Air Conditioning Catalog

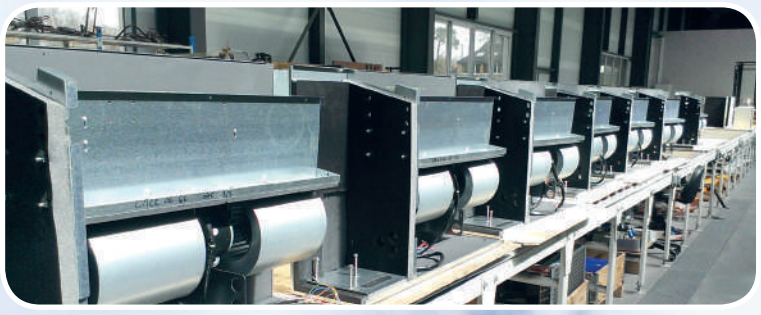
Commercial & Tertiary sector
Industry
Low Temperature

8b Edition

Air Conditioning without outdoor unit

Le spécialiste de la climatisation sans unité extérieure

LTB
Air Conditioning



La Thermodynamique de Bretagne

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Editorial

The "LTB" brand is known for its air conditioning systems suitable for city centers and shopping malls. Behind this name you find ***"La Thermodynamique de Bretagne"*** *, which is a human-sized company and French air conditioning manufacturer based in Brittany.*

We have chosen not to be "just another air conditioning manufacturer" among many others providing traditional solutions worldwide. We have deliberately chosen to offer a different offering, providing solutions in a niche left by other brands.
We specialized in ***"air conditioning without an outdoor unit"****.*

Our extensive range *meets the needs of* ***small commercial buildings in city centers and shopping centers, when it is impossible to install a unit outside*** *the building.*
It also addresses the air conditioning issues of technical rooms in industry.

Being ***"on a human scale"*** *allows us to be attentive, flexible, and responsive. Although our product range is extensive, your specific needs sometimes require us to adapt a product from our catalog.*
Making the necessary adaptations is an integral part of our mission.

Being a ***"French manufacturer"*** *is a strength that allows us to better serve you. We are not dependent on long shipping times, as we stock all the components necessary to produce our machines. Even if the machine you order is not in stock or if you require a machine different from its catalog specification, we can respond quickly. The same goes for your spare parts needs.*

By expanding our network of sales agents, ***we continue to grow closer to you****. Our agents are your local contacts. Don't hesitate to contact them directly! They are there to listen and answer your questions.*

By offering you this new catalog, we are committed to providing you with a practical tool that takes your suggestions into account.

This new edition makes it easier to search and presents our different product ranges more clearly. It also includes new features, such as our new indoor units, the improved consumption of our water units through the NEO ranges and cabinets with remote condensers for industry.

Our sincere wish is that the installation and commissioning of our products goes smoothly. We have therefore added recommendations for their implementation. We particularly invite you to read pages 17 and 32-33, which concern centrifugal fan- and water-cooled condensing units.

The entire LTB team is proud to present this new edition of our catalog and thanks you for the high quality of our relationships.

Olivier MARBACH
Chairman LTB SAS

This new catalog... we made it for you!

Contents

> **Functional installation diagram**
> pages 8 and 9

to consult!

> **Technical information and precautions for installation**
> pages 17 and 32-33

a must read!

Edition 8b

> The LTB professions

Air conditioning for tertiary and industrial applications

- Low temperature
- Small Tertiary sector
- Industry (see opposite page for more details)

Tailor-made air conditioning solutions

- Process temperature regulation (industry)
- Cabin air conditioning (motorway tolls, guarding, security checkpoint, etc.)
- Small and medium series produced to customer specifications

Air conditioning for marine applications

- Merchant ships
- Service vessels
- Offshore platforms (Oil & Gas, wind power, etc.)
- Vessels for oil exploration and exploitation

> Air conditioning for tertiary and industrial applications

Solutions adapted for 3 specific markets

Conservation and hygiene

Low Temperature (Tertiary)

Air conditioning from +8°C to +21°C

Applications

- Wine cellars
- Florists
- Laboratories
- Chocolate shops
- Mortuary chambers
- Waste rooms, etc.

Comfort

Small tertiary sector

Air conditioning without outdoor unit

Applications:

Shops, premises open to the public, classified buildings, offices, etc. in:

- Classified city centers
- Shopping malls

Technical requirements

Industry

Air conditioning of technical rooms with or without an outdoor unit

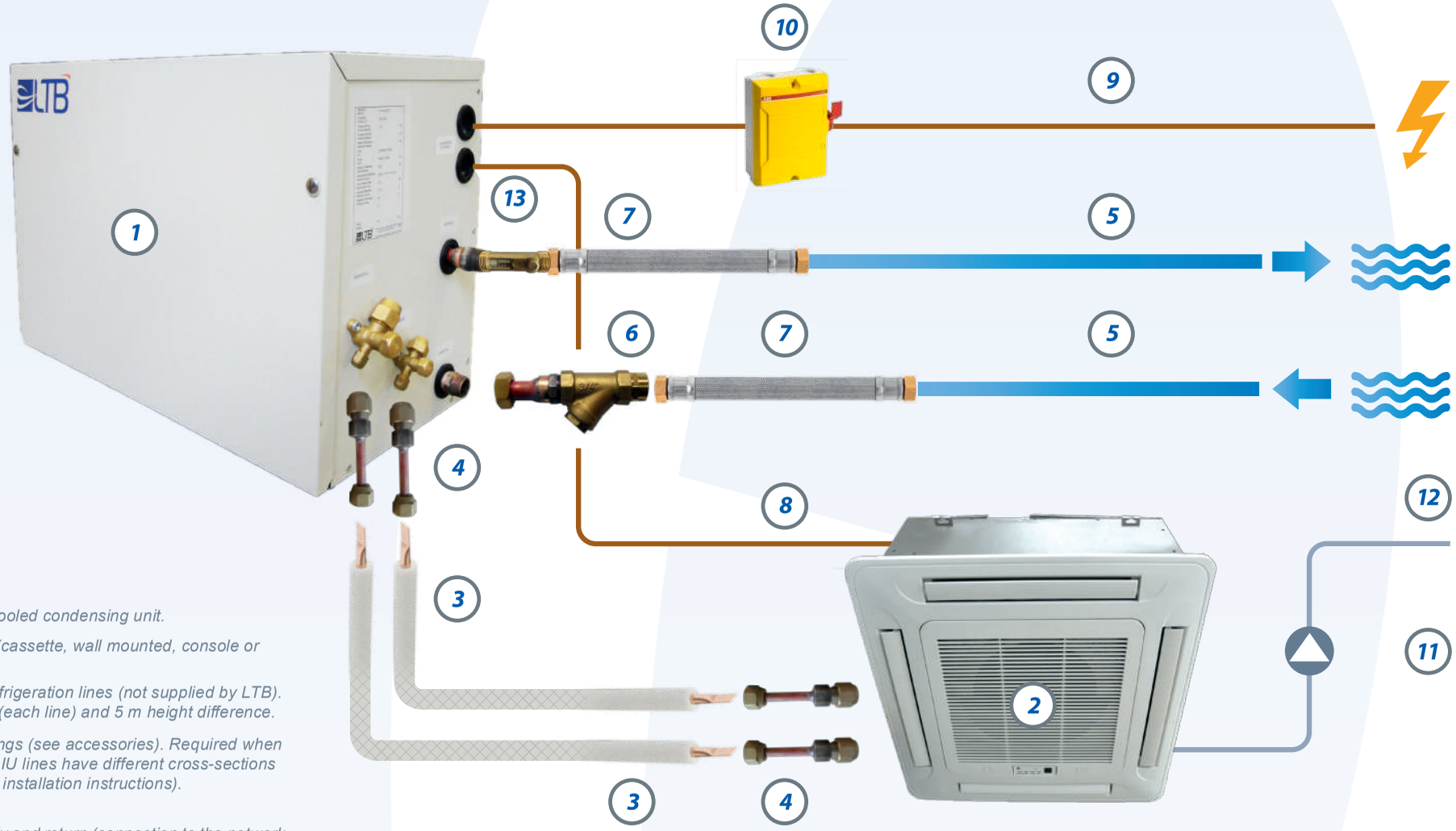
Applications:

- Industrial technical rooms

Edition 8b

> Water-cooled split system

Functional installation diagram - FW condensing unit + indoor unit.



Caption:

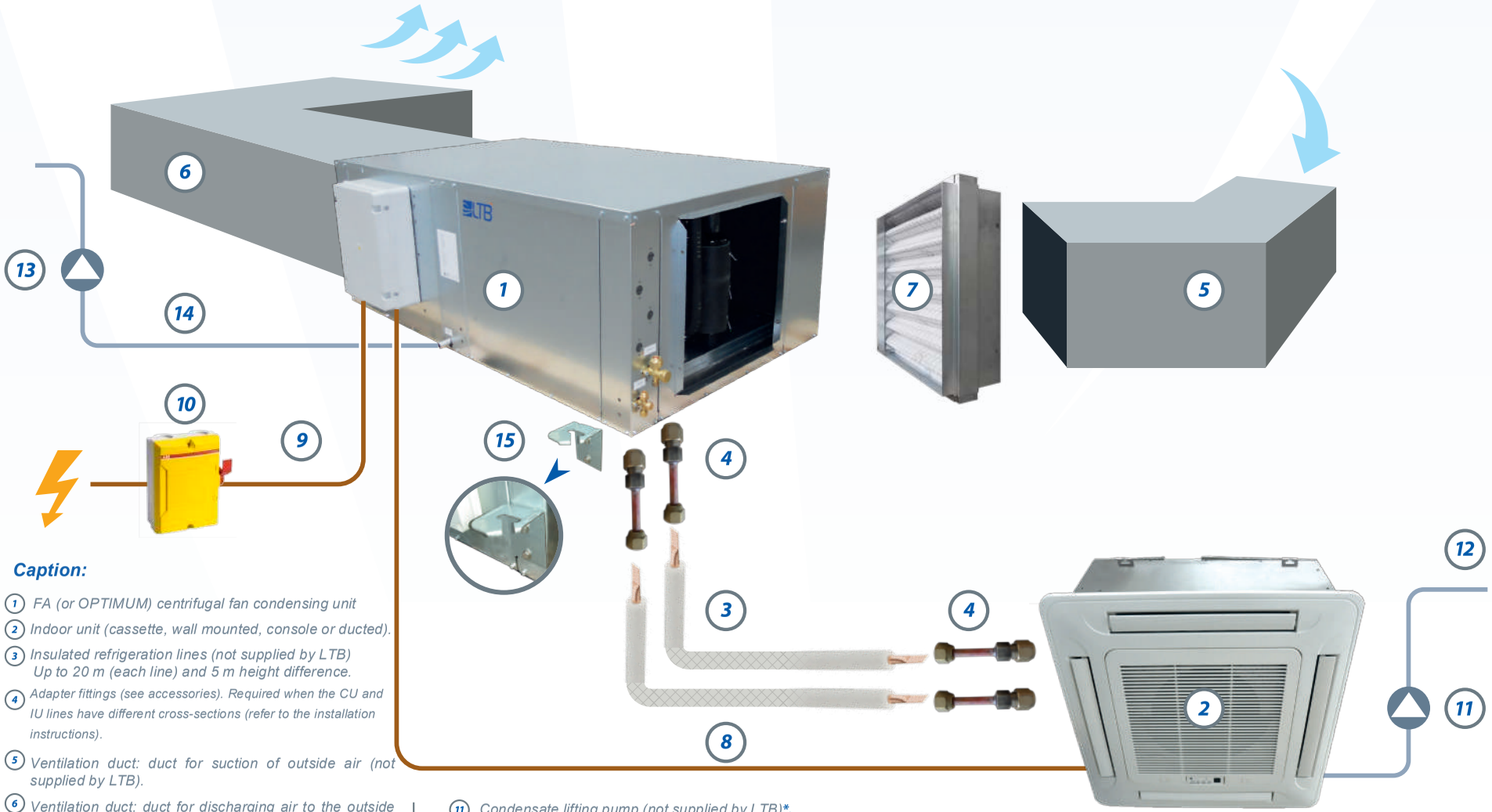
1. FW water-cooled condensing unit.
2. Indoor unit (cassette, wall mounted, console or ducted).
3. Insulated refrigeration lines (not supplied by LTB). Up to 20 m (each line) and 5 m height difference.
4. Adapter fittings (see accessories). Required when the CU and IU lines have different cross-sections (refer to the installation instructions).
5. Water supply and return (connection to the network or water loop) for evacuation (cooling mode) or drawing (heating mode) of calories.
6. Water filter (see accessories).
7. Water connection hoses.
8. Electrical connection CU/IU (power supply + control, see installation instructions).
9. Power supply to the installation.
10. Disconnecting switch with lockable with padlock (see accessories).
11. Condensate lifting pump (not supplied by LTB)*.
12. Crystal tube for condensate evacuation (not supplied by LTB).
13. Flowmeter valve: A device equipped with a manual valve for reading and adjusting the water flow rate. Recommended for reversible machines (see Accessories). The

(*) lift pump is only required for wall-mounted, ducted, and console units. It is already included in cassette-type indoor units.

> Refer to pages 32 and 33:
Water condensation, information and precautions

> Centrifugal fan split system

Functional installation diagram - FA (or OPTIMUM) condensing unit + indoor unit.



Caption:

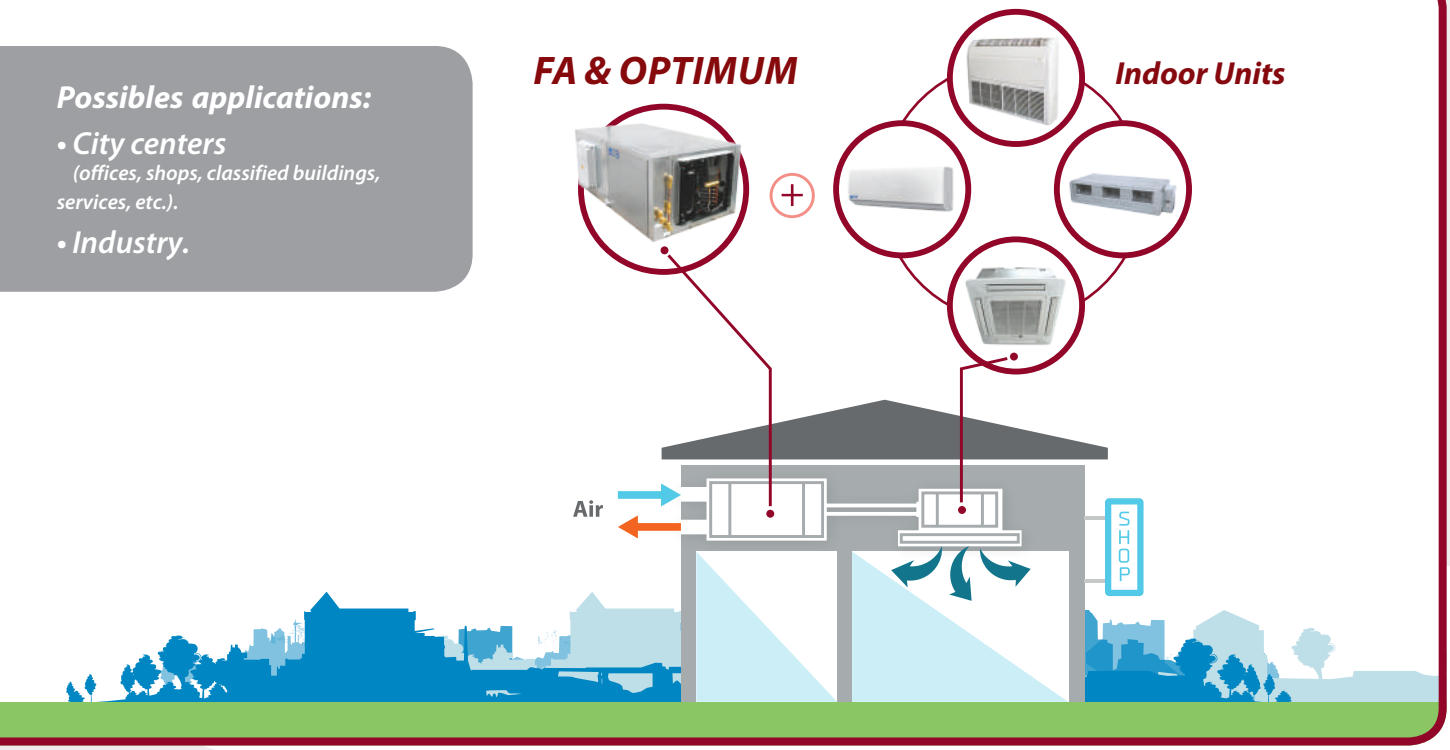
1. FA (or OPTIMUM) centrifugal fan condensing unit
2. Indoor unit (cassette, wall mounted, console or ducted).
3. Insulated refrigeration lines (not supplied by LTB) Up to 20 m (each line) and 5 m height difference.
4. Adapter fittings (see accessories). Required when the CU and IU lines have different cross-sections (refer to the installation instructions).
5. Ventilation duct: duct for suction of outside air (not supplied by LTB).
6. Ventilation duct: duct for discharging air to the outside (not supplied by LTB
7. Air filter and filter support (see accessories) Electrical
8. connection (condensing unit/IU) (power supply + control, see installation instructions).
9. Power supply to the installation.
10. Disconnecting switch with lockable with padlock (see accessories).
11. Condensate lifting pump (not supplied by LTB)*.
12. Crystal tube for condensate evacuation (not supplied by LTB).
13. Condensate lifting pump (not supplied by LTB)**.
14. Crystal tube for condensate evacuation (not supplied by LTB)**.
15. Mounting brackets (see accessories): 4 or 6 brackets depending on the casing size

(*) The lift pump is only to be installed for wall-mounted, ducted, and console units. It is already included in cassette-type indoor units.
(**) to be installed only for reversible condensing units

> Refer to page 17:
FA and OPTIMUM centrifugal fan units
Information and precautions

Possibles applications:

- City centers
  (offices, shops, classified buildings, services, etc.).
- Industry.



FA & OPTIMUM Range
Centrifugal Fan Split Systems

Centrifugal fan split-systems
OPTIMUM reversible

OPTIMUM

Direct expansion

The unit is installed inside the building. Outside air is led to the unit through ducts to evacuate calories in cooling mode or draw them in heating mode.

Indoor units

⊕ MI

⊕ CI

⊕ KI

⊕ GI

Applications

- Premises in the city center (offices, shops, listed buildings, public buildings, etc.).

Product benefits

- No outdoor unit (only 2 grids)
- High static pressure allowing long distance ducting.
- No need to be against an exterior wall.
- ON/OFF: easy maintenance.
- Circular blowing and suction vents.
- Enhanced sound insulation and G2 air filter as standard.

Build your PART NUMBER

A	P	G	1	0	1	D	A

MODEL code 6 characters — OPTIONS pack 2 characters

and don't forget to order the accessories you may need!

Refrigerant connections

- Max length: 20 m
- Max height difference: 5 m
- Units delivered preloaded for 4 m of refrigerant lines.

The nominal powers indicated are total powers and are for indoor air (at the inlet of the indoor unit) at +27°C / 50% RH (cooling mode) and at +20°C (heating mode). As a reminder, the power available to cool the air (sensible power) is equal to the total power less the power absorbed by the condensation of the air humidity (condensates).

R513A

Size	-	09
Model	-	OPTI09R6
Model code	-	APG101
Nominal cooling power	[kW]	2,5
Nominal heating power	[kW]	2,7
EER / COP	-	2,1 / 2,3
Power supply	V-Ph-Hz	230-1-50
Nominal absorbed power	[kW]	1,2
Nominal current	[A]	5,8
Maximum current	[A]	7,2
Power supply cable	[mm²]	3 x 2,5
Connection cable	[mm²]	8 x 1,5
Nominal air flow	[m3/h]	1000
Available pressure (standard filter)	[Pa]	115
Dimensions (LxDxh)	[mm]	750x600x425
Weight	[kg]	62
Dimensions air outlet (Ø)	[mm]	250
Dimensions air inlet (Ø)	[mm]	250
Condensate connection	[mm]	30
Liquid line	[inch]	1/4"
Suction line	[inch]	1/2"

In reversible heating mode, the outside air inlet temperature must be a minimum of -7°C and a maximum of +20°C. The unit delivers the nominal heating power for a flow rate equal to the nominal air flow rate at a temperature of +7°C. Below this value, the power delivered is lower than the nominal power.

In air conditioning mode, the unit delivers the nominal cooling power for a flow rate equal to the nominal air flow rate at a temperature of +35°C. The outside air entering the unit must be at a temperature of +40°C maximum and +20°C minimum. The "Condensation regulation" option allows the air conditioning to operate with outside air temperatures below +20°C.

Options

		LP switch	
		WITHOUT	WITH
Condensation regulation	WITHOUT	CA	DA
	WITH	CB	DB

LP pressure switch: *protects the unit against operation with too low LP pressure (lack of gas, leak, etc.).*

Condensation regulation ("all-season kit"): *allows operation in cooling mode with a low outside temperature (below +20°C), protecting the unit against excessive cooling of the condenser.*

Accessories

Disconnecting switch	SET003YY

Disconnecting switch: *mechanically separates the condensing unit from its power supply. It allows locking in the open position.*

Association with indoor units

Size		09
Wall mounted	Cf. p.36	•
Consoles	Cf. p.37	
Cassettes	Cf. p.38	
Ducted	Cf. p.39	•

Centrifugal Fan Split Systems

FA Reversible Range

FA

Direct Expansion

The unit is installed inside the building. The outside air is led to the unit through ducts to evacuate the calories in cooling mode or to draw them in heating mode.

Indoor Units

+ MI

+ CI

+ KI

+ GI

Applications

- City centers (offices, shops, classified buildings, services, etc.).
- Industry.

Product benefits

- No outdoor unit (only 2 grids).
- High static pressure allowing long distance ducting.
- No need to be against an exterior wall.
- Interchangeable air inlet and outlet positions (cf. p.17).
- ON/OFF: easy to maintain.
- Easy access for maintenance through removable panels.

Build your PART NUMBER (P/N)

A	R	H	2	0	1	D	B

MODEL CODE 6 characters — OPTIONS Pack 2 characters

Don't forget to order the accessories you may need !

Refrigerant connections

- Max length: 20 m
- Max height difference: 5 m
- Preloaded for 4 m of refrigerant lines

The power ratings indicated in the tables are "total power" and are delivered for an indoor air (indoor unit inflow) of +27°C / 50% RH (cooling mode) and +20°C (heating mode). Notice: the power available to cool down the inside air ("sensible power") equals the "total power" minus the power absorbed by the condensation of air moisture (condensate).

R513A

Size	-	09	14	18	24	36	40
Model	-	FA09R6	FA14R6	FA18R6	FA24R6	FA36R6	FA40RY
Model code	-	ARG101	ARG102	ARG103	ARG104	ARG105	ARG106
Refrigerant		R513A	R513A	R513A	R513A	R513A	R513A
Nominal cooling power	[kW]	2,5	3,5	5	6,5	8,3	10
Nominal heating power	[kW]	2,7	3,7	6	7,8	9,9	11,8
EER / COP	-	2,15 / 2,67	2,09 / 2,66	2,11 / 3,06	2,2 / 2,57	1,99 / 2,82	2,16 / 3,05
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	400-3-50+N
Nominal absorbed power	[kW]	1,2	1,6	2,4	3,5	4,2	4,6
Nominal current	[A]	5,7	8,3	12,1	16,9	21,3	10,1
Maximum current	[A]	8,1	11,8	16	21	25	13
Power supply cable	[mm²]	3 x 1,5	3 x 2,5	3 x 2,5	3 x 2,5	3 x 4	5 x 2,5
Connection cable	[mm²]	8 x 1,5	8 x 1,5	8 x 1,5	4 x 1,5	4 x 1,5	4 x 1,5
Nominal air flow	[m3/h]	750	1100	2100	2400	2500	2800
Available pressure without / with filter	[Pa]	350 / 300	200 / 150	350 / 250	350 / 250	330 / 230	250 / 160
Dimensions (LxDxh) (1)	[mm]	1120x630x450	1120x630x450	1120x630x450	1520x900x550	1520x900x550	1520x900x550
Weight	[kg]	84	86	105	171	175	177
Liquid line - Suction line	[inch]	1/4"-1/2"	3/8"-1/2"	3/8"-5/8"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"
Maximum temperature	[°C]	45	45	45	45	45	45

(1) Dimensions excluding electrical box.

In reversible heating mode, the outside air inlet temperature must be a minimum of -7°C and a maximum of +20°C.
The unit delivers the nominal heating output for a flow rate equal to the nominal airflow at a temperature of 7°C. Below this value, the output power is lower than the nominal output.
In air conditioning mode, the unit delivers the nominal cooling output for a flow rate equal to the nominal airflow at a temperature of 40°C. The outside air entering the unit must be at a maximum temperature of +45°C and a minimum temperature of +20°C.
The "Condensation Regulation" option allows the air conditioning to operate at outside air temperatures below +20°C (down to -10°C).

Options

		WITHOUT enhanced sound insulation		WITH enhanced sound insulation	
		WITHOUT LPS	WITH LPS	WITHOUT LPS	WITH LPS
Condensation regulation	WITHOUT	AA	BA	CA	DA
	WITH	AB	BB	CB	DB

***LP switch**: protects the unit against operation with too low LP pressure (lack of gas, leak, etc…).*

***Enhanced sound insulation** : insulating and absorbent foam inside the casing to reduce sound pressure.*

***Condensation regulation ("winter start kit")** : allows operation in cooling mode with low outside temperature (below +20°C), protecting the unit against excessive cooling of the condenser.*

Accessories

Size		09	14	18	24	36	40
Disconnecting switch	Code	SET003YY					SET004YY
Air filter and frame	Code	SAT002YY			SAT003YY		
Mounting brackets	Code	SMT008YY			SMT009YY		

***Disconnecting switch:** allows the condensing unit to be mechanically separated from its power supply. It allows locking in the open position.*
***Air filter and frame:** G3 filter to be placed at the inlet of the condensation unit to limit fouling of the battery (recommended see p. 17).*
Filter thickness: between 90 and 180 mm additional depending on the model.
***Mounting brackets:** brackets to be fixed on the condensation unit allowing it to be suspended by threaded rods.*

Association with indoor units

Size		09	14	18	24	36	40
Wall mounted	Cf. p.36	•	•	•	•		
Consoles	Cf. p.37		•	•	•	•	
Cassettes	Cf. p.38		•	•	•	•	•
Ducted	Cf. p.39	•	•	•	•	•	•

R513A

Size	-	209		09-14		09-18		214		14-18		218		18-24		224	
Model	-	FA209R6		FA0914R6		FA0918R6		FA214R6		FA1418R6		FA218R6		FA1824R6		FA224R6	
Model code	-	ARG201		ARG202		ARG203		ARG204		ARG205		ARG207		ARG208		ARG210	
Refrigerant		R513A		R513A		R513A		R513A		R513A		R513A		R513A		R513A	
Size of each circuit		09	09	09	14	09	18	14	14	14	18	18	18	18	24	24	24
Nominal cooling power	[kW]	2,5	2,5	2,5	3,5	2,5	5	3,5	3,5	3,5	5	5	5	5	6,5	6,5	6,5
Nominal heating power	[kW]	2,7	2,7	2,7	3,7	2,7	6	3,7	3,7	3,7	6	6	6	6	7,8	7,8	7,8
EER / COP	-	2,3 / 2,9		2,11 / 2,66		2,14 / 2,96		2,09 / 2,65		2,18 / 3,02		1,9 / 2,62		1,86 / 2,6		1,92 / 2,74	
Power supply	V-Ph-Hz	230-1-50		230-1-50		230-1-50		230-1-50		230-1-50		400-3-50+N		400-3-50+N		400-3-50+N	
Nominal absorbed power	[kW]	2,4		2,9		3,5		3,3		4,1		5,5		6,3		6,8	
Nominal current	[A]	11,6		14,3		16,7		16,8		19,4		10,7		11,5		12,1	
Maximum current	[A]	16,5		21,2		23,5		24,9		25		13,7		14,2		14,7	
Power supply cable	[mm²]	3 x 4,0		3 x 6,0		3 x 6,0		3 x 6,0		3 x 6,0		5 x 2,5		5 x 2,5		5 x 2,5	
Connection cable	[mm²]	2 x (8 x 1,5)		2 x (8 x 1,5)		2 x (8 x 1,5)		2 x (8 x 1,5)		2 x (8 x 1,5)		2 x (8 x 1,5)		2 x (8 x 1,5)		2 x (8 x 1,5)	
Nominal air flow	[m3/h]	1500		2100		2800		2100		3000		3000		3900		3900	
Available pressure without / with filter	[Pa]	250 / 200		240 / 190		250 / 200		240 / 190		250 / 160		400 / 300		350 / 250		350 / 250	
Dimensions (LxDxh) (1)	[mm]	1520x900x 550		1520x900x 550		1520x900 x550		1520x900 x550		1520x900 x550		1520x900 x550		1520x900 x550		1520x900 x550	
Weight	[kg]	181		183		203		185		205		230		232		234	
Liquid line	[inch]	1/4"	1/4"	1/4"	3/8"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Suction line	[inch]	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	3/4"	3/4"	3/4"
Maximum temperature	[°C]	45		45		45		45		45		45		45		45	

(1) Dimensions excluding electrical box.

In reversible heating mode, the outside air inlet temperature must be a minimum of -7°C and a maximum of +20°C.
The unit delivers the nominal heating output for a flow rate equal to the nominal airflow at a temperature of 7°C. Below this value, the output power is lower than the nominal output.
In air conditioning mode, the unit delivers the nominal cooling output for a flow rate equal to the nominal airflow at a temperature of 40°C. The outside air entering the unit must be at a maximum temperature of +45°C and a minimum temperature of +20°C.
The "Condensation Regulation" option allows the air conditioning to operate at outside air temperatures below +20°C (down to -10°C).

Options

		WITHOUT enhanced sound insulation		WITH enhanced sound insulation	
		WITHOUT LPS	WITH LPS	WITHOUT LPS	WITH LPS
Condensation regulation	WITHOUT	AA	BA	CA	DA
	WITH	AB	BB	CB	DB

Pressostat BP : protège l'unité contre un fonctionnement avec une pression BP trop faible (manque de gaz, fuite…).
Isolation phonique renforcée : mousse isolante et absorbante à l'intérieur de la carrosserie pour réduire la pression sonore.
Régulation de la condensation ("kit toute saison") : permet un fonctionnement en mode froid avec une température extérieure basse (en dessous de +20°C), en protégeant l'unité contre un refroidissement excessif du condenseur.

Accessoires

Taille		209	09-14	09-18	214	14-18	218	18-24	224
Sectionneur de proximité	Code	SET003YY							
Filtre à air et support-filtre	Code	SAT003YY							
Pattes de fixation	Code	SMT009YY							

Sectionneur de proximité : permet de séparer de façon mécanique le groupe de condensation de son alimentation électrique. Il permet un verrouillage en position ouverte.
Filtre à air et support-filtre : filtre G3 à placer à l'entrée du groupe de condensation pour limiter l'encrassement de la batterie (recommandé. Cf. p. 17).
Epaisseur du filtre : entre 90 et 150 mm supplémentaires selon les modèles.
Pattes de fixation : équerres à fixer sur le groupe de condensation permettant de le suspendre par des tiges filetées.

Association avec unités intérieures

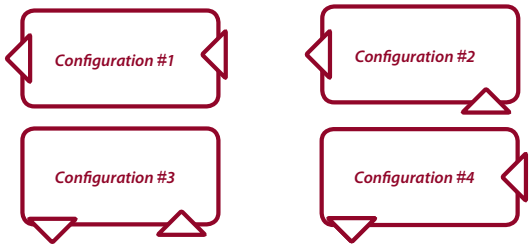
Les Unités Intérieures s'associent en fonction de la taille de chaque circuit, de la même manière que pour les FA monocircuits. Se référer au tableau en page "FA- réversibles - monosplits".

FA & OPTIMUM Centrifugal Fan Split Systems
Information & Precautions

> Airflow configurations

For maximum flexibility in installation inside the building, the panels of the FA centrifugal fan condensing units are interchangeable. Four airflow configurations are possible, offering various positions for the air inlet and air outlet to which ducts must be connected (see sketch beside). Remember to specify the configuration you want, while you place your order. Without specific indication, we manufacture the machine in configuration # 1. It is always possible to change the configuration after delivery. This operation must be performed before installation according to a procedure available on request.

Configurations: air inlet and outlet (top view sketch)



> Air filter option

We recommend using an air filter for reversible centrifugal units. Indeed, in heating mode, the heat exchanger of the units functions as an evaporator and produces condensation water which agglomerates dust and accelerates fouling. In order to limit this effect, we recommend using the G3 class filter option proposed for the FA units. If the external environment is dusty, the filter option may be also needed for cooling only units (not reversible units).

Notice: OPTIMUM centrifugal units are reversible and include G2 air filter as a standard feature.

> Air inlet temperature (cooling mode)

The FA and OPTIMUM condensing units are designed to operate in cooling mode with an outside air at a minimum temperature of +20°C and up to +40°C.
A too high outdoor temperature leads to a loss of performance, a premature compressor wear and possibly a HP pressure switch cut-out.
A too low outside temperature would result in operational problems and even premature breakage of the compressor. When the outside air is a too cold, there is too much sub-cooling of the condenser. This causes the HP to be a too low pressure and the compressor to be operated outside its operating envelope. However, the "winter start option" enables the FA unit to operate in cooling mode with an outside air temperature below 20°C.

The minimum and maximum values of + 20°C and +40°C are given for an air flow rate to equal to the rated air flow of the machine. These values vary with a higher or lower air flow rate. Contact us if necessary.

> Air inlet temperature (heating mode)

In heating mode, the reversible FA condensing units and the OPTIMUM units are designed to operate while sucking the outside air at a minimum temperature of -7°C and up to + 20°C.
Operation outside this range will result in operational problems, premature wear or breakage of the compressor and possibly a HP pressure switch cut-out.
As for the cooling mode, the minimum and maximum values are given for an air flow rate equal to the rated air flow of the machine.

> Winter start option

The winter start option enables the cooling mode to be operated in spring, autumn or winter, when the outside air is below +20°C. It avoids an excessive sub-cooling of the condenser by adjusting the rotation speed of the fan, thus adapting the airflow to maintain the condensing temperature at an optimum value.

> Applications for industry sector

Sizes 40, 50 and 64 of the FA range are powered by three-phase current with neutral. They are especially suitable for applications in the industry sector. If required, we can adapt the units to be powered by three-phase supply with no neutral.

> Aeraulics and Ducting: Precautions

In cooling mode, the FA and OPTIMUM centrifugal units evacuate calories in an outside air flow in cooling mode (respectively capture calories in heating mode). The unit is ducted to lead the outside air to the unit and discharge it outside. The centrifugal blower of the unit provides a high static pressure of 100 up to 230 Pa according to the model (see data tables) which allows ducts lengths up to about 5 m (both suction and discharge), if the ducts sections are observed.
Nevertheless, it is necessary to make sure that the total aeraulic pressure drop of the grids, suction and discharge ducts, as well as the air filter (if any), is compatible with the rated air flow rated required for normal operation of the unit.
It is also recommended to ensure that the positioning of the intake and discharge grids does not induce a recirculation of discharged air in the suction.
It is possible not to duct the air in flow, should the unit be installed in a very large volume which has no communication with the air conditioned volume.

Centrifugal Fan Split Systems

FA Cooling only Range

FA

The unit is installed inside the building. The outside air is led to the unit through ducts to evacuate the calories.

Direct Expansion

Indoor Units

+ **MI**

+ **CI**

+ **KI**

+ **GI**

Applications

- City centers (offices, shops, classified buildings, services, etc.).
- Industry.

Product benefits

- No outdoor unit (only 2 grids).
- High static pressure allowing long distance ducting.
- No need to be against an exterior wall.
- Interchangeable air inlet and outlet positions (cf. p.17).
- ON/OFF: easy to maintain.
- Easy access for maintenance through removable panels.

Build your PART NUMBER (P/N)

A	Q	H	1	0	3	B	A

MODEL CODE 6 characters | OPTIONS Pack 2 characters

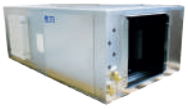
Don't forget to order the accessories you may need !

Refrigerant connections

- Max length: 20 m
- Max height difference: 5 m
- Preloaded for 4 m of refrigerant lines

The power ratings indicated in the tables are "total power" and are delivered for an indoor air (indoor unit inflow) of +27°C / 50% RH (cooling mode). Notice: the power available to cool down the inside air (''sensible power'') equals the ''total power'' minus the power absorbed by the condensation of air moisture (condensate).

R513A



Size		09	14	18	24	36	40
Model		FA09Q6	FA14Q6	FA18Q6	FA24Q6	FA36Q6	FA40QY
Model code		AQG101	AQG102	AQG103	AQG104	AQG105	AQG106
Refrigerant		R513A	R513A	R513A	R513A	R513A	R513A
Nominal cooling power	[kW]	2,5	3,5	5	6,5	8,3	10
EER	[-]	2,15	2,09	2,11	2,2	1,99	2,16
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	400-3-50+N
Nominal absorbed power	[kW]	1,2	1,6	2,4	3,5	4,2	4,6
Nominal current	[A]	5,7	8,3	12,1	16,9	21,3	10,1
Maximum current	[A]	8,1	11,8	16	21	25	13
Power supply cable	[mm²]	3 x 1.5	3 x 2.5	3 x 2.5	3 x 2.5	3 x 4	5 x 2.5
Connection cable (2)	[mm²]	8 x 1.5	8 x 1.5	8 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Nominal air flow	[m3/h]	750	1100	2100	2400	2500	2800
Available pressure without / with filter	[Pa]	350 / 300	200 / 150	350 / 250	350 / 250	330 / 230	250 / 160
Dimensions (LxDxh) (1)	[mm]	1120x630x450	1120x630x450	1120x630x450	1520x900x550	1520x900x550	1520x900x550
Weight	[kg]	84	86	105	171	175	177
Liquide line / Suction line	[inch]	1/4"-1/2"	3/8"-1/2"	3/8"-5/8"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"
Maximum temperature	[°C]	45	45	50	47	45	47

(1) Dimensions excluding electrical box.
(2) The cable types and sections are given for information purposes only and correspond to an installation with LTB indoor units without the electrical heating option.
The unit delivers the nominal cooling capacity at a flow rate equal to the nominal airflow at a temperature of +40°C. The outside air entering the unit must be at a maximum temperature of +45°C (depending on the model: see table) and a minimum temperature of +20°C.
The "Condensation regulation" option allows the air conditioner to operate at outside air temperatures below +20°C (down to -7°C).

Options

		WITHOUT enhanced sound insulation		WITH enhanced sound insulation	
		WITHOUT LPS	WITH LPS	WITHOUT LPS	WITH LPS
Condensation regulation	WITHOUT	AA	BA	CA	DA
	WITH	AB	BB	CB	DB

LP switch: protects the unit against operation with too low LP pressure (lack of gas, leak, etc...).

Enhanced sound insulation : insulating and absorbent foam inside the casing to reduce sound pressure.

Condensation regulation ("winter start kit") : allows operation in cooling mode with low outside temperature (below +20°C), protecting the unit against excessive cooling of the condenser.

Accessories

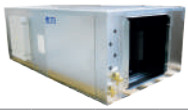
Size		09	14	18	24	36	40
Disconnecting switch	Code	SET003YY					SET004YY
Air filter and frame	Code	SAT002YY			SAT003YY		
Mounting brackets	Code	SMT008YY			SMT009YY		

Disconnecting switch: allows the condensing unit to be mechanically separated from its power supply. It allows locking in the open position.
Air filter and frame: G3 filter to be placed at the inlet of the condensation unit to limit fouling of the battery.
Mounting brackets: brackets to be fixed on the condensation unit allowing it to be suspended by threaded rods.

Association with indoor units

Size		09	14	18	24	36	40
Wall mounted	Cf. p.36	•	•	•	•		
Consoles	Cf. p.37		•	•	•	•	
Cassettes	Cf. p.38		•	•	•	•	•
Ducted	Cf. p.39	•	•	•	•	•	•

R513A



Size		209		0914		0918		214		1418		218		1824		224	
Model		FA209Q6		FA0914Q6		FA0918Q6		FA214Q6		FA1418Q6		FA218QY		FA1824QY		FA224QY	
Model code		AQG201		AQG202		AQG203		AQG204		AQG205		AQG207		AQG208		AQG210	
Refrigerant		R513A		R513A		R513A		R513A		R513A		R513A		R513A		R513A	
Size of each circuit		09	09	09	14	09	18	14	14	14	18	18	18	18	24	24	24
Nominal cooling power		2,5	2,5	2,5	3,5	2,5	5	3,5	3,5	3,5	5	5	5	5	6,5	6,5	6,5
EER	[-]	2,3		2,11		2,14		2,09		2,18		1,9		1,86		1,92	
Power supply	V-Ph-Hz	230-1-50		230-1-50		230-1-50		230-1-50		230-1-50		400-3-50+N		400-3-50+N		400-3-50+N	
Nominal absorbed power	[kW]	2,4		2,9		3,5		3,3		4,1		5,5		6,3		6,8	
Nominal current	[A]	11,6		14,3		16,7		16,8		19,4		10,7		11,5		12,1	
Maximum current	[A]	16,5		21,2		23,5		24,9		25		13,7		14,2		14,7	
Power supply cable	[mm²]	3 x 4.0		3 x 6.0		3 x 6.0		3 x 6.0		3 x 6.0		5 x 2.5		5 x 2.5		5 x 2.5	
Connection cable (2)	[mm²]	2 x (8 x 1.5)		2 x (8 x 1.5)		2 x (8 x 1.5)		2 x (8 x 1.5)		2 x (8 x 1.5)		2 x (8 x 1.5)		2 x (8 x 1.5)		2 x (8 x 1.5)	
Nominal air flow	[m3/h]	1500		2100		2800		2100		3000		3000		3900		3900	
Available pressure without / with filter	[Pa]	250 / 200		240 / 190		250 / 200		240 / 190		250 / 160		400 / 300		350 / 250		350 / 250	
Dimensions (LxDxh) (1)	[mm]	1520x900x550		1520x900x550		1520x900x550		1520x900x550		1520x900x550		1520x900x550		1520x900x550		1520x900x550	
Weight	[kg]	181		183		203		185		205		230		232		234	
Liquid line	[inch]	1/4"	1/4"	1/4"	3/8"	1/4"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
Suction line	[inch]	1/2"	1/2"	1/2"	1/2"	1/2"	5/8"	1/2"	1/2"	1/2"	5/8"	5/8"	5/8"	5/8"	3/4"	3/4"	3/4"
Maximum temperature	[°C]	45		45		45		45		45		45		45		45	

(1) Dimensions excluding electrical box.

(2) The cable types and sections are given for information purposes only and correspond to an installation with LTB indoor units without the electrical heating option.

The unit delivers the nominal cooling capacity at a flow rate equal to the nominal airflow at a temperature of +40°C. The outside air entering the unit must be at a maximum temperature of +45°C (depending on the model: see table) and a minimum temperature of +20°C.

The "Condensation regulation" option allows the air conditioner to operate at outside air temperatures below +20°C (down to -7°C).

Options

		WITHOUT enhanced sound insulation		WITH enhanced sound insulation	
		WITHOUT LPS	WITH LPS	WITHOUT LPS	WITH LPS
Condensation regulation	WITHOUT	AA	BA	CA	DA
	WITH	AB	BB	CB	DB

LP switch: protects the unit against operation with too low LP pressure (lack of gas, leak, etc…).

Enhanced sound insulation : insulating and absorbent foam inside the casing to reduce sound pressure.

Condensation regulation ("winter start kit") : allows operation in cooling mode with low outside temperature (below +20°C), protecting the unit against excessive cooling of the condenser.

Accessories

Size		209	0914	0918	214	1418	218	1824	224
Disconnecting switch	Code	SET003YY							
Air filter and frame	Code	SAT003YY							
Mounting brackets	Code	SMT009YY							

Disconnecting switch: allows the condensing unit to be mechanically separated from its power supply. It allows locking in the open position.

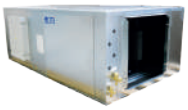
Air filter and frame: G3 filter to be placed at the inlet of the condensation unit to limit fouling of the battery.

Mounting brackets: brackets to be fixed on the condensation unit allowing it to be suspended by threaded rods.

Association with indoor units

The Indoor Units are combined according to the size of each circuit, in the same way as for single-circuit FAs. Refer to the table (FA - Cooling Only - monosplits).

R513A



Size		309	20914	09214	20918	091418	09218	314	21418	14218	318
Model		FA309Q6	FA20914Q6	FA09214Q6	FA20918Q6	FA091418Q6	FA09218Q6	FA314Q6	FA21418Q6	FA14218Q6	FA318Q6
Model code		AQG301	AQG302	AQG303	AQG304	AQG305	AQG306	AQG307	AQG308	AQG309	AQG310
Size of each circuit		09 09 09	09 09 14	09 14 14	09 09 18	09 14 18	09 18 18	14 14 14	14 14 18	14 18 18	18 18 18
Refrigerant		R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A	R513A
Nominal cooling power	[kW]	2,5 2,5 2,5	2,5 2,5 3,5	2,5 3,5 3,5	2,5 2,5 5	2,5 3,5 5	2,5 5 5	3,5 3,5 3,5	3,5 3,5 5	3,5 5 5	5 5 5
EER	[-]	2,11	1,98	1,98	1,79	1,8	1,88	2,05	1,81	1,88	1,94
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Nominal absorbed power	[kW]	3,7	4,4	4,8	5,7	6,1	6,7	5	6,6	7,1	7,7
Nominal current	[A]	17	19,7	22,2	25,9	28,4	22,2	24,3	30,9	33,3	35,7
Maximum current	[A]	24	28,2	31,9	32,1	35,8	31,9	33,9	39,5	41,8	44,1
Power supply cable	[mm²]	3 x 4.0	3 x 6.0	3 x 10.0	3 x 10.0	3 x 10.0	3 x 10.0	3 x 10.0	3 x 10.0	3 x 10.0	3 x 10.0
Connection cable	[mm²]	3 x (5 x 1.5)	3 x (5 x 1.5)	3 x (5 x 1.5)	3 x (5 x 1.5)	3 x (5 x 1.5)	3 x (5 x 1.5)	3 x (5 x 1.5)	3 x (5 x 1.5)	3 x (5 x 1.5)	3 x (5 x 1.5)
Dimensions (LxDxh)	[mm]	1520x900x550	1520x900x550	1520x900x550	1520x900x550	1520x900x550	1520x900x550	1520x900x550	1520x900x550	1520x900x550	1520x900x550
Weight	[kg]	174	176	178	192	194	211	180	196	213	230
Liquid line		1/4" 1/4" 1/4"	1/4" 1/4" 3/8"	1/4" 3/8" 3/8"	1/4" 1/4" 3/8"	1/4" 3/8" 3/8"	1/4" 3/8" 3/8"	3/8" 3/8" 3/8"	3/8" 3/8" 3/8"	3/8" 3/8" 3/8"	3/8" 3/8" 3/8"
Suction line		1/2" 1/2" 1/2"	1/2" 1/2" 1/2"	1/2" 1/2" 1/2"	1/2" 1/2" 3/4"	1/2" 1/2" 3/4"	1/2" 3/4" 3/4"	1/2" 1/2" 1/2"	1/2" 1/2" 3/4"	1/2" 3/4" 3/4"	3/4" 3/4" 3/4"
Nominal air flow	[m3/h]	2500	3000	3000	5200	5200	5200	3000	5200	5200	6400
Available pressure without / with filter	[Pa]	320 / 250	250 / 160	250 / 160	350 / 250	350 / 250	350 / 250	350 / 300	350 / 250	350 / 250	350 / 250
Maximum temperature	[°C]	45	45	45	45	45	45	45	45	45	45

(1) Dimensions excluding electrical box.
(2) The cable types and sections are given for information purposes only and correspond to an installation with LTB indoor units without the electrical heating option.
The unit delivers the nominal cooling capacity at a flow rate equal to the nominal airflow at a temperature of +40°C. The outside air entering the unit must be at a maximum temperature of +45°C (depending on the model: see table) and a minimum temperature of +20°C.
The "Condensation regulation" option allows the air conditioner to operate at outside air temperatures below +20°C (down to -7°C).

Options

		WITHOUT enhanced sound insulation		WITH enhanced sound insulation	
		WITHOUT LPS	WITH LPS	WITHOUT LPS	WITH LPS
Condensation regulation	WITHOUT	AA	BA	CA	DA
	WITH	AB	BB	CB	DB

LP switch: protects the unit against operation with too low LP pressure (lack of gas, leak, etc...).

Enhanced sound insulation : insulating and absorbent foam inside the casing to reduce sound pressure.

Condensation regulation ("winter start kit") : allows operation in cooling mode with low outside temperature (below +20°C), protecting the unit against excessive cooling of the condenser.

Accessories

Size		309	20914	09214	20918	091418	09218	314	21418	14218	318
Disconnecting switch	Code	SET003YY									
Air filter and frame	Code	SAT003YY									
Mounting brackets	Code	SMT009YY									

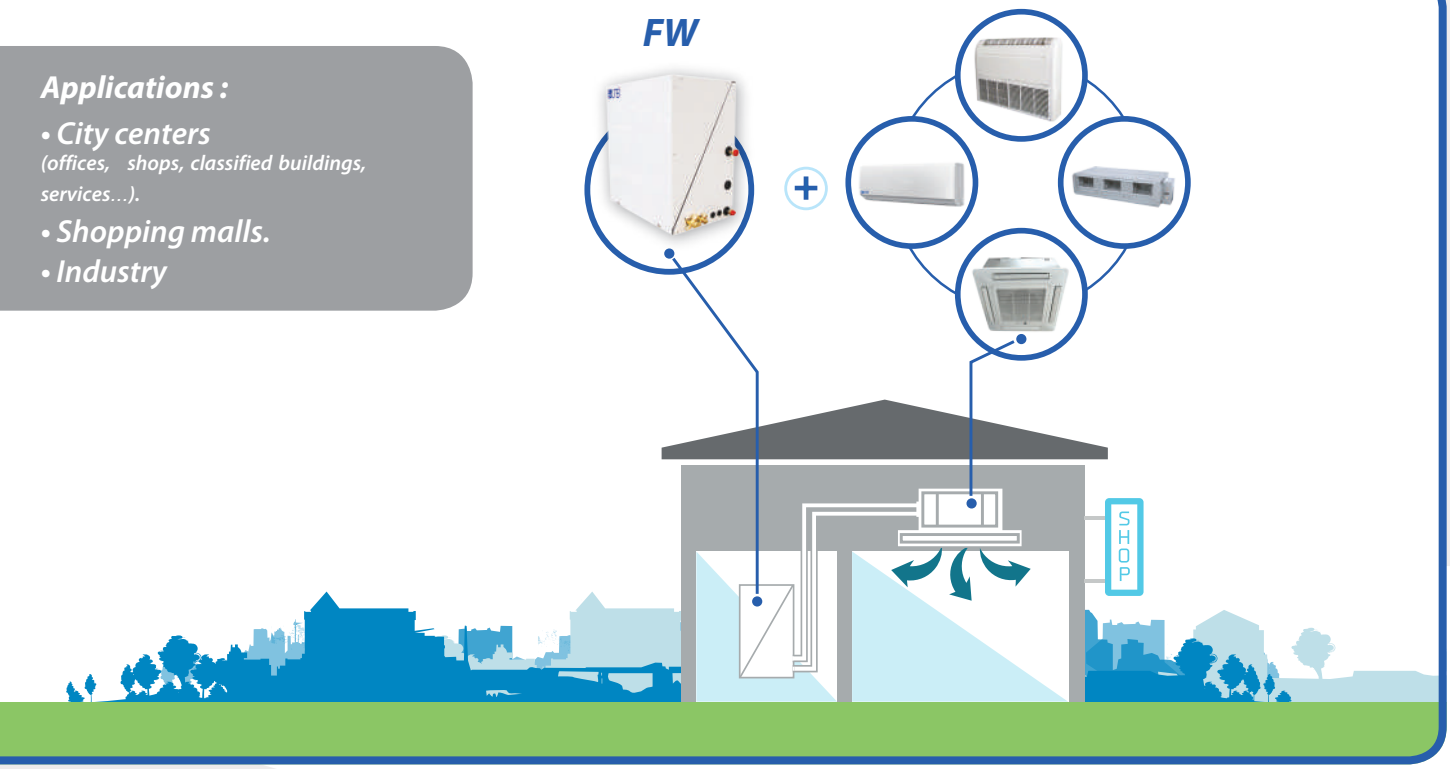
Disconnecting switch: allows the condensing unit to be mechanically separated from its power supply. It allows locking in the open position.
Air filter and frame: G3 filter to be placed at the inlet of the condensation unit to limit fouling of the battery.
Mounting brackets: brackets to be fixed on the condensation unit allowing it to be suspended by threaded rods.

Association with indoor units

The Indoor Units are combined according to the size of each circuit, in the same way as for single-circuit FAs. Refer to the table (FA - Cooling Only - monosplits).

Applications :

- *City centers*
  (offices, shops, classified buildings, services...).
- *Shopping malls.*
- *Industry*



FW range
Water-cooled condenser Split System - NEO

Water-cooled condenser Split System - NEO

Cooling only Range

The most water-efficient on the market !

FW

Direct Expansion

The unit is installed inside the building.
Calories are evacuated in a flow of water.

Indoor Units

⊕ MI

⊕ CI

⊕ KI

⊕ GI

Applications

- City centers (offices, shops, classified buildings, services, etc.).
- Shopping malls
- Industry.

Product benefits

- No outdoor unit.
- No grid on the facade of the building
- Small-sized and easy to install.
- ON/OFF : easy to maintain.
- The most water-efficient of the market.
- Included as standard feature: Pressostatic water valve.

Build your PART NUMBER (P/N)

W	Q	F	1	0	4	B	H

MODEL CODE 6 characters — OPTIONS Pack 2 characters

Don't forget to order the accessories you may need !

Refrigerant connections

- Max length : 20 m.
- Max height difference : 5 m.
- Preloaded for 4 m of refrigerant lines.

The power ratings indicated in the tables are "total power" and are delivered for an indoor air (indoor unit inflow) of +27°C / 50% RH (cooling mode). Notice: the power available to cool down the inside air ("sensible power") equals the "total power" minus the power absorbed by the condensation of air moisture (condensate).

FW Cooling only range - Monosplits

Water-cooled condensing units

> MONOSPLITS

Reduced water consumption (-20% to -40°C)>> ideal for city-centres

More silent

GWP < 750 with A1 non inflamable gas >> ideal for shopping malls

R513A



Size		07	09	14	18	24	36	40	50	64	80
Model		FW07Q6	FW09Q6	FW14Q6	FW18Q6	FW24Q6	FW36Q6	FW40QY	FW50QY	FW64QY	FW80QY
Model code		WQG101	WQG102	WQG103	WQG104	WQG105	WQG106	WQG107	WQG108	WQG109	WQG110
Nominal cooling power (1)	[kW]	2,0	2,5	3,5	5,0	7,0	8,5	10	12,5	14,5	17,0
EER	[-]	2,48	2,31	2,33	2,52	2,66	2,33	2,51	1,96	2,37	2,58
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	400-3-50+N	400-3-50+N	400-3-50+N	400-3-50+N
Nominal absorbed power	[kW]	0,8	1,1	1,5	2,0	2,6	3,7	4,0	6,4	6,1	6,6
Nominal current	[A]	3,8	4,9	7,3	9,3	12,9	18,6	7,2	11,0	10,9	11,8
Maximum current	[A]	5,3	6,5	10,2	12,5	16,5	20,5	8,5	11,5	12,0	13,5
Power supply cable	[mm²]	3 x 1.5	3 x 1.5	3 x 1.5	3 x 2.5	3 x 4	3 x 4	5 x 2.5	5 x 2.5	5 x 2.5	5 x 2.5
Connection cable (4)	[mm²]	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Dimensions (LxDxh) (5)	[mm]	600x310x430	600x310x430	600x310x430	600x310x430	600x360x630	600x360x630	600x360x630	810x450x840	810x450x840	810x450x840
Weight	[kg]	34	37	39	50	69	70	73	121	125	128
Sound pressure (at 1 m)	[dB(A)]	46	46	46	42	45	45	45	49	49	50
Liquid line - Suction line	[inch]	1/4"-1/2"	1/4"-1/2"	3/8"-1/2"	3/8"-5/8"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	3/8"-7/8"	1/2"-1 1/8"	1/2"-1 1/8"
Water connection - Male	[inch]	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Nominal water flow for water inlet T° at +15°C	[L/h]	60	70	100	150	230	270	330	360	410	490
Nominal water flow for water inlet T° at +30°C (2)	[L/h]	90	100	150	250	460	510	700	600	720	890
Maximum water inlet temperature (3)	[°C]	+50	+50	+50	+50	+50	+50	+50	+50	+50	+50

(1) The nominal power is given for a nominal water flow rate that depends on the water inlet temperature. The table shows the nominal flow rate for water inlet temperatures of +15°C and +30°C.

(2) If the water inlet temperature is higher than +30°C, please contact us.

(3) Proper operation of the equipment is not guaranteed beyond the maximum water inlet temperature. This can lead to premature wear of the compressor.

(4) The cable types and sections are given for information purposes only and correspond to an installation with LTB indoor units without the electrical heating option.

(5) Dimensions are exclusive of valves. Ensure that service spaces are respected.

Options

		WITHOUT LPS	WITH LPS
Enhanced sound insulation	WITHOUT	AH	BH
	WITH	CH	DH

LP pressure switch: protects the unit against operation with too low LP pressure (lack of gas, leak, etc.)

Enhanced sound insulation: insulating and absorbent foam inside the casing to reduce sound pressure.

Accessories

Size		07	09	14	18	24	36	40	50	64	80
Disconnecting switch	Code	SET001YY						SET002YY			
Water filter	Code	SWT001YY				SWT002YY					
Flexible connections for water inlet/outlet	Code	SWT004YY				SWT005YY					

Disconnecting switch: mechanically separates the condensing unit from its power supply. It allows locking in the open position.
Water filter: PN16 stainless steel mesh filter, to be connected to the water inlet of the condensing unit.

Association with indoor units

Size		07	09	14	18	24	36	40	50	64	80
Wall mounted	Cf. p.36	•	•	•	•	•					
Consoles	Cf. p.37			•	•	•	•				
Cassettes	Cf. p.38			•	•	•	•	•	•		
Ducted	Cf. p.39	•	•	•	•	•	•	•	•	•	•

FW Cooling only range - Multisplits

Water-cooled condensing units

> MULTISPLITS

Reduced water consumption (-20% to -40°C)>> ideal for city-centres

More silent

GWP < 750 with A1 non inflamable gas >> ideal for shopping malls

R513A



Size		209	0914	214	0918	1418	218	309	20914	09214		314
Model		FW209Q6	FW0914Q6	FW214Q6	FW0918Q6	FW1418Q6	FW218Q6	FW309Q6	FW20914Q6	FW09214Q6		FW314Q6
Model code		WQG201	WQG202	WQG204	WQG203	WQG205	WQG207	WQG301	WQG302	WQG303		WQG307
Size of each circuit		09 09	09 14	14 14	09 18	14 18	18 18	09 09 09	09 09 14	09 14 14		14 14 14
Nominal cooling power (1)	[kW]	2,5 2,5	2,5 3,5	3,5 3,5	2,5 5,0	3,5 5,0	5,0 5,0	2,5 2,5 2,5	2,5 2,5 3,5	2,5 3,5 3,5		3,5 3,5 3,5
EER	-	2,31 2,31	2,31 2,33	2,33 2,33	2,31 2,52	2,33 2,52	2,52 2,52	2,31 2,31 2,31	2,31 2,31 2,33	2,31 2,33 2,33		2,33 2,33 2,33
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50		230-1-50
Nominal absorbed power	[kW]	2,2	2,6	3,0	3,1	3,5	4,0	3,2	3,7	4,1		4,5
Nominal current	[A]	9,8	12,2	14,6	14,2	16,6	18,6	14,7	17,1	19,5		21,9
Maximum current	[A]	13,0	16,7	20,4	19	22,7	25,0	19,5	23,2	26,9		30,6
Power supply cable	[mm²]	3 x 4,0	3 x 4,0	3 x 6,0	3 x 4,0	3 x 6,0	3 x 6,0	3 x 6,0	3 x 6,0	3 x 6,0		3 x 6,0
Connection cable (3)	[mm²]	2 x (4 x 1,5)	2 x (4 x 1,5)	2 x (4 x 1,5)	2 x (4 x 1,5)	2 x (4 x 1,5)	2 x (4 x 1,5)	3 x (4 x 1,5)	3 x (4 x 1,5)	3 x (4 x 1,5)		3 x (4 x 1,5)
Dimensions (LxDxh) (4)	[mm]	800x360 x630	800x360 x630	800x360 x630	864x469 x835	864x469 x835	864x469 x835	864x469 x835	864x469 x835	864x469 x835		864x469 x835
Weight	[kg]	65	67	72	93	95	112	106	108	111		113
Sound pressure (at 1 m)	[dB(A)]	45	46	47	46	47	47	50	51	52		52
Liquid line	[inch]	1/4" 1/4"	1/4" 3/8"	3/8" 3/8"	1/4" 3/8"	3/8" 3/8"	3/8" 3/8"	1/4" 1/4" 1/4"	1/4" 1/4" 3/8"	1/4" 3/8" 3/8"		3/8" 3/8" 3/8"
Suction line	[inch]	1/2" 1/2"	1/2" 1/2"	1/2" 1/2"	1/2" 5/8"	1/2" 5/8"	5/8" 5/8"	1/2" 1/2" 1/2"	1/2" 1/2" 1/2"	1/2" 1/2" 1/2"		1/2" 1/2" 1/2"
Raccordement en eau	[inch]	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"		3/4"
Nominal water flow for water inlet T° at +15°C	[L/h]	140	170	200	220	250	300	210	240	270		300
Nominal water flow for water inlet T° at +30°C (2)	[L/h]	200	250	300	350	400	500	300	350	400		450
Maximum water inlet temperature (3)	[°C]	50	50	50	50	50	50	50	50	50		50

(1) The nominal power is given for a nominal water flow rate that depends on the water inlet temperature. The table shows the nominal flow rate for water inlet temperatures of +15°C and +30°C.
(2) Proper operation of the equipment is not guaranteed beyond the maximum water inlet temperature. This can lead to premature wear of the compressor.
(3) The cable types and sections are given for information purposes only and correspond to an installation with LTB indoor units without the electrical heating option.
(4) Dimensions are exclusive of valves. Ensure that service spaces are respected.

Options

		WITHOUT LPS	WITH LPS
Enhanced sound insulation	WITHOUT	AH	BH
	WITH	CH	DH

LP pressure switch: protects the unit against operation with too low LP pressure (lack of gas, leak, etc.)
Enhanced sound insulation: insulating and absorbent foam inside the casing to reduce sound pressure.

Accessories

Size		209	0914	214	0918	1418	218	309	20914	09214		314
Disconnecting switch	Code	SET001YY										
Water filter	Code	SWT001YY			SWT002YY							
Flexible connections for water inlet/outlet	Code	SWT004YY			SWT005YY							

Disconnecting switch: mechanically separates the condensing unit from its power supply. It allows locking in the open position.
Water filter: PN16 stainless steel mesh filter, to be connected to the water inlet of the condensing unit.

R32

Size		09	14	18	24
Model		FW09Q6	FW14Q6	FW18Q6	FW24Q6
Model code		WQJ 102	WQJ 103	WQJ 104	WQJ 105
Nominal cooling power (1)	[kW]	2,5	3,3	5,0	7,0
EER	-	3,3	3,3	3,7	3,2
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50
Nominal absorbed power	[kW]	0,8	1,0	1,3	2,2
Nominal current	[A]	3,8	4,6	6,7	7,2
Maximum current	[A]	5,0	6,0	9,5	13,5
Power supply cable	[mm²]	3 x 1,5	3 x 1,5	3 x 2,5	3 x 4
Connection cable (3)	[mm²]	4 x 1,5	4 x 1,5	4 x 1,5	4 x 1,5
Dimensions (LxDxh) (4)	[mm]	600x310x430	600x310x430	600x310x430	600x310x430
Weight	[kg]	29	30	38	41
Sound pressure (at 1 m)	[dB(A)]	46	46	47	48
Liquid line	[inch]	1/4"	1/4"	1/4"	3/8"
Suction line	[inch]	3/8"	1/2"	1/2"	5/8"
Water connection	[inch]	1/2"	1/2"	1/2"	1/2"
Nominal water flow for a water inlet T° of +15°C	[L/h]	100	120	220	275
Nominal water flow for a water inlet T° of +30°C	[L/h]	290	340	880	900
Maximum water inlet T° (2)	[°C]	+45	+45	+45	+45

(1) The nominal power is given for a nominal water flow rate that depends on the water inlet temperature. The table shows the nominal flow rate for water inlet temperatures of +15°C and +30°C.
(2) Proper operation of the equipment is not guaranteed beyond the maximum water inlet temperature. This can lead to premature wear of the compressor.
(3) The cable types and sections are given for information purposes only and correspond to an installation with LTB indoor units without the electrical heating option.
(4) Dimensions are exclusive of valves. Ensure that service spaces are respected.

Standard configuration

WITH LP switch
BH

LP pressure switch: protects the unit against operation with too low LP pressure (lack of gas, leak, etc.)

Build your PART NUMBER

W	Q	J	1	0	2	B	H

MODEL code 6 characters — OPTIONS pack 2 characters

Do not forget to order the accessories you may need !

Accessories

Size		09	14	18	24
Disconnecting switch	Code	SET001YY			
Water filter	Code	SWT001YY			SWT002YY
Flexible connections for water inlet/outlet	Code	SWT004YY			SWT005YY

Disconnecting switch: mechanically separates the condensing unit from its power supply. It allows locking in the open position.
Water filter: PN16 stainless steel mesh filter, to be connected to the water inlet of the condensing unit.

Association with indoor units

Size		09	14	18	24
Wall mounted units	Cf. p.36	•	•	•	•
Consoles	Cf. p.37		•	•	•
Cassettes	Cf. p.38		•	•	•
Ducted units	Cf. p.39	•	•	•	•

Water-cooled condenser Split System - NEO

FW Reversible Range

On water loop only !

FW

Direct Expansion

The unit is installed inside the building. Calories are evacuated in (cooling mode) or drawn from (heating mode) in a water loop.

Indoor Units

⊕ MI

⊕ CI

⊕ KI

⊕ GI

Applications

- Shopping malls, offices.
- Industry.

Product benefits

- No outdoor unit.
- No grid on the facade of the building
- Small-sized and easy to install.
- ON/OFF : easy to maintain.
- Adapted to to **high** temperature water-loops.
- Included as standard feature: water flow switch, anti-freeze thermostat and water filter.

Build your PART NUMBER (P/N)

W	R	F	2	0	2	D	H

MODEL CODE 6 characters — OPTIONS Pack 2 characters

Don't forget to order the accessories you may need !

Refrigerant connections

- Max length : 20 m.
- Max height difference : 5 m.
- Preloaded for 4 m of refrigerant lines.

The power ratings indicated in the tables are "total power" and are delivered for an indoor air (indoor unit inflow) of +27°C/50% RH (cooling mode) and +20°C (heating mode). Notice: the power available to cool down the inside air ("sensible power") equals the "total power" minus the power absorbed by the condensation of air moisture (condensate).

FW reversible range - Monosplits & Multisplits

Water-cooled condensing units

> MONOSPLITS

Reduced water consumption (-20% to -40°C)>> ideal for city-centres

More silent

GWP < 750 with A1 non inflamable gas >> ideal for shopping malls

R513A

Size		07	09	14	18	24	36	40	209	214	218
Model		FW07R6	FW09R6	FW14R6	FW18R6	FW24R6	FW36R6	FW40RY	FW209R6	FW214R6	FW218R6
Model code		WRG101	WRG102	WRG103	WRG104	WRG105	WRG106	WRG107	WRG201	WRG204	WRG207
Nominal cooling power (1)	[kW]	2,0	2,5	3,5	5,0	7,0	8,5	10	2 x 2,5	2 x 3,5	2 x 5,0
Nominal heating power (1)	[kW]	2,5	3,2	4,4	6,7	9,5	11,5	13,5	2 x 3,2	2 x 4,4	2 x 6,7
EER	-	2,64	2,45	2,3	2,39	2,49	2,42	2,45	2,45	2,3	2,39
COP	-	3,64	3,45	3,3	3,39	3,49	3,42	3,45	3,45	3,3	3,39
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	400-3-50+N	230-1-50	230-1-50	230-1-50
Nominal absorbed power	[kW]	0,805	1,08	1,5	1,984	2,63	3,65	3,99	1,08	1,5	1,984
Nominal current	[A]	3,8	4,8	7,3	9,7	13,3	18	7,3	9,6	14,6	19,6
Maximum current	[A]	5,3	6,5	10,2	12,5	16,5	20,5	8,5	13	20,4	25
Power supply cable	[mm²]	3 x 1,5	3 x 1,5	3 x 1,5	3 x 2,5	3 x 4,0	3 x 4,0	5 x 2,5	3 x 4.0	3 x 6.0	3 x 6.0
Connection cable	[mm²]	4x1,5	4x1,5	4x1,5	4x1,5	4x1,5	4x1,5	4x1,5	2 x (5 x 1,5)	2 x (5 x 1,5)	2 x (5 x 1,5)
Dimensions (LxDxh)	[mm]	600x360x630	600x360x630	600x360x630	800x360x630	810x450x840	810x450x840	810x450x840	864x450x840	864x450x840	864x450x840
Weight	[kg]	40	43	47	73	94	96	97	98	106	132
Sound pressure (at 1m)	[dB(A)]	46	46	45	42	45	45	45	49	50	50
Liquide line - Suction line	[inch]	1/4"-1/2"	1/4"-1/2"	3/8"-1/2"	3/8"-5/8"	3/8"-3/4"	3/8"-3/4"	3/8"-3/4"	2 x (1/4"-1/2")	2 x (3/8"-1/2")	2 x (3/8"-5/8")
Water connection	[inch]	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4	3/4	3/4
Nominal water flow (1) for water inlet T° at +40°C (cooling mode) (2) and +20°C (heating mode) (3)	[L/h]	200	300	400	800	1650	1800	2000	600	800	1600
Pressure loss	[mbar]	40	100	60	140	240	280	240	100	60	140

(1) The nominal power is returned for a nominal water flow rate which depends on the water inlet temperature. The table above gives the value of the nominal water flow rate associated with a water inlet temperature of +40°C (cooling mode) and +20°C (heating mode).

(2) In cooling mode, at nominal water flow rate, the minimum water inlet temperature is +15°C and the maximum water inlet temperature is +45°C.

(3) In heating mode, at nominal water flow rate, the minimum water inlet temperature is +15°C and the maximum water inlet temperature is +35°C.

The proper functioning of the equipment is not guaranteed outside the water inlet temperature ranges mentioned above. This can notably lead to premature wear of the compressor. If the water inlet temperature is outside these ranges, please contact us.

Options

		WITHOUT LPS	WITH LPS
Enhanced sound insulation	WITHOUT	AH	BH
	AVEC	CH	DH

LP switch : protects the unit against operation with too low BP pressure (lack of gas, leak…).

Enhanced sound insulation : insulating and absorbent foam inside the casing to reduce sound pressure.

Accessories

Size		07	09	14	18	24	36	40	209	214	218
Disconnecting switch	Code	SET001YY						SET002YY	SET001YY		
Water inlet and outlet connection hoses	Code	SWT004YY							SWT004YY		
Flow meter valve	Code	SWT101YY		SWT102YY			SWT103YY	-	-		

Disconnecting switch: mechanically separates the condensing unit from its power supply. It allows locking in the open position.

Flow meter valve: device equipped with a manual valve for reading and adjusting the water flow (see description p.8).

Association with indoor units

Size		07	09	14	18	24	36	40	209	214	218
Wall mounted	Cf. p.36	•	•	•	•	•			•	•	•
Consoles	Cf. p.37			•	•	•	•			•	•
Cassettes	Cf. p.38			•	•	•	•	•		•	•
Ducted	Cf. p.39	•	•	•	•	•	•	•	•	•	•

Water-cooled condensation, information and precaution

Water condensation is used for our FW, CMHE, CMCE, and CMVE ranges. It can be used with either loop water, well water, or tap water. Precautions are necessary for the proper operation of a water condensation system.

> Reversible models / Heating function

The FW, CMHE and CMCE ranges include cooling-only models and reversible models. In heating mode, the calories are drawn from the water flow and are supplied to the room air.

Please note, reversible models can only be used on closed water loops.

Indeed, water flow must be guaranteed to avoid any risk of the unit's plate heat exchanger icing up and the resulting breakage.

When there is no water loop and it is not possible to install a reversible unit, it is possible to use electric resistance heating. This option is available for cassette and ducted indoor units (see pages 36 and 37), as well as for CMHE and CMCE monobloc units.

> Safety and protections

For safety and equipment protection reasons, our water-cooled condensing units include the following safety features.

> Specific maintenance

For use with tap water, it is advisable to periodically check that the pressure switch valve is working correctly to prevent malfunctions resulting from limescale deposits.

> Water qualitity

The water quality must be suitable for use in a water-cooled condensing unit. If the water contains impurities, it is recommended to use a PN16 stainless steel screen filter (see accessories). For very hard water, it is recommended to install a water softening system.

	Cooling only models	Reversible models	Function	Reset
Pressostatic water valve	yes	no	Allows you to limit the flow rate to what is strictly necessary to save water and protect the compressor	Not applicable
HP switch	yes		Compressor cut-off in case of excessive HP for the safety of the installation and to preserve the compressor	Automatic (2)
Water flow controller	no	yes	Differential pressure switch. In heating mode, if the flow rate is too low, it activates the reversing valve to switch to cooling mode and prevent the plate heat exchanger from freezing.	Automatic
Anti-freeze thermostat (water side)	no	yes	In heating mode, it activates the reversing valve to switch to cooling mode and prevent the plate heat exchanger from freezing.	Automatic (2)
LP switch	Option (1)		Compressor cut-off in case of low pressure to preserve the compressor.	Automatic (1)
Flow meter valve	Option		Device equipped with a manual valve allowing the water flow to be read and adjusted (see description p.8).	Not applicable

(1) For CMVEs, the LP pressure switch is standard and its reset is manual.
(2) Automatic reset by stopping/starting the control.

> Water inlet temperatures and flow rate

The proper functioning of water-cooled condensing units depends on the good quality of heat exchanges between the refrigerant and the water to evacuate (cooling mode) or draw calories from it (heating mode).

***Water inlet temperature and flow rate are essential parameters** for the proper operation of the system. Indeed, the water flow rate must be adapted to the water inlet temperature, which must be within the specified operating range (Tmin / Tmax).*

For example, in cooling mode, a water temperature that is too high or a water flow rate that is too low will not allow sufficient heat dissipation, and the unit will not operate (HP cutout).

The tables below summarize the conditions that lead to unit malfunction or a safety shutdown:

> "Cooling only" models

Mode	Water inlet temperature		Water flow rate	Trouble
Cooling	a bit too high	or	a bit too low	Power output lower than nominal power
Cooling	too high	or	too low	Safety of the condensing unit (HP cut-off)

> "Reversible" models

Mode	Water inlet temperature		Water flow rate	Trouble
Cooling	a bit too high	or	a bit too low	Power output lower than nominal power
Cooling	too high	or	too low	Safety of the condensing unit (HP cut-off)
Cooling	too low	or	too high	Premature compressor wear
Heating	a bit too low	or	a bit too low	Power output lower than nominal power
Heating	too low	or	too low	Safety shutdown (antifreeze thermostat or flow controller) or premature wear of the compressor
Heating	too high	or	too high	Safety shutdown (HP) or premature wear of the compressor

Cooling-only models are designed to operate correctly when supplied with tap water at a temperature of around +15°C and a pressure of around 4 bars, with a wide tolerance around these values.

*On the other hand, for uses on a water loop (cold-only or reversible models), it is essential to contact the loop manager to obtain the guaranteed water temperatures and flow rates. Refer to the data tables for each range to find out the temperature and flow conditions to be respected. Contact us to check the compatibility between the machine and the characteristics of the loop. Please note that for reversible models, **it is necessary to install a device for measuring and adjusting the water flow rate at the inlet of each machine** (see flowmeter valve).*

> Good to know

We can adapt our machines to accommodate higher loop temperatures than those permitted for the catalog versions. Please do not hesitate to contact us.
We also manufacture reversible tri-split systems upon request. Please contact us.

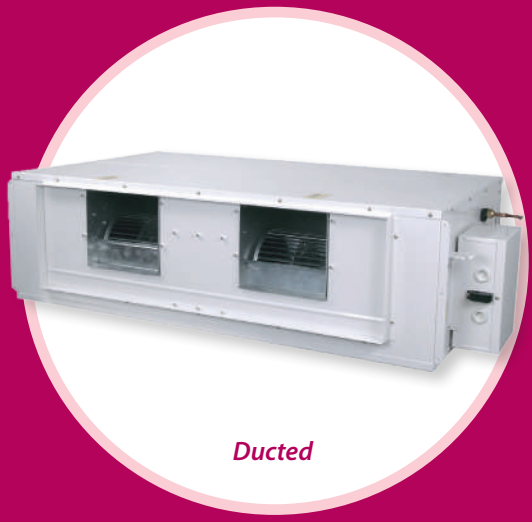
Indoor Units

Wall mounted , Consoles, Cassettes, Ducted

Wall mounted units

Floor mounted / Ceiling Consoles

Cassettes



Ducted

Indoor units

Wall mounted

Discrete backlit display
(conceable)

Characteristics

- Infrared remote control
- 3 fan speeds
- Daily schedule programming
- Backlit display
- Compatible with R513A and R32 refrigerants

Wall mounted indoor units can be used for:

- Cooling only (with a cooling-only condensing unit
- Cooling + thermodynamic heating (with a reversible condensing unit)

					
Model code		**UMS401WA**	**UMS402WA**	**UMS403WA**	**UMS404WA**
Model		**MI07-09 D23**	**MI14 D23**	**MI18 D23**	**MI24 D23**
Cooling power (1)	[kW]	2 à 2,5	3,3	5	7
Heating power (1) (2)	[kW]	2,6 à 3,2	4	6	8
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50
Nominal absorbed power	[W]	20	25	25	55
Nominal current	[A]	0,25	0,25	0,25	0,5
Air flow HS	[m3/h]	500	600	700	1200
Sound pressure at 1 m LS	[dB(A)]	34	34	37	39
Dimensions LxDxh	[mm]	680x210x255	785x210x280	855x210x280	1055x250x315
Net weight	[kg]	8	8,5	12,5	14,5
Liquid line - Suction line	[inch]	1/4" - 3/8"	1/4" - 1/2"	1/4" - 1/2"	3/8" - 5/8" (3)

(1) Performance given for an air return temperature of +27°C / 50% RH in cooling mode, +20°C in heating mode.
(2) The advertised heating power refers to use with a reversible condensing unit.
(3) Unit supplied with an adapter for 3/8" - 5/8" connection, IU side.

Accessory

Model	UMS401WA	UMS402WA	UMS403WA	UMS404WA
Module "LTB Connect"	TAD001YY			

LTB Connect Module: allows remote control and savings by programming.

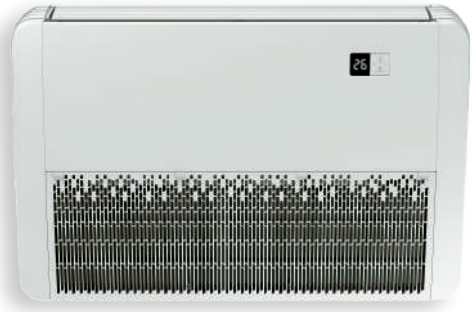
The indoor units are combined with the condensing units of the corresponding size (e.g. MI18 with FW18 or with FA18)

Indoor units

Floor mounted / Ceiling Consoles

Characteristics

- Floor mounted or under ceiling installed
- Infrared remote control
- 3 fan speeds
- Daily schedule programming
- Compatible with R513A and R32 refrigerants



Consoles can be used for :

- Cooling only (with a cooling-only condensing unit
- Cooling + thermodynamic heating (with a reversible condensing unit)

				
Model code		**UCS101WA**	**UCS102WA**	**UCS103WA**
Model		**CI14-18**	**CI24**	**CI36**
Cooling power (1)	[kW]	3,3 à 5	7	8,8
Heating power (1) (2)	[kW]	3,85 à 5,85	7,6	9,37
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50
Nominal absorbed power	[W]	59	59	110
Nominal current	[A]	0,60	0,60	1,70
Air flow in HS	[m3/h]	1200	1200	1500
Sound pressure at 1 m in LS	[dB(A)]	48	48	52
Dimensions LxDxh	[mm]	1050x235x675	1050x235x675	1300x235x675
Net weight	[kg]	25	26,5	32
Liquid line - Suction line	[inch]	1/4" - 1/2"	3/8" - 5/8"	3/8" - 3/4"

(1) Performance given for an air return temperature of +27°C / 50% RH in cooling mode, +20°C in heating mode.

(2) The advertised heating power refers to use with a reversible condensing unit.

Accessory

Model	CI14-18	CI24	CI36
Module "LTB Connect"	TAD001YY		

LTB Connect Module: allows remote control and savings by programming.

The consoles are associated with the condensing units of corresponding size (e.g. CI24 with FW24 or with FA24)

Indoor Units
Cassettes

Characteristics

- Infrared remote control
- 3 fan speeds
- Compatible with R513A and R32 refrigerant
- Lift pump included

The cassettes can be used for:

- Cooling only (with a cooling-only condensing unit)
- Cooling + thermodynamic heating (with a reversible condensing unit)
- Cooling + electrical heating (with a cooling only condensing unit)

Model code		UKS001WA	UKS002WA	UKS003WA	UKS004WA
Model		KI14-18S (600*600)	KI14-18 (900*900)	KI24-36 (900*900)	KI36-40-50 (900*900)
Cooling power (1)	[kW]	3,3 à 5	3,3 à 5	7 à 8,8	8,8 à 12,3
Heating power (1) (2)	[kW]	3,85 to 5,85	3,85 to 5,85	7,6 to 9,37	9,37 to 13,4
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50
Nominal absorbed power	[W]	30	30	35	60
Nominal current	[A]	0,40	0,40	0,45	0,60
Air flow HS	[m3/h]	700	850	1200	1600
Sound pressure at 1 m LS	[dB(A)]	50	41	44	45
Fitting dimensions - LxDxh	[mm]	580x580x265	850x850x240	850x850x240	850x850x280
Panel dimensions - LxDxh	[mm]	650x650x30	950x950x45	950x950x45	950x950x45
Net weight	[kg]	28	33	33	36
Liquid line - Suction line	[inch]	1/4" - 1/2"	1/4" - 1/2"	3/8" - 5/8"	1/2" - 3/4"

(1) Performance given for an air return temperature of +27°C / 50% RH in cooling mode, +20°C in heating mode.

(2) The advertised heating power refers to use with a reversible condensing unit.

Cassettes with "electrical heating" option

Model code: Cassettes with electrical heating installed with a condensing unit WITH LP SWITCH OPTION		-	UKS002WG	UKS003WG	UKS004WG
Model code: Cassettes with electrical heating installed with a condensing unit WITHOUT LP SWITCH OPTION		-	UKS002WE	UKS003WE	UKS004WE
Model		KI14-18S (600*600)	KI14-18 (900*900)	KI24-36 (900*900)	KI36-40-50 (900*900)
Heating power - electrical heating	[kW]	-	1,4	2,1	2,1
Nominal current	[A]	-	6,4	9,5	9,5

The other features are identical to those of the model without electric heater (see table above).
Note: Cassettes with electric heating are converted to electromechanical: shutter control is then disabled and the control becomes wired and no longer infrared.

Accessory

Model	KI14-18S (600*600)	KI14-18 (900*900)	KI24-36 (900*900)	KI40-50 (900*900)
Module "LTB Connect"	TAD001YY			

LTB Connect Module: allows remote control and savings by programming.

The cassettes are combined with the condensing units of the corresponding size (e.g.: KI14-18 with FW18 or with FA18 or with FW14 ...)

Indoor units

Ducted

Characteristics

- Wired remote control with temperature sensor
- Possibility to control with an infrared remot control (on request)
- 3 fan speeds
- Low noise level
- Daily schedule programming
- Compatible with R513A and R32 refrigerants
- Lift pump not included

Ducted indoor units can be used for:

- cooling only (with a cooling-only condensing unit)
- cooling + thermodynamic heating (with a reversible condensing unit)
- cooling + Electrical heating with resistor (with a cooling only condensing unit)



Model code		UGS101WA	UGS102WA	UGS201WA	UGS202WA	UGS204WA	UGS301WA	UGS302WA
Model		GI07-09/30Pa	GI14-18/30Pa	GI14-18/75Pa	GI24/75Pa	GI36-40/75Pa	GI36-40/150Pa	GI50-64-80/150Pa
Cooling power (1)	[kW]	2 à 2,5	3,3 à 5	3,3 à 5	7	8,8 à 9,5	8,8 à 9,5	12,3 à 17,5
Heating power (1) (2)	[kW]	2,6 à 3,2	3,85 à 5,85	3,85 à 5,85	7,6	9,67 à 10,3	9,67 à 10,3	13,4 à 18,7
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Nominal absorbed power	[W]	40	60	90	120	180	350	500
Nominal current	[A]	0,45	0,60	0,95	1,44	2,04	3,60	5,75
Air flow LS/MS/HS	[m3/h]	425/459/510	867/937/1020	816/918/1020	1122/1241/1360	1513/1785/2040	1649/1836/2040	2482/2754/3060
Sound pressure at 1 m Ducted - LS/MS/HS	[dB(A)]	35/36/37	35/37/39	37/38/40	38/40/42	39/40/42	50/59/64	57/63/67
Dimensions LxDxh	[mm]	665x440x212	930x470x215	1020x580x290	1020x580x290	1340x580x290	1205x730x370	1425x730x370
Net weight	[kg]	20	27	27	34	51	53	62
Liquid line - Suction line	[inch]	1/4" - 3/8"	1/4" - 1/2"	1/4" - 1/2"	3/8" - 5/8"	3/8" - 3/4"	3/8" - 3/4"	3/8" - 7/8"

(1) Performance given for an air return temperature of +27°C / 50% RH in cooling mode, +20°C in heating mode.

(2) The advertised heating power refers to use with a reversible condensing unit.

Ducted indoor units with electrical heating option

Model code		UGS101WB	UGS102WB	UGS201WB	UGS202WB	UGS204WB	UGS301WB	UGS302WB
Model		GI07-09/30Pa	GI14-18/30Pa	GI14-18/75Pa	GI24/75Pa	GI36-40/75Pa	GI36-40/150Pa	GI50-64-80/150Pa
Heating power (electrical heating)	[kW]	2	2	2	4	6	4	6
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50
Nominal current	[A]	9,2	9,2	10,5	19,8	29,5	22	33,5

The other data are identical to those of the model without electrical heating (see table above).

Accessory

Model	GI07-09/30Pa	GI14-18/30Pa	GI14-18/75Pa	GI24/75Pa	GI36-40/75Pa	GI36-40/150Pa	GI50-64-80/150Pa
Module "LTB Connect"	TAD002YY						

LTB Connect Module: allows remote control and savings by programming.

The installer must ensure, through an aeraulic study, that the available pressure of the unit he has selected (30 Pa, 75 Pa or 150 Pa) is compatible with the pressure loss of the supply duct network. For quieter installations, it is recommended to use soundproof ducts.

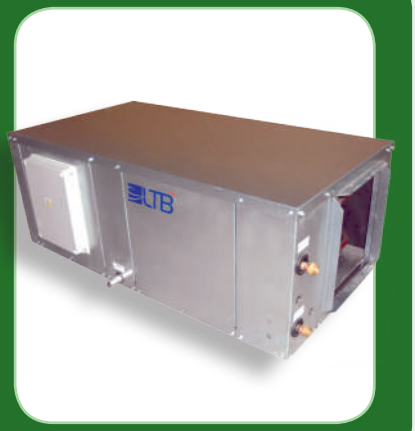
The indoor units are associated with the condensing units of the same size (ex: GI24/75Pa with FW24 or with FA24)

Possible applications :

- *Premises in the city center*
  (offices, shops, public spaces, etc.).
- *Shopping malls*
- *Industry*

Monobloc range
water-cooled

Horizontal ducted monobloc units water-cooled



Console type monobloc units water-cooled

> Additional monobloc units:

Cabinet type monobloc units water-cooled

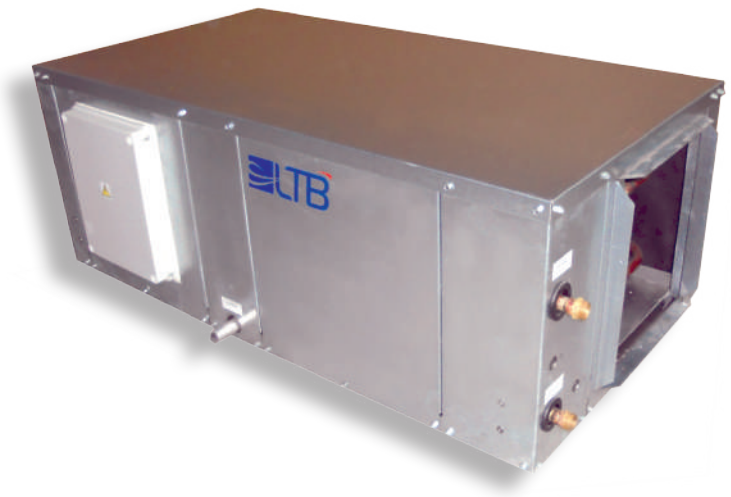
Information & precautions

Horizontal ducted monobloc units - NEO

CMHE Cooling only

CMHE

Also exists in R513A



- Installation in suspended ceiling or technical room
- The treated air is blown by a centrifugal fan in ducts to be connected to the unit (ducts not provided).
- CMHE cooling only units include a water regulation valve as standard. They are supplied with an air intake filter and its support.
- Electrical heating available as an option (from size 18).
- Controlled by wired autonomous regulation.
- For sizes 9 to 80 : possibility of inverting the panels to position the air intake and/or the outlet on the side. Contact us.

Monobloc

Unit to be installed inside the building.
The calories are evacuated in a flow of water.

Applications

- Premises in the city center (offices, shops, public spaces etc.).
- Shopping malls
- Industry

Product benefits

- No outdoor unit.
- Easy to install.
- No manipulation of refrigerant
- Standard equipment (see above)
- Modular air inlet and outlet (except size 07) cf. p.17
- ON/OFF : Easy to maintain.

NEO version water-saving!

Build your PART NUMBER (P/N)

G	Q	F	3	0	1	B	J

MODEL code 6 characters — OPTIONS pack 2 characters

and don't forget to order the accessories you need!

Refrigerant connections

The CMHE is a pre-loaded self-contained unit. There is no refrigeration connection to be made (no refrigerant handling).

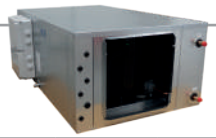
The nominal powers indicated in the tables are total powers and are for indoor air (inlet to the indoor unit) at +27°C / 50% RH (cooling mode). As a reminder, the power available to cool the air (sensible power) is equal to the total power minus the power absorbed by the condensation of humidity in the air (condensates).

CMHE Cooling only range- NEO

Water-cooled horizontal ducted monobloc units

R407C



Size		07	09	14	18	24	36	40	50	64	80
Model		CMHE07Q6	CMHE09Q6	CMHE14Q6	CMHE18Q6	CMHE24Q6	CMHE36Q6	CMHE40QY	CMHE50QY	CMHE64QY	CMHE80QY
Model code		GQF101	GQF201	GQF202	GQF301	GQF302	GQF401	GQF402	GQF403	GQF404	GQF405
Rated cooling power (1)	[kW]	1,8	2,5	3,3	5,0	7,0	8,8	9,5	12,3	14,0	17,5
EER	-	2,4	2,6	2,6	2,6	3,1	3,8	3,1	3,3	3,0	3,2
Electrical power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	400-3-50+N	400-3-50+N	400-3-50+N	400-3-50+N
Rated absorbed electrical power	[kW]	0,8	1,0	1,3	2,0	2,3	2,4	3,1	3,7	4,6	5,4
Rated current	[A]	3,7	5,3	6,5	10,0	10,8	11,0	7,2	7,7	10,0	11,7
Maximum current	[A]	6,9	6,3	8,2	12,3	14,5	21,3	11,1	12,2	16,9	18,8
Power supply cable (4)	[mm²]	3 x 2,5	3 x 2,5	3 x 2,5	3 x 2,5	3 x 4,0	3 x 4,0	5 x 4,0	5 x 4,0	5 x 4,0	5 x 4,0
Connection cable with wired remote control	[mm²]	6 x 1,5	4 x 1,5	4 x 1,5	4 x 1,5	4 x 1,5	4 x 1,5	4 x 1,5	4 x 1,5	4 x 1,5	4 x 1,5
With electrical heating option — Electrical heating power	[kW]	-	-	-	2,0	2,0	4,0	4,0	4,0	6,0	6,0
With electrical heating option — Rated absorbed power	[kW]	-	-	-	2,4	2,4	4,4	4,5	4,5	6,7	6,8
With electrical heating option — Rated current	[A]	-	-	-	11,0	11,0	20,5	21,0	21,0	31,0	31,5
With electrical heating option — Maximum current	[A]	-	-	-	13,0	13,0	21,3	22,8	22,8	34,4	34,4
With electrical heating option — Power supply cable	[mm²]	-	-	-	3 x 2,5	3 x 4,0	3 x 6,0	5 x 6,0	5 x 6,0	5 x 6,0	5 x 6,0
With electrical heating option — Connection cable with wired remote control	[mm²]	-	-	-	5 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5
Dimensions (LxDxh) (4)	[mm]	803x652 x300	950x510 x355	950x510 x355	1120x630 x450	1120x630 x450	1520x900 x550	1520x900 x550	1520x900 x550	1520x900 x550	1520x900 x550
Weight	[kg]	47	81	84	94	95	162	162	164	167	170
Water connection	[inch]	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Rated flow for a water inlet T° of +15°C	[L/h]	80	100	120	180	270	430	425	520	600	780
Rated flow for a water inlet T° of +30°C (2)	[L/h]	180	230	240	420	1000	2000	2300	2400	2700	2900
Maximum water inlet T° (3)	[°C]	+46	+45	+47	+45	+43	+42	+43	+42	+45	+42
Rated air flow (5)	[m3/h]	300	600	750	1150	1200	1200	1500	1800	2200	2500
Available pressure	[Pa]	150	150	100	200	200	100	100	100	100	100
Dimensions air outlet (Lxh)	[mm]	Ø 150	245 x 230	245 x 230	310 x 270	310 x 270	345 x 300	345 x 300	345 x 300	320 x 350	320 x 350
Dimensions air inlet (Lxh)	[mm]	405 x 165	290 x 300	290 x 300	410 x 360	410 x 360	465 x 465	465 x 465	465 x 465	465 x 465	465 x 465
Condensate connection	[mm]	32	20	20	20	20	20	20	20	20	20

(1) The rated power is given for a rated air flow (see above) and a rated water flow. Rated water flow depends on inlet water temperature.
The table above gives the rated flow rate for water inlet temperatures of +15°C and +30°C.
(2) If the water inlet temperature is higher than +30°C, contact us.
(3) Proper operation of the equipment is not guaranteed beyond the maximum water inlet temperature as this may in particular lead to premature wear of the compressor.
(4) Dimensions excluding electrical box.
(5) The installer must ensure that the pressure loss in the distribution ducts ensures an air flow rate equal to the nominal air flow rate. For silent installations, it is recommended to use soundproof ducts.

Options

		WITHOUT enhanced noise insulation		WITH enhanced noise insulation	
		WITHOUT LPS	WITH LPS	WITHOUT LPS	WITH LPS
Electrical heating	WITHOUT	AH (6)	BH (6)	CH	DH
	WITH	AJ (6)	BJ (6)	CJ	DJ

(6) These configurations do not exist for size 07.

Low pressure switch (LPS) : *protects the unit against operation with too low LP pressure (lack of gas, leak…).*
Enhanced noise insulation : *insulating and absorbent foam inside the casing to reduce sound pressure.*
Electrical heating : *Allows additional heating by electric resistances. The suction and blowing are necessarily positioned in line and the intensities and electrical consumption are higher (see values indicated above).*

Accessories

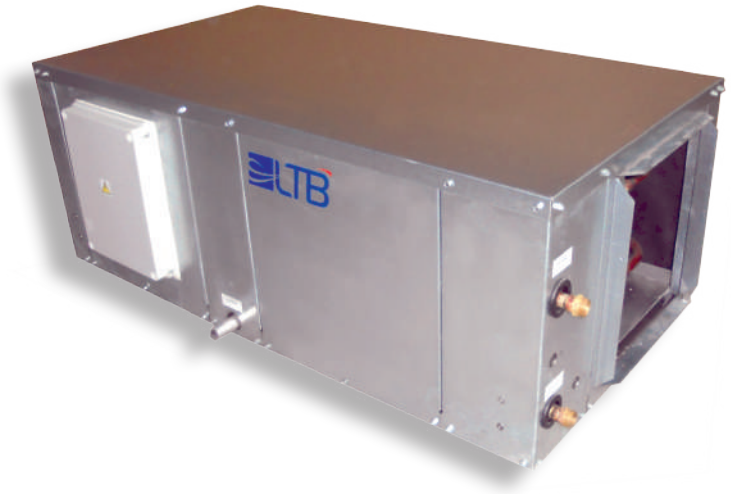
Size		07	09	14	18	24	36	40	50	64	80
Disconnecting switch	Code	SET005YY						SET006YY			
Water filter	Code	SWT001YY				SWT002YY					
Mounting brackets	Code	included	SMT007YY		SMT008YY		SMT009YY				

Disconnecting switch : *allows the condensing unit to be mechanically separated from its electrical supply. It allows locking in the open position.*
Water filter : *PN16 stainless steel mesh filter, to be connected to the connected to the water inlet of the condensing unit.*
Mounting brackets : *brackets to be fixed on the condensing unit, allowing it to be suspended by threaded rods.*

Horizontal ducted monobloc units- NEO
CMHE Reversible

Also exists in R513A

CMHE



- Installation in suspended ceiling or technical room
- The treated air is blown by a centrifugal fan in ducts to be connected to the unit (ducts not provided).
- Reversible CMHE units include as standard a flow controller and an anti-freeze thermostat. They are delivered with a water filter and an air intake filter with its support.
- Controlled by wired autonomous regulation.
- For sizes 09 to 80: possibility of inverting the panels to position the air intake and/or the outlet on the side. Consult us.

Monobloc

The condensing unit is to be installed inside the building. The calories are evacuated in the water loop (in cooling mode and drawn in heating mode).

Applications
- Shopping mall, offices
- Industry

On water loop only

Product benefits
- Without outdoor unit
- Easy installation
- No handling of the refrigerant
- Standard equipment (see above)
- Modular air inlet and outlet (except size 07) cf. p.17
- ON/OFF : easy maintenance

Build your PART NUMBER (P/N)

G	R	F	2	0	1	D	H

MODEL code 6 digits — OPTIONS Pack 2 digits

and don't forget to order the accessories you need

Refrigerant connections

The CMHE is a pre-loaded self-contained unit. There is no refrigeration connection to be made (no refrigerant handling).

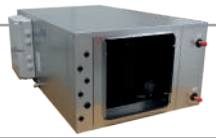
The nominal powers indicated in the tables are total powers and are for indoor air (entry to the indoor unit) at +27°C / 50% RH (cooling mode) and at +20°C (heating mode). As a reminder, the power available to cool the air (sensible power) is equal to the total power minus the power absorbed by the condensation of humidity in the air (condensates).

CMHE Reversible range- NEO

Water-cooled horizontal ducted monobloc units

R407C



Size		07	09	14	18	24	36	40	50	64	80
Model		CMHE07R6	CMHE09R6	CMHE14R6	CMHE18R6	CMHE24R6	CMHE36R6	CMHE40RY	CMHE50RY	CMHE64RY	CMHE80RY
Model code		GRF101	GRF201	GRF202	GRF301	GRF302	GRF401	GRF402	GRF403	GRF404	GRF405
Rated cooling power (1)	[kW]	2,0	2,5	3,3	5,0	7,0	8,8	9,5	12,3	14,0	17,5
Rated heating power (1)	[kW]	2,6	3,2	4,0	6,0	7,6	10,0	10,8	13,5	15,5	19,0
EER	-	2,6	2,6	2,6	2,6	3,1	3,8	2,7	2,8	2,7	2,9
COP	-	3,4	3,3	3,1	3,1	3,4	4,3	3,5	3,7	3,4	3,5
Electrical power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	230-1-50	400-3-50+N	400-3-50+N	400-3-50+N	400-3-50+N
Rated absorbed electrical power	[kW]	0,8	1,0	1,3	2,0	2,3	2,4	3,1	3,7	4,6	5,4
Rated current	[A]	3,7	5,3	6,5	10,0	10,8	11,0	7,2	7,7	10,0	11,7
Maximum current	[A]	6,9	6,3	8,2	12,3	14,5	21,3	11,1	12,2	16,9	18,8
Power supply cable	[mm^2]	3 x 2,5	3 x 2,5	3 x 2,5	3 x 2,5	3 x 4,0	3 x 4,0	5 x 4,0	5 x 4,0	5 x 4,0	5 x 4,0
Connection cable with wired remote control	[mm^2]	7 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5	5 x 1,5
Dimensions (LxDxh) (4)	[mm]	803x652 x300	950x510 x355	950x510 x355	1120x630 x450	1120x630 x450	1520x900 x550	1520x900 x550	1520x900 x550	1520x900 x550	1520x900 x550
Weight	[kg]	47	81	84	94	95	162	162	164	167	170
Water connection	[inch]	1/2"	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
Rated flow (1) for water inlet temperature at +30°C (cooling mode) (2) and +20°C (heating mode) (3)	[L/h]	350	400	580	1100	1200	2000	2100	2600	2800	3000
Pressure loss (water)	[mbar]	80	100	130	150	150	150	150	150	200	200
Rated air flow (5)	[m3/h]	300	600	750	1150	1200	1200	1500	1800	2200	2500
Available pressure	[Pa]	150	150	100	200	200	100	100	100	100	100
Dimensions air outlet (Lxh)	[mm]	Ø 150	245 x 230	245 x 230	310 x 270	310 x 270	345 x 300	345 x 300	345 x 300	320 x 350	320 x 350
Dimensions air inlet (Lxh)	[mm]	405 x 165	290 x 300	290 x 300	410 x 360	410 x 360	465 x 465	465 x 465	465 x 465	465 x 465	465 x 465
Condensate connection	[mm]	32	20	20	20	20	20	20	20	20	20

(1) The nominal power is returned for a nominal air flow (see above) and a nominal water flow. The nominal water flow depends on the inlet water temperature.
The table above gives the nominal flow rate for water inlet temperatures of +30° (cooling mode) and +20°C (heating mode).
(2) In cooling mode, at nominal flow rate, the minimum water inlet temperature is +25°C and the maximum water inlet temperature is +40°C.
(3) In heating mode, at nominal water flow, the minimum water inlet temperature is +15°C and the maximum water inlet temperature is +30°C.
(4) Dimensions excluding electrical box.
(5) The installer must ensure that the pressure loss in the distribution ducts ensures an air flow rate equal to the nominal air flow rate. For silent installations, it is recommended to use soundproof ducts.

Proper operation of the equipment is not guaranteed outside the water inlet temperature ranges mentioned above. This can in particular lead to premature wear of the compressor.
If the water inlet temperature is outside these ranges, contact us.

Options

		WITHOUT LPS	WITH LPS
Enhanced noise insulation	WITHOUT	AH (6)	BH (6)
	WITH	CH	DH

(6) These configurations do not exist for size 07.

Low pressure switch (LPS) : protects the unit against operation with too low LP pressure (lack of gas, leak…).

Enhanced noise insulation: insulating and absorbent foam inside the casing to reduce sound pressure.

Accessories

Size		07	09	14	18	24	36	40	50	64	80
Disconnecting switch	Code	SET005YY						SET006YY			
Mounting brackets	Code	inclus	SMT007YY		SMT008YY		SMT009YY				
Flow meter valve	Code	SWT101YY		SWT102YY			SWT103YY	-			

Disconnecting switch: allows the condensing unit to be mechanically separated from its electrical supply. It allows locking in the open position.
Flow meter valve device equipped with a manual valve allowing the water flow to be read and adjusted (see description p.8).
Mounting brackets : brackets to be fixed on the condensing unit, allowing it to be suspended by threaded rods.

Monobloc water-cooled consoles
CMCE Cooling only and reversible

Reversible models only on water loop!

CMCE

- Floor mounting
- The consoles come standard with LP switch and enhanced noise insulation.
- They are controlled by an autonomous "Eberle" type regulator.
- The cooling only models include a pressostatic water valve as standard.
- The reversible models include a flow controller as standard.

Monobloc

The console is installed inside the building. The calories are evacuated into a flow of water (in cooling mode and drawn in in heating mode).

Applications
- Offices
- City center shops
- City center premises

Product benefits
- No outdoor unit
- Easy to install
- No manipulation of refrigerant
- Standard equipment (see above)
- ON/OFF: Easy maintenance

Build your PART NUMBER

C	Q	F	1	0	1	D	A

MODEL code 6 characters — OPTIONS pack 2 characters

and don't forget to order the accessories you may need!

Refrigerant connections

The CMCE unit is a pre-charged monobloc. There is no refrigeration connection to be made (no handling of refrigerant).

The nominal powers indicated are total powers and are for indoor air (at the unit inlet) at +27°C / 50% RH (cooling mode) and at +20°C (heating mode). As a reminder, the power available to cool the air (sensible power) is equal to the total power less the power absorbed by the condensation of the air humidity (condensates).

CMCE Cooling only range

Monobloc water-cooled consoles

R407C

Size		06	09	14
Model		CMCE06Q6	CMCE09Q6	CMCE14Q6
Model code		CQF101	CQF102	CQF103
Nominal cooling power (1)	[kW]	1,8	2,5	3,3
Electrical heating power (option)	[kW]	2,0	2,0	2,0
EER	-	1,90	2,27	2,40
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50
Nominal absorbed power - Cooling mode	[kW]	1,0	1,1	1,4
Nominal current - Cooling mode	[A]	4,4	5,0	6,3
Maximum current - Cooling only	[A]	4,7	5,3	7,3
Nominal absorbed power - Heating mode	[kW]	2,15	2,15	2,15
Nominal current - Heating mode	[A]	9,5	9,5	9,5
Power supply cable	[mm²]	3 x 2.5	3 x 2.5	3 x 2.5
Air flow (LS/MS/HS)	[m3/h]	400/450/500	400/450/500	400/450/500
Dimensions (LxDxh)	[mm]	1000x256x663	1000x256x663	1000x256x663
Weight	[kg]	61	62	65
Water connection	[inch]	1/2"	1/2"	1/2"
Nominal water flow rate for water inlet T° at +15°C	[L/h]	120	170	250
Nominal water flow rate for water inlet T° at +30°C (2)	[L/h]	350	400	480
Maximum water inlet T° (3)	[°C]	40	40	40
Condensate connection	[mm]	20	20	20

(1) The nominal power is given for a nominal water flow rate that depends on the water inlet temperature. The table shows the nominal flow rate for water inlet temperatures of +15°C and +30°C.
(2) f the water inlet temperature is higher than +30°C, please contact us.
(3) Proper operation of the equipment is not guaranteed beyond the maximum water inlet temperature. This can lead to premature wear of the compressor.

Options

	WITHOUT	WITH
Electrical heating	DA	DC

The electric heating option is only available for cooling only models.

CMCE Reversible range

Monobloc water-cooled consoles

R407C

Size		06	09	14
Model		CMCE06R6	CMCE09R6	CMCE14R6
Code modèle		CRF101	CRF102	CRF103
Nominal cooling power (1)	[kW]	1,8	2,5	3,3
Nominal heating power (1)	[kW]	2,3	3,2	4,0
EER	-	1,90	2,27	2,40
COP	-	2,40	2,90	2,86
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50
Nominal absorbed power	[kW]	1,0	1,1	1,4
Nominal current	[A]	4,4	5,0	6,3
Maximum current	[A]	4,7	5,3	7,3
Power supply cable	[mm²]	3 x 1.5	3 x 1.5	3 x 1.5
Air flow (LS/MS/HS)	[m3/h]	400/450/500	400/450/500	400/450/500
Dimensions (LxDxh)	[mm]	1000x256x663	1000x256x663	1000x256x663
Weight	[kg]	61	62	65
Water connection	[inch]	1/2"	1/2"	1/2"
Nominal water flow rate (1) for water inlet temperature at +30°C (cooling mode) (2) and +20°C (heating mode) (3)	[L/h]	350	400	480
Pressure drop	[mbar]	150	200	300
Condensate connection	[mm]	20	20	20

(1) The nominal power is returned for a nominal water flow rate which depends on the water inlet temperature. The table above gives the value of the nominal water flow rate associated with a water inlet temperature of +30°C (cooling mode) and +20°C (heating mode).
(2) In cooling mode, at nominal flow rate, the minimum water inlet temperature is +25°C and the maximum water inlet temperature is +40°C.
(3) In hot mode, at nominal water flow rate, the minimum water inlet temperature is +15°C and the maximum water inlet temperature is +30°C.
Proper operation of the equipment is not guaranteed outside the water inlet temperature ranges mentioned above. This can lead to premature wear of the compressor. If the water inlet temperature is outside these ranges, please contact us.

Accessories

Size		06	09	14
Flow meter valve	Code	SWT101YY		SWT102YY
Disconnecting switch	Code	SET005YY		

Flow meter valve: device equipped with a manual valve allowing the water flow to be read and adjusted (see description p.8).
Disconnecting switch: mechanically separates the condensing unit from its power supply. Allows locking in the open position.

Possible applications

- ***Industrial technical rooms***
- ***Large tertiary spaces***

Cabinets & Industry

Air conditioning cabinets and applications for industry

> *See also for industrial applications*

Centrifugal fan monosplits - three-phase models (9.5 to 14 kW)

Water-cooled monosplits - three-phase models (9.5 to 17.5 kW)

Horizontal water-cooled monoblocs - three-phase models (9.5 to 17.5 kW)

Water-cooled cabinet type condensing units
CMVE Cooling only

Also available in a ducted version (without plenum)

CMVE

- Reliable and robust.
- Air intake on the facade and upward blowing through ducts or plenum.
- High static pressure in ducted version.
- HP & LP pressure switch, HP & LP pressure gauges and liquid sight glass included.
- Electrical heating available as an option.
- Pressostatic water valve as an option.
- Adaptable static pressure, air flow and air temperature (on request).
- Control with digital display on the front.

Monobloc

The cabinet is installed inside the building. The calories are evacuated in a flow of water.

Applications

- Industrial technical premises
- Large commercial spaces

Product benefits

- No outdoor unit
- Easy to install
- No manipulation of refrigerant
- Standard equipment (see above)
- ON/OFF: Easy maintenance

Build your PART NUMBER

V	G	F	2	1	1	L	A

MODEL code 6 characters — OPTIONS pack 2 characters

and don't forget to order the accessories you need!

Refrigerant connections

The CMVE cabinet is a pre-charged monobloc. There is no refrigeration connection to be made (no handling of refrigerant).

The nominal powers indicated opposite are total powers and are understood for indoor air (at the unit inlet) at +27°C / 50% RH. As a reminder, the power available to cool the air (sensible power) is equal to the total power reduced by the power absorbed by the condensation of the air humidity (condensates).

CMVE Cooling only range

Water-cooled cabinet type condensing units

R407C






Size		40	50	64	80	100	120	165	201	251	321
Model		CMVE40QY	CMVE50QY	CMVE64QY	CMVE80QY	CMVE100QY	CMVE120QY	CMVE165QY	CMVE201QY	CMVE251QY	CMVE321QY
Model code		VGF111	VGF211	VGF311	VGF321	VGF411	VGF421	VGF511	VGF611	VGF621	VGF631
Nominal cooling power (1)	[kW]	9	11	14	18	24	29	34	46	60	78
Electrical heating power (option)	[kW]	6	9	10,5	17	24	24	24	30	30	30
Power supply	V-Ph-Hz	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50	400-3-50
Nominal absorbed power (standard)	[kW]	3,8	4,3	5,6	7,9	9,2	10,3	12,7	20,0	23,0	30,5
Nominal current (standard)	[A]	8,0	8,5	10,5	15,0	18,0	20,0	23,0	37,5	41,5	54,0
Maximum current (standard)	[A]	10	11	13	17,5	24	27	29	46	59	70
Power supply cable	[mm²]	4 x 2.5	4 x 4.0	4 x 4.0	4 x 6.0	4 x 6.0	4 x 6.0	4 x 6.0	4 x 10.0	4 x 10.0	4 x 10.0
Dimensions ductable version - LxDxh	[mm]	900x590 x1025	900x520 x1650	1000x700 x1650	1000x700 x1650	1500x700 x1700	1500x700 x1700	1670x700 x1700	1900x925 x1700	1900x925 x1700	1900x925 x1700
Dimensions plenum version - LxDxh	[mm]	900x590 x1275	900x520 x1900	1000x700 x1900	1000x700 x1900	1500x700 x1950	1500x700 x1950	1670x700 x1960	-	-	-
Weight ducted version	[kg]	155	182	223	231	348	351	399	637	709	757
Weight plenum version	[kg]	167	195	238	246	369	373	437	-	-	-
Water connection	[inch]	1	1	1	1	1	1	1	2	2	2
Nominal water flow for a water inlet T° of +15°C	[L/h]	350	450	540	690	890	1090	1270	1670	2140	2760
Nominal water flow for a water inlet T° of +30°C (2)	[L/h]	690	850	1080	1380	1780	2160	2530	3140	4020	5200
Maximum water inlet T° (3)	[°C]	45	45	45	45	45	45	45	45	45	45
Air flow (4)	[m3/h]	1400	1900	2300	3300	3700	5000	6100	9700	9900	10000
Available pressure (ducted version)	[Pa]	400	400	400	400	400	400	400	400	400	400
Blowing dimensions ducted version (LxD) (5)	[mm]	280x270	310x270	390x390	390x390	865x360	865x360	940x390	1150x400	1150x400	1150x400
Condensate connection	[inch]	3/4	3/4	3/4	3/4	3/4	3/4	3/4	1	1	1

(1) The nominal power is given for a nominal water flow rate which depends on the water inlet temperature. The table above shows the nominal flow rate for water inlet temperatures of +15°C and +30°C.
(2) If the water inlet temperature is higher than +30°C, please contact us.
(3) Proper operation of the equipment is not guaranteed beyond the maximum water inlet temperature. This can lead to premature wear of the compressor.
(4) In the case of the ducted version, the nominal power can only be restored if the pressure drop in the distribution duct network ensures an air flow equal to the nominal air flow.
(5) Dimensions of the duct connection frame (ducted version).

The standard version corresponds to the ducted configuration without options.
CMVE cabinets come standard with HP and LP pressure switches, HP and LP pressure gauges, and a sight glass.

Options

		WITHOUT electrical heating		WITH electrical heating	
		Ducted version	Version with plenum	Ducted version	Version with plenum
Pressostatic water valve	WITHOUT	LA	LB	LC	LD
	WITH	LK	LL	LM	LN

Plenum: Diffusion plenum for direct (frontal) blowing into the room.
Electrical heating: heating function using electrical resistors. The electrical power and intensity are then higher than those indicated in this table. Contact us.
Pressostatic water valve: Allows the water flow to be limited to the strict cooling requirements of the cabinet condenser.

Adaptations

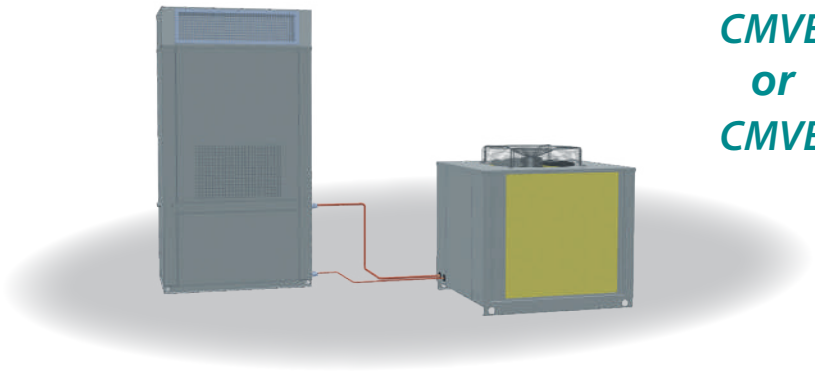
Possibility of adapting the available static pressure, ducting the air intake, water outlets, water and air temperatures, air flow, remote control, etc. Contact us.

Split cabinets with remote condenser
CMVE AC - Cooling only

Also available in a ducted version (without plenum)

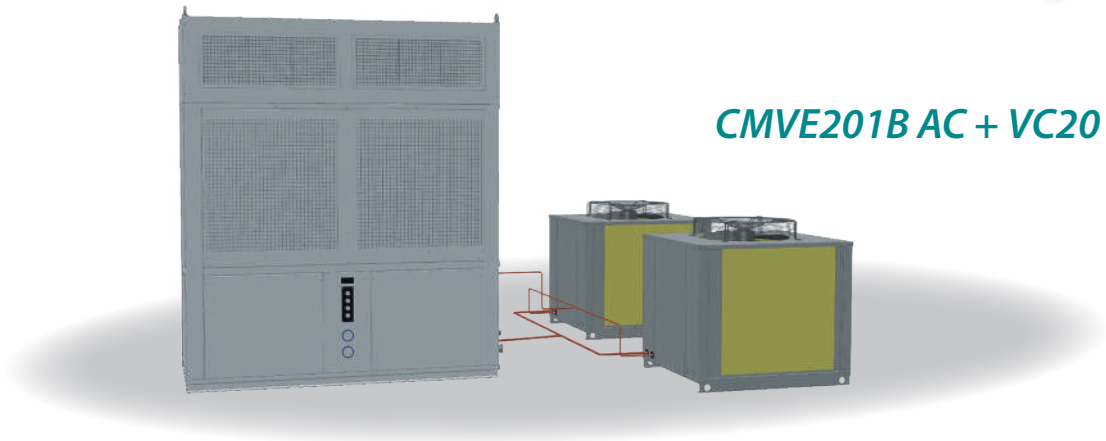
Possible configurations

R407C



CMVE80 AC + VC20
or
CMVE120 AC + VC30

Direct expansion



CMVE201B AC + VC20 (x2)

Applications

- Industrial premises

Product benefits

- Reliable and robust.
- High pressure available in ducted version.
- ON/OFF: Easy maintenance

Cabinets with remote condenser



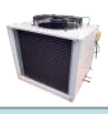
Model		CMVE80 AC	CMVE120 AC	CMVE201B AC
Cooling power (1)	[kW]	18	30	40
Electrical heating power (option)	[kW]	17	24	30
Dimensions (LxPxh) sans plenum	[mm]	1000x700x1650	1500x700x1700	1900x925x1700
Height plenum	[mm]	250	250	500
Power supply	[V-Ph-Hz]	400-3-50+N	400-3-50+N	400-3-50+N
Maximum current (without electrical heating option)	[A]	10	20	32
Air flow	[m^3/h]	3200	5800	9000
Weight	[kg]	230	350	350
Fan-condenser to be associated	-	VC20	VC30	VC20 x 2

Contact us for more information

Characteristics

- Condensation regulation included
- Versions with plenum and versions without plenum
- Optional electrical resistance heating
- G4 filter included

Associated Fan-Condensers



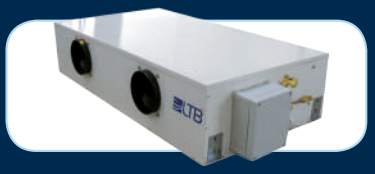

Model		VC20	VC30
Cooling power	[kW]	20	30
Dimensions (LxDxh)	[mm]	1000x900x1000	1560x900x1000
Weight	[kg]	150	300

Contact us for more information

Low temperature
for temperatures from +8°C to +21°C

Low Temperature condensing units

Low Temperature Indoor units



> Good to know:

The FABT and FWBT low-temperature condensing units are units without an outdoor unit. They are suitable for low-temperature air conditioning needs in city centers and shopping centers.

Low temperature range

Low T°

Applications

Cellars, florists, chocolatiers, food preparation rooms, garbage rooms, mortuary rooms,...

Characteristics

- **Set temperature with a LTB low temperature indoor unit: from +8°C to +21°C**

Condensing units

FHBT

The condensing unit to be installed outside the building.

Direct expansion

Characteristics

- LP- and HP switch
- Condensing regulation
- Connections & flare valves incl.

Product benefits

- Low noise level
- Easy to install
- ON/OFF: easy to maintain

FWBT

The unit is to be installed inside the building. The calories are evacuated in a water flow.

Direct expansion

Characteristics

- Pressostatic water valve included as standard

Product benefits

- No outdoor unit
- No grid on the facade of the building
- Easy to install
- ON/OFF: easy to maintain

Ideal in city centres and shopping malls

FABT

The unit is to be installed inside the building. The outside air is led to the unit by ducts to evacuate the calories.

Direct expansion

Characteristics

- Centrifugal fan with high static pressure

Product benefits

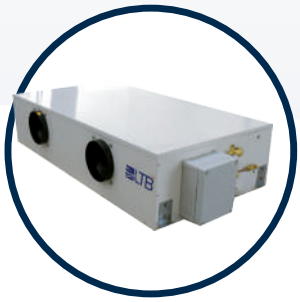
- No outdoor unit
- Interchangeable air in- and outlet (cf. p.17).
- ON/OFF: easy to maintain
- Easy access for maintenance through removable panels.

Ideal in city centres and shopping malls

Indoor units

CLBT - Ceiling mounted indoor unit

GIBT - Ducted indoor unit



MIBT - Wall mounted indoor unit

CIBT - Console indoor unit

FHBT - Low Temperature

Axial fan condensing units

Low T°

Applications

Cellars, florists, chocolatiers, food preparation rooms, garbage rooms, mortuaries...

Characteristics

Set temperature with a LTB low temperature indoor unit: from +8°C to +21°C

R513A

Size		14	18	36
Model		FHBT14	FHBT18	FHBT36
Model code		HBG101BB	HBG102BB	HBG103BB
Nominal cooling power (1)	[kW]	2,5	3,5	5,0
Power supply	V-Ph-Hz	230V / 1Ph / 50 Hz	230V / 1Ph / 50 Hz	230V / 1Ph / 50 Hz
Nominal current	[A]	7,5	9,0	13,1
Maximum current	[A]	11,6	13,9	17,9
Power supply cable	[mm²]	3 x 2,5	3 x 4,0	3 x 4,0
Connection cable	[mm²]	4 x 1,5	4 x 1,5	4 x 1,5
Dimensions (LxDxH)	[mm]	770x250x610	950x370x760	950x370x760
Weight	[kg]	55	65	85
Liquid line - Suction line	[inch]	1/4"-1/2"	3/8'-5/8"	3/8" - 3/4"

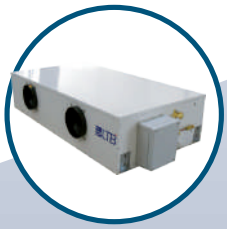
(1) for an outside temperature of minimum +10°C and maximum +50°C
Condensation control and LP pressure switch are included in all models.
The performance values indicated above are for use with an LTB low temperature indoor unit .

Association with indoor units

Size	-	14	18	36
Low temperature CLBT	Cf. p.60	•	•	•
Low temperature GIBT	Cf. p.61	•	•	•
Low temperature MIBT	Cf. p.62	•	•	
Low temperature CIBT	Cf. p.62	•	•	•

CLBT - Ceiling mounted

GIBT - Ducted type



MIBT - Wall mounted

CIBT - Console type

FWBT - Low temperature

Water cooled condensing units - NEO

R513A

Size		14	18	24
Model		FWBT14Q6	FWBT18Q6	FWBT24Q6
Model code		WBG103	WBG104	WBG105
Nominal cooling power	[kW]	2,5	3,5	5
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50
Nominal absorbed power	[kW]	1,2	1,6	2,4
Nominal current	[A]	6,2	7,5	11,7
Maximum current	[A]	10,2	12,5	16,5
Power supply cable	[mm²]	3 x 1.5	3 x 2.5	3 x 4.0
Connection cable	[mm²]	4 x 1.5	4 x 1.5	4 x 1.5
Dimensions (LxDxh)	[mm]	600x310x430	600x310x430	600x360x630
Weight	[kg]	39	50	69
Sound pressure (at 1m)	[dB(A)]	46	42	45
Liquid line / Suction line	[inch]	3/8"-1/2"	3/8"-5/8"	3/8"-3/4"
Water connection - Male	[inch]	1/2"	1/2"	3/4"
Water flow at +15°C	[L/h]	140	150	230
Water flow at +30°C	[L/h]	700	500	600
Maximum temperature	[°C]	50	50	50

(1) The nominal power is given for a nominal water flow rate that depends on the water inlet temperature. The table shows the nominal flow rate for water inlet temperatures of +15°C and +30°C.

(2) If the water inlet temperature is higher than +30°C, please contact us.

(3) Proper operation of the equipment is not guaranteed beyond the maximum water inlet temperature. This can lead to premature wear of the compressor.

(4) The cable types and sections are given for information purposes only and correspond to an installation with LTB indoor units without the electrical heating option.

The performances indicated above are for use with an LTB low temperature indoor unit.

Options

		WITHOUT LP switch	WITH LP switch
Enhanced sound insulation	WITHOUT	AH	BH
	WITH	CH	DH

- **LP pressure switch**: protects the compressor against operation with too low LP pressure (lack of gas, leak, etc.)
- **Enhanced sound insulation**: insulating and absorbent foam inside the body to reduce sound pressure.

Accessories

Size		14	18	24
Disconnecting switch	Code	SET001YY		
Water filter	Code	SWT001YY		SWT002YY
Flexible connections for water inlet/outlet	Code	SWT004YY		SWT005YY

Sectionneur de proximité : permet de séparer de façon mécanique le groupe de condensation de son alimentation électrique. Il permet un verrouillage en position ouverte.
Filtre à eau : filtre à tamis Inox PN16, à raccorder sur l'entrée d'eau du groupe de condensation.

Association with indoor units

Size		14	18	24
Low temperature CLBT	Cf. p.60	•	•	•
Low temperature GIBT	Cf. p.61	•	•	•
Low temperature MIBT	Cf. p.62	•	•	•
Low temperature CIBT	Cf. p.62	•	•	•

Build your PART NUMBER

W	B	G	1	0	3	B	H

MODEL code 6 characters — OPTIONS pack 2 characters

Do not forget to order the accessories you may need!

Refrigerant connections

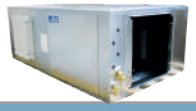
- Max length: 20 m.
- Max height difference: 5 m
- Units preloaded for 4 m of refrigerant lines

The nominal power indicated are total powers and are for indoor air (at the inlet of the indoor unit) at +13°C / 70% RH.
As a reminder, the power available to cool the air (sensible power) is equal to the total power minus the power absorbed by the condensation of the air humidity (condensates).

FABT - Low temperature

Centrifugal fan condensing units

R513A



Size		14	18	24
Model		FABT14Q6	FABT18Q6	FABT24Q6
Model code		ABG102	ABG103	ABG104
Nominal cooling power	[kW]	2,5	3,5	5,0
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50
Nominal absorbed power	[kW]	1,4	1,8	2,9
Nominal current	[A]	7,2	9,9	14,3
Maximum current	[A]	11,8	16	21
Power supply cable	[mm²]	3 x 2.5	3 x 2.5	3 x 4.0
Electrical connection	[mm²]	8 x 1.5	8 x 1.5	4 x 1.5
Dimensions (LxDxh)	[mm]	1120x630x450	1120x630x450	1520x900x550
Weight	[kg]	86	105	181
Liquid line / Suction line	[inch]	3/8"-1/2"	3/8"-5/8"	3/8"-3/4"
Nominal air flow	[m3/h]	1100	2100	2400
Available pressure	[Pa]	200 / 150	350 / 250	350 / 250
Maximum temperature	[°C]	45	50	47

(1) Dimensions excluding electrical box.
(2) The cable types and sections are given for information purposes only and correspond to an installation with LTB indoor units without the electrical heating option.
The unit delivers the nominal cooling power for a flow rate equal to the nominal air flow rate at a temperature of +35°C. The outside air entering the unit must be at a temperature of +40°C maximum and +20°C minimum. The "Condensation control" option allows the air conditioning to operate with outside air temperatures below +20°C. This option is recommended for Low Temperature applications. Refer to pages 9 (functional diagram) and 17 (Information and precautions) for the implementation of centrifugal units.
The performances indicated above are for use with an LTB low temperature indoor unit.

Options

		WITHOUT enhanced sound insulation		WITH enhanced sound insulation	
		WITHOUT LPS	WITH LPS	WITHOUT LPS	WITH LPS
Condensation regulation	WITHOUT	AA	BA	CA	DA
	WITH	AB	BB	CB	DB

LP switch: protects the unit against operation with too low LP pressure (lack of gas, leak, etc…).
Enhanced sound insulation : insulating and absorbent foam inside the casing to reduce sound pressure.
Condensation regulation ("winter start kit") : allows operation in cooling mode with low outside temperature (from +20°C down to -5°C), protecting the unit against excessive cooling of the condenser.

Accessories

Size		14	18	24
Disconnecting switch	Code	SET003YY		
Air filter and frame	Code	SAT002YY		SAT003YY
Mounting brackets	Code	SMT008YY		SMT009YY

Disconnecting switch: allows the condensing unit to be mechanically separated from its power supply. It allows locking in the open position.
Air filter and frame: G3 filter to be placed at the inlet of the condensation unit to limit fouling of the battery (recommended see p. 17).
Mounting brackets: brackets to be fixed on the condensation unit allowing it to be suspended by threaded rods.

Association with indoor units

Size		14	18	24
Low temperature CLBT ceiling mounted	Cf. p.60	•	•	•
Low temperature GIBT ducted	Cf. p.61	•	•	•
Low temperature MIBT wall mounted	Cf. p.62	•	•	•
Low temperature CIBT console type	Cf. p.62	•	•	•

Build your PART NUMBER

A	B	G	1	0	3	B	H

MODEL code 6 characters — OPTIONS pack 2 characters

Do not forget to order the accessories you may need!

Refrigerant connections

- Max length : 20 m
- Max height difference : 5 m
- Units preloaded for 4 m of refrigerant lines

The nominal power indicated are total powers and are for indoor air (at the inlet of the indoor unit) at +13°C / 70% RH.
As a reminder, the power available to cool the air (sensible power) is equal to the total power minus the power absorbed by the condensation of the air humidity (condensates).

CLBT - Ceiling mounted indoor units

Indoor units
Low Temperature

Characteristics

- Set temperature: from +8°C to +21°C
- Electrical heating (option)
- Control with digital display on the front

Product benefits

- Stainless steel casing
- Electronic regulation
- Ceiling and wall mounting possible

Size		14	18	36
Model		CLBT14	CLBT18	CLBT36
Model code		UPB005TA	UPB006TA	UPB007TA
Cooling power (1)	[kW]	2,5	3,5	5,0
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50
Nominal current	[A]	0,6	0,7	0,8
Air flow	[m3/h]	1836	1620	1620
Sound pressure at 2 m	[dB(A)]	61	57	57
Dimensions LxDxh	[mm]	805x475x450	805x475x450	805x475x450
Net weight	[kg]	25	27	27
Liduid line - Suction line	[inch]	1/4"-1/2"	1/4"-5/8"	3/8"-5/8"

(1) Performances given for an air inlet temperature of +13°C/70% RH.

Ceiling mounted units with electrical heating option

Size		14	18	36
Model code		UPB005TB	UPB006TB	UPB007TB
Heating power (electrical)	[kW]	1,5	1,5	1,5
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50
Nominal current	[A]	7,0	7,0	7,0

The other characteristics are identical to those of the versions without the electrical heating option.

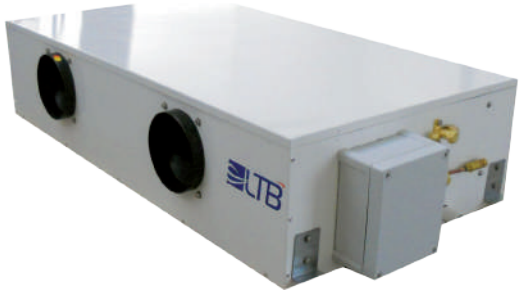
Low Temperature indoor units can be combined with condensing units of the corresponding size (eg: CLBT18 withFHBT18, FWBT18 or FABT18)

GIBT - Ducted indoor units
Indoor units
Low Temperature

Low T°

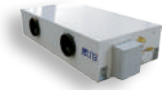
Characteristics

- Set temperature: from +8°C to +21°C
- Wired remote control
- Electrical heating (option)
- Potentiometer for adjusting the fan flow rate to match the air duct network



Product benefits

- Low height
- Low noise level
- Discreet (integrated into the false ceiling)
- High static pressure available



Size		14	18	36
Model		GIBT14	GIBT18	GIBT36
Model code		UGB001TA	UGB002TA	UGB003TA
Cooling power (1)	[kW]	2,5	3,5	5,0
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50
Available pressure	[Pa]	400	350	250
Nominal absorbed power	[W]	230	230	460
Nominal current	[A]	1,8	1,8	3,6
Air flow	[m3/h]	400	600	1000
Sound pressure at 1 m	[dB(A)]	40	44	50
Dimensions LxDxh	[mm]	1103x604x252	1103x604x252	1103x604x252
Net weight	[kg]	30	30	30
Liquid line - Suction line	[inch]	1/4" / 1/2"	1/4" / 1/2"	3/8"-5/8"

(1) Performances given for an air inlet temperature of +13°C/70% RH.

Ducted indoor units with electrical heating option

Size		14	18	36
Model code		UGB001TB	UGB002TB	UGB003TB
Heating power (electrical)	[kW]	2	2	2
Power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50
Nominal current	[A]	11	11	13

The other characteristics are identical to those of the versions without the electrical heating option.

Low Temperature Indoor Units can be combined with condensing units of the corresponding size (eg : GIBT14 with FHBT14, FWBT14 or FABT14)

MIBT - Wall mounted indoor units

Indoor units
Low temperature

Basse T°

Characteristics

- Compatible with FHBT, FWBT and FABT
- Electromechanical regulation
- Wired remote control (included)
- 1 fan speed
- Set temperature: from +8°C to +21°C

			
Size		14	18
Model		MIBT14-D23	MIBT18-D23
Model code		UMB402TA	UMB403TA
Cooling power (1)	[kW]	2,5	3,5
Power supply	V-Ph-Hz	230-1-50	230-1-50
Nominal absorbed power	[W]	25	55
Nominal current	[A]	0,25	0,5
Air flow	[m3/h]	700	1200
Pression sonore à 1 m	[dB(A)]	37	39
Dimensions LxDxh	[mm]	855x210x280	1059x250x315
Net weight	[kg]	11	15
Liquid line - Suction line	[inch]	1/4"-1/2"	3/8"-5/8"

(1) Performances given for an air inlet temperature of +13°C/70% RH.

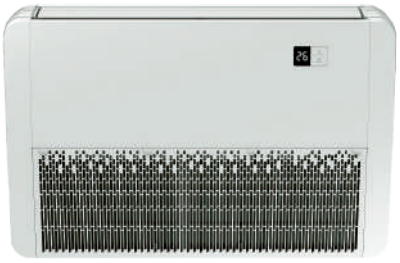
Low Temperature Indoor Units can be combined with condensing units of the corresponding size (eg: MIBT18 with FHBT18, FWBT18 or FABT18)

CIBT - Console indoor units
Indoor units
Low Temperature

Low T°

Characteristics

- Set temperature: from +8°C to +21°C
- Can be wall- or ceiling mounted
- Compatible with FHBT, FWBT and FABT
- Wired remote control (included)
- 3 fan speeds
- Electromechanical regulation

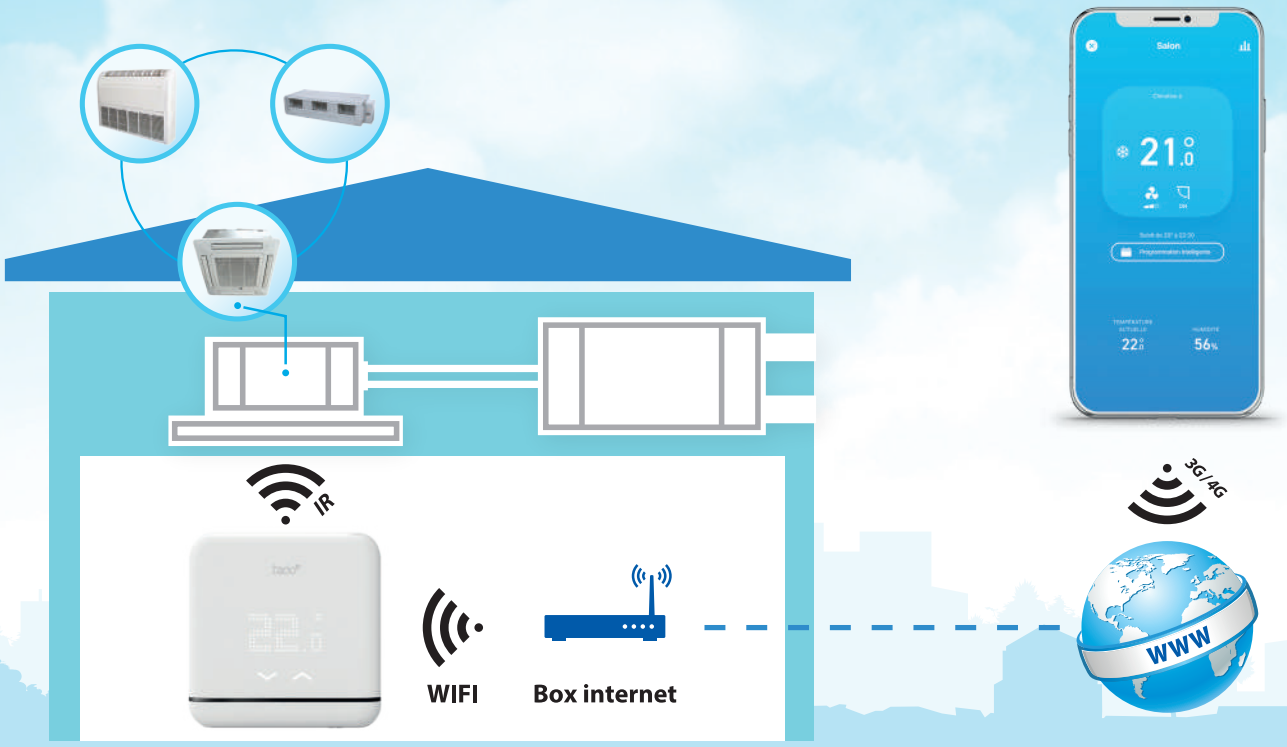


			
Size		14-18	36
Model		CIBT14-18	CIBT36
Model code		UCB101TA	UCB103TA
Cooling power (1)	[kW]	2,5 à 3,5	5
Power supply	V-Ph-Hz	230-1-50	230-1-50
Nominal absorbed power	[W]	65	100
Nominal current	[A]	0,60	1,50
Air flow in HS	[m3/h]	1200	1500
Sound pressure at 1 m in LS	[dB(A)]	47	52
Dimensions LxDxh	[mm]	1050x235x675	1300x235x675
Net weight	[kg]	25	32
Liquid line - Suction line	[inch]	1/4"-1/2"	3/8"-3/4"

(1) Performances given for an air inlet temperature of +13°C/70% RH.

Low Temperature Indoor Units can be combined with condensing units of the corresponding size (eg: CIBT36 with FHBT36, FWBT36 or FABT36)

LTB Connect by tado°



CONTROL remotely

Know in real time and remotely the temperature and hygrometry of the room

MANAGE remotely

Remotely change the temperature setpoint, the fan speed and the heating- / cooling mode.

SAVE MONEY by programming

Program temperature and ventilation setpoints and save money.
Eg: cut off the air conditioning when the room is empty.

- *Compatible with cassettes, consoles, ducted- and wall mounted units (model codes UMS1.., UMS2... and UMS4..).*

  Not compatible with wall mounted units UMS3... and cassettes with electical heating.
- *1 TADO per room*

Le spécialiste de la climatisation sans unité extérieure

LTB Air Conditioning

After-sales service procedure for warranty claims

Our warranty is 2 years for condensing units and indoor units.
It remains 1 year for spare parts. Our warranty covers parts and repairs in our factory (cf. T&Cs article 7).

Our after-sales service procedure for the parts warranty is as follows:

- *Order by the customer of the valued spare part, specifying that it is a request under warranty.*
- *Opening of an after-sales service file by LTB and communication to the customer of the after-sales service file number and a pre-filled return form.*
- *Delivery of the spare part by LTB. The corresponding BL will be the subject of an invoice at the end of the month.*
- *Customer returns defective part accompanied by the return form (which specifies the after-sales service file number).*
- *Expertise of the part to decide on the taking under guarantee.*
- *If the warranty claim is accepted, a credit note will be issued by LTB for the amount invoiced (spare part and postage).*

We also repair machines under warranty
(case of repairs or diagnostics too complex to be carried out on site).
You return the defective machine to us, we analyze the defects and we decide on the warranty.
If necessary, we will restore it to working order and return it to you free of charge if it is taken under warranty.

General sales conditions

ARTICLE 1 / ORDERS

By accepting our proposals, one also accepts without any reserves the present sales conditions which will prevail over any contrary stipulation figuring on the buyer's purchase orders, his general purchase conditions or any document from the latter. The fact of not receiving these general sales conditions in the customer's mother language does not exempt their application. LTB reserves itself the right to change or amend the present general sales conditions without personally informing the customer and without giving the possibility to the latter of claiming any compensation.All orders, even those taken by our agents or representatives, do not engage us until written acceptance from us.Apart from any contrary stipulation from us, our proposals and quotations are valid during a period of one month following their delivery.On receipt of our order confirmation, in absence of any written comment from the customer within 24 hours, the order will be considered as firm and definitive by LTB according to the conditions specified in the order confirmation.For any order cancelled within 3 working days after receipt of the order confirmation, LTB reserves the right to invoice 20 % of the total amount of the original order, free of tax.When the goods have to be delivered to controlling offices or institutions, the price request must be accompanied by the conditions of the contract, clauses and conditions to which we have to subscribe. This is mentioned on the quotation. Reception and attendance fees are always chargeable to the customer. The analysis and documents delivered to our customer remain our property. Study fees are determined during the establishment of the quotation.

PRICE: According to the legislation, our prices are indicated excluding taxes and mention is made on our prices and quotes of the current VAT rate.

Our prices are deemed to be firm for a period of validity specified on the estimate. We reserve the right, unless otherwise agreed by us, to modify our prices according to the evolution of the prices of our suppliers. The minimum billing amount is €75 excluding VAT.

ARTICLE 2 / DELIVERY

All deliveries are subject to the company manager signing the account opening document and sending LTB the original of this document and all the documents requested in the appendix.

On any order whose value excluding taxes is less than or equal to €45,735, the shipping costs are entirely the responsibility of the buyer regardless of the place of delivery. If the delivery arrangements are changed, we reserve the right to charge any additional costs that may result. Special packaging or express shipments requested by the recipient remain entirely the responsibility of the latter.

Delivery is deemed to have been made in the seller's factories or stores.

The goods travel at the risk and peril of the recipient even in the event of free delivery.

ARTICLE 3 / CLAUSE DE RESERVE DE PROPRIETE

PROPRETY RESERVE CLAUSE. In application to the law n°80-335 of the 12th of May 1980, the goods sold by us legally remain our property until the complete and final payment of the total sums due by the customer.

ARTICLE 4 / PAYMENT CONDITIONS

All sales to merchants are considered as processed and payable at Clohars-Carnoët (France), without possible derogation from this jurisdiction clause and regardless of the method of payment, the place of promise and delivery.

Our invoices are payable in cash or on customary reference, by transfer within thirty days of the periodic invoicing date and without discount. Non-payment of an invoice on its due date automatically accrues interest on the basis of 1.5 times the local bank base rate plus 2 points from the due date; its recovery by legal means entails an increase of 15% of the principal claimed. In addition, a fixed compensation of €40 for recovery costs, subject to additional compensation, is due to the creditor in the event of late payment (Law No. 2012-387 – Decree No. 2012-1115).

When payment by draft is agreed, it is understood that the non-payment of an item on its due date entails the immediate payment of the sums remaining due, even if they are the subject of drafts accepted at later dates.

In the event of non-payment of an invoice, we reserve the right to suspend the delivery of all current or future orders as well as the payment conditions granted in article 4 of the customer file completed at the time of the request. account opening.

We reserve the right to resolve, as of right and without formality, the sale of our equipment in the event of non-payment in full of any due date of the price, eight days after formal notice remained unsuccessful sent by registered letter with acknowledgment of receipt. containing a reminder of the said termination clause

The goods sold remain our property until full payment of their price. In case of return of the equipment to us, the deposits already paid remain acquired by us as damages (law n ° 80-335 of May 12, 1980). This clause is an integral part of our conditions of sale and subordinates any delivery of equipment. For certain materials, we reserve the right to require the payment of a deposit upon ordering.

ARTICLE 5 / LEAD TIME

In any case, compliance with the delivery time is subject to the buyer being up to date with his obligations to us.

Delivery times are indicative. Delays cannot give rise to damages. Our contractual obligations are suspended automatically and without formality and our liability is released in the event of the occurrence of events such as any work stoppages, lockouts, accidents or delays, fires or accidents, breakage of equipment (in our premises or at our suppliers), war, riot, requisition, act of the prince, authoritarian reduction of imports, delay in the transport of goods, as well as in the event of the occurrence of any circumstance beyond our control and that of our suppliers occurring after conclusion of the contract and preventing performance under normal conditions.

ARTICLE 6 / LITIGATION

In the event of differences relating to the interpretation or execution of these conditions, the Commercial Court of Quimper will have sole jurisdiction, even in the event of a warranty claim, multiple defenders and notwithstanding any clause to the contrary.

ARTICLE 7 / WARRANTY

Condensing units and indoor units ordered to LTB as from 1st January 2017 will receive a 2-year warranty from the date of invoice, provided that the fitting is properly done by a qualified fitter. The buyer is responsible for the fitting and commissioning, even if the information, advice and drawings have been given by LTB.

The warranty remains 1 year for spare parts.

The warranty is strictly limited to the replacement in our factory of components recognized as defective by L.T.B. the mounting and dismantling fees, transport fees and different taxes always remain chargeable to the buyer.

The warranty is assured when a maintenance contract is signed between the user and a qualified maintenance company.

Are excluded from the warranty: air filters, V-belts, fuses, plastic components and any repairs due to bad use of our units, bad connections, lack of maintenance, use of inappropriate water for water condensing machines ... We cannot be held responsible for any incident which ensue from them.

The warranty benefit would be automatically suspended if the payment terms were not observed by the buyer, or in case of any payment delay or payment incident.

The supply of replacement parts on warranty does not extend the initial duration of the warranty

This supply is associated to a due form order. At reception of this order, the replacement part will be supplied. The defective component has to

imperatively be sent back to us under for weeks carriage paid, for expertise. In case of refusal of warranty or if the defective part is not returned in due time, the replacement part will be invoiced.

ARTICLE 8 / RECEIPT OF GOODS.

Upon receipt of the package, unpack the equipment in front of the carrier, who cannot oppose it.

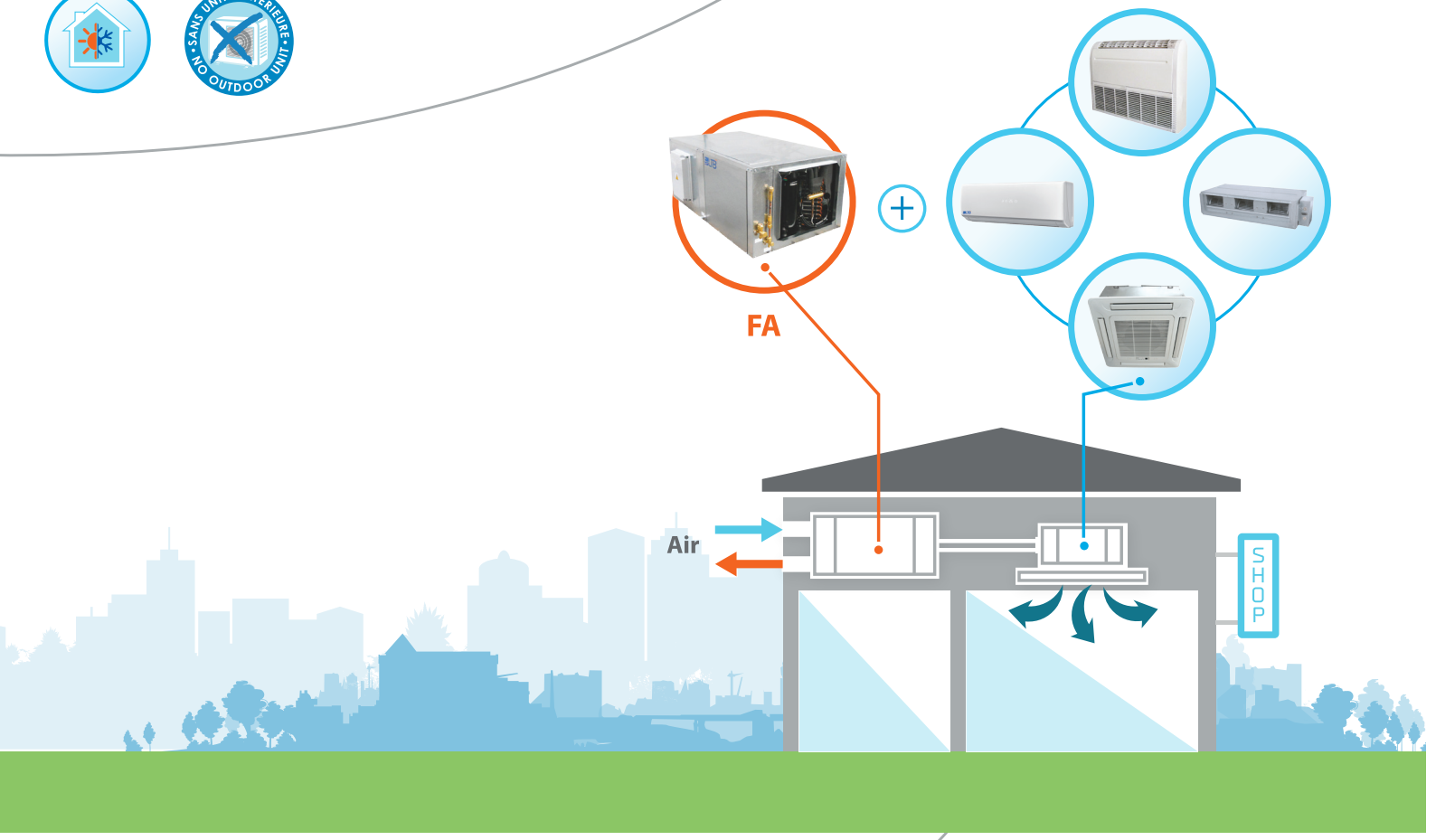
In the event of damage, make reservations on the receipt from the carrier, reservations specifying the nature and the damage, confirm these reservations to the carrier within 48 hours by registered letter with recorded delivery and send a copy of this letter to the seller.

ARTICLE 9 / DATA PROCESSING AND RIGHTS

In application of law n° 78-17 of January 6, 1978 relating to data processing, files and rights, each customer has the rights of opposition (art. 26 of the law), access (art. 34 to 38 of the law) and rectification (art. 36 of the law) of the data concerning him provided by him within the framework of the opening of his account.

Centrifugal-fan Split-systems

direct expansion



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