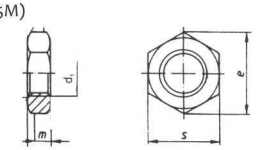
Values in mm
DIN 934 (ISO 4032 - NEN 1560)
Hexagon nut




| $d_1$ | s | $m_{max}$ | $e_{min}$ |
|---|---|---|---|
| M6 | 10 | 5.2 (5) | 11.05 |
| M7 | 11 | 5.5 | 12.12 |
| M8 | 13 | 6.8 (6.5) | 14.38 |
| M10 | 16 (17) | 8.4 (8) | 17.77 (18.90) |
| M12 | 18 (19) | 10.8 (10) | 20.03 (21.10) |
| M14 | 21 (22) | 12.8 (11) | 23.35 (24.49) |
| M16 | 24 | 14.8(13) | 26.75 |

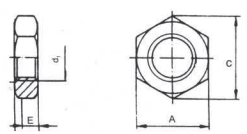
### Lock Nuts DIN 439

Values in mm
DIN 439 (ISO 4035 - ANSI B 18.2.4.5M)
Hexagon Thin nuts




| $d_1$ | s | $m_{max}$ | $e_{min}$ |
|---|---|---|---|
| M6 | 10 | 3.2 | 11.05 |
| M8 | 13 | 4 | 14.38 |
| M10 | 16 (17) | 5 | 17.77 (18.90) |
| M12 | 18 (19) | 6 | 20.03 (21.10) |
| M14 | 21 (22) | 7 | 23.35 (24.19) |
| M16 | 24 | 8 | 26.75 |

### BS: 1083 - Precision Hexagon Ordinary Nuts & Lock Nuts (BSW and BSF Threads) Normal Series




| Nom Size | No. of Thds. Per Inch | | A/F Min | A/F Max | A/C Max | Thickness. E Min | Thickness. E Max | Thickness. F Min | Thickness. F Max |
|---|---|---|---|---|---|---|---|---|---|
| D. IN | BSW | BSF | A. INCHES | | C. IN | ORD NUT IN. | | LOCK NUT, IN. | |
| 1/4 | 20 | 26 | 0.438 | 0.445 | 0.510 | 0.190 | 0.200 | 0.180 | 0.185 |
| 5/16 | 18 | 22 | 0.518 | 0.525 | 0.610 | 0.240 | 0.250 | 0.200 | 0.210 |
| 3/8 | 16 | 20 | 0.592 | 0.600 | 0.690 | 0.302 | 0.312 | 0.250 | 0.260 |
| 7/16 | 14 | 18 | 0.702 | 0.710 | 0.820 | 0.365 | 0.375 | 0.265 | 0.275 |
| 1/2 | 12 | 16 | 0.812 | 0.820 | 0.950 | 0.427 | 0.437 | 0.290 | 0.300 |
| 9/16 | 12 | 16 | 0.912 | 0.920 | 1.060 | 0.490 | 0.500 | 0.323 | 0.333 |
| 5/8 | 11 | 14 | 1000 | 1.010 | 1.070 | 0.552 | 0.562 | 0.365 | 0.375 |

**Note: Also available various other fasteners. Details available on our Website.**

## Chemical Composition for Stainless Steel Material

| GRADE | % C | % Mn | % Si | % P | % S | % Ni | % Cr | % Mo | Others | Comparison of International Standard | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MAX | MAX | | | | | | AISI | DIN | B.S. | JIS |
| 201Cu | 0.15 | 7.00-9.00 | 1.00 | 0.100 | 0.030 | 1.00 - 1.50 | 14.00 - 16.00 | - | Cu : 1.50 - 2.50 | - | - | - | - |
| 201 | 0.15 | 5.50-7.50 | 1.00 | 0.060 | 0.030 | 3.50 - 5.50 | 16.00 - 18.00 | - | - | 201 | - | - | SUS201 |
| 204Cu | 0.80 | 7.80 | 0.53 | 0.060 | 0.010 | 1.50 - 3.00 | 16.00 - 17.00 | 0.11 | - | - | - | - | - |
| 302HQ | 0.03 | 2.00 | 1.00 | 0.040 | 0.010 | 9.00 - 11.00 | 18.00 - 20.00 | - | Cu : 3.00 - 3.50 | - | - | - | - |
| 304 | 0.08 | 2.00 | 1.00 | 0.045 | 0.030 | 8.00 - 10.50 | 18.00 - 20.00 | - | - | 304 | 1.4301 | 304S15 | SUS304 |
| 304L | 0.03 | 2.00 | 1.00 | 0.045 | 0.030 | 8.00 - 12.00 | 18.00 - 20.00 | - | - | 304L | 1.4306 | 304S11 | SUS304L |
| 304HC | 0.05 | 2.00 | 1.00 | 0.040 | 0.040 | 8.00 - 11.00 | 18.00 - 20.00 | - | Cu : 2.00 - 3.00 | - | - | - | - |
| 316 | 0.08 | 2.00 | 1.00 | 0.045 | 0.030 | 10.00 - 14.00 | 16.00 - 18.00 | 2.00 - 3.00 | - | 316 | 1.4401 | 316S16 | SUS316 |
| 316L | 0.03 | 2.00 | 1.00 | 0.045 | 0.030 | 10.00 - 14.00 | 16.00 - 18.00 | 2.00 - 3.00 | - | 316L | 1.4404 | 316S11 | SUS316L |
| 316Ti | 0.10 | 2.00 | 1.00 | 0.045 | 0.030 | 10.50 - 13.50 | 16.50 - 18.50 | 2.00 - 3.00 | Ti (Min) 5 X %C (max) 0.70 | 316Ti | 1.4571 | 320S31 | - |
| 317 | 0.08 | 2.00 | 1.00 | 0.045 | 0.045 | 11.00 - 15.00 | 18.00 - 20.00 | 3.00 - 4.00 | - | - | - | - | - |
| 317L | 0.03 | 2.00 | 1.00 | 0.045 | 0.045 | 11.00 - 15.00 | 18.00 - 20.00 | 3.00 - 4.00 | - | - | - | - | - |
| 321 | 0.08 | 2.00 | 1.00 | 0.045 | 0.030 | 9.00 - 12.00 | 17.00 - 19.00 | - | Ti (Min) 5 X %C (max) 0.70 | 321 | 1.4541 | 321S31 | SUS321 |
| 410 | 0.15 | 1.00 | 1.00 | 0.040 | 0.030 | - | 11.50 - 13.50 | - | - | 410 | 1.4006 | 410S21 | SUS410 |

## Requirement of Mechanical Properties of Stainless Steel Fasteners as per ISO 3506

| Property Class | Condition | Nom. Thd. Diameter | Product Length | Full Size Product Tests for Bolts, Screws Studs | | | | Machined Specimen Tests for Bolts, Screws, Studs | | | Proof Load Stress, Mpa | Hardness for Bolts Screws and Studs | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Tensile Strength Mpa (Proof Load Stress for Nuts) | Yield Strength (0.2% Proof Stress, Mpa) | Extension $A_L$ | Torsional Strength | Tensile Strength Mpa | Yield Strength | Elongation % (0.2% Proof Stress Mpa) | | Vickers | | Rockwell | |
| | | | | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Min. | Max. | Min. | Max. |
| A2-70 | CW | M6-M20 | 8D | 700 | 450 | 0.4D | - | 650 | 400 | 20 | 700 | 220 | 330 | B96 | C33 |
| A4-70 | CW | Over M20-M39 | 8D | 550 | 300 | 0.2D | - | 520 | 270 | 25 | 700 | 160 | 310 | B83 | C31 |

CW- Headed and Rolled from annealed stock, thus aquiring a degree of cold work; Products with nominal thread diameters larger than m20 may be hot worked .

## Stainless Steel Bolting Material (As Per Astm A193 & Astm A320 Spec) (Carbide Solution Treated & Stain Hardened)

| Grade | Size (inch) | Tensile Strength | 0.2% Yield Strength | % ELO | % RA | Hardness BHN |
|---|---|---|---|---|---|---|
| B8/ 304 | Below 3/4" | 860 | 690 | 12 | 35 | 321 |
| Class II | 3/4" to 1" incl | 795 | 550 | 15 | 35 | 321 |
| B8M/ 316 | Below 3/4" | 760 | 665 | 15 | 45 | 321 |
| Class II | 3/4" to 1" incl. | 690 | 550 | 20 | 45 | 321 |
| B8/ 304 & B8M/ 316 Class I | All Sizes | 515 | 205 | 30 | 50 | 223 |

## Mechanical Requirements - Metric Products - ASTM A 193 Standards

| Class | Diameter, mm | Minimum | Tensile Strength Tempering Temperature °C | Yield Strength, min, 0.2% offset Mpa | Elongation in 4D min, % | Reduction of Area, min, % | Hardness max |
|---|---|---|---|---|---|---|---|
| B6 13% chromium | Upto M100, incl | 593 | 760 | 585 | 15 | 50 | - |
| B6X 13% chromium | Upto M100, incl | 593 | 620 | 485 | 16 | 50 | 26 HRC |
| B7 chromium-molybdenum | M64 and under | 593 | 860 | 720 | 16 | 50 | 321 HB or 35 HRC |
| | over M64 to M100 | 593 | 795 | 655 | 16 | 50 | 302 HB or 33 HRC |
| | over M100 to M180 | 593 | 690 | 515 | 18 | 50 | 277 HB or 29 HRC |
| Classes 1 and 1D; B8, B8M, B8P, B8LN, B8MLN, all diameters | Carbide solution treated | - | 515 | 205 | 30 | 50 | 223 $HB_C$ or 96 HRB |
| Class 1 : B8C, B8T, all diameters | Carbide solution treated | - | 515 | 205 | 30 | 50 | 223 $HB_C$ or 96 HRB |




## Smart Choice

- Leading SS Fastening Solutions Provider
- India's Premier Manufacturer /Exporter Of Quality Stainless Steel Fasteners
- Qualified and Experienced Management with Technical & Financial Expertise
- ISO 9001-2008 Certified By TUV
- Dedicated To Efficiency, Quality, Cost & Delivery (EQCD) Principles To Achieve 100% Customer Satisfaction
- 100% Lot Traceability
- Fasteners Manufactured Using Cold-Forging Technology
- Fasteners Manufactured As Per Various National & International Standards Such As DIN/IS/ASTM/BS/JIS Etc. In Variety Of Materials Such As AISI 304/316/410/321 Etc.
- Custom Made Fasteners Also Supplied
- In-House Tool-Room To Provide Customers With Shortest Lead Time For Development Of Special Fasteners/Parts
- Continuous Improvement/Up gradation In Manufacturing Facility Has Resulted In Retention Of All The Prevalent Customers As Well As New Additions
- Timely Delivery With No Compromise In Quality & Competitive Cost Is Our Motto
- Over 5000 Types Of Fasteners Available Ex-Stock.
- Test Certificates Given Along With Dispatch Documents.