



WHEELS & CASTORS



ISO 9001:2008



CARRYING INDUSTRIAL LOADS SINCE 1976

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"



Replacement cost 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, meticulously 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 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 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. The in-house tool room also ensures immediate maintenance of all the 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.

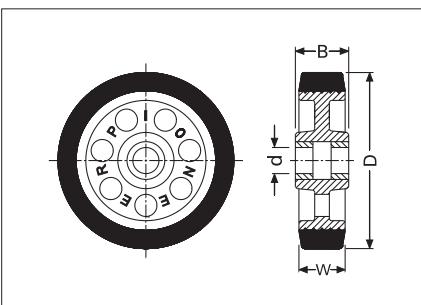
Customer Satisfaction

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. 28 & 29.



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

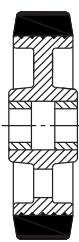
TECHNICAL DETAILS – SOLID RUBBER TYRE WHEELS

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	---	---	---	15.9	---	---	70
100 x 32	45	---	---	15.9	---	---	---	70
125 x 32	38	---	---	---	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 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)

BRT WHEEL



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

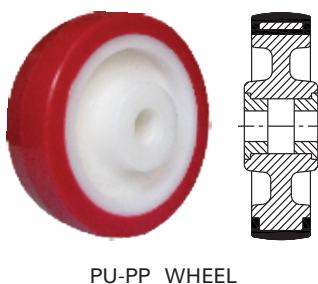
Maximum Working Temperature : 50°C

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
300 x 100	105	---	---	---	---	35.00	6207	800

- 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

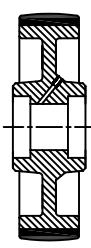
TECHNICAL DETAILS - POLYURETHANE WHEELS

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		
77 x 32	45	15.9	---	---	---	---	---	75
100 x 32	38	15.9	---	---	---	---	---	100
100 x 32	45	15.9	---	---	---	---	---	100
100 x 40	45	19.0	---	---	---	17.00	6003	125
100 x 40	50	19.0	---	---	---	17.00	6003	125
100 x 50	60	19.0	---	---	---	17.00	6003	150
125 x 32	38	---	15.9	---	---	20.00	6004	125
125 x 32	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	175
200 x 40	50	---	19.0	---	---	20.00	6004	175
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.
 - 2) In case of PU-PP wheels 100 x 40, width of boss is 45 mm for MD Castors with mounting plate c/c distance 80 x 60 mm and width of boss is 50 mm for MD Castors with mounting plate c/c distance 120 x 60 mm.

POLYURETHANE WHEELS (PU-CI)

PU-CI WHEEL



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 (HEAVY DUTY)

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 40	45	---	---	19.0	---	20.00	6004	200
100 x 40	50	---	---	19.0	---	20.00	6004	200
100 x 50	60	---	---	25.4	19.0/25.4	25.00	6205	250
125 x 32	45	---	---	15.9	19.0	20.00	6004	200
125 x 40	45	---	---	19.0	---	20.00	6004	250
125 x 40	50	---	---	19.0	---	20.00	6004	250
125 x 50	60	---	---	25.4	19.0/25.4	25.00	6205	300
150 x 40	50	---	---	19.0	---	20.00	6004	325
150 x 50	60	---	---	25.4	19.0/25.4	25.00	6205	400
200 x 40	50	---	---	19.0	---	20.00	6004	400
200 x 50	60	---	---	---	---	25.00	6205	500
250 x 50	60	---	---	---	---	25.00	6205	750
300 x 50	60	---	---	---	---	25.00	6205	900

TECHNICAL DETAILS – POLYURETHANE WHEELS (MEDIUM DUTY)

100 x 50	60	---	---	---	---	25.00	6205	200
150 x 50	60	---	---	---	---	25.00	6205	300
200 x 50	60	---	---	---	---	25.00	6205	400

TECHNICAL DETAILS – POLYURETHANE ROLLERS (HEAVY DUTY)

82 x 70	70	---	---	---	---	20.00	6004	300
82 x 70	70	---	---	---	---	25.00	6205	300
82 x 85	85	---	---	---	---	20.00	6004	350
82 x 85	85	---	---	---	---	25.00	6205	350
82 x 96	96	---	---	---	---	20.00	6004	400
82 x 96	96	---	---	---	---	25.00	6205	400
82 x 100	100	---	---	---	---	20.00	6004	450
82 x 100	100	---	---	---	---	25.00	6205	450

Note : 1) In case of PU-CI wheels 100 x 40 & 125 x 40, width of boss is 45 mm for MD Castors with mounting plate c/c distance 80 x 60 mm and width of boss is 50 mm for MD Castors with mounting plate c/c distance 120 x 60 mm.

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
50 x 25	30	12.0	---	---	---	---	---	40
63 x 22	25	10.0	---	---	---	---	---	30
75 x 22	25	10.0	---	---	---	---	---	35
75 x 25	30	12.0	---	---	---	---	---	60
77 x 32	45	15.9	---	15.9	---	---	---	80
77 x 40	45	15.9	---	---	---	---	---	100
100 x 32	38	15.9	---	---	---	---	---	100
100 x 32	45	15.9	---	15.9	---	---	---	125
100 x 40	45	19.0	---	19.0	---	20.00	6004	150
100 x 40	50	19.0	---	19.0	---	20.00	6004	150
100 x 50	60	25.4	---	25.4	---	20.00	6004	175
125 x 32	38	15.9	---	---	---	---	---	125
125 x 32	45	15.9	---	15.9	---	---	---	150
125 x 40	45	19.0	---	19.0	---	20.00	6004	200
125 x 40	50	19.0	---	19.0	---	20.00	6004	200
125 x 50	60	25.4	---	25.4	---	20.00	6004	225
150 x 40	50	19.0	---	19.0	---	20.00	6004	200
150 x 50	60	25.4	---	25.4	---	20.00	6004	300
200 x 40	50	19.0	---	19.0	---	20.00	6004	300

- Notes :**
- 1) In case of PP Wheels 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) In case of PP wheels 100 x 40 & 125 x 40, width of boss is 45 mm for MD Castors with mounting plate c/c distance 80 x 60 mm and width of boss is 50 mm for MD Castors with mounting plate c/c distance 120 x 60 mm.

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.

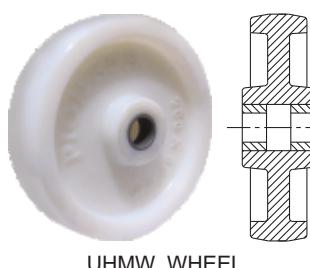
Maximum Working Temperature : 90°C

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
77 x 40	45	15.9	---	---	---	---	---	150
100 x 32	45	15.9	---	---	---	---	---	130
100 x 40	45	19.0	---	---	---	20.00	6004	200
100 x 40	50	19.0	---	---	---	20.00	6004	200
100 x 50	60	25.4	---	---	---	20.00	6004	250
125 x 32	45	15.9	---	---	---	---	---	200
125 x 40	45	19.0	---	---	---	20.00	6004	250
125 x 40	50	19.0	---	---	---	20.00	6004	250
125 x 50	60	25.4	---	---	---	20.00	6004	300
150 x 40	50	19.0	---	---	---	20.00	6004	275
150 x 50	60	25.4	---	---	---	20.00	6004	350
200 x 40	50	19.0	---	---	---	20.00	6004	350

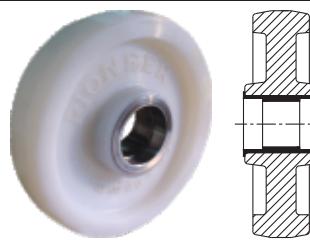
Note : 1) In case of NYL wheels 100 x 40 & 125 x 40, width of boss is 45 mm for MD Castors with mounting plate c/c distance 80 x 60 mm and width of boss is 50 mm for MD Castors with mounting plate c/c distance 120 x 60 mm.

UHMW-PE WHEELS (UHMW)



UHMW WHEEL

These wheels are manufactured from Virgin Ultra High Molecular Weight Polyethylene (UHME-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 polypropylene, 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 WHEEL WITH METAL INSERT

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.

TECHNICAL DETAILS – UHMW WHEELS

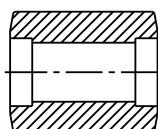
Size of Wheel Dia x Width D mm x W mm	Width of boss of Wheel B mm	Size of bore for wheels with					Ball bearing used (Number)	Load Carrying Cap. Kg.	
		PLB d mm	NYL d mm	SIB d mm	NRB d mm	BB d mm		MD	HD
100 x 32	38	15.9	---	15.9	19.0	20.0	6004	175	---
100 x 32	45	15.9	---	15.9	19.0	20.0	6004	175	---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

Contd.

TECHNICAL DETAILS – UHMW 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 Cap. Kg.	
		PLB d mm	NYL d mm	SIB d mm	NRB d mm	BB d mm		MD	HD
250 x 50	60	25.4	---	25.4	25.4	25.0	6205	---	800
250 x 75	90	25.4	---	25.4	25.4	25.0	6205	---	1100
300 x 50	60	25.4	---	25.4	25.4	25.0	6205	---	1000
300 x 75	90	25.4	---	25.4	25.4	25.0	6205	---	1400
300 x 75	90	72.0	---	---	---	---	---	---	1400
300 x 75	90	---	---	---	---	35.0	6207	---	1400
300 x 75	90	---	---	---	---	40.0	6208	---	1400

- Notes :**
- 1) In case of UHMW Wheels 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) In case of UHMW wheels 100 x 40 & 125 x 40, width of boss is 45 mm for MD Castors with mounting plate c/c distance 80 x 60 mm and width of boss is 50 mm for MD Castors with mounting plate c/c distance 120 x 60 mm.

UHMW ROLLERS

UHMW ROLLER

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

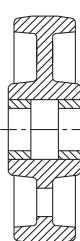
TECHNICAL DETAILS – UHMW ROLLERS

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 Capacity Kg.
		PLB d mm	NYL d mm	SIB d mm	NRB d mm	BB d mm		
82 x 70	70	---	---	---	---	20.0	6204	400
82 x 70	70	---	---	---	---	25.0	6205	400
82 x 85	85	---	---	---	---	20.0	6204	450
82 x 85	85	---	---	---	---	25.0	6205	450
82 x 90	90	---	---	---	---	20.0	6204	475
82 x 90	90	---	---	---	---	25.0	6205	475
82 x 96	96	---	---	---	---	20.0	6204	500
82 x 96	96	---	---	---	---	25.0	6205	500
82 x 100	100	---	---	---	---	20.0	6204	500
82 x 100	100	---	---	---	---	25.0	6205	500

CAST IRON WHEELS (CI)



CI WHEEL



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	20.0	6004	200
100 x 32	45	---	---	15.9	19.0	20.0	6004	300
100 x 40	45	---	---	19.0	---	20.0	6004	350
100 x 40	50	---	---	19.0	---	20.0	6004	350
100 x 50	60	---	---	25.4	19.0 / 25.4	25.0	6205	400
125 x 32	45	---	---	15.9	19.0	20.0	6004	400
125 x 40	45	---	---	19.0	---	20.0	6004	450
125 x 40	50	---	---	19.0	---	20.0	6004	450
125 x 50	60	---	---	25.4	19.0 / 25.4	25.0	6205	500
150 x 40	50	---	---	19.0	---	20.0	6004	600
150 x 50	60	---	---	25.4	19.0 / 25.4	20.0	6004	700
						25.0	6205	700
150 x 75	90	---	---	---	25.4	25.0	6205	1050
200 x 40	50	---	---	19.0	---	20.0	6004	800
200 x 50	60	---	---	25.4	19.0 / 25.4	20.0	6004	900
						25.0	6205	900
200 x 75	90	---	---	---	25.4	25.0	6205	1350
250 x 50	60	---	---	25.4	25.4	25.0	6205	1050
250 x 75	90	---	---	---	25.4	25.0	6205	1550
300 x 50	60	---	---	---	25.4	25.0	6205	1400
300 x 75	90	---	---	---	25.4	25.0	6205	2000

Note : 1) In case of CI wheels 100 x 40 & 125 x 40, width of boss is 45 mm for MD Castors with mounting plate c/c distance 80 x 60 mm and width of boss is 50 mm for MD Castors with mounting plate c/c distance 120 x 60 mm.

CAST IRON TRACK WHEELS (CI-TRK)

CI(VG) WHEEL

CI(SQG) WHEEL

CI(FLG) WHEEL



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.

Hardness of Casting : (175 ± 10) BHN

Grade of Casting : FG 200 as per IS - 210

Max. Working Temperature : 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
77 x 40	45	---	---	15.9	---	20.00	6004	250
100 x 32	45	---	---	15.9	19.0	20.00	6004	300
100 x 40	45	---	---	19.0	---	20.00	6004	350
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 40	50	---	---	19.0	---	20.00	6004	600
150 x 50	60	---	---	25.4	19.0 / 25.4	25.00	6205	700
150 x 75	90	---	---	---	25.4	25.00	6205	1000
200 x 40	50	---	---	19.00	---	20.00	6004	800
200 x 50	60	---	---	25.4	25.4	25.00	6205	900
200 x 75	90	---	---	---	25.4	25.00	6205	1200
250 x 50	60	---	---	25.4	25.4	25.00	6205	1050
300 x 50	60	---	---	25.4	25.4	25.00	6205	1400

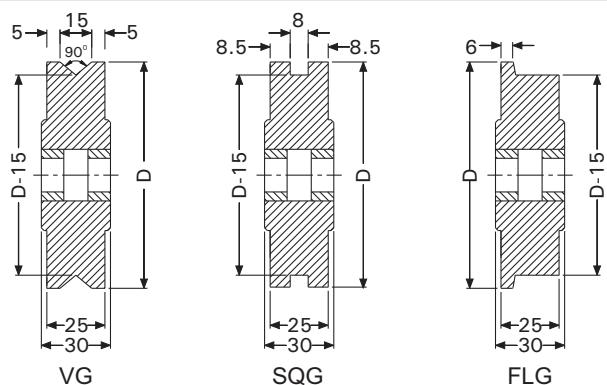
SPECIAL FLANGE WHEELS**TECHNICAL DETAILS – CAST IRON TRACK WHEELS**

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		
230 x 70	78	---	---	---	---	25.00	6205	1200
425 x 87	100	---	---	---	---	25.00	6205	3000

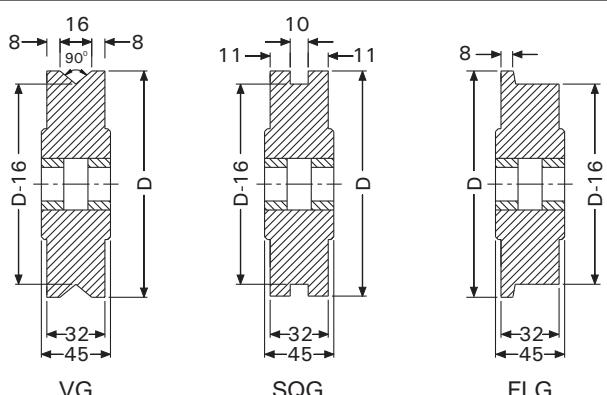
Notes : 1) We can provide CI TRK Wheels with customer drawings and specifications.

2) For dimensional details of track type wheels, please refer page no. 16.

CAST IRON TRACK WHEELS (CI-TRK)

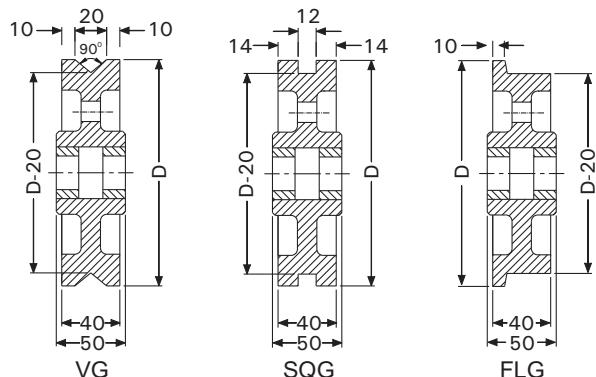


Dimensional Details of Track Wheels - 25 mm Width

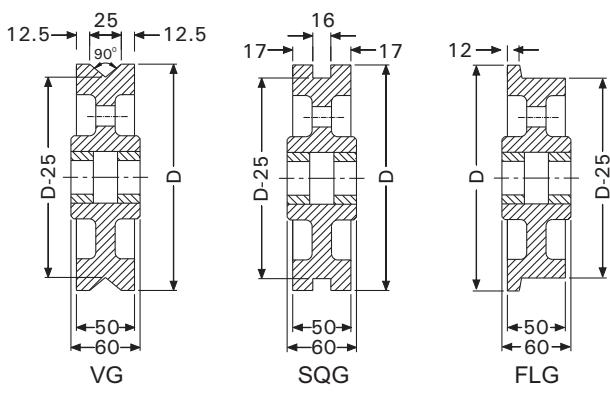


Dimensional Details of Track Wheels - 32 mm Width

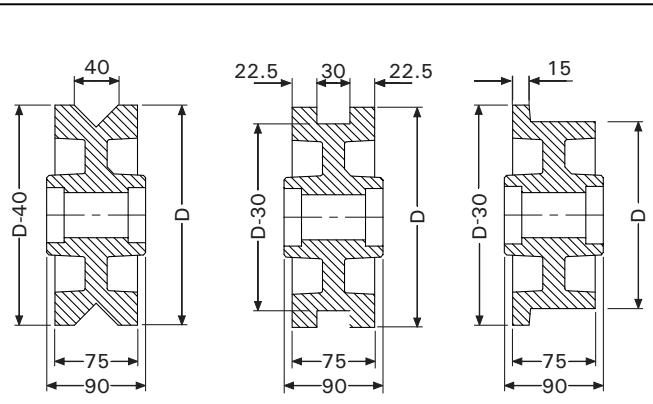
Dimensional details of V-groove, Square groove and Flange for wheels having 25 mm width, 32 mm width, 40 mm width, 50 mm width & 75 mm width are as per drawings given.



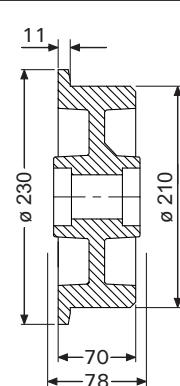
Dimensional Details of Track Wheels - 40 mm Width



Dimensional Details of Track Wheels - 50 mm Width

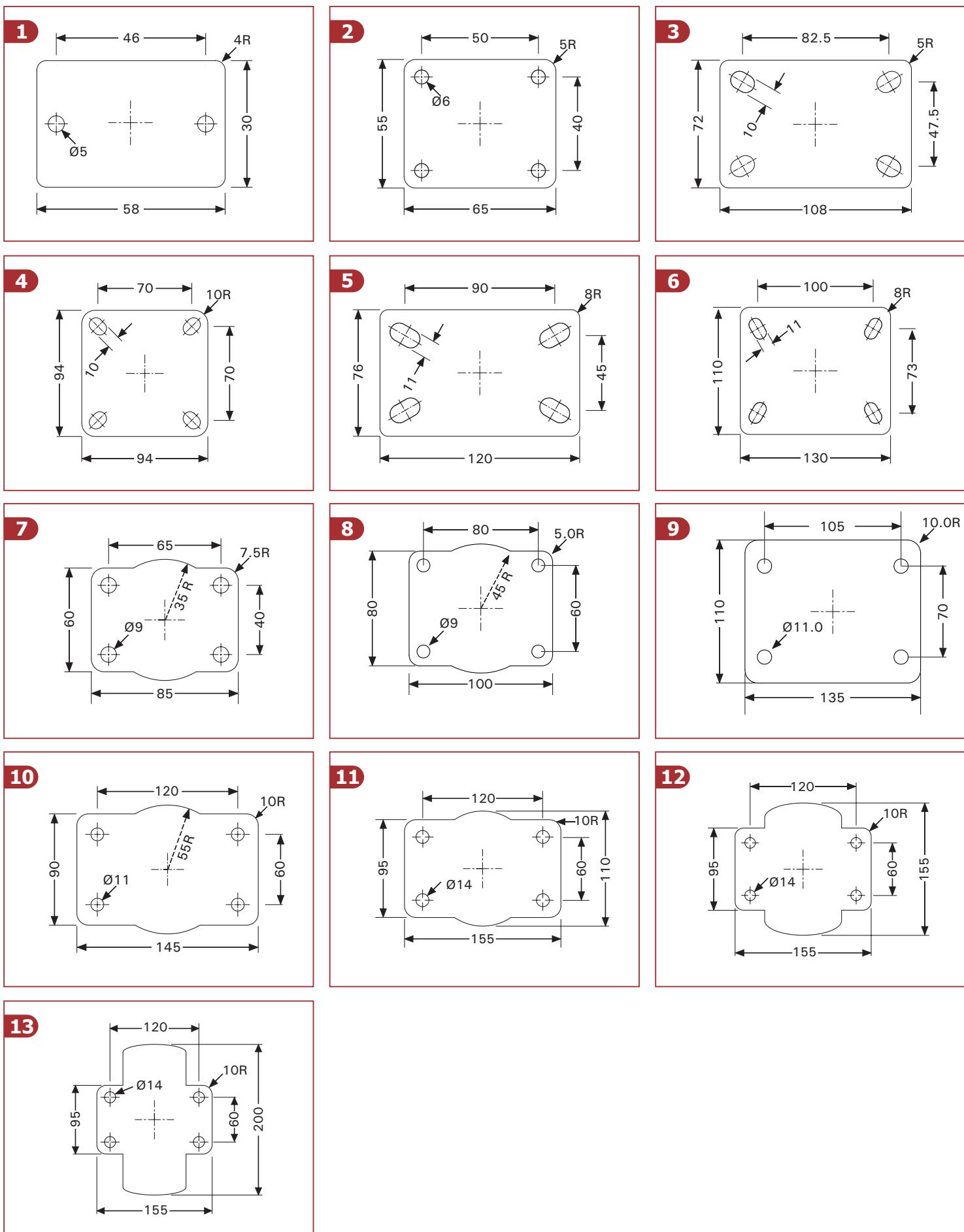


Dimensional Details of Track Wheels - 75 mm Width

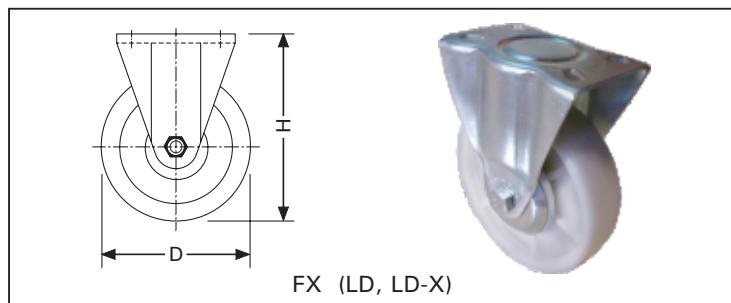
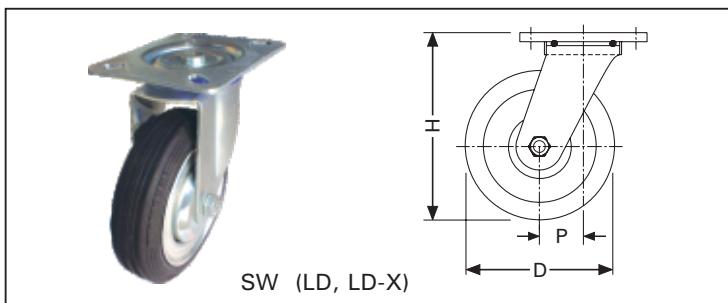


Dimensional Details of FLG Wheels - 230 x 70

DIMENSIONS OF MOUNTING PLATES FOR FIXED & SWIVEL CASTROS

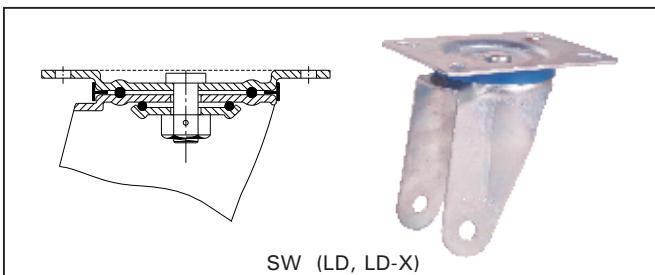


LIGHT DUTY PRESSED STEEL CASTORS (LD SERIES) LIGHT DUTY EXTRA STRENGTH PRESSED STEEL CASTORS (LD-X SERIES)



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.

CONSTRUCTION OF LD & LD-X BRACKETS



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. 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 dust 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 king pin, nut, bolt, D.P.cap, spring washer 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**FIXED CASTORS (LD SERIES)**

Size of Wheel Dia x Width D mm x W mm	Overall Height H mm	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				
					SRT Type Kg.	PU-PP Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.
40 x 20	50	---	01	---	---	---	15	---	---
100 x 32	125	---	03	---	70	100	100	100	100
125 x 32	155	---	03	---	90	125	125	125	125
150 x 40	185	---	05	---	120	200	200	200	200

FIXED CASTORS (LD-X SERIES)

Size of Wheel Dia x Width D mm x W mm	Overall Height H mm	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				
					SRT Type Kg.	PU-PP Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.
100 x 32	125	---	03	---	70	100	100	100	100
125 x 32	155	---	03	---	90	125	125	125	125
150 x 40	185	---	05	---	120	200	200	200	200

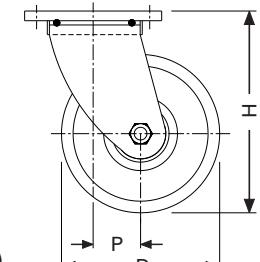
SWIVEL CASTORS (LD SERIES)

Size of Wheel Dia x Width D mm x W mm	Overall Height H mm	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				
					SRT Type Kg.	PU-PP Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.
50 x 22	70	26	02	Ø 16 x 38	---	---	20	---	---
63 x 22	80	26	02	Ø 16 x 38	---	---	30	---	---
75 x 22	95	26	02	Ø 16 x 38	---	---	30	---	---
100 x 32	125	38	04	Ø 22 x 38	70	75	75	75	75
125 x 32	155	38	04	Ø 22 x 38	90	115	115	115	115
150 x 40	185	45	06	Ø 22 x 38	120	150	150	150	150

SWIVEL CASTORS (LD-X SERIES)

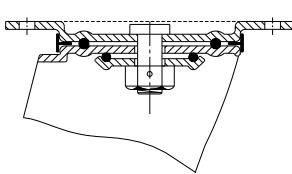
Size of Wheel Dia x Width D mm x W mm	Overall Height H mm	Offset in case of SW Castor P mm	Mounting Plate Number	Standard size of peg D x L (In case of peg type castors)	Load Carrying Capacity				
					SRT Type Kg.	PU-PP Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.
100 x 32	125	38	04	Ø 22 x 38	70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

Note : 1) For Mounting plate details, please refer page no. 17

MEDIUM DUTY PRESSED STEEL CASTORS (MD SERIES)

FX (MD)

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.

CONSTRUCTION OF MD BRACKETS

SW (MD)



SW (MD - PG)



FX (MD)

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.

Notes : Pea type brackets are available in sizes from 50 x 25 to 125 x 32. (Size of Peg - Ø 22 x 38 L)

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, bolt, D.P.cap, spring washer 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)**

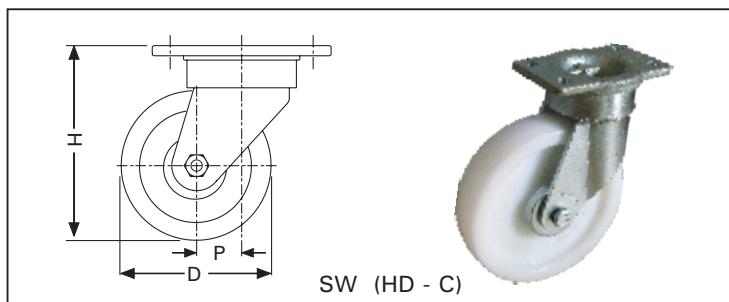
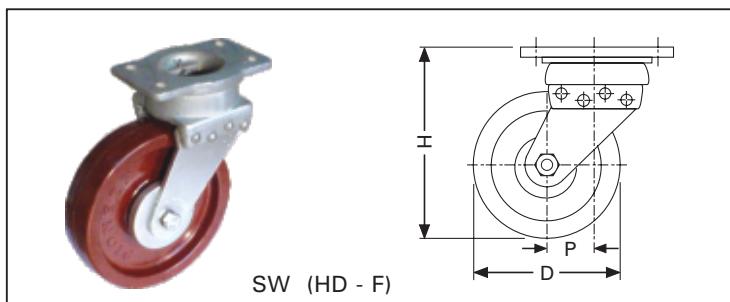
Size of Wheel Dia x Width D mm x W mm	Overall Height H mm	Mounting Plate Number	Load Carrying Capacity							
			SRT Type Kg.	BRT Type Kg.	PU - PP Type Kg.	PU - CI Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.	CI Type Kg.
50 x 25	70	07	---	---	---	---	40	60	---	100
75 x 25	100	07	---	---	---	---	60	100	---	150
77 x 32	105	08	---	80	75	---	80	120	---	200
77 x 40	105	08	---	---	---	---	100	150	---	---
100 x 32	130	08	70	100	100	125	125	130	175	300
100 x 40	130	08	---	---	125	200	150	200	250	300
100 x 50	140	10	---	150	150	250	175	250	300	400
125 x 32	155	08	90	140	125	200	150	200	200	400
125 x 40	155	08	---	---	---	250	200	250	225	400
125 x 50	165	10	---	175	---	300	225	300	250	500
150 x 40	185	10	120	---	150	325	200	275	300	500
150 x 50	185	10	125	200	175	400	300	350	350	600
200 x 40	235	10	---	---	175	400	300	350	350	700
200 x 50	235	10	150	250	200	500	---	---	500	800

SWIVEL CASTORS (MD SERIES)

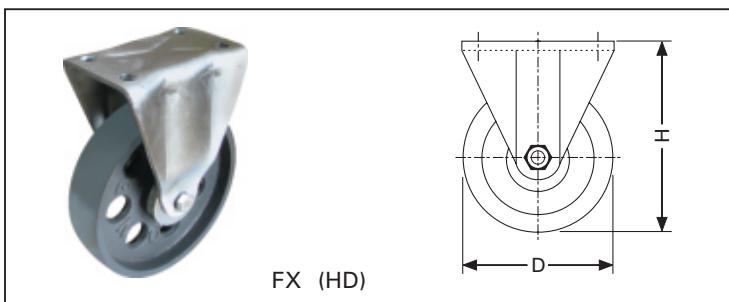
Size of Wheel Dia x Width D mm x W mm	Overall Height H mm	OFFSET	Mounting Plate Number	Load Carrying Capacity							
				SRT Type Kg.	BRT Type Kg.	PU - PP Type Kg.	PU - CI Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.	CI Type Kg.
50 x 25	70	35	07	---	---	---	---	40	50	---	50
75 x 25	100	35	07	---	---	---	---	60	75	---	75
77 x 32	105	40	08	---	80	75	---	80	100	---	100
77 x 40	105	40	08	---	---	---	---	100	100	---	---
100 x 32	130	40	08	70	100	100	125	125	130	150	150
100 x 40	130	40	08	---	---	125	150	150	150	150	150
100 x 50	140	50	10	---	150	150	200	175	200	200	200
125 x 32	155	40	08	90	140	125	200	150	200	200	200
125 x 40	155	40	08	---	---	---	200	200	200	200	200
125 x 50	165	50	10	---	175	---	250	225	250	250	250
150 x 40	185	50	10	120	---	150	300	200	275	300	300
150 x 50	185	50	10	125	200	175	350	300	350	350	350
200 x 40	235	50	10	---	---	175	400	300	350	400	400
200 x 50	235	50	10	150	250	200	450	---	---	450	450

Note : 1) For Mounting plate details, please refer page no. 17

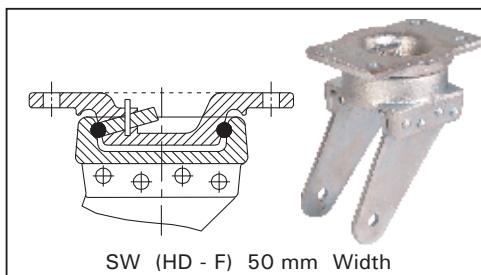
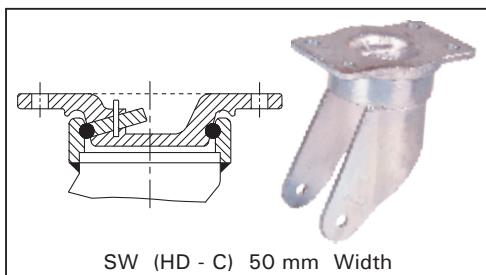
HEAVY DUTY FORGED STEEL CASTORS (HD SERIES)



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.



CONSTRUCTION OF HD BRACKETS



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.



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.

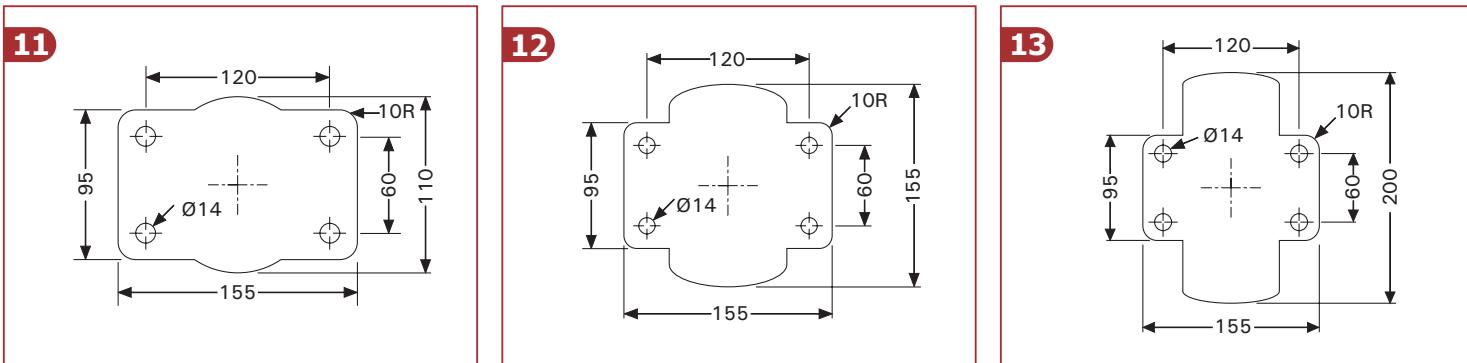


DIMENSIONAL DETAILS & LOAD CARRYING CAPACITIES**FIXED CASTORS (HD) & SWIVEL CASTORS (HD-F) SERIES**

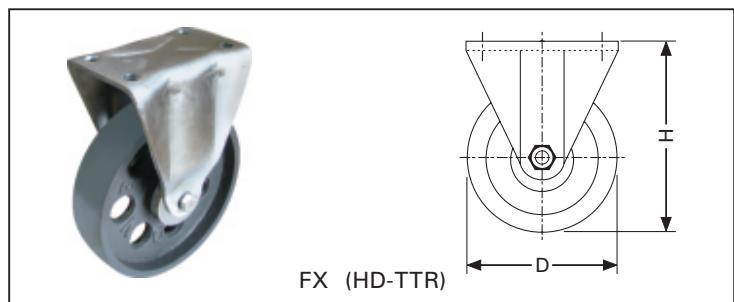
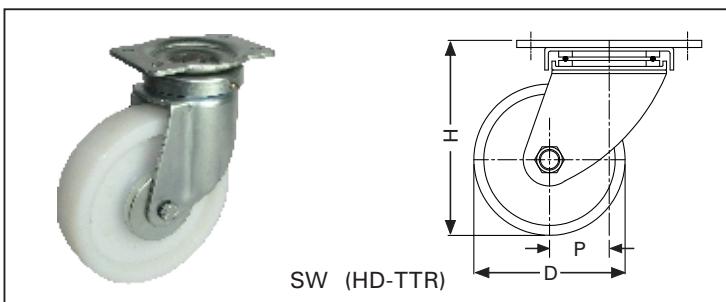
Size of Wheel Dia x Width D mm x W mm	Overall Height H mm	Offset P mm	Mounting Plate Number FX SW	Load Carrying Capacity							
				SRT Type Kg.	BRT Type Kg.	PU - PP Type Kg.	PU - CI Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.	CI Type Kg.
100 x 50	155	40	11 11	---	150	150	250	175	250	300	400
125 x 50	180	45	11 11	---	175	---	300	225	300	350	500
150 x 50	205	50	11 11	125	200	175	400	300	350	550	700
150 x 75	205	50	12 11	---	300	---	---	---	---	750	1050
200 x 50	255	60	11 11	150	250	200	500	---	---	750	900
200 x 75	255	60	12 11	225	375	---	---	---	---	900	1350
250 x 50	305	70	11 11	175	300	---	650	---	---	800	1050
250 x 75	305	70	12 11	---	450	---	---	---	---	1100	1550
300 x 50	355	80	11 11	200	400	---	800	---	---	1000	1400
300 x 75	355	80	12 11	300	600	---	---	---	---	1400	1800

SWIVEL CASTORS (HD-C) 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 - PP Type Kg.	PU - CI Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.	CI Type Kg.
100 x 50	155	40	11	---	150	150	250	175	250	300	400
125 x 50	180	45	11	---	175	---	300	225	300	350	500
150 x 50	205	50	11	125	200	175	400	300	350	550	700
200 x 50	255	60	11	150	250	200	500	---	---	750	900
250 x 50	305	70	11	175	300	---	650	---	---	800	1050
300 x 75	355	80	11	200	400	---	800	---	---	1000	1200

DIMENSIONS OF MOUNTING PLATES FOR FIXED & SWIVEL CASTORS

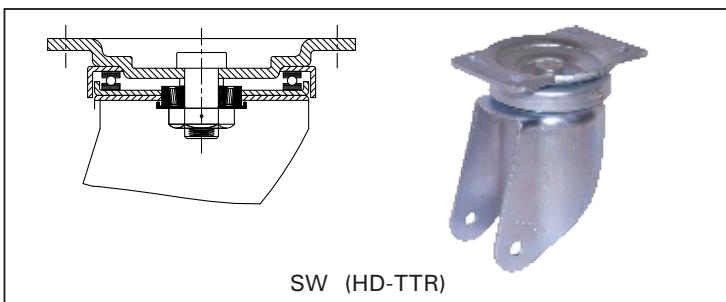
HEAVY DUTY PRESSES STEEL CASTORS (HD-TTR SERIES)



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

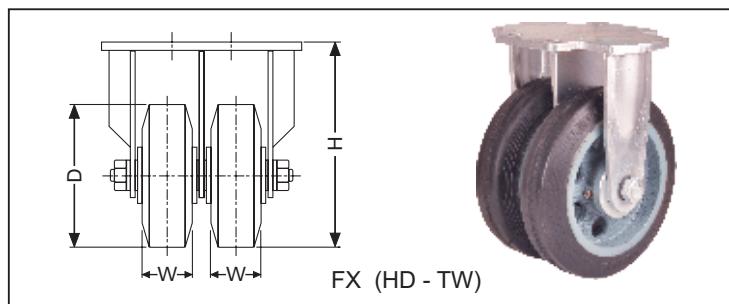
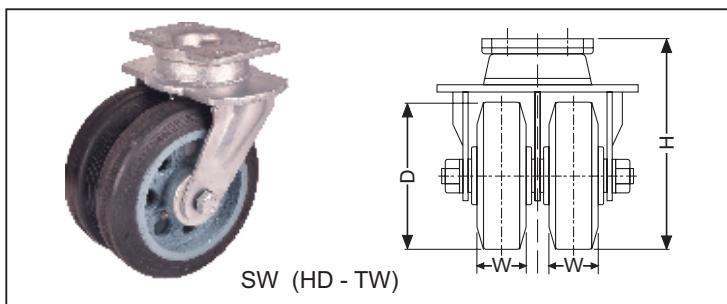


Heavy Duty Pressed Steel fixed brackets FX(HD-TTR) are manufactured from tested M. S. plates by blanking on a mechanical press & then formed on hydraulic press. Sides of brackets are embossed for additional strength as well as elegant look.

In case of swivel bracket, both base & revolving top are blanked on mechanical press & then formed on hydraulic press. 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 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 - PP Type Kg.	PU - CI Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.	CI Type Kg.
100 x 50	155	40	11	---	150	150	250	175	250	300	400
125 x 50	180	45	11	---	175	---	300	225	300	350	500
150 x 50	205	50	11	125	200	175	400	300	350	550	650
200 x 50	255	60	11	150	250	200	500	---	---	650	650

Note : 1) For Mounting plate details, please refer page no. 17

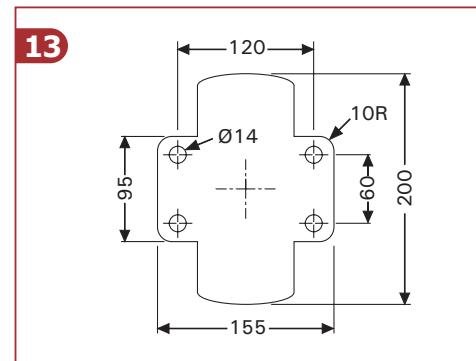
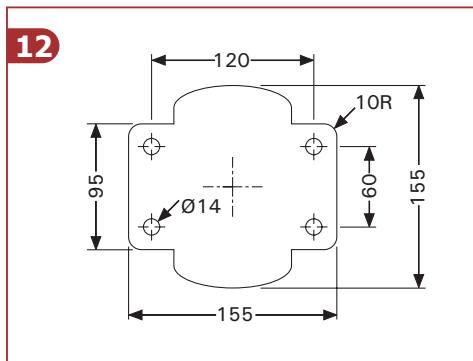
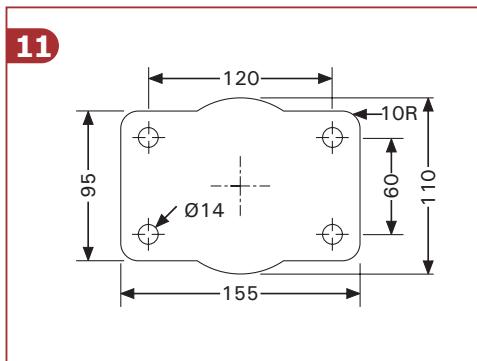
HEAVY DUTY FORGED STEEL TWIN CASTORS (HD-TW SERIES)

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.

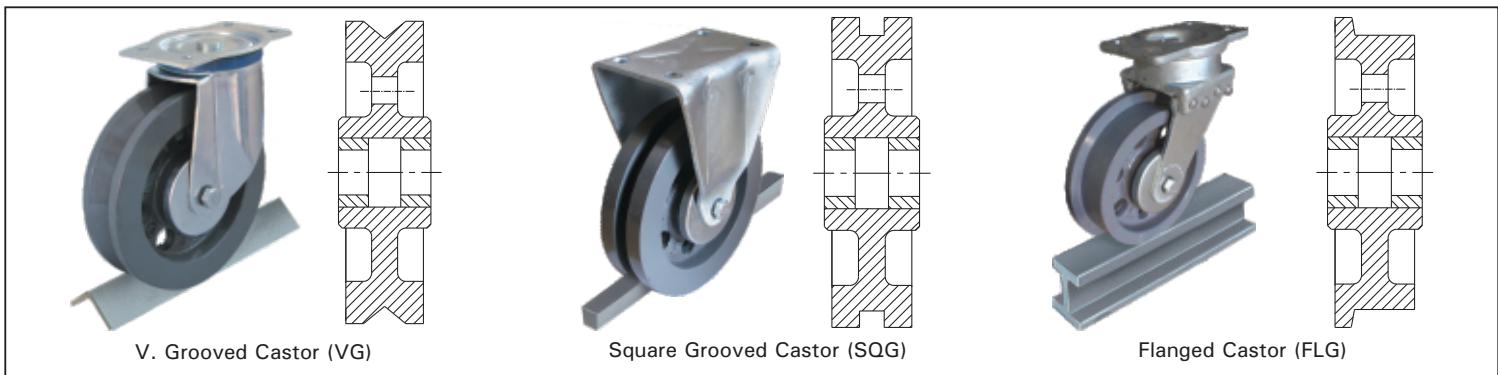
In some applications, there is restriction on height of castors. When there is such restriction on height of castors, but to carry heavy loads, twin castors provides you ideal solutions.

FIXED & SWIVEL CASTORS (HD-TW 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 - PP Type Kg.	PU - CI Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.	
			FX	SW								
100 x 50	155	40	13	11	---	300	300	500	350	500	600	800
125 x 50	180	45	13	11	---	350	---	600	450	600	700	1000
150 x 50	205	50	13	11	250	400	350	800	600	700	1100	1400
200 x 50	255	60	13	11	300	500	400	1000	---	---	1500	1800
250 x 50	305	70	13	11	350	600	1300	---	---	---	1600	1800
300 x 50	355	80	13	11	400	800	1600	---	---	---	1800	1800

DIMENSIONS OF MOUNTING PLATES FOR FIXED & SWIVEL CASTROS

TRACK CASTORS (TRK SERIES)



The track castors are designed to use over inverted angle iron tracks or over square section or over rails. 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.

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								CI Type Kg.	
				SRT Type Kg.	BRT Type Kg.	PU Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW 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 40	130	40	8	---	---	---	---	---	---	---	300	150	
100 x 50	140	50	10	---	---	---	---	---	---	---	400	200	
125 x 50	165	50	10	---	---	---	---	---	---	---	500	250	
150 x 40	185	50	10	---	---	---	---	---	---	---	500	300	
150 x 50	185	50	10	---	---	---	---	---	---	---	600	350	
200 x 40	235	50	10	---	---	---	---	---	---	---	700	400	
200 x 50	235	50	10	---	---	---	---	---	---	---	800	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								CI Type Kg.
				SRT Type Kg.	BRT Type Kg.	PU Type Kg.	PP Type Kg.	NYL Type Kg.	UHMW Type Kg.			
100 x 50	155	40	11	---	---	---	---	---	---	---	---	400
125 x 50	180	45	11	---	---	---	---	---	---	---	---	500
150 x 50	205	50	11	---	---	---	---	---	---	---	---	700
150 x 75	205	50	11	---	---	---	---	---	---	---	---	1000
200 x 50	255	60	11	---	---	---	---	---	---	---	---	900
200 x 75	255	60	11	---	---	---	---	---	---	---	---	1200
250 x 50	305	70	11	---	---	---	---	---	---	---	---	1050
300 x 50	355	80	11	---	---	---	---	---	---	---	---	1200

Notes : 1) 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

Reduces labour fatigue & improves productivity

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

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



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



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
Polypropelene (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
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) 300 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



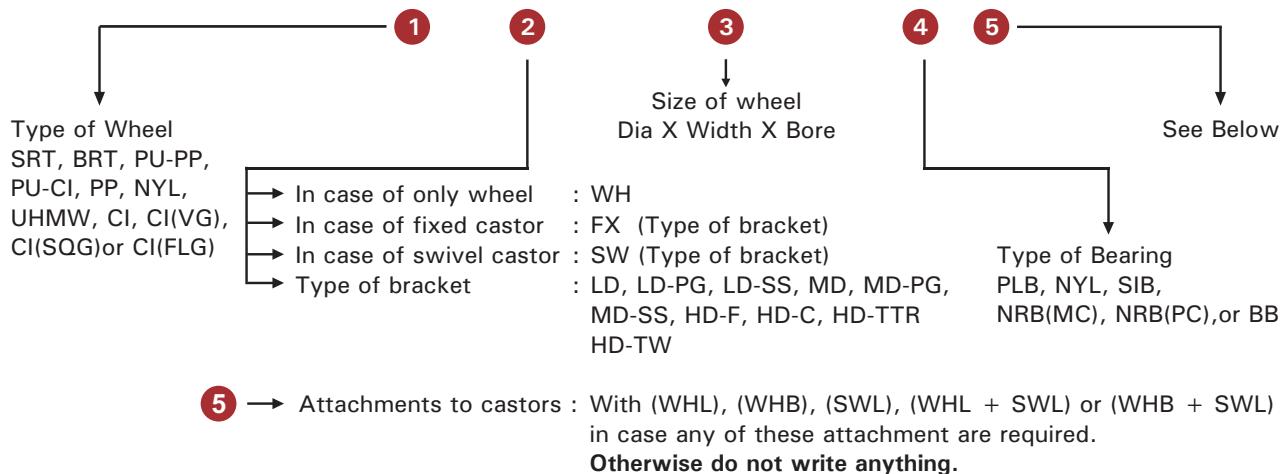
CI (WH) 300 x 50 x 25.00 / BB
With Nut, Bolt & Cap



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.

ORDERING FORMAT**SRT / SW (MD) / 150 X 50 X 25.4 / SIB****GUIDE TO CODE WORDS**

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

Manufacturing Plant, Pimpri, Maharashtra



For Your Requirement Please Contact

The Manufacturer

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