Mechspace
Pro 70P

Original instructions
2014-01-01

EN

CE

RON

LIFT-O-FLEX

MOBI-Crane | movomech | Voyager

CE EC declaration of conformity of the machinery

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

Manufacturer

RonI
● 8001 Tower Point Drive ● Charlotte, NC 28227
● U.S.A. ● Toll Free (866) 543-8635
Ph.: (704) 847-2464 ● Fax: (866) 543-9532
● Email: info@roni.com
● Web Site: http://www.roni.com

Representative for documentation

hereby declares that the machinery

Designation
Mechspace Pro

Designation	Machine type	Version
complies to all applicable regulations in	Lifting unit	70, 70P, 150, 150P

☒ Machinery Directive 2006/42/EC

☐ EMC Directive 2004/108/EC

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

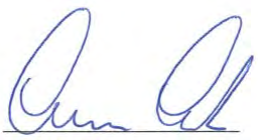
☒ Machinery Directive
SS-EN-ISO 12100:2010

☐ EMC Directive

☐ Low Voltage Directive

Place: Kristianstad

Date: 2011-10-01



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1 Safety instruction

RonI Systems AB'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 RonI Systems AB'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

Safety instruction

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:

- when electrical equipment, cables and/or insulation material is damaged, or
- when work protection equipment is damaged.

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).

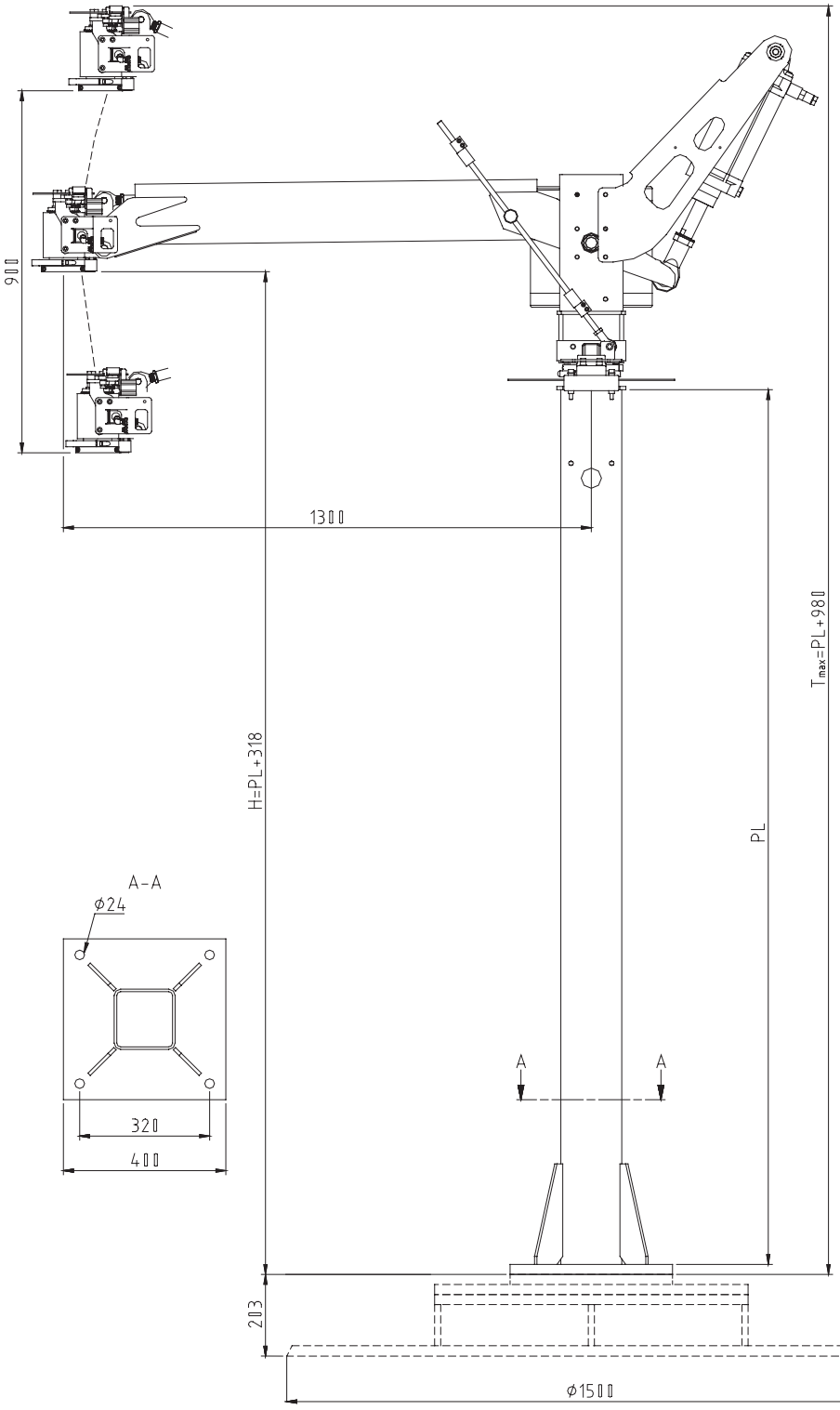
Work with the equipment is only allowed when the operator has been instructed to do so by his superior, and if the operator has knowledge of the equipment and its function.

2 Technical data

Load capacity	Maximum moment	Hoisting speed	Rotation	Maximum stroke	Standard colour
50-70 kg *	500 Nm	0-40 m/min	0-330° (on pillar) 0-330° (lower)	900 mm	RAL 2009 (orange) RAL 9010 (white)
Medium	**Working pressure**	**Air consumption**	**Working temperature**	**Noice level**	
Air Non-lubricated	4-7 bar	8 l_n/stroke **	5-40 °C	< 70 dB (A)	

Please note: The lifting unit is prepared for an incoming air pressure of 5 bar unless stated otherwise in the specification.

* See table below.
** With maximum load.



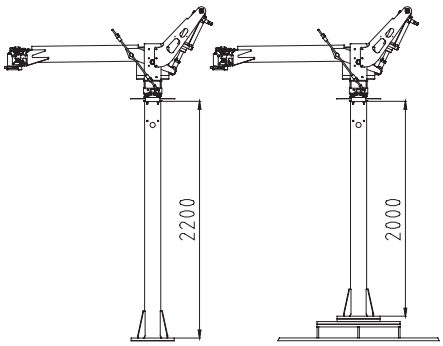
Working pressure [bar]	Load capacity [kg]
4	50
5	60
5,5	65
6	70
7	70

Pillar length is noted in the specification.

Height	PL [mm] Pillar length	H [mm] Working height	H_{max} [mm] Max. height
Standard	2200	2518	3180
Optional *	1000-3000	PL+318	PL+980
Standard mobile	2000	25121	3183
Optional mobile *	1000-2000	PL+521	PL+1183

* Reference for optional height: 739809

Note:
Standard PL: 2200 mm
Standard PL w. mobile footplate: 2000 mm

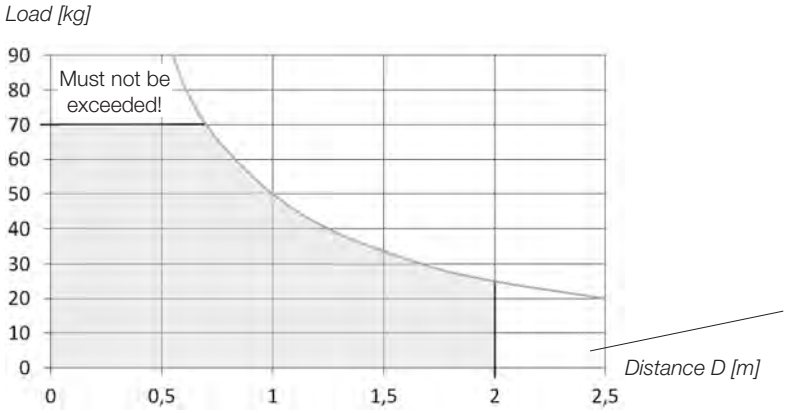


Option 739810: Mobile foot plate, see page 12.

Load diagram

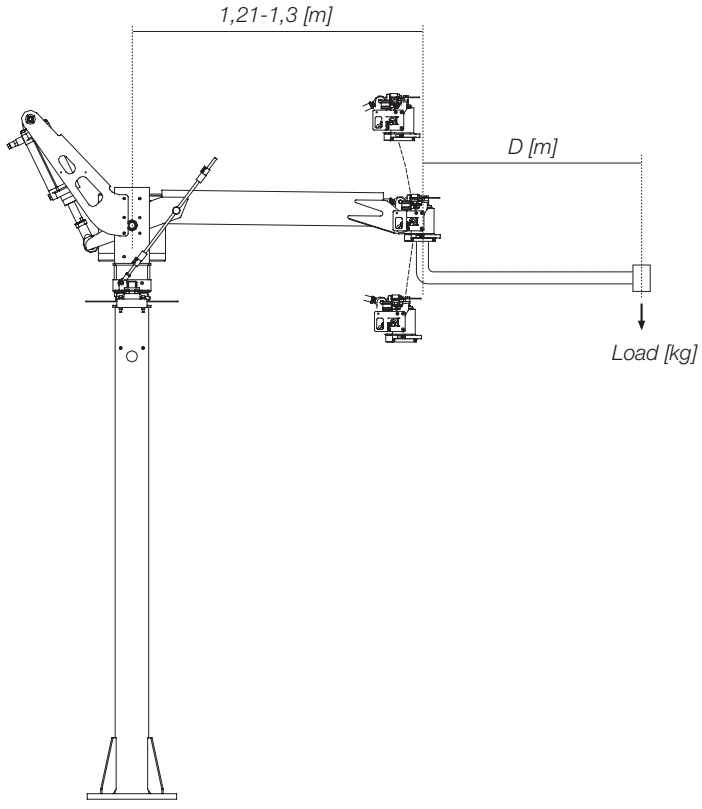
Mechspace Pro 70/70P can operate with loads within the shaded diagram area.

Max torque at tool adapter is 500 Nm. Max load at the tool adapter is a total of 70 kg (includes tool arm, gripper tool, handled object, etc).



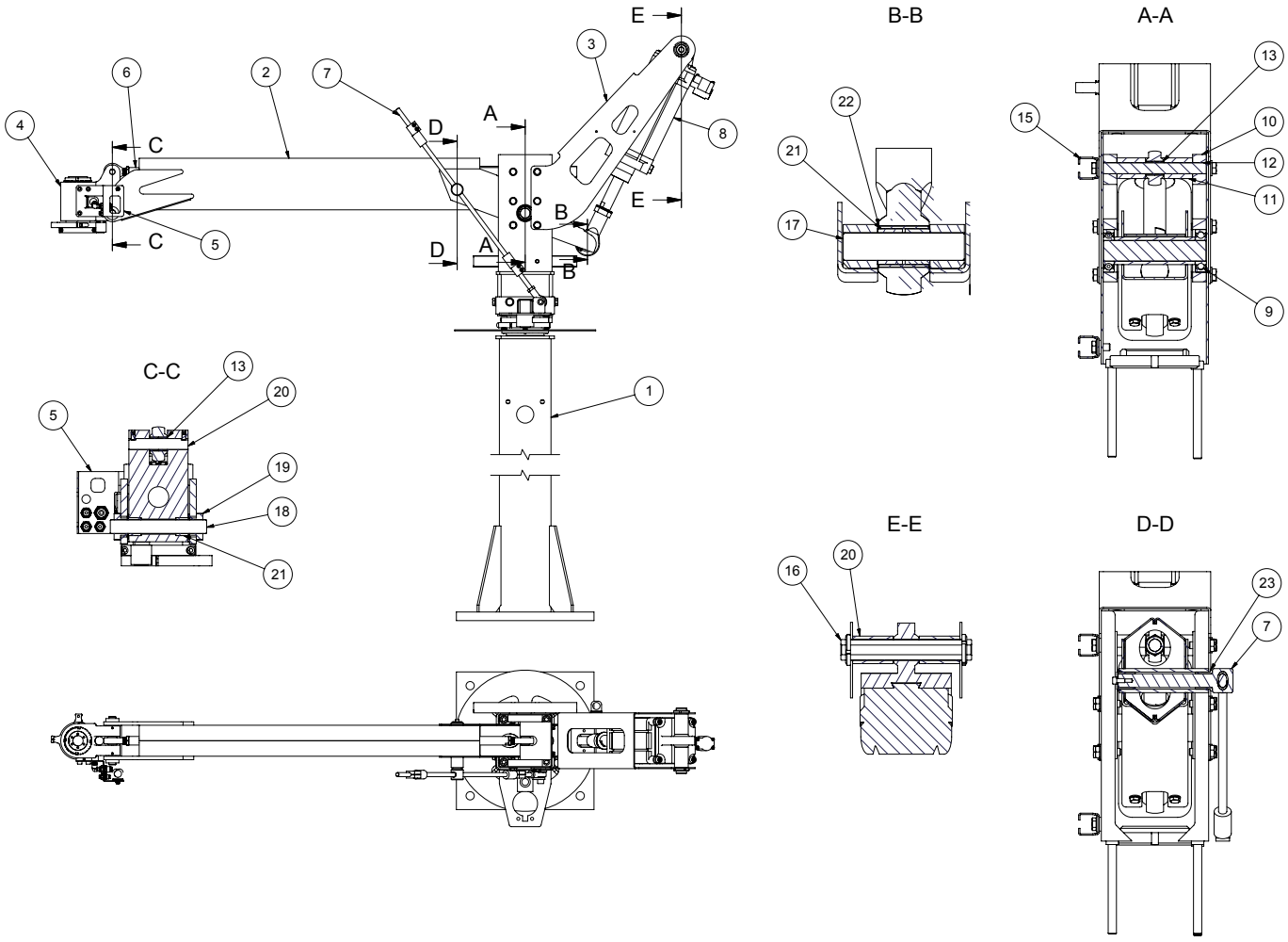
Not recommended due to unpredictable dynamic loads.

Contact RonI for advice.



3 Base model

Mechspace Pro 70P
739605



Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	Pillar unit, complete	739600	13	4	Needle bearing	738962
2	1	Arm, L=1200	738299	14	1	Bracket for rod end	738363
3	1	Cylinder bracket	739537	15	2	Bracket for pneumatic cabinet	740167
4	1	Tool adapter	738950	16	1	Shaft tube, L=190	738366
5	1	Bracket for pneumatics	738951	17	1	Shaft, L=80	738364
6	1	Pull rod, L=1200	738953	18	1	Shaft, L=140	739068
7	1	Stroke limiter	739608	19	2	Clamping element	739067
8	1	Pneumatic cylinder, complete	738955	20	1	Shaft, L=86	739063
9	2	Ball bearing	738961	21	4	Needle bearing	739069
10	2	Bearing seat	738958	22	2	Sliding washer	739071
11	1	Bracket for pull rod	738959	23	2	Bushing	739097
12	1	Shaft, L=150	738960	(24)	1	(Pneumatic cabinet + FRL unit)	*

* Depending on pneumatic configuration:

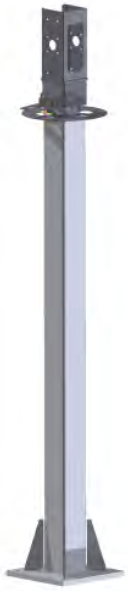
Position	Ref. Configuration		
	2-weight	3-weight	Balanced
24	739620	739621	739622

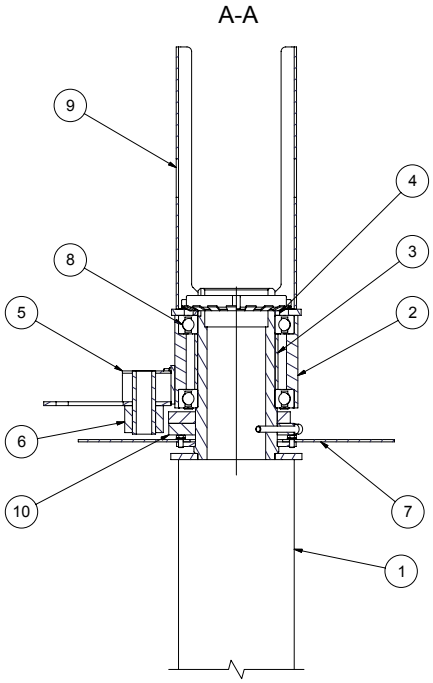
Note:
Fasteners and a number of smaller components are not specified in this documentation.

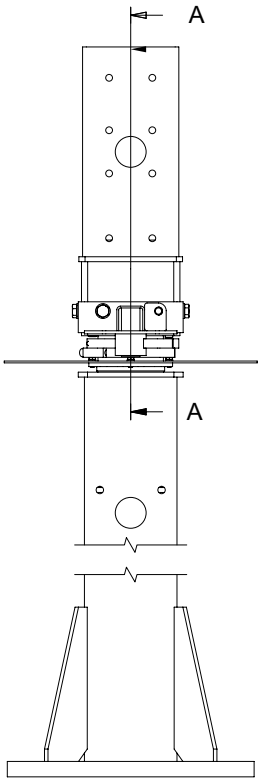
For further information, contact RonI.

Base model

Pillar unit, complete
739600

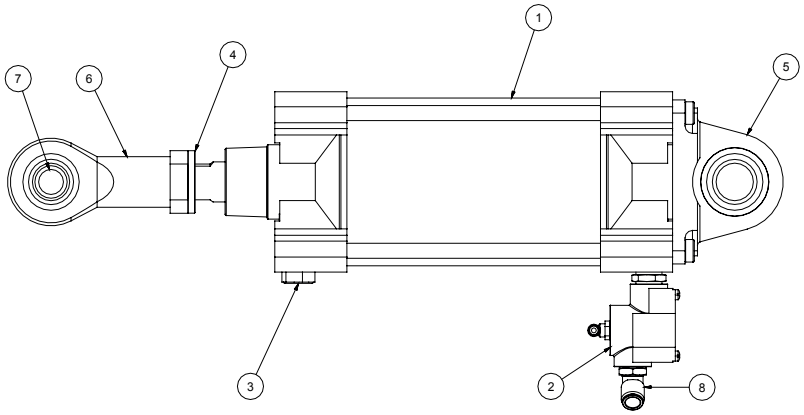






Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	Pillar unit	739601	6	1	Rubber damper	738975
2	1	Housing	738965	7	1	Brake disc	738972
3	1	Spacer ring	738967	8	2	Ball bearing	738964
4	1	Spacer ring	738968	9	1	Bracket	739606
5	1	Bracket	738974	10	2	Rotation limiter	738978

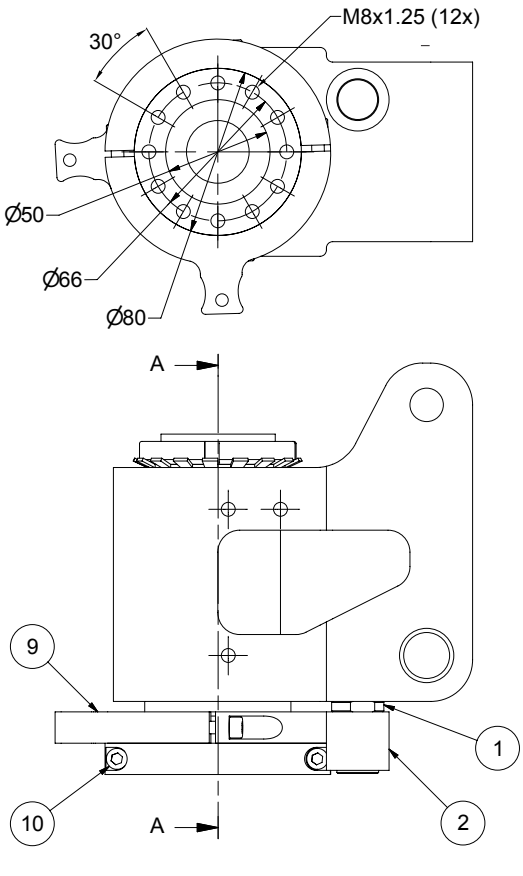
Pneumatic cylinder, complete
738955



Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	Pneumatic cylinder	739568	4	1	Washer	738362
2	1	Non-return valve	739816	5	1	Cylinder bracket	738359
3	1	Filter	731621	6	1	Rod end	738361

Base model

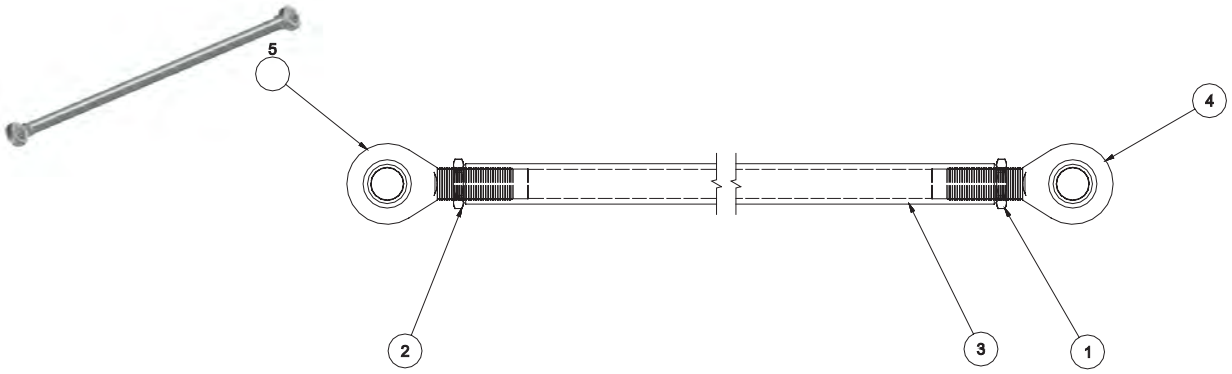
Tool adapter
738950



Note:
738950 is interface for gripper.

Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	Shaft for damper	740900	7	1	Shaft nut	739065
2	1	Rubber damper	739059	8	1	Locking washer	739066
3	1	Sleeve	739060	9	2	Rotation limiter	739073
4	1	Shaft	739061	10	4	Screw	730280
5	1	Sleeve	739062	11	2	Ball bearing	734905
6	1	Housing	739064				

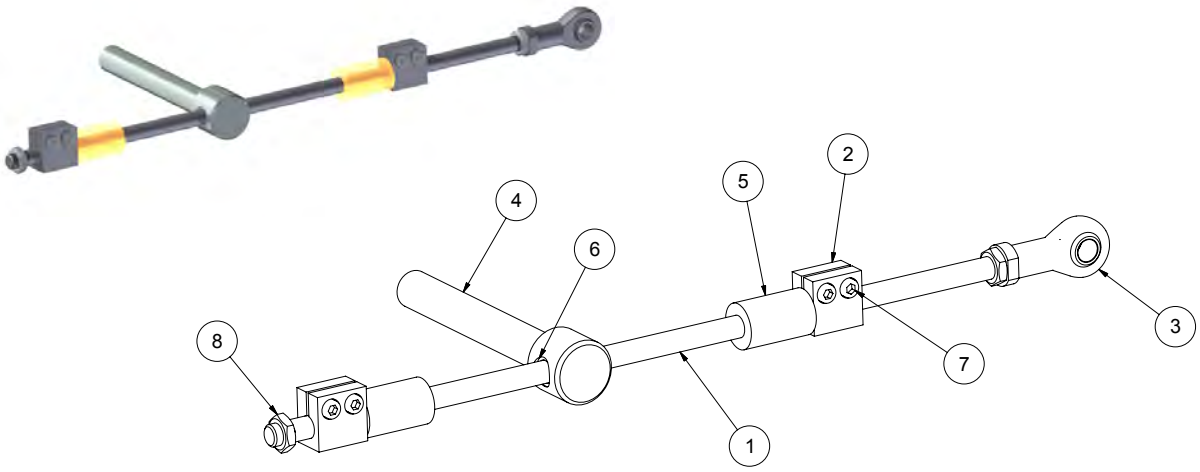
Pull rod, L=1200
738953



Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	Nut, RH threaded	739091	4	1	Rod end, RH threaded	739088
2	1	Nut, LH threaded	739089	5	1	Rod end, LH threaded	739092
3	1	Round bar	739090				

Base model

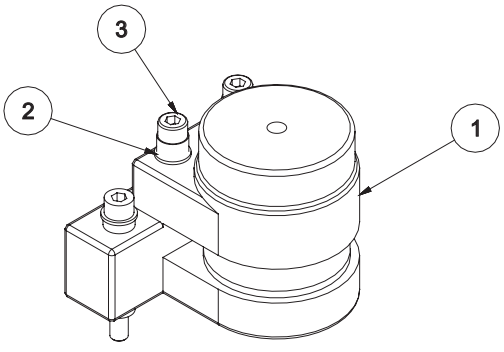
Stroke limiter
739608



Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	Rod, L=670	739609	5	2	Rubber damper	739094
2	2	Adjustable stop	732970	6	2	Bushing	739099
3	1	Rod end	732605	7	4	Screw	730266
4	1	Bracket	739096	8	2	Nut	730222

4 Accessories

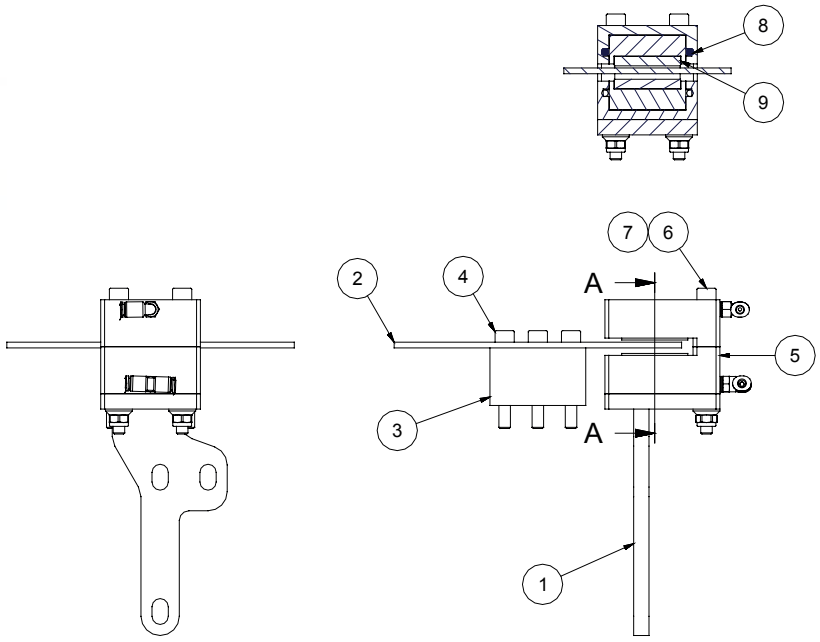
Brake caliper
738957



Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	Disc brake	736671	3	2	Screw	730550
2	2	Sleeve	738369				

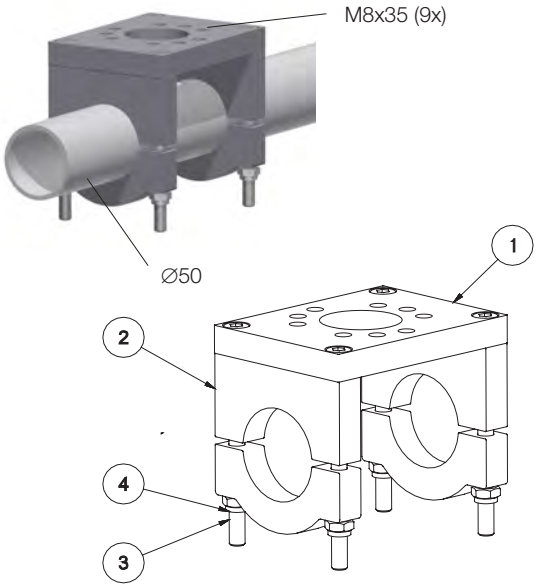
Accessories

Front brake
741300



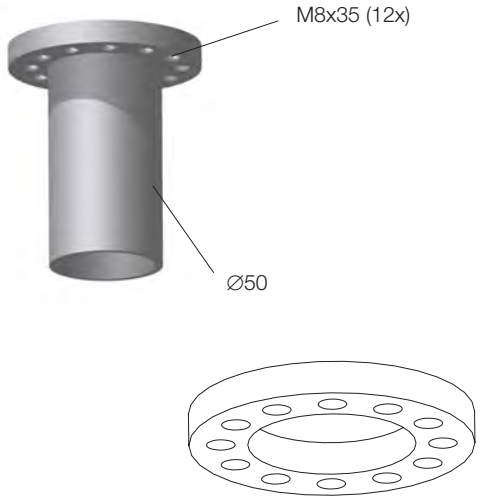
Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	Outer bracket	741303	6	2	Screw	735501
2	1	Brake disc	739080	7	2	Nut	741070
3	1	Socket	739081	8	1	X ring	741362
4	6	Screw	731408	9	1	Piston with brake pad	740574
5	1	Brake caliper	741307				

Clamp bracket for tube
739590



Position	Qty.	Designation	Ref.
1	1	Upper plate	739591
2	2	Tube bracket, 2 parts	739803
3	4	Screw	735415
4	4	Locking nut	730117

Weld-on bracket for tube
739804



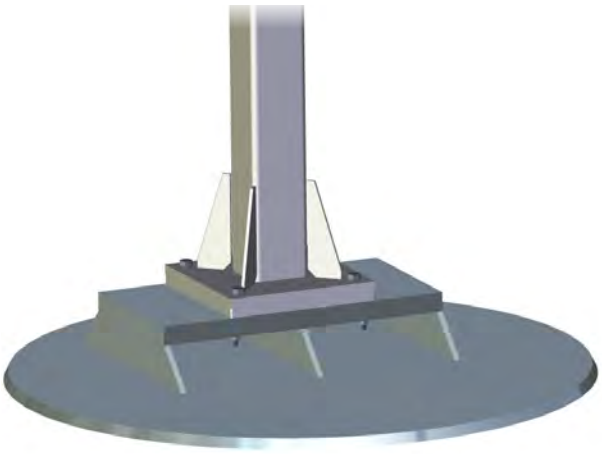
Position	Qty.	Designation	Ref.
1	1	Weld-on bracket for tube	739804*

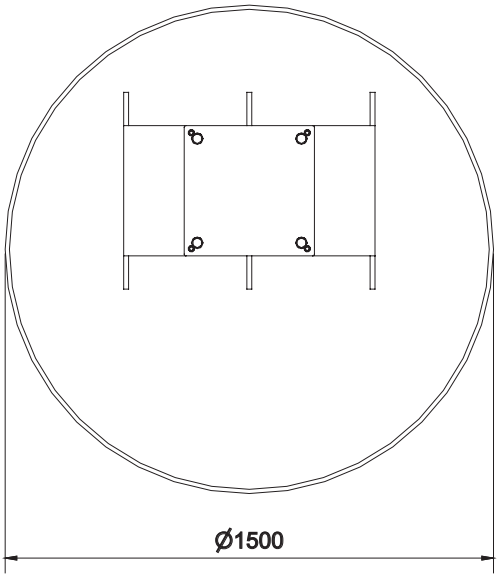
* Without surface treatment

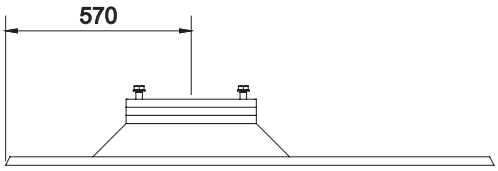
Accessories

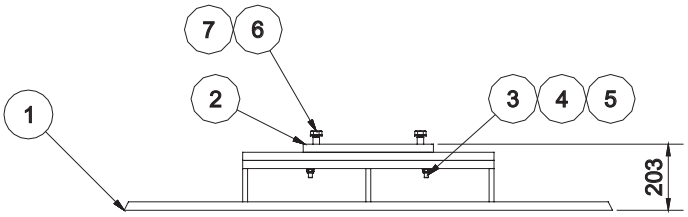
Mobile footplate

739810







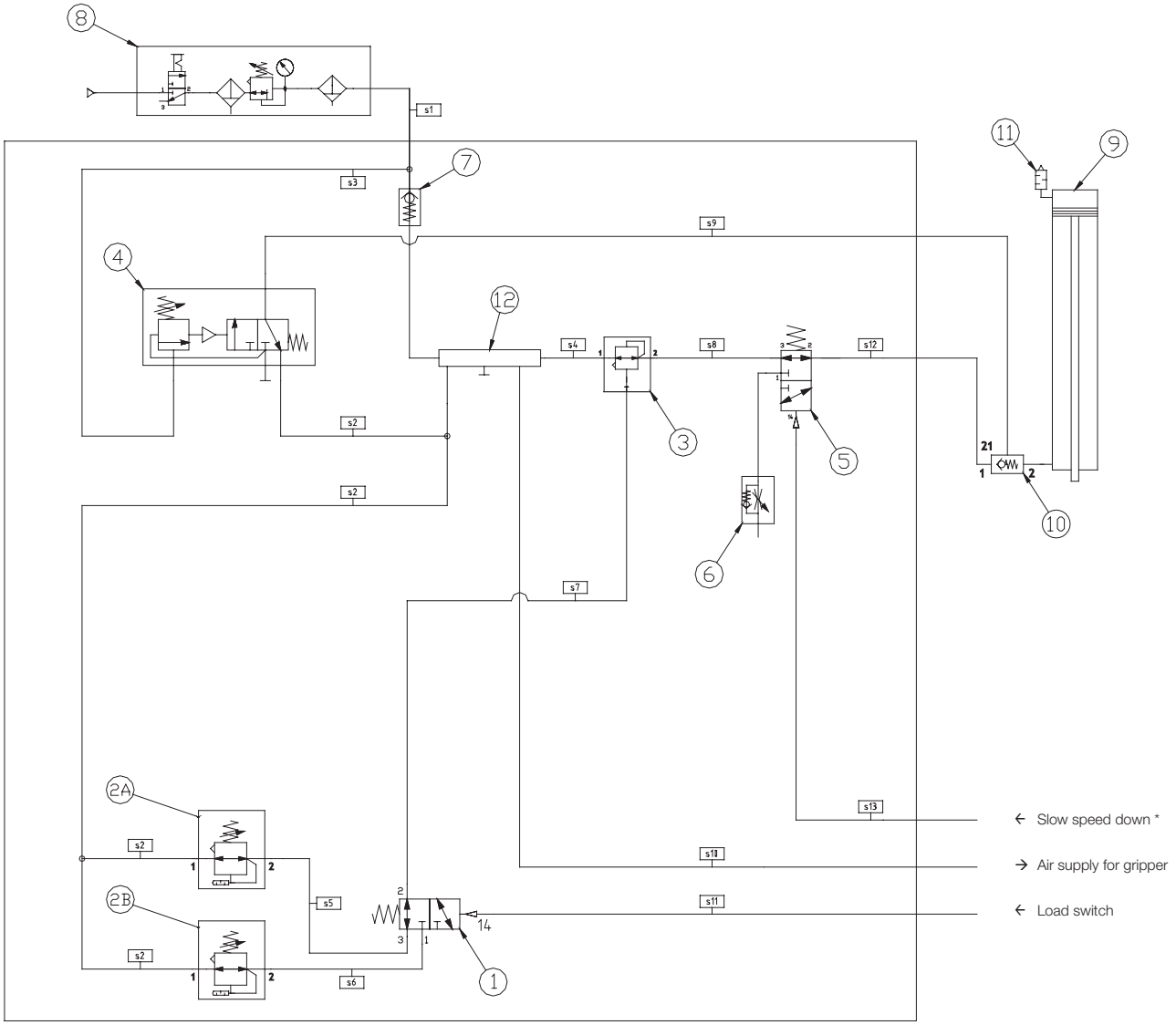


Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	Mobile footplate, D=1500	739806	5	4	Washer	730244
2	1	Adapter plate	739807	6	4	Screw	731791
3	4	Screw	730645	7	4	Washer	730914
4	4	Locking nut	730243				

6 Pneumatic configurations

Circuit diagram - 2-weight

739620



Hose size		
ø4	ø8	ø12
s2	s10	s1
s3		s4
s5		s8
s6		
s9		
s11		

Two different load levels can be handled by activating ”load 0” or ”load 1”. The first load level (”load 0”) is adjusted for counterbalancing the mobile part of the lifter incl. gripper tool.

Position	Designation / Function
2A	Precision regulator / Without load
2B	Precision regulator / With load
3	Precision regulator / Main regulator

Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	3/2-valve	738125	7	1	Non-return valve	739597
2	2	Precision regulator	738124	8	1	Air preparation unit	735350
3	1	Precision regulator	737067	9	1	Cylinder	739568
4	1	Pressure guard	739553	10	1	Non-return valve	739816
5	1	3/2-valve	739551**	11	1	Filter	731621
6	1	Silcencer	739550**	12	1	Manifold fitting	739592

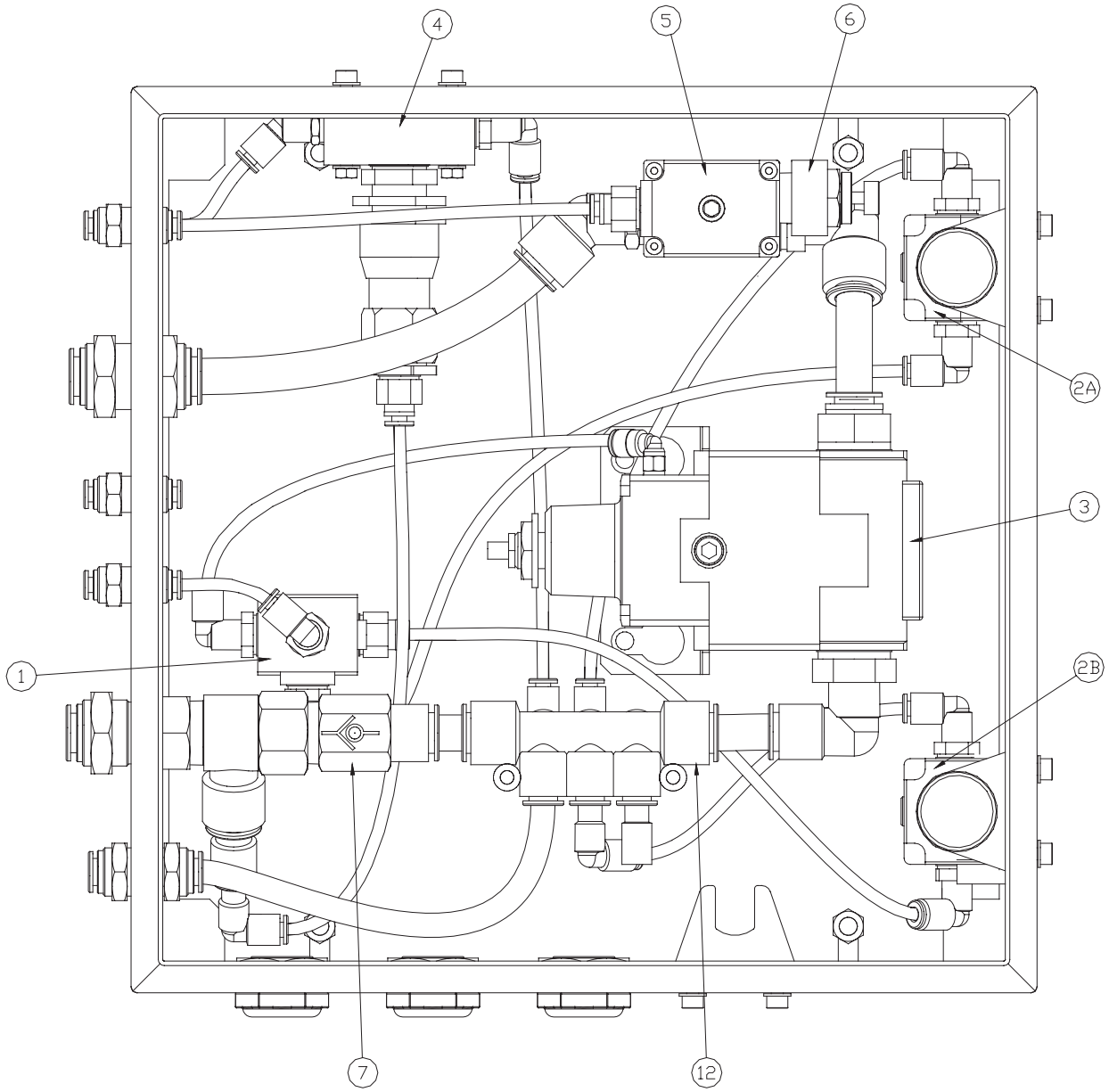
* Option

** Used for option

Pneumatic configurations

Circuit diagram - 2-weight

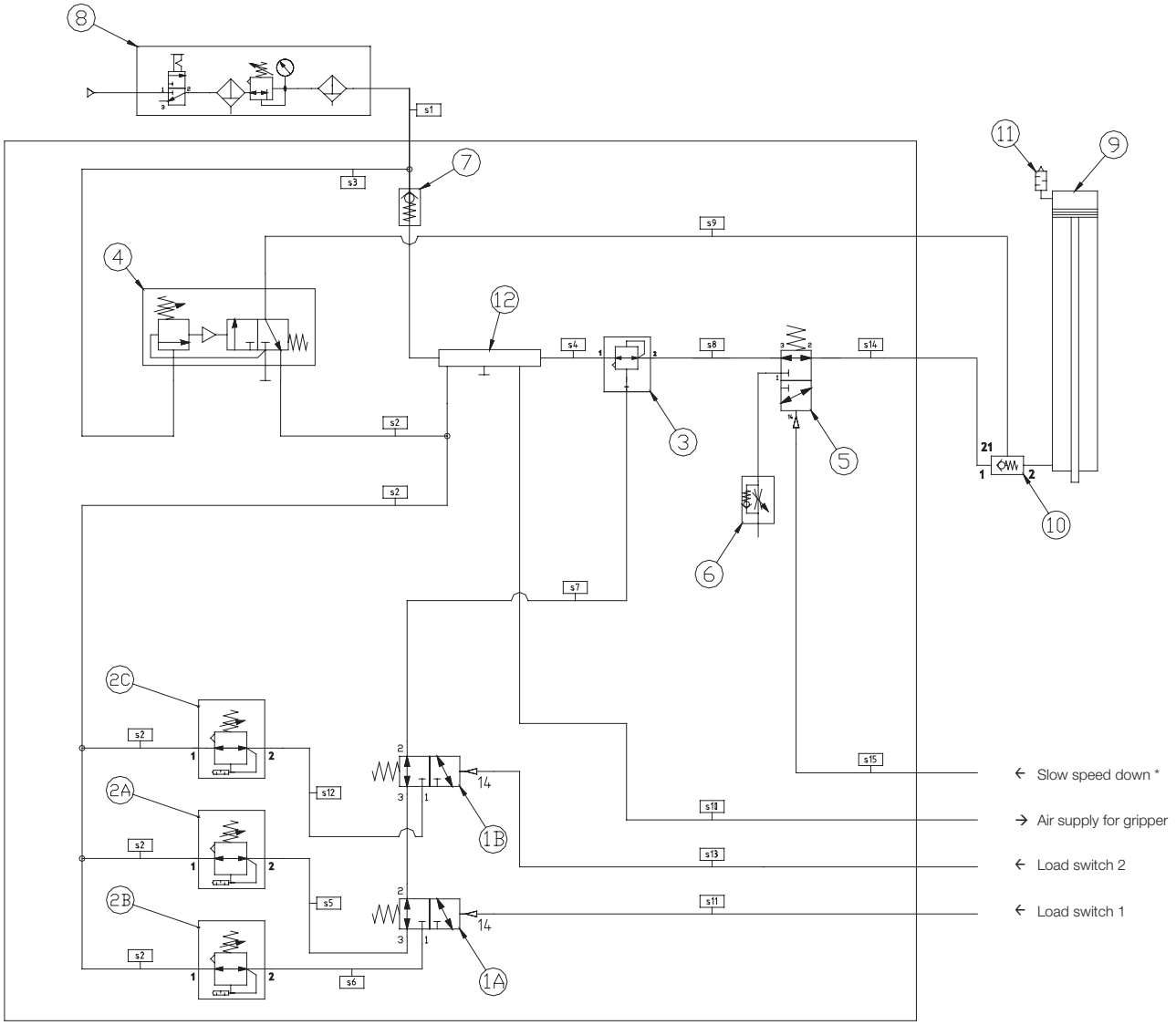
739620



Pneumatic configurations

Circuit diagram - 3-weight

739621



Hose size		
ø4	ø8	ø12
s2,	s10	s1
s3		s4
s5		s8
s6		
s9		
s11		
s12		
s13		

Two different load levels can be handled by activating ”load 0” or ”load 1”. The first load level (”load 0”) is adjusted for counterbalancing the mobile part of the lifter incl. gripper tool.

Position	Designation / Function
2A	Precision regulator / Without load
2B	Precision regulator / With load 1
2C	Precision regulator / With load 2
3	Precision regulator / Main regulator

Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	2	3/2-valve	738125	7	1	Non-return valve	739597
2	3	Precision regulator	738124	8	1	Air preparation unit	735350
3	1	Precision regulator	737067	9	1	Cylinder	739568
4	1	Pressure guard	739553	10	1	Non-return valve	739816
5	1	3/2-valve	739551**	11	1	Filter	731621
6	1	Silcencer	739550**	12	1	Manifold fitting	739592

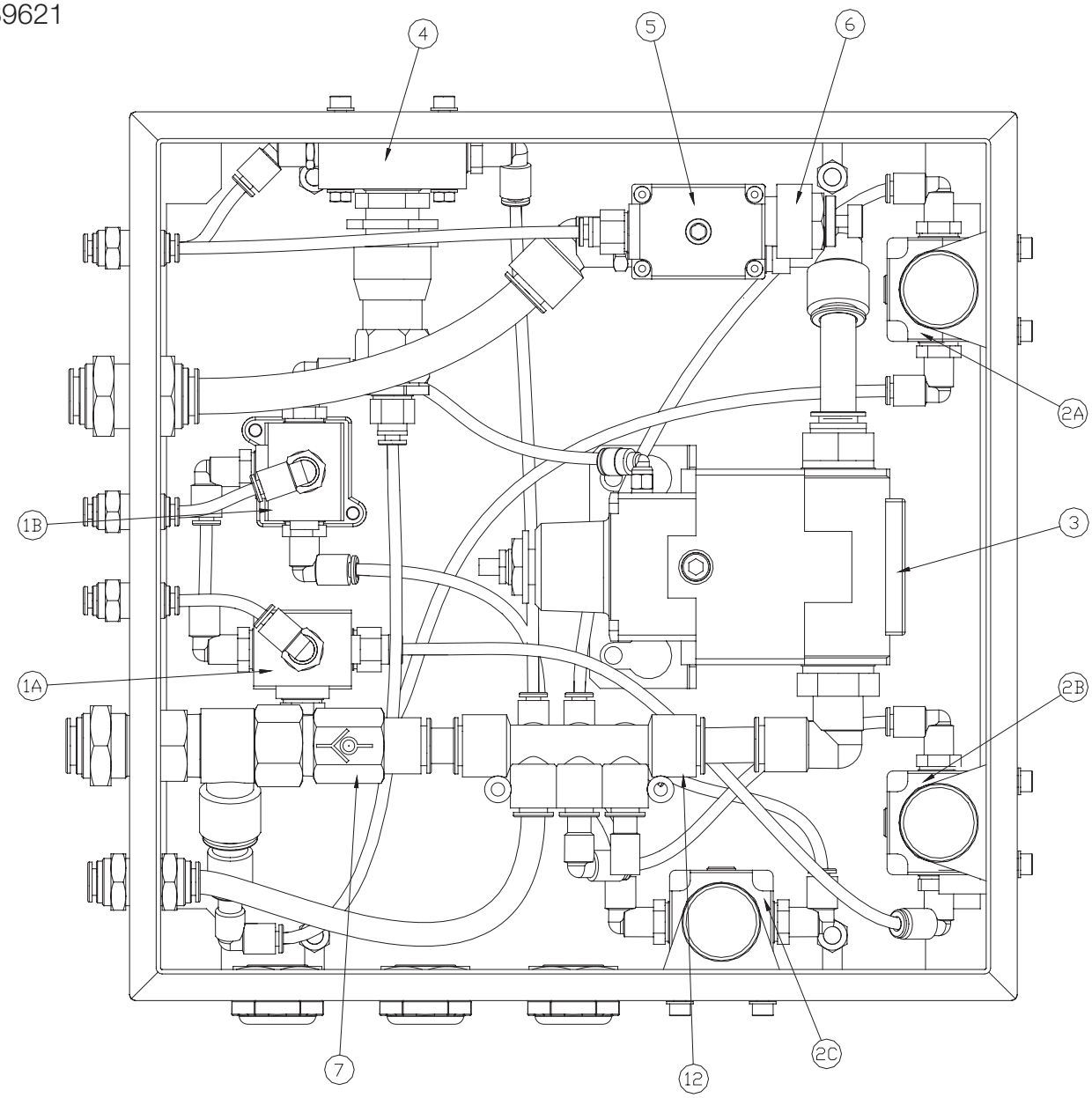
* Option

** Used for option

Pneumatic configurations

Circuit diagram - 3-weight

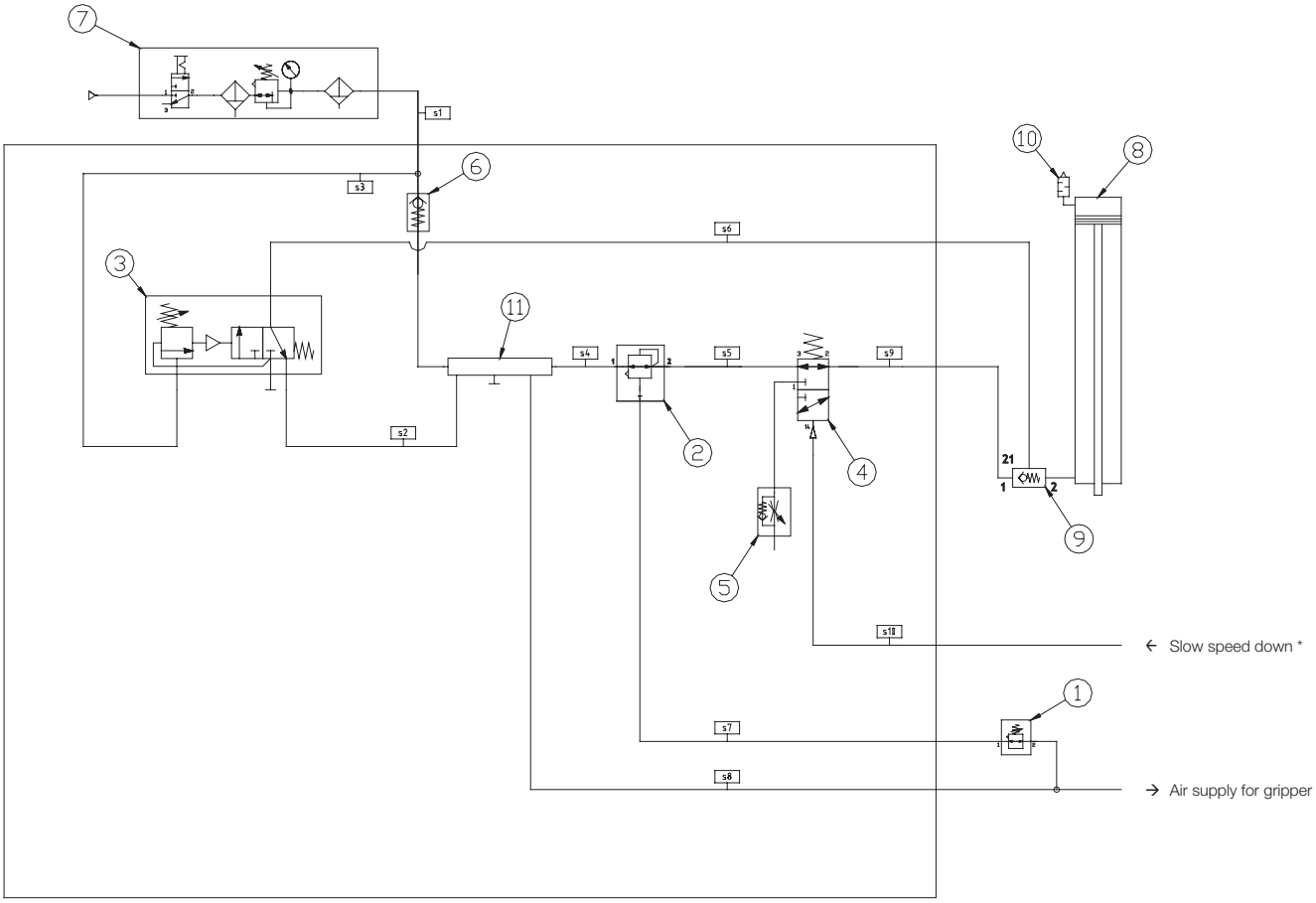
739621



Pneumatic configurations

Circuit diagram - Balanced

739622



Hose size		
ø4	ø8	ø12
s2	s7	s1
s3		s4
s5		s5
s8		
s9		
s10		

Three different load levels can be handled, for example objects weighing 20 kg + 35 kg. The first load level (”load 0”) is adjusted for counterbalancing the mobile part of the lifter incl. gripper tool. The signal for activation of the different load levels can be implemented in different ways and depends on the design of the gripper tool.

Position	Designation / Function
2	Precision regulator / Main regulator

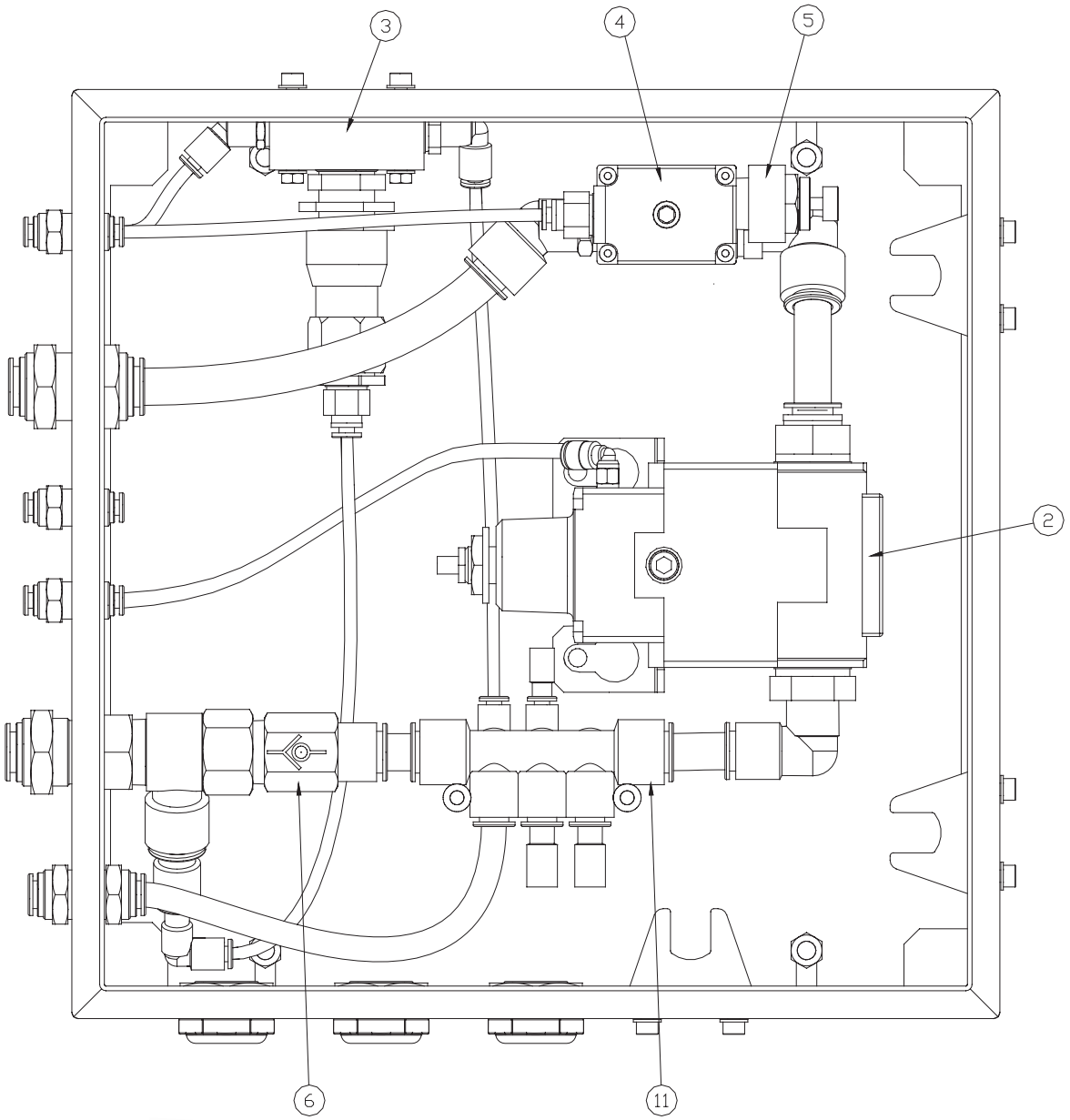
Position	Qty.	Designation	Ref.	Position	Qty.	Designation	Ref.
1	1	Pilot regulator	731383***	7	1	Air preparation unit	735350
2	1	Precision regulator	737067	8	1	Cylinder	739568
3	1	Pressure guard	739553	9	1	Non-return valve	739816
4	1	3/2-valve	739511**	10	1	Filter	731621
5	1	Silencer	739550**	11	1	Manifold fitting	739592
6	1	Non-return valve	739597				

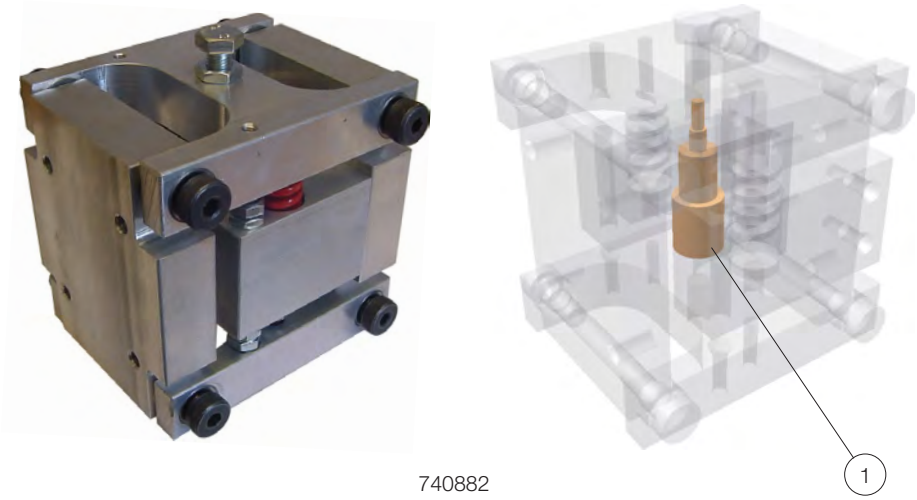
* Option
** Used for option
*** Included in parallelogram 731386

Pneumatic configurations

Circuit diagram - Balanced

739622





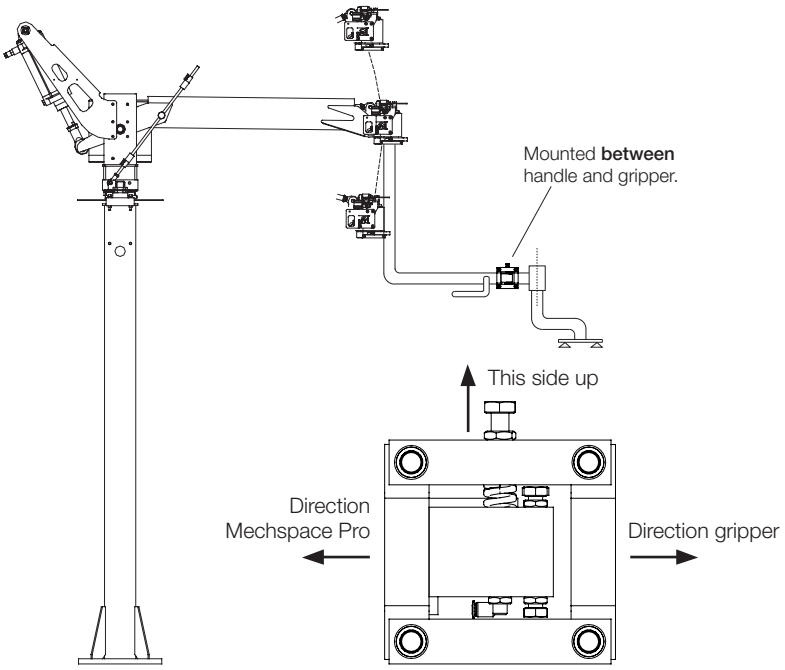
740882

Parallelogram

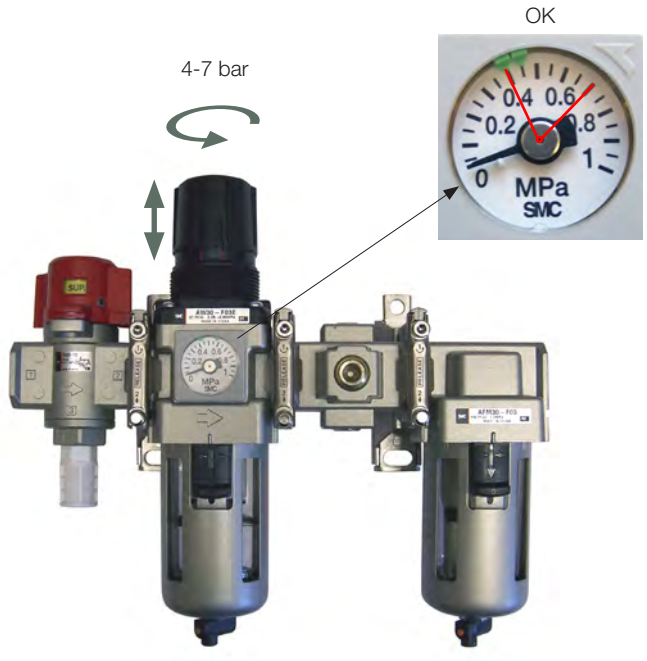
* For more information, see page 20.

Pneumatic configurations

Load cell (parallelogram)
740882



Air preparation unit
735350



735350
Air preparation unit

730671
Filter

735351
Micro filter

7 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.

Do not connect the equipment until the workplace is 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:

- the main power supply is disconnected,
- moving parts are stationary and locked,
- moving parts cannot move accidentally during maintenance work,
- and that it is not possible to accidentally reconnect the power supply during maintenance and repair work.

Use safe and environmentally friendly maintenance products and spare parts!

Instruction 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.

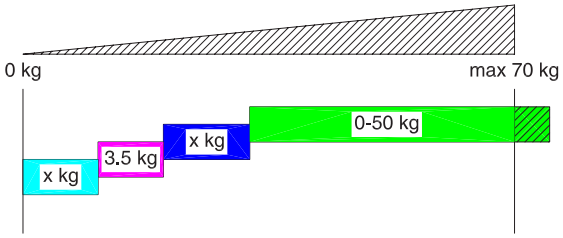
Work on pneumatic equipment or parts must only be carried out by authorised staff.

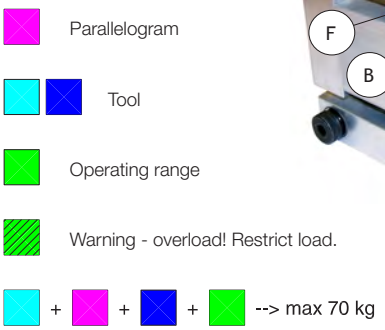
The parts on which inspection, maintenance, and repair work is to be carried out should be disconnected from the air supply.

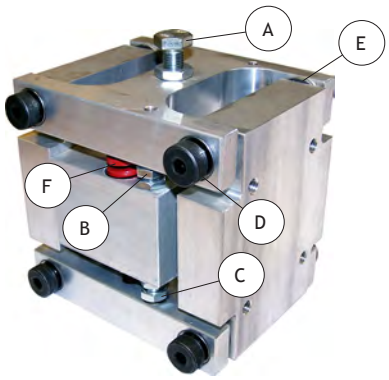
Service, maintenance & running

Setting of balance function in parallelogram

Maximum allowed load in parallelogram is 70 kg.
Operating range variable load: 50 kg.
(Maximum 40 kg recommended.)







1 Initial adjustment

1.1 Preparation for adjustment

- Ensure that the air pressure is set to 5 bar.
- Ensure that the washer E can rotate freely when the tight fitting screws D are tightened.
- The springs F must be set parallel.
- Ensure that there is no load in the tool.
- Check that the lock nuts on the maximum load screws B are loose and can be moved freely.
- Screw the four screws B and C inwards as far as possible so that the parallelogram can move freely up and down.
- Place the heaviest load in the tool.

1.2 Balancing

- Check that the lock nut on the adjusting screw A is loose and can be moved freely.
- Carefully adjust the adjusting screw A: inwards to obtain more lifting power, outwards to obtain less lifting power.
- Find the setting that requires equal effort by the operator to raise or lower the lifting device.
- Check that the lifting device does not tend to rise or fall by itself.
- Tighten the lock nut and check that the setting has not changed.

1.3 Defining maximum load

- Ensure that the heaviest intended load is in the tool.
- Unscrew the two maximum load screws B until the screw heads are exactly touching the stop.
- Tighten both lock nuts and check that the setting has not changed.

1.4 Defining no load

This setting is very sensitive and it is important that it is adjusted properly to obtain the correct behaviour from the lifting device.

- Ensure that there is no load in the tool.
- Unscrew the two lower no load screws C and find the setting that allows the tool to become balanced.
- Check that the setting is correct by testing upward and downward movements a number of times, then release the lift.
- Check that the lifting device does not tend to rise or fall by itself.
- Unscrew the other of the two lower no load screws C to the same distance as the first one.
- Tighten both lock nuts and check that the setting has not changed.

2 Readjustment of parallelogram

2.1 Preparation for readjustment

Since external factors can affect the behaviour of the lifting device, subsequent readjustment may become necessary.

- Ensure that the air pressure is set to 5 bar.
- Ensure that the washer E can rotate freely when the tight fitting screws D are tightened.
- The springs F must be set parallel.
- If the lifting device moves by itself without a load in the tool, see section 2.2.
- If the lifting device moves by itself with a load in the tool, see section 2.3.

2.2 Without load

This setting is very sensitive and it is important that it is adjusted properly to obtain the correct behaviour from the lifting device.

- Release both lock nuts on the no load screws C.
- Screw one of the two lower no load screws C inwards, and, with the other screw, find the setting that allows the tool to become balanced.
- Check that the lifting device does not tend to rise or fall by itself.
- Tighten the lock nuts and check that the setting has not changed.
- Unscrew the other of the two lower no load screws C to the same distance as the first one.
- Tighten the lock nut and check that the setting has not changed.
- Check that the lifting device does not tend to rise or fall by itself.

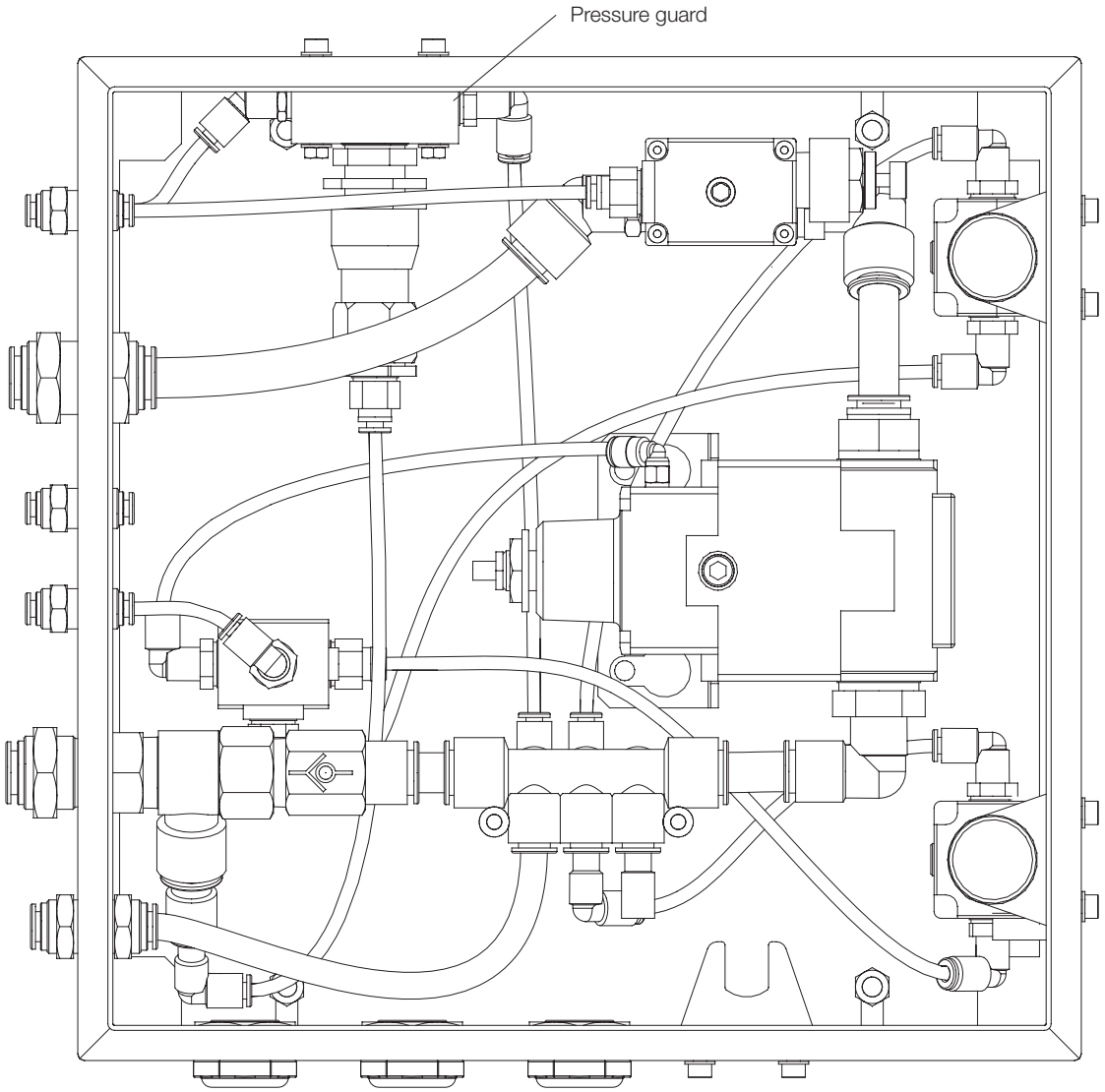
2.3 With load

- Ensure that the heaviest intended load is in the tool.
- Adjust as per section 1.2.
- Check that the lifting device can lift both light and heavy loads. (If necessary, also adjust in accordance with section 1.3.)

Aim at getting the same distance between lock nut and screw at screws B and C.

Service, maintenance & running

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 approx. 0.5 bar (e.g. from 6 to 5.5 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.
5. Remount the pneumatic hose on port 2.
6. Turn up the air pressure level on the FRL unit with 0.5 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 the above steps but lower the air pressure with 0.7 bar instead, etc.

Service, maintenance & running

Recommended spare parts / wear parts — Mechspace Pro 70P

* Article rated as wear part

Base model

739605

Position	Qty.	Designation	Ref.
9	2	Ball bearing	738961
13	4	Needle bearing	738962
21	4	Needle bearing	739069
22	2	Sliding washer	739071
23	2	Bushing	739097

739600

Position	Qty.	Designation	Ref.
6	1	Rubber damper	738975*

738950

Position	Qty	Designation	Ref.
2	1	Rubber damper	739059*

738953

Position	Qty.	Designation	Ref.
4	1	Rod end, right-threaded	739088
5	1	Rod end, left-threaded	739092

739608

Position	Qty.	Designation	Ref.
5	2	Rubber damper	739094*
6	2	Bushing	739099**

** To be drilled D=12.5 mm after mounting

738955

Position	Qty.	Designation	Ref.
1	1	Pneumatisk cylinder	739568

Accessories

741300

Position	Qty.	Designation	Ref.
5	1	Brake caliper	741307
8	1	X ring	741362*
9	1	Piston with brake pads	740574*

Pneumatic configuration

739620

Position	Qty.	Designation	Ref.
1	1	3/2-valve	738125
2	1	Precision regulator	738124
3	1	Precision regulator	737067
4	1	Pressure guard	739553
7	1	Non-return valve	739597
(8)	1	Filter	730671*
(8)	1	Microfilter	735351*
10	1	Non-return valve	739816
11	1	Filter	731621*

739621

Position	Qty.	Designation	Ref.
1	1	3/2-valve	738125
2	1	Precision regulator	738124
3	1	Precision regulator	737067
4	1	Pressure guard	739553
7	1	Non-return valve	739597
(8)	1	Filter	730671*
(8)	1	Microfilter	735351*
10	1	Non-return valve	739816
11	1	Filter	731621*

739622

Position	Qty.	Designation	Ref.
1	1	Pilot regulator	731383
2	1	Precision regulator	737067
3	1	Pressure guard	739553
6	1	Non-return valve	739597
(7)	1	Filter	730671*
(7)	1	Microfilter	735351*
9	1	Non-return valve	739816
10	1	Filter	731621*

Service record - Mechspace Pro 70P

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				The service is performed considering the maintenance safety instruction.	
Auditory inspection, examine whether the product exhibits discordant sound					
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	Bearings		4	3		
1.3	Rotation limiters					
2	Pneumatic	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		
3	Control unit*	General overview.	1	1		
3.1	- Button - Turning button - Sensor - Throttle - Speed handle	Test: drive the hoist in all applicable situations.	1	1		
4	Tool adapter*	General overview.	4	3		
4.1	Fasteners		4	3		
5	Brakes*	Function test.	4	3		
5.1	Brakes		4	3		

* If applicable.

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. At least 4.5 bar (no more than 6 bar).
	Clogged 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 rotational working range limit out of position	Check whether the rotation limiters are out of position. Reset to correct position.
	Equipment serving as vertical working range limit out of position	Check whether the 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.
	Defective bearings	Check whether the bearings are damaged. Replace bearings.
	Dirty filter in cylinder	Clean or replace filter.
Load ascends/descends	Regulator(s) are inaccurate	Adjust setting.
	Air leakage	Seal leakage.
The load drops when air supply is shut off	Pressure guard is inaccurate or defect	Adjust setting or replace.

* If applicable.

Ronl • 8001 Tower Point Drive • Charlotte, NC 28227 • U.S.A. • Toll Free (866) 543-8635
Ph.: (704) 847-2464 • Fax: (866) 543-9532 • Email: info@roni.com • Web Site: http://www.roni.com