

**OPERATING INSTRUCTIONS
MONTRAC COMPONENTS**

SupoTrac

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1. Important Information

1.1. Introduction

These instructions describe the mechanical construction, load limits, assembly, maintenance and spare parts of the SupoTrac.

1.2. EU Declaration of Conformity (pursuant to MRL Appendix II A)

Directives and standards taken into account:

A Montrac conveyance system is a machine that is composed of various, precisely defined components based on the specific application. The standards and directives taken into account for the components are listed in the respective sub-sections of these operating instructions.

Montrac conveyance systems may be commissioned only...

- a) if they are operated by electrical power that has the same specifications as described in these operating instructions.
- b) if the space under switches and crossings is not accessible over an area of 1.6 m diameter.
(Danger of falling shuttles if switches or crossings switch incorrectly.)

Manufacturer:

Montech AG, Gewerbestrasse 12 CH-4552 Derendingen, Switzerland
Tel. +41 32 681 55 00, Fax +41 32 682 19 77

1.3. EMC Directives

Emission:

- Interference field strength compliant with EN 55011 or EN 55022 Class A.

Immunity:

- against electromagnetic fields in compliance with IEC 801-3: 10 V/m, 1 kHz, 80% AM
- against burst in compliance with IEC 801-4: 2 kV
- against cable conducted narrow band interference in compliance with IEC 801-6: 10 VEMF
- against 50 Hz magnetic fields in compliance with EN 61000-4-8: 30 A/m
- against static electricity discharge
- against conducted interference.

1.4. SupoTrac compliance to directives

The directives that are complied with pertain to all possible operating states for a Montrac transport system and all functions which the SupoTrac must perform according to the description.

1.5. Product description and application

Montrac is a mono rail transport system with self-propelling shuttles built for loads of up to 12 kg or 24 kg (2-axel shuttle) and pallet sizes of up to 300 x 550 mm. Montrac is a modular system. Standardized basic components enable customer-specific system configurations to be set up for connection to machining stations, machines, order-picking stations, etc.

Montrac can be used wherever material has to be moved, distributed, processed stepwise (e.g. assembled) or collected together at one point from various senders.

1.6. Safety instructions

The safety instructions, especially those concerning the electrical connection, must be heeded during commissioning, operation, repair work and decommissioning. Non-compliance with these instructions constitutes improper use of the transport system and its components.

The operation of a Montrac transport system in an explosive atmosphere (combustible gases, vapors or dust) may lead to ignition and is therefore not permitted.

1.7. Dangers

To exclude dangers in operating conditions, the requirements specified in the EU Declaration of Conformity must be adhered to with regard to a) the electrical supply and b) the protection devices.

1.8. System logistics

The SupoTrac serves as a product support at machining stations to prevent the shuttle from being influenced by outside forces. It is not suitable for stations with press operations. The SupoTrac makes no claims concerning ergonomics or safety regulations for manual workstations. To reduce the risk of injury to personnel, we urgently recommend reducing the speed with which the shuttle enters the station as long as the station is used as a manual workstation. The ShuttleLock included in the scope of delivery prevents the shuttle from being moved manually out of the IRMs operating area during processing.

1.9. Description of operation

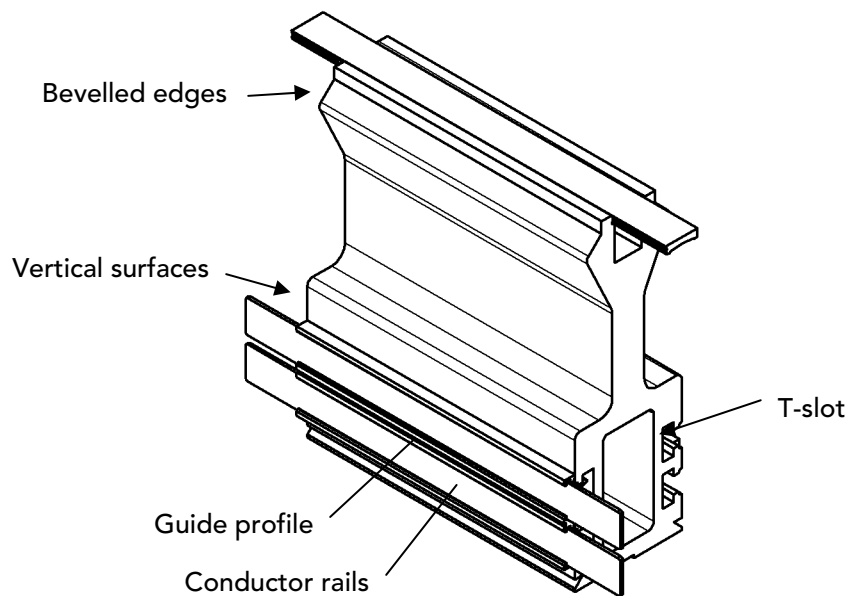
The Trac consists of a colorless anodized aluminum extrusion. The two T-slots on the one side accommodate extruded plastic profiles through which the two conductor rails (24 V DC) are run for supplying the shuttles with power.

The conductor rails opposite the T-slots are used for securing cams to control the shuttles.

The Trac is compatible with Quick-Set.

The shuttle's four rollers run on the two upper beveled edges of the Trac. The shuttles are also supported by two additional rollers that run on the vertical surfaces above the T-slots.

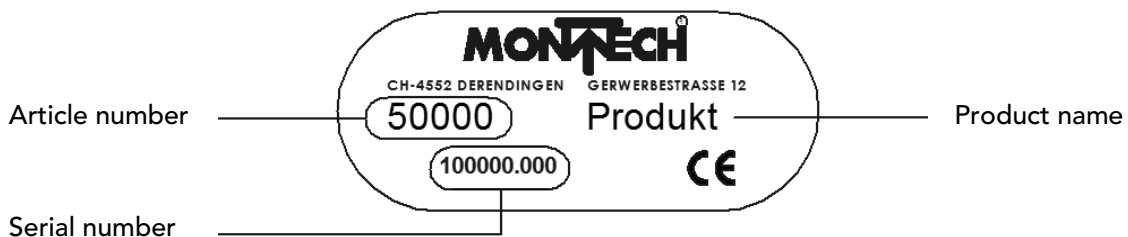
The individual Trac sections are linked by an expandable TracLink. Power can be provided to any TracLink.

Trac

1.10. Additional information

These operating instructions are intended to ensure that the SupoTrac is used properly and safely. Should any information for your particular application be lacking, please contact the manufacturer. When reordering operating instructions, please specify the serial number. This document is also available on our website at www.montech.com.

Description of the type plate



Montech AG
Management

U. D. Wagner

C. Wullschleger

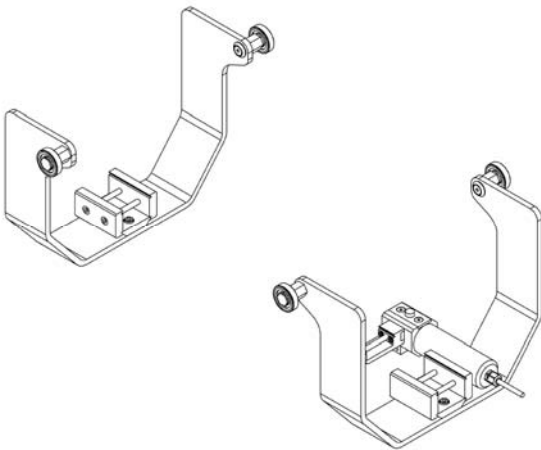
1.11. Validity of the Operating Instructions

Our products are continually updated to reflect the latest state of the art and practical experience. In line with product developments, our Operating Instructions are continually updated. All Operating Instructions have an article number, e.g. BA-100085. The article number and edition number are displayed on the title page.

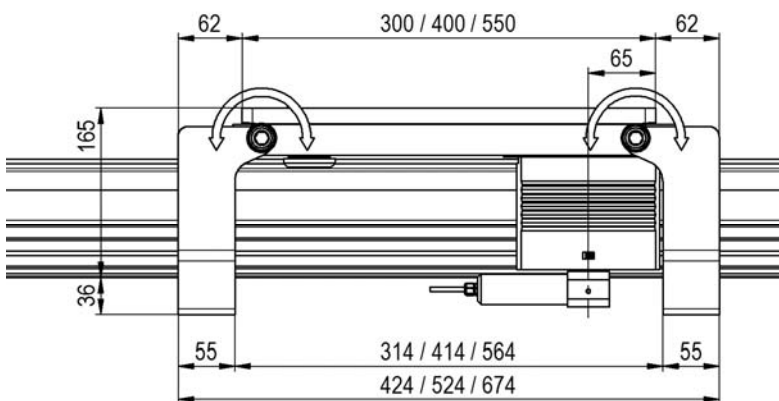
2. Technical Data

Trac weight	[kg]	4.2
Connected voltage (Shuttlelock)	[V DC]	24
Current consumption (Shuttlelock)	[A]	0.5
Material		Aluminum, copper, plastic, brass, steel, rubber
Ambient conditions:	Temperature	[°C] 10-40
	Rel. humidity	5% - 85% (without condensation)
	Air purity	Atmosphere for assembly of precision mechanical products

SupoTrac7

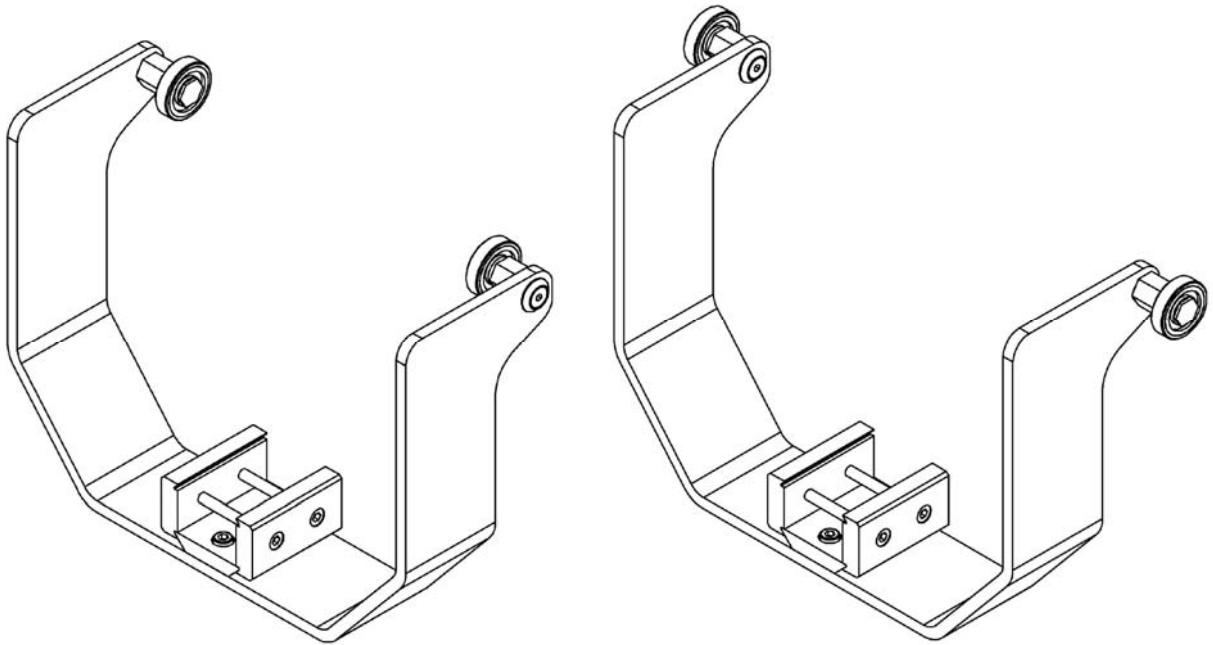


Dimensional drawing of the SupoTrac



Support for platform W = 200 mm

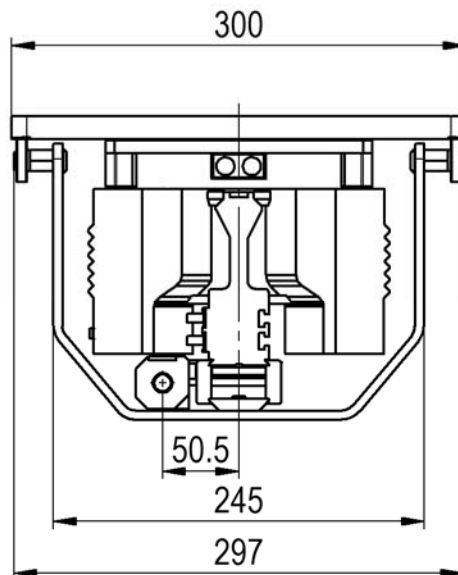
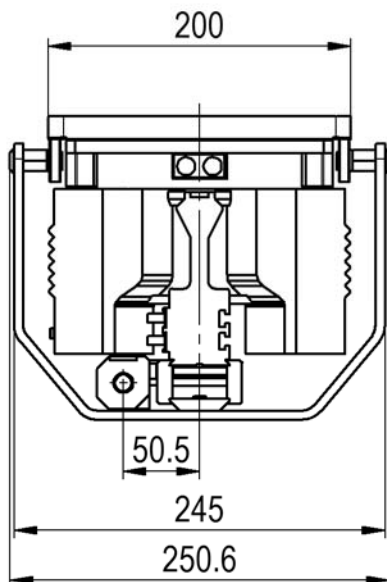
Support for platform W = 300 mm



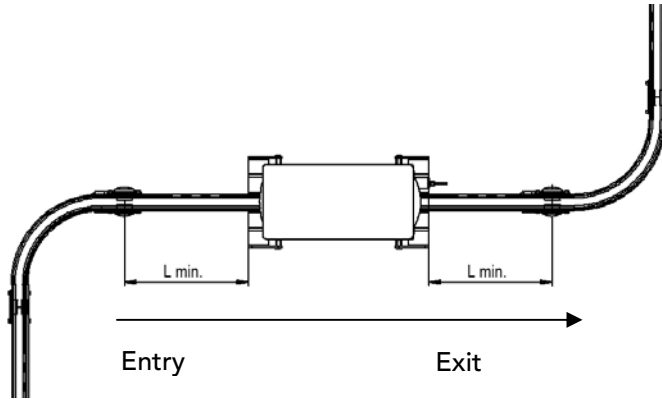
Support dimensional drawing

Support for platform W = 200 mm

Support for platform W = 300 mm



2.1. Minimum distance until change of direction



Shuttle	Shuttle for platform L = 200 mm	Shuttle for platform L = 400 mm	Shuttle for platform L = 550 mm	2-axle shuttle
Entry L min.	95 mm	195 mm	345 mm	325 mm
Exit L min.	95 mm	195 mm	345 mm	345 mm

2.2. Load limits

Electrical load capacity: 0.5 A

Mechanical load capacity:

The following load limits must be complied with.

Maximum load capacity (incl. shuttle platform; please see Shuttle Operating Instructions for the weight of the shuttle platform):

Shuttle length L = 300 = 13.2 kg

Shuttle length L = 400 = 12.9 kg

Shuttle length L = 400 = 12.4 kg

2-axle shuttle = 25 kg

2-axle shuttle (rear axle empty) = 27.8 kg



If additional external forces or moments influence the shuttle platform, the platform must be supported by individual supports.
Under no circumstances may additional forces or moments act on the shuttle!

3. Assembly and Commissioning

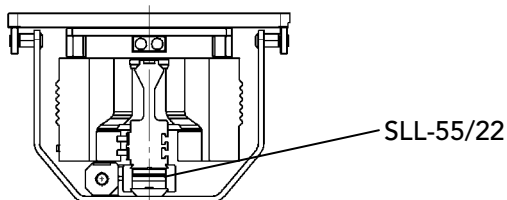
3.1. Installation

The SupoTrac has to be connected to its system components in three ways:

- Mechanical connection
- Electrical connection (wiring and function variants for the ShuttleLock and the IRM can be found in the operating instructions of the ShuttleLock and IRM).

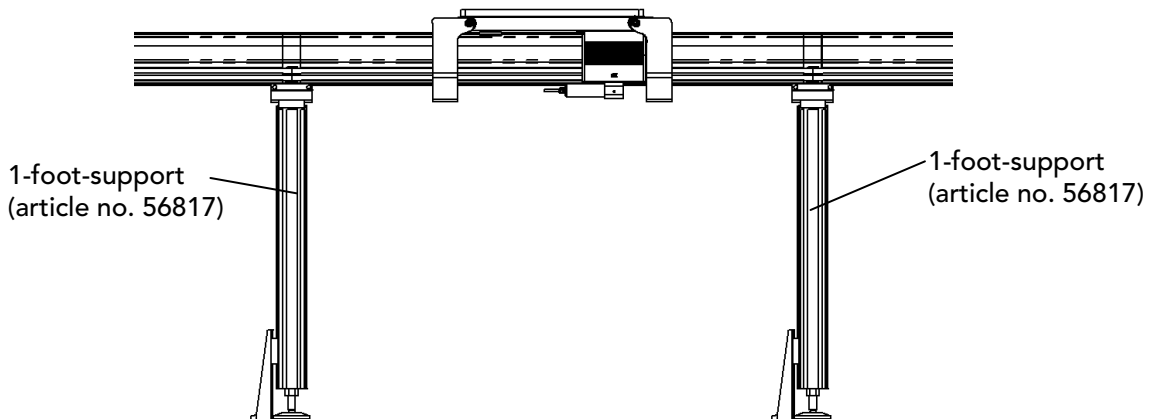
3.2. Mechanical connection

The SupoTrac is mounted on the Trac with two clamping elements SLL-55/22 (included in the scope of delivery).

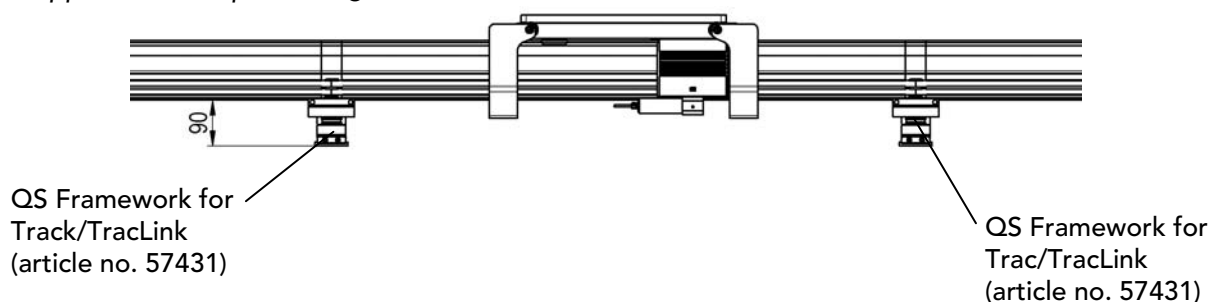


3.3. Example of a support on a framework of Quick-Set® profiles

Support using 1-foot-support (article no. 56817)

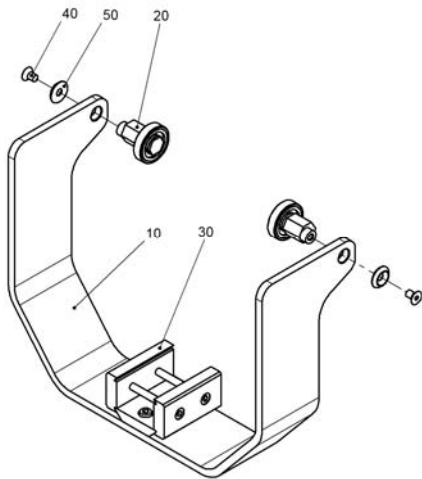


Support on table plate using QS Framework for TracLink (article no. 57431)

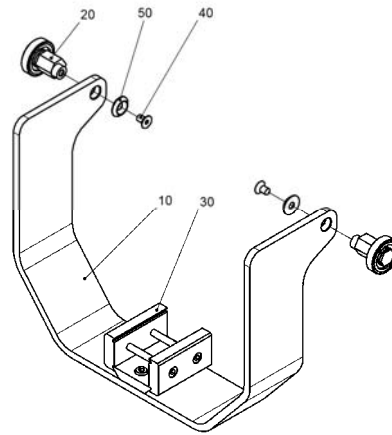


3.4. Adjusting the support rollers

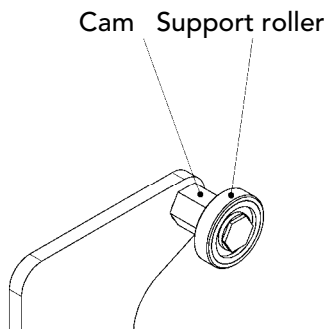
Support for platform $W = 200\text{ mm}$



Support for platform $W = 300\text{ mm}$



1. Insert the two support rollers (pos. 20) into the hole of the retainer (pos. 10).
2. Slightly tighten the support rollers (pos. 20) by means of pos. 40/50.
3. Slightly fasten the support on the Trac by means of pos. 30.
4. By means of pos. 30, fasten the supports from left to right, each support at a distance of 62 mm from the platform. (Please refer to the Shuttle Lock Operating Instructions for the positions of the cams, IRM and locking device.)



5. The support rollers are turned by turning the cam to the right until they contact the platform. Now the rollers are fixed in place by tightening the countersunk screw pos. 40.

4. Maintenance

Every 6 months when the system is switched off:

Check platform support:

Check the effectiveness of the platform support and adjust where necessary.

Check conductor rails:

The conductor rails should be checked for signs of burning, grease spots and excessive soiling. Use a dry cloth to remove coarse dirt and dust.



- Do not remove the black coat (graphite film). It is electrically conductive and serves to prevent rapid oxidation of the copper!

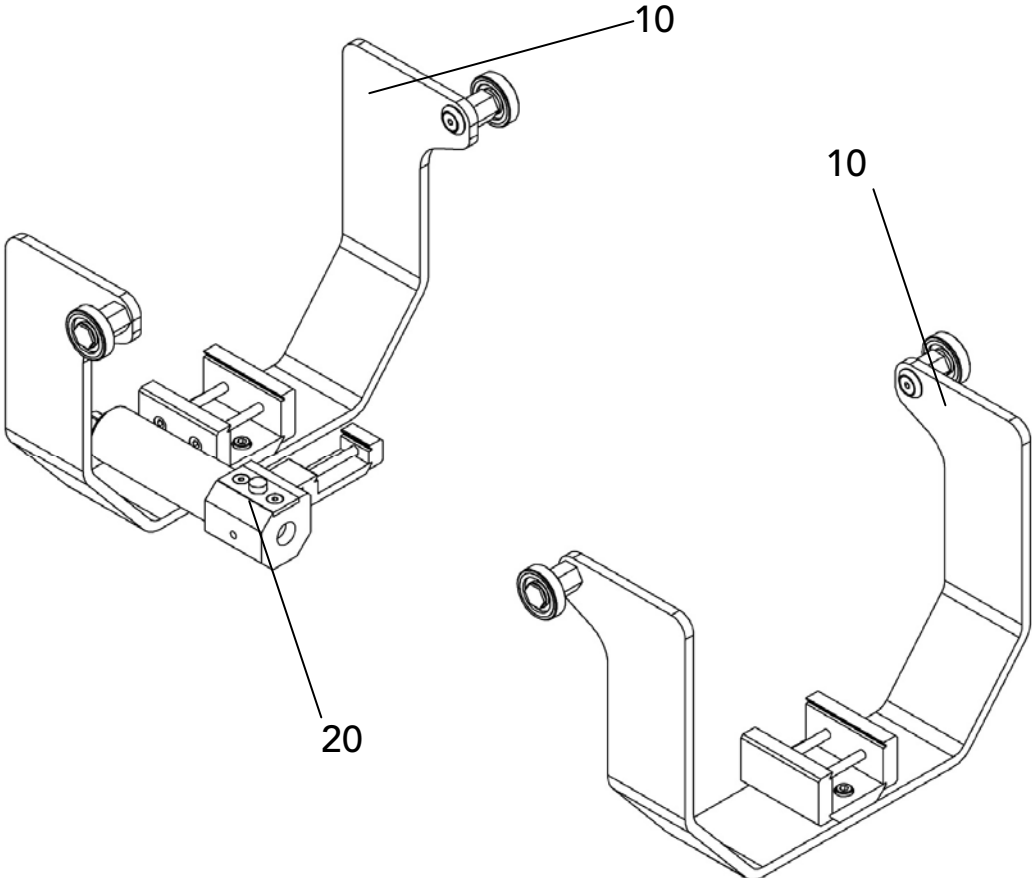
Clean Trac:

Remove excessive soiling, oils and grease from the Trac. Use a dry cloth to remove coarse dirt and dust. Dirt on the Trac can be best removed with aluminum rubber. Remove the rubber abrasion particles from the Trac.

General inspection:

Inspect the Trac for damage. In the event of damage, please contact MONTECH.

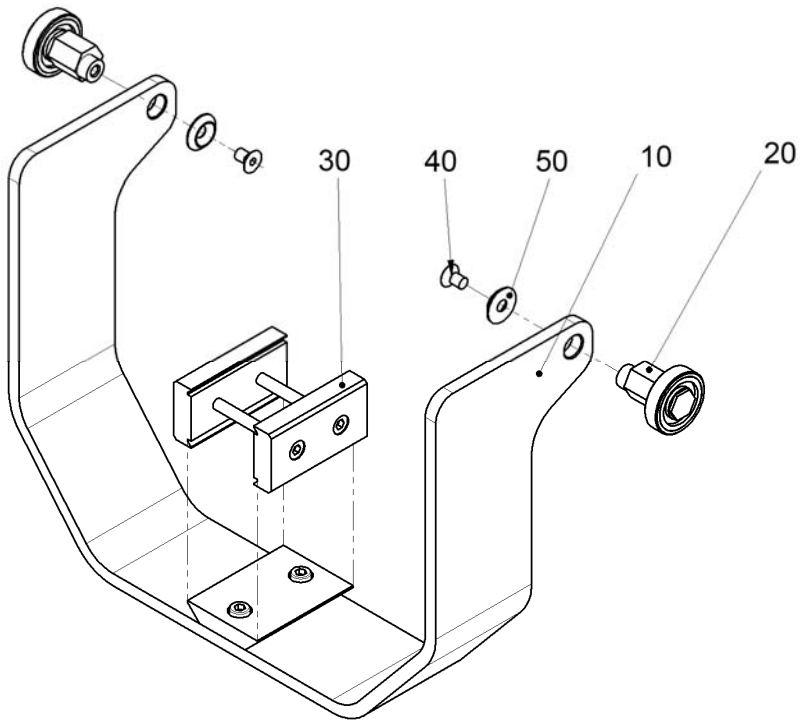
5. Parts Lists



Pos.	Sym.	Designation	Article no.	Material
	■	SupoTrac	56933	Various
10	◇	Support	57220	Various
20	■	Shuttle Lock	57216	Various

- These are wearing parts and available ex stock.
- ◇ Not available ex stock individually (upon request).
- Price list articles deliverable ex stock.

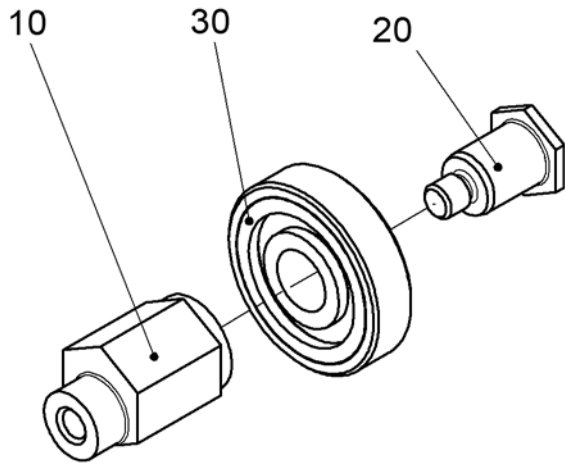
5.1. Support



Pos.	Sym.	Designation	Article no.	Material
	◇	Support	57220	Various
10	◇	Retainer, complete	57219	Steel/alu.
20	◇	Support roller, complete	57216	Steel
30	■	Clamping element SLL-55/22-40-N	45942N	Steel/alu.
40	◇	Countersunk screw M5x8	504340	Steel
50	◇	Countersunk washer M5	504381	Steel

- These are wearing parts and available ex stock.
- ◇ Not available ex stock individually (upon request).
- Price list articles deliverable ex stock.

5.2. Support roller complete



Pos.	Sym.	Designation	Article no.	Material
	◇	Support roller, complete	57216	Various
10	◇	Eccentric bolt	57213	Steel
20	◇	Spindle	57215	Steel
30	●	Roller	91315	Various

- These are wearing parts and available ex stock.
- ◇ Not available ex stock individually (upon request).
- Price list articles deliverable ex stock.

6. General Information

Environmental compatibility and disposal

Materials used:

- Aluminum
- Steel
- Brass
- NBR (nitrile-butadien styrene)
- PEX (polyolefin)
- PA (polyamide)
- PUR (polyurethane)
- TPR (thermoplastic elastomer)

Surface finishing:

- Anodization, aluminum
- Galvanizing, steel

Shaping processes:

- Aluminum extrusion
- Plastic injection molding
- NBR form pressing
- Machining of metals and plastics
- Metal bending
- Laser cutting of steel

Emissions during operation:

- See EMC emissions

Disposal:

SupoTracs which are no longer useable must be disassembled into single parts and recycled according to the type of material. The type of material of each individual part is included in the replacement parts lists. Non-recyclable material should be disposed of appropriately.