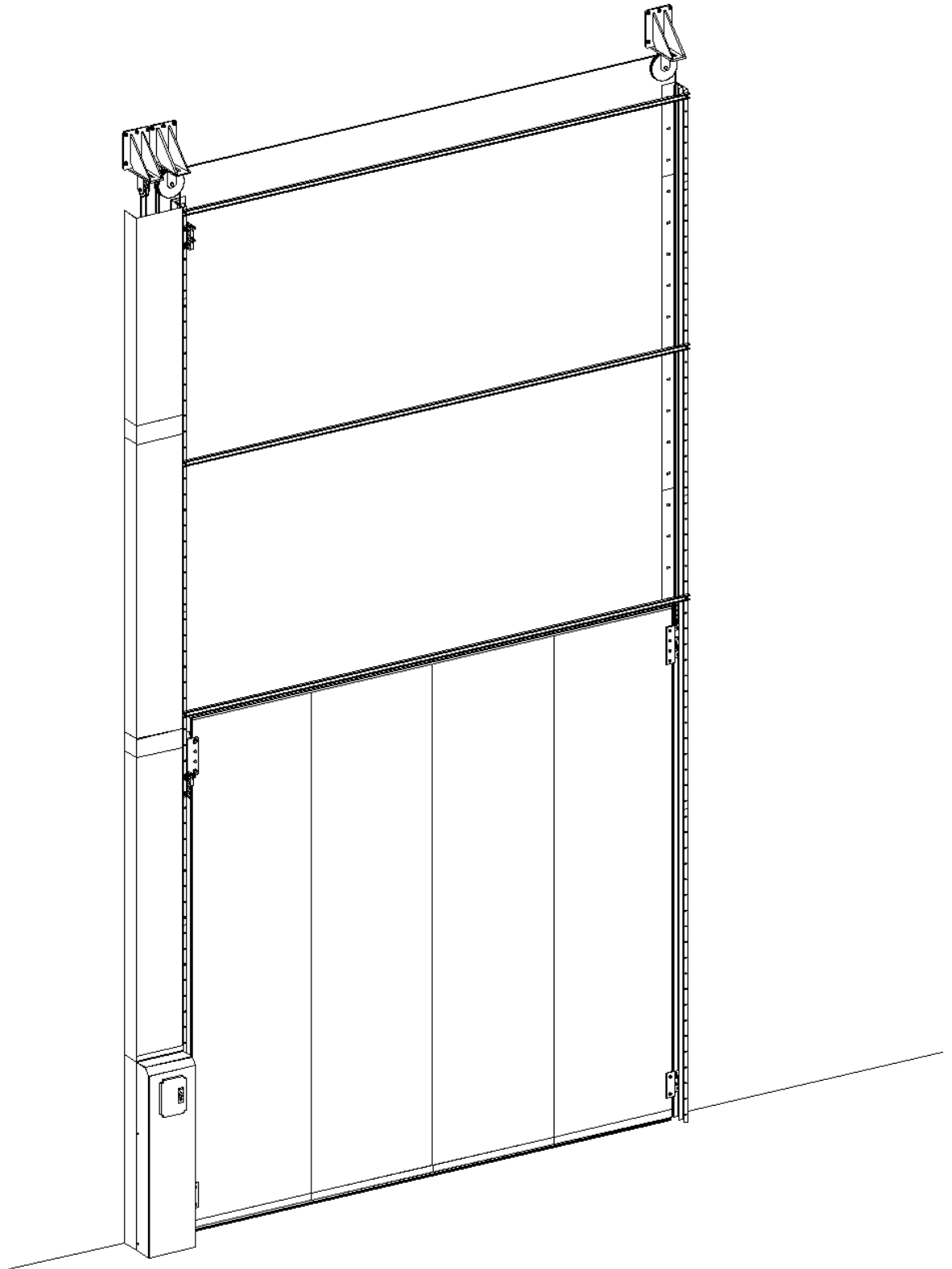




Installation manual GGs HYDRO





1.	NOTICE BEFORE INSTALLATION.....	1
2.	CHECK OF DELIVERY	2
3.	ASSEMBLY OF PULLEYS.....	8
4.	FITTING THE CAGE WITH THE HYDRAULIC AGGREGATE	9
5.	INSTALLATION OF HYDRAULIC CYLINDER.....	10
6.	INSTALLATION OF STEEL ROPE	11
7.	CONNECTING AGGREGATE WITH HYDRAULIC CYLINDER.....	12
8.	COMMISSIONING OF THE HYDRAULIC DEVICE.....	14
9.	LIMIT SWITCHES	15
10.	COVERING	16
11.	COMPLETION OF INSTALLATION	17





1. NOTICE BEFORE INSTALLATION

Dear customers,

we are pleased, you have decided for rolling fire shutters from the company Somati system s.r.o.

Please, read the instructions carefully and follow them step by step. You will obtain important information on the safe installation and operation of your gates and proper maintenance and repairs.

Professional use and proper maintenance significantly influence the performance and serviceability of the gate system. Errors in operating and improper maintenance lead to operating malfunctions, which can be normally avoided. Your satisfaction and long-term operational safety is ensured only in case of professional use and proper maintenance.

Important guidelines:

- Follow instructions mentioned in this manual.
- Improper installation or maintenance of the gate can lead to life-threatening injuries. For your own safety, have the installation done by a qualified company.
- Transport gate leaves only on a special pallet. During transportation without pallet you can damage the gate surface.
- These gates open and close vertically. For this reason, make sure that during the operation of the gate there are no persons in the area of the gate movement – especially children – and no objects blocking movement of the gate.
- Use gate system only if it is in perfect technical condition. Malfunction of the gate system can lead to life-threatening injuries.
- Make sure that during all inspections, repairs and cleaning, the gate system is not controlled by a third party.
- Do not change or remove any functional parts! This way you can put important safety components out of order.
- Do not install any additional structural parts. All structural parts are tailor-made and fit exactly to each other. Additional mounted parts can overload the gate structure and lead to life-threatening injuries.

Work equipment:

- Use only tools suitable for installation of gate system and appropriate equipment.

Gather all the following work equipment:

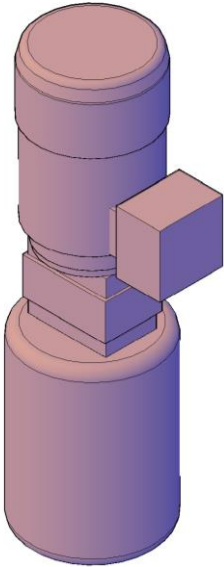
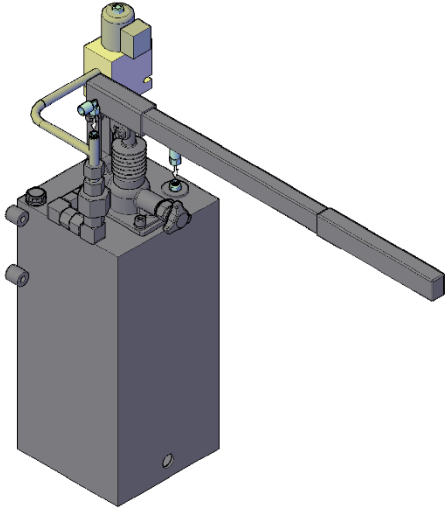
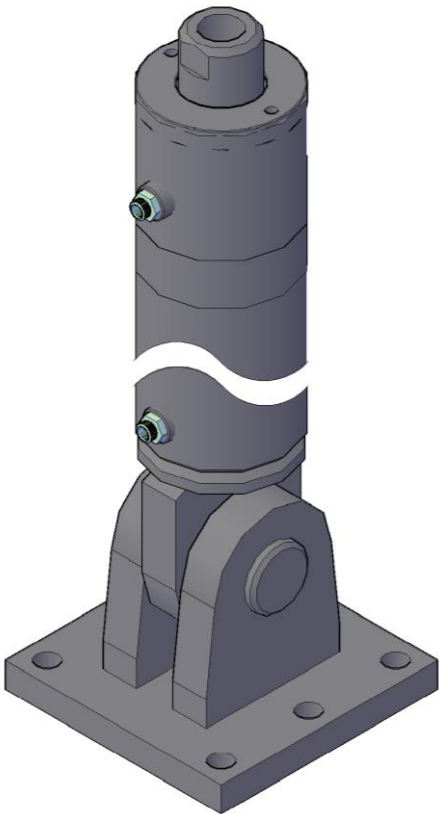
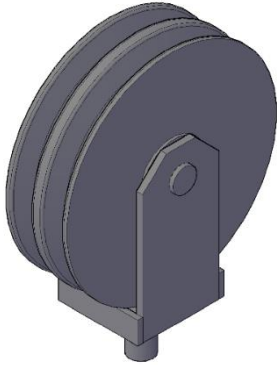
- Appropriate lifting equipment (forklift truck, crane) for lifting roller and placing it on the brackets (watch out for the total weight of the gate mentioned at the installation drawings)
- Appropriate lifting platform or scaffolding
- Drill
- Grinder
- Set of spanners
- Optical levelling devices
- ACCU screwdriver
- Screw taps (in case of installation on steel structure)



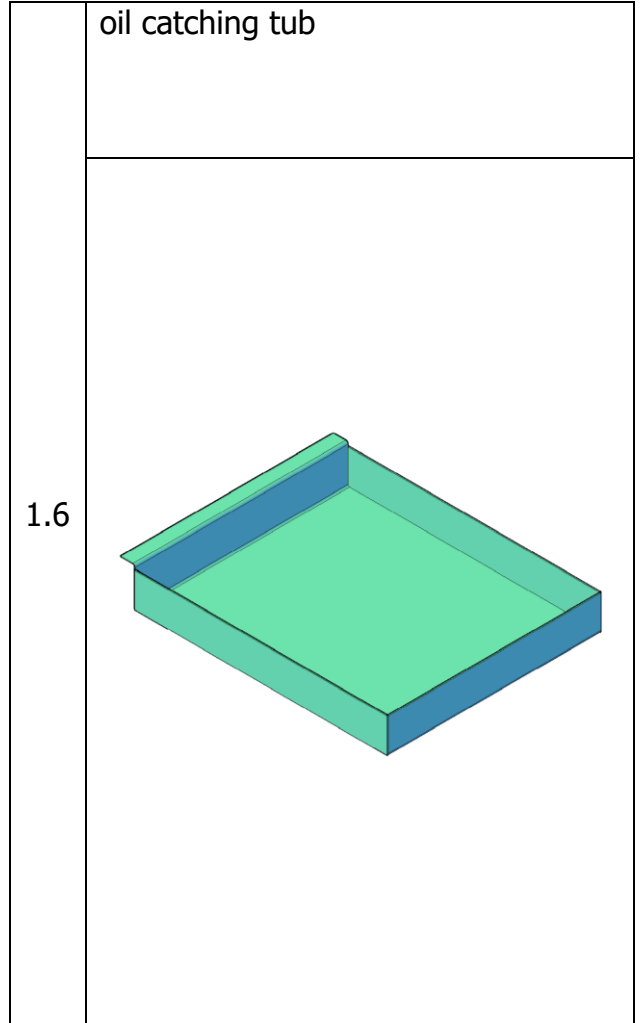
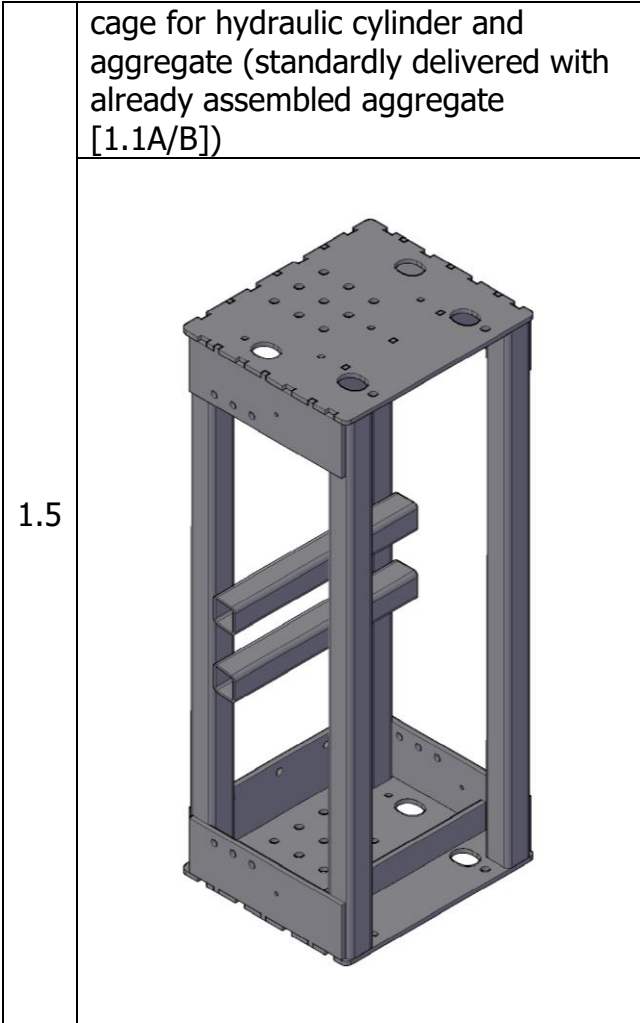


2. CHECK OF DELIVERY

The list contains only components specific for gates with hydraulic system.

HYDRAULIC ASSEMBLY		
hydraulic aggregate		
	A - motor	
	B – manual pump	
1.1		
1.2	accessories of the hydraulic aggregate and of the cylinder (1x hose of length 1 m, 1x hose of cylinder length + 1 m, pipe fittings, hydraulic oil can)	
	hydraulic cylinder	double pulley of hydraulic cylinder
		- can differ in size and shape according to the gate dimensions - do not mix with a double pulley [2.5]. The hydraulic cylinder pulley has a bolt with a clamp with special thread according to the hydraulic cylinder
1.3		1.4
		







WIRE ROPE SYSTEM

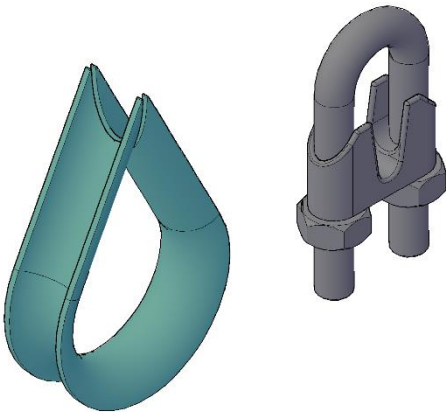
2.1 wire rope $\varnothing 6$ mm (6x19+FC) / $\varnothing 8$ mm (6x37+FC) / $\varnothing 10$ mm (6x37+FC)
(according to ČSN EN 12385)

eyelets and rope clamps

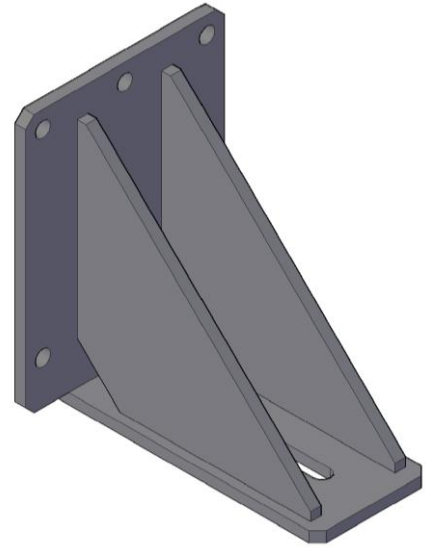
pulley bracket

- standardly 2 pcs
- bracket can vary in size and shape depending on the weight of the gate

2.2



2.3



balancing pulley

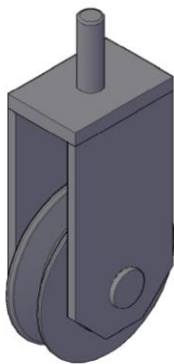
double pulley

- pulley can vary in size and shape depending on the weight of the gate

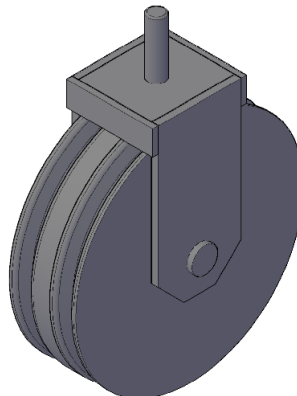
pulley

- pulley can vary in size and shape depending on the weight of the gate

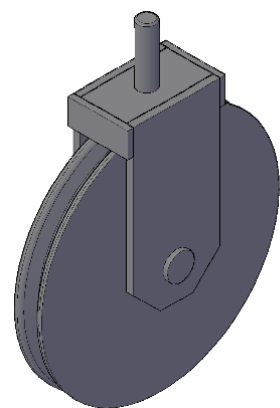
2.4



2.5

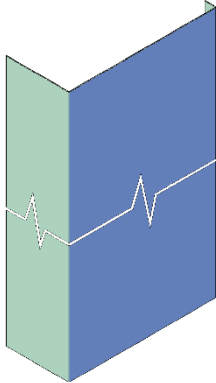
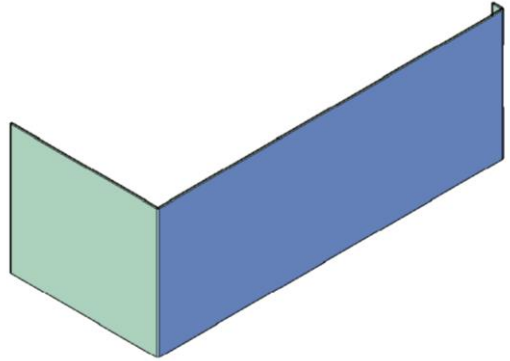
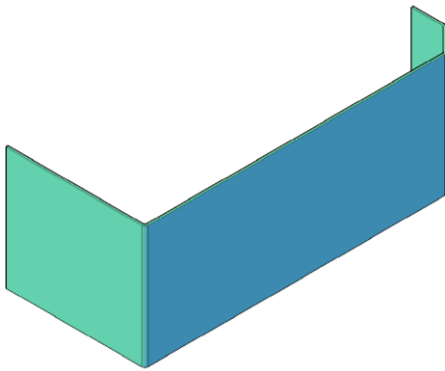
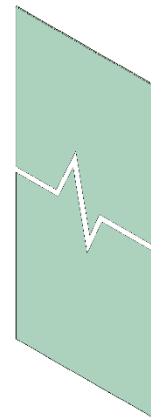
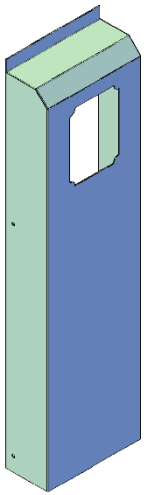
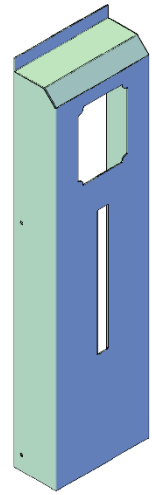


2.6





COVER

3.1	cover of hydraulic cylinder - length according to height of the guide track	3.2	cover joint
			
3.3	reinforcing profile of the cover	3.4	side cover sheet of the hydraulic cylinder cage
			
3.5	cage cover A – for hydraulic motor	3.6	B – for hydraulic manual pump
			
3.6	L – profile of the cover		

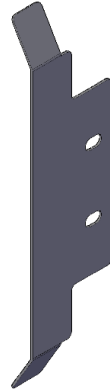




LIMIT SWITCHES (only for gates with hydraulic motor)

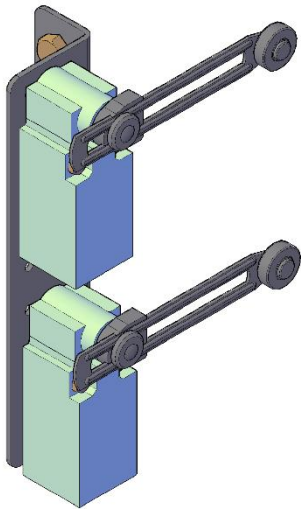
profile for limit switches

4.1



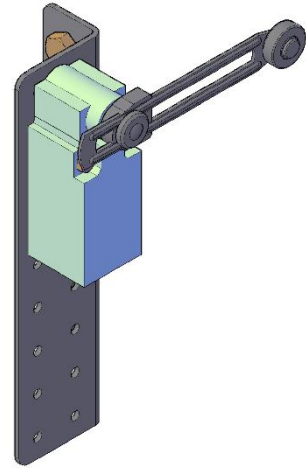
upper limit switch assembly

4.2



lower limit switch assembly

4.3



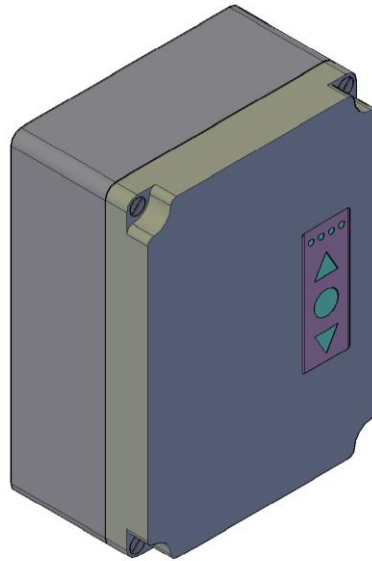


CONTROL DEVICE

control box FStronic HYDRO
(for gates with hydraulic motor)

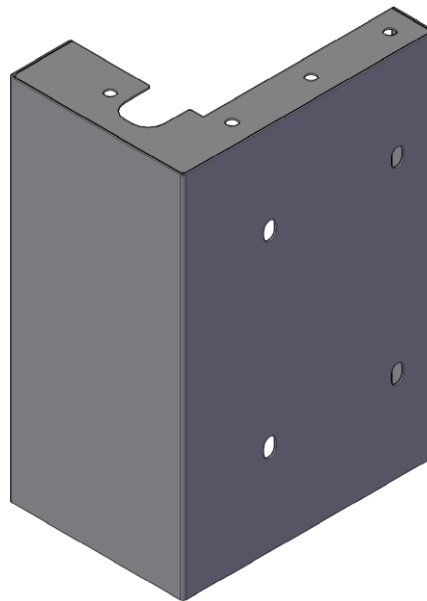
Slidetronic HD
(for gates with hydraulic manual pump)

5.1

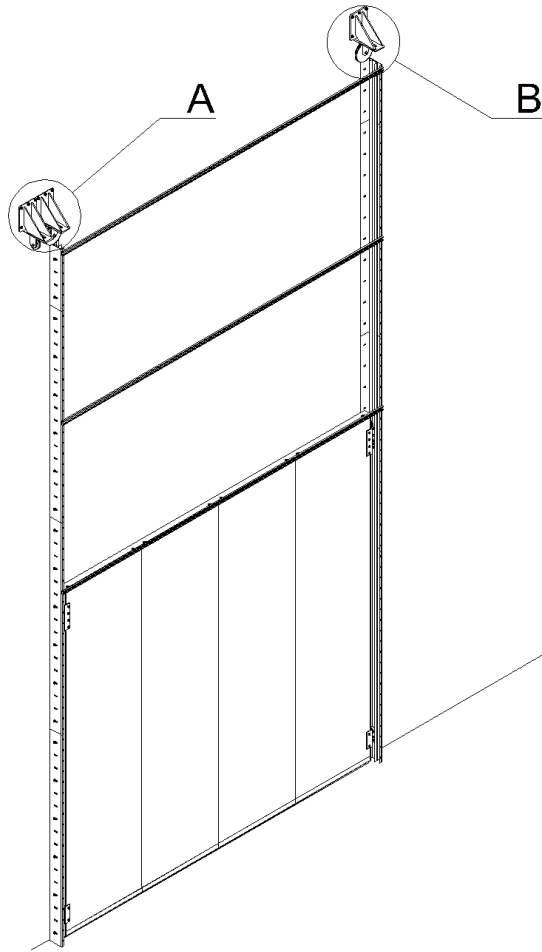


bracket of control box

5.2

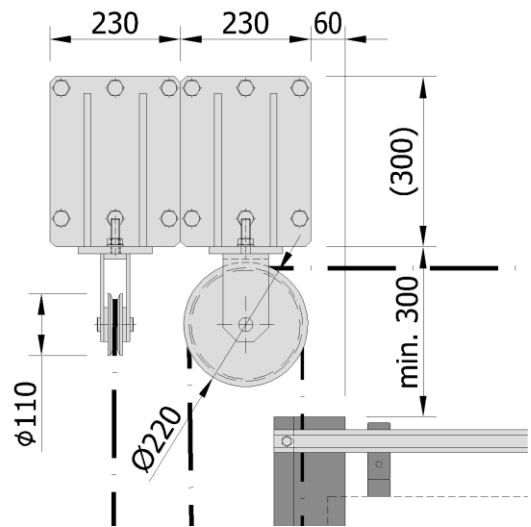


3. ASSEMBLY OF PULLEYS

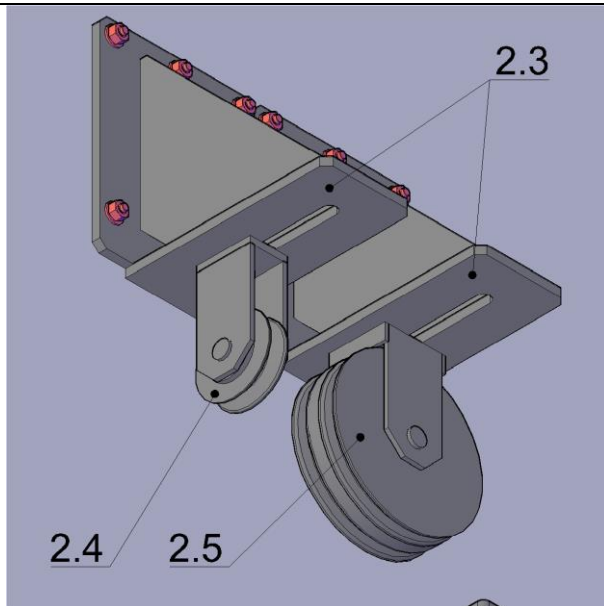


Picture 1

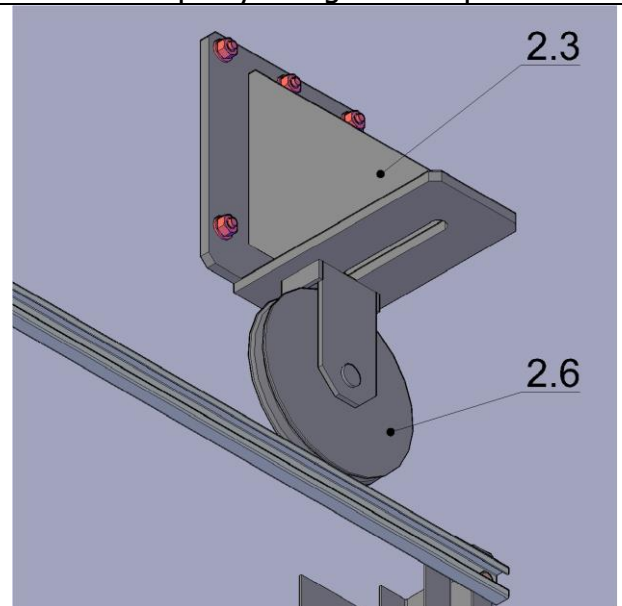
Follow the standard installation procedure for the GGS 60-120 to install side guides, rails and gate leaf. Placement of brackets [2.3] (or [2.2] for smaller gates) for pulleys is indicated in the installation drawing, enclosed to each gate. There are two brackets with levelling pulley [2.4] and double pulley [2.5] on the side with hydraulic cylinder (A), one bracket with the pulley [2.6] is on the other side (B). The pulleys are mounted to the brackets using M16 nuts with washers.



The schematic of the location of the bracket from the inner edge of the track. Applies to brackets and pulleys designed for rope $\varnothing 10$ mm.



Picture 2a



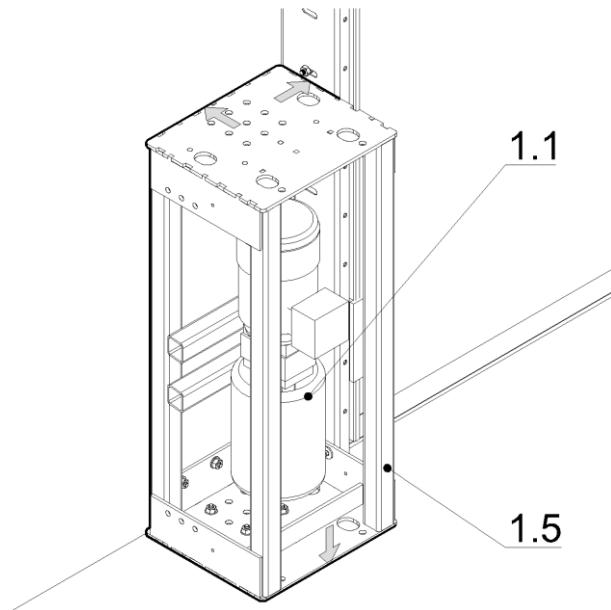
Picture 3b

A – consoles with pulleys on the side with hydraulic cylinder

B – console with the pulley on the side without the hydraulic cylinder



4. FITTING THE CAGE WITH THE HYDRAULIC AGGREGATE



Picture 4

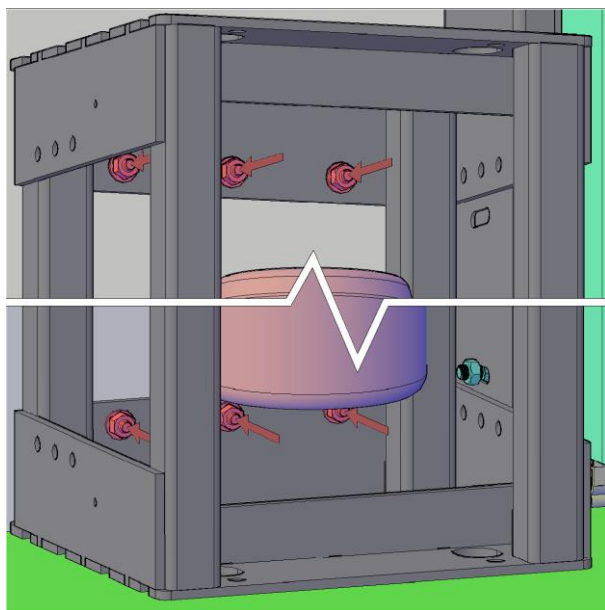
Cage of hydraulic aggregate [1.5] is already delivered with installed aggregate [1.1] or with manual aggregate [1.2].

Place the assembly according to the supplied installation drawing so that the cage is standing on the floor level and is bumped to the adjacent vertical gate track and the wall.

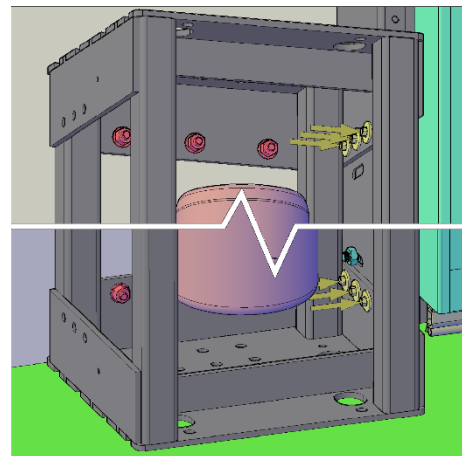
Anchor the cage to the wall with suitable mounting material (through 3 holes in the bottom and 3 holes in the top of the cage) - see Picture 5a.

Using self-drilling screws TEX 6.3x38 with a washer, perform positional anchoring of the cage to the adjacent track (2-3x in the lower and twice in the upper part of the cage) - see Picture 5b.

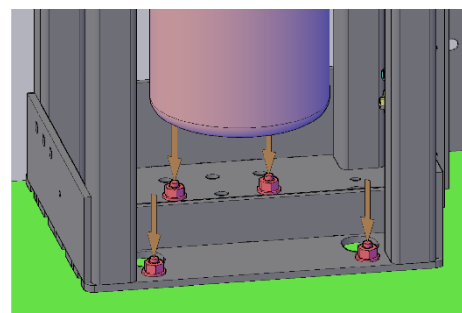
It is optionally possible to anchor the cage to the floor, using some pre-prepared holes - see Picture 5c. Make sure to observe the minimum allowed spacing of the anchors. It is not possible to use all the prepared holes for anchoring at the same time.



Picture 5a



Picture 5b

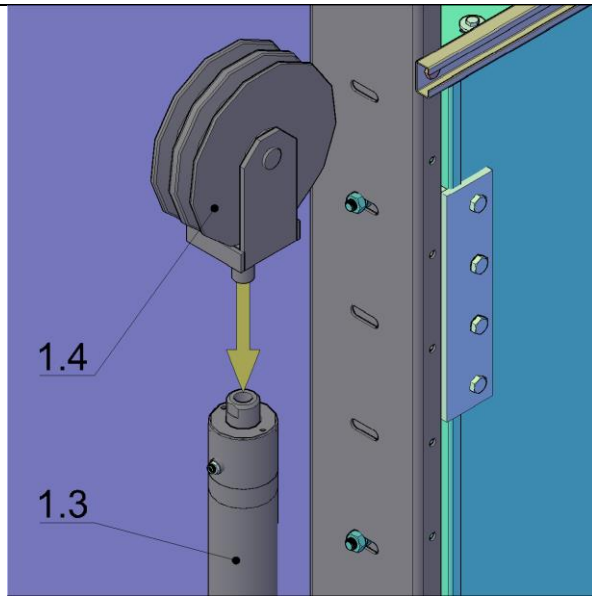


Picture 5c





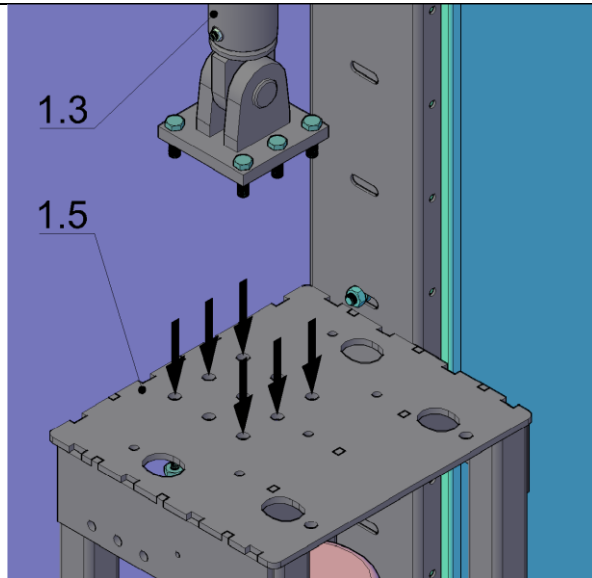
5. INSTALLATION OF HYDRAULIC CYLINDER



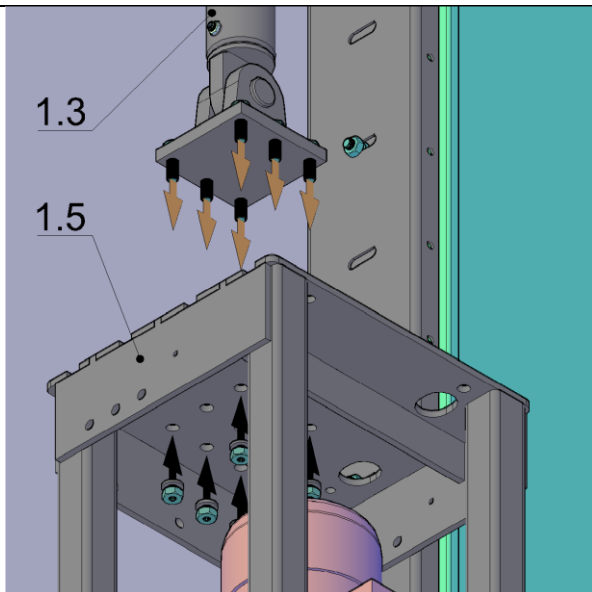
Picture 6a

Place the hydraulic cylinder [1.3] on the prepared holes in the upper plate of the cage [1.5] and assemble using six screws 6-edge M12x40 with a washer and a nut (see Pictures 6b, 6c).

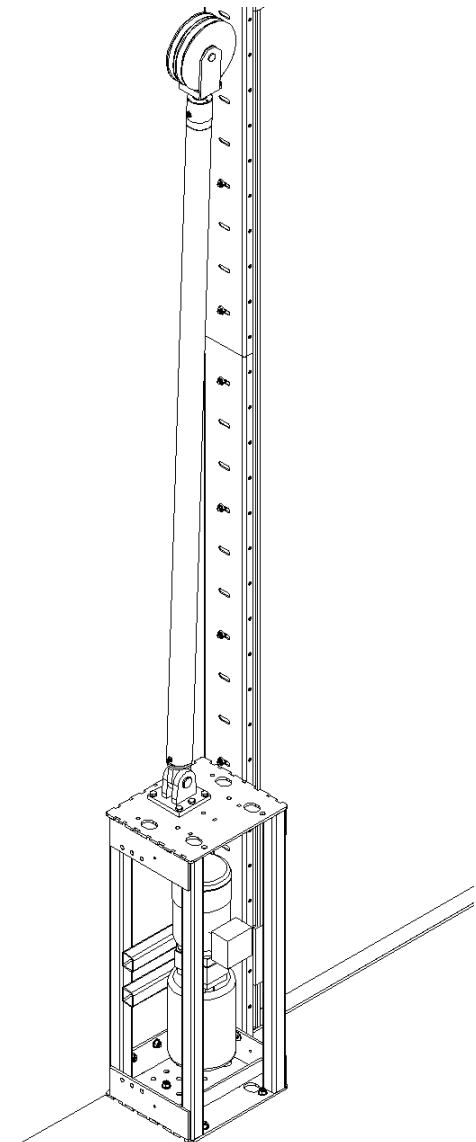
Install the double pulley [1.4] by the using thread on the upper part of the cylinder (if the cylinder was not delivered with installed pulley).



Picture 6b



Picture 6c

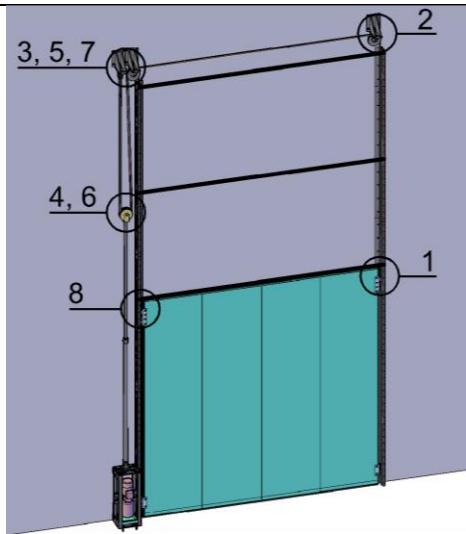


Picture 6d



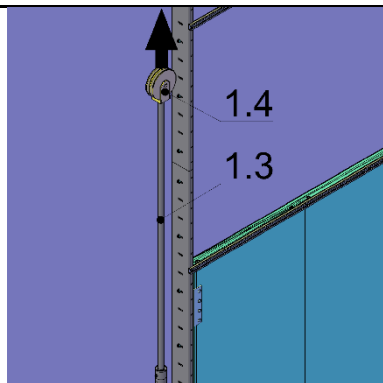


6. INSTALLATION OF STEEL ROPE

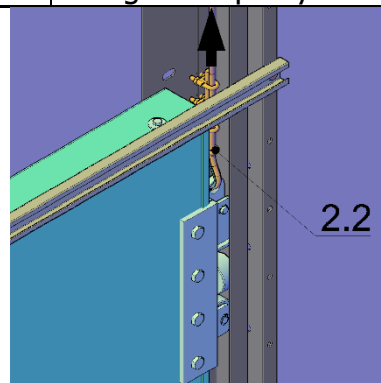


Picture 7a

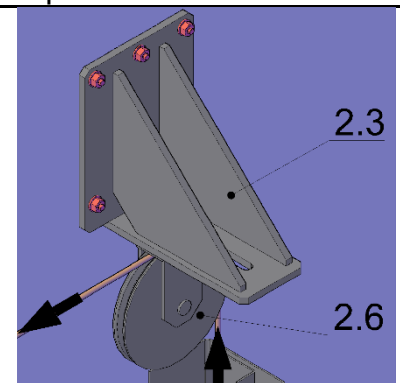
Before starting to assemble the rope, slide the piston out of the cylinder to its highest position (Pic. 7a).
 1 - using the rope eye and clamps [2.2], anchor the rope to the eye in the fall brake of the upper carriage on the gate leaf (according to ČSN 12385).
 2 - pull the rope over the simple pulley [2.6]
 3 - further over the double pulley [2.5]
 4 - through the double pulley [1.4] on the hydraulic cylinder
 5 - through the levelling pulley [2.4]
 6 - further through the second groove in the double pulley [1.4] on the hydraulic cylinder
 7 - through the second groove in the double pulley [2.5] on the bracket [2.3]
 8 - finally anchor the rope to the second fall brake using the rope eye and clamps



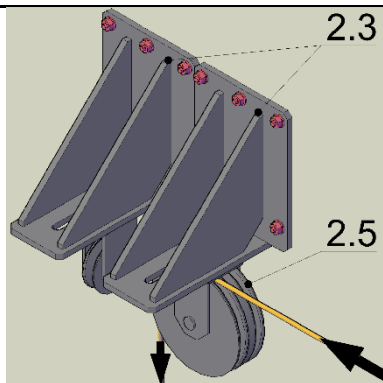
Picture 7b



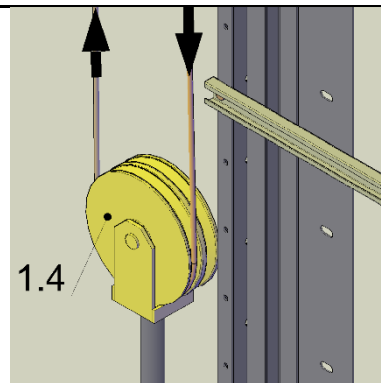
1



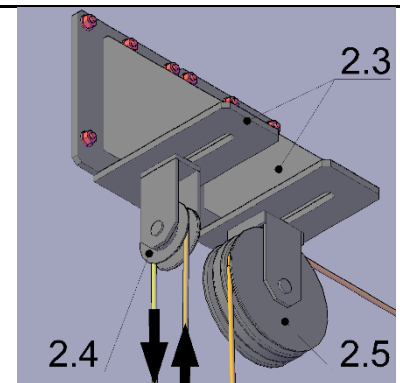
2



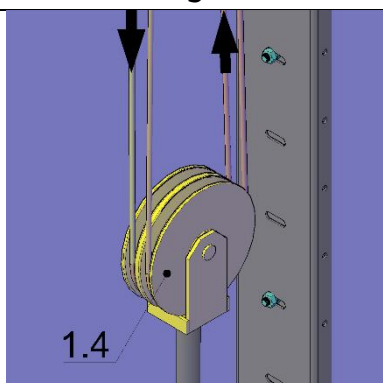
3



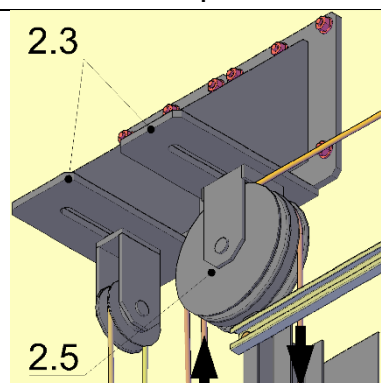
4



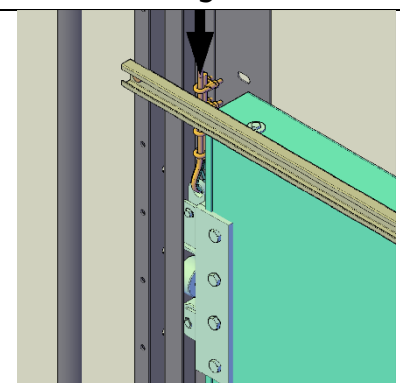
5



6



7



8



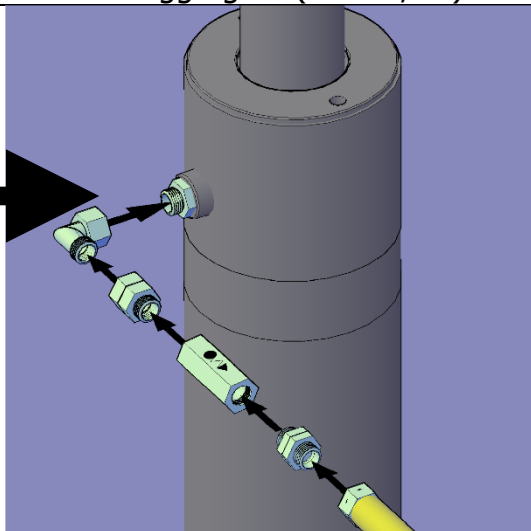
7. CONNECTING AGGREGATE WITH HYDRAULIC CYLINDER

It is necessary to familiarize yourself with all the documentation from the device manufacturer, which contains information on the installation method before installing the hydraulic accessories. The assembly of all components of the hydraulic circuit must be done without the use of brute force. Hydraulic elements and blocks must be protected from mechanical damage. Do not remove the protective elements of the hydraulic elements, the transport plates on the bearing surfaces and the plugs in the threaded chambers until just before assembly.

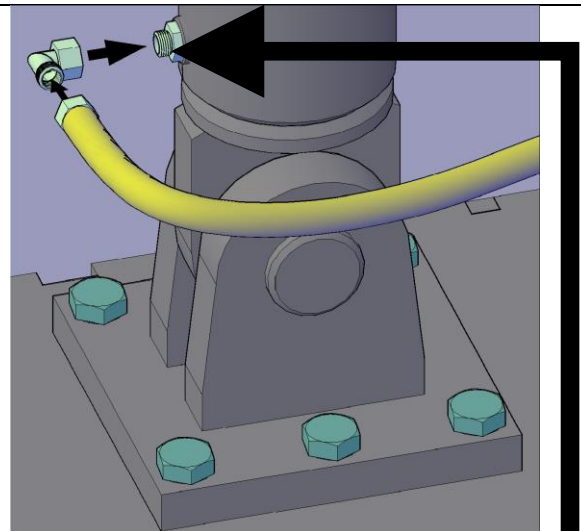
A – variant with motor aggregate

The work hose is delivered in a length equal to the length of the cylinder + 1 m. It is connected to the screw fitting in the upper part of the cylinder using an adjustable angle connection. A safety valve is fitted between the hose and the connection via the connecting nuts - make sure it is oriented correctly. The triangular arrow marked on the valve body must point towards the aggregate (Pic. 8a, 8c).

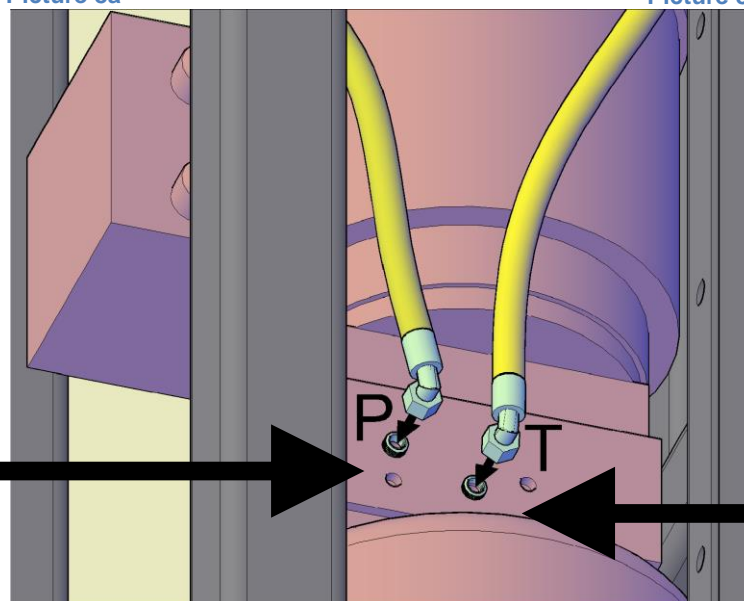
The hose for draining seepage is fitted to the lower fitting of the hydraulic cylinder, using an adjustable angle connection. This hose is always delivered in 1 m length (Pic. 8b, 8c).



Picture 8a



Picture 8b



Picture 8c

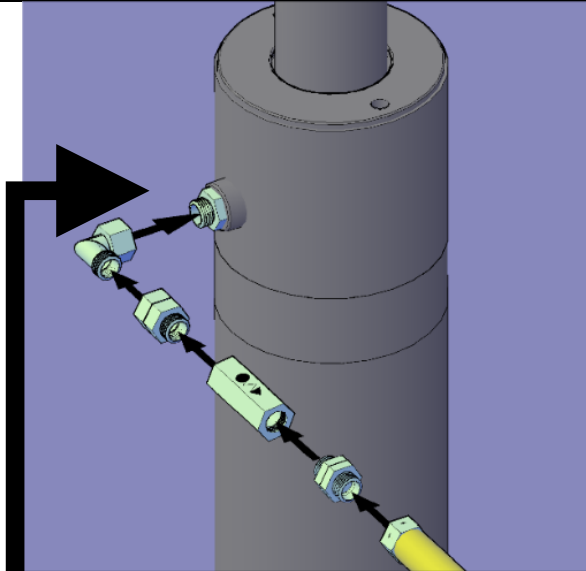




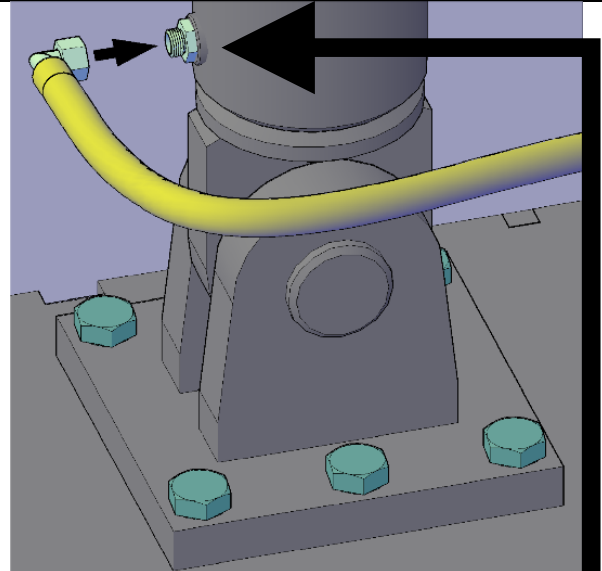
B - variant with manual hydraulic aggregate

The work hose is delivered in a length equal to the length of the cylinder + 1 m. It is connected to the screw fitting in the upper part of the cylinder using an adjustable angle connection. A safety valve is fitted between the hose and the connection via the connecting nuts - make sure it is oriented correctly. The triangular arrow marked on the valve body must point towards the aggregate (Pic. 9a, 9c).

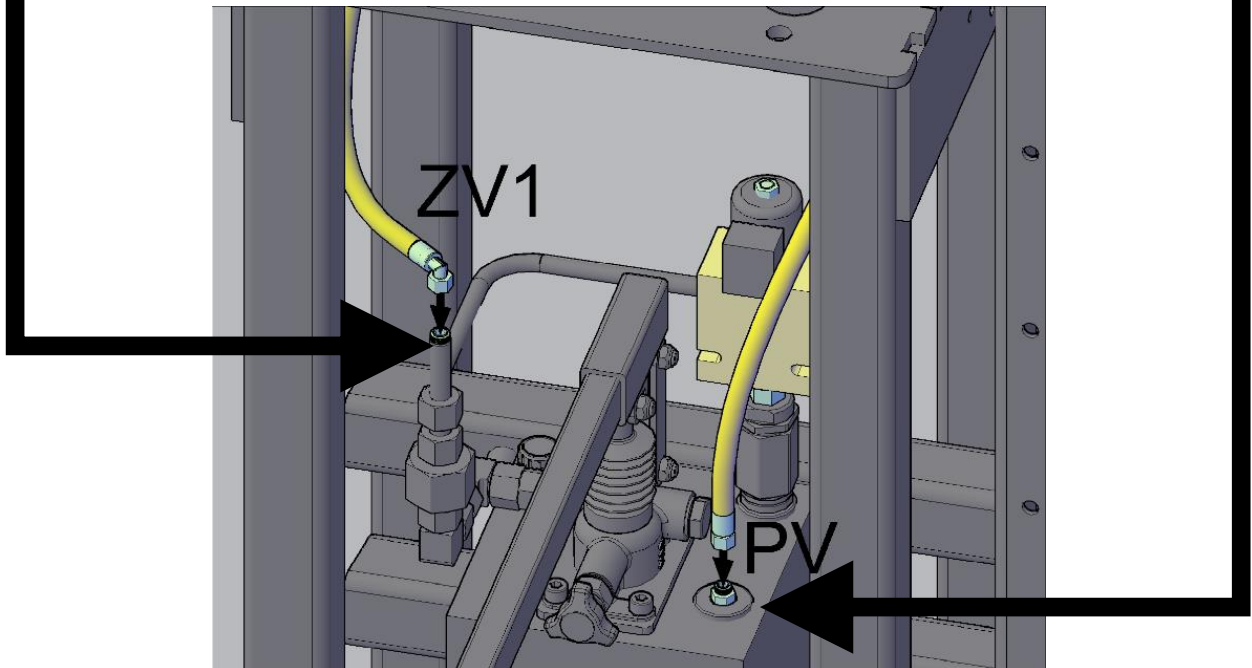
The hose for draining seepage is fitted to the lower fitting of the hydraulic cylinder, using an adjustable angle connection. This hose is always delivered in 1 m length (Pic. 9b, 9c).



Picture 9a



Picture 9b



Picture 9c





8. COMMISSIONING OF THE HYDRAULIC DEVICE

Filling the tank with oil

When filling the tank with oil, the cylinder is still extended to the highest position. Carry out a detailed inspection of the tank interior. Always fill with oil recommended by the device manufacturer. Never fill the oil directly from barrels, but with the help of a filter unit through filters with a minimum filter capacity of 25µm. The tank may be filled only when the cylinder is in the highest position (the gate is closed), otherwise it could overflow.

Before commissioning, it is necessary to check:

- filling the tank with the prescribed oil to the maximum level determined by the level indicator
- cleanliness of pipes, tightening of all connecting elements
- connection according to hydraulic scheme
- couplings between the electric motor and the pump, mainly to maintain alignment and limit the clearances
- connecting the electric motor and observing the direction of rotation, whether it fulfills its function as a level, temperature and pressure sensor
- correctly installed filters and whether they have the prescribed filtering capacity
- filling the pump internal spaces with oil
- setting the pressure valves to the minimum pressure

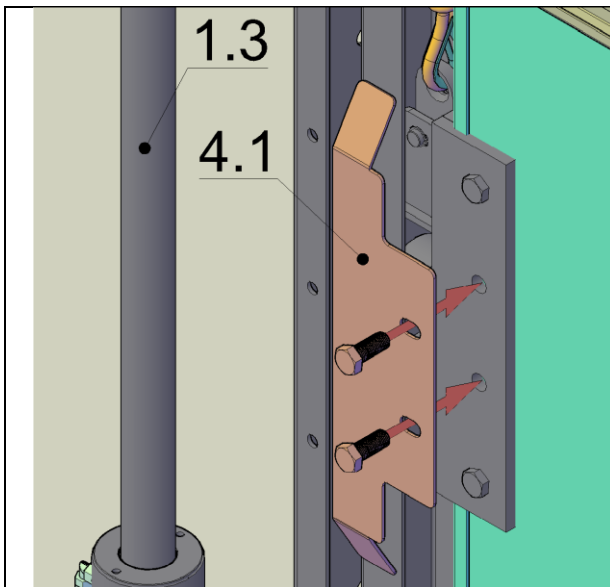
Commissioning:

- start the pump at short intervals
- check the noise level of the pump and the tightness of the pipeline
- bleed hydraulic circuit
- if it is possible, check circuit functions with minimal load
- gradually increase the pressure to the operational prescribed value and set other regulatory elements
- monitor control and measuring devices, noise level, height and temperature of the oil in the tank during operation
- further observe the instructions given in the operating instructions, in particular, it is necessary to proceed precisely when commissioning vane and piston control pumps and proportional hydraulic elements
- check the oil level according to the visual indicator – the maximum oil level in the tank is determined by the red line in the upper part of the sight glass
- test all functions at the same time and compare with the projected values
- check the signaling of the pressure drop on the filters

The length of the piston is designed to have a running margin of 100 mm. When the door is open, the piston should not move to its lowest position. If the gate is not fully open even with the plunger fully retracted after installation, the plunger was probably not pulled out correctly during the cable assembly. In this case, the ropes must be additionally shortened.



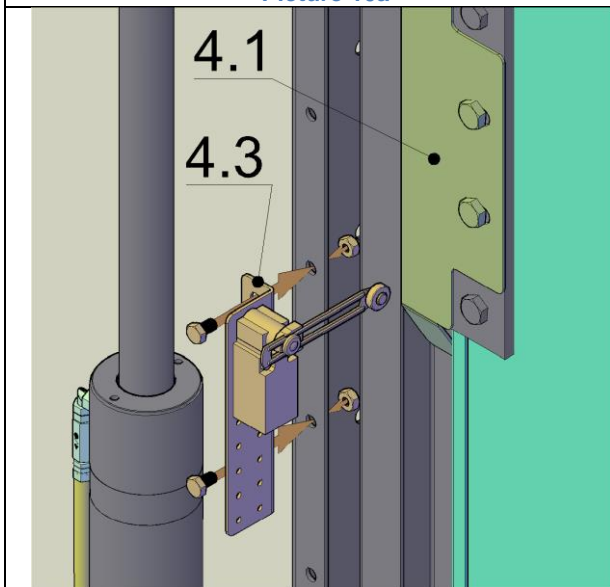
9. LIMIT SWITCHES



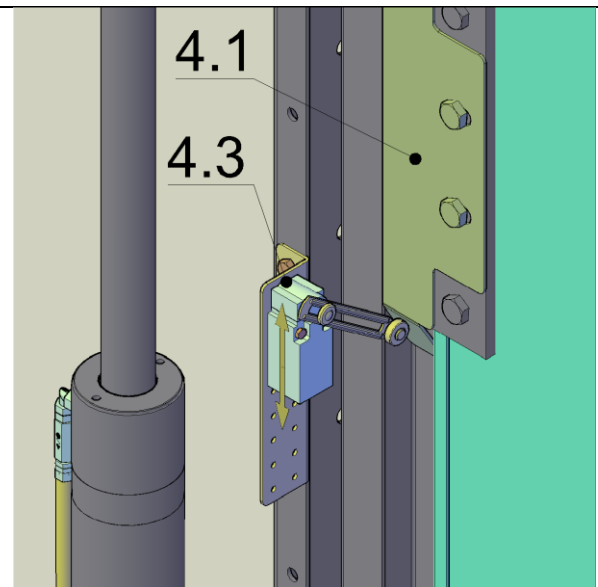
Picture 10a

Install the lead for the limit switches [4.1] (Pic. 10a) under the two middle screws of the upper carriage of the gate (on the side near the switchboard).

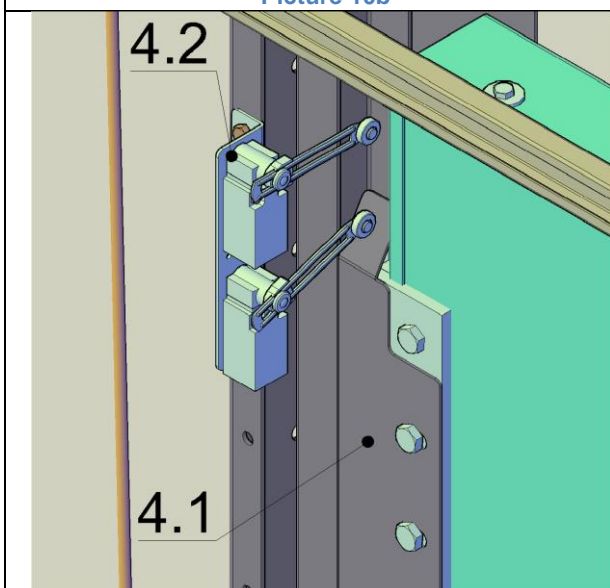
Mount the bottom limit switch assembly (Pic. 10b) to the holes in the track at the appropriate height. The switch arm must be set to switch when the gate is closed. The height position of the limit switch on the holder can be adjusted by remounting it in one of the pre-prepared holes. (Pic. 10c).



Picture 10b



Picture 10c

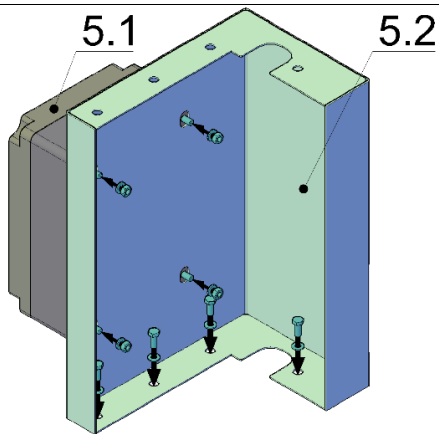


Picture 10d

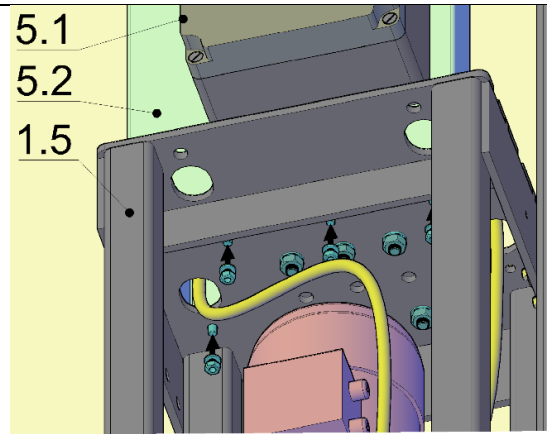
Install the upper limit switch assembly [4.2] with the door open. The assembly must be positioned so that the lower one of the pair of switches closes with the upper part of the ramp [4.1] when the door is open (see Pic. 10d). The second switch is a safety switch and is switched on only in case of failure of the first switch.



10. COVERING



Picture 11a

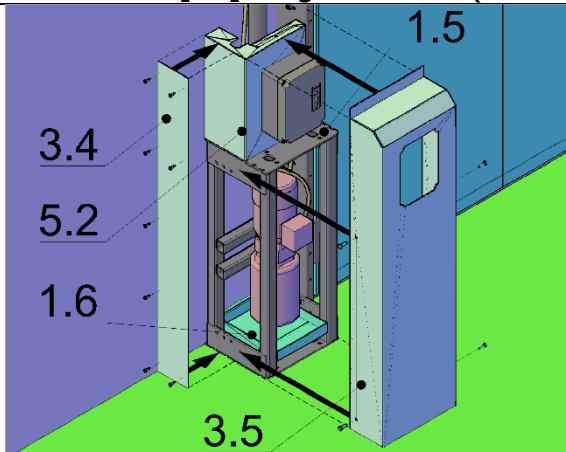


Picture 11b

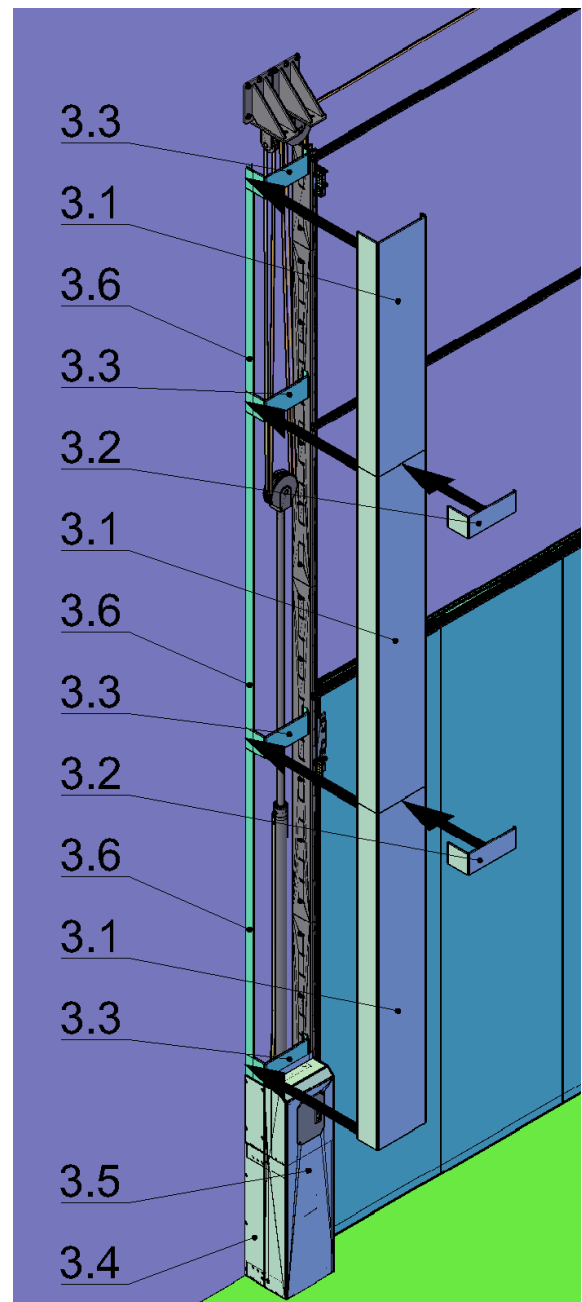
Mount the switchboard [5.1] on the switchboard bracket [5.2] using four screws M8x20 with a nut (it is necessary to make holes in the back wall of the switchboard in the marked places) – Pic. 11a. Mount the bracket on the upper plate of the cage [1.5] and with four screws M8x20 with a nut and a washer on both sides (Pic. 11b). Carry out the electrical connection of the switchboard and aggregate according to the separate instructions. Place the tray [1.6] under the aggregate.

After connection, cover the assembly of the aggregate and the switchboard with the side cover [3.4], anchored with screws TEX 4,2x25 and the cage cover [3.5], anchored with four screws M8x30 (Pic. 11c).

Mount the cover L-profile [3.6] on the wall. Using TEX screws, anchor the braces [3.3] to the track so that the middle braces come out under the joints between the covers [3.1]. Assemble the covers [3.1] with the joints covered by the couplings [3.2] with the reinforcements [3.3] using TEX screws (Pic. 11d).



Picture 11c



Picture 11d





11. COMPLETION OF INSTALLATION

Final adjustment

You have to perform a minimum of 10 complete opening and closing cycles to check for correct and smooth operation. Note the completed installation in the handover protocols.

Warranty conditions

You can download a general warranty conditions on this link:

https://www.somati-system.cz/FP_general_warranty_conditions_v12_2020_EN.pdf

