

Besta Power Compressed Air and Electric Supply System

Program C75



CONDUCTIX
wampfler

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Overview

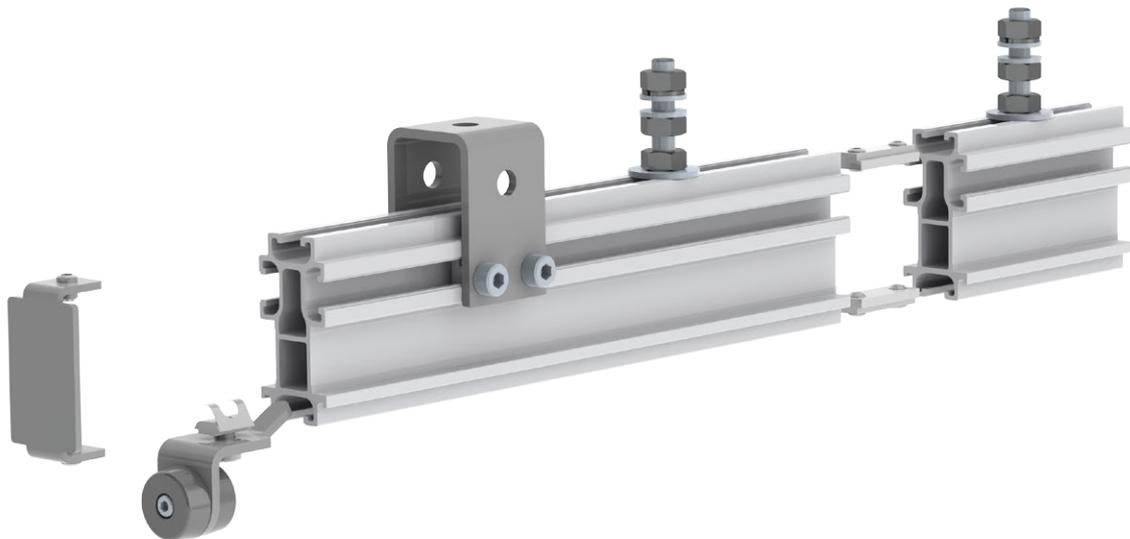
Product Description

The BestaPower C75 energy supply system provides mobile consumers with a continuous supply of compressed air, electrical energy, and data through an energy guiding chain or festoon system. The modular assembly and flexible attachment options allow for simple and quick installation.

The main features of BestaPower C75:

- High stability provided by optimum cross section aluminum profile
- Easy and quick installation
- Simple carriage after profile installation without downtime
- Smooth-running ball bearings with plastic bandage
- 4 additional grooves allows quick, easy attachment of accessories
- Easy to clean rails and carriages due to externally mounted profile
- Corrosion-resistant

System Overview

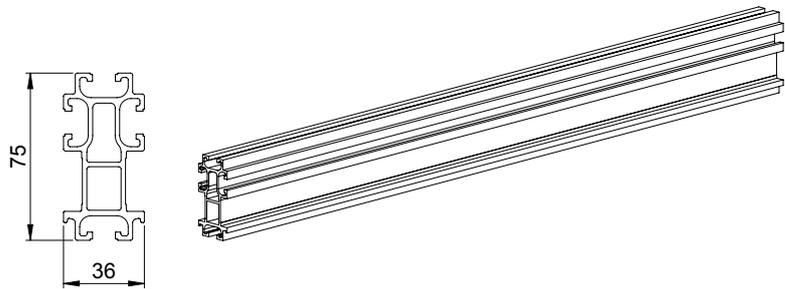


Rail Components

General Information

The aluminium rail profile C75 without compressed air can be combined with the coupling set to form any length of line.

The rail profile is particularly well suited for assembly lines or work places which demand a high degree of flexibility. The process of picking up tools can be implemented extremely easily with the aid of carrier units. The fastening grooves on the rail profile enable the direct attachment of accessories, e.g. lamps, energy carrier systems, conductor rails etc.



Type	048600-3000	048600-6000
Length [mm]	3000	6000
Weight [kg]	5.5	11

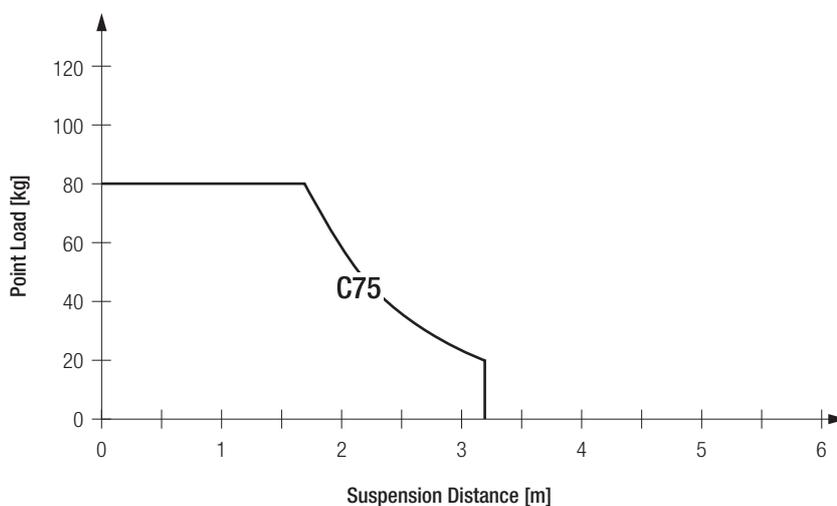
Non-standard lengths: the rails are also available in non-standard lengths according to customer specification. Length: max. 6000 mm.

Rail Specification

Moment of inertia: 36 cm⁴
Weight: 1.82 kg/m
Rail material: aluminium, anodized colorless

Load Diagram

For reasons of stability, the rail profile must be suspended at regular intervals according to the load situation. The hanger can be used with a bolt set or in combination with the rail holder. These should be positioned as close as possible to the relevant rail connections to ensure smooth operation (refer to page 8).



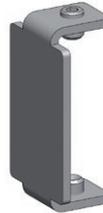
Max. Point Load: 80 kg
Max. Suspension Distance: 3,2 m

Rail Components

Rail Termination C75

The rail termination is fastened to the face of the rail profile with the aid of two setscrews. As well as finishing off the end of the rail in terms of its appearance, it also acts as a mechanical stop. The cup points of the setscrews generate the required tight fit.

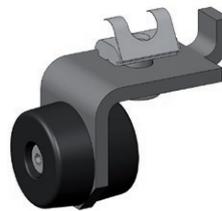
Part Number: 048641
Material: steel, zinc-plated
Weight: 0.08 kg
Scope of supply: termination, M8 setscrews



Movable Stopper C75

The movable stopper can be screwed to any point along the rail profile by means of an insertable sliding block and serves as a stop for trolleys, tool transporters etc.

Part Number: 048660
Material: Angle – steel, zinc-plated
Buffer – elastomer, NBR (Perbunan)
Weight: 0.1 kg
Scope of supply: bracket, buffer incl. insertable M8 sliding block



Sliding Block M8, insertable

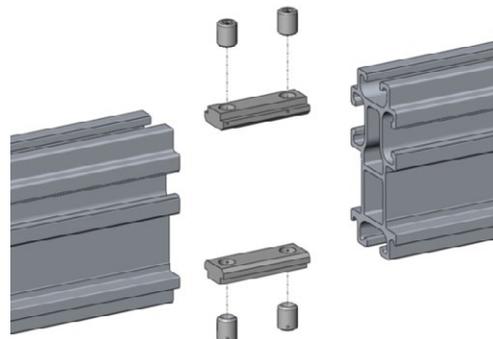
This sliding block can be inserted at any point in the groove on the rail profile. The spring plate ensures that it remains in the desired position.

Part Number: 04-M002-0140
Material: steel, zinc-plated
Thread: M8
Weight: 0.01 kg
Minimum order quantity: 10 pcs.



Rail Couplings C75

The coupling set C75 is used as connecting element for the rail profiles C75. The sliding blocks are positioned in the upper and lower groove on the rail profile and secured with the aid of setscrews. The cup points of the setscrews generate the required tight fit. With the aid of the coupling set the rail profiles can be connected to any length of line.



Part Number: 048610
Material: steel, zinc-plated
Weight: 0.06 kg
Scope of supply: 2 fixed sliding blocks incl. 4 x M8 setscrews

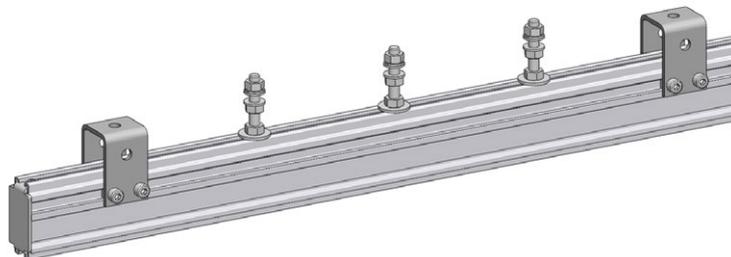


Rail Components

Rail Mounting C75

Two different fastening components are available so that the longitudinal extension of the rail line caused by temperature changes is not obstructed. The fixed point mounting is only used once per rail line, preferably at the start of the rail. It fixes the rail in all three planes.

The sliding hangers are used at all other suspension points and ensure problem-free longitudinal extension of the rail line. The distance between hangers on the rail is 2 to 3 m depending on the load situation.



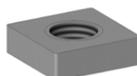
Hangers

The complete hanger comprises the groove elements and the screw fitting set.

Groove elements

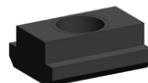
Square Nut, fixed

Part Number: 0562-M10-04-A2F
Thread: M10, right-handed
Material: steel, zinc-plated
Weight: 0.01 kg



Sliding Block

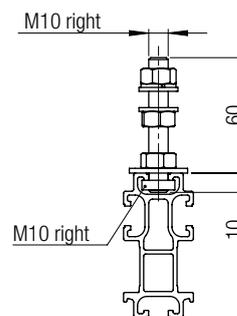
Part Number: 04-M002-0136
Thread: M10, right-handed
Material: steel, zinc-plated
Weight: 0.01 kg



Screw Fitting Set

Threaded Bolt Set

Part Number: 048721-M10RH-100
Thread: M10, right-handed
Material: steel
Weight: 0.1 kg



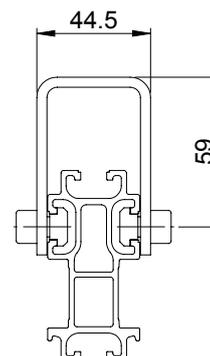
Note: Instead of the screw fitting sets, customer supplied fastening elements, e.g. M10 threaded bars, can also be used.

Rail Holder

For improved fixing of the rail line we recommend the use of a fixed or sliding rail holder every 12 m. This is particularly recommended for applications with dynamic loads, or if tool transporters or energy carrier systems are used (see next page).

Rail Holder C75, fixed

Part Number: 048620-F
Material: Holder – steel, zinc-plated
 Sliding block – steel, zinc-plated
Weight: 0.32 kg
Scope of supply: Holder incl. 2 sliding blocks (fixed)



Sliding Rail Holder C75

Part Number: 048620-G
Material: Holder – steel, zinc-plated
 Sliding block – steel, zinc-plated
Weight: 0.32 kg
Scope of supply: Holder incl. 2 sliding blocks (sliding)

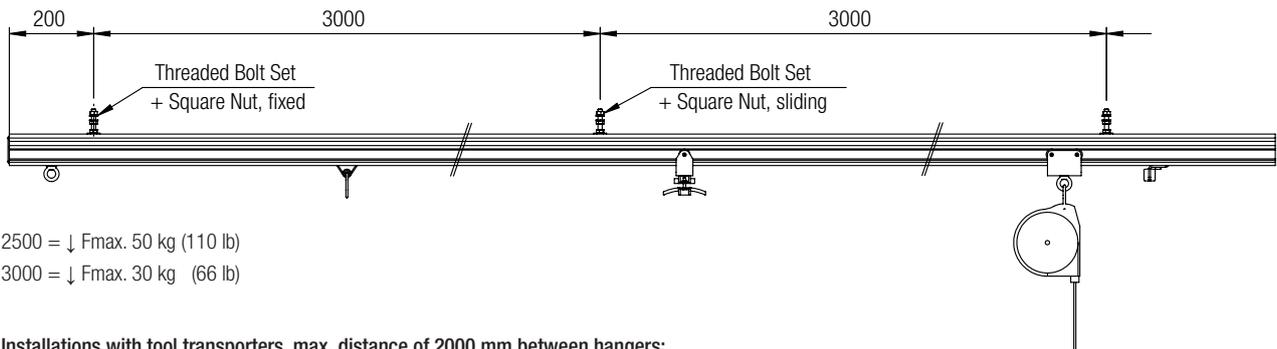
Rail Components

Positioning of Hangers

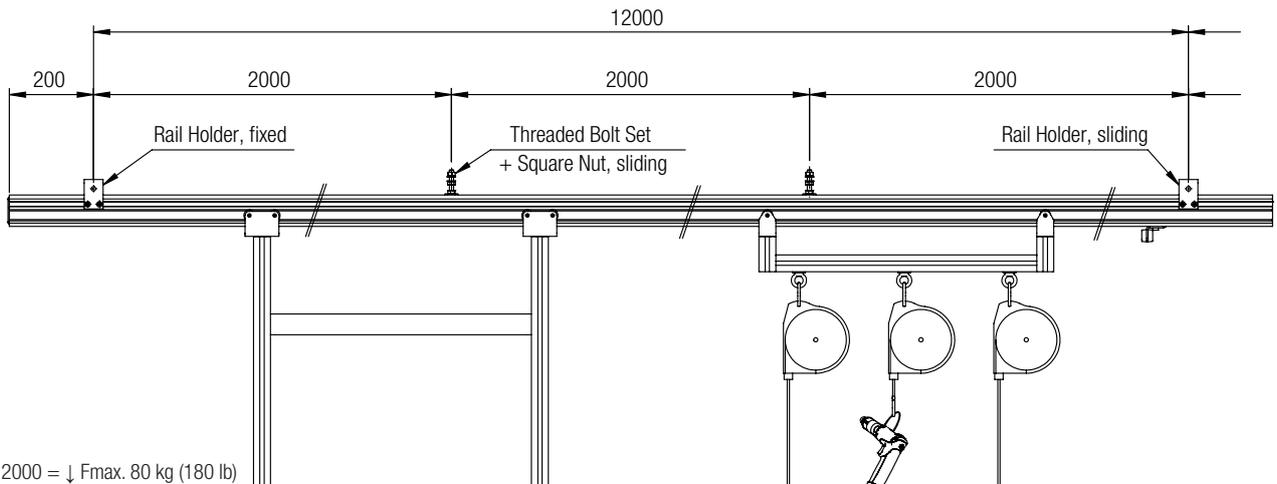
The fixed point hanger is mounted close to the start of the rail. The sliding hangers are mounted in between at the distances described below. They should preferably be positioned in such a way that one hanger is positioned as close as possible to each rail connection. The maximum permitted node load per hanger is 120 kg.

Distance between Hangers

Installations without tool transporters, max. distance of 3000 mm between hangers:



Installations with tool transporters, max. distance of 2000 mm between hangers:



Fall Protection C75 for Rail Profile

The lanyard rail is a safety component which prevents the rail line from falling down in the event of inappropriate handling, e.g. due to overloading of tool transporters or due to prohibited mechanical loads. Securing elements like ropes or chains are not included in the scope of supply and must be provided by the customer.

Fall Protection C75

- Part Number:** 04-S010-0266
- Max. load:** 140 kg
- Material:** steel, zinc-plated
- Weight:** 0.07 kg
- Scope of supply:** 1 x M8 eye bolt incl. insertable sliding block



Energy Supply

General Information

There are two different energy supply systems available for the C75 system. These free workplaces from cables and hoses and guide energy to mobile consumers without restriction. Both systems are suitable for the supply of electric and pneumatic energy as well as data transmission.

With the festoon system, the cables and/or hoses are attached to special cable trolleys, which are in turn guided along the rails. This permits the cables/hoses to be guided safely along rails overhead. With the energy guiding chain, the cables and hoses are arranged compactly and safely within a chain. The "reeling out and in" of the chain allows energy to be guided wherever it is needed.

The two systems differ in various characteristics:

	Festoon System	Energy Guiding Chain
		
Advantages / Features		
Pneumatic Energy Supply		
Electrical Energy Supply		
No Restoring Forces		
No Cable Loops		
Full use of the Workspace		
Simple Service and Conversion		
Pressure Loss Factor *	3	1
Installation Time Factor *	3	2

* 1 = very low 2 = average 3 = considerable

Energy Supply

Energy Guiding Chain

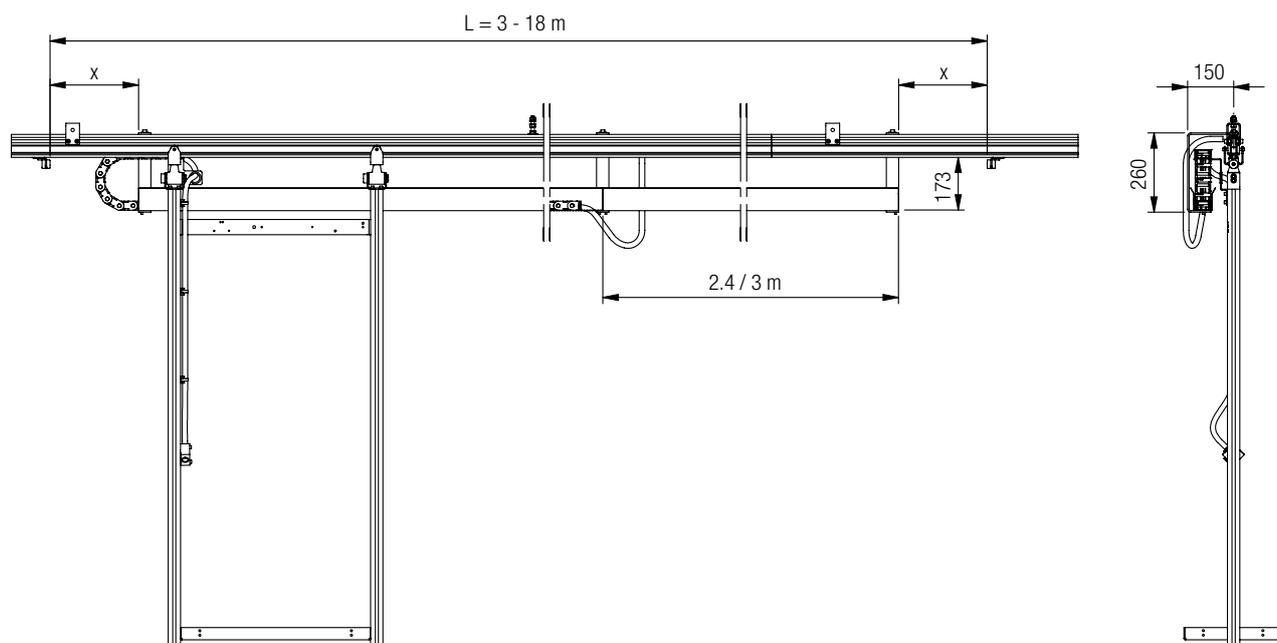
The energy guiding chain system offers continuous energy supply (compressed air and/or electric power) to a consumer over a distance of 3 to 18 metres. The system may be integrated in an existing C75 Bestapower installation and can be positioned anywhere along the rail.

The energy is supplied through the air hose and/or a power cable inside the energy chain. (Electric components are not included). Weight of a 6 m energy supply system: approx. 15 kg.

Standard condition as delivered:

Energy supply systems are supplied as follows:

- Duct, chain and hose are pre-assembled. The brackets are enclosed loose.
- Optional additional equipment is supplied loose.



Energy supply (compressed air)

The compressed air supply is provided by an external compressed air source via a hose, tubing or pipe-work; fitted to the C75 Profile.

048670-... for C75

The basic unit includes the following items:

Ducts incl. brackets (L = 3-18 m)

Material: sheet steel, light grey powder-coated

1 highly flexible PVC hose (CXL12), silicone-free
standard length: L 1/2 + 5 m

1 energy chain incl. fixing elements

1 link plate

2 movable stoppers

Additional equipment (options): see next page

Note: Caution: should a contaminated compressed air supply be connected (i.e. possibly containing oily residue), then the chemical resistance of the PVC hose must be mandatorily verified in advance.

Energy Supply

Accessories for Energy Guiding Chain C75

Movable Stopper

The movable stopper can be screwed to any point along the rail profile by means of an insertable sliding block and serves as a stop for trolleys, tool transporters etc.

Part Number: 048660

Material: Angle – steel, zinc-plated
Buffer – elastomer, NBR (Perbunan)

Weight: 0.1 kg

Scope of supply: bracket, buffer incl. insertable M8 sliding block



Ball Valve Set with Elbow Piece 1/2"

The Ball Valve Set can be employed as a stop valve unit for the power transmission system, thus enabling a controllable compressed air supply at the work station.

Part Number: 048793-006

Working material: Ball valve – brass, Nickel plated
Elbow piece – brass, Nickel plated

Weight: 0.28 kg

Extent of supply: Ball valve G1/2" i/o incl. angle piece 90° G1/2" i/o



Hose Nozzle G 1/2"-Ø 13 mm

The hose nozzle with parallel thread is employed for the fixing of the CXL Hose by means of a 1-lug hose clip.

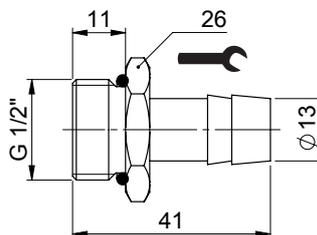
Part Number: 048791-034

Thread: G 1/2" ISO 228-1

Working material: brass, Nickel plated

O-ring: NBR (perbunane)

Weight: 0.05 kg

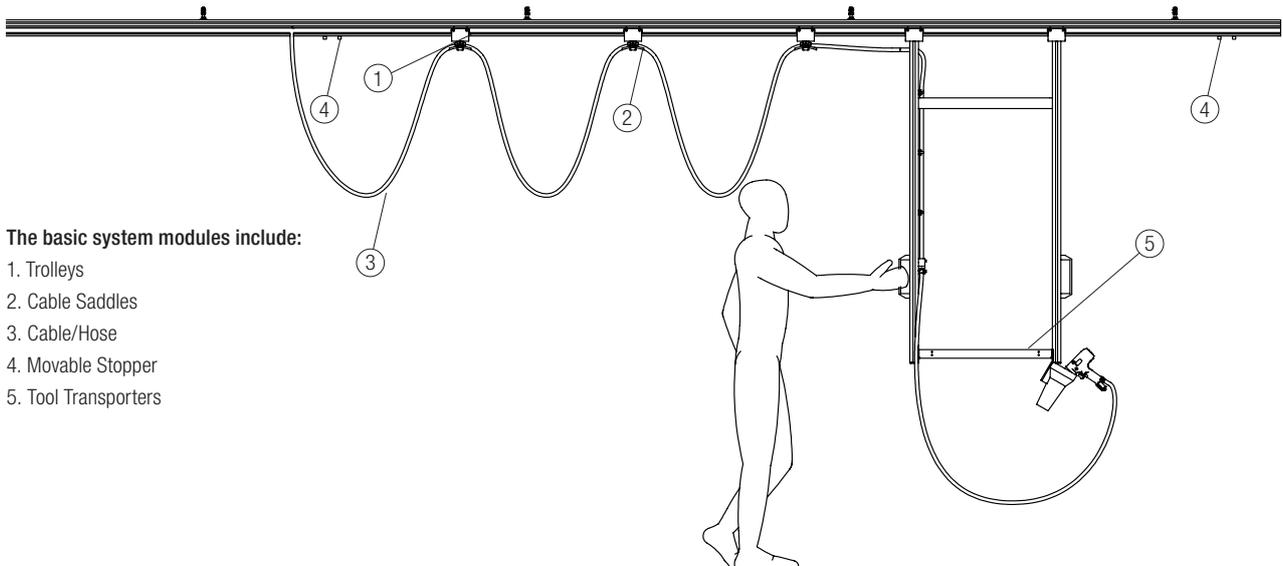


Energy Supply

Festoon Systems

Festoon systems can be designed for power cables, data cables and compressed air hoses. They offer a continuous energy supply within a defined working area or work cycle. Typical applications are work areas with electronically controlled torque drivers (e.g. Tensor systems, CVI systems, Stanley systems etc.).

Festoon systems offer stationary or flexible use of monitors and tools and can be easily integrated into existing or new Bestapower C75 systems. This dispenses with the need for an additional parallel installation.



The basic system modules include:

1. Trolleys
2. Cable Saddles
3. Cable/Hose
4. Movable Stopper
5. Tool Transporters

Festoon Systems – Components and Part Numbers

Trolley, double-axe

The double-axe carrier unit has four track rollers. The universal hole pattern enables permanent connection of our aluminium posts and the mounting of a rotary mounting. In addition, cable clips and hose clips or a rotatable eye bolt can be mounted.

Part Number: 048685-002

Material: steel, zinc-plated

Max. load¹⁾: approx. 40 kg

Weight: 0.55 kg

Cornering ability: yes

¹⁾ This carrier unit is also approved for larger loads. However, at loads > 40 kg additional factors such as potential dynamic forces need to be taken into account, and the spacing between the hangers should be checked.



Cable Saddle (small)

The complete cable saddle (small) for round cables Ø 10-16 mm includes the holder, ball joint and fastening materials.

Part Number: 048693-002

Material: plastic, yellow

Weight: 0.08 kg

Cable Saddle (large)

The complete cable saddle (large) for round cables Ø 17-25 mm includes the holder, ball joint and fastening materials.

Part Number: 048693-003

Material: plastic, yellow

Weight: 0.10 kg

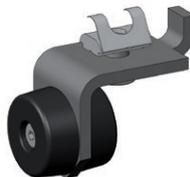


Energy Supply

Festoon Systems – Components and Part Numbers

Movable Stopper

The movable stopper can be screwed to any point along the rail profile by means of an insertable sliding block and serves as a stop for cable trolleys.



Part Number:	048660
Material:	Angle – steel, zinc-plated Buffer – elastomer, NBR (Perbunan)
Weight:	0.1 kg
Scope of supply:	bracket, buffer incl. insertable M8 sliding block

Electric Cables	Round Cable TG 3G2.5	Round Cable TG 5G2.5	
Part Number:	131210-R3G2,5#	131210-R5G2,5#	
Outside diameter:	10.9 – 14 mm	13.3 – 17 mm	
Max. voltage:	430/750 V	430/750 V	
Strand count/conductor cross-section:	3 x 2.5 mm ²	5 x 2.5 mm ²	
Sheathing material:	Rubber	Rubber	
Protective conductor:	Yes	Yes	Other cables upon request

Compressed Air Hoses	Hose DN10 (7/8“)	Hose DN13 (1/2“)	
Part Number:	040421-2	040421-3	
Part Number of hose clip:	040443-4	040443-6	
Part Number of hose clamp:	040435-20	040435-20	
Nominal pressure:	20 bar	20 bar	
Medium:	Compressed air	Compressed air	
Inner diameter:	10 mm	13 mm	
Outside diameter:	15 mm	19 mm	
Material:	PUR	PUR	Other hoses upon request

Festoon System – Layout Tips

If the festoon system requires special adjustment, please contact us directly. You can also find additional instructions in our catalogue Q240 "Festoon Systems for C-rails".

The following rules of thumb apply for simple layout and quantity calculations:

- Number of end stops: 2 per cycle
- Number of cable trolleys: Cycle length / 1.6
- Number of cable holders: Number of cable trolleys (for two hoses/cables or a cable and a hose, this number must be doubled)
- Length of hose/cable: Cycle length x 1,25 + connection length

For this layout, a cable trolley depot of about 10% of the cycle length is also needed to buffer the trolleys. The cable slack for this layout is about 0.75 m.

Example:

4 cycles, each with a cycle length of 15 metres, should support one electric energy supply each.

The connection lengths from the festoon system to the feed are each 2 m.

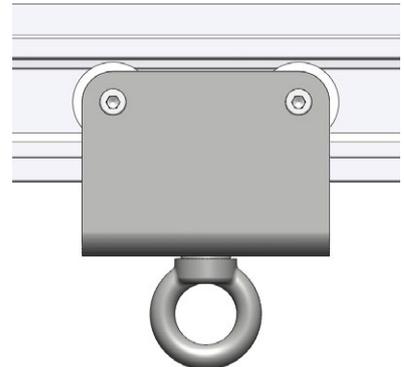
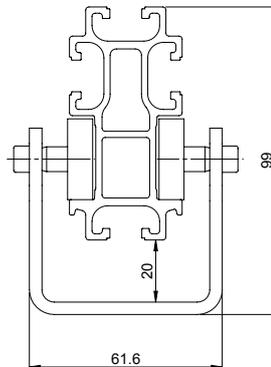
Number of end stops:	4 x 2 per cycle = 8 units
Number of cable trolleys:	4 x 15 / 1.6 = 36 units
Number of cable holders:	36 units
Number/length of cables:	4 x (15 x 1,25 + 2) = 4 cables of 20,75 m each

Trolleys

Trolley C75

The carrier unit can be mounted at any point within the rail line. It is suitable for accommodating tools or additional loads, which can be fastened e.g. by means of a spring retainer to a rotatable eye bolt.

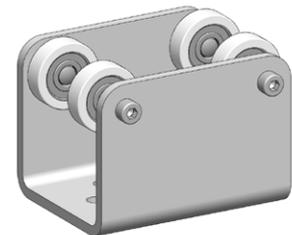
In combination, the carrier units can also be used as a festoon system for flat and round cables (see page 12).



Trolley, double-axle

The double-axle carrier unit has four track rollers. The universal hole pattern enables permanent connection of our aluminium posts and the mounting of a rotary mounting. In addition, cable clips and hose clips or a rotatable eye bolt can be mounted.

Part Number: 048685-002
Material: steel, zinc-plated
Max. load¹⁾: approx. 40 kg
Weight: 0.55 kg



Eye Bolt Set C75 for Trolley

Loads can be fastened directly to the carrier unit with the aid of the eye bolt. It is possible to individually choose a fixed or rotatable mounting of the eye bolt through the number of installed washers.

Part Number: 048693-005
Material: steel, galvanized
Max. load: approx. 20 kg
Weight: 0.07 kg
Scope of supply: 1 x M8 eye bolt with locknut, 3 x washers and one support shim



Tool Slide C75

This tool slide is inserted into the groove on the rail profile and can be used to attach and slide lightweight accessories. For the attachment of larger loads refer to Trolleys.

Part Number: 048693-004
Material: PA black, fibreglass-reinforced
Max. load: approx. 5 kg
Weight: 0.03 kg
Scope of supply: 1 x slide incl. carabiner



Note

¹⁾ This carrier unit is also approved for larger loads. However, at loads > 40 kg additional factors such as potential dynamic forces need to be taken into account, and the spacing between the hangers should be checked.

Trolleys

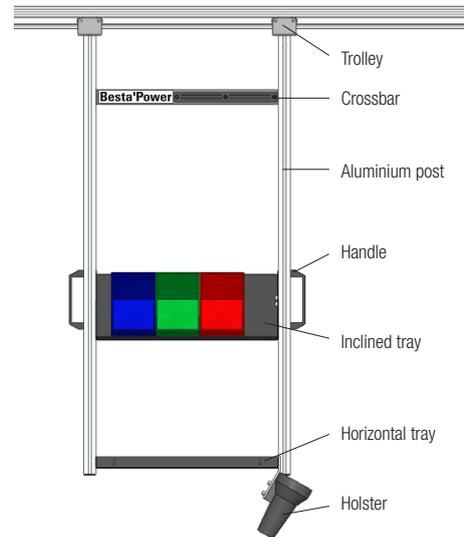
Tool Transporter C75

Tool transporters are ideal for conveniently depositing tools, assembly parts, measuring equipment etc. directly at the work place. The modular design is guaranteed to deliver tailor-made solutions which are fine-tuned to the requirements in terms of ergonomics, productivity and user comfort. Tool transporters can be used with or without energy supply.

Delivery Condition

Tool transporters are supplied semi-assembled as follows:

- Carrier units with screwed-on aluminium posts. If a hinge set is included, then this is also fitted (the profile end caps are supplied loose for easier assembly on-site).
- Trays are supplied loose (incl. fastening materials).
- Crossbars are supplied loose (incl. fastening materials).
- Holsters, handles and other accessories are supplied loose (incl. fastening materials).



Tool Transporter C75 – Standard Frame

048686-1500-S

The standard version includes:

- 2 single-axle carrier units
- 2 aluminium posts 40/40 mm, length: 1500 mm, complete with profile end caps
- 1 crossbar
- 1 horizontal tray, 620 x 320 x 40 mm, with inserted rubber mat

Max. load on tray: 30 kg

Max. total load (incl. tool transporter): 80 kg

(for larger loads refer to the additional equipment)

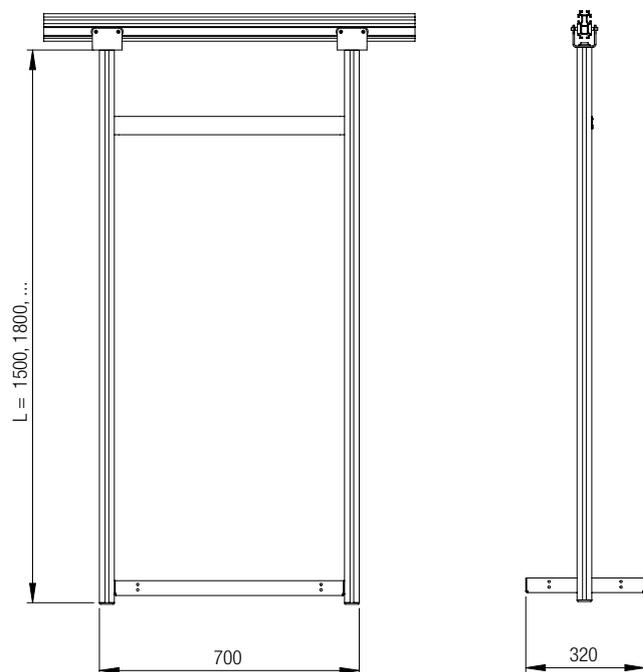
Weight of tool transporter (L 1500 mm): 14,5 kg

Additional equipment (optional):

- post length L: 1800, 2000, 2500 mm
- additional tray: Tray or angled tray
- handles
- hinge set 25° (increases overall length: L +78 mm)
- lanyard rail
- holster
- additional crossbar (e.g. at the bottom)

For details refer to the information

about additional equipment on page 16.



Note

Tool transporters can also be supplied fully assembled on request (however, for packaging reasons certain items like hoses etc. will always be shipped loose).

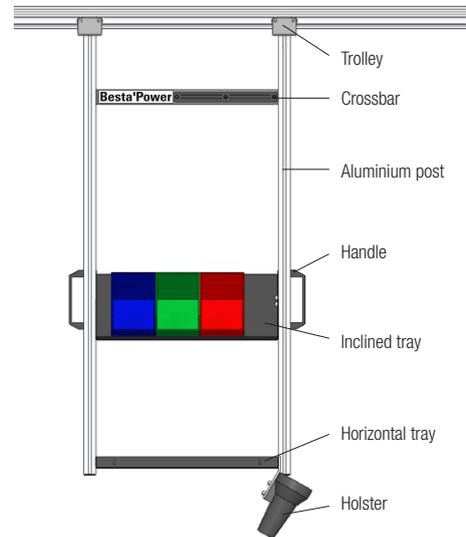
The additional assembly and packaging costs will be billed separately.

Trolleys

Tool Transporter C75 – Additional Equipment

The standard version according to page 11 can be equipped with additional components depending on the requirements. The final part number for the complete tool transporter will be automatically assigned during order processing.

The maximum weight of the tool transporters is 80 kg. Please contact us for information about heavier loads.

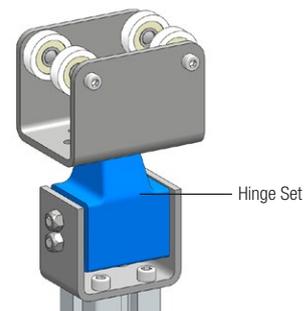


Hinge Set C75 (1 set = 2 pcs.)

The hinge set allows lateral deflection of the tool transporter by 25° to either side. It is a safety component which e.g. prevents items from being trapped between the tool transporter and an obstruction like a conveyor system etc., and it also protects the installation against the effects of lateral forces. The hinge set is fitted between the carrier unit and the aluminium post.

Part Number: 048692-001

Note: All tool transporters with a post length $L > 2500$ mm must be equipped with this component. The hinge set extends the build height of the basic version by 78 mm. Weight 1.1 kg (set).



Crossbar 620 mm

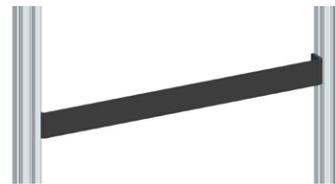
For reasons of stability, the crossbar is screwed between the aluminium posts of the tool transporter.

Part Number: 048792-006

Material: steel, black

Weight: 1.6 kg

Note: For reasons of stability, all tool transporters with a post length $L > 2000$ mm are equipped with an additional crossbar.



Horizontal Tray, 620 x 320 mm

The horizontal tray with inserted rubber mat is suitable for holding parts or equipment used on work benches or assembly lines. It has holes on each side to accommodate tool holsters.

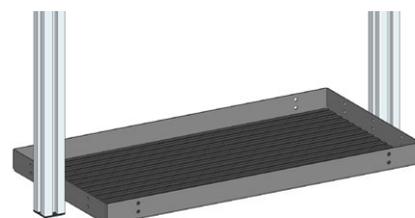
Part Number: 048792-010

Max. load: 30 kg

Material: steel, black

Weight: 4.3 kg

Note: 1 x horizontal tray is included in the basic version.



Trolleys

Tool Transporter C75 – Additional Equipment

Inclined Tray, 620 x 320 mm

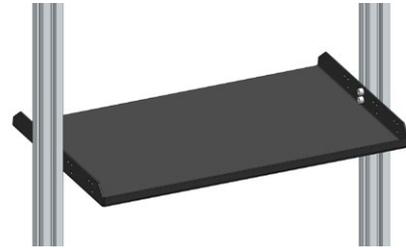
The angled tray is suitable for containers with small parts or as a surface on which to place documents etc. It is secured to the aluminium posts with the aid of sliding blocks and can be screwed on at an angle of 10° or 45°.

Part Number: 048792-009

Max. load: 30 kg

Material: steel, black

Weight: 5.4 kg



Holster complete with Holder

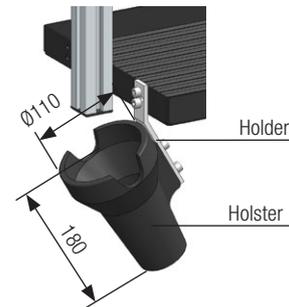
The holster is designed to hold medium-sized tools.

Part Number: 048792-012

Material: Holder – steel, black

Holster – elastomer, NBR (Perbunan)

Weight: 0.9 kg



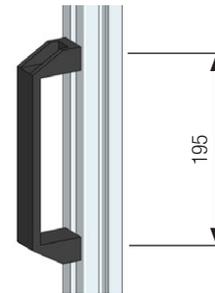
Handle

For added handling comfort a handle can be fitted to the aluminium post. Sliding blocks allow easy mounting at any desired height.

Part Number: 048792-013

Material: black PA, fibre-glass reinforced

Weight: 0.1 kg



Hose clamp set for tool transporter

The cable binding block, which can be inserted into the groove of the tool transporter, is used to attach the hose.

Part Number: 048793-002

Material: PA black, fiberglass-reinforced

Weight: 0.01 kg



Hose clamp set for crossbar

Used to attach the hose to the crossbar.

Part Number: 048793-003

Manifold 3xG1/2»

The manifold can be fitted to the post of the tool transporter or the tool holder using sliding blocks. It is intended for use at the open end of the highly flexible hose (CXL12) and is supplied complete with three hose clamp sets. One outlet port is factory sealed with a plug.

Part Number: 04-P401-0113

Material: aluminium, colourless anodized

Weight: 0.3 kg



Your Applications – our Solutions

BestaPower Compressed Air and Electric Supply Systems from Conductix-Wampfler represent only one of the many solutions made possible by the broad spectrum of Conductix-Wampfler components for the transport of energy, data and fluid media. The solutions we deliver for your applications are based on your specific requirements. In many cases, a combination of several different Conductix-Wampfler systems can prove advantageous. You can count on all of Conductix-Wampfler's Business Units for hands-on engineering support – coupled with the perfect solution to meet your energy management and control needs.



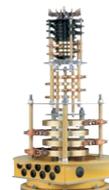
Festoon systems
It's hard to imagine Conductix-Wampfler cable trolleys not being used in virtually every industrial application. They're reliable and robust and available in an enormous variety of dimensions and designs.



Conductor rails
Whether they're enclosed conductor rails or expandable single-pole systems, the proven conductor rails by Conductix-Wampfler reliably move people and material.



Non-insulated conductor rails
Extremely robust, non-insulated conductor rails with copper heads or stainless steel surfaces provide the ideal basis for rough applications, for example in steel mills or shipyards.



Slip ring assemblies
Whenever things are really "moving in circles", the proven slip ring assemblies by Conductix-Wampfler ensure the flawless transfer of energy and data. Here, everything revolves around flexibility and reliability!



Motorized Cable & Hose Reels
Motorized reels by Conductix-Wampfler hold their own wherever energy, data, media and fluids have to cover the most diverse distances within a short amount of time – in all directions, fast and safe.



Spring Cable & Hose Reels
With their robust and efficient design Spring Cable and Hose Reels from Conductix-Wampfler are unbeatably reliable in supplying energy, signals, data and fluids to a vast range of tools, cranes and vehicles.



Inductive Power Transfer IPT®
The no-contact system for transferring energy and data. For all tasks that depend on high speeds and absolute resistance to wear. Flexible installation when used with Automated Guided Vehicles.



Retractors and Balancers
Our wide range of high reliable retractors and balancers remove the load from your shoulders and allow you to reach top productivity.



Energy guiding chains
The "Jack of all trades" when it comes to transferring energy, data, air and fluid hoses. With their wide range, these energy guiding chains are the ideal solution for many industrial applications.



Jib booms
Complete with tool transporters, reels, or an entire media supply system – here, safety and flexibility are key to the completion of difficult tasks.



Conveyor systems
Whether manual, semiautomatic or with Power & Free – flexibility is achieved with full customization concerning layout and location.



Mobile Control Systems
Mobile control solutions for your plant – wether straightforward or intricate. Control and communication systems from LJU have been tried and tested in the automotive industry for decades.

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Conductix-Wampfler

has just one critical mission:

To provide you with energy and data transmission systems that will keep your operations up and running 24/7/365.

To contact your nearest sales office, please refer to:

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