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CL10390 70 LITRE PAN MIXER

OPERATING AND MAINTENANCE INSTRUCTIONS

Edition 1.52 March 2018

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DESCRIPTION

The **CIVILAB** CL10390 Pan Mixer is designed to mix laboratory concrete samples to the requirements of AS1012.2.9.2.

Consisting of a turntable with a removable pan and tilting paddle head it can be operated from 415 volts 10 amp power outlets.

There are two versions available, standard with all controls mounted on the side of the machine and an alternative with a remotely connected control box.

All aspects can be operated from an integral control box or alternatively a remote connection can be supplied with a 3m umbilical.

The mixer has built in safety features to inhibit the start of the paddle blades until the head has been lowered to a safe position. The same switch will automatically stop the machine should the head be lifted inadvertently.

There is a mechanical latch to arrest the head once it has been lifted to prevent the mixing head falling whilst the machine in being emptied or cleaned. There are two positions, one for loading and an uppermost position for cleaning or full access. The latch also operates a control switch which must be activated to enable operation of the lowering screw mechanism.

An optional pan trolley can be supplied which incorporates a small boom hoist to tilt the pan for emptying or washing out. The trolley has its own lifting mechanism to allow the pan to be removed and transported or to lift the whole machine for relocation.

INSTALLATION

The pan mixer should be located on a clear and level surface with sufficient access to enable thorough cleaning. All components of the CL10390 pan mixer are designed to conform to IP65 ratings and can be washed down after use.

If the mixer is supplied with the Pan Lifting Trolley accessory the floor should be clear of all obstructions to allow the trolley to roll easily when loaded.

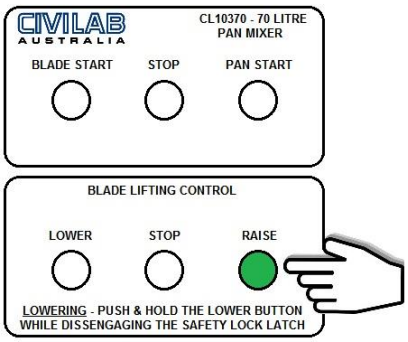
The mixer should be connected to a 415volt 10amp 3 phase outlet utilizing the cable supplied.

NOTE. Before operating the machine the direction of the lifting mechanism should be checked. The “DOWN” button should be pressed momentarily and the lifting tower should move UP. If this not be the case the polarity of the 3 phase connection will need to be changed by a qualified electrician. The most convenient place to make this change is by swapping the power supply to terminal 1 and 2 on Contactor No 1

The direction of the beater and pan will not be affected by the polarity of the mains supply. This is controlled through the programming of the inverter drives.

OPERATION

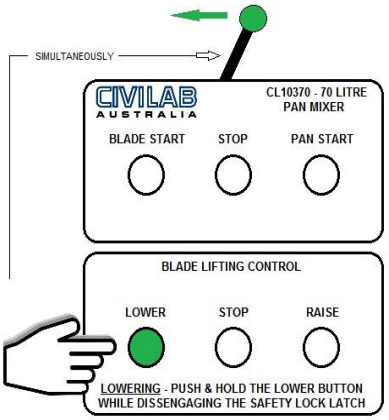
Raising the mixer head.



Press the “RAISE” button on the control panel. The head will continue to rise until the upper limit is reached. At this point the safety latch should engage which inhibits accidental lowering.

The raise operation can be stopped at any time by pressing the “Blade Lifting Control” “STOP” button.

Lowering the mixer head.



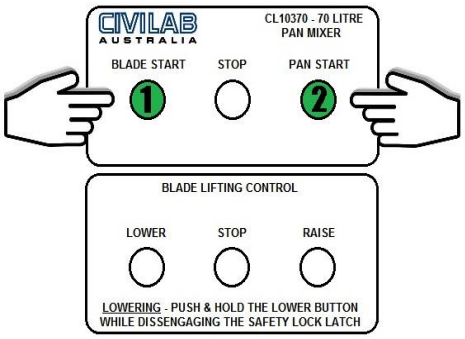
Press the “LOWER” button on the control panel and simultaneously push the Latch control arm forward. Hold both controls this way until the “Blade Start” light is illuminated. If the latch control fails to disengage press the “RAISE” button momentarily to remove the load from the latch mechanism until the handle is free to move.

Continue to press the “LOWER” button until the head is completely lowered and the tilt mechanism reaches the lower limit switch. This may occur more than 5 seconds after the blade start light turns on. The beater may continue to sit on top of the concrete mixture until the blades begin to rotate. Starting the blade will help the head continue to drop to the operating position.

Once the head is completely lowered the pan can now be started and will run at a jog speed while the start button is pressed. The pan will not continue to rotate when the start button is released until the blade is operating at more than 30% of full speed

STARTING THE MIXING PROCESS (STANDARD)

With the mixing head lowered and the Blade Start pilot light illuminated the mixing process can be started.



1. Press the blade start button and the paddles will begin to rotate. By default the head will take 10 seconds to reach full speed. This is factory set but can be altered if required. The paddle head must rotate anticlockwise.

2. Press the Pan Start button and the pan will begin to rotate in an anticlockwise direction. The timing of the pan start can be gauged to obtain the best starting performance of the mixing as the paddles may sit on top of the dry mix before starting and there may be a need for them to work their way to the bottom of the load before the pan is started.

NOTE: The pan can be jogged with the pan start button if required but will only run continuously once the blades have been started and reached more than 30% of maximum speed. This jog feature will be useful when unloading the pan with the pan trolley accessory.

The pan drive has a “soft start” feature which is factory set. This reduces sudden starting and shock loading of the pan drive. Soft Stop is also incorporated for the same reason. This can be awkward to control during jogging operations but may assist in certain circumstances. The settings for this feature can be adjusted if required. Please refer to page 5 of the manual.

STARTING THE MIXING PROCESS (VARIABLE SPEED)

With the mixing head lowered and the Blade Start pilot illuminated the mixing process can be started. This variable speed feature can be utilized to start mixing without causing excessive disturbance of the sample which may cause it to be thrown out of the pan.

In addition it is recommended to start this way which will allow controlled starting of the mixing process to avoid overloading the drive mechanism. Should the paddle drive overload the machine will automatically stop and require a complete reset. This is done by switching off the power at the mains and waiting for 30 seconds before restarting.

1. Turn the variable speed feature on with the toggle switch on the control panel. The automatic soft start feature will now be overridden by the variable speed control.

2. Press the blade start button and the paddles will begin to rotate. The speed of the blades can now be controlled by operating the variable speed control potentiometer on the control panel.

3. Press the Pan Start button and the pan will begin to rotate in an anticlockwise direction. The timing of the pan start can be gauged to obtain the best starting performance of the mixing as the paddles may sit on top of the dry mix before starting and there may be a need for them to work their way to the bottom of the load before the pan is started.

NOTE: The pan can be started or jogged but will not run continuously until the beater has reached 30% of the maximum beater speed.as controlled by the variable speed potentiometer.

STOPPING THE MIXING PROCESS

Press the main stop button on the control panel to stop the mixing process.

AN INTERNAL SAFETY SWITCH AND RELAY PREVENTS THE BLADES AND PAN FROM BEING STARTED WHEN THE HEAD IS LIFTED BEYOND THE SAFE OPERATING ANGLE.

THE MIXING HEAD CAN BE TILTED MANUALLY BY PHYSICALLY LIFTING IT FROM THE FRONT.

MAINTENANCE

EXTREME CARE MUST BE TAKEN WHEN CLEANING THE MIXER WITH A WATER HOSE. DO NOT LET WATER GO ONTO THE ELECTRICAL CONTROL BOX OR THE REAR LIFTING CONTROL SWITCHES IF AT ALL POSSIBLE.

The worm boxes to drive the pan, beaters and lift mechanism are factory filled with long life lubricant and sealed. They require no maintenance unless there are visible signs of leakage.

The Machine should be greased every 1 – 2 weeks depending on the usage. Grease nipples are provided in clear and appropriate positions.

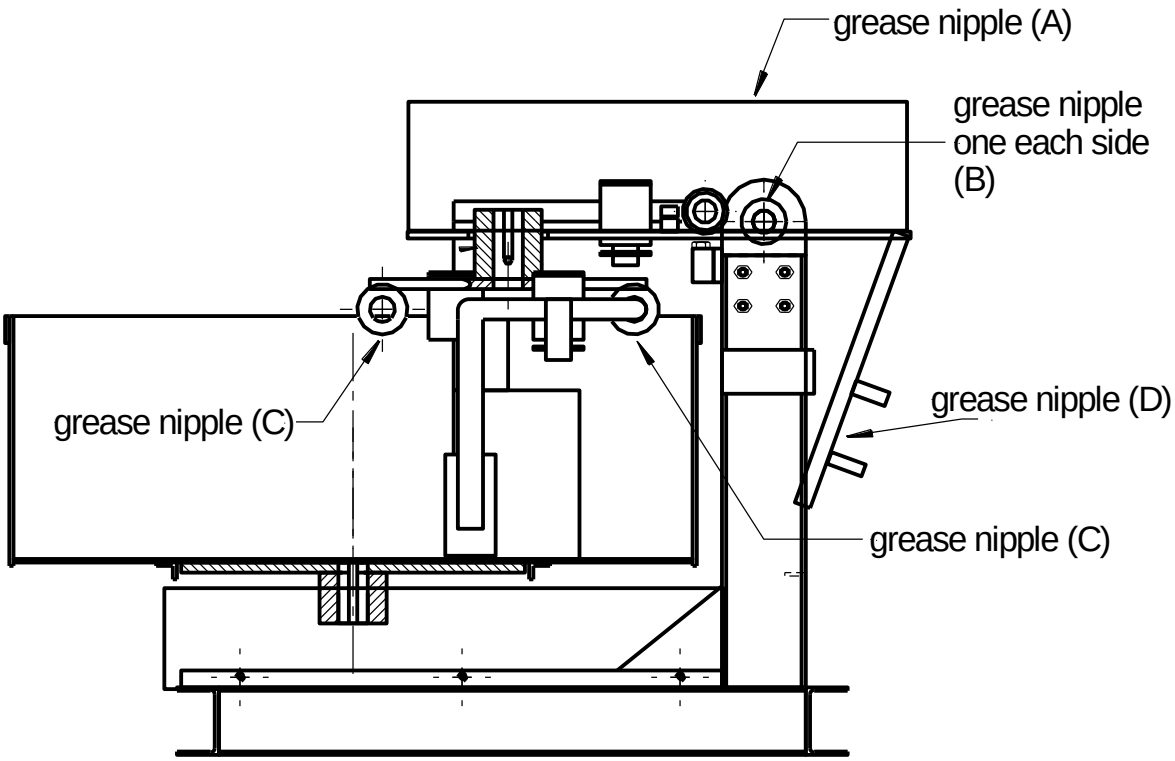
A. One nipple is located on the side of the top cover panel for the scraper arm.

B. Two nipples on top of the main pivot arm, one at each end.

C. Two nipples are located on the blade axles, one on each. These are accessible from the underside when the head is tilted to the fully up position.

D. One nipple for the lifting screw is mounted below the micro switches on the control arm. This should be greased with the head in the fully lowered position.

The latching mechanism is operated on a single pivot bolt which will take considerable forces if the mixing head is raised and holding on the pawl. The pivot bolt should be checked regularly for integrity as any failure of this component could allow the mixing head to collapse unexpectedly without warning.



Keep the machine clean by immediately removing all mortar residues after each use. Care must be taken when cleaning to avoid excess water around electrical switches and components.

The head of the machine can be adjusted for its lowest position by two bolts on the frame which can be easily accessed with the head tilted fully up. This is factory set to limit the head to a horizontal position, no attempt to adjust this setting should be made. All adjustment to the mixing blades should be made at the paddles and arms as per the following paragraphs.

The mixing blades are mounted on arms with clamp blocks and should be adjusted periodically to allow for wear.

Course adjustment should be made by sliding the blade along the pivoting arms. Fine adjustment or tilting the arm can be made with the adjustment bolts on the paddle head. The blades are spring loaded and come to rest on the adjustment bolts for normal use.

The Scraper blade is mounted on a spring-loaded arm and course vertical adjustment can be made by sliding the blade in the slots in the arm.

Fine adjustment with respect to the side of the bowl can be made by tilting the angle of the arm when the head is in the down position. The adjustment screw is mounted at the back of the arm and is accessible by removing the small guard beside the motor housing.

Pan Soft Start can be adjusted by modifying the inverter parameters. Please refer to the manufacturer for guidance on this feature.

PARAMETER SETTING LIST

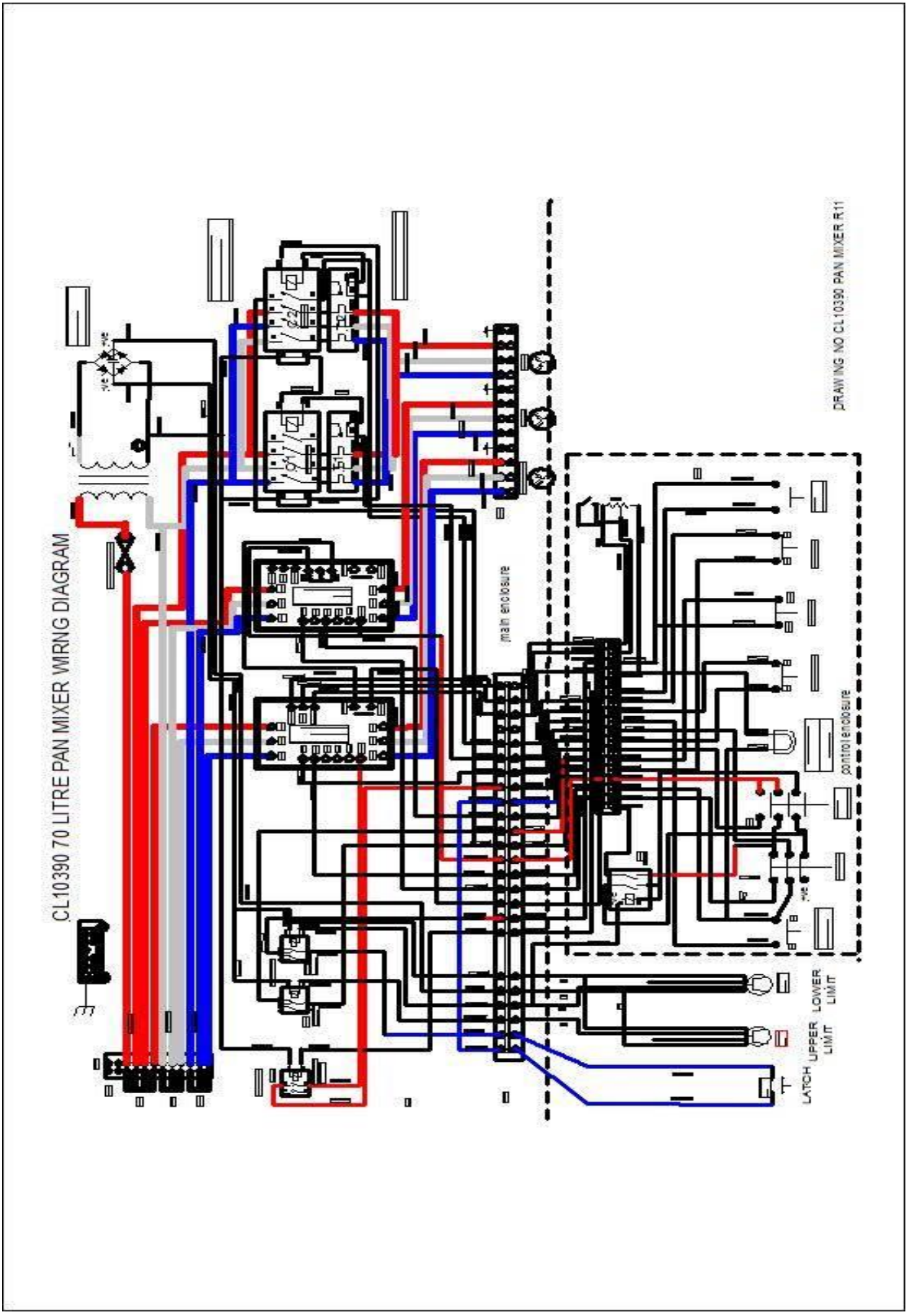
(NOTE; these parameters may change depending on the version of VSD fitted.)

CL10390 Pan Mixer
Parameter settings for inverter 1
Beater drive

0-00	1	3-14	0	6-03	10
0-01	440	3-15	0	6-04	20
0-02	6	3-16	0	6-05	30
0-03	1.5	3-17	0	6-06	40
0-04	1440	3-18	0	6-07	50
0-05	50	3-19	0	6-08	60
0-06	0	3-20	0	7-00	100
0-07	440	3-21	80	7-01	0
0-08	0	3-22	10	7-02	0
1-00	1	3-23	20	7-03	0
1-01	2	3-24	10	7-04	50
1-02	0	3-25	0	7-05	100
1-03	0	3-26	10	8-00	0
1-04	0	3-27	10	8-01	100
1-05	1	3-28	10	8-02	6
1-06	2	3-29	10	8-03	3
1-07	0	3-30	0	8-04	22.5
2-00	0	4-00	0	8-05	"2.00"
2-01	0.5	4-01	0	9-00	0
2-02	0	4-02	0	9-01	200
2-03	0	4-03	0	9-02	0
2-04	0	4-04	1800	9-03	200
2-05	1	4-05	0	9-04	0
2-06	0	4-06	0	9-05	200
2-07	0	5-00	0	9-06	0
2-08	0	5-01	1	9-07	3
3-00	50	5-02	2	9-08	0
3-01	10	5-03	3	9-09	1
3-02	5	5-04	4	9-10	0
3-03	0.5	5-05	18	9-11	0
3-04	0.2	5-06	23	9-12	0
3-05	0.2	5-07	5	9-13	0
3-06	10	5-08	0	9-14	160
3-07	10	5-09	0	9-15	0.1
3-08	0.5	5-10	1	10-0	
3-09	0.5	5-11	0	10-1	
3-10	1	5-12	20	10-2	
3-11	5	6-00	50	10-3	
3-12	0.5	6-01	2	10-4	
3-13	0	6-02	5	10-5	

CL10390 Pan Mixer
Parameter settings for inverter 2
Pan drive

0-00	1	3-14	0	6-03	10
0-01	440	3-15	0	6-04	20
0-02	6	3-16	0	6-05	30
0-03	1.5	3-17	0	6-06	40
0-04	1440	3-18	0	6-07	50
0-05	50	3-19	0	6-08	60
0-06	0	3-20	0	7-00	100
0-07	440	3-21	80	7-01	0
0-08	0	3-22	10	7-02	0
1-00	1	3-23	20	7-03	0
1-01	0	3-24	10	7-04	50
1-02	1	3-25	0	7-05	100
1-03	0	3-26	10	8-00	0
1-04	0	3-27	10	8-01	100
1-05	1	3-28	10	8-02	0
1-06	3	3-29	10	8-03	0
1-07	0	3-30	0	8-04	10
2-00	0	4-00	0	8-05	"2.00"
2-01	0.5	4-01	0	9-00	0
2-02	0	4-02	0	9-01	200
2-03	0	4-03	0	9-02	0
2-04	0	4-04	1800	9-03	200
2-05	1	4-05	0	9-04	0
2-06	0	4-06	0	9-05	200
2-07	0	5-00	0	9-06	0
2-08	0	5-01	1	9-07	3
3-00	50	5-02	2	9-08	0
3-01	0	5-03	40	9-09	1
3-02	3	5-04	4	9-10	0
3-03	0.5	5-05	18	9-11	0
3-04	0.2	5-06	23	9-12	0
3-05	0.2	5-07	5	9-13	0
3-06	10	5-08	0	9-14	160
3-07	10	5-09	0	9-15	0.1
3-08	0.5	5-10	1	10-0	
3-09	0.5	5-11	0	10-1	
3-10	1	5-12	20	10-2	
3-11	5	6-00	40	10-3	
3-12	0.5	6-01	15	10-4	
3-13	0	6-02	20	10-5	


CL10390 70 LITRE PAN MIXER WIRNG DIAGRAM
DRAWING NO CL10390 PAN MIXER R11
main enclosure
control enclosure
LATCH
UPPER LIMIT
LOWER LIMIT