

Besta Power Compressed Air and Electric Supply System

Program A62 / A180



CONDUCTIX
wampfler

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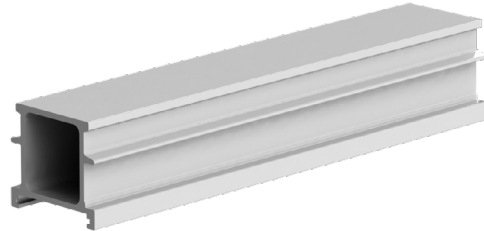
Rail Components

Rail Sections A62

Rail Sections A62 – General Information

The compressed air rail has the following functions:

- a) Energy carrier system:
 - supply of compressed air
 - energy and data transmission by means of an energy guiding chain, festoon system, or conductor rail
- b) Attachment for tapping valves
- c) Support for tool transporters, tool holders, and trolleys
- d) Mounting for accessories, lighting, etc.

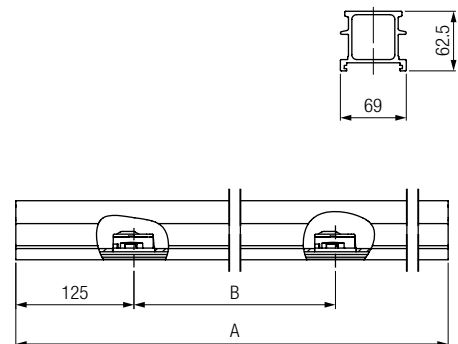
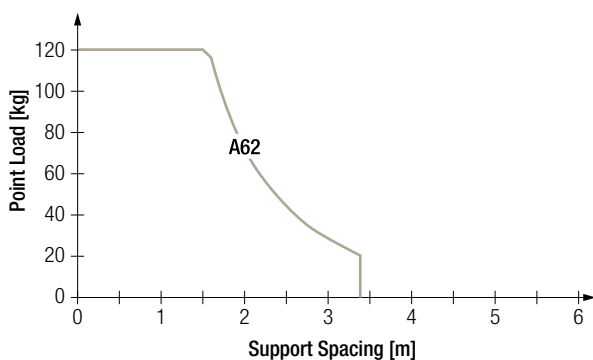


Using connector pieces, the rails can be linked to form tracks of any length.

They are made from a hollow aluminum section and are suitable for dry and lubricated compressed air.

Rail Specification A62

Air-conducting cross-section:	2098 mm ² (>2" for round cross-section)
Geometrical moment of inertia:	45.2 cm ⁴
Weight:	2.63 kg/m
Load capacity:	120 kg/264.6 lb point load
Max. support spacing:	3.4 m/11.1 ft
Operating pressure p1:	min. 2 bar, max. 10 bar
Rail material:	aluminum, colourless anodized
Tapping valves material:	aluminum, black anodized, various elastomers
Seal material:	NBR (Perbunan), silicone-free, oil-resistant



The Three Basic Versions

1. Rails with integrated tapping valves for tapping carriages:
2. Rails with integrated outlet connectors, e.g. for energy guiding chains:
3. Rails without tapping valves or outlet connectors:

Table 1

Table 2

Table 3

Rail Components

Rail Sections A62

Table 1 – Rails with Integrated Tapping Valves

Part No.	048702-3000x2-1500		048702-6000x4-1500	
Length A	mm	3000		6000
Spacing B	mm	1500		1500
No. of tapping valves	qty	2		4
Weight	kg	8.2		16.4

Standard distance between tapping valves is 1500 mm. Depending on application and required flexibility of the system, rail sections with a differing number of tapping valves can be installed.

Table 2 – Rails with Outlet Connectors G 1/2"

Part No.	048704-3000x1x03		048704-6000x2-3000x03	
Length A	mm	3000		6000
Spacing B	mm	1500		1500/4500
No. of outlet connectors	qty	1		2
Weight	kg	8.0		16.0

For direct air supply via bore M24x1 in the top side, e.g. to supply an energy guiding chair

Outlet connectors are supplied open.

To close the outlet connectors, plugs can be used (see p. 8).

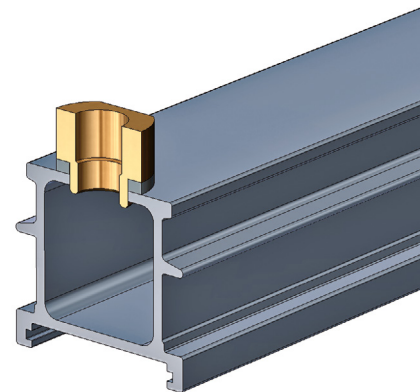


Table 3 – Rails without Tapping Valves or Outlet Connectors G 1/2"

Part No.	048701-3000		048701-6000	
Length A	mm	3000		6000
Weight	kg	7.9		15.8

Special Versions

Non-standard lengths

The rails are available in non-standard lengths according to customer specification. Length: max. 6000 mm. The position and number of tapping valves or connection plates have to be specified by the customer.

Non-standard tapping valve spacing

Available based on customer specification. Minimum spacing: 250 mm. At the rail's beginning: one-sided, minimum spacing: 125 mm.

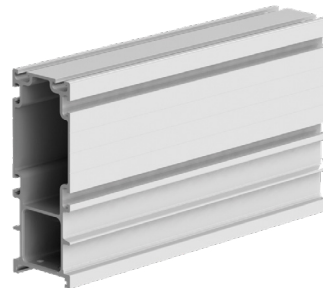
Rail Components

Rail Sections A180

Rail Sections A180 – General Information

The compressed air rail has the following functions:

- a) Energy carrier system:
 - supply of compressed air
 - energy and data transmission by means of an energy guiding chain, festoon system, or conductor rail
- b) Attachment for tapping valves
- c) Support for tool transporters, tool holders, and trolleys
- d) Mounting for accessories, lighting, etc.



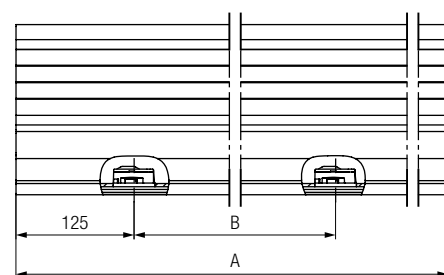
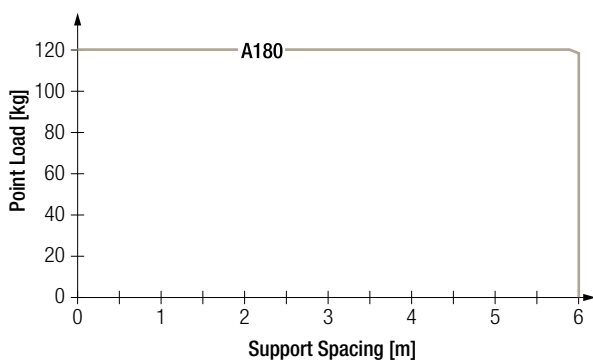
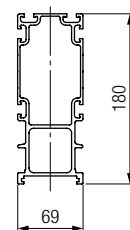
Using connector pieces, the rails can be linked to form tracks of any length.

They are made from a hollow aluminum section and are suitable for dry and lubricated compressed air.

Additional elements, such as energy supplies, conductor rails, as well as cable conduits, lighting elements, etc. can be easily attached to the rail's slot profile. Please inquire for the necessary fastening elements.

Rail Specification A180

Air-conducting cross-section:	2098 mm ² (>2" for round cross-section)
Geometrical moment of inertia:	748.5 cm ⁴
Weight:	5.7 kg/m
Load capacity:	120 kg/264.6 lb point load
Max. support spacing:	6 m/ 19.685 ft
Operating pressure p1:	min. 2 bar, max. 10 bar
Rail material:	aluminum, colourless anodized
Tapping valves material:	aluminum, black anodized, various elastomers
Seal material:	NBR (Perbunan), silicone-free, oil-resistant



The Three Basic Versions

1. Rails with integrated tapping valves for tapping carriages:
2. Rails with integrated outlet connectors, e.g. for energy guiding chains:
3. Rails without tapping valves or outlet connectors:

Table 1

Table 2

Table 3

Rail Components

Rail Sections A180

Table 1 – Rails with Integrated Tapping Valves

Part No.	048802-3000x2-1500		048802-6000x4-1500	
Length A	mm	3000		6000
Spacing B	mm	1500		1500
No. of tapping valves	qty	2		4
Weight	kg	17.4		34.8

Standard distance between tapping valves is 1500 mm. Depending on application and required flexibility of the system, rail sections with a differing number of tapping valves can be installed.

Table 2 – Rails with Outlet Connectors G 1/2"

Part No.	048804-3000x1x03		048804-6000x2-4500x03	
Length A	mm	3000		6000
Spacing B	mm	1500		1500/4500
No. of outlet connectors	qty	1		2
Weight	kg	17.9		35.6

For direct air supply via G 1/2" conduit in the top side, e.g. to supply an energy guiding chain.

Outlet connectors are supplied open.

To close the outlet connectors, plugs can be used (see p. 8).

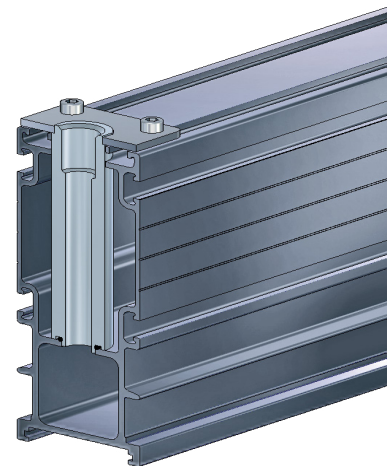


Table 3 – Rails without Tapping Valves or Outlet Connectors

Part No.	048801-3000		048801-6000	
Length A	mm	3000		6000
Weight	kg	7.9		15.8

Special Versions

Non-standard lengths

The rails are available in non-standard lengths according to customer specification. Length: max. 6000 mm. The position and number of tapping valves or connection plates have to be specified by the customer.

Non-standard tapping valve spacing

Available based on customer specification. Minimum spacing: 250 mm. At the rail's beginning: one-sided, minimum spacing: 125 mm.

Rail Components

Accessories A62 / A180

048751 Replacement Tapping Valves

At least one spare tapping valve should be available at all times, because in the event of a valve failure the whole track is affected. The valves can be used for lubricated and dry air. The valves are supplied complete with 2 retaining clips and an O-ring.

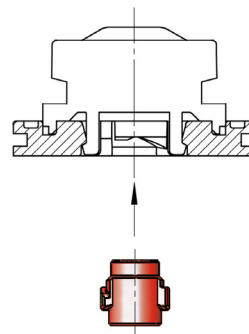
Material **Plate/Clip:** aluminum, black anodized
 Valve: elastomer, plastic
 O-ring: NBR (Perbunan)
Weight: 0.15 kg



048790-002 Valve Lock

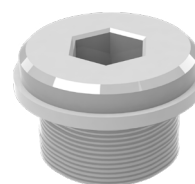
For locking the tapping valve with a bayonet catch. Once locked, the tapping point is no longer accessible, and the tapping carriage will pass it without docking.

Material: plastic, red



048790-006 Plug

Thread: G 1/2" DIN EN ISO 228-1
Material **Plug:** galvanized steel
 Gasket: PVC hard



Rail Components

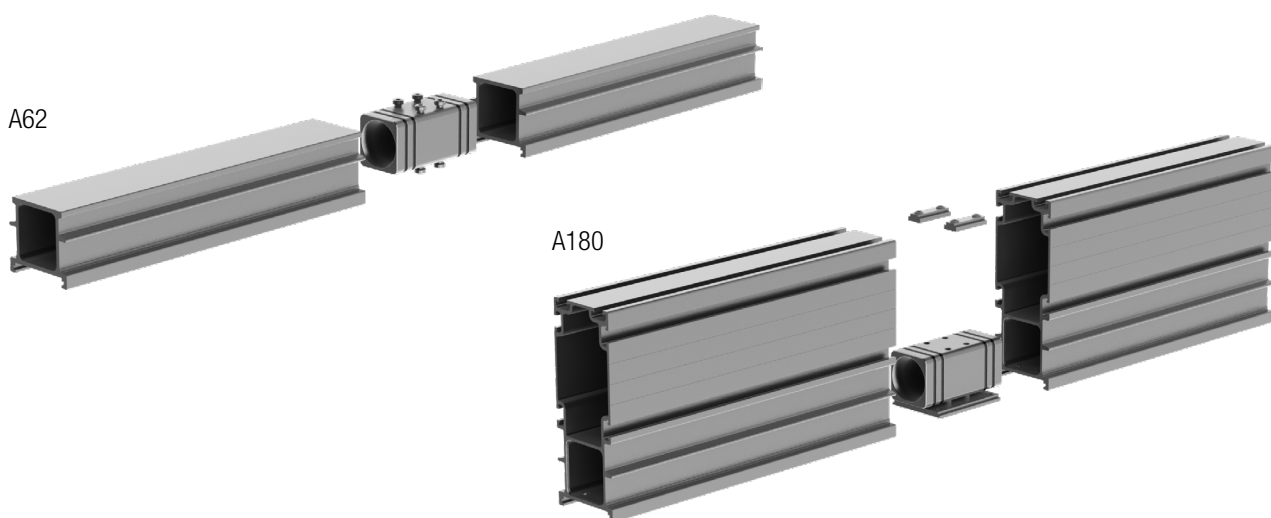
Rail Connections A62 / A180

Rail Connections – General Information

The rail connections serve as coupling elements for rail sections, types A62 and A180. They are screwed directly to the rail section and sealed with O-rings. All coupling types are interchangeable and can be passed by tapping and tool carriages, tool transporters, etc.

The length of the connector types has no influence on the overall length of the installation. Only the lengths of the rail sections themselves are to be considered.

If the Inlet Connector A62 with Vertical Connection G1" is used, the overall length of the installation increases by 60 mm per connector piece.



048710 Rail Connector A62

Standard rail coupling, to connect any type of straight rail.

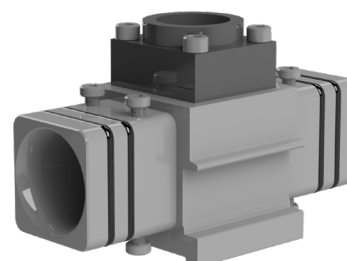
Material: aluminum, colourless anodized
Weight: 0.3 kg



048731-05 Inlet Connector A62 with Vertical Connection G 1"

With vertical air connection G 1" as inlet or outlet, e.g. for stationary air consumers.

Vertical connection thread: G 1" ISO 228-1
Sealing face, connection thread: for flat seals, DIN 3852
Material: aluminum, colourless anodized
Weight: 0.8 kg



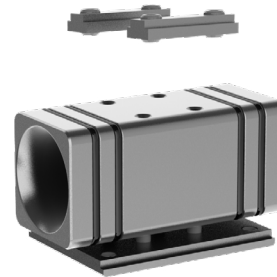
Rail Components

Rail Connections A62 / A180

048810 Rail Connector A180

Simple coupling with connection plate for connecting A180 rails.

Material: aluminum, colourless anodized
Weight: 0.5 kg



Note

Stationary compressed air consumers

We recommend supplying stationary compressed air consumers (e.g. handling units, machines) through rail connectors with vertical connection. This will avoid limiting the flexibility of the tapping and tool carriages.

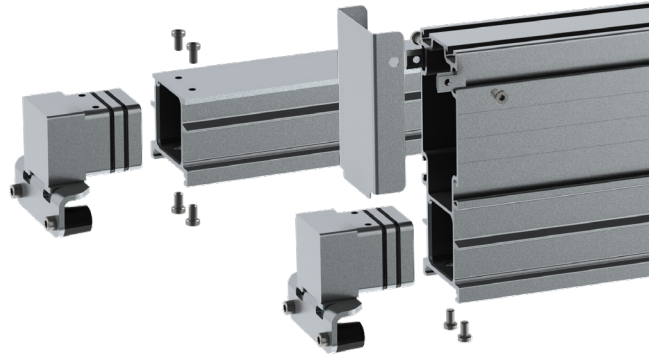
Filter, shut-off valve: If the rail connectors are used as an air inlet, an appropriate air filter (minimum 30-40 µm) should be fitted before the inlet in order to prevent contamination of the rail section. If non-corrosive piping is used between a decentralized filter station and the BestaPower system, an additional filter at the air inlet is generally not necessary. Depending on the installation and layout of the supply piping it is advisable to have a flexible arrangement between pipework and BestaPower inlet (e.g. with a hose). The BestaPower system does not generate any contamination. The installation of a shut-off valve at the air inlet(s) is recommended.

Rail Components

End Pieces A62 / A180

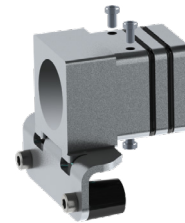
End Pieces – General Information

The end pieces serve as rail termination or as axial air inlet. They are screwed to the face of the rail section and sealed with O-rings. Each end piece is supplied with a rail end stop as limit stop for tapping and tool carriages, work stations, etc.



048730-06 End Piece A62/A180 with G 1 1/4" and End Stop

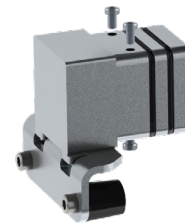
Connection thread:	G 1 1/4" DIN EN ISO 228-1
Sealing face, connection thread:	flat seals, DIN 3852
Material	Termination: aluminum, colourless anodized
	End stop: elastomer, NBR (Perbunan)
Weight:	0.4 kg



Axial air inlet: Connection pieces must either have a parallel pipe thread (ISO 228-1) with a flat seal or a taper thread (ISO 7-1). Taper threads must be sealed with sealing fluid. NPT threads must not be used.

048740 End Piece A62/A180 with End Stop

Material	Termination: aluminum, colourless anodized
	End stop: elastomer, NBR (Perbunan)
Weight:	0.6 kg



048841 Cover Plate A180

As cover for the upper profile opening.

Connection:	2 sliding blocks M6
Material:	aluminum, colourless anodized
Weight:	0.1 kg

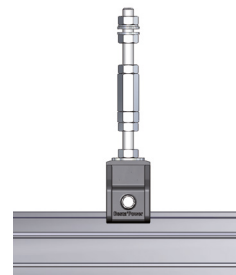


Rail Components

Rail Mounting A62

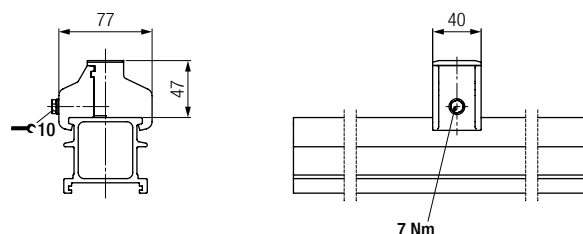
Rail Mounting A62

In order to allow linear thermal expansion of the aluminum rails, two different hangers are available. The fixed point hanger (red) must only be used once per track, preferably next to the inlet. It fixes the rail in all three planes. The sliding hanger (black) is used for all other suspension points and allows linear expansion of the track. Depending on the attached load, the spacing between the suspension points is approx. 2 to 3 m (see p. 4). Whenever possible, one hanger should always be positioned close (max. 0.4 m) to the rail connector.

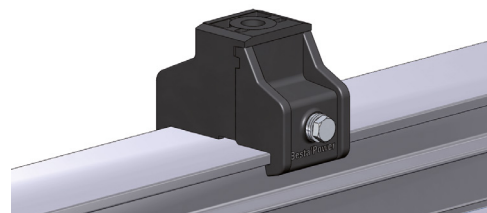


Hangers

Fixed point hanger **048720-F-M10RH**
Fastening nut: M10 right
 galvanized
Color: red
Material: polyamide 6.6
Weight: 0.1 kg



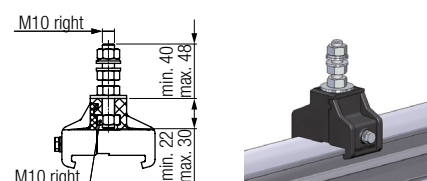
Sliding hanger **048720-G-M10RH**
Fastening nut: M10 right
 galvanized
Color: black
Material: polyamide 6.6
Weight: 0.1 kg



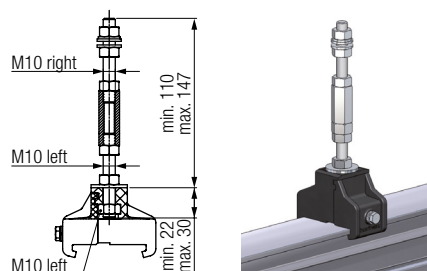
Note: the fixed point hangers can also be used to mount additional components such as energy carrier systems, conductor rails, lamps, etc.

Bolt Sets for Hangers

048721-M10RH-100 **Threaded bolt set**
RH parts: galvanized
Thread: M10 right
To fit hangers: 048720-F-M10RH / 048720-G-M10RH (M10 right)
Weight: 0.1 kg



048721-M10LH-300 **Turnbuckle set**
RH parts: galvanized
LH parts: galvanized
Thread: M10 left / right
To fit hangers: 048720-F-M10LH / 048720-G-M10LH (M10 left)
Weight: 0.3 kg



Note: in combination with turnbuckle set type 048721-M10LH-300, hangers with LH thread, type 048720-F-M10LH / 048720-G-M10LH must be used.

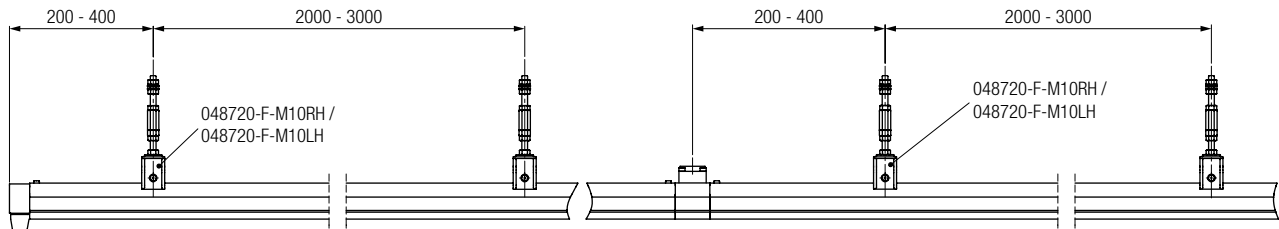
Note:

Instead of these bolt sets, other components, e.g. threaded bars M10, supplied by the customer, may be used.

Rail Components

Rail Mounting A62

Positioning of Fixed Point Hanger

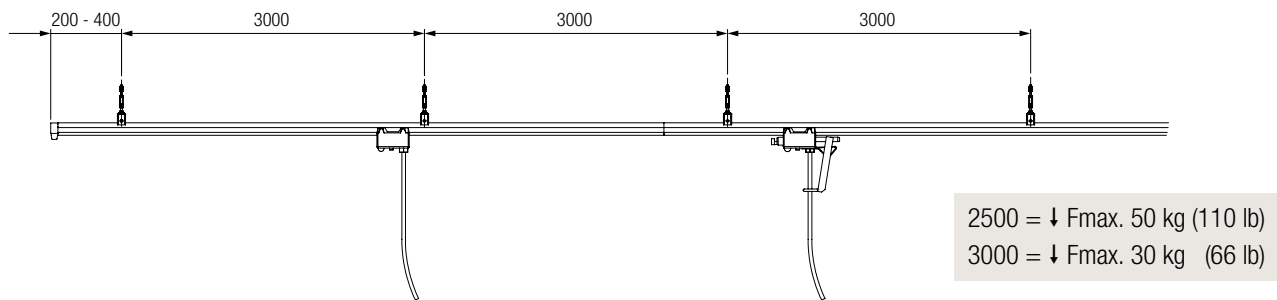


For each rail track only one fixed point hanger (red) type 048720-F-M10RH or 048720-F-M10LH is required. The fixed point hanger should always be positioned close to an air inlet (e.g. axial air inlet type 048730-06 or inlet coupling type 048731-05).

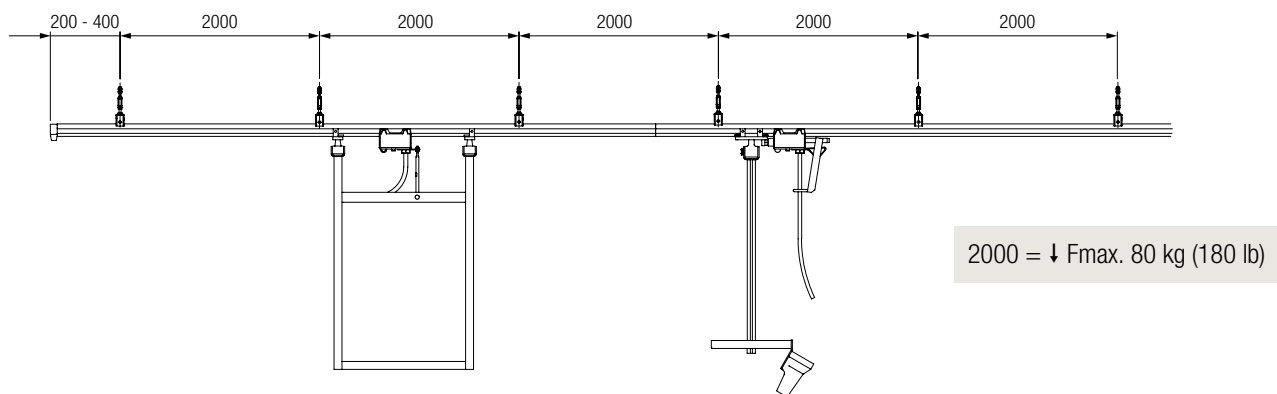
Whenever possible, one hanger should always be positioned close (max. 0.4 m) to the rail connector.

Spacing between Hangers

Installations without work stations, tool holders, etc., max. spacing 3400 mm



Installations with work stations, tool holders, etc., max. spacing 2000 mm

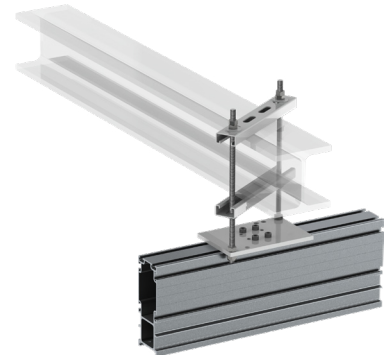


Rail Components

Rail Mounting A180

Rail Mounting A180

Various fastening options are available for securing the rail mounting type A180 to the steel structure of the building. The mounting plate is suitable for a wide range of standard beams in conjunction with common mounting rails. In order to allow linear thermal expansion of the rails, sliding mounting plates should be used. The fixed mounting plate must be used once per rail track only, preferably next to the inlet. Girder clamps can be used if necessary. If cable suspension is required, this can be accomplished with cable mounting elements and fixed sliding blocks. Due to the high load carrying capability the maximum spacing between fasteners is 6 m (see p. 6).



Mounting Plates

048820-F-M10RH Mounting Plate, fixed

Sliding block, fixed: 2 pcs.

Material: galvanized steel

Weight: 1.4 kg

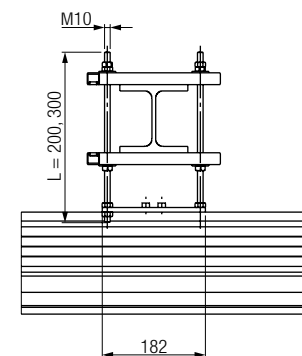


048820-G-M10RH Mounting plate, sliding

Sliding block, sliding: 2 pcs.

Material: galvanized steel

Weight: 1.4 kg



Clamping Set

048821-M10x300-150 Clamping Set 300/150

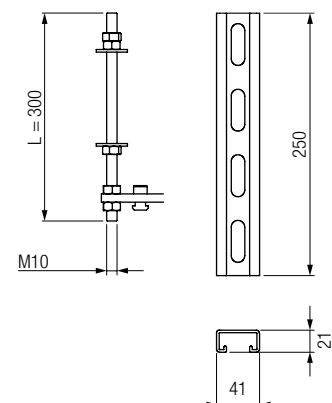
Suitable for beams up to 150 mm width

Threaded rod: 2 pcs., M10x300

Mounting rail: 2 pcs., length 250 mm

Material: galvanized steel

Weight: 1.4 kg



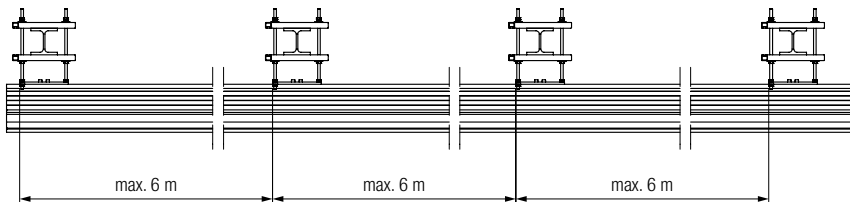
Rail Components

Rail Mounting A180

Suspension

Mounting example with mounting plate and clamping set

Due to the high load carrying capability of the A180 section the fasteners can be placed anywhere within the 6 m spacing.



↓ $F_{\max.}$ 120 kg (264 lb)
for point load
↓ $F_{\max.}$ 80 kg (176 lb)
and 10 kg (22 lb) distributed
load per meter

Hangers should always be positioned close (max. 0.4 m) to the rail connector to ensure optimal impermeability between connectors and rails.

For lateral stabilization of the rail section and to absorb shearing forces, threaded rods can be installed, preferably positioned at the beginning and end, as well as every 24 - 30 meters.



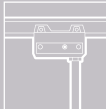















Other methods of mounting, e.g. with rope fixation, are available by request.



Energy Supply

Overview

Three different types of energy supply systems in combination allow for the optimal solution for the specific customer requirement. The matrix below compares the technical characteristics of the systems in order to choose the best option needed for the application.

	Festoon System	Energy Guiding Chain	Tapping Carriage
			
Type of Energy			
Electrical Energy			
Pneumatic Energy			
Advantages / Characteristics			
No Reset Force			
No Cable Loops			
Full Use of Working Area			
Continuous Compressed-Air Supply			
Maintenance & Disassembly without Pressure Loss			
No Cycle Length Limitation			
Pressure Loss-Factor *	3	1	2
Installation Time-Factor *	3	2	1

* 1 = Very Little 2 = Average 3 = Remarkable

Energy Supply Tapping Carriages

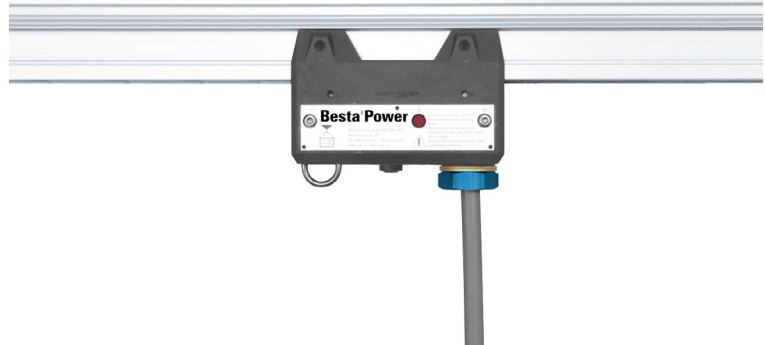
Tapping Carriages – General Information

The tapping carriages automatically dock when traversing a tapping valve and supply tools with compressed air.

Carriages can be undocked anytime by pulling the hose (or by activating the detaching device) and can be transferred to the next tapping valve. Mechanical and pneumatic detaching devices are available.

This tapping technology permits working along the whole rail length. **This is a unique feature not offered by any other energy supply system!** The tapping carriages' operating range is only restricted by the installation length or other workplaces/tapping carriages.

- Suitable for **stationary** and **continuous workplaces**
- **High throughput of air** with minimal pressure loss
- **No cable/hose loops**
- **Complete system length can be used** because there is no need for cable/hose storage space
- **Unlimited number of tapping carriages** in a work cycle
- **Easy retrofitting** of additional workplaces
- **Minimal effort required to move carriages** due to low-friction rollers



Three Basic Tapping Carriage Types:

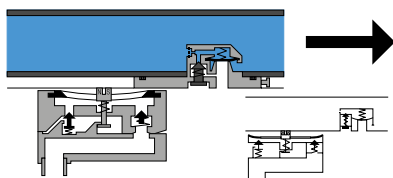
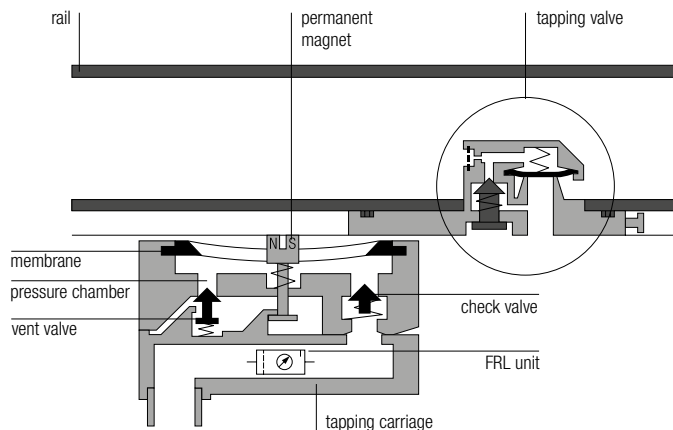
1. Standard Tapping Carriages (page 20)
2. with arrangement for 3/8" FRL units (page 22)
3. with attached 1/2" FRL units (page 24)

FRL: F = Filter, R = Regulator, L = Lubricator

Energy Supply Tapping Carriages

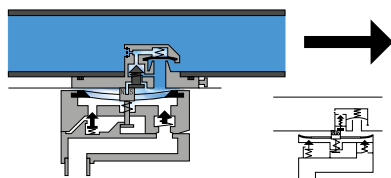
Operation Principle of Tapping Carriage/Tapping Valve

Figures 1-8 show the main steps during docking and undocking of the tapping carriage. The check valve integrated in the tapping carriage keeps the carriage, FRL unit and the air hose pressurized while moving to another tapping valve (Fig. 8), hence no loss of air during moving. The process of undocking the carriage only takes a split second, and is done by air power only. There is no mechanical link between tapping carriage and tapping valve, eliminating mechanical wear or damage due to improper handling.



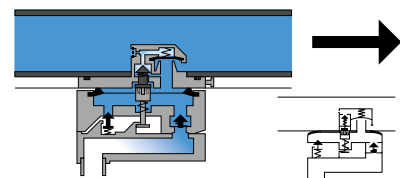
Phase 1: Undocked

The tapping valve is closed.
The tapping carriage is unpressurized and freely movable.



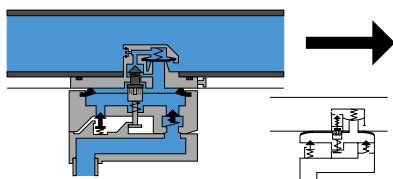
Phase 2: Docking

As soon as the tapping carriage arrives at a tapping point, the permanent magnet opens the tapping valve. Compressed air flows into the pressure chamber of the tapping carriage.



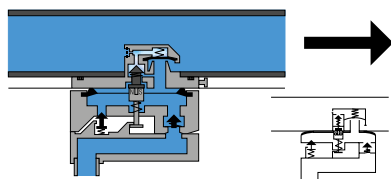
Phase 3: Docked

The tapping valve remains open. The pressure chamber is filled, causing the membrane in the tapping carriage to be pressed against the valve flange. The pressure opens the check valve, and pressure builds up in the hose.



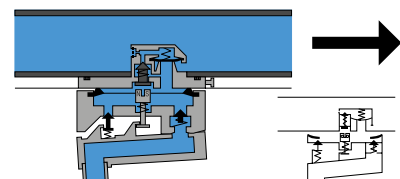
Phase 4: Docked without air tapping

As soon as pressure is equalized inside the compressed air rail, the tapping carriage and the hose, the tapping valve and the check valve automatically close.



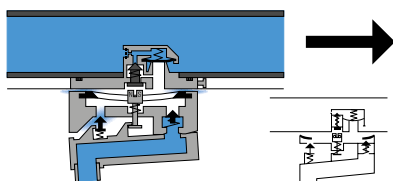
Phase 5: Docked with air tapping

As soon as compressed air is drawn, the check valve and the tapping valve open. Compressed air flows to the consumer.



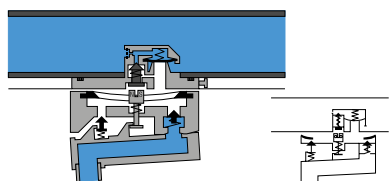
Phase 6: Undocking – Step 1

The permanent magnet is released from the tapping valve by pulling the hose. The tapping valve closes, thereby interrupting the air supply. The check valve is closed.



Phase 7: Undocking – Step 2

The vent valve opens. The pressure chamber is vented, causing the membrane in the tapping carriage to become detached from the valve flange.



Phase 8: Undocked

The tapping carriage is now freely movable. The check valve remains closed, so that the hose remains pressurized until the next docking procedure.

Energy Supply

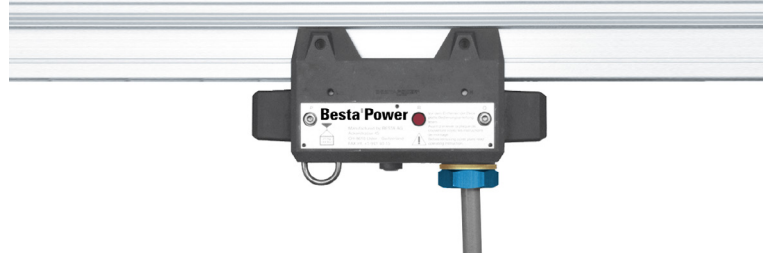
Tapping Carriages

Standard Tapping Carriages

Since the use of a filter at each rail inlet is required, additional filtration on the tapping carriage is not necessary for most applications.

This is a low cost type tapping carriage for all applications where air preparation and/or regulation are not required. The carriage can be used for a pressure range of min. 2 bar to max. 10 bar and is regarded economical for flow rates up to approx. 1500 l/min, max. approx. 2000 l/min.

These tapping carriages are characterised by simple functional design and high flow rate.



048780-03 Tapping Carriage

Operating pressure p1: min. 2 bar, max. 10 bar

Flow rate Q: at 6 bar, approx. 2000 l/min.
economical 1500 l/min.

Max. load on hook: 20 kg

Material: aluminum, various plastic materials

Weight: 1.8 kg



Basic equipment features of these tapping carriages include the following components:

- Hook to attach spring retainer or balancer.
- Connection thread G 1/4" for pressure gauge, bottom of carriage.
- Fixing slots to accommodate buffer, detaching device or carriage coupling.
- Connection thread for hose set



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Energy Supply

Tapping Carriages

Tapping Carriages with attached 1/2" FRL Units

This tapping carriage allows individual air preparation on site. The modular design enables 1 or 2 FRL units to be used. Providing that filtered air is supplied to the BestaPower system as recommended, an additional filter on the carriage is generally not required.

These 1/2" tapping carriages cannot be operated without FRL units attached.

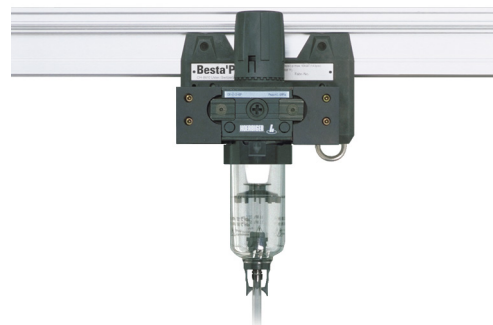


Basic equipment features of these tapping carriages include the following components:

- Spring retainer or balancer hook.
- Pressure gauge connection thread G 1/4", bottom of carriage.
- Fixing slots to accommodate buffer, detaching device or carriage coupling.
- Connection thread for hose set.

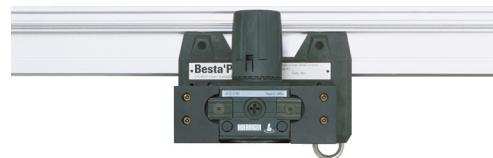
048782-03FR Tapping carriage with 1/2" filter/regulator

Operating pressure inlet p1:	min. 2 bar, max. 10 bar
Operating pressure outlet p2:	max. 8 bar
Flow rate Q:	at 6 bar, approx. 2000 l/min. economical 1500 l/min.
Filter element (white):	30 µm (5 µm possible)
Filter efficiency:	95%
Max. load on hook:	20 kg
Tapping carriage material:	aluminum, plastics
Weight:	2.7 kg



048782-03R Tapping carriage with 1/2" regulator

Operating pressure inlet p1:	min. 2 bar, max. 10 bar
Operating pressure outlet p2:	max. 8 bar
Flow rate Q:	at 6 bar, approx. 2000 l/min. economical 1500 l/min.
Max. load on hook:	20 kg
Tapping carriage material:	aluminum, plastics
Weight:	2.4 kg
Option:	Pressure gauge 048791-017 with G 1/4" connection



Energy Supply

Tapping Carriages

Tapping Carriages with attached 1/2" FRL Units (cont.)

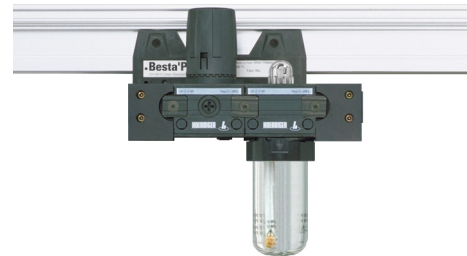
048782-03L Tapping carriage with 1/2" mist lubricator

Operating pressure inlet p1: min. 2 bar, max. 10 bar
Flow rate Q: at 6 bar, approx. 2000 l/min.
economical 1500 l/min.
Oil capacity: max. 120 cm³
Max. load on hook: 20 kg
Tapping carriage material: aluminum, plastics
Weight: 2.3 kg



048782-03RL Tapping carriage with 1/2" regulator and mist lubricator

Operating pressure inlet p1: min. 2 bar, max. 10 bar
Operating pressure outlet p2: max. 8 bar
Flow rate Q: at 6 bar, approx. 2000 l/min.
economical 1500 l/min.
Oil capacity: max. 120 cm³
Max. load on hook: 20 kg
Tapping carriage material: aluminum, plastics
Weight: 2.6 kg



048782-03FRL Tapping carriage with 1/2" filter/regulator combination and mist lubricator

Operating pressure inlet p1: min. 2 bar, max. 10 bar
Operating pressure outlet p2: max. 8 bar
Flow rate Q: at 6 bar, approx. 2000 l/min.
economical 1500 l/min.
Filter element (white): 30 µm (5 µm possible)
Oil capacity: max. 120 cm³
Filter efficiency: 95%
Max. load on hook: 20 kg
Tapping carriage material: aluminum, plastics
Weight: 2.7 kg



Energy Supply Tapping Carriages

Tapping Carriage Accessories

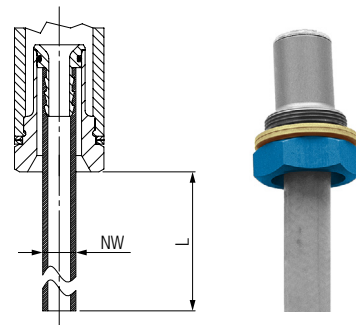
Hose Set

The hose set consists of self-fastening hose with fitted nipple and complete with tube nut (O-ring and two spacers). The other hose end is open to connect to the consumer. The tool can be mounted directly at the hose end or via a coupling.

For a smooth undocking and docking process, a hose set of at least 300 mm is required. Over this length, the movement of the hose must not be restricted. The self-fastening hose offers convenient and tight sealing between nipple and hose without additional hose clamp.

Hose	NW 1/2" (13 mm)
Length [m]	Type
1.0	048791-1,0x03
3.0	048791-3,0x03

Other lengths available by request

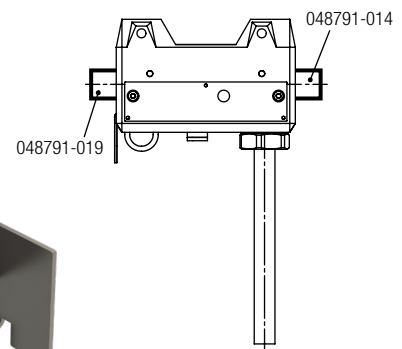
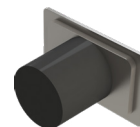


048791-014 Buffer

Buffers protect tapping carriages against collision forces.

The tapping carriages are equipped with the required mounting slots.

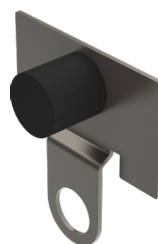
Material plate: steel, galvanized
Material buffer: elastomer, NBR (Perbunan)
Weight: 0.17 kg



048791-019 Buffer with securing bracket

Securing bracket, e.g. to hold or secure a spring retainer etc.

Material bracket: steel, black
Material buffer: elastomer, NBR (Perbunan)
Max. load: 20 kg
Weight: 0.1 kg



048791-015 Pressure gauge

This gauge is for individual pressure reading on each tapping carriage. The connection thread G 1/4" is located on the bottom of the tapping carriage.

Connection: rear G 1/4" DIN EN ISO 228-1
Scale: 0-16 bar
Gasket: copper compression washer



Energy Supply

Tapping Carriages

Tapping Carriage Accessories

Hose Nozzles – Special Hose Nozzle for Tapping Carriages

This hose nozzle is required to link a tool carriage with a tapping carriage. The hose nozzle is connected to the control lever at the front of the tapping carriage, instead of the plug fitted. The hose nozzle is suitable for self-fastening hoses. No additional hose clamp is required.

048791-032 Hose nozzle 1/2" for self-fastening hoses

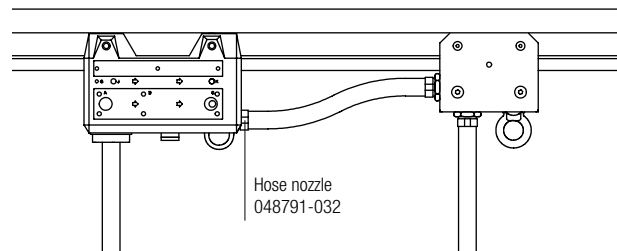
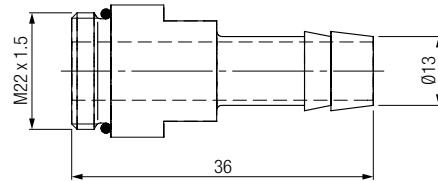
Connection to tapping carriage: M22x1.5

Hose inside Ø: 13 mm (1/2")

Material: aluminum, colourless anodized

O-ring: NBR (Perbunan)

Weight: 0.03 kg



048791-002 Reducer M36-G 1/2" internal thread

The reducer (complete with O-ring and two spacers) can be fitted to the tapping carriage instead of the hose set (see page 26) and allows connection of a regular hose.

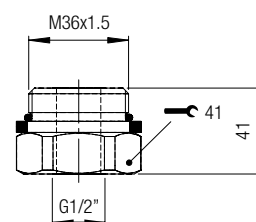
Connection thread for carriage: M36x1.5

Connection thread for accessory: G 1/2" DIN EN ISO 228-1

Material reducer: aluminum, anodized

Material O-rings: NBR (Perbunan)

Weight: 0.1 kg



Energy Supply

Tapping Carriages

Tapping Carriage Accessories (cont.)

Detaching Devices – General Information

Detaching devices can be fitted (or retrofitted) to any type of tapping carriage. They enable undocking of the tapping carriage from the tapping valve without the need of vertically pulling on the hose. Simply by deflecting the hose sideways in the working direction, or approx. 50° crosswise, the tapping carriage will undock. The deflection will create enough momentum to move the carriage to the next tapping point.

Detaching devices are always used when a carriage cannot be disengaged manually, e.g. during assembly work inside a car body, or whenever convenient automatic detaching is desirable for economic, ergonomic or safety reasons.



Mechanical Detaching Device

The mechanical type is the most economical detaching device and serves the purpose for most applications. It is particularly suitable for use in rough operating conditions.

048791-020 Mechanical detaching device

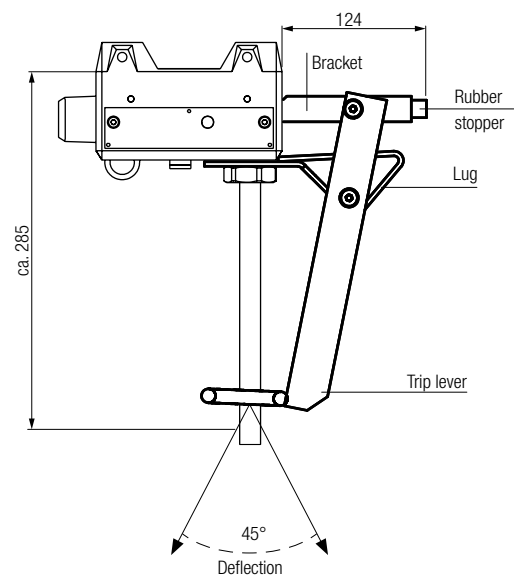
Consisting of lug, bracket with rubber stopper, trip lever with ball bearing and guide ring for hose

Mounting: mounting slots in the tapping carriage

Release force: approx. 40 N (at 45° deflection)

Weight: 1.5 kg

Material: steel, coated



Energy Supply

Tapping Carriages

Tapping Carriage Accessories

Pneumatic Detaching Device

The pneumatic detaching device operates very smoothly and is used in applications with more stringent ergonomics requirements. The tapping carriage is also undocked by deflecting the hose sideways in the working direction.

048791-021 Pneumatic detaching device

Consisting of pneumatic unit, trip lever, swing bracket, rubber buffer

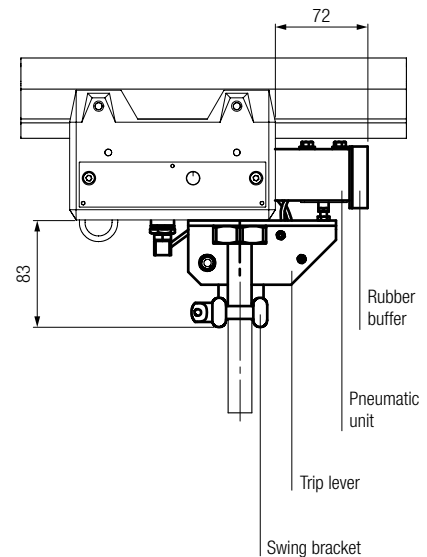
Operating pressure: max. 7 bar

Mounting: mounting slots in the tapping carriage

Release force: approx. 10 N (at 45° deflection)

Weight: 1.0 kg

Material: steel, black



Undocking aid – detaching chain

This detaching chain is used when undocking of a tapping carriage is not possible by pulling on the hose, e.g. on a (one-armed) tool holder (see example 3, page 41).

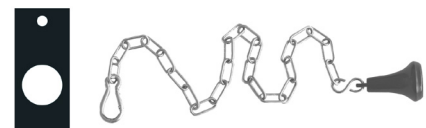
048792-022 Detaching chain

Material steel chain: zinc-plated / plastic handle

Material plate: steel, black

Chain length: like post length of tool holder

Weight: 0.35 kg (L = 1.5 m)



Energy Supply

Energy Guiding Chains

Energy Guiding Chains – General Information

The energy guiding chain offers continuous energy supply (compressed air and/or electric power to a consumer over a distance of 3 to 18 metres. The chain may be integrated into an existing 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 guiding chain. Weight of a 6 m energy carrier system: approx. 15 kg.



Standard Condition as Delivered

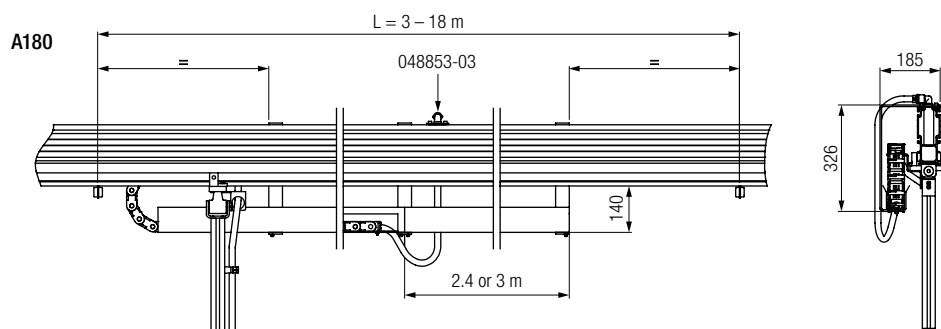
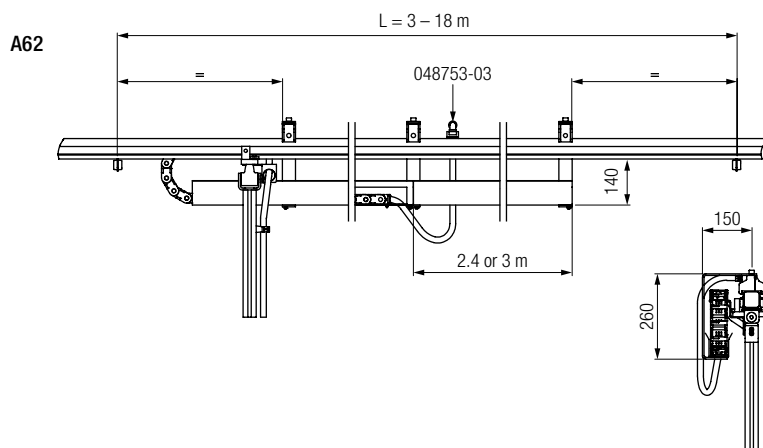
Energy guiding chains are supplied as follows:

- Chain and hose are pre-assembled, ducts, brackets and hangers are enclosed.
- Optional additional equipment is supplied loose.

Energy supply (compressed air)

Compressed air is supplied through an air outlet on the rail.

- through outlet connection 048753-03 on rails A62
- through air outlet 048853-03 on rails A180



Energy Supply

Energy Guiding Chains

Table Energy Guiding Chain System for A62 and A180

Type / Material description	A62 - Material-No.	A180 - Material-No.
Energy Carrier System A62 / A180 - 3.0 m; 1 x duct 3.0 m	048770-03000-1x3000	048870-03000-1x3000
Energy Carrier System A62 / A180 - 4.0 m; 1 x duct 3.0 m	048770-04000-1x3000	048870-04000-1x3000
Energy Carrier System A62 / A180 - 5.0 m; 2 x duct 2.4 m	048770-05000-2x2400	048870-05000-2x2400
Energy Carrier System A62 / A180 - 6.0 m; 2 x duct 3.0 m	048770-06000-2x3000	048870-06000-2x3000
Energy Carrier System A62 / A180 - 7.0 m; 2 x duct 3.0 m	048770-07000-2x3000	048870-07000-2x3000
Energy Carrier System A62 / A180 - 8.0 m; 3 x duct 2.4 m	048770-08000-3x2400	048870-08000-3x2400
Energy Carrier System A62 / A180 - 9.0 m; 3 x duct 3.0 m	048770-09000-3x3000	048870-09000-3x3000

The order number includes the following components of the energy guiding chain:

- 1-7 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 guiding chain incl. mounting elements
- 1 link plate
- 2 adjustable stoppers

Other lengths and energy guiding chains with electrical cables and/or data cables are available by request.

Additional Equipment

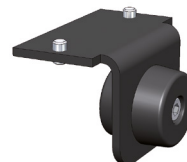
Depending on the application, the basic system can be equipped with the following items:

048760 Adjustable stopper

Can be fitted to any rail end flange and serves as an end stopper for carrier units or tool carriers.

Material: steel, black / elastomer, NBR (Perbunan)

Weight: 0.1 kg



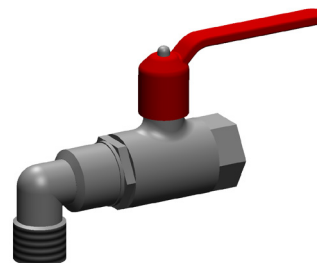
048793-006 Ball valve set with elbow 1/2"

The ball valve set can be used as shut-off unit for the energy supply, enabling a compressed-air supply at the workplace.

Material: ball valve – brass, nickel-plated
angle piece – brass, nickel-plated

Weight: 0.28 kg

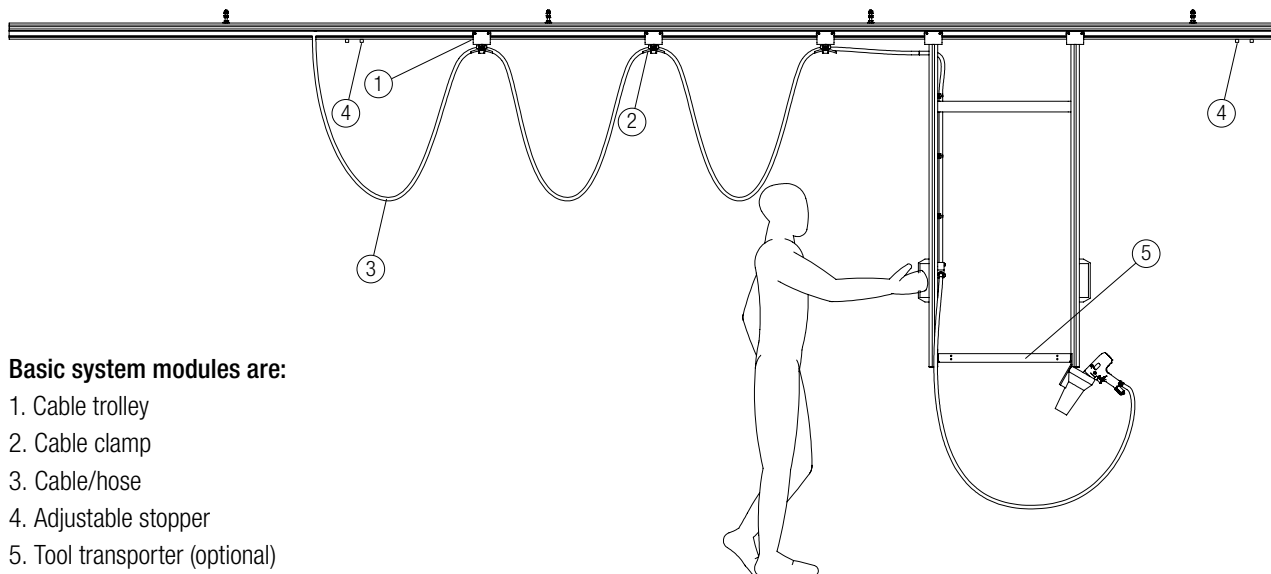
Scope of delivery: ball valve G1/2" i/o incl. angle piece 90° G1/2" i/o



Energy Supply Festoon Systems

Festoon Systems – General Information

Festoon systems can be designed for electric power cables, data communication links, and compressed air hoses. They offer a continuous energy supply within a defined working area or working cycle. Typical applications are workstations 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 with existing, or new BestaPower installations, without the need for an additional parallel installation.



Basic system modules are:

1. Cable trolley
2. Cable clamp
3. Cable/hose
4. Adjustable stopper
5. Tool transporter (optional)

Festoon Systems – Components and Part Numbers

048785-003 Cable trolley

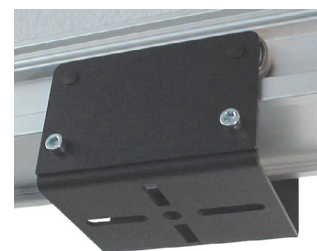
The tow trolley is used for flat and round cables or air hoses.

The universal bore arrangement fits commonly available cable clamps.

Material: steel, black

Max. load on hook: 20 kg

Weight: 0.45 kg



048693-002 Cable clamp, small

A complete cable clamp for round cables with \varnothing 10-16 mm, including a ball joint and mounting screws.

Material: plastic, yellow

Weight: 0.08 kg



048693-003 Cable clamp, large

A complete cable clamp for round cables with \varnothing 17-25 mm, including a ball joint and mounting screws (also suitable for 1/2" compressed-air hose).

Material: plastic, yellow

Weight: 0.10 kg



Energy Supply Festoon Systems

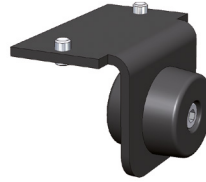
Festoon Systems – Components and Part Numbers

048760 Adjustable stopper

This stopper can be positioned anywhere along the bottom of the rail, and it can be used as a buffer on both sides.

Material: steel, black / elastomer, NBR (Perbunan)

Weight: 0.1 kg



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:	PVC	PVC	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 0240 “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.

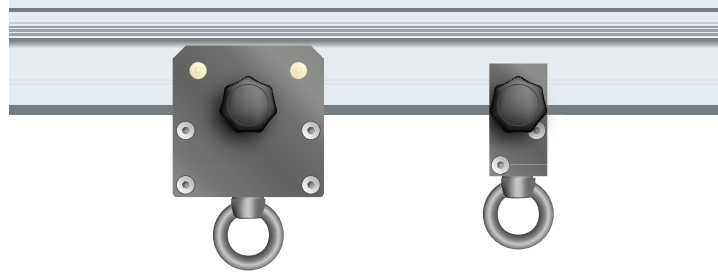
- Number of end stops:** 4 x 2 per cycle = 8 units
- Number of cable trolleys:** 4 x 15 / 1.6 = 36 units
- Number of cable holders:** 36 units
- Number/length of cables:** 4 x (15 x 1.25 + 2) = 4 cables of 20.75 m each

Trolleys

Equipment Carriers

Equipment Carriers – General Information

Load carriers can be used to hold tools or any other additional load. They can be linked directly with tapping carriages.

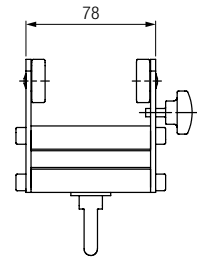
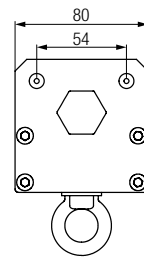


Suspension Elements

048785-001 Load carrier

Mounting slots are provided on the bottom and on the side.

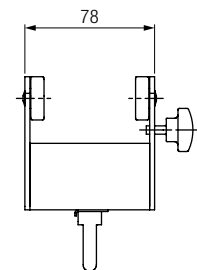
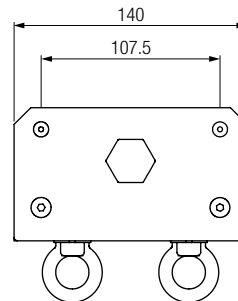
Material carriage (side plates):	steel, black
Material carriage (body):	aluminum section 40/80, colourless anodized
Max. load¹⁾:	20 kg
Weight:	1 kg
Scope of delivery:	1 eye bolt M8 incl. sliding block, star knob



048785-002 Load carrier

Two M8 mounting holes are provided on the bottom. Further holes can be drilled if required, also on the side.

Material carriage (side plates):	steel, black
Material carriage (body):	aluminum section 40/80, black anodized
Max. load¹⁾:	20 kg
Weight:	1 kg
Scope of delivery:	1 eye bolt M8, star knob



Connection Elements

048791-029 Coupling with buffer element

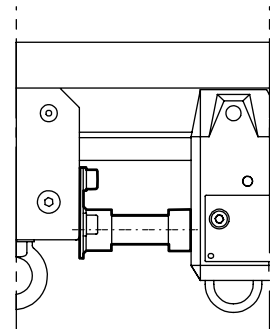
To link tapping carriage with load carrier 048785-002.

Mounting tapping carriage:	mounting slots
Mounting carriage:	screwed connection
Buffer element:	elastomer, NBR (Perbunan)
Weight:	0.25 kg

048791-030 Coupling with buffer element

Like 048791-029, but to link tapping carriage with load carrier 048785-001.

Mounting tapping carriage:	mounting slots
Mounting carriage:	screwed connection with sliding block
Buffer element:	elastomer, NBR (Perbunan)
Weight:	0.25 kg



¹⁾ The load carriers are approved for loads up to 80 kg. However, for loads >20 kg criteria such as possible dynamic loads must be considered, and the spacing between hangers must be checked. Please contact us for further information.

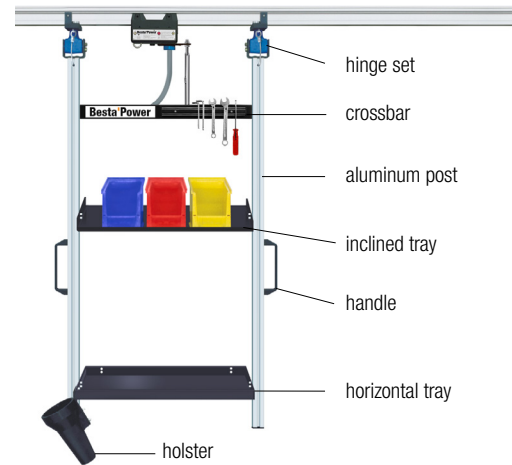
Trolleys

Tool Transporters

Tool Transporters – General Information

Tool transporters are ideal to conveniently deposit tools, assembly parts, measuring equipment etc. at the work place. The modular design offers flexibility to meet individual requirements regarding ergonomics, productivity and user comfort.

Tool transporters can be used with or without energy supply. The air supply can either be arranged with a tapping carriage or in combination with an energy carrier system. If required, electric power supply can also be integrated, always observing local regulations. Depending on travel length, conductor rails, energy guiding chains, loose cables, or cable reels can be used.



Standard Condition as delivered

Tool transporters are supplied semi-assembled as follows:

- Carrier units fitted to vertical posts. If a hinge set is included, this is also fitted (for easier assembly on site, profile end caps are supplied loose).
- Trays are supplied loose, but complete with sliding blocks and screws.
- Crossbars are supplied loose. Any detaching devices and manifolds will be fitted to same.
- Hose sets, holsters, and handles are supplied loose, but always complete with the required number of fasteners.

Tool Transporter (without Compressed Air Supply)

048786-1500-S

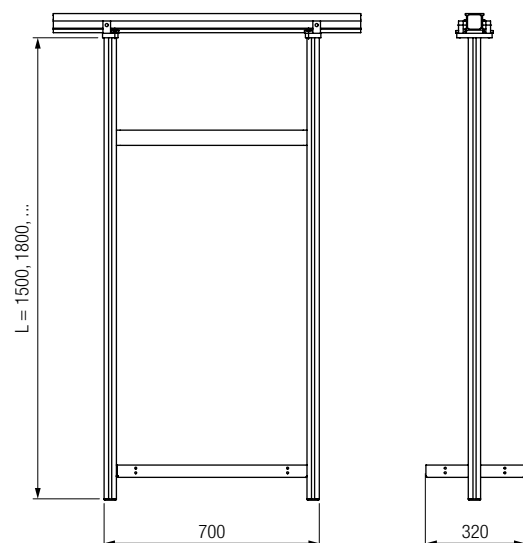
The basic model 048786-1500-S includes:

- 2 carrier units with guide rollers
- 2 posts, aluminum section 40/40 mm, length: 1500 mm, complete with section end caps
- 1 crossbar, steel, black
- 1 horizontal tray, 620x320x40 mm, sheet steel, black, with rubber mat
- Max. load on tray: 30 kg
- Max. load on tool transporter: 60 kg
- (for heavier loads please contact us)
- Weight of tool transporter (L = 1500 mm): 14 kg

Additional equipment (optional):

- post length L: 1800, 2000, 2500 mm
- additional tray: horizontal or inclined type
- handles
- hinge set 25° (increases overall length: L + 78 mm)
- holsters
- additional crossbar (e.g. lower type)

Details see additional equipment, page 37.



Trolleys

Tool Transporters

Tool Transporter with Mechanical Detaching Device

The mechanical detaching device is linked with a tapping carriage. By axial movement of the tool transporter along the rail, the tapping carriage is undocked, automatically docking at the next tapping point.

048786-1500-MJ-S (without tapping carriage)

The basic model 048786-1500-MJ-S includes:

- 2 carrier units with guide rollers
 - 2 posts, aluminum section 40/40 mm, length: 1500 mm, complete with section end caps
 - 1 mechanical detaching device
 - 1 crossbar, steel, black
 - 1 horizontal tray, 620x320x40 mm, sheet steel, black, with rubber mat
- Max. load on tray: 30 kg
Max. load on tool transporter: 60 kg
(for heavier loads please contact us)

Required accessories:

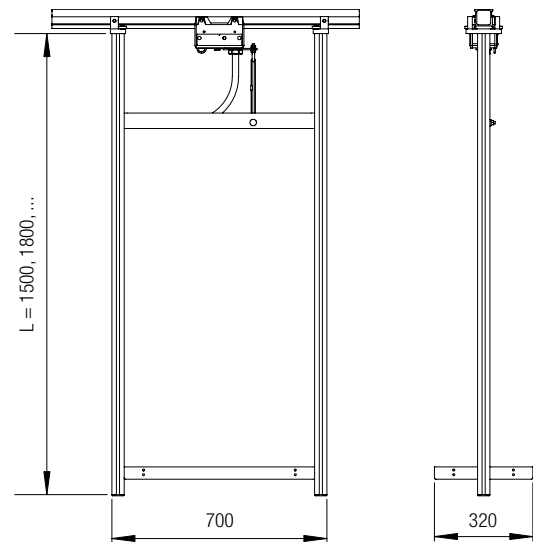
- hose set, complete with tube nut, nipple and hose clamps
- manifold with 3 outlet ports G 1/2"
- tapping carriage

Additional equipment (optional):

- post length L: 1800, 2000, 2500 mm
- additional tray: horizontal or inclined type
- handles
- hinge set 25° (increases overall length: L + 78 mm)
- holsters
- additional crossbar (e.g. lower type)

Details see additional equipment, page 37.

Note: Tapping carriages are not part of the tool transporters and must be ordered separately.



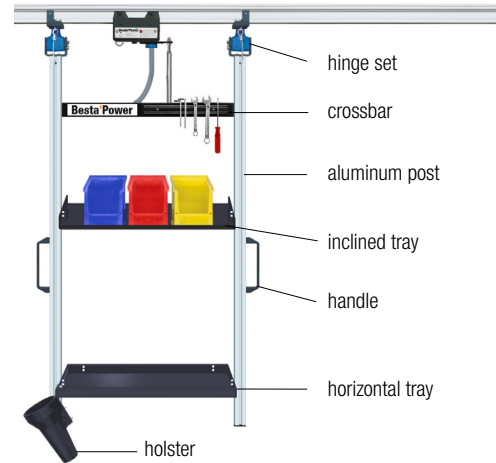
Trolleys

Tool Transporters

Additional Equipment for Tool Transporters

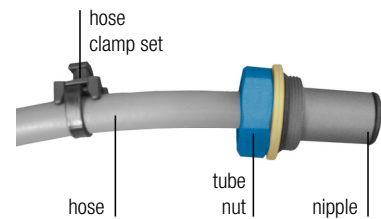
All basic models can be equipped with additional components to meet individual requirements.

The tool transporter type 048786-1500-MJ-S is operated in combination with a tapping carriage, and therefore must be equipped with a hose set and a manifold.



048792-001 Hose set 1/2"

Self-fastening hose 1/2" (grey), complete with tube nut and hose nipple to fit tapping carriage. Length of hose 2.5 m, free end (no coupling supplied). The hose set is supplied with hose clamps to be fitted to the vertical post, preferably on the left hand side. Weight 0.6 kg.



048792-002 Hose set 3/8"

Similar to 048792-001, but with self-fastening hose 3/8". Weight 0.5 kg.

048792-006 Crossbar

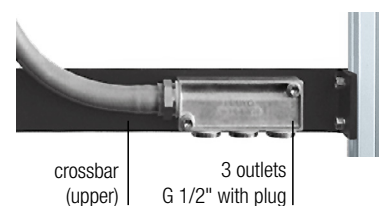
An additional crossbar can be fitted to the lower end of the post, e.g. to position a manifold. Weight 1.6 kg.



Note: All tool transporters with post length $L > 2000$ mm must be fitted with an additional crossbar for stability.

048792-003 Manifold, 3 outlet ports G 1/2"

This manifold can be fitted to the upper crossbar. It is supplied complete with connecting hose (self-fastening hose - 1/2", length approx. 400 mm), tube nut and nipple to fit on the tapping carriage. The outlet ports are sealed with plugs. Weight 0.6 kg.

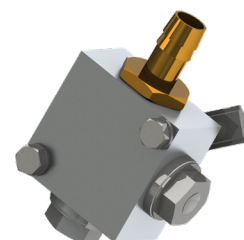


04-P401-0113 Manifold 3xG1/2"

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 and is supplied complete with 3 hose clamp sets. One outlet port is factory sealed with a plug.

Material: aluminum, colourless anodized

Weight: 0.3 kg



Trolleys

Tool Transporters

Additional Equipment for Tool Transporters

048792-007 Hinge set 25° (1 set = 2 pcs.)

The hinge set allows lateral deflection of the tool transporter by 25° to each side. It is a safety feature, e.g. to avoid jamming between tool transporter and any obstruction, such as conveyor systems, etc., and also to protect the installation against impact of any heavy lateral force. The hinge set is fitted between the carrier unit and the aluminum post.

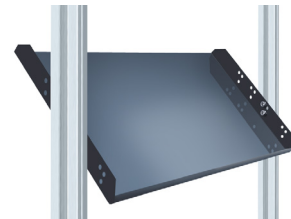


Note: All tool transporters with a post length $L > 2000$ mm must be fitted with this item. The hinge set adds 78 mm to the overall length of a basic tool transporter! Weight 1.1 kg (set).

048792-009 Inclined tray, 620 x 320 mm

The inclined tray can be used as a container for small parts or as storage area for documents, etc. It is fitted to the aluminum posts with sliding blocks at an angle of either 10° or 45°.

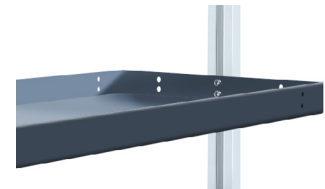
Max. load: 30 kg
Material: steel, black
Weight: 5.4 kg



048792-010 Horizontal tray, 620 x 320 mm

The horizontal tray with rubber mat can be used to hold parts or equipment used on work benches or assembly lines. It has holes on each side to accommodate tool holsters.

Max. load: 30 kg
Material: steel, black
Weight: 4.3 kg



Note: 1 horizontal tray is included in each basic type tool transporter.

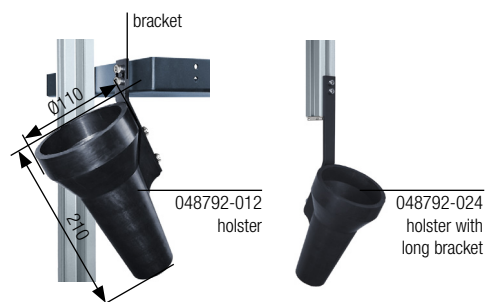
048792-012 Holster complete with bracket /

048792-024 Holster complete with long bracket

The holster is designed to hold medium-sized tools. The holster with long bracket is mounted directly to the post and can be adjusted to working height (adjusting range 20 cm).

Material bracket: steel, black
Material holster: elastomer, NBR (Perbunan)
Weight: 0.9 kg / 1.0 kg (holster with long bracket)

Note: Other holster variants available by request.



048792-013 Handle

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

Material: PA black, fiberglass-reinforced
Weight: 0.1 kg



Trolleys

Tool Holders

Tool Holders – General Information

Tool holders are ideal to conveniently deposit tools and assembly parts at the work place. The modular design offers flexibility to meet individual requirements regarding ergonomics, productivity and user comfort.

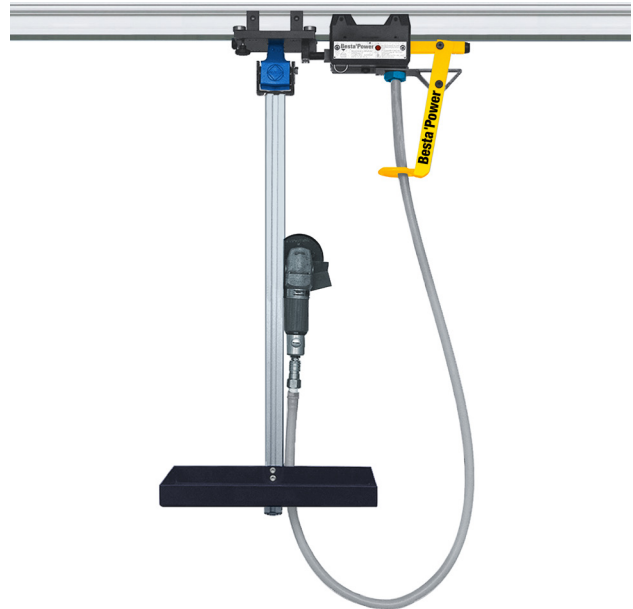
Tool holders can be used with or without energy supply.

The air supply can either be arranged with a tapping carriage or in combination with another energy supply system.

The carrier unit offers superior rolling characteristics.

The hinge set, a safety feature, also offers damping of the tapping carriage during docking and undocking.

Tool holders are only supplied with a hinge set.



Standard Condition as delivered

Tool holders are supplied semi-assembled as follows:

- Carrier unit (a), hinge set (b), vertical post (c) and closing plate (d) are assembled.
- Sliding blocks are pre-fitted to the post.
- All other components are supplied loose.

Tool Holder (Basic Type)

048787-1500 Tool Holder

The basic model 048787-1500 includes:

- 1 carrier unit with guide rollers and buffer (a)
- 1 hinge set 25° (b)
- 1 post, aluminum section 40/40 mm, L = 1500 mm (c)
- 1 closing plate (aluminum) (d)

Max. load on tool holder: 40 kg

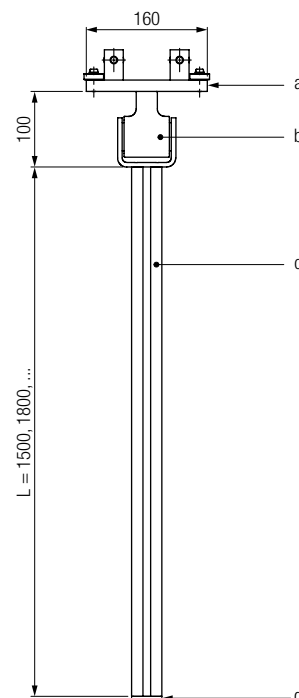
(for heavier loads please contact us)

Weight of tool holder (L = 1500mm): 5 kg

Additional equipment (optional):

- post length L: 1800, 2000, 2500 mm
(special post lengths by request)
- handle
- hose set
- holster

Details see additional equipment, page 40.



Trolleys

Tool Holders

Additional Equipment

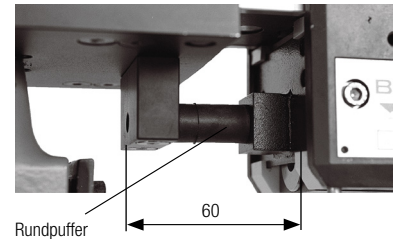
Depending on the requirements, the basic model can be equipped with additional components.

048792-015 Coupling with buffer element

The coupling is used to link a tool holder with a tapping carriage.

The buffer element has a damping effect during docking and undocking.

Material flange:	steel, black
Material plate:	aluminum, black anodized
Buffer element:	elastomer, NBR (Perbunan)
Weight:	0.3 kg



048792-012 Holster complete with bracket /

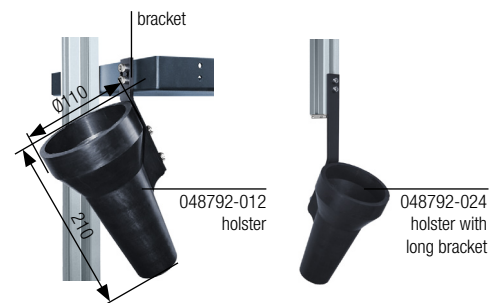
048792-024 Holster complete with long bracket

The holster is designed to hold medium-sized tools.

The holster with long bracket is mounted directly to the post and can be adjusted to working height (adjusting range 20 cm).

Material bracket:	steel, black
Material holster:	elastomer, NBR (Perbunan)
Weight:	0.9 kg / 1.0 kg (holster with long bracket)

Note: Other holster variants available by request.

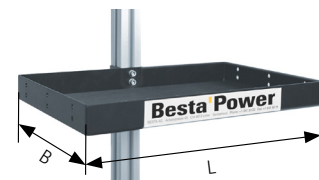


048792-028 Horizontal tray, 400 x 250 mm

Tray with rubber mat to accommodate material boxes, small tools etc.

Includes mounting holes for tool holster 048792-012.

Material:	steel, black
Weight:	2.6 kg



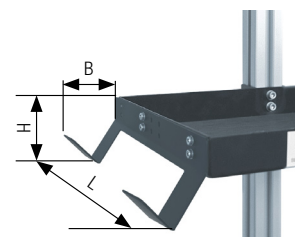
048792-030 Angle holder

The angle holder can be used for angled screw runners and for other tools.

The holder can be fitted to the horizontal tray 048792-028

(not suitable for horizontal tray 048792-010 on page 36).

Material:	steel, black
Dimensions in mm:	L = 360, B = 140, H = 122
Weight:	0.9 kg



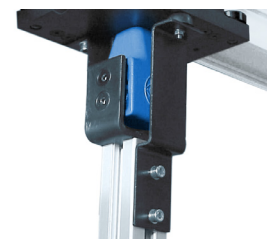
048792-031 Angle holder

Like 048792-030, but with sliding blocks to fit directly to vertical aluminum posts.

048792-014 Limit stop

The limit stop prevents lateral deflection of the tool holder in the event of high strain. In combination with an energy guiding chain the limit stop can be fitted opposite the connection bracket only.

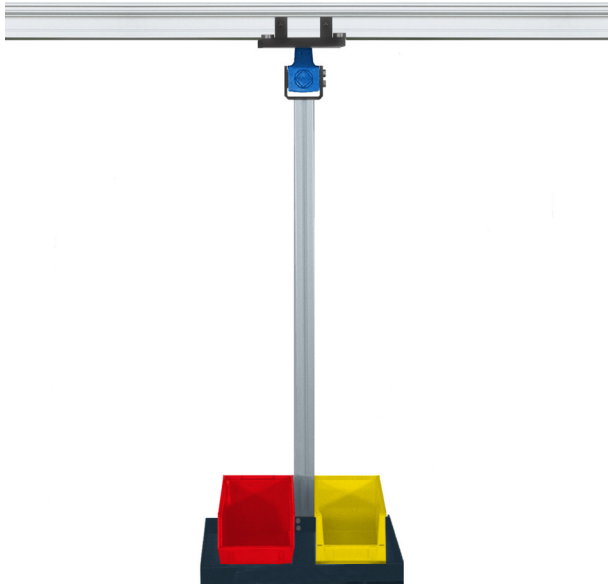
Material:	steel, black
Weight:	0.2 kg



Trolleys

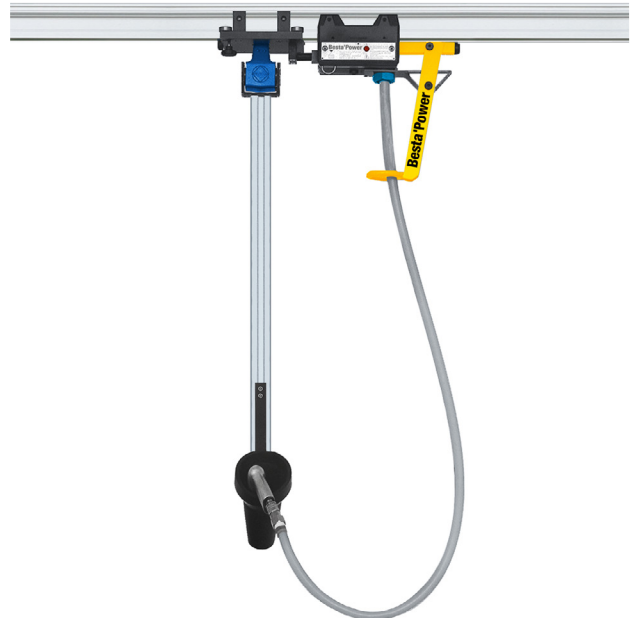
Tool Holders

Application Examples



Example 1

Horizontal tray (without compressed air supply).
Weight*: approx. 8 kg (tool holder only)



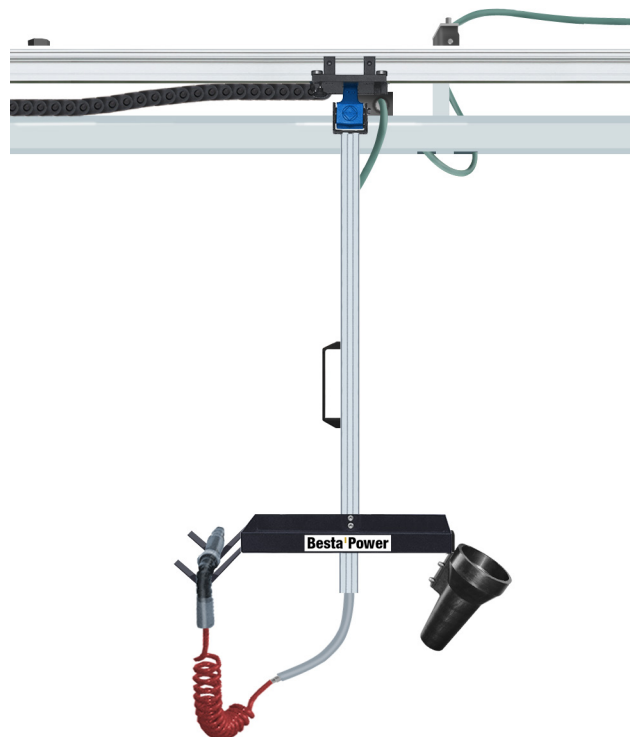
Example 2

Holster and tapping carriage coupled with mechanical detaching device. Weight*: approx. 6 kg (tool holder only)



Example 3

Horizontal tray, holster and handle, coupled with tapping carriage and detaching chain. Weight*: approx. 9 kg (tool holder only)



Example 4

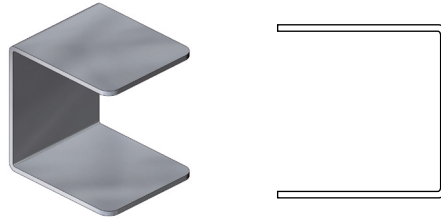
Horizontal tray, holster, angle holder and handle. Continuous air supply with energy guiding chain. Weight*: approx. 10 kg (tool holder only)

* weight calculated with a post length of 1.5 m

Tools / Assembly Aids

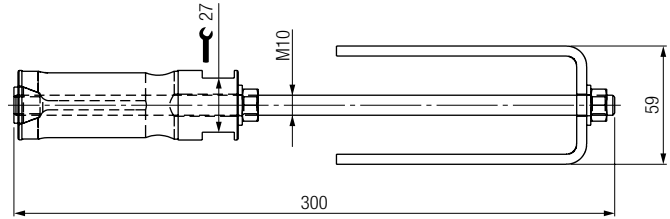
048799-D004 Assembly device

The assembly device ensures the correct installation depth of couplings during installation in the rail section (limit stop).



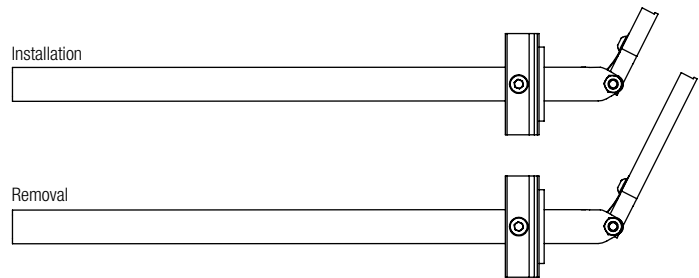
048799-D003 Pull-out device

This device is required for pulling out the rail couplings 048710 / 048810 from the rail section.



048799-D005 Displacement device

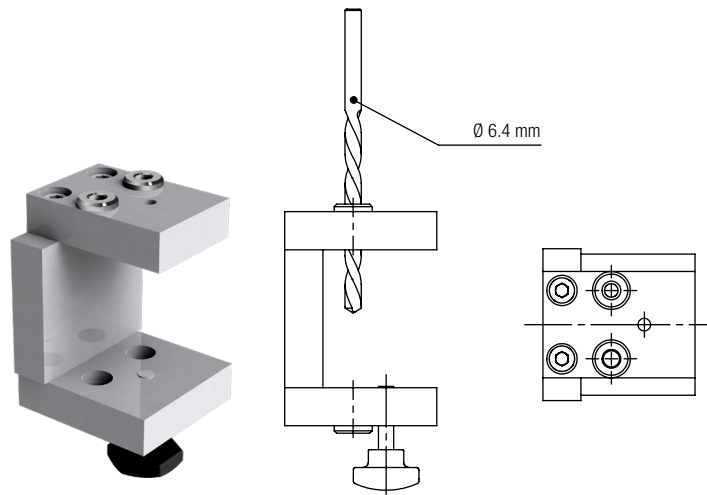
This device can be used for moving couplings into position after installation in order to enable removal of a rail section.



048799-D001 Drill jig

The drill jig is used for precise drilling of the holes required for mounting the coupling on trimmed A62/A180 rail sections.

Note: the drill is not included.



048799-D002 Deburring set

This tool can be used for deburring the cutting edges of the trimmed rail section and the drill holes.

Note:

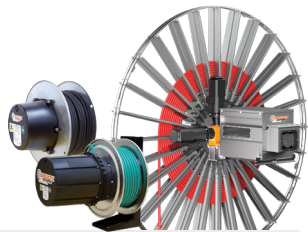
Correct deburring prevents damage to the O-rings as well as leakage.



1. For deburring drill holes
 2. For deburring cutting edges
- The blades are stashed inside the handle of the deburring-tool.

Your Applications – our Solutions

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 Conductix-Wampfler for hands-on engineering support together with the optimum solution to safely meet your needs.



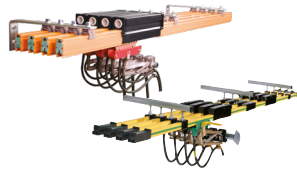
Cable and Hose Reels

Motor driven and spring driven reels by Conductix-Wampfler provide energy, data and media over a variety of distances, in all directions, fast and safe.



Festoon Systems

Conductix-Wampfler cable trolleys can be used in virtually every industrial application. They are reliable, robust and available in an enormous variety of dimensions and designs.



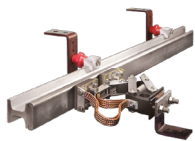
Conductor Rails

Available as enclosed or multiple unipole systems, Conductix-Wampfler conductor rails reliably move people and material.



Inductive Power Transfer

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.



Non-insulated Conductor Rails

Robust, non-insulated aluminum conductor rails with stainless steel cap provide the ideal basis for power supply of people movers and transit networks.



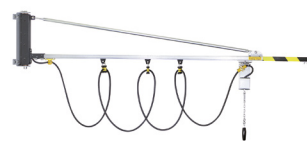
Radio Remote Controls

Safety remote control solutions customized to meet our customer needs with modern ergonomic design.



Reels, Retractors and Balancers

Available for hoses and cables, as classical reels or high-precision positioning aids for tools, we offer a complete range of reels and spring balancers.



Jib Booms

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



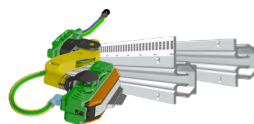
Slip Ring Assemblies

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!



Mobile Control Systems

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



ProfiDAT®

This data transfer system is a compact slotted waveguide and furthermore can be used as Grounding rail (PE) as well as positioning rail at the same time.

www.conductix.com

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:

www.conductix.contact

