



HEV

Door Curtains

General information & application

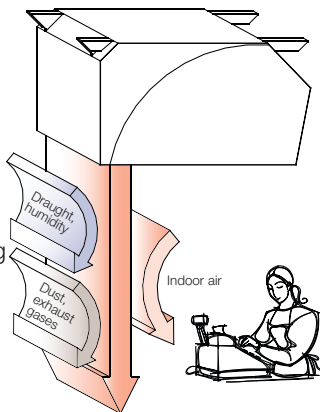
HEV door curtains are equipped with a water coil and generate a downward flow of warm air for a comfortable working conditions in draughtfree surroundings with even temperatures, even close to door openings.

HEV door curtains are designed for application in shops, factory halls and warehouses at entry doors, door openings of loading areas and for doorways between spaces with different temperatures to reduce draught at floor level, energy consumption and eliminate humidity transfer. Thanks to a long air throw, HEV door curtains are also applicable for local heating of high room spaces.

Door curtains improve the level of comfort, increase the useful area by reducing draught near to door openings and save heating costs. The best door curtain effect is reached when ventilation is balanced and the door opening is protected from wind.

Characteristics

- Warm, effective door curtain
- Low sound level
- Three fan speed alternatives
- Adjustable air flow direction
- Possible to install either visible or, if required, above the ceiling
- Minimized need of service
- Easy to install and operate



Construction

The frame construction is made of plastic coated, hot dip galvanized steel plate, standard colour white RR20 (RAL 5820). The heat transfer section is manufactured of copper tubes and aluminium fins. Water is used as heat transfer medium. The maximum working pressure of the finned coil is 10 bar. The scattered fin spacing of the effective finned coil prevents dust or dirt from gathering on it, and therefore a filter is not needed. The heat transfer section is equipped with drainage.



HEV

Fans

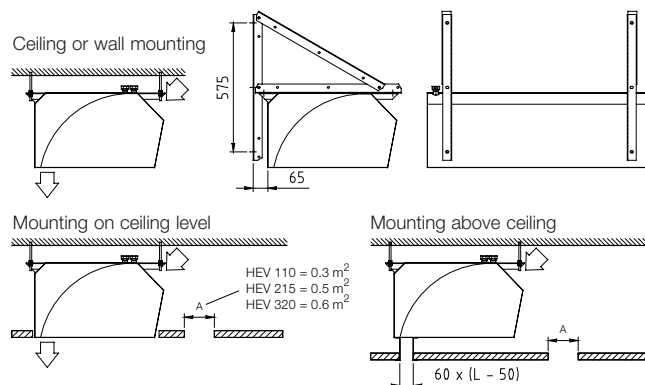
The fans are centrifugal fans with low sound level. The 1-phase motors have inbuilt overload protection (automatic reset) and they are pre-wired to the joint junction box. Protection class is IP23. The air flow can be regulated by connecting the motor with the selected fan speed or by using the fan speed regulator. The maximum fan speed (3) is pre-set at the factory. The fan speed can also be regulated by external control (see page 3). Fan speed control is available as an optional extra (incl. 0-position and 3 alternative positions (separate delivery, dimensions W64xH80xD75 mm)).

Selection example

Door opening width is 3 m and maximum required heating capacity 42 kW. The dimensioning temperature of water is 70/40°C, incoming air temperature is 20°C. Model HEV-215 is selected, width 1.5 m, so two units are needed. According to capacity table the capacity of HEV-215 at fan speed 3 is 21 kW, water flow is 0.17 l/s and flow resistance is 4.5 kPa.

Installation and maintenance

HEV door curtains can be installed at the desired height by using ceiling brackets. Wall brackets (SK) are available as an optional extra. Electrical connections and service activities are done through a service hatch. If the door curtain is installed above the ceiling, sufficient compensation air must be ensured through adequately sized ceiling openings.



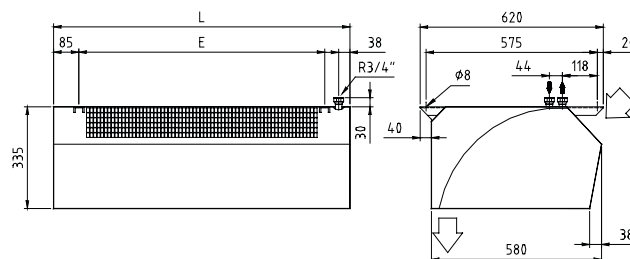
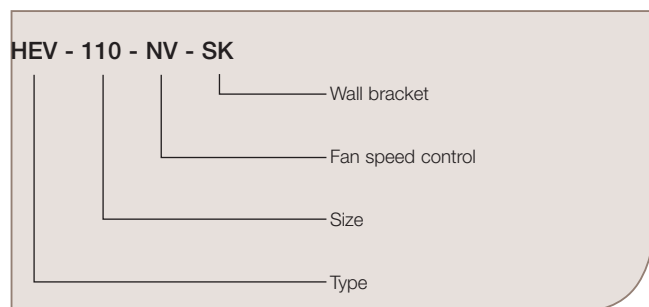
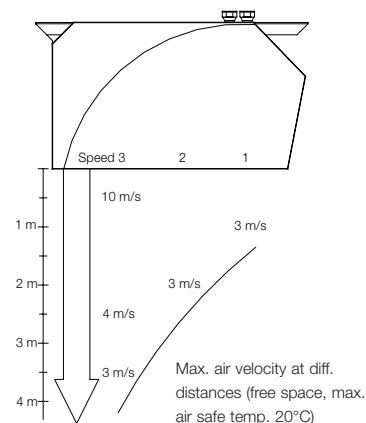
HEV	Air on temperature [°C]	Fan speed	Air flow [m³/s]	Capacity [kW]	Water [l/s]	dP [kPa]	Capacity [kW]	Water [l/s]	dP [kPa]	Capacity [kW]	Water [l/s]	dP [kPa]	Capacity [kW]	Water [l/s]	dP [kPa]
110	10	1	0,22	9,7	0,06	0,4	11,2	0,09	0,6	10,6	0,13	1,1	9,0	0,11	0,8
		2	0,36	14,0	0,09	0,8	12,8	0,10	1,2	11,9	0,14	2,3	10,2	0,13	1,8
		3	0,54	18,4	0,11	1,4	16,9	0,13	2,1	16,2	0,19	4,2	13,4	0,16	2,9
	15	1	0,22	8,4	0,05	0,3	9,4	0,08	0,4	9,0	0,11	0,8	7,3	0,09	0,5
		2	0,36	12,2	0,07	0,6	11,1	0,10	0,9	10,2	0,12	1,7	8,4	0,10	1,2
		3	0,54	16,0	0,01	1,1	14,6	0,12	1,6	13,4	0,16	2,9	11,1	0,13	2,1
	20	1	0,22	6,1	0,04	0,1	7,4	0,06	0,2	7,3	0,09	0,5	5,0	0,06	0,2
		2	0,36	10,3	0,06	0,4	9,3	0,08	0,6	8,5	0,10	1,2	6,6	0,08	0,7
		3	0,54	13,6	0,08	0,8	12,2	0,10	1,1	11,1	0,14	2,9	8,7	0,10	1,3
215	10	1	0,32	15,7	0,01	1,5	18,8	0,15	2,3	17,8	0,22	4,9	14,8	0,18	3,1
		2	0,53	22,7	0,14	3,0	21,0	0,17	4,5	19,3	0,23	8,2	16,6	0,20	6,3
		3	0,78	31,2	0,19	5,4	28,6	0,23	8,0	25,9	0,31	14,3	22,5	0,27	11,1
	15	1	0,32	14,0	0,09	1,2	16,3	0,13	1,4	15,2	0,19	3,5	12,4	0,15	1,9
		2	0,53	20,1	0,12	2,4	22,5	0,18	3,4	16,7	0,20	6,3	13,8	0,17	4,4
		3	0,78	27,3	0,17	4,2	24,9	0,20	6,2	22,5	0,27	11,0	18,9	0,23	6,0
	20	1	0,32	12,2	0,07	0,9	13,9	0,11	1,1	12,4	0,15	2,1	10,0	0,12	1,3
		2	0,53	17,5	0,11	1,8	15,5	0,13	2,5	13,9	0,17	4,4	11,1	0,14	3,0
		3	0,78	22,9	0,14	3,0	21,0	0,17	4,5	19,0	0,23	8,0	14,7	0,18	5,0
320	10	1	0,45	21,5	0,13	1,2	24,1	0,20	0,9	22,5	0,27	1,7	19,2	0,23	1,3
		2	0,71	30,5	0,19	2,4	27,7	0,23	3,4	30,9	0,37	3,6	25,4	0,31	2,2
		3	1,05	41,6	0,25	4,2	38,3	0,31	6,3	34,9	0,42	10,3	30,2	0,37	8,8
	15	1	0,45	19,1	0,12	0,9	20,7	0,17	0,7	19,2	0,23	1,3	15,6	0,19	0,9
		2	0,71	27,0	0,17	1,9	24,3	0,20	2,6	25,6	0,31	2,4	21,0	0,26	1,6
		3	1,05	35,9	0,22	3,2	33,2	0,27	4,8	30,2	0,37	3,6	25,1	0,30	6,2
	20	1	0,45	16,6	0,10	0,7	16,9	0,14	0,4	15,8	0,19	0,9	12,1	0,15	0,5
		2	0,71	23,4	0,14	1,4	20,8	0,17	2,0	21,3	0,26	1,6	16,0	0,19	0,9
		3	1,05	30,7	0,19	2,4	27,4	0,22	3,3	25,3	0,31	6,2	19,7	0,24	3,9

Dimensions, electric current values

HEV	L [mm]	E [mm]	Net weight [kg]	Int. Vol. [L]	1/230 V 50Hz Max. curr. [A]	Capacity [W]	Speed	Lpa *)	Lwa **)
110	1000	830	35	3	2	147	1	42	51
							2	54	63
							3	62	71
215	1500	1330	55	4	3	294	1	45	54
							2	58	67
							3	64	73
320	2000	1830	70	5	4	294	1	46	55
							2	60	69
							3	65	74

*) Lpa is the A-weighted sound pressure level dB(A), measured on a hard surface (hall of 50 sqm., Sabine), 2 meters under the equipment

**) Lwa is the A-weighted sound power level, measured according to ISO3741



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Alfa Laval reserves the right to change specification without prior notification.

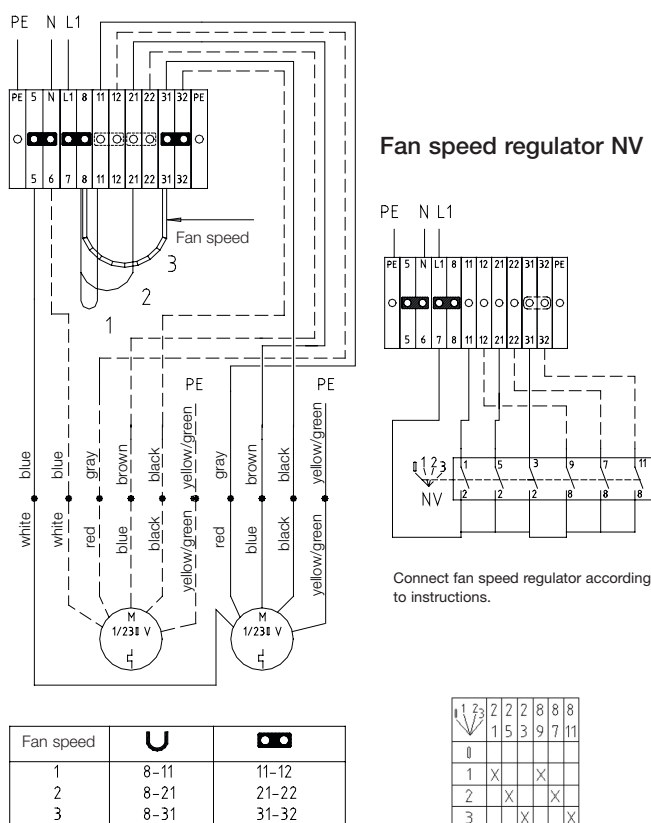
How to contact Alfa Laval

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Factory setting

Air flow can be regulated by a 3-phase fan speed regulator, or by setting the selected fan speed as standard.

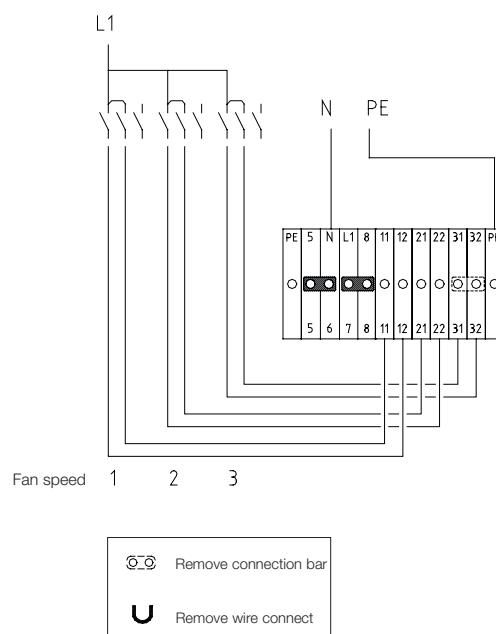


Examples of fan speed control

The contactors are not included in the delivery. HEV-110 does not need any contactors.

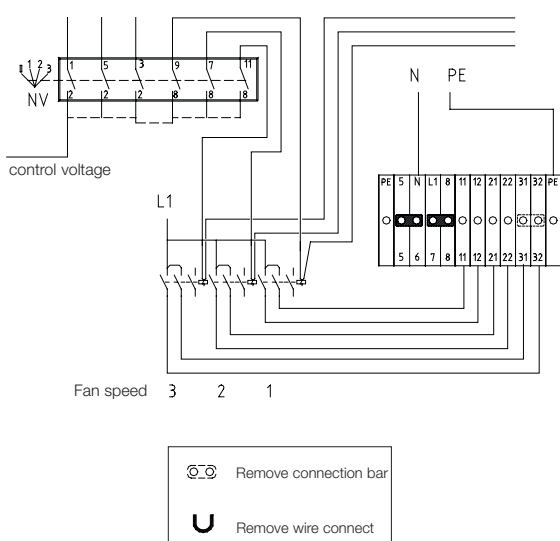
Fan speed selection by central unit

The fan speed can be selected either by time control circuits of the electric central unit or by DDC system. Connect the contactors as shown in the figure! Please note that only one contactor at a time can be switched.



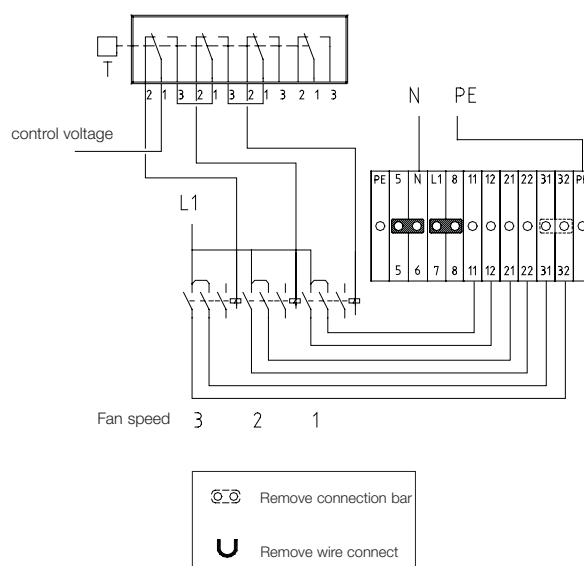
Parallel coupling of HEV units

The fan speed can be selected by fan speed regulator NV, by time control circuits of the electrical central unit or by DDC system. The contactors are connected as shown. By NV fan speed control 20 units can be controlled. Each unit needs 3 contactors.



Fan speed selection by a 3-phase thermostat

Thermostat contacts are shown at low temperature position. At higher temperature first the left contact changes its position, next the contact in the middle and last the right contact. When the temperature is getting lower, the contacts change their position in reverse order.



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