Technische documentatie

AIR-TRANSFER - PRO LUCHTGORDIJNEN

- 40% energie besparing door de energiezuinige EC ventilatoren
- Toepasbaar tot een deurhoogte van maar liefst 8 meter!
- Horizontaal of verticale installatie is geen probleem
- Eenvoudige montage

UITVOERINGEN

Onzichtbare barrière middels verwarmde lucht
PRO CV1-Luchtgordijn EC-150 (WING PRO W150 R1 EC)
PRO CV1-Luchtgordijn EC-200 (WING PRO W200 R1 EC)

PRO CV2-Luchtgordijn EC-150 (WING PRO W150 R2 EC)
PRO CV2-Luchtgordijn EC-200 (WING PRO W200 R2 EC)

Onzichtbare barrière middels lucht
PRO L-Luchtgordijn EC150 (WING PRO C150 EC)
PRO L-Luchtgordijn EC200 (WING PRO C200 EC

Lees deze handleiding zorgvuldig door!

1. INLEIDING

Lees deze handleiding zorgvuldig voordat u het toestel in gebruik neemt. Het niet lezen van deze handleiding en het niet opvolgen van de instructies in deze handleiding kan leiden tot ongevallen en schade toebrengen aan personen en het toestel. In deze handleiding zijn de montagevoorschriften van de PRO luchtgordijnen beschreven, met inachtneming van alle veiligheidseisen is de basis voor de juiste en veilige werking van het apparaat. Elk ander gebruik dat in tegenspraak is met deze instructie kan ongevallen met ernstige gevolgen veroorzaken. Allen bevoegd personeel met de juiste kwalificaties (ervaring en kennis) mogen aan de PRO luchtgordijnen werken. De doelgroepen voor deze handleiding zijn installateurs en servicemonteurs.

Deze documentatie bevat alle benodigde informatie over configuraties van PRO luchtgordijnen. Technische documentatie worden bij ieder PRO luchtgordijn meegeleverd. Zowel de eindgebruiker als de servicemonteur zijn verantwoordelijk voor regelmatig onderhoud. Zij dienen hier duidelijke afspraken over te maken. Indien het toestel niet regelmatig onderhouden wordt, vervalt het recht op garantie.

Air-Transfer is niet verantwoordelijk voor (gevolg) schade veroorzaakt door het niet opvolgen van instructie zoals in deze handeling vermeld. PRO-luchtgordijn zijn alleen bedoeld voor binnen montage. WAARSCHUWING: Om oververhitting te voorkomen – dek het apparaat niet af!

1.1. TRANSPORT

Controleer de verpakking top beschadigingen. Het apparaat moet door minimaal twee personen worden vervoerd. Gebruik geschikt gereedschap bij het transporteren van het apparaat om beschadiging en mogelijk gevaar voor de gezondheid te voorkomen.

1.2. VOOR INSTALLATIE

Noteer voor installatie het serienummer van het apparaat op de garantiekaart. Het is verplicht om de garantiekaart correct in te vullen, na voltooiing van de montage. Alvorens met installatie- of onderhoudswerkzaamheden te beginnen, is het noodzakelijk de voeding los te koppelen en te beveiligen tegen onbedoelde activering. Montage, aansluiting en eerste start moeten worden uitgevoerd door gekwalificeerd personeel, volgens de richtlijnen in deze handleiding.

De volgorde van de installatie stappen:
1. Monteer het apparaat op de beoogde bedieningsplaats.
2. Maak de hydraulische aansluitingen.
3. Controleer de aansluitingen op dichtheid en ontlucht het systeem.
4. Zorg ervoor dat het apparaat elektrisch is aangesloten (volgens het schema).
5. Start het PRO luchtgordijn op.

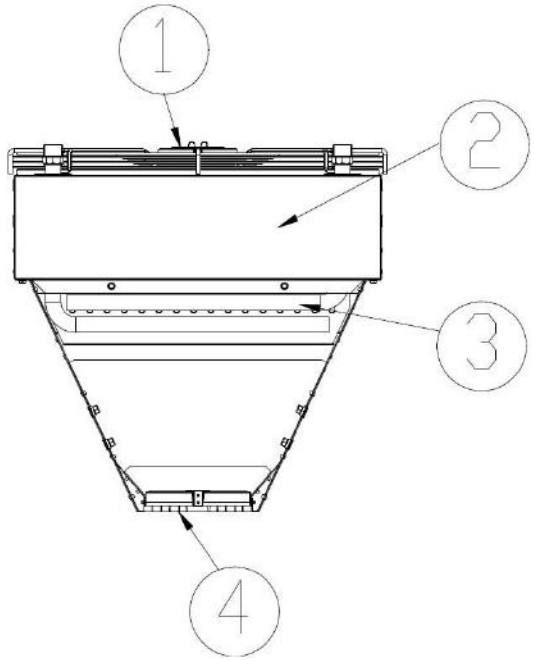
1.4. INTENDED USE

The use of the WING PRO air curtain enables the leaving of the room door open, regardless of weather conditions, thus providing a protective barrier. The curtain also enables a simultaneous keeping of the required heating comfort inside the room/facility. The places in which it is possible to install the device include: diagnostic station, train depot, supermarkets, aswell as shops, store-rooms, manufacturing facilities or warehouse rooms. Please notice that the use of an air curtain not only provides a protective barrier, but also it is an additional heat source in the room.
It is allowed to use the WING PRO air curtain in rooms with high humidity, e.g. in car washes, provided that the device is not exposed to a direct stream of water and there is no risk ofcondensation on the elements of the device. It is prohibited to use WING PRO curtains in rooms with aggressive environment (e.g. high concentration of ammonia) that may cause corrosion of aluminium or copper.

1.5. TRANSPORT

The WING PRO air curtain, thanks to axial fans, draws air from the room and presses it back into the room. The air stream is directed at high speed from the top to the bottom, creating an air barrier. WING PRO air curtains equipped with water heat exchanger, thanks to its well-developed heat exchange surface, generate high heating power and effectively heating the pumped air.

2. STRUCTURE AND DIMENSIONS



1: AXIAL FLOW FAN - maximum working temperature is 60°C, nominal power supply voltage is 230V/50Hz. Engine protection is IP54, insulation class F for EC motors IP is 54. Air feed is performed by the axial flow fan, which is secured with a protective grate.
Adequate blade profile and proper bearings guarantee silent and unfailing operation ofthe device.

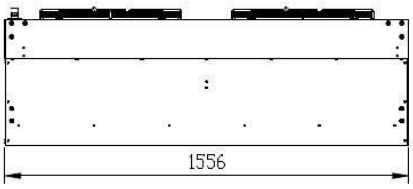
2: CASING – made of galvanised steel

3: HEAT EXCHANGER - the maximum parameters of the heating medium are: 130°C and1.6MPa. The aluminium-copper construction consists of copper tubes and fins. Collectors ¾”

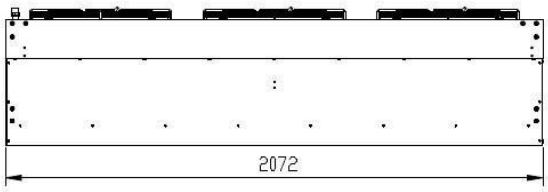
4: OUTLET GRID **-** direct the air flow

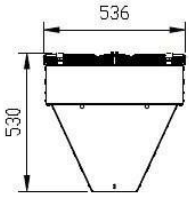
2.2. MAIN DIMENSIONS

EC 150



EC 200





3. ASSEMBLY

IMPORTANT!

- The place of assembly should be carefully selected, taking into account the occurring of potential loads or vibrations.
- Prior to all installation or maintenance work, disconnect power supply and secure it against unintentional reactivation.
- It is recommended to use filters in the hydraulic system. It is recommended to clean/rinse the system, draining a few litres of water, prior to the connecting of hydraulic conduits (thesupply conduits, in particular).

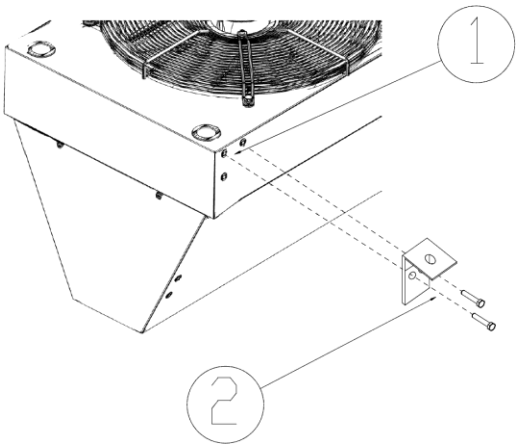
IMPORTANT! The air is blown out of the curtain at high velocity, along the surface of the opening, thus creating a protective barrier. Air curtains should cover the entire width of the dooropening, in order to obtain the maximum performance of the curtain.

3.1. STREAM RANGE

Fan speed	III	II	I
Height (width) of assembly [m]	H3	H2	H1
PRO L-Luchtgordijn EC150, PRO L-Luchtgordijn EC200	8 m	6,5	5
PRO CV1-Luchtgordijn EC-150, PRO CV1-Luchtgordijn EC-200	7,5m	6	4,5
PRO CV2-Luchtgordijn EC-150, PRO CV2-Luchtgordijn EC-200	7m	5,5	4

3.2. HORIZONTAL ASSEMBLY

IMPORTANT! Four holders are included for horizontal mounting on the mounting pins

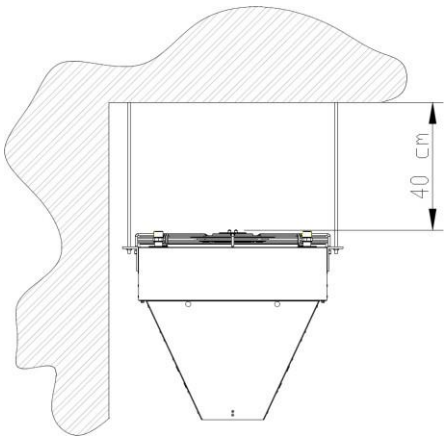


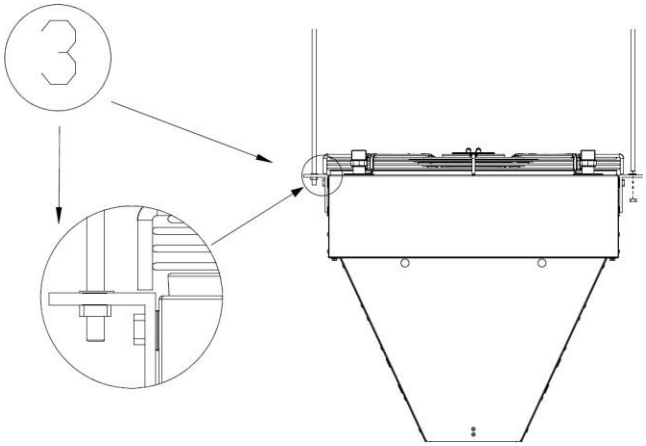
1: There are threaded holes in the four corners of the air curtain for attaching mounting brackets to the air curtain.

2: The mounting bracket should be fixed to the air curtain with the two M8 screws included inthe package.

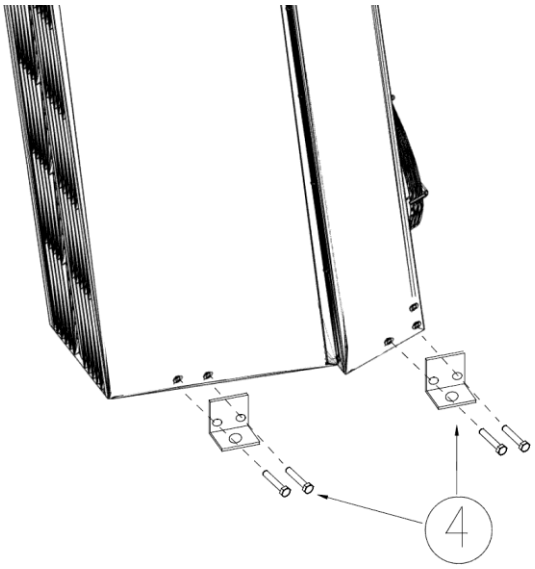
3: A mounting pin should be inserted and tightened securely into the previously fixed holders.The curtain should be hung on four mounting pins.

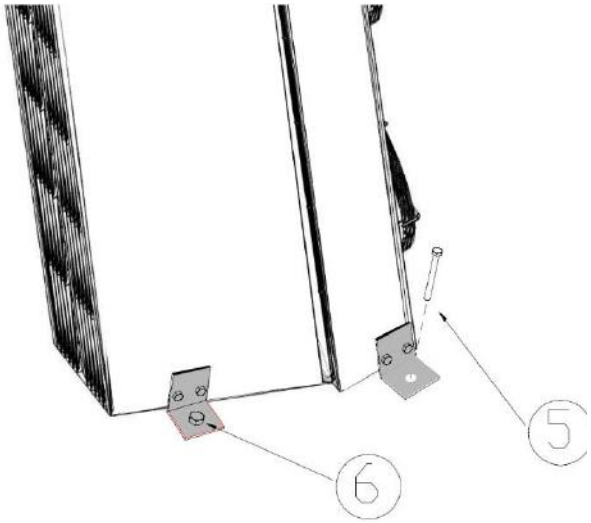
The minimum distance from the ceiling is 40 cm.





3.3. BEFORE THE INSTALLATION





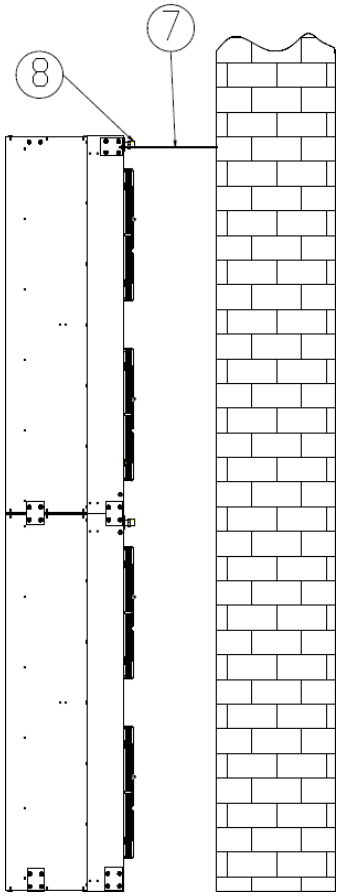
4: Four mounting holders should be attached to the underside of the air curtain. The brackets should be directed towards the ground

5: The curtain should be fixed to the substrate by means of holders that have been previously fixed, using the appropriate screw.

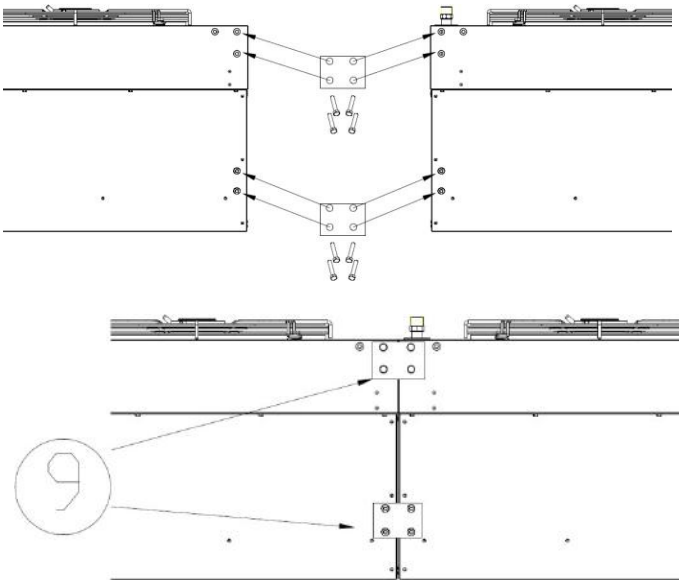
6: The curtain should be fixed to the substrate by means of holders that have been previously fixed, using the appropriate screw.

7: In the case of vertical installation, the curtain shall be additionally fixed to the wall using two mounting brackets and two mounting pins. If several units are mounted on top of each other, the unit should be connected to the wall using the mounting pins of each successive unit placed on top of the first unit.

8: The WING PRO W150-200 air curtains should be mounted vertically with the connectors placed upwards.



3.4. JOINING CURTAINS



9: Two flat mounting parts are included for connecting two air curtains together.

The units are to be connected together at the four points shown in the drawings. The four flat fastening elements and the M8 bolt set included in the kit should be used for the connection.

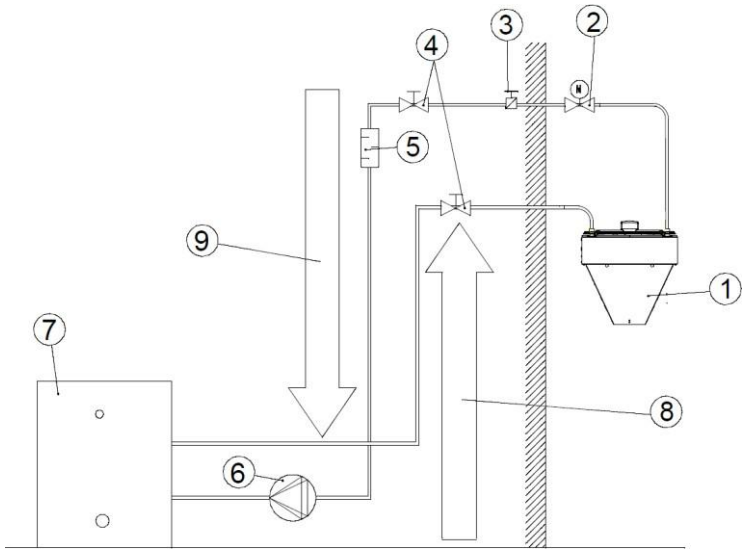
4. CONNECTION

4.1. HYDRAULIC CONNECTION

CONNECTING OF HEATING MEDIUM. Protect the heat exchanger terminal against the impact of the torque moment 1, when installing a pipeline transporting a heating medium. The weightof installed pipelines should not impose a load on the heater's terminals.

IMPORTANT! Pay particular attention to the leak-tightness of connections, when filing the hydraulic system. Make sure that the water flowing from a leaky connection does not leak to theelectric engine (at the vertical assembly).

IMPORTANT! It is recommended to use filters in the hydraulic system. It is recommended to clean/rinse the system, draining a few litres of water, prior to the connecting of hydraulic conduits(the supply conduits, in particular).



Aanbevolen appendages
1. PRO Luchtgordijn
2. Automatische 2-weg klep
3. Automatische ontluchter
4. Handmatige afsluiter
5. Waterfilter
6. Reciculatiepomp
7. CV-Ketel
8. Water toevoer
9. Water afvoer

Maximum operating pressure of the medium	
Maximale waterzijdige druk	16 Bar
Oil and grease	< 1 mg/l
pH at 25°C	8 -9
Residual water hardness	[Ca2+, Mg2+] / [HCO3-]>0.5
Oxygen	< 0.1 mg/l

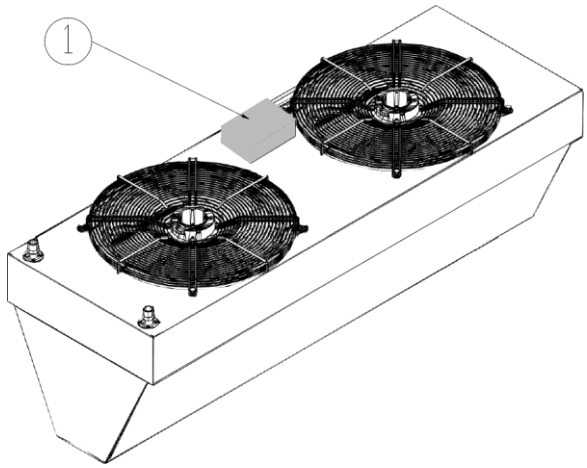
4.2. TRANSPORT

The system must be equipped with protective equipment that guarantees the disconnecting of the device on all poles of the power source. Connection to the electric system must be performed by a duly authorised and qualified person.The cable entries are located in the installation box on top of the air curtain. The box is fittedwith a cable gland for both power and control cables.
The device should be transported by two people. Use appropriate tools, when transporting the device, so as to avoid the damaging of goods and potential hazard to health.

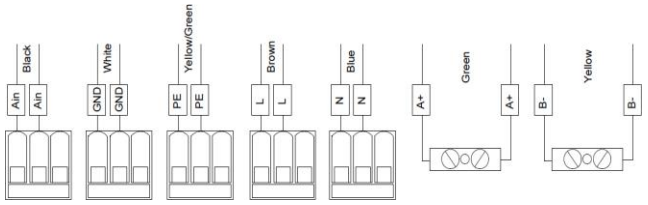
I**MPORTANT!** Recommended safety: according to the table below!

Recommended safety devices and wires

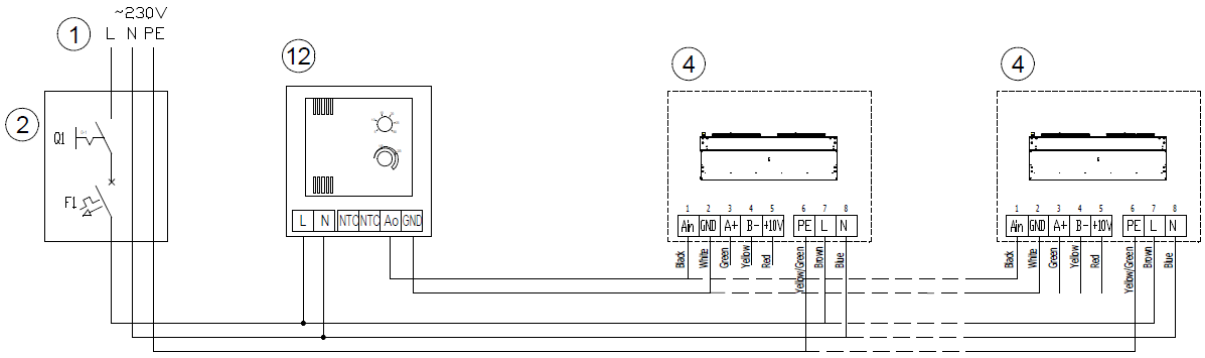
Device	PRO EC-150	PRO EC-200
	1,5m	2m
Overload and short circuit protection	C6 / 6kA	C10 / 6kA
Differential current protection	IDN=30mA type AC lub A	IDN=30mA type AC lub A
	IN=16A	IN=16A
Power wire cross-section	3x1,5mm^2	3x1,5mm^2



1: On the top of the casing there is a connection box (in case of PRO EC-200 there are two connection boxes on the casing. (**Do not open a sealed box!**) In order to connect the device remove the box cover by unscrewing the screws located in the corners of the box. The box is equipped with glands for power and control cables.

PRO EC-150 & PRO EC-200	**Power supply** 3 x 1,5 mm^2 **Control 0-10V DC** 2x0,75mm^2 (shielded)	

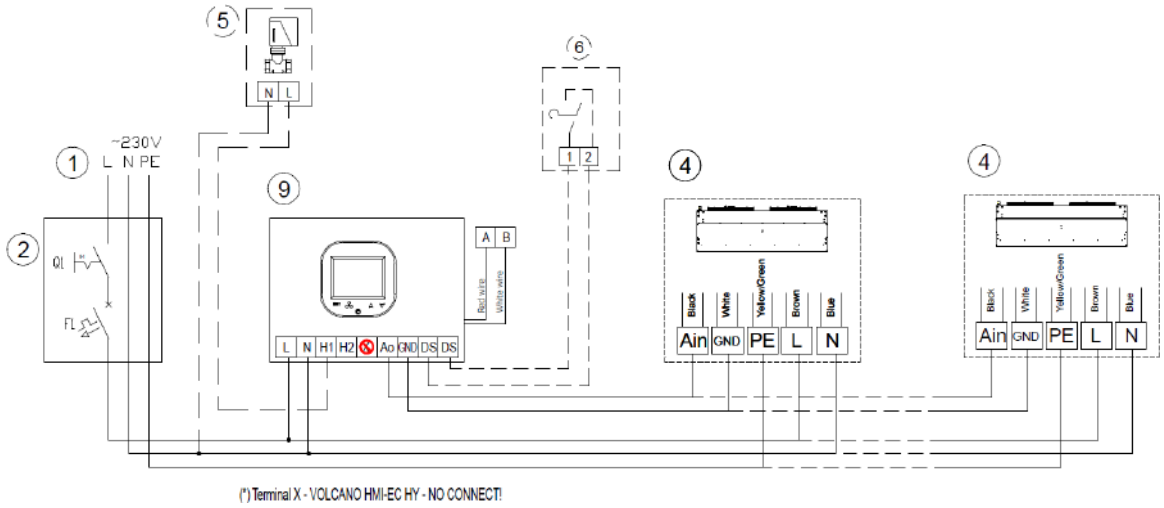
4.2.9. Electric diagram for PRO EC air curtains



1. power supply 230V – 50Hz *
2. main switch, fuses *
4. WING PRO EC
12. Potentiometer with thermostat

* **IMPORTANT!!** The device does not include: the main switch, fuses and feeder cable

Electric diagram for PRO EC air curtains



1. power supply 230V – 50Hz *
2. main switch, fuses *
4. WING PRO EC
5. valve with actuator **
6. door sensor **
9. controller HMI WING EC

* **IMPORTANT!!** The device does not include: the main switch, fuses and feeder cable

** **IMPORTANT!!** Do not connect the valve with actuator (5) together with the door sensor (6). Choose one of these elements

5. START-UP, OPERATION, MAINTENANCE

- Prior to the commencing of any installation or maintenance work, disconnect power supply and secure it against unintentional reactivation.
- It is recommended to use filters in the hydraulic system. It is recommended to clean/rinse the system, draining a few litres of water, prior to the connecting of hydraulic conduits (thesupply conduits, in particular).
- It is advised to use vent valves in the highest point of the system.
- It is recommended to install shut-off valves directly after the device, should the disassembly of the device be necessary.
- All protective equipment is to be installed before the pressure increases, according to maximum the permissible pressure rating of 1.6MPa.
- Hydraulic connection should be free of any stresses and loads.
- Check the correctness of hydraulic connections (leak-tightness of the vent, collecting pipes, correctness of fittings installation), prior to the initial start-up of the device.
- It is recommended to check the correctness of electrical connections (of automatics, power supply), prior to the initial start-up of the device. It is advised to use an additional, externalresidual- current protection.

IMPORTANT! All connections should be carried out, according to this technical documentation and the documentation delivered with automation equipment.

5.2. OPERATION AND MAINTENANCE

- The casing of the device does not require maintenance.
- The heat exchanger should be cleaned on a regular basis from dust and fat deposit. It is especially recommended to clean the exchanger before the heating season with the use of compressed air from the air intake side (after removing the inlet grid). You should pay special attention to the exchanger's lamellae which are very delicate.
- Should the lamellas be deformed (bent), straighten them with a special tool.
- The fan's motor does not require any exploitation service, the only service activities that may be necessary concern cleaning the air intakes from dust and fat deposit.
- Disconnect phase voltage, if the device is shut down for longer periods of time.
- The heat exchanger does not have any anti-freezing protections.
- It is recommended to provide a periodical purging of the heat exchanger, preferably using compressed air.
- Should the temperature in the room drop below 0°C, with a simultaneous drop of the heating medium temperature, there is a risk that the heat exchanger might freeze (crack).
- The level of air pollutants should meet the criteria allowable concentrations of pollutants in indoor air, for non-industrial areas, the level of dust concentration up to 0.3 g / m^3.
- It is forbidden to use device for the duration of the construction works except for the start-up of the system.
- The equipment must be operated in rooms used throughout the year, and in which there is no condensation (large fluctuations in temperature, especially below the dew point of the moisture content). The device should not be exposed to direct UV rays.
- The device should be operated at the supply water temperature up to 130 °C with working fan.

It is prohibited to use PRO curtains in rooms with aggressive environment (e.g. high concentration of ammonia) that may cause corrosion of aluminium or copper.

6. SERVICE

6.1. INDUSTRIAL SAFETY INSTRUCTION

Special instructions concerning safety IMPORTANT!

- Prior to the commencing of any work related to the device, it is required to disconnect the system, secure it properly and wait, until the fan stops revolving.
- Use stable working platforms and hoists.
- Depending on the temperature of the heating medium, pipes, elements of casing and surfaces of the heat exchanger can be very hot, even after the fan has stopped revolving.
- Sharp edges may be present! Wear gloves, protective shoes and clothing, when transporting the device.
- Strictly observe safety guidelines and industrial safety regulations.
- Loads can be placed only in the previously selected areas on the transporting unit.
- Protect the edges of the device, when lifting it, using a set of machines. Remember to distribute weight evenly.
- The equipment must be protected against moisture and dirt, and kept in rooms protected against the impact of weather conditions.
- Utilisation of waste: make sure that operating and auxiliary materials, including packaging material and spare parts, are disposed of in a safe, environment friendly manner, according to the binding, local statutory regulations.

7. PARAMETERS

		PRO CV 150-200				PRO L 150-200	
	Type	CV1 EC-150	CV1 EC-200	CV2 EC-150	CV2 EC-200	L EC-150	L EC-200
Maximale deur breedte	Meter	1,5	2	1,5	2	1,5	2
Maximale deur hoogte	Meter	7,5	7,5	7	7	8	8
Verwarmingscapaciteit	kW	9-32	15-48	17-58	28-88	Niet van toepassing	
Maximaal luchtvolume	m^3/h	7900	11900	7300	10700	8500	12800
Maximum medium temperatuur	°C	130				Niet van toepassing	
Maximale werkdruk	Bar	1,6				Niet van toepassing	
Waterzijdige aansluitingen	‘’	3/4				Niet van toepassing	
Elektrische voeding	Vac / ph / Hz	230 / 1 / 50					
EC motorvermogen	kW	2 x 0,25	3 x 0,25	2 x 0,25	3 x 0,25	2 x 0,25	3 x 0,25
EC motor amperage	Amp	2 x 1,3	3 x 1,3	2 x 1,3	3 x 1,3	2 x 1,3	3 x 1,3
Gewicht (Leeg)	kg	50,5	66,1	53,6	69,6	43,4	58,3
IP waarde	-	54					

Heating capacity for 80/60°C heating medium and 15°C supply air temperature

7.2. VERMOGENS

		PRO CV1-Luchtgordijn EC-150															
		Parameters Tz/Tp [°C]															
		90/70 [°C]				80/60 [°C]				70/50 [°C]				60/40 [°C]			
T_{p1}	Q_p	P_g	T_{p2}	Q_w [m³/h]	Δp	P_g	T_{p2}	Q_w [m³/h]	Δp	P_g	T_{p2}	Q_w [m³/h]	Δp	P_g	T_{p2}	Q_w [m³/h]	Δp
[°C]	[m³/h]	[kW]	[°C]		[kPa]	[kW]	[°C]		[kPa]	[kW]	[°C]		[kPa]	[kW]	[°C]		[kPa]
0	7900	32,4	11,0	1,40	13,8	27,9	9,8	1,20	10,8	23,2	8,1	1,00	8,0	18,5	6,5	0,80	5,5
	5700	27,2	13,2	1,20	10,1	23,4	11,4	1,00	7,9	19,5	9,5	0,90	5,8	15,6	7,6	0,70	4,0
	4500	23,9	14,6	1,10	8,0	20,5	12,6	0,90	6,2	17,1	10,5	0,70	4,6	13,6	8,4	0,60	3,2
5	7900	30,2	15,8	1,30	12,6	25,6	14,1	1,10	9,3	21,0	12,5	0,90	6,7	16,3	10,8	0,70	4,3
	5700	25,3	17,5	1,10	8,9	21,5	15,6	0,90	6,8	17,7	13,7	0,80	4,9	13,7	11,8	0,60	3,2
	4500	22,2	18,9	1,00	7,0	18,9	16,8	0,80	5,4	15,5	14,7	0,70	3,9	12,0	12,5	0,50	2,5
10	7900	28,0	20,1	1,20	10,6	23,4	18,5	1,00	7,9	18,8	16,8	0,80	5,5	14,0	15,1	0,60	3,3
	5700	23,5	21,8	1,00	7,7	19,7	19,9	0,90	5,8	15,8	17,9	0,70	4,0	11,8	15,9	0,50	2,4
	4500	20,6	23,1	0,90	6,1	17,2	21,0	0,80	4,6	13,8	18,8	0,60	3,2	10,3	16,6	0,40	1,9
15	7900	25,8	24,5	1,10	9,1	21,2	22,8	0,90	6,6	16,6	21,1	0,70	4,3	11,8	19,3	0,50	2,4
	5700	21,6	26,0	1,00	6,7	17,8	24,1	0,80	4,8	13,9	22,1	0,60	3,2	9,9	20,0	0,40	1,8
	4500	18,9	27,2	0,80	5,3	15,6	25,1	0,70	3,8	12,2	22,9	0,50	2,5	8,6	20,6	0,40	1,38
20	7900	23,5	28,8	1,00	7,8	19,0	27,1	0,80	5,4	14,3	25,4	0,60	3,4	9,4	23,5	0,40	1,63
	5700	19,8	30,2	0,90	5,7	15,9	28,2	0,70	4,0	12,0	26,2	0,50	2,5	7,9	24,1	0,30	1,18
	4500	17,3	31,4	0,80	4,5	14,0	29,2	0,60	3,1	10,5	26,9	0,50	1,9	6,8	24,5	0,30	0,91

Tz – inlet water temperature; Tp – outlet water temperature; Tp1 – inlet air temperature; Tp2 – outlet air temperature; Pg – heating capacity; Qw – water flow; Qp- air flow rate; Δp – pressure drop in the heat exchanger

		PRO CV1-Luchtgordijn EC-200															
		Parameters Tz/Tp [°C]															
		90/70 [°C]				80/60 [°C]				70/50 [°C]				60/40 [°C]			
T_{p1}	Q_p	P_g	T_{p2}	Q_w [m³/h]	Δp	P_g	T_{p2}	Q_w [m³/h]	Δp	P_g	T_{p2}	Q_w [m³/h]	Δp	P_g	T_{p2}	Q_w [m³/h]	Δp
[°C]	[m³/h]	[kW]	[°C]		[kPa]	[kW]	[°C]		[kPa]	[kW]	[°C]		[kPa]	[kW]	[°C]		[kPa]
0	11900	47,6	11,1	2,10	34,1	41,1	9,5	1,80	26,8	34,5	8,0	1,50	20,2	27,8	6,5	1,20	14,2
	8600	40,0	12,9	1,80	25,1	34,5	11,1	1,50	19,7	29,0	9,3	1,30	14,8	23,4	7,5	1,00	10,4
	6800	35,2	14,3	1,60	19,9	30,4	12,4	1,30	15,6	25,5	10,4	1,10	11,8	20,6	8,4	0,90	8,3
5	11900	44,3	15,5	2,00	30,1	37,8	13,9	1,70	23,2	31,3	12,4	1,40	16,9	24,6	10,8	1,10	11,4
	8600	37,3	17,2	1,60	22,1	31,8	15,4	1,40	17,0	26,3	13,6	1,20	12,5	20,7	11,8	0,90	8,4
	6800	32,8	18,6	1,40	17,5	28,0	16,6	1,20	13,5	23,2	14,6	1,00	0,9	18,2	12,5	0,80	6,6
10	11900	41,1	19,9	1,80	26,3	34,6	18,3	1,50	19,8	28,1	16,7	1,20	13,9	21,4	15,1	0,90	8,8
	8600	34,6	21,5	1,50	19,3	29,1	19,7	1,30	14,5	23,6	17,9	1,00	10,3	18,0	16,0	0,80	5,1
	6800	30,4	22,8	1,30	15,3	25,6	20,8	1,10	11,5	20,8	18,7	0,90	8,1	15,8	16,7	0,70	5,2
15	11900	37,9	24,3	1,70	22,8	31,4	22,7	1,40	16,6	24,9	21,1	1,10	11,2	18,2	19,4	0,80	6,6
	8600	31,9	25,8	1,40	16,7	26,5	23,9	1,20	12,2	20,9	22,1	0,90	8,3	15,3	20,2	0,70	4,9
	6800	28,0	27,0	1,20	13,2	23,3	24,9	1,00	9,7	18,4	22,9	0,80	6,6	13,4	20,7	0,60	3,85
20	11900	34,7	28,6	1,50	19,4	28,2	27,0	1,20	13,7	21,7	25,4	0,90	8,8	14,9	23,7	0,60	4,63
	8600	29,2	30,0	1,30	14,3	23,8	28,2	1,00	10,1	18,2	26,3	0,80	6,5	12,5	24,3	0,50	3,40
	6800	25,7	31,1	1,10	11,3	20,9	29,1	0,90	8,1	16,0	27,0	0,70	5,1	11,0	24,8	0,50	2,70

Tz – inlet water temperature; Tp – outlet water temperature; Tp1 – inlet air temperature; Tp2 – outlet air temperature; Pg – heating capacity; Qw – water flow; Qp- air flow rate; Δp – pressure drop in the heat exchanger

		PRO CV2-Luchtgordijn EC-150															
		Parameters Tz/Tp [°C]															
		90/70 [°C]				80/60 [°C]				70/50 [°C]				60/40 [°C]			
T_{p1} [°C]	Q_p [m³/h]	P_g [kW]	T_{p2} [°C]	Q_w [m³/h]	Δp [kPa]	P_g [kW]	T_{p2} [°C]	Q_w [m³/h]	Δp [kPa]	P_g [kW]	T_{p2} [°C]	Q_w [m³/h]	Δp [kPa]	P_g [kW]	T_{p2} [°C]	Q_w [m³/h]	Δp [kPa]
0	7300	57,6	21,8	2,50	19,2	49,6	18,8	2,20	14,8	41,6	15,7	1,80	10,9	33,3	12,6	1,50	7,4
	5150	47,2	25,4	2,10	13,3	40,7	21,9	1,80	10,3	34,1	18,3	1,50	7,6	27,3	14,7	1,20	5,2
	4000	40,6	28,1	1,80	10,1	35,0	24,2	1,50	7,8	29,3	20,3	1,30	5,7	23,5	16,3	1,00	3,9
5	7300	53,6	25,7	2,40	16,8	45,7	22,6	2,00	12,7	37,6	19,5	1,60	9,1	29,3	16,3	1,30	5,9
	5150	43,9	29,0	1,90	11,7	37,4	25,5	1,60	8,8	30,8	21,9	1,30	6,3	24,1	18,1	1,00	4,1
	4000	37,8	31,6	1,70	8,8	32,2	27,7	1,40	6,7	26,5	23,7	1,20	4,8	20,7	19,5	0,90	3,1
10	7300	49,7	29,5	2,20	14,6	41,7	26,3	1,80	10,8	33,6	23,2	1,50	7,4	25,3	19,9	1,10	4,5
	5150	40,7	32,6	1,80	10,1	34,2	29,0	1,50	7,5	27,6	25,5	1,20	5,1	20,8	21,5	0,90	3,1
	4000	35,0	35,0	1,50	7,7	29,4	31,0	1,30	5,7	23,7	27,0	1,00	3,9	17,8	22,7	0,80	2,4
15	7300	45,7	33,2	2,00	12,5	37,8	30,0	1,70	9,0	29,7	26,8	1,30	5,9	21,3	23,5	0,90	3,3
	5150	37,5	36,1	1,70	8,7	31,0	32,5	1,40	6,2	24,4	28,8	1,10	4,1	17,4	24,8	0,80	2,3
	4000	32,2	38,4	1,40	6,6	26,7	34,4	1,20	4,7	21,0	30,2	0,90	3,1	14,9	25,8	0,60	1,70
20	7300	41,8	36,9	1,80	10,6	33,9	33,7	1,50	7,3	25,8	30,4	1,10	4,5	17,2	27,0	0,70	2,20
	5150	34,3	39,6	1,50	7,4	27,8	35,9	1,20	5,1	21,1	32,1	0,90	3,1	14,0	28,0	0,60	1,50
	4000	29,5	41,7	1,30	5,6	23,9	37,6	1,00	3,9	18,2	33,4	0,80	2,4	11,8	28,7	0,50	1,11

Tz – inlet water temperature; Tp – outlet water temperature; Tp1 – inlet air temperature; Tp2 – outlet air temperature; Pg – heating capacity; Qw – water flow; Qp- air flow rate; Δp – pressure drop in the heat exchanger

		PRO CV2-Luchtgordijn EC-200															
		Parameters Tz/Tp [°C]															
		90/70 [°C]				80/60 [°C]				70/50 [°C]				60/40 [°C]			
T_{p1} [°C]	Q_p [m³/h]	P_g [kW]	T_{p2} [°C]	Q_w [m³/h]	Δp [kPa]	P_g [kW]	T_{p2} [°C]	Q_w [m³/h]	Δp [kPa]	P_g [kW]	T_{p2} [°C]	Q_w [m³/h]	Δp [kPa]	P_g [kW]	T_{p2} [°C]	Q_w [m³/h]	Δp [kPa]
0	10700	87,5	22,6	3,90	47,5	75,7	19,6	3,30	37,0	63,8	16,5	2,80	27,5	51,7	13,4	2,30	19,1
	7800	73,1	25,9	3,20	34,1	63,3	22,5	2,80	26,6	53,4	18,9	2,30	19,8	43,3	15,4	1,90	13,8
	6100	63,2	28,7	2,80	26,1	54,8	24,8	2,40	20,4	46,2	20,9	2,00	15,2	37,5	17,0	1,60	10,6
5	10700	81,6	26,5	3,60	41,7	69,8	23,4	3,10	31,8	57,9	20,2	2,50	23,0	45,8	17,0	2,00	15,3
	7800	68,1	29,6	3,00	29,9	58,3	26,0	2,60	22,9	48,4	22,5	2,10	16,6	38,3	18,8	1,70	11,1
	6100	58,9	32,2	2,60	22,9	50,4	28,3	2,20	17,5	41,9	24,3	1,80	12,7	33,2	20,3	1,40	8,5
10	10700	75,6	30,2	3,30	36,2	63,9	27,1	2,80	27,0	52,0	23,9	2,30	18,9	39,9	20,7	1,70	11,9
	7800	63,2	33,2	2,80	26,0	53,4	29,6	2,30	19,4	43,5	26,0	1,90	13,6	33,4	22,3	1,50	8,6
	6100	54,6	35,6	2,40	19,9	46,2	31,7	2,00	14,9	37,6	27,7	1,60	10,5	28,9	23,6	1,30	6,6
15	10700	69,7	33,9	3,1	31,2	58,0	30,8	2,50	22,6	46,1	27,5	2,00	15,2	34,0	24,2	1,50	8,9
	7800	58,3	36,7	2,60	22,4	48,5	33,1	2,10	16,3	38,6	29,4	1,70	10,9	28,4	25,6	1,20	6,4
	6100	50,4	39,0	2,20	17,2	41,9	35,0	1,80	12,5	33,4	30,9	1,50	8,4	24,6	26,7	1,10	4,91
20	10700	63,9	37,6	2,80	26,6	52,1	34,4	2,30	18,6	40,2	31,1	1,80	11,8	28,0	27,7	1,20	6,22
	7800	53,4	40,2	2,40	19,1	43,6	36,5	1,90	13,4	33,7	32,7	1,50	8,5	23,4	28,9	1,00	4,49
	6100	46,1	42,3	2,00	14,6	37,7	38,2	1,70	10,3	29,1	34,1	1,30	6,5	20,2	29,8	0,90	3,44

EN: Tz – inlet water temperature; Tp – outlet water temperature; Tp1 – inlet air temperature; Tp2 – outlet air temperature; Pg – heating capacity; Qw – water flow; Qp- air flow rate; Δp – pressure drop in the heat exchanger