CALADAIR

NEOTIME ® CARMA ®

HIGH EFFICIENCY RECOVERY UNIT

OPERATING AND COMMISSIONING INSTRUCTIONS

OPERATING AND COMMISSIONING INSTRUCTIONS

TABLE OF CONTENT

I. RECEIVING THE EQUIPMENT 4
I.1. Checks on reception 4
I.2. Unpacking 4
I.3. Storing 4
I.4. End of life 5
II. INSTALLATION 5
II.1. Handling 5
II.2. Space required 5
II.2.a. NEOTIME 5
II.2.b. CARMA 6
II.1. Installation 7
III. GENERAL FONCTIONNING 8
III.1. GENERAL 8
III.2. FUNCTIONAL ANALYSIS 8
III.3. REGULATION MODE 9
III.3.a. SEASON: 9
III.3.b. ECO: 9
III.3.c. DIVA 9
III.3.d. LOBBY®: 9
III.3.e. MAC2®: (impossible with version FREETIME 500-800 et HEXAMOTION 05-08) 10
III.3.f. QUATTRO®: (impossible with version FREETIME 500-800 et HEXAMOTION 05-08) 10
III.4. COMPOSITION 10
III.4.a. NEOTIME 10
III.4.b. CARMA 12
III.5. ELEMENTS IN THE REGULATION 14
III.5.a. NEOTIME 14
III.5.b. CARMA 15
IV. ELECTRIC WIRING 16
IV.1. POWER SUPPLY 16
IV.1.a. NEOTIME 16
IV.1.b. CARMA 16
IV.2. CONTROL WIRING (SEASON) 16
IV.2.a. Remote alarm 16
IV.2.b. External 0-10V (potentiometer) 17
IV.2.c. Bypass 17
IV.2.a. Automatic deicing 17
IV.3. CONTROL WIRING (ECO/DIVA/LOBBY/MAC2/QUATTRO) 18
IV.3.a. Temperature sensor 18
IV.3.b. Terminal blocks 18
IV.4. Electrical wiring and functioning of the plate exchanger 19
IV.5. Automatic deicing 19
IV.6. Filters pressure switches wiring and connection 20
IV.7. Fan switches wiring and connection 20
IV.8. Pressure transmitter LOBBY® MAC2® QUATTRO® wiring and connection 20
IV.9. Motors wiring 21
IV.10. CO2 transmitter wiring 21

IV.11. Night Cooling....21
IV.12. Hot water / cool water or changeover water coil....21
IV.13. DX battery (cold or reversible)....22
IV.14. Electrical Battery....23
IV.15. Deicing battery....23
IV.16. Fire function....23
IV.17. Dehumidification function....24
IV.18. MODBUS / WEB / BACNET wiring....24
IV.19. Repeater wiring....25
IV.20. LON....25
V. SETTINGS....26
V.1. Display....26
V.2. Example of setting....26
V.3. Standard settings (operator menu)....26
V.3.a. Running mode menu....28
V.3.b. Temperature menu....29
V.3.c. Ventilation menu....29
V.3.d. Timer menu....30
V.4. Operator parameters modification (password 3333 required)....31
V.4.a. Dates and hours clocks setting....31
V.4.b. Speed /pressure modification in LS and HS....31
V.4.c. Temperature setpoint modification....32
V.4.d. Forced stop of the unit or forced start LS or HS on the remote control....32
V.4.e. Choice of language....32
V.5. Intermediate settings (service level)....32
V.5.a. Configuration menu in service access....33
V.6. Modification of the services parameters (password 2222)....33
V.6.a. Regulation mode of the unit....33
V.6.b. Overventilation parameters....33
V.6.c. CO2 setpoint for DIVA / QUATTRO option....33
V.7. Administrator settings....34
V.7.a. Configuration menu with admin level access....34
V.8. Modification of the service parameters....35
V.8.a. MODBUS....35
V.8.b. Repeaters and EXO communication....35
V.8.c. WEB Communication....35
V.8.d. BACNET IP Communication with BASC type....36
V.8.e. Communication LON (if CORRIGO with option LON)....36
V.8.f. Fire function activation....36
V.8.g. Activation of the function dehumidification....37
VI. REPAIR....37
VI.1. Different type of defaults....37
VI.2. List of alarms....37
VI.3. Acknowledge the default « timer service »....39
VII. MAINTENANCE....39
VII.1. Obligatory maintenance....39
VII.2. Battery replacement....40
VIII. ANNEXES....41

VIII.1. Control scheme 41
VIII.2. Motor wiring NEOTIME 600-900 42
VIII.3. Moto wiring NEOTIME 1300-1800-2500 43
VIII.4. Motor wiring CARMA 9008 44
VIII.5. Motor wiring CARMA 9010-9070 45
VIII.6. Curves NEOTIME 46
VIII.7. Curves CARMA 47
VIII.8. MODBUS and BACNET tables 50
IX. NOTES 53

SAFETY INSTRUCTIONS

In compliance with the current norms, the machine should be installed only by a technical person qualified for this type of work.
Use the required personal protection devices so as to avoid injuries caused by electrical and mechanical hazards (injuries by touching panels, sharp edges, etc.). Use EN170 protective eyewear and ear protection.
Do not use the unit for an other used which it designed. This unit can't be use for extract or supply dangerous air.
Move the machine as given in chapter *handling*.
Grounding is carried out in compliance with current standards. Never start the device without grounding
Before any intervention ensure that device is powered off and wait for complete stop of every rotative component such as damper, fan, rotative exchanger…
During device is running inspection doors must be mounted and closed.
Start is to be done only with pad lockable switch.
Do not shut off or short circuit the safety and control equipment.
During interventions, be careful with hot components such as hot water coil or electric resistances.
The machine should be installed in compliance with fire norms.
The waste must be disposed of in compliance with the current standards. No packaging should be discarded into the environment.
We disclaim any responsibility for any damages resulting from wrong utilisation of the equipment, reparation, modification or non compliance of these instructions.

I. RECEIVING THE EQUIPMENT

The units are delivered fixed on longitudinal members or on blocks then wrapped in plastic film.

I.1. Checks on reception

When the equipment is received, the state of the packaging and the equipment must be checked. In the event of damage, make an accurate note of any problems on the carrier's delivery note

I.2. Unpacking

When the equipment is unpacked, check the following:

- The total number of packages is present.
- All accessories are present (dampers, roof, electric switchgear, etc.). After unpacking the equipment, the waste must be disposed of in compliance with the current standards. No packaging should be discarded into the environment

I.3. Storing

The equipment must be stored in shade, in a dry place, at a temperature between -20°C and 40°C. The packaging can't be considered sufficient for an external storage.

I.4. End of life

In accordance with the partnerships with the company ECOLOGIC. CALADAIR fulfills the obligations to finance the collection, removal and treatment of Waste Electrical and Electronic Equipment.
At the end of the life of this equipment, the user contacts the company ECOLOGIC who will propose a collection solution or a place of deposit for the product.

Contacts for pick-up requests:
E-mail: operations-pro@ecologic-france.com
Phone: 01 30 57 79 14
Internet: www.e-dechet.com

II. INSTALLATION

II.1. Handling

The units must only be moved in their installation position.
If the device is handled using a fork-lift truck, ensure this supports the load-bearing structure
If the device is moved using a crane, use four cables of identical lengths. These must be at least as long as the greatest distance between two fastening points.

If L + W + H > 5m Þ then the case must be lifted using a lifting beam

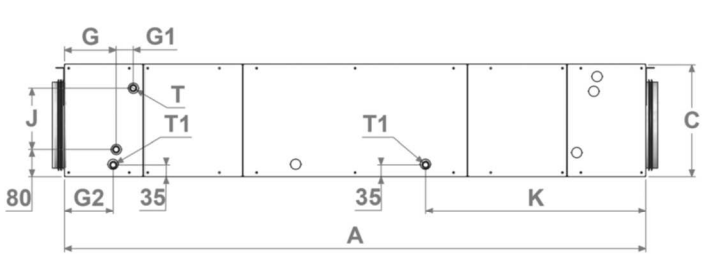
II.2. Space required

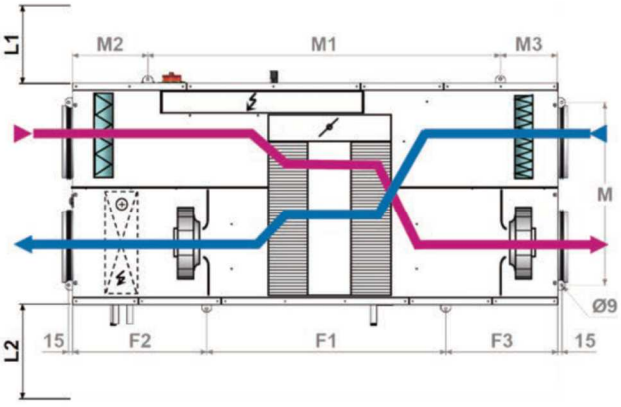
Generally speaking, it is desirable to provide access space of at least the width of the unit on the each side for maintenance. These units require a siphon and must be installed at a sufficient height to allow this to be installed.

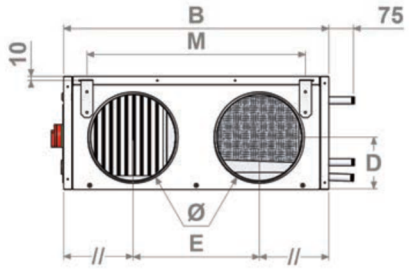
II.2.a. NEOTIME

Modèle NEOTIME®	Ø	A	B	C	D	E	F1	F2	F3	G	G1	G2	J	K	M	M1	M2	M3	T	T1	SEASON	FIRST SMART	PREMIUM BE INFINIT BE	PREMIUM CO INFINIT CO
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Kg	Kg	Kg	Kg
600	250	1700	780	330	160	370	-	-	-	150	50	145	170	645	640	-	-	-	1/2"	1/2"	120	127	130	135
900	315	2020	965	415	210	460	-	-	-	150	50	145	250	780	750	-	-	-	1/2"	1/2"	180	190	195	200
1300	355	2190	1220	415	190	600	795	735	660	430	50	425	250	880	950	1170	510	510	1/2"	1/2"	255	265	270	275
1800	400	2275	1220	495	245	600	915	725	635	430	50	425	330	885	950	1115	580	580	1/2"	1/2"	275	285	290	295
2500	400	2395	1740	495	235	910	840	785	770	430	50	425	330	985	1350	1235	580	580	3/4"	1/2"	380	390	400	405

OPERATING AND COMMISSIONING INSTRUCTIONS







		NEOTIME®				
ESPACE MAINTENANCE (mm)		600	900	1300	1800	2500
ACCÈS FILTRE / ARMOIRE ÉLECTRIQUE	L1	275	375	520	520	690
ACCÈS VENTILATEURS	L2	225	320	380	435	435
ACCÈS VENTILATEURS / ÉCHANGEUR / BATTERIE CO	L2	470	560	670	670	1020

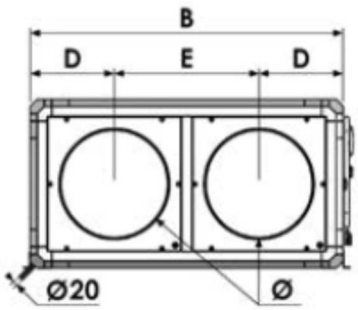
II.2.b. CARMA

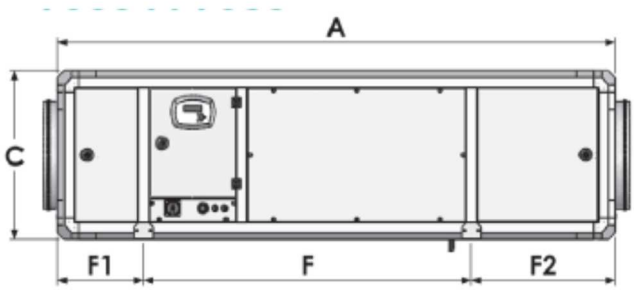
Modèle CARMA®	Ø mm	A mm	B mm	C mm	D mm	E mm	F mm	F1 mm	F2 mm	G mm	J mm	K mm	T ø	SEASON kg	FIRST kg	SMART kg	PREMIUM kg	INFINITE kg
9008	315	2010	915	505	255	405	1097	362	517	500	245	540	1/2	210	215	217	218	220
9010	315	2010	915	505	255	405	1097	362	517	500	245	540	1/2	215	220	222	223	225
9016	400	2230	1115	605	305	505	1261	362	607	565	345	690	1/2	295	295	298	300	303
9023	450	2345	1315	705	355	605	1376	362	607	565	445	690	3/4	390	395	400	402	407
9035	500	2625	1515	805	405	705	1520	450	655	640	545	740	3/4	545	550	554	560	564
9048*	630	2970	1715	1030	455	805	1677	535	758	685	645	840	1"	715	720	727	735	742
9070	voir côtes ci-dessous												1"	895	900	915	930	945

** Disponible uniquement en configuration verticale.*

II.2.b.1. Horizontal configuration (L et P)

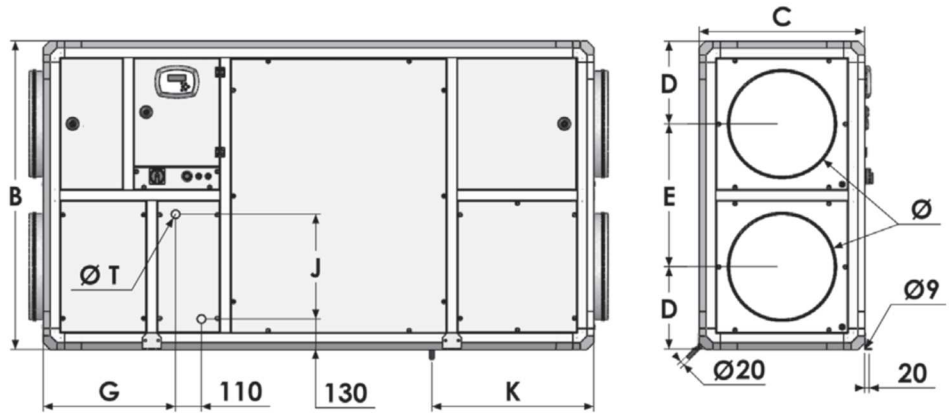
Provide access cote C on each side





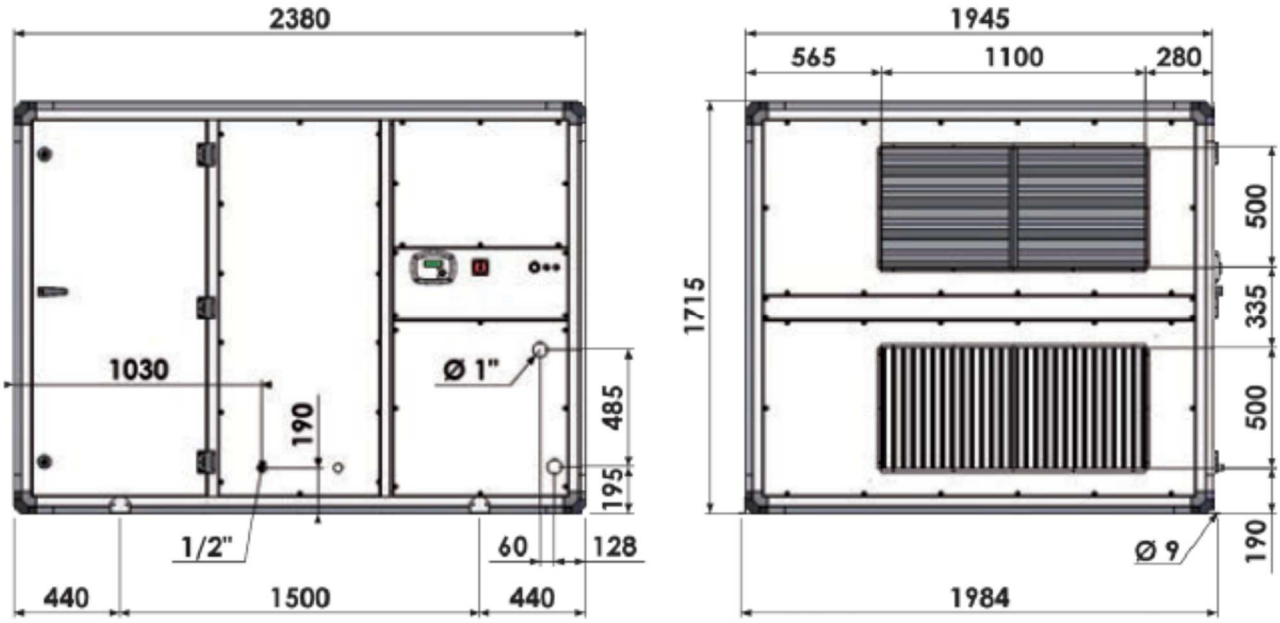
II.2.b.2. Vertical configuration (W et Y)

Provide more than 300mm at the rear of the unit to connect condensate pipe.
Provide access cote C on front side



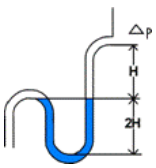
II.2.b.3. Size 9070

Provide more than 1100mm on front side



II.1. Installation

The unit must be suspended or laid on a sufficiently rigid and flat surface (use vibration mounts if necessary). For the HVAC connection, select duct sections based on dimensions of the flexible bands that should be properly stretched.
Install the unit such that bad weather or ambient temperature cannot damage the internal items of the unit during installation as well as when used later (possibly provide a protective cap). For NEOTIME and CARMA placed on the ground, it is preferable to provide support feet (PCB)



Provide a siphon on each condensate drainage pipe. A siphon can only be used for one drainage system.
Note: the siphon must be connected in accordance with Best Practices in order that the condensates are removed as efficiently as possible.
The height H must be at least equal to the maximum internal negative pressure of the unit (Dp in mm).
Example: Dp = 500 Pa @ 50 mm CE
⇒ H > 50 mm 2H > 100 mm

For CARMA range, provide a slope of 2 to 3% for the removal of the condensate in direction of the width

Installation of the units in ceiling: units can be suspended with threaded rods. They can also be laid on a frame, suspended on the building structure, within the load capacity of the frame (frame in charge of the installer).

Outdoor installation of the unit (CARMA only): For raising the unit above the ground (protection from water), a set of feet may optionally be supplied (PCB). A roof (DPC) as well grated beveled nozzles (BBG) or rain cowls (AGC) must also provide if necessary (available as options).

For NEOTIME LOBBY: Make sure to connect the pressure tube to the supply duct via the pressure socket located between extract and supply connection.

III. GENERAL FONCTIONNING

III.1. GENERAL

NEOTIME® and **CARMA®** rages are a program of double-flow units with high efficiency recovery, self-regulating recovery meant for office and industrial installations. Its performance is greater than 90%.

SEASON: Manages the fans by potentiometers and Bypass. No battery can be associated.
FIRST: Econological management of fans and Bypass. Allows managing a non-integrated changeover battery or (hot water battery non-integrated or and cold water battery non integrated) If required, it can also manage a non-integrated electric battery and a non-integrated cold water battery.
PREMIUM CO (NEOTIME only): Econological management of the fans, Bypass and a changeover integrated battery.
PREMIUM BC (CARMA only): Econological management of the fans, Bypass and a intergrated hot water battery. If required, it can also manage a non-integrated cold water battery.
PREMIUM BE: Econological management of the fans, Bypass and a intergrated electrical battery. If required, it can also manage a non-integrated cold water battery.
INFINIT CO (NEOTIME only) : Econological management of the fans, Bypass, an integrated changeover battery and an integrated defrost battery.
INFINITE BC (CARMA only): Econological management of the fans, Bypass and a intergrated hot water battery and an integrated defrost battery. If required, it can also manage a non-integrated cold water battery.
INFINIT BE: Econological management of the fans, Bypass and a intergrated electrical battery and an integrated defrost battery. If required, it can also manage a non-integrated cold water battery.
SMART: Econological management of the fans, Bypass and an integrated defrost battery. If required, it can also manage a non-integrated cold and/or hot water battery.

III.2. FUNCTIONAL ANALYSIS

Except SEASON version
Starting sequence:
- The supply air fan starts and the fresh air register opens.
- The extract air fan starts and the extract air register opens
- Temperature regulation starts defined in the regulation mode set. Electric heater (if set), starts with airflow controller. Pumps start.
- After a defined time, alarms management function is activated. Installation is in normal mode.

Start conditions:
Installation starts when one of these conditions are filled:
- Timer normal or reduced are activate
- Manual start is activated with controller
- One of the digital input for extended operation is activated.

Stop sequence:
Installation stops with following process:
- Deactivation of the alarm management function.
- Electric heater stops (if set).

- After a defined time (individually defined for each fan) fans are stopped.
- Supply and return air registers are closed.
- Signals toward actuator are reset and pumps closed

Stop conditions:

Installation stops when one these conditions are filled:

- Timers normal or reduced are not activated and digital input for extended operation is not activated.
- Digital Input for External stop is activated.
- Manual stop is activated with controller
- An alarm configured with stop function is activated. Installation will automatically start when alarm is reset.

III.3.REGULATION MODE

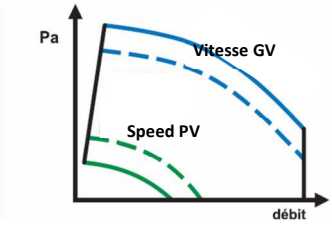
III.3.a. SEASON:

1 Adjustable speed from potentiometers

Each fan is individually adjustable from integrated potentiometer.

Possibility to add a remote forced stop (in standard on supply contactor (not supplied))

III.3.b. ECO:



1 or 2 speeds adjustable with display unit / remote controller / external command « MODE VENTIL (%) »

Adjustment of a minimum speed (LS - 1/2) and a maximum speed (HS - 1/1) in %.

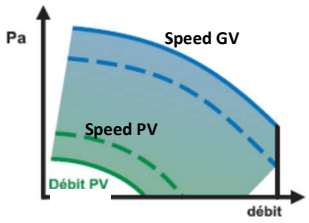
Fitted with a factory turned clocked set:

- (HS - 1/1) from 06h00 to 22h00
- (LS - 1/2) from 22h00 to 06h00

Possibility of adding a remote forced start (LS - 1/2) or (HS - 1/1) (free voltage contact NO)

Possibility of adding a remote forced stop (free voltage contact NO)

III.3.c. DIVA



Proportional ventilation between two airflows (LS/HS) with CO2 management « AUTO CO2 MODE »

Adjustment of a minimum speed (LS - 1/2) and a maximum speed (HS - 1/1) in %.

CO2's setpoint is set in factory to 1000ppm (compliant to French RT2012).

Variation between (LS - 1/2) and (HS - 1/1) is managed from CO2 level

Fitted with a factory turned clocked set in (LS - 1/2) from 00h00 to 24h00.

Possibility of adding a remote forced start (LS - 1/2) or (HS - 1/1) (free voltage contact NO)

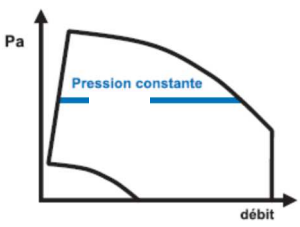
Possibility of adding a remote forced stop (free voltage contact NO)

Note: In order for the CO2 regulation works, installation must follow these constraints:

- Clock (HS - 1/1) is not activated (normal speed timer)
- Clock (LS - 1/2) is activated (reduced speed Timer)

External operation (HS - 1/1) and external stop are not activated

III.3.d. LOBBY®:



Constant pressure ventilation. (Pa) « CONSTANT PA MODE»

Constant pressure adjustement (Pa).

Fitted with a factory turned clocked set in (LS - 1/2) from 00h00 to 24h00.

Possibility of adding a remote forced start (LS - 1/2) (free voltage contact NO)

Possibility of adding a remote forced stop (free voltage contact NO)

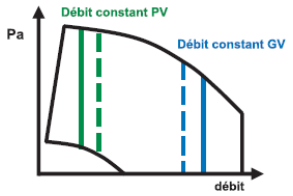
III.3.e. MAC2®: (impossible with version FREETIME 500-800 et HEXAMOTION 05-08)

1 or 2 constant air flow (m³/h) adjustable « MODE CONSTANT M3/H »

Adjustment of a minimum constant air flow (LS - 1/2) and a maximum air flow (HS - 1/1) in m3/h.
Fitted with a factory turned clocked set:

- (HS - 1/1) from 06h00 to 22h00
- (LS - 1/2) from 22h00 to 06h00

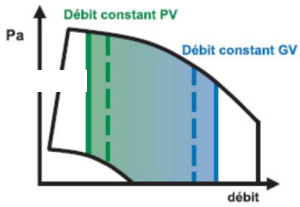
Possibility of adding a remote forced start (LS - 1/2) or (HS - 1/1) (free voltage contact NO)
Possibility of adding a remote forced stop (free voltage contact NO)



III.3.f. QUATTRO®: (impossible with version FREETIME 500-800 et HEXAMOTION 05-08)

Proportional ventilation between two constant airflows (m³/h) adjustable with CO2 management

Adjustment of a minimum constant air flow (LS - 1/2) and a maximum air flow (HS - 1/1) in m3/h.
CO2's setpoint is set in factory to 1000ppm (compliant to French RT2012).
Variation between (LS - 1/2) and (HS - 1/1) is managed from CO2 level
Fitted with a factory turned clocked set in (LS - 1/2) from 00h00 to 24h00.
Possibility of adding a remote forced start (LS - 1/2) or (HS - 1/1) (free voltage contact NO)
Possibility of adding a remote forced stop (free voltage contact NO)



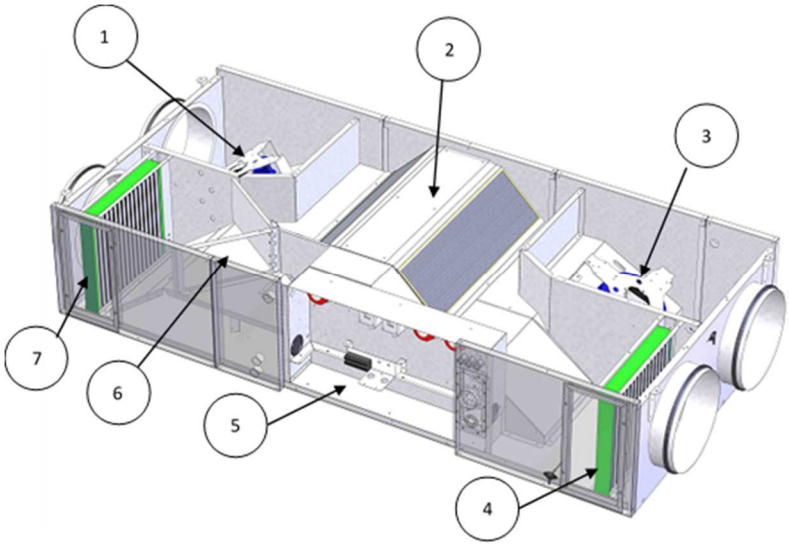
Note: In order for the CO2 regulation works, installation must follow these constraints:

- Clock (HS - 1/1) is not activated (normal speed timer)
- Clock (LS - 1/2) is activated (reduced speed Timer)
- External operation (HS - 1/1) and external stop are not activated.

III.4.COMPOSITION

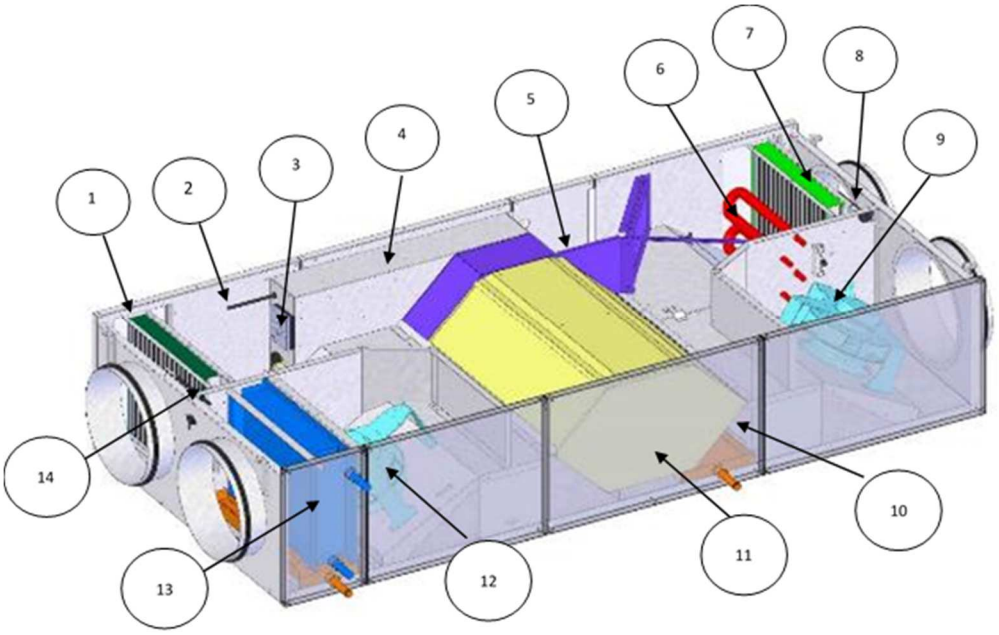
III.4.a. NEOTIME

III.4.a.1. SEASON



N°	Details
1	Extract Air fan (VAR/VR)
2	Plate exchanger + condensate parts
3	Supply air fan (VAS/VS)
4	Extract filter FR
5	Control cabinet
6	Bypass + actuator
7	Supply filter FS + filter pressure switch DEPFS

III.4.a.2. ECO-DIVA

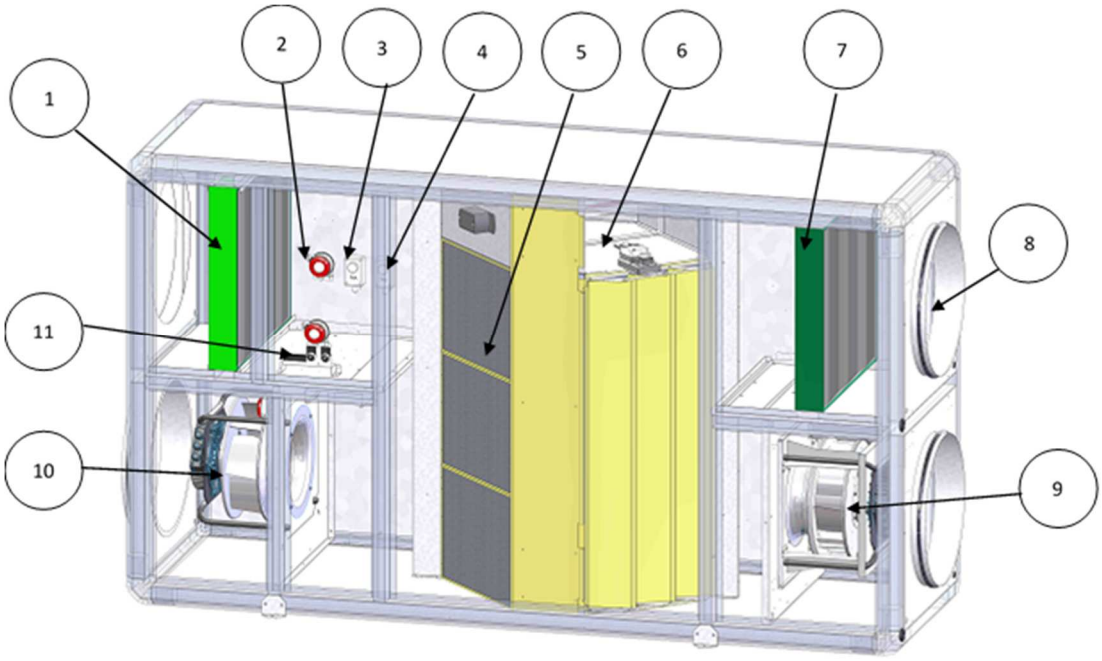


N°	Details
1	Extract filter FR
2	Extract temperature sensor SRG
3	CO2 transmitter
4	Control cabinet
5	Bypass + Actuator
6	Deicing battery (version SMART et INFINITE) witch deicing temperature sensor SBD and security thermostat THSD
7	Supply filter FS + filter pressure switch DEPFS
8	Outdoor temperature sensor SEG
9	Extract air fan (VAR/VR)
10	Deicing temperature sensor SDG
11	Exchanger + Condensate parts
12	Supply air fan (VAS/VS)
13	Changeover battery with condensate parts (version CO) or electrical battery (version BE)
14	Supply temperature sensor SSG

OPERATING AND COMMISSIONING INSTRUCTIONS

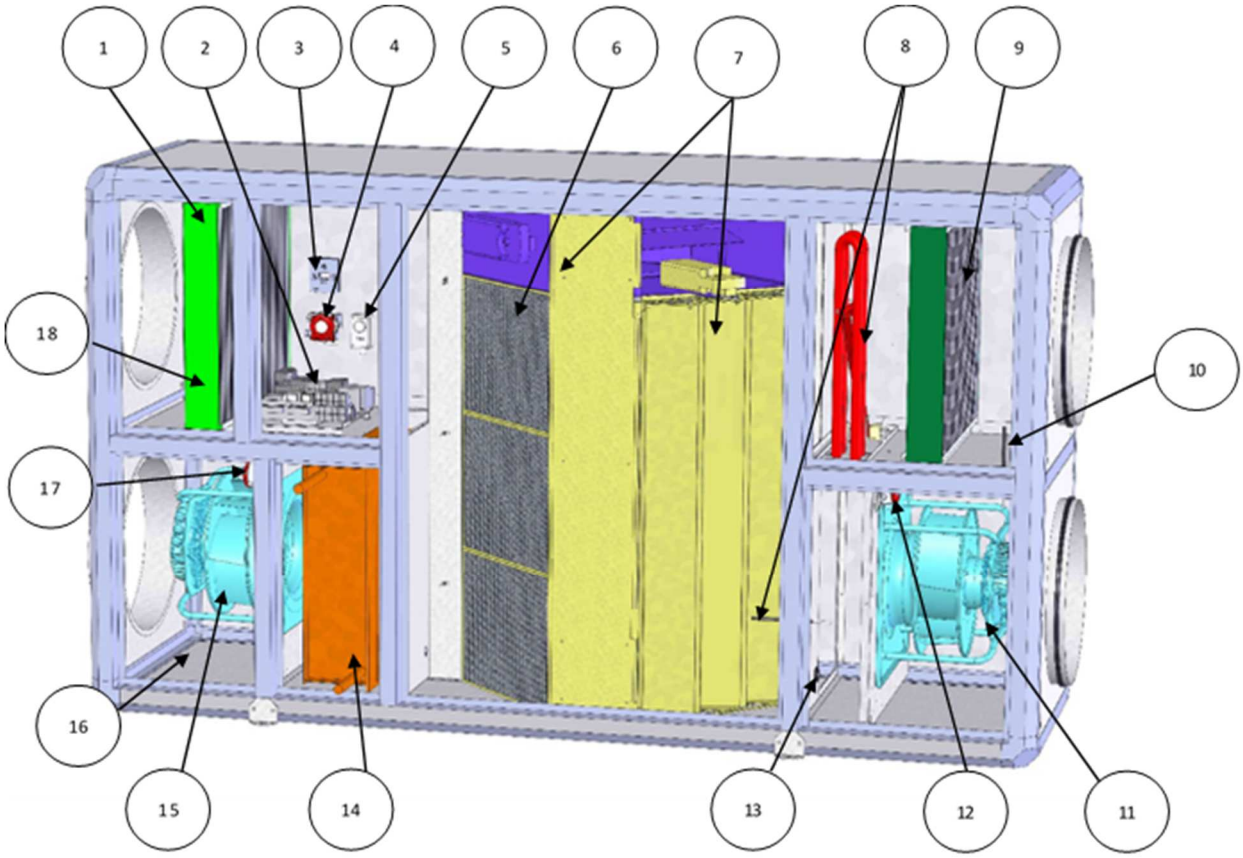
III.4.b. CARMA

III.4.b.1. SEASON



N°	Details
1	Extract filter FR
2	Supply pressure switch DEP S
3	TH1 Winter setpoint Thermostat (closing Bypass) (+18°C)
4	TH2 Summer setpoint Thermostat (closing Bypass) (+24°C)
5	Plate exchanger
6	Bypass
7	Supply filter FS + filter pressure switch DEPFS
8	Deicing thermostat (+5°C)
9	Extract air fan (VAR/VR)
10	Supply air fan (VAS/VS)
11	Control cabinet

III.4.b.2. ECO DIVA MAC2 QUATTRO



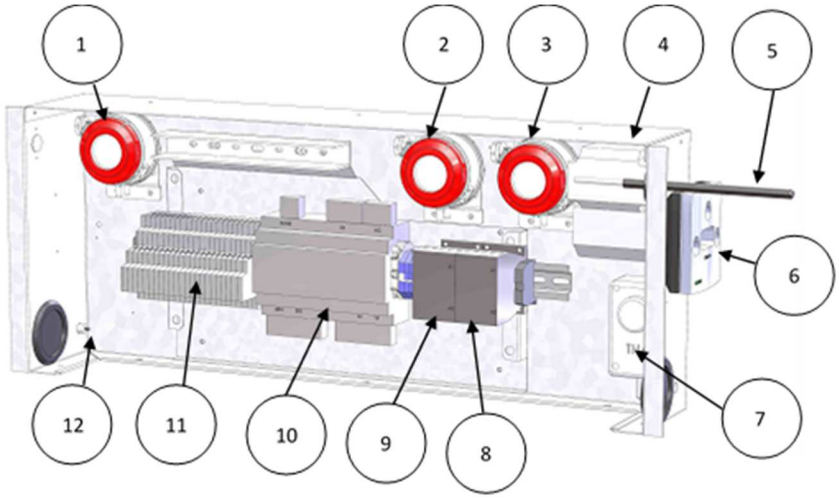
N°	Details
1	Pressure filter FR
2	Control cabinet
3	CO2 Transmitter
4	Supply pressure switch DEP S (version ECO-DIVA) Supply pressure transmitter TRPR (version LOBBY MAC2 QUATTRO)
5	Deicing thermostat THA (version BC) or overheat security thermostat THS (version BE)
6	Plate exchanger
7	Bypass
8	Deicing battery (version SMART et INFINITE) with deicing temperature sensor SBD and overheat security thermostat THSD
9	Supply filter FS + filter pressure switch DEPFS
10	Outdoor temperature sensor SEG
11	Extract air fan (VAR/VR)
12	Extract pressure switch DEP R (version ECO-DIVA) Extract pressure transmitter (version LOBBY MAC2-QUATTRO)
13	Deicing temperature sensor SDG
14	Hot water coil (version BC) or electrical coil (version BE)
15	Supply air fan (VAS/VS)
16	Supply temperature sensor SSG
17	Supply pressure transmitter TRPS (version LOBBY)
18	Extract pressure transmitter SRG

OPERATING AND COMMISSIONING INSTRUCTIONS

III.5.ELEMENTS IN THE REGULATION

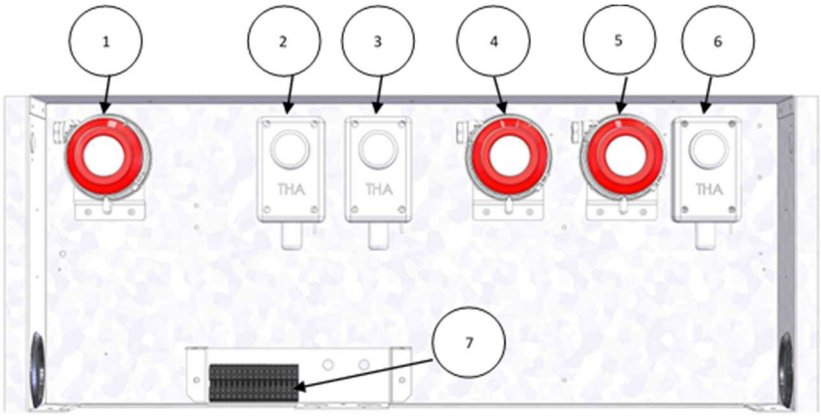
III.5.a. NEOTIME

III.5.a.1. REGULATION ECO/DIVA/LOBBY



N°	Nom	Details
1	DEPFS	Filter pressure switch
2	DEPS or TRPS	Supply pressure switch or supply pressure transmitter (version LOBBY)
3	DEPR or TRPR	Extract pressure switch or extract pressure transmitter (version LOBBY)
4	TRAFO	Transformer 230/24V
5	SRG	Extract temperature sensor
6	CO2	CO2 transmitter (version DIVA)
7	THA	Deicing thermostat (version CO)
8	K1	Heating Electrical battery contactor
9	KD	Deicing electrical battery contactor
10	REGULATEUR	Controller CORRIGO E283W3
11	BORNIER	Terminal blocks
12	THSD	Overheat security thermostat for deicing battery (version SMART et INFINITE)

III.5.a.2. REGULATION SEASON

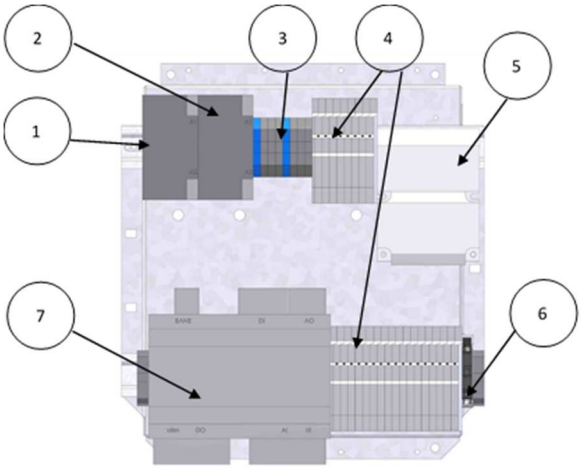


N°	Name	Details
1	DEPFS	Filter pressure switch
2	TH1	Winter setpoint Thermostat (closing Bypass) (+18°C)
3	TH2	Summer setpoint Thermostat (closing Bypass) (+24°C)
4	DEPS	Supply pressure switch
5	DEPR	Extract pressure switch
6	TH3	Deicing thermostat (+5°C)
7	BORNIER	Terminal blocks

OPERATING AND COMMISSIONING INSTRUCTIONS

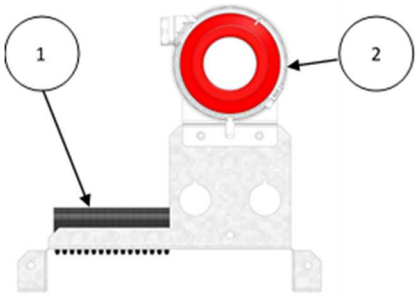
III.5.b. CARMA

III.5.b.1. REGULATION ECO/DIVA/LOBBY/MAC2/QUATTRO



N°	Name	Details
1	K1	Heating Electrical battery contactor
2	KD	Deicing electrical battery contactor
3	BORNIER	Fans terminal blocks
4	BORNIER	Terminal blocks
5	TRAFO	Transformer 230/24V
6	BFUS	Fuse terminal blocks
7	REGULATEUR	Controller CORRIGO E283W3

III.5.b.2. REGULATION SEASON



N°	Name	Details
1	BORNIER	Terminal blocks
2	DEPR	Extract pressure switch

OPERATING AND COMMISSIONING INSTRUCTIONS

IV. ELECTRIC WIRING

IV.1. POWER SUPPLY

IV.1.a. NEOTIME

Modèle	Puissance moteur électrique (W)	Temp. Utilisation (°C / °C)	Indice de protection Classe	Protection thermique *	SEASON/FIRST & PREMIUM CO Tension alimentation (V / Ph / Hz)	SEASON/FIRST & PREMIUM CO Intensité de protection (A)	INFINITE CO & SMART Tension alimentation (V / Ph / Hz)	INFINITE CO & SMART Intensité de protection (A)	PREMIUM BE Tension alimentation (V / Ph / Hz)	PREMIUM BE Intensité de protection (A)	INFINITE BE Tension alimentation (V / Ph / Hz)	INFINITE BE Intensité de protection (A)
600	2x169W	-20/60	IP54/B	PTI	230 / 1 / 50	2,8	230 / 1 / 50	8,2	230 / 1 / 50	8,2	230 / 1 / 50	13,7
900	2x220W	-20/60	IP44/B	PTI	230 / 1 / 50	3,4	230 / 1 / 50	14,3	230 / 1 / 50	11,0	230 / 1 / 50	21,9
1300	2x400W	-20/40	IP44/F	PTI	230 / 1 / 50	8,6	230 / 1 / 50	23,8	230 / 1 / 50	19,5	230 / 1 / 50	34,7
1800	2x400W	-20/40	IP44/F	PTI	230 / 1 / 50	8,6	230 / 1 / 50	24,9	230 / 1 / 50	24,9	400 / 3+N / 50	15,1
2500	2x400W	-20/40	IP44/F	PTI	230 / 1 / 50	8,6	230 / 1/ 50	31,4	230 / 1/ 50	31,4	400 / 3+N / 50	19,5

** PTI : Protection thermique intégrée*

IV.1.b. CARMA

Modèle CARMA®	Puissance moteur électrique (W)	Temp. Utilisation (°C / °C)	Indice de protection Classe	Protection thermique *	FIRST PREMIUM BC & SEASON Tension alimentation (V / Ph / Hz)	FIRST PREMIUM BC & SEASON Intensité de protection (A)	INFINITE BC & SMART Tension alimentation (V / Ph / Hz)	INFINITE BC & SMART Intensité de protection (A)	PREMIUM BE Tension alimentation (V / Ph / Hz)	PREMIUM BE Modèle	PREMIUM BE Intensité de protection (A)	INFINITE BE Tension alimentation (V / Ph / Hz)	INFINITE BE Modèle	INFINITE BE Intensité de protection (A)
9008	2x220	-20 / 60	IP44 / B	PTI	230/1/50	3,4	230/1/50	14,3	230/1/50	BE 025	14,3	230/1/50	BE 025	25,2
9010	2x480	-20 / 60	IP54 / B	PTI	230/1/50	4,3	230/1/50	20,6	230/1/50	BE 025	15,2	230/1/50	BE 025	31,5
9016	2x480	-20 / 60	IP54 / B	PTI	230/1/50	4,3	400/3+N/50	11,9	230/1/50 400/3+N/50	BE 037 BE 052	20,6 11,9	400/3+N/50	BE 052	19,5
9023	2x700	-20 / 40	IP54 / B	PTI	230/1/50	6	400/3+N/50	15,7	230/1/50 400/3+N/50	BE 037 BE 067	22,3 15,7	400/3+N/50	BE 067	25,4
9035	2x2500	-20 / 40	IP54 / B	PTI	400/3+N/50	7,7	400/3+N/50	19,6	400/3+N/50	BE 067 BE 137	17,4 27,2	400/3+N/50	BE 067 BE 137	29,3 39,1
9048	2x1950	-20 / 50	IP54 / B	PTI	400/3+N/50	6,3	400/3+N/50	32,3	400/3+N/50	BE 067 BE 137	16 25,8	400/3+N/50	BE 067 BE 137	42 51,8
9070	2x2730	-20 / 60	IP54 / F	PTI	400/3+N/50	8,4	400/3+N/50	44,1	400/3+N/50	BE 105 BE 157	23,6 31,1	400/3+N/50	BE 105 BE 157	29,3 66,9

** PTI : Protection thermique intégrée*

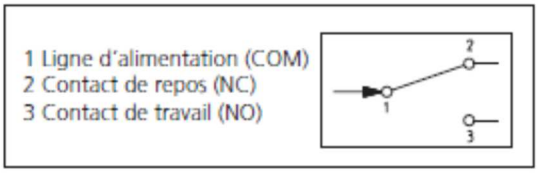
IV.2. CONTROL WIRING (SEASON)

All components were wired in factory (see full scheme chapter)

IV.2.a. Remote alarm

Possibility to connect a remote alarm directly on pressure switch (5A/230VAC max and 4A/24VDC max) :

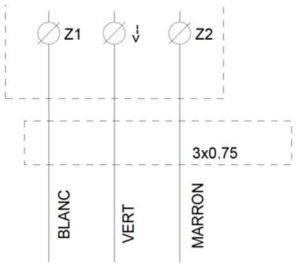
- DEP S = Supply pressure switch
- DEP R = Extract pressure switch
- DEP FS = Filter pressure switch (For CARMA a NO contact is available on terminal blocks 25-26)



IV.2.b. External 0-10V (potentiometer)

You have the possibilities to replace the factory potentiometer by remote potentiometer or external 0-10V. To connect an external components, disconnect wires at the rear of the factory potentiometer and connect it directly on these wires.

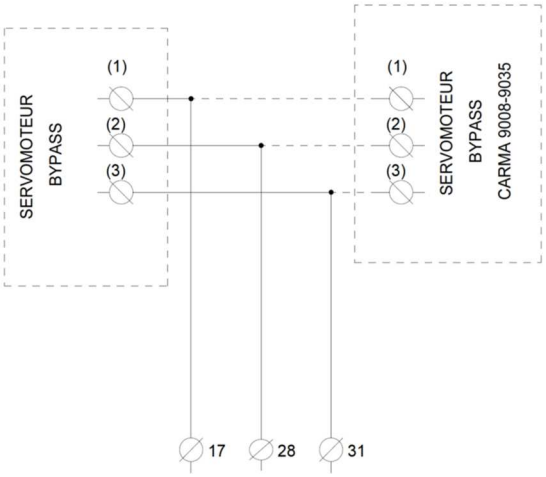
Current wiring



White = 0V = Z1
Green = 0-10V = →
Brown = +10V = Z2

IV.2.c. Bypass

Thermostat are factory set:
TH1 = Outside temperature for heat recovery via exchanger (factory setting 18°C)
TH1 = Outside temperature for cool recovery via exchanger (factory setting 24°C)
The bypass is factory wired
its functioning is automatic thanks to the two thermostat:
Winter: If outside temperature is lower than 18°C (adjustable), the Bypass closes to recover a maximum of calories.
Summer:
COOL RECOVERY: If outside temperature is higher than 24°C (adjustable) the bypass closes to recover a maximum of calories.
FREE COOLING: If outside temperature is between 18°C and 24°C (adjustable), the bypass opens to bring directly fresh air into the building



BYPASS SEASON

IV.2.a. Automatic deicing

Deicing is done by opening the Bypass as soon as the deicing temperature (SDG) falls below 5 ° C (thermostat installed at discharge). As soon as the temperature returns above + 5 ° C the bypass closes again.

IV.3. CONTROL WIRING (ECO/DIVA/LOBBY/MAC2/QUATTRO)

IV.3.a. Temperature sensor

Temperature sensors are connected on the regulator

- **SSG**: Duct supply temperature sensor on Agnd(30) et AI1(31)
- **SEG**: Duct outdoor temperature sensor on Agnd(30) et AI2(32)
- **SDG**: Duct deicing temperature sensor on Agnd(33) et AI3(34)
- **SRG**: Duct extract temperature sensor on Agnd(33) et AI4(35)
- **SBD**: Duct deicing battery temperature sensor on Agnd(40) and UI1(41) on SMART et INFINITE versions (replaced by a 1030 Ohms resistance on other versions)

IV.3.b. Terminal blocks

See chapter III.5 pages 14 and 15.

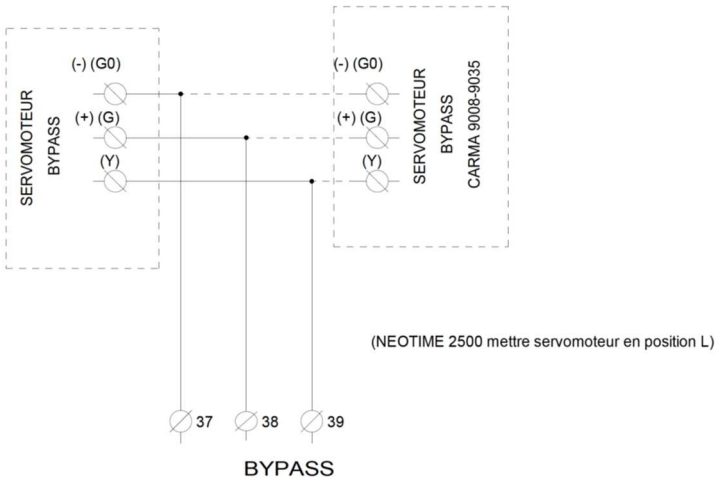
Designation	Terminals	Connection
ADP (shunted if not used)	1-2	Connect on fire emergency stop (free voltage NC contact)
DAD (shunted if not used)	3-4	Connect on DAD (smoke detector) default contact (NC)
THA/THS (shunted if not used)	5-6	Connect to NC free voltage contact of THA (PREMIUM BC/CO and INFINITE BC/CO) Or Connect to NC free voltage contact of THS (PREMIUM BE et INFINITE BE)
ED-TOUCH	7-8 + A*-B* (port2)	Connect to remote touch screen display
MF PV	9-10	Connect to NO free voltage contact of reduced Speed extended operation
MF GV	11-12	Connect to NO free voltage contact of normal Speed extended operation
ARR EXT	13-14	Connect to NO free voltage contact of external stop
BC	15-16-17	**BC**: Connect to 3 ways valve of the hot water battery (see chapter IV.12)
BE	18 + DO3**	**BE**: Connect to static contactor of the electric battery (see chapter IV.14)
Heating pump (PREMIUM BC/CO)	18 + DO3**	Connect to hot water circulator (Note: 24V 2AMax to relay) (see chapter IV.12)
Cooling pump	19 + DO4**	Connect to cold water circulator (Note: 24V 2AMax to relay) ** (see chapter IV.12)
AL	20 + DO5**	24V output available if unit is in default (Note: 24V 2A Max to relay)
DBE	21 + DO6**	Connect to static contactor of the defrost battery (see chapter IV.15)
NC (Night cooling) (LOBBY®)	22 + DO7**	24V output available if unit runs with the optional LOBBY EC for opening dampers during **N**ight **C**ooling. (pay attention: 24V 2A Max to relay)
TRPS (LOBBY® MAC2® QUATTRO®)	23 Agnd* + UI2*	Connect to supply Pressure **Tr**ansmitter (see chapter IV.9)
DEPS (ECO® DIVA®)	24 + UI2*	Connect to terminal 1 and 3 of supply pressure switch (see chapter IV.7)
TRPR (LOBBY® MAC2® QUATTRO®)	25 Agnd* + UI3*	Connect to return pressure **Tr**ansmitter (see chapter IV.8)

DEPR (ECO® DIVA®)	26 + UI3*	Connect to terminal 1 and 3 of return pressure switch (see chapter IV.7)
CO2 (DIVA®)	27 Agnd* UI4*	Connect to **CO2 sensor** (see chapter IV.10) DIVA/QUATTRO option
BF	28-29-30	**BF**: Connect to 3 ways valve of the cold water battery (see chapter IV.12)
DEP FS **DEP FR**	31-32 33-34	Connect to terminal of exhaust filter switch (see chapter IV.6) Connect to terminal 1 and 3 of return filter switch (see chapter IV.6)
RMS	35 + DO1**	Connect to fresh air damper actuator
RMR	36 + DO2**	Connect to extract air damper actuator
BIM	37-38-39	Connect to Bypass Actuator (see chapter IV.4)
0-10V S	40-41	Connect to Supply air fan (see chapter annexes)
0-10V R	42-43	Connect to Extract air fan (see chapter annexes)

* connected directly to CORRIGO controller
** connected directly to CORRIGO controller -8A max on all DO

IV.4. Electrical wiring and functioning of the plate exchanger

Bypass's actuator of the exchanger is factory mounted
CORRIGO controller drives automatically the bypass thanks to programing and sensor mounted in standard.
In winter: when heat is needed, bypass is closed to recover maximum of calories. If it is not enough to reach the temperature setpoint, hot battery starts running.
In summer:
COLD RECOVERY: if outside temperature is higher than inside temperature and cold is needed, bypass closes to recover maximum of calories. If it is not enough to reach the setpoint, cold battery starts running.
FREE COOLING: if outside temperature is lower than inside temperature and cold is needed, bypass opens to bring directly outside fresh air. If it is not enough to reach temperature setpoint cold battery starts running.

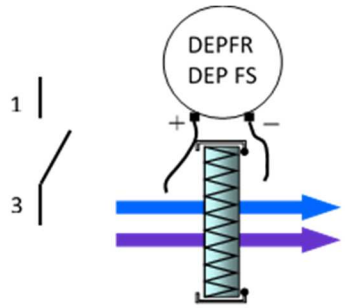


IV.5. Automatic deicing

This non adjustable function is automatically driven thanks to the programing of CORRIGO controller and sensors mounted in standard in our double flow units. Defrost starts with bypass opening when defrost temperature (SDG) is lower to 5°C (sensor installed on exhaust). In case of Bypass is not enough to defrost the exchanger (if outside temperature is lower to 10°C), fresh air fan modulates the airflow in order to maintain a 5°C temperature of the defrost sensor.
For INFINITE BE and INFINITE BC/CO and SMART versions: defrost battery is mounted on fresh air before plate exchanger. It regulates a –5°C temperature in the exchanger. This will avoid any frost risks and maintain Bypass as closed as possible. This maintains a maximum efficiency of the system. In case defrost battery is not enough to defrost plate exchanger, Bypass modulation, and then fan modulation will start as explained above.

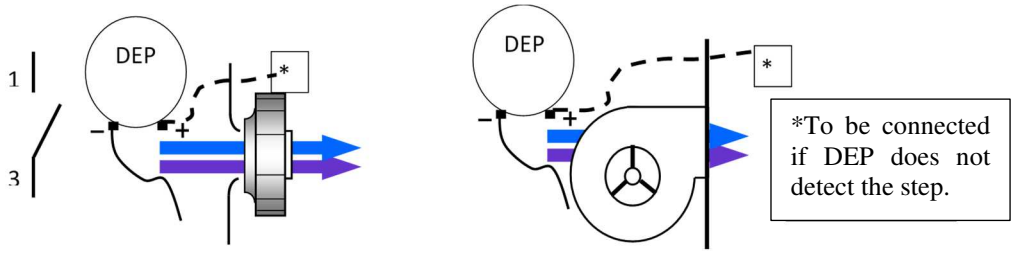
IV.6. Filters pressure switches wiring and connection

Fresh air filter pressure switch is factory connected

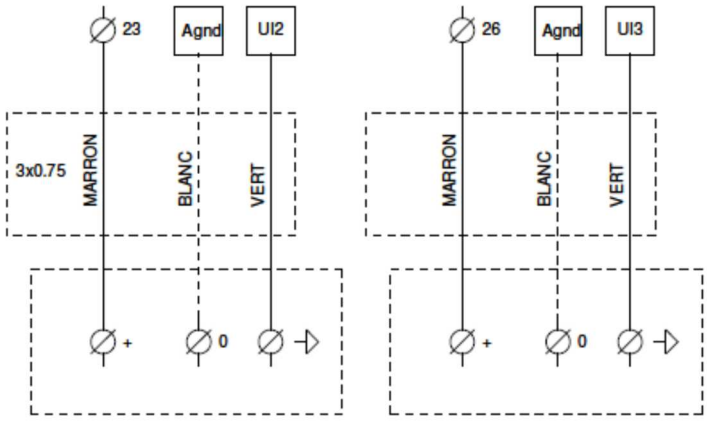


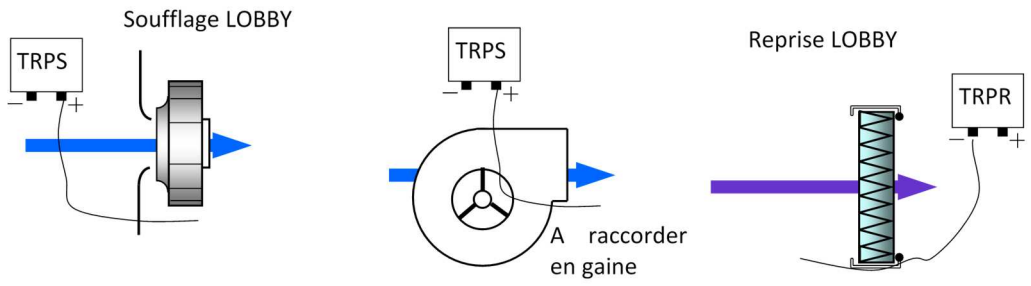
IV.7. Fan switches wiring and connection

Fans switches are factory cabled and connected



IV.8. Pressure transmitter LOBBY® MAC2® QUATTRO® wiring and connection



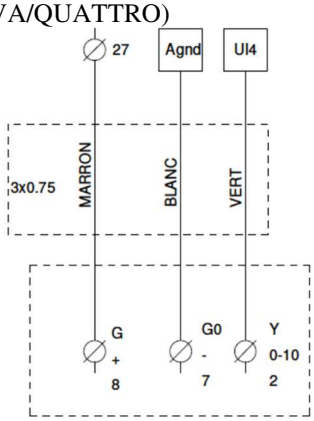


IV.9. Motors wiring

See Annexes chapter

IV.10. CO2 transmitter wiring

CO2 transmitter is factory connected (option DIVA/QUATTRO)



IV.11. Night Cooling

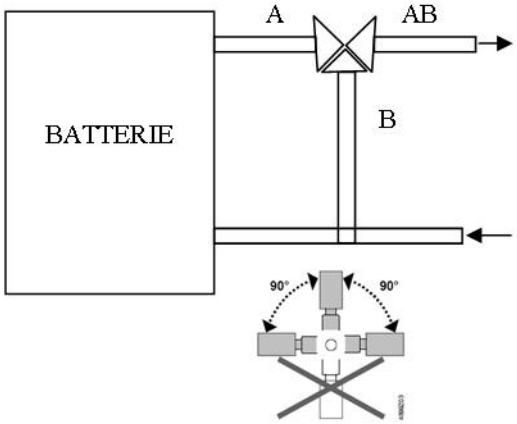
This function is used during summer to cool down buildings during nights with outside cool air. It decreases the cold needs during days. Night Cooling function runs only from 00:00 AM to 7:00 h AM. During Night Cooling, hot an cool outputs are locked on 0V. Exchanger runs only with fresh air. At the end of Night Cooling period heating is blocked to 0V during 60 minutes.
Start conditions: customizable in chapter V.5.b.2

- Outside temperatures are higher to 22°C during the day.
- Clocks are setted in LS or stopped during 00h00 and 07h00.
- Outside temperature is lower than 18°C during Night Cooling period
- Outside temperature is higher to 10°C during Night Cooling period
- Room temperature is higher to 18°C

During Night Cooling period fans are running 85% of their capacity. This speed is adjustable (see chapter V.5.b.2)
For LOBBY versions, a 24V output (to relay) is available between 22 and DO7 terminals to force the opening of damper's zone during Night Cooling period.

IV.12. Hot water / cool water or changeover water coil

For PREMIUM CO and INFINITE CO units plan to install a siphon for the condensates.
Pay attention to let the doors free of access (ducts, cables)
Battery is mounted in the unit, antifreeze Thermostat is connected. You have to cable the 3 ways valve. If a cold battery is used or changeover battery in duct is used, move the supply sensor after the battery.



3 WAYS VALVE MUST BE CONNECTED WHEN POWER IS OFF

Connect the servomotor of the 3 ways valve as following instructions:
Hot Battery:
Terminal **15** on +24V (G) of the 3 ways valve actuator
Terminal **16** on 0V (G0) of the 3 ways valve actuator
Terminal **17** on 10V (Y) of the 3 ways valve actuator
Connect NC contact (C et 2) of the **THA** (Deicing Thermostat) on **5** and **6.**
Possibility to connect the circulator on the **DO3** terminal of the regulator and the terminal block **18.**
(Note: 24V output to relay)

Cold Battery:
Terminal **28** on +24V (G) of the 3 ways valve actuator
Terminal **29** on 0V (G0) of the 3 ways valve actuator
Terminal **30** on 10V (Y) of the 3 ways valve actuator
Connect NC contact (C and 2) of **THA** (Deicing Thermostat) on **5** and **6**
Possibility to connect the circulator on the **DO4** terminals of the regulator and the terminal block number **19.**
(Note: 24V output to relay)

Changeover battery:

The changeover thermostat must be connected to the water inlet before Bypass.
You must cable 3 ways valve to the changeover thermostat.
Connect them following the instructions below:
Red wire to the changeover thermostat (CO) on 10V (Y) of the valve
Terminal **15** on +24V (G) of the 3 ways valve actuator
Terminal **16** on the 0V (G0) of the 3 ways valve actuator
Terminal **17** connected to the brown wire of the changeover thermostat (Heat signal)
Terminal **30** connected to the black wire of the changeover thermostat (Cold signal)
Connect the NC contact (C and 2) of **THA** (Deicing Thermostat) on **5** and **6**

Possibility to connect the circulator on the **DO3** terminal of the regulator and the terminal block **18** (heat demand) and on the **DO4** terminals of the regulator and the terminal block number **19** (cold demand). (Note: 24V output to relay)
ATTENTION In this case use a relay for each exit and cable in parallel on the ON/OFF of the circulator.

IV.13. DX battery (cold or reversible)

For units equipped with direct expansion battery, additional module is equipped with a drain pan. Plan to make a duct of the condensates with a siphon.
At your disposal:
- 24 V output when unit is on cold or heating needs.
- 0-10V hot output and a 0-10V cold output.

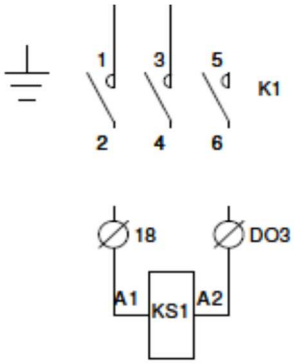
Heating needs:
- 24V output: to connect to **DO3 terminals of the controller and 18 of the terminal block.** It allows the start to drive the direct expansion battery module (Attention 24V 2A Max to relay)
- 0-10V output: to connect to **16** and **17 terminals (16=0V et 17 =0/10V)**

Cold needs:
- 24V output: to connect to **DO4 terminals of the controller and 19 of the terminal block.** It allows the start to drive the direct expansion battery module (Attention 24V 2A Max to relay)
- 0-10V output: to connect to **29** and **30** terminals **(29=0V et 30 =0/10V)**

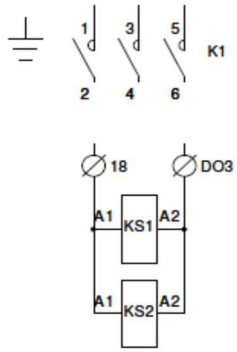
ATTENTION: In case of a **24V output is used, make a relay between each output and cable them in parallel on the M/A of the direct expansion module.**

ATTENTION: The command 24V et 0-10V start do not manage any safety or, anti court cycle … of the direct expansion module.

IV.14. Electrical Battery

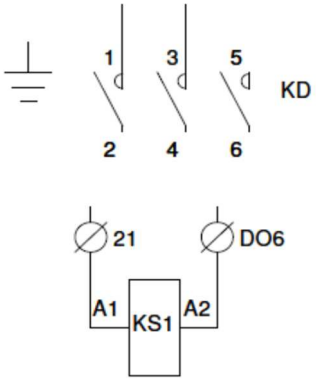


NEOTIME 600-1300
CARMA 9008-9010
CARMA 9016 037
CARMA 9023 037

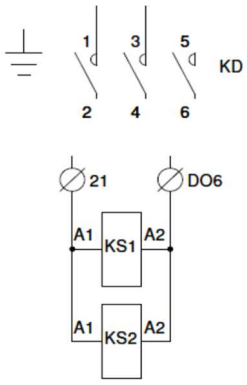


NEOTIME 1800-2500
CARMA 9016 067
CARMA 9023 067
CARMA 9035-9070

IV.15. Deicing battery



NEOTIME 600-1300
CARMA 9008-9010



NEOTIME 1800-2500
CARMA 9016-9070

IV.16. Fire function

See configuration chapter V.8
There are 2 ways to drive the fire function:

- Emergency Fireman stop: cable between 1 and 2 terminals (NC free voltage contact). Total stop of the central control. (no display available)
- Fire alarm: this function controls exhaust and return fans with 5 modes available in the parameters of the regulation (the function can be activated on site). “fire alarm” will be on the display.
    1. **« stop »**: complete stop of the unit
    2. **« continuous work »**: Start of the unit in HS, fire function will have priority on all the other alarms.
    3. **« Normal work »**: keeps the unit running with parameters activated on site (Stop/LS/HS)
    4. **« Supply fan only »**: start or keeps in HS the supply fan (extract stopped)
    5. **« Extract fan only »**: starts or keeps in HS the extract fan (supply stopped)

Digital input « external stop » is priority on fire function.

This function is not adapted anymore to the French market and will be in all cases validated by the control office.

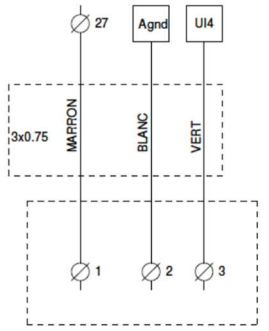
Digital input fire alarm will be connected between **DI8 terminal of the controller and 13 of the terminal block (free voltage contact required)**

IV.17. Dehumidification function

See configuration chapter V.8
It is possible to associate the unit to a COMBIBOX CONCEPT® module equipped with a cold battery (water or cold direct expansion module only) followed by a hot battery (water or electric or hot direct expansion module DX heat). In this case controller will manage automatically the heating or cold inputs for the dehumidification and will keep an ideal functioning temperature. During cold needs period, the temperature management will have priority on dehumidification.

Function non available in DIVA mode

Connect batteries as indicated in chapters IV.12, IV.14
Install the humidity duct sensor in supply or extract air, following the humidity control mode.
Connect the humidity sensor as following instructions:

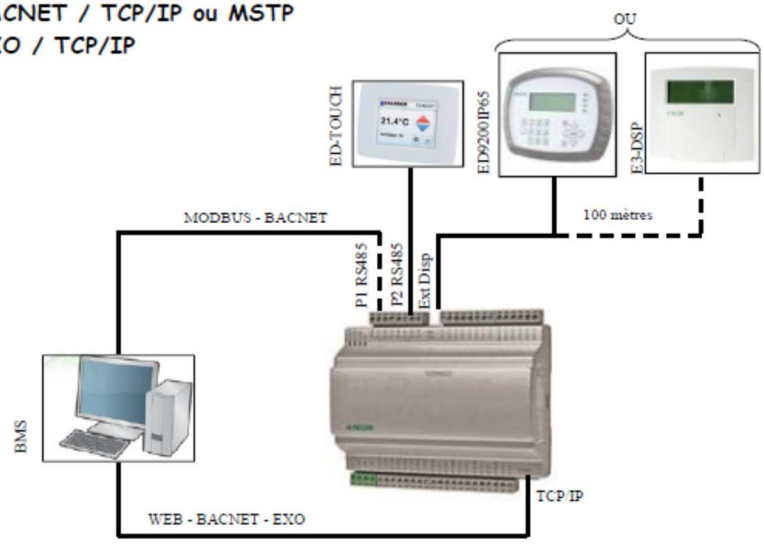


DESHUMIDIFICATION
TRANSMETTEUR D'HUMIDITE
HR 010

IV.18. MODBUS / WEB / BACNET wiring

((see parameters in chapters V.8)
MODBUS RS485 and BACNET MSTP: Use armor cable 2 crossed pairs wire type BELDEN 8723 or similar to connect BMS to controller (to connect to port 1 (BANE) / connect armor to N and don't connect E)
WEB / MODBUS TCP/IP et BACNET IP: to connect to TCP/IP port

BMS : en standard
- MODBUS / RS485 ou TCP/IP
- WEB / TCP/IP
- BACNET / TCP/IP ou MSTP
- EXO / TCP/IP



IV.19. Repeater wiring

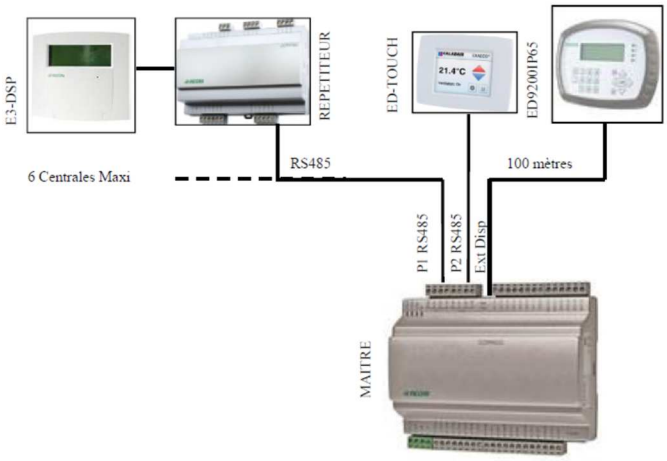
(see setting chapter V.8)
You need to use a repeater in case of you want to connect:

- More than one unit on the same display (maximum 6)
- A remote control at a distance higher than 100m

In this case you can move to 1 kilometer the remote control. Use 2 crossed wire type BELDEN 8723 or similar between repeater and controller. Supply repeater in 230V single mono phase.
Connect on port 1 the wires as following instructions:

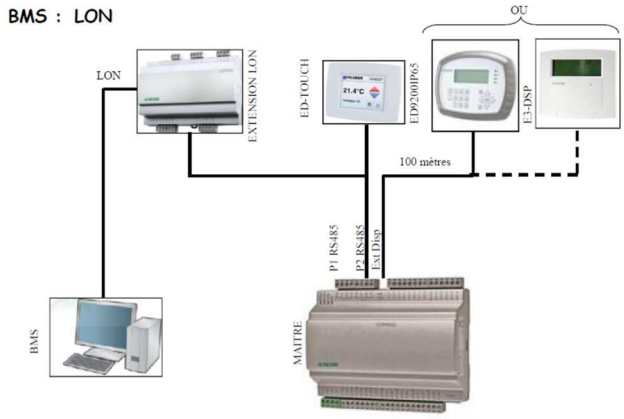
- **B** of repeater on B terminal of the regulation board (armor wire as in drawing under)
- **A** of repeater on A terminal of regulation board (armor wire as in drawing under)
- **N** of repeater on N terminal of regulation board (armor wire as in drawing under)

Plan a 230V single phase power supply on the repeater.



IV.20. LON

(see configuration in chapter V.8) Wire port 2 of master on port 1 of LON controller



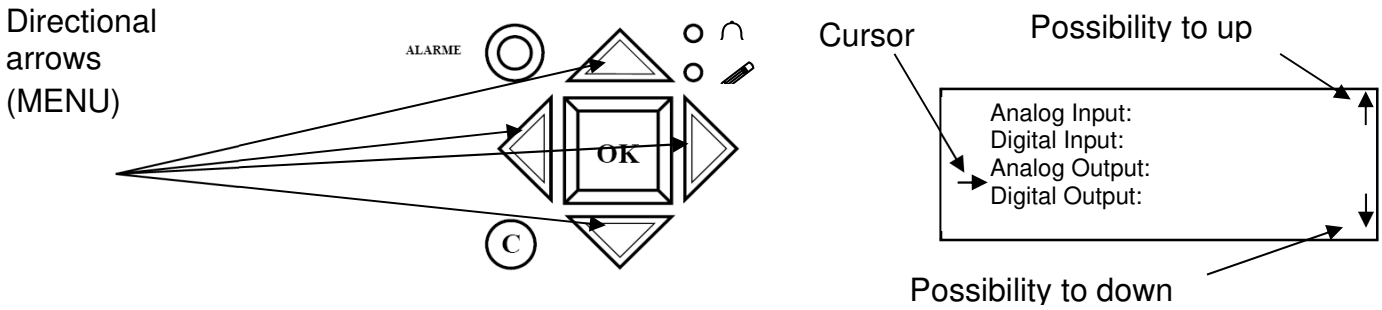
OPERATING AND COMMISSIONING INSTRUCTIONS

V. SETTINGS

V.1. Display

There are four lines of twenty characters on the backlight display. The light only starts when a button is pushed. It stops after an inactivity period.
There are 2 LED on the front of the display:
LED of the alarm is a bell symbol.
LED for the writing with a pen symbol.
- Quick blinking = you can modify the value
- Slow blinking = you must enter a password to modify the value

- Directional arrows up, down left and right help to navigate in the menus.
- Up and Down buttons help to increase or decrease the values of a parameter when you have access to. Right and left buttons help to navigate inside the parameter.
- OK button help to enter the value and to confirm a choice. C button helps to cancel it.
- Alarm button (red) allows the access of the defaults list.
- Left arrow also helps to go out of the alarm menu and go back to the main menu
- Cursors indicate the possible movements and which arrows to press.



V.2. Example of setting

- Move the cursor to the required menu

In the required menu:

Hour: ex: **10:33**
Date: ex: **08/12/23** (year/month/day)
Day: ex: **Tuesday**

press OK

Enter the password if necessary

- Enter the required value with arrows or with numerical keyboard
- Press OK to valid and go to next step.

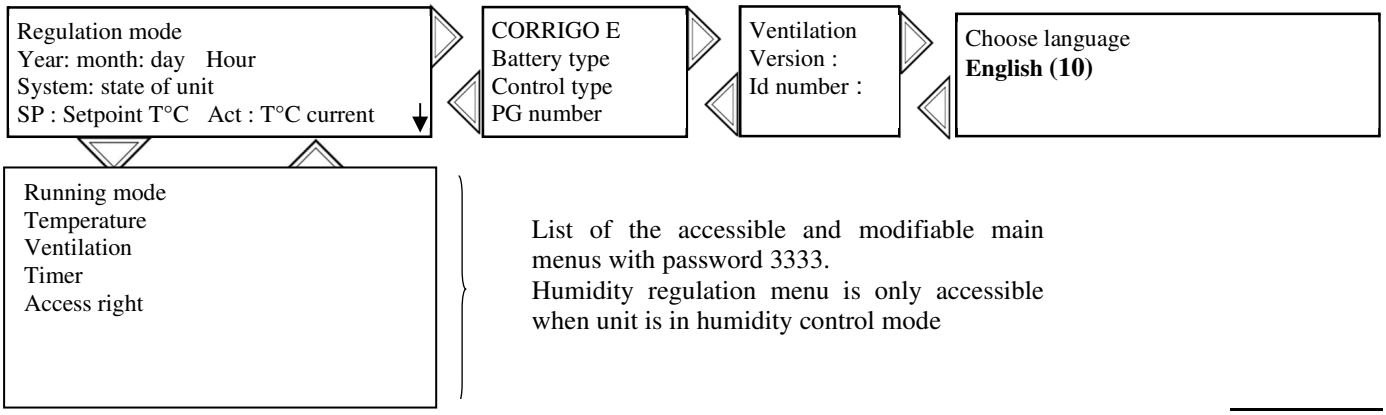
When values are updated press the left arrow to come back to the welcome screen

V.3. Standard settings (operator menu)

Words in normal writing = viewing only / **Words in bold =** Modification is possible / **Outlined words in bold**= Modification

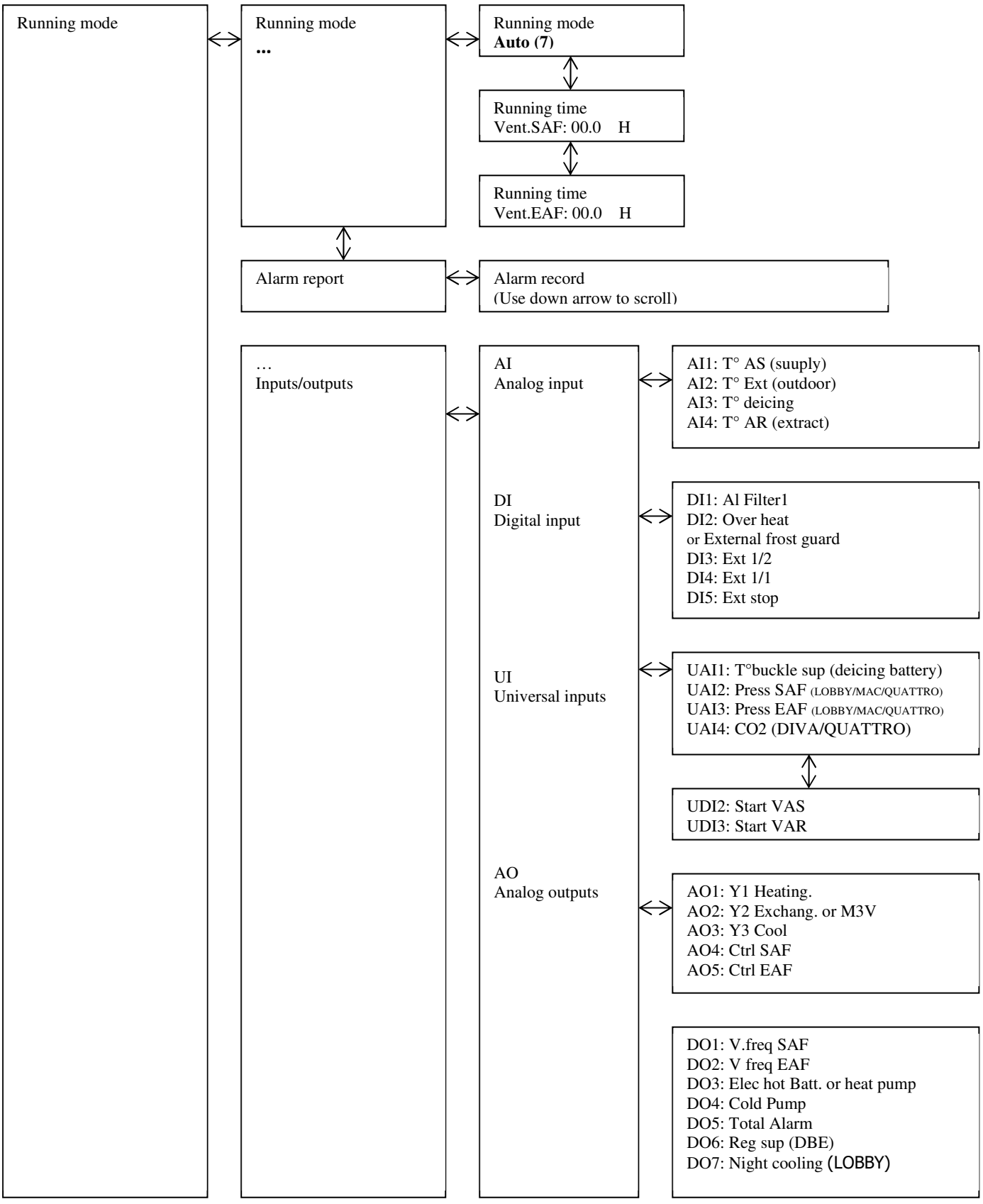
is possible with password 3333 … = non accessible or not used

ATTENTION: Do not modify parameters which are not in bold characters, in this case no after sales will be admitted



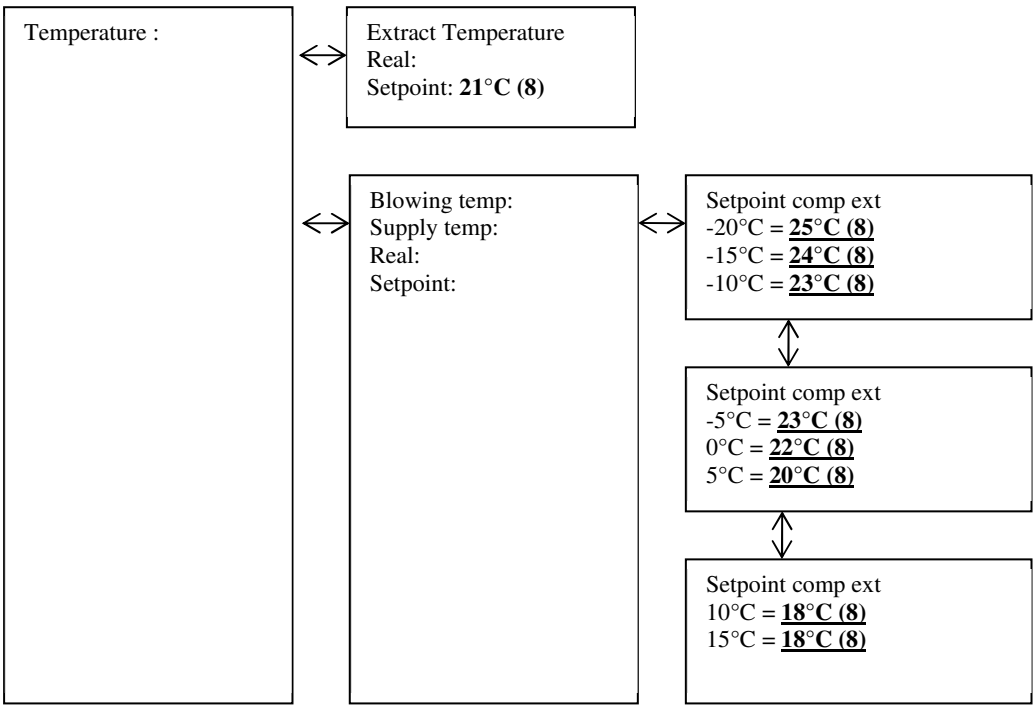
(10) Language setting (see chapiter V.4.e)

V.3.a. Running mode menu



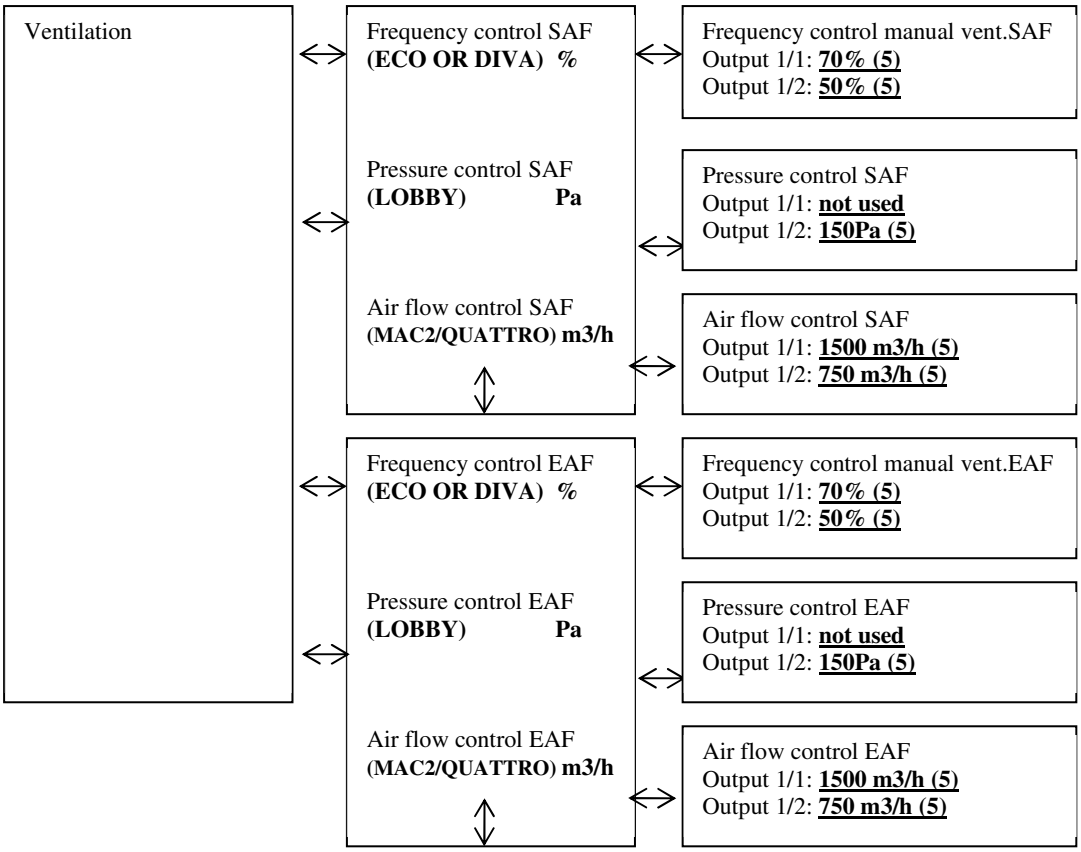
(7) Unit Start/Stop (see chapter V.4.d)

V.3.b. Temperature menu



(8) Temperature setpoint setting (see chapter V.4.c)

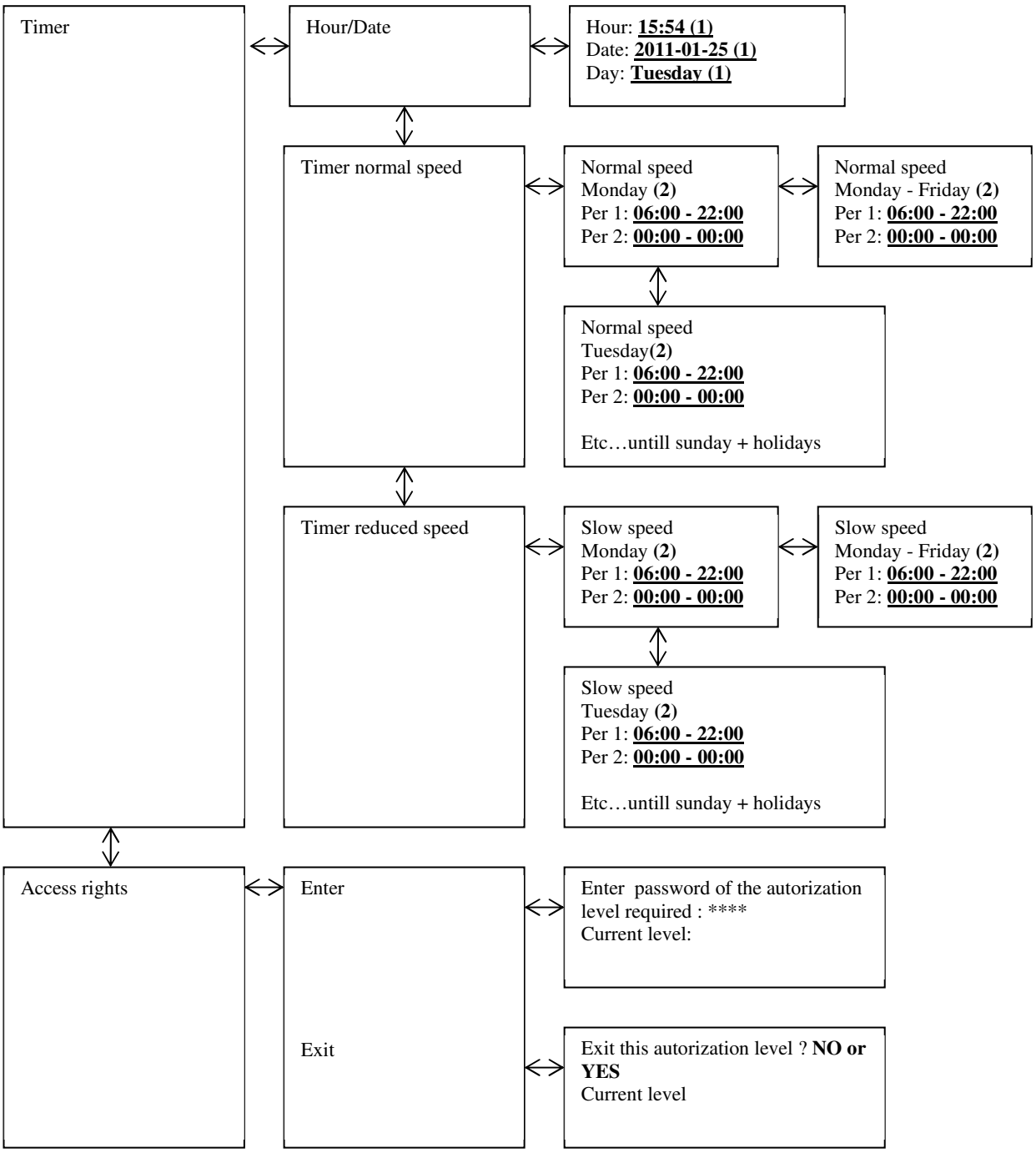
V.3.c. Ventilation menu



(5) Speeds, pressures, airflows (see chapter V.4.b)

OPERATING AND COMMISSIONING INSTRUCTIONS

V.3.d. Timer menu



1. **Hour and date setting (see chapter V.4.a)**
2. **HS program setting (see chapter V.4.a)**
3. **LS program setting (see chapter V.4.a)**
4. **Holidays period setting (see chapter V.4.a)**

OPERATING AND COMMISSIONING INSTRUCTIONS

V.4. Operator parameters modification (password 3333 required)

V.4.a. Dates and hours clocks setting

V.4.a.1. Date and hour of the CORRIGO controller [(1) chapter V.3.d]

Access: Hour Date setting
Date and hour of the regulator are set by default in the CORRIGO controller. Summer/Winter time is automatically managed.

V.4.a.2. Hour programing of the functioning system [(2) (3) chapter V.3.d]

Access:

- **Timer normal speed:** Time settings / normal speed program
- **Timer reduced speed:** Time settings / slow speed program

System is set to work in normal speed (HS-1/1) **07:00 - 22:00** in slow speed (LS-1/2) **22:00 - 06:00 except DIVA / LOBBY / QUATTRO** versions which work in slow speed (LS-1/2)
As indicated in arborescence you also have the possibility to modify Monday to Friday periods by pressing the right button when you are on the Monday screen
Note: if slow speed (LS-1/2) and normal speed (HS-1/1) are activated in the same time window, unit works in high speed
Operation exceptions:

DIVA®/QUATTRO®: For CO2 regulation do not activate any normal speed time window (GV-1/1)
LOBBY: Only slow speed clock (LS-1/2) must be activated
NIGHT COOLING: Only works if unit is in slow speed (LS-1/1) between 00:00 and 07:00.AM (Example: If unit is in (LS-1/2) between 02:00 and 06:00 and in (HS-1/1) the rest of the time. Then NIGHT COOLING is allowed to work only from 02:00 to 06:00 AM)

V.4.a.3. Vacation time [(4) chapter V.3.d] (password 3333 required)

Access: Hour settings / holidays
System is set with no vacation time. If you need to reduce functioning time during vacation time, set the functioning time window as indicated in chapter V.3.4), and set the vacation days.

V.4.b. Speed /pressure modification in LS and HS

V.4.b.1. STANDARD (ECO) / DIVA [(5) chapter V.3.c]

Access: ventilation Regul / Frequency control VAS 1/1 and 1/2 or frequency control VAR 1/1 et 1/2
You can modify the rotation speed of the unit in PV-1/2 (slow speed) and in HS-1/1 (normal speed) for each fan to set the airflows.

- To set the initial airflow (GV-1/1), force the system in normal speed with available terminals « Forced start HS » (bridge between 11 and 12 terminals).
- To set the initial airflow LS, force the system in slow speed with available terminals « Forced start LS » (bridge between 9 and 10 terminals).

V.4.b.2. LOBBY [(5) chapter V.3.c]

Access: ventilation Regul / Pressure control VAS 1/2 or Pressure control VAR 1/2
You can modify the constant pressure of the unit for each fan to set the airflows.

- To set the initial airflows LS, force the le system in normal speed with available terminals « Forced start LS » » (bridge between 9 and 10 terminals).

V.4.b.3. MAC2®/QUATTRO® [(5) chapter V.3.c]

Access: ventilation Regul / Airflow control VAS 1/1 and 1/2 or Airflow control VAR 1/1 and 1/2
You can modify the rotation speed of the unit in PV-1/2 (slow speed) and in HS-1/1 (normal speed) for each fan to set the airflows.

- To set the initial airflow (GV-1/1), force the system in normal speed with available terminals « Forced start HS » (bridge between 11 and 12 terminals).
- To set the initial airflow LS, force the system in slow speed with available terminals « Forced start LS » (bridge between 9 and 10 terminals).

V.4.c. Temperature setpoint modification

[**(8)** chapter V.3.b]
Access: temperature Regul
Regulation is based on the temperature control of:

- Supply with external compensation (set in standard). Supply temperature setpoint follows outside temperature in compliance with RT 2012 norm.
- Extract

V.4.d. Forced stop of the unit or forced start LS or HS on the remote control

[**(7)** chapter V.3.a]
Access: running Mode / running Mode
You can stop **(7) (stop)** unit with CORRIGO controller or do a forced start LS **(7) (manual speed 1/2)** or HS **(7) (manual speed 1/1). I**n standard unit works automatically with clocks **(7) (Auto)**

If unit do not work in automatic mode an alarm will start. Manual speed 1/1 and manual speed 1/2 modes must be used only for the commissioning and repair. An other setting will lead to a failure of the unit.

V.4.e. Choice of language

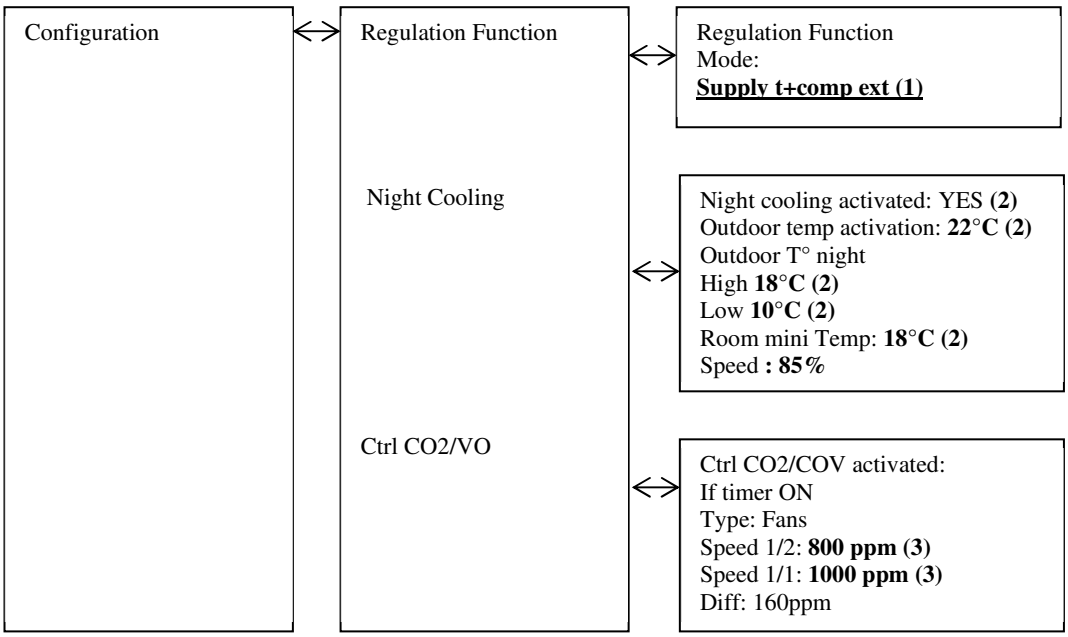
[**(10)** chapter V.3]
Access: Starting screen / language choice

V.5. Intermediate settings (service level)

Type of regulation type setting, **Night Cooling** parameters and **CO2 setpoint** require an access to the Configuration menu. You need the access right to the « Service » level. Follow the instructions below.

Enter **2222** with directional arrows and validate with OK. Press left arrow twice to reach the access of the menus. In case of mistake press C button twice and start again.

V.5.a. Configuration menu in service access



1. **Regulation type choice (see chapter V.5.b.1)**
2. **Parameters modification Night Cooling (see chapter V.5.b.2)**
3. **CO2 set point modification (only in DIVA and QUATTRO) (see chapter V.5.b.3)**

V.6. Modification of the services parameters (password 2222)

V.6.a. Regulation mode of the unit

[**(1)** chapter V.5.a]
Access: Configuration / Regulation function.
Regulation type is set by default in the CORRIGO controller in outside compensation exhaust. You can also select return control mode.
(ATTENTION, if you want to regulate following a room temperature, select the regulation mode« Ctrl extract » Any other mode will lead to the failure of the unit)

V.6.b. Overventilation parameters

[**(2)** chapter V.5.a]
Access: Configuration / Night cooling
Night cooling speed is set in standard in 85%. You can modify it. You can also change the temperature of Night Cooling activation (outside temperature day…) and deactivate it.

V.6.c. CO2 setpoint for DIVA / QUATTRO option

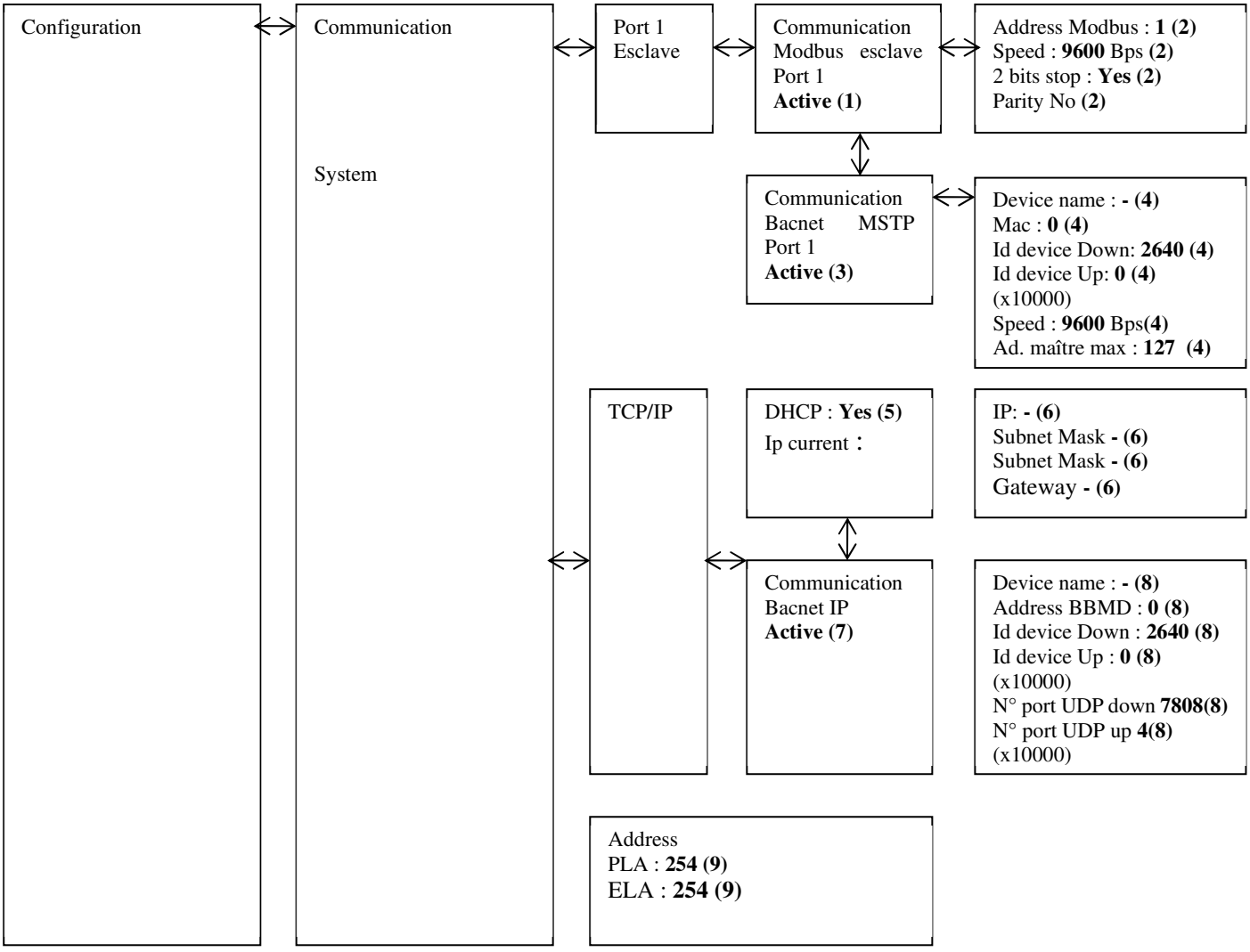
[**(3)** Chapter V.5.a]
Access: Configuration / Ctrl CO2/COV
CO2 setpoint is set in standard: LS = 800ppm HS = 1000ppm. Unit will increase its speed proportionally to reach its maximum speed when CO2 will be at 1000ppm.

V.7. Administrator settings

Activation of the **communication**, **dehumidification** and **fire function** requires an access to Configuration menu in system level. You have to get the access rights to « Admin » level. Follow the instructions below:

Enter **1111** with directional arrows and validate with OK button. Press left arrow twice to reach the menu. In case of mistake press C button twice and start again

V.7.a. Configuration menu with admin level access



1 et 2 Activation MODBUS RS485 and settings (see chapter V.8)
3 et 4 Activation BACNET MSTP and settings (see chapter V.8)
5 et 6 Settings TCP/IP (see chapter V.8)
7 et 8 Activation of the BACNET IP and settings (see chapter V.8)
9 Addressing Repeater (see chapter V.8)

V.8. Modification of the service parameters

V.8.a. MODBUS

You will find the simplified MODBUS at the end of the instructions and commissioning manual.

Access: Configuration / Communication
MODBUS TCP/IP is activate in standard in DHCP. Possibility to know DHCP address or set IP fixe [**(5)(6)** chapter V.7], Modbus Port = 502 / Device ID = 255
Le **MODBUS RS 485** must be activate [**(1)** chapter V.7]. Possibility to set speed, parity, stop bits… [**(2)** chapter V.7].

Modbus Type
1 = Coil status register (Modus function 1, 5 and 15)
2 = Input status register (Modus function 2)
3 = Holding register (Modus function 3, 6 and 16)
4 = Input resister (Modus function 4)

Supported Modbus functions
Read Coils (1)
Read discrete input (2)
Read Holding registers (3)
Read Input registers (4)
Write single Coils (5)
Write single register (6)
Write multiple Coils (15)
Write multiple register (16)

EXOL Type
R = Real (-3.3E38 – 3.3E38)
I = Integer (-32768 – 32767)
X = Index (0 – 255)
L = Logic (0/1)

Transmission mode
Controller is set in RTU mode

A maximum of 47 registers can be read in one message

V.8.b. Repeaters and EXO communication

[**(3)** chapter V.7]
Access: Configuration / System
An instruction and commissioning manual is delivered with repeater. In the case of you have several CORRIGO connected to the same remote control (up to 6 CORRIGO), you have to modify the address PLA / ELA of each CORRIGO. In this case you will need a different address on each CORRIGO and enter them in the repeater. Follow the instructions in the commissioning manual for the setting and use.

V.8.c. WEB Communication

You have the possibility to communicate via TCP/IP WEB in language. In this case the device is delivered with Web page and regulator set in DHCP.
Possibility to know DHCP address or set IP fixe [**(5)(6)** chapter V.7], or via E-tool software http://www.regin.se

V.8.d. BACNET IP Communication with BASC type

You will find the simplified BACNET at the end of the instructions and commissioning manual.

Access: Configuration / Communication
BACNET IP must be activate [**(7)** chapter V.7]. Possibility to know DHCP address or set IP fixe [**(5)(6)** chapter V.7]. Possibility to set ID / N° port… [**(8)** chapter V.7].
BACNET MSTP must be activate [**(3)** chapter V.7]. Possibility to set speed, ID, address… [**(4)** chapter V.7]. Speed = 9600 / MAC address = 0 / Device ID = 2640 / Max master = 127

BACnet Type
10XXX = Read and write Binary
20XXX = Read binary
30XXX = Read and write analogue
40XXX = Read analog
30XXX = Read and write multistate
40XXX = Read multistate
(XXX = MODBUS Address)

AV = Analog Value
BV = Binary Value
MSV = Multistate value

BMMD Address: The BBMD address is used for discovering devices that are attached to different BACnet/IP subnets and separates by an IP router. The address is entered as host:host can be the host's name if DNS ins configures. If DNS is not configured, the host address should be entered in the format xxx.xxx.xxx.xxx followed by the port number (default settings 47808)

MAC: The MAC address of the device. This need to be unique only to the subnet.

Device ID: The ID of a device, used to identify it on the BACnet network. This number cannot be duplicated anywhere on the BACnet network and must therefore be unique. To set an ID value of 34600, the low number would be set to 4600 and the high number to 3

For more information see CORRIGO Pics via http://www.regin.se

V.8.e. Communication LON (if CORRIGO with option LON)

Set the LON function as below:
In Configuration menu/ Communication / Function port 2 = Activate the Port 2 function in extension unit.
Go on the right and activate extension unit. 1 in CORRIGO E28 LON
Button for the PIN service is at the back of the regulator.
Communication table is on http://www.regincontrols.com

V.8.f. Fire function activation

Setting of the input
Access: Configuration / Input Output / DI / DI8
Declare input DI8 in « Al fire » « NO »

Setting of the function
Access: Configuration / Fire function
Choose the required mode when activating the fire function
« Stop »: Complete stop of the unit
«Continuous operation »: Start or keeping of the unit in HS. Fire function will have priority on all others alarms.
«Normal operation»: keeps the unit in the same parameters chosen on site (stop/LS/HS)
« Exhaust fan only »: Start or keep in HS the exhaust fan (return is stopped)
« Return fan only »: Start or keeps in HS the return fan (exhaust stopped)

Alarm setting
Access: Configuration / alarm configuration
Enter alarm number « 10 » go on the right and enter in priority « C alarm C » « Active »

V.8.g. Activation of the function dehumidification

Input settings
Access: Configuration / Input Output / UI / UI4
Declare UI4 input in « Ambiance Humidity »

Function setting
Access: Configuration / Ctrl Humidity
Choose « Dehumidification »

Setpoint setting
Access: Humidity Regul
Enter the required setpoint

VI. REPAIR

VI.1. Different type of defaults

A specific screen appear if you have an alarm (see ED-TOUCH manual). This will be Class A, or C (see details below)
Type of default:
C: Default do not stop the ventilation system and automatically disappears when a solution is found.
To solve a default press the alarm button (red), « delete » then « enter » the default with directional arrows and press OK button
Attention: do not « block »

Description	Cause
CORRIGO screen do not light up	- Unit is not powered correctly (LED P/B of CORRIGO switched off) - To light up the screen, press a button (backlit). - Command fuse is disused
Fans do not start	- Clocks are on 0 - No external start order - External stop - Active alarm
Remote control do not run or gives wrong values	Remote control further than 100m Repeater is not connected correctly

VI.2. List of alarms

n°	View	Description	Type	Tempo	Cause
1	Malfunction supply air fan	(UDI2 must be closed « Fer » if fan runs) Or (UAI2 must be higher than 30Pa if fan runs)	A	30s (120s for LOBBY)	1. Pressure switch is wrongly connected (pressure switch must be set in 25Pa). 2. Pressure on the transmitter is lower to 25Pa. (LOBBY®) (contact us) 3. Motor is disused 4. Thermic protection motor is activated 5. Check the connection of crystal tubes (chapter IV.8 et IV.9 6. Presence of water in the crystal tube 7. 0-10V motor is inverted
2	Malfunction extract air fan	(UDI3 must be closed « Fer »if fan runs) Or UAI3 must be higher than 30Pa if fan runs)	A	30s (120s for LOBBY)	1. Pressure switch is wrongly connected (pressure switch must be set in 25Pa). 2. Pressure on the transmitter is lower to 25Pa. (LOBBY®) (contact us) 3. Motor is disused 4. Thermic protection motor is activated 5. Control the connection of the crystal tubes (chapter

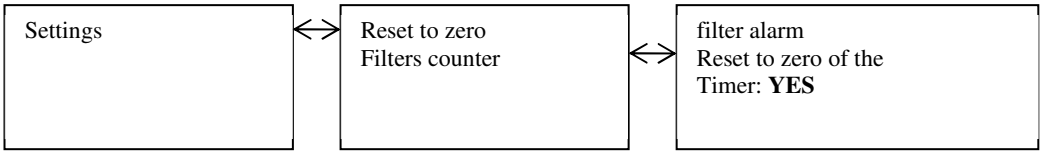
					IV.8 and IV.9 6. Water in the crystal tubes 7. 0-10V motor is inverted
6	Filter guard 1	DI1 must be open « Ouv » if there is no default	C	5s	1. Filters are dirty 2. Filters pressure switches are wrongly connected (Pressure switches must be set on 300Pa for M5 and M7) 3. Control the connection of the crystal tubes (chapter IV.8
8	External frost guard	Ext DI2 must be closed « Fer »if there is not default	C	120s	1. THA thermostat is not set on 5°C 2. THA thermostat s disused 3. Circulating pump is disused 4. 3 ways valve 3 is wrongly connected, hydraulically or is disused
15	High supply air temp	Ext AI1 is mounted higher than 50°C	A	30s	1. Exhaust temperature is higher than 50°C 2. Temperature setting is too high 3. Exhaust fan is stopped (vent AS Default) when hot battery is in full capacity.
23	Electric heating is overheated	Ext DI2 must be closed « Fer » if there is no default	A	5s	1. Safety thermostat THS is activated. To reset THS, push on the rearmament on the electric battery 2. Power cut 3. Exhaust fan is stopped (vent AS Default) when electric battery is in full capacity
27	Sensor error outdoor temp	Control the value Ext AI2	A	5s	1. Outside temperature sensor SEG is disused. 2. Outside temperature sensor SEG is wrongly connected (see chapter IV.3)
29	Rotation sentinel exchanger	Control the value DI6	C	300s	1. The belt of the exchanger is broken
31	Supply air fan control error	Difference higher than 50Pa between exhaust setpoint and pressure on Ext UAI1	C	30min	1. The network of blowing do not correspond to the fan or to the setpoint. 2. Filter is dirty
32	Extract air fan control error	Difference higher than 50Pa between exhaust setpoint and pressure on Ext UAI2	C	30min	1. Return network do not correspond to the fan or to the setpoint. 2. Filter is dirty
35	Manual	Runs in manual mode	C	5s	Default for information purposes (the plant is switched off in PV or GV directly on the display) (see (7) chapter V.3.a)
36 à 44	… in Manual mode	Functions are modified in manual mode	C	5s	In the Auto Manual menu everything must be in Auto.
48	Internal battery error	Error battery intern	A	5s	1. Intern battery of the CORRIGO is disused 2. Change the battery quickly in order to not loose program. See chapter VII.2
49	Sensor error supply air temp	Control the value on Ext AI1	A	5s	1. Blowing temperature sensor SSG is disused 2. Blowing temperature sensor SSG is wrongly connected (see chapter V.3.a)
50	Sensor error extract air temp	Control the value sur Ext AI3	A	5s	1. Supply temperature sensor SRG is disused 2. Supply temperature sensor SRG is wrongly

					connected (see chapter V.3.a)
55	Sensor error pressure VAS	Control the value on Ext UAI1	A	5s	1. 0-10V signal is inverted 2. Pressure transmitter on fresh air is in short-circuit
56	Sensor error extract VAR	Control the value on Ext UAI2	A	5s	1. 0-10V signal is inverted 2. Pressure transmitter on intake air is short circuited
59	CO2 sensor error	Control the Value on Ext AI4	A	5s	1. 0-10V signal is inverted 2. CO2 transmitter is in short-circuit
85	… in manual mode	Functions are modified in manual mode	A	5s	In Manuel Auto menu everything must be in Auto.
86	Time for service	Regular visit	C	5s	See chapter VI.3
87	… in manual mode	Functions are modified in manual mode	C	5s	In Manuel Auto menu everything must be in Auto.

VI.3. Acknowledge the default « timer service »

These settings require an access to the setting menu. You need the access rights to "service" level. Follow the instructions below.

Enter the code **2222** with directional arrows then press the OK button. Press the left arrow twice to reach the menus. In case of mistake press C button twice and start again.



An alarm occurs every 6 months to remind the maintenance visit. Enter YES to reset the counter to zero

VII. MAINTENANCE

VII.1. Obligatory maintenance

Outside the unit
Check the ducts, flexible sleeves, anti-vibrating plots; replace them if necessary. Check that all elements connected to the unit do not give any vibration to the unit.

Unit and Regulation
Check connection every year

Filtration
Do not damage the filters

Classification	Efficiency of the filtration EUROVENT	Reference	Washing* (Water + light detergent)	Aspiration* Exhaust*
Gravimetric	50% ePM 10	M5	Limited (1 to 4 times)	YES
Opacimetric	55% ePM 2.5	F7	NO	

	Periodicity of the cleaning			
Components	**1 MONTH**	**3 MONTHS**	**6 MONTHS**	**12 MONTHS**
Filtration	Blowing (for the M5 filters)	Cleaning (for the M5 filters)	Washing (for the M5 filters)	Replacement Of the filters if needed

Rotative exchanger (12 month)
Check belt and change it if necessary

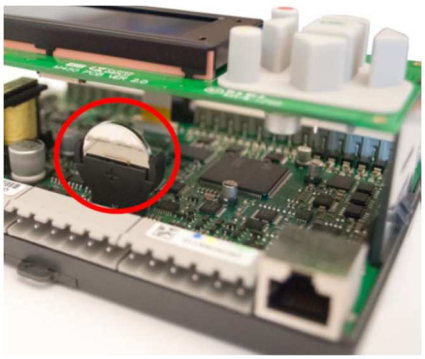
VII.2. Battery replacement

When low battery alarm starts and red LED is lighting, this indicates that the safety battery for the safeguard of the memory and clock is too low. Follow the instructions below to change them. A condenser keeps the safeguard and let the clock running for 10 minutes left after power cut. If the replacement of the battery takes less than 10 minutes, you will not have to reset the program and clock will work normally.

Replacement battery is a CR2032 type

Press the clips on each sides of the box with a little screwdriver to open the top of the box.

Location of the battery

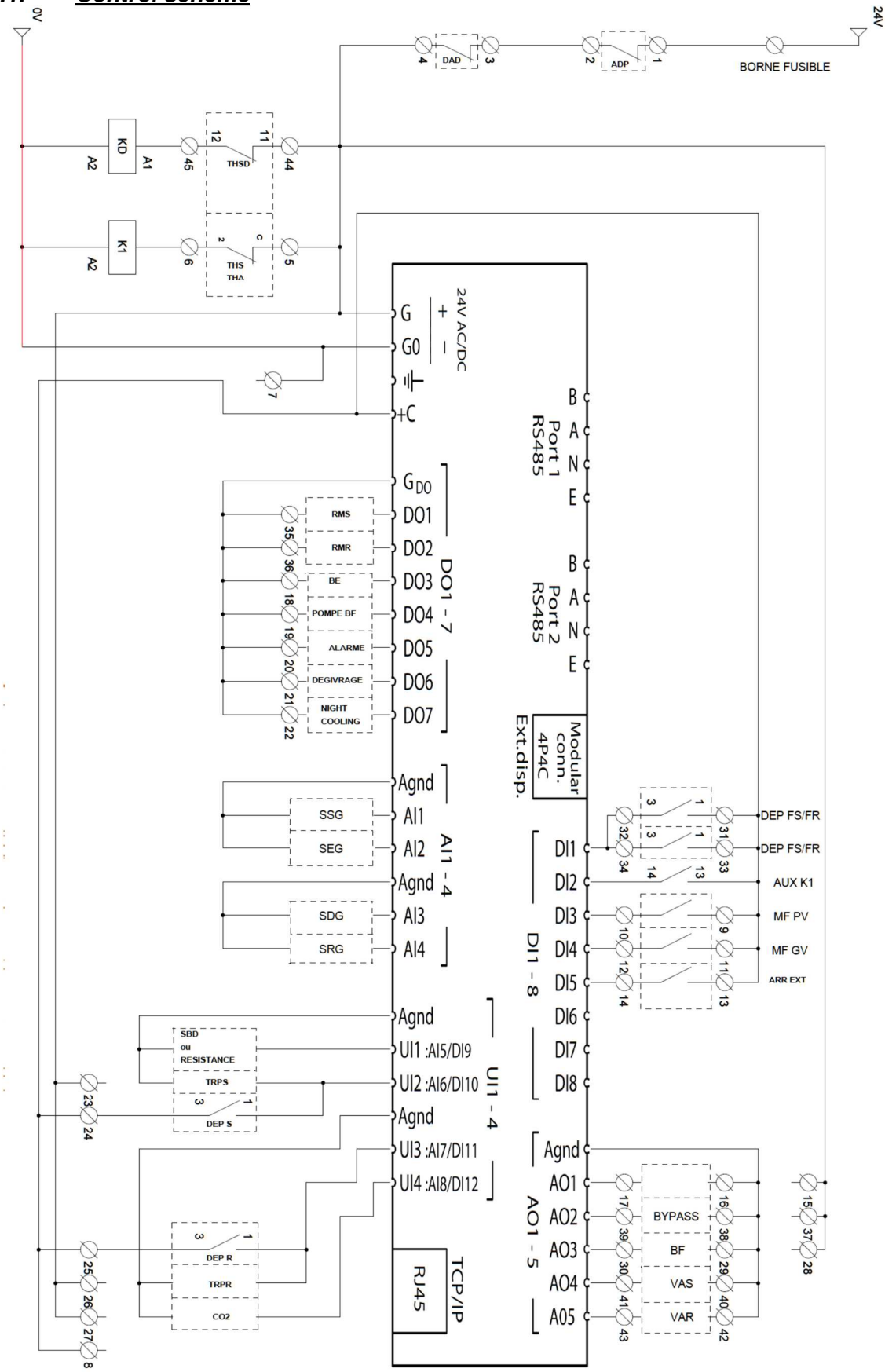


Take the battery and remove it softly.
Press firmly the new battery in the support. Note: Attention to the direction and polarity of the battery.

OPERATING AND COMMISSIONING INSTRUCTIONS

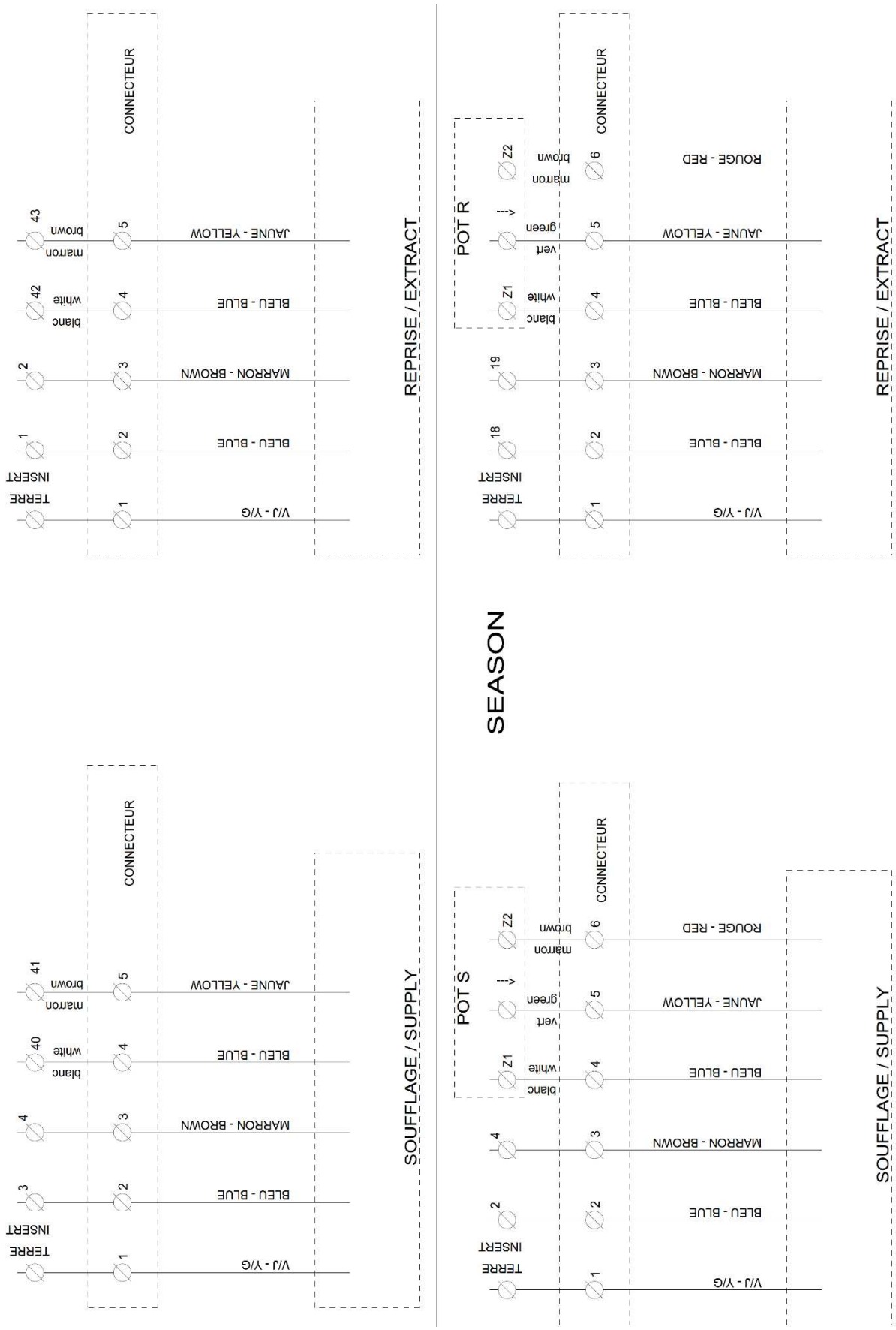
VIII. ANNEXES

VIII.1. Control scheme



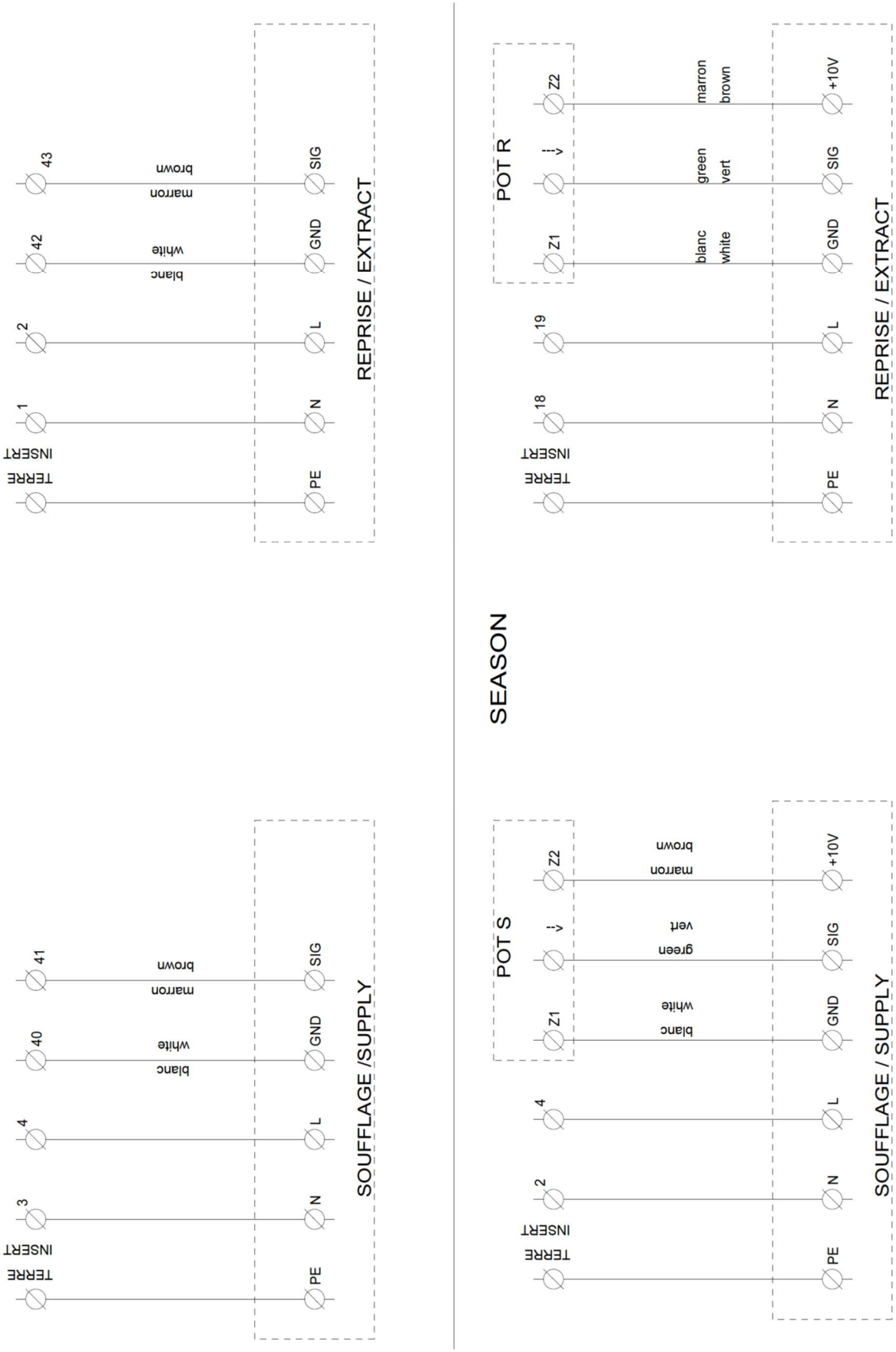
OPERATING AND COMMISSIONING INSTRUCTIONS

VIII.2. Motor wiring NEOTIME 600-900



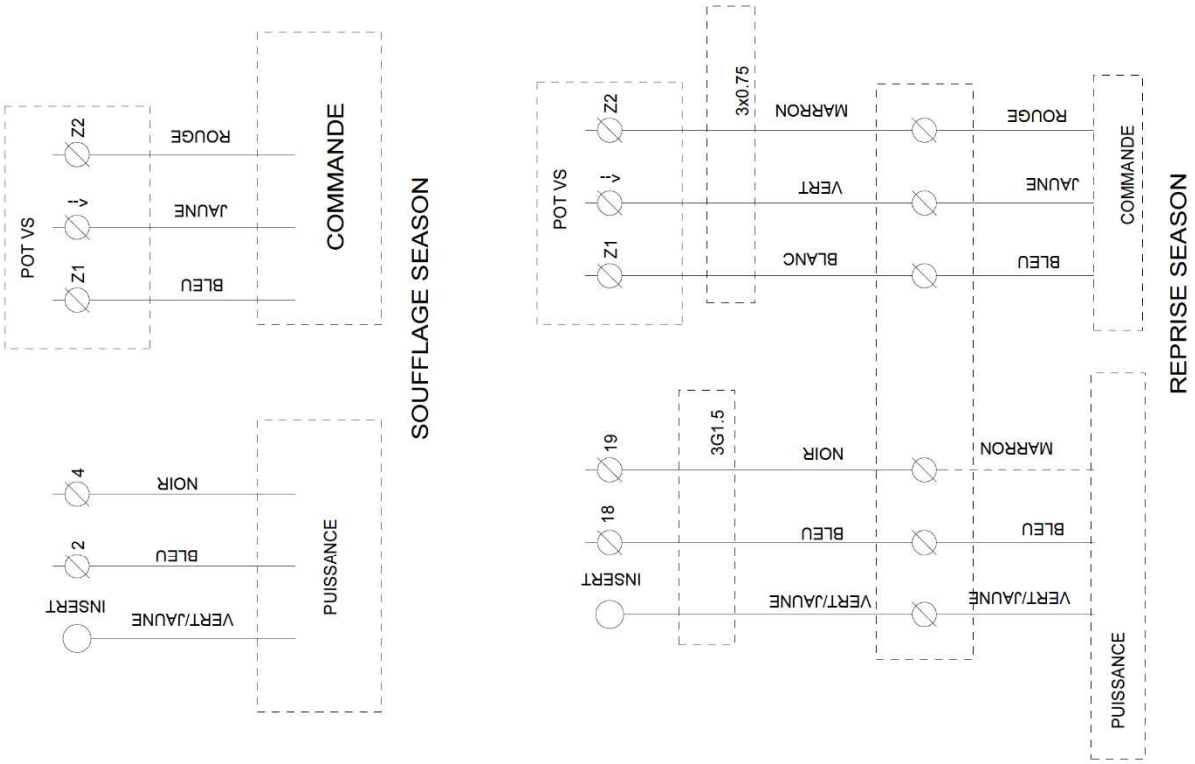
OPERATING AND COMMISSIONING INSTRUCTIONS

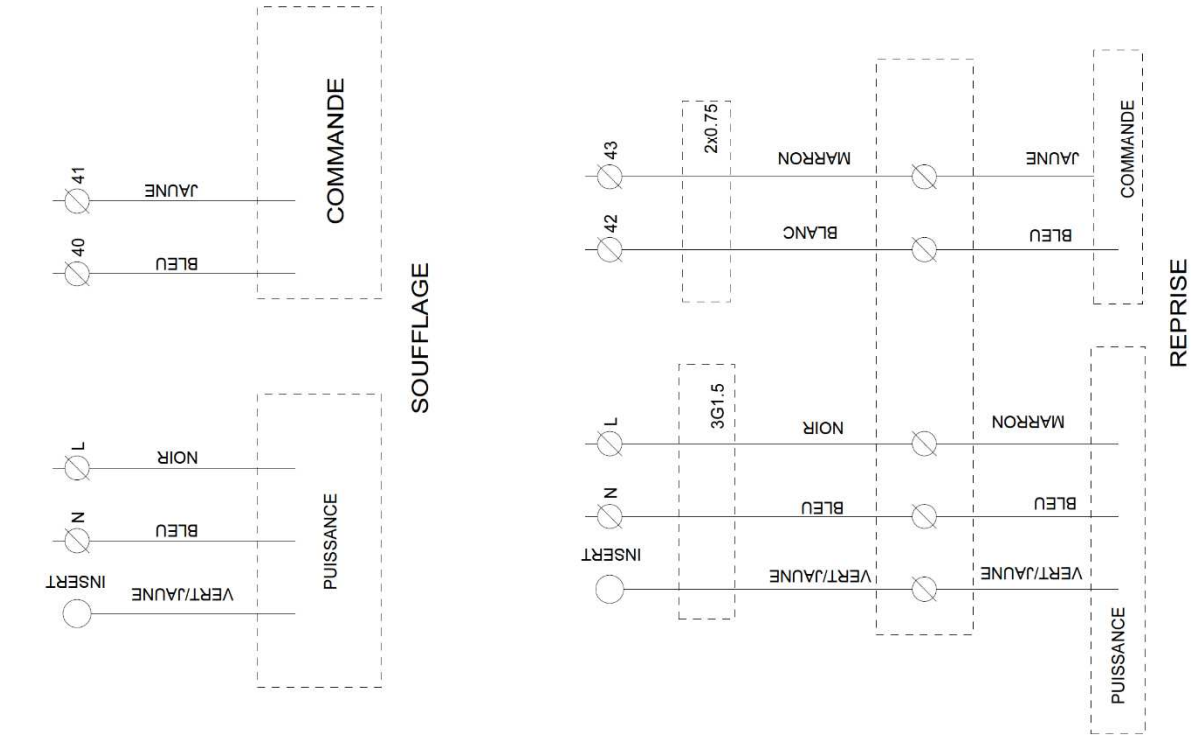
VIII.3. Moto wiring NEOTIME 1300-1800-2500



OPERATING AND COMMISSIONING INSTRUCTIONS

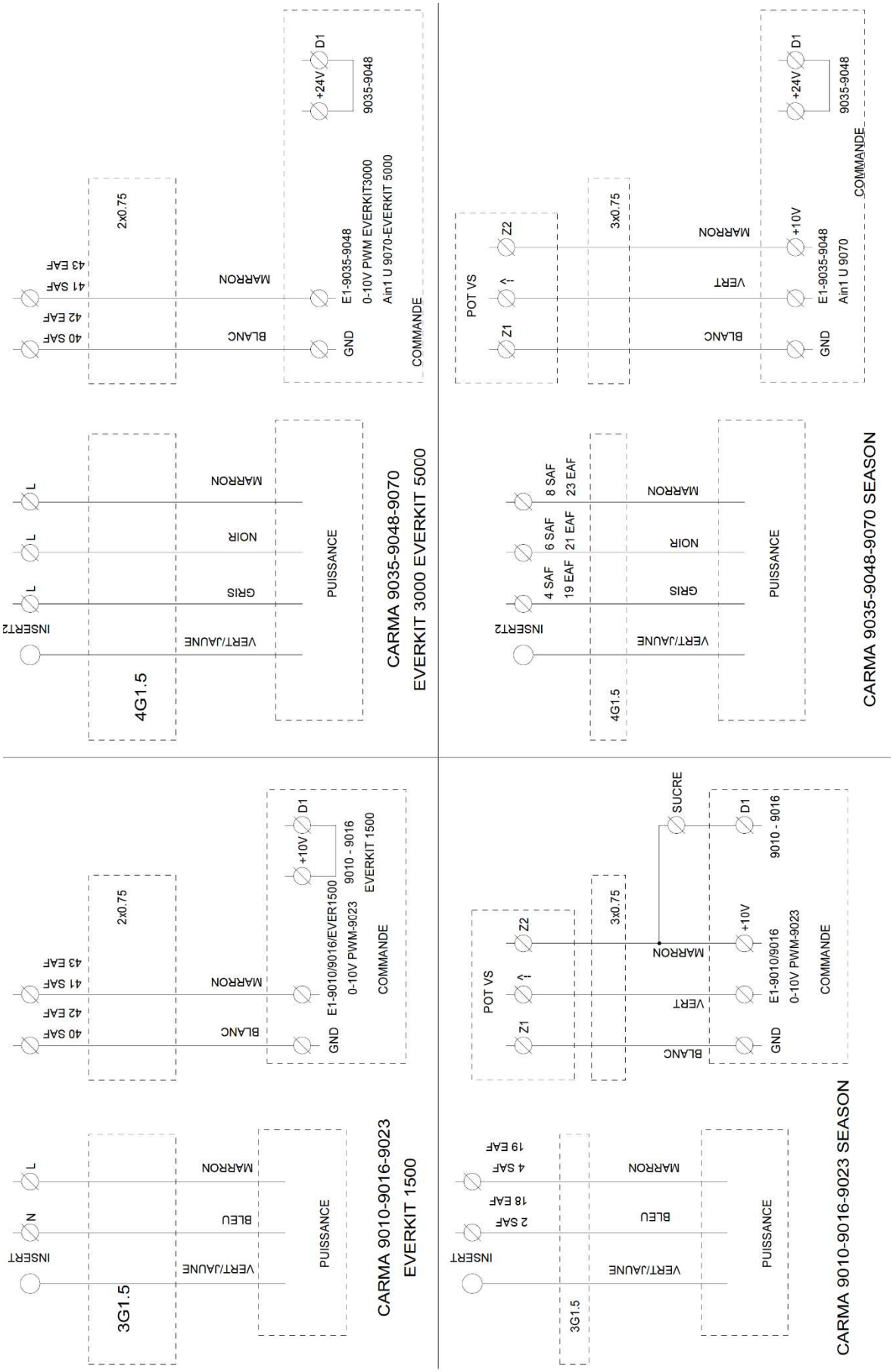
VIII.4. Motor wiring CARMA 9008





OPERATING AND COMMISSIONING INSTRUCTIONS

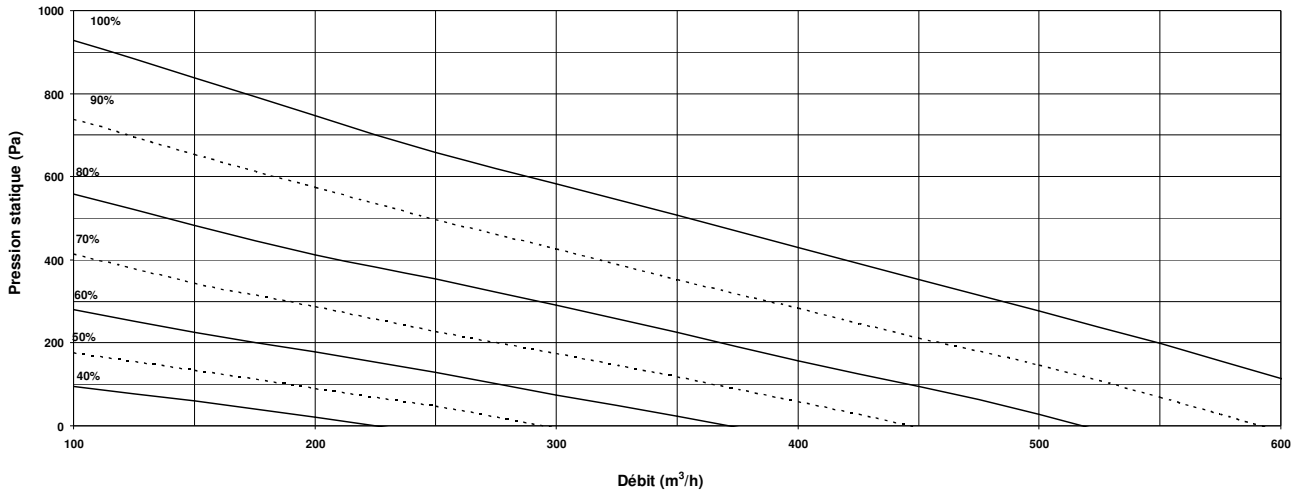
VIII.5. Motor wiring CARMA 9010-9070



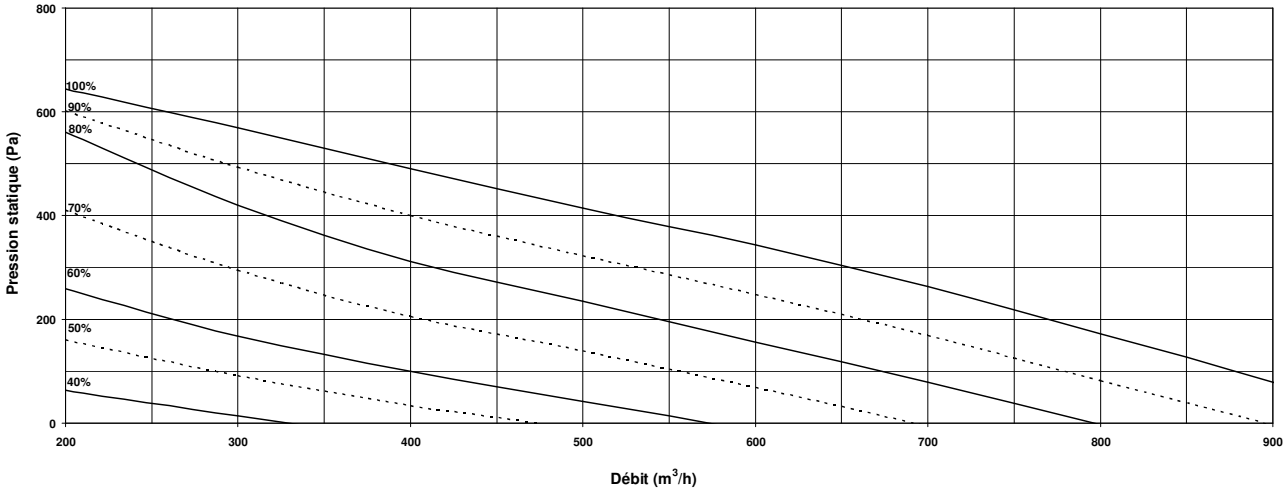
OPERATING AND COMMISSIONING INSTRUCTIONS

VIII.6. Curves NEOTIME

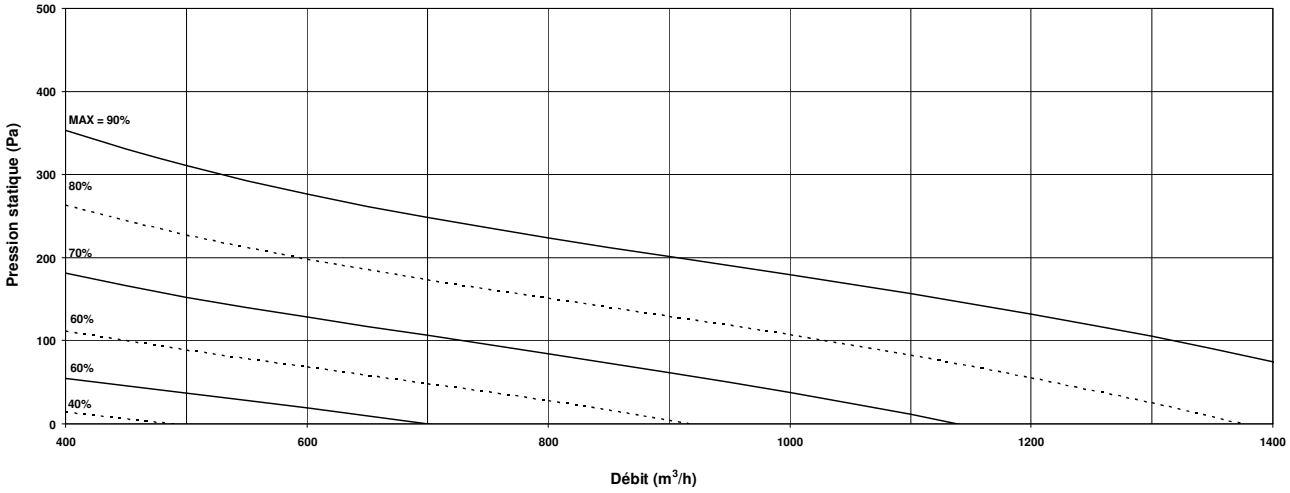
NEOTIME® 600



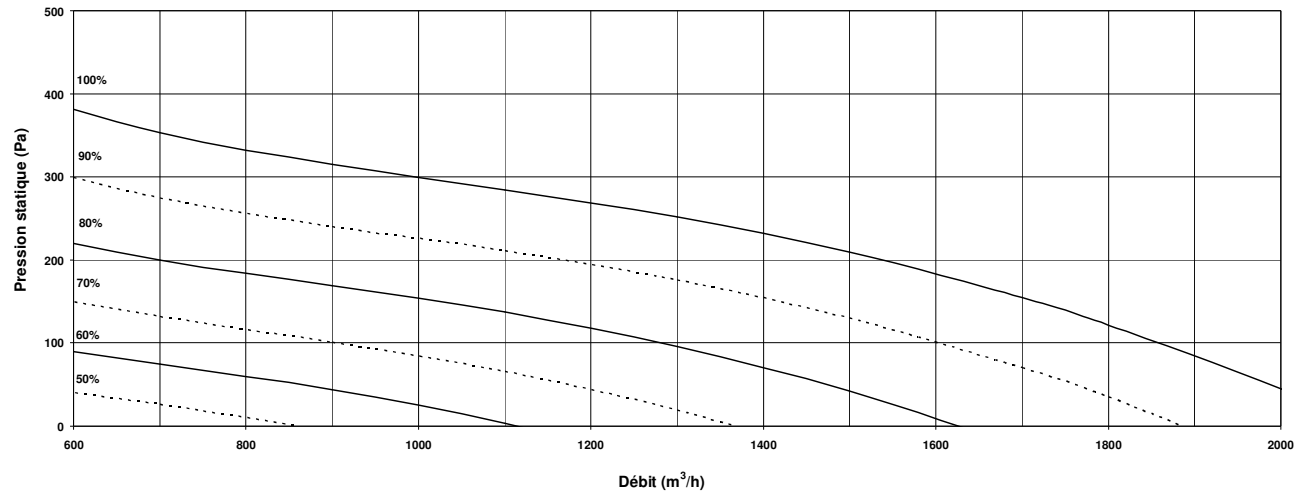
NEOTIME® 900



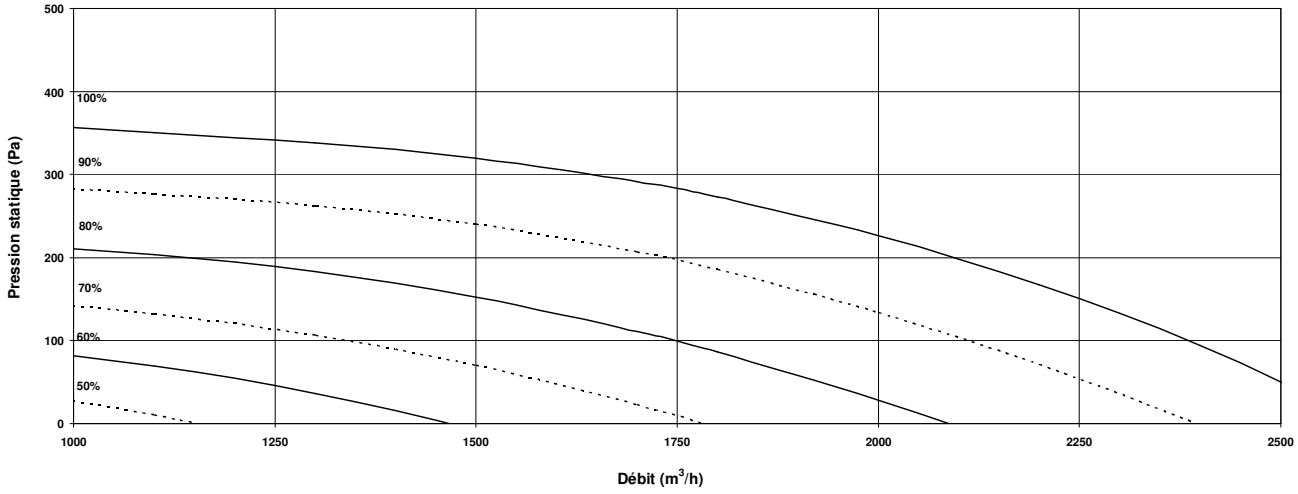
NEOTIME® 1300



NEOTIME® 1800

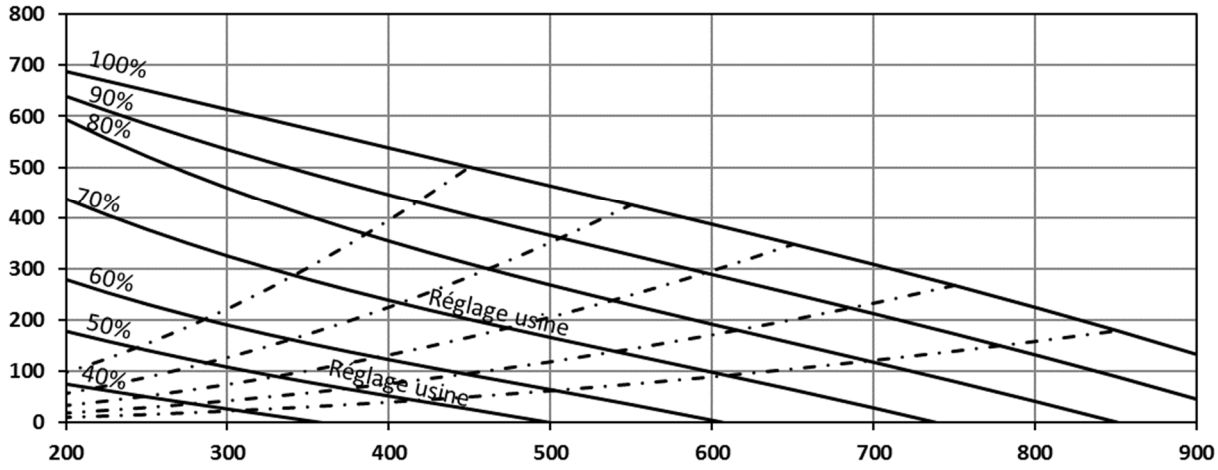


NEOTIME® 2500



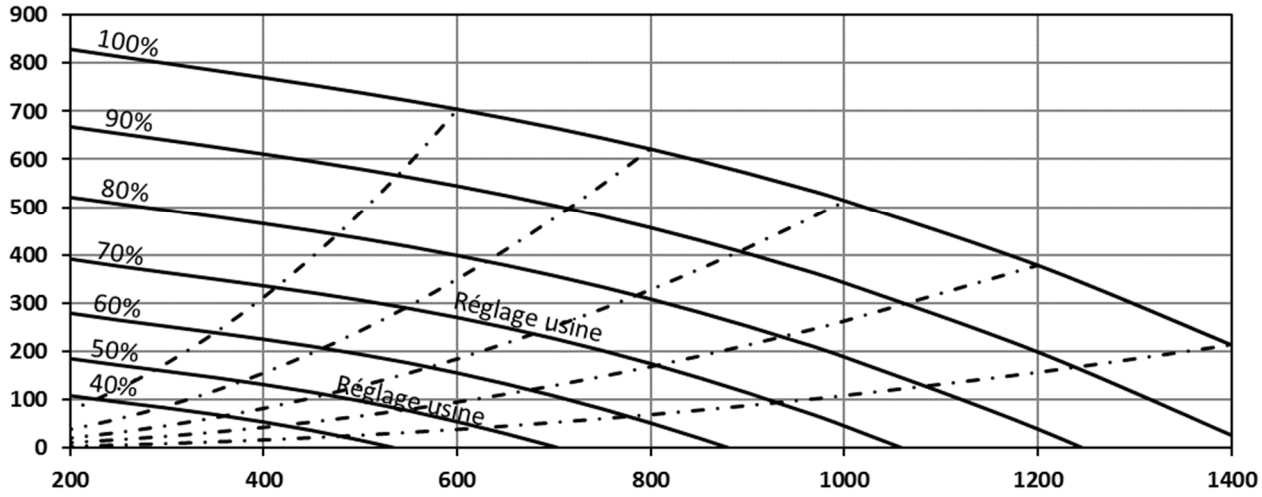
VIII.7. Curves CARMA

CARMA® 9008

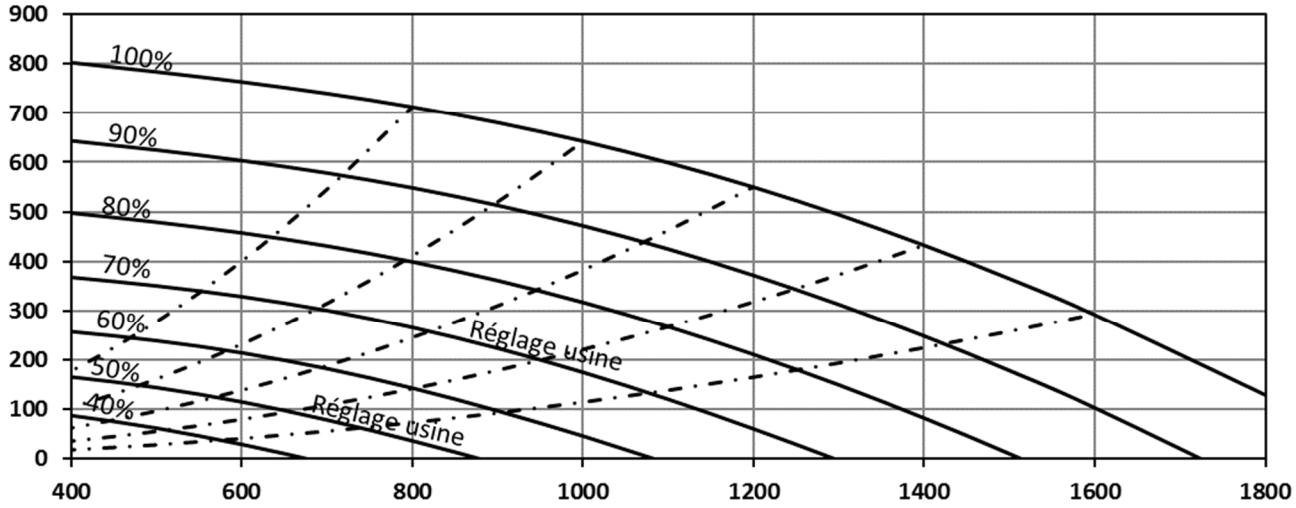


OPERATING AND COMMISSIONING INSTRUCTIONS

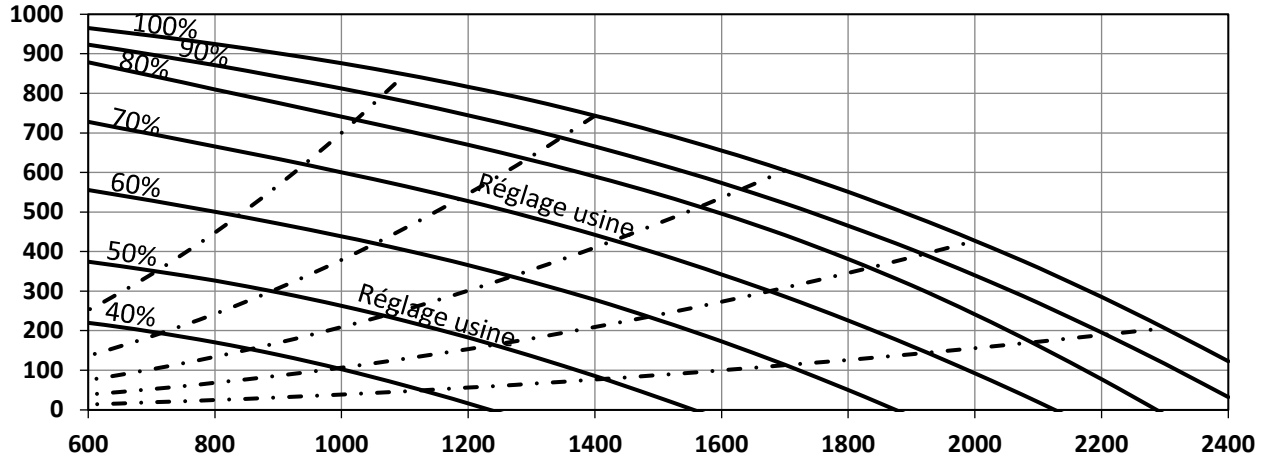
CARMA® 9010



CARMA® 9016

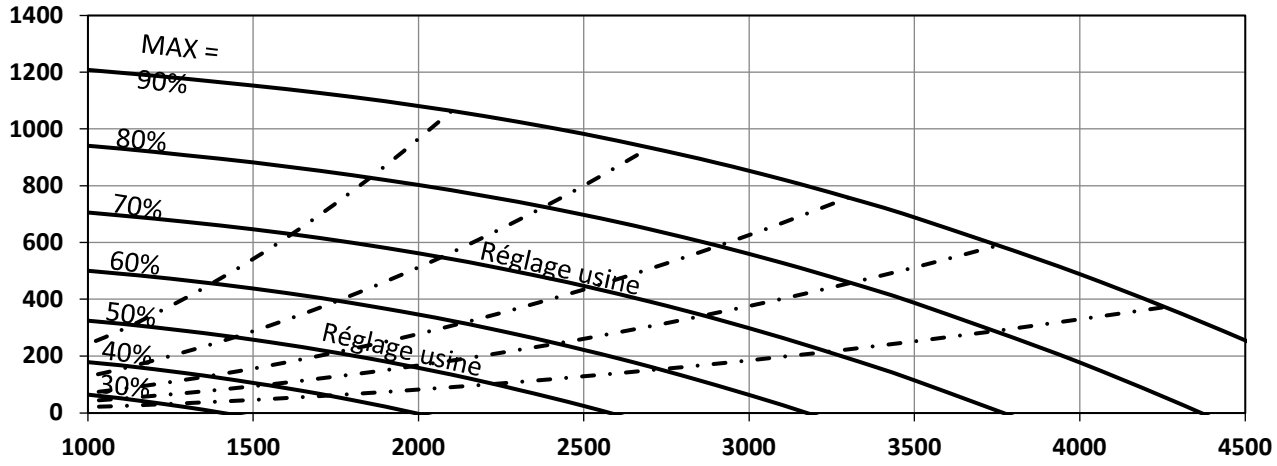


CARMA® 9023

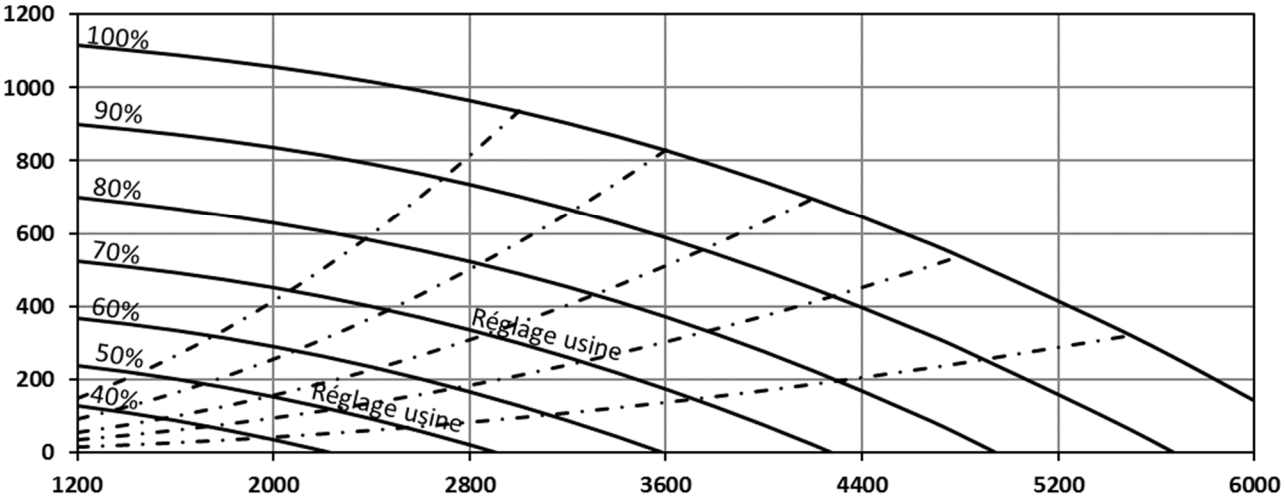


OPERATING AND COMMISSIONING INSTRUCTIONS

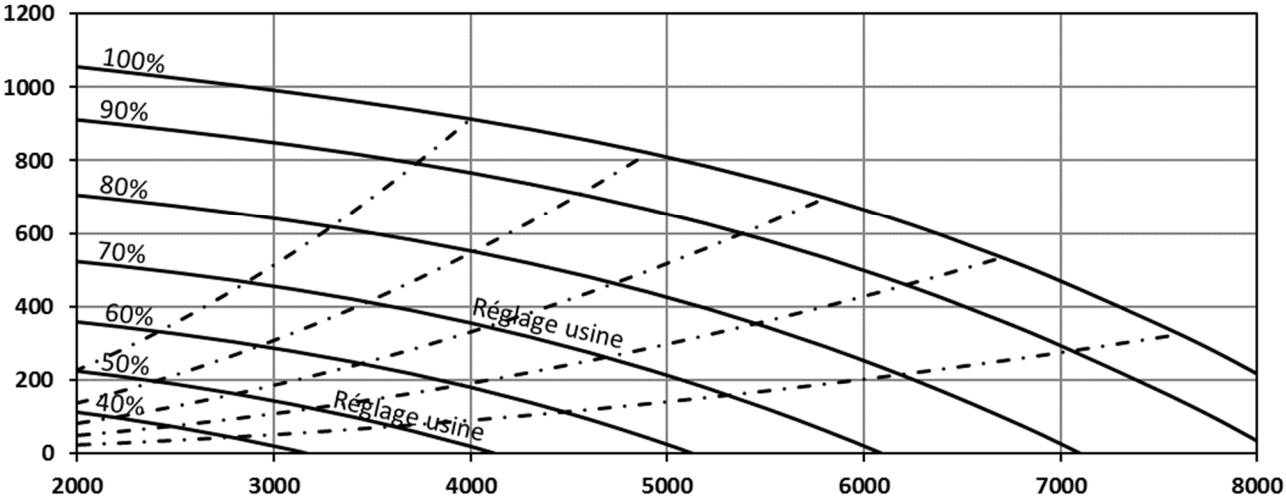
CARMA® 9035



CARMA® 9048



CARMA® 9070



VIII.8. MODBUS and BACNET tables

INPUT REGISTER

Function	Description	Exo type	Modbus Address	Bacnet Address
Unit operation state	Modbus: 0= Stop 1= Start 2= Start low speed 3= Start max speed 4= Start normal speed 5= In operation 8= CO2 operation 9= Night cooling operation 11= Stopped BACNET: 1= Stop 2= Start 3= Low speed start 4= Max speed start 5= Normal speed start 6= In operation 9= CO2 operation 10= Night cooling operation 12= Stopped	X	3	MSV,40003
Outdoor temperature	In °C	R	1	AV,40001
Operating time of the supply fan	In hours	R	4	AV,40004
Operating time of the extract fan	In hours	R	5	AV,40005
Supply air temperature	In °C	R	7	AV,40007
Extract air temperature	In °C	R	9	AV,40009
Supply air pressure	In Pa for LOBBY® version	R	13	AV,40013
Extract air pressure	In Pa for LOBBY® version	R	14	AV,40014
Supply air flow	In m3/h for MAC2® and QUATTRO® versions	R	15	AV,40015
Extract air flow	In m3/h for MAC2® and QUATTRO® versions	R	16	AV,40016
CO2	In ppm for DIVA® and QUATTRO® versions	R	17	AV,40017
Humidity	In %	R	23	AV,40023
Analog output	0-10V Heating (water only)	R	54	AV,40119
Analog output	0-10V Heat exchanger	R	55	AV,40120
Analog output	0-10V Cooling	R	56	AV,40121
Analog output	0-10V SAF	R	57	AV,40122
Analog output	0-10V EAF	R	58	AV,40123

OPERATING AND COMMISSIONING INSTRUCTIONS

HOLDING REGISTER

Function	Description	Exo type	Modbus Address	Bacnet Address	Factory Value
Supply setpoint	Set in constant supply	R	1	AV,30001	18
Supply setpoint	Set in constant supply ext comp for out temp –20°C	R	10	AV,30010	25
Supply setpoint	Set in constant supply ext comp for out temp –15°C	R	11	AV,30011	24
Supply setpoint	Set in constant supply ext comp for out temp –10°C	R	12	AV,30012	23
Supply setpoint	Set in constant supply ext comp for out temp –5°C	R	13	AV,30013	23
Supply setpoint	Set in constant supply ext comp for out temp –0°C	R	14	AV,30014	22
Supply setpoint	Set in constant supply ext comp for out temp +5°C	R	15	AV,30015	20
Supply setpoint	Set in constant supply ext comp for out temp +10°C	R	16	AV,30016	18
Supply setpoint	Set in constant supply ext comp for out temp +15°C	R	17	AV,30017	18
Extract setpoint	Set in extract control	R	18	AV,30018	21
HS supply setpoint	In % for ECO and DIVA® versions	R	424	AV,30424	70
LS supply setpoint	In % for ECO and DIVA® versions	R	425	AV,30425	50
HS extract setpoint	In % for ECO and DIVA® versions	R	426	AV,30426	70
LS extract setpoint	In % for ECO and DIVA® versions	R	427	AV,30427	50
HS pressure supply setpoint	In Pa for LOBBY® version	R	24	AV,30024	150
LS pressure supply setpoint	In Pa for LOBBY® version	R	25	AV,30025	150
HS pressure extract setpoint	In Pa for LOBBY® version	R	26	AV,30026	150
LS pressure extract setpoint	In Pa for LOBBY® version	R	27	AV,30027	150
HS supply air flow setpoint	In m3/h for MAC2® and QUATTRO® versions	R	28	AV,30028	xxx
LS supply air flow setpoint	In m3/h for MAC2® and QUATTRO® versions	R	29	AV,30029	xxx
HS extract air flow setpoint	In m3/h for MAC2® and QUATTRO® versions	R	30	AV,30030	xxx
LS extract air flow setpoint	In m3/h for MAC2® and QUATTRO® versions	R	31	AV,30031	xxx
CO2 setpoint	In ppm for DIVA® and QUATTRO® versions	R	32	AV,30032	1000
Unit operation mode forcing	MODBUS 0= Manual stop 1= Manual low speed 2= Manual high speed 3= Auto BACNET 1= Manual stop 2= Manual low speed 3= Manual high speed 4= Auto	X	368	MSV,30368	3 4

OPERATING AND COMMISSIONING INSTRUCTIONS

INPUT STATUS REGISTER

Function	Description	Exo type	Modbus Address	Bacnet Address
Active alarm	If 1 = ALARM	L	30	BV,20030
SAF fault	If 1 = ALARM	L	33	BV,20033
EAF fault	If 1 = ALARM	L	34	BV,20034
Filter fault	If 1 = ALARM	L	38	BV,20038
Antifreeze fault	If 1 = ALARM	L	40	BV,20040
Fire fault	If 1 = ALARM	L	42	BV,20042
Overheating fault (electrical heater)	If 1 = ALARM	L	55	BV,20055
Battery fault	If 1 = ALARM	L	80	BV,20080

OPERATING AND COMMISSIONING INSTRUCTIONS

IX. NOTES

OPERATING AND COMMISSIONING INSTRUCTIONS