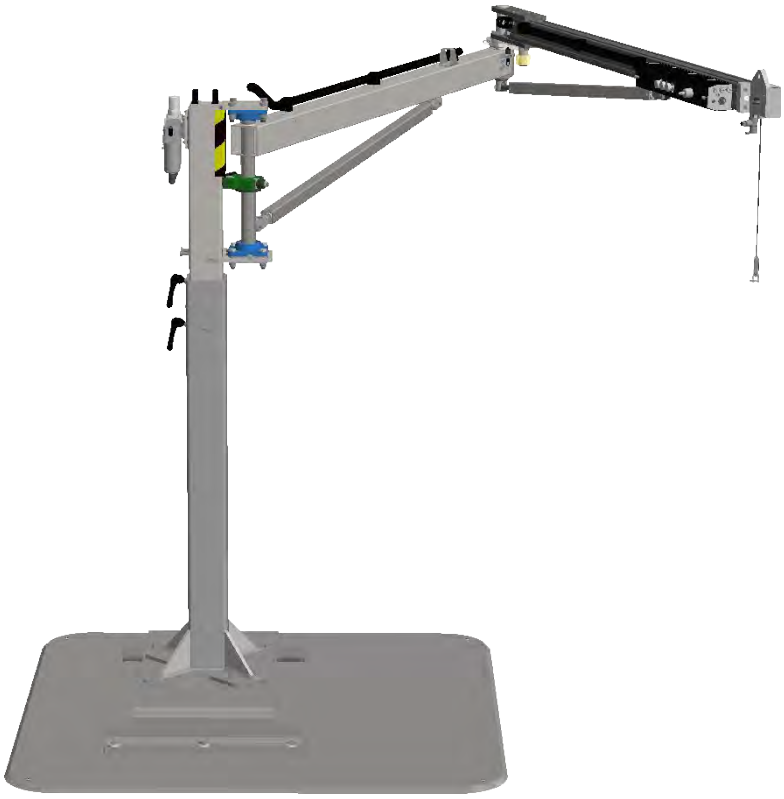

PLACE
SERIAL
NUMBER
LABEL
HERE

Mechline Pro Crane

USER MANUAL

DOCUMENT ID: 08162018

Have Questions?

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R ON I

LIFT-O-FLEX

MOBI-Crane | movomech | Voyager

R ON I
8001 Tower Point Drive
Charlo e, NC 28227 USA

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The customer is reminded that in the purchase of Movomech's products for application on the job or elsewhere, there is supplementary, current information that could not be included in the catalogue in terms of recommendations on each product's suitability regarding different combinations of Movomech's comprehensive product line. All relevant information must be provided to the persons who are responsible for the application of the product.

Table of contents

1. Safety

Movomech's equipment is manufactured in accordance with the latest technological advances, and according to the latest applicable European standards and directions. The aim of this documentation is to provide the user with practical instructions for safe operation and simple maintenance of the equipment.

Anyone who deals with the installation of the equipment (including related equipment), operational procedure, use, maintenance, and/or repair functions must have read and understood:

- the instruction manual,
- the safety regulations, and
- the safety instructions for each individual section.

In order to avoid misuse and to ensure the reliable operation of the products, we recommend that the instruction manual is always available to the user/operator.

Intended usage

The equipment is intended exclusively for transportation, lifting and lowering of load. Any other use, including the towing of a load and the transportation of passengers, is prohibited (see below for more examples). RonI does not accept responsibility for damage caused by such use. All risks are the sole responsibility of the user.

The equipment may only be used in perfect technical condition by trained staff, and in accordance with current safety and work protection regulations. Furthermore, the user must observe operational and maintenance conditions contained in the instruction manual. Severe personal injury and damage to equipment can be caused by:

- removal of covers and casings,
- non-professional installation of equipment,
- incorrect usage, or
- insufficient maintenance.

Prohibited usage

Certain types of activities and operations are prohibited, as in specific circumstances they can cause personal injury as well as permanent damage to the construction. For example:

- It is prohibited to convey passengers using the equipment.
- Never transport suspended loads above anyone's head.
- Never drop a suspended load, and make sure it is lifted in a straight line.
- Never loosen secured or fastened loads by using the equipment.
- Do not overload.
- Do not leave a suspended load unattended.

General safety aspects

The instruction manual should always be kept within easy reach of the equipment. It contains important safety information and sections that relate to guidelines, norms, and regulations. Failure to follow the safety regulations in this instruction manual may result in personal injury or death.

In addition to the instruction manual, generally applicable regulations and rules must be followed and adhered to in order to avoid accidents and protect the environment. This also applies to regulations relating to the handling of products dangerous to the environment and the use of personal safety equipment.

As regards all work associated directly or indirectly with the equipment, the user must follow and adhere to all the above regulations as well as current work protection and safety regulations. In spite of this, a life-threatening risk still prevails in cases where the equipment is used and operated by non-trained or non-instructed staff in a non-professional or non-intended way.

The user should supplement the instruction manual with instructions that consider the nature of the operation, e.g. company organisation, work procedures, and number of staff.

The members of staff who are assigned to work with the equipment must have read the instruction manual prior to undertaking any work, and he/she should pay particular attention to the chapters containing safety instructions. It is too late once work has commenced. This applies in particular to members of staff who are working with the equipment on a temporary basis, e.g. for maintenance purposes.

When convenient, the staff should be tested on their knowledge of the manual's contents that relate to safety and accident awareness.

The user is responsible for ensuring that the equipment is used only when it is in perfect condition and that all applicable and relevant safety regulations and requirements are followed.

The equipment should be taken out of operation immediately if functional damage or defects are discovered.

Personal safety equipment should be used as and when necessary, or when required by regulations.

Safety and warning devices, such as signs, stickers and labels must not be removed or made illegible.

All safety and warning devices on or adjacent to the equipment should be complete and maintained in a legible/functional condition.

All changes, extensions or reconstruction that may affect safety are forbidden without written permission from RonI. This also applies to assembly and adjustment of safety equipment and welding of structural parts.

Spare parts must comply with Movomech's stated technical requirements. This compliance is guaranteed when original spare parts are used. The intervals prescribed or stated in the instruction manual for regular testing/inspection must be adhered to!

Staff selection and qualifications

Reliable staff must carry out work with/on the equipment. Regulations that apply to under-age persons must be followed.

The user is responsible for supplying necessary training and instructions to those that he/she employs, including professionals and/or apprentices.

It is recommended that the user draws up instructions and guidelines relating to the causes of errors, communicates these to the relevant staff, and posts directions on appropriate and clearly visible places.

It is recommended that the user makes sure that the knowledge of the staff is adequate as regards the following points, prior to the operation of the construction:

- knowledge of the contents of the instruction manual,
- knowledge of the safety and user regulations contained therein,
- and knowledge of applicable work protection regulations.

Only trained and instructed staff should be permitted to work with the equipment. Parameters relating to use, maintenance, and installation should be clarified.

Safety instructions for usage

The only persons allowed to work on the electrical equipment are competent staff members who work in accordance with regulations and standards for high-voltage equipment.

No persons under the influence of drugs, alcohol or medication which affects their ability to react, are allowed to use, maintain, or repair the construction.

All stated actions and instructions relating to work protection and issues relating to general safety and protection of workers that should be carried out or studied prior to, during or following operation must be followed to the letter. Failure to do so may result in fatal accidents.

The equipment should be stopped or taken out of operation at the time of detection of faults relating to work protection and operational accessibility.

Safety equipment must not be deactivated, altered or used in a way that conflicts with applicable regulations.

Appropriate actions must be taken to ensure safe operation and functional conditions for the user.

The equipment should only be used when all protective and safety equipment, such as detachable guards and emergency stop devices, are in place and in working order.

Any type of modification and alteration of the equipment is prohibited. However, this does not apply to lesser changes that do not affect the strength, operational safety or work protection, or to actions which promote an increased level of safety.

The fundamental responsibility for these changes lies with the user. If in doubt, contact RonI for written approval of the actions prior to implementation.

The equipment should be stopped and locked immediately when functional faults occur. Faults should be corrected immediately!

Following an "emergency stop" the user has to wait for the cause of the disruption to be repaired and for an assurance that there is no further danger before he/she reconnects the equipment and resumes operation.

The equipment should be disconnected immediately in the following cases:

- in case of damage to the pneumatic / electrical / mechanical equipment, and
- in case of malfunctioning personal protective equipment.

Specific local circumstances or applications may lead to situations that were unknown at the time of writing this document. In such cases, the user must ensure safe operation and disconnect the equipment until measures to maintain safe operation have been carried out in conjunction with RonI or other authorised party.

Ensure that no one can become injured when they use the equipment prior to connecting/activating the equipment.

If the user notices the presence of persons who may become injured during operation, the operation should be discontinued immediately and must not be resumed until these persons have left the dangerous area.

The user must make sure that the equipment is in a perfect and operationally safe condition prior to all operations using the equipment.

The user should carry out all prescribed safety measures and make sure that automated procedures are completed when the equipment is disconnected (e.g. when there are deficiencies as regards operational and personal safety, an emergency situation exists, repair or maintenance is being carried out, damage is noticed or at the completion of work).

Work with the equipment is only allowed when the operator has been instructed to do so by his superior, and if the operator has knowledge of the equipment and its function.

Note in particular:

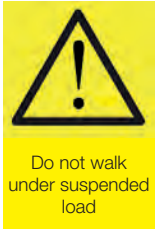
- Do not use the hoist in case of any damage to the hoist, hoisting rope, swivel or the lifting equipment.
- Check that the lifting shackle is correctly closed (with a lock pin) before you use it.
- Never lift a load heavier than the rated load than permitted. The total load includes the combined load of lifting tools and the lifted items.
- The Mechline Pro Crane is equipped with an anti-jump function designed to prevent unwanted lifting movement, e.g. because of a lost load or because of a build-up of internal pressure in the crane. It is designed as an end stop, or a travel limit.
- When moving a crane mounted on a mobile footplate, the outer and inner jibs should be put in the parked position (locked).
- The crane is not intended for handling lifting tools such as hooks and the like.
- Make sure that lifted items and / or the lifting equipment are not locked in a fixture or risk getting caught during the moving / lifting process (A).
- The operator must not be in close proximity to the lift rope when lifting items (B).
- The crane must always be positioned vertically above the lifted items during the lifting operation (C).
- For safe handling, also read the documentation of the lifting equipment

Prohibited use

A Risk of entrapment of object

B Operator close to lifting wire

C Lifting unit not above object



2. Description

Mechline Pro Crane is a all-pneumatic lifting device designed for lifting loads up to a maximum of 50 kg. Typical applications include handling of lighter items in the manufacturing and automotive industry, and material handling for conveyor belts.

The crane has a mast which may be adjusted in height and which can either be mounted on a mobile foot plate or attached to the floor with expander bolts.

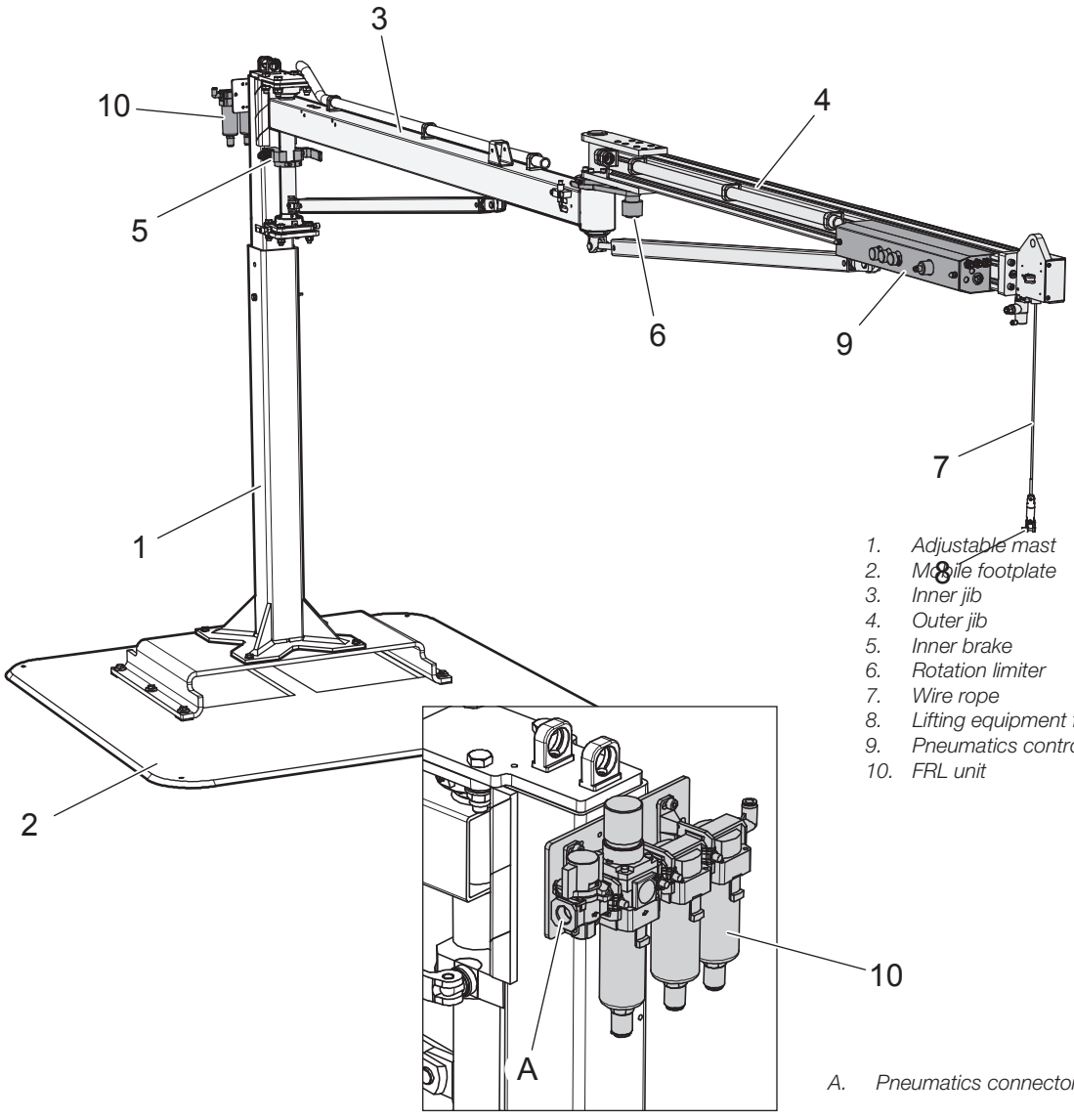
There is an inner and an outer jib which can be locked relative to each other and to the mast. Both the inner and the outer jibs are available in three lengths.
The shaft in the inner jib is attached to the mast with a bearing mount. This shaft has an internal brake which holds the shaft in place when set either in parked or in any other extended position. The joint between the inner and the outer jibs has two rotation limiters that limit the rotational angle of the outer jib.

At the very end of the outer jib there is a wire cable that ends with a swivel joint where a pneumatic or mechanical lifting tool may be attached.

Any load lifted with the Mechline Pro Crane will be fully balanced out, i.e. when the operator lets go of the loaded crane, the load will neither rise nor descend, but remain in the same position it was when the crane was released. The Mechline Pro Crane may be configured so that two different weights (the weight of the lifting equipment and the weight of one load) or three different weights (the weight of the lifting equipment and the weight of two different loads) may be fully balanced out. The load weights are easy to set using the precision regulators in the pneumatic control box.
The Mechline Pro Crane may be fitted with a pistol grip for direct control as an alternative. The loads can then easily be lifted and lowered using the pistol grip. In the pistol grip is used, the loads will not be balanced out.

The Mechline Pro Crane is equipped with an anti-jump function designed to prevent unwanted lifting movement, e.g. because of a lost load.

Certain additional functions are available as options, such as:
- a lowering function for loads that are balanced out, providing a means to set a desired lowering speed.
- a load sensor used for direct control - the control unit will give a pneumatic signal to the lifting tool when the tool is unloaded. The signal can be used to avoid an involuntary release of the load.
- a load limitation kit for the pistol grip, setting a load lift limit for the crane.



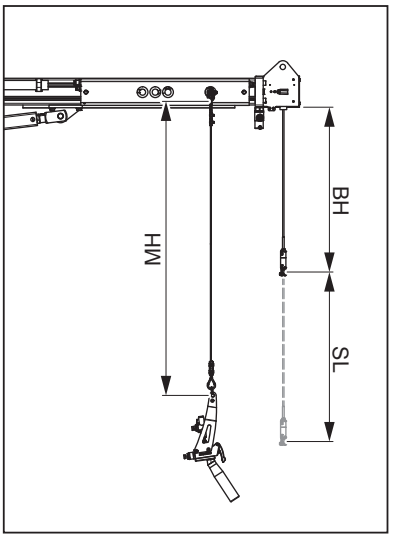
1. *Adjustable mast*
2. *Mobile footplate*
3. *Inner jib*
4. *Outer jib*
5. *Inner brake*
6. *Rotation limiter*
7. *Wire rope*
8. *Lifting equipment fitting (swivel)*
9. *Pneumatics control box*
10. *FRL unit*

A. Pneumatics connector at FRL unit (3/8")

2.1 Terms and definitions

The following terms may be good to know.

- BH - build height - the distance between the lower edge of the outer jib and the lifting equipment fitting
- SL - stroke - the difference between the upper and lower positions of the lifting equipment fitting
- MH - control height - the length of the wire cable holding the pistol grip



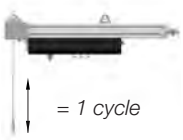
3. Technical data

General		
Total weight without load	[kg]	160
Maximum load	[kg]	50
Stroke	[mm]	800 - 3200
Lifting speed	[m/min]	0 - 40
Operating temperature	[° C]	5 - 40

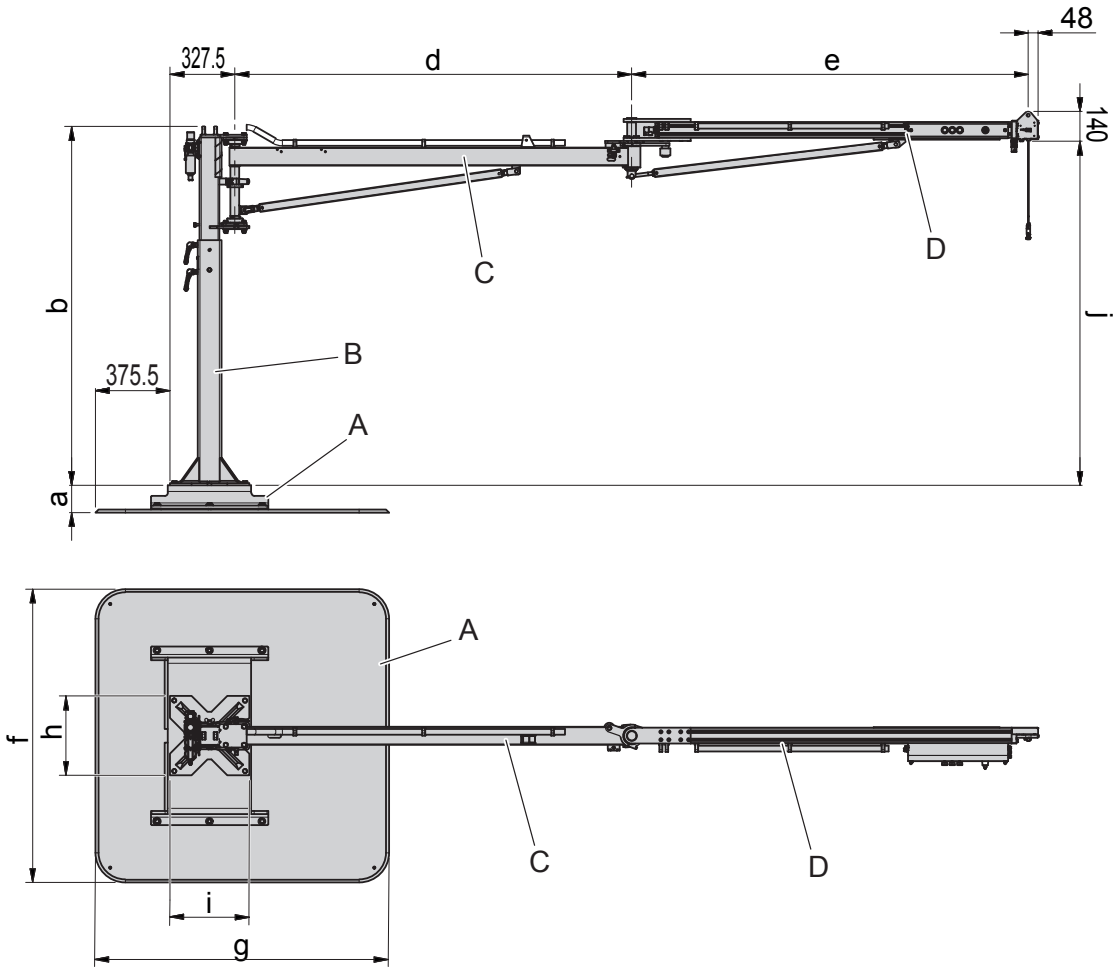
Pneumatics		
Max work pressure	[bar]	5 [1]
Air consumption/stroke	[liter]	SL/1000 x 7,8 [2]

[1] pre-set at delivery,unless otherwise stated in the specifications

[2] at 5 bar pressure and maximum load. The air requirement for the lifting tool is not included. The values are indicative only, and will vary depending on customer-specific equipment.
(SL = stroke)



Note:
1 cycle = 1 movement up + down, regardless of the length of stroke and movement combination. Thus, a material handling operation can consist of a combination of several cycles.

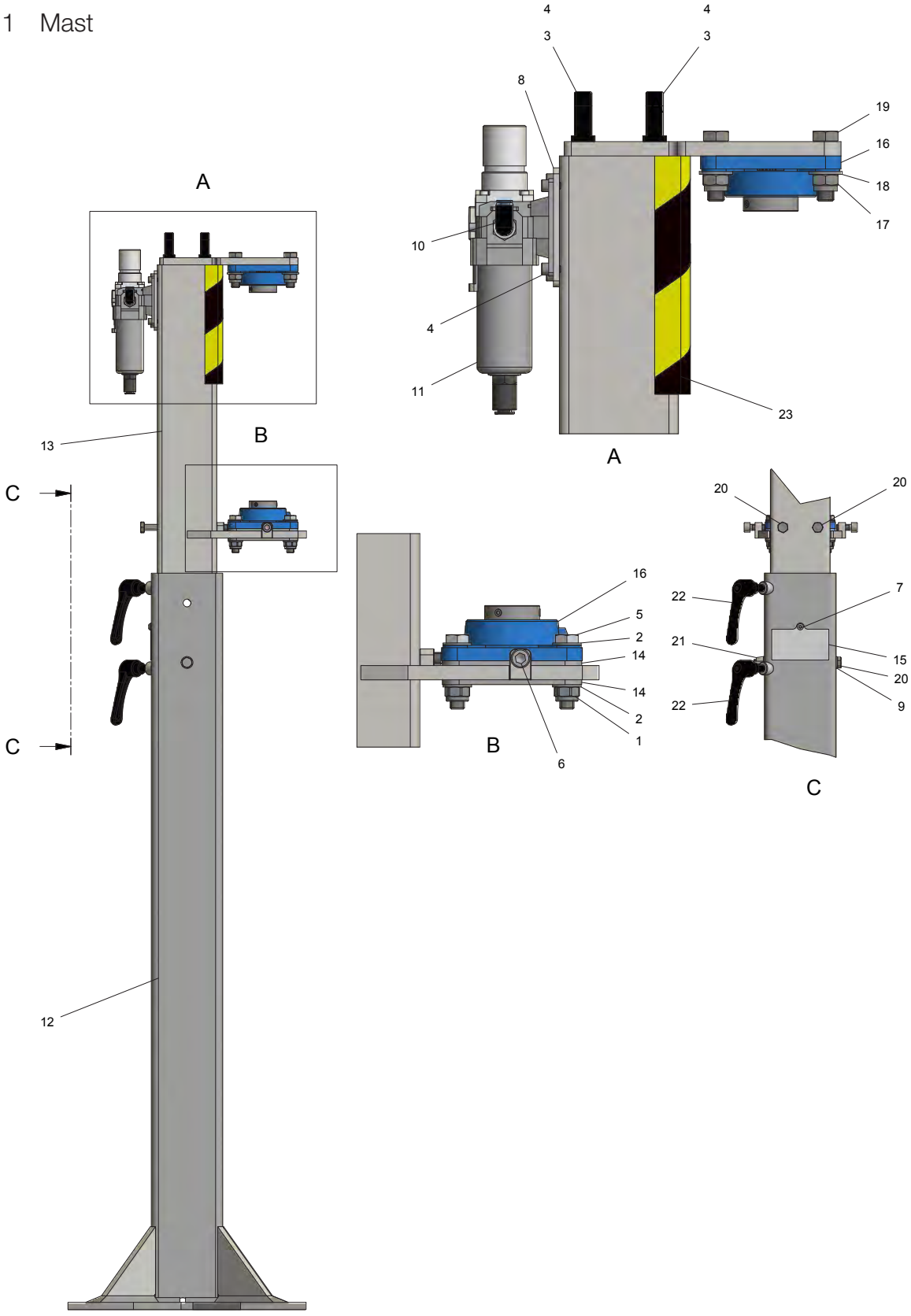


[mm]	a [mm]	b [mm]	c [mm]	d [mm]	e [mm]	f [mm]	g [mm]	h [mm]	i [mm]	j [mm]
A - Mobile footplate 0	136					1480	1480			
A - Mobile footplate 1	151									
A - Mobile footplate 4	196									
A - Mobile footplate 8	258									
A - Mobile footplate 11	301									
B - Tower		1809-2609[1]						400	400	1744-2544[1]
B - Tower +500		2309-3109[1]								2244-3044[1]
C - Inner jib 1				1000						
C - Inner jib 1.5				1500						
C - Inner jib 2				2000						
D - Outer jib 1					1000					
D - Outer jib 1.5					1500					
D - Outer jib 2					2000					

[1] The height of the mast may be adjusted within the stated intervals in increments of 100 mm

4. Components

4.1 Mast

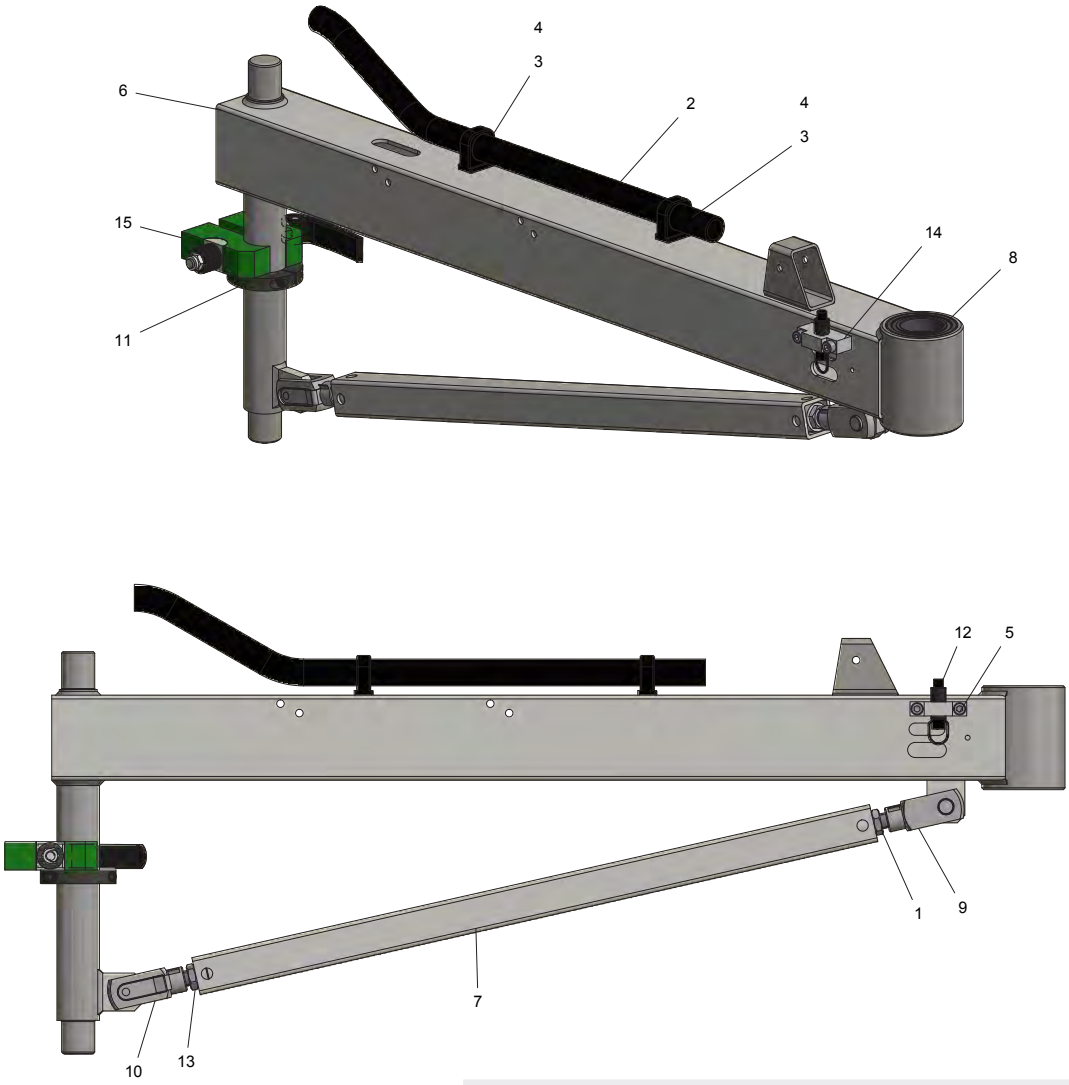


	743527	Adjustable tower		
#	Article nr.	Designation		Quantity
1	730243	Locking nut M12		4
2	730244	Washer BRB 13x24x2		8
3	730963	Cable fitting M20		2
4	731331	Screw MC6S M6x10		8
5	732108	Screw M6S M12x55, half thread		4
6	733481	Screw MC6S M10x25		2
7	735326	Screw K6S M6x8 A2		1
8	736169	Mounting plate FRL		1
9	737615	Washer BRB 10,5x20x2		2
10	739543	Push-in L fitting G3/8”-8		1
11	743057	FRL unit (C)		1
12	743200	Lower tower-weld		1
13	743201	Upper tower-weld		1
14	743226	Adjustment plate		2
15	743249	Sign plate		1
16	743263	Bearing unit Ø35	R	2
17	743264	Locking nut M14		4
18	743265	Washer BRB 15x28x2,5		4
19	743266	Screw M6S M14x50, full thread		4
20	743267	Screw M6S M10x140, half thread		3
21	743268	Wing nut M10		1
22	743269	Adjustable hand lever M12x40	R	2
23	743417	Edge protection 30x30x10	S	2

	743528	Adjustable tower +500		
#	Article nr.	Designation		Quantity
1	730243	Locking nut M12		4
2	730244	Washer BRB 13x24x2		8
3	730963	Cable fitting M20		2
4	731331	Screw MC6S M6x10		8
5	732108	Screw M6S M12x55, half thread		4
6	733481	Screw MC6S M10x25		2
7	735326	Screw K6S M6x8 A2		1
8	736169	Mounting plate FRL		1
9	737615	Washer BRB 10,5x20x2		2
10	739543	Push-in L fitting G3/8”-8		1
11	743057	FRL unit (C)		1
12	743200	Lower tower-weld		1
13	743202	Upper tower +500 -weld		1
14	743226	Adjustment plate		2
15	743249	Sign plate		1
16	743263	Bearing unit Ø35	R	2
17	743264	Locking nut M14		4
18	743265	Washer BRB 15x28x2,5		4
19	743266	Screw M6S M14x50, full thread		4
20	743267	Screw M6S M10x140, half thread		3
21	743268	Wing nut M10		1
22	743269	Adjustable hand lever M12x40	R	2
23	743417	Edge protection 30x30x10	S	2

R: spare part S: wear part

4.2 Inner jib



	743529	Inner jib, 1 m		
#	Article nr.	Designation		Quantity
1	730237	Nut ML6M M16		1
2	730960	Cable protection hose		1
3	730963	Cable fitting M20		2
4	731331	Screw MC6S M6x10		2
5	731333	Screw MC6S M8x30		2
6	743204	Inner jib 1m,-weld		1
7	743207	Support rod 1m		1
8	743270	Ball bearing	S	2
9	743271	Fork link M16, right-threaded		1
10	743272	Fork link M16, left-threaded		1
11	743277	Clamping ring Ø45		1
12	743278	Indexing plunger	R	1
13	743431	Nut ML6M M16x1.5, left-threaded		1
14	743458	Plunger bracket		1
15	743460	Inner brake	*	1

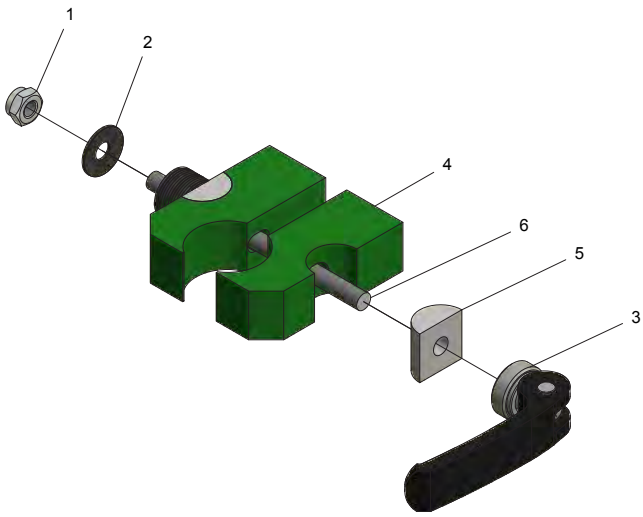
* See below for details

	743530	Inner jib, 1.5 m		
#	Article nr.	Designation		Quantity
1	730237	Nut ML6M M16		1
2	730960	Cable protection hose		1
3	730963	Cable fitting M20		3
4	731331	Screw MC6S M6x10		3
5	731333	Screw MC6S M8x30		2
6	743205	Inner jib 1,5m-weld		1
7	743208	Support rod 1,5-2m		1
8	743270	Ball bearing	S	2
9	743271	Fork link M16, right-threaded		1
10	743272	Fork link M16, left-threaded		1
11	743277	Clamping ring Ø45		1
12	743278	Indexing plunger	R	1
13	743431	Nut ML6M M16x1.5, left-threaded		1
14	743458	Plunger bracket		1
15	743460	Inner brake	*	1

	743531	Inner jib, 2 m		
#	Article nr.	Designation		Quantity
1	730237	Nut ML6M M16		1
2	730960	Cable protection hose		1
3	730963	Cable fitting M20		3
4	731331	Screw MC6S M6x10		3
5	731333	Screw MC6S M8x30		2
6	743206	Inner jib 2m-weld		1
7	743208	Support rod 1,5-2m		1
8	743270	Ball bearing	S	2
9	743271	Fork link M16, right-threaded		1
10	743272	Fork link M16, left-threaded		1
11	743277	Clamping ring Ø45		1
12	743278	Indexing plunger	R	1
13	743431	Nut ML6M M16x1.5, left-threaded		1
14	743458	Plunger bracket		1
15	743460	Inner brake	*	1

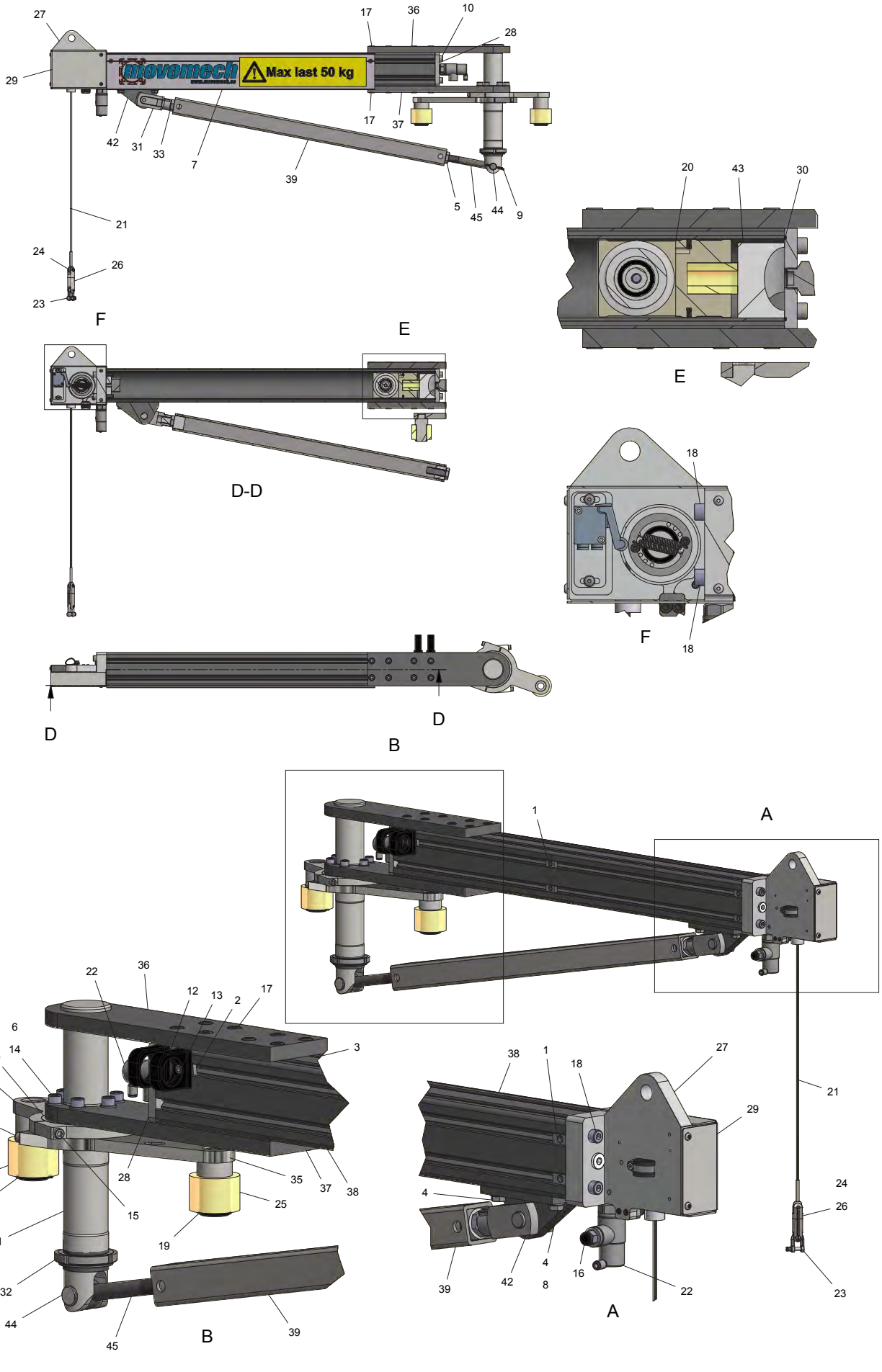
* See below for details

Inner brake



	743460	Inner brake		
#	Article nr.	Designation		Quantity
1	730904	Locking nut M10		1
2	743279	Disc spring Ø28x10,2x1,5		12
3	743416	Cam clamping lever M10	R	1
4	743461	Brake pad	S	2
5	743462	Pressure washer		2
6	731793	Threaded bar M10		1

4.3 Outer jib



R: spare part S: wear part

	743532	Outer jib, 1m	
#	Article nr.	Designation	Quantity
1	730115	MM8 t-slot nut single	4
2	730130	MM6 t-slot nut single	2
3	730214	Nut joint side 20x5x160	4
4	730217	Screw M6SZ M8x14	4
5	730237	Nut ML6M M16	1
6	730308	Washer BRB 8.4x16x1.5	6
7	730617	Load label (C) Max last 50 kg MM logo	1
8	730659	MM2x8 t-slot nut double c/c 80	2
9	730710	Split pin 4x32	1
10	730727	Screw MC6S M8x25	4
11			
12	730963	Cable fitting M20	2
13	731331	Screw MC6S M6x10	2
14	731333	Screw MC6S M8x30	6
15	731408	Screw MC6S M6x50	4
16	731558	Straight fitting G3/8”-8	1
17	731800	Screw MC6S M8x16	16
18	732279	Screw MC6S M8x40	4
19	732897	Retaining ring SgA 30	2
20	738852	Piston, complete	1
21	738858	Wire with loop, complete	1
22	738875	Non-return valve G3/8”	2
23	738890	Shackle M5 stainless	1
24	738892	Washer 5,3x10x1 A4	4
25	738975	Rubber damper 50/30x36	2
26	739704	Swivel	1
27	739752	Front end	1
28	739774	Rear end cap	1
29	739782	Cover	1
30	742386	O ring	1
31	743272	Fork link M16, left-threaded	1
32	743274	Shaft nut KM 09 GUK	1
33	743431	Nut ML6M M16x1.5, left-threaded	1
34	743470	Rotation limiter	1
35	743473	Rotation limiter 2	1
36	743512	Profile connection, upper	1
37	743513	Profile connection, lower	1
38	743514	Profile	1
39	743519	Support rod 1m	1
40	743522	Rotation limiter holder	1
41	743523	Shaft	1
42	743524	Rod bracket	1
43	743525	Stroke limiter	1
44	743526	Clevis pin	1
45	743536	Swing bolt M16x160	1

	743533	Outer jib, 1.5 m	
#	Article nr.	Designation	Quantity
1	730115	MM8 t-slot nut single	4
2	730130	MM6 t-slot nut single	4
3	730214	Nut joint side 20x5x160	4
4	730217	Screw M6SZ M8x14	4
5	730237	Nut ML6M M16	1
6	730308	Washer BRB 8.4x16x1.5	6
7	730617	Load label (C) Max last 50 kg MM logo	1
8	730659	MM2x8 t-slot nut double c/c 80	2
9	730710	Split pin 4x32	1
10	730727	Screw MC6S M8x25	4
11	730960	Cable protection hose	1
12	730963	Cable fitting M20	4
13	731331	Screw MC6S M6x10	4
14	731333	Screw MC6S M8x30	6
15	731408	Screw MC6S M6x50	4
16	731558	Straight fitting G3/8”-8	1
17	731800	Screw MC6S M8x16	16
18	732279	Screw MC6S M8x40	4
19	732897	Retaining ring SgA 30	2
20	738852	Piston, complete	1
21	738858	Wire with loop, complete	1
22	738875	Non-return valve G3/8”	2
23	738890	Shackle M5 stainless	1
24	738892	Washer 5,3x10x1 A4	4
25	738975	Rubber damper 50/30x36	2
26	739704	Swivel	1
27	739752	Front end	1
28	739774	Rear end cap	1
29	739782	Cover	1
30	742386	O ring	1
31	743272	Fork link M16, left-threaded	1
32	743274	Shaft nut KM 09 GUK	1
33	743431	Nut ML6M M16x1.5, left-threaded	1
34	743470	Rotation limiter	1
35	743473	Rotation limiter 2	1
36	743512	Profile connection, upper	1
37	743513	Profile connection, lower	1
38	743515	Profile	1
39	743520	Support rod 1,5-2m	1
40	743522	Rotation limiter holder	1
41	743523	Shaft	1
42	743524	Rod bracket	1
43	743525	Stroke limiter	1
44	743526	Clevis pin	1
45	743536	Swing bolt M16x160	1

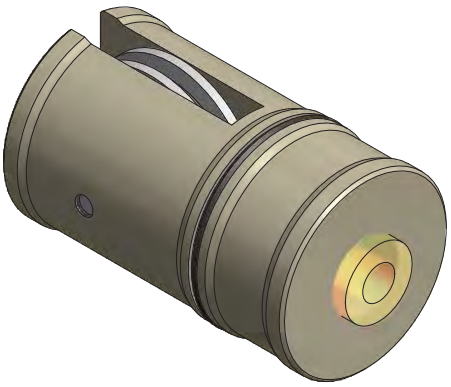
* See below for details

	743534	Outer jib, 2m	
#	Article nr.	Designation	Quantity
1	730115	MM8 t-slot nut single	4
2	730130	MM6 t-slot nut single	5
3	730214	Nut joint side 20x5x160	4
4	730217	Screw M6SZ M8x14	4
5	730237	Nut ML6M M16	1
6	730308	Washer BRB 8.4x16x1.5	6
7	730617	Load label (C) Max last 50 kg MM logo	1
8	730659	MM2x8 t-slot nut double c/c 80	2
9	730710	Split pin 4x32	1
10	730727	Screw MC6S M8x25	4
11	730960	Cable protection hose	1
12	730963	Cable fitting M20	5
13	731331	Screw MC6S M6x10	5
14	731333	Screw MC6S M8x30	6
15	731408	Screw MC6S M6x50	4
16	731558	Straight fitting G3/8”-8	1
17	731800	Screw MC6S M8x16	16
18	732279	Screw MC6S M8x40	4
19	732897	Retaining ring SgA 30	2
20	738852	Piston, complete	1
21	738858	Wire with loop, complete	1
22	738875	Non-return valve G3/8”	2
23	738890	Shackle M5 stainless	1
24	738892	Washer 5,3x10x1 A4	4
25	738975	Rubber damper 50/30x36	2
26	739704	Swivel	1
27	739752	Front end	1
28	739774	Rear end cap	1
29	739782	Cover	1
30	742386	O ring	1
31	743272	Fork link M16, left-threaded	1
32	743274	Shaft nut KM 09 GUK	1
33	743431	Nut ML6M M16x1.5, left-threaded	1
34	743470	Rotation limiter	1
35	743473	Rotation limiter 2	1
36	743512	Profile connection, upper	1
37	743513	Profile connection, lower	1
38	743516	Profile	1
39	743520	Support rod 1,5-2m	1
40	743522	Rotation limiter holder	1
41	743523	Shaft	1
42	743524	Rod bracket	1
43	743525	Stroke limiter	1
44	743526	Clevis pin	1
45	743536	Swing bolt M16x160	1

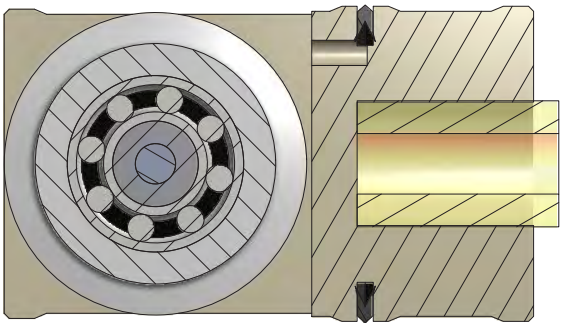
* See below for details

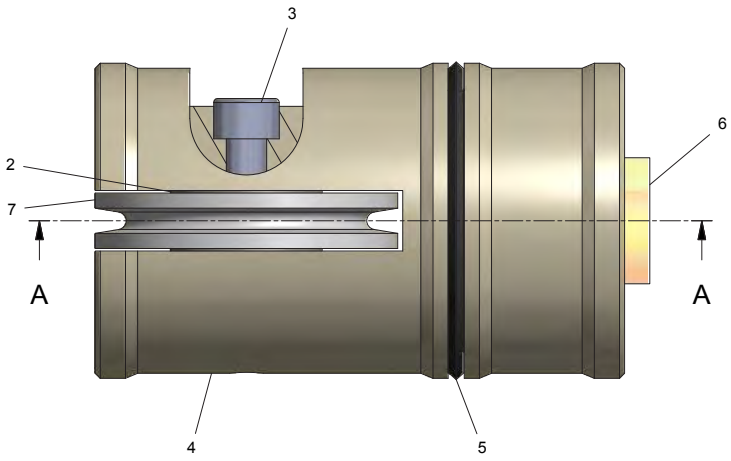
Piston assembly

	738852	Piston assembly		
#	Article nr.	Designation		Quantity
1	739003	Axis		1
2	738855	Shim ring 18x30x0,5		4
3	731069	Screw MC6S M8x45		1
4	740611	Piston		1
5	740622	Piston seal	S	1
6	739094	Rubber damper 25/12x40		1
7	739933	Rear pulley, complete	R	1



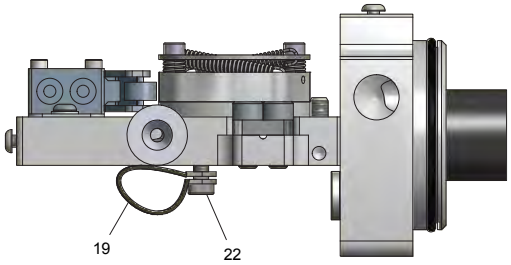
A-A

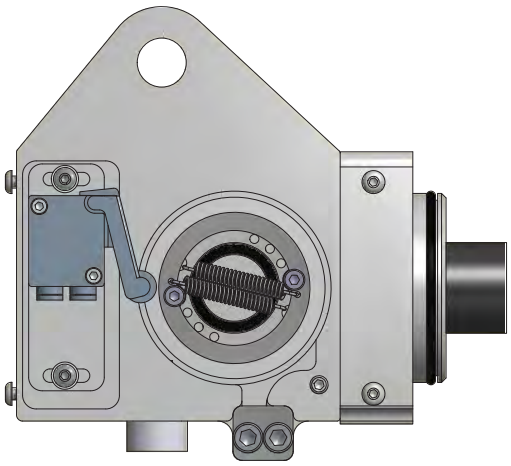


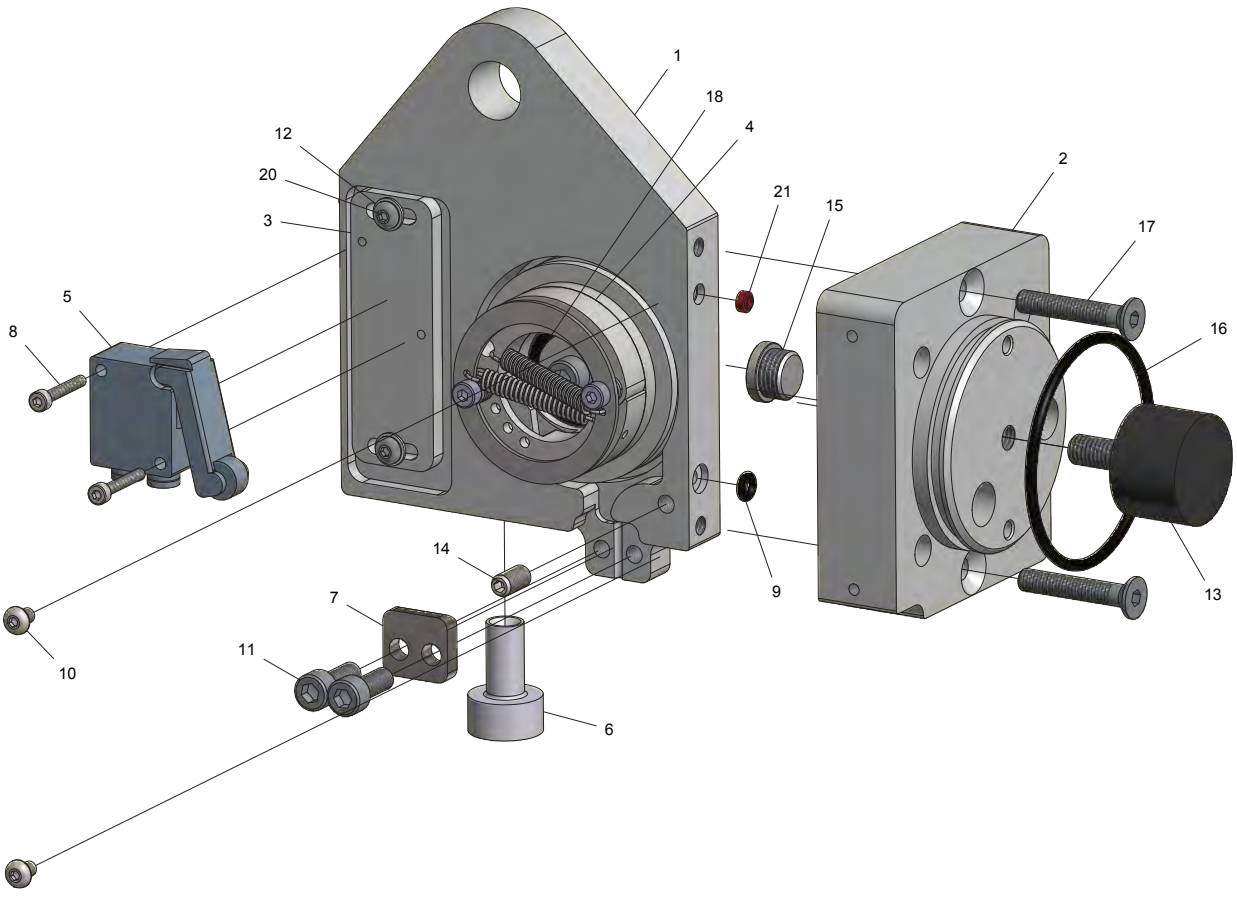


Front end

	739752	Front end		
#	Article nr.	Designation		Quantity
1	742430	Pulley housing		1
2	739005	Front end cap		1
3	739783	Valve bracket		1
4	739934	Front pulley, complete	R	1
5	738874	3/2 valve NO	R	1
6	742431	Wire guiding	S	1
7	739018	Wire lock		1
8	735578	Screw MC6S M3x20		2
9	738232	O ring	S	1
10	738863	Screw K6S M4x6 A2		4
11	730266	Screw MC6S M6x16		3
12	730276	Washer BRB 4.3x8x0.8		2
13	730449	Rubber damper	S	1
14	739072	Screw MP6SS M6x12		1
15	739234	Plug G1/8"-P10		1
16	731049	O ring	S	1
17	734554	Screw MF6S M6x35		2
18	739784	Washer SRKB 7x22x1,5		1
19	739946	Rubber clamp		1
20	735557	Screw K6S M4x10 A2		2
21	740538	Sealing	S	1
22	740628	Screw MC6S M5x8 A2		1

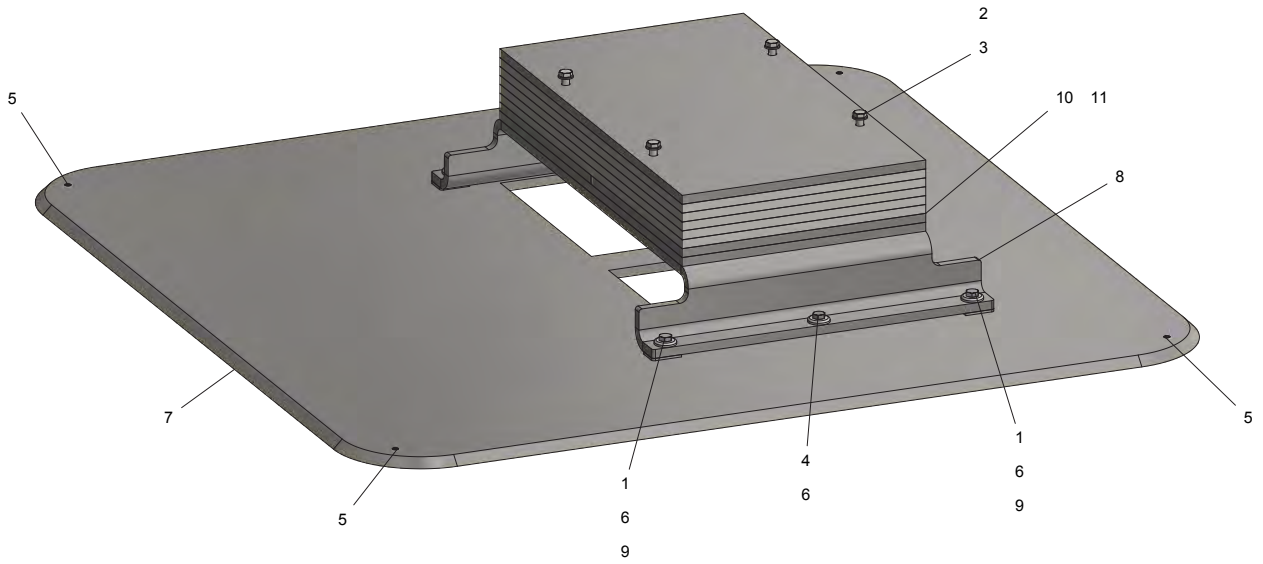






R: spare part S: wear part

4.4 Mobile footplate

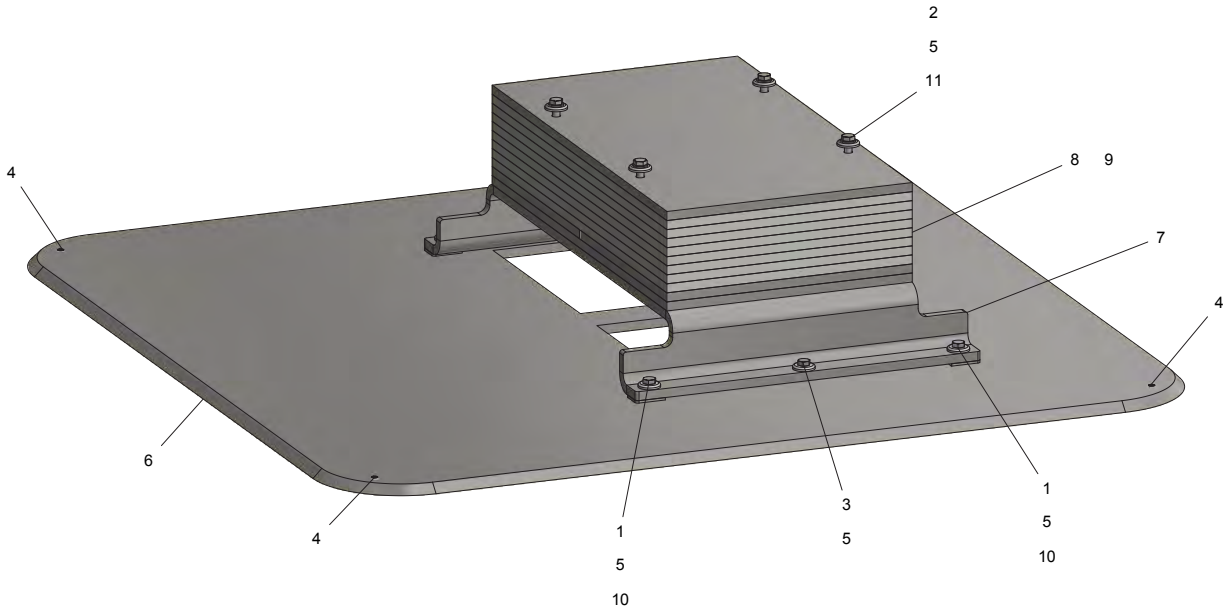


	743509	Mobile footplate	
#	Article nr.	Designation	Quantity
1	730227	Screw M6S M12x40, full thread	4
2	730244	Washer BRB 13x24x2	4
3	730255	Screw M6S M12x30, full thread	4
4	732109	Screw M6S M12x35, full thread	2
5	735556	Screw MSK6SS M12x16	4
6	738115	Washer 13x36x6	6
7	743212	Base plate	1
8	743213	U-profile	1
9	743247	Distance	4

	743510	Mobile footplate 1	
#	Article nr.	Designation	Quantity
1	730227	Screw M6S M12x40, full thread	4
2	730244	Washer BRB 13x24x2	4
3	740678	Screw M6S M12x45	4
4	732109	Screw M6S M12x35, full thread	2
5	735556	Screw MSK6SS M12x16	4
6	738115	Washer 13x36x6	6
7	743212	Base plate	1
8	743213	U-profile	1
9	743247	Distance	4
10	743214	Weight 1	1

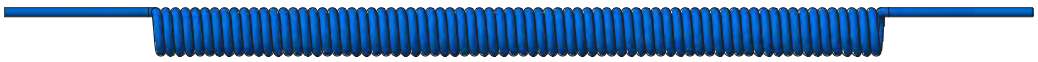
	743250	Mobile footplate 4	
#	Article nr.	Designation	Quantity
1	730227	Screw M6S M12x40, full thread	4
2	730244	Washer BRB 13x24x2	4
3	735529	Screw M6S M12x90, half thread	4
4	732109	Screw M6S M12x35, full thread	2
5	735556	Screw MSK6SS M12x16	4
6	738115	Washer 13x36x6	6
7	743212	Base plate	1
8	743213	U-profile	1
9	743247	Distance	4
10	743214	Weight 1	3
11	743215	Weight 2	2

	743428	Mobile footplate 8	
#	Article nr.	Designation	Quantity
1	730227	Screw M6S M12x40, full thread	4
2	730244	Washer BRB 13x24x2	4
3	740003	Screw M6S M12x150, half thread	4
4	732109	Screw M6S M12x35, full thread	2
5	735556	Screw MSK6SS M12x16	4
6	738115	Washer 13x36x6	6
7	743212	Base plate	1
8	743213	U-profile	1
9	743247	Distance	4
10	743214	Weight 1	7
11	743215	Weight 2	2



	743563	Mobile footplate	
#	Article nr.	Designation	Quantity
1	730227	Screw M6S M12x40, full thread	4
2	730244	Washer BRB 13x24x2	4
3	732109	Screw M6S M12x35, full thread	2
4	735556	Screw MSK6SS M12x16	4
5	738115	Washer 13x36x6	10
6	743212	Base plate	1
7	743213	U-profile	1
8	743214	Weight 1	10
9	743215	Weight 2	2
10	743247	Distance	4
11	743564	Screw M6S M12x200, half thread	4

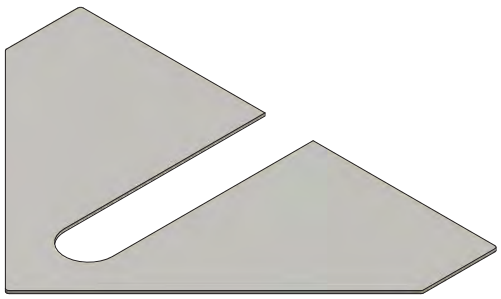
4.5 Miscellaneous



	740579	Spiral hose, single	
#	Article nr.	Designation	Quantity
1	740579	Spiral hose 6/4	1

	732838	Spiral hose, twinned	
#	Article nr.	Designation	Quantity
1	732838	Spiral hose twin 6/4x2	1

	733339	Spiral hose, twinned	
#	Article nr.	Designation	Quantity
1	733339	Spiral hose twin 4/2,5 x2	1



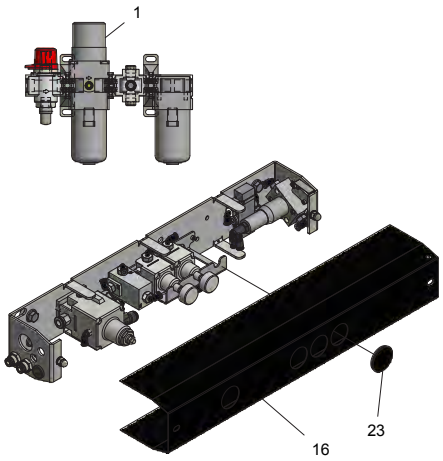
	743506	Shim	
#	Article nr.	Designation	Quantity
1	743506	Shim	1

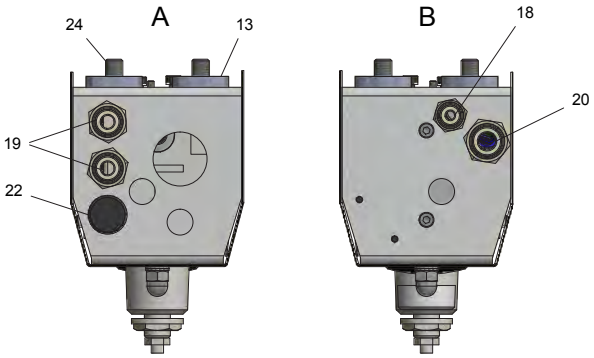
5. Pneumatic configurations

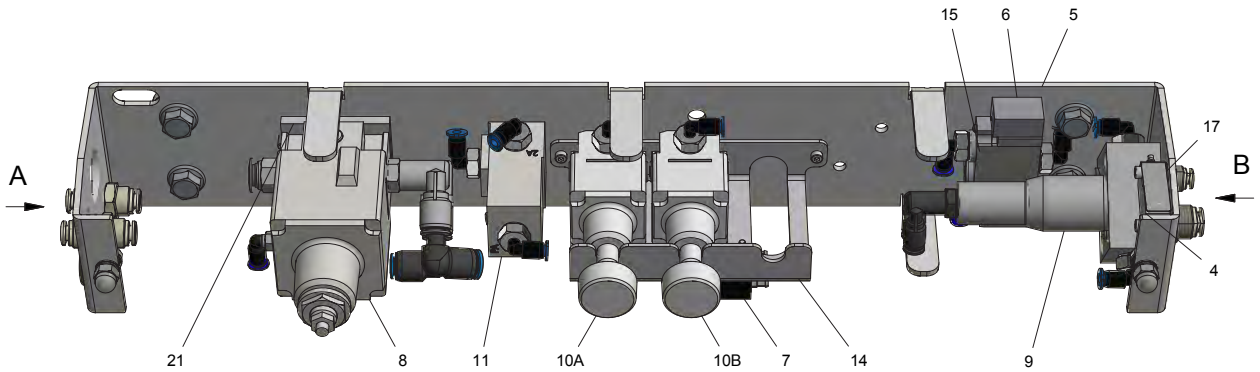
5.1 Pneumatics for two weights

	738880	2-weight		
#	Article nr.	Designation		Quantity
1	735350	Air preparation unit (FRL)		(1)*
2	738874	3/2 valve NO		(1)**
3	738875	Non-return valve G3/8"		(1)**
4	738876	3/2 valve NC	R	1
5	739772	Attachment plate		1
6	733374	5/2 valve, monostable	R	1
7	732669	OR gate	R	1
8	731583	Precision regulator	R	1
9	739553	Pressure guard	R	1
10	738124	Precision regulator	R	2
11	738125	3/2 valve monostable	R	1
12	732838	Spiral hose, double 6/4		1
13	731806	Washer 8,4x26x5		4
14	739776	Bracket		1
15	739233	Plug G1/8"		1
16	739773	Cover		1
17	740637	Protection plate		1
18	739270	Push-in connector 4-4		1
19	739271	Push-in connector 6-6		2
20	739272	Push-in connector 8-8		1
21	738864	Distance plate		1
22	740533	Rubber cover plate Ø14		1
23	741413	Rubber cover plate Ø31,8		1
24	730218	Screw M6SZ M8x16		4

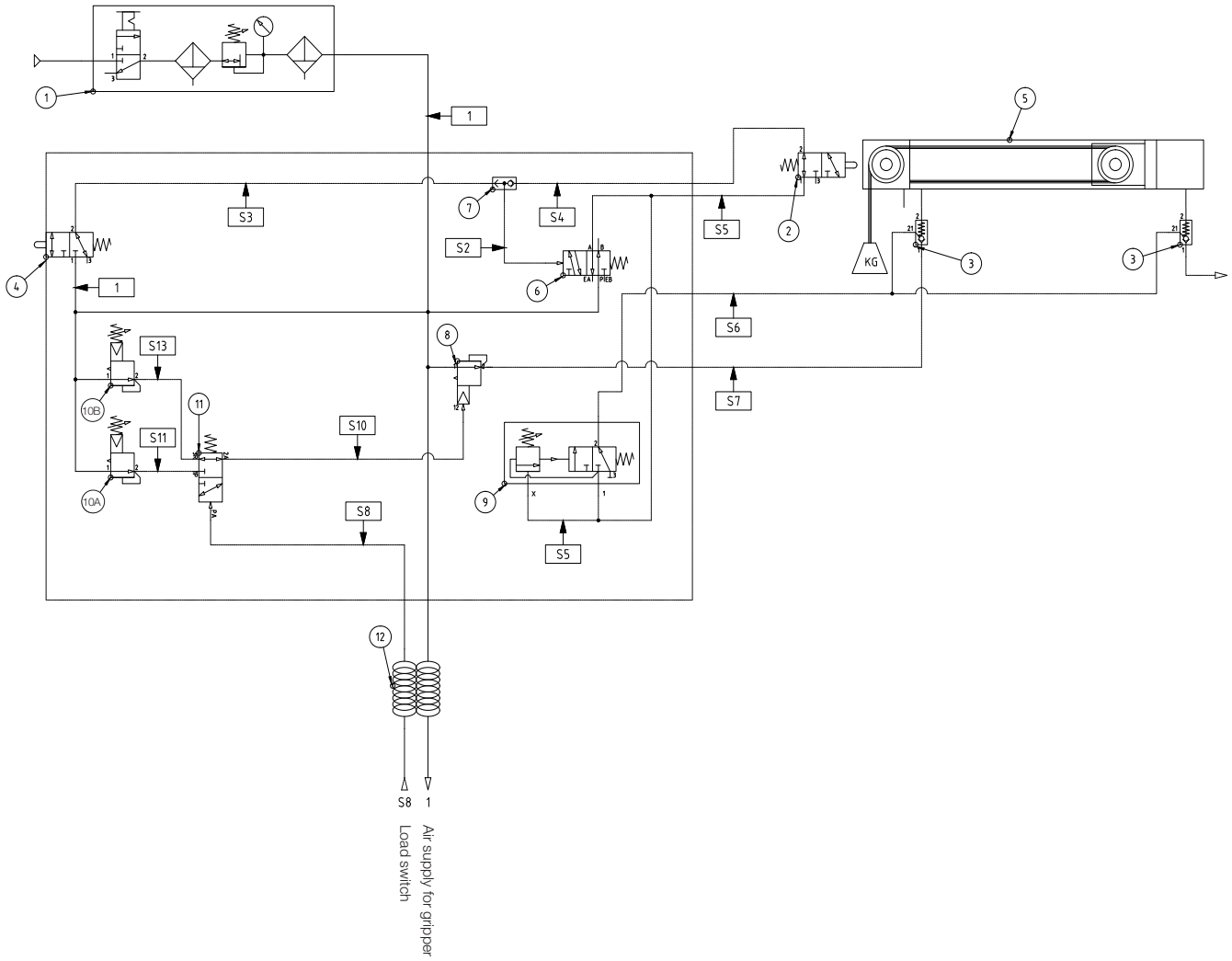
* Option ** Part of 739752 Front end







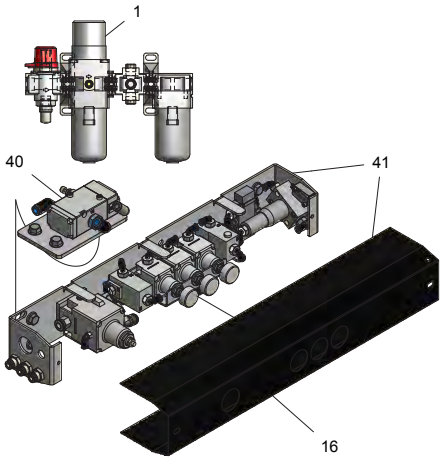
Position	Designation / Function	Marking
2	3/2 roller lever valve / Anti-jump	-
4	3/2 valve / Reset	Reset
8	Precision regulator / Main regulator	-
10A	Precision regulator / Without load	L0
10B	Precision regulator / With load	L1



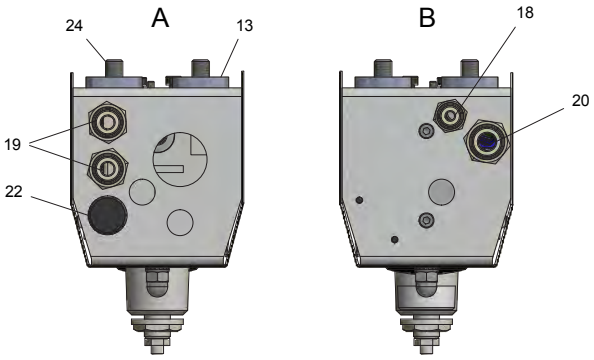
- Balanced out, two weights: handling of one balanced load; with an external actuator the operator selects ”Load”, or ”Without load”.

5.2 Pneumatics: two weights with lowering function

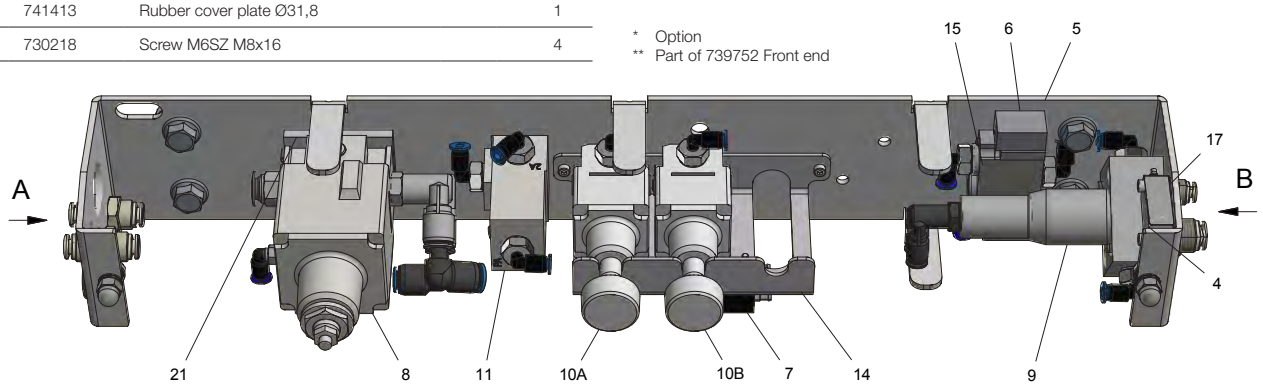
	741410	Two weights lowering function		
#	Article nr.	Designation		Quantity
40	740920	Slow speed function		1
41	738880	2-weight		1
42	740579	Spiral hose, single 6/4		1



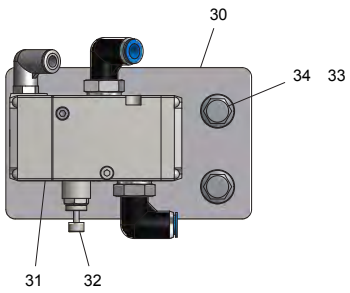
	738880	Two weights		
#	Article nr.	Designation		Quantity
1	735350	Air preparation unit (FRL)		(1)*
2	738874	3/2 valve NO		(1)**
3	738875	Non-return valve G3/8"		(1)**
4	738876	3/2 valve NC	R	1
5	739772	Attachment plate		1
6	733374	5/2 valve, monostable	R	1
7	732669	OR gate	R	1
8	731583	Precision regulator	R	1
9	739553	Pressure guard	R	1
10	738124	Precision regulator	R	2
11	738125	3/2 valve monostable	R	1
12	732838	Spiral hose, double 6/4		1
13	731806	Washer 8,4x26x5		4
14	739776	Bracket		1
15	739233	Plug G1/8"		1
16	739773	Cover		1
17	740637	Protection plate		1
18	739270	Push-in connector 4-4		1
19	739271	Push-in connector 6-6		2
20	739272	Push-in connector 8-8		1
21	738864	Distance plate		1
22	740533	Rubber cover plate Ø14		1
23	741413	Rubber cover plate Ø31,8		1
24	730218	Screw M6SZ M8x16		4



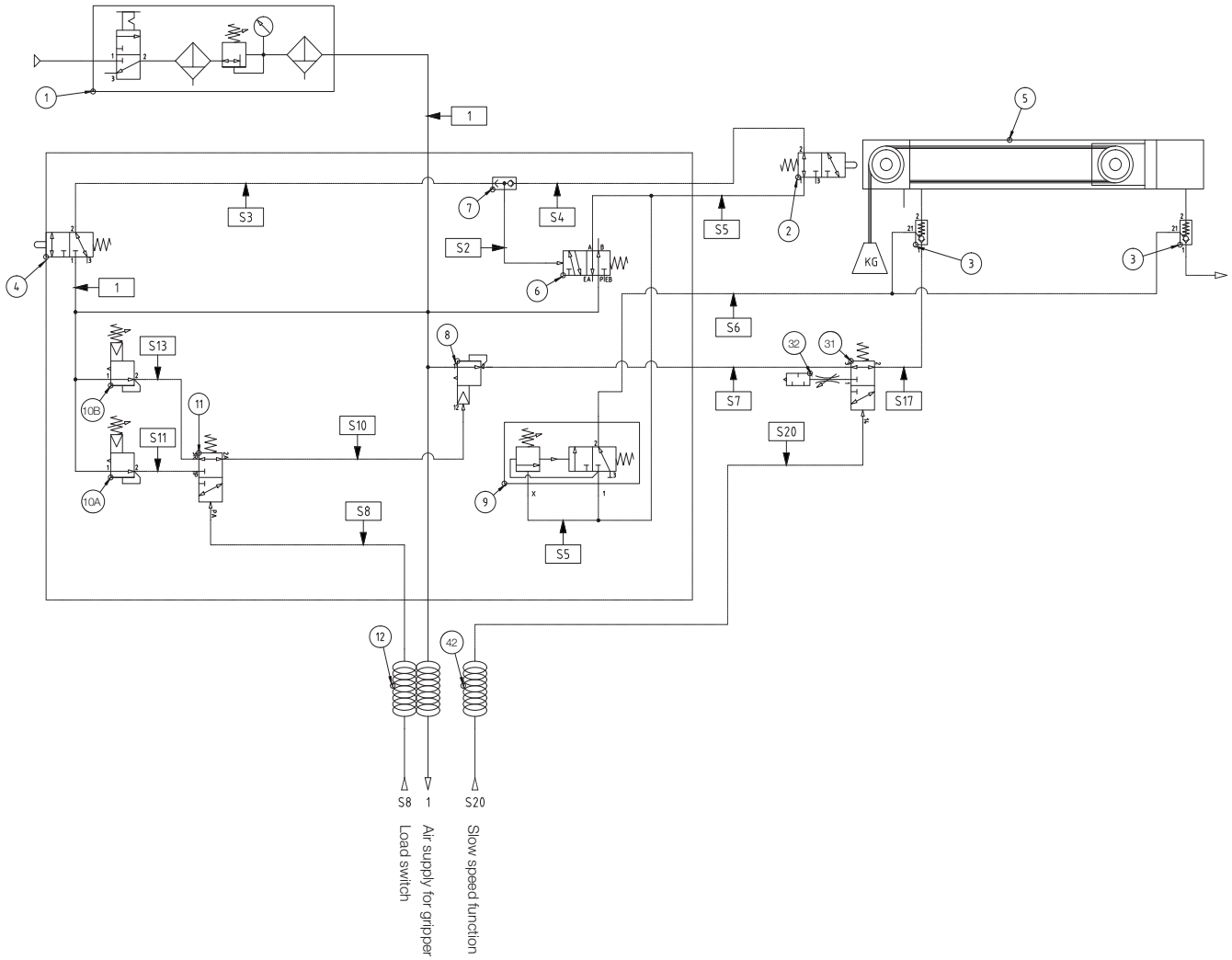
* Option
** Part of 739752 Front end



	740920	Lowering function		
#	Article nr.	Designation		Quantity
30	740645	Attachment plate		1
31	739551	3/2 valve NC	R	1
32	739550	Flow control valve	R	1
33	730115	MM8 t-slot nut single		2
34	730216	Screw M6SZ M8x12		2



Position	Designation / Function	Marking
2	3/2 roller lever valve / Anti-jump	-
4	3/2 valve / Reset	Reset
8	Precision regulator / Main regulator	-
10A	Precision regulator / Without load	L0
10B	Precision regulator / With load	L1
31	3/2 valve / Slow speed function	-

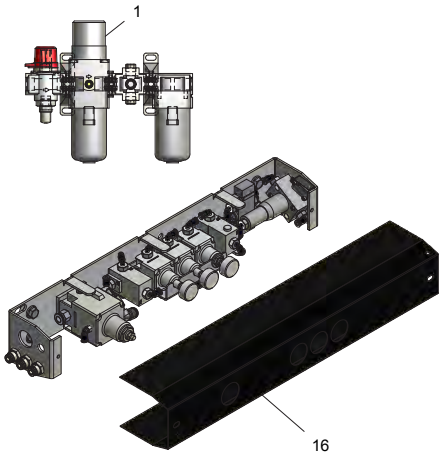


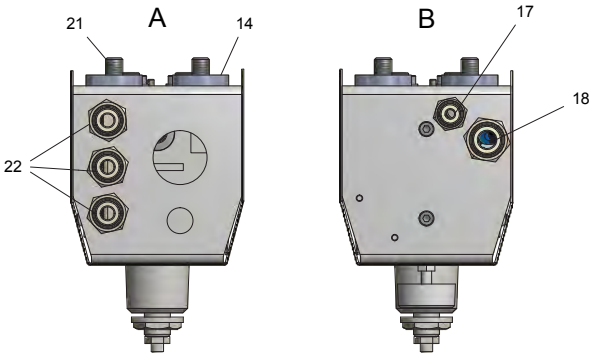
- Balanced out two weights with lowering function: handling of one balanced load; with an external actuator the operator selects ”Load”, or ”Without load”.
- The system is equipped with lowering function for a controlled lowering. Functional conditions are configured by the customer, and depend on the specific application.

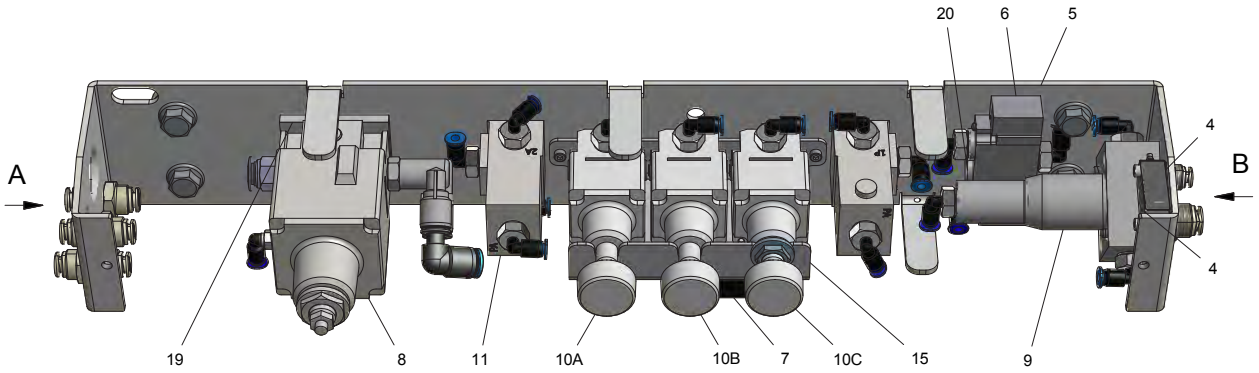
5.3 Pneumatics for three weights

	738881	Three weights		
#	Article nr.	Designation		Quantity
1	735350	Air preparation unit (FRL)		(1)*
2	738874	3/2 valve NO		(1)**
3	738875	Non-return valve G3/8"		(1)**
4	738876	3/2 valve NC	R	1
5	739772	Attachment plate		1
6	733374	5/2 valve, monostable	R	1
7	732669	OR gate	R	1
8	731583	Precision regulator	R	1
9	739553	Pressure guard	R	1
10	738124	Precision regulator	R	3
11	738125	3/2 valve monostable	R	2
12	732838	Spiral hose, double 6/4		1
13	740579	Sprail hose, single 6/4		1
14	731806	Washer 8,4x26x5		4
15	739776	Bracket		1
16	739773	Cover		1
17	739270	Push-in connector 4-4		1
18	739272	Push-in connector 8-8		1
19	738864	Distance plate		1
20	739233	Plug G1/8"		1
21	730218	Screw M6SZ M8x16		4
22	739271	Push-in connector 6-6		3
23	740637	Protection plate		1

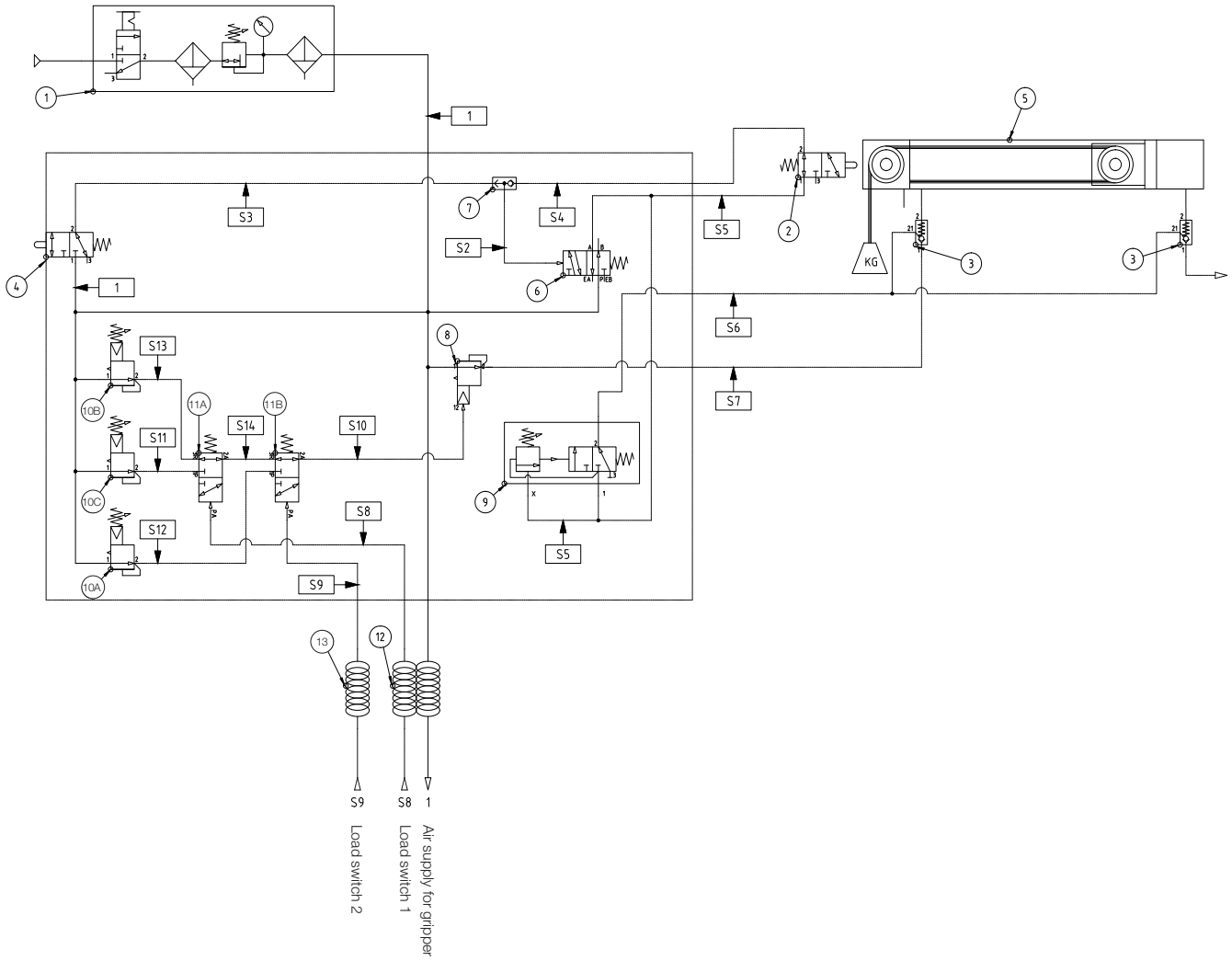
* Option ** Included in 739752 Front end







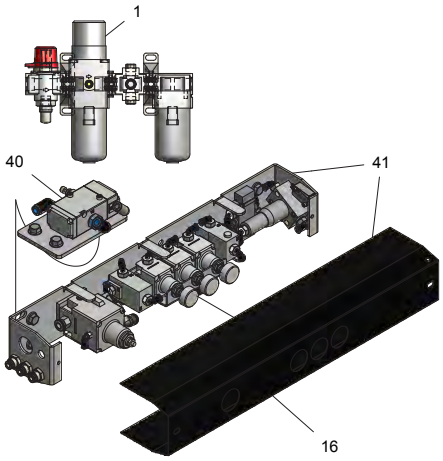
Position	Designation / Function	Marking
2	3/2 roller lever valve / Anti-jump	-
4	3/2 valve / Reset	Reset
8	Precision regulator / Main regulator	-
10A	Precision regulator / Without load	L0
10B	Precision regulator / With load 1	L1
10C	Precision regulator / With load 2	L2



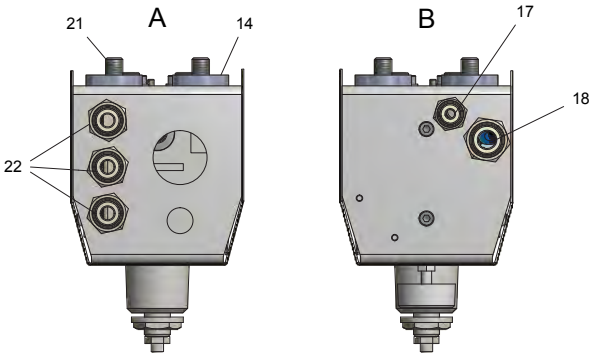
- Balanced out, three weights: handling of two balanced loads; with external actuator the operator selects ”Load 1”, ”Load 2” or ”Without load”.

5.4 Pneumatics, three weights with lowering function

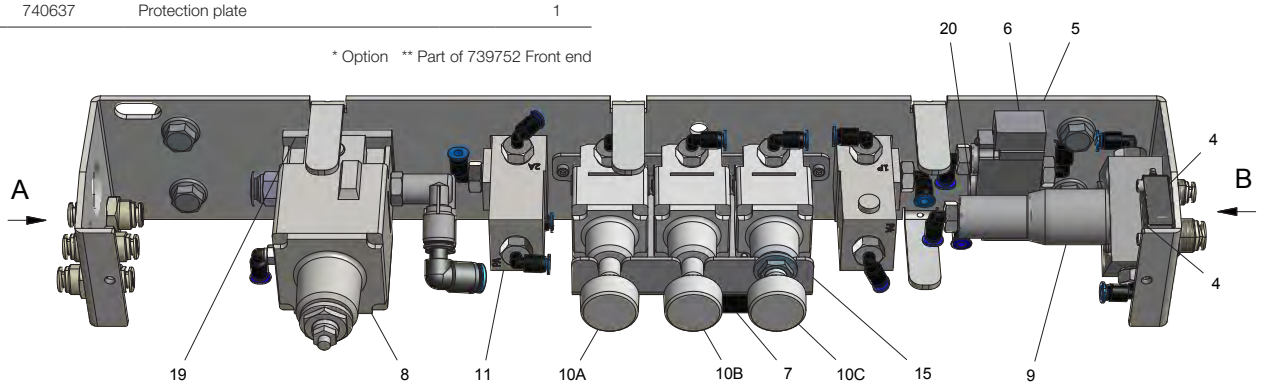
	741411	Three weights lowering function		
#	Article nr.	Designation		Quantity
40	740920	Slow speed function		1
41	738881	3-weight		1
42	740579	Spiral hose, single 6/4		1



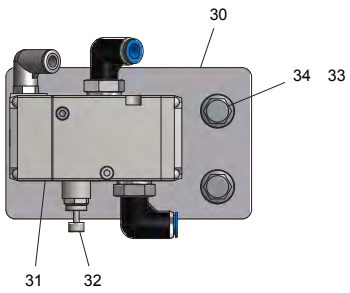
	738881	Three weights		
#	Article nr.	Designation		Quantity
1	735350	Air preparation unit (FRL)		(1)*
2	738874	3/2 valve NO		(1)**
3	738875	Non-return valve G3/8"		(1)**
4	738876	3/2 valve NC	R	1
5	739772	Attachment plate		1
6	733374	5/2 valve, monostable	R	1
7	732669	OR gate	R	1
8	731583	Precision regulator	R	1
9	739553	Pressure guard	R	1
10	738124	Precision regulator	R	3
11	738125	3/2 valve monostable	R	2
12	732838	Spiral hose, double 6/4		1
13	740579	Sprail hose, single 6/4		1
14	731806	Washer 8,4x26x5		4
15	739776	Bracket		1
16	739773	Cover		1
17	739270	Push-in connector 4-4		1
18	739272	Push-in connector 8-8		1
19	738864	Distance plate		1
20	739233	Plug G1/8"		1
21	730218	Screw M6SZ M8x16		4
22	739271	Push-in connector 6-6		3
23	740637	Protection plate		1



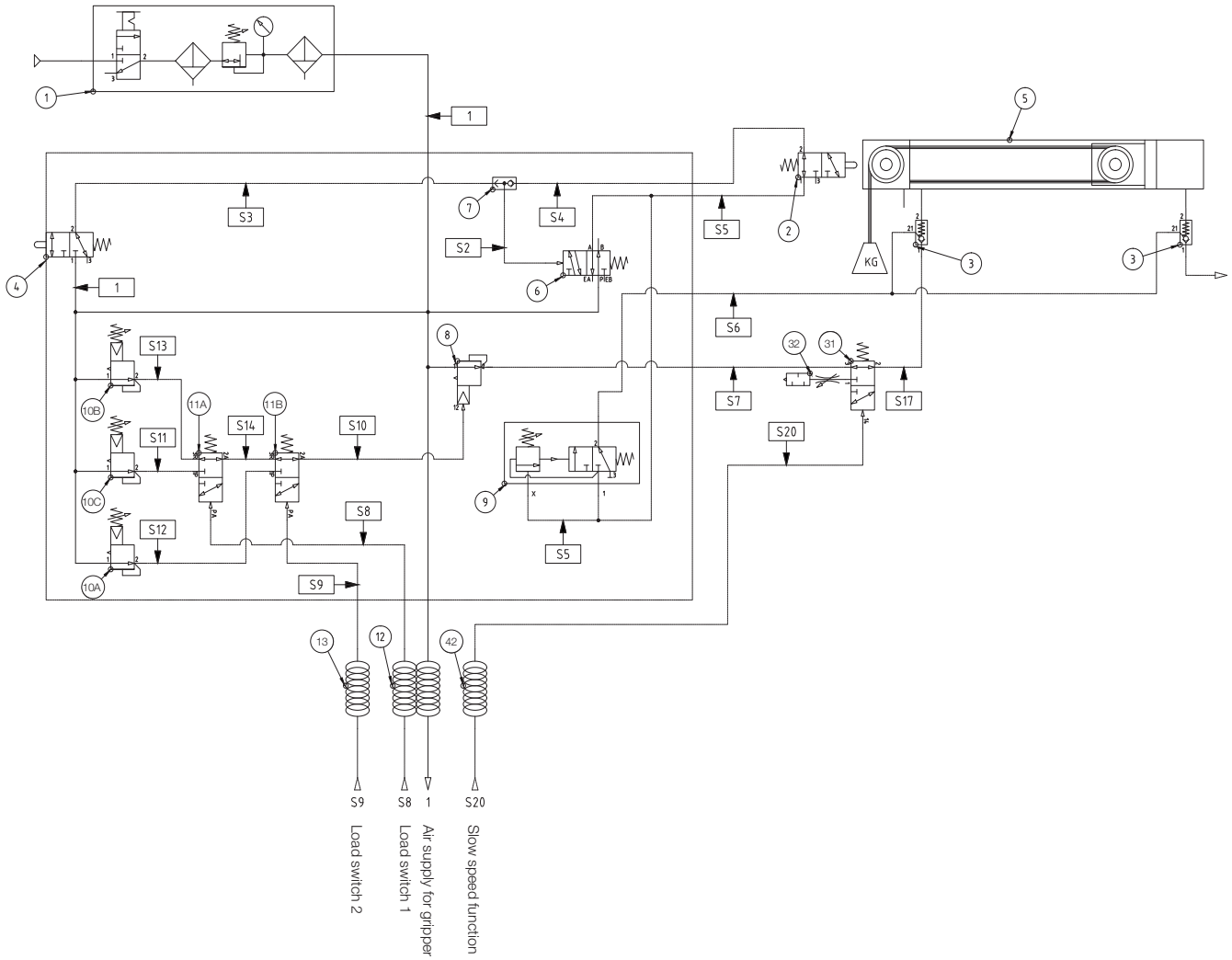
* Option ** Part of 739752 Front end



	740920	Lowering function		
#	Article nr.	Designation		Quantity
30	740645	Attachment plate		1
31	739551	3/2 valve NC	R	1
32	739550	Flow control valve	R	1
33	730115	MM8 t-slot nut single		2
34	730216	Screw M6SZ M8x12		2



Position	Designation / Function	Marking
2	3/2 roller lever valve / Anti-jump	-
4	3/2 valve / Reset	Reset
8	Precision regulator / Main regulator	-
10A	Precision regulator / Without load	L0
10B	Precision regulator / With load 1	L1
10C	Precision regulator / With load 2	L2
31	3/2 valve / Slow speed function	-

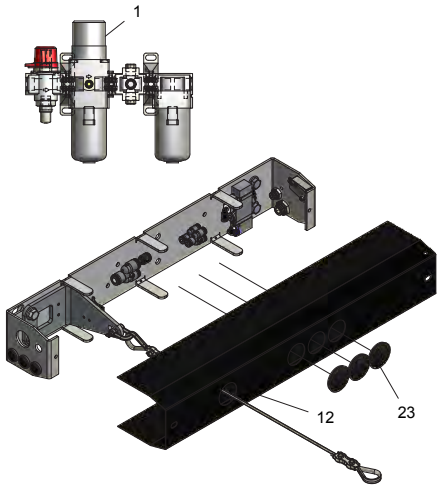


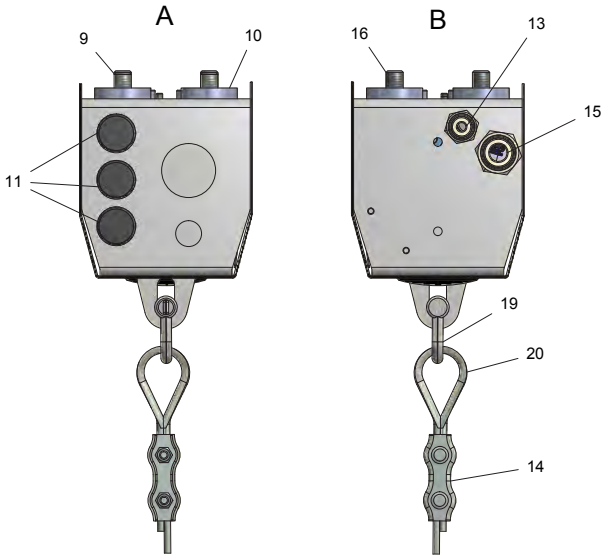
- Balanced out, three weights with lowering function: handling of two balanced out loads; with external actuator the operator selects ”Load 1”, ”Load 2” or ”Without load”.
- The system is equipped with lowering function for a controlled lowering. Functional conditions are configured by the customer, and depend on the specific application.

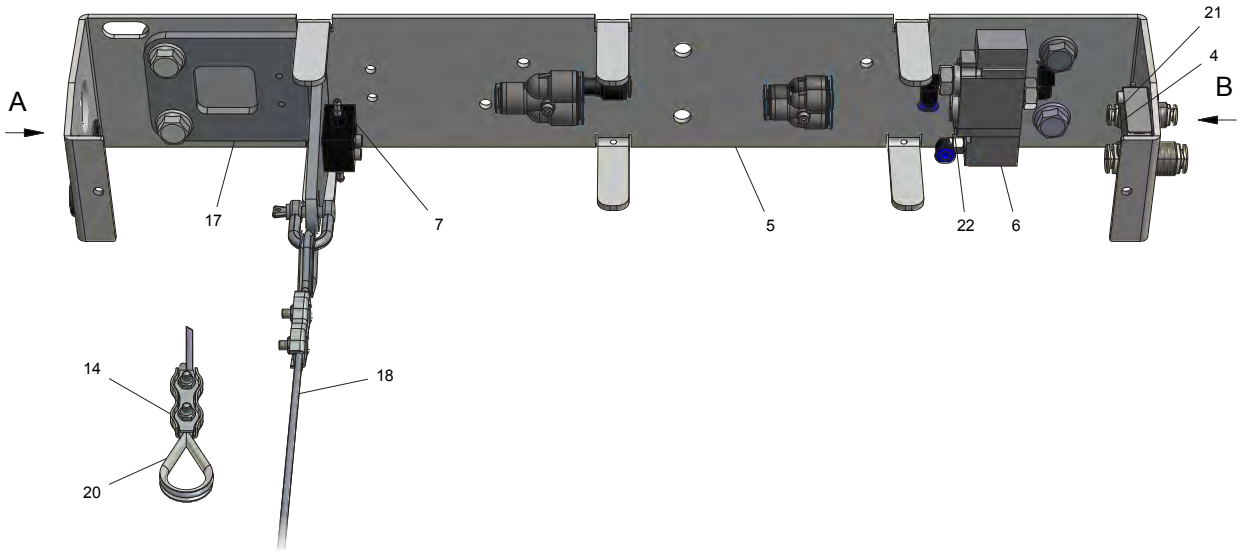
5.5 Pneumatics: directly controlled

	738882	Direct control		
#	Article nr.	Designation		Quantity
1	735350	Air preparation unit (FRL)		(1)*
2	738874	3/2 valve NO		(1)**
3	738875	Non-return valve G3/8"		(1)**
4	738876	3/2 valve NC	R	1
5	739772	Attachment plate		1
6	733374	5/2 valve, monostable	R	1
7	732669	OR gate	R	1
8	740579	Sprail hose, single 6/4		1
9	730219	Screw M6SZ M8x20		2
10	731806	Washer 8,4x26x5		4
11	740533	Rubber cover plate Ø14		3
12	739773	Cover		1
13	739270	Push-in connector 4-4		1
14	730513	Wire joint		2
15	739272	Push-in connector 8-8		1
16	730218	Screw M6SZ M8x16		2
17	738889	Bracket for speed handle		1
18	730693	Wire, L=L1		1
19	738890	Shackle M5 stainless		1
20	730512	Thimble		2
21	740637	Protection plate		1
22	739233	Plug G1/8"		1
23	741413	Rubber cover plate Ø31,8		3

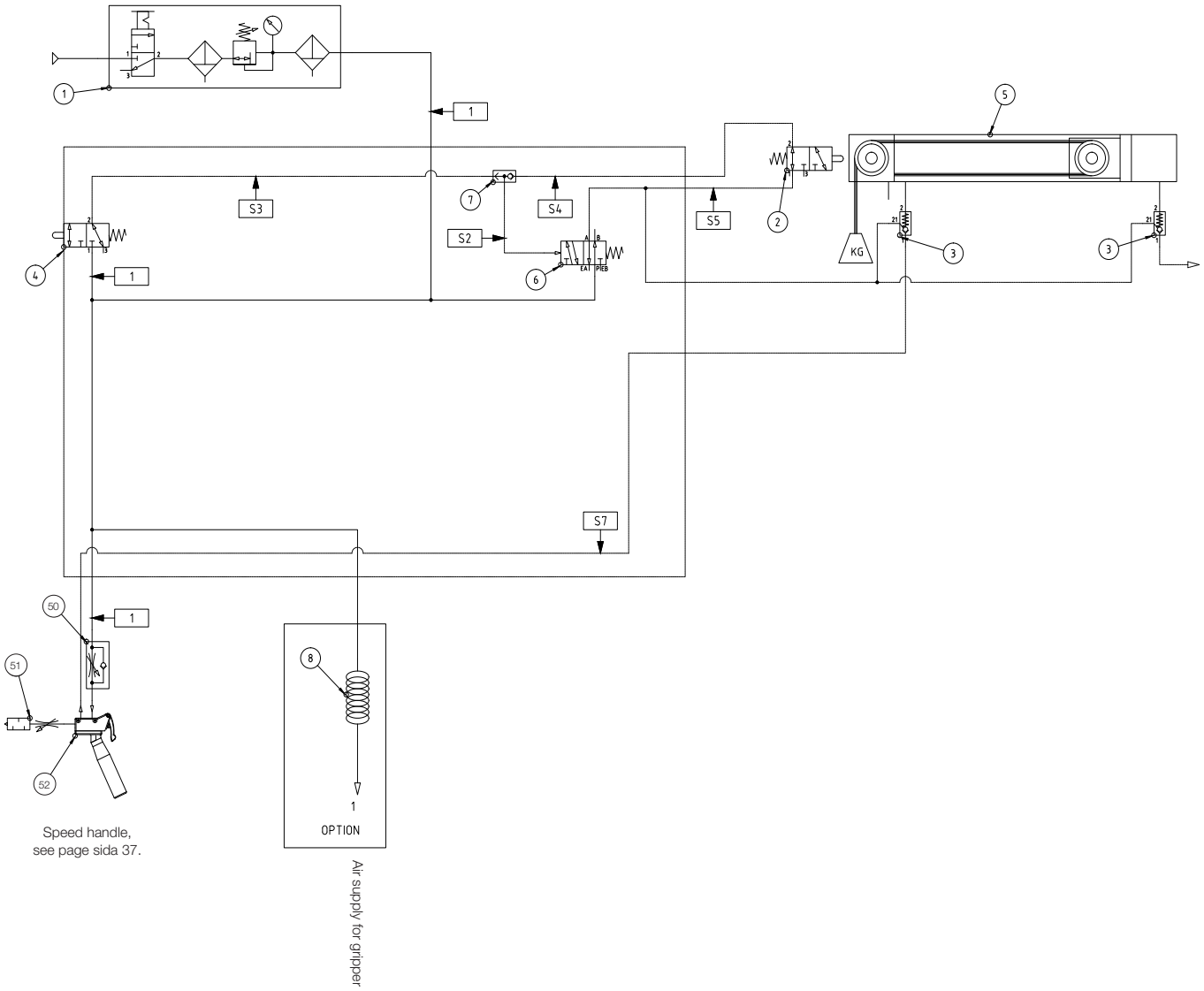
* Option ** Part of in 739752 Front end







Position	Designation / Function	Marking
2	3/2 roller lever valve / Anti-jump	-
4	3/2 valve / Reset	Reset

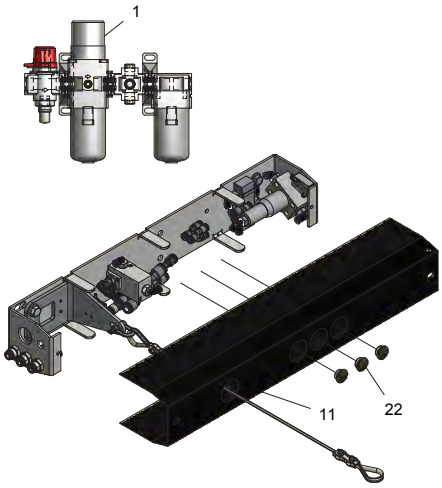


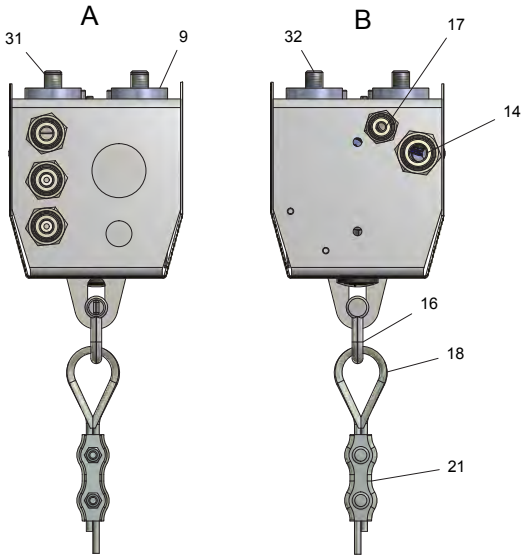
- Directly controlled: for the handling of load of various weights using a control unit. The pistol grip is a standard accessory.

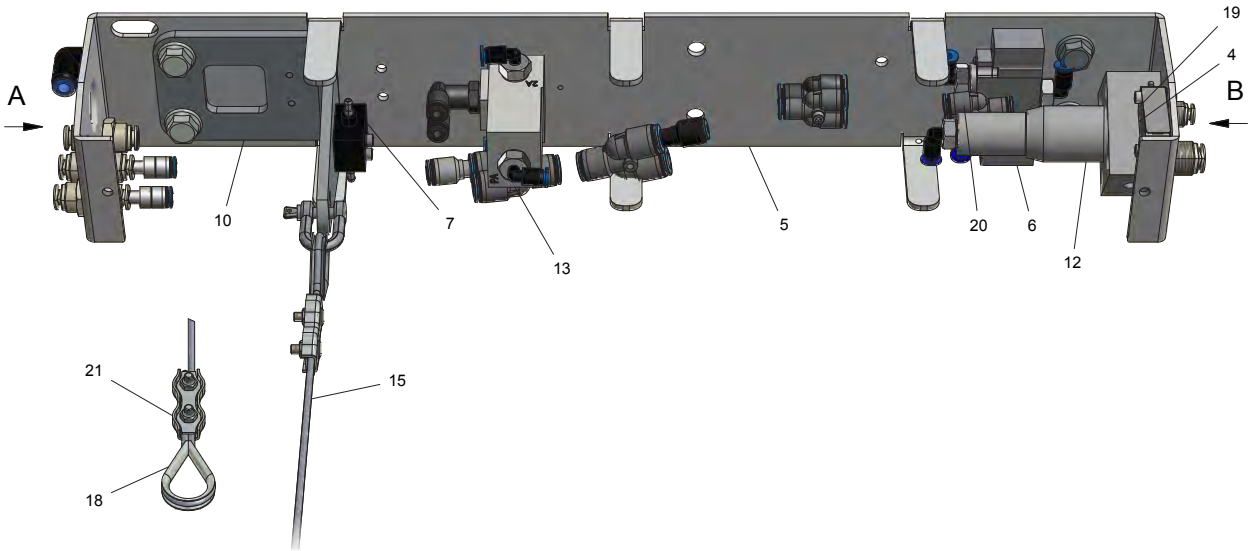
5.6 Pneumatics: directly controlled with a load guard

	741400	Directly controlled, load guard		
#	Article nr.	Designation		Quantity
1	735350	Air preparation unit (FRL)		(1)*
2	738874	3/2 valve NO		(1)**
3	738875	Non-return valve G3/8"		(1)**
4	738876	3/2 valve NC	R	1
5	739772	Attachment plate		1
6	733374	5/2 valve, monostable	R	1
7	732669	OR gate	R	1
8	740579	Sprail hose, single 6/4		1
9	731806	Washer 8,4x26x5		4
10	738889	Bracket for speed handle		1
11	739773	Cover		1
12	739553	Pressure guard	R	1
13	738125	3/2 valve monostable	R	1
14	739272	Push-in connector 8-8		1
15	730693	Wire, L=L1		1
16	738890	Shackle M5 stainless		1
17	739270	Push-in connector 4-4		1
18	730512	Thimble		2
19	740637	Protection plate		1
20	739233	Plug G1/8"		1
21	730513	Wire joint		2
22	739986	Rubber cover plate Ø12		3
23	739271	Push-in connector 6-6		3

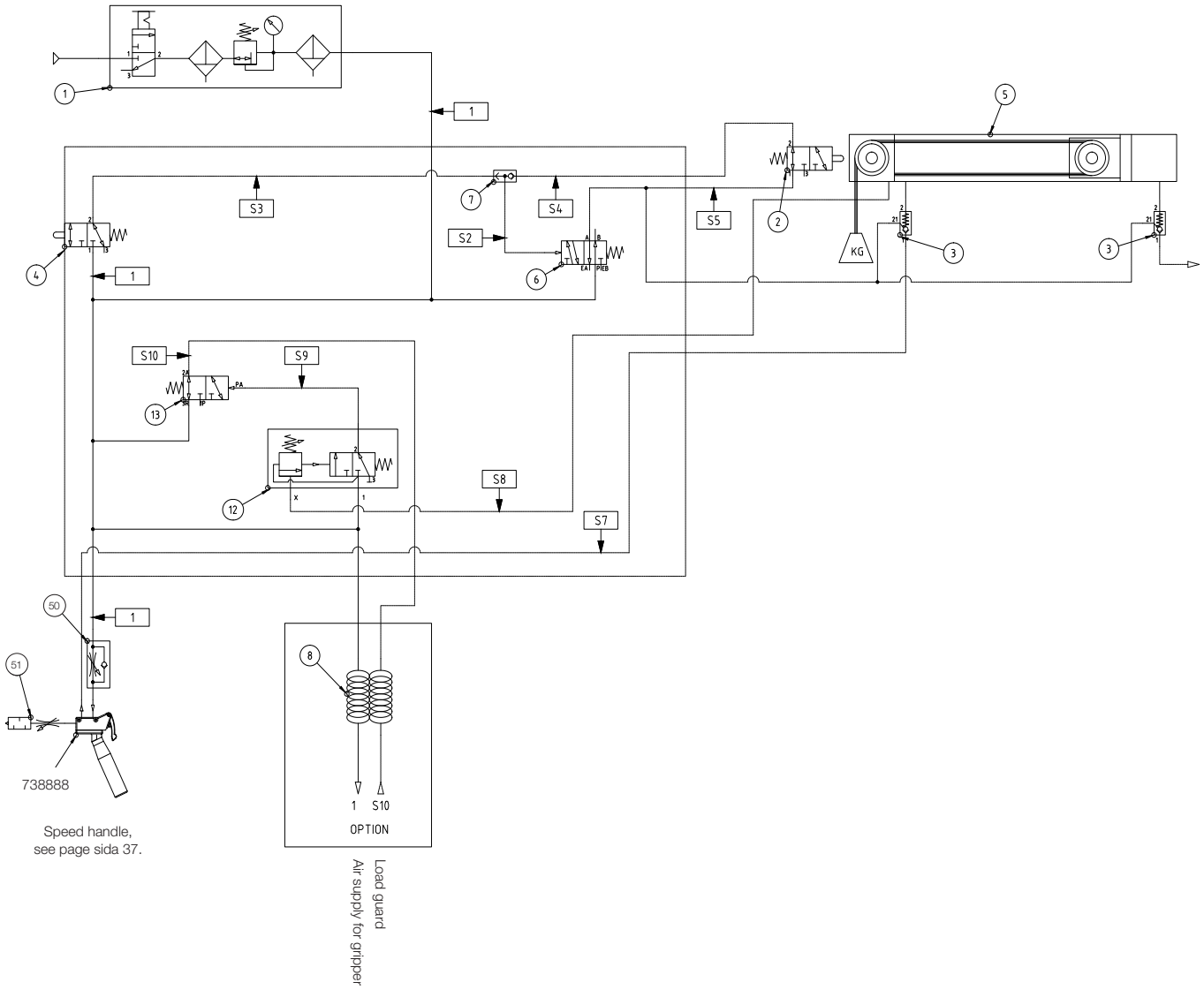
* Option ** Part of 739752 Front end







Position	Designation / Function	Marking
2	3/2 roller lever valve / Anti-jump	-
4	3/2 valve / Reset	Reset
12	Pressure guard / Load guard	-

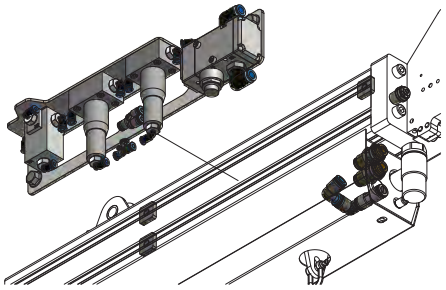


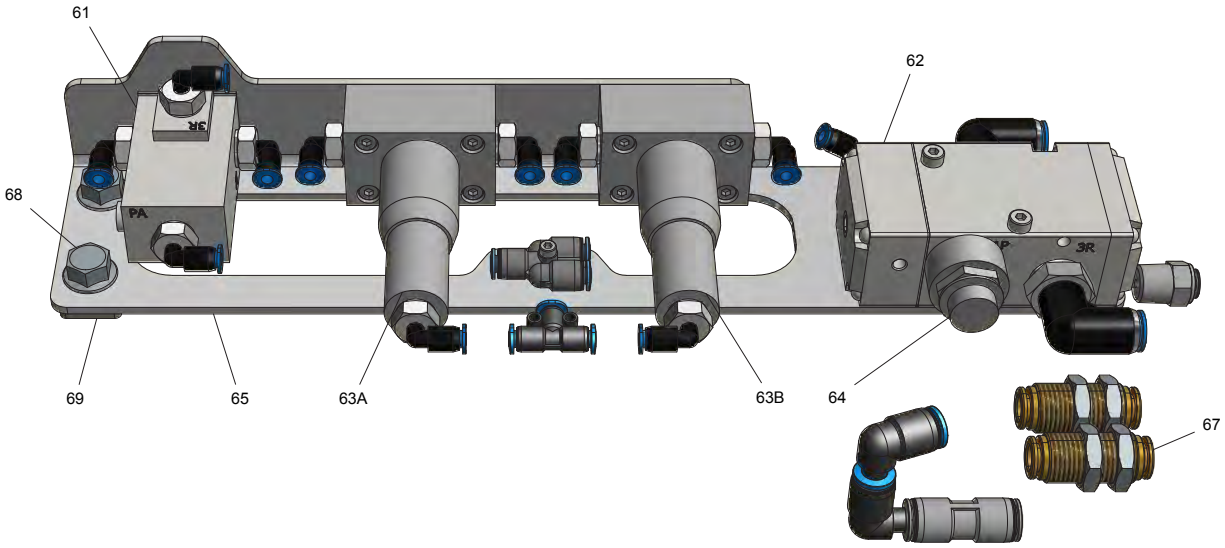
- Directly controlled with a load guard: a precise and smooth handling of varying loads with a control unit. A convenient speed handle is available as standard control unit.
- The system is equipped with a load guard, to be configured by the customer; e.g. to only allow activation of the release function if the gripper tool is unloaded.

6. Optional equipment

6.1 Pneumatic load limitation kit

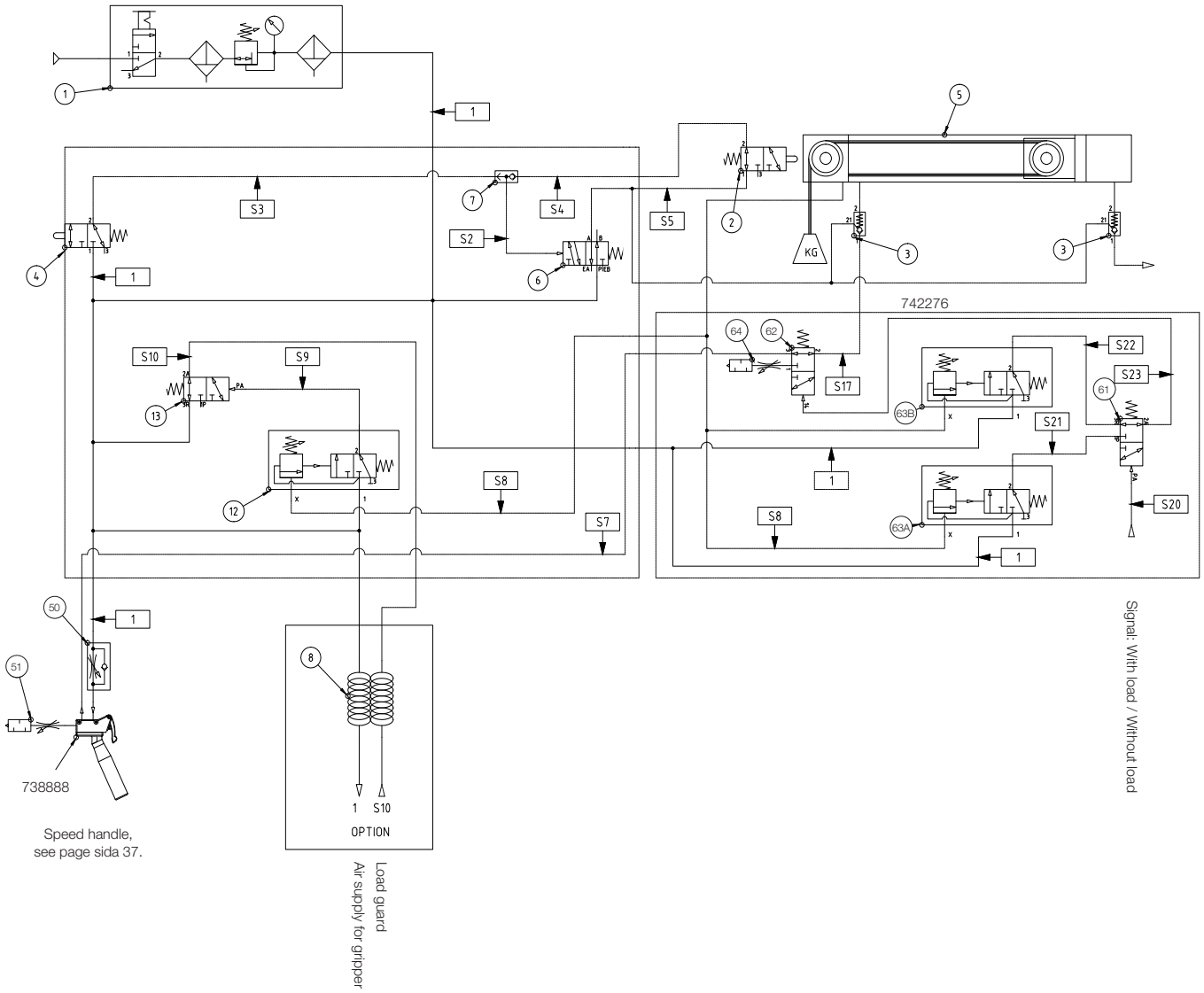
	742276	Load limiting kit		
#	Article nr.	Designation		Quantity
61	738125	3/2 valve monostable	R	1
62	739551	3/2 valve NC	R	1
63	739553	Pressure guard	R	2
64	741358	Metering valve with silencer 3/8”	R	1
65	742278	Base plate		1
66	739255	Push-in connector 8-8		1
67	739272	Push-in connector 8-8		2
68	730215	Screw M6SZ M8x10		3
69	730115	MM8 t-slot nut single		3





Position	Designation / Function	Marking
2	3/2 roller lever valve / Anti-jump	-
4	3/2 valve / Reset	Reset
12	Pressure guard / Load guard	-
63A	Pressure guard / Load limiting without load	P0
63B	Pressure guard / Load limiting with load	P1

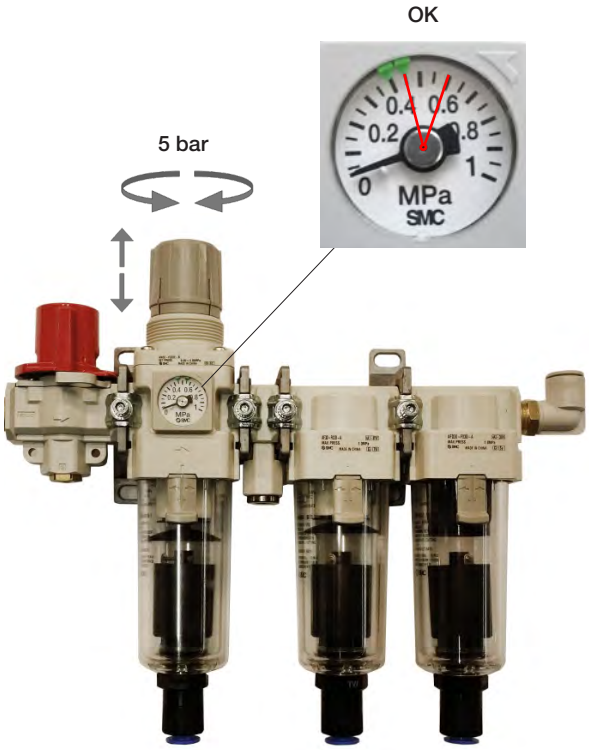
742276 in combination with 741400
(Also available as an option with 738882)



- The load limitation kit is used to limit the lifting force of Mechline Pro Crane. Both the lifting force at the state ”no load” and ”with load” can be restricted.

6.2 Air preparation unit

	743057	FRL unit (C)		
#	Article nr.	Designation		Quantity
1	730671	Filter	S	2
2	742427	Submicro filter 0,01 µm	S	1



For connection to Mechline Pro Crane.

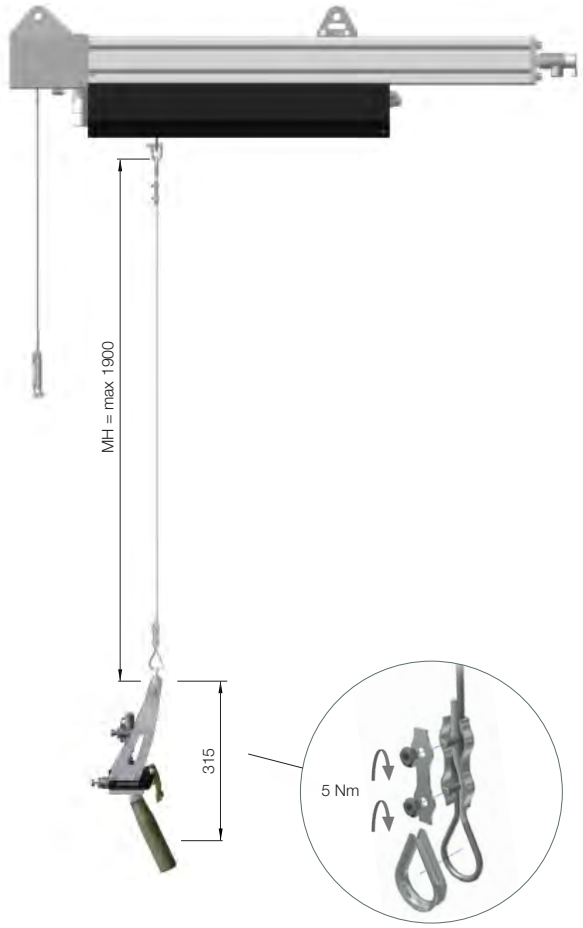
742412

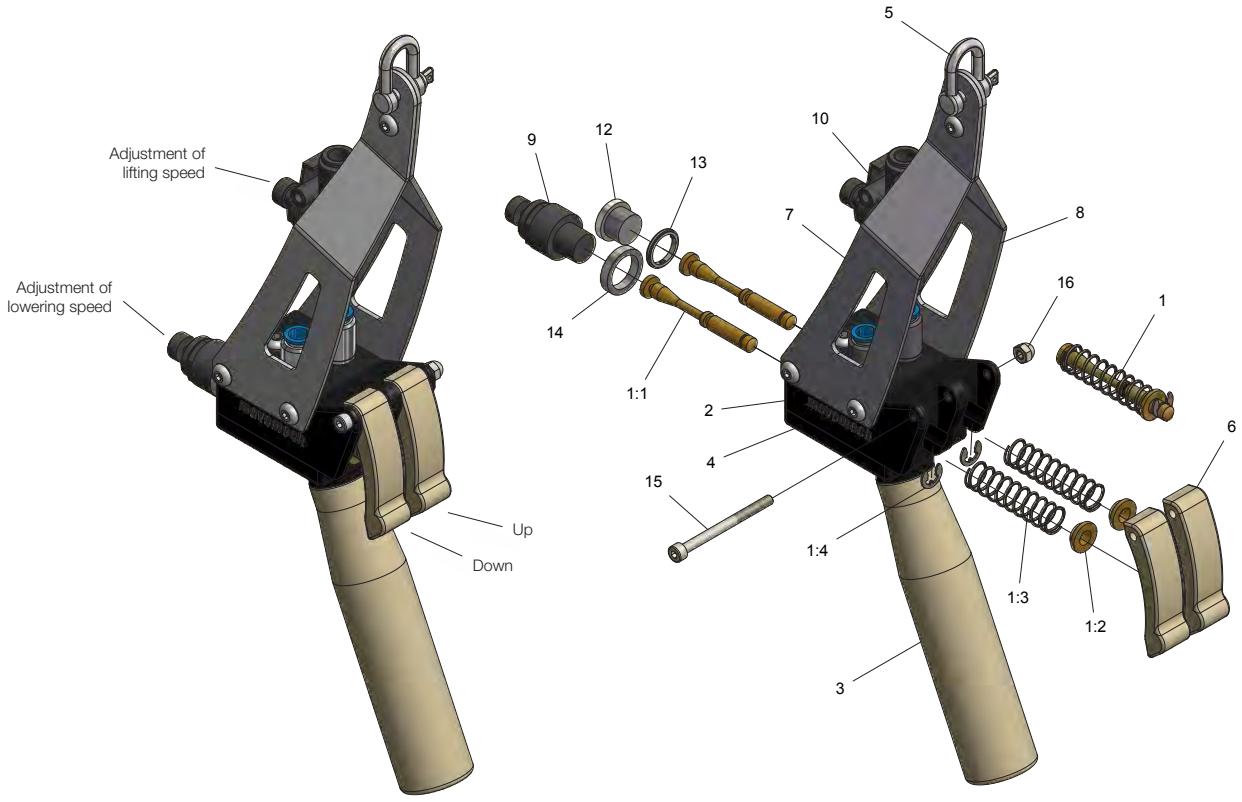
Push-in sleeve 12-8

7. Controls

	738888	Speed handle		
#	Article nr.	Designation		Quantity
1	738865	Valve spool, complete	R	2
2	738891	Housing		1
3	739926	Handle		1
4	739927	Lower bracket		1
5	738890	Shackle M5 stainless		1
6	739913	Control button		2
7	738893-L	Side plate, left		1
8	738893-R	Side plate, right		1
9	739919	Flow control valve with silencer	R	1
10	738895	Flow control valve	R	1
11	738894	Nut MHM M5 stainless		1
12	731568	Plug 1/4" with sealing ring		1
13	739292	Sealing ring G1/4"		1
14	730328	Washer 15x20x3,8		1
15	739925	Screw MC6S M4x50 A4		1
16	738897	Nut MHM M4 stainless		1
17	730675	Hose, d=8	R	L
18	731613	Protection hose	R	L

- MH: height. Adjusted on site, delivered with separate thimble and wire joint. The wire is crossed in the wire joint.
- The speed handle is used with pneumatics: direct control. Hose and cable protection hose are included.





8. Installation

8.1 Preparations

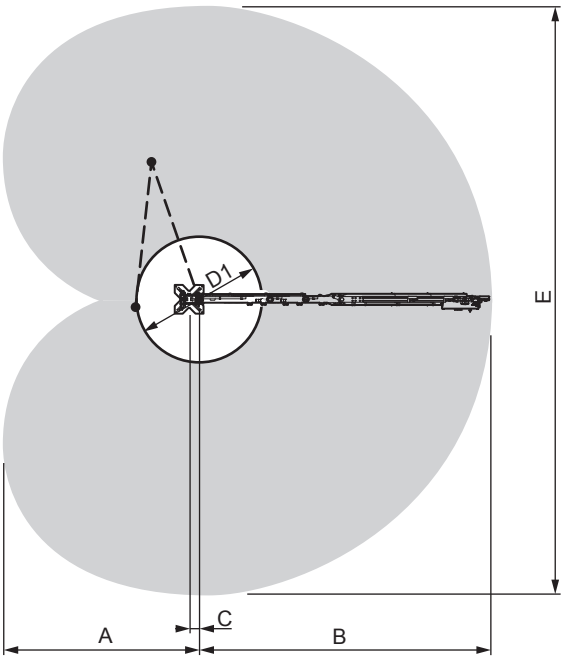
NB: Carefully read chapter 2 on safety before starting installation of the crane.

Before you install the crane, you must check whether:
- it will intrude into truck paths or into the working area of any other equipment,
- there is a risk of physical interference with fixtures and such,
- there is a risk of getting caught in any item in the surrounding area.

In any such case, measures must be taken to avoid that personnel are hurt or equipment is damaged. The manufacturer is not responsible for where and how the crane is placed at the user's premises.

Only clean and filtered air is to be used for the crane's pneumatic system. The crane is to be supplied with compressed air via the FRL unit. The inside thread of the FRL unit is 3/8".

For the functions of the lifting equipment, see its documentation.



Crane working area

Inner and outer jibs combined	A	B	C	D1	E
Inner jib 1 - Outer jib 1	*1326*	*2,0*		*866*	
Inner jib 1 - Outer jib 1.5	*1768*	*2,5*		*1458*	
Inner jib 1.5 - Outer jib 1.5	*1988*	*3*	*128*	*1299*	
Inner jib 1.5 - Outer jib 2.0	*2438*	*3,5*		*1802*	
Inner jib 2 - Outer jib 2.0	*2651*	*4*		*1732*	

8.2 Permanently mounted crane

This version is supplied as two parts:

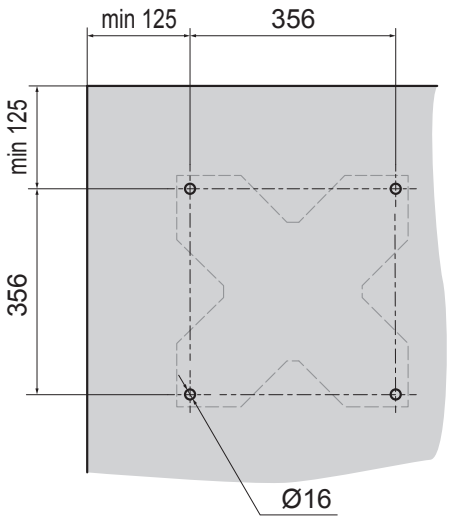
- adjustable mast and mobile foot plate
- inner and outer jibs

Installing to floor

The crane is mounted in the floor using four expander bolts (part no. 743573 HST3 M16x135). The floor must be of concrete and be of C20/25 quality, with a minimum thickness of 140 mm.

Place the mast in position on the floor.

Use the floor plate of the mast as a template to drill four holes, Ø16 mm to a depth of **108 mm** (see image).
NB! The minimum distance to the nearest concrete edge must be **125 mm**.



Blow out any dust from the drilled holes with compressed air or such.

Insert an expander bolt through the foot plate into each hole. Tap the bolt in place with a hammer.
NB! Tap the rod of the expander bolt, not on the nut!
Tap the expander bolt so far down that the washer and the nut of the expander bolt are touching the foot plate of the mast.

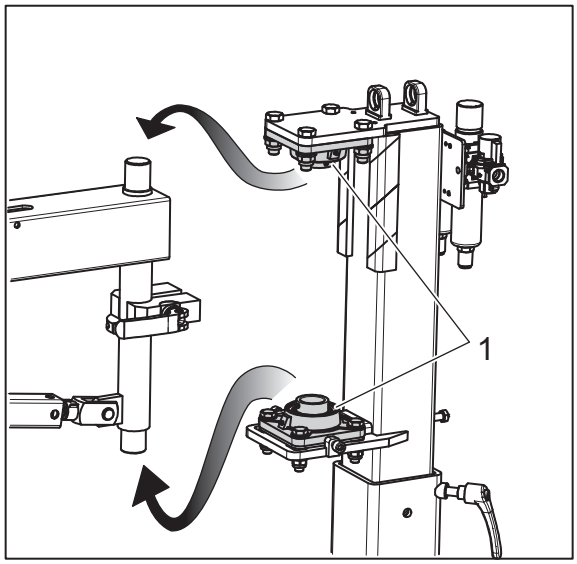
The expander bolt must not touch the bottom of the drilled hole.

Use the included shims to plumb the mast.

Tighten the expander bolts to **110 Nm**.

Fitting the inner jib to the mast

Remove the flange bearings (1) already fitted to the mast. Place these on the inner jib shaft.

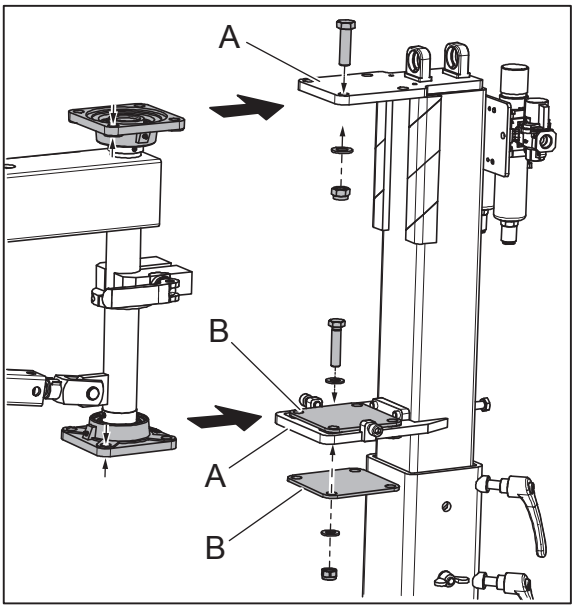


1 Flange bearing

Push the jib and bearings in between the bearing plates (A) on the mast. Insert a spacer (B) between the lower flange bearing and the bearing plate.

Refit screws, washers and nuts (Upper bearing M14, lower bearing M12). Fit a spacer under the lower bearing plate before fitting washers and nuts (M12).

Next, adjust the crane, go to ”Adjusting the jib” på sida 40.



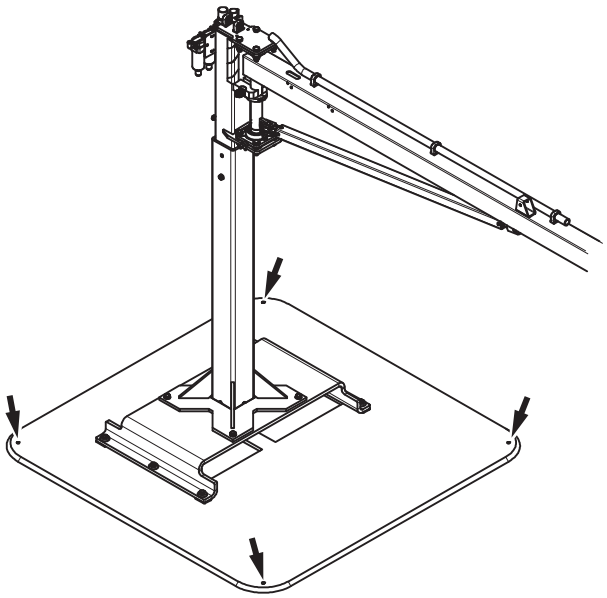
A Bearing plate
B Spacer

8.3 Crane with a mobile foot plate

The crane is delivered assembled.

Place the crane in position on the floor.

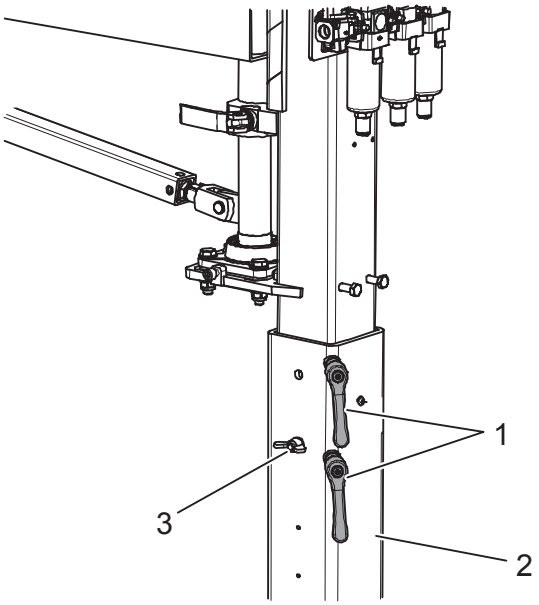
Adjust the levelling screws at the corners of the mobile foot plate so that these touch the floor and the crane is standing securely.



8.4 Adjusting the jib

When the jib is adjusted, the lifting equipment must be attached but no load is to be carried (empty).

Commence by setting the crane height.
Undo the tension screws (1), remove the wing nut (3), and remove the screw.
Lift the upper half of the mast to the desired height. **NB**! The upper part of the mast must not be lifted so high that the red marks are visible.
Refit the screw and the wing nut.
Tighten the tension screws.



1. *Tensioning screws*
2. *Mast*
3. *Wing nut and screw*

Move the jib (inner and outer sections) to 90° compared to the normal position (B), as per the image.

Place a spirit-level on top of the inner jib. Observe the spirit-level.

Move the jib 180° to a position exactly opposite (C), as per the image

Place the spirit-level on top of the inner jib in the same way as before. Observe the spirit-level.

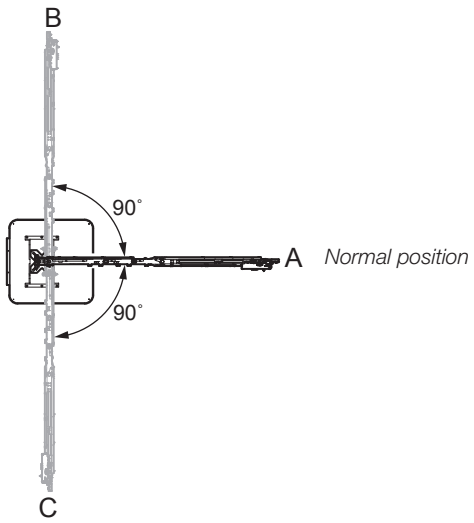
Undo the screws holding the lower flange bearing somewhat and adjust sideways using the adjusting screws (see image) until the spirit level shows the same for both positions (B and C).

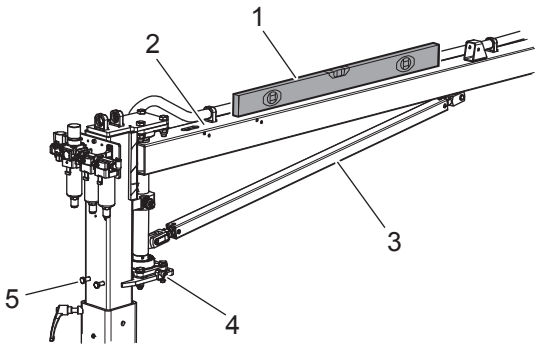
Turn the jib to position C. Adjust the lower support to the inner jib so that the jib is perfectly level.

Turn the jib to position B. Check that the jib is still perfectly level.

Turn the jib to position A (normal position). Adjust the lower bearing using the adjusting screw for lateral adjustment (see image) to level the inner jib.

Tighten the screws that hold the inner bearing of the inner jib when the jib is correctly adjusted as per above.





1. *Spirit level*
2. *Inner jib*
3. *Lower support to inner jib*
4. *Lateral adjusting screw*
5. *Longitudinal adjusting screw*

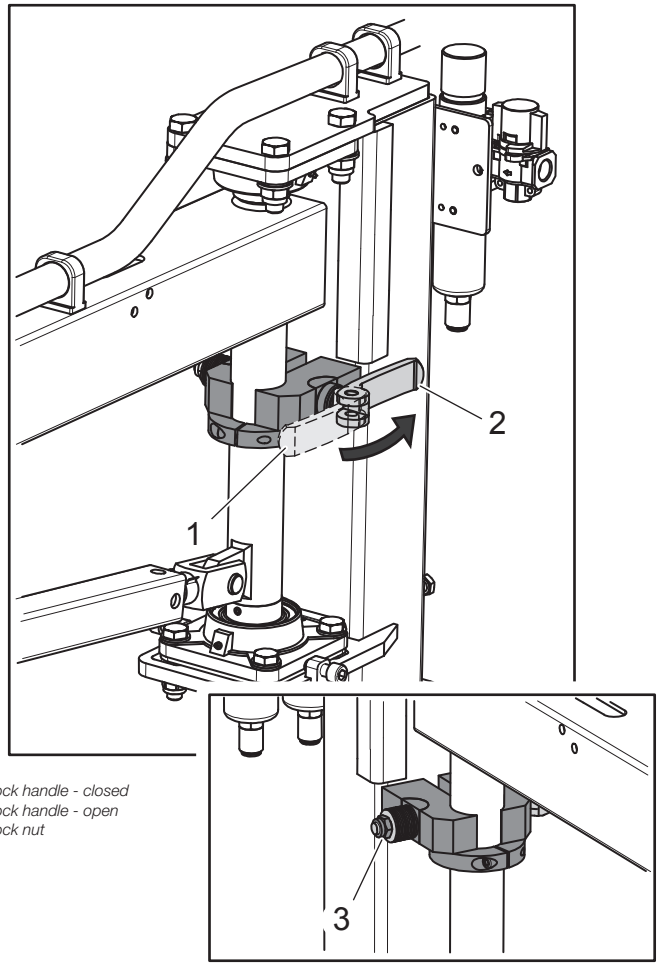
8.5 Adjusting the inner brake

The inner brake (dee image) is adjusted so that the crane jib does not turn.

Set the lock handle of the inner brake in the open position.

Adjust the brake by tightening or releasing the lock nut (see image).

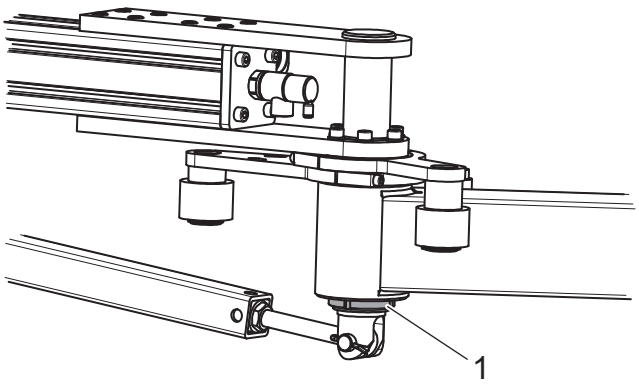
(The parked position of the inner brake (locked position) is described at “The crane” på sida 47)



1. *Lock handle - closed*
2. *Lock handle - open*
3. *Lock nut*

8.6 Adjusting the outer brake

If the outer jib keeps turning, this is remedied by carefully tightening the slotted lock nut on the shaft that joins the inner and the outer jibs (see image).



1.

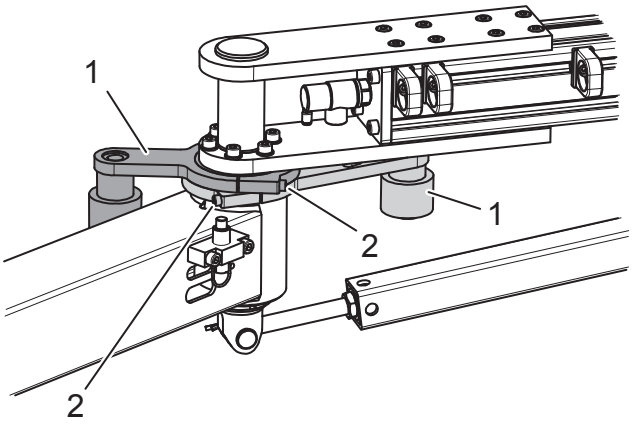
8.7 Adjusting the rotation limiter

Both parts of the rotation limiter are fitted to the shaft in the joint between the inner and the outer jib.

Set the rotation limiter by undoing the screws.

Set the rotation limiter in the desired position, and tighten the screws.

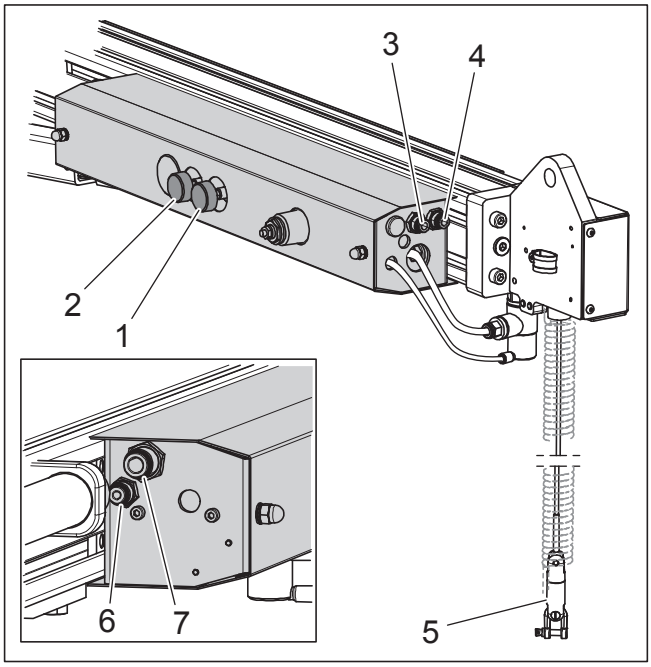
(The outer jib may be locked in the parked position (locked), see ”The crane” på sida 47



1. *Rotation limiter*
2. *Screw*

8.8 Adjusting for two weights

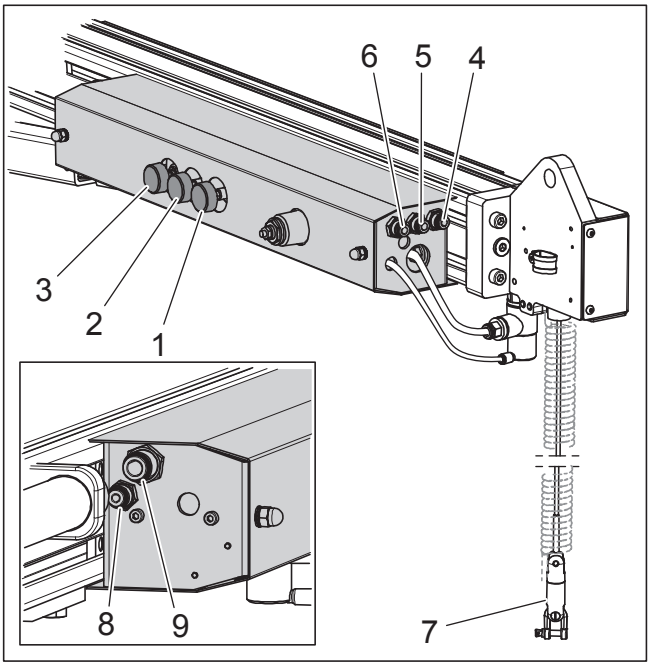
1. Install the lifting equipment on the swivel (5). Make sure the shackle is properly secured with a pin.
2. Connect the air supply to the lifting equipment (4) and the signal for load change (3) from the lifting equipment.
3. Make sure that the control knobs (1, 2) of the regulators are their outermost positions.
4. Activate the air supply to the FRL unit.
5. Adjust the “without load” regulator (1) so that the load (i.e. the lifting equipment) is balanced out, and does not sink or rise.
6. Lift the load. Adjust the “with load 1” regulator (2) so that the load is balanced out, and does not sink or rise.
7. Test the anti-jump function, see sida 54.



1. *Regulator L0 - lifting equipment without load*
2. *Regulator L1 - lifting equipment with load 1*
3. *Coupling - Signal for load change, load 1 (S8)*
4. *Coupling - Air supply to lifting equipment (1)*
5. *Lifting equipment fitting*
6. *Coupling - Control signal for blocking valve (S6)*
7. *Coupling - Air supply*

8.9 Adjusting for three weights

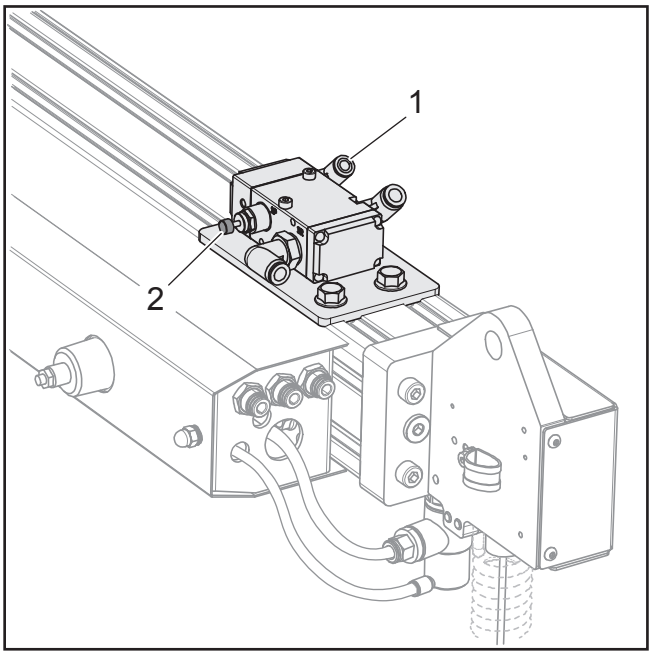
1. Install the lifting equipment on the swivel (7). Make sure the shackle is properly secured with a pin.
2. Connect the air supply (4), the signal for load change, load 1 (5) and signal for load change, load 2 (6) to the lifting equipment.
3. Make sure that the control knobs (1, 2, 3) of the regulators are their outermost positions.
   Activate the air supply to the FRL unit.
4. Adjust the “without load” regulator (1) so that the load (i.e. the lifting equipment) is balanced out, and does not sink or rise.
5. Lift the first load (load 1). Adjust the “with load 1” regulator (2) so that the load is balanced out, and does not sink or rise.
6. Lift the second load (load 2). Adjust the “with load 2” regulator (3) so that the load is balanced out, and does not sink or rise.
7. Test the anti-jump function, see pagesida 54.



1. *Precision regulator L0 - lifting equipment without load*
2. *Precision regulator L1 - lifting equipment with load 1*
3. *Precision regulator L2 - lifting equipment with load 2*
4. *Coupling - Air supply to lifting equipment*
5. *Coupling - Signal for load change, load 1 from lifting equipment (S8)*
6. *Coupling - Signal for load change, load 2 from lifting equipment (S9)*
7. *Lifting equipment fitting*
8. *Coupling - Control signal for blocking valve (S6)*
9. *Coupling - Air supply*

8.10 Adjusting the lowering function

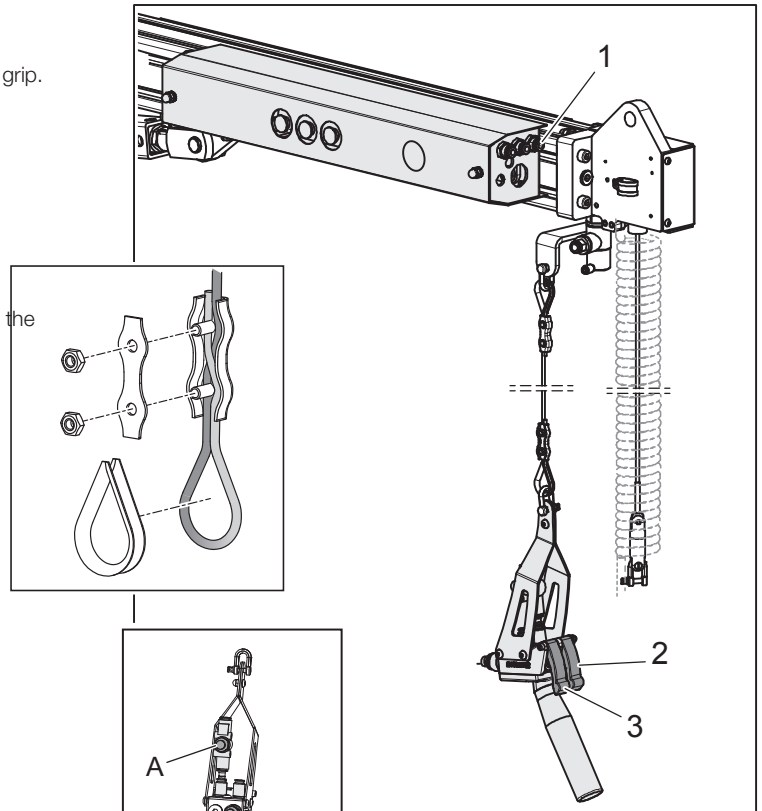
1. Connect and adjust the balancing out of the two-weight or three-weight according to the description at ”Adjusting for two weights” or ”Adjusting for three weights”.
2. Connect the control signal for the lowering function (1) from the lifting equipment.
3. Screw in the knob the the flow valve (2) as much as possible.
4. Grab the load with the lifting equipment.
5. Give a signal on S20 from the lifting tool, i.e. lower the load.
6. Twist the knob of the flow valve outwards until you get the desired lowering speed.
7. Cut the signal from S20.



1. *Coupling - Control signal for lowering function from lifting equipment (S20)*
2. *Flow valve*

8.11 Adjustment of the direct control using the pistol grip

1. Fit the lifting equipment Make sure the shackle is properly secured with a pin.
2. If required, you may shorten the wire rope holding the pistol grip.
3. NB! The wire rope must cross over in the wire rope lock.
4. Hang the pistol grip in the wire rope.
5. Connect the air supply to the FRL unit on the crane.
6. Switch on the air supply.
7. Grab hold of a load representative of the operation.
8. Adjust the lifting and lowering speed for the pistol grip using the adjusting nuts on the valves (A, B).
9. Test the anti-jump function, see pagesida 54



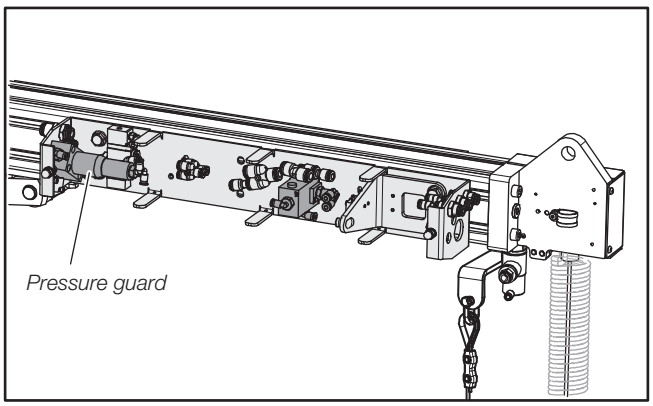
1. Coupling - Air supply to lifting equipment
2. Load lifting trigger lever
3. Load lowering trigger lever

A Lifting speed adjustment
B Lowering speed adjustment

8.12 Adjusting the load sensor (optional for direct control with pistol grip)

The load sensor function will detect if only the weight of the lifting equipment is on the lifting wire rope. This function can be used for weights in excess of 10 kg.

1. Connect and adjust the lifting equipment and the pistol grip as described above in ”Adjustment of the direct control using the pistol grip” på sida 44.
2. Make sure that only the lifting equipment is attached to the wire rope.
3. If there is air blowing out of the spiral hose S10, adjust the pressure sensor so that the air stream ceases.
4. Turn the adjusting screw in the other direction so that the air starts blowing again.
5. Pick up the load with the lifting equipment and lift using the pistol grip.
6. Check that there is no air blowing out of the spiral hose S10. (If there is air coming out, return to item 3, and readjust the pressure sensor more carefully)
7. It is now possible to use the spiral hose S10 to supply the “release” buttons.



8.13 Adjusting the load limitation kit

The load limitation kit is used to limit the lifting force of the Mechline Pro Crane. The load limitation kit is an option for the pistol grip. It is adjusted after the pistol grip has been installed and adjusted and after the load sensor - if any - has been adjusted.

Preparations

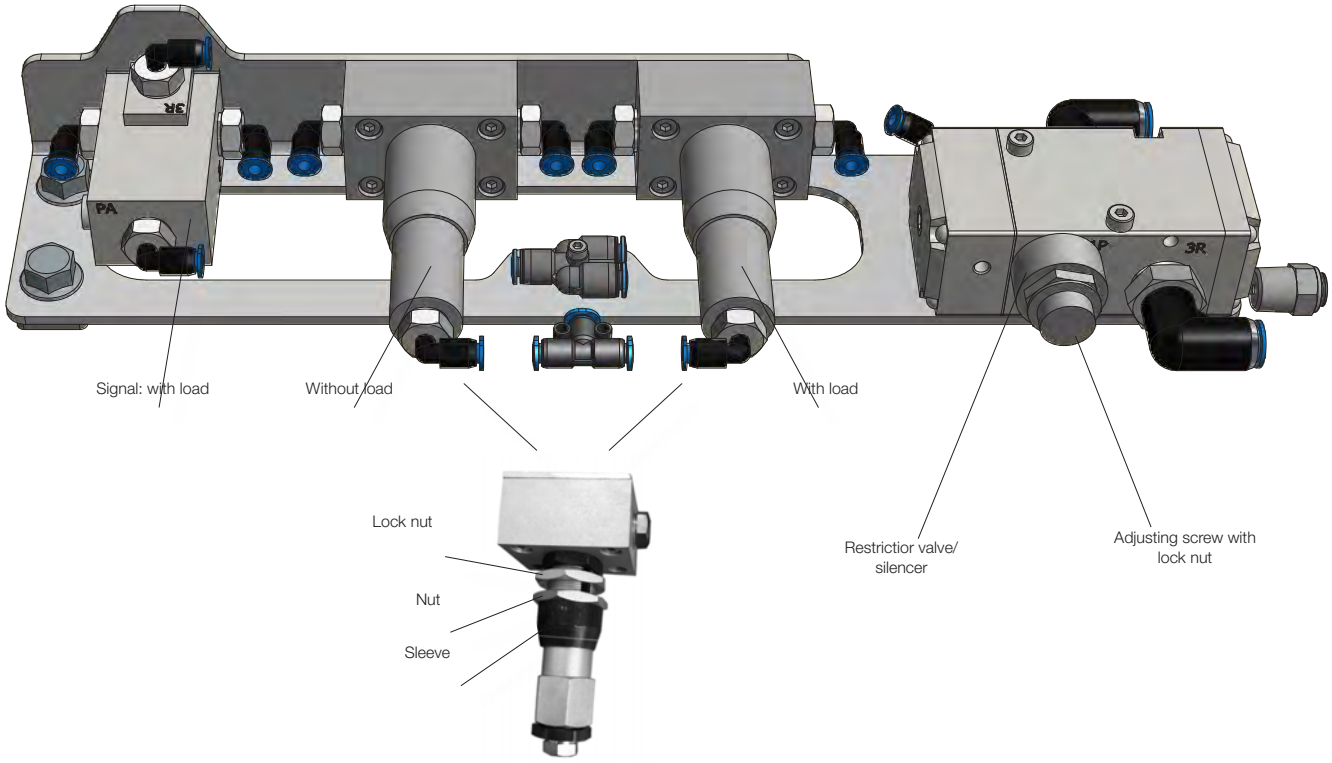
1. Unscrew both pressure sensors anti-clockwise as much as possible. This will permit an unlimited maximum load. Hold the sleeve with one hand, and turn the nut with the other.

Lifting capacity limitation without load

2. Run up the wire rope to the uppermost position using the pistol grip. Continue pressing the trigger lever to increase the pressure in the chamber. The pressure sensor without load should now release the pressure (air seep), and the empty lifting equipment should slowly sink. If the sinking speed of the lifting equipment is deemed to be too high, this can be adjusted with the restrictor valve/silencer.
   The restrictor valve/silenser is pre-set at the factory, but it can be adjusted by undoing the lock nut and turning the screw, in or out.
   Do not forget to tighten the lock nut after adjustment.
3. Press the down trigger lever on the pistol grip to lower the wire rope.
4. Turn the nut on the pressure sensor without load a few turns clockwise. Repeat items 2-3 until the time from when the wire rope reaches the topmost position to when the pressure sensor releases the pressure is less than 1 second. The pressure sensor without load is now adjusted. Fine-tune the sensor by turning the nut. Do not forget to lock the nut with the locknut when the adjustment is done.

Lifting capacity limitation with load

5. To set the maximum load with an attached load, apply a signal to the valve (signal: with load).
6. Then adjust the pressure sensor with load according to items 2-4.
   Again, pay attention to the lowering speed of the lifting equipment.
   Adjust the restrictor valve/silencer as required.



9. Operating the Mechline Pro Crane

The method of operating the Mechline Pro Crane depends largely on the specific application:

- its configuration, with or without lifting equipment
- the design and the function of the lifting equipment
- the characteristics and any variation in the lifted objects
- the work environment
- the selected working pace and work frequency

A complete workstation, including Mechline Pro, must have a specific operating instruction for the current application, which considers all the points mentioned above.

For safe operations, the following must be observed before and during operations:

- Do not use the hoist in case of any damage to the hoist, hoisting rope, swivel or the lifting equipment.
- Check that the lifting shackle is correctly closed (with a lock pin) before you use it.
- Never lift a load heavier than the rated load than permitted. The total load includes the combined load of lifting tools and the lifted items.
- The Mechline Pro Crane is equipped with an anti-jump function designed to prevent unwanted lifting movement, e.g. because of a lost load or because of a build-up of internal pressure in the crane. It is designed as an end stop, or a travel limit.
- When moving a crane mounted on a mobile footplate, the outer and inner jibs should be put in the parked position (locked) to stop them from moving about when the move is performed.
- Make sure that lifted items or the lifting equipment are not locked in or risk getting caught during the moving / lifting process (A). If attempting to lift a locked object, the pressure in the crane will increase, which in turn may cause unwanted and unexpected movements. These will be reduced, but not altogether eliminated by the anti-jump function.
- The crane is not intended for handling lifting tools such as hooks and the like.
- The operator must not be in close proximity to the lift rope when lifting items (B).
- The crane must always be positioned vertically above the lifted items during the lifting operation (C).
- For safe handling, also read the documentation of the lifting equipment.

Prohibited Use

A Risk of item getting stuck

B Working too close to the lift rope

C Crane not positioned vertically above the lifted item

9.1 Lifting functions

For using the lifting equipment, see its documentation.

Two weights

The two-weight Mechline Pro is used for operations with loads of a given weight, i.e. operations “without” and “with” loads. When the crane gets a pneumatic signal for a load change (see pneumatics chart), the current load is balanced out, and the operator will lift the handled load/lifting equipment in a balanced, almost weightless state.

For resetting or adjusting load weights, see starting from item 3 at ”Adjusting for two weights” på sida 42.

Three weights

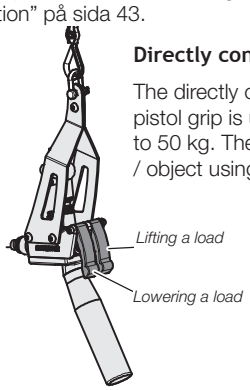
The three-weight Mechline Pro is used for operations with loads with two given weights, i.e. operations “without” and “with load1” and “with load 2” respectively. When the crane gets a pneumatic signal for a load change (see pneumatics chart), the current load is balanced out, and the operator will lift the handled load/lifting equipment in a balanced, almost weightless state.

For resetting or adjusting load weights, see starting from item 3 at ”Adjusting for three weights” på sida 43.

Lowering function

Both the two-weight and the three-weight versions may be equipped with a lowering function for controlled lowering. The functions are configured by the customer, and the operation is dependant on the specific application.

For adjustment of the lowering function, see ”Adjusting the lowering function” på sida 43.

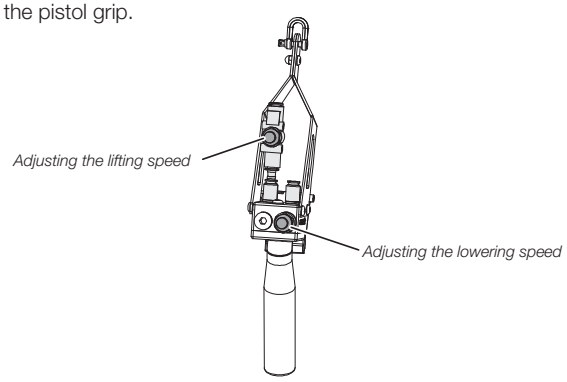


Directly controlled with the pistol grip

The directly controlled Mechline Pro Crane with the pistol grip is used for handling objects weighing up to 50 kg. The operator can lift the lifting equipment / object using the controls on the pistol grip.

The lifting and lowering movements of the Mechline Crane are dynamic near the end positions, which give a feel of “softness” of operation. This is an aid in assembly work and such.

If the weights change, and the operator needs to change the lifting or the lowering speed, this may be performed using the adjustment nuts on the pistol grip.



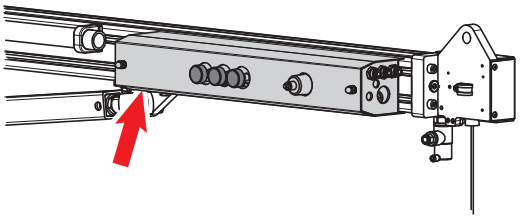
Load sensor

Direct control with the pistol grip can have a function that uses a load sensor which is configured by the customer; e.g. to only allow activation of a release function if the lifting tool is unloaded. The operation depends on the specific application.

For a pneumatics chart for this function, see ”Pneumatics: directly controlled with a load guard” på sida 32.

Anti-jump function

The Mechline Pro Crane is equipped with an anti-jump function which locks the wire rope if the lifting or lowering movement is too rapid. This will prevent uncontrolled lifting if e.g. the load should be dropped by mistake. If the anti-jump function has been triggered, it is reset using the RESET switch under the pneumatics box. It is reached through a hole with the text RESET next to it.



Use a screwdriver or similar to press inside the hole. An audible click sound should be heard.

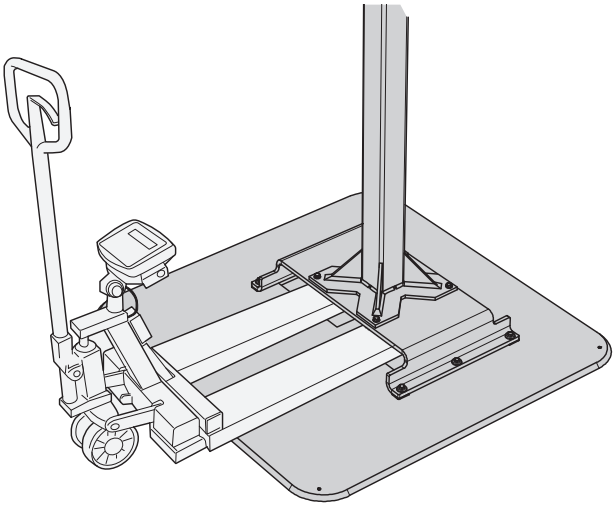
If the lifting equipment is holding a load when the anti-jump functions is triggered, it is best to leave this hanging until the RESET switch has been pressed.

9.2 The crane

Moving a crane mounted on the mobile footplate

When moving a crane mounted on the mobile footplate, the crane jib must be placed in the parked position (see below) before performing the move. This will prevent the jib from moving about uncontrollably during the move.

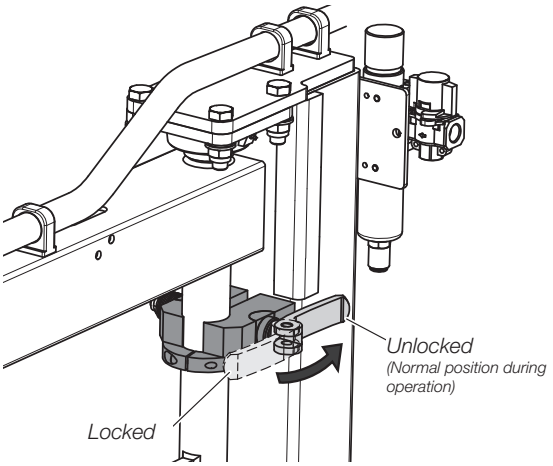
The crane is moved by using a hand pallet truck. The forks of the truck are inserted between the foot plate and the raised section where the mast is mounted.



Crane jib parked position

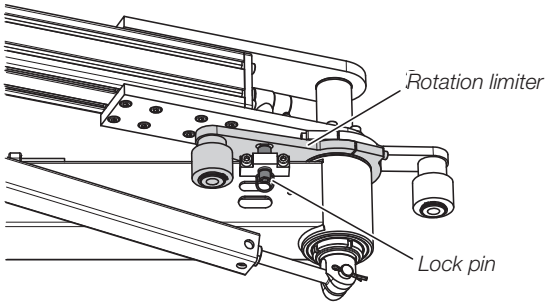
Locking the inner jib

The inner jib is locked in position by moving the eccentric tensioner of the inner brake into the locked position.



Locking the outer jib

The outer jib is locket against the inner jib by turning the outer jib so that the rotation limiter with its two oblong holes are in such a position that the spring-loaded lock pin on the inner jib can be pushed in to the outer hole of the rotation limiter.



10. Service, maintenance & running

A general review and functional control tests are performed on a regular basis during commissioning.

All service and maintenance shall be recorded. The user should make sure that material for the purpose is easily available.

NOTE: Make sure that damaged components are replaced immediately in order to avoid possible personal and material damage.

Keep the equipment and area on and adjacent to the workplace cleaned. This is important for the comfort and well-being of personnel and facilitates service and maintenance. Dirt gives a clear indication of the equipment not being properly maintained, which may possibly affect the remaining guarantees on the equipment.

Maintenance safety instructions

The prescribed procedures and service intervals, including those concerning the replacement of parts/accessories, are described in the instruction manual and must be followed. Professionals are the only persons who are allowed to carry out such procedures.

Staff members with appropriate competence and authority are the only persons who are allowed to carry out mechanical and electrical repair and maintenance work. Unauthorised persons should be prohibited to work with machines and devices inside the equipment.

The equipment should be disconnected and secured against unintentional or unauthorised use, including reconnection, during all repair and maintenance work.

It should be cofirmed that the equipment is free from voltage before any work on electric equipment is commenced.

Make sure that:

- moving parts are stationary and locked, and that
- moving parts cannot move accidentally during maintenance work.

Use safe and environmentally friendly maintenance products and spare parts!

Directions for work during operation

The user or the ”authorised person” must, in each individual case, ensure that the work in question can be carried out without any risk of personal injury because of specific local conditions.

To prevent accidents, only approved and suitable tools and aids may be used during maintenance, adjustment and repair work.

Do not touch rotating parts. Maintain an adequate safe distance between yourself and the machinery to prevent clothes, limbs and hair from becoming caught.

Avoid the occurrence of naked flame, extreme heat (e.g. welding) and sparks in the presence of volatile cleaning materials and nearby inflammable or heat-sensitive materials (e.g. wood, plastics, oils, fats and electric equipment). This can result in fire hazard, harmful gases and damaged insulation.

Directions for work with pneumatic equipment

The equipment should be stopped immediately on discovery of faults related to the air supply.

Work on pneumatic equipment or parts must only be carried out by authorised staff.

The parts on which inspection, maintenance and repair work is to be carried out should be disconnected from the air supply.

Keep the equipment and area on and adjacent to the workplace cleaned.

10.1 Recommended spare parts / wear parts

	743527	Adjustable tower		
#	Article nr.	Designation		Quantity
16	743263	Bearing unit Ø35	R	2
22	743269	Adjustable hand lever M12x40	R	2
23	743417	Edge protection 30x30x10	S	2

	743528	Adjustable tower +500		
#	Article nr.	Designation		Quantity
16	743263	Bearing unit Ø35	R	2
22	743269	Adjustable hand lever M12x40	R	2
23	743417	Edge protection 30x30x10	S	2

	743529	Inner jib, 1m		
#	Article nr.	Designation		Quantity
8	743270	Ball bearing	S	2
12	743278	Indexing plunger	R	1

	743530	Inner jib, 1.5 m		
#	Article nr.	Designation		Quantity
8	743270	Ball bearing	S	2
12	743278	Indexing plunger	R	1

	743531	Inner jib, 2 m		
#	Article nr.	Designation		Quantity
8	743270	Ball bearing	S	2
12	743278	Indexing plunger	R	1

	738852	Piston, complete		
#	Article nr.	Designation		Quantity
5	740622	Piston seal	S	1
7	739933	Rear pulley, complete	R	1

	739752	Front end		
#	Article nr.	Designation		Quantity
4	739934	Front pulley, complete	R	1
5	738874	3/2 valve NO	R	1
6	742431	Wire guiding	S	1
9	738232	O ring	S	1
13	730449	Rubber damper	S	1
16	731049	O ring	S	1
21	740538	Sealing	S	1

	738880	2-weight		
#	Article nr.	Designation		Quantity
4	738876	3/2 valve NC	R	1
6	733374	5/2 valve, monostable	R	1
7	732669	OR gate	R	1
8	731583	Precision regulator	R	1
9	739553	Pressure guard	R	1
10	738124	Precision regulator	R	2
11	738125	3/2 valve monostable	R	1

	738881	3-weight		
#	Article nr.	Designation		Quantity
4	738876	3/2 valve NC	R	1
6	733374	5/2 valve, monostable	R	1
7	732669	OR gate	R	1
8	731583	Precision regulator	R	1
9	739553	Pressure guard	R	1
10	738124	Precision regulator	R	3
11	738125	3/2 valve monostable	R	2

	741410	2-weight slow speed function
		See 738880 + 740920

	741411	3-weight slow speed function
		See 738881 + 740920

	740920	Slow speed function		
#	Article nr.	Designation		Quantity
31	739551	3/2 valve NC	R	1
32	739550	Flow control valve	R	1

	738882	Direct control		
#	Article nr.	Designation		Quantity
4	738876	3/2 valve NC	R	1
6	733374	5/2 valve, monostable	R	1
7	732669	OR gate	R	1

	741400	Direct control load guard		
#	Article nr.	Designation		Quantity
4	738876	3/2 valve NC	R	1
6	733374	5/2 valve, monostable	R	1
7	732669	OR gate	R	1
12	739553	Pressure guard	R	1
13	738125	3/2 valve monostable	R	1

	738888	Speed handle		
#	Article nr.	Designation		Quantity
1	738865	Valve spool, complete	R	2
9	739919	Flow control valve with silencer	R	1
10	738895	Flow control valve	R	1
17	730675	Hose, d=8	R	L
18	731613	Protection hose	R	L

	743057	FRL unit (C)		
#	Article nr.	Designation		Quantity
1	730671	Filter	S	2
2	742427	Submicro filter 0,01 µm	S	1

	742276	Load limiting kit		
#	Article nr.	Designation		Quantity
61	738125	3/2 valve monostable	R	1
62	739551	3/2 valve NC	R	1
63	739553	Pressure guard	R	2
64	741358	Metering valve with silencer 3/8”	R	1

	742157	Service kit		
#	Article nr.	Designation		Quantity
1	738858	Wire with loop, complete	S	1
2	740538	Sealing	S	1
3	738232	O ring	S	1
4	731049	O ring	S	1
5	740622	Piston seal	S	1
6	742386	O ring	S	1
7	731717	Grease Klübersynth LF44-22, 40 g in pot		1
8	742156	Shrink tubing 2,4/1,2	S	0,02

10.2 Service protocol — Mechline Pro Crane

ID:	Client/ place:	Interval in months when 1-3 shifts	Interval in months when >3 shifts	The service record shall be kept by the client/user.	1/1
Service by:	Date:				
Visual inspection, examine whether the product exhibits damages				* If applicable.	
Auditory inspection, examine whether the product exhibits discordant sound				The service must be performed considering the maintenance safety instruction.	
Physical inspection, examine whether the product exhibits damages					
Mechanical inspection, examine wheter the product exhibits decomposition, instruments is needed					

No	Product	Inspection	Interval in months when 1-3 shifts	Interval in months when >3 shifts	Inspector Dept. / Sign.	Comment
1	Base model	General overview.	4	3		
1.1	Fasteners		4	3		
1.2	Wire rope	General overview. The wire rope must be replaced at least every 300,000 work cycles, or if damaged, see section 10.3.	1	1		
1.3	Swivel	General overview, verify smooth rotation. Note that the cable's lifespan can be reduced considerably if swivel rotation is uneven or strident!	4	3		
2	Pneumatics	General overview.	4	3		
2.1	Fasteners		4	3		
2.2	Hoses	Check hoses and fittings.	4	3		
2.3	Filter regulator with manual drainage	Open the blowdown valve from time to time to blow out collected condensate. Do not allow the liquid level to exceed: "Max drain level".	1	1		
2.4	Micro regulator with manual drainage	Open the blowdown valve from time to time to blow out collected condensate. Do not allow the liquid level to exceed: "Max drain level". Filter element is replaced when the pressure drop across the filter reaches 0.1 MPa, and at least once a year.	1	1		
2.5	Anti-jump function	Function test: see section	1	1		
3	Control unit*	General overview.	1	1		
3.1	• Button • Turning button • Sensor • Speed handle	Test: drive the hoist in all applicable situations.	1	1		
4	Tool adapter*	General overview.	4	3		
4.1	Fasteners		4	3		

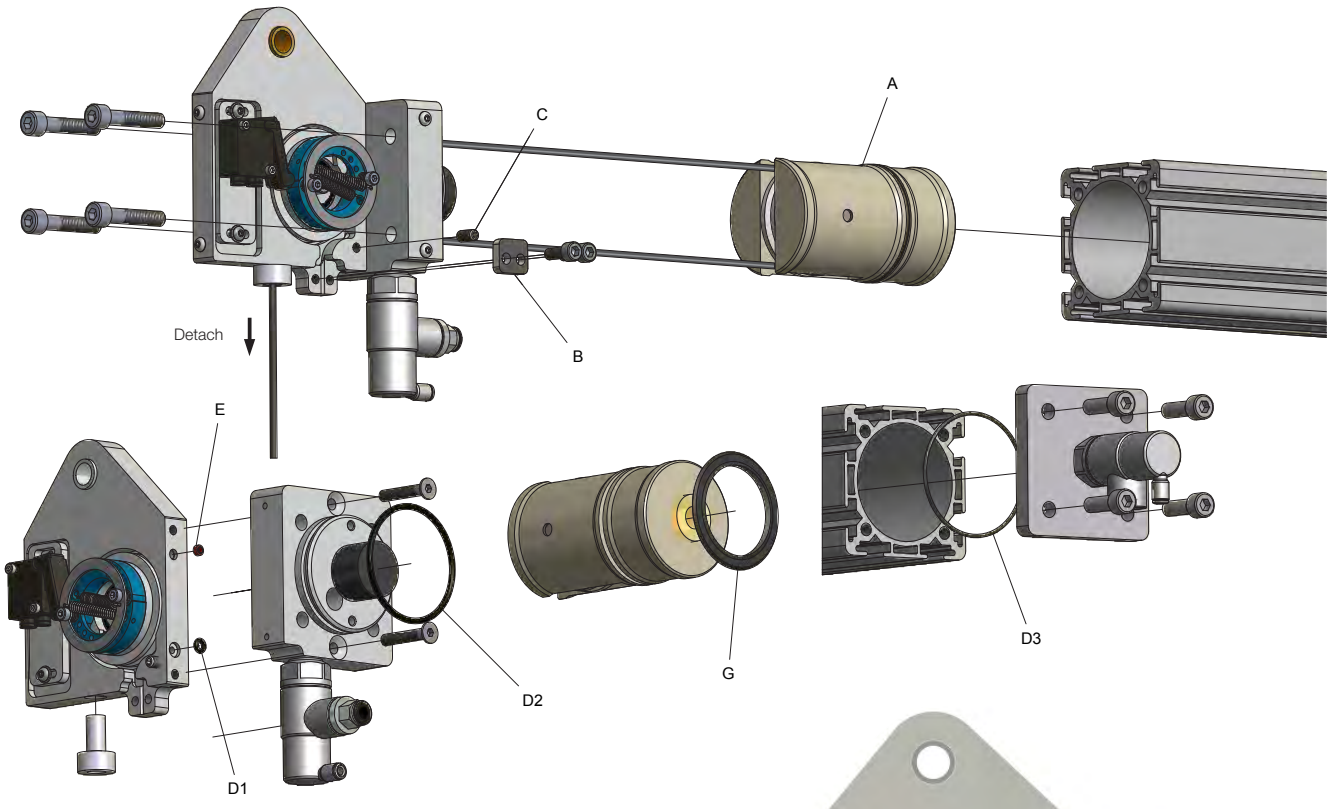
10.3 Replaceing the wire rope

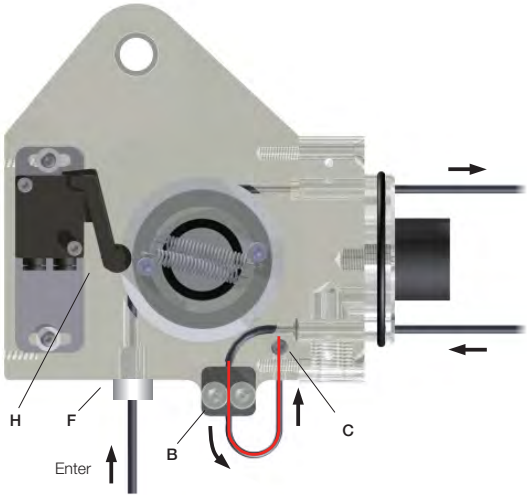
The wire must be replaced at least every 300,000 work cycles, or if damaged. At the same occation, o-rings and seals are replaced.

1. Disconnect the lifter's air supply.
2. Remove the front cover and the screws of the front end, then separate the front end from the MP80C profile. Take out the piston from the MP80C profile. (A.)
3. Detach the old wire at the wire lock (B) and the set screw (C), then remove it from the piston and the front end (B).
4. Remove the screws fixing the front end cap to the pulley housing, and separate the parts.
5. On the front end, replace o-rings (D), seal (E) and wire guiding (F).
6. Replace the seal on the piston (G).
7. Verify that the front and rear pulleys roll smoothly and without noice.
8. Cut the new wire in the same length as the previous wire.
9. Enter the wire through the wire guiding (F), over the front pulley, over the rear pully of the piston, and back out through the wire lock.

   Peel the wire approx. 90 mm from the end (B: red marking), mount shrink tubing approx. 2 cm (C: yellow marking), flex the wire end into the fastening hole and fix it with the set screw (C). Create a loop and attach the wire in the wire lock (B).

   Verify that the wire is fitted correctly in the wire lock slot, and that the section of the wire that runs through the wire lock is peeled. The screws of the wire lock must be oiled and alternately tensioned with 10 Nm + 1/8 turn.
10. Verify that the sensor is just outside the flyweights of the front pulley, without being in contact (H).
11. Remount the front end cap on the front end.
12. Enter the piston in the MP80C profile and remount the front end on the MP80C profile.
13. Remount the front cover and reconnect the air supply to the lifter. Test the anti-jump function.





- All bolts must be fitted with oiled screws.
- O-rings (D) and (G) plus seal (E) must be lubricated with Klübersynth LF44-22.

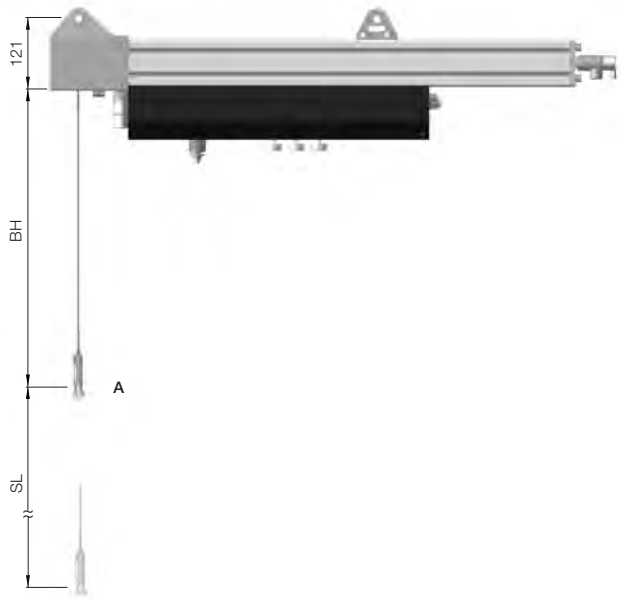
  Please note that no other brand can be used!

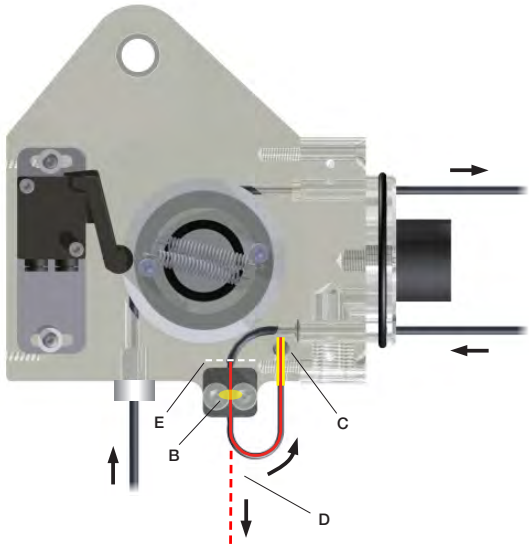
10.4 Lowering the build height BH

With the existing lifting wire, it is only possible to reduce the build height BH. To increase it, a longer wire is required.

1. Elevate the wire to its top position (A). Initial build height can now be measured/verified.
2. Disconnect the lifter's air supply.
3. Remove the front cover, and loosen the wire at the wire lock (B) and the stop screw (C).
4. Adjust the cable to the desired build height by pulling the free end of the wire (D).
5. When the desired height is reached, make a mark with a marker pen at the upper edge of the wire lock (E). Then pull out the cable another few centimetres.
6. Cut the cable approx. 90 mm outside the marking. Peel the wire approx. 90 mm from the end. Attach shrink tubing or equivalent around the end (yellow marking), flex the wire end into the fastening hole and fix it with the set screw (C). Create a loop and attach the wire in the wire lock (B).

   Verify that the wire is fitted correctly in the wire lock slot, and that the section of the wire that runs through the wire lock is peeled. The screws of the wire lock must be oiled and alternately tensioned with 10 Nm + 1/8 turn.
7. Remount the front end cap and reconnect the air supply to the lifter. Test the anti-jump function.





- The screws for the cable lock are normally sealed by RonI with a color marking (B). This ensures that they upon delivery are tensioned in accordance with paragraph 6.

10.5 Testing the anti-jump function

The anti-jump function locks the wire rope if the load is lifted or lowered too rapidly. The purpose is to avoid uncontrolled lifting if for example the load has fallen off by mistake.

The function must verified regularly.

1. Test: make a sharp pull at the wire rope, the anti-jump function should lock the wire rope. The wire rope is released after locking by pushing the Reset switch (see ”Lifting functions” på sida 46).
   Test the function at least three times.

Function not ok

2. Trigger the sensor (A) manually.

Sensor not ok

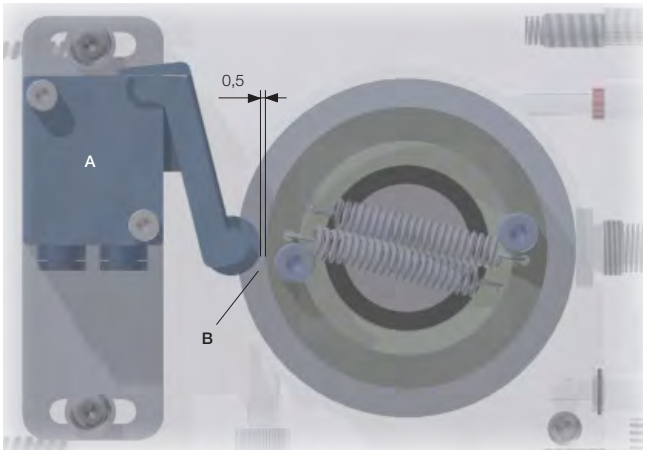
Replace the sensor, test the function again.

Sensor ok, function not ok

3. Verify that the sensor is just outside flyweights of the pulley, without being in contact (B).

Sensor not in position

Contact RonI.

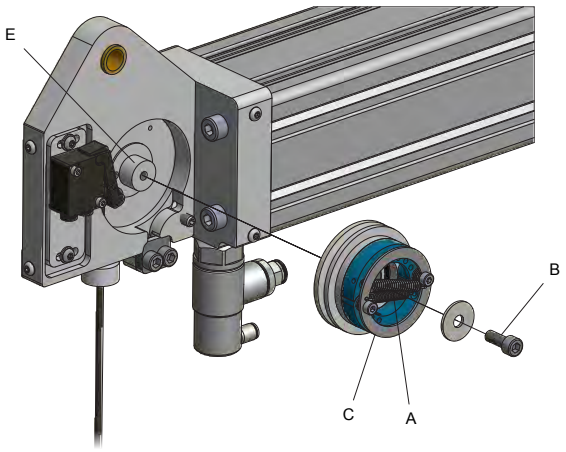


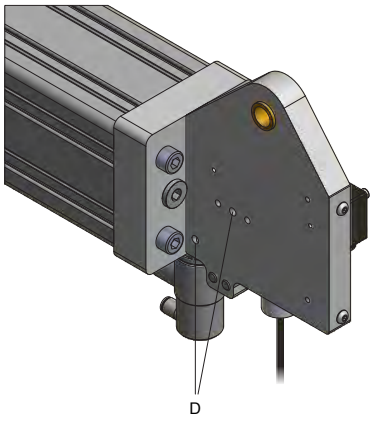
- The anti-jump function is preset to allow a lifting speed of about 0.67 m/s.
- Adjustment of the anti-jump function may be necessary when changing the handled object, or if the anti-jump function is activated during normal handling.
- If the anti-jump function is activated too often, contact RonI.

10.6 Replacement of front pulley (complete)

If wear has occured (pulley or ball bearing), or if the anti-jump function fails, the front pulley must be replaced.

1. Disconnect the lifter's air supply.
2. Detach the wire according section , remove the springs (A)and thereafter the screw (B) on the pulley (complete) (C). Remove the old pulley. On the back of the front end are two threaded M4 holes (D) where two M4 screws can be inserted alternately to loosen the pulley.
3. Grease the stub shaft (E) with oil and mount the new pulley. Mount the springs in the same position as on the previous pulley.
4. Remount the wire according to section . Verify that the sensor is just outside the flyweights of the pulley, without being in contact.
5. Reconnect the air supply to the lifter. Test the anti-jump function, then remount the front cover.

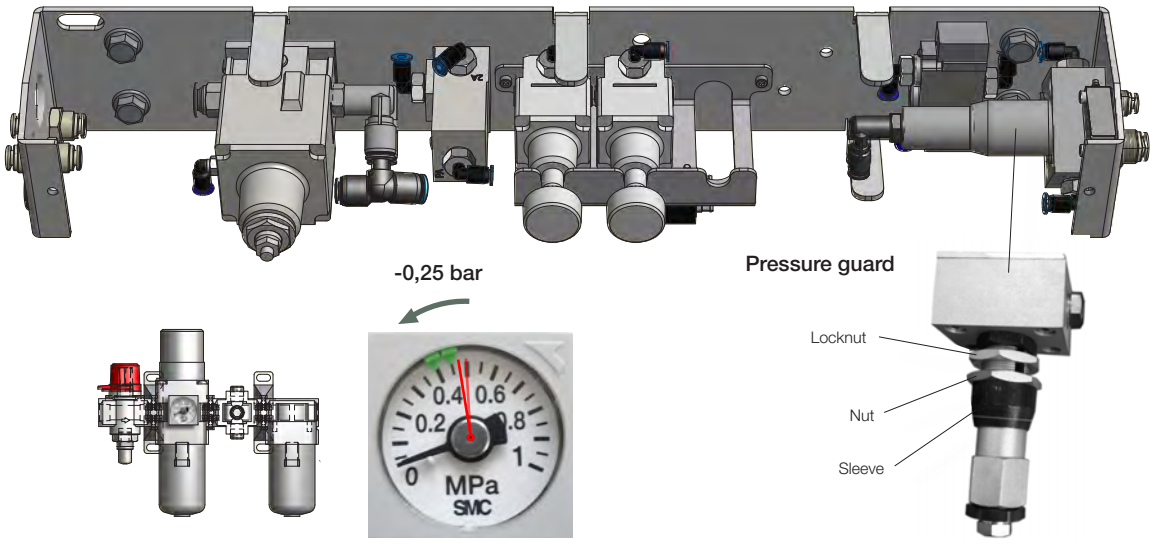




10.7 Adjustment of pressure guard 739553

If the incoming air pressure changes, or if the load falls when the air pressure is lost, it may be necessary to adjust the pressure switch.

1. Lower the air pressure level on the FRL unit with approximately 0.25 bar (e.g. from 5 to 4.75 bar).
2. Remove the pneumatic hose from port 2 on the pressure guard.
3. Carefully adjust the pressure guard until it closes, i.e. until it no longer lets any air through at port 2.
4. Secure the adjustment of the pressure guard and remount the pneumatic hose on port 2.
5. Increase the air pressure on the FRL unit with 0.25 bar to the original level.
6. Shut off the air supply and switch it on again.
7. The load should now be balanced. If not, repeat steps 1-6 but lower the air pressure with 0.5 bar instead, etc.



10.8 Troubleshooting

Type of problem	Probable cause	Action
No hoisting motion up/down	Air supply is turned off	Check whether the air supply for some reason has been turned of, and make sure no risk of injury appears when restoration of the air supply. Some procedures may only be performed by authorized maintenance staff. Restore the air supply. No more than 5 bar.
	Blocked filter	Clean or replace filter.
	The hoist is exposed to mechanical obstacle	Check whether some part of the hoist or tool including any object, are stuck in other equipment. Remove mechanical obstacle.
	Defective control unit*	Check whether the hoist is supplied with air. Inspect the control unit. Some procedure may be performed by authorized maintenance staff. Repair control unit.
	Defective equipment* that serve as condition	Check whether external equipment serving as conditions are defect. Repair equipment.
Incorrect operating range	Equipment* serving as vertical working range limit out of position	Check whether stroke limiter is out of position. Reset to correct position.
Irregular or jerky hoisting motion up/down	The hoist is exposed to mechanical obstacle	Check whether some part of the hoist or tool including any object, are stuck in other equipment. Remove mechanical obstacle.
	Blocked filter	Clean or replace the filter.
The load drops / lifts	Regulator(s) is/are wrongly adjusted	Redo the adjustment.
	Air leakage	Find and fix the leak.
The load sinks when air supply is cut	Pressure guard* is wrongly adjusted or defective	Redo the adjustment or replace the sensor.

* If applicable.

11. EC certificate

CE EC declaration of conformity of the machinery

TRANSLATION
(according to 2006/42/EC, annex 2A)

Manufacturer

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Representative for documentation
Joakim Stannow

hereby declares that the machinery

Designation	Machine type	Version
Mechline Pro Crane	Knuckle boom crane	

complies to all applicable regulations in

☒ Machinery Directive 2006/42/EC

☐ EMC Directive 2004/108/EC

and that standards and/or technical specifications as described below are applied.

☒ Machinery Directive	☐ EMC Directive	☐ Low Voltage Directive
SS-EN-ISO 12100:2010		

Place: Kristianstad

Date: 2018-02-01

Revision list

Edition	#	Designation	Pages
Feb. 2018	0	First edition.	-

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