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DOCK LEVELLER WITH SWINGING LIP

OWNER'S MANUAL and C.E. CERTIFICATION

MODEL: KRBA

TYPE:

MANUFACTURING YEAR: 2.004

CODE NUMBER:

C.E. CERTIFICATION FOR ELECTRO-HYDRAULIC DOCK LEVELLER WITH SWINGING FRONT LIP

Manufacturer: KOPRON S.p.a.

Address: CARUGATE, Via Cesare Battisti n.181, 20061 (Milano) - Italy

Tel. 0039.02.92152.1

Fax. 0039.02.9215253

User:

Address:

Tel.

Fax.

Order number:

- Dock leveller with front swinging lip

- Use destination: connection between loading dock and truck loading plate

- Model: KRBA

Serial number:

Commercial name :

Optionals:

DECLARATION OF CONFORMITY

We declare, under our exclusive responsibility that the loading dock leveller is in accordance to prescriptions of EEC rules 89/392/EEC, 91/368/EEC and 93/68/EEC, and fully satisfy EN 1398 European Standards too.

CARUGATE, li

Vergani Paolo Luigi
Amministratore

DOCK LEVELLER Mod. KRBA

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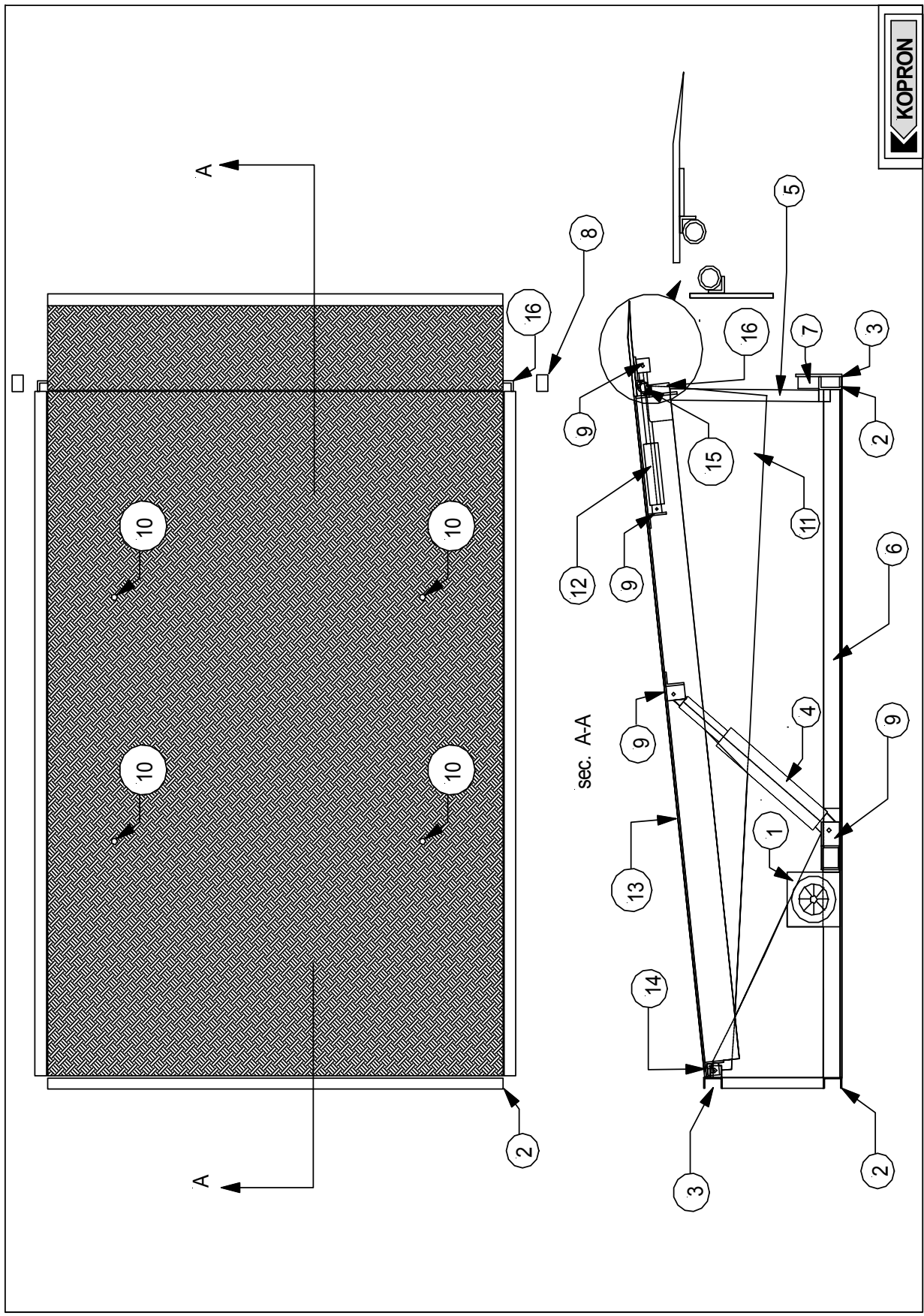
TECNICHNICAL DATA

- 1) Upper plate construction made by using electro-welded section irons, covered by a steel threadplate, thickness mm. 6 + 2 (ribs). Reinforcing steel pipes, with section mm. 150 x 30 x 3, are welded under the upper plate, and fixed every mm. 120-150.
- 2) Swinging front lip, mm. 400 long, general thickness mm. 14, reinforced by an additional steel plate with dimensions mm. 120 x 10, welded below the lip surface. Lip edge is bent and with a bevel, just to obtain a light step in the point of contact with the loading platform of the lorry. Hinge pivots diameter mm. 35. Hinge diameter mm. 55, applied on the full width of the lip connection to the upper plate.
- 3) Rustproof paint first layer, with final paint coating Blue RAL 5003 colour. Side safety plates in full galvanized steel, mm. 1,5 thick, with yellow/black warning stripes.
- 4) Hot galvanized rod, hinged to the frame, to keep the plate in open position during maintenance and cleaning operations, in full security conditions for the operator.
- 5) Oil-pressure cylinder, for upper plate inclination; lip rotation by single/double action cylinder.
- 6) Electro-hydraulic group, with single or double action, fixed under the upper plate in a full protected position. Motor power Kw 0,55 = CV 0,75 – exercise pressure 120 Bar approx.
- 7) Once the final part of the (extended) lip is placed over the loading platform of the lorry, it can freely follow the variations of level of the lorry same, with lateral torsion tolerance till mm. 100.
- 8) Security blocking system: in case of unespected departure of the lorry, when the lip is still over the loading platform, the ramp plate stops its (slow) descent in a short stroke (depending on the applied load).
- 9) IP 55 protection degree electrical control panel, with main power switch, power indicator, plate elevation and lip extension push button, descent selector switch, and emergency red button (mushroom-shaped). “Dead man” operating system. Low voltage commands (24 Volts).
The control panel has to be fixed to the wall, close to the dock leveller, so that the operator can well control all the motions of the ramp.
Double-insulating and fire resistant electric wire (mt. 5,0 long) to connect the electro-hydraulic group to the control panel.
Line voltage 380 Volts, 50-60 Hz, 3phased.

All electro.hydraulic dock levellers are designed and manufactured according C.E. Standards, and fully satisfy EN 1398 European Standards.

DOCK LEVELLER COMPONENTS

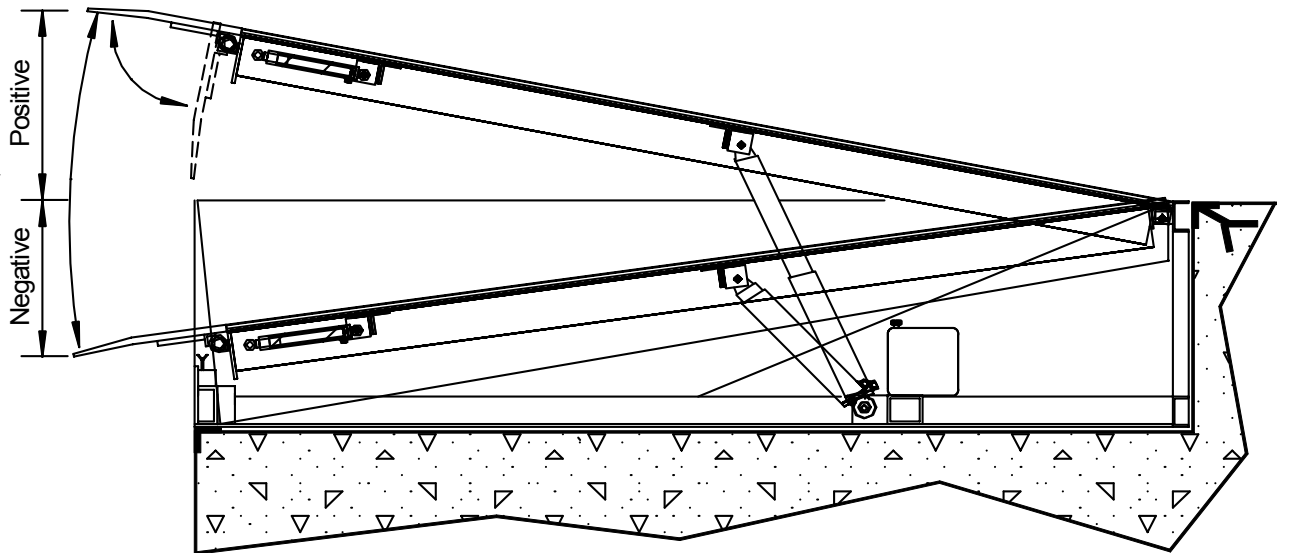
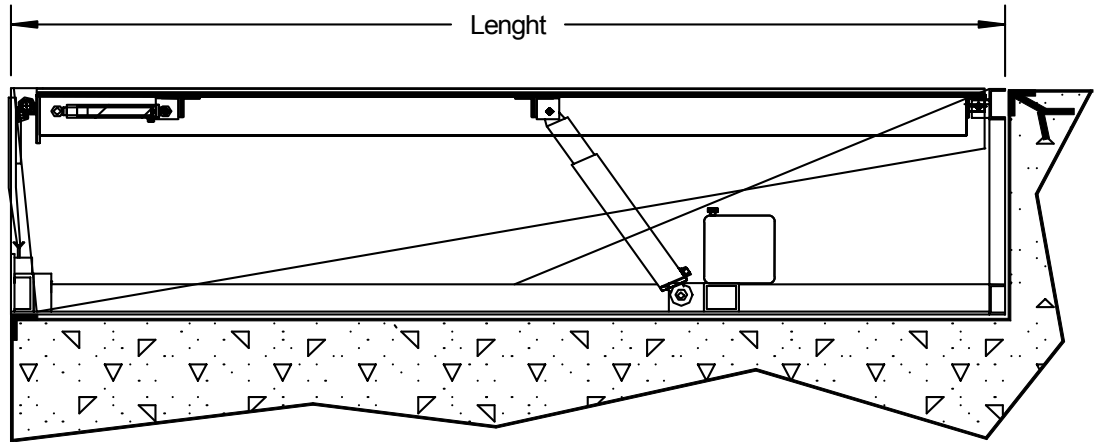
- 1 *ELECTRO-HYDRAULIC GROUP*
- 2 *POINTS FOR EVENTUAL LEVELLINGS*
- 3 *POINT OF WELDING*
- 4 *LIFTING CYLINDER*
- 5 *SECURITY STEEL ROD (FOR MAINTENANCE)*
- 6 *FRAME*
- 7 *FRONT STEEL FRAME PLATE*
- 8 *RUBBER BUMPERS*
- 9 *CYLINDERS JOINTS*
- 10 *THREAD HOLES FOR LIFTING HOOKS*
- 11 *SAFETY STEEL SIDE PLATES*
- 12 *LIP ROTATION CYLINDER*
- 13 *UPPER PLATE*
- 14 *PLATE – FRAME HINGE*
- 15 *PLATE – LIP HINGE*
- 16 *SIDE SAFETY PLATES HOLDERS*



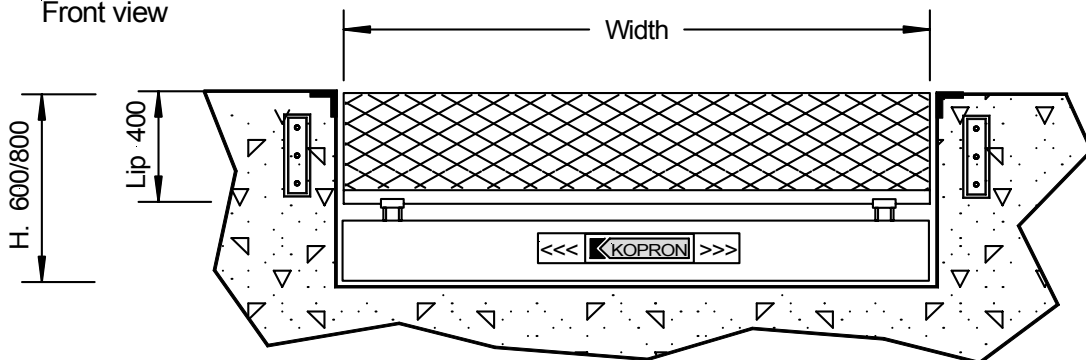
DOCK LEVELLERS mod. KRBA									KOPRON
Standard models									
Type	External sizes			Lip	Excursion	Weight	Concentrat ed	Distribu ted	
	Width	Lenght.	H.	lenght	pos. / neg.	Kg.	Load	Load	
							Kg.	Kg.	
KRB 1a	1.500	2.000	600	400	260-676/286	800	6.000	9.000	
KRB 1b	1.800	2.000	600	400	260-676/286	900	6.000	9.000	
KRB 1c	2.000	2.000	600	400	260-676/286	1.000	6.000	9.000	
KRB 1d	2.200	2.000	600	400	260-676/286	1.200	6.000	9.000	
KBR 2a	1.500	2.500	600	400	273-680/296	900	6.000	9.000	
KRB 2b	1.800	2.500	600	400	273-680/296	1.000	6.000	9.000	
KRB 2c	2.000	2.500	600	400	273-680/296	1.100	6.000	9.000	
KRB 2d	2.200	2.500	600	400	273-680/296	1.200	6.000	9.000	
KRB 3a	1.500	3.000	600	400	335-734/335	1.000	6.000	9.000	
KRB 3b	1.800	3.000	600	400	335-734/335	1.100	6.000	9.000	
KRB 3c	2.000	3.000	600	400	335-734/335	1.200	6.000	9.000	
KRB 3d	2.200	3.000	600	400	335-734/335	1.300	6.000	9.000	
KRB 4a	1.500	3.500	800	400	348-744/346	1.200	6.000	9.000	
KRB 4b	1.800	3.500	800	400	348-744/346	1.300	6.000	9.000	
KRB 4c	2.000	3.500	800	400	348-744/346	1.400	6.000	9.000	
KRB 4d	2.200	3.500	800	400	348-744/346	1.500	6.000	9.000	
KRB 5a	1.500	4.000	800	400	360-760/357	1.400	6.000	9.000	
KRB 5b	1.800	4.000	800	400	360-760/357	1.500	6.000	9.000	
KRB 5c	2.000	4.000	800	400	360-760/357	1.600	6.000	9.000	
KRB 5d	2.200	4.000	800	400	360-760/357	1.700	6.000	9.000	
KRB 6a	1.500	4.500	800	400	370-770/368	1.600	6.000	9.000	
KRB 6b	1.800	4.500	800	400	370-770/368	1.700	6.000	9.000	
KRB 6c	2.000	4.500	800	400	370-770/368	1.800	6.000	9.000	
KRB 6d	2.200	4.500	800	400	370-770/368	1.900	6.000	9.000	

On above schedule are indicated the security concentrated loads, related to 4 surfaces cm² 400 large, and to distributed load. These values are related to the ramp in stand by position, and in loading position too, with the lip over the truck loading surface. The dock leveller, in working position, can freely follow all level changements of truck, and can also adjust itself to lateral loads caused by decentralized loads on truck.

Side view



Front view



Side view



Dock Leveller with swinging lip
Mod. KRBA -

PIT CONFIGURATION

According to the chosen dock leveller model, and to the relative dimensions, the pit has to be prepared by following the here enclosed indications. Basically, two kind of pit configurations are possible:

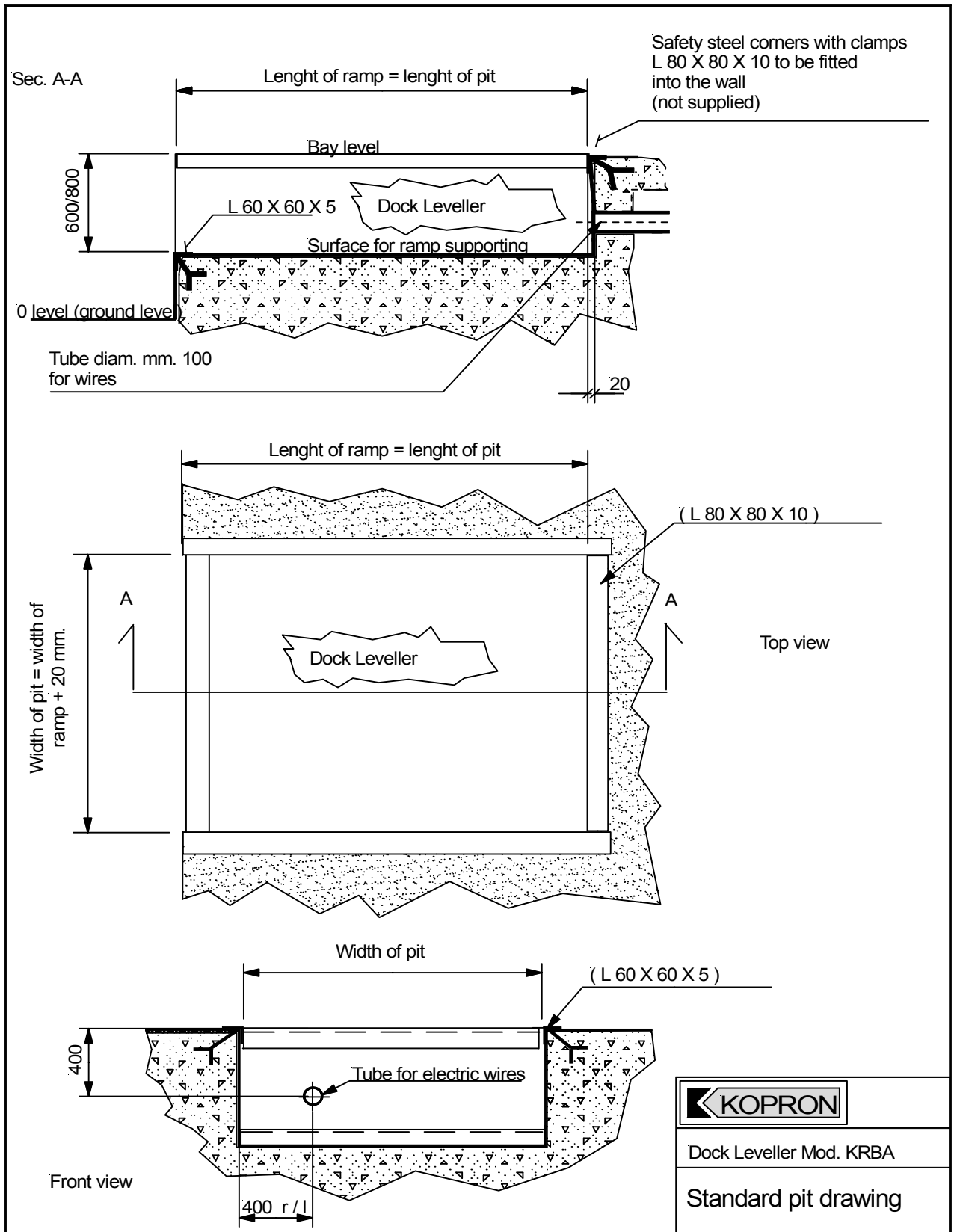
- standard type
- with bottom opening for tailgates.

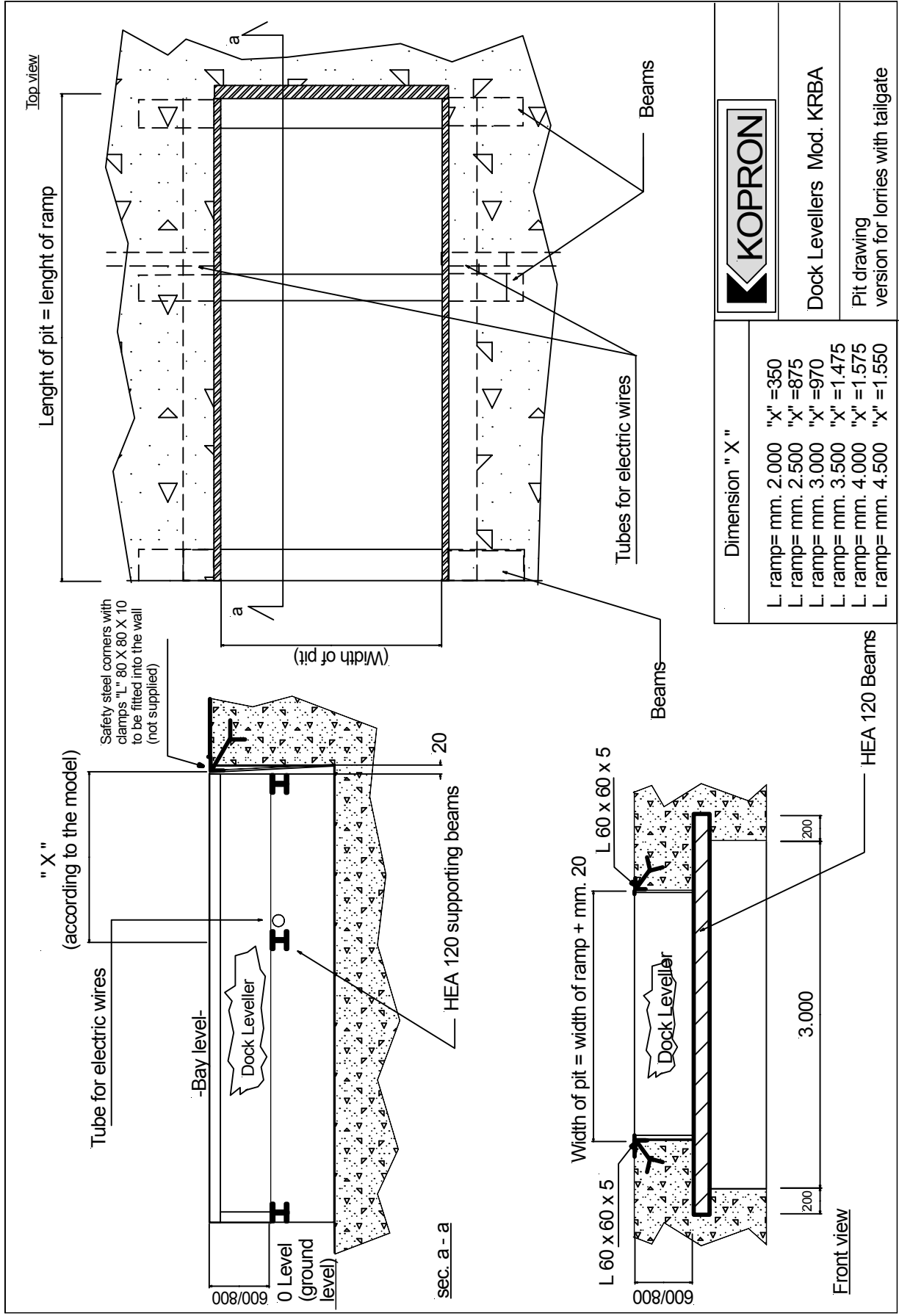
In both cases the KRBA dock leveller has the same configuration.

It is very important to take care of the following construction details during pit preparation:

- Edges and inside walls finishing.
- Dimensions, perpendicularities and parallelisms to be respected.
- Steel protection profiles with clamps to be fitted into surrounding edges
- Tube for electric wiring exit to be foreseen.
- Bottom rear concrete sharp edge to be obtained
- Counterslope (for pit standard type) of bottom concrete surface to be obtained, just to avoid water stagnation.

For other versions of dock leveller (KRB assy + frames), please refer to specific supplied drawings and instruction sfor pit realization.





KOPRON	
Dock Levellers Mod. KRBA	
Pit drawing version for lorries with tailgate	
Dimension "X"	
L. ramp= mm. 2.000	"X" =350
L. ramp= mm. 2.500	"X" =875
L. ramp= mm. 3.000	"X" =970
L. ramp= mm. 3.500	"X" =1.475
L. ramp= mm. 4.000	"X" =1.575
L. ramp= mm. 4.500	"X" =1.550

DOCK LEVELLER INSTALLATION

- 1) First, check that pit has been properly executed (dimensions, steel profiles into concrete edges, cleaning).
 - 2) By using the supplied 4 hooks on the upper plate, lift and keep suspended the dock leveller over the pit (with a crane or a fork lift, equipped with steel chains). Pass the wires into the tube till they are completely out of the floor; then put the ramp into the pit.
 - 3) Check in all directions if the upper plate is horizontal, otherwise put under the corners of the ramp bottom frame some steel sheets, just to reach an horizontal levelling.
 - 4) Make shure that upper plate and bottom frame are perfectly centered to the pit. Then weld the upper rear edge of the dock leveller to the corresponding steel edge profile with clamps of the pit.
 - 5) Take off the transport block (with two bolts) that connect the front lip to the bottom front frame plate.
 - 6) By using only the two front hooks (or using the operating buttons on the control panel , if the wires have been already connected), lift up the upper plate, raise the security bar (under the plate), and drop the plate till it stopped by the bar same.
 - 7) Fix the bottom frame of the dock leveller to the concrete floor of the pit by anchor bolts on the 4 corners (into the foreseen 4 holes). Make 4 holes into the UPN beams and bolt the bottom ramp frame (or directly weld) in case of pit with bottom tailgate opening version.
 - 8) Provide all connections with electric control panel (see schema), and make some working tests, to verify that moving parts of ramp are free from interference with pit walls, or that no air bubbles (due to vibrations during transport) are into the oil circuit. Then fix the control panel in a safety position, and close to the dock leveller, so that the operator can control all loading area during ramp movements.
 - 9) Fix the 2 rubber bumpers in front of the dock, using the provided anchor bolts.
-) The dock leveller is supplied with the electro-hydraulic group already installed and ready for use.

WARNING:

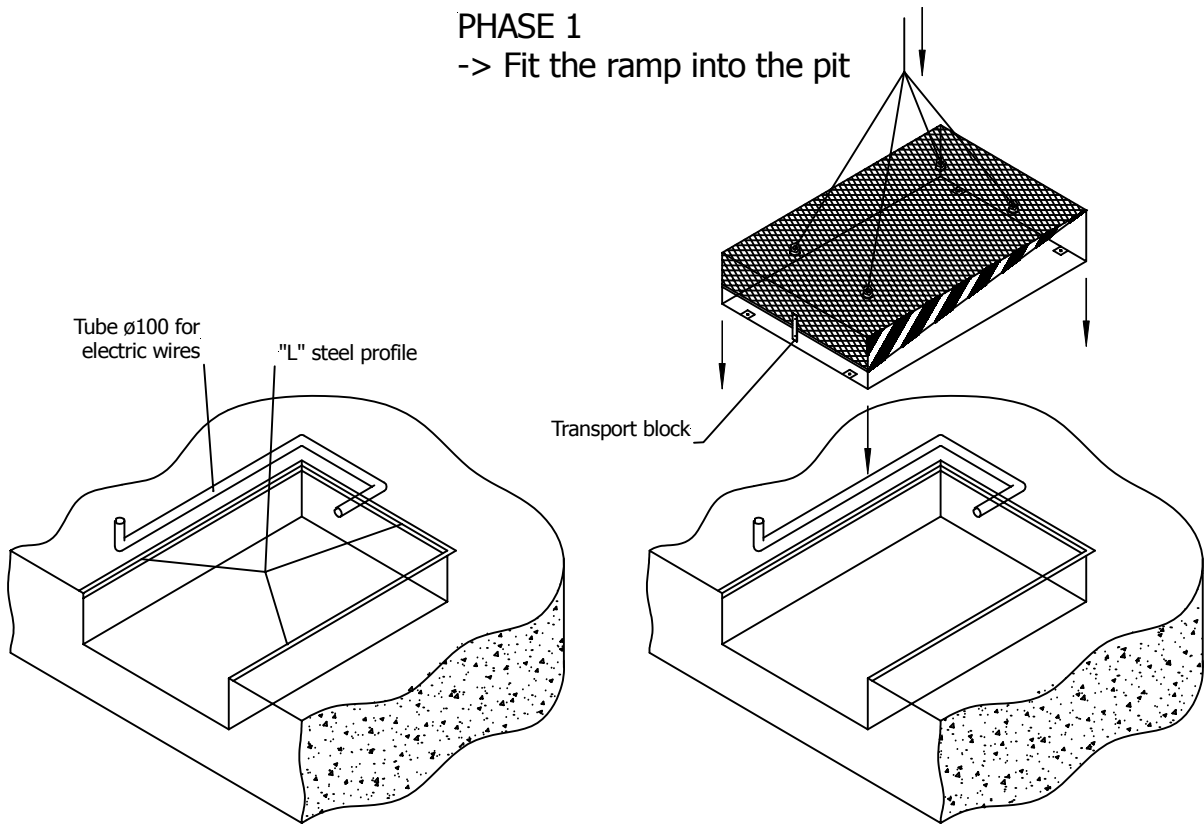
During installation, only the 4 provided upper hooks can be used for ramp lifting and positioning into the pit.

Any other kind of fastening or lifting systems are not allowed, as they could be unsafe for the installators, and make also damages to the frame and to the components of the ramp.

DOCK LEVELLER MOD. KRBA - INSTALLATION -
STANDARD PIT

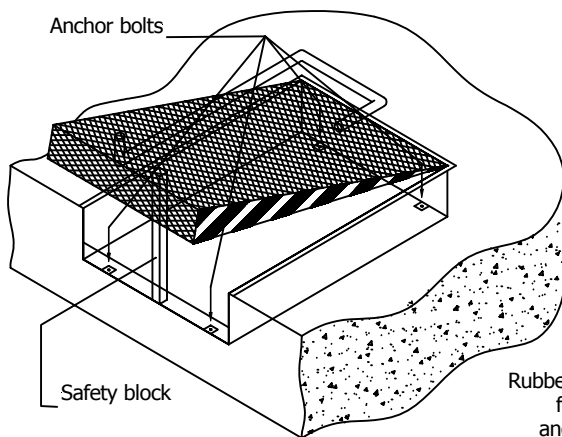
PHASE 1

-> Fit the ramp into the pit



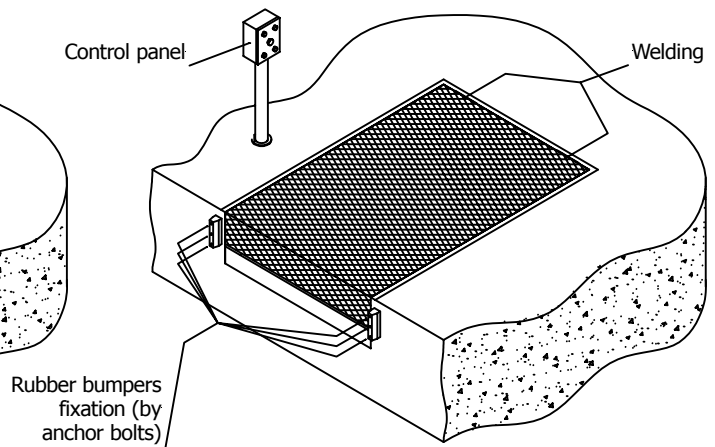
PHASE 2

-> Bottom ramp fixation



PHASE 3

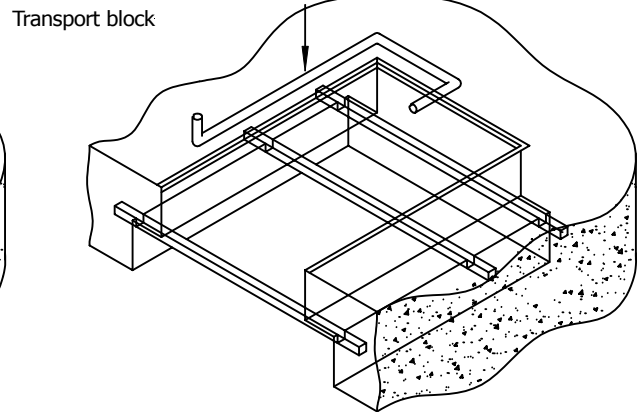
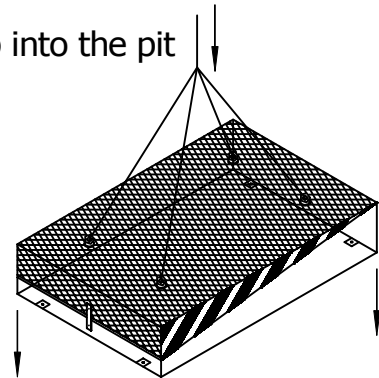
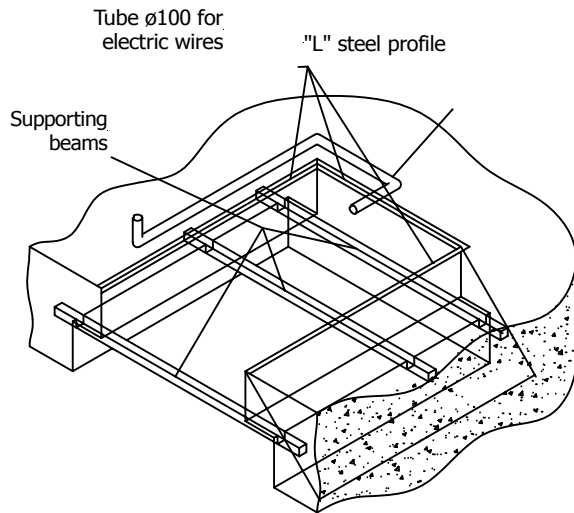
-> Rear profile welding
-> Control panel and wires connection
-> Bumpers fixation



DOCK LEVELLER MOD. KRBA - INSTALLATION -
PIT WITH OPENING FOR TAILGATE

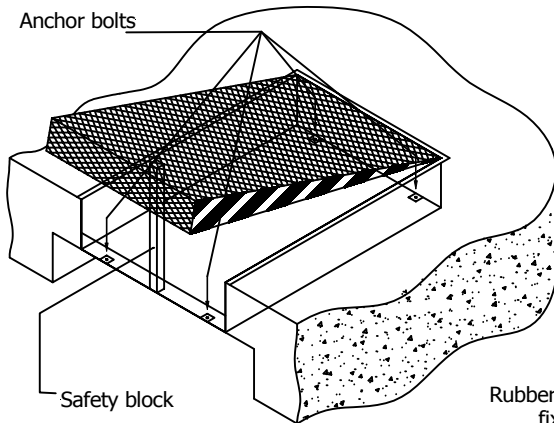
PHASE 1

-> Fit the ramp into the pit



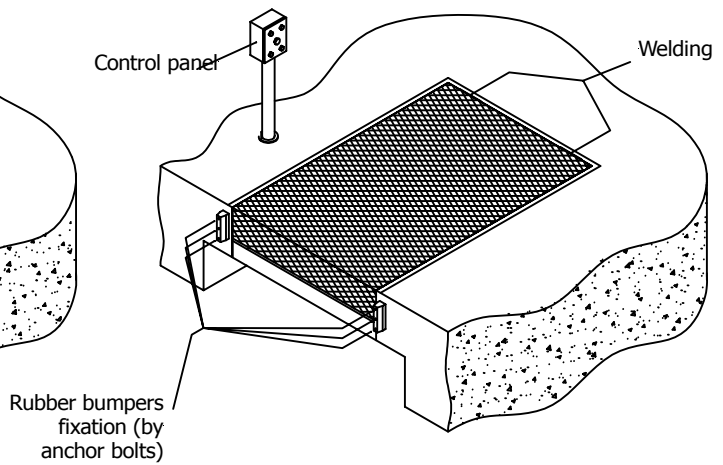
PHASE 2

-> Bottom ramp fixation



PHASE 3

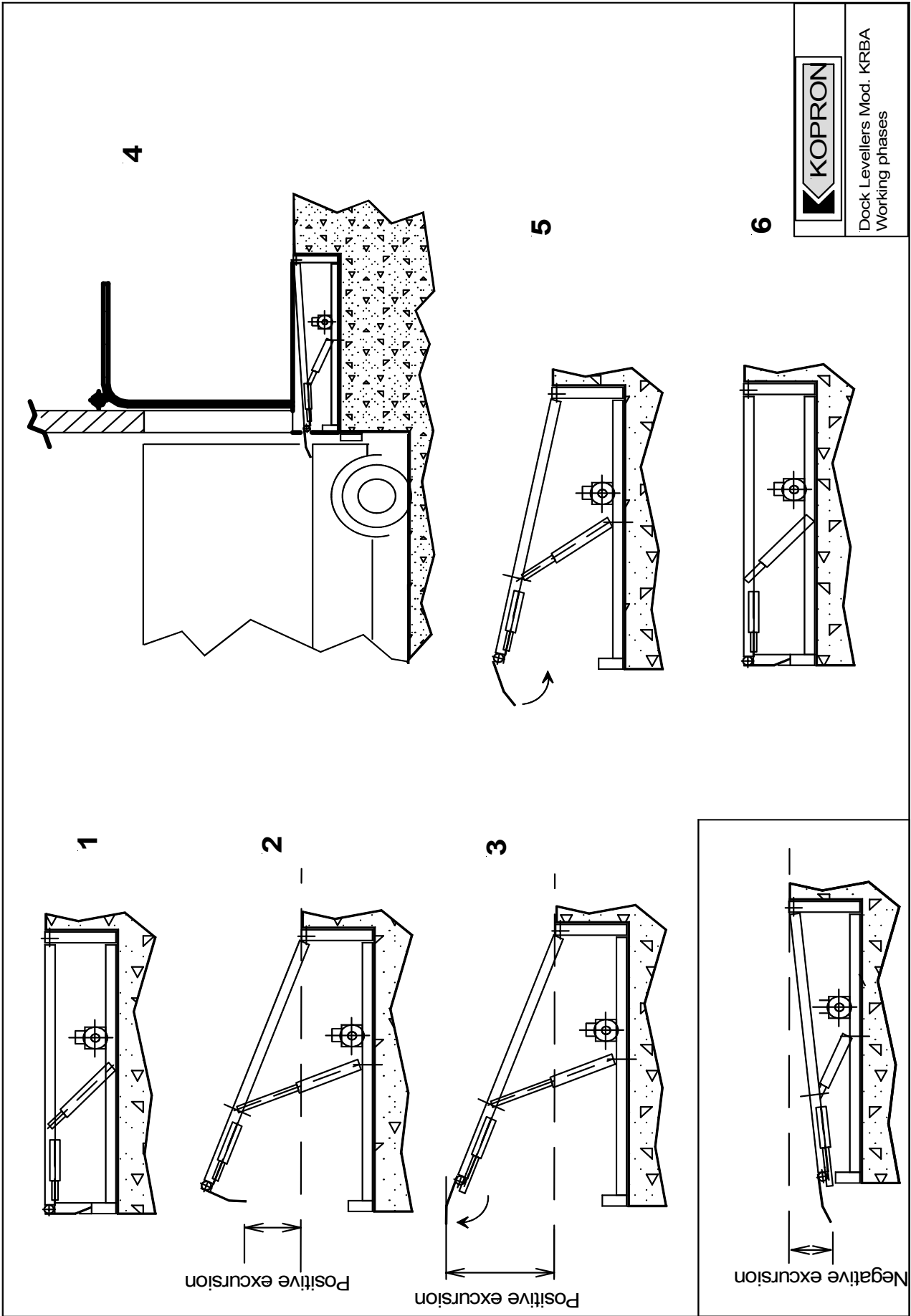
-> Rear profile welding
-> Control panel and wires connection
-> Bumpers fixation



DOCK LEVELLER USE

- 1) Make shure that the upper plate is free, that the corresponding door (if existing) is open, and that the lorry is in the correct loading position, against the rubber bumpers, with the rear doors open.
- 2) Turn on (position "1") the main switch on control panel. Power supply lamp has to be on.
- 3) Press the elevation button; the motor pump will start working. Keep the button pressed till the plate will be on upper limit position, then the lip will start rotating to reach the same level of the plate.
- 4) Release the button; the plate + lip will remain in upper stand by position.
- 5) Turn the switch "descent-stop" to descent position: the assy plate + lip will go down till it will be over the loading plate of the truck. The operator must remain close to the loading bay untill this working phase of the dock leveller.
- 6) In this position, the dock leveller can be used for transit of fork lifts / hand lifts for truck loading / unloading. Be sure not to exceed the above indicated loads, and that fork lifts transit at walking pace.
- 7) When all loading /unloading operations are over, and before the truck is leaving the bay, turn the switch "descent-stop" on descent position.
- 8) Press the elevation button; the motor pump will start working, and keep it pressed till the upper limit position of the plate.
- 9) Release the button; the plate + lip (now in vertical position) will descent till the stand by position
- 11) Check that the edge of the lip is in the right position (into the two steel supports), otherwise repeat the full cycle.
- 12) Now, the truck can leave the loading bay.

NOTE: Dock levellers cannot be used if the truck is not in the loading position. The operator, during ramp movements, must verify that nobody is close to the ramp same, otherwise he must stop all ramp motions by pressing the emergency button.



SPECIAL VERSIONS

To satisfy all possible needs of installation, KRBA dock levellers can be supplied in different kinds of configuration (see enclosed schema).

Basically, can be supplied the upper group, code KRB, composed by the upper plate, swinging lip, electro-hydraulic group, and pistons, all already mounted. This assy can be fitted into a steel frame, to be choosed between:

- KRA , basic frame
- KRC, mould, for direct concrete casting
- KRAS, frame for final ramp in suspended version, to obtain the bottom opening for tailgates.
- KRAS, high mould, with bottom tailgates opening.

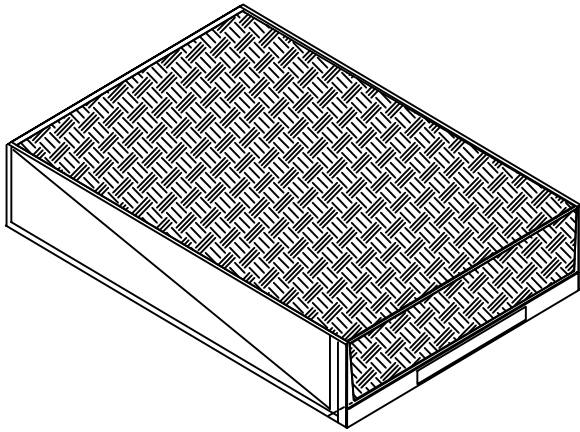
The above frames are delivered disassembled, and they have to be composed directly in the yard, by bolts.

The use of these versions needs a special care during positioning, of perpendicularities and parallelisms, of the measures of the diagonals, otherwise it will be not possible to install the KRB assy inside as final step.

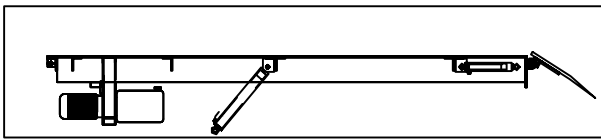
Moreover, concerning versions with mould KRC and KRAS, it will be absolutely necessary to reinforce them during concrete casting by using steel templates inside, to avoid deformation of surfaces due to the pressure of the concrete around.

These templates can be requested directly on the premises.

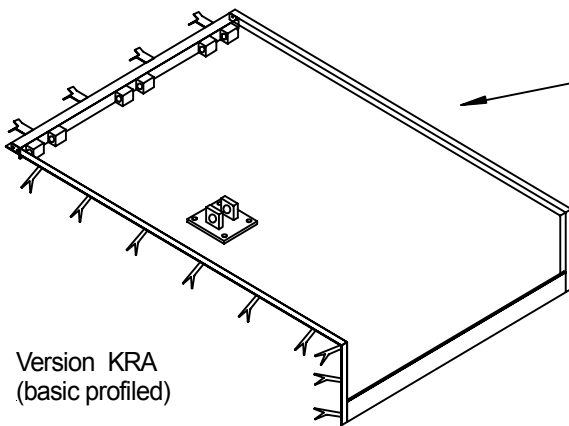
NOTE: KOPRON S.p.a. cannot be responsible for eventuals supplementary works that will be necessary, due to a not full observance of what above.



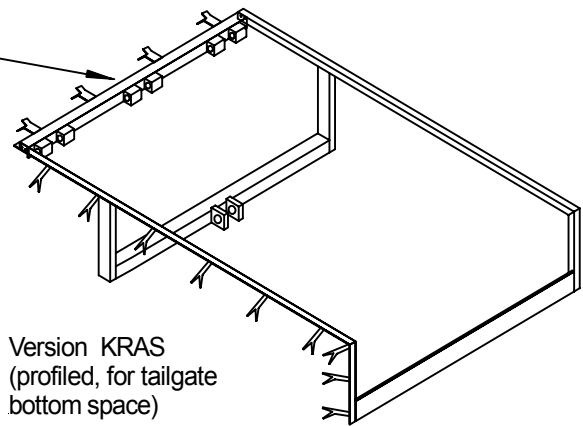
Version KRBA
(complete)



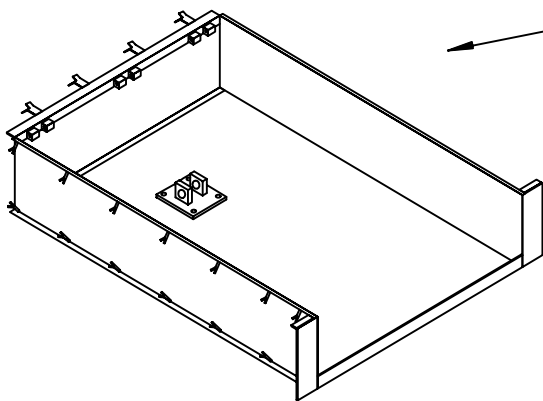
Version KRB
(assy upper group)



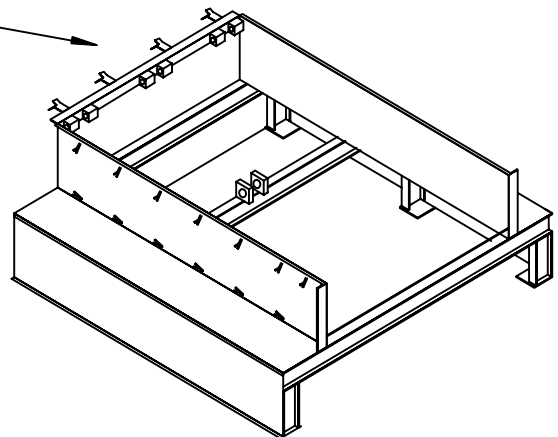
Version KRA
(basic profiled)



Version KRAS
(profiled, for tailgate
bottom space)



Version KRC
(low mould)

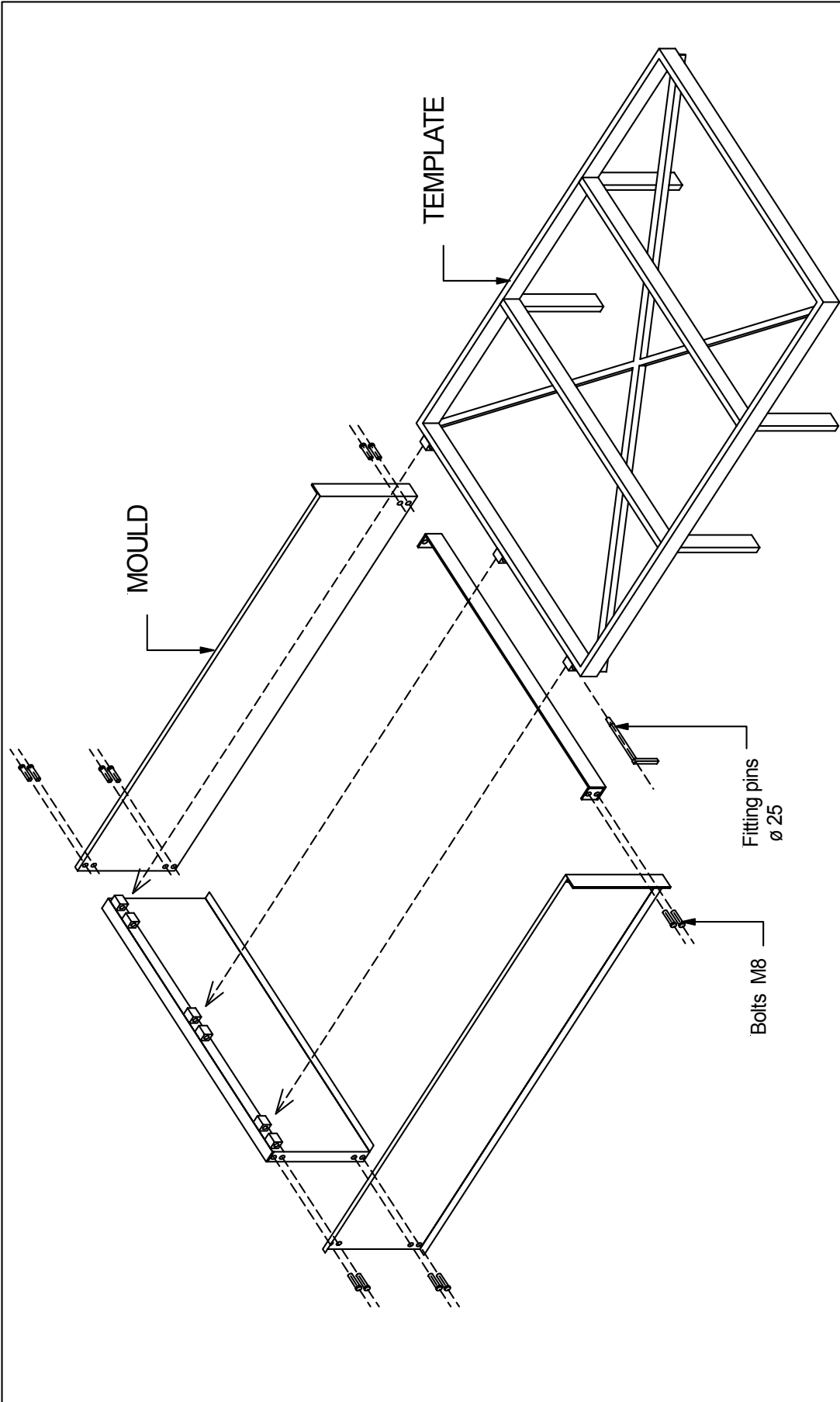


Version KRCS
(high mould, for
tailgate bottom space)



Dock levellers with rotating lip

Available versions



Ref.: Mould + template
for dock levellers Mod. KRB


NoTE: before concrete casting, check all dimensions, flatness, and diagonals

CONSTRUCTIONS DETAILS

WIRING DIAGRAMS

HYDRAULIC DIAGRAMS

AND SETTINGS

 <p>- Technical dpt. -</p>	POWER-PACK FOR DOCK LEVELLER - K3.830.13.392 -	Code: AC-002-I Date: 17/01/2002 Issue: 00
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Subject: *The purpose of this documentation is to give you a description of the function and how to set the power-pack code K3.830.13.392.*

Referring to the enclosed images and the hydraulic diagrams:

1. Power-pack description:

The power-pack is composed by a central aluminium manifold where takes place the relief valve **VMP15**. This valve controls the maximum pressure that the power-pack can reach.

The gear pump displacement is 2,1 cc/rev so at 2800 rpm (indicated for a AC electric motors 2 poles) means a flow of about 6 l/min.

The power-pack is delivered together with the external block V212 code G3.865.48.000 that is the main hydraulic circuit; on the standard version the manifold drive a dock leveller with single acting cylinder on the main lift and on the tipping lip (S.A.+S.A.).

Through some simples changing the manifold can drive a dock leveller composed by a single acting cylinder on the main lift and a double acting cylinder on the tipping lip (S.A.+D.A.). In this case the code become G3.865.48.100. On both manifolds there is a check valve **VU-LN** on the drain line useful in order to keep full of oil the hydraulic circuit.

2. Functioning of the manifold V212 code G3.865.48.000 (S.A.+S.A.)

Lifting phase: By switching on the electric motor, the gear pump pushes oil into the system and with the raising of the pressure the **VMS-VU** valve changes over giving the possibility for the oil to push the main lifting cylinder attached to "A" port; The solenoid valve CE6-NC must always be energized or the system doesn't work.

When the main lifting cylinder arrives at the end of the run, the pressure increases and allows for the opening of the **VSS** sequence valve that starts to put oil into the lip's tipping single acting cylinder; The opening speed is set by the orifice (Ø1,1), which you can find on "B" port.

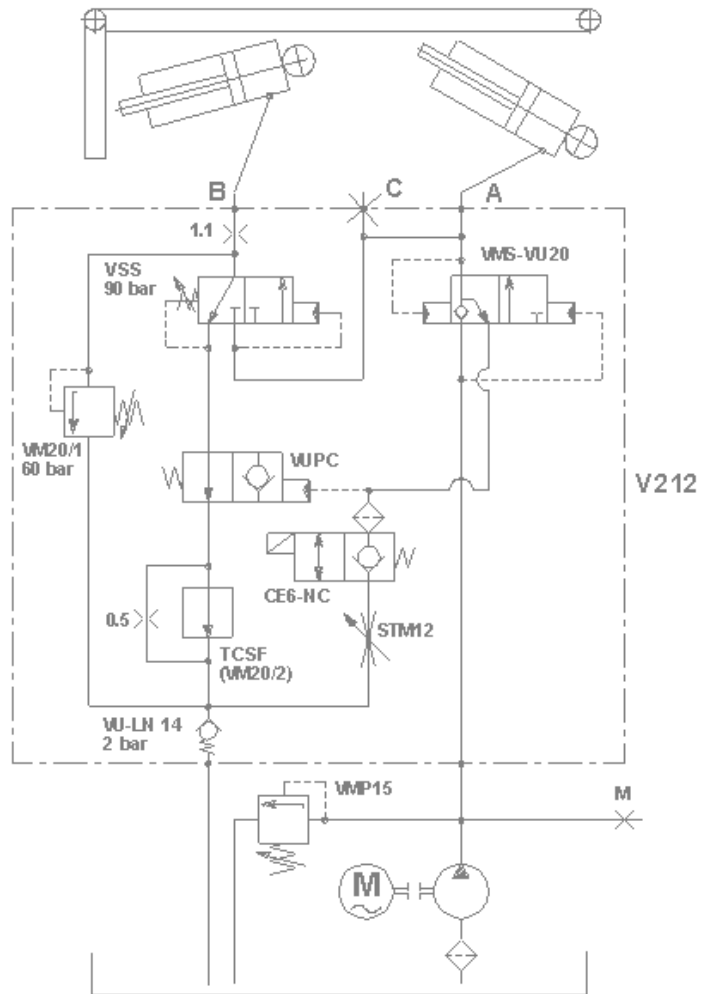
VM20/1 is an added security valve on the tipping lip cylinder.

N.B.: The solenoid valve CE6-NC must always be energized or the system doesn't work.

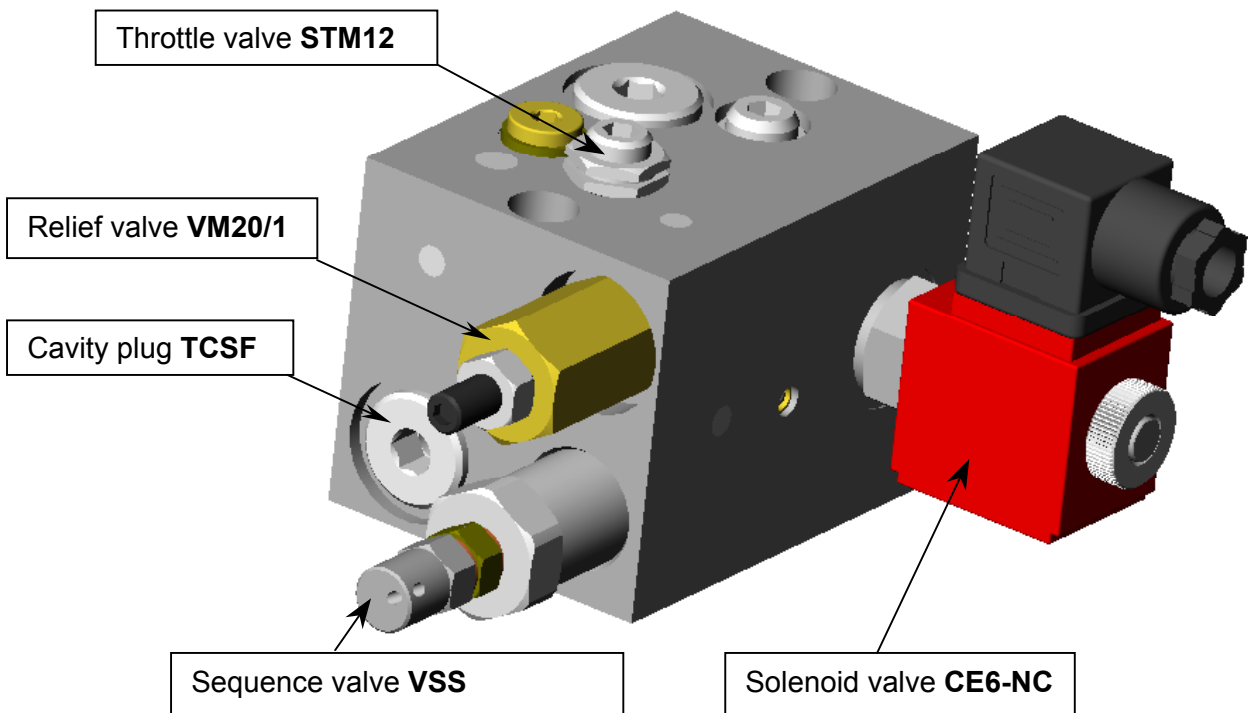
Intermediate phase: if we want to keep the dock leveller open we have to switch off the electric motor and the solenoid valve CE6-NC that stops the passage of the oil towards the tank.

In this case the pressure rise because of the main cylinder so the piloted unidirectional valve **VUPC** switch and lock open the tipping lip cylinder.

Lowering phase: By stopping the electric motor, the **VSM-VU** valve changes over on to the normal position, so the oil goes to the return line, crossing the energized **CE6-NC** and through the throttle valve **STM12** which maintains a backpressure on the system that causes the changing over of the **VUPC** valve that guarantees a backpressure on the Lip single acting cylinder and for this reason the Lip remains lifted while the main single acting cylinder lowers down. When the main single-acting cylinder stops lowering, leaning on the truck, the pressure on the system is out and automatically the **VUPC** valve goes on the normal position, allowing the oil to run on the return line and allowing the lip to lean on to the track. The dock leveller remains free to swing to compensate the differences on the truck level during the loading.



DOCK LEVELLER WITH S.A.+S.A. CYLINDER



3. Functioning of the manifold V212 code G3.865.48.100 (S.A.+D.A.)

The manifold code G3.865.48.100 for dock leveller with double acting cylinder on the main lift has the following different components:

- One more relief valve VM20/2
- Take off the restrictor $\varnothing 1,1$ on the "B" port of the manifold

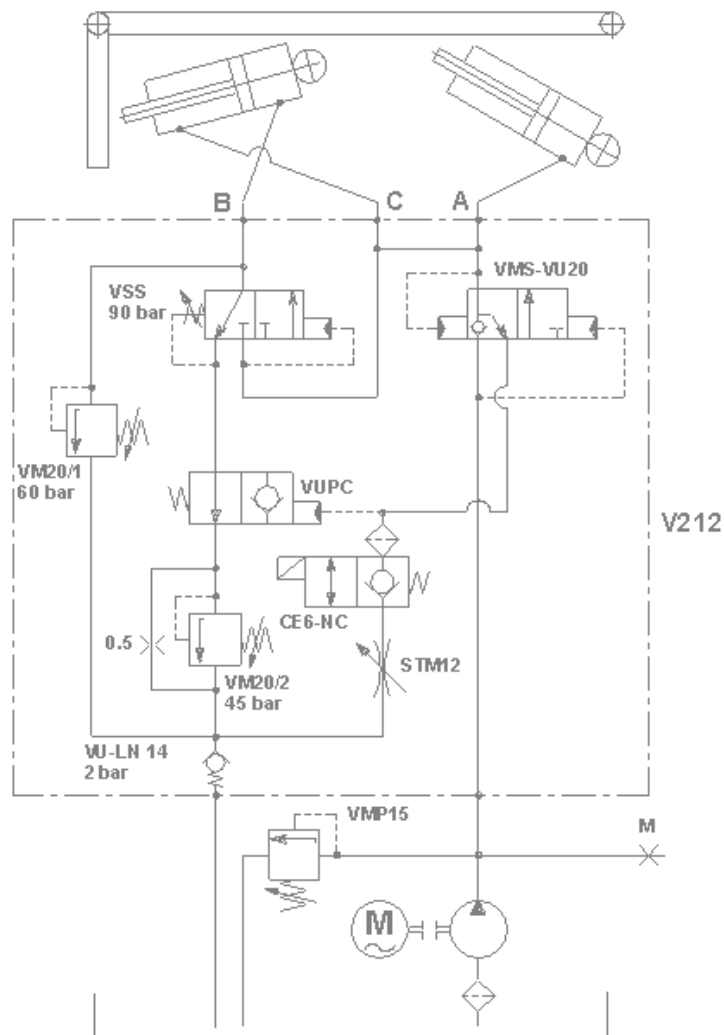
Lifting phase: the lifting phase is the same as per the circuit with two single acting cylinders adding the closing phase of the lip cylinder due to the connection of the double acting cylinder to the side on the "C" port.

VM20/2 relief valve is an added security valve on the tipping lip cylinder.

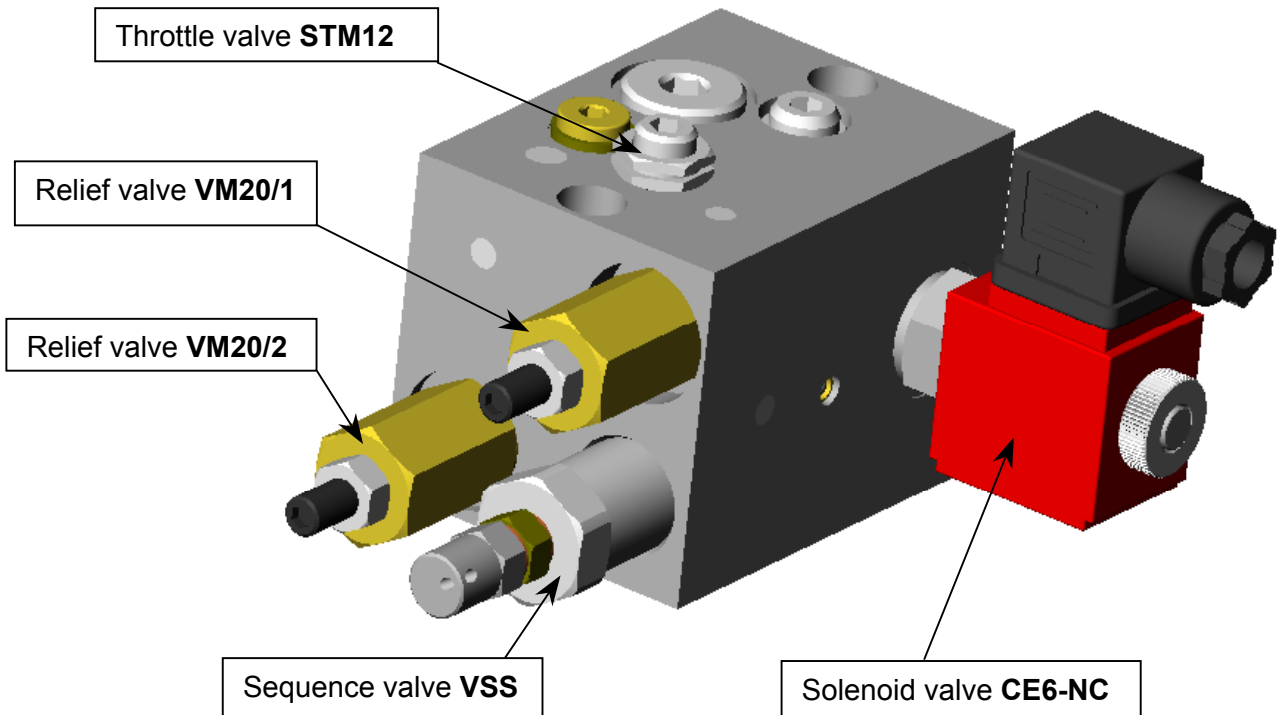
N.B.: in this case too, the solenoid valve **CE6-NC** must always be energized or the system doesn't work.

Intermediate phase: The same as per the circuit with two single acting cylinders.

Lowering phase: The same as per the circuit with two single acting cylinders.



DOCK LEVELLER WITH S.A.+D.A. CYLINDER



4. Description and setting of the valves:

Indicated setting on the hydraulic schemas, are only for reference and this is because some factors like the weight of the platform, different cylinders, etc, could influence the normal sequence. Maybe some resetting is needed.

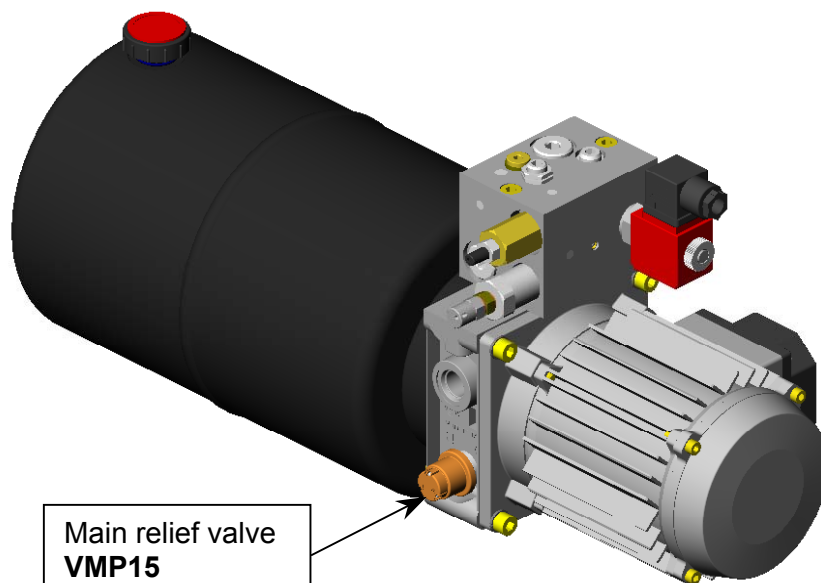
Setting changes are possible on the following valves:

- | | |
|----------------------------------|--|
| Main relief valve VMP15 : | set the maximum working pressure of the dock leveller so it means the maximum weight you can lift.
Screwing the setting you increase the maximum working pressure. |
| Sequence valve VSS : | You can decide the switch pressure of the sequence valve. In order to have a good sequence of the hydraulic circuit, this pressure has to be 20-25 bar less than set pressure for the main relief valve VMP15.
Screwing the setting, the switch pressure increases. |
| Relief valve VM20/1 : | is a security valve during the lip extension; has to be set at 15-20 bar more to the pressure needed for the lip lifting.
Screwing the setting the pressure increase. |
| Throttle valve STM12 : | Set the speed of the lip on the loading function.
Screwing the setting, decrease the speed. |
| Relief valve VM20/2 : | is a security valve during the lip unloading function (only for double acting lip); has to be set at 15-20 bar more to the pressure needed for the lip lifting.
Screwing the setting the pressure increase. |

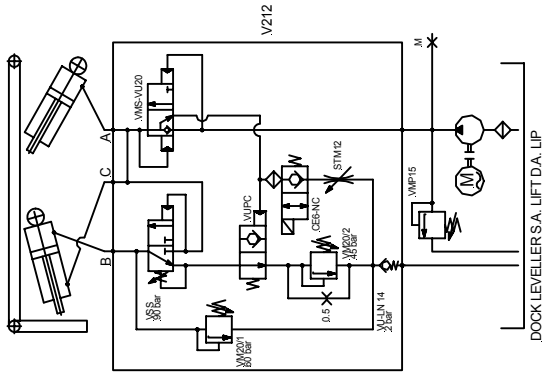
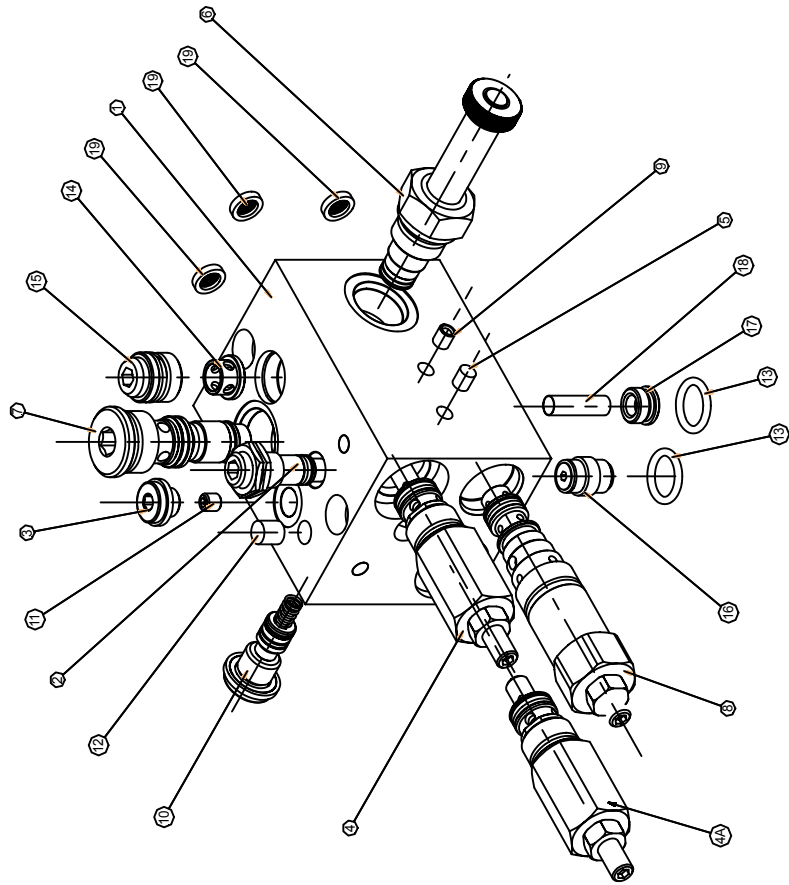
Setting the power-pack:

In case you need to make a different setting of the power-pack, you have to proceed as follow:

- Switch off the electric motor
- Make sure that the dock leveller is on closed position, energizing the solenoid valve CE6-NC.
- Screw completely the setting of the relief valves VM20/1, VM20/2 (VM20/2 only in case of double acting tipping lip cylinder) and the sequence valve VSS. By this setting, the lip side of hydraulic circuit has been excluded.
- Unscrew the setting of the main relief valve VMP15 on the central manifold.
- Switch on the electric motor.
- Screw the setting of the main relief valve VMP15 on the central manifold until the main cylinder start lifting: this is the minimum pressure for the dock leveller. Screw a little bit the setting in order to have a little more pressure on the lifting function.
- Unscrew the setting on the sequence valve VSS until the tipping lip start lifting; This the minimum working pressure for the lip; in this case too, screw a little bit the setting in order to have a little more pressure on the lip lifting function. In order to have a good function of the hydraulic sequence this pressure must be 20-25 bar less than the set pressure of the main relief valve VMP15 on the central manifold.
- Unscrew the setting of the relief valves VM20/1 e VM20/2 until reach the needed pressure for the tipping lip.



- Unloading valve VMS-VU20 (pos. 8): This valve is hydraulically piloted; it doesn't need any setting.
- Three way sequence valve VSS (pos. 9): When the valve change position it means that oil reach the lip cylinder: the settled pressure defines the valve sequence.
This pressure can be changed by the back screw under the nu
- Relief valve VM20/1 (pos. 4): Define the maxim working pressure of the lip; it is used as safety valve in order to avoid, that the lip damages something or someone during the opening function;
screwing the back regulation, means increase the force of lip.
- Relief valve VM20/1 (pos. 4A): Define the maxim working pressure of the lip; it is used as safety valve in order to avoid, that the lip damages something or someone during the closing function;
screwing the back regulation, means increase the force of lip.
- Flow regulator valve STM12 (pos. 2): Define the unloading velocity of the main cylinder.
Screwing the valve decrease this velocity



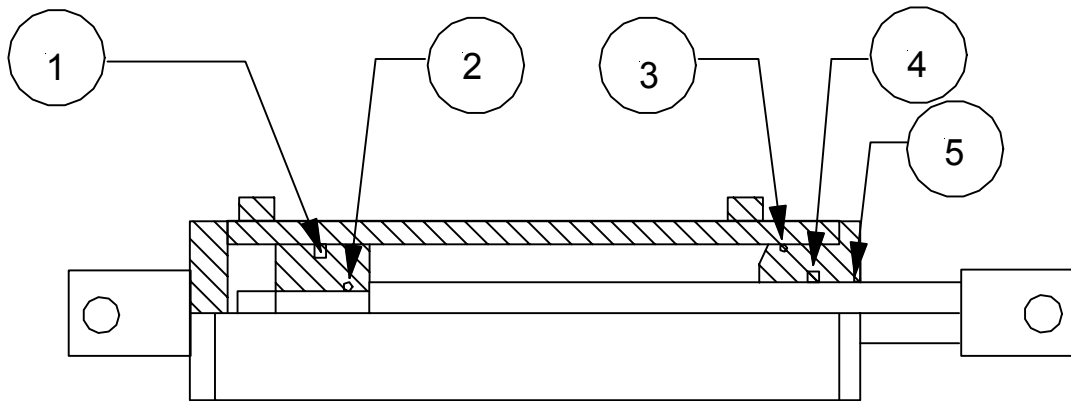
DOCK LEVELLER S.A. LIFT DA. LIP

Pos.	Q.tà	Coefice	Descrizione
1.	1	K27052454	Modular aluminum block
2.	1	V38953800	Throttle valve STM12
3.	1	CE1208000	Plug DN 108 1/8" - Bore hole seal
4.	2	V38852402	Relief valve VM20 (20-50 bar)
5.	3	CO11803000	Sealing ring AVDEL e8
6.	1	V388605A21	Solenoid valve CEEN-C
7.	1	V388818005	Unloading valve VMS-VU20
8.	1	V389811H01	Three way sequence valve VSS (30-120 bar)
9.	12	CO11703000	Sealing expander ball plug MB 800/080
10.	1	V388280000	Piloted unidirectional valve VUFC
11.	1	CO100507	Screw M6x6 UNI 5622 (tube ø6.5)
12.	1	CO11805000	Sealing ring AVDEL e8
13.	2	CO00137000	Sealing OR 3556 (13,95x2,62)
14.	1	K231001000	Cartridge for VUFC
15.	1	FS877AS00	Plug for check valve
16.	1	CO44020003	Check valve VU-LN 14
17.	1	F221544000	Screw for filter
18.	1	F225555000	Filter 300 micron
19.	3	F225510000	Filter 300 micron

FILE: V212 Manifold for electric-hydraulic group K (dock leveller S.A. + D.A. with securities)
 MODIFICATION INDEX
 08-12-2001 1.1
 GIANFRANCO BIANCHI
 W:\work\800-895\

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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LIP CYLINDER
Cod. 82000.44



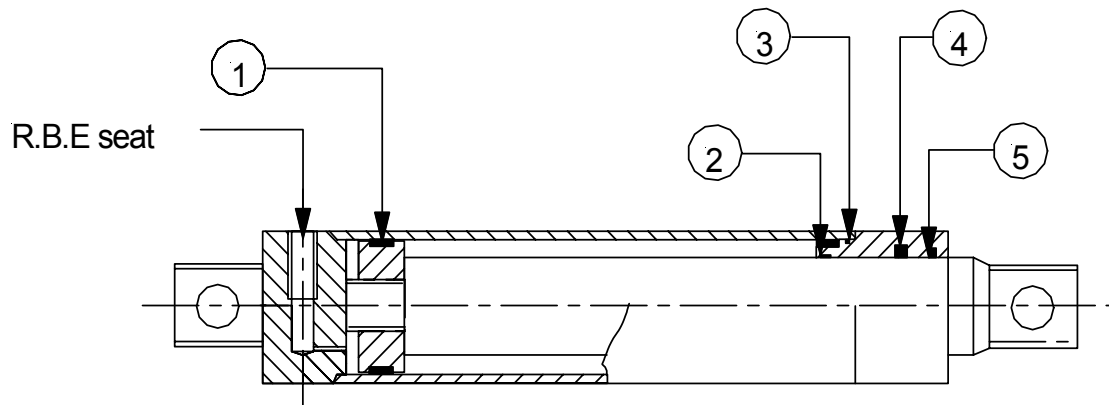
Components

Bore	Rod	Pos.	Part.	Mark	Type
60	40	1	Gasket	POLYPAC	DBM = 230174
		2	O. Ring	POLYPAC	OR = 802
		3	O. Ring	POLYPAC	OR = 836
		4	Gasket	POLYPAC	B = 188157
		5	Scraper Ring	POLYPAC	WRM 157188



Dock Levellers
Mod. KRB - KRBA

LIFTING CYLYNDER
cod. 82000. 54

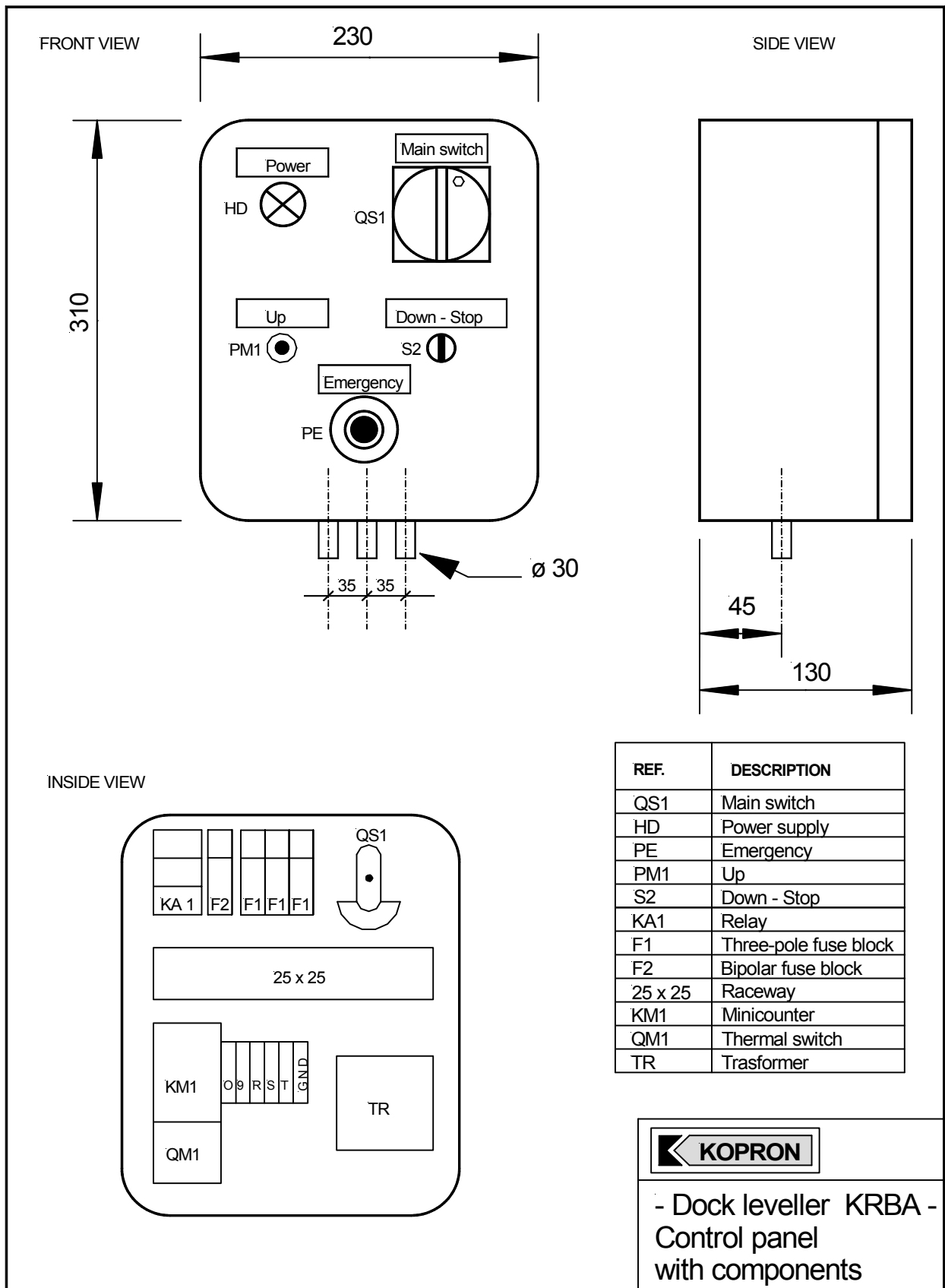


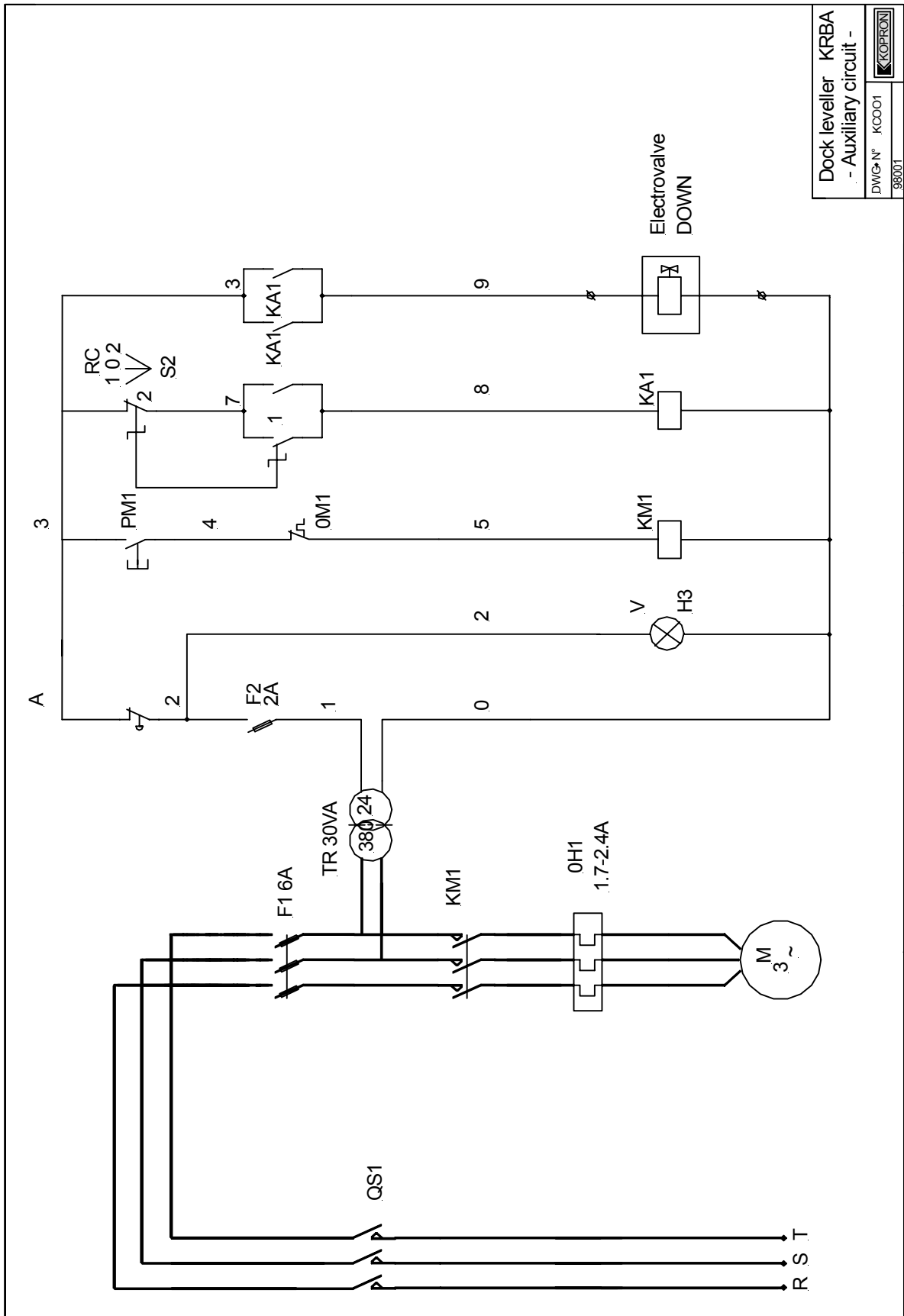
Components

Bore	Rod	Pos.	Part.	Mark	Type
60	40	1	Sliding ring	/	GHISA G25 UNI 5007
		2	Sliding ring	/	GHISA G25 UNI 5007
		3	Brass	/	GHISA G25 UNI 5007
		4	Gasket	POLYPAC	B = 255196
		5	Scaper ring	POLYPAC	WRM 196228



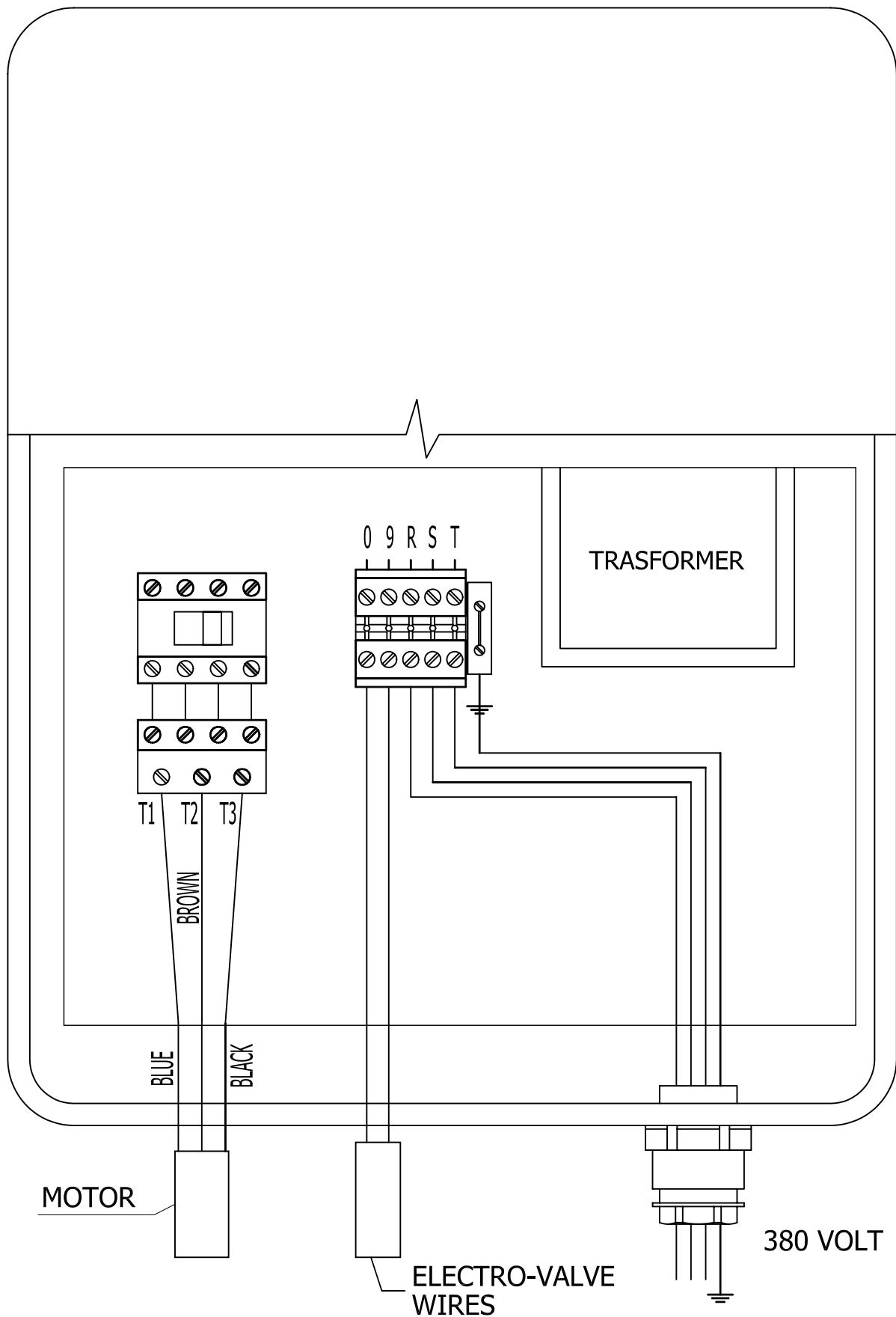
Dock Levellers
Mod. KRB - KRBA





Dock leveller KRBA
 - Auxiliary circuit -
 DWG-N° .KCO01
 98001

ELECTRIC WIRING CONTROL PANEL TO MOTOR



SECURITIES AND STANDARD EQUIPMENTS

- 1) By pushing the emergency red button, placed on the control panel, the ramp is stopped in any position.
- 2) All motions of the dock leveller is operated by differences of pressure and security valves, into the electro-hydraulic wiring(see above), that prevent working in irregular way, like load on upper plate during lifting, interferences with the lip during its extension.
- 3) The two sides of dock leveller are covered by steel galvanized sheets, as a security for feet, during ramp motions.
- 4) The cylinder for plate inclination, is provided with a parachute security valve, that operates and stops the descent when the speed is too high. The intervention of this valve, when a load, bigger than Kg. 2.000, is applied on the upper plate (if it is not placed over the truck loading surface), causes permanent deformations to the structure, that make the dock leveller no more usable.
- 5) The upper plate of dock leveller is standard provided with 4 hooks (that have to be removed for final use), to be used during installation for ramp unloading from truck, and for upper plate lifting, to be able to proceed with bottom frame ground fixation, and eventual future controls and maintenances (always by blocking the upper plate with the steel security hinged tube, placed inside the dock leveller.
- 6) The dock leveller is supplied with a pair of rubber bumpers, standard dim. mm. 300 x 80 x h. 100, to be fixed in front of the dock, as a stop position for that trucks, during bay approach.
- 7) On the two sides of the dock leveller adhesive strips are applied, with yellow/black inclined bands, as a warning signal for objects in motion.

LOADING / UNLOADING FROM TRUCK

As above indicated, dock levellers can be unloaded from the truck and put into the pit, only by using the provided 4 hooks, fixed on the upper plate.

For transport, that requires an “open” or “extendable” truck.

In case of dock levellers lifting with other systems, KOPRON S.p.a. cannot be responsible for any kind of damages that could arise.

MAINTENANCE

- 1) Cleaning (particularly hinges area) every 15 days.
- 2) Greasing of all hinges and pivots every 30 days.
- 3) Cleaning, greasing and adjustments of snap-in blocks of lip flaps (if provided) every 30 days.
- 4) Pit cleaning every 30 days.
- 5) Side steel protection galvanized sheets rotation and function control every 30 days.
- 6) Upper plate and lip cleaning every 30 days.
- 7) Oil level control into tank every 90 days.
- 8) Oil change every 12 / 15 months; necessary quantity Lt. 5 – type of oil : Li 22 (or similar)

WARNING: before any maintenance operation under the upper plate, be shure that it is well stopped, in elevated position, by the security steel rod.

WARRANTY

The warranty on dock levellers frame is valid for 1 year from delivery date.

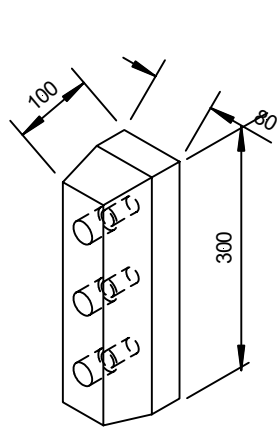
This warranty is related only to components with clear manufacturing defects; the components to be changed in that period of warranty have to be sent back, on customer charge, to KOPRON S.pa. plant for testing. New components will be available in the shortest time, and will be sent on customers charge to requested destination.

From this warranty, must be excluded any costs arising from delivery of these components, visit on yards for defective spare parts changes, and any other costs coming from non use period of ramp.

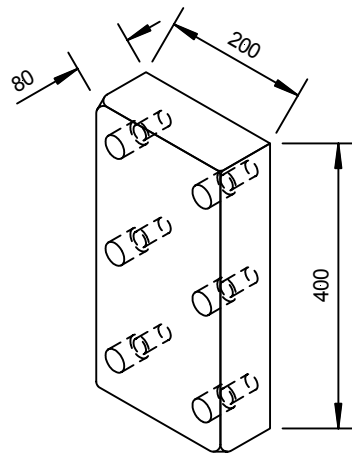
From this warranty are also excluded al material of normal obsolescence, like oil, gaskets, rubber components.

Eventual adjustments of oil pressure (valves settings) are excluded from this warranty.

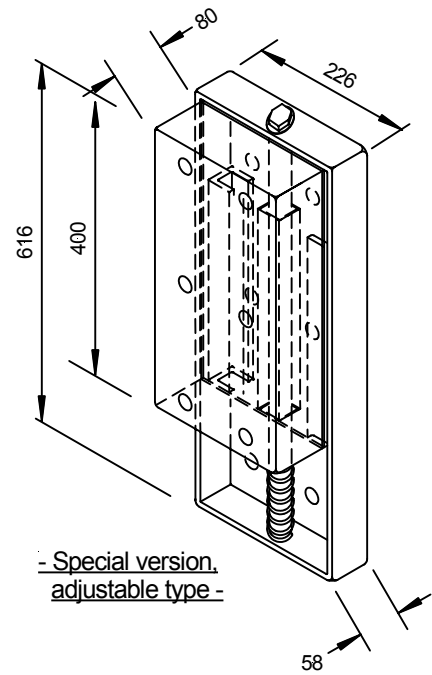
Any kind of modification on these warranty terms must be previously agreed in written form.



- Standard version -

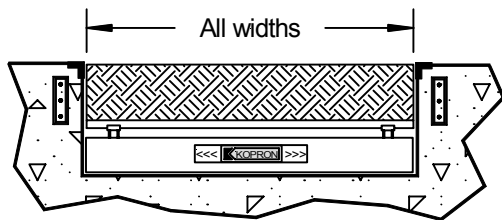


- Special version -

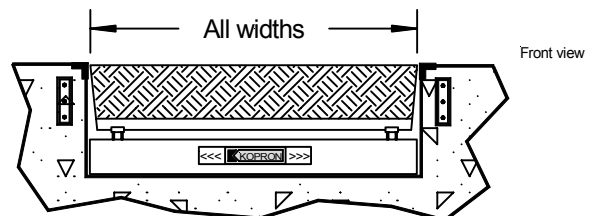


- Special version, adjustable type -

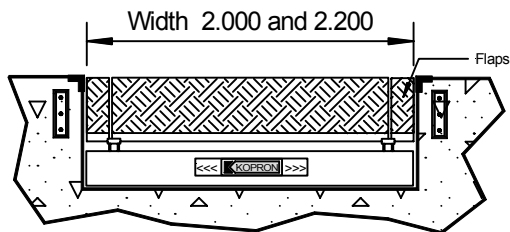
- Rubber bumpers -



Standard configuration



Tapered lip



Lip divided in three parts (with flaps)

- Front lip configurations -



Dock levellers - optionals -