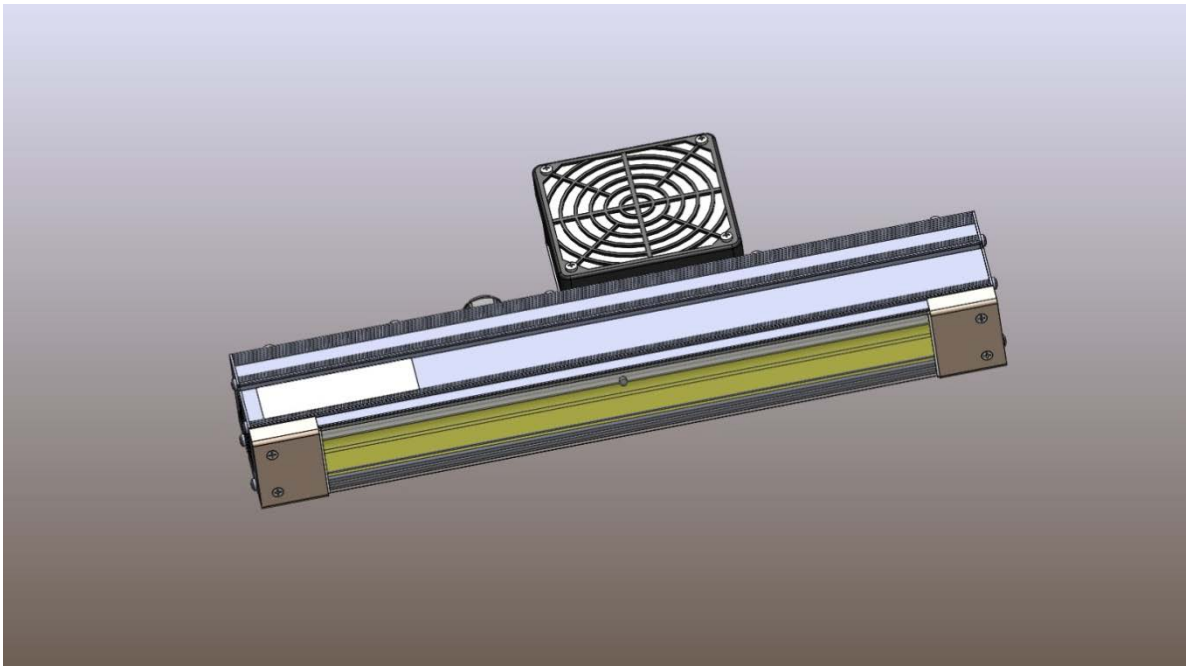


SingleHeater



Instruction manual

Title	750598 SingleHeater Cassette	Id	Manual EN	1 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

List of contents

1	Application fields.....	3
2	Product description	4
3	Technical data.....	5
4	Risks	7
5	Installation instruction.....	8
6	Electrical diagram	10
7	Operating instructions	11
8	Maintenance	12
9	Trouble shooting	14
10	Spare parts list	15
11	Owner instructions	16
12	Declaration of incorporation according to 2006/42/EC annex II IB	17

Title	750598 SingleHeater Cassette	Id	Manual EN	2 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

I Application fields

The SingleHeater with control unit is a complete, miniaturized IRT unit for drying and heating. Other examples of applications could be hardening, shrinking, melting and gelatinization.

The SingleHeater is compact and easy to install.

If a larger area is to be heated, several cassettes can be installed at regular spacing in width or length.

The considerable flexibility means that the system can be used for heating and drying. Several power ratings are available.

Title	750598 SingleHeater Cassette	Id	Manual EN	3 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

2 Product description

The cassette consists of a complete, encapsulated IR cassette for heating and drying, and has an integral fan for internal cooling, also available with external fan.

The cassette is supplied ready for electrical connection and mechanical installation. There is a number of different cables types to choose from all equipped with a connection plug.

The lamp is protected by a steel grid, also available with Quarts glass.

The cassette has built-in overheating protection switch to be built into the control system.

Title	750598 SingleHeater Cassette	Id	Manual EN	4 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

3 Technical data

3.1 Electrical Data

Model:	Nom. Power (kW)	Nom. Current (A)	Nom. Voltage (V)	Rec. Fuse(A)
SH***3 ¹ 2 ³	1	4,3	230	10 (slow)
SH***322	2	8,7	230	10 (slow)
SH***332	3	13	230	16 (slow)
#SHE**342	4	17,4	230	20 (slow)
SH***524	2	5	400	10 (slow)
SH***734	3	7,5	400	10 (slow)

= Only with external cooling

3.2 Environment:

Description:	
Classification of degrees of protection	IP 2X
Max ambient temperature	45°C

¹ 3=360mm lamp

5=500mm lamp

7=790mm lamp

² 1=1kW lamp

2=2kW lamp

3=3kW lamp

4=4kW lamp

³ 2=230V lamp

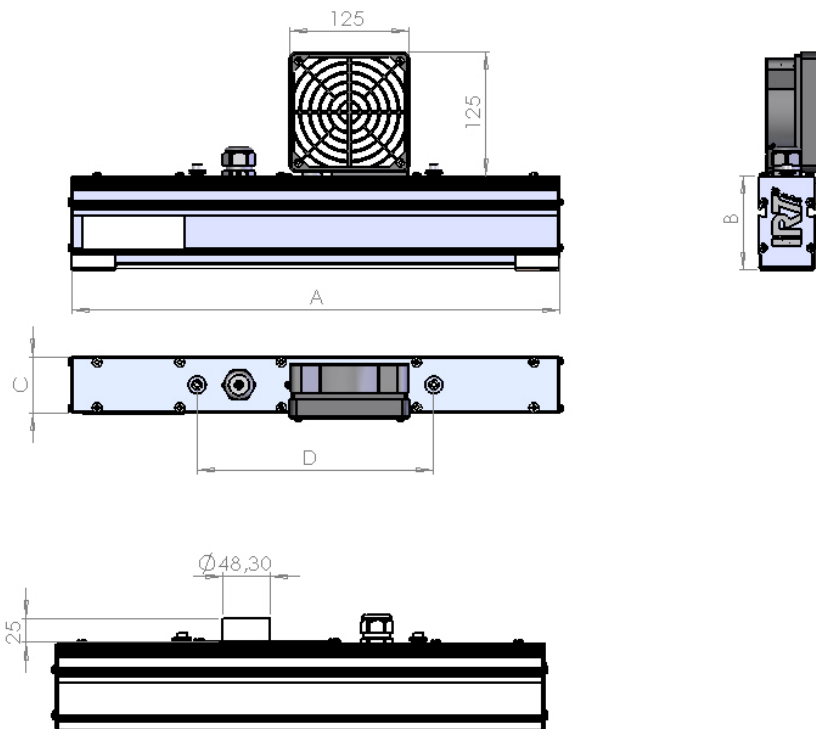
4=400V lamp

Title	750598 SingleHeater Cassette	Id	Manual EN	5 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

3.3 Size

Model:	Weight (Kg) I/E	Length A (mm)	Height B ^{##} (mm)	Depth C (mm)	C-C(D) mm	Min. Airflow Cooling m ³ /h
SHI ^{4*5*6} 312	1,8/1,1	363	92/97	58	244	18
SH ^{***} 322	“	“	“	“	“	36
SH ^{***} 332	“	“	“	“	“	54
SHE ^{**} 342	“	“	“	“	“	72
SH ^{***} 524	2,1/1,4	503	“	“	“	36
SH ^{***} 734	2,8/2,1	793	“	“	“	54

Height with Protection Net / Height with Protection Glass



⁴I= Integrated fan

E= External fan

⁵N= Net protection

G= Glass protection

⁶E= Elliptic reflector

P= Parabolic reflector

Title	750598 SingleHeater Cassette	Id	Manual EN	6 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

4 Risks

Warning! Intense radiant heat

Avoid looking directly into active IR light.

The surfaces of the SingleHeater could be hot.

Heating of sections of human bodies (hands face etc.) is not permissible.

Warning! The SingleHeater must not be used in areas where the solvent content in the atmosphere exceeds 25% of the lower explosion limit (Please refer to the EN 1010 and EN 1127 standards plus draught standard prEN 1539).

At installation of cassettes a distance of at least 100 mm to any stationary flammable material must be maintained.

Before use make sure to:

- Read the manual for SingleHeater
- Inform personal how to use the SingleHeater
- Disconnect the cable to the SingleHeater before service.
- Ask an expert to do the work. Only trained electricians should do any electrical installation work
- Unauthorised tampering invalidates the guarantee

Title	750598 SingleHeater Cassette	Id	Manual EN	7 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

5 Installation instruction

Check that the contents correspond with the dispatch note.

Install the cassettes in the intended locations. Be careful when handling and installing the cassette.

NOTE! Electrical connections must only be made by a competent electrician.

The SingleHeater can be installed side by side or lengthways.

The width of the warmed area can be adjusted by installing the cassettes at an angle. Maximum heating width is 270 mm for the 360 mm cassette, 400 mm for the 500 mm cassette and 690 mm for the 790 mm cassette.

Cassettes with external fans can be installed with a minimum gap of 10 mm between each unit. In case of integrated fan a distance of at least 100 mm between the cassettes is valid.

External fans should be used in high ambient temperatures $>45^{\circ}\text{C}$ or in dirty environments.

Cassettes should be shielded to prevent any irritating light leakage.

At installation of cassettes a distance of at least 100 mm to any stationary flammable material must be maintained.

Attachment:

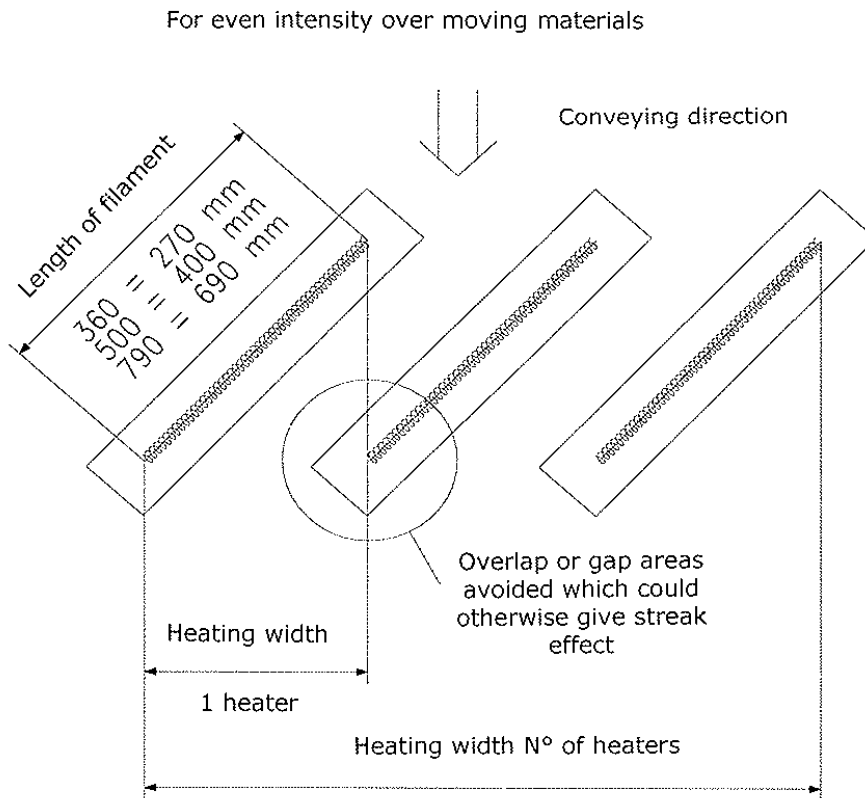
At the upper side of the SingleHeater there are two M6 screws with a distance of 244mm

Along the sides of the SingleHeater profile there are slots designed to fit a M6 hex nut to enable mounting without fixed locations, which increase the adjustability.

Title	750598 SingleHeater Cassette	Id	Manual EN	8 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

5.1 Example of cassette positioning

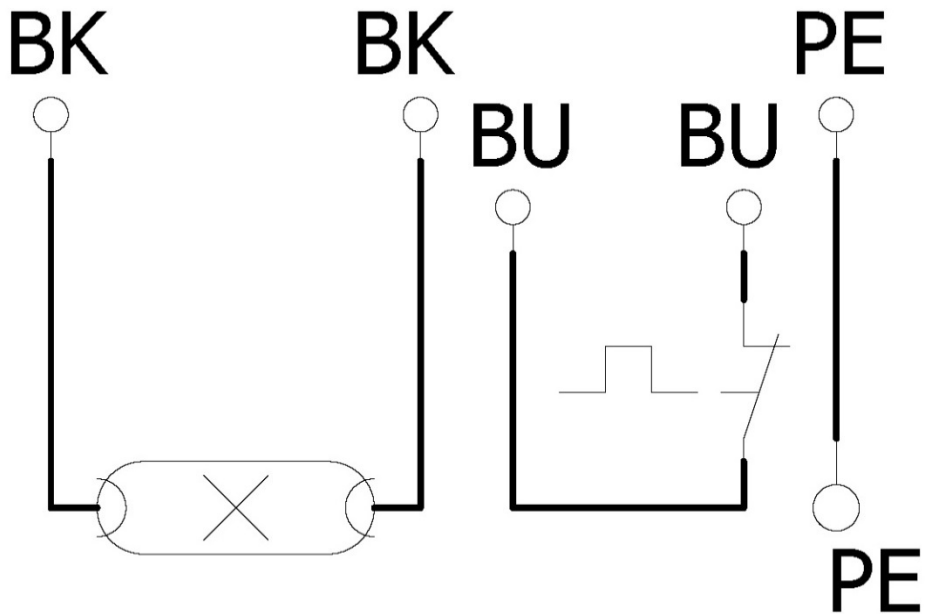
Angled positioning of one or more cassettes is made in order to obtain an even heating of the required width. See picture below.



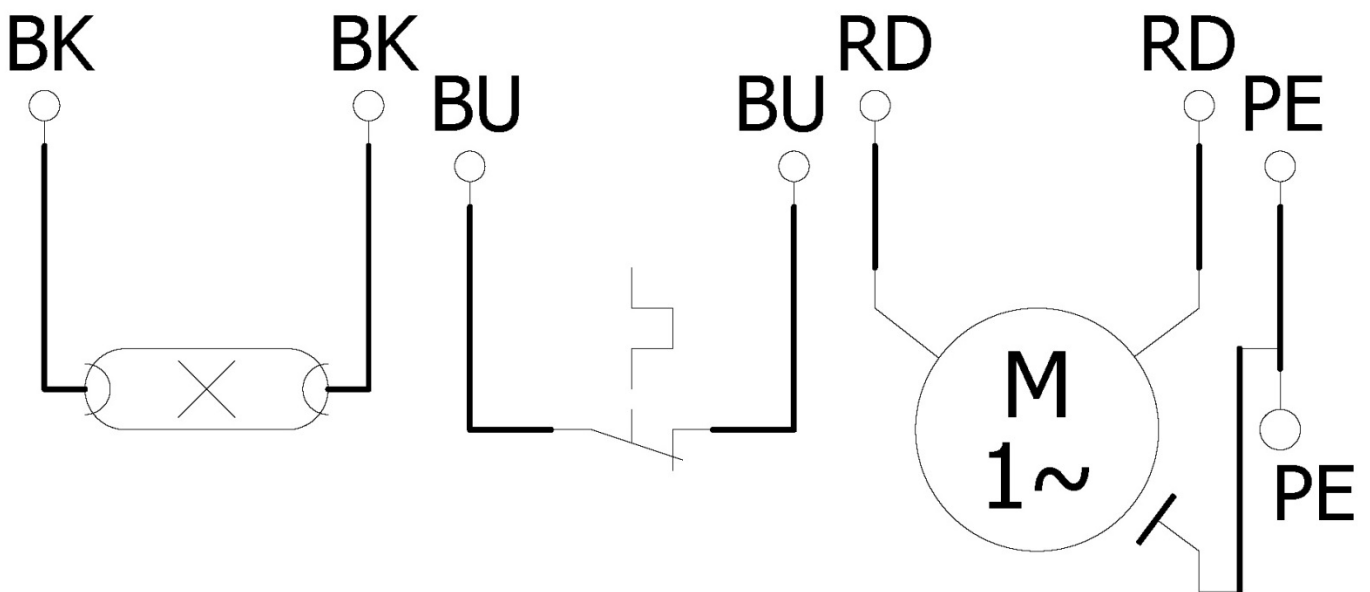
Title	750598 SingleHeater Cassette	Id	Manual EN	9 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

6 Electrical diagram

External fan



Internal Fan



Title	750598 SingleHeater Cassette	Id	Manual EN	10 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

7 Operating instructions

- The fan should always be on when the IR-lamp is on.
- The fan should be on 3 min after the IR-lamp is turned off.

Title	750598 SingleHeater Cassette	Id	Manual EN	11 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

8 Maintenance

Weekly

Check each week that the bulbs light up when the cassette is in operation. A damaged bulb will cause uneven temperature on the heated surface.

Also check that all cables are undamaged. A damaged cable can be lethally dangerous!

Monthly

Check the gold reflectors. Damaged or very dirty gold reflectors can cause damage to the reflector body and/or the cassette.

Every quarter

The air filter should be changed once a quarter. If the surface of the filter gets soiled earlier, the filter should be changed (cleaned).

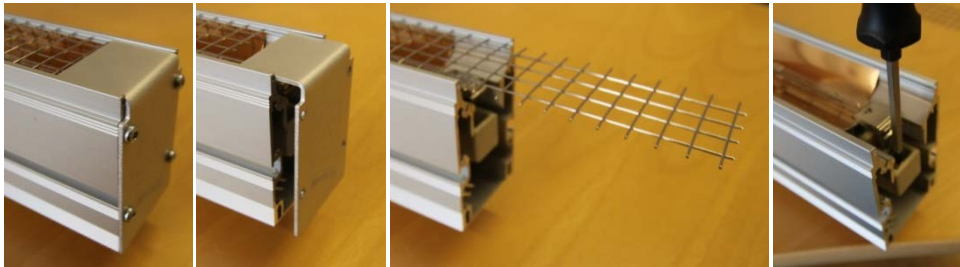
Title	750598 SingleHeater Cassette	Id	Manual EN	12 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

8.1 Lamp replacement

NOTE! Disconnect the cassette before service.

Remove lamp

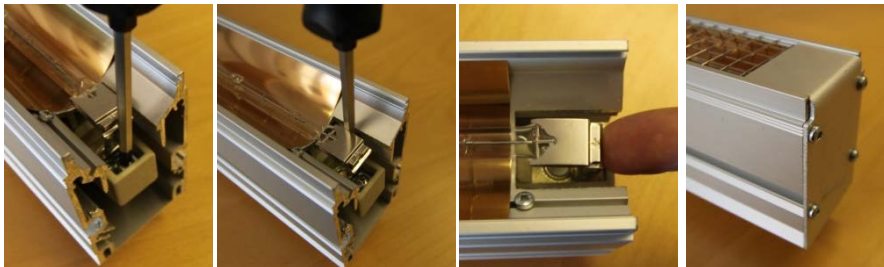
1. Loosen the mounting screws at both of the end covers (Torx T20). See picture below.
2. Loosen both of the end covers.
3. Pull the protection out of the slide. The screws for the lamp holders will be accessible.
4. Loosen the lamp end screws (PH2 Chisel) and remove the lamp.



8.2 Attach lamp

NOTE! Do not touch the IRT-lamp directly. Keep the protection paper around the lamp until the fitting is ready.

1. 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. See picture below.
2. Focus the IRT-lamp by centralizing it sideways in the reflector body.
3. Focus the IRT-lamp by centralizing it lengthways in the reflector body Remove the lamp protection paper
4. Push the protection back into the slide and attached the end covers



8.3 Filter replacement

Note! The filters are disposable and should not be reused.

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

Title	750598 SingleHeater Cassette	Id	Manual EN	13 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

9 Trouble shooting

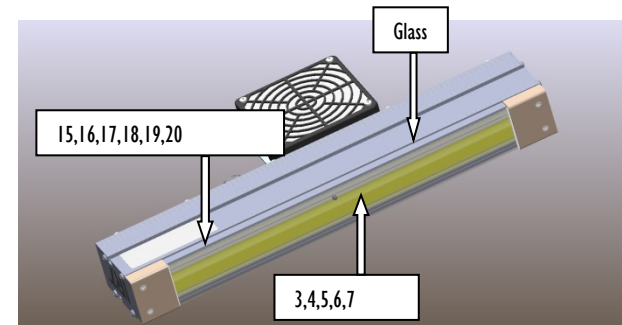
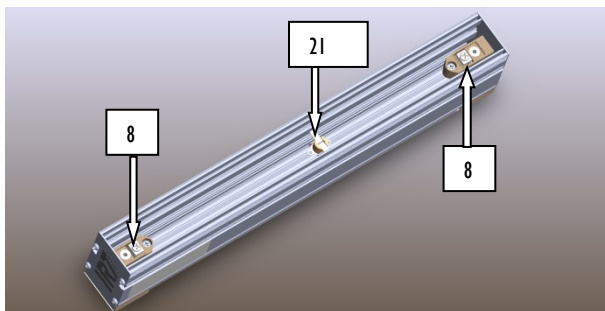
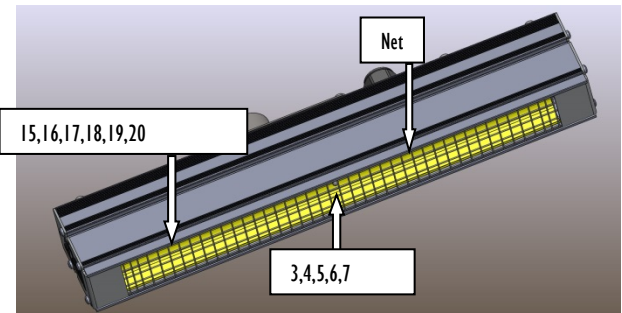
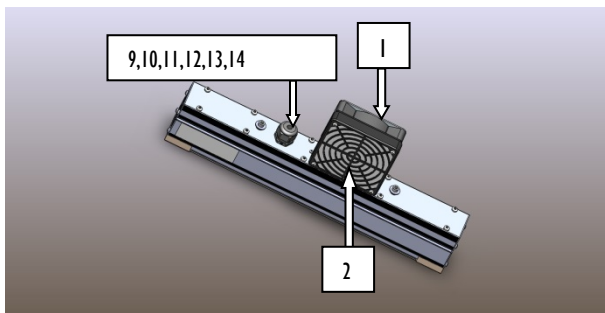
Malfunctions	Possible fault	Rectification
Some lamps do not light up	Defective lamp	Change lamp
	One supply phase has failed	Check fuses
	Incorrect connection	Check electrical connections in wiring diagram
No lamps light up or all lamps go out during operation	Short circuit/damaged cable	Check fuses. Change any defective component.
	Incorrect connection	Check electrical connections in wiring diagram.
	Temperature switch in cassette tripped	Check fans, filters, hoses and ambient temperature. Reset by pressing on the temp switch reset button indicated in the display of the control unit.

Title	750598 SingleHeater Cassette	Id	Manual EN	14 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

10 Spare parts list

Pos	Description	Art.nr
1	Fan	120822
2	Filter	103055
3	IR-lamp 360 mm 1 kW	102700
4	IR-lamp 360 mm 2 kW	102699
5	IR-lamp 360 mm 3 kW	105074
6	IR-lamp 500 mm 2 kW	102706
7	IR-lamp 790 mm 3 kW	102701
8	Lamp holder	109790
9	Cable assy. 5p SHE360	716094
10	Cable assy. 5p SHE500	716201
11	Cable assy. 5p SHE790	716099
12	Cable assy. 7p SHI360	716095
13	Cable assy. 7p SHI500	716202
14	Cable assy. 7p SHI790	716200

Pos	Description	Art.nr	Art.nr	Art.nr
		Gold foil	Net	Glass
15	Reflector P360	102238	193647	193992
16	Reflector E360	104074	193647	193992
17	Reflector P500	102154	193838	193993
18	Reflector E500	102539	193838	193993
19	Reflector P790	102155	193646	194477
20	Reflector E790	102696	193646	194477
Pos	Description	Art.nr		
21	Temp switch	716098		
22	External Fan G2E108	121454		
23	External Fan G2E140	122295		
24	Filter for fan 121454	140104		
25	Filter for fan 122295	140105		



Title	750598 SingleHeater Cassette	Id	Manual EN	15 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

II Owner instructions

The owner of the Single Heater must, as regards the manual and present conditions at site, produce understandable directions for use and at an understandable language for the users. The directions for use must be available on a well known place for the user.

The user of Single Heater must follow the instructions.

Title	750598 SingleHeater Cassette	Id	Manual EN	16 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

12 Declaration of incorporation according to 2006/42/EC annex II IB

We **Hedson Technologies AB**
Box 1530
SE-462 28 VÄNERSBORG
Sweden

Declare under our sole responsibility that the product:

SingleHeater

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

EN 60204-1	Safety of Machinery - Electrical equipment of machines
EN 61000-6-3	Electromagnetic Compatibility Generic Emission Standard.
EN 61000-6-2	Electromagnetic Compatibility Generic Immunity Standard.
EN-ISO 12100	Safety of Machinery
EN ISO 9001:2008	Quality Management System
EN 61000-3-11	Electro-magnetic Compatibility
EN 12198-1:2008	Safety of Machinery, Optical radiation categorization: Infra-red light Category 2

Compliance statement:

The maximum value of the system impedance (Z_{max}) is 0.044 ohm for the phase lines and 0.030 ohm for the neutral at the interface between a public supply network and a user's installation.

following the provisions of Directive

2006/42/EC Machine Directive

2006/95/EC Low Voltage Directive

2004/108/EC Electromagnetic Compatibility

2011/65/EU Restriction of the use of certain hazardous substances (RoHS)

Starting operation of this machinery part is not allowed as long as it is not assembled into the main installation or not all necessary safety devices have been installed which fulfil the requirements of the EC directive for machines with regard to safety and health.

Vänernborg 2014-09-29

Hedson Technologies AB

Mikael Hansson

R & D Manager and authorized representative

Title	750598 SingleHeater Cassette	Id	Manual EN	17 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

Title	750598 SingleHeater Cassette	Id	Manual EN	18 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	

Title	750598 SingleHeater Cassette	Id	Manual EN	19 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	



Hedson Technologies AB
Box 1530
SE-462 28 VÄNERSBORG
Sweden

Phone +46(0)521-28 12 30
Fax +46(0)521-28 12 31
E-mail: industrialcuring@hedson.se



Title	750598 SingleHeater Cassette	Id	Manual EN	20 of 20
Author	Andreas Lundevall	Version	2	
		Date	2014-09-29	