\mathfrak{S} Health Care \mathfrak{R} kitchens and restaurants \mathfrak{G} institutions and businesses \mathbb{R} logistics

🖾 INDUSTRY

Manner castors and wheels

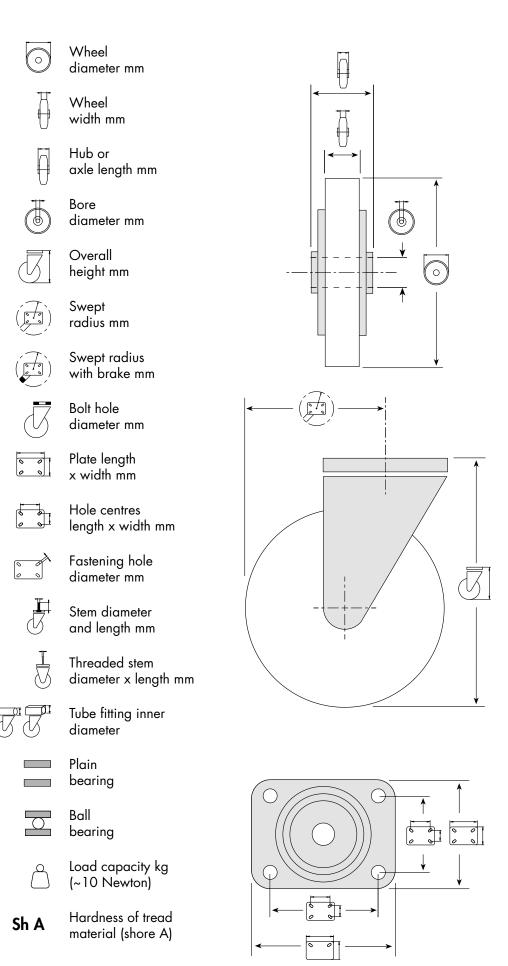
Catalogue





What do the symbols mean? You will find the explanations on the reverse side.

Explanation of symbols used



Smooth-running Manner castors!

In this catalogue you will find information on Manner's standard product range and guidelines for choosing the best castor for your specific application.

The right castor for the right place

A correct, appropriate castor is always a worthwhile investment. The impact of the castor on the functionality, reliability and cost of a piece of equipment or transport chain is much more crucial that its impact on the price of said equipment. Here, poor quality is not worth the bargain.

We hope that this catalogue will help you to find the best possible castor to suit your needs.

Selecting a castor

Before choosing a product, please read the guidelines on pages 6–7. The tips provided will make the task that much easier.

Products and technical data

In this catalogue, the products have been grouped in sets from the lightest to the most robust. Those with special features are presented separately

Orders and customer service

Orders and enquiries can be made by contacting the distributor in your area. When placing your order, please use the 6-digit product numbers to ensure a flawless delivery. You can also contact Manner's sales team:

Email: manner@manner.fi Phone: +358 19 222 001 / exchange Address: P.O. BOX 3, FI-10901 Hanko, Finland

This product catalogue is also available at www.manner.fi/en

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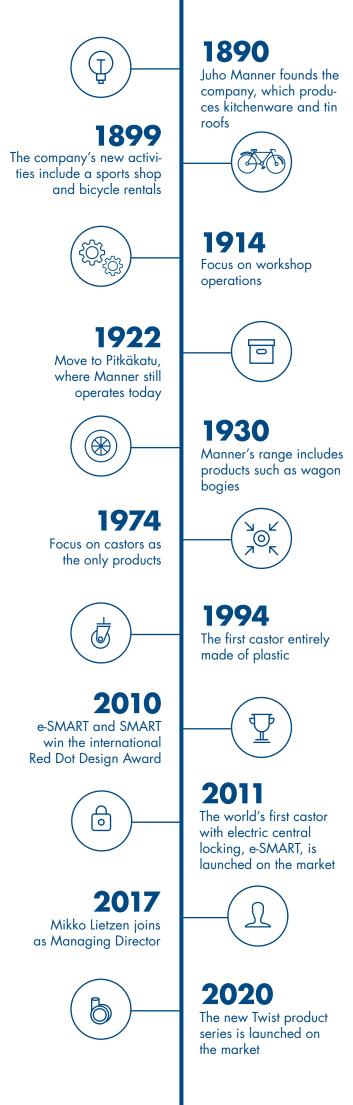
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Manner – looking after our customers since 1890

Manner, founded in 1890, is a traditional familyowned company. During its history, the company has manufactured a wide range of objects, from tin household containers to radio masts and from woodworking machines to high-pressure water tanks. Manner has over 80 years' experience in the design and manufacture of a variety of castor products.

Customer orientation and professionalism have always been Manner's core principles. We help our customers to determine their requirements and to find solutions. Our flexible production model allows us to fulfil customer-specific requirements, and our long experience guarantees that every product off our production line is of the highest Manner quality.

 Manner's castor products from the 1940s and the 1950s.



Designed and manufactured in Finland

Manner's castors are designed and manufactured in Finland, more precisely in the town of Hanko. The high Manner quality is a guarantee that, amongst other things, our products always exceed the requirements set by industry standards. We always take environmental and safety issues into account in all our operations.

Manner's vision

Our vision is to develop as a globally recognised supplier of high-quality castors. Thanks to our in-depth expertise, all of our products are of the highest standard, and our international operations are based on cooperation with trusted partners. By always complying with agreements and keeping our promises we also help our customers to succeed.



Reliable quality

To us, quality means the reliability of operations and products. Customers can be sure that Manner delivers the products they have ordered as promised. All Manner products are tested and ISO-certified, and compliant with the RoHS and REACH requirements. Manner's operation system complies with the ISO 9001 quality standard and the ISO 14001 environmental standard.



reddot design award best of the best 2010

66

Design is a competitive edge factor

Innovative design plays an important role in both the development of new products and the improvement of existing products, and we have long cooperated with top designers. This collaboration has been fruitful as proved by the several industry awards that Manner has received.





Guide to choosing the right castor

Please consider the following points when selecting a castor for a specific application.

Determining the load capacity for the castor

Calculating the load capacity

The required load capacity of a castor can be calculated by dividing the total weight of a 4-wheel unit by three; only by three because the unit may sometimes move only on three wheels on an uneven surface.

$\frac{\text{TOTAL WEIGHT}}{3} = \text{CASTOR LOAD CAPACITY}$

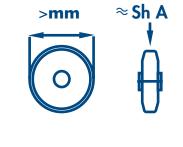
Calculating the shock load capacity

If the castor is subject to shock load, which can occur, for example, when crossing thresholds or other obstacles, this must be taken into account when determining the load capacity. You can prepare for this by choosing a wheel with a larger diameter and a soft tread. If the castor is subjected to shock load, the total weight of the four-wheel unit is divided by two.

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	0	9

TOTAL WEIGHT

$\frac{1}{2} = CASTOR SHOCK LOAD CAPACITY$



2 Surface and surroundings

The diameter of the wheel, the shape of the tread as well as the material and hardness of the tread have a significant impact on manoeuvrability, rolling resistance and swivel resistance.

Uneven surface = larger wheel and softer tread

The rule of thumb is: the more uneven the surface, the larger the wheel and the softer the tread should be. For a flat surface and good conditions, you can choose the tread more freely.

Castor according to conditions

If the castor is to be used outdoors, in humid environments, at high or low temperatures, or if the castor comes into contact with chemicals, this should be taken into account when selecting the castor. In case of an untreated or absorbent floor material kindly pay attention to the choice of tread material.

Bearings

Our range includes castors with plain bearings and ball bearings.

Castors with ball bearings offer lower starting and rolling resistance. There is also less play, which makes the castor and the unit more stable. Manner has focused its manufacturing operations on castors with ball bearings due to the advantages they offer. Most of our wheels and castors are fitted with sealed 2RS ball bearings, which are easy to manoeuvre, maintenance-free and durable. The bearings are located either at the centre of the hub or on both sides of it.



6

3

4 Fixing

Choose the most suitable fixing method for the unit in question. A correctly selected and mounted castor also increases operational safety. Our selection includes the following mounting options.



THREADED STEM



EXPANDER



TOP PLATE



CUSTOMISED STEM FITTING

5 Do you require brakes or directional locking? Single action brake locks the wheel to stop it revolving, total-stop brake also prevents it from turning.

If it is important for the unit to stay in place when it is not moving, you should choose a castor with brake. There are two brake options: single action or totalstop brakes.

Directional lock locks the wheel in the direction of travel.

A directional lock is available for some of Manner's product ranges. The directional lock prevents the wheel from turning and locks it in the direction of travel. A directional lock can be chosen when only swivel castors are used in the unit. The directional lock improves the control of the unit when travelling down long corridors, for example.

Once the lock is released, all castors can once again be turned, and the unit is easy to manoeuvre even in confined spaces.

Ooes the castor require special features?

The functionality of a castor can be supplemented with and improved by several different features. Our range includes a variety of castors such as stainless, conductive and non-magnetic castors.



PLEASE NOTE THE FOLLOWING FACTORS

Load capacity values apply to non-mechanical use in normal temperatures. Please note that the capacity may be considerably different if the castor is used in temperatures outside the normal range. If the wheel contains different materials, heat resistance is determined by the lowest temperature. The speeds are 3–4 km/h depending on the castor set. If conditions are exceptionally demanding, contact our distributors or factory for advice. For more information about how to select castors, please visit **www.manner.fi**

Equipment castors

Manner's equipment castor selection includes a diverse range of high-quality, durable and smooth running castors. The castors are designed to have a structure that is both durable and stylish. They are also highly reliable and safe.

The forks are made of galvanised steel, and there is a variety of wheel options available depending on the application and operating conditions. The castors are available with a single action brake or total-stop brake, depending on the model.



EQUIPMENT CASTORS ARE SUITABLE FOR APPLICATIONS SUCH AS THE FOLLOWING:

INSTITUTIONS AND BUSINESSES



HEALTH CARE



KITCHENS AND Restaurants

EQUIPMENT AND FURNITURE SHOP FURNISHINGS CLEANING TROLLEYS INDUSTRIAL EQUIPMENT HOSPITAL EQUIPMENT AND FURNITURE INDUSTRIAL KITCHEN EQUIPMENT SERVING TROLLEYS FOOD TRANSPORT TROLLEYS



SWIVEL CASTOR, BOLT HOLE

PTE polypropylene centre + thermoplastic rubber tyre, plain bearing

Code	Title	0	Ð	Ø	(<u></u>)	J		Ĉ	Sh A
100138	HP-50 PTE 1)	50	18	66	50	8,2	•	30	78
200307	E-75 PTE	75	23	100	75	10	•	50	80
200303	E-100 PTE	100	23	125	88	10	•	50	80

1) The wheel looks different from the image



SWIVEL CASTOR, BOLT HOLE, BRAKE

Code	Title	0	Ð	Ø		J		Ĉ	Sh A
100139	HP-J-50 PTE 1)	50	18	66	78	8,2	•	30	78
200313	E-J-75 PTE 2)	75	23	100	95	10	•	50	80
200309	E-J-100 PTE 2)	100	23	125	95	10	•	50	80

1) Total-stop brake, the wheel looks different from the image

Expanders are only suitable for use with 75 and 100 mm wheels

2) Single action brake

EXPANDER

Code	Title	Diameter of the tubular expander	Core of the square expander	Expander length
200095	ET-18,19	18-19		59 + - 2
200096	ET-22	22		60 + - 2
200100	ET-28	28		58 + - 2
200165	ET-37	37		58 + - 2
200094	ET-17X17		17x17	60 + - 2
200097	ET-22X22		22x22	59 + - 2
200099	ET-27X27		27x27	58 + - 2
200101	ET-37X37 1)		37x37	58 + - 2

Expander increases structural height by approx. 4 mm Tube's inner dimensions must match those given in the table.

1) ET-37X37 expander cannot be retrofitted to 100 wheels.

You can download the product cards from manner.fi/en/product-search/

Equipment castors

WHEEL

S-PTE/K 80 polypropylene centre + thermoplastic rubber tyre, threadguard, ball bearing S-NP/K polyamide centre + soft polyurethane tyre, threadguard, ball bearing S-NEK/K polyamide centre + elastic solid rubber tyre, threadguard, ball bearing



Code	Title	\bigcirc	Ð	Ð	9		\bigcirc	Sh A
302983	ESI-S-75 PTE/K 80	75	32	36	8,2	•	70	80
300059	ESI-S-75 NP/K	75	32	36	8,2	•	90	80
300595	ESI-S-100 PTE/K 80	100	32	36	8,2	•	100	80
300047	ESI-S-100 NP/K	100	32	36	8,2	•	100	80
300065	ESI-S-100 NEK/K	100	32	36	8,2	•	80	60
300071	ESI-S-125 PTE/K 80	125	32	36	8,2	•	100	80
300051	ESI-S-125 NP/K	125	32	36	8,2	•	100	80
300069	ESI-S-125 NEK/K	125	32	36	8,2	•	100	60
300075	ESI-S-150 NEK/K	150	32	36	8,2	•	105	60

SWIVEL CASTOR, BOLT HOLE



Code	Title	\bigcirc	Ð	J		V	þ	Ô	Sh A
304094	ES-S-75 PTE/K 80	75	32	115	80	10	•	70	80
300038	ES-S-75 NP/K	75	32	115	80	10	•	90	80
300962	ES-S-100 PTE/K 80	100	32	142	90	10	•	100	80
300012	ES-S-100 NP/K	100	32	142	90	10	•	100	80
300341	ES-S-100 NEK/K	100	32	142	90	10	•	80	60
300510	ES-S-125 PTE/K 80	125	32	167	106	10	•	100	80
300022	ES-S-125 NP/K	125	32	167	106	10	•	100	80
300354	ES-S-125 NEK/K	125	32	167	106	10	•	100	60
300363	ES-S-150 NEK/K	150	32	190	115	10	•	105	60

Available with 12 mm bolt hole

SWIVEL CASTOR, BOLT HOLE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL



Code	Title	0	Ð	Ø		J	9	Ĉ	Sh A
304096	ES-JN-S-75 PTE/K 80	75	32	115	107	10	•	70	80
300834	ES-JN-S-75 NP/K	75	32	115	107	10	•	90	80
301114	ES-JN-S-100 PTE/K 80	100	32	142	107	10	•	100	80
300825	ES-JN-S-100 NP/K	100	32	142	107	10	•	100	80
300879	ES-JN-S-100 NEK/K	100	32	142	107	10	•	80	60
300884	ES-JN-S-125 PTE/K 80	125	32	167	110	10	•	100	80
300817	ES-JN-S-125 NP/K	125	32	167	110	10	•	100	80
300882	ES-JN-S-125 NEK/K	125	32	167	110	10	•	100	60
300894	ES-JN-S-150 NEK/K	150	32	190	115	10	•	105	60

Available with 12 mm bolt hole





Code	Title	Diameter of the tubular expander	Core of the square expander	Expander length
300372	EST-18,19	18-19		59 + - 2
300373	EST-22	22		60 + - 2
300381	EST-28	28		57 + - 2
300788	EST-37	37		58 + - 2
300370	EST-17X17		17x17	60 + - 2
300375	EST-22X22		22x22	59 + - 2
300379	EST-27X27		27x27	57 + - 2
300382	EST-37X37		37x37	57 + - 2

SWIVEL CASTOR, RECTANGULAR TOP PLATE



Code	Title	$\overline{\bigcirc}$	Ð	Ø		000			Þ	Ô	Sh A
304101	ESL-S-75 PTE/K 80	75	32	115	80	95X70	75X45	8,5	•	70	80
300165	ESL-S-75 NP/K	75	32	115	80	95X70	75X45	8,5	•	90	80
300800	ESL-S-100 PTE/K 80	100	32	142	90	95X70	75X45	8,5	•	100	80
300152	ESL-S-100 NP/K	100	32	142	90	95X70	75X45	8,5	•	100	80
300203	ESL-S-100 NEK/K	100	32	142	90	95X70	75X45	8,5	•	80	60
300485	ESL-S-125 PTE/K 80	125	32	167	106	95X70	75X45	8,5	•	100	80
300156	ESL-S-125 NP/K	125	32	167	106	95X70	75X45	8,5	•	100	80
300207	ESL-S-125 NEK/K	125	32	167	106	95X70	75X45	8,5	•	100	60
300210	ESL-S-150 NEK/K	150	32	190	115	95X70	75X45	8,5	•	105	60

SWIVEL CASTOR, RECTANGULAR TOP PLATE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL



Code	Title	$\overline{\bigcirc}$	Ð	Ø		000		000	þ	Â	Sh A
304102	ESL-JN-S-75 PTE/K 80	75	32	115	107	95X70	75X45	8,5	•	70	80
300865	ESL-JN-S-75 NP/K	75	32	115	107	95X70	75X45	8,5	•	90	80
300970	ESL-JN-S-100 PTE/K 80	100	32	142	107	95X70	75X45	8,5	•	100	80
300856	ESL-JN-S-100 NP/K	100	32	142	107	95X70	75X45	8,5	•	100	80
300898	ESL-JN-S-100 NEK/K	100	32	142	107	95X70	75X45	8,5	•	80	60
300900	ESL-JN-S-125 PTE/K 80	125	32	167	110	95X70	75X45	8,5	٠	100	80
300859	ESL-JN-S-125 NP/K	125	32	167	110	95X70	75X45	8,5	•	100	80
300899	ESL-JN-S-125 NEK/K	125	32	167	110	95X70	75X45	8,5	•	100	60
300905	ESL-JN-S-150 NEK/K	150	32	190	115	95X70	75X45	8,5	•	105	60

Medical castors

Manner's medical castors combine perfect design, innovation, practicality and reliability. The castors are easy to manoeuvre and maintenance-free. The castors are made of glass fibre reinforced polyamide. Thanks to the materials and design, the castors are corrosion-resistant and easy to clean.

The range includes both traditional single-wheel solutions and twinwheel castors. The products offer plenty of opportunities for customised solutions, subject to minimum order quantities. The range of medical castors includes the following well-known Manner brands.

Medical castors include castors in the Tango, Twist and e-SMART series.



MEDICAL CASTORS ARE SUITABLE FOR APPLICATIONS SUCH AS THE FOLLOWING:

HEALTH CARE

رگ ت

KITCHENS AND RESTAURANTS

INSTITUTIONS AND BUSINESSES

SHOWER CHAIRS ASSISTIVE DEVICES CARE BEDS **HOSPITAL BEDS** TREATMENT CHAIRS **REHABILITATION EQUIPMENT HOSPITAL FURNITURE** AND EQUIPMENT INDUSTRIAL KITCHEN EQUIPMENT SERVING TROLLEYS **SHOP FURNISHINGS**

The **Tango** is a versatile and adaptable equipment castor that is suitable even for challenging applications. The easy to manoeuvre, maintenance-free Tango is made of glass fibre reinforced polyamide. Thanks to its materials and design, the Tango is corrosion-resistant and easy to clean. Typical environments for the Tango include hospitals, rehabilitation facilities, kitchens, restaurants, shops, offices, public spaces and factories.

SWIVEL CASTOR, BOLT HOLE



S-PTE/K 80 polypropylene centre + thermoplastic rubber tyre, threadguard, ball bearing S-NP/K polyamide centre + soft polyurethane tyre, threadguard, ball bearing S-NEK/K polyamide centre + elastic rubber tyre, threadguard, ball bearing

Code	Title	\bigcirc	Ð	3		Ø	þ	Ô	Sh A
301719	GK-S-75 PTE/K 80	75	32	110	73	10	•	70	80
304391	GK-S-75 NP/K	75	32	110	73	10	•	90	80
301727	GK-S-100 PTE/K 80	100	32	141	95	10	•	100	80
301723	GK-S-100 NEK/K	100	32	141	95	10	•	80	60
303973	GK-S-100 NP/K	100	32	141	95	10	•	100	80
301637	GK-S-125 PTE/K 80	125	32	161	110	10	•	100	80
301668	GK-S-125 NEK/K	125	32	161	110	10	•	100	60
303977	GK-S-125 NP/K	125	32	161	110	10	•	100	80

Available with 12 mm bolt hole

SWIVEL CASTOR, BOLT HOLE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL



Code	Title	$\overline{\bigcirc}$	Ð	8		G		Ĉ	Sh A
301731	GK-J-S-75 PTE/K 80	75	32	110	94	10	•	70	80
304395	GK-J-S-75 NP/K	75	32	110	94	10	•	90	80
301739	GK-J-S-100 PTE/K 80	100	32	141	95	10	•	100	80
301735	GK-J-S-100 NEK/K	100	32	141	95	10	•	80	60
303984	GK-J-S-100 NP/K	100	32	141	95	10	•	100	80
301639	GK-J-S-125 PTE/K 80	125	32	161	110	10	•	100	80
301672	GK-J-S-125 NEK/K	125	32	161	110	10	•	100	60
303988	GK-J-S-125 NP/K	125	32	161	110	10	•	100	80

Available with 12 mm bolt hole



SWIVEL CASTOR, THREADED STEM

Code	Title	0	Ð	3		J		Â	Sh A
301743	GKR-S-75 PTE/K 80	75	32	110	73	10X16	•	70	80
304399	GKR-S-75 NP/K	75	32	110	73	10X16	•	90	80
301751	GKR-S-100 PTE/K 80	100	32	141	95	10X16	•	100	80
301747	GKR-S-100 NEK/K	100	32	141	95	10X16	•	80	60
304000	GKR-S-100 NP/K	100	32	141	95	10X16	•	100	80
301649	GKR-S-125 PTE/K 80	125	32	161	110	10X16	•	100	80
301676	GKR-S-125 NEK/K	125	32	161	110	10X16	•	100	60
304004	GKR-S-125 NP/K	125	32	161	110	10X16	•	100	80

Available with 12 mm threaded stem



SWIVEL CASTOR, THREADED STEM, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	\bigcirc	Ð	$\overline{\mathbb{Q}}$		J		Â	Sh A
301755	GKR-J-S-75 PTE/K 80	75	32	110	94	10X16	•	70	80
304403	GKR-J-S-75 NP/K	75	32	110	94	10X16	•	90	80
301763	GKR-J-S-100 PTE/K 80	100	32	141	95	10X16	•	100	80
301759	GKR-J-S-100 NEK/K	100	32	141	95	10X16	•	80	60
304012	GKR-J-S-100 NP/K	100	32	141	95	10X16	•	100	80
301651	GKR-J-S-125 PTE/K 80	125	32	161	110	10X16	•	100	80
301680	GKR-J-S-125 NEK/K	125	32	161	110	10X16	•	100	60
304016	GKR-J-S-125 NP/K	125	32	161	110	10X16	•	100	80

Available with 12 mm threaded stem



SWIVEL CASTOR, THREADED STEM, DIRECTIONAL LOCK LOCKS THE CASTOR IN THE DIRECTION OF TRAVEL

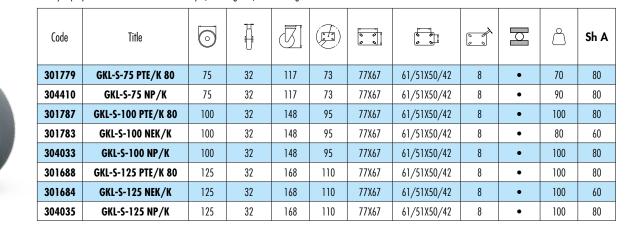
Code	Title	\bigcirc	Ð	J		<u>I</u>		Â	Sh A
301767	GKR-R-S-75 PTE/K 80	75	32	110	94	10X16	•	70	80
304407	GKR-R-S-75 NP/K	75	32	110	94	10X16	•	90	80
301775	GKR-R-S-100 PTE/K 80	100	32	141	95	10X16	•	100	80
301771	GKR-R-S-100 NEK/K	100	32	141	95	10X16	•	80	60
304024	GKR-R-S-100 NP/K	100	32	141	95	10X16	•	100	80
301707	GKR-R-S-125 PTE/K 80	125	32	161	110	10X16	•	100	80
301703	GKR-R-S-125 NEK/K	125	32	161	110	10X16	•	100	60
304028	GKR-R-S-125 NP/K	125	32	161	110	10X16	•	100	80

Available with 12 mm threaded stem

Medical castors

SWIVEL CASTOR, RECTANGULAR TOP PLATE

S-PTE/K 80 polypropylene centre + thermoplastic rubber tyre, threadguard, ball bearing S-NP/K polyamide centre + soft polyurethane tyre, threadguard, ball bearing S-NEK/K polyamide centre + elastic rubber tyre, threadguard, ball bearing



SWIVEL CASTOR, RECTANGULAR TOP PLATE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL



Code	Title	0	Ð	Ø		00		00	0	۵	Sh A
301791	GKL-J-S-75 PTE/K 80	75	32	117	94	77X67	61/51X50/42	8	•	70	80
304412	GKL-J-S-75 NP/K	75	32	117	94	77X67	61/51X50/42	8	•	90	80
301799	GKL-J-S-100 PTE/K 80	100	32	148	95	77X67	61/51X50/42	8	•	100	80
301795	GKL-J-S-100 NEK/K	100	32	148	95	77X67	61/51X50/42	8	•	80	60
304039	GKL-J-S-100 NP/K	100	32	148	95	77X67	61/51X50/42	8	•	100	80
301697	GKL-J-S-125 PTE/K 80	125	32	168	110	77X67	61/51X50/42	8	•	100	80
301693	GKL-J-S-125 NEK/K	125	32	168	110	77X67	61/51X50/42	8	•	100	60
304041	GKL-J-S-125 NP/K	125	32	168	110	77X67	61/51X50/42	8	•	100	80

FIXED CASTOR, THREADED STEM



Code	Title	\bigcirc	Ē	Ø	I		Ô	Sh A
301033	GPR-S-100 PTE/K 80	100	32	141	10x16	•	100	80
301035	GPR-S-100 NEK/K	100	32	141	10x16	•	80	60
304049	GPR-S-100 NP/K	100	32	141	10x16	•	100	80
301037	GPR-S-125 PTE/K 80	125	32	161	10x16	•	100	80
301039	GPR-S-125 NEK/K	125	32	161	10x16	•	100	60
304051	GPR-S-125 NP/K	125	32	161	10x16	•	100	80

The standard colour of the Tango castor is grey (RAL 7042). The castor is also available in light grey (RAL 7035) and black, subject to minimum order quantities. Standard colours for brake pedal are red, grey RAL 7042, dark grey RAL 7024 and black. Castors with thermo plastic rubber tyre can be offered with a protection film on wheel tread, subject to minimum order quantity.





MEDICAL CASTORS - TANGO



FIXED CASTOR, RECTANGULAR TOP PLATE

Code	Title	\bigcirc	Ð	\square	0 0		00		Ô	Sh A
301041	GPL-S-100 PTE/K 80	100	32	148	77X67	61/51X50/42	8	•	100	80
301043	GPL-S-100 NEK/K	100	32	148	77X67	61/51X50/42	8	•	80	60
304053	GPL-S-100 NP/K	100	32	148	77X67	61/51X50/42	8	•	100	80
301045	GPL-S-125 PTE/K 80	125	32	168	77X67	61/51X50/42	8	•	100	80
301047	GPL-S-125 NEK/K	125	32	168	77X67	61/51X50/42	8	•	100	60
304055	GPL-S-125 NP/K	125	32	168	77X67	61/51X50/42	8	•	100	80

EXPANDER



Code	Title	Diameter of the tubular expander	Core of the square expander	Expander length
300418	GKT-18,19	18-19		61 + - 2
300419	GKT-22	22		61 + - 2
300423	GKT-28	28		61 + - 2
300783	GKT-37	37		61 + - 2
300417	GKT-17X17		17	61 + - 2
300420	GKT-22X22		22	61 + - 2
300422	GKT-27X27		27	61 + - 2
300424	GKT-37X37		37	61 + - 2

BUMPER

Polypropylene centre, soft thermoplastic rubber



Code	Title	\bigcirc	J	Diameter of the tubular expander	Core of the square expander	Sh A
303956	TSGK-90 PTE	90	10			70
303958	TSGK-90 PTE/17-22	90		17-22	17X17, 22X22	70
303959	TSGK-90 PTE/25-37	90		25-37	27X27, 37X37	70

Available with 12 mm threaded stem

Customer-specific special colours and company logo on the brake pedal are also available for orders of larger quantities. See examples in the section Special castors and customised solutions. Contact us for more information.

Tango – is an easy to manoeuvre, sturdy and high-quality twin wheel castor. Its special feature is its intuitive brake pedal, which clearly shows the status of the locking system. Thanks to its materials and design, the Twist is corrosion-resistant and easy to clean.

SWIVEL CASTOR, BOLT HOLE

S-GP/K glass fibre reinforced polyamide centre + soft polyurethane tyre, ball bearing



Code	Title	$\overline{\bigcirc}$	Ð	Ø		Z		Ô	Sh A
305010	TW-S-125 GP/K H	125	81	143	102	10	•	125	95

Also available with 12 mm bolt hole Also available with a lower structural height, 130 mm



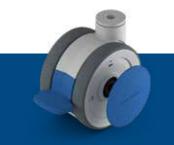
SWIVEL CASTOR, BOLT HOLE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	0	8	Ø		Z	2	Ô	Sh A
305011	TW-J-S-125 GP/K H	125	81	143	133	10	•	125	95

Also available with 12 mm bolt hole Also available with a lower structural height, 130 mm

The standard colour of the Twist is light grey (RAL 7035). This castor is also available in grey (RAL 7042) and black, subject to minimum order quantities. Standard colours for brake pedal are red and dark grey RAL 7024.





The Twist provides plenty of opportunities for customisation in orders of larger quantities. For example, the colour of the castor frame, pedal, centre and cover plate, and the logo can be changed according to the customer's wishes. Contact us for more information.

MEDICAL CASTORS e-SMART

The e-SMART – is an equipment castor with electric central locking. Its superior ergonomics and safety improve and facilitate work.

GPF/K glass fibre reinforced polyamide centre + soft polyurethane tyre, ball bearing

SWIVEL CASTOR WITH ELECTRIC CENTRAL LOCKING ELECTRIC CENTRAL LOCKING LOCKS WHEEL AND SWIVEL





Mounting on	Mounting on a rectangular mounting tube with external dimensions of 50x50 mm										
Code	Title	$\overline{\bigcirc}$	Ð	Ø		FF		Â	Sh A		
302962	FK50X50-EJ-S-125 GPF/K	125	32	172	105	46X46	•	150	80		

SWIVEL CASTOR WITH ELECTRIC DIRECTIONAL LOCKING ELECTRIC DIRECTIONAL LOCK LOCKS THE CASTOR IN THE DIRECTION OF TRAVEL

Mounting on a rectangular mounting tube with external dimensions of 50x50 mm



Code	Title	$\overline{\bigcirc}$	Ð	Ø	(F)	FF	9	Â	Sh A
302974	FK50X50-ER-S-125 GPF/K	125	32	172	105	46X46	•	150	80
302977	FK50X50-ER90-S-125 GPF/K	125	32	172	105	46X46	٠	150	80

Two models, depending on how the mounting tube is in relation to the direction of travel.

SWIVEL CASTOR WITH ELECTRIC CENTRAL LOCKING ELECTRIC CENTRAL LOCKING LOCKS WHEEL AND SWIVEL

Mounting on a round mounting tube with external diameter of 60 mm



Code	Title	$\overline{\bigcirc}$	Ð	Ø		TT		Â	Sh A
302975	FK60-EJ-S-125 GPF/K	125	32	167	105	54,5	•	150	80

SWIVEL CASTOR WITH ELECTRIC DIRECTIONAL LOCKING

ELECTRIC DIRECTIONAL LOCK LOCKS THE CASTOR IN THE DIRECTION OF TRAVEL





Code	Title	\bigcirc	Ð	Ø		ŢŢ		Ĉ	Sh A
302976	FK60-ER-S-125 GPF/K	125	32	167	105	54,5	•	150	80
302978	FK60-ER90-S-125 GPF/K	125	32	167	105	54,5	•	150	80

Two models, depending on how the mounting tube is in relation to the direction of travel.

Castors must be connected to a control system which controls their functions. Contact us for more detailed information.

Products for applications in logistics and industries

Users have been impressed by the functionality and durability of Manner's castors for logistics and industrial uses. With their extra-strong structure, they are long-lasting and ideal for continuous heavy-duty use.

Medium duty castors are ideal on sites such as breweries and dairies as well as logistics operations in shops.

The fork is made of pressed galvanised steel, and the double ball race in the swivel bearing is fitted with hardened steel balls. Maintenance-free castors with ball bearings make even the heaviest loads easy to handle.

Manner's range features several castor options for a variety of uses. The castors can be customised using the customer's colour scheme when the minimum number is ordered, and they are also available as conductive versions.

Heavy-duty castors are intended for equipment which must withstand heavy loads and excessive use. Manner's range includes castors with a load capacity of up to 6200 kg. The forks are fitted with a strong and durable swivel bearing, and the tread is made of polyamide, polyurethane or cast urethane. As standard, the castors are fitted with ball bearings that ensure easy manoeuvrability even under heavy loads.



CASTORS FOR APPLICATIONS IN LOGISTICS AND INDUSTRIES ARE SUITABLE FOR USES SUCH AS THE FOLLOWING:





APPLICATIONS FOR THE MEDIUM DUTY CASTORS:

MILK ROLL CONTAINERS ROLLER CAGES LAUNDRY WAGONS DOLLIES FOOD TROLLEYS WASTE CONTAINERS INDUSTRIAL MACHINES AND EQUIPMENT

APPLICATIONS FOR THE HEAVY-DUTY CASTORS:

HEAVY INDUSTRIAL WAGONS AND EQUIPMENT BOAT STANDS HEAVY-DUTY HOISTS PUMP CARTS LIFT TRUCKS

Castors for applications in logistics and industries

WHEEL

N/K polyamide, ball bearing



Code	Title	0	Ð		9		Ô
400067	LI-100 N/K	100	36	46	10	•	200
400096	LI-125 N/K	125	36	46	10	•	240
401650	LI-200/50 N/K L	200	50	61,5	12	•	600

200 mm castor looks different, the wheel is white



SWIVEL CASTOR, BOLT HOLE

Code	Title	\bigcirc	Ð	4		J	0	Â
400191	LK-100 N/K	100	36	132	90	12,5	•	140
400222	LK-125 N/K	125	36	157	106	12,5	•	145

SWIVEL CASTOR, BOLT HOLE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	0	Ð	4	(7)	J		Â
400524	LK-J-100 N/K	100	36	132	110	12,5	•	140
400544	LK-J-125 N/K	125	36	157	110	12,5	•	145

SWIVEL CASTOR, RECTANGULAR TOP PLATE

Code	Title	$\overline{\bigcirc}$	Ð	Ø		000		000	9	Â
400302	LKE-100 N/K	100	36	132	90	105X85	80X60	9	•	140
400330	LKE-125 N/K	125	36	157	106	105X85	80X60	9	•	145
401645	LKE-200/50 N/K L	200	50	240	159	135X110	105X80	10	•	300

200 mm castor looks different, the wheel is white

SWIVEL CASTOR, RECTANGULAR TOP PLATE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	$\overline{\bigcirc}$	Ð	Ø		000		000		Â
400385	LKE-J-100 N/K	100	36	132	110	105X85	80X60	9	•	140
400406	LKE-J-125 N/K	125	36	157	110	105X85	80X60	9	•	145
401646	LKE-J-200/50 N/K L	200	50	240	161	135X110	105X80	10	•	300

200 mm castor looks different, the wheel is white









LOGISTICS

Medium duty castors



FIXED CASTOR, RECTANGULAR TOP PLATE

Code	Title	\bigcirc	Ð	S	000	60	000	þ	Å
400639	LPPE-100 N/K	100	36	132	105X85	80X60	9	•	140
400661	LPPE-125 N/K	125	36	157	105X85	80X60	9	•	145
401647	LPPE-200/50 N/K L	200	50	240	135X110	105X80/75	10	•	300

WHEEL

ND/K polyamide centre + polyurethane tyre, ball bearing AS/K polyamide centre + soft polyurethane tyre, ball bearing



Code	Title	$\overline{\bigcirc}$	Ð	Ð		þ	Ô	Sh A
400079	LI-100 ND/K	100	36	46	10	•	160	98
400103	LI-125 ND/K	125	36	46	10	•	160	98
400121	LI-160 ND/K	160	40	51,5	11	•	350	98
401681	LI-200/50 ND/K L	200	50	61,5	12	•	550	98

The centre of the 200 mm wheel is white and the tread is orange



SWIVEL CASTOR, BOLT HOLE

Code	Title	\bigcirc	Ð	Ø		Z	D	Ô	Sh A
400204	LK-100 ND/K	100	36	132	90	12,5	•	140	98
400228	LK-125 ND/K	125	36	157	106	12,5	•	145	98



SWIVEL CASTOR, BOLT HOLE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	\bigcirc	Ð	Z		Z		Ô	Sh A
400530	LK-J-100 ND/K	100	36	132	110	12,5	•	140	98
400548	LK-J-125 ND/K	125	36	157	110	12,5	•	145	98

You can download the product cards from manner.fi/en/product-search/

Castors for applications in logistics and industries

SWIVEL CASTOR, RECTANGULAR TOP PLATE



Code	Title	\odot	H	Ø		000		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Ô	Sh A
400313	LKE-100 ND/K	100	36	132	90	105X85	80X60	9	•	140	98
401510	LSE-100/52 AS/K L 1)	100	40	137	91	105X85	80X60	8	•	250	87
400334	LKE-125 ND/K	125	36	157	106	105X85	80X60	9	•	145	98
401514	LSE-125/52 AS/K L 1)	125	40	163	104	105X85	80X60	8	•	300	87
401158	LKE-160 ND/K L	160	40	191	131	135X110	105X80	10	•	200	98
401694	LKE-200/50 ND/K L 2)	200	50	240	159	135X110	105X80	10	•	300	98

1) The wheel looks different from the image. The centre of the wheel is white and the tread is blue.

2) The wheel looks different from the image. The centre of the wheel is white and the tread is orange.

SWIVEL CASTOR, RECTANGULAR TOP PLATE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	\bigcirc	Ð	J		00		000		Å	Sh A
400391	LKE-J-100 ND/K	100	36	132	110	105X85	80X60	9	•	140	98
401517	LSE-J-100/52 AS/K L 1)	100	40	137	140	105X85	80X60	8	•	250	87
400410	LKE-J-125 ND/K	125	36	157	110	105X85	80X60	9	•	145	98
401521	LSE-J-125/52 AS/K L 1)	125	40	163	140	105X85	80X60	8	•	300	87
401160	LKE-J-160 ND/K L	160	40	191	138	135X110	105X80	10	•	200	98
401695	LKE-J-200/50 ND/K L 2)	200	50	240	161	135X110	105X80	10	•	300	98

1) The wheel looks different from the image. The centre of the wheel is white and the tread is blue.

2) The wheel looks different from the image. The centre of the wheel is white and the tread is orange.

FIXED CASTOR, RECTANGULAR TOP PLATE

Code	Title	$\overline{\bigcirc}$	Ð	4	00		000	0	Ĉ	Sh A
400646	LPPE-100 ND/K	100	36	132	105X85	80X60	9	•	140	98
401524	LPSE-100/52 AS/K L 1)	100	40	137	105X85	80X60	8	•	250	87
400666	LPPE-125 ND/K	125	36	157	105X85	80X60	9	•	145	98
401528	LPSE-125/52 AS/K L 1)	125	40	163	105X85	80X60	8	•	300	87
401162	LPPE-160 ND/K L	160	40	191	135X110	105X80	10	•	200	98
401696	LPPE-200/50 ND/K L 2)	200	50	240	135X110	105X80	10	•	300	98

1) The wheel looks different from the image. The centre of the wheel is white and the tread is blue.

2) The wheel looks different from the image. The centre of the wheel is white and the tread is orange.

CASTORS FOR APPLICATIONS IN LOGISTICS AND INDUSTRIES - MEDIUM DUTY CASTORS



		F I		
vv	Н	Ľ	L	

PK polypropylene centre + black rubber tyre, plain bearing

Code	Title	\bigcirc	Ð	D	9		Ô	Sh A
401653	LI-100 PK L	100	30	41,5	8	•	75	85
401654	LI-125 PK L	125	37,5	51,5	11	•	100	85
401655	LI-160 PK L	160	40	51,5	11	•	135	85
401656	LI-200 PK L	200	50	61,5	12	•	205	85

Please note that the 100 and 125 mm wheels do not fit into standard Manner forks. Please contact us for more information.

SWIVEL CASTOR, RECTANGULAR TOP PLATE



Code	Title	\bigcirc	Ð	Ø		000		000		Ô	Sh A
401674	LKE-100 PK L	100	30	128	87	102X83	80X60	8	•	75	85
401657	LKE-125 PK L	125	37,5	160	112	102X83	80X60	8	•	100	85
401660	LKE-160/40 PK L	160	40	191	131	135X110	105X80	10	•	135	85
401663	LKE-200/50 PK L	200	50	240	159	135X110	105X80	10	•	205	85

SWIVEL CASTOR, RECTANGULAR TOP PLATE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL



Code	Title	$\overline{\bigcirc}$	Ð	Ø		00		000		Â	Sh A
401675	LKE-J-100 PK L	100	30	128	108	102X83	80X60	8	•	75	85
401658	LKE-J-125 PK L	125	37,5	160	140	102X83	80X60	8	•	100	85
401661	LKE-J-160/40 PK L	160	40	191	140	135X110	105X80	10	•	135	85
401664	LKE-J-200/50 PK L	200	50	240	168	135X110	105X80	10	•	205	85

FIXED CASTOR, RECTANGULAR TOP PLATE



Code	Title	\bigcirc	Ð	Ø	00		000		Ô	Sh A
401676	LPPE-100 PK L	100	30	128	102X83	80X60	8	•	75	85
401659	LPPE-125 PK L	125	37,5	160	102X83	80X60	8	•	100	85
401662	LPPE-160/40 PK L	160	40	191	135X110	105X80	10	•	135	85
401665	LPPE-200/50 PK L	200	50	240	135X110	105X80	10	•	205	85

Castors for applications in logistics and industries

WHEEL

NEK/K polyamide centre + elastic rubber tyre, ball bearing



Code	Title	0	Ð	Ō	9		Ô	Sh A
400086	LI-100 NEK/K	100	38	46	10	•	150	60
400109	LI-125 NEK/K	125	40	46	10	•	200	60
400126	LI-160 NEK/K	160	40	51	10	•	280	60
400143	LI-200 NEK/K	200	50	61	12	•	400	60

SWIVEL CASTOR, BOLT HOLE

Code	Title	$\overline{\bigcirc}$	Ð	Ø	(J	þ	Ô	Sh A
400212	LK-100 NEK/K	100	38	132	90	12,5	•	140	60
400231	LK-125 NEK/K	125	40	157	106	12,5	•	145	60



SWIVEL CASTOR, BOLT HOLE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	$\overline{\bigcirc}$	Ð	Ø		Z	þ	۵	Sh A
400533	LK-J-100 NEK/K	100	38	132	110	12,5	•	140	60
400551	LK-J-125 NEK/K	125	40	157	110	12,5	•	145	60

SWIVEL CASTOR, RECTANGULAR TOP PLATE

Code	Title	0	Ð	Ø		000		000	9	۵	Sh A
400318	LKE-100 NEK/K	100	38	132	90	105X85	80X60	9	•	140	60
400337	LKE-125 NEK/K	125	40	157	106	105X85	80X60	9	•	145	60
401178	LKE-160 NEK/K L	160	40	191	131	135X110	105X80	10	•	200	60
401188	LKE-200 NEK/K L	200	50	240	159	135X110	105X80	10	•	300	60

160 mm and 200 mm wheels differ in appearance from the wheel in the image

LOGISTICS

Medium duty castors



SWIVEL CASTOR, RECTANGULAR TOP PLATE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

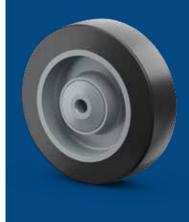
Code	Title	$\overline{\bigcirc}$	Ð	J		000		<u> </u>		Â	Sh A
400394	LKE-J-100 NEK/K	100	38	132	110	105X85	80X60	9	•	140	60
400414	LKE-J-125 NEK/K	125	40	157	110	105X85	80X60	9	•	145	60
401180	LKE-J-160 NEK/K L	160	40	191	138	135X110	105X80	10	•	200	60
401190	LKE-J-200 NEK/K L	200	50	240	161	135X110	105X80	10	•	300	60

160 mm and 200 mm wheels differ in appearance from the wheel in the image



FIXED CASTOR, RECTANGULAR TOP PLATE

Code	Title	\bigcirc	Ð	5	000			Þ	Ĉ	Sh A
400650	LPPE-100 NEK/K	100	38	132	105X85	80X60	9	•	140	60
400669	LPPE-125 NEK/K	125	40	157	105X85	80X60	9	•	145	60
401182	LPPE-160 NEK/K L	160	40	191	135X110	105X80	10	•	200	60
401192	LPPE-200 NEK/K L	200	50	240	135X110	105X80	10	•	300	60



NEK is Manner's extra soft, elastic rubber wheel:

- Travels steadily and softly even on uneven surfaces
- Flexible and quiet
- Does not leave marks even on sensitive floors, e.g. in sport halls
- Quiet and easy to manoeuvre; ideal for theatre props and hospital equipment, for example

The NEK wheel is also available in the Tango and equipment castor ranges. The NEK wheel is also ideal for unclean surfaces with sharp chips, for example.

Castors for applications in logistics and industries

WHEEL

N/K polyamide, ball bearing



Code	Title	0	Ð	Ō	9		Ô
600068	SI-100 N/K L	100	37	51,5	11	•	450
600069	SI-125 N/K L	125	45	51,5	11	•	700
600070	SI-150 N/K L	150	48	61,5	15	•	900
600071	SI-200 N/K L	200	50	61,5	15	•	1200
600072	SI-250 N/K L	250	60	61,5	15	•	1400

NB. The measures of the hub length and the bore diameter include the axle bushing.

SWIVEL CASTOR, RECTANGULAR TOP PLATE

Code	Title	$\overline{\bigcirc}$	Ð	Ø		000		0 0 A	9	Ĉ
600133	SKLP-100 N/K L	100	37	137	92	105X85	80X60	8	•	450
600134	SKLP-125 N/K L	125	45	163	104	135X110	105X80	10	•	450
600087	SKLP-150 N/K L	150	48	202	138	135X110	105X80	12	•	850
600088	SKLP-200 N/K L	200	50	249	165	135X110	105X80	12	•	850
600089	SKLP-250 N/K L	250	60	304	195	135X110	105X80	12	•	800

SWIVEL CASTOR, RECTANGULAR TOP PLATE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	$\overline{\bigcirc}$	Ð	Ø		000		000 ×	þ	Ĉ
600135	SKLP-J-100 N/K L	100	37	137	140	105X85	80X60	8	•	450
600136	SKLP-J-125 N/K L	125	45	163	140	135X110	105X80	10	•	450
600137	SKLP-J-150 N/K L	150	48	202	165	135X110	105X80	12	•	850
600138	SKLP-J-200 N/K L	200	50	249	180	135X110	105X80	12	•	850
600139	SKLP-J-250 N/K L	250	60	304	210	135X110	105X80	12	•	800

FIXED CASTOR, RECTANGULAR TOP PLATE

Code	Title	0	Ð	Ø	000		000	P	Ô
600140	SPLP-100 N/K L	100	37	137	105X85	80X60	8	•	450
600141	SPLP-125 N/K L	125	45	163	135X110	105X80	10	•	450
600097	SPLP-150 N/K L	150	48	202	135X110	105X80	12	•	850
600098	SPLP-200 N/K L	200	50	249	135X110	105X80	12	•	850
600099	SPLP-250 N/K L	250	60	304	135X110	105X80	12	•	800





Heavy-duty castors



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Sh A

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WHEEL

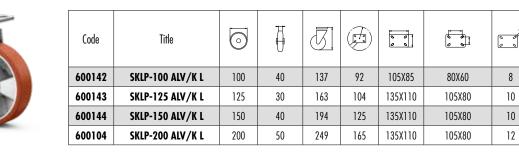
ALV/K aluminium centre + cast polyurethane tread, ball bearing



Code	Title	\bigcirc	Ð	Ō	9	0	Ô	Sh A
600073	SI-80 ALV/K L	80	40	51,5	11	•	250	95
600074	SI-100 ALV/K L	100	40	51,5	11	•	280	95
600075	SI-125 ALV/K L	125	30	51,5	11	•	250	95
600076	SI-150 ALV/K L	150	40	51,5	11	•	400	95
600077	SI-200 ALV/K L	200	50	61,5	15	•	800	95

NB. The measures of the hub length and the bore diameter include the axle bushing.

SWIVEL CASTOR, RECTANGULAR TOP PLATE





SWIVEL CASTOR, RECTANGULAR TOP PLATE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	\bigcirc	Ð	Ø		000			Þ	Ô	Sh A
600145	SKLP-J-100 ALV/K L	100	40	137	140	105X85	80X60	8	•	280	95
600146	SKLP-J-125 ALV/K L	125	30	163	140	135X110	105X80	10	•	250	95
600147	SKLP-J-150 ALV/K L	150	40	194	180	135X110	105X80	10	•	400	95
600148	SKLP-J-200 ALV/K L	200	50	249	180	135X110	105X80	12	•	800	95

FIXED CASTOR, RECTANGULAR TOP PLATE

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Code	Title	$\overline{\bigcirc}$	Ð	Ø	00		000	0	۵	Sh A
600150	SPLP-100 ALV/K L	100	40	137	105X85	80X60	8	•	280	95
600151	SPLP-125 ALV/K L	125	30	163	135X110	105X80	10	•	250	95
600152	SPLP-150 ALV/K L	150	40	194	135X110	105X80	10	•	400	95
600115	SPLP-200 ALV/K L	200	50	249	135X110	105X80	12	•	800	95

Castors for applications in logistics and industries

WHEEL

VV/K cast iron centre + cast polyurethane tread, ball bearing



Code	Title	0	Ŧ	Ð	5		Ô	Sh A			
600017	SI-82 VV/K L	82	28	41,5	9	•	220	95			
600079	SI-100 VV/K L	100	50	51,5	11	•	450	95			
600080	SI-125 VV/K L	125	50	51,5	11	•	480	95			
600013	SI-150 VV/K L	150	50	61,5	15	•	700	95			
600015	SI-200 VV/K L	200	50	61,5	15	•	1000	95			
600016	SI-250 VV/K L	250	60	75	19	•	1400	95			
600059	SI-300 VV/K L	300	70	75	18,5	•	2200	95	*		
600060	SI-400 VV/K L	400	100	150,5	25	•	3200	95	*		
600163	SI-500 VV/K L 1)	500	100	120	40 1)	•	3700	95	*		
	*Available to order										

NB. The measures of the hub length and the bore diameter include the axle bushing. 1) Bushing not included (not in stock)

SWIVEL CASTOR, RECTANGULAR TOP PLATE

Code	Title	0	Ð	4		000		000	9	Ĉ	Sh A	
600035	SKL-82 VV/K L	82	70	131	96	135X110	105X80	12	•	700	95	
600117	SKL-100 VV/K L	100	50	160	100	135X110	105X80	10	•	450	95]
600118	SKL-125 VV/K L	125	50	172	112,5	135X110	105X80	10	•	480	95	
600026	SKL-150 VV/K L	150	50	202	140	135X110	105X80	12	•	700	95]
600029	SKL-200 VV/K L	200	50	251	170	135X110	105X80	12	•	1000	95	
600032	SKL-250 VV/K L	250	60	307	210	200X160	160X120	14	•	1400	95	
600033	SKL-300 VV/K L	300	70	350	243	200X160	160X120	14	•	1800	95	•
600119	SKL-400 VV/K L	400	100	505	290	255X205	210X160	18	•	3200	95	•
*Available to order												J~~

Available to order (not in stock)

FIXED CASTOR, RECTANGULAR TOP PLATE

Code	Title	$\overline{\bigcirc}$	Ð	Ø	000		000	0	۵	Sh A
600055	SPL-82 VV/K L	82	70	131	135X110	105X80	12	•	700	95
600120	SPL-100 VV/K L	100	50	160	135X110	105X80	10	•	450	95
600121	SPL-125 VV/K L	125	50	172	135X110	105X80	10	•	480	95
600048	SPL-150 VV/K L	150	50	202	135X110	105X80	12	•	700	95
600051	SPL-200 VV/K L	200	50	251	135X110	105X80	12	•	1000	95
600053	SPL-250 VV/K L	250	60	307	200X160	160X120	14	•	1400	95
600122	SPL-300 VV/K L	300	70	350	200X160	160X120	14	•	1800	95
600123	SPL-400 VV/K L	400	100	505	255X205	210X160	18	•	3200	95

*Available to order

(not in stock)

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Heavy-duty castors

INDUSTRIES

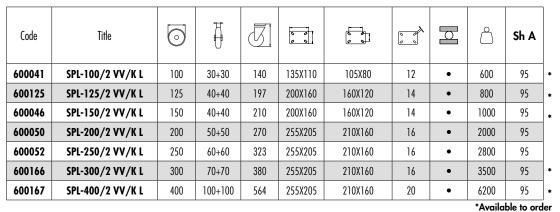
TWIN WHEEL SWIVEL CASTOR, RECTANGULAR TOP PLATE



Code	Title	0	Ð	3	$\left(\begin{array}{c} & & \\ & $	0 0 0		000		Â	Sh A	
600019	SKL-100/2 VV/K L	100	30+30	140	105	135X110	105X80	12	•	600	95	•
600124	SKL-125/2 VV/K L	125	40+40	197	122	200X160	160X120	14	•	800	95	*
600024	SKL-150/2 VV/K L	150	40+40	210	135	200X160	160X120	14	•	1000	95	*
600028	SKL-200/2 VV/K L	200	50+50	270	170	255X205	210X160	16	•	2000	95	
600031	SKL-250/2 VV/K L	250	60+60	323	207	255X205	210X160	16	•	2800	95	
600164	SKL-300/2 VV/K L	300	70+70	380	240	255X205	210X160	16	•	3500	95	•
600165	SKL-400/2 VV/K L	400	100+100	564	290	255X205	210X160	20	•	6200	95	*
	*Available to order											

(not in stock)

TWIN WHEEL FIXED CASTOR, RECTANGULAR TOP PLATE



(not in stock)



Stainless castors

Stainless castors are the right choice for wet and humid conditions that have a corrosive effect. Example applications include food industry equipment and trolleys as well as furniture, equipment and trolleys in industrial kitchens and hospitals.

Manner's range includes a number of castor options in which the fork is made of either pressed stainless steel or glass fibre reinforced polyamide. The fork swivel bearing and the centre of the castor are fitted with stainless bearings. Stainless castors are available with a total-stop brake or directional locking, depending on the model.

The castors are easy to clean and can be washed. When using detergents, please make sure that they do not damage the materials.



STAINLESS CASTORS ARE SUITABLE FOR USES SUCH AS THE FOLLOWING:



HEALTH CARE



KITCHENS AND RESTAURANTS

FOOD INDUSTRY EQUIPMENT AND TROLLEYS

FISH PROCESSING EQUIPMENT

INDUSTRIAL KITCHEN EQUIPMENT AND TROLLEYS

HOSPITAL FURNITURE, HOSPITAL EQUIPMENT AND TROLLEYS



SWIVEL CASTOR, BOLT HOLE

S-PTE/K 80 polypropylene centre + thermoplastic rubber tyre, threadguard, ball bearing

Code	Title	0	H	Ø	(<u>-</u>)	J	9	Â	Sh A
302227	GK-S-100 PTE/K 80 IX	100	32	141	95	10	•	100	80
302223	GK-S-125 PTE/K 80 IX	125	32	161	110	10	•	100	80

Also available with 12 mm bolt hole





Code	Title	0	Ð	Ø		J	9	Ô	Sh A
302228	GK-JG-S-100 PTE/K 80 IX	100	32	141	95	10	•	100	80
302224	GK-JG-S-125 PTE/K 80 IX	125	32	161	110	10	٠	100	80

Also available with 12 mm bolt hole

SWIVEL CASTOR, BOLT HOLE

-S-GP/K glass fibre reinforced polyamide centre + soft polyurethane tyre, ball bearing

Code	Title	$\overline{\bigcirc}$	Ð	Ø		J		Ô	Sh A
305095	TW-S-125 GP/K H IX	125	81	143	102	10	•	125	95

Also available with 12 mm bolt hole Also available with a lower structural height, 130 mm



SWIVEL CASTOR, BOLT HOLE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	0	Ð	4		Z		Ô	Sh A
305096	TW-J-S-125 GP/K H IX	125	81	143	133	10	•	125	95

Also available with 12 mm bolt hole Also available with a lower structural height, 130 mm





WHEEL

ND polyamide centre + polyurethane tyre, plain bearing



Code	Title	$\overline{\bigcirc}$	Ŧ	Ō	5		Ô	Sh A
401489	LI-80 ND IX L	80	25	41,5	9	•	100	98
401490	LI-100 ND IX L	100	30	41,5	8,5	•	160	98
401491	LI-125 ND IX L	125	30	51,5	11	•	230	98
401492	LI-150 ND IX L	150	40	51,5	10,5	•	350	98
401493	LI-200 ND IX L	200	50	51,5	12,5	•	550	98

SWIVEL CASTOR, RECTANGULAR TOP PLATE



Code	Title	$\overline{\bigcirc}$	Ð	Ø	$(\overline{\mathbf{F}})$	000				Â	Sh A
400964	LKE-80 ND IX L	80	25	106	73	102X83	80X60	8	•	100	98
400312	LKE-100 ND IX L	100	30	128	87	102X83	80X60	8	•	150	98
400333	LKE-125 ND IX L	125	30	160	111	102X83	80X60	8	•	230	98
400343	LKE-150 ND IX L	150	40	181	126	135X110	105X80	10	•	250	98
400783	LKE-200 ND IX L	200	50	240	159	135X110	105X80	10	•	370	98

SWIVEL CASTOR, RECTANGULAR TOP PLATE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL



Code	Title	\bigcirc	Ð	5		00		000		Ô	Sh A
400965	LKE-J-80 ND IX L	80	25	106	108	102X83	80X60	8	•	100	98
400390	LKE-J-100 ND IX L	100	30	128	108	102X83	80X60	8	•	150	98
400409	LKE-J-125 ND IX L	125	30	160	140	102X83	80X60	8	•	230	98
400420	LKE-J-150 ND IX L	150	40	181	140	135X110	105X80	10	•	250	98
400784	LKE-J-200 ND IX L	200	50	240	168	135X110	105X80	10	•	370	98

FIXED CASTOR, RECTANGULAR TOP PLATE



Code	Title	\bigcirc	Ħ	3	000		00		Ô	Sh A
400966	LPPE-80 ND IX L	80	25	106	102X83	80X60	8	•	100	98
400645	LPPE-100 ND IX L	100	30	128	102X83	80X60	8	•	150	98
400665	LPPE-125 ND IX L	125	30	160	102X83	80X60	8	•	230	98
400675	LPPE-150 ND IX L	150	40	181	135X110	105X80	10	•	250	98
400785	LPPE-200 ND IX L	200	50	240	135X110	105X80	10	•	370	98

NON-MAGNETIC

NON-MAGNETIC CASTORS

Non-magnetic castors are designed for environments where equipment must be non-magnetic to prevent it from interfering with nearby magnetic fields. Such environments include spaces for medical imaging systems in hospitals as well as trolleys and equipment used in spaces that require non-magnetic castors.

The fork is made of glass fibre reinforced polyamide, and the special ball bearings in the swivel fork and wheel centre are completely non-magnetic. The axle and mounting screw are made of brass.



NON-MAGNETIC CASTORS ARE SUITABLE FOR USES SUCH AS THE FOLLOWING:



HEALTH CARE

MRI TROLLEYS AND EQUIPMENT EQUIPMENT IN OTHER RESEARCH FACILITIES





SWIVEL CASTOR, THREADED STEM

S-PTE/K 80 polypropylene centre + thermoplastic rubber tyre, threadguard, ball bearing



Code	Title	$\overline{\bigcirc}$	Ð	Ø	(<u>-</u>)	J	þ	Ô	Sh A
304932	GKR-S-100 PTE/K 80 NM	100	32	141	95	10X16	•	70	80
304933	GKR-S-125 PTE/K 80 NM	125	32	161	110	10X16	٠	70	80

SWIVEL CASTOR, THREADED STEM, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL



Code	Title	\bigcirc	Ð	Ø		J	þ	Â	Sh A
304930	GKR-JBX-S-100 PTE/K 80 NM	100	32	141	95	10X16	•	70	80
304931	GKR-JBX-S-125 PTE/K 80 NM	125	32	161	110	10X16	•	70	80

40

You can download the details of all our products from manner.fi/en/product-search/



Conductive castors

Conductive castors are used in places where static discharge must be directed away from a device or a trolley, or static discharge must be prevented. Typical applications include the electronics industry and in hospitals, where the equipment or products are exposed to static electricity.

Manner's conductive castors are made of high-quality raw materials that ensure excellent conductivity. The castor frames are made of pressed steel or conductive glass fibre reinforced polyamide. The tread is electrically conductive polyamide, polyurethane or thermoplastic rubber, and the castors are fitted with plain or ball bearings, depending on the model. Thanks to the materials used, the treads do not leave marks on the surface or the floor.

All Manner conductive castors are ISO-compliant, meaning that their surface resistivity is less than 10⁴ (10,000) ohms.



CONDUCTIVE CASTORS ARE SUITABLE FOR USES SUCH AS THE FOLLOWING:



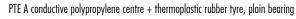


HEALTH CARE

HOSPITAL EQUIPMENT ELECTRONICS INDUSTRY EQUIPMENT AND TROLLEYS



SWIVEL CASTOR, BOLT HOLE





Code	Title	\bigcirc	Ð	3		J		Ô	Sh A
200304	E-100 PTE A	100	23	125	88	10	•	50	90

SWIVEL CASTOR, BOLT HOLE, SINGLE ACTION BRAKE LOCKS WHEEL



Code	Title	\bigcirc	Ð			J		Â	Sh A
200310	E-J-100 PTE A	100	23	125	95	10	•	50	90

SWIVEL CASTOR, BOLT HOLE

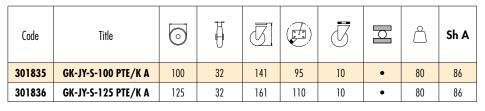
S-PTE/K 80 A conductive polypropylene centre + thermoplastic rubber tyre, threadguard



Code	Title	0	Ð	Ø		G		Â	Sh A
301832	GK-S-100 PTE/K A	100	32	141	95	10	•	80	86
301833	GK-S-125 PTE/K A	125	32	161	110	10	•	80	86

Available with 12 mm bolt hole

SWIVEL CASTOR, BOLT HOLE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL



Available with 12 mm bolt hole

SWIVEL CASTOR, THREADED STEM



Code	Title	$\overline{\bigcirc}$	Ð	Ø	$\left(\begin{array}{c} \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \hline \\ \end{array} \right)$	I I I I I I I I I I I I I I I I I I I	0	Ô	Sh A
301838	GKR-S-100 PTE/K A	100	32	141	95	10X16	•	80	86
301839	GKR-S-125 PTE/K A	125	32	161	110	10X16	•	80	86

Available with 12 mm bolt hole







SWIVEL CASTOR, THREADED STEM, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	\bigcirc	Ð	Ø		J	þ	Â	Sh A
301841	GKR-JY-S-100 PTE/K A	100	32	141	95	10X16	•	80	86
301842	GKR-JY-S-125 PTE/K A	125	32	161	110	10X16	•	80	86

Available with 12 mm bolt hole



SWIVEL CASTOR, RECTANGULAR TOP PLATE

Code	Title	$\overline{\bigcirc}$	Ð	Ø		000		000	9	Ô	Sh A
301845	GKL-S-100 PTE/K A	100	32	148	95	77X67	61/51X50/42	8	•	80	86
301847	GKL-S-125 PTE/K A	125	32	168	110	77X67	61/51X50/42	8	•	80	86



SWIVEL CASTOR, RECTANGULAR TOP PLATE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	0	Ð	4		000		000	9	Â	Sh A
301851	GKL-JY-S-100 PTE/K A	100	32	148	95	77X67	61/51X50/42	8	•	80	86
301853	GKL-JY-S-125 PTE/K A	125	32	168	110	77X67	61/51X50/42	8	•	80	86

TWIN WHEEL SWIVEL CASTOR, BOLT HOLE

S-GP/K A conductive glass fibre reinforced polyamide centre + soft polyurethane tyre, ball bearing



Code	Title	$\overline{\bigcirc}$	Ð	Ø		J		Â	Sh A
305089	TW-S-125 GP/K H A	125	81	143	102	10	•	125	90

Available with 12 mm bolt hole Also available with a lower structural height, 130 mm



TWIN WHEEL SWIVEL CASTOR, BOLT HOLE, TOTAL-STOP BRAKE LOCKS WHEEL AND SWIVEL

Code	Title	$\overline{\bigcirc}$	Ð	Ø		J	9	Ĉ	Sh A
305088	TW-J-S-125 GP/K H A	125	81	143	133	10	•	125	90

Available with 12 mm bolt hole

Also available with a lower structural height, 130 mm

Special castors and customised solutions

Thanks to decades of experience in castor manufacturing, Manner is an expert in designing and manufacturing special and customised solutions.

Special castors and R&D projects carried out in cooperation with our customers form an important part of Manner's operations. Continuous research and testing of new raw materials and components together with smooth collaboration with our customers form an integral part of the product development of high-quality special castors that offer added value.

Please contact us if you are looking for an innovative solution to a particular castor challenge. The answer to the problem may lie in designing a brand new product or just improving a single feature.





EXAMPLES OF CUSTOMISED OPTIONS

SPECIAL COLOURS OR COLOUR COMBINATIONS

COMPANY LOGO ON THE PRODUCT

NEUTRALISATION - NO LOGOS OR LABELS

DESIGN

SPECIAL GREASE LUBRICANT THAT MEETS SPECIFIC DURABILITY REQUIREMENTS

VARIOUS LOCKING SYSTEMS

SPECIAL COATINGS FOR BETTER CORROSION RESISTANCE

SPECIAL SOLUTIONS TO IMPROVE LOAD CAPACITY

SPECIAL FEATURES THAT IMPACT ON PRODUCT PERFORMANCE

SPECIAL SOLUTIONS FOR MOUNTING

SOLUTIONS THAT IMPROVE IMPACT RESISTANCE OR OTHER PRODUCT CHARACTERISTICS

Special castors and customised solutions



Conductive castors

Our selection includes various conductive castors, subject to minimum order quantities.

Low 35 mm castor with higher load capacity

Suitable for rehabilitation and hospital equipment.

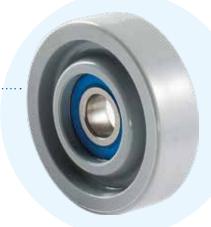


Functionality

Tango castor with handbrake function.

Profile wheel

Durable and quiet rail wheels for applications such as sliding gates or industrial equipment.





The customer's colours and colour combinations to match the brand together with the manufacturer's logo.

Unique design and colour ----

The customer's colours and colour combinations to match the brand. Different colour options available depending on the quantity.

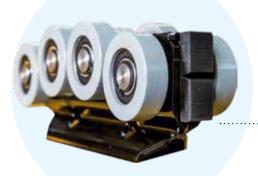
Exclusive, customised products



A special colour chosen for the customer's products - combined with the company logo as well as a special fitting to facilitate the assembly.

A castor with rolling resistance adjustment and Anti-Reverse function is designed to meet the customer's specifications.





• Small crane dolly castor.

SPECIAL MODELS ARE AVAILABLE FOR ORDERS OF LARGER QUANTITIES. CONTACT US FOR MORE INFORMATION.

Oy Mannerin Konepaja Ab General Terms for Sales and Delivery

Unless expressly agreed otherwise in writing, these General Terms and Conditions ('Terms') shall apply to all sales and deliveries made by Oy Mannerin Konepaja Ab ('Seller') regardless of any terms of purchase the Buyer ('Buyer') may have.

1. Conditions of sale

The Seller shall sell and supply the goods or services ('Products') to the Buyer subject only to these terms and conditions and to the exclusion of any other terms and conditions. No variation to these conditions shall apply unless agreed in writing by an authorized representative of the Seller; any agreed special terms and conditions shall prevail.

2. Offer and contract

An offer made by the Seller shall remain valid for the time specified in the offer. If not otherwise specified, the validity period for the offer shall be 30 days from the date of the offer. An order by the Buyer in accordance with the Seller's offer forms the binding order (or 'Contract') between the Seller and the Buyer. In other cases the binding order shall be formed when the Seller has confirmed the order made by the Buyer or has commenced production. These Terms shall apply in each case and to the exclusion of any other terms and conditions which may have been included in the Buyer's order or otherwise.

3. Quantities and specifications

Any specification for the Products and quantity, quality or other descriptions of the Products ('Product Specification') shall be as set out either in the Seller's offer or the Buyer's order (to the extent accepted by the Seller). Notwithstanding the foregoing, the Seller shall have the right to make changes to the Product Specification in order to conform to any statutory requirements or if such changes do not materially affect Product quality or performance.

Products from stock shall be delivered in the quantities specified in the order. The quantities of Products manufactured upon the Buyer's specific order may not exceed more than 10%. Invoicing shall be based on the actual quantity delivered.

Unless otherwise agreed in writing, the Seller reserves all rights and titles to any and all drawings, designs, specifications and other information ('Information') provided by the Seller, whether in writing or otherwise.

4. Parts supplied by the buyer

Parts, if any, to be supplied by the Buyer, for the purposes of manufacturing the Products ('Parts') shall be delivered within the agreed delivery period to the Seller's manufacturing facility, as per a separate notification from the Seller to the Buyer. The Parts shall be properly packed, secured, marked (and in accordance with Seller's instructions if these are issued) and dispatched by the Buyer at its expense in a manner designed to withstand handling during transport so that the Parts arrive in good condition and undamaged. The packing and packaging materials shall be included at no cost to the Seller. Unless otherwise agreed in the order, the Seller shall have no obligation to return packing or packaging materials. The Buyer shall provide the Seller, on or before delivery, with accurate and complete instructions for the use and storage of the Parts.

Each delivery of Parts by the Buyer must be marked in an identifiable manner allowing each delivery to be easily allocated for the purposes of fulfilling an individual order. The quantity of the parts delivered for the manufacturing of Products must exceed the quantity of the order by 10 %. The Buyer warrants and represents that the parts delivered are suitable for the Seller's manufacturing process and fit for the intended purpose of use. The Buyer is liable for any damages to the Seller or any third party arising out of the Parts delivered by the Buyer and shall bear all expenses caused by defective parts and any deviation from the agreed delivery schedule.

Unless otherwise agreed in writing, the Seller shall have the right, but no obligation, to inspect the Parts delivered by the Buyer in reliance of the Buyer's quality control system. The signing of delivery documentation shall not serve as proof of inspection or acceptance of the delivered Parts, but merely as proof of delivery of the Parts by the Buyer. In the event that defects are found either upon receipt of the Parts or during manufacture, the Seller shall notify the Buyer in writing, specifying such defects and deficiencies found, without delay. The Seller and Buyer will subsequently agree on the most expedient and cost-effective remedy for the defective Parts.

5. Delivery time - delay

If not otherwise agreed in writing, the shipment for standard Products shall take place no later than two (2) weeks from the order date, calculated from the latest date hereunder:

- a) the date of the binding order;
- b) the date on which permission is granted, in transactions requiring the permission of governmental authorities;

- c) the date on which the Seller confirms the order or down payment is paid to the Seller;
- d) the date on which the Buyer has delivered to the Seller the necessary data to enable the delivery of the Products

In case the Seller is unable to deliver the Products in accordance with the agreed time period as provided in the Contract, the Seller shall inform the Buyer immediately of the anticipated delay. If the cause of the delay, other than a cause classified as Force Majeure, accrues substantial expenses or detriment to the Buyer, the Buyer is entitled to cancel the part of the contract affected by the delayed delivery. If the delivery is not cancelled it will be postponed to a reasonable new delivery date. Unless otherwise agreed in writing, no penalty or other compensation will be paid for late delivery.

For the purposes of the contract, Force Majeure shall mean the following unforeseeable events listed exhaustively below, provided that each such event is beyond the control of the affected party and it either temporarily or permanently results in impossibility by a party to perform its contractual obligations under this Contract: fire, flood, strike, war (declared or undeclared), embargoes, blockades, riots, insurrections, legal restrictions and third party industrial actions.

6. Terms of delivery, risk and property

The shipping cost is included in the delivery. In such case the Seller shall choose the delivery method. In the event that the value of an individual delivery is below the minimum value specified in the Seller's offer, an additional small delivery surcharge will be invoiced for such delivery.

Standard packaging is cartons and EUR-pallets and frames. Manner chooses the packaging unless something else is agreed. Manner reserves the right to invoice for packaging materials. The Seller shall not bear any liability for damage to the Products caused by rain and moisture passing through the packaging material. If no other requirements regarding the labelling are agreed, the contents, destination and the initials of the person who has packed the goods shall be marked on each box.

Special packing material must be agreed on mutually at the Buyer's request, and such special packaging and related work shall be invoiced separately. If a part of the order is marked for a specific customer, it will be packed in separate package(s) from the other Products.

The risk to the Products shall pass to the Buyer in accordance with the agreed delivery term (Incoterms 2010). If the Buyer, or the Buyer's freight carrier, does not accept the delivery of the Product at the agreed time for a reason unrelated to the Seller, the Seller is relieved of responsibility and the risk shall pass to the Buyer, in so far as the Seller has executed its duties according to the contract. The Seller shall be entitled to charge the Buyer for the costs incurred due to such failure of the Buyer (or its designated carrier) to take delivery, including, without limitation, storage and administration costs. The Seller, in the name of the Buyer and at the Buyer's expense, shall insure the delivery, if it has been so requested, in writing, by the Buyer.

The delivery terms are CPT [Carriage Paid To], or FCA Pitkäkatu 17 Hanko, Incoterms 2020, unless otherwise agreed.

7. Delivery and acceptance tests

The Buyer is obligated to inspect and test the Products upon receipt in accordance with the agreed procedure, or if no procedure is established, according to good industry practices. Upon testing the Products, the Buyer shall confirm that the Products are in accordance with such Product Specifications as provided in the binding order. Any non-conformity with regard to the Products, or where the non-conformity was not apparent, within 10 days of discovering the non-conformity, but in any event within the warranty period.

The Buyer agrees to maintain authenticated inspection and test reports, records and certifications relating to the manufacture and sale of the Products. The Buyer, within the available tools of its information systems, shall document all actions in order to assure the quality of its products (where the Seller's Products are included) as well as the traceability of their components for the purpose of being able to conduct a product recall or other field operation in relation to a defect. The documentation must also be traceable to the Seller's specific purchase orders and made available without delay to the Seller upon request.

If the Seller delivers to the Buyer a sample of a Product and the Buyer accepts it without written notice, the Buyer is not entitled to make any claim concerning the Products delivered provided that the Products are in conformity with the sample.

8. Warranty

The Seller warrants that the Products are, for a period of 12 months after delivery, free from defects in materials and workmanship ('Warranty'). The Warranty shall be the exclusive warranty for the Products and is given only under the condition that the Products are in all respects used, stored, handled, serviced and maintained properly and in strict accordance with the Seller's instructions, if such are provided, and under normal operating conditions.

Unless expressly agreed otherwise in writing, the following Seller's Terms shall apply to all deliveries regardless of any terms of purchase the Buyer may have:

We reserve the right to change these terms.

This warranty does not cover any defects or damage arising from or relating to Products:

- a) manufactured by the Seller that are combined with products produced by a third party;
- b) where the repair or replacement of the Products or any part thereof becomes necessary due to normal wear and tear, tampering, accident, vandalism, negligence or misuse or otherwise without any fault of the Seller;
- where repairs, alterations or adjustments to the Products or any other work has been performed by the Buyer or a third party that is against Seller's instructions or has not been engaged to do so by the Seller;
- d) that are designed or specified by the Buyer or a third party engaged by the Buyer;
- e) that are manufactured with materials provided by the Buyer or a third party engaged by the Buyer;

and the Seller shall not be liable for any of the defects or damage mentioned above.

Any Warranty claims made or repairs or replacements shall not extend the overall warranty period.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

9. Warranty claims

If, during the Warranty period, any Product, whether resold and shipped by the Buyer, fails to meet or satisfy the Warranty as specified herein, and the Buyer determines that the Product does not conform to the Product Specification, either as a result of the Product deteriorating or any characteristics of it changing after delivery to the Buyer, for reasons other than those set forth in Section 8 (are) above or the Buyers failure to comply with the storage or use instructions issued by the Seller to the Buyer prior to delivery, or the Product is otherwise defective, ('Defect' or 'Defective'), the Buyer shall give written notice of such Defect to the Seller within ten (10) days of the date on which the Buyer becomes aware of such Defect.

The Seller shall be given an opportunity to inspect an alleged Defect. If there is a Defect in the Products that falls under the Warranty, the exclusive remedy available to the Buyer hereunder shall be, at the option of the Seller, repair or replacement of the Defective Product. If the Seller requests the return of the Defective Product, the Buyer shall pay the freight and other costs incurred by returning the Product from the Buyer to the Seller. The Seller shall cover such costs incurred by the Buyer to a reasonable extent, provided that the alleged Defect is confirmed and falls under the Warranty.

In case of a Defective Product, the Buyer shall be responsible for recalling, replacing, repairing or upgrading its products sold to its end users (where the Seller's Products are included). If the case so requires and the Seller approves such measure, the Buyer shall, at its own expense, do the same to all Products sold by the Buyer (and that are still in use and include any Products) as a preventive measure even if the defect or damage has not yet materialized. In the event the Buyer decides not to observe the obligation set forth herein, all further incidents involving Defects thereafter shall be at the sole risk and responsibility of the Buyer and shall be subject to the Buyer's indemnification obligations under clause 12.1.

10. Drawings, samples, tools, patents

All drawings, designs, Product Specifications and other information provided by the Seller are confidential and all intellectual property rights in respect thereof remain vested in the Seller and shall not transfer to the Buyer. The Buyer is not permitted, without the Seller's written consent, to use, copy, reproduce, assign or communicate these to a third party. The Buyer shall bear responsibility for any costs, damages or losses incurred by the Seller that result from infringement of any of the Seller's patent, model rights or any other intellectual property rights or limitations of use by the Buyer or as a result of using designs and samples supplied by the Seller to the Buyer. At the termination of the Contract or upon a separate request, each party shall either return to the other party or destroy all drawings, samples and other material possibly received from the other party.

In the event that a special tool is produced by the Seller on the basis of drawings or instructions given by the Buyer, the realized costs for the production thereof shall be borne by the Buyer in full or in part as agreed separately prior to producing the tool. The agreed costs shall be payable even if there may not be a subsequent need for the tool. Respectively when the tool has worn out from use, the Buyer shall be invoiced similarly for the costs of a new tool on the same basis. Unless otherwise agreed, the Seller has a perpetual and exclusive right of use and retention right to the tool and commits not to transfer or assign from its possession such tools produced for the purposes of the Buyer by the Seller. The Seller commits to store and maintain these tools on behalf of the Buyer for a reasonable period. Upon request by the Buyer, or as deemed necessary by the Seller, the Seller shall provide a status report regarding the tool. After two (2) years from the last delivery to the Buyer, the Seller has the right to scrap the tools subject to one (1) month's notice to the Buyer. Upon receiving the Buyer's written request, storage of the tool shall continue at the Buyer's expense (service, insurance and storage costs). The insurance for the tool shall be based on its utility value. However, if the Buyer has not made any order for the Product within five (5) years of the last delivery, the Seller shall be entitled to scrap the tool.

11. Pricing and terms of payment

The term of payment is 14 days net from the date of the invoice, unless agreed

otherwise. The invoice shall be issued on the date of delivery. In case of a delay in payment by the Buyer, the Seller shall have the right to charge interest for delayed payments in accordance with the applicable legislation and to withhold further deliveries until payment is made. The Products are the Seller's property until the invoice (including any late payment interest) is paid in full. The Buyer shall have no right whatsoever to set off payments.

Invoicing shall be based on the Seller's prices that are valid as of the date of the order. The Seller retains the right to change the prices with prior notice. The Seller retains the right to change the prices in the event of any change in exchange rates, import costs, taxes or other such costs over which the Seller has no control.

The Buyer's share of the tools shall be invoiced in instalments:

- 1/3 on confirmation of the order;
- 1/3 on acceptance of a sample;
- 1/3 on first delivery.

12. Binding nature of orders

Confirmed orders shall be delivered as agreed and are non-refundable.

13. Indemnification

13.1 Upon request, the Buyer agrees to indemnify, defend and hold the Seller and its and their respective shareholders, officers and employees harmless from and against all claims, suits, actions, proceedings, damages, loss or liability, costs or expenses (including reasonable attorney's fees) arising out of or relating to (I) the reckless, wilful or criminal wrongdoing, or negligent act or omission or breach of this Contract by the Buyer, the end-user or any party acting on behalf of the Buyer, or (II) the handling, storage, importation, promotion, marketing, sale, use, installation and/ or distribution of the Product.

13.2. The Seller agrees to indemnify and hold the Buyer harmless against all consequences of any and all claims, suits, actions, proceedings, damages, losses, liabilities, costs (including reasonable attorney's fees), and expenses asserted against the Buyer directly through any product liability claim made by third parties in connection with the Products for any reasons that are attributable to the Seller.

14. Limitation of liability

The Seller's indemnity and other obligations related to the Products or under this Contract shall not apply to the extent that a claim arises out of or results from: (i) Product Specifications by the Buyer; (ii) unauthorized modification of the Products; (iii) combining the Products with any other components or parts not authorized by the Seller; or (iv) using the Products for any use other than for which they were designed or against the Seller's written instructions, unless otherwise authorized in writing by the Seller.

The Seller's aggregate total liability inclusive of any liquidated damages arising from or in connection with the Contract shall be limited to an amount equal to the amounts paid or payable in relation to the binding order of Products to which the claim relates.

Insofar as product liability is concerned, as stipulated in Section 13.2, the previous aggregate liability amount shall be applied, and such liability is covered by the Seller's valid product liability insurance, as applicable. At the request of the Buyer, the Seller shall present copies of product liability insurance certificates to the Buyer to verify said coverage to the above amount. In no event or circumstance shall the Seller have any liability for, or obligation to compensate or indemnify the Buyer or any third party for any special, punitive, indirect or consequential damage, including but not limited to loss of sale, loss of profit, loss of business or depletion of goodwill.

15. Tolerances

If not otherwise agreed, the tolerance generally applied by the Seller in the manufacturing and instructions of the Product shall be applied.

16. Disputes and applicable law

If not agreed otherwise between the parties, the Contract shall be governed by and construed in accordance with the laws of Finland.

Any dispute arising between the parties, out of or in connection with the Contract that the parties are unable to resolve mutually shall be submitted for arbitration conducted in accordance with the Rules for Expedited Arbitration of the Finland Chamber of Commerce. Any such arbitration shall take place in Helsinki, Finland, and shall be conducted in Finnish.

The Seller shall, however, have the right to commence legal proceedings to collect its receivables or to seek injunctive relief in the court of justice in the domicile of the Seller or in the domicile of the Buyer.

17. Miscellaneous

Any provision hereof that may be in whole or in part unenforceable under the mandatory laws governing this Contract shall be void without affecting the validity of the rest of the said Contract or a part thereof.

If not otherwise stated in the Seller's offer, Contract or in these General Terms and Conditions, the ORGALIME S 2012 General Conditions shall be applicable.

These General Terms and Conditions of Manner Castors are valid as of March 30, 2020.

The Seller retains the right to modify these General Terms and Conditions from time to time.

Product Liability Terms

The following issues pertaining to wheels and castors must be taken into account when determining the manufacturer's liability for its products. It is laid down in the Product Liability Act that the manufacturer shall be released from its liability if the factors mentioned below are not taken into consideration.

1. Product information and intended use

The products referred to herein denote exchangeable components that can be mounted on appliances, furniture, means of transport and other comparable products so as to move them from one place to another. The terms laid down herein shall concern products used in manually movable appliances the speed of which does not exceed 4 km/h and which are not in continuous motion. The products can be divided into the following categories according to their use:

- Interior decoration: chairs and other furniture
- Shops, offices, nursing: shopping carts, office furniture, hospital furniture and equipment, e.g. hospital beds
- Industry: means of transport for light, medium and heavy loads

The proper use of the product shall also include the right attachment:

- 1.1. The product shall be attached to the appliance permanently through all of its fixing points.
- 1.2. The fixing points of the appliance shall be sufficiently robust for this purpose.
- 1.3. Mounting must not detract from the operation of the product or change its form.
- 1.4. Swivel castors must be mounted in such a way that the turning axle is in the vertical position.
- Fixed castors must be mounted in such a way that their axles are aligned straight.
- 1.6. The swivel castors used in the appliance must be of the same type. If fixed castors are also mounted to the appliance, only the castor type recommended by the manufacturer must be used.
- If the products are to be used in corrosive conditions, humid places, outdoors or close to the sea, products specifically designed for such use must be employed
- Please note that the capacity may be considerably weaker if the castor is used in temperatures outside the normal indoor range. We recommend using special products in special circumstances.
- The wheel, fork, brake unit, attachments and other parts together make up a functioning whole. The manufacturer's responsibility is solely limited to original parts and the wholes formed by these.
- Selecting the products requires sufficient knowledge of load types and their scope.

The liability of the manufacturer or producer of a component shall be exempted if it proves that the defect which caused the injury or damage is attributable to the design of the product into which the component has been incorporated or to the instructions given by the product manufacturer. Liability for damage shall also be exempted if the manufacturer can show that it is probable that the defect which caused the injury or damage did not exist at the time of the product being put into circulation.

2. Misuse

Misuse refers to situations where the products are used for purposes other than those specifically indicated. Cases of this kind include:

- 2.1. The products are used in applications that subject them to excessively high loads.
- 2.2. The products are used on unsuitable or uneven surfaces.
- 2.3. The products are used at too high or low temperatures.
- 2.4. An appliance with locked-up wheels is moved by force.
- 2.5. Brakes are used to stop a moving load
- 2.6. The products are subjected to particularly aggressive agents.
- $2.7. \ \mbox{The products} \ \mbox{are subjected to unsuitable loads} \ \mbox{in the form of vibration or shocks}.$
- 2.8. Foreign substances enter the running surface.
- 2.9. Wheeled appliances are moved at too high a speed.
- 2.10. Changes of a kind not approved by the manufacturer have been made to the product.

The manufacturer shall not compensate for damage caused by the products in the event of misuse.

3. Product information

In cases where our material does not provide any detailed product specifications, product and component requirements must be agreed upon with the manufacturer. ISO and CEN standards provide the necessary guidelines for this.

4. Servicing and maintenance

Products must be serviced at regular intervals to ensure their functionality and long operating life, taking into account the environment in which they are used. This is done by greasing their bearings and tightening all loose components and fixing parts, for example. Only detergents that do not contain any adverse particles or cause corrosion must be used. In the case of malfunction, the products or their components must be serviced or changed without delay.

5. Duty to inform and advise

To comply with the duty to inform and advise laid down in the Product Liability Act, the following materials are available: catalogues and product leaflets containing product information and user instructions, websites and support offered by our sales staff. To ensure the correct operation of the products, all retailers must take into account the details given in this product release (points 1-6) and the information that they have obtained from users. They shall consult the manufacturer, where necessary, and provide the user with the information that they may have obtained from the manufacturer.

6. Product dimensions and drawings

We reserve the right to make changes.

Contact information for retailers can be found at manner.fi/en/sales/



Factory Hanko Pitkäkatu 17 +358 19 222 001 manner@manner.fi



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