



ISO : 9001-2008



WHEELS & CASTORS



CARRYING INDUSTRIAL LOADS SINCE 1976

DIFFERENT TYPES OF WHEELS



LIGHT DUTY / LIGHT DUTY EXTRA STRENGTH PRESSED STEEL CASTORS / BRACKETS



MEDIUM DUTY PRESSED STEEL CASTORS / BRACKETS



HEAVY DUTY FORGED STEEL CASTORS / BRACKETS



HEAVY DUTY PRESSED STEEL CASTORS / BRACKETS HEAVY DUTY FORGED STEEL TWIN CASTORS



TRACK CASTORS



VARIOUS ATTACHMENTS TO CASTORS



DIFFERENT TYPES OF BEARINGS IN WHEELS



ABOUT US

We are one of the leading manufacturers of wheels and castors fixed to various types of trolleys & material handling equipments used in factories, warehouses, godowns & stores and so on. We are manufacturing wide variety of castor wheels for over 30 years.

Spread over 33,000 sq.ft. area, the factory has all the facilities to conceive, design & manufacture a wide range of wheels & castors to suit almost every application.

Technical information & specifications for wheels & castors has been given in the catalogue. However, in case you need any additional information please ask for it.



Mr. Ajit Kotibhaskar



Our Vision : " Value of Castor rather than Cost of Castor"

Cost of replacement of wheel & castor is not just the cost of wheel or castor. It also includes cost of inconvenience, downtime of equipment, manpower lost etc. and these costs are much more than the actual cost of wheel or castor. This point is foremost in our mind. Therefore our designs are robust for long lasting service of our products. We are proud that 90% of our orders are repeat orders from our satisfied customers.



Our Quality Policy

We are committed to

Design and manufacture, innovative wheels & castors for safe and smooth material handling, through value added, metaculously engineered processes, with commitment to continual improvement in QMS to attain entire customer satisfaction.



Quality & Safety – Our First Preference

All wheels & castors are designed considering all safety parameters to provide safe & accident free movement of material. All wheels & castors are produced under strict supervision of highly technically qualified team of engineers & then tested to achieve these safety parameters. Our scientifically designed wheels & castors reduces man efforts, man power & fatigue.



Management Commitments & Customer Focus

- Understanding needs of the customers & educating them on the product specifications & selection.
- 100 % on time deliveries to the customers.
- Maintain quality of product at the optimum by critically monitoring adopted QMS system.
- To develop new & innovative products as per customer's needs.

Our Achievements



We are proud to be an ISO : 9001-2008 company. We have achieved ISO : 9001-2008 certification through TUV India Private Limited. This achievement is an important milestone for us at “Pioneer Engineering Industries” as it brings us a step closer to our vision. This certificate is the culmination of years of hardwork, consistent top quality products & the great leadership since Pioneer Engineering Industries was founded by Late Mr. Vijay K. Kotibhaskar.

Moving forward, we truly believe that our Quality System defined by the ISO certification, will enable us to provide our customers, added value in our Products & Services. At Pioneer Engineering Industries, the process of continuous improvement is now moving ahead stronger than ever. With our goals focused on the emphasis of quality assurance & innovative production, we look forward to bringing the customer satisfaction to new heights in the months & years to come.

Mr. Ajit Kotibhaskar

Office Setup



Production Facilities

In order to have full fledged control over design & development, production, quality control, immediate deliveries & cost reduction, we have installed all the production facilities in-house.



Press Shop

We have full fledged press shop having mechanical presses ranging from 20 tons to 200 tons & hydraulic presses ranging from 50 tons to 200 tons. Shearing machine capable for cutting plate up to 4 mm is also available.



Rubber Shop

Life of rubber tyre / wheel depends very much on the rubber compound used & the curing time, pressure allowed. To have continuous check on these parameters, rubber tyres / wheels are manufactured in-house. We have full fledged rubber shop with rubber mixing mills & hydraulic rubber molding presses.



UHMW-PE Wheel Moulding

UHMW-PE wheels are moulded on hydraulic compression moulding presses under strict temperature & pressure conditions & extended curing time for avoiding development of blow holes or cracks in the mass of the wheel.



Injection Moulding

Polymer wheels are manufactured in-house on microprocessor controlled fully automatic injection moulding machines. Consistent quality of wheel is ensured as the temperature of material, pressure on the moulds, cooling time etc. are critically controlled by full automation. Raw materials of proper grades are selected for achieving required hardness & abrasion resistance.



Tool Room

All dies & punches, moulds, jigs & fixtures for production & inspection are manufactured in-house in our own tool room having CNC wire cutting machine, vertical milling machine with DRO, radial drilling machine, surface grinder etc. In-house tool room also ensures immediate maintenance of all tooling & avoids delay in production.

WHY “ PIONEER ” WHEELS & CASTORS

There are ample reasons why large numbers of satisfied customers are using "PIONEER" brand wheels & castors . Some of them are :

Robust Designs, Longer Maintenance Free Life, Low Overall Cost

Our designs of wheels & castors are robust yet attractive in look. Raw materials are selected giving due consideration to the strength of material. This reduces chances of failure of wheels or castors drastically, giving extended life. This also reduces maintenance of wheels & castors and also downtime of trolleys, reducing actual working cost of wheels & castors substantially. The extended working life & reduced maintenance cost offset the slightly higher initial prices of our products.

Continuous Development & Improvements, Consistent Quality

Our research & development team takes continuous efforts for developing new innovative products & improving the existing products. Rigorous procedures have been installed for inspection at all stages of production. This ensures the only consistent superior quality products are produced & despatched. We also develop custom design wheels & castors, which are not in our existing product range.

Large Variety to Suit Almost Every Application

Wheels are manufactured in ten different types of material from 40 mm diameter to 300 mm diameter having load carrying capacities ranging from 16 Kg. to 2000 Kg. per wheel. Fixed & Swivel brackets are manufactured in seven different series for different load carrying capacities. The combination of wheels of different types & brackets of different series gives a customer hundreds of options for selection as per his requirements.

Immediate Availability, Large Responsive Dealer Network

We maintain huge stocks of all our products in our stores. In addition, large stocks of all running items are maintained by our Authorized Dealers for immediate deliveries. Our Authorized Dealers help the customer to identify & finalize his requirement, offer very reasonable prices, make efforts to prompt deliveries & render quick after sales service, if required at any time.

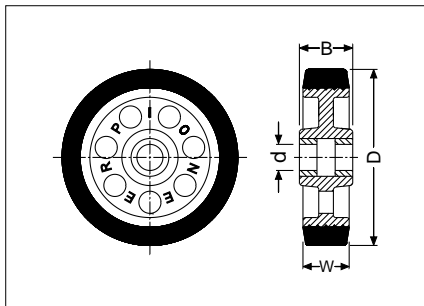
Customer Satisfaction

We consider that it is our prime responsibility to offer excellent products to our customers at reasonable prices & within shortest delivery period. Although initial purchase price is slightly higher, the cost over a longer period is much less. We are proud to say that 90 % of our orders are repeat orders from our satisfied customers. As a matter of fact, because of all the above mentioned points, once customer starts using "Pioneer" brand products, he never switches to any other brand.

DIFFERENT TYPES OF WHEELS

We manufacture wheels in ten different types. Properties, dimensional details & load carrying capacities of wheels of different types are given below

For getting optimum performance & selection of wheels, please go through "Selection Criteria for Wheels & Castors" on page no. 24.



The adjusting figure shows scheme of important dimensions of any type of wheel. Actual dimensions are given in the tables for each type of wheel.

- D : Diameter of Wheel
- d : Bore of Wheel
- W : Width of Wheel
- B : Boss Length of Wheel

SOLID RUBBER TYRE WHEELS (SRT)



The wheel consists of Solid Rubber Tyre clamped between two pressed steel drums with nuts & bolts. Sintered iron bush / needle roller bearing is provided between two drums. Tyre is manufactured from good quality rubber compound to ensure long life & good cushioning effect. The tyre, when worn out, can be replaced easily on sight.

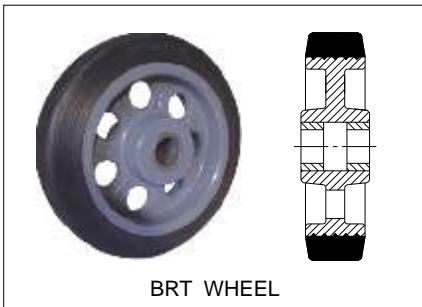
- Hardness of Rubber : (85 ± 5) on Shore 'A' scale.
- Maximum Working Temperature : 50°C

TECHNICAL DETAILS – SOLID RUBBER TYRE WHEELS

| Size of Wheel Dia x Width D mm x W mm | Width of boss of Wheel B mm | Size of bore for wheels with | | | | | Ball bearing used (Number) | Load Carrying Capacity Kg. |
|---|--------------------------------|------------------------------|-------------|-------------|-------------|------------|----------------------------|----------------------------|
| | | PLB d mm | NYL d mm | SIB d mm | NRB d mm | BB d mm | | |
| 100 x 32 | 38 / 45 | --- | --- | 15.9 | 15.9 | --- | --- | 70 |
| 125 x 32 | 38 / 45 | --- | --- | 15.9 | 15.9 | --- | --- | 90 |
| 150 x 40 | 50 | --- | --- | --- | 19.0 | --- | --- | 120 |
| 150 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6005 | 125 |
| 200 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 150 |
| 200 x 75 | 90 | --- | --- | 25.4 | 25.4 | 25.00 | 6205 | 225 |
| 250 x 50 | 60 | --- | --- | 25.4 | 25.4 | 25.00 | 6205 | 175 |
| 300 x 50 | 60 | --- | --- | 25.4 | 25.4 | 25.00 | 6205 | 200 |
| 300 x 75 | 90 | --- | --- | 25.4 | 25.4 | 25.00 | 6205 | 300 |

- Notes :
- 1) In case of SRT Wheel 100 x 32 & 125 x 32, width of boss of wheel is 38 mm for LD & LD-X series wheels & 45 mm for MD series wheels.
 - 2) SRT wheel of NRB type are provided with plastic cage NRB. Metal cage NRB can be fitted in these wheels on request.

BONDED RUBBER TYRE WHEELS (BRT)



A good quality rubber compound bonded (molded) over a cast iron core forms a Bonded Rubber Tyre Wheel. The load carrying capacity as well as life of BRT wheel is much more than that of SRT wheel. Castings can be returned back to us for re-bonding of rubber when it is worn out.

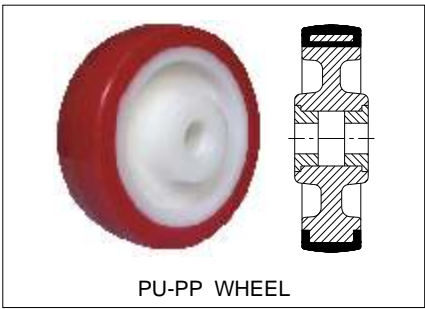
Hardness of Rubber : (85 ± 5) on Shore 'A' scale.
 Grade of the casting : FG 200 as per IS-210
 Maximum Working Temperature : 50°C

TECHNICAL DETAILS – BONDED RUBBER TYRE WHEELS

| Size of Wheel Dia x Width D mm x W mm | Width of boss of Wheel B mm | Size of bore for wheels with | | | | | Ball bearing used (Number) | Load Carrying Capacity Kg. |
|---|--------------------------------------|------------------------------|-------------|-------------|-------------|------------|-------------------------------------|-------------------------------------|
| | | PLB d mm | NYL d mm | SIB d mm | NRB d mm | BB d mm | | |
| 77 x 32 | 45 | --- | --- | 15.9 | --- | --- | --- | 80 |
| 100 x 32 | 45 | --- | --- | 15.9 | 19.0 | 20.00 | 6004 | 100 |
| 100 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 150 |
| 125 x 32 | 45 | --- | --- | 15.9 | 19.0 | 20.00 | 6004 | 140 |
| 125 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 175 |
| 150 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 200 |
| 150 x 75 | 90 | --- | --- | --- | 25.4 | 25.00 | 6205 | 300 |
| 200 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 250 |
| 200 x 75 | 90 | --- | --- | --- | 25.4 | 25.00 | 6205 | 375 |
| 250 x 50 | 60 | --- | --- | 25.4 | 25.4 | 25.00 | 6205 | 300 |
| 250 x 75 | 90 | --- | --- | --- | 25.4 | 25.00 | 6205 | 450 |
| 300 x 50 | 60 | --- | --- | 25.4 | 25.4 | 25.00 | 6205 | 400 |
| 300 x 75 | 90 | --- | --- | --- | 25.4 | 25.00 | 6205 | 600 |

Notes : 1) BRT wheels of NRB type are provided with plastic cage NRB. Metal cage NRB can be fitted in these wheels on request.
 2) Casting of "Pioneer" make only can be returned back to us for rebonding.

POLYURETHANE WHEELS (PU-PP)



Polyurethane with high abrasion resistance, mechanically locked over a polypropylene core, forms a PU-PP wheel. PU-PP wheels are manufactured by injection moulding process. The load carrying capacity as well as life of wheel is much more than that of SRT wheel. PU wheels have good shock absorption capacity & very low noise level.

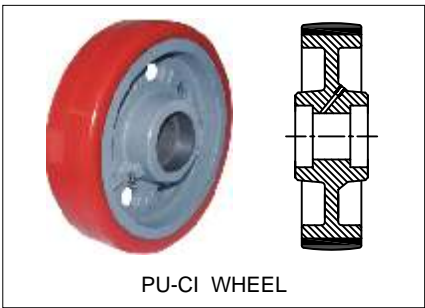
Hardness of Polyurethane : (94 ± 5) on Shore 'A' scale.
 Maximum Working Temperature : 50°C

TECHNICAL DETAILS – POLYURETHANE WHEELS

| Size of Wheel Dia x Width D mm x W mm | Width of boss of Wheel B mm | Size of bore for wheels with | | | | | Ball bearing used (Number) | Load Carrying Capacity Kg. |
|---|--------------------------------|------------------------------|----------|----------|----------|---------|----------------------------|----------------------------|
| | | PLB d mm | NYL d mm | SIB d mm | NRB d mm | BB d mm | | |
| 100 x 32 | 38 / 45 | 15.9 | --- | --- | --- | --- | --- | 100 |
| 125 x 32 | 38 / 45 | --- | 15.9 | --- | --- | 20.00 | 6004 | 125 |
| 150 x 40 | 50 | --- | 19.0 | --- | --- | 20.00 | 6004 | 150 |
| 150 x 50 | 60 | --- | 19.0 | --- | --- | 20.00 | 6004 | 160 |
| 200 x 50 | 60 | --- | 19.0 | --- | --- | 20.00 | 6004 | 200 |

Notes: 1) In case of PU-PP wheel 100 x 32 & 125 x 32, width of boss of wheel is 38 mm for LD & LD-X series & 45 mm for MD series.

POLYURETHANE WHEELS (PU-CI)



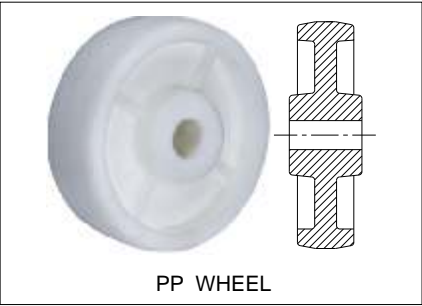
Polyurethane with high abrasion resistance bonded (molded) over a cast iron core forms a PU-CI Wheel. PU-CI wheels are manufactured by casting process. The properties of cast polyurethane are much better than that of injection moulded polyurethane. The load carrying capacity as well as life of wheel is more than that of PU-PP wheel. PU-CI wheels have good shock absorption capacity & very low noise level.

Hardness of Polyurethane : (94 ± 5) on Shore 'A' scale.
 Maximum Working Temperature : 50°C

TECHNICAL DETAILS – POLYURETHANE WHEELS

| Size of Wheel Dia x Width D mm x W mm | Width of boss of Wheel B mm | Size of bore for wheels with | | | | | Ball bearing used (Number) | Load Carrying Capacity Kg. |
|---|--------------------------------|------------------------------|----------|----------|-------------|---------|----------------------------|----------------------------|
| | | PLB d mm | NYL d mm | SIB d mm | NRB d mm | BB d mm | | |
| 100 x 32 | 45 | --- | --- | 15.9 | 19.0 | 20.00 | 6004 | 125 |
| 100 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 250 |
| 125 x 32 | 45 | --- | --- | 15.9 | 19.00 | 20.00 | 6004 | 200 |
| 125 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 300 |
| 150 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 350 |
| 200 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 500 |
| PU-CI Rollers | | | | | | | | |
| 82 x 70 | 70 | --- | --- | --- | --- | 20.00 | 6204 | 300 |
| 82 x 70 | 70 | --- | --- | --- | --- | 25.00 | 6205 | 300 |

POLYPROPYLENE WHEELS (PP)



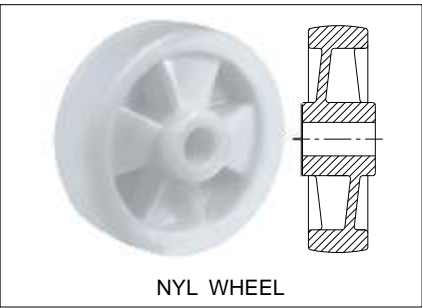
These wheels are manufactured from virgin Poly Propylene Co-Polymer (PP-CP), white in colour, by injection molding. The wheels are light in weight but have fair load carrying capacity. The acidic or alkaline chemicals have no effect on these wheels.

Hardness of Wheel : (80 ± 5) on Shore 'D' scale.
 Maximum Working Temperature : 50°C

TECHNICAL DETAILS – POLYPROPYLENE WHEELS

| Size of Wheel Dia x Width D mm x W mm | Width of boss of Wheel B mm | Size of bore for wheels with | | | | | Ball bearing used (Number) | Load Carrying Capacity Kg. |
|---|--------------------------------|------------------------------|----------|----------|----------|---------|----------------------------|----------------------------|
| | | PLB d mm | NYL d mm | SIB d mm | NRB d mm | BB d mm | | |
| 40 x 20 | 23 | 6.0 | --- | --- | --- | --- | --- | 15 |
| 50 x 22 | 25 | 10.0 | --- | --- | --- | --- | --- | 20 |
| 63 x 22 | 25 | 10.0 | --- | --- | --- | --- | --- | 30 |
| 75 x 22 | 25 | 10.0 | --- | --- | --- | --- | --- | 35 |
| 77 x 32 | 45 | 15.9 | --- | 15.9 | --- | --- | --- | 80 |
| 100 x 32 | 38 / 45 | 15.9 | --- | 15.9 | --- | --- | --- | 100 |
| 100 x 50 | 60 | 25.4 | --- | 25.4 | --- | 20.00 | 6004 | 175 |
| 125 x 32 | 38 / 45 | 15.9 | --- | 15.9 | --- | --- | --- | 150 |
| 125 x 50 | 60 | 25.4 | --- | 25.4 | --- | 20.00 | 6004 | 225 |
| 150 x 40 | 50 | 19.0 | --- | --- | --- | --- | --- | 160 |
| 150 x 50 | 60 | 25.4 | --- | 25.4 | --- | 20.00 | 6004 | 300 |

NYLON WHEELS (NYL)



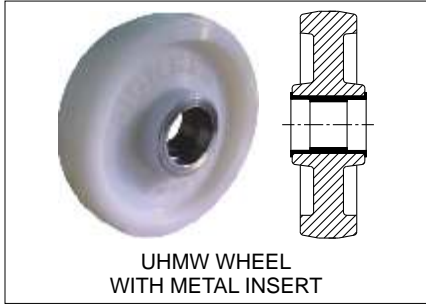
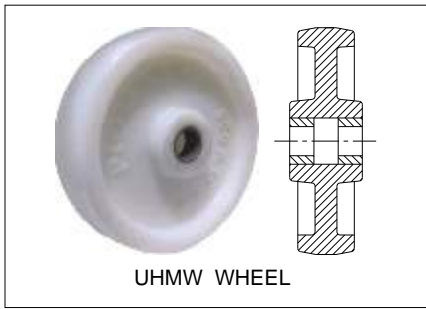
These wheels are manufactured from virgin Nylon 6, white in colour, by injection molding. These wheels are light in weight, but have high load carrying capacities. These wheels can be used up to 90°C temperature. The acidic or alkaline chemicals have no effect on these wheels.

Hardness of Wheel : (90 ± 5) on Shore 'D' scale.
 Maximum Working Temperature : 90°C

TECHNICAL DETAILS – NYLON WHEELS

| Size of Wheel Dia x Width D mm x W mm | Width of boss of Wheel B mm | Size of bore for wheels with | | | | | Ball bearing used (Number) | Load Carrying Capacity Kg. |
|---|--------------------------------|------------------------------|----------|----------|----------|---------|----------------------------|----------------------------|
| | | PLB d mm | NYL d mm | SIB d mm | NRB d mm | BB d mm | | |
| 50 x 25 | 30 | 12.0 | --- | --- | --- | --- | --- | 60 |
| 75 x 25 | 30 | 12.0 | --- | --- | --- | --- | --- | 100 |
| 77 x 32 | 45 | 15.9 | --- | --- | --- | --- | --- | 120 |
| 100 x 32 | 45 | 15.9 | --- | --- | --- | --- | --- | 130 |
| 100 x 50 | 60 | 25.4 | --- | --- | --- | 20.00 | 6004 | 250 |
| 125 x 32 | 45 | 15.9 | --- | --- | --- | --- | --- | 200 |
| 150 x 50 | 60 | 25.4 | --- | --- | --- | 20.00 | 6004 | 350 |

UHMW-PE WHEELS (UHMW)



These wheels are manufactured from Virgin Ultra High Molecular Weight Polyethylene (UHMW-PE) powder, white in colour. These wheels are light in weight but have very high load carrying capacity, higher wear resistance as well as high impact strength. Therefore the question of wheel cracking under load or impact load does not arise, as it may happen in case of polypropelene, nylon or fiber wheels. The material has got very low coefficient of friction. Therefore, pulling or pushing efforts required are considerably less. The material does not have any effect of chemicals or acids. Though the UHMW wheels can carry heavy loads, the material is not hard like cast iron. Therefore UHMW wheels do not damage the flooring.

UHMW-PE WHEELS WITH METAL INSERT FOR BALL BEARINGS

As the UHMW material has got very low coefficient of friction, ball bearing has tendency to rotate in the step bore. To avoid this, metal insert is pressed in the wheel. The metal insert has step bore suitable for ball bearing.

Please note that there are two types of UHMW wheels. MD type wheels having medium load carrying capacity suitable for MD series castors. HD type wheels having thicker section for higher load carrying capacity suitable for HD series castors.

UHMW ROLLERS

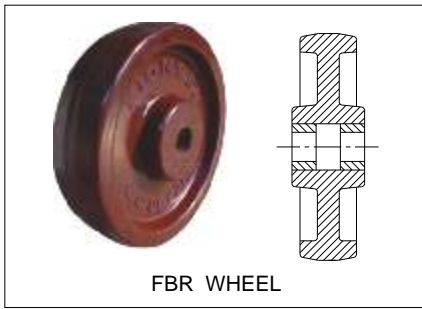
In view of light weight, high load carrying capacity and high impact strength, UHMW-PE rollers are fitted to pallet trucks, stackers and similar equipments.

Hardness of Roller : (75 ± 5) on Shore 'D' scale.
 Maximum working temperature : 70°C

TECHNICAL DETAILS – UHMW WHEELS & ROLLERS

| Size of Wheel Dia x Width D mm x W mm | Width of boss of Wheel B mm | Size of bore for wheels with | | | | | Ball bearing used (Number) | Load Carrying Cap. Kg. | |
|---|--------------------------------|------------------------------|-------------|-------------|-------------|-------------|-------------------------------|------------------------|------|
| | | PLB d mm | NYL d mm | SIB d mm | NRB d mm | BB d mm | | MD | HD |
| 100 x 32 | 38 / 45 | 15.9 | --- | 15.9 | 19.0 | 20.00 | 6004 | 175 | --- |
| 100 x 50 | 60 | 25.4 | --- | 25.4 | 19.0/25.4 | 25.00 | 6205 | 300 | 300 |
| 125 x 32 | 38 / 45 | 15.9 | --- | 15.9 | 19.0 | 20.00 | 6004 | 250 | --- |
| 125 x 50 | 60 | 25.4 | --- | 25.4 | 19.0/25.4 | 25.00 | 6205 | 250 | 250 |
| 150 x 40 | 50 | 19.0 | --- | 19.0 | --- | 20.00 | 6004 | 250 | --- |
| 150 x 50 | 60 | 25.4 | --- | 25.4 | 19.0/25.4 | 25.00 | 6205 | 350 | 550 |
| 150 x 75 | 90 | 25.4 | --- | 25.4 | 25.4 | 25.00 | 6205 | --- | 750 |
| 200 x 50 | 60 | 25.4 | --- | 25.4 | 19.0/25.4 | 25.00 | 6205 | 500 | 750 |
| 200 x 75 | 90 | 25.4 | --- | 25.4 | 25.4 | 25.00 | 6205 | --- | 1000 |
| 250 x 50 | 60 | 25.4 | --- | 25.4 | 25.4 | 25.00 | 6205 | --- | 900 |
| 250 x 75 | 90 | 25.4 | --- | 25.4 | 25.4 | 25.00 | 6205 | --- | 1200 |
| 300 x 50 | 60 | 25.4 | --- | 25.4 | 25.4 | 25.00 | 6205 | --- | 1000 |
| 300 x 75 | 90 | 25.4 | --- | 25.4 | 25.4 | 25.00 | 6205 | --- | 1600 |
| UHMW-PE ROLLERS | | | | | | | | | |
| 82 x 70 | 70 | --- | --- | --- | --- | 20.0 / 25.0 | 6204 / 6205 | 400 | |
| 82 x 85 | 85 | --- | --- | --- | --- | 20.0 / 25.0 | 6204 / 6205 | 450 | |
| 82 x 96 | 96 | --- | --- | --- | --- | 20.0 / 25.0 | 6204 / 6205 | 500 | |
| 82 x 100 | 100 | --- | --- | --- | --- | 20.0 / 25.0 | 6204 / 6205 | 500 | |

FIBRE WHEELS (FBR)



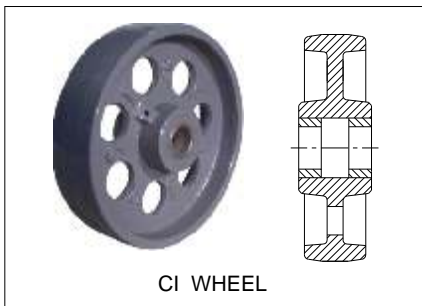
These wheels are manufactured by compression molding shredded cotton fabric, soaked in good quality phenolic resin. The hardness of fibre wheel is higher than the hardness of UHMW wheel. As a result, the chances of steel burr lying on the shop floor getting embedded in the wheel surface are remote. The acidic or alkaline chemicals have little effect on these wheels.

Hardness of Wheel : (90±5) on Shore 'D' scale.
Maximum Working Temperature : 170°C

TECHNICAL DETAILS – FIBRE WHEELS

| Size of Wheel Dia x Width D mm x W mm | Width of boss of Wheel B mm | Size of bore for wheels with | | | | | Ball bearing used (Number) | Load Carrying Capacity Kg. |
|---|--------------------------------------|------------------------------|-------------|-------------|-------------|------------|-------------------------------------|-------------------------------------|
| | | PLB d mm | NYL d mm | SIB d mm | NRB d mm | BB d mm | | |
| 100 x 32 | 45 | 15.9 | --- | 15.9 | 19.0 | 20.00 | 6004 | 130 |
| 100 x 50 | 60 | 25.4 | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 225 |
| 150 x 50 | 60 | 25.4 | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 400 |

CAST IRON WHEELS (CI)



These are bare cast iron wheels made from good quality graded casting, machinable & free from blow holes. These wheels have very high load carrying capacity & are suitable for high temperature applications like ovens, foundries etc. The only disadvantage of CI wheels is that they damage the costly floor surfaces.

Hardness of Casting : (175±10) BHN.
Grade of Casting : FG 200 as per IS - 210
Maximum Working Temperature : 250°C

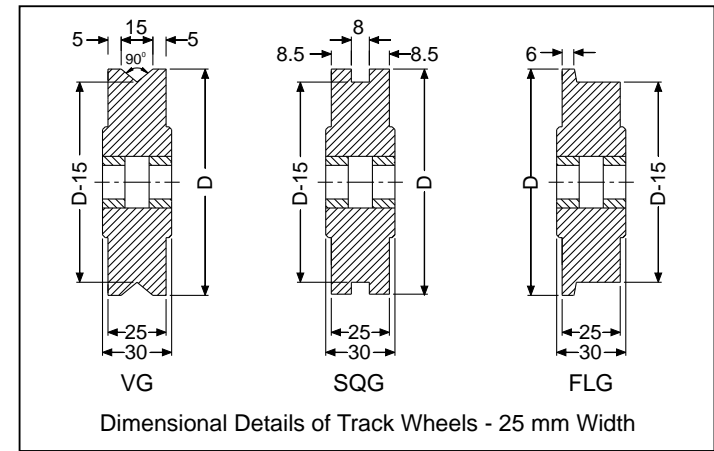
TECHNICAL DETAILS – CAST IRON WHEELS

| Size of Wheel Dia x Width D mm x W mm | Width of boss of Wheel B mm | Size of bore for wheels with | | | | | Ball bearing used (Number) | Load Carrying Capacity Kg. |
|---|--------------------------------------|------------------------------|-------------|-------------|-------------|------------|-------------------------------------|-------------------------------------|
| | | PLB d mm | NYL d mm | SIB d mm | NRB d mm | BB d mm | | |
| 50 x 25 | 30 | --- | --- | 12.0 | --- | --- | --- | 100 |
| 75 x 25 | 30 | --- | --- | 12.0 | --- | --- | --- | 150 |
| 77 x 32 | 45 | --- | --- | 15.9 | 19.0 | 20.00 | 6004 | 200 |
| 100 x 32 | 45 | --- | --- | 15.9 | 19.0 | 20.00 | 6004 | 300 |
| 100 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 400 |
| 125 x 32 | 45 | --- | --- | 15.9 | 19.0 | 20.00 | 6004 | 400 |
| 125 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 500 |
| 150 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 700 |
| 150 x 75 | 90 | --- | --- | --- | 25.4 | 25.00 | 6205 | 1050 |
| 200 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 900 |
| 200 x 75 | 90 | --- | --- | --- | 25.4 | 25.00 | 6205 | 1350 |
| 250 x 50 | 60 | --- | --- | 25.4 | 25.4 | 25.00 | 6205 | 1050 |
| 250 x 75 | 90 | --- | --- | --- | 25.4 | 25.00 | 6205 | 1575 |
| 300 x 50 | 60 | --- | --- | --- | 25.4 | 25.00 | 6205 | 1400 |
| 300 x 75 | 90 | --- | --- | --- | 25.4 | 25.00 | 6205 | 2000 |

CAST IRON TRACK WHEELS (CI-TRK)

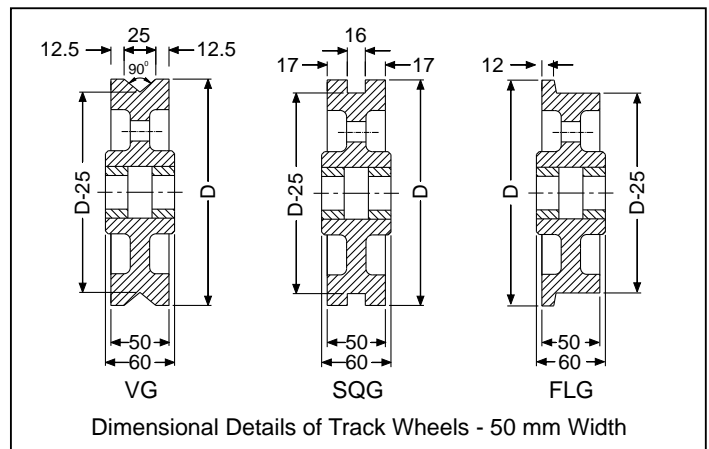
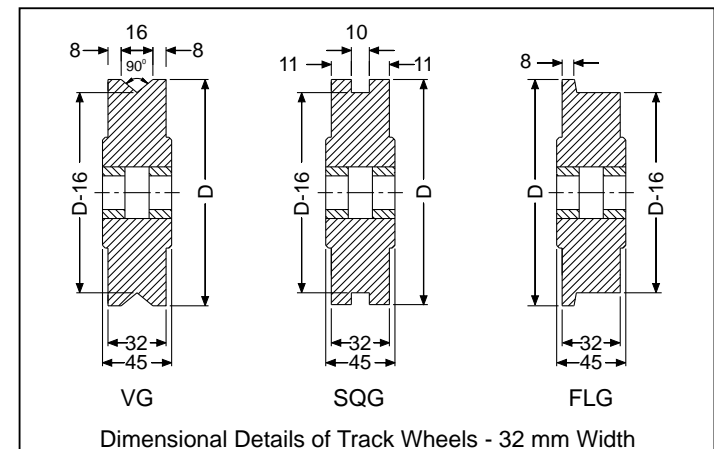


Cast Iron wheels with either V-groove (VG), Square groove (SQG), or a Flange (FLG) are available depending upon the track over which the castors has to move. Since the wheels roll over steel track, the pushing or pulling force required is much less, reduces labour fatigue. Floor surface also does not get damage at any time.



Dimensional details of V-groove, Square groove and Flange for wheels having 25 mm width, 32 mm width and 50 mm width are as per drawings given.

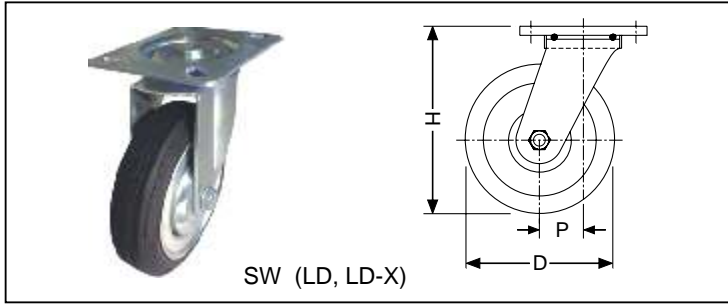
Hardness of Casting : (175 ± 10) BHN.
 Grade of Casting : FG 200 as per IS - 210
 Maximum Working Temp. : 250°C



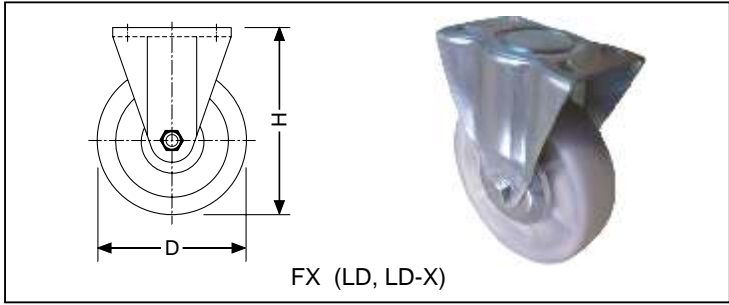
TECHNICAL DETAILS – CAST IRON TRACK WHEELS

| Size of Wheel Dia x Width D mm x W mm | Width of boss of Wheel B mm | Size of bore for wheels with | | | | | Ball bearing used (Number) | Load Carrying Capacity Kg. |
|---|--------------------------------|------------------------------|-------------|-------------|-------------|------------|-------------------------------|-------------------------------|
| | | PLB d mm | NYL d mm | SIB d mm | NRB d mm | BB d mm | | |
| 50 x 25 | 30 | --- | --- | 12.0 | --- | --- | --- | 100 |
| 75 x 25 | 30 | --- | --- | 12.0 | --- | --- | --- | 150 |
| 77 x 32 | 45 | --- | --- | 15.9 | 19.0 | 20.00 | 6004 | 200 |
| 100 x 32 | 45 | --- | --- | 15.9 | 19.0 | 20.00 | 6004 | 300 |
| 100 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 400 |
| 125 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 500 |
| 150 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 700 |
| 200 x 50 | 60 | --- | --- | 25.4 | 19.0 / 25.4 | 25.00 | 6205 | 900 |
| 250 x 50 | 60 | --- | --- | 25.4 | 25.4 | 25.00 | 6205 | 1050 |
| 300 x 50 | 60 | --- | --- | 25.4 | 25.4 | 25.00 | 6205 | 1400 |

LIGHT DUTY PRESSED STEEL CASTORS (LD SERIES) LIGHT DUTY EXTRA STRENGTH PRESSED STEEL CASTORS (LD-X SERIES)



SW (LD, LD-X)

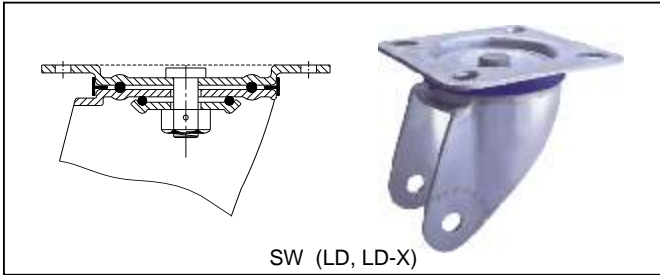


FX (LD, LD-X)

Light duty castors are suitable for hospital furniture, house hold furniture & equipments, laboratory equipments, food serving trolleys in hotels & canteen etc. where weight of material to be carried is small. Light duty extra strength castors are particularly suitable where LD castors fails too frequently & where loads are moderate. Both LD & LD-X castors looks like same. Only difference is LD-X castors are manufactured from higher plate thickness.

SRT, PU-PP, PP, UHMW wheels are assembled in LD & LD-X castors.

CONSTRUCTION OF LD & LD-X BRACKETS



SW (LD, LD-X)



SW (LD - PG, LD-X-PG)



FX (LD, LD-X)

Light Duty Swivel Brackets [SW(LD)] & Light Duty Swivel Brackets with peg (i.e. stud or pin) for inserting in a pipe [SW(LD-PG)] are manufactured from tested M. S. plates. Both base plate & revolving top are first blanked on a mechanical press & then formed on hydraulic press. The components are first buffed & then zinc plated for elegant look. Steel balls are accommodated in grooves formed on base plate & revolving top. The base & revolving top are assembled together with a king pin. Steel balls are provided between revolving top & washer below the king pin nut for smooth rotation of revolving top. Plastic ring is provided around the steel balls in order that outside dirt does not reach steel balls easily.

Construction of peg type swivel bracket is similar to the plate type swivel bracket except that instead of a base plate, a cup is used to accommodate steel balls & the king pin is an integral part of the peg.

Matching Light Duty Fixed Brackets [FX(LD)] are also manufactured from tested M.S. plates by blanking on mechanical press & forming on hydraulic press. Sides of bracket are embossed for additional strength as well as for elegant look.

Construction of Light Duty Extra Strength swivel bracket [SW(LD-X)] & fixed bracket [FX(LD-X)] is same as that of Light Duty brackets. The only difference is Light Duty Extra Strength brackets are manufactured from thicker plates for carrying higher loads than LD brackets.

STAINLESS STEEL BRACKETS

Light Duty Stainless Steel brackets are manufactured from stainless steel sheets (SS-304). All other components of bracket such as kingpin, nut, D.P.cap, spring washer, bolt etc are also of stainless steel. As stainless steel is a non ferrous metal, the chances of corrosion are completely avoided. Also, stainless steel has got excellent resistance to chemicals & hence S.S. brackets are widely used in chemical industries, food industries, fisheries, pharmaceutical industries etc. The brackets are buffed (polished) for mirror finish shining. Please note that these brackets are available in SW (LD) type only.

DIMENSIONAL DETAILS & LOAD CARRYING CAPACITIES

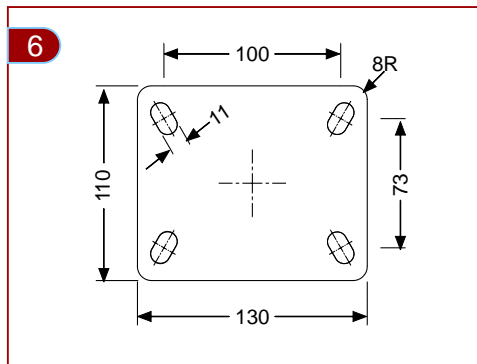
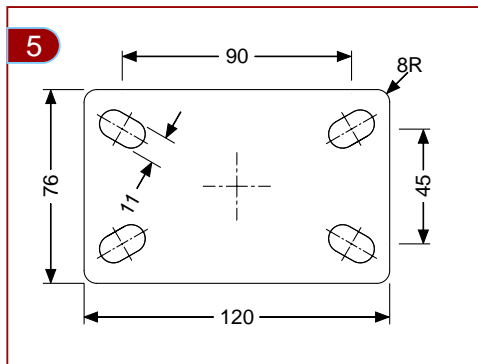
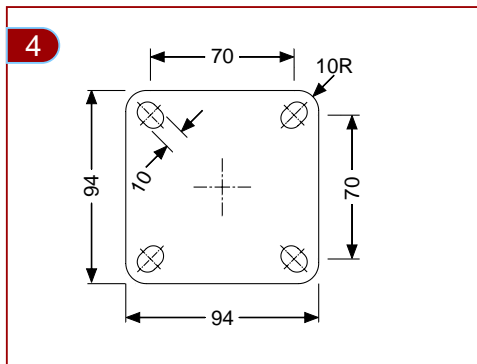
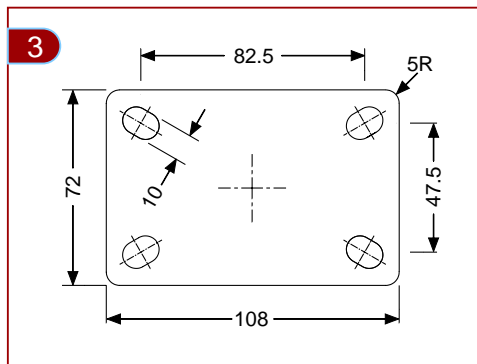
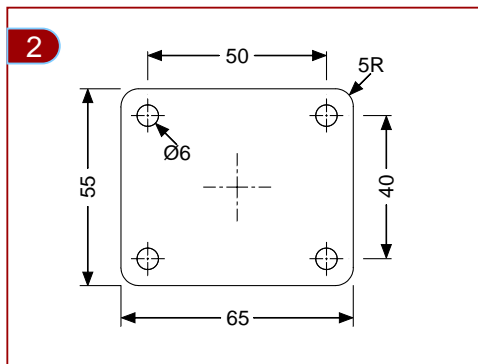
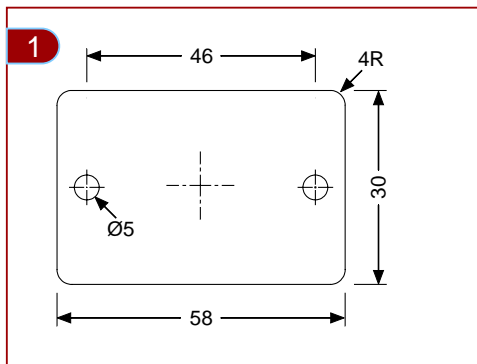
LIGHT DUTY CASTORS

| Size of Wheel Dia x Width | Overall Height | Offset in case of SW Castor P mm | Mounting Plate Number | | Standard size of peg D x L (In case of peg type castors) | Load Carrying Capacity | | | |
|------------------------------|-------------------|---|--------------------------|--------------|--|------------------------|----------------------|-------------------|---------------------|
| | | | FX Castor | SW Castor | | SRT Type Kg. | PU-PP Type Kg. | PP Type Kg. | UHMW Type Kg. |
| D mm x W mm | H mm | | | | | | | | |
| 40 x 20 | 50 | --- | 01 | --- | --- | --- | --- | 15 | --- |
| 50 x 22 | 70 | 26 | --- | 02 | Ø 16 x 38 L | --- | --- | 20 | --- |
| 63 x 22 | 80 | 26 | --- | 02 | Ø 16 x 38 L | --- | --- | 30 | --- |
| 75 x 22 | 95 | 26 | --- | 02 | Ø 16 x 38 L | --- | --- | 35 | --- |
| 100 x 32 | 125 | 38 | 03 | 04 | Ø 22 x 38 L | 70 | 75 | 75 | 75 |
| 125 x 32 | 155 | 38 | 03 | 04 | Ø 22 x 38 L | 90 | 115 | 115 | 115 |
| 150 x 40 | 185 | 45 | 05 | 06 | Ø 22 x 38 L | 120 | 150 | 150 | 150 |

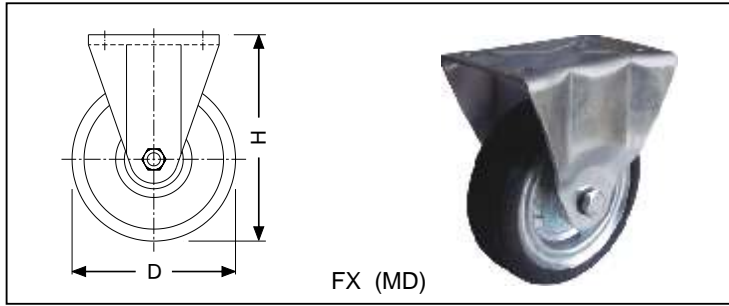
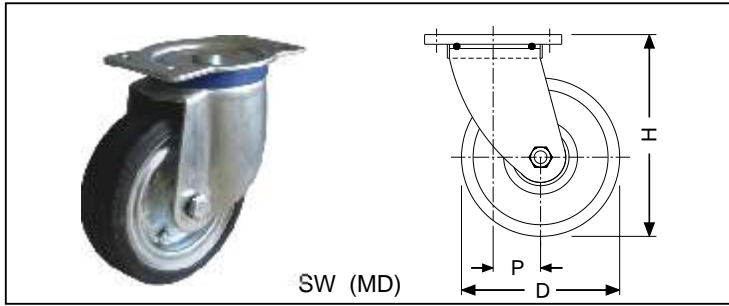
LIGHT DUTY EXTRA STRENGTH CASTORS

| Size of Wheel Dia x Width | Overall Height | Offset in case of SW Castor P mm | Mounting Plate Number | | Standard size of peg D x L (In case of peg type castors) | Load Carrying Capacity | | | |
|------------------------------|-------------------|---|--------------------------|--------------|--|------------------------|----------------------|-------------------|---------------------|
| | | | FX Castor | SW Castor | | SRT Type Kg. | PU-PP Type Kg. | PP Type Kg. | UHMW Type Kg. |
| D mm x W mm | H mm | | | | | | | | |
| 100 x 32 | 125 | 38 | 03 | 04 | Ø 22 x 38 L | 70 | 100 | 100 | 100 |
| 125 x 32 | 155 | 38 | 03 | 04 | Ø 22 x 38 L | 90 | 125 | 125 | 125 |
| 150 x 40 | 185 | 45 | 05 | 06 | Ø 22 x 38 L | 120 | 150 | 160 | 175 |

DIMENSIONS OF MOUNTING PLATES FOR FIXED & SWIVEL CASTORS



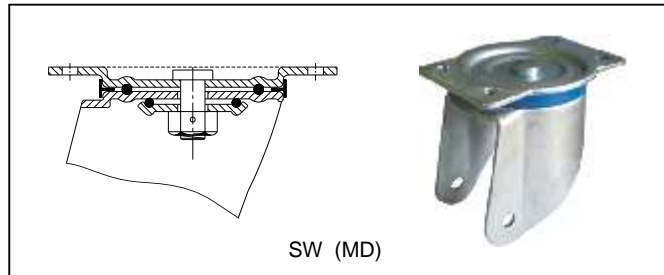
MEDIUM DUTY PRESSED STEEL CASTORS (MD SERIES)



Medium Duty castors are designed to carry moderate loads i.e. more than LD or LD-X castors, and are suitable for various types of trolleys used in industries, warehouses, godowns, stores, railway platform and so on. These castors are also suitable for hospital furniture, laboratory equipments or food serving trolleys where load carrying capacity required is higher & the light duty castors need frequent replacement.

SRT, BRT, PU-PP, PU-CI, PP, NYL, UHMW, FBR, CI wheels can be fitted in medium duty castors.

CONSTRUCTION OF MD BRACKETS



Medium Duty swivel brackets [SW(MD)] are manufactured from tested M. S. plates. In case of swivel brackets, both base & revolving top are blanked on mechanical press & then formed on hydraulic press. Steel balls are accommodated in grooves formed on base plate & revolving top. The base & revolving top are assembled together with a specially manufactured round head bolt which acts as a king pin. Steel balls are provided between the revolving top & washer below the king pin nut for smooth rotation of revolving top. Plastic ring is provided around the steel balls so that outside dirt does not reach steel balls easily. The swiveling action is like a thrust bearing. Since the grooves for steel balls are formed on hydraulic press, the consistency of dimensions & finish of grooves are assured for smooth swiveling action.

Medium Duty fixed brackets [FX(MD)] are manufactured from tested M. S. plates by blanking on a mechanical press & then forming on hydraulic press. Sides of brackets are embossed for additional strength as well as for elegant look.

Both fixed & swivel brackets are first buffed & then zinc plated. Brackets with Nickel Chrome plating can be provided on request. Now a days lot of industries are using standard MD brackets with Nickel Chrome plating as a substitute for Stainless Steel brackets.

Notes : Pea type brackets are available in sizes from 50 x 25 to 125 x 32

STAINLESS STEEL BRACKETS

Medium Duty Stainless Steel brackets are manufactured from stainless steel sheets (SS-304). All other components of bracket such as king pin, nut, D.P.cap, spring washer, bolt etc are also of stainless steel. As stainless steel is a non ferrous metal, the chances of corrosion are completely avoided. Also, stainless steel has got excellent resistance to chemicals & hence widely used in chemical industries, food industries, fisheries, pharmaceutical industries etc. The brackets are buffed (polished) for mirror finish shining. These brackets are available in fixed as well as in swivel type upto size 100x32.

DIMENSIONAL DETAILS & LOAD CARRYING CAPACITIES

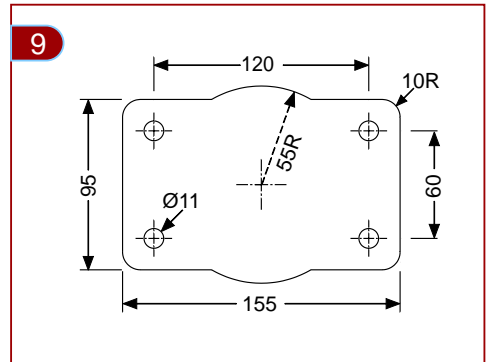
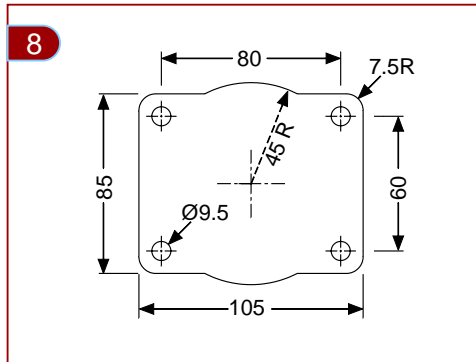
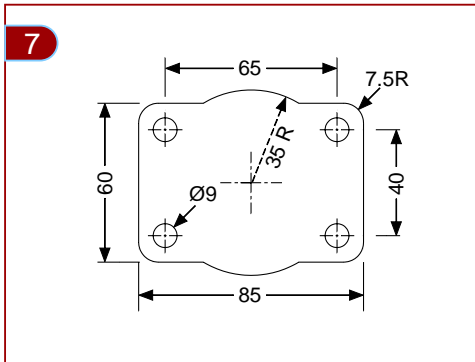
FIXED CASTORS (MD SERIES)

| Size of Wheel Dia x Width D mm x W mm | Overall Height H mm | Mounting Plate Number | Load Carrying Capacity | | | | | | | | | |
|---|------------------------|-----------------------------|------------------------|--------------------|------------------------|------------------------|-------------------|--------------------|---------------------|--------------------|-------------------|-----|
| | | | SRT Type Kg. | BRT Type Kg. | PU - PP Type Kg. | PU - CI Type Kg. | PP Type Kg. | NYL Type Kg. | UHMW Type Kg. | FBR Type Kg. | CI Type Kg. | |
| 50 x 25 | 70 | 7 | --- | --- | --- | --- | --- | --- | 60 | --- | --- | 100 |
| 75 x 25 | 100 | 7 | --- | --- | --- | --- | --- | --- | 100 | --- | --- | 150 |
| 77 x 32 | 105 | 8 | --- | 80 | --- | --- | --- | 80 | 120 | --- | --- | 200 |
| 100 x 32 | 130 | 8 | 70 | 100 | 100 | 125 | 100 | 100 | 130 | 175 | 130 | 300 |
| 100 x 50 | 140 | 9 | --- | 150 | --- | --- | 250 | 175 | 250 | 300 | 225 | 400 |
| 125 x 32 | 155 | 8 | 90 | 140 | 125 | 200 | 150 | 150 | 200 | 250 | --- | 400 |
| 125 x 50 | 165 | 9 | --- | 175 | --- | --- | 300 | 225 | --- | 250 | --- | 500 |
| 150 x 50 | 185 | 9 | 125 | 200 | 160 | 350 | 300 | 300 | 350 | 350 | 400 | 700 |
| 200 x 50 | 235 | 9 | 150 | 250 | 200 | 500 | --- | --- | --- | 500 | --- | 900 |

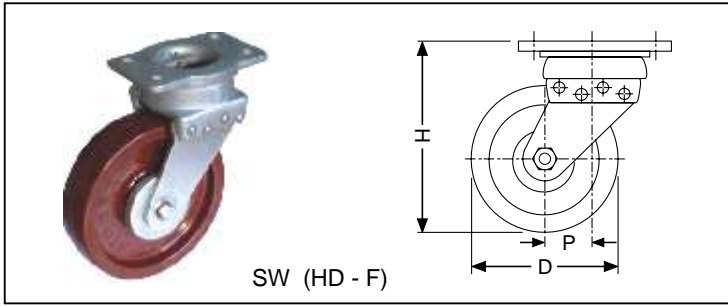
SWIVEL CASTORS (MD SERIES)

| Size of Wheel Dia x Width Dmm x Wmm | Overall Height H mm | Offset P mm | Mounting Plate Number | Load Carrying Capacity | | | | | | | | |
|---|------------------------|----------------|-----------------------------|------------------------|--------------------|------------------------|------------------------|-------------------|--------------------|---------------------|--------------------|-------------------|
| | | | | SRT Type Kg. | BRT Type Kg. | PU - PP Type Kg. | PU - CI Type Kg. | PP Type Kg. | NYL Type Kg. | UHMW Type Kg. | FBR Type Kg. | CI Type Kg. |
| 50 x 25 | 70 | 35 | 7 | --- | --- | --- | --- | --- | 50 | --- | --- | 50 |
| 75 x 25 | 100 | 35 | 7 | --- | --- | --- | --- | --- | 75 | --- | --- | 75 |
| 77 x 32 | 105 | 40 | 8 | --- | 80 | --- | --- | 80 | 100 | --- | --- | 100 |
| 100 x 32 | 130 | 40 | 8 | 70 | 100 | 100 | 125 | 100 | 130 | 150 | 130 | 150 |
| 100 x 50 | 140 | 50 | 9 | --- | 150 | --- | --- | 200 | 175 | 200 | 200 | 200 |
| 125 x 32 | 155 | 40 | 8 | 90 | 140 | 125 | 200 | 150 | 200 | 200 | --- | 200 |
| 125 x 50 | 165 | 50 | 9 | --- | 175 | --- | --- | 250 | 225 | --- | 250 | 250 |
| 150 x 50 | 185 | 50 | 9 | 125 | 200 | 160 | 350 | 300 | 350 | 350 | 350 | 350 |
| 200 x 50 | 235 | 50 | 9 | 150 | 250 | 200 | 450 | --- | --- | 450 | --- | 450 |

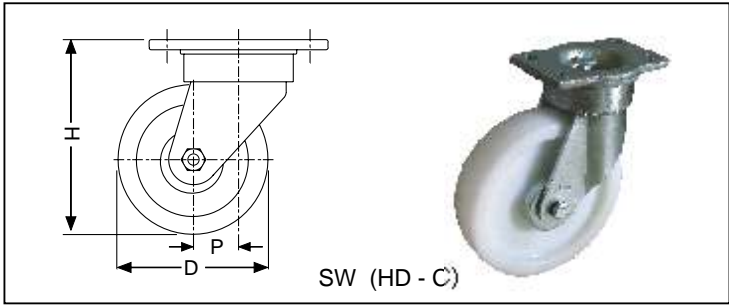
DIMENSIONS OF MOUNTING PLATES FOR FIXED & SWIVEL CASTORS



HEAVY DUTY FORGED STEEL CASTORS (HD SERIES)



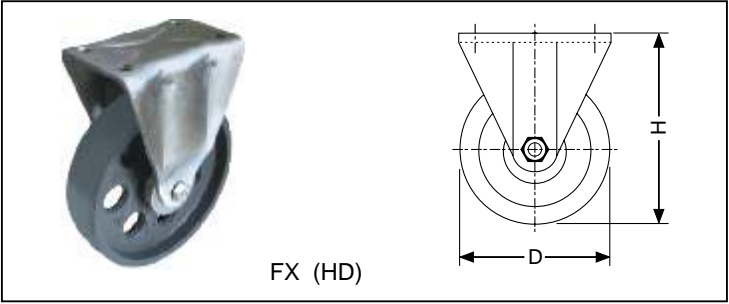
SW (HD - F)



SW (HD - C)

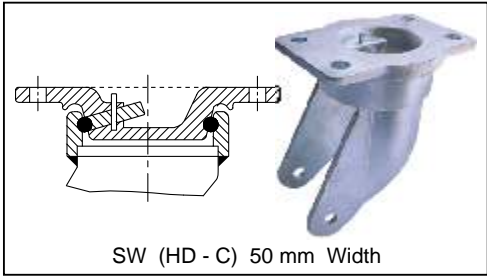
Heavy Duty castors are recommended where floor conditions are not good & MD castors needs frequent replacement. These castors can withstand occasional shock loads & higher speeds. Heavy Duty swivel castors are of two types. i.e. HD-F & HD-C. However, important dimensions such as mounting holes, overall height etc. are exactly same for both types of castors. Therefore, matching fixed castor [FX(HD)] is same for both types of swivel castor.

SRT, BRT, PU-PP, PU-CI, PP, NYL, UHMW, FBR, CI wheels can be used in heavy duty castors.

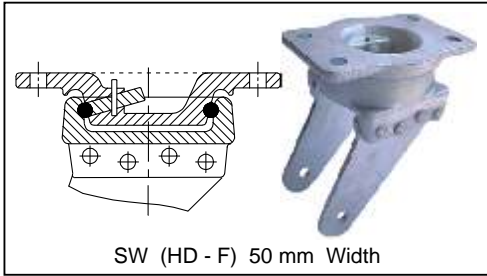


FX (HD)

CONSTRUCTION OF HD BRACKETS



SW (HD - C) 50 mm Width



SW (HD - F) 50 mm Width



SW (HD - F) 75 mm Width

Heavy Duty swivel brackets are of two types i.e. HD-F & HD-C. In both these types, steel balls are accommodated in ball races machined on OD of base and ID of revolving part. The base and revolving part are interlocked with steel balls. The ball race performs multiple functions. It serves like a thrust bearing as well as load bearing. Since there is no king pin, the failure of bracket due to steel balls running out of ball race because of play developed in king pin assembly is eliminated.

In case of Swivel Bracket (HD-C), the base is EN-9 steel forging. The revolving part is M.S. Ring. The side arms are pressed in half round shape & welded to the ring.

In case of Swivel Bracket (HD-F), both the base & revolving top are EN-9 steel forgings. The side arms are riveted to the revolving forging for castors suitable for wheel of 50 mm width. The side arms are welded to the revolving forging for castors suitable for wheel of 75 mm width.



FX (HD) - 50 mm. Width

Heavy duty fixed brackets FX(HD) suitable for wheels having 50 mm width have one piece construction like FX(MD) brackets. However, brackets suitable for wheels having 75 mm width have welded construction. Two side arms, blanked and embossed for additional strength as well as elegant look, are welded to the base plate. Ribs are provided (from Inside) to the sidearm for extra strength.



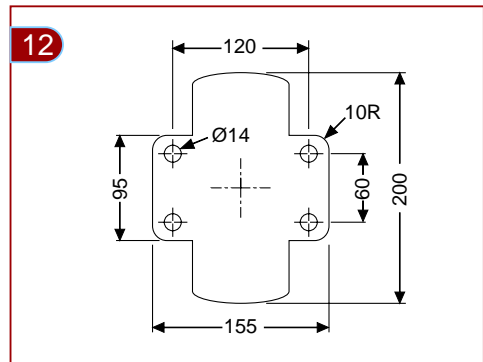
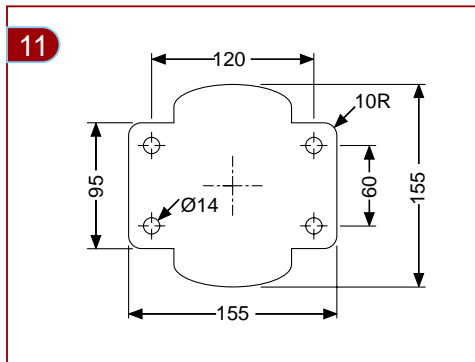
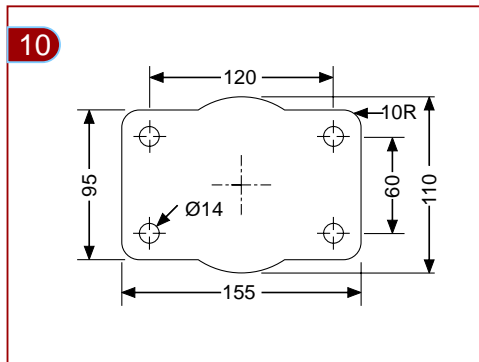
FX (HD) - 75 mm. Width

DIMENSIONAL DETAILS & LOAD CARRYING CAPACITIES

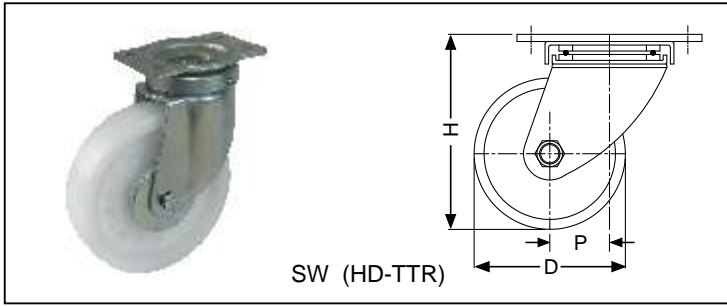
| FIXED CASTORS HD & SWIVEL CASTORS HD-F | | | | | | | | | | | | | |
|---|---------------------------|----------------|-----------------------------|----|------------------------|--------------------|------------------------|------------------------|-------------------|--------------------|---------------------|--------------------|-------------------|
| Size of Wheel Dia x Width Dmm x Wmm | Overall Height H mm | Offset P mm | Mounting Plate Number | | Load Carrying Capacity | | | | | | | | |
| | | | | | SRT Type Kg. | BRT Type Kg. | PU - PP Type Kg. | PU - CI Type Kg. | PP Type Kg. | NYL Type Kg. | UHMW Type Kg. | FBR Type Kg. | CI Type Kg. |
| | | | FX | SW | | | | | | | | | |
| 100 x 50 | 155 | 40 | 10 | 10 | --- | 150 | --- | 250 | 175 | 250 | 300 | 225 | 400 |
| 125 x 50 | 180 | 45 | 10 | 10 | --- | 175 | --- | 300 | 225 | --- | 400 | --- | 500 |
| 150 x 50 | 205 | 50 | 10 | 10 | 125 | 200 | 160 | 350 | 300 | 350 | 550 | 400 | 700 |
| 150 x 75 | 205 | 50 | 11 | 10 | --- | 300 | --- | --- | --- | --- | 750 | --- | 1050 |
| 200 x 50 | 255 | 60 | 10 | 10 | 150 | 250 | 200 | 500 | --- | --- | 750 | --- | 900 |
| 200 x 75 | 255 | 60 | 11 | 10 | 225 | 375 | --- | --- | --- | --- | 1000 | --- | 1350 |
| 250 x 50 | 305 | 70 | 10 | 10 | 175 | 300 | --- | --- | --- | --- | 900 | --- | 1050 |
| 250 x 75 | 305 | 70 | 11 | 10 | --- | 450 | --- | --- | --- | --- | 1200 | --- | 1575 |
| 300 x 50 | 355 | 80 | 10 | 10 | 200 | 400 | --- | --- | --- | --- | 1000 | --- | 1400 |
| 300 x 75 | 355 | 80 | 11 | 10 | 300 | 600 | --- | --- | --- | --- | 1600 | --- | 1800 |

| SWIVEL CASTORS HD-C | | | | | | | | | | | | | |
|---|---------------------------|----------------|-----------------------------|----|------------------------|--------------------|------------------------|------------------------|-------------------|--------------------|---------------------|--------------------|-------------------|
| Size of Wheel Dia x Width Dmm x Wmm | Overall Height H mm | Offset P mm | Mounting Plate Number | | Load Carrying Capacity | | | | | | | | |
| | | | | | SRT Type Kg. | BRT Type Kg. | PU - PP Type Kg. | PU - CI Type Kg. | PP Type Kg. | NYL Type Kg. | UHMW Type Kg. | FBR Type Kg. | CI Type Kg. |
| | | | | | | | | | | | | | |
| 100 x 50 | 155 | 40 | 10 | 10 | --- | 150 | --- | 250 | 175 | 250 | 300 | 225 | 400 |
| 125 x 50 | 180 | 45 | 10 | 10 | --- | 175 | --- | 300 | 225 | --- | 400 | --- | 500 |
| 150 x 50 | 205 | 50 | 10 | 10 | 125 | 200 | 160 | 350 | 300 | 350 | 550 | 400 | 700 |
| 200 x 50 | 255 | 60 | 10 | 10 | 150 | 250 | 200 | 500 | --- | --- | 750 | --- | 900 |
| 250 x 50 | 305 | 70 | 10 | 10 | 175 | 300 | --- | --- | --- | --- | 900 | --- | 1050 |
| 300 x 50 | 355 | 80 | 10 | 10 | 200 | 400 | --- | --- | --- | --- | 1000 | --- | 1200 |

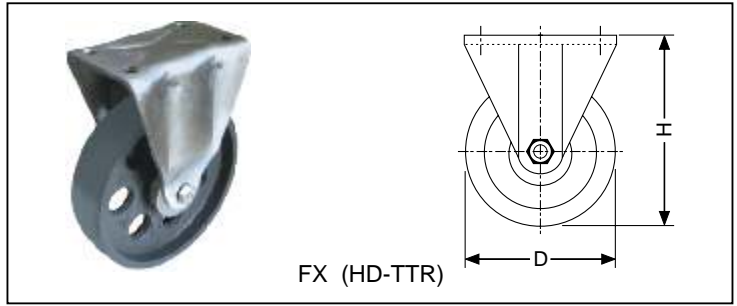
DIMENSIONS OF MOUNTING PLATES FOR FIXED & SWIVEL CASTORS



HEAVY DUTY PRESSES STEEL CASTORS (HD-TTR SERIES)



SW (HD-TTR)

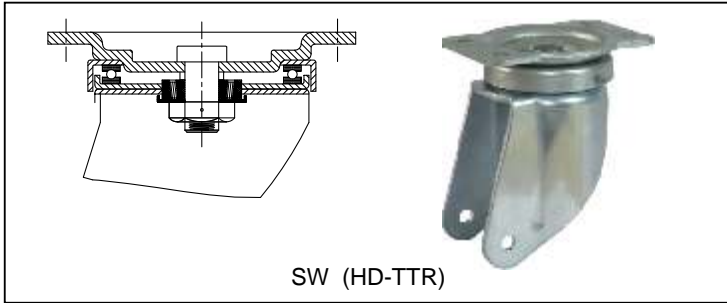


FX (HD-TTR)

Heavy Duty Pressed Steel Castors are recommended where floor conditions are not good & loads are moderate. Load carrying capacity of Heavy Duty Pressed Steel Castor is much more than medium duty castors. These castors can withstand occasional shock loads & higher speeds. These castors are highly suitable for trolleys & equipments used in engineering industries, automobile industries & so on.

SRT, BRT, PU-PP, PU-CI, PP, NYL, UHMW, CI wheels can be fitted in Heavy Duty Pressed Steel castors.

CONSTRUCTION OF HD - TTR BRACKETS



SW (HD-TTR)



FX (HD-TTR)

Heavy Duty Pressed Steel fixed brackets FX(HD-TTR) are manufactured from tested M. S. plates by blanking on a mechanical press & then formed on hydraulic press. Sides of brackets are embossed for additional strength as well as elegant look.

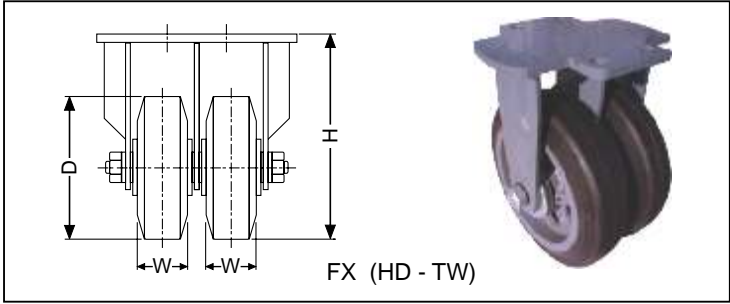
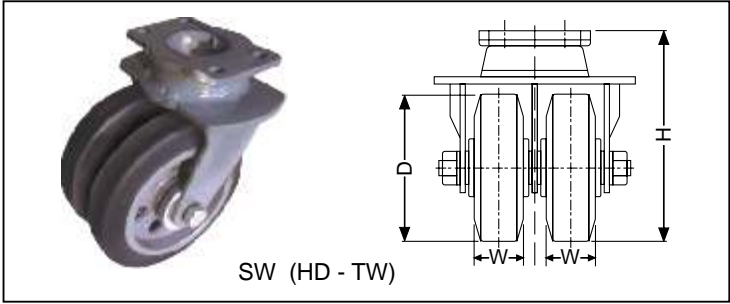
In case of swivel bracket, both base & revolving top are blanked

on mechanical press & then formed on hydraulic press. The components are first buffed & then zinc plated for elegant look. Thrust bearing is accommodated between base & revolving top. Steel cup is provided around the thrust bearing so that outside dust does not reach thrust bearing easily. Grease nipple is provided on the cup for periodic greasing of thrust bearing. Taper roller bearing is provided on the revolving top. Dust preventive cap is provided on taper roller bearing so that outside dust does not reach taper roller bearing. The base & revolving top are assembled together with a specially manufactured round head bolt that acts as a kingpin. Castle nut with split pin are used to assemble swivel bracket.

| FIXED & SWIVEL CASTORS (HD-TTR SERIES) | | | | | | | | | | | | |
|---|------------------------|----------------------|-----------------------|------------------------|--------------|------------------|------------------|-------------|--------------|---------------|--------------|-------------|
| Size of Wheel Dia x Width Dmm x Wmm | Overall Height H mm | Offset in case of SW | Mounting Plate Number | Load Carrying Capacity | | | | | | | | |
| | | | | SRT Type Kg. | BRT Type Kg. | PU - PP Type Kg. | PU - CI Type Kg. | PP Type Kg. | NYL Type Kg. | UHMW Type Kg. | FBR Type Kg. | CI Type Kg. |
| 100 x 50 | 155 | 40 | 10 | --- | 150 | --- | 200 | 175 | 250 | 300 | 225 | 400 |
| 125 x 50 | 180 | 45 | 10 | --- | 175 | --- | 250 | 225 | --- | 400 | --- | 500 |
| 150 x 50 | 205 | 50 | 10 | 125 | 200 | 160 | 350 | 300 | 350 | 550 | 400 | 650 |
| 200 x 50 | 255 | 60 | 10 | 150 | 250 | 200 | 500 | --- | --- | 650 | --- | 650 |

- Notes :
- 1) Brackets can be provided with powder coating on request.
 - 2) Brackets can be provided with nickel chrome plating on request.
 - 3) For Mounting plate details, please refer page no. 19

HEAVY DUTY FORGED STEEL TWIN CASTORS (HD-TW SERIES)



Twin castors have the advantages of greater load carrying capacity for the same castor height. The load is distributed over a wide floor area. But because of the differential movement of two wheels, the scrubbing action that arises on turning from the use of wide tread single wheel is avoided. The use of twin castor is, therefore, advantageous than use of single wheel castor with wider tread width of the wheel. Attachments such as wheel lock, wheel brake & swivel lock can be provided on these castors.

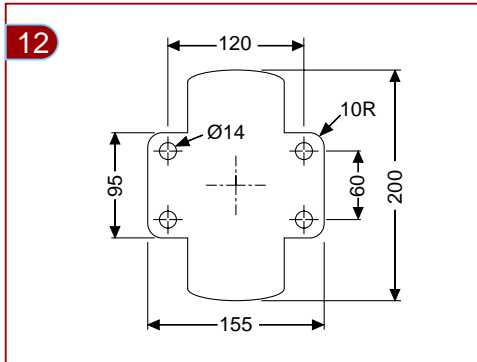
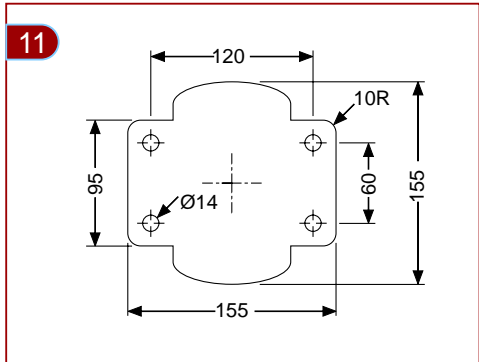
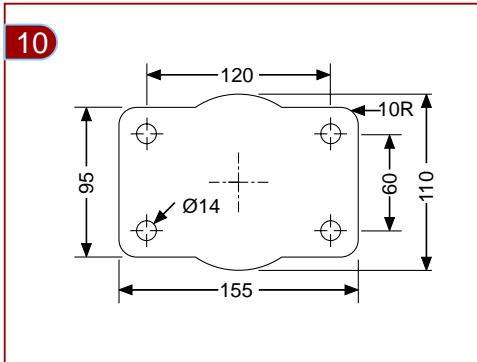
In some applications, there is restriction on height of castors. When there is such restriction on height of castors, but to carry heavy loads, twin castors provides you ideal solutions.

SRT, BRT, PU-PP, PU-CI, PP, NYL, UHMW, FBR, CI wheels can be fitted in heavy duty twin castors.

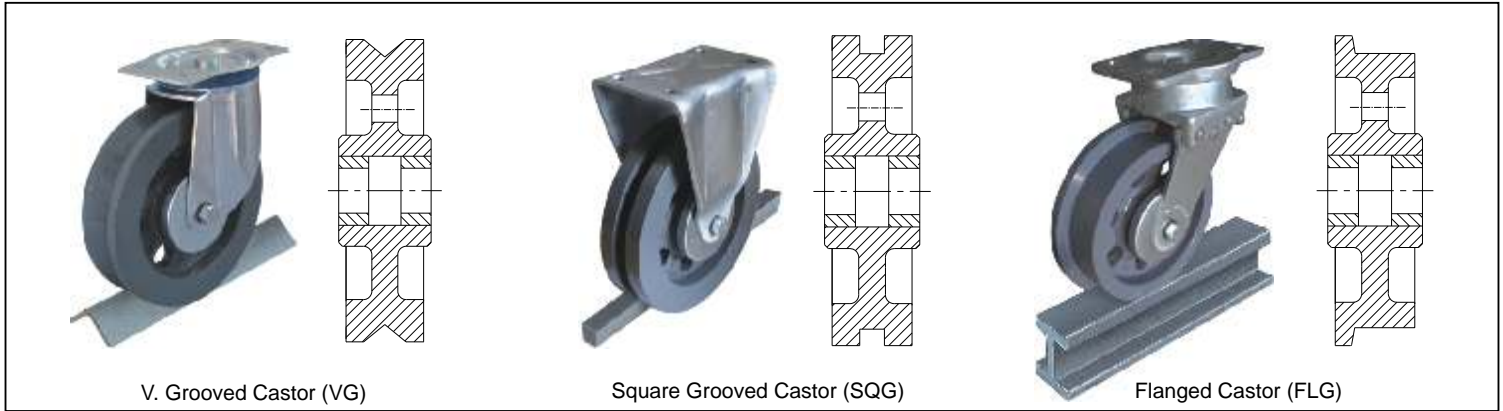
FIXED & SWIVEL CASTORS (HD-TW SERIES)

| Size of Wheel Dia x Width | Overall Height H mm | Offset P mm | Mounting Plate Number | | Load Carrying Capacity | | | | | | | | |
|------------------------------|------------------------|----------------|-----------------------|----|------------------------|------|---------|---------|------|------|------|------|------|
| | | | FX | SW | SRT | BRT | PU - PP | PU - CI | PP | NYL | UHMW | FBR | CI |
| | | | | | Type | Type | Type | Type | Type | Type | Type | Type | Type |
| 100 x 50 | 155 | 40 | 12 | 10 | --- | 300 | --- | 500 | 350 | 500 | 600 | 450 | 800 |
| 125 x 50 | 180 | 45 | 12 | 10 | --- | 350 | --- | 600 | 450 | --- | 800 | --- | 1000 |
| 150 x 50 | 205 | 50 | 12 | 10 | 250 | 400 | 320 | 700 | 600 | 700 | 1100 | 800 | 1400 |
| 200 x 50 | 255 | 60 | 12 | 10 | 300 | 500 | 400 | 1000 | --- | --- | 1500 | --- | 1800 |
| 250 x 50 | 305 | 70 | 12 | 10 | 350 | 600 | --- | --- | --- | --- | 1800 | --- | 1800 |
| 300 x 50 | 355 | 80 | 12 | 10 | 400 | 800 | --- | --- | --- | --- | 1800 | --- | 1800 |

DIMENSIONS OF MOUNTING PLATES FOR FIXED & SWIVEL CASTORS



TRACK CASTORS (TRK SERIES)



The track castors are designed to use over inverted angle iron tracks or over square section or over rails. Cast Iron wheels with either V-groove or square groove or a flange are available depending upon the track over which the castors have to move.

Since the wheel rolls on steel track, the pushing or pulling force required is much less. This reduces labour fatigue. Floor surface also does not get damage at any time. The track wheels can be fitted in fixed & swivel brackets of MD or HD series

FIXED & SWIVEL CASTORS (MD SERIES)

| Size of Wheel Dia x Width D mm x W mm | Overall Height H mm | Offset P mm | Mounting Plate Number | Load Carrying Capacity | | | | | | | | | |
|---|-------------------------------|--------------------|-----------------------------|------------------------|--------------------|-------------------|-------------------|--------------------|---------------------|--------------------|----------------|-----|-----|
| | | | | SRT Type Kg. | BRT Type Kg. | PU Type Kg. | PP Type Kg. | NYL Type Kg. | UHMW Type Kg. | FBR Type Kg. | CI Type Kg. | | |
| | | | | | | | | | | | FX | SW | |
| 50 x 25 | 70 | 35 | 7 | --- | --- | --- | --- | --- | --- | --- | --- | 100 | 50 |
| 75 x 25 | 100 | 35 | 7 | --- | --- | --- | --- | --- | --- | --- | --- | 150 | 75 |
| 77 x 32 | 105 | 40 | 8 | --- | --- | --- | --- | --- | --- | --- | --- | 200 | 100 |
| 100 x 32 | 130 | 40 | 8 | --- | --- | --- | --- | --- | --- | --- | --- | 300 | 150 |
| 100 x 50 | 140 | 50 | 9 | --- | --- | --- | --- | --- | --- | --- | --- | 400 | 200 |
| 125 x 50 | 165 | 50 | 9 | --- | --- | --- | --- | --- | --- | --- | --- | 500 | 250 |
| 150 x 50 | 185 | 50 | 9 | --- | --- | --- | --- | --- | --- | --- | --- | 700 | 350 |
| 200 x 50 | 235 | 50 | 9 | --- | --- | --- | --- | --- | --- | --- | --- | 900 | 450 |

FIXED & SWIVEL CASTORS (HD SERIES)

| Size of Wheel Dia x Width D mm x W mm | Overall Height H mm | Offset P mm | Mounting Plate Number | Load Carrying Capacity | | | | | | | | |
|---|-------------------------------|--------------------|-----------------------------|------------------------|--------------------|-------------------|-------------------|--------------------|---------------------|--------------------|-------------------|------|
| | | | | SRT Type Kg. | BRT Type Kg. | PU Type Kg. | PP Type Kg. | NYL Type Kg. | UHMW Type Kg. | FBR Type Kg. | CI Type Kg. | |
| | | | | | | | | | | | | |
| 100 x 50 | 155 | 40 | 10 | --- | --- | --- | --- | --- | --- | --- | --- | 400 |
| 125 x 50 | 180 | 45 | 10 | --- | --- | --- | --- | --- | --- | --- | --- | 500 |
| 150 x 50 | 205 | 50 | 10 | --- | --- | --- | --- | --- | --- | --- | --- | 700 |
| 200 x 50 | 255 | 60 | 10 | --- | --- | --- | --- | --- | --- | --- | --- | 900 |
| 250 x 50 | 305 | 70 | 10 | --- | --- | --- | --- | --- | --- | --- | --- | 1050 |
| 300 x 50 | 355 | 80 | 10 | --- | --- | --- | --- | --- | --- | --- | --- | 1200 |

- Notes :
- 1) The overall height of castor is calculated considering outside diameter of the wheel. Depth of V groove or square groove or height of flange is not considered.
 - 2) For mounting plate details, please refer page No. 17 & 19.

VARIOUS ATTACHMENTS TO CASTORS



WHEEL LOCK



WHEEL BRAKE



SWIVEL LOCK

We can provide castors with either wheel lock (WHL) or with wheel brake (WHB) and / or swivel lock (SWL). It is essential that the attachment, if required, is specified at the time of ordering itself. It is difficult to fix these attachments afterwards at the customer's premises.

Please note that these attachments are not available for castors of every size of every series. So, before placing your order, please confirm with the company.

DIFFERENT TYPES OF BEARINGS IN WHEELS

NYL : Nylon Bushing

SIB : Sintered Iron Bush

NRB-PC : Needle Roller Bearing Plastic Cage

NRB-MC : Needle Roller Bearing Metal Cage

BB : Ball Bearing



NYL



SIB

| SIZES IN NEEDLE ROLLER BEARING | |
|--------------------------------------|------------------------------------|
| Plastic Cage (ID x OD x Length) | Metal Cage (ID x OD x Length) |
| 15.9 x 26.0 x 30 | ----- |
| 19.0 x 34.5 x 35 | 19.0 x 34.5 x 35 |
| 19.0 x 34.5 x 40 | 19.0 x 34.5 x 50 |
| 19.0 x 34.5 x 50 | 25.4 x 41.0 x 50 |
| 25.4 x 41.0 x 50 | 25.4 x 41.0 x 80 |



NRB - PC



NRB - MC

| SPECIFICATIONS OF BALL BEARINGS | | | | | | | |
|---------------------------------|------|------|-------|-------------|------|------|-------|
| Bearing No. | I.D. | O.D. | Width | Bearing No. | I.D. | O.D. | Width |
| 6203 | 17 | 40 | 12 | 6305 | 25 | 62 | 17 |
| 6004 | 20 | 42 | 12 | 6006 | 30 | 55 | 13 |
| 6204 | 20 | 47 | 14 | 6206 | 30 | 62 | 16 |
| 6304 | 20 | 52 | 15 | 6007 | 35 | 62 | 14 |
| 6205 | 25 | 52 | 15 | 6207 | 35 | 72 | 17 |



BB

SELECTION CRITERIA FOR WHEELS & CASTORS

A) Load carrying capacity

It is normally observed that 80% of the castor failures are due to improper selection of wheels & castors. Generally, the designer / user selects a wheels & castors looking to the load carrying capacity of wheels & castors as specified in the catalogue. But these capacities are given on the basis of the ideal conditions - trolley running on horizontal, level, smooth, hard and non- deformable surface at a speed below 6 km/hr. and in ambient temperature of $20 \pm 10^{\circ}\text{C}$ (IS : 7369 - 1983). However, on the shop floor, many abnormal conditions exist and additional safety factor must be considered while selecting wheels & castors. Given below are such conditions.

- **Uneven loading of castors** : The operator may place heavier boxes on one side of the platform trolley. As a result, one or two castors may be subjected to higher load as compared to other castors. One must consider what is the maximum load any one castor will be subjected to.
- **Unevenness of flooring** : On uneven flooring, only three wheels out of four wheels fitted to a trolley touch the ground and take the load. One of the wheels just idles. Thus each wheel gets overloaded by 33%. This overload is generally never considered.
- **Shock loads** : Even if the flooring is good, generally, there are number of joints. While rolling over the joint, there is a jerk which creates shock load.

Many a times a trolley is lifted by a mechanical means, carried to some other destination and then placed on the floor. While placing the trolley on floor, there is always a jerk, small or big depending upon the carefulness of the operator. This creates a shock load. Further, all the four castors do not touch the ground at one time. Naturally, the castor which touches the ground first gets overloaded.

A severe shock load is considered twice the actual load on the castor.

- **Speed of the trolley** : The castors are designed to work for manually pushed or pulled trolleys having speed below 6 km/hr. The load carrying capacity reduces in proportion of the speed.

To take care of overloads for above mentioned reasons, a thumb rule is to consider the load carrying capacity of a castor at 50% to 60% of the nominal capacity.

B) Pushing/Pulling Efforts

Floor conditions remaining exactly the same, pushing / pulling efforts required to move a trolley depend on three factors. Labour fatigue must be avoided.

- **Diameter of a Wheel** : As the diameter of wheel increases, the pushing / pulling efforts are reduced proportionately. Try to use higher diameter wheel as far as possible.
- **Type of Wheel** : Floor conditions & bearing in the wheel remaining the same, pushing / pulling efforts depend very much on the material of wheel. Rubber being soft, rubber wheels get compressed under load and due to higher coefficient of friction need more pushing / pulling efforts for the same load. As against this, cast-iron being very hard, cast iron wheels do not get compressed at all under the loads. It has very low coefficient of friction with the flooring. Therefore, cast iron wheels need the minimum pushing / pulling efforts for the same load. Pushing / pulling efforts for PP, Nylon, PU & UHMW wheels will range in between the minimum & maximum.
- **Type of bearing used in Wheel** : If we consider the pushing / pulling efforts required are moderate for wheels with PLB & SIB, pushing / pulling efforts are less for wheels with NRB & minimum for wheels with BB. However, periodic cleaning & greasing of bearings must be ensured.

C) Noise Level :

Rubber and PU Wheels are soft and have low noise level. PP,NYL & UHMW-PE wheels have comparatively higher noise level. CI wheels have very high noise level. If very low noise level is absolutely essential, you may check for rubber or PU wheels with higher diameters.

SELECTION CRITERIA FOR WHEELS & CASTORS

D) Floor Surface :

Pushing / pulling efforts, noise level and life of wheel depend upon roughness of the surface on which wheels roll. Rubber, PU wheels & light duty castors may be avoided on rough surface if slightly higher noise level is permitted. It is advisable to use UHMW-PE or CI wheels & medium duty or heavy duty castors on rough surfaces depending upon load. Rubber, PU or PP wheels and light duty castors may be used on smooth surface and light loads.

E) Working Temperature :

Load carrying capacity of wheel reduces as the working temperature goes up. As a matter of fact, beyond safe working temperatures, the Rubber, PU, PP, NYL and UHMW wheels start softening and lose their shape under load. Check safe working temperature for all materials of wheels given below in the chart while selecting the wheel.

In case of higher temperature, one must always use special greases which withstand desired higher temperature in all rotating parts of wheels & brackets.

F) Atmospheric Conditions :

In chemical and pharmaceutical industries, castor wheels are subjected to use in highly corrosive atmosphere. In food industries, the atmosphere is highly humid. In such industries, polymer wheels with stainless steel brackets are suggested to use. In order to reduce cost of the castor, today many industries are using mild steel brackets with hard nickel chrome plating as a substitute for stainless steel brackets.

G) Pushing / Pulling By Power Driven Vehicle :

All wheels and castors are designed for manual pulling or pushing at a speed not exceeding 6 km/hr. Therefore, pushing / pulling of trolleys or trolley mounted equipments by power driven vehicle must be avoided as it subjects wheels & castors to extreme severity in respect of shock loads. The driver does not get any feel even if the wheel or bracket gets jammed. As a result, a jammed wheel or castor is dragged over the road and gets completely damaged. Therefore, life of wheel or castor cannot be predicted in such a situation.

However, if pushing / pulling of trolleys or trolley mounted equipment by power driven vehicle is unavoidable, UHMW- PE or CI wheels with heavy duty brackets are suggested. Much higher factor of safety must be considered.

Finally, we may say, selection of a castor wheel is a compromise depending upon a number of working conditions and expectations.

COMPARISON OF WHEELS AND THEIR PROPERTIES

| Type of Wheel | Load Bearing Capacity | Resistance to Wear | Shock Absorption Capacity | Road Grip | Resistance To Chemicals | Noise Level | Comparative Life | Safe Working Temperature |
|--------------------------|-----------------------|--------------------|---------------------------|-----------|-------------------------|-------------|------------------|--------------------------|
| Solid Rubber Tyre (SRT) | Fair | Fair | Good | Good | Poor | Low | 1 P | 50°C |
| Bonded Rubber Tyre (BRT) | Good | Good | Excellent | Excellent | Poor | Low | 3 P | 50°C |
| Polypropylene (PP) | Good | Fair | Fair | Fair | Excellent | Medium | 3 P | 50°C |
| Polyurethane (PU-PP) | Good | Better | Excellent | Excellent | Better | Low | 3 P | 50°C |
| Polyurethane (PU-CI) | Better | Better | Excellent | Excellent | Better | Low | 5 P | 50°C |
| Nylon (NYL) | Better | Better | Fair | Fair | Excellent | Medium | 8 P | 90°C |
| UHMW - PE (UHMW) | Better | Better | Fair | Fair | Excellent | Medium | 10 P | 70°C |
| Fibre (FBR) | Better | Good | Fair | Fair | Better | Medium | 8 P | 170°C |
| Cast Iron (CI) | Excellent | Excellent | Nil | Fair | Poor | High | 20 P | 250°C |

CUSTOM DESIGN PRODUCTS

We design & develop products as per customer's requirement. Some of them are as under.



BRT (WH) 200 x 100 x 72.00
L. C. C. - 800 Kg.



NYL (WH) 300 x 50 x 25.00 / BB
Suitable up to 200°C



UHMW (WH) 150 x 50 x 25.4 / PLB
Round Profile Type



UHMW (WH) 300 x 75 x 35.00 / BB
With Metal Insert



UHMW (WH) 300 x 75 x 35.00 / BB
With Nut, Bolt & Cap



CI (WH) 300 x 50 x 25.00 / BB
With Nut, Bolt & Cap



CI (FLG) WH 200 x 70 x 25.00 / BB
L. C. C. - 1600 Kg.



CI (FLG) WH 425 x 87 x 52.00
L. C. C. - 2800 Kg.



Extra Heavy Duty - Fixed Bracket



Extra Heavy Duty - Swivel Bracket



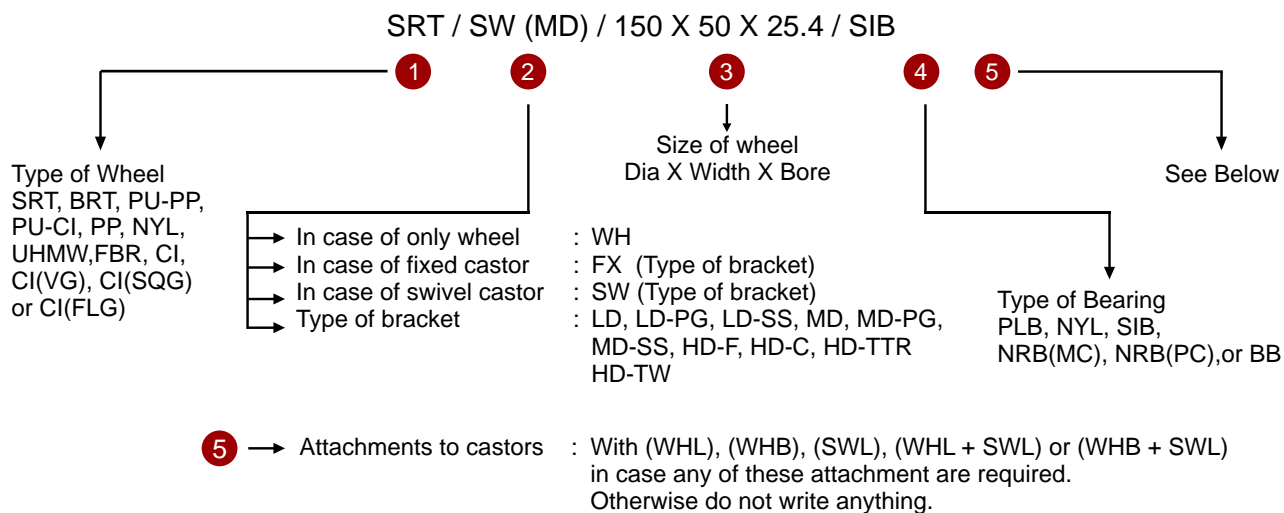
Extra Heavy Duty - Fixed Twin Bracket



Extra Heavy Duty - Swivel Twin Bracket

Notes : Brackets with powder coating can be provided on request.

ORDERING FORMAT



GUIDE TO CODE WORDS

| | | |
|--|---|--|
| <p>SRT - Solid Rubber Tyre BRT - Bonded Rubber Tyre PP - Polypropelene PU-PP - Polyurethane on PP Core PU-CI - Polyurethane on CI Core NYL - Nylon UHMW - Ultra High Molecular Weight Polyethylene FBR - Fiber, Resin Impregnated CI - Cast Iron VG - V-Grooved SQG - Square Grooved FLG - Flanged</p> | <p>SS - Stainless Steel WH - Wheel only FX - Fixed castor SW - Swivel castor LD - Light Duty LD-X - Light Duty Extra Strength MD - Medium Duty HD - Heavy Duty HD-C - Heavy Duty Cup Type HD-F - Heavy Duty Forged Steel Revetted Type HD-TTR - Heavy duty with taper roller & trust bearing PG - Peg TW - Twin</p> | <p>PLB - Plain Bore NYL - Nylon Bush SIB - Sintered Iron Bush NRB - Needle Roller Bearing MC - Metal Cage PC - Plastic Cage BB - Ball Bearing SWL - Swivel Lock WHL - Wheel Lock WHB - Wheel Brake</p> |
|--|---|--|

Manufacturing Plant, Pimpri, Maharashtra



For Your Requirement Please Contact

The Manufacturer

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