

RECOVERY COILS IN ROOFTOP

FEBRUARY 2022

LENNOX

EUROPE MIDDLE-EAST AFRICA

FRIGA-BOHN

HK[®] REFRIGERATION

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1. Which ranges are concerned ?
2. Where to find it in elencal and how to select it?
3. How it looks like in each range and where to connect it?

WHICH RANGES ARE CONCERNED ?

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WHICH RANGES?

**ALL
EXCEPT:**

- * Flexair water cooled
- * eX Baltic and eBaltic sizes

PACKAGED AIR HANDLING UNITS				AIR COOLED			
	eNeRGY		53 - 170 kW 50 - 175 kW 13500 - 27000 m ³ /h				
	eNeRGY+ <i>Inverter</i>		97 - 160 kW 102 - 164 kW 15500 - 27000 m ³ /h				
	e-eNeRGY		120 - 178 kW 114 - 171 kW 18900 - 27000 m ³ /h			-	
ROOFTOP UNITS				AIR COOLED / WATER COOLED			
	e-Baltic		31 - 207 kW 30 - 207 kW 5700 - 35000 m ³ /h				
	Baltic		22 - 122 kW 21 - 115 kW 4200 - 23500 m ³ /h				
	Flexair		85 - 217 kW 79 - 222 kW 15000 - 39000 m ³ /h				
	Baltic		47 - 90 kW 60 - 117 kW 7100 - 14500 m ³ /h			-	
	Flexair		85 - 170 kW 72 - 123 kW 15000 - 30000 m ³ /h			-	
	Air/Air		Cooling capacity		Cafes Restaurants		Shopping malls
	Water/Air		Heating capacity		Non food retail		Storage & Logistics
			Airflow rate		Food retail		Industry

WHERE TO FIND IT IN ELENCAI AND HOW TO
SELECT IT?

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* ROOFTOP UNITS

Expert mode

Condenser

range

operating mod

Required capacity

kW +/- %

Heat recovery option

- Certified heat recovery on exhaust air (Plate heat exchanger solution)
- All seasons Heat recovery wheel
- Not certified heat recovery on exhaust air (Thermodynamic solution)

PreHeating Options

- Auxiliary Electric Preheater
- eRecovery water heat recovery

Fluid type

Glycol percentage rate %

Water flow m³/h

Inlet water temperature °C

Outlet water temperature °C

* ROOFTOP UNITS

Expert mode

Condenser

range

operating mod

Required capacity

kW +/- %

Heat recovery option

- All seasons Heat recovery wheel
- Heat recovery wheel

PreHeating Options

- eRecovery water heat recovery

Fluid type

Water flow m³/h

Inlet water temperature °C

Outlet water temperature °C

* ROOFTOP UNITS

Expert mode

Condenser

range

operating mod

Required capacity

kW +/- %

Heat recovery option

- All seasons Heat recovery wheel
- All seasons heat recovery wheel partial air flow
- Not certified heat recovery on exhaust air (Thermodynamic solution)

PreHeating Options

- Auxiliary Electric Preheater
- eRecovery water heat recovery

Fluid type

Glycol percentage rate %

Water flow m³/h

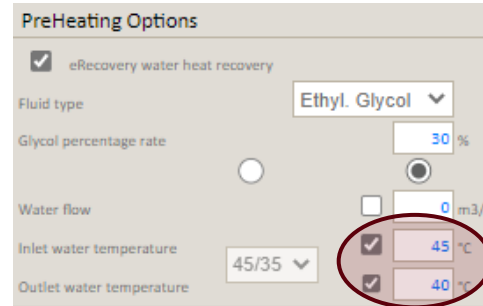
Inlet water temperature °C

Outlet water temperature °C

Possibility to change
water loop values

No antifreeze protection
so better to select water
with Glycol

In and out temp

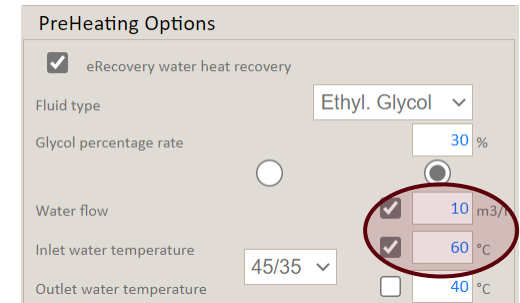


PreHeating Options

- eRecovery water heat recovery
- Fluid type: Ethyl. Glycol
- Glycol percentage rate: 30 %
- Water flow: 0 m³/h
- Inlet water temperature: 45/35 °C
- Outlet water temperature: 40 °C

The temperature values (45, 35, and 40) are circled in red.

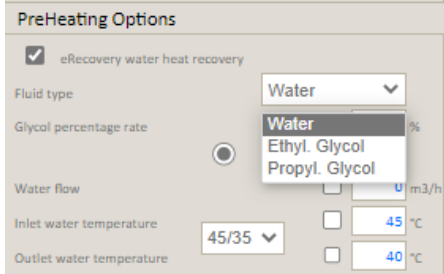
In temp and water flow



PreHeating Options

- eRecovery water heat recovery
- Fluid type: Ethyl. Glycol
- Glycol percentage rate: 30 %
- Water flow: 10 m³/h
- Inlet water temperature: 45/35 °C
- Outlet water temperature: 40 °C

The water flow (10) and inlet temperature (45) values are circled in red.

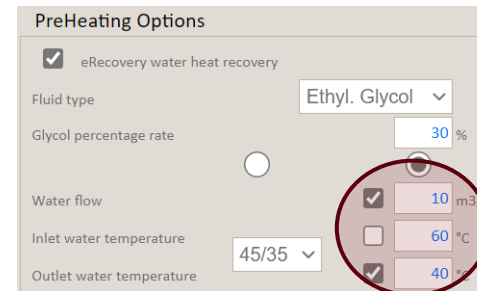


PreHeating Options

- eRecovery water heat recovery
- Fluid type: Water
- Glycol percentage rate: 0 %
- Water flow: 0 m³/h
- Inlet water temperature: 45/35 °C
- Outlet water temperature: 40 °C

The fluid type dropdown menu is open, showing options: Water, Ethyl. Glycol, and Propyl. Glycol.

Out temp and water flow



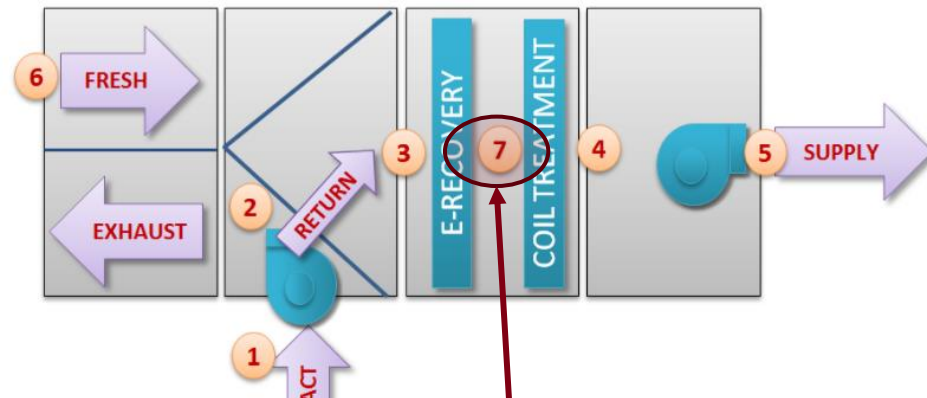
PreHeating Options

- eRecovery water heat recovery
- Fluid type: Ethyl. Glycol
- Glycol percentage rate: 30 %
- Water flow: 10 m³/h
- Inlet water temperature: 45/35 °C
- Outlet water temperature: 40 °C

The water flow (10) and outlet temperature (40) values are circled in red.

	DB(°C)	HR(%)	WB(°C)	DB(°C)	HR(%)	WB(°C)
1-Indoor:	20	70	16.4	27	47	19
2-Outlet extract fans:	20	70	16.4	27	47	19
3-Mixed:	13.4	80.6	11.6	30.9	43.7	21.5
4-Outlet coil Treatment:	0	0	-5.8	15.5	97.7	15.3
5-Outlet supply fans:	0	0	-5.8	15.9	95.2	15.4
6-Outdoor	7	85	5.9	35	40	23.9
7-Outlet module	36.1	80.6	33	30.9	43.7	30.9

Temperatures overview



Auxilliary Hot Water data recovery

Inlet temperature of the heating module	13.4	°C
Water Flow Rate (LPHW)	60/49.2	°C
Water flow	10	m3/h
Glycol percentage rate	30	%
Gross capacity	17	kW
Heat gain from the supply air fan motor	131	kW
Net capacity	= 118.31	kW
Temperature rise	22.7	°C
Air outlet temp.	36.1	°C
Water pressure drop	61.5	KPa

If outlet temp from coil too high → No thermo perf

Auxilliary Hot Water data recovery

Inlet temperature of the heating module
Water Flow Rate (LPHW)
Water flow
Glycol percentage rate
Gross capacity
Heat gain from the supply air fan motor
Net capacity
Temperature rise
Air outlet temp.
Water pressure drop

13.4 °C
60/49.2 °C
10 m³/h
30 %
117 kW
1.31
= 118.31 kW
22.7 °C
36.1 °C
91.5 KPa



Quotation | * **Technical Data** | Features and benefits | Drawings | Literature

Thermodynamic data

Gross capacity (excluding supply air fan motor)
Heat gain from the supply air fan motor (*)
Energy recovery / Auxiliary Preheater capacity


-554
0
+0

Be very careful and aware your customer of water pressure drops > 100kPa!!!

Auxilliary Hot Water data recovery

Inlet temperature of the heating module
Water Flow Rate (LPHW)
Water flow
Glycol percentage rate
Gross capacity
Heat gain from the supply air fan motor
Net capacity
Temperature rise
Air outlet temp.
Water pressure drop

13.4 °C
45/40 °C
15.6 m³/h
30 %
8.9 kW
1.31 kW
= 85.21 kW
16.3 °C
29.7 °C
119.6 KPa



HOW IT LOOKS LIKE IN EACH RANGE AND
WHERE TO CONNECT IT?

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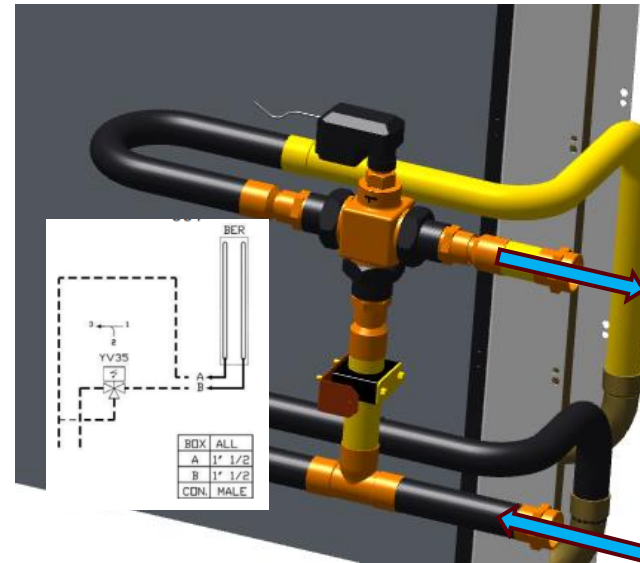
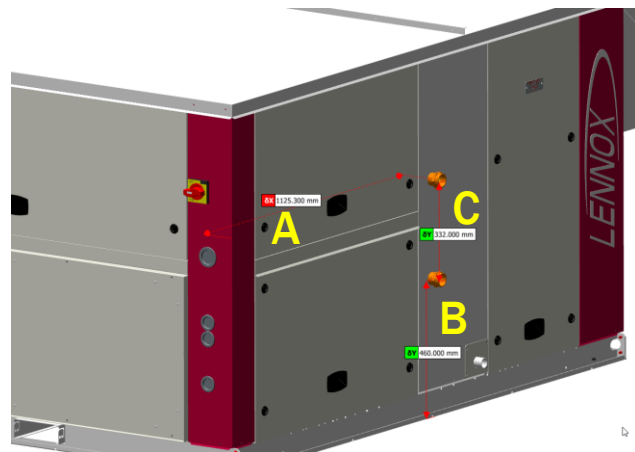
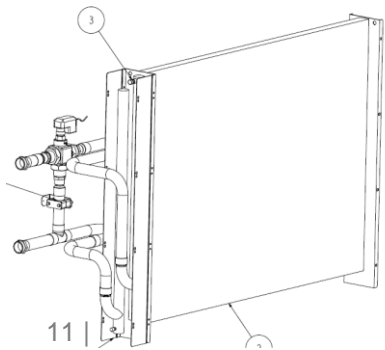
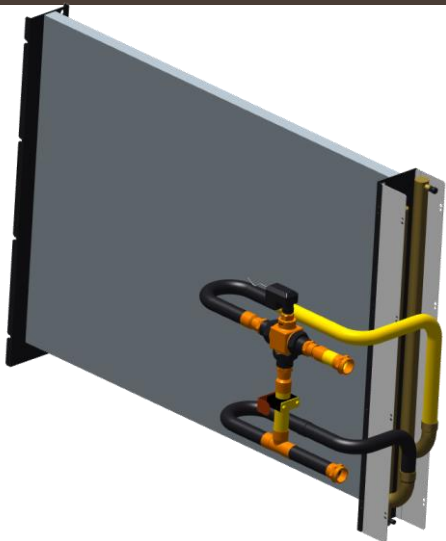
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BALTIC + eBBH

3 Way valve delivered mounted in the unit

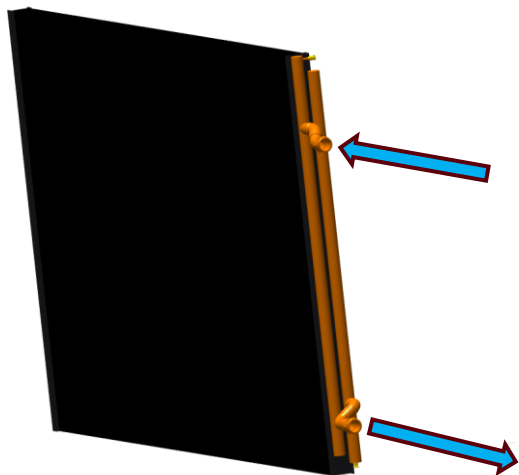


BOX	C	D	E
A	1125	1125	1125
B	460	460	460
C	332	332	332

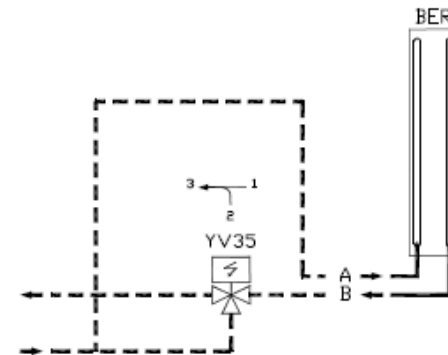
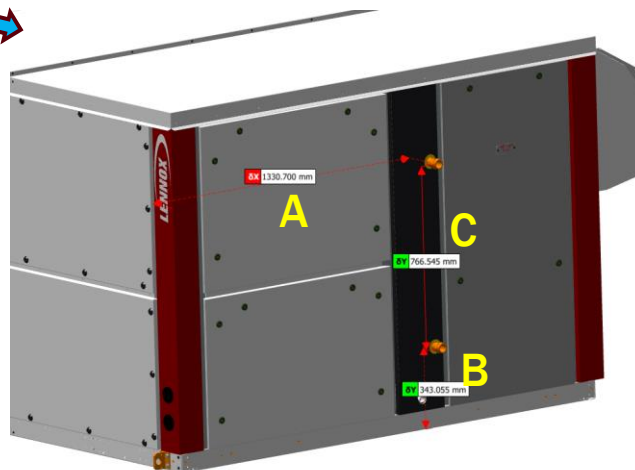
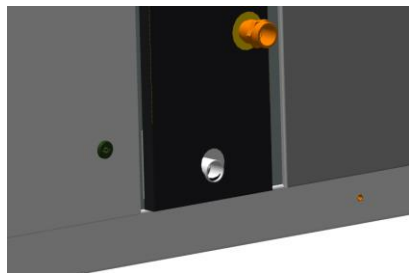
WHAT AND HOW?

FLEXAIR + eBFH

3 Way valve delivered separately
 → to be installed and isolated outside by the installer



Non removable condensate drain pan



F-BOX

A	1"1/4 - DN32
B	1"1/4 - DN32
CON.	MALE

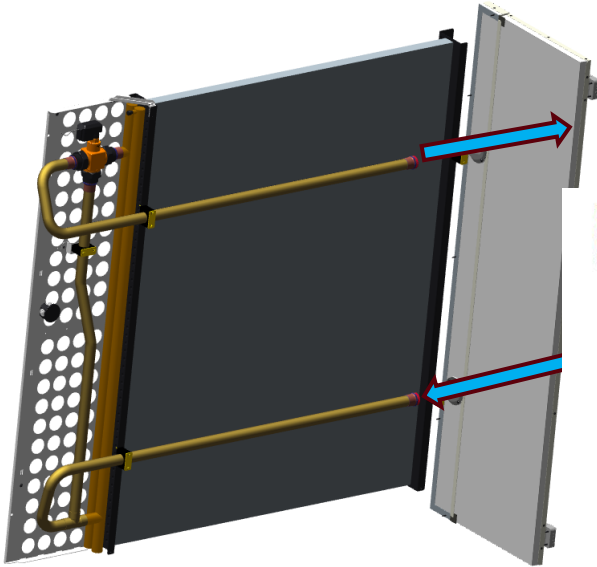
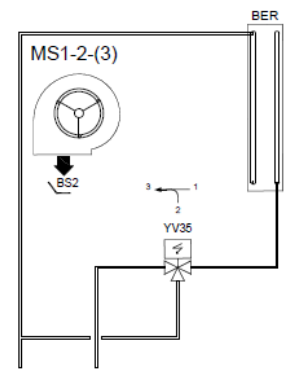
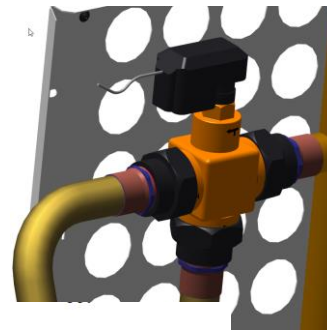
G & H-BOX

A	1"1/2 - DN40
B	1"1/2 - DN40
CON.	MALE

BOX	F	G	H
A	1331	1334	1345
B	343	451	519
C	767	922	1233

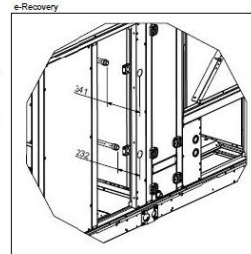
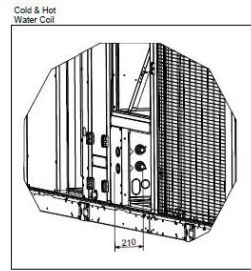
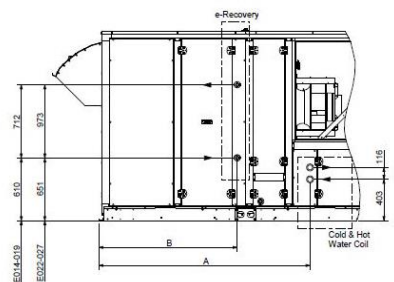
ENERGY + eENERGY

3 Way valve delivered mounted in the unit



Water pipes connection

Water pipes of the hot (and cold) water coil & eRecovery water coil are placed inside the unit. Connection (Inlet/outlet) with the water loop must be realised inside the unit. Some adjustable sealing parts are forecasted and mounted on the side of the unit (right hand side airflow direction) so that the water loop pipes can go through the panels. See picture below:



	Standard	Extraction Vertical	Rotary Wheel Vertical Thermodynamic Heat Recover Vertical	Extraction Horizontal Rotary Wheel Horizontal Thermodynamic Heat Recovery Horizontal
A	2070	3031	3819	4247
B	1350	2311	2899	3527

	E014 - E019	E022 - E027
Water Coil Small - Threaded male	DN25 - 1"	DN32 - 1 1/4"
Water Coil High - Threaded male	DN32 - 1 1/4"	DN40 - 1 1/2"
e-Recovery - Threaded male	DN32 - 1 1/4"	DN40 - 1 1/2"

BOX	E014-E019	E022-E027
A	DN32 - 1" 1/4	DN40 - 1" 1/2
B	DN32 - 1" 1/4	DN40 - 1" 1/2
CON.	Threaded MALE	Threaded MALE