

“HEATREC” Range

HEAT RECOVERY UNITS

For Commercial and Industrial Use

- 8 Models
- Provides Clean, Filtered Fresh Air
- Recovers 50-70% of Heat Lost
- Low Running Costs
- Quiet Operation



Uniclass L7534





GENERAL

The **Heatrec** range of Heat Recovery Units has been specifically designed to help alleviate the problems of high energy consumption which typically occurs when large buildings need to draw air in from the outside.

There are 8 HEATREC models available (including one three phase model) with capacities ranging from 50m³/hr to over 4500m³/hr.

The units incorporate a heat exchanger which enables them to recover between 50% and 70% of the energy which would otherwise be lost with the extraction of contaminated air.

The units can be used in conjunction with other ventilation and air conditioning systems so that their energy consumption benefits can be optimised both during the summer and winter.

The range is particularly suited for installation in lofts and false ceilings and in ducting (thus allowing air intake and exhaust directly from a given area).

Versions

Heatrec are available:

- **standard single skin**
- **double skin**
- **single skin with LPHW heater (not 300 or 600)**
- **double skin with LPHW heater (not 300 or 600)**
- **double skin with electric heater**
- **vertical versions of all models above**

CONSTRUCTION

The casing is made from either single or double thickness ALUZINK panels, with thermal and acoustic insulation from polyethylene and polyester material with a thickness of 10mm for models 300, 600 and 1200, and 20mm for models 1600, 2000, 2600, 3500 and 4500.

The inlet side filter housing panel is easily removable for installation and to allow access for maintenance. All internal components can be easily removed and inspected from underneath the **Heatrec** after installation.

Motor/Fan Assembly

The impeller is of the double inlet, forward bladed centrifugal type mounted on antivibration supports. The motor is directly connected to the fan and is pre-wired to the connector box.

Models **300** and **600** are single phase, two speed

Models **1200, 1600, 2000, 2600** and **3500** are single phase, three speed.

Model **4500** is three phase, two speed

Heat Exchanger

The heat exchanger is a high performance, static cross flow type. The heat exchange plates are aluminium, and the opposing air flows are properly separated to prevent contamination. There is a stainless steel condensation collection tray at the bottom of the unit which has an integral pipe for easy draining

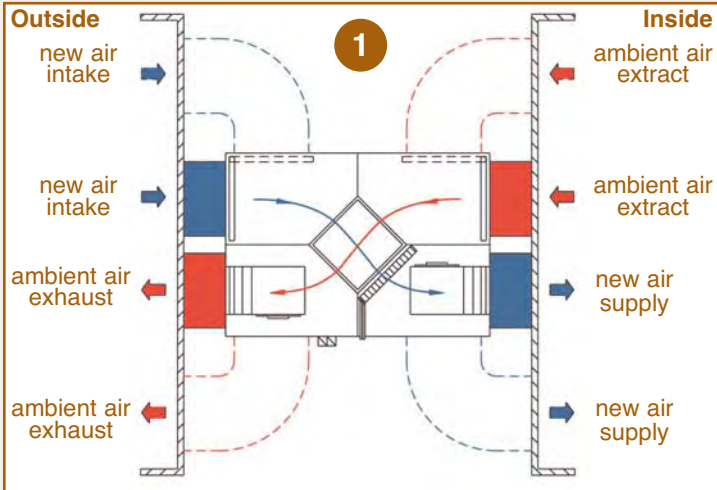
Air Filter

Filters are cartridge style, with a pleated filter medium. They can be removed, cleaned and reused. The filter material is from synthetic fibre Class G3 (efficiency 85%-EU3).

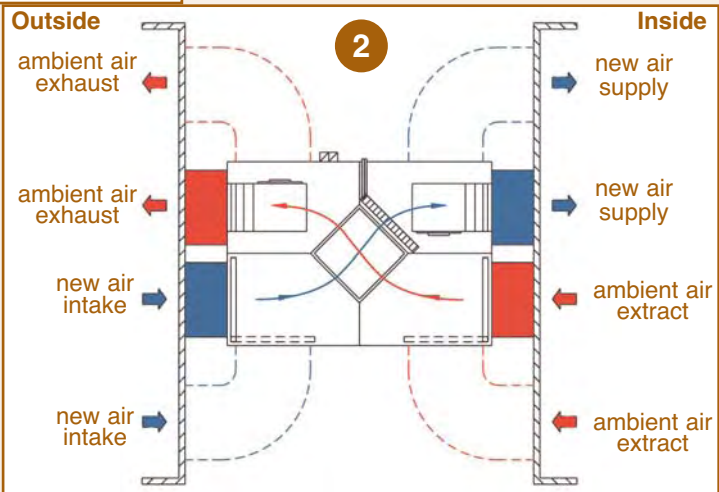
ACCESSORIES

- **HR3SS - 2/3 speed controller** (for use with single phase single and double skin models)
- **HR3SST - 2/3 speed controller with thermostat** (for use with single phase models with LPHW or Electric Battery)
- **HRDSS - 2 speed controller** (for use with single and double skin Heatrec 4500)
- **HRWCU - external water cooling unit** (for use with all models **except** 300 and 600 sizes)
- **HRRC - roof cowl** (for use on all models)
- **HR Circular Spigot Adaptors** (set of 4 for use on all models)
- **HRF - filters** (for use with all models)
- **HRS - bypass dampers** (for use with all models)

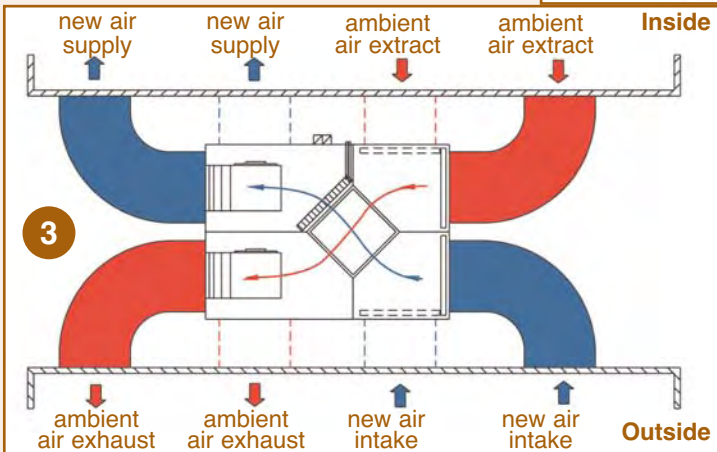
INSTALLATION



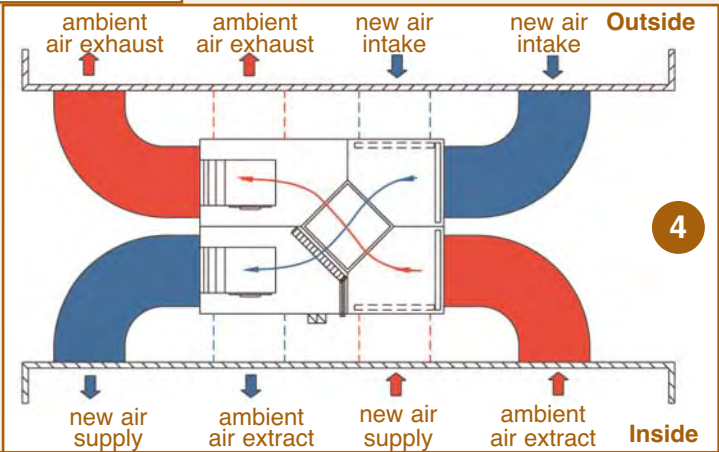
1. Installation with or without heater



2. Installation with heater



3. Installation with or without heater



4. Installation with heater



TECHNICAL DATA

Model	Power kw	Max Current Amps	Volts/Phase	No of Poles	Motor Class	IP Rating	dB(A)*
Heatrec 300	0.045 x 2	1.08	230/1	4	B	44	53
Heatrec 600	0.065 x 2	1.60	230/1	2	F	44	54
Heatrec 1200	0.147 x 2	3.00	230/1	4	F	44	53
Heatrec 1600	0.350 x 2	5.80	230/1	4	F	55	60
Heatrec 2000	0.350 x 2	6.20	230/1	4	F	44	59
Heatrec 2600	0.350 x 2	6.00	230/1	4	F	55	56
Heatrec 3500	0.550 x 2	11.40	230/1	4	F	20	59
Heatrec 4500	0.750 x 2	6.20	400/3	4	F	55	62

*sound pressure level is measured in free field at 1.5m from the fan centre, in any direction with inlet and outlet sides connected to the duct

Hot Water Heater - H₂O 70°/60°C - T = 8°C

Model	Airflow m ³ /hr	Stages	Thermal Yield	Exhaust Temp (°C)	Pressure Drop Water Side (kPa)
Heatrec 1200	1000	3	11.3	40.5	13
Heatrec 1600	1400	3	16.3	41.5	31
Heatrec 2000	1900	3	20.4	39	18
Heatrec 2600	2500	3	29.7	42.2	20
Heatrec 3500	3200	3	35.1	39.6	27
Heatrec 4500	3900	3	44.3	39.9	49

Hot Water Heater - H₂O 80°/70°C - T = 8°C

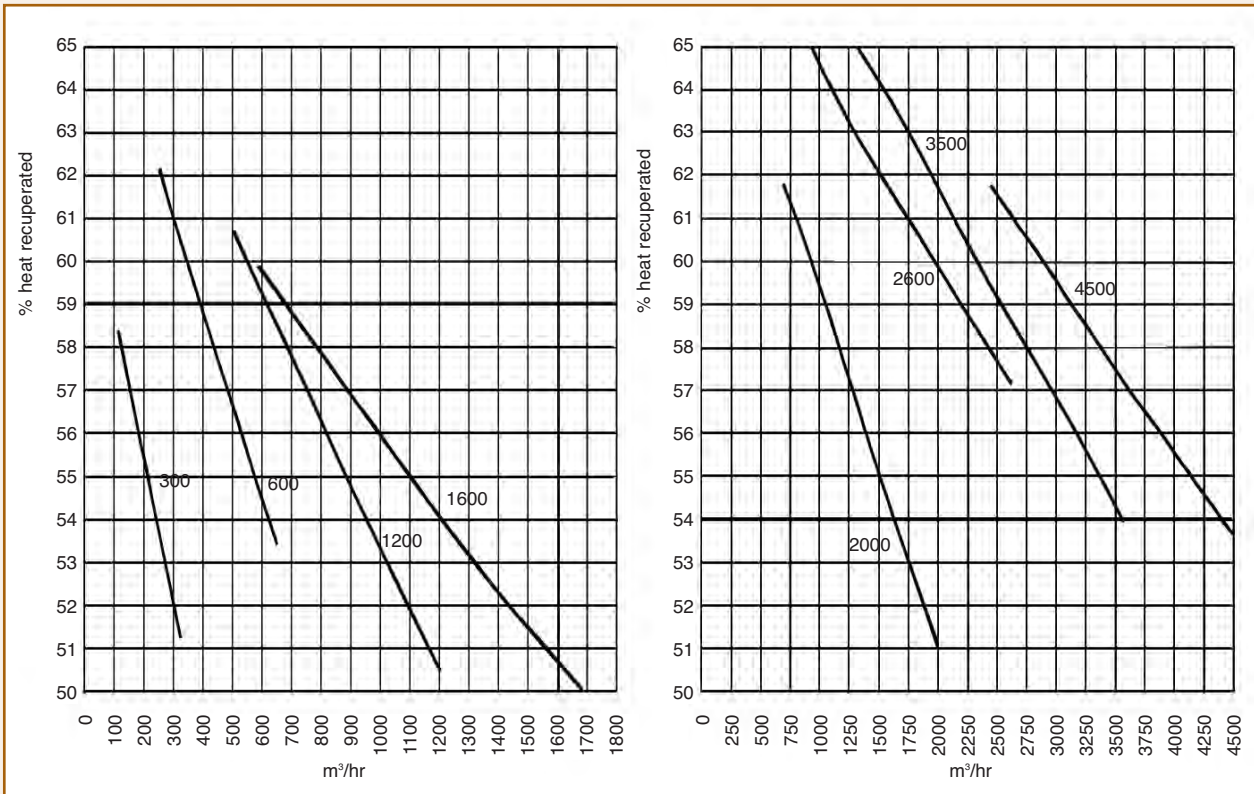
Model	Airflow m ³ /hr	Stages	Thermal Yield	Exhaust Temp (°C)	Pressure Drop Water Side (kPa)
Heatrec 1200	1000	3	13.6	47.1	19
Heatrec 1600	1400	3	19.4	48	42
Heatrec 2000	1900	3	24.6	45.3	25
Heatrec 2600	2100	3	35.4	48.9	27
Heatrec 3500	3200	3	42	45.8	37
Heatrec 4500	3900	3	52.8	46.1	67

Electric Heater Battery

Model	Electric Heater Single Stage (KW)	Power Supply (v)/Phase
Heatrec 300	2	230/1
Heatrec 600	4	230/1
Heatrec 1200	4.5	400/3
Heatrec 1600	6	400/3
Heatrec 2000	9	400/3
Heatrec 2600	12	400/3
Heatrec 3500	12	400/3
Heatrec 4500	12	400/3

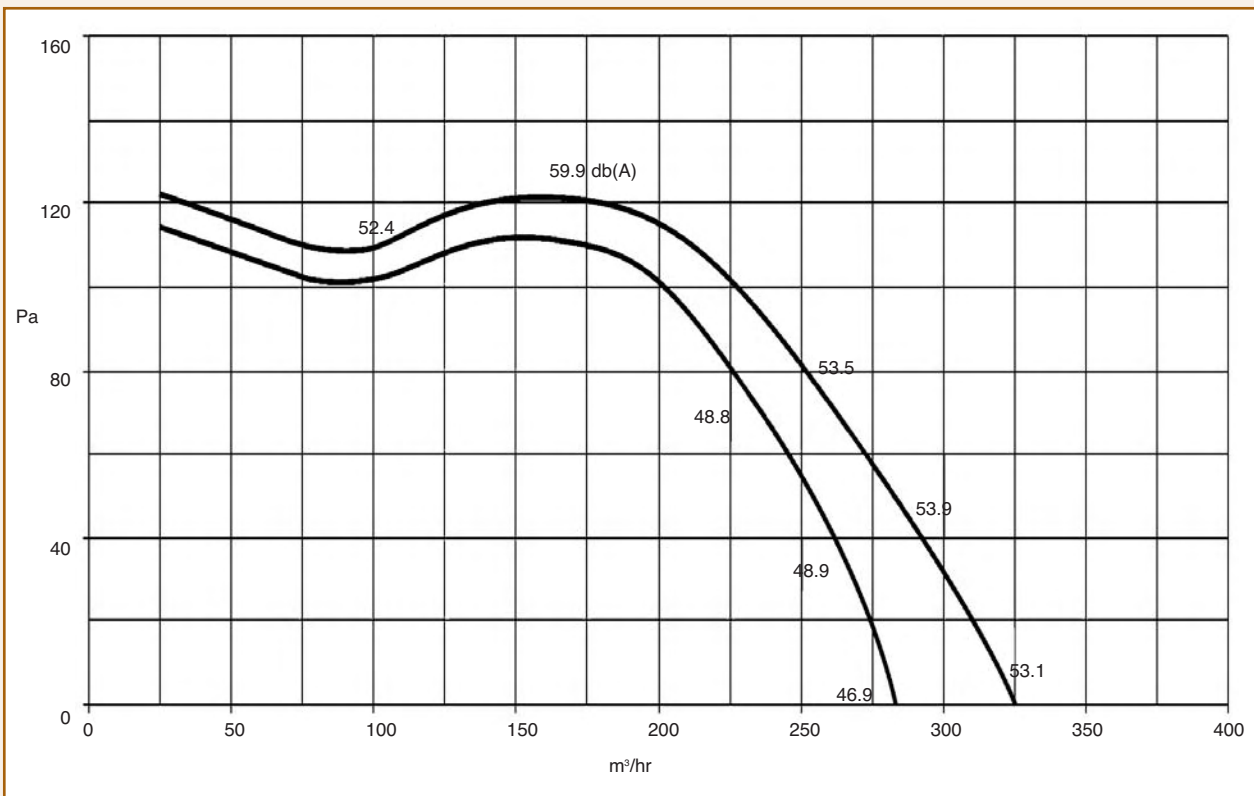


THERMAL EFFICIENCY



exhaust air - 20°C: air intake renewal - -5°C

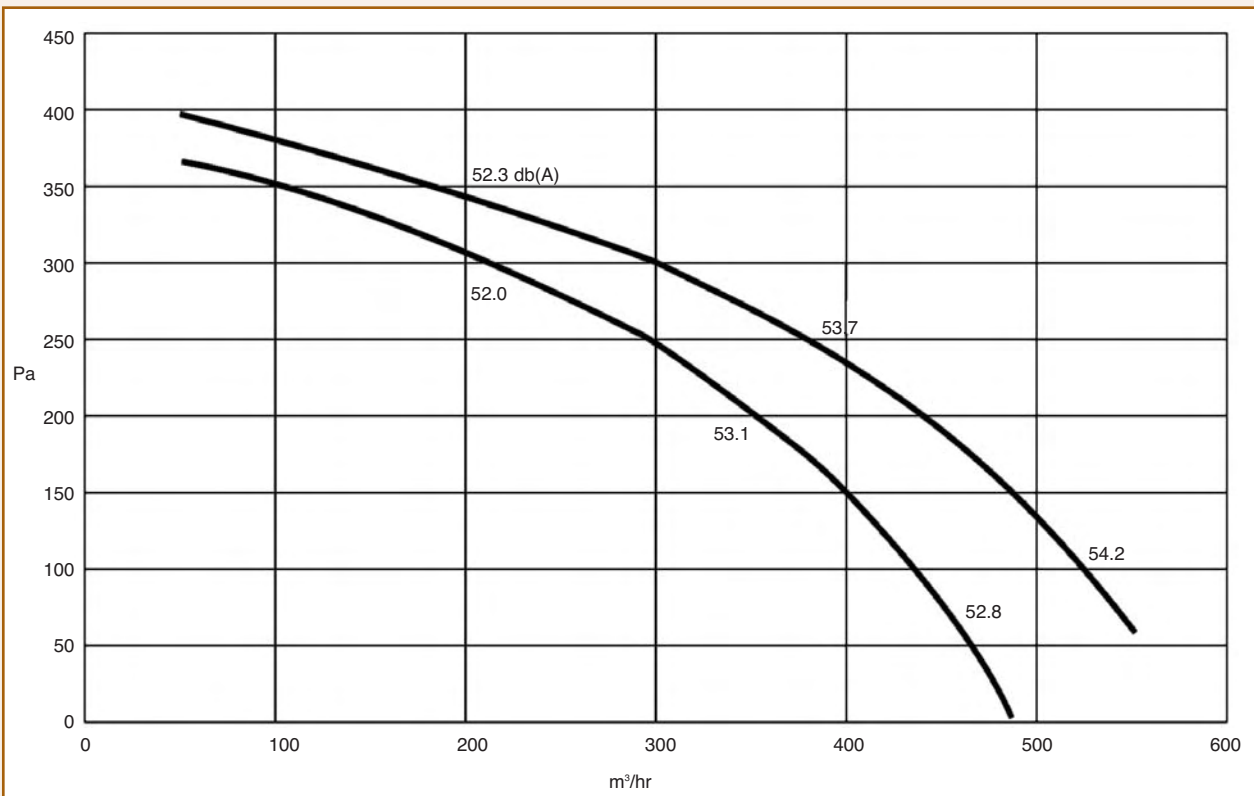
HEATREC 300 - Performance



Frequency - 50Hz: Air Temperature - 15°C: Barometric pressure - 760mm Hg: Air specific weight - 1.22 kg/m³
 Sound pressure levels are measured in free field at 1.5m distance from fan centre (in any direction) with inlet and outlet sides connected to duct

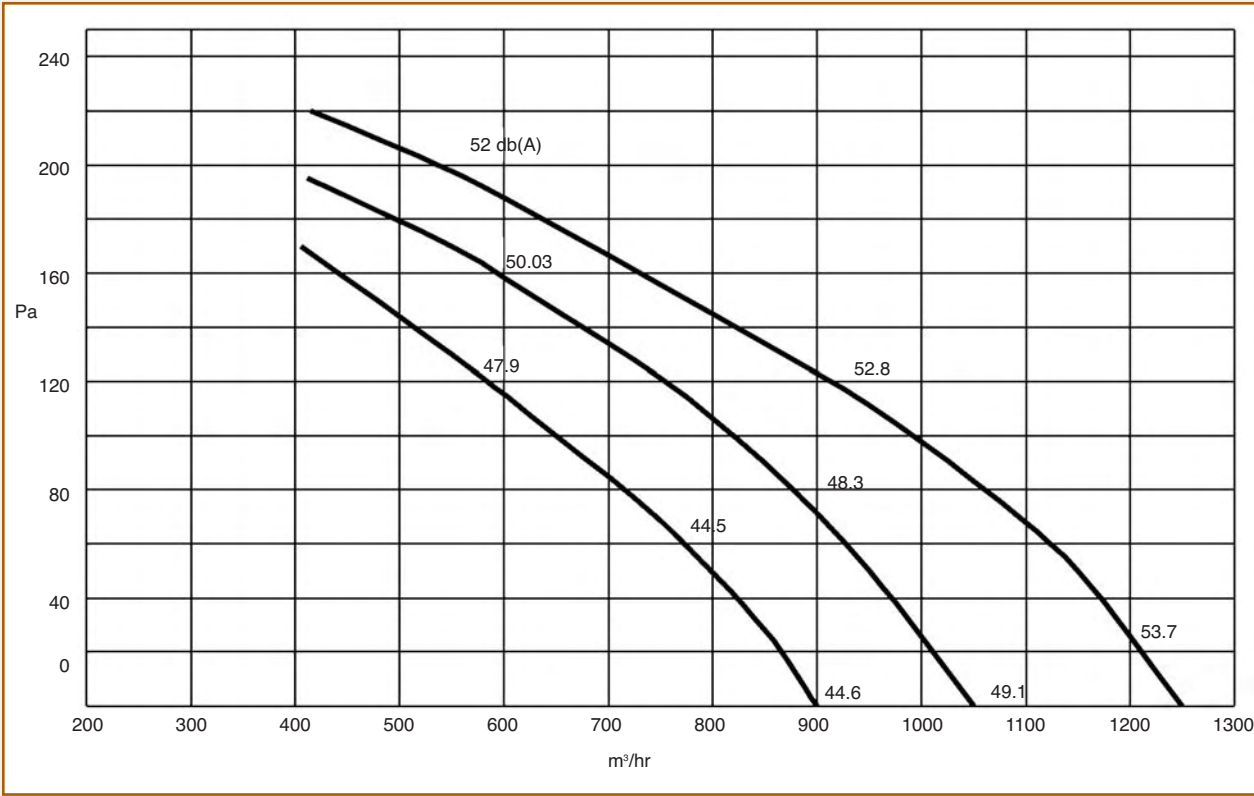


HEATREC 600 - Performance



Frequency - 50Hz: Air Temperature - 15°C: Barometric pressure - 760mm Hg: Air specific weight - 1.22 kg/m³
 Sound pressure levels are measured in free field at 1.5m distance from fan centre (in any direction) with inlet and outlet sides connected to duct

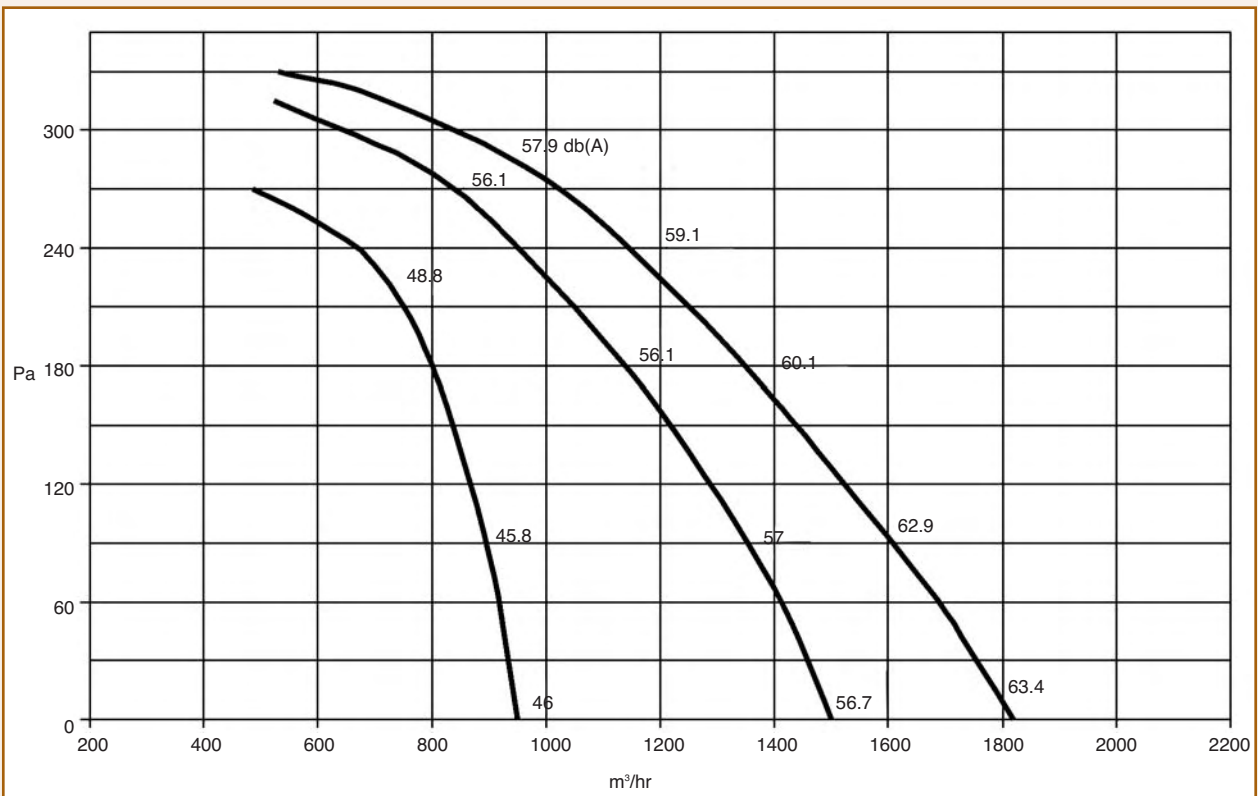
HEATREC 1200 - Performance



Frequency - 50Hz: Air Temperature - 15°C: Barometric pressure - 760mm Hg: Air specific weight - 1.22 kg/m³
 Sound pressure levels are measured in free field at 1.5m distance from fan centre (in any direction) with inlet and outlet sides connected to duct

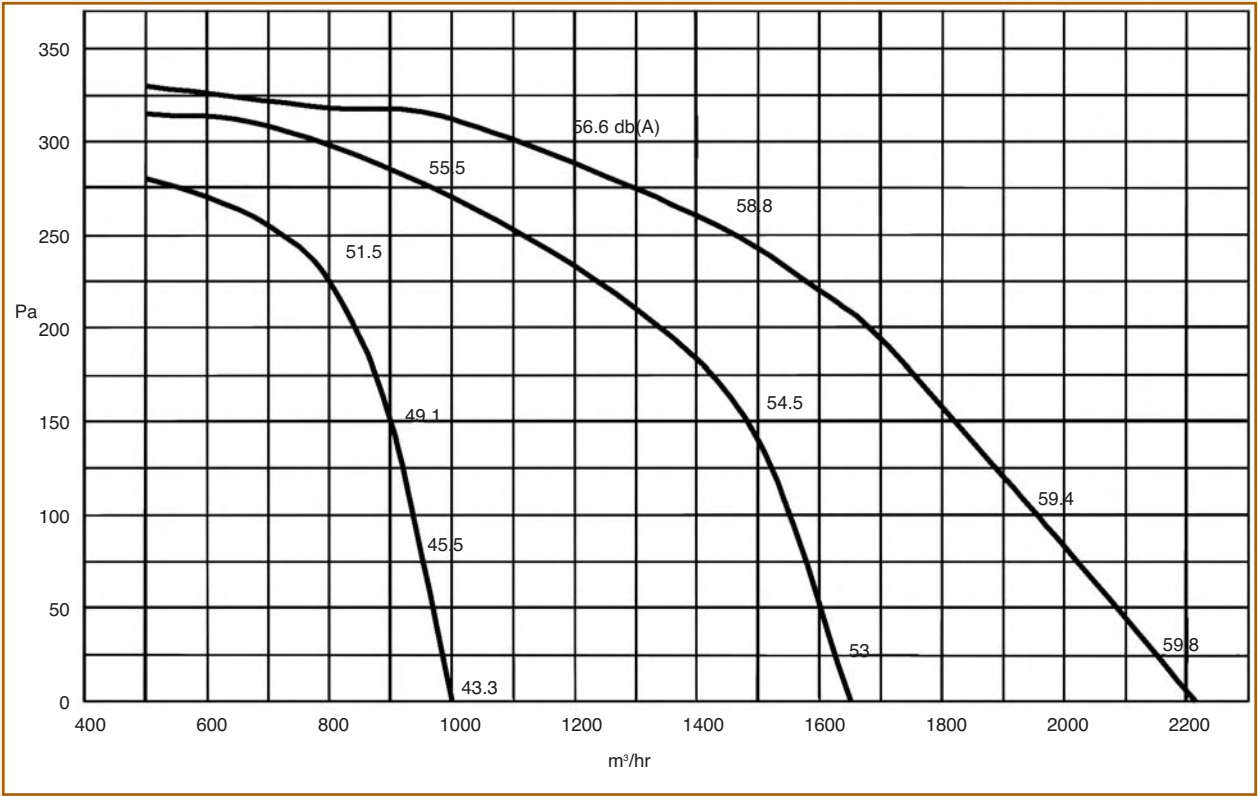


HEATREC 1600 - Performance



Frequency - 50Hz: Air Temperature - 15°C: Barometric pressure - 760mm Hg: Air specific weight - 1.22 kg/m³
 Sound pressure levels are measured in free field at 1.5m distance from fan centre (in any direction) with inlet and outlet sides connected to duct

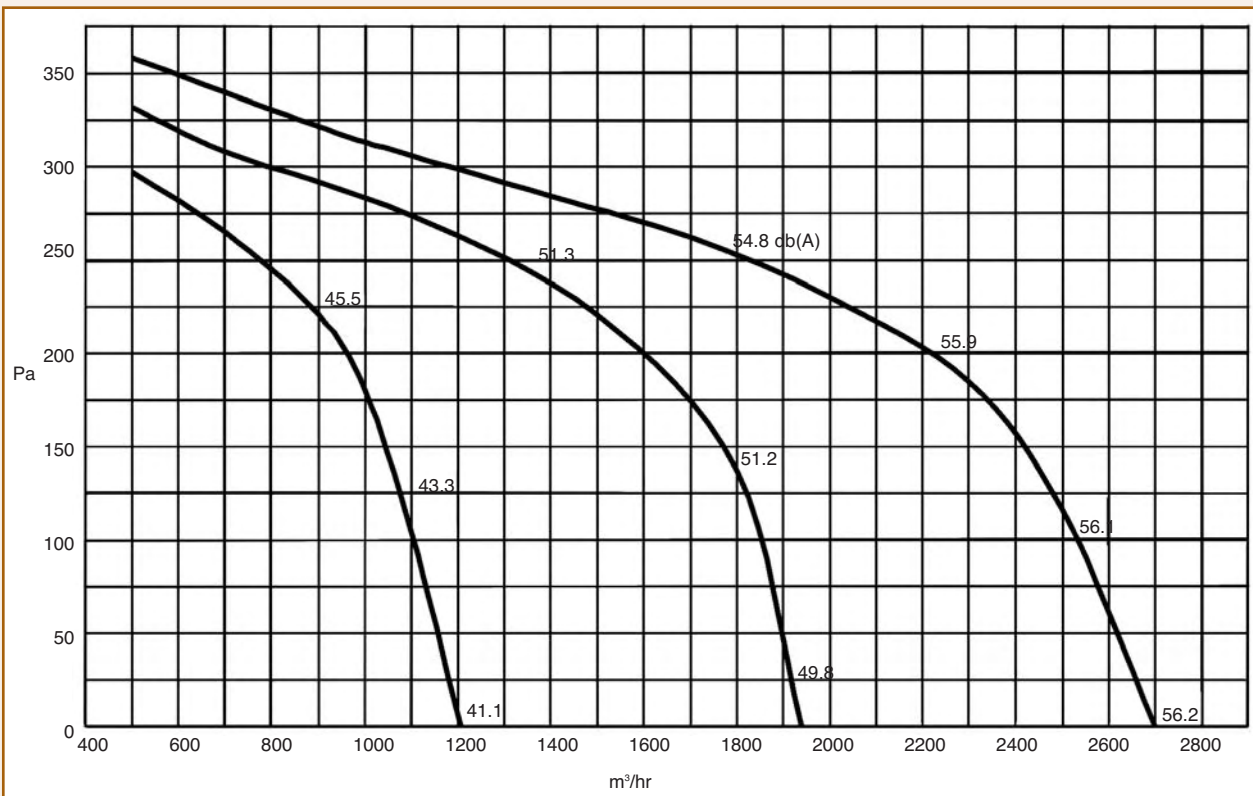
HEATREC 2000 - Performance



Frequency - 50Hz: Air Temperature - 15°C: Barometric pressure - 760mm Hg: Air specific weight - 1.22 kg/m³
 Sound pressure levels are measured in free field at 1.5m distance from fan centre (in any direction) with inlet and outlet sides connected to duct

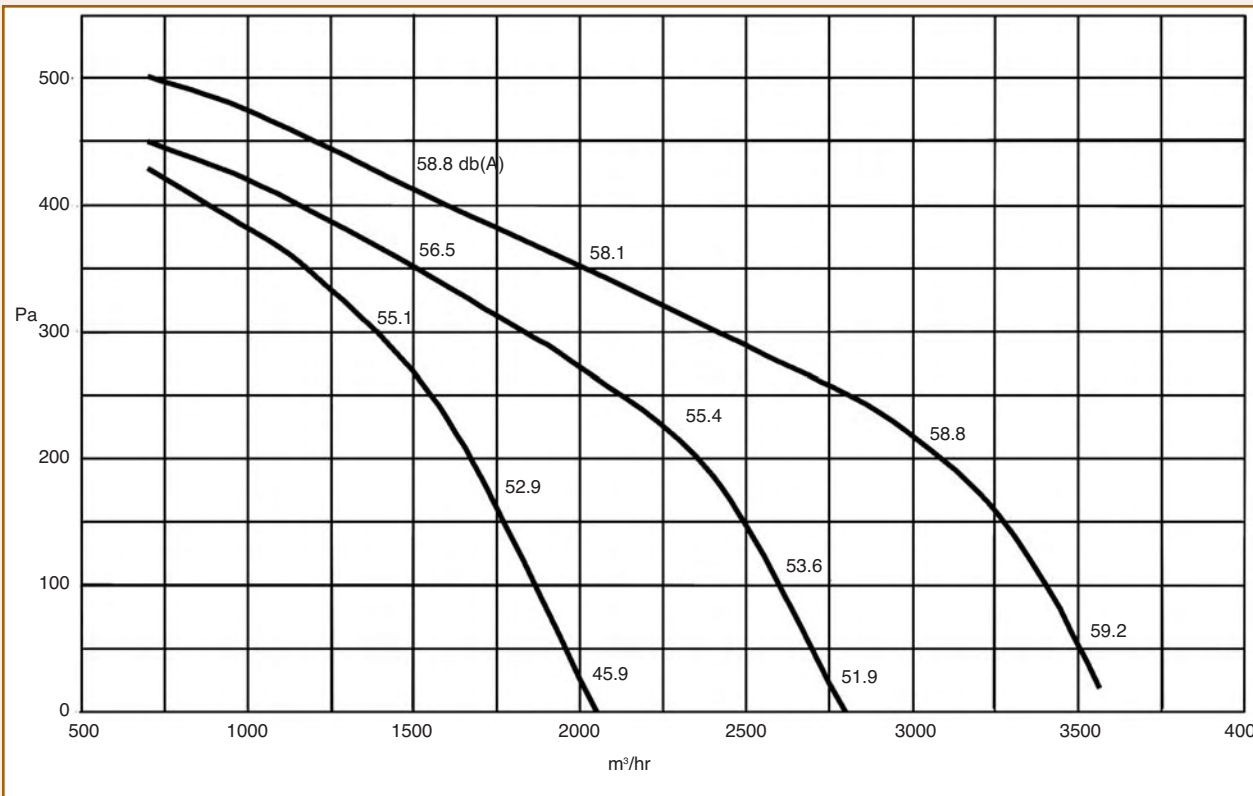


HEATREC 2600 - Performance



Frequency - 50Hz: Air Temperature - 15°C: Barometric pressure - 760mm Hg: Air specific weight - 1.22 kg/m³
 Sound pressure levels are measured in free field at 1.5m distance from fan centre (in any direction) with inlet and outlet sides connected to duct

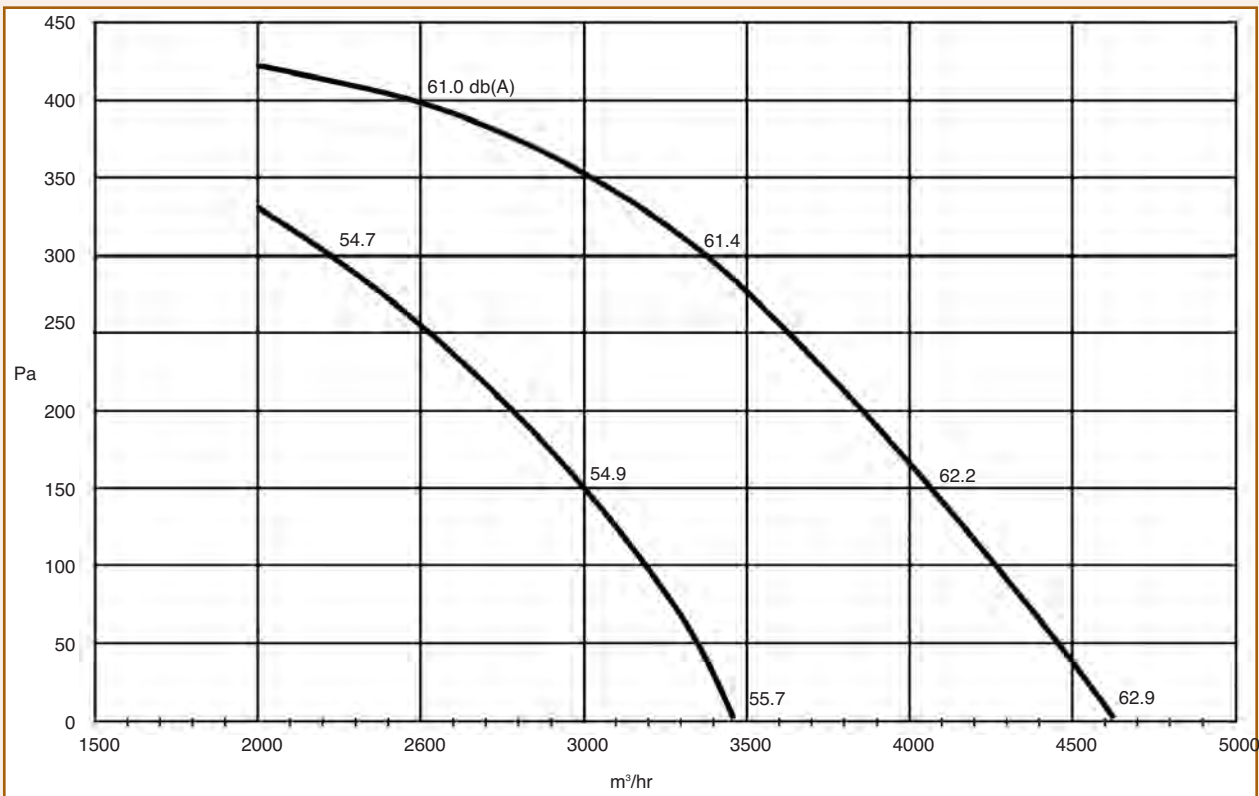
HEATREC 3500 - Performance



Frequency - 50Hz: Air Temperature - 15°C: Barometric pressure - 760mm Hg: Air specific weight - 1.22 kg/m³
 Sound pressure levels are measured in free field at 1.5m distance from fan centre (in any direction) with inlet and outlet sides connected to duct

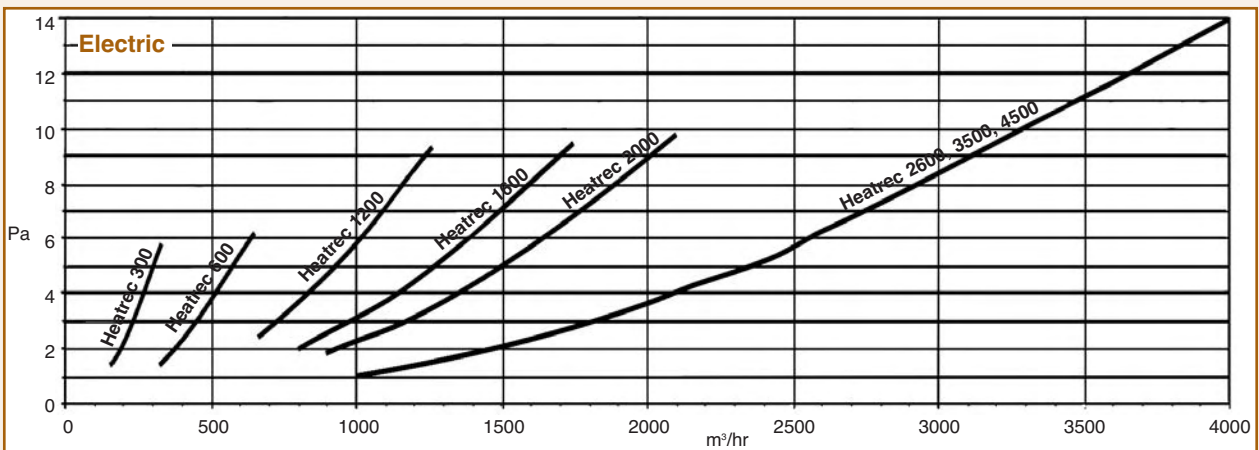
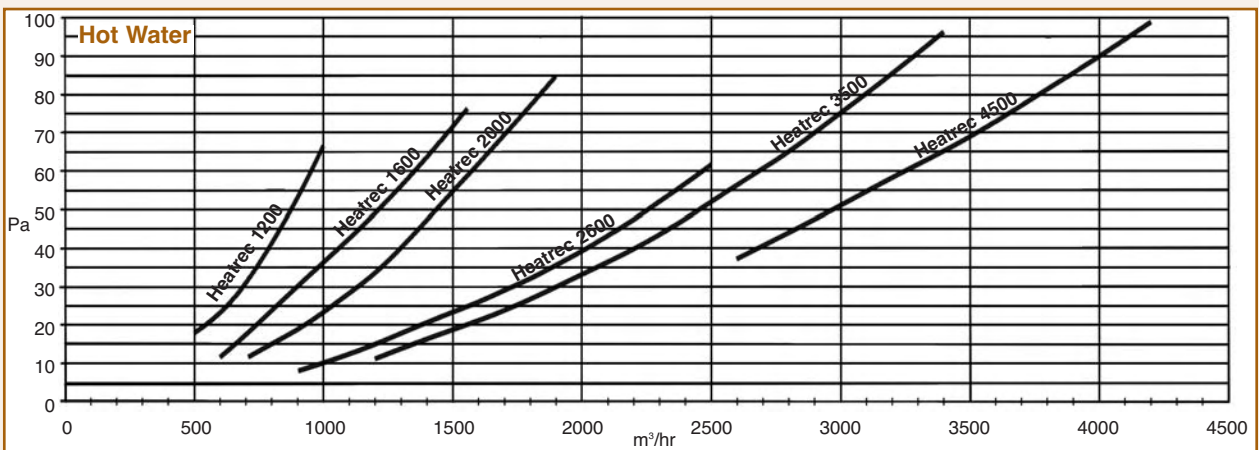


HEATREC 4500 - Performance

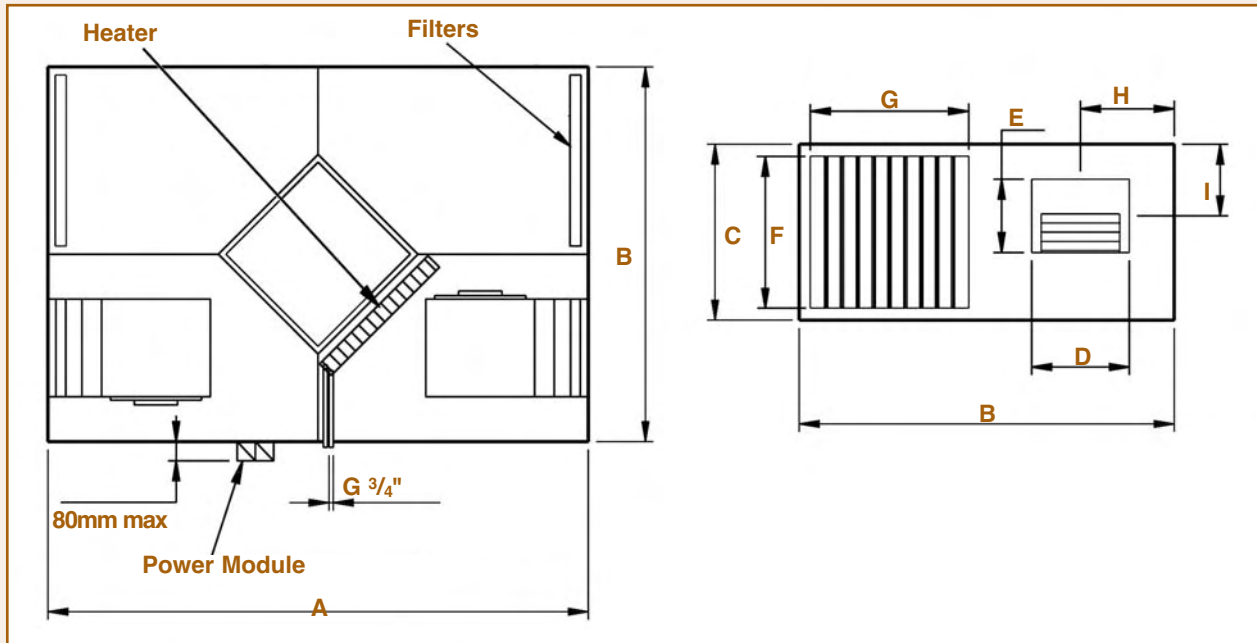


Frequency - 50Hz: Air Temperature - 15°C: Barometric pressure - 760mm Hg: Air specific weight - 1.22 kg/m³
 Sound pressure levels are measured in free field at 1.5m distance from fan centre (in any direction) with inlet and outlet sides connected to duct

HEATER PRESSURE DROPS

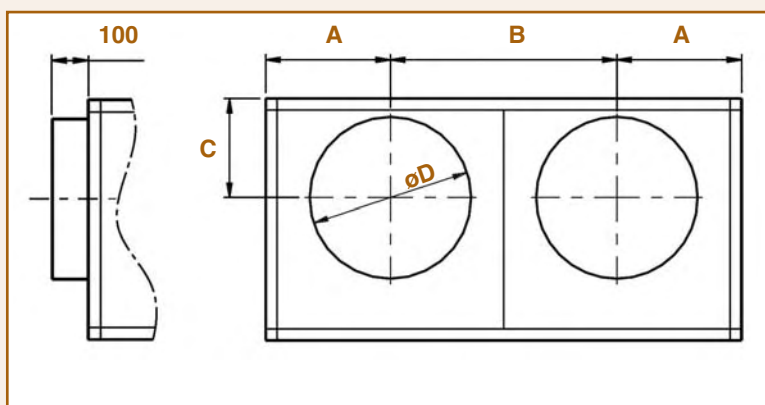


DIMENSIONS



Model	A	B	C	D	E	F	G	H	I	kg
Heatrec 300	990	750	270	127	108	153	275	120	93	39
Heatrec 600	990	750	270	229	103	153	275	197	99	41
Heatrec 1200	1150	860	385	240	218	267	330	225	147	68
Heatrec 1600	1350	900	410	240	270	267	337	241	186	91
Heatrec 2000	1450	900	470	240	270	327	337	230	186	99
Heatrec 2600	1700	1230	490	306	270	347	502	224	186	140
Heatrec 3500	1700	1230	530	339	297	387	502	308	199	155
Heatrec 4500	1700	1230	630	339	297	487	502	308	199	179

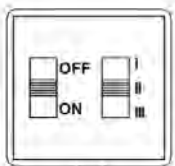
CIRCULAR SPIGOT ADAPTORS



Model	A	B	C	D
Heatrec 300	197	356	100	156
Heatrec 600	197	356	118	196
Heatrec 1200	224	411	179	312
Heatrec 1600	241	418	193	312
Heatrec 2000	230	440	192.5	312
Heatrec 2600	323	583	213	351
Heatrec 3500	307	616	235	396
Heatrec 4500	307	616	260	446

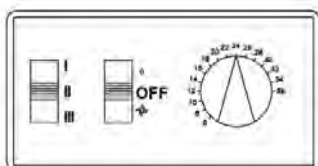
CONTROLLERS

HR3SS



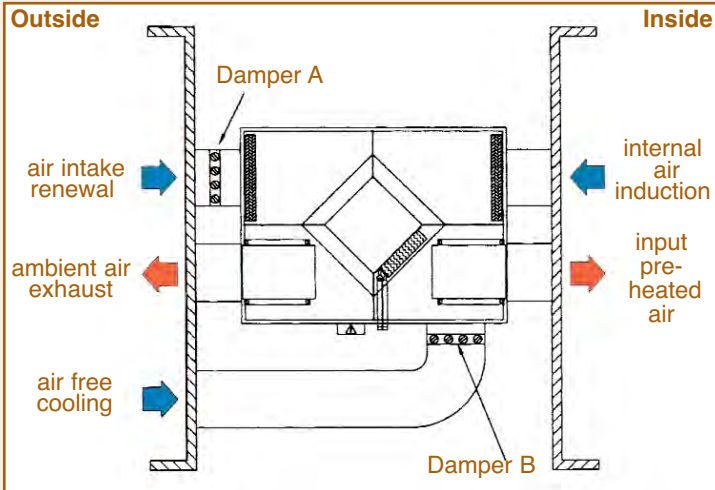
2/3 Speed Controller
on/off switch
for Heatrecs without
Heater Batteries
6A max load
ABS enclosure
90 x 65 x 30mm

HR3SST



2/3 Speed Controller
on/off switches
with thermostatic control
for Heatrecs with Heater
Batteries
5A max load
ABS enclosure
150 x 84 x 32mm

DEFROSTING BYPASS OR FREE COOLING

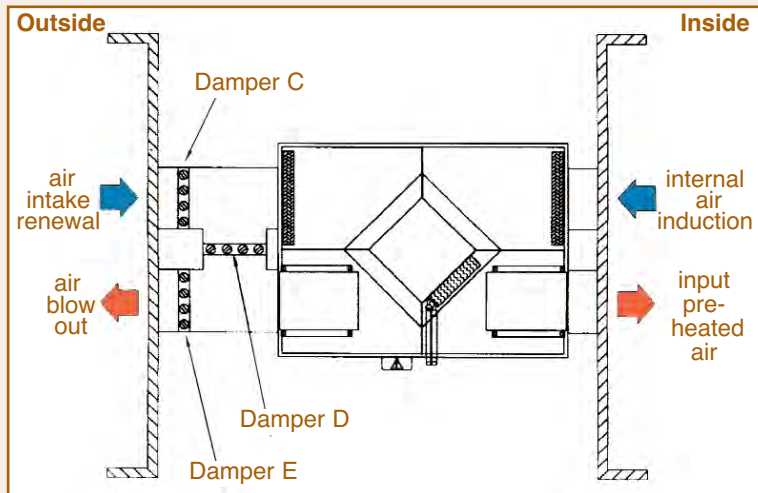


Free Cooling

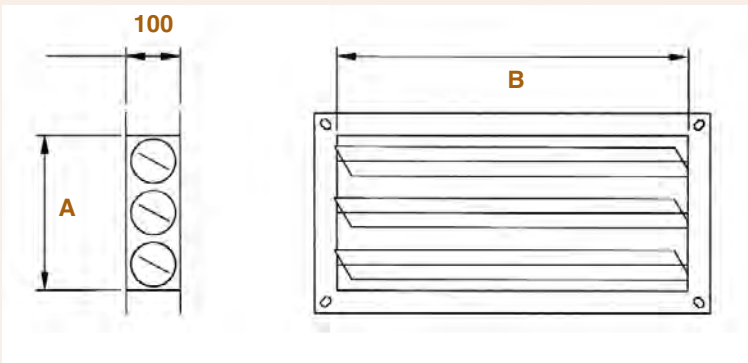
When the outside and inside air temperatures are more or less the same, the heat exchanger can be by-passed by use of dampers (opening damper B and closing damper A) so that air from the outside goes directly into the room.

Defrosting

During very cold weather it is possible that incoming air could freeze blocking the passage through the heat exchanger. Installing an optional anti-freeze thermostat together with the bypass system indicated in the diagram to the right (opening damper(s) and closing damper(s)) would adequately warm the incoming air to preclude frosting.

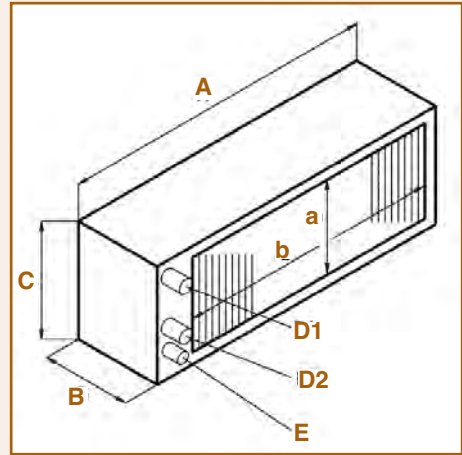
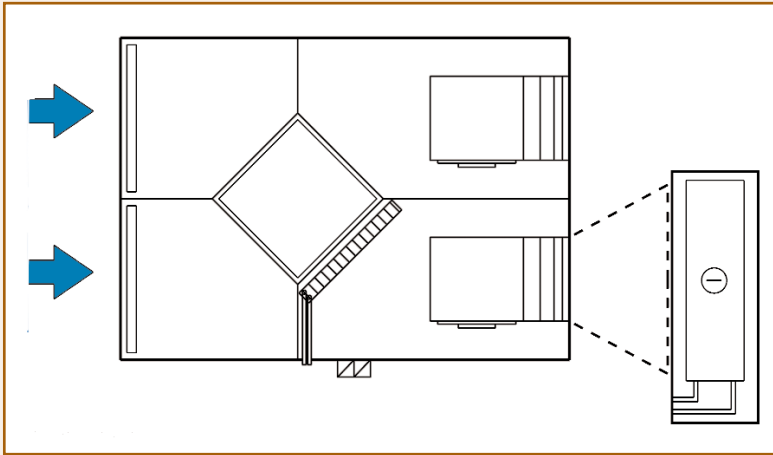


DAMPERS



Model	A	B
Heatrec 300	210	280
Heatrec 600	210	280
Heatrec 1200	310	330
Heatrec 1600	310	330
Heatrec 2000	410	330
Heatrec 2600	410	500
Heatrec 3500	410	500
Heatrec 4500	410	600

EXTERNAL WATER COOLING UNIT



Model Heatrec	1200	1600	2000	2600	3500	4500
Airflow (m ³ /hr)	1000	1400	1900	2100	3200	4000
Cooling Power (kw)	7.2	9.1	11.6	15.1	18.5	26.9
Exhaust Temperature (°C)	15	16.2	16.8	16.9	17.3	16
Air Pressure Drop (Pa)	20	32	38	42	49	98
Water Capacity (m ³ /hr)	1.24	1.56	1.98	2.60	3.17	4.6

Model	A	B	C	D1	D2	E	a	b
Heatrec 1200	1000	200	295	3/4"	3/4"	22	210	860
Heatrec 1600	1000	200	295	3/4"	3/4"	22	210	860
Heatrec 2000	1100	200	322	3/4"	3/4"	22	235	860
Heatrec 2600	1340	200	322	3/4"	3/4"	22	235	1200
Heatrec 3500	1340	200	372	1"	1"	22	260	1200
Heatrec 4500	1340	200	372	1"	1"	22	260	1200

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