AQUAPACK®

RANGE

Regulation, management
and control unit for heated
and cooled water air treatment units

REGULATION CABINET DESCRIPTION AQUAPACK®

APPLICATION

- Regulation, management and control of air treatment units fitted with hot or cold water coil for new air single flow, recycling single flow and double flow applications with and/or without heat recovery plates, with or without bypass.

✧ In addition to the water heating battery regulation function integrated into the unit, the **AQUAPACK®** also enables you to control a direct expansion cooling battery, or a changeover battery (hot/cold).

- Intended for air treatment units for offices, industrial premises or professional kitchens.

✧ "PLUG & PLAY", **econological solution®** complies with the recommendations of RT 2012 and in accordance with regulation EN15232 for active building management.

✧ Communicative on MODBUS RS 485, BACNET TCP/IP and WEB TCP/IP (choice of language activated on the website).

RANGE

- The **AQUAPACK®** system is available in 2 models, the **TA** version for single flow air treatment applications and the **DF** version for double flow air treatment applications with or without plate-type heat exchangers with or without bypass. The **AQUAPACK®** is as standard designed to ensure the functioning of units with maximum motor powers of 7.5KW and enables management of the overriding control of MONO or TRI motor fans.

✧ The **AQUAPACK®** range is available in 4 finish levels:

- **ECO**: designed to be fitted into 1 speed, 1 fixed speed, and 2 fixed speed units.
  The Start/ Stop and PV-GV (high-low speed) functions are controlled by the regulator timers for optimal fuel consumption management but can also be remotely adjusted manually particularly for use in professional kitchens. Also for changing use according to needs, the ECO version can be fitted with a remote potentiometer in order to allow speed alteration at user request.

- **LOBBY**: Air flow modulation at CONSTANT PRESSURE controlled by the regulator and the integrated pressure transmitter(s). The Start/ Stop functions are controlled by the regulator timers but can also be regulated manually.

- **DIVA**: Management of PROPORTIONAL modulation between 2 VARIABLE AIR FLOWS by built-in CO_2 sensor. Start/Stop functions are controlled by the regulator timers but can also be regulated manually.

- **MAC2**: Management of the CONSTANT AIR FLOW/S modulation controlled by the regulator and the built-in pressure transmitter(s). The Start/ Stop and PV-GV (high-low speed) functions are controlled by the regulator timers but can also be regulated manually. This finish is only available for our COMBIBOX CONCEPT® range with CBZ EC motorization on single flow application.

- **QUATTRO**: Management of the PROPORTIONAL modulation between 2 CONSTANT AIR FLOWS ensured by the regulator and the Built-in pressure transmitters and CO_2 sensor. The Start/ Stop functions are controlled by the regulator timers but can also be regulated manually. This finish is only available for our COMBIBOX CONCEPT® range with CBZ EC motorization on single flow application.

✧ The **AQUAPACK®** is designed for air treatment applications in water heating and water cooling or direct expansion. Ordered as an addition to our COMBIBOX CONCEPT®, CDFI/CDFP and CMH air treatment systems, the **AQUAPACK®** is factory-installed, connected and tested on the associated unit.

AQUAPACK MODEL	Motorisations	Versions
TA DF	M : 230V MONO T : 400V TRI	ECO : Fixed or adjustable speed(s)
		LOBBY : Constant pressure
		DIVA : Proportional CO_2 between 2 variable air flows
		MAC2* : Constant air flow(s)
		QUATTRO* : proportional CO_2 between 2 constant air flows

TA: single flow air treatment
DF: double flow air treatment with or without exchanger, with or without bypass. Module also intended for single flow CTA associated with an extraction unit managed by the AQUAPACK.
*: versions only available for our COMBIBOX CONCEPT® range with CBZ EC motorization on single flow application.

FEATURES

- Designed and developed to meet the requirements of air with electric preheating (DF version) water heating, the **AQUAPACK®** controls the regulation and overall management of your tertiary installations and professional kitchens.

✧ Fitted with fan protections and safety features this "PLUG & PLAY" program compliant with RT 2012 is a CALADAIR **econological® solution**.

✧ The **AQUAPACK®** also enables management of your water heating installation complete with a cold water or direct expansion battery. The **AQUAPACK®** will control the management of pumps/ circulators present on the network for a unit fitted with a hot or cold battery.

✧ The regulator built in to the **AQUAPACK®** is factory-set to control the air supply temperature with compensation for the external temperature. An air temperature relationship is defined such that the air supply temperature changes according to the outside temperature.

- A weekly timer manages daily time slots and a yearly timer is used to define periods of non-occupation (public holidays, leave periods, etc.) with the option of activating particular features for these days (purge, air renewal, etc.). This "double clock" ensures your installation is operated according to the actual use of the building thus contributing to reductions in energy bills.

✧ For applications with dual-flow exchanger equipped with a bypass, **AQUAPACK®** provides energy savings in compliance with RT2012. In Winter, the bypass closes proportionally in order to recover maximum calories via the plate-type heat exchanger. When this function no longer enables the setpoint temperature, **AQUAPACK®** activates the activation of the water heating battery. In Summer, the **AQUAPACK®** operates the bypass to provide a "free-cooling" function on day or "night cooling" during inactive nocturnal time slots.

✧ **The AQUAPACK® is fitted as standard** with a **fire safety** function enabling control of output and intake ventilators in accordance with 5 available modes within regulation parameters (function activated on the site). An alarm will then be displayed on the screen **"Fire alarm"** :
"Shutdown" : Complete station shutdown.
"On" : Activation or continued operation of the station at High Speed, the fire function will take priority over any other alarm.
"Auto" : Continued station operation following configuration carried out on the website (Off/ Low Speed/ High Speed).
"Output active" : Activation or continued high speed operation of the output ventilator (intake in shutdown).
"Intake active" Activation or continued high speed operation of the intake ventilator (output in shutdown).

GENERAL CHARACTERISTICS AQUAPACK®

Compulsory options
Optional extras *M/A and (or) PV-GV manual remote control*
Not compatible

			ECO		LOBBY including mount and pressure cable transmitter(s)		LOBBY including mount and pressure cable transmitter(s)		MAC2(1) including mount and pressure cable transmitter(s)		QUATTRO(1) including mount, pressure transmitter cabling and CO_2 sensor	
			Regulation motor	*Remote control accessory*	*Regulation motor*	*Remote control accessory*	*Regulation motor*	*Remote control accessory*	*Regulation motor*	*Remote control accessory*	*Regulation motor*	*Remote control accessory*
1 SPEED	MONO	Direct attack	STANDARD	CDC 1V2 (M/A manual)								
		Pulley belt / Plug Fan	STANDARD	CDC 1V2 (M/A manual)								
	TRI	Direct attack	STANDARD	CDC 1V2 (M/A manual)								
		Pulley belt / Plug Fan	STANDARD	CDC 1V2 (M/A manual)								
	EC	Electronic commutation										
1 FIXED SPEED	MONO(2)	Direct attack	VEC + MCC	CDC 1V2 (M/A manual)	VEC + MCC	CDC 1V2 (M/A manual)						
		Pulley belt / Plug Fan	CVFM + MCC	CDC 1V2 (M/A manual)	CVFM + MCC	CDC 1V2 (M/A manual)						
	TRI(2)	Direct attack										
		Pulley belt / Plug Fan	CVFT + MCC	CDC 1V2 (M/A manual)	CVFT + MCC	CDC 1V2 (M/A manual)						
	EC(3)	Electronic commutation	INCLUDED	CDC 1V2 (M/A manual)	INCLUDED	CDC 1V2 (M/A manual)			INCLUDED	CDC 1V2 (M/A manual)		
2 FIXED SPEEDS	MONO	Direct attack	CATM + MCC	CAR(4) + MCC (M/A + PV-GV manual)			VEC +MCC	CDC 2V2 (M/A + PV/GV manual) or CDC 1V2 (Manual M/A & AUTO PV-GV by AQUAPACK timers)				
			VEC +MCC	CDC 2V2 (M/A + PV/GV manual) or CDC 1V2 (Manual M/A & AUTO PV-GV by AQUAPACK timers)								
		Pulley belt / Plug Fan	CVFM + MCC	CDC 2V2 (M/A + PV/GV manual) or CDC 1V2 (Manual M/A & AUTO PV-GV by AQUAPACK timers)			CVFM + MCC	CDC 2V2 (M/A + PV/GV manual) or CDC 1V2 (Manual M/A & AUTO PV-GV by AQUAPACK timers)				
	TRI	Direct attack										
		Pulley belt / Plug Fan	CDA + MCC	CAR(4) + MCC (M/A + PV-GV manual)			CVFT + MCC	CDC 2V2 (M/A + PV/GV manual) or CDC 1V2 (Manual M/A & AUTO PV-GV by CVFT timers + AQUAPACK MCC)				
			CVFT + MCC	CDC 2V2 (M/A + PV/GV manual) or CDC 1V2 (Manual M/A & AUTO PV-GV by AQUAPACK timers)								
	EC	Electronic commutation	INCLUDED	CDC 2V2 (M/A + PV/GV manual) or CDC 1V2 (Manual M/A & AUTO PV-GV by AQUAPACK timers)			INCLUDED	CDC 2V2 (M/A + PV/GV manual) or CDC 1V2 (Manual M/A & AUTO PV-GV by AQUAPACK timers)	INCLUDED	CDC 2V2 (M/A + PV/GV manual) or CDC 1V2 (Manual M/A & AUTO PV-GV by AQUAPACK timers)	INCLUDED	CDC 2V2 (M/A + PV/GV manual) or CDC 1V2 (Manual M/A & AUTO PV-GV by AQUAPACK timers)

(1) The MAC2 and QUATTRO versions are only available with the COMBIBOX CONCEPT® CBZ EC
(2) Select POT230 for remote manual speed variation choice (The remote M/A can also be connected on the POT230)
(3) Select POT VF for remote manual speed variation choice (The remote M/A can also be connected on the POT VF).
(4) The CAR case includes the O/PV/GV remote control
Reminder Fire safety = The ELECTROPACK® is calibrated to activate an F400-120 dehumidification function for ERP applications or professional kitchens with or without induction.

GENERAL CHARACTERISTICS AQUAPACK®

For that, the **AQUAPACK®** station features the digital input **"External Shutdown"** which enables website activation of a manual command.
In this case, the external command takes priority over fire safety if subsequently activated by any of the 5 modes below.

✧ To ensure **optimal internal air comfort, a dehumidification** function (activated via the website) is available for the **AQUAPACK®**. For the units fitted with a cold battery (water or single cold DX) and a water heating battery, the regulator will automatically manage the cooling or warming effect required for dehumidification while maintaining an optimal functioning temperature. During a period where cold is requested, temperature management takes priority over that of dehumidification.

✧ The **LOBBY AQUAPACK®** is compatible with the **WONDEROOM®** regulator for optimal building zone management.

CONSTITUTION

The **AQUAPACK®** is fully wired and tested in the factory to make it a true "PLUG & PLAY" product designed and developed for interior or exterior installation integrating:

✧ RAL7035 polycarbonate IP54 command box.

✧ Cable glands with protective cap to maintain IP54 protection index.

- Power supply 230V Single phase or 400V Three-phase + Neutral + ground.

✧ Padlockable local main breaker with handle with front handle.

✧ Safety devices for electrical components motors and water battery.

- Air-handling safety features (fan defect, thermal motor protection...).

✧ Communicative **MODBUS**, **BACNET** or **WEB** standard controller.

- Probes built-in to the unit.

- IP41 remote control with LCD display delivered with 10m cable for interior installation. This command panel functions at a distance of up to 100m or of 1km with repeater.

✧ ED-TOUCH touchscreen remote control with user interface and screens for the main functions (temperature control, restart, fault...) as well as a maintenance interface enabling access to general parameters (command panel works from a distance of up to 100m.

OPTIONS

- As standard, **AQUAPACK®** has features for giving optimal control of your installation with regard to electrical preheating electric water heating and cooling or direct expansion to meet the recommendations of **RT 2012**.

✧ Options for maintenance (filters, pressure switches, etc.), of comfort (damper or bypass servomotors, restart command, etc.) or for the **econological®** management of the building (regulation of MONOZONE® or MULTIZONES® air flows) are available and detailed in the table general specification and version functionalities.

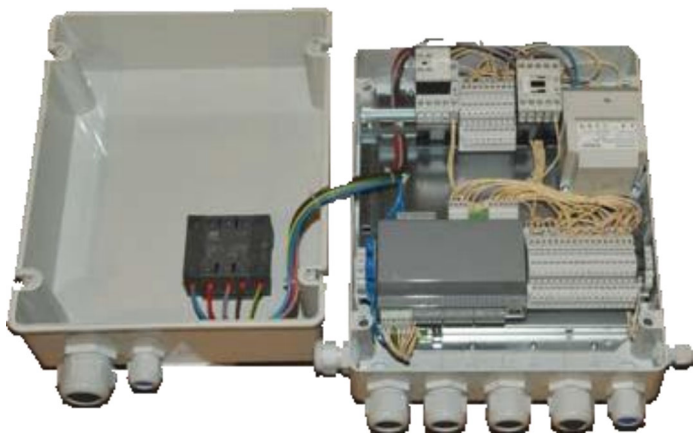
✧ **ED-TOUCH** touchscreen remote control with user interface and screens for the main functions (temperature control, restart, fault...) as well as a maintenance interface enabling access to general parameters (command panel works from a distance of up to 100m.

- Repeater to increase LCD remote control distance from 100 metres to 1km (not compatible with the ED-TOUCH touchscreen remote control) or for up to 6 units on the same screen.

✧ General detailed description in the specifications table.

TECHNICAL CHARACTERISTICS AQUAPACK®

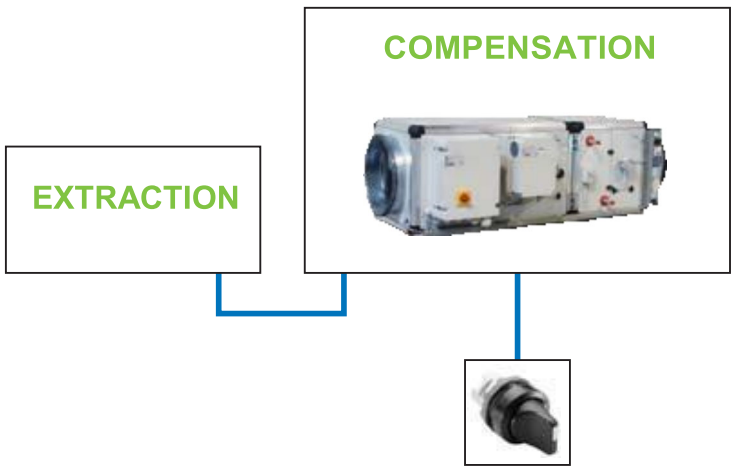
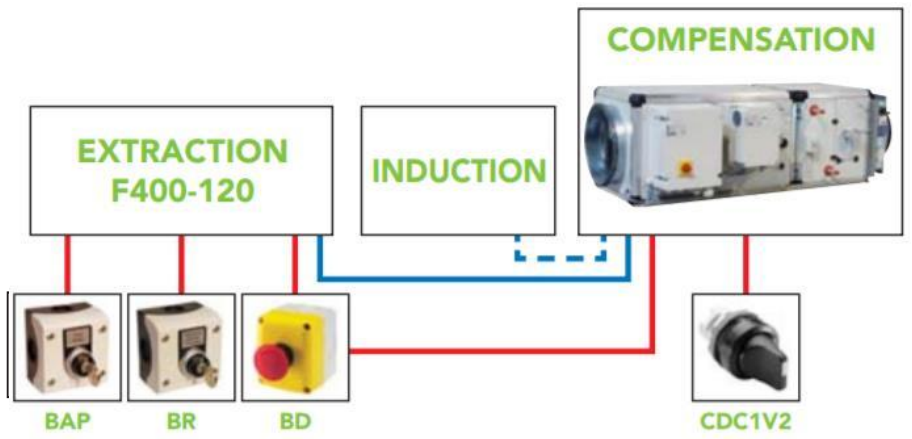
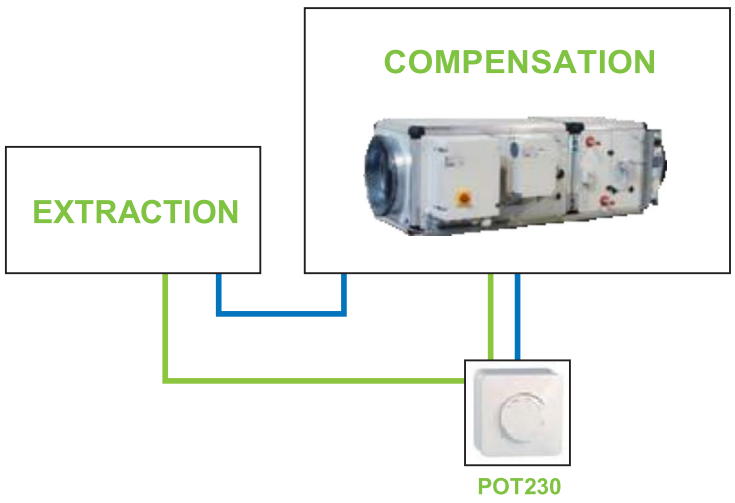
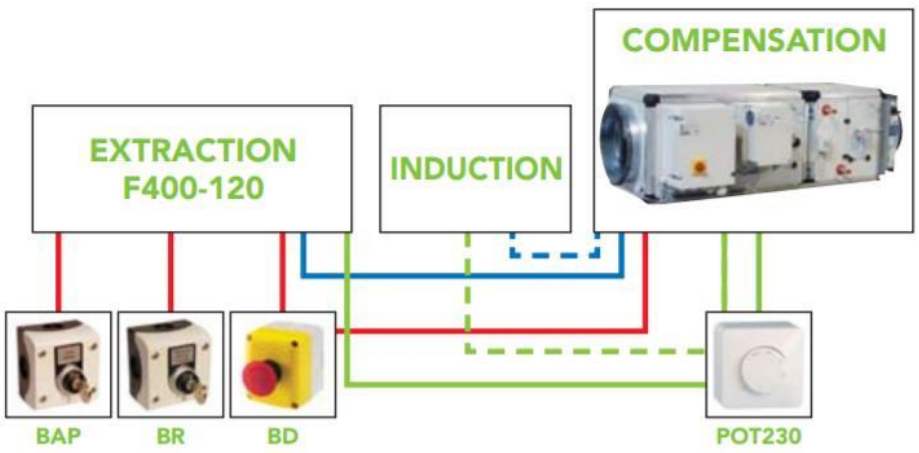
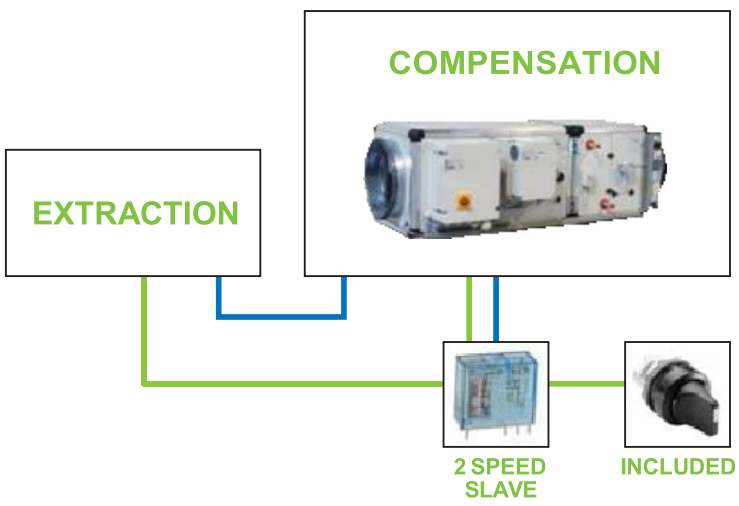
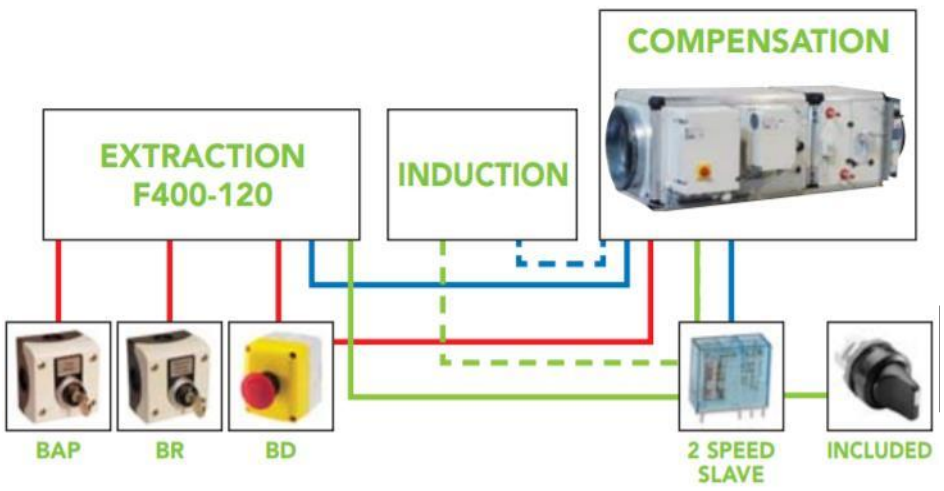
SOLENOID VALVE KIT IP54 DN/Kvs - Ø	HOT AND COLD COIL APPLICATION COMBIBOX CONCEPT®	
	HOT WATER	COLD WATER
DN15/1,6 – ½"F	4BC	
DN15/2,5 – ½"F	5BC	4BF
DN15/4 – ½"F	6BC	5BF
DN20/6,3 – ¾"F	7BC	6BF
DN25/10 – 1"F	8BC	7BF
DN32/16 – 1"1/4F	9BC	8BF
DN40/25 - 1"1/2F		9BF



Model	Box HxLxP (mm)	Weight (kg)
AQUAPACK	380x300x180	30

AQUAPACK® MAIN FACTORY-INTEGRATED FUNCTIONS AND COMPONENTS	TA	DF
400V 3-phase power supply + Neutral + Earth or 230V Mono following motor voltage	✓	✓
Polycarbonate enclosure IP54 RAL7035	✓	✓
Lockable main switch with a front-assembled cabinet handle	✓	✓
Remote control IP41 - 24V LCD display cable 10 m - Fault indicator included (Can be mounted up to 100 m)	✓	✓
Cable glands with cap (retention of the cabinet index number IP54)	✓	✓
Integrated weekly timer for on/off control - PV&GV - activity	✓	✓
Yearly timer “public holidays” inactivity	✓	✓
Supply contactor	✓	✓
Return contactor (cascade start and stop for preheating exchanger and removal of condensates)	no	✓
Pressure switch with fresh airflow control for the ECO version	✓	✓
Fresh air pressure transmitter for the LOBBY / MAC2 and QUATTRO version	✓	✓
Return air pressure transmitter for the LOBBY version	no	✓
CO2 transmitter for the DIVA version	✓	✓
CO2 transmitter for the QUATTRO version	✓	no
Engine heat protection by PTI/PTO	✓	✓
Supply air sensor	✓	✓
Outdoor sensor	✓	✓
Defrost sensor (used to control the exchanger automatic defrost)	no	✓
Return temperature sensor	no	✓
Antifreeze thermostat	✓	✓
Temperature management “outdoor makeup air”	✓	✓
Temperature management “reset control”	no	✓
Safety door switch (series CMH)	✓	✓
PRESSURE SWITCH WITH RETURN AIRFLOW CHECK	**TA**	**DF**
Pressure switch with return airflow check	✓	✓
Pressure switch with fresh and/or return air filter clogging check	✓	✓
Defrost battery management	no	✓
Return air sensor for temperature control resumption of TA models in any recycling or DF	✓	no
Modulating actuator return spring, return air sensor and CO_2 sensor module for management 2 channels of TA models (free cooling, heat recovery, recirculation, CO_2 ...)	✓	no
Speed variation required for the LOBBY / DIVA / MAC2 and QUATTRO versions (see table of functionalities/versions)	✓	✓
Modulating actuator for Bypass management (free cooling, Night-cooling, heat recovery, defrost...)	no	✓
Modulating actuator spring probe and CO_2 management module 3-way models of DF (free cooling, heat recovery, recirculation, CO_2...)	no	✓
Spring return actuator for management of the isolation damper (fresh air and return air)	no	✓
Autonomous smoke detection station CDAD	✓	✓
COMMUNICATION	**TA**	**DF**
Communicative controller MODBUS RS485 or TCP/IP, WEB TCP/IP, BACNET RS485 or TCP/IP	✓	✓
ON-SITE CABLING OPTIONS	**TA**	**DF**
Remote engine variation potentiometer, ECO version (see table of functionalities/versions)	✓	✓
Remote forced shutdown (see table of functionalities/versions)	✓	✓
Remote low speed manual override (see table of functionalities/versions)	✓	✓
Remote high speed manual override (excluding LOBBY / DIVA) (see table of functionalities/versions)	✓	✓
Red mushroom emergency push button enclosure BD for RFS function “Remote Fireman’s Switch”	✓	✓
Fire ignition function (it allows you to display a default and control the fans)	✓	✓
Room sensor to monitor the air temperature	✓	✓
Kit solenoid battery management warm and / or cold	✓	✓
Management of the pump / pump battery warm and / or cold water	✓	✓
Remote alarm transfer	✓	✓
Humidity sensor for management of the dehumidifier function (impossible with the DIVA and QUATTRO version)	✓	✓

COMBINED SOLUTIONS ELECTROPACK® AQUAPACK®

	TERTIARY SOLUTION SLAVE EXTRACTION UNIT Direct feed from possible extraction via AQUAPACK or DF ELECTROPACK version	KITCHEN SOLUTION SLAVE EXTRACTION UNIT WITH OR WITHOUT INDUCTION Direct feed from possible extraction via AQUAPACK or DF version ELECTROPACK
SINGLE SPEED	 Extraction option: • None Command option: • CDC1V2	 Extraction option: • CONTROLVENT Induction option: • None Command option: • CDC1V2 • BD/ BR and BAP accessories activated following safety smoke extraction selection
VARIABLE SPEED	 Extraction option: • VEC (direct AC motor attack) or CVFMI/ CVFTI (motor pulley belt) or EC motor Command option: • POT230 (including M/A)	 Extraction option: • CONTROLVENT • CVFTI Compensation and induction option: • VEC (direct AC motor attack) or CVFMI/ CVFTI (motor pulley belt) or EC motor Command option: • POT230 (including M/A) • BD/ BR and BAP accessories activated following security smoke extraction selection
BI SPEED	 Extraction option : • CATM (direct AC motor attack) or CDA (motor pulley belt) Command option : • 2V Slave Case (command included)	 Extraction option: • CONTROLVENT Compensation option and induction: • CATM (direct AC motor attack) or CDA (motor pulley belt) Command option • 2V Slave Case (command included) • BD/ BR and BAP accessories activated following smoke extraction selection