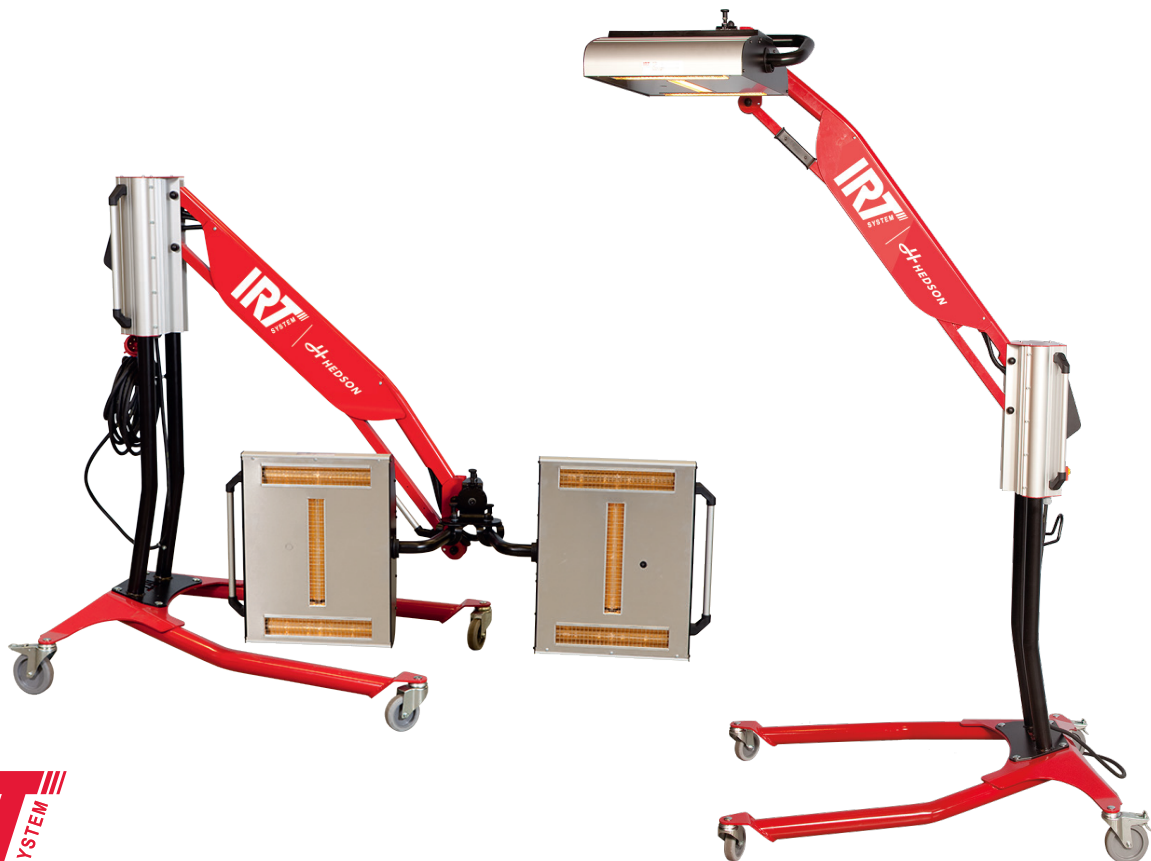


EN Operation Manual (original language)

IRT Dryer Siemens Leading Edge Protection



IRT
SYSTEM

The logo for HEDSON, featuring a stylized blue and red 'H' symbol followed by the word 'HEDSON' in a bold, blue, sans-serif font.

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1. Safety instructions

1.1 Operator's duty of care

The IRT Siemens Leading Edge Protection Dryer is designed and built after a hazard assessment was considered and following careful selection of the required harmonized standards as well as additional technical specifications. It corresponds to the current state of technology and guarantees the highest safety level.

However, this safety level can only be reached during practical operation, when all the required measures have been implemented. Due diligence is required on the part of the platform operator, to plan these measures and ensure their implementation.

In particular, the operator must always ensure that:

- the dryer is only used for the intended purpose.
- the dryer is only to be used in a fully functional and fault-free state and it is to be checked regularly for operational functionality with special attention paid to the safety equipment.
- persons are prevented from entering the hazardous area (space under the IR platform). Maintenance work is excepted.
- the operating instructions must always be fully legible and available at the dryer operational site.
- the dryer is only used by individuals who have read and understood the operating manual.
- only adequately qualified and authorized personnel are allowed to operate, maintain or repair the dryer.
- none of the safety and warning labels on the dryer are to be removed and all of them must always be legible.
- the personnel are to be regularly instructed in all relevant questions regarding work safety, environmental protection and the operating manual and especially the safety instructions contained therein.
- the heater platform must be lowered into its start position after you have finished working with it.

1.2 Task of the operator

Certain measures are included in the Industrial Safety Regulations for operators using working equipment in hazardous areas.

The operator must conduct a risk assessment of the area in which the working equipment (working platform) is to be deployed. The hazardous situations that can be caused when using the working equipment in conjunction with the working materials and the working environment should be recognized and addressed.

The operator must implement the required measures and select the equipment which is appropriate for the given workplace conditions and which, if used for its intended purpose, offer the necessary protection as regards health and safety.

The operator must apply national directives and standards when conducting the risk assessment and choosing the appropriate equipment.

1.3 Basic safety measures

The IRT Siemens Leading Edge Protection Dryer must not be exposed to paint fog, sanding dust or solvents, due to

fire hazard. Furthermore, this will reduce the lifetime of the dryer. Allow for sufficient cooling time of the dryer.

The distance to the object that is to be dried must be sufficient. Otherwise there is risk for fire or explosion!

Keep all flammable materials in a sufficient distance from the hot surfaces of the dryer.

- The dryer is only to be moved when the platform is completely lowered (see 1.4 Hazards).
- Nobody and no objects are to be on the mobile dryer whilst it is being moved.
- The dryer must always be monitored by the operator for the entire duration of the moving, lifting or lowering process.
- Parts such as the hoses or air bellows must be protected from damage when working in conditions where high heat is generated (welding, grinding, etc.).

Abiding by the following regulations is particularly emphasized:

- The instructions in the operating manual must be followed whenever the dryer is operated.
- Independent operation is only to be undertaken by a person who is older than 18 and has been trained in the operation of the dryer.
- The dryer is only to be moved when it is in the start position (completely lowered) and without anybody or any load on it.
- Ensure stability and keep sufficient distance from objects, walls and ceilings! The maximum permissible gradient is 2.5% (1/40, corresponding to 2.5 cm per 100 cm).
- The dryer must be monitored by the operator during the entire lifting or lowering process.
- Nobody is to stand under the load lifting handling attachments or in the pivot area of the scissors.
- This dryer is for indoor use only. Outdoor installation is not allowed!
- The dryer must be inspected by a specialist after any modifications have been made to the structure and after maintenance has been carried out on the load-bearing parts. Modifications and repairs must be recorded in the master data sheet.
- Climbing on the dryer is prohibited.
- The dryer must not be used as a hoist or a crane.

1.4 Hazards

Tilting

The risks for tilting increases when the platform is in elevated position do not transport the mobile dryer unless its platform is lowered completely. Small adjustments in length and sideways can be made in elevated positions to get the green lights from the distance indicators. All movements of the IRT Siemens Leading Edge Protection Dryer are to be made with help of the four handle bars one at each corner at the base. No adjustments or movement of the dryer are to be made by applying force to the scissor/lifting part of the mobile dryer or frame with the IR heaters mounted on the lifting platform.

Fire and explosion.

Do not store, prepare or use solvent-containing materials within a 5 m/16 feet radius of the mobile dryer. Flammable materials should not be placed close to a drying device in use.

If you have a distance less than 60 cm/2 feet to the object the temperature might raise quickly and the risk for fire increases. Never direct the cassette towards highly combustible materials.

Electrical equipment

The dryer is operated with high electrical voltage, which can be highly dangerous.

Before accessing live parts, remove the main connector from the wall socket. Only professional electricians may have direct access to the electrical components.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.



WARNING !

Intensive heat radiation. Hands, face and other parts of the body should be exposed as little as possible to the heat radiation.

Optical Radiation emission

Category 2 (EN12198)



Siemens Leading Edge Protection Dryer emits Optical Radiation in form of Infrared light. Avoid looking directly into the IR lamps, risk of eye damage. Use IR-protection glasses.

1.5 Operating personnel requirements

The working platform may only be operated by personnel who have been trained and instructed accordingly or have been authorized to do so. The personnel must know the operating manual and act according to it.

The respective levels of authority of the operating personnel must be clearly defined.

Moreover, specific qualifications are required for some activities; see appendix 1, Manual 761-054_PNTS-77 chapter 6.4.

2. Intended use of the product

This product serves exclusively to accelerate the drying/curing of Siemens Leading Edge Protection. Its site of use is the preparation area and finishing area. The product must not be used for other purposes than the described drying process. The maximum ambient temperature during operation should not exceed 30°C. The IRT Siemens Leading Edge Protection Dryer must not be used within a distance of 5 m from spraying activities in order to avoid explosion risk. No people are allowed to be present beneath the platform during the operation. Working under the raised working platform and during its lifting and lowering movements is not permitted.

3. Product description

The IRT Siemens Leading Edge Protection Dryer is a maneuverable infrared dryer.

The infrared drying system is equipped with nine IRT SingleHeaters in a frame mounted on a Herkules pneumatic lift. Each IRT SingleHeater is equipped with one infrared (IR) lamp and has a gold-coated reflector. IR lamps are easily exchangeable and the reflectors are protected against mechanical damage by a mesh. The design combined with the possibility to linear lifting and lowering, enables ergonomically drying at various heights from 850 mm to 2650 mm. The lifting and lowering of the IR platform works solely with compressed air. The roller system enables the dryer to be positioned precisely and the integrated brakes stop it from rolling any further and this increases the overall safety. Operation of the IRT Siemens Leading Edge Protection dryer is controlled by an integrated control unit.

3.1 Particular advantages

3.1.1 Higher quality

The short-wave IR curing enables the coating to be cured from the inside outwards. This prevents solvents to be trapped inside the coating and ensures a fast and high quality curing.

3.1.2 Regulated temperature

The dryer has a pyrometer which carefully controls temperature of the object. The computer does not only measure the maximum allowed temperature but also the temperature raise. It ensures that the programmed drying/curing temperature is maintained, thereby achieving optimum curing, without risk for "over burning".

3.1.3 Hi-tech shape of reflectors with short wave IR

By using short-wave technology and gold-coated reflectors with a high tech shape, important advantages are achieved. Firstly, by radiating only the needed areas and not heating any air, a lower energy consumption is achieved. Secondly, a more uniform surface temperature is obtained by distributing the energy evenly. Thirdly, a larger drying surface is achieved. Fourthly, less radiation outside the curing area.

3.2 Technical data IR heating system

All dryers emit short-wave IR-radiation with a peak at 1120 nm.

Voltage	380-420V 3~PE
Frequency	50-60 Hz
Current	40 A
Power	27 kW
Fuse**	60 A
Amb. temp.	Max. 30°C
Noise level	<70 dB (A)

* MCB (Minature Circuit Breaker) type C or D. Normal fuse type slow.

** The dryer shall be operated with the recommended fuse rating. Weights and dimensions, see 17.

4. Instructions to the owner

The owner of the dryer must produce clear operating instructions, adapted to local site conditions, and make these available to all users who have to observe these operating instructions.

This dryer is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the dryer by a person responsible for their safety.

No additional equipment is to be attached to the dryer. Dispose of used items at the nearest environmental protection facility for recycling.

For safety reasons the infrared dryer must be supplied by recommended maximum fuse, see table in chapter 3.2.

5. Assembly instruction

The IRT Siemens Leading Edge Protection Dryer is delivered fully assembled and need only air and electricity to work but when installing the dryer it is imperative that the following safety instructions are always observed - it helps prevent life-threatening injuries, damage to the machine and other property.

Only qualified persons heeding the safety instructions are permitted to carry out the installation work.

- The dryer must be examined for any possible transport damage before starting the installation work.
- Ensure that only authorized persons are in the working area and that no other persons are at risk due to the installation works.
- All machine connections (hoses) must be laid so that there is no risk of tripping over them.
- Also read the General Safety Instructions chapter.
- Unauthorized tampering invalidates the guarantee.

5.1 Environmental installation conditions

Siemens Leading Edge Protection Dryer is only suitable for use in enclosed, dry and covered premises.

Ensure that there is sufficient space away from objects, walls and ceilings before installation.

It is important to ensure that the minimum distances (according to the relevant national regulations and workplace regulations) to the hall walls or other equipment, escape routes, etc. are kept to ensure safe working.

The floor should be flat with a maximum gradient of 2.5% (1/40, i.e., 2.5 cm per 100 cm) and the load capacity of the floor must be able to bear the permissible total weight of the dryer. The operator of the dryer is responsible for selecting a suitable installation site.

The dryer is only to be used at sites with temperatures ranging from 10°C to 50°C.

An adequately sized compressed air connection (hose 1/2", Pmax = 8 bar) must be provided.

Use dehumidified, non-lubricated compressed air only. A filter regulator must only be installed in the air supply line (air filter and water separator).

6. Basic instruction for operation

Move the dryer to the site where you want to use it. This can only be done from the shorter side of the undercarriage with help of a fork lift or by pushing or pulling in the four handlebars one at each corner of the mobile dryer. For manual movement it is recommended to be at least two persons to maintain safe and ergonomic work.

The dryer is only to be moved when it is in the start position (completely lowered) and without anybody or any load on it.

Small adjustments length and sideways can be made in elevated positions to get the green lights from the distance indicators. All movements of the IRT Siemens Leading Edge Protection Dryer are to be made with help of the four handle bars one at each corner at the base. No adjustments or movement of the dryer are to be made by applying force to the scissor/lifting part of the mobile dryer or frame with the IR heaters mounted on the lifting platform.

Stop the undercarriage from moving by locking the brakes on the four rollers. Check that the brakes are working!

Watch your step carefully and keep a safe distance from other objects, escape routes, walls and ceilings.

The maximum permissible gradient is 2.5% (1/40, corresponding to 2.5 cm per 100 cm).

Use a coupling connector to connect to the line's quick-release coupling (Pmax = 8 bar/on-site supply). The coupling must lock into place!

The dryer has an **EMERGENCY-RELEASE switch**. The platform can be lowered by a person standing next to the platform in the case of a control valve failure. In this case, the emergency release switch must be held pressed down until the start position is reached.

Proceed as follows to lift the IR platform:

Open the shut-off valve on the hand lever valve. Press the hand lever valve upwards and hold it until there until the required lifting height or the end position is reached. Take note of the hazardous areas whenever possible.

Releasing the hand lever valve automatically returns the valve back to the 0 position and the lifting process is terminated immediately. The lifting process stops automatically when the maximum lifting height is reached.

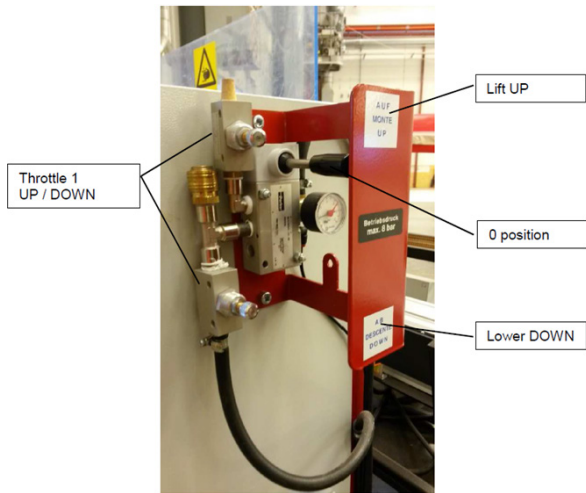
Proceed as follows to lower the IR platform:

Check the hazardous area to make sure no persons or objects are in the dryer's working area.

Press the hand lever valve downward and hold it there until the start position is reached or the lowering process is automatically terminated. Take note of the hazardous areas whenever possible.

Releasing the hand lever valve automatically returns the valve back to the 0 position and the lowering process is terminated immediately.

Close the shut-off valve on the hand lever valve before leaving.



Tips: When starting in the lowest position, the lift can jump a small distance; fine tuning of height is done instead by lowering the lift to the right position

6.1 Start up

Carry out the following functional checks before use:

- Ensure that no persons or objects are in the working area of the dryer.
- Ensure that the compressed air supply and electricity is available.
- Shift the switch lever on the pneumatic control panel to the lift-UP position until the IR platform reaches the upper stop position.
- Shift the switch lever on the pneumatic control panel to the lower-DOWN position until the IR platform reaches the lower stop position.
- Repeat the lifting and lowering movements several times.

Also, see Chapter 1 Safety Instructions.

6.2 Compressed air connection

Use a coupling connector to connect up to the line's quick-release coupling (R 1/2" on-site supply). The coupling must lock into place!

Use dehumidified, non-lubricated compressed air only.

Connect the air supply line before starting work and disconnect again after leaving the working platform.

A filter regulator must be installed in the air supply line (air filter and water separator).

6.3 Operation of the IR lamps

Control panel

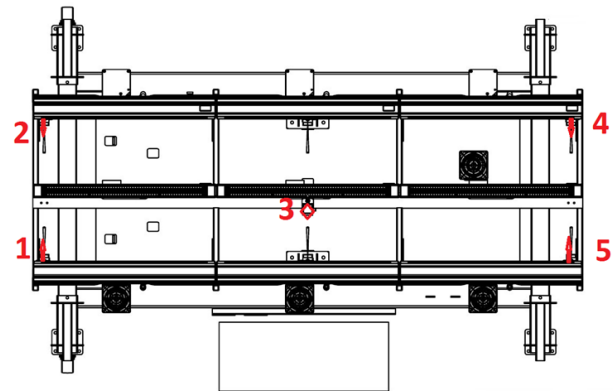


1. The lights turn green when the correct distance is obtained between IR lamps and object. This distance must be checked before the IR lights turned on. During operation with IR lamps, these lights may blink because

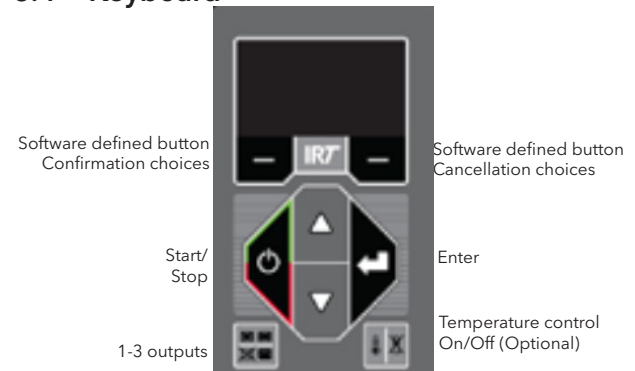
of distance sensors are disturbed by the infrared light. Note the lights are only an aid to find the right position towards the object it is possible to start the IR lamps although the lights are not green.

2. Start of the fully automatic IR program. Infrared lamps turn off automatically after the drying period ends.
3. Infrared lamps, manual stop of process.
4. Indicator light that indicates that a process failure occurred. The alarm only stops the actual zone that has the failure. See also Appendix 1.
5. Emergency stop IR lamps.
6. For daily use are not needed three touch control panels used. See Chapter 6.4 to 9 for the setting of the control system and temperatures.

Distance sensor and zone location

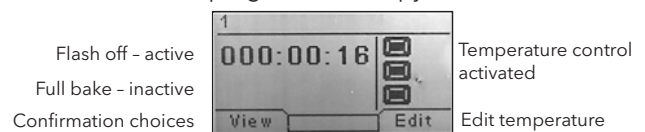


6.4 Keyboard

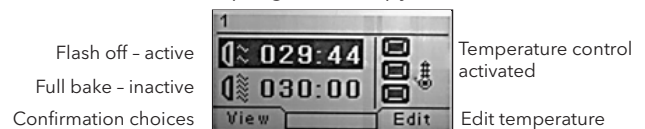


6.5 Display

Active program without pyrometer

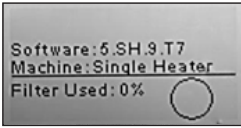


Active program with pyrometer



6.6 Program mode

This mode is for your everyday use. It helps you run the dryer with pre-installed programs and edit program settings.



To enter the program mode, turn the main switch on

When you start the dryer, an information screen will appear for two seconds. By pressing the confirmation or cancellation button this information will show until released. The diagram shows cassette filter usage and notifies when it's time to change filter. To replace filter, see chapter 10.

6.7 Settings mode

The Settings mode enables you to change advanced system parameters. Thanks to our advanced control system in this dryer, there are many settings that can be altered. This is normally not a part of the everyday usage.

To enter the settings mode, press both arrow keys when you turn the main switch to position 1.

Read chapter 9 for more information.

6.8 Program interruption

To stop the heating before the automatic end of the program (Continues mode off), press the Start/Stop button. If external Start/Stop, press the external Start/stop button.

Note! For the IR lamps to cool down and thereby last longer, the fans continue to go and turn off automatically with 3 minutes delay.

6.9 Temperature switches

There is a temperature sensor on the circuit board which you can read in °C or °F depending on your settings.

There is a temperature switch on each cassette and if it's tripped the display will show the value 500.

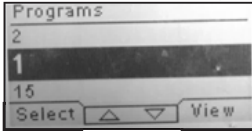
6.10 Edit settings during process

To edit power level or temperature press **Edit** and password, arrow up/down then press **Save**.

7. Program Mode - General rules for navigation in the software

- The display shows software defined options in the bottom corner fields.
- To adjust the values, use the **arrow keys**.
- To move to previous display without saving, press **cancel**.

7.1 Basic navigation

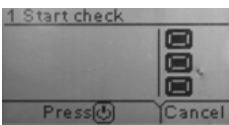


There are 15 predefined programs. All 15 programs have editable positions, names and drying parameters.

Scroll up or down using the **arrow keys**, press **select** to run the program or **view** to edit.

7.2 Run

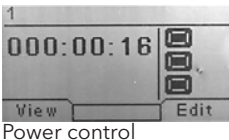
7.2.1 Start check



Stop or cancel returns to 7.1.

Use the cassette selection button on the keyboard to alter between one, two or three active cassettes. Use the temperature control button to turn on/off the temp. control (only possible **on** when temp. control is included in the unit), see 8.1. **Optional:** The distance is indicated on the display as numbers or by the texts "Too Close", "Too Far" or "Correct" (only appears when start on Keypads). If measuring fails "Check distance manually" appears.

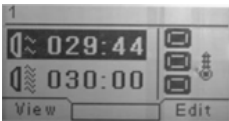
7.2.2 Start drying



Power control

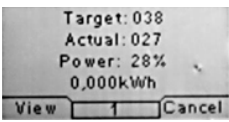
Press **start** to begin the drying sequence. **Power control**, continues mode on: the time will start counting.

Temperature control, continues mode off: the remaining time of the flash off will start counting down. When the flash off is finished, the program automatically changes to full bake mode.



Temperature control

7.2.3 Program values



Press **view** and the screen shows the values for power (0-100 % of machine capacity) and energy consumption of current drying process. When the unit is temperature controlled: both a target and an actual value is given.

Note! An inactive temperature control does not show temperature values. Press **view** again and total energy consumption per drying process is shown for the last 10 runs.



7.2.4 Drying complete

When flash off and full bake times have expired the software returns to 7.1.

Note! To extend the lifetime of the lamps, the ventilators will continue to run for cooling. After three minutes they turn off automatically.

Note! When the drying program is completed, the temperature control will automatically reactivate (if included in the unit).

7.2.5 Alarm functions

There are five possible types of alarm:

1. Cassette Temperature Alarm

If a temperature switch is triggered in a cassette the drying operation will be terminated and there will be an alarm. In the display there will be a warning message stating that the temperature in the cassette is too high. A value of 500 is also showing beside the cassette where the switch is triggered. If this happens; Check fans, filters, hoses and

ambient temperature. Reset by pressing on the indicated reset button on the display.

2. Box Temperature Alarm

When the temperature exceeds 70°C at the circuit board this alarm will show in the display after the drying operation is finished. If this happens check the cooling system of the control unit (fan, filter or ambient temperature).

3. Paint Temperature Alarm

Also called Process alarm, see 8.2. Option if pyrometer is used.

4. Filter Alarm

When the maximum operation time for the filter is reached, there will be a warning message stating this. The default time is 400 hours, to change this see 9.4.11. To reset the alarm, see 9.4.18.

5. Phase Alarm

There are two possible sources:

1. Disturbance in main electrical supply:

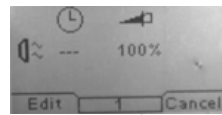
Check incoming electrical supply all phases.

2. Internal fuse tripped:

Check fuses and reset if tripped, see 11. To reset the alarm press **reset** indicated on the display or restart the dryer.

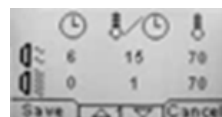
7.3 Edit

7.3.1 Properties



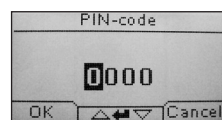
Power control

The values of the chosen program will show on the display. Press **Temperature control** to switch between properties with and without temperature control. A change in either property is independent of the other one. See 8.1.

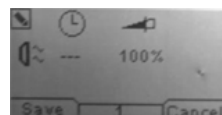


Temperature control

7.3.2 PIN Code



Use the arrow keys to set the correct digit. Press **enter** to confirm and to edit the second, third and fourth digit of the advanced PIN code. **Note!** An entered PIN code is valid for all entries until the main switch is turned off. See 8.2 for advanced PIN code.



Power control

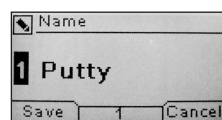
7.3.3 Edit program parameters

When marked, change the value of the parameters with the arrow keys. Press **enter** to change the next value and so on. Pressing **enter** for the last value directs the user to editing of program position and name. Press **cancel** to exit without saving any parameters. It is also possible to change final temperature and power level when the unit has been started. Press **edit** and change value, then **save**.



Temperature control

7.3.4 Edit program position/name



When marked, change the program number with the arrow keys. Press **enter** to confirm and to edit the next symbol.

Note! Changing the number will also change the program position in the program list.

8. Extended usage information

8.1 Temperature control (OPTION)

The dryer is equipped with an automatic temperature control. This enables optimum drying/curing results within the shortest possible time.

The properties when the temperature control is on are:

- minutes
- temperature increase/minute
- max allowed temperature



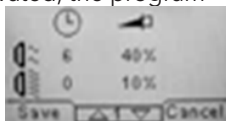
The temperature control (pyrometer) measures the average temperature over a surface. The laser pointer indicates where the distance check is made. This pointer is close to being in the centre of the temperature measurement also.

In settings mode, the short and long limit for a "correct" distance measurement can be adjusted. Default correct distance is between 55 and 65 cm.

Note! The temperature is measured as an average of the measured surface (default diameter value 30 cm, other optics are available). Make sure to have the measuring surface placed correctly. Make sure that you don't measure the temperature on glass, tyres or outside the object. Otherwise, the result between the programmed temperature values and actual values may differ. This may lead to unsatisfactory results and if the process alarm is activated it will stop the drying/curing.

With the temperature control deactivated, the program properties are:

- minutes
- percent power of max possible



The program settings with or without the temperature control activated are working independently of each other.

8.2 Process alarms (OPTION)

To notice temperature deviations, the dryer is equipped with a process alarm. If the difference between the current temperature and the requested temperature is more than 30°C (adjustable, see 9.4.28), the message "Warning! Process error" appears in the display and the dryer switches off automatically. This warning has to be acknowledged by pressing **enter**. By doing this, the program is terminated. In case of process alarm, check if the temperature measuring device (pyrometer) is aligned correctly on the surface to be dried and that it is not registering unwanted material temperatures.

Attention! The process alarm function is not activated when dryer is delivered.

Please see chapter 9.4.3 for activating.

8.3 External start and stop

There is an input in this SingleHeater Control Unit to enable a remote start and stop of the drying process. This function can be integrated in the overhead process. When the remote start contact is closed, the drying process will automatically start according to the pre-set program (1-15). It will then stop when the remote start contact is open. See electrical drawings chapter 12.

9. Settings Mode

9.1 Log In

To enter the settings mode you first have to "log in". Press both arrow keys as you turn the main switch on. The display will ask you for a PIN code.

9.2 PIN code

Use the arrow keys to fill in the correct digit. Press **enter** to confirm and edit the second, third, and fourth digit of the code.

No code is required for basic settings, just press **OK** for the default code of 0000. To change this code, read chapter 9.4.6.

Advanced PIN code

5780

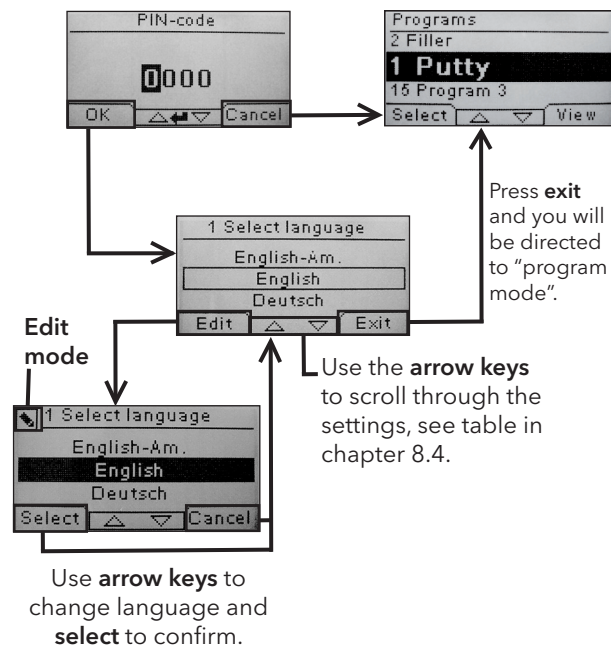
Used for program adjustments and advanced settings. To change this code, read chapter 9.4.14.

Attention! An entered PIN code is valid globally in the software until the main switch is turned off, i.e. if you enter advanced settings mode and then exit to program mode. The program editing will still be editable until the main power is turned off.

9.3 Navigation

To adjust a setting, press **edit**. To go back from edit mode to settings mode without saving, press **cancel**.

Note! If you press **exit** from settings mode you will be re-directed to program mode. You will then need to repeat from step 9.1 Log In to enter 9.4 Settings again.



9.4 Settings

Ch.	Overview	available in	
		Basic	Advanced
9.4.1	1 Select Language		x
9.4.2	2 Power Mode		x
9.4.3	3 Process Alarm		x
9.4.4	4 Temp Unit		x
9.4.5	5 Buzzer	x	x
9.4.6	7 Basic PIN Code		x
9.4.7	8 Short Dist lim.		x
9.4.8	9 Long Dist lim.		x
9.4.9	15 Temperature Ctrl		x
9.4.10	16 Disp. Contrast	x	x
9.4.11	23 Filter Time		x
9.4.12	25 Demo Mode		x
9.4.13	27 Dist Meas		x
9.4.14	36 Advanced PIN Code		x
9.4.15	37 Dist Unit		x
9.4.16	43 Advanced Code		x
9.4.17	44 Reset Prog. Settings		x
9.4.18	45 Reset Filter Timer		x
9.4.19	46 Statistics	x	x
9.4.20	47 Perform Self test	x	x
9.4.21	49 Power Rating 1		x
9.4.22	50 Power Rating 2		x
9.4.23	51 Power Rating 3		x
9.4.24	52 Puro Regulator P		x
9.4.25	53 Pyro Regulator I		x
9.4.26	54 Output 2 Scale		x
9.4.27	55 Output 3 Scale		x
9.4.28	56 Proc. Alarm temp.		x
9.4.29	57 Continuous Mode		x

9.4.1 1 Select Language

Use the up and down **arrow keys** to scroll through the fourteen different languages (arranged alphabetically) until the correct language appears. Press **select** to confirm.

If you accidentally switch to a language that you don't understand, turn the main switch on while pressing the "cassette in use" button. The dryer will then start up with British English.

9.4.2 2 Power Mode

The dryer is supplied from factory with "low" temperature settings for new users, which means that the pre-installed programmes are moderate set.

Note! The program settings that you changed/added in program mode are only available in the low or high program mode where they were changed/added.

9.4.3 3 Process Alarm

Use the up and down **arrow keys** to set whether the alarm is active or not. Press **select** to confirm.

9.4.4 4 Temp. Unit

°C and °F appear on the screen. Use the up and down **arrow keys** to select the correct temperature unit. Press **select** to confirm.

9.4.5 5 Buzzer

The sound effects can be muted/activated by using the **arrow keys** to select no/yes. Press **select** to confirm.

9.4.6 7 Basic PIN Code

You can change the PIN code to prevent unauthorized access to the basic setting as described in table in chapter 9.4. To do this, use the up and down **arrow keys** to change the first digit, press **select** to confirm. Continue with the second, third and fourth digit. When completed press **select** to confirm the new four-digit PIN code.

9.4.7 8 Short Distance Limit (OPTION)

The original settings for the correct short distance limit is 55 cm. You can change the value for the short distance limit from 35 to 95 cm. Settings higher than 80 cm are not recommended. Press **select** to confirm.

9.4.8 9 Long Distance Limit

The original settings for the correct long distance limit is 65 cm. You can change the value for the long distance limit from 40 to 130 cm. Settings higher than 100 cm are not recommended. Press **select** to confirm.

9.4.9 15 Temperature Control (OPTION)

You can choose if you want to turn the temperature control (pyrometer) on or off permanently.

Note! If you turn the temperature control off in settings mode you cannot activate it in program mode.

Temperature graphs and values will not be accessible when this feature is turned off. Instead the software will work with power levels, that is percentage of maximum capacity.

9.4.10 16 Disp. Contrast

You can change the contrast of the display on a scale from light to dark (25-75). Scroll between the values with the up and down **arrow keys** and press **select** to confirm.

9.4.11 23 Filter Time

The default value is 400 working hours. After this time, the filter replacement warning is displayed for filter change. To deactivate the filter time, select 0hr. (from version 5.SH.*).

If the dryer is placed in a dusty environment, it is recommended to change filters more frequently.

Note! Keep in mind that if the filter is too dirty, the lamp service life will be reduced as a result of impaired cooling.

To reset, see 9.4.17.

9.4.12 25 Demo mode

The demo mode is for sales demo purposes.

9.4.13 Dist Meas

Enable or disable distance measuring for units with distance sensor.

9.4.14 36 Advanced Pin code

To change the code to your personal choice, use the up and down **arrow keys** to change the first digit, press **select** to confirm. Continue with the second, third and fourth digit. When completed press **select** to confirm the new four-digit PIN code.

Warning! Make sure that you remember the new code.

9.4.15 37 Dist Unit

This provides you with the opportunity to change unit type between centimeters and inches.

9.4.16 43 Advanced Code

It is possible to enable/disable the request for a PIN code. This will remove the PIN code request in program mode and the code **0000** will give you access to advanced settings. Press **select** to confirm your choice.

9.4.17 44 Reset Prog. settings

You can reset to the pre-programmed factory settings for all programs. Confirm by pressing **yes**.

9.4.18 45 Reset Filter Timer

After a filter change on the cassette/s, restart the filter timer with this setting. Confirm by pressing **yes** to reset the filter time counting.

To adjust the value in the filter timer, see 9.4.11.

9.4.19 46 Statistics

The following information is available:

Run time

Shows accumulated working hours and minutes.

Start-ups

Shows the total number of starts of the dryer.

Σ (Total Power Consumption)

Presents the total energy consumption.

Φ (Average power consumption)

Presents the average consumption for all runs.

9.4.20 47 Perform Self test

In this test all the important input and outputs to and from the computer can be tested. This test will give the opportunity for a quick and accurate function verification of the different parts of the system.

This test procedure is only available in English. By pressing the **yes** button, you enter the first step of the self-test. To exit the self-test, press the **start/stop** button.

Automatic testing includes the following:

Test 1: Push Button Test

All buttons on the control unit are tested. The corresponding symbols are displayed by pressing the buttons. Press **enter** for approx. three seconds in order to continue to the next step of the test program.

Test 2: Display Test

Verify that all pixels light up on the display. Press **enter*** and check that all pixels go out. Press **enter*** to continue.

* or upper left software button

Test 3: Buzzer Test

Check that the buzzer sounds. Press **enter** or **next** to continue.

Test 4: Cassette IR Test

The IR cassette lamps (output I) light up. Check that all the IR lamps are lit. For safety reasons this test is limited to 10 seconds. Press **enter** or **next** to continue.

Test 5: Ventilator Test/Cassette/Control unit

The ventilator in the cassette and control unit now starts. A sound from the ventilator confirms that it is working. If the dryer is equipped with two or more cassettes, you will have to repeat test no. 4 and 5 for the other cassette/-s. Press **enter** or **next** to continue.

Test 6: Laser Test (OPTION)

Direct the laser towards the object. Check that a red dotted circle or point is visible on the object. Press **enter** or **next** to continue.

Test 7: Temperature Sensor Test (OPTION)

Direct the temperature sensor towards an object that is at room temperature. The temperature on the display should not deviate from room temperature by more than $\pm 3\text{ }^{\circ}\text{C}$ or $\pm 5\text{ }^{\circ}\text{F}$. Press **enter** or **next** to continue.

Note! Temperature measurement is made as an average of a surface according to chapter 8.1.

Test 8: Distance Sensor Test (OPTION)

Direct the distance sensor towards the object at a distance of 0.3-1 m. Check that the distance shown on the display matches the manually measured distance. A deviation of $\pm 3\text{ cm}$ is acceptable. Press **enter** or **next** to continue.

Test 9: Cassette Temp. Switch and Circuit Board Temp.

The circuit board has a temperature measuring device that is seen on the display. The temperature is shown in $^{\circ}\text{C}$ or $^{\circ}\text{F}$ depending on the settings you have made. The circuit board lifetime will be shortened if temperatures are above $70^{\circ}\text{C}/158^{\circ}\text{F}$ during operation. If this happens during drying a new window will appear after the completed drying cycle saying "warning High temp Pc".

There is also an indication of the temperature in each cassette which is in reality only a temperature switch which will trigger when the temperature is above 150°C . The value -13°C is given when the temp switch is not triggered and - - - when it is triggered. If the temperature gets too high during operation a warning will appear showing the actual cassette and the value 500 the drying operation will also be terminated.

Test Completed

Automatic testing is now complete. Press **enter** or **next** to finish.

9.4.21 49 Power Rating 1

Possibilities to independently the other outputs give the power rating for output 1.

Option: 0-99.9 kW where 0.0 is inactive.

9.4.22 50 Power Rating 2

Possibilities to independently the other outputs give the power rating for output 2.

Option: 0-99.9 kW where 0.0 is inactive.

9.4.23 51 Power Rating 3

Possibilities to independently the other outputs give the power rating for output 3.

Option: 0-99.9 kW where 0.0 is inactive.

9.4.24 52 Pyro Regulator P (Proportional)

This option, together with 9.4.25, is used to fine tune the heating system depending on the pyrometer readings.

9.4.25 53 Pyro Regulator I (Integral)

This option, together with 9.4.24, is used to fine tune the heating system depending on the pyrometer readings.

By tuning the two parameters P and I in the PID controller algorithm, the controller can provide control action designed for specific process requirements. The response of the controller can be described in terms of the responsiveness of the controller to an error, the degree to which the controller overshoots the set point, and the degree of system oscillation.

To alter the values for P and I full understanding of PID controllers is needed.

If this knowledge is not at site, please contact Hedson Technologies AB if this needs to be adjusted.

9.4.26 54 Output 2 Scale

Possibility to control the level of power on output 2 from 0-100% compared to output 1. Default is 100%

9.4.27 55 Output 3 Scale

Possibility to control the level of power on output 3 from 0-100% compared to output 1. Default is 100%

9.4.28 56 Proc. Alarm Temp.

Possibility to set maximum temperature difference between current and requested temperature (5-99°C). This function is activated in 9.4.3.

9.4.29 57 Continuous Mode

Possibility to decide if the IRT dryer should have continuous drying or time dependent drying. Yes = Continuous drying. No = Machine stops when time countdown reaches 0.

10. Maintenance and Service

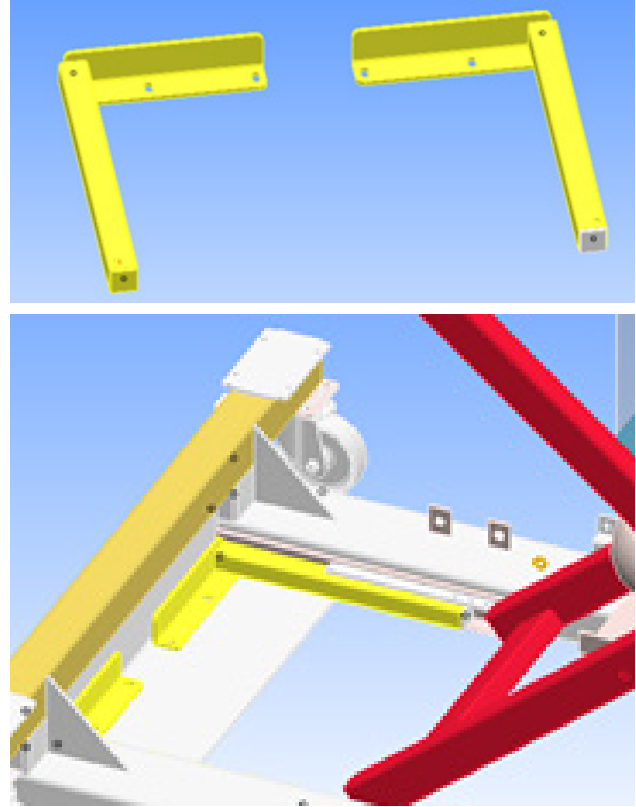
Maintenance work is to be carried out at the stipulated maintenance intervals by suitably trained personnel.

Do not use running water or flammable liquids for cleaning.

Abide by the following points to ensure a long service life and continuous operation of the dryer:

- Only original spare parts and suitable tools are to be used.
- Adhere to the maintenance intervals.
- Contact your dealer or the manufacturer’s customer service department regarding any maintenance work that is not listed or shown in this manual.

Only undertake maintenance work when the maximum lift (unloaded) is reached, the platform table has been reinforced by service supports (part no. 195682) or secured by a forklift at the top position and the compressed air supply and electricity has been shut off.



10.1 Maintenance

Weekly

Check that all IR lamps light up during dryer operation. Defect IR lamps can cause uneven heat distribution over the surface.

Clean the dryer from dust, which can be a cause of fire, with a damp cloth.

Check that all cables are undamaged. A damaged cable can be a danger to life!

Monthly

Check the gold coated reflectors. Damaged or extremely dirty reflectors can overheat the reflector body and/ or the cassette. In case of doubt, please contact the customer service in order to clarify if the gold coated reflector needs to be changed.

Check all moving parts such as pivot bolts, sliding pieces and sliding surfaces for wear and tear; clean and lubricate. Only use greases in the lacquer coated sections that do not contain substances that might damage the lacquer coating.

Check air bellows and air hoses for damage. Inspect visually and check for leaks. Check the surface of the air bellows for contamination; clean and maintain. Always use appropriate care and cleaning products when carrying out maintenance on the rubber surfaces.

Check that the valves are working correctly and check for leaks.

Inspect the service unit provided by the customer (filter regulator) and abide by the instructions in the manufacturer’s manual.

Yearly

Plan to change the air filter approx. once per year. You will get a message in the software when it is time to change. When starting up the dryer you will get an indication on how much of the filter time that is used.

Regular safety inspection. Inspection report, see 12.1.

Every 2 operating years

Replace the safety valve.

Every 6 operating years

Replace the complete set of air hoses.

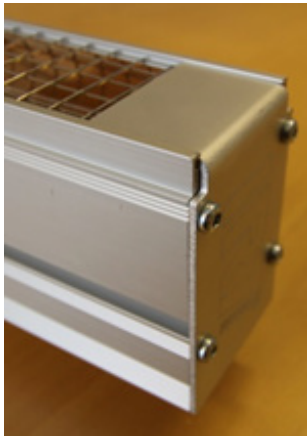
10.2 IRT lamp replacement

Note! Disconnect the cassette from the heaters mounting frame of the dryer before service.

Attention!

Do not touch either the gold coated reflector or the new IR lamp with your fingers. Only remove the protective paper on the IR lamp after you have installed it.

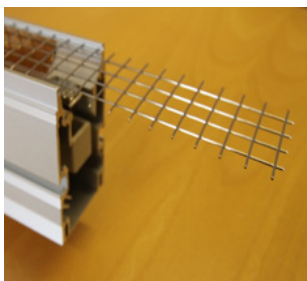
Remove lamp



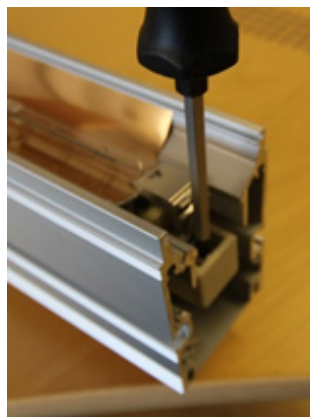
1. Loosen the mounting screws on both end covers.



2. Loosen both lamp end protections.



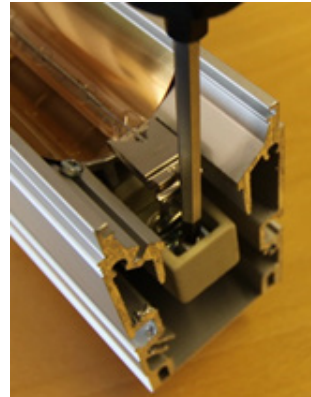
3. Pull the protection out of the slide. The screws for the lamp holders will be accessible



4. Loosen the lamp end screws and remove the lamp.

Attach lamp

Keep the protection paper around the lamp until the fitting is completed.



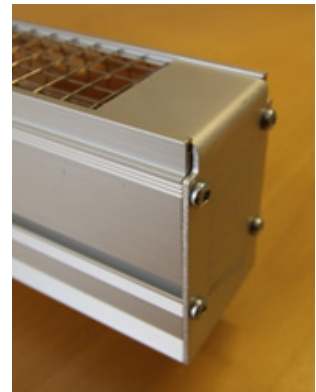
5. Fix the lamp in one of the Lamp holders. Make sure that the terminal strip gets as far as possible underneath the square clamp. Fasten the screw. Bend the other lamp end with the finger and fix it as the first one.



6. Focus the IRT-lamp by centralizing it sideways in the reflector body.



7. Focus the IRT-lamp by centralizing it lengthways in the reflector body. Remove the lamp protection paper.



8. Push the protection back into the slide and attached the end covers.

10.3 Filter replacement

Attention!

The filters are disposable and should not be reused.

1. Use a knife or screw driver to open the filter box.
2. Remove the used filter.
3. Insert the new filter.
4. Close the filter box.

10.4 Air bellows

The air bellow is a flexible element specially designed for use in the lifting platform. The rubber cover is subject to aging processes and must be checked carefully. Recorded data shows that a well-kept air bellows has a service life of over 20 years.

Tips for a long service life:

- Use dry and oil-free compressed air.
- Protect from UV radiation (e.g. from welding or UV dryers).
- Avoid the use of chemical products.
- Protect from mechanical damage (dents, etc.).
- Abide by the maintenance and care instructions, see 10.1.

Damaged air bellows must be replaced. Only original parts from the manufacturer can be used

10.5 Comments on the filter regulator and air supply lines

The filter regulator is not included in the Siemens Leading Edge Dryer package. A filter regulator must be installed in the air supply line (provided by the customer). Use dehumidified, non-lubricated compressed air only. Follow the instructions and recommendations provided by the manufacturer of the filter regulator during maintenance and cleaning.

10.6 Comments on the scissors' sliding areas

Due to the design principles, very strong forces are present on the sliding surfaces of the scissors. These forces can lead to grooving in the sliding surfaces. They will not affect the operation of the dryer.

The maintenance intervals described in 10.1 and other manuals must be adhered to.

10.7 Disposal

Dispose of used items at the nearest environmental protection facility for recycling.

11. Spare parts

The following spare parts are the most common ones for the SingleHeater IR-units.

Part	Part nr.
1 Fan	202024
2 Filter	103055
3 IR lamp 790 mm 3 kW	102701
4 Lamp holder	109790
5 Temp switch	126043
Distance sensor	195266
Pyrometer	750231
6 Reflector E790 Gold foil	102696
6 Reflector E790 Net	193646
6 Reflector E790 Glass	716238
Printed Circuit Board (PCB)	750321
Solid State Relay (SSR)	750227
Display	750220

Spare parts for Herkules working platform, see appendix 1: 761-054_PNTS-77

For other spare parts, please contact:

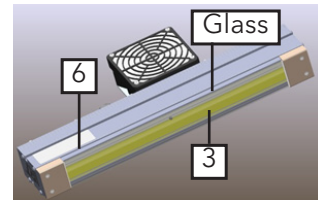
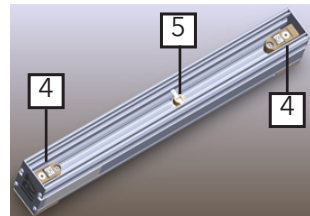
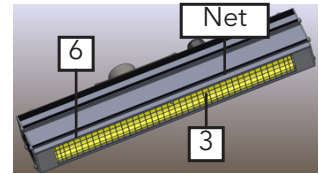
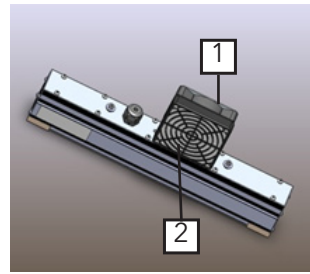
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462 28 Vänersborg
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Tel. +46 (0)521 28 12 30

Fax +46 (0)521 28 12 31

E-mail: industrialcuring@hedson.com



12. Safety Inspections

The safety inspection is required to ensure operational safety of the dryer.

The following must be performed:

- Before commissioning the dryer at the manufacturer's, use the Regular Safety Inspection form, see 12.1.
- After the initial commissioning, check at regular intervals as per chapter 10. Use the Regular Safety Inspection form, see 12.1.
- Enter the condition of the lifting platform in a separate copy of the inspection log and attach it to the operating manual.

Note! The regular safety checks must be performed by a suitably trained person. It is advisable to also implement maintenance at the same time.

Note! After a replacement part has been attached during service to the lifting equipment always perform a Regular safety inspection

Contact Hedson Technologie's customer service department if you have any further questions.

E-mail support.his@hedson.com

12.1 Regular safety inspection form

Device type	
Serial No.	

Inspection step	OK	Not OK	Verification	Remark
Name plate				
Plate with load capacity				
Plate with supply pressure				
Lifting/lowering tag				
All supporting screws are tight				
Secure scissor pins				
State of pneumatic hoses				
Safety valve set to 6.5 bar operating pressure				
Mains pressure manometer Pmax = 8 bar				
Control lever automatically re-sets to the zero position when released				
Fall arrester function				
Emergency release status				
Air bellows status				
Supporting structure status				
Function test - Lifting/lowering				
Function test - Lifting/lowering with load				

Inspection result	
	Start-up not permitted, verification required.
	Start-up possible, faults to be rectified by.....
	No fault, start-up possible immediately

Safety inspection performed on:

Name and address of qualified assessor:

.....
Signature of qualified assessor

.....
Signature of operator

Fault rectification required

.....
Signature of qualified assessor

.....
Signature of operator

.....
Signature of assessor

.....
Signature of operator

13. EC Declaration of conformity

According to testing institutes and according to the machinery directive the IRT products in this manual are not defined as machines, wherefore the machinery directive reference cannot be included in this declaration.

In accordance with EN 17050-1:2010

We, Hedson Technologies AB
Box 1530
SE 462 28 Vänersborg
Sweden

declare under our sole responsibility that the product

IRT Siemens Leading Edge Protection Dryer

to which this declaration relates, is in conformity with the following standard(s) or other normative document(s):

EN 61000-6-4	Electromagnetic Compatibility, Generic Emission Standard.
EN 61000-6-3	Electromagnetic Compatibility, Generic Immunity Standard.
EN 60204-1	Safety of Machinery - Electrical equipment of machines.
EN ISO 9001	Quality Management System.
EN 292-1	Safety of Machinery.
EN 292-2	Safety of Machinery.
EN 1570-1:2011	Safety requirements for lifting tables.

in accordance with the provisions of the following directives in their most current version

2006/42/EC	Machine Directiv
2006/95/EC	Low Voltage Directive
2004/108/EC	Electromagnetic Compatibility Directive
2011/65/EU	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Arlöv, Sweden March 3rd, 2016

HEDSON TECHNOLOGIES AB
Technology Division



Magnus Björnström

CEO

14. Pneumatic and Electrical diagrams

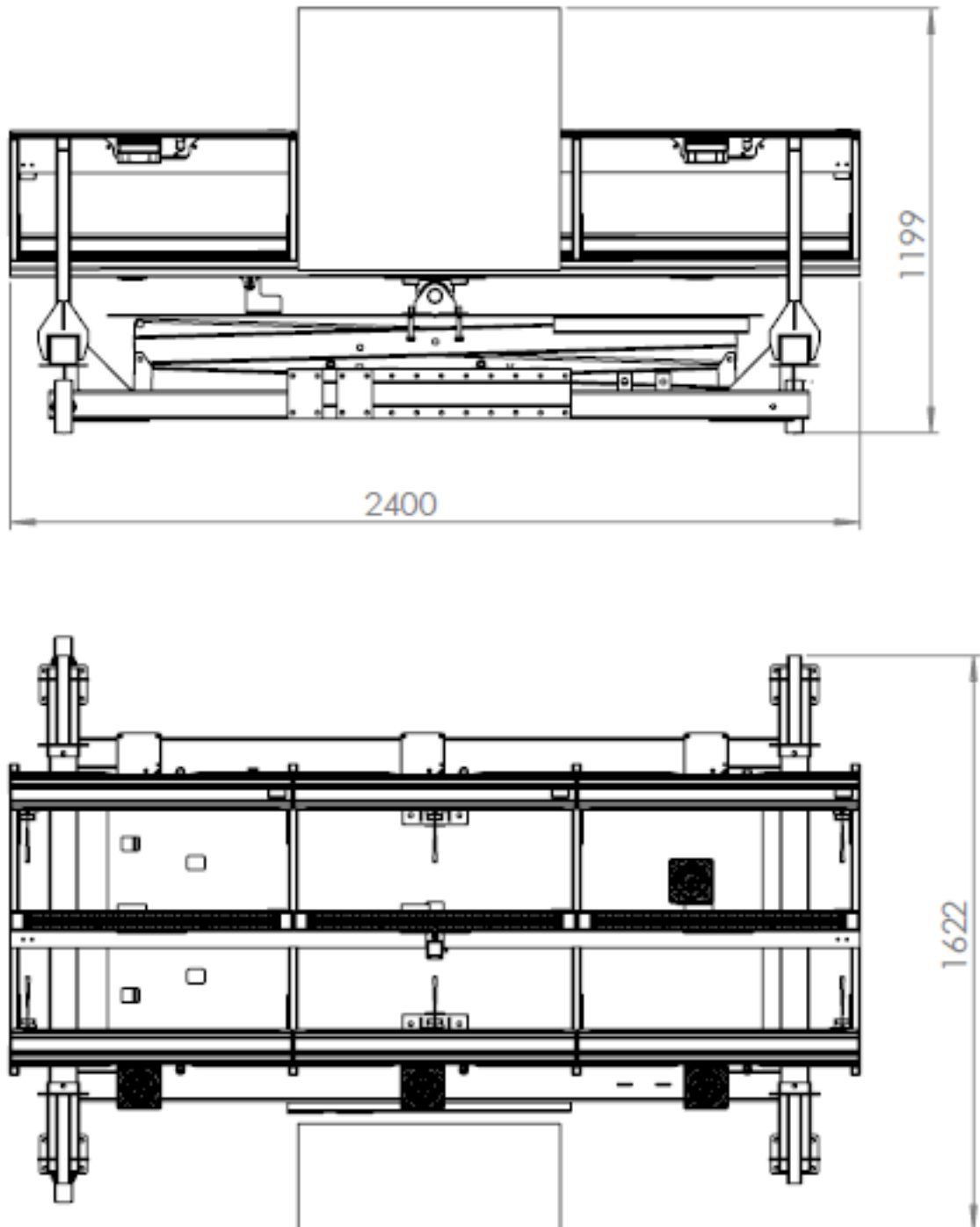
Pneumatic diagram for Hercules Working platform, see **appendix 1**: 761-054_PNTS-77

Electrical diagram for IRT Siemens Leading Edge Protection Dryer equipment is found in the **appendix 2**.

15. Weights and Dimensions

The overall weight is 665 kg

Dimensions as below:



For other technical specifications regarding Herkules working platform, see appendix 1: 761-054_PNTS-77.

16. Trouble shooting

Malfunction	Possible fault	Rectification
Some lamps do not light up	Defective lamp	Change lamp
	One supply phase has failed	Check fuses
	Incorrect connection	Check electrical connections in wiring diagram
No lamps light up or all lamps go out during operation	Short circuit/damaged cable	Check fuses. Change any defective components.
	Incorrect connection	Check electrical connections in wiring diagram
	Temperature switch in cassette tripped	Check fans, filters, hoses and ambient temperature. Reset by pressing the temp switch button.
Lifting malfunction	Maintenance unit manometer without mains pressure	Ensure the mains pressure is $P_{max} = 8$ bar. Open shut-off valve on control unit.
	The hose lines are clamped, kinked or damaged	Check the hose lines and replace them with new ones whenever necessary.
	Manometer pressure 1 bar above the pressure permitted by the safety valve	Check the safety valve for contamination and replace it whenever necessary.
Lowering malfunction	Working platform is obstructed by an obstacle	Lift the working platform, remove the obstacle, and then lower the platform again.

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The manufacturer reserves the right to introduce technical modifications.



US Conforms to:
UL499
Certified to:
CAN/CSA C22.2 No.88



— PERFORMANCE ABOVE ALL —

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