



**Midra**  
Trustable always



**The Trustable Caster Supplier**

**Product Presentation 2024**

# About high and low temperature castors

The normal temperature limit of our standard wheels and castors is 5°C to 60°C (41°F to 140°F). For applications outside these temperatures, please see below.

## High temperature use

As temperatures increase, wheels become weaker, which lowers their load capacity and shortens their lifespan. It is important that you specify the temperature and type of application before ordering a castor, to ensure that the appropriate wheel type is selected. We make three different wheel types designed specifically for use in high temperature environments. These specialised wheels use standard lithium complex grease (STABUTHERM® GH 461) which has excellent water resistance (24 hrs at 90°C), bearing retention and long life.

## Low temperature use

Below 5°C you must specify temperature of use at the time of ordering. The standard grease we use in our castors is a lithium complex grease (AERO SHELL7 GREASE MIL-PRF-23827C Type II 70149). This has excellent water resistance, bearing retention and long life. However below 5°C it begins to stiffen quickly, and will soon freeze the bearings so that neither the castor swivels nor the wheel bearings revolve. If specified at the time of ordering, we use a special aeronautical grease which is a synthetic oil with a microgel thickener. This is compounded for use down to -30°C, and will need to be refreshed every 6–12 months, but will continue to work effectively in chilling rooms, freezing stores and outdoor winter use in northern countries where ordinary greases would be useless.

As the temperature becomes lower, the softer rubber and polyurethane treads on our wheels become less elastic. For example, the polyurethane used on the 'H' series slowly stiffens from +20°C down to -20°C, but then rapidly stiffens until at -50°C, when it becomes brittle.

As temperature goes below 5°C, nylon can become brittle (particularly if it is kept for long periods in the very dry air in freezing rooms). At such times we recommend glass filled nylon reinforced wheels, which can be used down to -30°C.

*Note: Grease nipples can be added to the wheel and fork using order codes SPGNIPPLEW (to add to the wheel) or SPGNIPPLEF (to add to the fork). High or low temperature grease can be added to stainless steel castors using spare part order codes: SPLOWTEMPGREASE or SPHTEMPGREASE.*



Castors for applications such as baking trolleys and freezer carts need to be specified to ensure that they perform optimally in these extreme conditions.



## Wheel types

### Glass filled nylon

The best choice for hospitality based applications such as 'food baking' ovens, glass filled nylon can withstand sustained high temperatures and is gentle and quiet on most floor surfaces. Fibreglass reinforced nylon wheels are the preferred wheel for extended periods of up to 210°C (assuming most of their life is spent outside the oven), and for short periods up to 230°C.

### Phenolic

Phenolic is more brittle than glass filled nylon and it has a shorter life cycle but can go up to very high temperatures. Phenolic is a good choice for light duty industrial applications with very high temperatures such as ovens used for curing paint. The load capacity decreases from 125 kg at 100°C to 40 kg at 300°C therefore it is very important to ensure that the load capacity of the trolley fits within the appropriate temperature and load capacity. Phenolic wheels (with special inorganic fillers and PTFE bushes) are preferred for extended periods up to 280°C assuming most of their life is spent outside the oven and for short periods up to 300°C. These have a thick cross section, but are more brittle than either nylon or ordinary grades of phenolic.

**Please note that phenolic wheels are not suitable for medium duty applications or applications where wheels are subjected to impact such as when a trolley is rolled down steps.**

## Cast iron

The best choice for Industrial based applications such as 'paint curing' ovens and also for use in sustained high temperature environments, cast iron wheels can withstand extreme high temperatures as well as higher load capacities than all other wheel types. Cast iron wheels do not have bearings. They have a plain bore fitted with an axle spacer that is lubricated with high temperature grease. This grease can be used up to 230°C for long periods. For temperatures that exceed 230°C a more exotic grease is required. For sustained high temperature use, we offer a range of cast iron wheeled castors used with high temperature grease. Please note that cast iron is heavy, noisy and may damage concrete floors and other floor surfaces.

See page 54 for our range of high and low temperature castors.

# High & low temperature castors



## Features

- Available with high temperature resistant phenolic, or cast iron wheels, and freeze resistant glass reinforced nylon.
- Swivel, fixed plate or bolt hole zinc plated Core Coat™ forks.
- Core Coat™ lacquer provides best quality corrosion protection, with no white or red rust after 150 hours of salt spray testing.
- Specialised castor and fork grease depending on application.
- Made in Australia.

Detailed information about high and low temperature castors, including typical applications are available on page 53.



## M Series wheels



- MHH**  
Glass reinforced nylon, lighter hub, plain bearing
- MKT High**  
temperature phenolic, plain bearing
- DCI**  
Cast iron, plain bearing

Wheel	Max load at temperature	Diameter x bush (mm)	Hub x bore (mm)	Bore—no tread (mm)
MHH75*	70 kg at 150°C	75 x 32	41 x 8	12
MHH100*	80 kg at 150°C 70 kg at 180°C 60 kg at 210°C 50 kg at 230°C*	100 x 32	41 x 8	12
MKT100	125 kg at 100°C 100 kg at 250°C 40 kg at 300°C	100 x 35	41 x 8	12
DCI75	100 kg at 400°C	75 x 28	41 x 8	12

## M Series forks



- Plate with swivel<sup>1</sup>**  
High temp—MZPHT  
Low temp—MZPLT
- Fixed plate<sup>2</sup>**  
High temp—MZFHHT  
Low temp—MZFF
- Bolt hole swivel**  
High temp—MZHHT  
Low temp—MZHLT

Fork	Wheel size (mm)	Mount height (mm)	Turning radius (mm)
MZPHT/MZPLT	75	106	71
MZFHT/MZF3	100	135	91
MZHHT/MZHLT			

\* MHH wheel should be exposed to this temperature for short periods only.

<sup>1</sup> Also available with North American plate with swivel—MZPNHT, MZPNLT.

<sup>2</sup> Also available with North American fixed plate—MZFNHHT, MZFFN.

<sup>3</sup> Fixed plate has no turning radius.

## J Series wheels



- JHH**  
Glass reinforced nylon, heavy hub, plain bearing
- JCI**  
Cast iron, plain bearing

Wheel	Max load at temperature	Diameter x. tread (mm).	Hub x bore (mm).	Bore—no bush (mm)
JHH100	100 kg at 150°C 90 kg at 180°C 80 kg at 210°C 60 kg at 230°C*	100 x 32	45 x 1020	
JCI100	230 kg at 400°C	100 x 38	45 x 10	20

## J Series forks



- Plate with swivel**  
High temp—JZPHT  
Low temp—JZPLT
- Fixed plate**  
High temp—JZFHT  
Low temp—JZFF
- Bolt hole swivel**  
High temp—JZHHT  
Low temp—JZHLT

Fork	Wheel size (mm)	Mount height (mm)	Turning radius (mm)
JZPHT/JZPLT JZFHT/JZFF JZHHT/JZHLT	100	129	90

\* JHH wheel should be exposed to this temperature for short periods only.

<sup>1</sup> Fixed plate has no turning radius.

Please note:

- High temperature castors cannot be supplied with brakes.
- LT = Low temperature (below 5°C).
- HT = High temperature (above 60°C).

## O Series wheels



**OHH**  
 Glass reinforced nylon, heavy hub, plain bearing



**WCI**  
 Cast iron, plain bearing

Wheel	Max load at temperature	Diameter x tread (mm)	Hub x bore (mm)	Bore—no bush (mm)
OHH150	200 kg at 210°C	150 x 40	60 x 12.7	20
WCI150	250 kg at 400°C	150 x 50	60 x 12.7	20

## O Series forks



**Plate with swivel\***  
 High temp—OZPHT  
 Low temp—OZPLT



**Fixed plate<sup>1</sup>**  
 High temp—HZFHT  
 Low temp—HZF

Fork	Wheel size (mm)	Mount height (mm)	Turning radius (mm)
OZPHT/OZPLT HZFHT/HZF2	150	189	121

\* Also available with North American plate with swivel—OZPNHT, OZPNLT.

<sup>1</sup> Also available with North American fixed plate—HZFNHT, HZFN.

<sup>2</sup> Fixed plate has no turning radius

## Order codes

M Series wheels	Fork code	Castor code
<b>DCI75</b> High temp	M75ZPHT	DCI75/MZPHT
	M75ZPNHT	DCI75/MZPNHT
	M75ZFHT	DCI75/MZFHT
	M75ZFNHT	DCI75/MZFNHT
	M75ZHHT	DCI75/MZHHT
<b>MHH75</b> High temp	M75ZPHT	MHH75/MZPHT
	M75ZPNHT	MHH75/MZPNHT
	M75ZFHT	MHH75/MZFHT
	M75ZFNHT	MHH75/MZFNHT
	M75ZHHT	MHH75/MZHHT
<b>MHH100</b> High temp	M100ZPHT	MHH100/MZPHT
	M100ZPNHT	MHH100/MZPNHT
	M100ZFHT	MHH100/MZFHT
	M100ZFNHT	MHH100/MZFNHT
	M100ZHHT	MHH100/MZHHT
<b>MHH100</b> Low temp	M100ZPLT	MHH100/MZPLT
	M100ZPNLT	MHH100/MZPNLT
	M100ZF	MHH100/MZF
	M100ZFN	MHH100/MZFN
	M100ZHLT	MHH100/MZHLT
<b>MKT100</b> High temp	M100ZPHT	MKT100/MZPHT
	M100ZPNHT	MKT100/MZPNHT
	M100ZFHT	MKT100/MZFHT
	M100ZFNHT	MKT100/MZFNHT
	M100ZHHT	MKT100/MZHHT

J Series wheels	Fork code	Castor code
<b>JCI100</b> High temp	J100ZPHT	JCI100/JZPHT
	J100ZFHT	JCI100/JZFHT
	J100ZHHT	JCI100/JZHHT
<b>JCI100</b> Low temp	J100ZPLT	JCI100/JZPLT
	J100ZF	JCI100/JZF
	J100ZHLT	JCI100/JZHLT

J Series wheels	Fork code	Castor code
<b>JHH100</b> High temp	J100ZPHT	JHH100/JZPHT
	J100ZFHT	JHH100/JZFHT
	J100ZHHT	JHH100/JZHHT
<b>JHH100</b> Low temp	J100ZPLT	JHH100/JZPLT
	J100ZF	JHH100/JZF
	J100ZHLT	JHH100/JZHLT

O Series wheels	Fork code	Castor code
<b>OHH150</b> High temp	O150ZPHT	OHH150/OZPHT
	O150ZPNHT	OHH150/OZPNHT
	H150ZFHT	OHH150/HZFHT
<b>OHH150</b> Low temp	H150ZFNHT	OHH150/HZFHNHT
	O150ZPLT	OHH150/OZPLT
	O150ZPNLT	OHH150/OZPNLT
<b>OHH150</b> Low temp	H150ZF	OHH150/HZF
	H150ZFN	OHH150/HZFN
	<b>WCI150</b> High temp	O150ZPHT
O150ZPNHT		WCI150/OZPNHT
H150ZFHT		WCI150/HZFHT
<b>WCI150</b> Low temp	H150ZFNHT	WCI150/HZFHNHT
	O150ZPLT	WCI150/OZPLT
	O150ZPNLT	WCI150/OZPNLT
<b>WCI150</b> Low temp	H150ZF	WCI150/HZF
	H150ZFN	WCI150/HZFN