ÖSTBERG
HEALTHY INDOOR CLIMATE
WITH ENERGY EFFICIENT VENTILATION

HERU

Energy recovery units

Clean indoor air!

HERU energy recovery units
for good health and energy savings

Contents

QUALITY OF AIR IS QUALITY OF LIFE

Clean comfortable indoor air

Most apartments and houses have poor ventilation. There is a direct connection between the quality of the indoor air and allergies, which effects our ability to concentrate and perform productively.

Today heating and cooling often is one of the house owners largest expense, that's why during the past decades building regulations have dictated that new buildings must be airtight to reduce energy costs, but this has lead to excessive moisture and mould occuring.

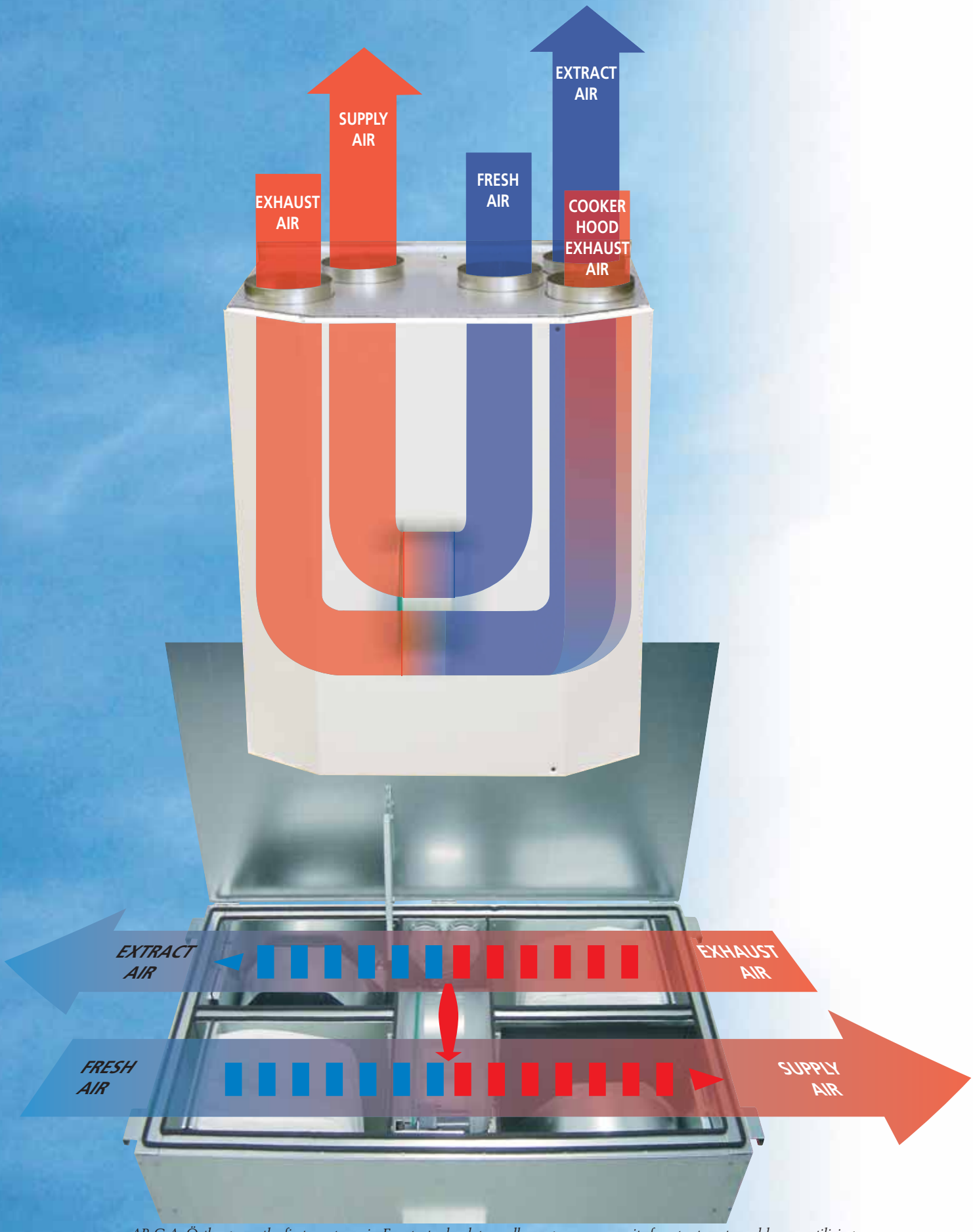
The most comfortable climate comes from controlled ventilation, exhaust and supply air, filtration and energy recovery, which will result in lower heating costs for the supply air. This is why we at AB C.A. Östberg designed and manufactured the prize winning energy recovery unit HERU.

HERU provides the house with warm or cool filtered, clean, fresh air, at the same time HERU recovers the used indoor heat (alternatively cooled air) from the exhaust airstream. HERU has a temperature efficiency of up to 86%.

There are two models and 8 sizes of HERU for you to choose from.

- *Particle of dust*
- *Bacteria*
- *Mildew*
- *Grain of pollen*

- *Mould*
- *Radon*
- *Casein bearing tempera*
- *Evaporating chemical*



AB C.A. Östberg was the first company in Europe to develop small energy recovery units for apartments and houses utilizing with a rotating heat exchanger at competitive prices.
The Swedish Government Energy Department selected Heru as the winner of their big nationwide competition for energy recovery units. Many have discovered that Heru offers energy savings and increased comfort at low cost investment.
The high temperature efficiency of HERU also works when the outside air is below zero, in contrast to cross or contra flow plate heat exchanger where defrosting or reduced supply air through the exchanger is a necessity to prevent freezing!
The defrosting reduces the efficiency with 5-10% according to SP (Swedish Test and Research Institute), and also extra energy is needed to warm up the supply air that is not passing through the heat exchanger.
This is comparable with an exhaust air heat pump where 100% of the supply air has to be warmed up by the heating system in the house!

HERU energy recovery unit

HERU is designed for supply and exhaust air ventilation combined with energy recovery and it is eqiupped with fine mesh filters for both exhaust and supply air before the exchanger, this is suitable for homes, offices and other premises where there is a need for energy saving, low sound levels, of course clean comfortable indoor air.

HERU has been tested by the Swedish Test and Research Institute, SP, and recovers up to 86% of the energy that would be lost with a conventional ventilation system.

The airtighness of the HERU has been tested by SP, the leakage is only, depending on the external pressure, 1,5-3,0%.

MANY POSSIBILITIES FOR CLEAN INDOOR AIR

HERU comes in two different models: HERU S for placing in warm or cold space, and the wall model HERU T for placing in warm space e.g. in the utility room.

HERU S is available in the sizes 50, 75, 130 and 180. HERU T is available in the sizes 62, 90, 115 and 140.

ROTARY EXCHANGER

HERU has a regenerative rotating exchanger manufactured from aluminium. This exchanger has a exceptional high efficiency when reviewed over all the-year. This depending on the high temperature efficiency, up to 86%. No defrosting or condensed water drain is necessary, and up to 50% of the moisture is also recovered. Therefore, the total efficiency (enthalpy) is up to 25% higher than plate heat exchangers manufactured from aluminium.

Another advantage is that HERU with its rotary heat exchanger, can automatically mix the cool outside summer nighttime air with the warmer inside air to make sleeping comfortable.

RADIAL FANS

Every HERU has two radial fans, with maintenance free external rotor motors. The fans can be individually adjusted using a speed transformer.


Fan speed
Temperature
Boost
Overpressure
100 %
SM
23°C
23°C
22°C
22°C
Boost
Overp.
Main Menu
Fan speed
Temperature
Boost

Wireless control unit

HERU is operating via a simple to use wireless control unit. The operating range is approximately 50 meters and works through walls and ceilings.

REGULATION FUNCTIONS

The wireless remote control is used to preset the required parameters e.g:

- Desired fan speed.
- Desired supply, room or exhaust air temperature.
- Setting the electrical heater (Heru T).
- Time set for boost.
- Pressure compensation when supplementary heating is in use, i.e. an open fire or stove.
- Program the weekly timer to change the fan speed from one speed to another.
- Summer cooling, the fan speed is boosted without heat recovery.

INFORMATION

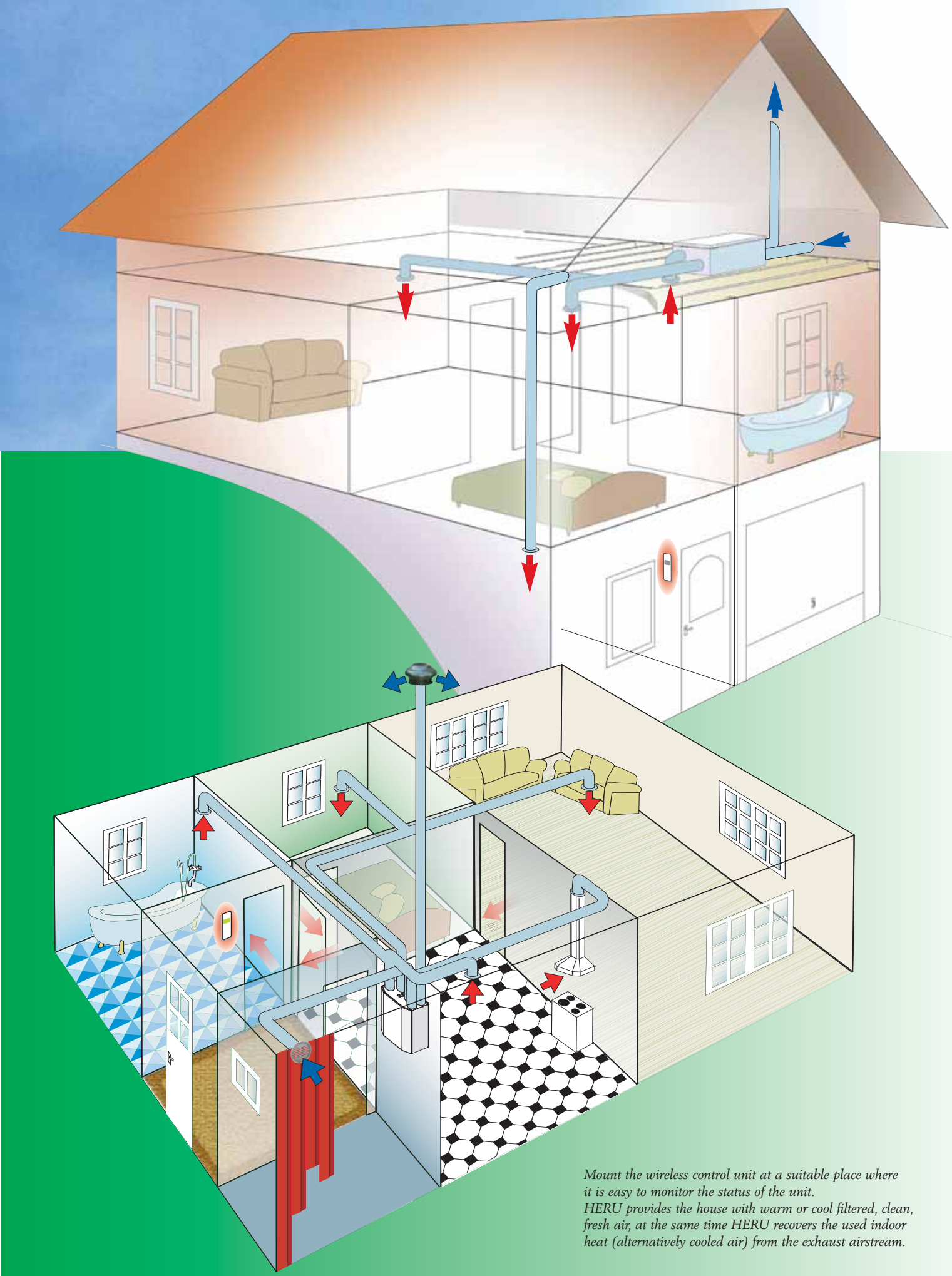
The wireless control unit will monitor the status, e.g:

- Current temperature efficiency.
- Temperature of fresh air, extract air, exhaust air and indoor air after heat exchanger.
- Temperature in supply air duct.
- The fan speed.
- If the heat exchanger is operating.
- Heating requirement, status.
- Cooling requirement, status.
- Carbon dioxide level (if sensor is connected).
- Relative air humidity (if sensor is connected).
- If overpressure is on/off.
- If boost is on/off.
- Day and time.

ALARMS

Alarms are shown for:

- If filter pressure drop is too high (Heru S).
- Indication fault for the heat exchanger.
- If supply air temperature is too low.
- Triggered smoke detector.
- Triggered freeze protection for the heating coil (Heru S).



Mount the wireless control unit at a suitable place where it is easy to monitor the status of the unit.
HERU provides the house with warm or cool filtered, clean, fresh air, at the same time HERU recovers the used indoor heat (alternatively cooled air) from the exhaust airstream.

Easy installation, service and cleaning

HERU is easy to install and easy to regulate with the wireless control unit. Very quickly you will enjoy the advantage of high air quality and savings on heating and cooling.

INSTALLATION

HERU S can be mounted in a warm or cold space and has 50 mm insulated, double skinned galvanised sheet steel casing.
HERU S is supplied for right handing application. Changes can be made with the wireless control unit.

HERU T wall model is mounted in a warm space as e.g. the utility room. It has 20 mm insulation in a double skinned galvanised sheet steel casing.

Ducts are mounted to the different rooms; kitchen and bathroom for the exhaust air and living room and bedroom for the supply air.

A cooker hood can be connected to HERU T, with a separate duct, after the heat exchanger.

LONG LIFETIME WITH WARRANTY

HERU is developed in Sweden with Swedish high quality standards. AB C.A. Östberg has a long experience of manufacturing small energy recovery units with rotating heat exchangers! The demands that are put on both the unit and its components guarantees a problem free operation year after year.

A great benefit was to make service and cleaning as easy as possible and the unit is almost maintenance free. The only requirement is a filter change approximately once a year in combination with a general inspection. For peace of mind there is a three year, unlimited use, warranty.

FILTER CHANGE

As standard HERU is equipped with fine mesh filters, model F7, that cleans the air from particles with a sizes less than a grain of pollen. HERU S has bagfilters and HERU T has disposable rigid filters.

Filter should be change when the wireless control unit alarms for filter pressure drop (HERU S) or adjusted time (HERU T) (picture **1**).

SERVICE AND CLEANING

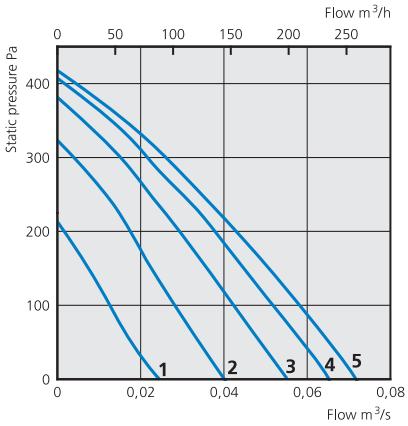
HERU has two reliable radial fans with a low sound level.

The fans are connected with quick connections and are easy to remove for cleaning (picture **2**).

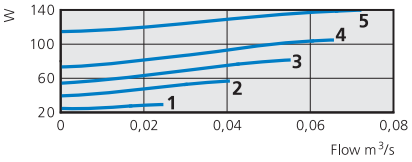
It is also possible to clean the heat exchanger (picture **3**).

HERU 50 S

PRESSURE/FLOW



FAN POWER/FLOW



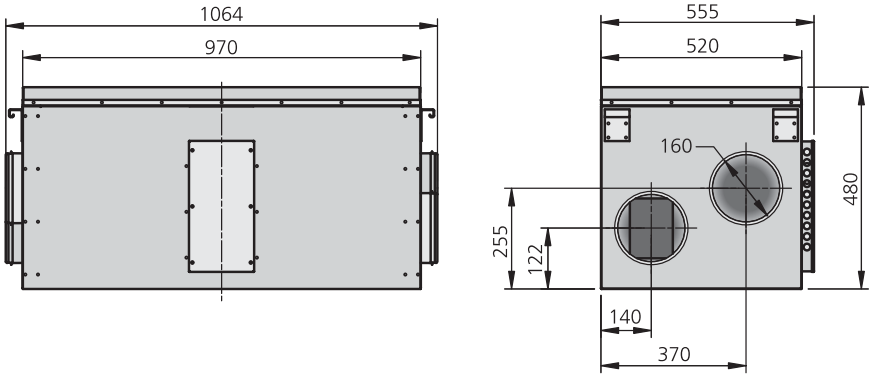
TRANSFORMER STEPS

1	2	3	4	5
100V	130V	160V	190V	230V

ACCESSORIES

- Electric duct heater incl. pressure switch.
- Room sensor for carbon dioxide
- Room sensor for relative air humidity.
- Room sensor.
- Silencer.
- Relay pump control.
- Duct sensor.

DIMENSIONS (mm)



TECHNICAL DATA

Voltage V/Hz	Current A	Fan input W	Total input W	Sound pressure level L_{pA}	Weight kg	Duct-connection
230/50	0,6	114	141	40	63	Ø160

SOUND DATA

230 V / 52 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	47	36	41	44	38	33	29	27	27
Outlet	72	55	59	66	69	65	59	57	47
Inlet	58	42	55	49	54	46	39	29	20

190 V / 47 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	45	32	39	42	36	31	28	26	27
Outlet	72	54	58	65	70	63	57	55	44
Inlet	57	42	54	49	53	41	37	27	19

160 V / 43 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	43	32	39	40	33	29	26	26	27
Outlet	68	52	56	63	64	59	54	51	39
Inlet	55	38	52	47	49	38	34	25	18

130 V / 30 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	41	26	37	37	30	26	24	26	27
Outlet	65	49	54	60	61	53	48	44	31
Inlet	53	33	51	42	45	33	30	22	17

100 V / 17 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	38	25	36	29	28	24	24	25	27
Outlet	61	44	50	50	60	46	39	34	22
Inlet	52	30	51	36	45	30	27	21	16

The sound data have been compiled by means of sound measurement methods as follows:
Pressure and flow: SS-ISO 5801.
Determination of acoustic sound power level in duct:: SS-ISO 5136.
Determination of acoustic sound power level in reverberation room: SS-EN ISO 3741.

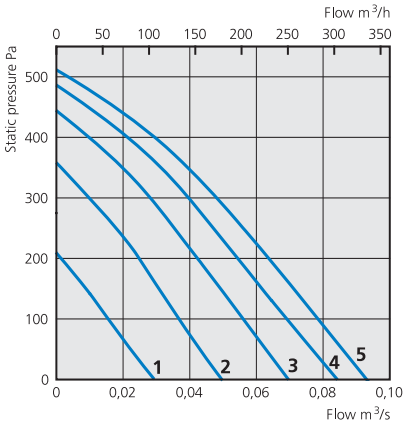
DESIGNATIONS

The table present the total A-weighted sound power level, L_{wA}, as well as in octave bands in dB(A) (ref 10^{-12}W).

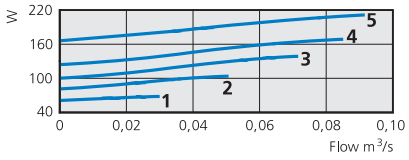
In the "Technical Data" above, the total sound pressure, L_{pA}, calculated from the total surrounding sound power level, L_{wA}, at 230 V is presented in dB(A) (ref 20 x 10^{-6}Pa).
The relation between sound pressure and sound power is $L_{pA} = L_{wA} + 10 \times \log\left(\frac{Q}{4\pi r^2} + \frac{4}{A_{Ekv}}\right)$
where Q is the propagation factor, r is the distance from the unit and A_{Ekv} is the equivalent absorbtion area.
When calculating the L_{wA} it has been assumed that Q=2, r=3 m and A_{Ekv}=20 m², '
which gives $L_{pA} \approx L_{wA}$ - 7.

HERU 75 S

PRESSURE/FLOW



FAN POWER/FLOW



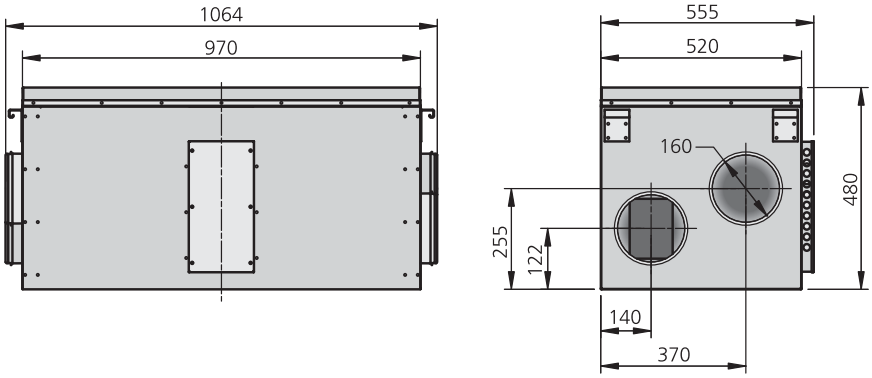
TRANSFORMER STEPS

1	2	3	4	5
100V	130V	160V	190V	230V

ACCESSORIES

- Electric duct heater incl. pressure switch.
- Room sensor for carbon dioxide
- Room sensor for relative air humidity.
- Room sensor.
- Silencer.
- Relay pump control.
- Duct sensor.

DIMENSIONS (mm)



TECHNICAL DATA

Voltage V/Hz	Current A	Fan input W	Total input W	Sound pressure level L_{pA}	Weight kg	Duct-connection
230/50	1,1	217	235	44	63	Ø160

SOUND DATA

230 V / 65 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	51	34	44	48	46	37	35	32	28
Outlet	76	57	63	68	72	68	66	61	50
Inlet	62	46	57	55	57	46	41	30	20

190 V / 62 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	50	33	42	47	45	36	33	30	26
Outlet	74	58	65	68	70	66	62	59	47
Inlet	61	48	57	56	56	45	38	28	17

160 V / 53 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	48	32	42	44	40	32	30	27	26
Outlet	72	57	63	66	67	63	59	56	43
Inlet	60	46	57	55	53	42	35	25	13

130 V / 36 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	46	31	41	44	36	29	27	26	26
Outlet	70	56	62	65	64	60	55	52	39
Inlet	59	48	56	53	53	39	32	22	12

100 V / 21 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	40	32	36	37	30	25	23	24	26
Outlet	62	53	58	57	55	51	46	40	24
Inlet	53	43	51	45	42	31	24	12	7

The sound data have been compiled by means of sound measurement methods as follows:
Pressure and flow: SS-ISO 5801.
Determination of acoustic sound power level in duct:: SS-ISO 5136.
Determination of acoustic sound power level in reverberation room: SS-EN ISO 3741.

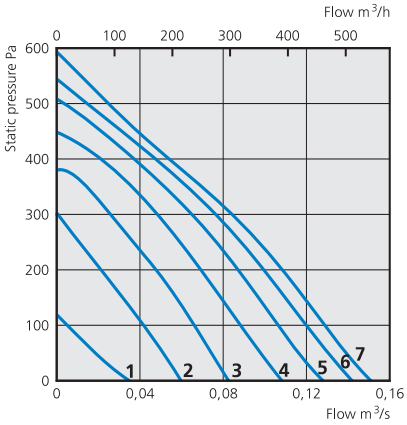
DESIGNATIONS

The table present the total A-weighted sound power level, L_{wA}, as well as in octave bands in dB(A) (ref 10^{-12}W).

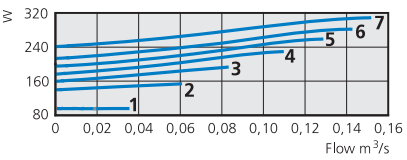
In the "Technical Data" above, the total sound pressure, L_{pA}, calculated from the total surrounding sound power level, L_{wA}, at 230 V is presented in dB(A) (ref 20 x 10^{-6}Pa).
The relation between sound pressure and sound power is $L_{pA} = L_{wA} + 10 \times \log\left(\frac{Q}{4\pi r^2} + \frac{4}{A_{Ekv}}\right)$
where Q is the propagation factor, r is the distance from the unit and A_{Ekv} is the equivalent absorbtion area.
When calculating the L_{wA} it has been assumed that Q=2, r=3 m and A_{Ekv}=20 m², '
which gives $L_{pA} \approx L_{wA}$ - 7.

HERU 130 S

PRESSURE/FLOW



FAN POWER/FLOW



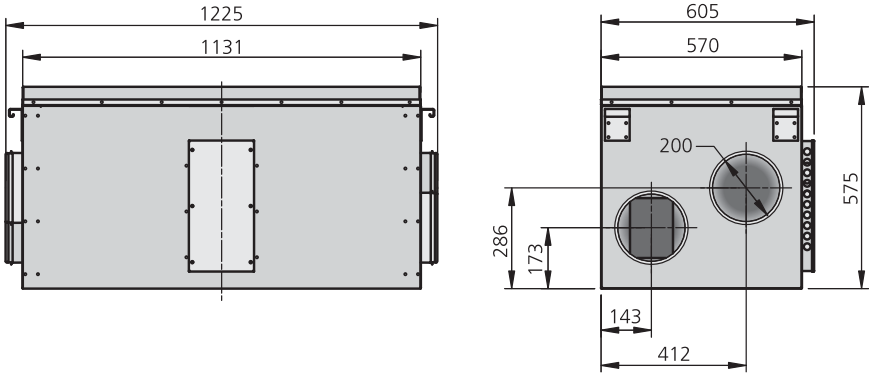
TRANSFORMER STEPS

1	2	3	4	5	6	7
100V	130V	150V	170V	190V	210V	230V

ACCESSORIES

- Electric duct heater incl. pressure switch.
- Heating coil incl. 2- or 3-way valve and valve motor.
- Cooling coil incl. 2- or 3-way valve and valve motor.
- Room sensor for carbon dioxide
- Room sensor for relative air humidity.
- Room sensor.
- Silencer.
- Damper motor.
- Relay pump control.
- Duct sensor.

DIMENSIONS (mm)



TECHNICAL DATA

Voltage V/Hz	Current A	Fan input W	Total input W	Sound pressure level L_{pA}	Weight kg	Duct-connection
230/50	1,4	308	326	42	100	Ø200

SOUND DATA

230 V / 119 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	49	33	40	45	42	37	35	30	26
Outlet	77	62	67	69	72	70	67	63	54
Inlet	64	54	58	60	56	50	41	31	17

190 V / 104 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	49	33	41	46	42	36	34	30	26
Outlet	74	62	64	67	70	67	65	59	51
Inlet	63	53	55	61	53	47	38	28	15

170 V / 91 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	47	31	39	44	40	34	31	28	26
Outlet	73	60	62	66	70	64	62	56	46
Inlet	61	51	53	60	51	44	36	25	14

150 V / 73 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	43	29	38	39	36	31	28	26	25
Outlet	68	57	58	60	64	59	57	50	40
Inlet	57	47	50	54	47	40	31	21	12

100 V / 31 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	39	23	38	27	27	27	23	25	25
Outlet	54	44	46	48	48	44	38	27	21
Inlet	45	35	42	38	35	27	18	15	11

The sound data have been compiled by means of sound measurement methods as follows:
Pressure and flow: SS-ISO 5801.
Determination of acoustic sound power level in duct:: SS-ISO 5136.
Determination of acoustic sound power level in reverberation room: SS-EN ISO 3741.

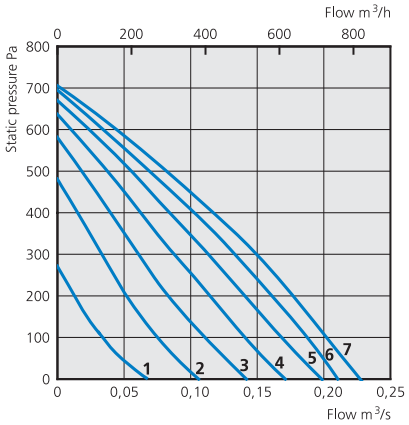
DESIGNATIONS

The table present the total A-weighted sound power level, L_{wA}, as well as in octave bands in dB(A) (ref 10^{-12}W).

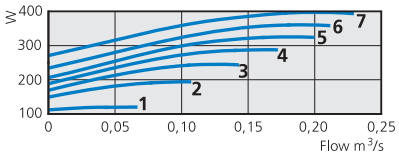
In the "Technical Data" above, the total sound pressure, L_{pA}, calculated from the total surrounding sound power level, L_{wA}, at 230 V is presented in dB(A) (ref 20 x 10^{-6}Pa).
The relation between sound pressure and sound power is $L_{pA} = L_{wA} + 10 \times \log\left(\frac{Q}{4\pi r^2} + \frac{4}{A_{Ekv}}\right)$
where Q is the propagation factor, r is the distance from the unit and A_{Ekv} is the equivalent absorbtion area.
When calculating the L_{wA} it has been assumed that Q=2, r=3 m and A_{Ekv}=20 m², '
which gives $L_{pA} \approx L_{wA}$ - 7.

HERU 180 S

PRESSURE/FLOW



FAN POWER/FLOW



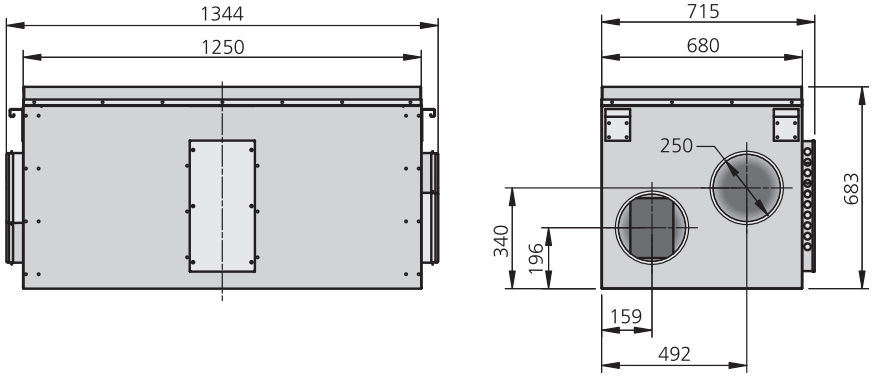
TRANSFORMER STEPS

1	2	3	4	5	6	7
100V	130V	150V	170V	190V	210V	230V

ACCESSORIES

- Electric duct heater incl. pressure switch.
- Heating coil incl. 2- or 3-way valve and valve motor.
- Cooling coil incl. 2- or 3-way valve and valve motor.
- Room sensor for carbon dioxide
- Room sensor for relative air humidity.
- Room sensor.
- Silencer.
- Damper motor.
- Relay pump control.
- Duct sensor.

DIMENSIONS (mm)



TECHNICAL DATA

Voltage V/Hz	Current A	Fan input W	Total input W	Sound pressure level L_{pA}	Weight kg	Duct-connection
230/50	1,8	396	414	43	136	Ø250

SOUND DATA

230 V / 185 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	50	43	44	44	44	39	38	35	31
Outlet	77	53	60	64	75	70	68	63	57
Inlet	59	48	53	54	52	45	37	34	27

190 V / 181 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	48	41	44	43	42	37	33	31	30
Outlet	75	51	59	63	71	68	67	61	55
Inlet	56	46	50	50	51	41	36	32	25

170 V / 152 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	47	40	43	41	40	35	31	30	30
Outlet	71	50	58	61	66	66	64	58	51
Inlet	55	44	49	48	51	39	34	30	24

150 V / 116 l/s	Total L_{wA}	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	45	39	42	40	34	31	28	29	29
Outlet	67	51	54	60	61	60	60	54	47
Inlet	52	44	47	49	42	36	31	28	24

The sound data have been compiled by means of sound measurement methods as follows:
Pressure and flow: SS-ISO 5801.
Determination of acoustic sound power level in duct:: SS-ISO 5136.
Determination of acoustic sound power level in reverberation room: SS-EN ISO 3741.

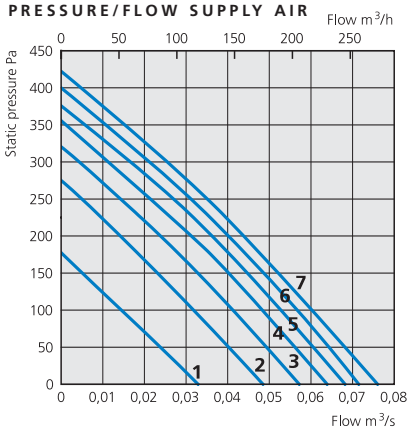
DESIGNATIONS

The table present the total A-weighted sound power level, L_{wA}, as well as in octave bands in dB(A) (ref 10^{-12}W).

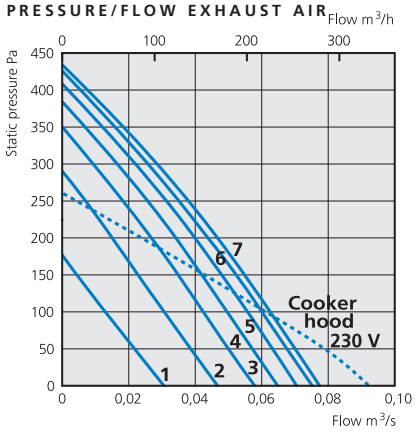
In the "Technical Data" above, the total sound pressure, L_{pA}, calculated from the total surrounding sound power level, L_{wA}, at 230 V is presented in dB(A) (ref 20 x 10^{-6}Pa).
The relation between sound pressure and sound power is $L_{pA} = L_{wA} + 10 \times \log\left(\frac{Q}{4\pi r^2} + \frac{4}{A_{Ekv}}\right)$
where Q is the propagation factor, r is the distance from the unit and A_{Ekv} is the equivalent absorbtion area.
When calculating the L_{wA} it has been assumed that Q=2, r=3 m and A_{Ekv}=20 m², '
which gives $L_{pA} \approx L_{wA}$ - 7.

HERU 62 T

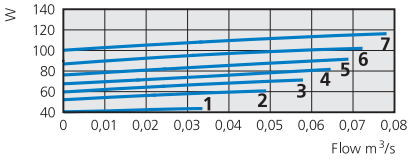
PRESSURE/FLOW SUPPLY AIR



PRESSURE/FLOW EXHAUST AIR



FAN POWER/FLOW



TRANSFORMER STEPS

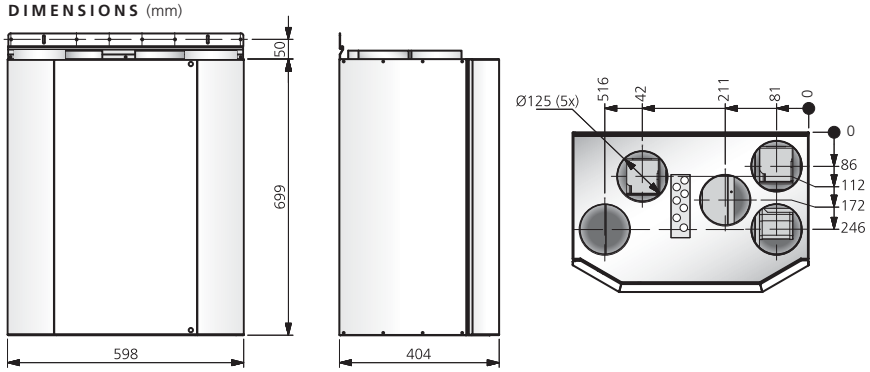
1	2	3	4	5	6	7
100V	130V	150V	170V	190V	210V	230V

The sound data has been compiled by means of the following methods:
Pressure and flow: SS-ISO 5801.
Determination of acoustic sound power level in duct: SS-ISO 5136.
Determination of acoustic sound power level in reverberation room: SS-EN ISO 3741.

DESIGNATIONS

The table presents the total A-weighted sound power level, L_{wA}, as well as in octave bands in dB(A) (ref 10^{-12}W). In the "Technical Data" above, the total sound pressure, L_{pA}, calculated from the total surrounding sound power level, L_{wA}, at 230 V is presented in dB(A) (ref 20×10^{-6}Pa). The relation between sound pressure and sound power is $L_{pA} = L_{wA} + 10 \times \log\left(\frac{Q}{4\pi r^2} + \frac{4}{A_{Ekv}}\right)$ where Q is the propagation factor, r is the distance from the unit and A_{Ekv} is the equivalent absorbtion area. When calculating the L_{wA} it has been assumed that Q=2, r=3 m and A_{Ekv}=20 m², which gives $L_{pA} \approx L_{wA}$ - 7.

DIMENSIONS (mm)



TECHNICAL DATA

Voltage V/Hz	Current A	Fan input W	Total input W	SFP kW (m³/s)	Input electric duct heater W	Sound pressure level L_{pA}	Weight kg	Duct-connection
230/50	0,5*	109*	136*	1,8*	1200 W/5,2 A	43	54	Ø125

*Data stated at 100 Pa external pressure drop.

SOUND DATA

230 V / 63 l/s	Total (L_{wA})	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	50	34	39	49	42	38	38	34	29
Outlet	71	55	59	68	63	62	60	57	50
Inlet	55	35	50	52	44	44	40	34	22

210 V / 61 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	49	32	39	46	39	37	38	35	30
Outlet	71	54	58	68	62	61	60	56	49
Inlet	56	35	50	54	44	43	40	34	24

190 V / 56 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	47	32	39	42	38	37	38	35	29
Outlet	70	54	58	68	62	61	58	55	47
Inlet	58	35	49	57	43	42	38	33	23

170 V / 54 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	47	32	39	44	37	36	36	33	29
Outlet	70	53	56	69	60	59	56	53	45
Inlet	62	33	48	61	42	41	37	31	23

150 V / 48 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	46	30	39	44	35	34	34	31	28
Outlet	70	52	54	70	58	57	54	50	42
Inlet	62	32	46	62	41	39	35	29	22

130 V / 40 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	45	28	38	43	33	32	30	27	27
Outlet	66	51	51	65	55	53	50	46	36
Inlet	52	30	44	51	39	36	31	26	20

100 V / 25 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	41	24	39	27	30	28	28	26	26
Outlet	56	46	53	45	47	46	40	35	23
Inlet	41	24	39	27	30	28	28	26	26

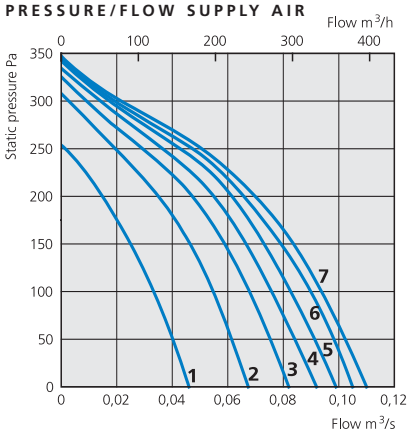
ACCESSORIES

Duct sensor, Room sensor, Silencer, Cooker hood

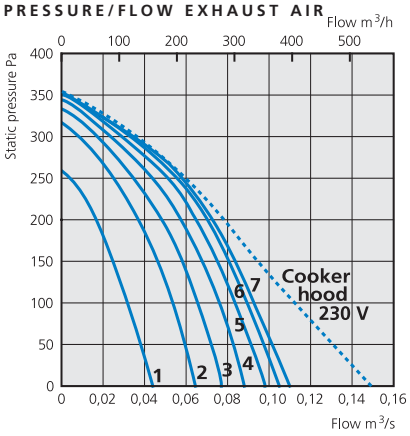
HERU 62 T is patented pend.

HERU 90 T

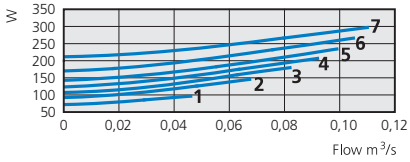
PRESSURE/FLOW SUPPLY AIR



PRESSURE/FLOW EXHAUST AIR



FAN POWER/FLOW



TRANSFORMER STEPS

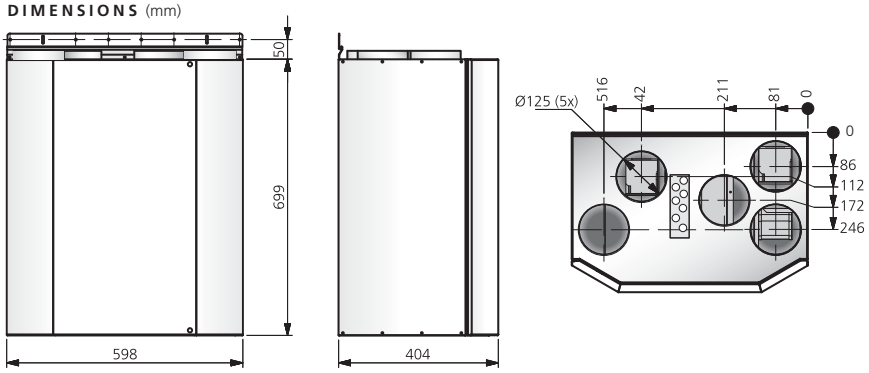
1	2	3	4	5	6	7
100V	130V	150V	170V	190V	210V	230V

The sound data has been compiled by means of the following methods:
Pressure and flow: SS-ISO 5801.
Determination of acoustic sound power level in duct: SS-ISO 5136.
Determination of acoustic sound power level in reverberation room: SS-EN ISO 3741.

DESIGNATIONS

The table presents the total A-weighted sound power level, L_{wA}, as well as in octave bands in dB(A) (ref 10^{-12}W). In the "Technical Data" above, the total sound pressure, L_{pA}, calculated from the total surrounding sound power level, L_{wA}, at 230 V is presented in dB(A) (ref 20x10^{-6}Pa). The relation between sound pressure and sound power is $L_{pA} = L_{wA} + 10 \times \log\left(\frac{Q}{4\pi r^2} + \frac{4}{A_{Ekv}}\right)$ where Q is the propagation factor, r is the distance from the unit and A_{Ekv} is the equivalent absorbtion area. When calculating the L_{wA} it has been assumed that Q=2, r=3 m and A_{Ekv}=20 m², which gives $L_{pA} \approx L_{wA}$ - 7.

DIMENSIONS (mm)



TECHNICAL DATA

Voltage V/Hz	Current A	Fan input W	Total input W	SFP kW (m³/s)	Input electric duct heater W	Sound pressure level L_{pA}	Weight kg	Duct-connection
230/50	1,2*	275*	302*	3,0*	1200 W/5,2 A	43	54	Ø125

*Data stated at 100 Pa external pressure drop.

SOUND DATA

230 V / 83 l/s	Total (L_{wA})	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	50	37	43	47	42	39	36	30	27
Outlet	74	60	63	65	67	64	67	64	63
Inlet	58	47	53	54	49	46	46	41	38

210 V / 81 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	50	36	42	47	42	39	35	30	27
Outlet	73	59	62	65	67	64	66	63	62
Inlet	58	45	52	53	48	45	46	40	37

190 V / 78 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	49	34	40	46	41	38	35	29	27
Outlet	72	58	61	64	66	64	65	63	61
Inlet	57	44	51	53	47	45	45	40	37

170 V / 73 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	48	29	37	46	40	37	33	28	27
Outlet	72	57	60	64	65	63	64	62	605
Inlet	56	44	50	52	46	44	45	39	36

150 V / 68 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	47	29	35	45	39	36	32	28	26
Outlet	70	57	59	62	64	62	62	60	58
Inlet	55	43	49	50	45	43	43	37	35

130 V / 59 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	46	28	35	44	37	35	29	27	26
Outlet	68	55	58	61	61	60	59	57	54
Inlet	53	41	49	49	42	42	41	35	34

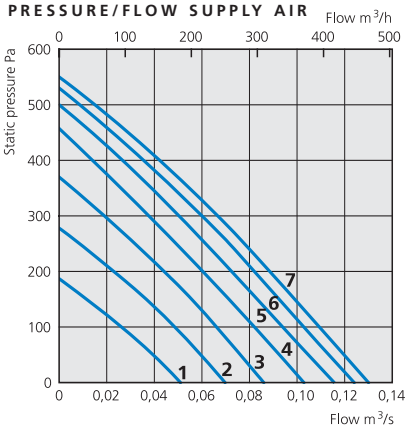
100 V / 42 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	42	27	35	40	33	31	26	25	26
Outlet	65	54	56	58	58	59	55	53	49
Inlet	51	39	47	46	39	40	38	31	332

ACCESSORIES

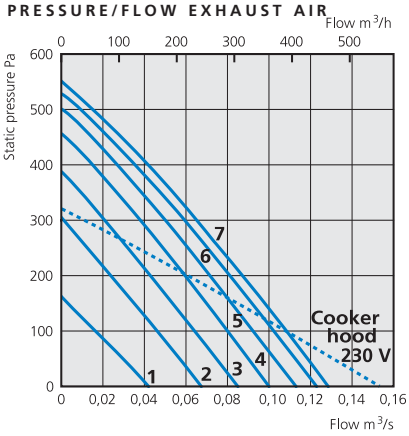
Duct sensor, Room sensor, Silencer, Cooker hood

HERU 115 T

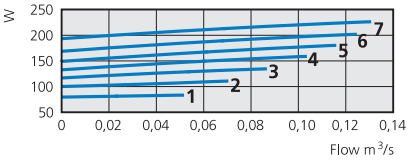
PRESSURE/FLOW SUPPLY AIR



PRESSURE/FLOW EXHAUST AIR



FAN POWER/FLOW



TRANSFORMER STEPS

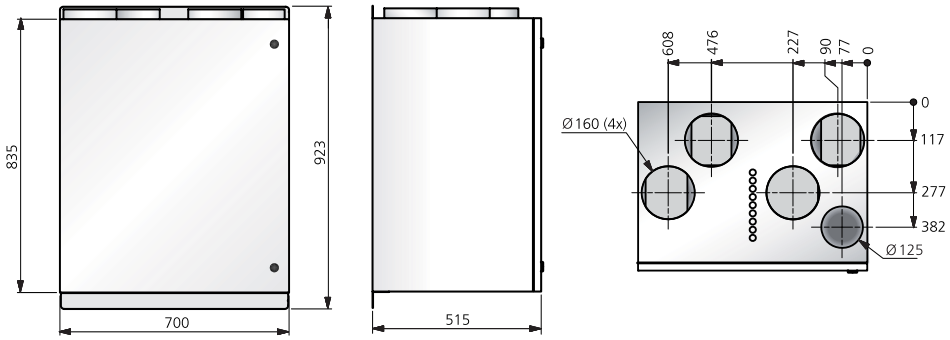
1	2	3	4	5	6	7
100V	130V	150V	170V	190V	210V	230V

The sound data has been compiled by means of the following methods:
Pressure and flow: SS-ISO 5801.
Determination of acoustic sound power level in duct: SS-ISO 5136.
Determination of acoustic sound power level in reverberation room: SS-EN ISO 3741.

DESIGNATIONS

The table presents the total A-weighted sound power level, L_{wA}, as well as in octave bands in dB(A) (ref 10^{-12}W). In the "Technical Data" above, the total sound pressure, L_{pA}, calculated from the total surrounding sound power level, L_{wA}, at 230 V is presented in dB(A) (ref 20x10^{-6}Pa). The relation between sound pressure and sound power is $L_{pA} = L_{wA} + 10 \times \log\left(\frac{Q}{4\pi r^2} + \frac{4}{A_{Ekv}}\right)$ where Q is the propagation factor, r is the distance from the unit and A_{Ekv} is the equivalent absorbtion area. When calculating the L_{wA} it has been assumed that Q=2, r=3 m and A_{Ekv}=20 m², which gives $L_{pA} \approx L_{wA}$ - 7.

DIMENSIONS (mm)



TECHNICAL DATA

Voltage V/Hz	Current A	Fan input W	Total input W	SFP kW (m³/s)	Input electric duct heater W	Sound pressure level L_{pA}	Weight kg	Duct-connection
230/50	1,0*	220*	247*	2,0*	1700 W/7,4 A	47	81	Ø160

*Data stated at 100 Pa external pressure drop.

SOUND DATA

230 V / 100 l/s	Total (L_{wA})	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	54	42	51	50	41	40	39	39	32
Outlet	77	61	66	72	72	67	65	64	59
Inlet	59	40	49	57	50	47	43	40	29

210 V / 95 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	54	41	49	52	40	39	37	36	30
Outlet	74	57	64	70	67	65	63	61	54
Inlet	60	39	49	59	50	47	43	40	29

190 V / 87 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	52	40	48	49	38	38	36	35	29
Outlet	73	56	63	70	66	63	62	60	52
Inlet	61	38	48	60	49	46	42	38	28

170 V / 81 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	50	40	47	44	37	38	35	33	28
Outlet	73	55	62	70	65	62	61	58	50
Inlet	61	36	48	60	47	44	40	36	28

150 V / 69 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	49	40	46	44	36	37	33	32	27
Outlet	69	54	59	66	62	58	57	54	44
Inlet	59	35	45	59	45	42	37	33	27

130 V / 55 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	47	37	43	44	35	34	30	29	26
Outlet	66	52	55	63	59	55	53	49	38
Inlet	54	33	41	53	42	39	34	30	27

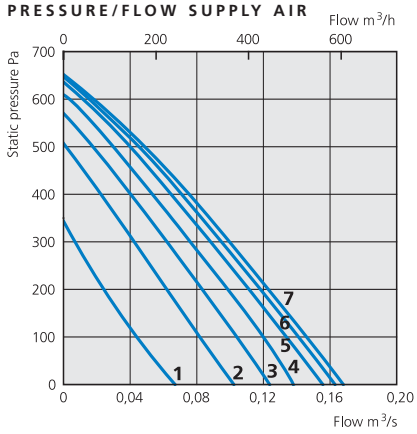
100 V / 36 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	43	36	42	29	30	33	26	27	26
Outlet	56	46	51	49	51	47	43	36	22
Inlet	42	28	38	37	34	31	26	26	27

ACCESSORIES

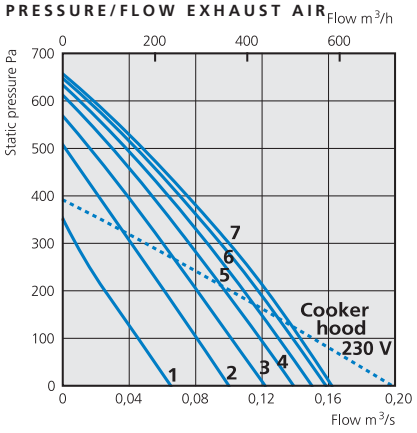
Duct sensor, Room sensor, Silencer, Cooker hood

HERU 140 T

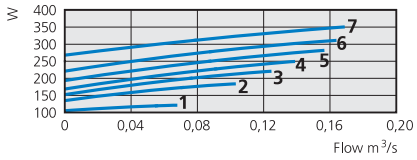
PRESSURE/FLOW SUPPLY AIR



PRESSURE/FLOW EXHAUST AIR



FAN POWER/FLOW



TRANSFORMER STEPS

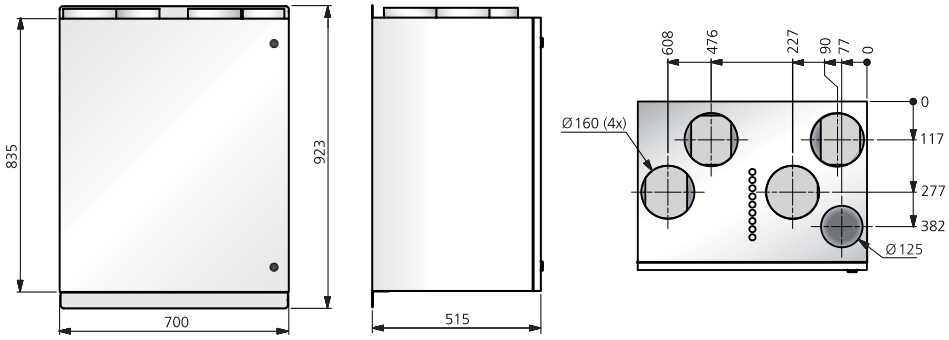
1	2	3	4	5	6	7
100V	130V	150V	170V	190V	210V	230V

The sound data has been compiled by means of the following methods:
Pressure and flow: SS-ISO 5801.
Determination of acoustic sound power level in duct: SS-ISO 5136.
Determination of acoustic sound power level in reverberation room: SS-EN ISO 3741.

DESIGNATIONS

The table presents the total A-weighted sound power level, L_{wA}, as well as in octave bands in dB(A) (ref 10^{-12}W). In the "Technical Data" above, the total sound pressure, L_{pA}, calculated from the total surrounding sound power level, L_{wA}, at 230 V is presented in dB(A) (ref 20×10^{-6}Pa). The relation between sound pressure and sound power is $L_{pA} = L_{wA} + 10 \times \log\left(\frac{Q}{4\pi r^2} + \frac{4}{A_{Ekv}}\right)$ where Q is the propagation factor, r is the distance from the unit and A_{Ekv} is the equivalent absorbtion area. When calculating the L_{wA} it has been assumed that Q=2, r=3 m and A_{Ekv}=20 m², which gives $L_{pA} \approx L_{wA} - 7$.

DIMENSIONS (mm)



TECHNICAL DATA

Voltage V/Hz	Current A	Fan input W	Total input W	SFP kW (m³/s)	Input electric duct heater W	Sound pressure level L_{pA}	Weight kg	Duct-connection
230/50	1,5*	335*	362*	2,3*	1700 W/7,4 A	47	81	Ø160

*Data stated at 100 Pa external pressure drop.

SOUND DATA

230 V / 126 l/s	Total (L_{wA})	63 Hz	125 Hz	250 Hz	500 Hz	1k Hz	2k Hz	4k Hz	8k Hz
Surrounding	54	46	49	52	44	41	34	29	26
Outlet	77	62	67	69	72	70	67	63	54
Inlet	64	54	58	60	56	50	41	31	17

210 V / 123 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	54	46	49	52	43	41	35	30	26
Outlet	76	62	66	68	71	69	66	62	53
Inlet	63	54	57	59	55	49	40	30	16

190 V / 118 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	55	46	47	54	42	40	34	29	26
Outlet	74	62	64	67	70	67	65	59	51
Inlet	63	53	55	61	53	47	38	28	15

170 V / 110 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	55	46	46	54	40	39	31	27	26
Outlet	73	60	62	66	70	64	62	56	46
Inlet	61	51	53	60	51	44	36	25	14

150 V / 98 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	53	42	43	52	38	35	29	26	25
Outlet	68	57	58	60	64	59	57	50	40
Inlet	57	47	50	54	47	40	31	21	12

130 V / 83 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	44	36	41	38	34	32	28	26	25
Outlet	63	53	54	56	58	54	51	42	30
Inlet	51	42	47	45	42	35	28	16	12

100 V / 58 l/s	Total (L_{wA})	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Surrounding	40	28	37	31	29	30	27	26	25
Outlet	54	44	46	48	48	44	38	27	21
Inlet	45	35	42	38	35	27	18	15	11

ACCESSORIES

Duct sensor, Room sensor, Silencer, Cooker hood, floor stand

ACCESSORIES

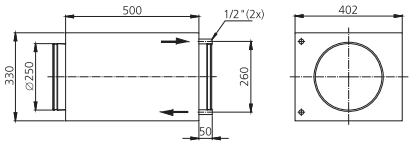
COOLING COIL Heru 130 S and 180 S.
2,5 kW incl. 2- or 3-way valve and valve motor.

Air:

Flow:	0,20 m³/s	0,15 m³/s
Speed:	2,2 m/s	1,7 m/s
Temp. in:	25°C, 50% Rh	25°C, 50% Rh
Temp. out:	14,4°C	13,5°C
Efficiency:	2,5 kW	2,0 kW

Cold water:

Flow:	0,16 l/s	0,13 l/s
Speed:	0,8 m/s	0,6 m/s
Temp. supply pipe:	7°C	7°C
Temp. return pipe:	12°C	12°C
Pressure drop:	12,4 k Pa	8,8 k Pa



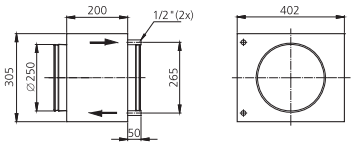
HEATING COIL Heru 130 S and 180 S.
5 kW incl. 2- or 3-way valve, valve motor and freeze protection sensor

Air:

Flow:	0,20 m³/s
Speed:	2,2 m/s
Temp. in:	10°C
Temp. out:	30,5°C
Efficiency:	5,0 kW

Warm water:

Flow:	0,10 l/s
Speed:	0,86 m/s
Temp. supply pipe:	60°C
Temp. return pipe:	40°C
Pressure drop:	15,0 k Pa

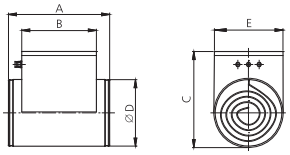


ELECTRIC DUCT HEATER All Heru is prepared for control of electric duct heater and an internal pulser is mounted as standard. The electric duct heater is delivered with a pressure switch.

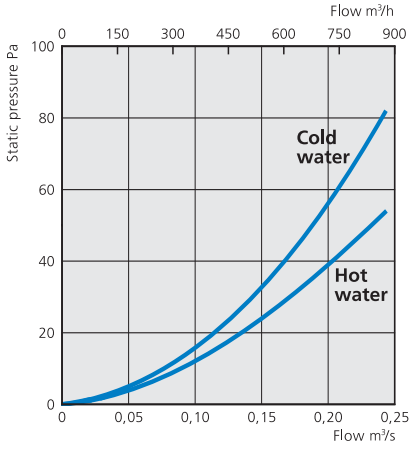
Min. air speed: 1,5 m/s

mm	Efficiency	Min. flow
160	0,9 kW	31 l/s
200	1,8 kW	48 l/s
250	2,1 kW	74 l/s
250	5,0 kW	74 l/s

mm	A	B	C	D	E
160	375	280	240	160	165
200	375	280	285	200	205
250	375	280	285	250	255
250	375	280	285	250	255



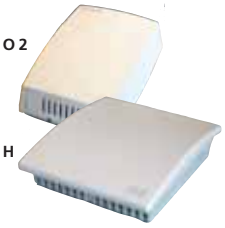
BATTERY PRESSURE DROP



DUCT SENSOR
To place in the exhaust air duct at room regulation.

ROOM SENSOR CO2
To place in room.

ROOM SENSOR RH
To place in room.



FREEZE PROTECTION SENSOR
To place on the return pipe of the heating coil.

ROOM SENSOR
To place in room at room regulation.

DAMPER MOTOR
230 V with pull back spring.

RELAY PUMP CONTROL

BAGFILTER
Bagfilter F5 the same for exhaust and supply air.

SILENCER
Length of 600 mm and 900 mm.

COOKER HOOD
To HERU T.

FLOOR STAND
To HERU 140 T.

ÖSTBERG

FOR HEALTHY INDOOR CLIMATE WITH ENERGY EFFICIENT VENTILATION

Östberg is one of leading producers of centrifugal in-line duct fans in the world.

30 years ago the founder and owner was one of them who invented the first centrifugal in-line duct fan in the history.

We have continued to develope new products and today we offer a wide product range of centrifugal in-line duct fans.

Our goal has always been to offer quality products at competitive prices.

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