



ELECTRIC RESISTIVE STEAM HUMIDIFIER



Installation and Operation Manual

Please read and save this manual

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Introduction

Foreword

Thank you for purchasing IER steamOvap electric steam Humidifier.

If you have questions or comments please contact us: <u>www.steamOvap.com</u> <u>info@steamOvap.com</u> 1-844-357-4477

Intended use

IER electric steam humidifier is intended exclusively to produce steam from water at atmospheric pressure for air humidification.

Operating conditions are specified in this Installation and Operation Manual (IOM). Operation of this humidifier in the intended use scope requires that all directions and information contained in this IOM are observed.

Any other use or operation outside the above design scope without written authorization from steamOvap may lead to trouble and hazardous conditions and will void warranty.

No alteration or modification to the humidifier must be done without written authorization from steamOvap.

Replacement of any defective components must be done with original component and spare parts from steamOvap representative.

Installation and Operation Manual Limitation

This IOM is intended for trained and qualified personnel and must be applied along with the applicable local codes and regulations.

Any work related to installation or service for this humidifier must comply with local code and regulation regarding safety and prevention of accidents.

End of life disposition

Ensure that **IER** electric steam humidifier is empty from water, if not proceed same way as for a standard drain for service.

Disconnect **IER** electric steam humidifier from power supply, electrical control signal, water main supply, Steam line, and drain. **IER** electric steam humidifier can then be removed from the wall or stand.

IER electric steam humidifier is an electrical equipment and as such MUST not be disposed of in domestic waste.

This humidifier should be returned to the closest steamOvap authorized representative for proper dismantling, recycling and disposition of components according to local regulations.

Table of content

Introduction	
Table of content	
Safety warnings	5
Before to proceed to Installation	6
IER Overview	7
Installation overview	
Installation – step 1 IER Positioning & Mounting	
Installation – step 2 Water supply installation	
Installation – step 3 Drain installation	
Installation – step 4 Steam line installation	
Installation – step 5 Power supply installation	
Installation – step 6 Control installation	
Verification before start-up	
Configuration & Operation	
Warranty	
-	

Safety warnings

General

Risk of electric shock.

Disconnect power supply before installation or service.

For safety and warranty reasons, Installation and service of this humidifier should be carried out by trained and qualified personnel.

Any work related to installation and service of this humidifier must comply with local code and regulation regarding safety and prevention of accidents.

Electrical Warning



Risk of electric shock.

Disconnect power supply before installation or service.

Power supply connexion must be done by a trained and gualified electrician.

Any work related to power supply installation or service of this humidifier must comply with local code and regulation regarding safety and prevention of accidents.

Water safety warning



Any work related to water supply, drain connection as well as steam lines and condensate returns lines installation or service of such for this humidifier must comply with local code and regulation regarding safety and prevention of accidents.

Water supply connexion must be done by a trained and gualified plumber.

Risk of malfunction. Steam lines should not have any restriction or blockage that may cause a burst of pressure in the steam line.

Others



Risk of flooding. In order to avoid any risk of flooding steamOvap recommends a Hi limit humidity switch installed in the air duct downstream of the steam distribution

ramp.

Risk of freezing. Plan an anti-freeze system in case of installation in a location that would be exposed to outside conditions and susceptible of freezing.

Risk of malfunction. Do not block steam outlet(s).

section

Before to proceed to Installation

Please read this Installation and Operation manual before to proceed to the Installation

Receiving & Unpacking

- Upon receipt verify that packaging is complete and not damaged. In case of damage, and/or missing boxes advise immediately the carrier by writing a note on the waybill.
- 2. Verify that model of the humidifier matches the purchase order and that all accessories are included.
- Any missing item should be reported as soon as possible to steamOvap or its representative and within 5 business days after receipt. steamOvap will not assume any responsibility for missing item after this delay.
- 4. Proceed carefully to unpacking, and check that the humidifier and its accessories are not damaged. in case of damage please proceed as for point 3

Included in standard delivery of IER electric steam humidifier

- 1. IER electric steam humidifier
- 2. Water supply hose
- 3. Collar(s) to secure steam hose on steam outlet of IER
- 4. This IOM

Depending on other accessories ordered

- 5. Steam ramp(s)
- 6. Steam hose
- 7. Condensate hose
- 8. RH% sensors for duct or room
- 9. HI Limit RH% switch
- 10. Air flow switch



IER Overview

IER electric steam humidifier



Figure 1 – IER Overview

IER product designation & name plate



Figure 2 – IER Name plate

Model designation and options codification



IER electrical rating

Model	Steam	Dowor			Current		
woder	Capacity	Power	208Vac/1p	240Vac/1p	208Vac/3p	480Vac/3p	600Vac/3p
IER-04	10lb/h [4.5kg/h]	3.3kW	16.0A	13.9A	9.3A	4.0A	3.2A
IER-05	15lb/h [6.8kg/h]	5.0kW	24.0A	20.8A	13.9A	6.0A	4.8A
IER-09	24lb/h [11.4kg/h]	8.3kW	40.1A	34.7A	23.1A	10.0A	8.0A
IER-12	35lb/h [15.9kg/h]	11.7kW	-	44.2A	32.4A	14.0A	11.2A
IER-17	50lb/h [22.7kg/h]	16.7kW	-	-	46.3A	20.0A	16.0
IER-22	65lb/h [29.5kg/h]	21.7kW	-	-	-	26.1A	20.8A
IER-31	93lb/h [42.3kg/h]	31.0kW	-	-	-	37.3A	29.8
IER-44	130lb/h [59.1kg/h]	43.3kW	-	-	-	52.1A	41.7A
IER-62	185lb/h [84.1kg/h]	61.7kW	-	-	-	74.2A	59.3A

8

IER Dimensions



Figure 3 – IER Dimensions

Madal	Steam	Nb Cyl	Nb Steam		Dimensions	Net	
woder	Capacity	+ size	Outlet + Ø	w	Н	D	weight
	10lb/h	1x	1x 1.5po	20in	23in	13in	55lb
IEK-04	[4.5kg/h]	small	[DN40]	[510mm]	[585mm]	[330mm]	[25kg]
	15lb/h	1x	1x 1.5po	20in	23in	13in	55lb
IEK-US	[6.8kg/h]	small	[DN40]	[510mm]	[585mm]	[330mm]	[25kg]
	24lb/h	1x	1x 1.5po	20in	23in	13in	55lb
IEK-09	[11.4kg/h]	small	[DN40]	[510mm]	[585mm]	[330mm]	[25kg]
IED 12	35lb/h	1x	1x 2po	23in	27in	17in	73lb
IEK-12	[15.9kg/h]	medium	[DN50]	[585mm]	[686mm]	[432mm]	[34kg]
	50lb/h	1x	1x 2po	23in	27in	17in	73lb
IEK-17	[22.7kg/h]	medium	[DN50]	[585mm]	[686mm]	[432mm]	[34kg]
150.22	65lb/h	1x	1x 2po	23in	27in	17in	73lb
IEK-ZZ	[29.5kg/h]	medium	[DN50]	[585mm]	[686mm]	[432mm]	[34kg]
IED 21	93lb/h	1x	1x 2po	23in	27in	17in	73lb
IEK-21	[42.3kg/h]	medium	[DN50]	[585mm]	[686mm]	[432mm]	[34kg]
	130lb/h	2x	2x 2po	42in	27in	17in	146lb
IEK-44	[59.1kg/h]	medium	[DN50]	[1067mm]	[686mm]	[432mm]	[67kg]
	185lb/h	2x	2x 2po	42in	27in	17in	146lb
1EK-02	[84.1kg/h]	medium	[DN50]	[1067mm]	[686mm]	[432mm]	[67kg]

9



Installation overview

General

- 1. Installation of this humidifier should be carried out by trained and qualified personnel.
- 2. Any work related to installation of this humidifier must comply with local code and regulation regarding safety and prevention of accidents.

WARNING. Risk of electric shock.

Power supply must be disconnected during installation.

Main power should be connected only after all installation steps have been completed and properly verified.

Typical installation with steam ramp



10

Installation steps :

- 1. Positioning & mounting of IER electric steam humidifier
- 2. Water supply installation
- 3. Drain installation
- 4. Steam line installation for duct humidification or Direct humidification in room
- 5. Power supply installation
- 6. Safety & RH% control installation

Typical installation with Space blower



Figure 5 –IER with remote Space blower typical installation

Typical installation steps :

- 1. Positioning & mounting of IER electric steam humidifier
- 2. Space blower installation (only if remote)
- 3. Water supply installation
- 4. Drain installation
- 5. Power supply installation
- 6. RH% control installation

Installation – step 1 IER Positioning & Mounting

General guidelines for positioning

IER electric steam humidifier should be positioned so that:

- Length of the steam line (or hose) is as short as possible,
- In case steam hose is used, the bend radius of 12in (300mm) is ensured
- Humidifier is easily accessible for service



CAUTION. Risk of malfunction due to vibration. Do Not mount IER electric steam humidifier directly on ventilation duct.

CAUTION. Risk of flooding. Ensure that the local where **IER** electric steam humidifier will be installed is equipped **with floor drain.**

In case of no floor drain is available; installation of a water leak detector is required in order to prevent any flooding in case of abnormal operation or service.

IER electric steam humidifier should be installed in a well-ventilated and dry environment. If local is subject to below freezing point temperature, activation of ant freezing function of the **IER** electric steam humidifier is required.

For outdoor installation please contact your steamOvap representative to order and install special outdoor optional enclosure for IER.

IER maximum ambient conditions: Temperature: 41°F to 115°F [+5 to +45°C] Relative Humidity: 90%RH max (non condensing)

Ingress Protection for IER standard enclosure: IP20

Clearances



Figure 6 – minimum clearances

Clearance guidelines

There is no minimum clearance on both side of the IER humidifier, but it is a good practice to have a clearance of 4 to 8 in [100 to 200mm] for ease of installation and service Allow a minimum clearance of 24in [610mm] with floor to allow for proper drain slope and drain pipe column.

Front clearance of 30in [762mm] is required for access to the IER humidifier Top clearance is required of 12in [304mm] for access and proper steam connection



Clearances for IER with space blower

Clearance guidelines

There is no minimum clearance on both side of the Space blower, but it is a good practice to have a clearance of 4 to 8 in [100 to 200mm] for ease of installation and service Front clearance of 80in [2000mm] is required for steam absorption.

A top clearance is required of 24in [600mm] for access and for steam absorption to avoid any condensing on the ceiling.



Mounting holes positions & weight

Madal	Mounting holes positions (in) [mm]								
wodei	M1	M2	M3	M4	M5	M6			
IER04 to 09	2 [51]	8 [203]	½ [13]	19.25[489]	6 [152]	-			
IER12 to 31	2 [51]	11.25 [286]	½ [13]	23.5 [597]	7.8 [197]	-			
IER44 & 62	2 [51]	34.3 [871]	½ [13]	23.5 [597]	7.8 [197]	30.7 [782]			

Weight

Model	Nb Cyl + size	Net Weight	Oper. Weight	
IER-04	1x small	FFIL	0.416	
IER-05	1x small	5510 [25kg]	8410 [38kg]	
IER-09	1x small	[20:0]	[00:18]	
IER-12	1x medium			
IER-17	1x medium	73lb	123lb	
IER-22	1x medium	[37kg]	[56kg]	
IER-31	1x medium			
IER-44	2x medium	146lb	246lb	
IER-62	2x medium	[67kg]	[112kg]	

General guidelines for Mounting



CAUTION. Risk of malfunction. IER electric steam humidifier must be levelled in X & Z axis.

Installation on wall (without mounting bracket)

- Verify that wall structure and strength is appropriate to support the operating weight of the IER electric steam humidifier. In case, the wall is not solid enough to support operating weight of IER electric steam humidifier, install it on a floor stand (FS option is available to your steamOvap representative).
- 2. Mark the wall or support according to the above holes location, and drill 4 holes to the wall or support as per the size of anchors and/or screws.
- 3. Use anchors of sufficient size (at least 1/4in [6mm]). Insert those anchors and the 2 top screws, ensure that the screw heads extends 1/4in [6mm] from the wall, so that the **IER** electric steam humidifier will be able to be hung on those 2 screws.
- 4. With front cover removed, hung the IER electric steam humidifier onto the 2 top screws. Insert the bottom screw through the back plate of the humidifier and into the anchors in the wall.

Ensure that the humidifier is properly levelled.

Tighten the 3 screws. Re verify the level in the 2 direction X and Z axis.

- 5. Re-install the front cover to the humidifier.
- 6. Optional Mounting bracket (option **MB**) is available to your steamOvap representative in order to ease up wall mounting process.

Installation on wall (with mounting bracket - option MB)

- 1. Optional Mounting bracket (option **MB**) is available to your steamOvap representative in order to ease up wall mounting process.
- Verify that wall structure and strength is appropriate to support the operating weight of the IER electric steam humidifier. In case, the wall is not solid enough to support operating weight of IER electric steam humidifier, install it on a floor stand (FS option is available to your steamOvap representative).
- 3. Mark the wall or support according to the above holes location, Drill holes to the wall or support to attach the mounting bracket to the wall as per the size of anchors and/or screws.

Distance between the 2 holes in Mounting bracket is 15in [381mm]



Figure 10 – Installation with Mounting bracket

4. Use anchors of sufficient size (at least 1/4in [6mm]). Install the mounting bracket to the wall or support.

Ensure that the mounting bracket is properly levelled.

- 5. With front cover removed, hung the IER electric steam humidifier onto the mounting bracket.
- 6. Install the 2 supplied screws to avoid the IER humidifier to move up from the mounting bracket.

Installation on Floor Stand (option FS)

- 1. Ensure that the floor structure and strength is appropriate to support the operating weight of the **IER** electric steam humidifier.
- 2. Attach the floor stand to the floor or structure to avoid any movement of the **IER** electric steam humidifier.

You can use bolt or screws to attach this one to surrounding structure or to the floor.

- 3. Install Humidifier (with front cover removed) on the floor stand and secure it with supplied bolts.
- 4. Re-install the front cover to the humidifier.

Installation – step 2 Water supply installation

Water supply specification & quality:

Water supply pressure: 15 to 80PSI [1 to 5bar] Water supply temperature: 37 to 105°F [3 to 40°C]

IER electric steam humidifier can accept a wide range of water quality.

Untreated water will lead to scale deposits that will need to be regularly removed from steam chamber.

Use of additives such as scale inhibitor or corrosion inhibitors, disinfectants or other can impair the normal operation of the humidifier and are not allowed.

Water supply conductivity: 1 to 1500µS/cm

Water supply hardness: 0 to 16grains/gallon [0 to 15°gH][268mg CaCO₃/l]

Water supply PH: 6.5 to 7.5

Water supply chloride content: 0 to 50ppm



Water supply connection:

- 1. Install a manual; shut off valve on the water main line.
- 2. If IER humidifier is supplied with tap water it is recommended to install a 10µ sediment filter on the line. This filter will protect internal water fill valve from clogging.
- 3. A flexible braided hose is supplied for an easy and secure connection to the water supply inlet.

This hose is equipped with 1/2in [12mm] female swivel connection at both ends.

Installation – step 3 Drain installation

Water drained specification:

Drained water maximum temperature: 120°F [60°C] Drained water flow rate: 6.6 GPM [25 l/min] Drain outlet dimension: **IER04 to 31**: (1x)1-1/4in [32mm] **IER44 & 62**: (2x) 1-1/4in [32mm]



Figure 12 – water drain connection

Installation steps :

- 1. Ensure that an Open drain with a P-trap is installed offset from the IER humidifier.
- 2. **IMPORTANT**: Risk of malfunction. A minimum **slope angle** of 5 degree of the drain hose or pipe and a minimum length of 24in [60cm] must be provided between the drain outlet of the IER humidifier and the open drain inlet.
- 3. A minimum of **18in [45cm] vertical run** before P trap or obstruction must be provided
- 4. If required, install a connection sleeve 1-1/4 [32mm] at the drain outlet of the IER to the drain pipe, and secure it with the supplied 2 collars.

Installation – step 4 Steam line installation

Duct humidification

Horizontal duct



Figure 13 – SRS & SRSX installation – no dedicated condensate return line



Figure 14 – SRC & SRCX installation – with dedicated condensate return line to IER

Installation steps :

- 1. Positioning & mounting of SR (S, C, SX or CX) steam ramp to the ventilation duct wall by using metal screw
- 2. Install the steam hose or rigid steam pipe between the IER steam humidifier and the steam ramp.

Note: when using rigid stem pipe (stainless steel or copper) it is a good practice to connect in between the steam ramp, IER humidifier and pipe by using a small length of steam hose for ease of installation and service. Allow for a slope of 2° minimum.

- 3. Secure all connexion with hose clamps
- 4. For SRC or SRCX install a condensate hose in between steam ramp and IER humidifier. Provide a condensate trap of 8in [200mm] minimum as shown on above figure. Allow for a slope of 2° minimum
- 5. Secure all connexion with hose clamps



Figure 15 – Steam & condensate line for Remote SB

Installation steps :

Please refer to space blower IOM

Steam ramp description



Minimum distances for SRS & SRSX



Figure 24 – SRS & SRSX minimum distances

In order to avoid condensing on the duct surface or on ramps, steamOvap recommends the following minimum distances:

• ht(min)

Minimum height distance between end of top ramp (#3) and top of the duct. ht (min) = 4.5in [115mm]

• d(min)

Minimum depth distance between top ramp and side wall of the duct. d(min) = ht(min) = 4.5in [115min]

• hb(min)

There is no minimum height distance required for the bottom ramp (#1) and the bottom of the duct. However we recommend a minimum: hb(min)=4in [100mm]

• h(min)

Height in between ramps (h) should be equal / even.

h=H-(ht+hb)/(nb of ramps -1), <u>If ramps are aligned</u> h(min) = 8in [200mm] Air flow can be one or the other direction.

<u>If ramps are staggered</u> h(min) = 4.5in [115mm] Important: the air flow direction should be as indicated on above drawing.

s(min) minimum distance between ramps s(min) = 4in [100mm]

Minimum distances for SRC & SRCX



Figure 25 – SRC & SRCX minimum distances

In order to avoid condensing on the duct surface or on ramps, steamOvap recommends the following minimum distances:

• ht(min)

Minimum height distance between end of top ramp (#3) and top of the duct. ht (min) = 5in [130mm]

• d(min)

Minimum depth distance between top ramp and side wall of the duct. d(min) = 4.5in [115min]

hb(min)

There is no minimum height distance required for the bottom ramp (#1) and the bottom of the duct. However we recommend a minimum: hb(min)=4in [100mm]

• h(min)

Height in between ramps (h) should be equal / even.

h=H-(ht+hb)/(nb of ramps -1),

If ramps are aligned	If ramps are staggered
h(min) = 8in [200mm]	h(min) = 4.5in [115mm]
Air flow can be one or the other	Important: the air flow direction should be
direction.	as indicated on above drawing.
	s(min) minimum distance between ramps
	s(min) = 4in [100mm]

steamOsorb installation



Figure 26- steamOsorb multiramp installation



Figure 27- steam ramp profile and outlets position

See detail drawing for complete dimensions And refer to steamOsorb IOM for installation steps.

Installation – step 5 Power supply installation

Electrical Warning



Risk of electric shock.

Disconnect power supply before installation or service.

Power supply connexion must be done by a trained and qualified electrician.

Any work related to power supply installation of this humidifier must comply with local code and regulation regarding safety and prevention of accidents.

General guidelines for power supply installation

Power supply wiring conductors must be copper only and rated for 105 °C.

Refer to the above current rated to determine the appropriate wire sizes as well as conduit size and fused disconnect requirements.

The earth must be made by solid metal to metal connections.

Ground wire should be same size as power wiring.



Figure 27 – 1 phase power supply connection



Figure 28 – 3 phases power supply connection

Model	Steam	Dowor					
Model	Capacity	Power	208Vac/1p	240Vac/1p	208Vac/3p	480Vac/3p	600Vac/3p
IER-04	10lb/h [4.5kg/h]	3.3kW	16.0A	13.9A	9.3A	4.0A	3.2A
IER-05	15lb/h [6.8kg/h]	5.0kW	24.0A	20.8A	13.9A	6.0A	4.8A
IER-09	24lb/h [11.4kg/h]	8.3kW	40.1A	34.7A	23.1A	10.0A	8.0A
IER-12	35lb/h [15.9kg/h]	11.7kW	-	44.2A	32.4A	14.0A	11.2A
IER-17	50lb/h [22.7kg/h]	16.7kW	-	-	46.3A	20.0A	16.0
IER-22	65lb/h [29.5kg/h]	21.7kW	-	-	-	26.1A	20.8A
IER-31	93lb/h [42.3kg/h]	31.0kW	-	-	-	37.3A	29.8
IER-44	130lb/h [59.1kg/h]	43.3kW	-	-	-	52.1A	41.7A
IER-62	185lb/h [84.1kg/h]	61.7kW	-	-	-	74.2A	59.3A

IER electrical rating

Installation steps :

1. Connect supply lines (L1, L2, L3 and GND or L and N) to the corresponding terminals in the IER electrical compartment.

Connect the earth conductor with a lug and secure it to the GND threaded stud..

- 2. The supply wiring is to be fed into the unit via the clamp strap on the top of the unit.
- 3. Ensure that an all pole disconnecting device with a minimum contact clearance of 3 mm and a fuse protection (supplied by others) is installed on the power supply line.
- 4. This disconnecting device should be installed in proximity of the IER steam humidifier (within 3 feet [1 m]) and must be easily accessible.

Installation – step 6 Control installation

General guidelines for control installation

It is a good practice to install the following safety controls:

- An air proving switch (APS) in the same duct as the humidifier's steam ramp so that it can prevent humidifier from producing steam in case there is no air flow.
- A high limit humidistat shall be installed downstream of the steam ramp so that it can prevent any over humidity (condensing) occurrence. High limit humidistat is usually provided by an on-off switch its set point should be 85%RH minimum.
 High limit humidistat should be placed at least at a distance equivalent to five times the absorption distance. If the absorption distance is not known, locate it at least 9 feet (3m) downstream of the steam ramp.
 For system that needs very accurate RH% control a RH% sensor can replace or

For system that needs very accurate RH% control a RH% sensor can replace or supplement the On/Off Hi Limit humidistat in this case the IER will not only modulate the steam production based on the control; signal demand but also on this proportional Hi-Limit signal.

• An enable dry contact can also be wired to switch the humidifier ON or OFF, this enable contact can be used either as a third safety control or as a way to control the humidifier ON and OFF, although IER steam humidifier is fully modulating.



Figure 29 – Control connection

Admissible control signal

Control	Admissible signals
External analog signal for	0.10/dc 2.10 /dc 4.20 m
demand	0-10vac, 2-10vac, 4-20mA
On-Off external signal	Dry contact
Proportional RH% or	0.10/dc 2.10 /dc 4.20 m
temperature sensor	0-10vac, 2-10vac, 4-20mA

Installation steps :

- 1. Ensure that the safety contact for Air proving switch and Hi limit humidistat are connected to the terminals 4 and 5.
- 2. Connect the applicable controls according to the above wiring diagram
- 3. Selection of control signal is done through set-up screens once the IER will be powered.



Verification before start-up

Warning

For safety and warranty reasons, Installation and service of this humidifier should be carried out by trained and qualified personnel.

Any work related to installation and service of this humidifier must comply with local code and regulation regarding safety and prevention of accidents.

Risk of electric shock.

Disconnect power supply before verification.



Risk of malfunction. Steam lines should not have any restriction or blockage that may cause a burst of pressure in the steam line.

Risk of flooding. In order to avoid any risk of flooding steamOvap recommends a Hi limit humidity switch installation in the air duct downstream of the steam distribution ramp.

Risk of freezing. Plan an anti-freeze system in case of installation in a location that would be exposed to outside conditions and susceptible of freezing. **Risk of malfunction.** Do not block steam outlet(s).

Check list

- Mounting
 - Check mounting to verify that the IER is level and securely supported before filling with water.
- Water supply
 - Verify that all piping connections have been completed as recommended and that water pressure is available.
 - Once water shut off valve is open, verify for any possible leaks.
- Drain
 - Verify that all drain piping has been completed as recommended and that an open drain deported from IER is provided.
- Steam
 - Verify that all steam piping has been completed as recommended and that a slope of minimum 2° is provided.
 - Ensure that there is no sag or kink or any possible obstruction in the steam line, and condensate line.

- Power supply
 - Verify that power supply wires have been connected to main terminal and ensure that all wires are safely tightened. Ensure that an all pole disconnecting device with fuses is installed and easily accessible.

• Control circuit

- Verify that safety controls such as air proving switch and Hi limit humidistat have been connected.
- Verify that a control signal demand or RH% sensor is connected to the control terminals.

Once all above verification has been completed and found satisfactory you can powered up the IER steam Humidifier.

section 5

Configuration & Operation

Dashboard screen

Dashboard screen is also the main/home screen

	IER I	by Steamo	vap 💶 🗖 🗙			
Navigation tabs	Dashboard Overview (Control Set	ting Humidifier Setting			
Demand & Output [—] information	Demand	0%				
	Output	0%				
Activity log	Activity Log					
date & time of		Status	Last occurence			
occurrence of events	Communication Status	active	Tue Dec 12 21:00:38 2			
occurrence of events	High temperature switch	ok				
	Water level sensor def	ok				
	Water level sensor error	ok				
	Water level too high	ok				
	Water Temp. sensor def	ok				
	Water Temp. sensor error	ok				
	Foam detected	ok				
	Hi Rh% in duct dected	ok				
	Steam Generator					
Output in Watt for —	1st Generator					
each steam	Output 0					
Sellerator						
	0	\sim	.			
ŀ	Status of operation & communication icon Fiaure 30 – Dashboard screen					

Overview screen

Overview screen gives all information on internal sensors and control settings and allow ordering a drain for service

	IER by Steamovap 📃 🗖 🗙					- • ×		
	Dash	board	Overview	Control S	etting	Humidifier S	Setting	Order drain for
	Drair	n for Sen	vice					service
	G	enerato	r 1			✓ Sta	art	1) select steam
		First Generator						generator
Current state of the		D Ctata			Stond F			click on start;
IER humidifier		R State		_	Stande	ру		Drain pump will
	W	Water Temperature			0 C			operate. If water
	W	Water Level 🍐 0 %						temperature is between 140 to
	R	oom Hu	midity	*	0 %			212°F [60 to 100°C] cylinder
	н	Hours (last service)		Ð	0 hours			will be cooled off
	0	utput			0 %			by filling up with
	Т	otal Hou	rs (J	0 hours	3		fresh water and draining it a 2nd
Control —			Sourco		Pap	20		time.
configuration summary	C	ontrol	External Demand Al1	0-10Vdc	naii	iye		IER state will change to
	S	etpoint	External AI2	0-10Vdc				"SERVICE"
	Hi L	i Lim	Analog Prop	0-10Vdc			v	
	0			\sim			_	

Figure 31 – overview screen

Icon status

An icon status located at the right hand side in the footer of the screen indicate the status of the iER

IER is OK and in operation or stand by.

Alarm level 1, needs service technician reset if latched. Alarm level 2, auto reset as soon as default is over.

🔜 Communication between board computer and Main controller is altered.

X Service is required.

IER states

The different possible states of the IER are:

- STANDBY STATE, IER is disable (see status of enable button in Control setting / control config).
- ARMED STATE, IER is ready to operate, waiting for humidity demand
- STEAM ON STATE, IER is producing steam
- DRAINCYCLE STATE, IER is draining the cylinder
- ADD WATER STATE, IER is adding water in the cylinder (while producing steam or not)
- PRE HEAT STATE, If Preheat function is enable, the IER is heating water in the cylinder.
- ALARMS STATE, IER is on Alarm of level 1, a manual reset is required, go to Humidifier settings / Reset alarm.
- SERVICE STATE, •

User has ordered a drain for service, in this case IER will drain the cylinder, refill with fresh water in case the temperature inside cylinder is above 140°F [60°C] (if cooling function is enabled), and drain again.

Control Setting screen

Control setting screen allows user (control engineer) to set signal and parameters to control the IER humidifier.

Access to this screen can be restricted with password. In this case password is 3549

Pop up to enter password



Figure 32 – password screen

Control setting / control config



Figure 33 – Control setting/control config screen

Control setting / setpoint & output config



Figure 34 – Control setting/setpoint config screen

Control setting / Hi Limit config



Figure 35 – Control setting/Hi Limit config screen

Humidifier setting screen

Humidifier setting screen allows user (mechanical contractor) to set humidifier parameters. Access to this screen can be restricted with password. In this case password is 7030

Humidifier setting / setting 1



Figure 36 – Humidifier setting/setting 1 screen

Humidifier setting / setting 2



Figure 37 – Humidifier setting/setting 2 screen

Humidifier setting / Main setting

	-				
			IER by Steamova	p _ ⊏	×
	ashboard	Overview	Control Setting	Humidifier Setting	• •
	Setting 1				$\overline{}$
	Setting 2				
	Main				
Software revision	Software	Version Infor	mation		
	Graphi	cal User Inter	face 1.1		
	IER sof	fware Versior	n 1.1		
	User file n	nanager			
	Import	user Config		Export user config	
Export and/or import user	0		1		
config for quick set-up		etting passw	ord		
				OFF	
Descured access for control	Humidifie	r Setting pas	sword		
or humidifier settings				OFF	
screens can be disabled				2017/12/12	
				,	
	Date And	Time			
	IER05-600)/3	\sim	[4

Figure 38 – Humidifier setting/setting 1 screen

List of alarms

In case of alarm, the status icon located at the right hand side in the bottom footer of the screen can be either:

Alarm level 1, critical alarm will stop operation of IER, if latched will need manual reset by service technician.

Alarm level 2, non-critical alarm will not stop operation of IER, auto reset as soon as default is over.

Alarm	Level	Description		
Comico neodod	2	Servicing the cylinder is required		
Service needed	Z	latched if set as is by installer		
Air Flow error	1	No air flow in the duct		
LI: Dh% in duct data at a	1	A duct Hi limit RH% sensor or switch is installed and has		
HIRN% IN duct detected	T	detected High humidity.		
Enable Switch	1	Enable switch is off		
Lligh tomporature Switch	1	Hi limit safety switch located on top of the cylinder is		
High temperature Switch	latched	open		
Water level sensor def	1	Water level sensor is defective		
Water level sensor error	1	Water level detected is abnormal		
Water level too high	1	Water level is higher than expected		
Water level too low	2	Water level is lower than expected		
Water Temp Concer def	1	Water temperature concer is defective		
water remp. Sensor der	latched	vater temperature sensor is defective		
Water Temp. Sensor error	1	Water temperature measured is abnormal		
Foom dotostod	1	Foam is detected in the cylinder		
Foant detected	1	latched in case of repetition		
Water inlet Low Flow	2	Fill or refill of cylinder is longer than expected		
Water Feed Error	1	No water is supplied		
Drain pump error	1	Drain pump is not able to empty cylinder		
Unit not heating	2	IER not heating water		
Electric supply	2	Low power		
No control Connected	2	No signal received		
Communication Status	2	Loss of communication between board computer and		
	2	Main controller		

Warranty

steamOvap technologies inc. (hereinafter referred to as **steamOvap**), warrant for a period of 3 years after installation, that steamOvap manufactured and assembled products are free from defects in material and workmanship; provided that a start-up report with no default has been done and signed by the authorized **steamOvap** local representative. Otherwise the warranty period is reduced to 18 months.

steamOvap's obligations and liabilities under this warranty are limited to furnishing replacement parts to the customer, F.O.B. **steamovap's** factory, providing the defective part(s) is returned freight prepaid by the customer. Parts used for repairs are warranted for the balance of the term of the warranty on the original product or 90 days, whichever is longer.

No liability whatsoever shall be attached to **steamOvap** until said products have been paid for in full and then said liability shall be limited to the original purchase price for the product. Any further warranty must be in writing, signed by an officer of **steamOvap**.

steamOvap makes no warranty and assumes no liability unless the equipment is installed in strict accordance with installation manual in effect at the date of purchase and by qualified and trained personnel and in accordance to local codes and regulations.

steamOvap makes no warranty and assumes no liability whatsoever for consequential damage or damage resulting directly from misapplication, incorrect sizing or lack of proper maintenance of the equipment.

steamOvap retains the right to change the design, specification and performance criteria of its products without notice or obligation.

In case of litigation or dispute arising, all parties agree that the exclusive venue for any litigation shall be vested with a court of competent jurisdiction located in the Judicial District of Montreal, Quebec, Canada.



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