ALEZIO M R290
ALEZIO M COMPACT R290

TECHNICAL LEAFLET

REVERSIBLE
HIGH-TEMPERATURE
MONOBLOC
AIR/WATER
HEAT PUMPS

Heating with radiators
Heating and refreshing with underfloor

Air-to-water heat pump

Standard on the compact version and in option for the orther models

Heating and cooling with fancoils

Renewable energy

R290 refrigerant

Compatible room thermostat SMART TC°

ALEZIO M R290 /E
from 4 to 13 kW with electrical backup via integrated electrical resistance

ALEZIO M R290 /H
from 4 to 13 kW with hydraulic backup via boiler

ALEZIO M COMPACT R290 /E
from 4 to 13 kW with electrical backup via electrical resistance

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ALEZIO M R290 and ALEZIO M COMPACT R290 heat pumps stand out for their high performance: COP from 4,6 to 5,17 at an outside temperature of + 7°C. They consist of an external “Inverter“ module connected to the internal module by hydraulic links.

Thanks to their reversibility and the possibility of cooling via an underfloor cooling system and air-conditioning via a fan coil unit, the ALEZIO M R290 and ALEZIO M COMPACT R290 heat pumps offer absolute comfort in all seasons.

These heat pumps are suitable for integration in new builds and renovation projects alike thanks to their compact construction, advanced design and ease of installation.

ALEZIO M R290 and ALEZIO M COMPACT R290 models can also be used for domestic hot water production.

ALEZIO M COMPACT R290 models allow DHW production with a 180-litre built-in DHW tank.

Operating conditions

Operating temperature limits

Heating mode
- Outside air: - 25/+ 35 °C
- Water: + 75 °C maximum

In cooling and air conditioning mode
- Outside air: - 5/+ 46 °C
- Water: + 25 °C minimum

Heating circuit ALEZIO M R290 /E and ALEZIO M R290 /H

Pression max. de service : 3 bar
Temp. max. de service : 75 °C

DHW circuit ALEZIO M COMPACT R290 /E

Max. operating pressure: 10 bar
Max. operating temp.: 75 °C

Certified performances available on: https://keymark.eu/en/products/heatpumps

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Contents

CONVERSION OF HEAT PUMPS TO R290

ALEZIO M R290, ALEZIO M COMPACT R290

NEW ALEZIO M R290 AND ALEZIO M COMPACT R290

De Dietrich presents its range of R290 hydrosplit heat pumps.
With its system of hydraulic connections, no need to be a refrigeration engineer to install an Alezio M R290 or an Alezio M Compact R290.
Alezio M Compact R290 is the version with an integrated 180-litre domestic hot water tank.

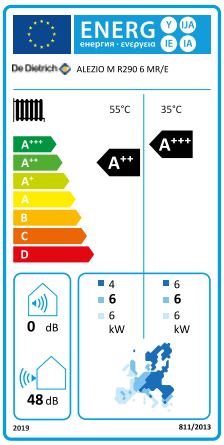
GOOD TO KNOW ABOUT R290 FLUID

- R290 has a higher heat capacity than R32.
- R290 is a natural fluid with a GWP of 3, compared with 675 for R32.
- The thermodynamic properties of R290 (or propane) are very good, enabling heat pumps to cover a wide range of applications, particularly at high temperatures.

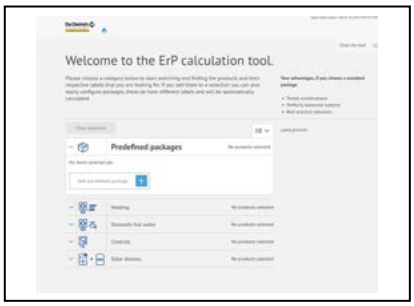
ENERGY LABELLING

Each heat pump is delivered with an energy label displaying a range of information, including energy efficiency, annual energy consumption, manufacturer name and noise level. You can improve the performance of your installation and generate a corresponding “system” label with our “calculator and label generator tool” on the De Dietrich site (https://erp.bdrthermea.com/start.xhtml?brand=de_dietrich_int&country=FR&language=en).

Example of a label:



Access to the tool:



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PRESENTATION OF THE RANGE

ALEZIO M R290

ADVANTAGES ALEZIO M R290

EXPERTISE
- Indoor module, the main component of the solution.

COMFORT ALL SEASON
- Integrated cooling and air-conditioning mode as standard. Unrivalled heating performance in very low temperatures.

SILENT
- Sound power level from 48 dB(A) for the outdoor module and 30 dB(A) for the indoor module.

VERSATILITY
- Ideal for renovating heating systems up to 75°C to replace a gas or oil boiler.
- Can manage a decoupling cylinder and up to 2 circuits (via option).
- Electric or hydraulic backup.

ROBUST
- Integrated magnetic filter as standard.

COMPACT INDOOR MODULE
- 450 mm wide, fits easily into a cupboard.
- As compact as a wall-mounted gas boiler.

EASY TO INSTALL
- No certificate of competence required,
- Quick and easy to install,
- No leak test required.

REDUCED ENVIRONMENTAL IMPACT
- Very low carbon impact of R290.

ALEZIO_M_Q0030

TABLE OF USE FOR THE ROOM THERMOSTATS AND SENSORS (OPTIONS)

	Description	Control system class	Reference	Package	Connection	Batteries	Timer programme	Internet connected
	SMART TC° connected room temperature sensor	**Classe VI ***	7691375	AD324	wired	no	✓	✓
	SMART CDI RF connected room temperature sensor	**Classe VI ***	7900088	-	wireless	✓	✓	✓
	Gateway LINK WIFI (GTW IoT)		7898722					
	Programmable room thermostat	**Classe IV ***	7768817	AD337	wired	✓	✓	no
	Programmable room thermostat	**Classe IV ***	7768818	AD338	wireless	✓	✓	no

* with wired outside temperature sensor 85757741.

PRESENTATION OF THE RANGE

ALEZIO M COMPACT R290

ADVANTAGES ALEZIO M COMPACT R290

FRENCH KNOW-HOW
- Indoor module, the main component of the solution.

COMFORT ALL SEASON
- Integrated cooling and air-conditioning mode as standard. Unrivalled heating performance in very low temperatures.

FULL OFFER
- Integrated DHW production.
- Main accessories supplied.
- 180-litre tank.
- V40: 249 to 261 litres.

SILENT
- Sound power level from 48 dB(A) for the outdoor module and 30 dB(A) for the indoor module.

VERSATILITY
- Ideal for renovating heating systems up to 75°C to replace a gas or oil boiler.
- Can manage a decoupling cylinder and up to 2 circuits (via option).
- Electric backup.

ROBUST
- Integrated magnetic filter as standard.

COMPACT
- Indoor module - 620 mm wide, fits in a standard cupboard.
- External module - 870 mm high, for discreet integration into your garden.

EASY TO INSTALL
- No certificate of competence required,
- Quick and easy to install,
- No leak test required.

REDUCED ENVIRONMENTAL IMPACT
- Very low carbon impact of R290.

ALEZIO_M_Q0030

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* with wired outside temperature sensor 85757741.

PRESENTATION OF THE RANGE

ALEZIO M R290

MODELS

Reversible air/water heat pump for outdoor temperatures down to -25°C.
For radiator heating or underfloor heating and cooling.
Version with electric back-up via integrated 6 kW stepped electrical resistance and version with hydraulic back-up for boiler backup.

VERSIONS WITH ELECTRICAL BACK-UP

MODELS	REFERENCE	ENERGY CLASS	INDOOR UNIT	OUTDOOR UNIT						
										
			MIV-M /E	MONO AWHP3R ...						
				... 4 MR	... 6 MR	... 8 MR	... 11 MR	... 11 TR	... 13 MR	... 13 TR
ALEZIO M R290 4 MR/E	7905104	A+++ (35°C) A+++ (55°C)	7900657	7899979	-	-	-	-	-	-
ALEZIO M R290 6 MR/E	7905106		7900657	-	7899980	-	-	-	-	-
ALEZIO M R290 8 MR/E	7905108		7900657	-	-	7899981	-	-	-	-
ALEZIO M R290 11 MR/E	7905110		7900657	-	-	-	7899982	-	-	-
ALEZIO M R290 11 TR/E	7905114	A+++ (35°C)	7900657	-	-	-	-	7899983	-	-
ALEZIO M R290 13 MR/E	7905112	A++ (55°C)	7900657	-	-	-	-	-	7899984	-
ALEZIO M R290 13 TR/E	7905116		7900657	-	-	-	-	-	-	7899985

MR = single
TR = three-phase

VERSIONS WITH HYDRAULIC BACK-UP

MODELS	REFERENCE	ENERGY CLASS	INDOOR UNIT	OUTDOOR UNIT						
										
			MIV-M /H	MONO AWHP3R ...						
				... 4 MR	... 6 MR	... 8 MR	... 11 MR	... 11 TR	... 13 MR	... 13 TR
ALEZIO M R290 4 MR/H	7905105	A+++ (35°C) A+++ (55°C)	7900658	7899979	-	-	-	-	-	-
ALEZIO M R290 6 MR/H	7905107		7900658	-	7899980	-	-	-	-	-
ALEZIO M R290 8 MR/H	7905109		7900658	-	-	7899981	-	-	-	-
ALEZIO M R290 11 MR/H	7905111		7900658	-	-	-	7899982	-	-	-
ALEZIO M R290 11 TR/H	7905115	A+++ (35°C)	7900658	-	-	-	-	7899983	-	-
ALEZIO M R290 13 MR/H	7905113	A++ (55°C)	7900658	-	-	-	-	-	7899984	-
ALEZIO M R290 13 TR/H	7905117		7900658	-	-	-	-	-	-	7899985

MR = single
TR = three-phase

PRESENTATION OF THE RANGE

ALEZIO M COMPACT R290

MODELS

Reversible air/water heat pump for outdoor temperatures down to -25°C.
For radiator heating or underfloor heating and cooling.
Version with electric backup using an integrated 6 kW stepped electrical resistance.

VERSIONS WITH ELECTRICAL BACK-UP

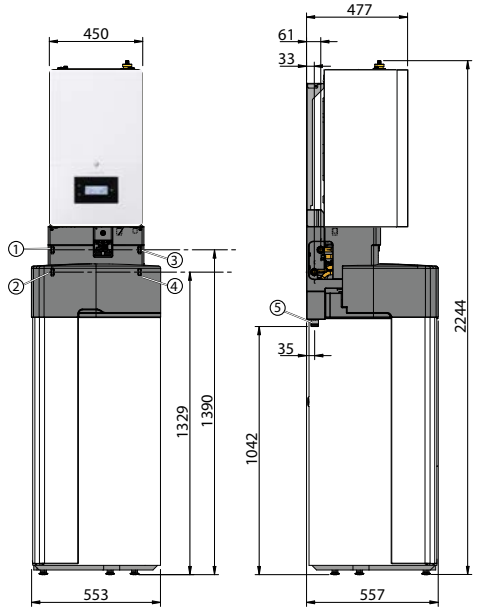
MODELS	COMPLETE REFERENCE	ENERGY CLASS	INDOOR UNIT	DHW TANK	HYDRAULIC KIT	OUTDOOR UNIT CONNEC-TION KIT	OUTDOOR UNIT
							

			MIV-M /E	180 HPSL EVO	EVO		MONO AWHP3R ...						
							... 4 MR	... 6 MR	... 8 MR	... 11 MR	... 11 TR	... 13 MR	... 13 TR
ALEZIO M COMPACT R290 4 MR/E	7905123		7900657	7790098	7790662	7847502	7899979	-	-	-	-	-	-
ALEZIO M COMPACT R290 6 MR/E	7905124		7900657	7790098	7790662	7847502	-	7899980	-	-	-	-	-
ALEZIO M COMPACT R290 8 MR/E	7905127	A+++ 35°C)	7900657	7790098	7790662	7847502	-	-	7899981	-	-	-	-
ALEZIO M COMPACT R290 11 MR/E	7905128	A++ (55°C)	7900657	7790098	7790662	7847502	-	-	-	7899982	-	-	-
ALEZIO M COMPACT R290 11 TR/E	7905131	A	7900657	7790098	7790662	7847502	-	-	-	-	7899983	-	-
ALEZIO M COMPACT R290 13 MR/E	7905130		7900657	7790098	7790662	7847502	-	-	-	-	-	7899984	-
ALEZIO M COMPACT R290 13 TR/E	7905132		7900657	7790098	7790662	7847502	-	-	-	-	-	-	7899985

MR = single

TR = three-phase

INDOOR UNIT MAIN DIMENSIONS



Key

1 Cold water inlet Ø 3/4"
2 Domestic hot water outlet Ø 3/4"
3 Heating flow Ø 1"
4 Heating return Ø 1"
5 Condensate outlet Ø 32 mm

ALEZIOM_COMPACT_R32_F9999

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TECHNICAL SPECIFICATIONS

ALEZIO M R290, ALEZIO M COMPACT R290

Certified performances available on:
https://keymark.eu/en/products/heatpumps

In heating mode

In heating mode

Water: + 75 °C maximum,
Outside air: - 25 °C/+ 46 °C

In cooling mode

In cooling mode

Water: + 25 °C minimum,
Outside air: - 5 °C/+ 46 °C

MODELS

ALEZIO M R290 ALEZIO M COMPACT R290		4 MR	6 MR	8 MR	11 MR 11 TR	13 MR 13 TR
SEASONAL						
Energy efficiency class (SEE) (heating) (35 °C)		A+++	A+++	A+++	A+++	A+++
Energy efficiency class (SEE) (heating) (55 °C)		A+++	A+++	A++	A++	A++
Declared thermal output (Prated) (35°C/55°C)	kW	5,3/4,9	6,4/6,1	8,0/7,8	12,1/12,1	13,7/13,7
SCOP (35 °C/55 °C)		5,34/3,99	5,22/3,90	5,20/3,89	4,77/3,75	4,70/3,73
Seasonal space heating energy efficiency under average temperature (35 °C/55 °C) *	%	210/157	206/153	205/153	188/147	185/146
Seasonal space heating energy efficiency under average temperature (35°C/55°C) (with outdoor sensor supplied as standard)	%	212/159	208/155	207/155	190/149	187/148
Seasonal hot water energy efficiency (L cycle)	%	103	104	104	102	102
COP at part load at +7°C/+35°C *		6,74	6,95	6,85	6,98	7,02
COP at part load at +7°C/+55°C *		4,94	5,15	5,05	4,99	5,21
HEAT OUTPUT FOR SIZING THE HEAT PUMP						
Max. heat output at +7 °C/+35 °C	kW	5,7	6,38	9,37	11,93	14,43
Max. heat output at +7 °C/+55 °C	kW	4,95	5,61	8,39	11,35	13,13
For other conditions, please refer to the tables on pages 11 and 12						
CERTIFIED PERFORMANCES **						
Heat output at +7 °C/+35 °C (1)	kW	4,40	6,26	8,50	11,50	13,50
Heating COP at +7 °C/+35 °C (1)		5,17	4,89	4,98	4,85	4,60
Heat output at +7 °C/+55 °C (1)	kW	4,40	6,10	8,00	11,50	13,50
Heating COP at +7 °C/+55 °C (1)		3,24	3,20	3,18	3,15	3,04
Heat output at -7 °C/+35 °C (1)	kW	3,85	5,80	8,00	9,94	11,52
Heating COP at -7 °C/+35 °C (1)		3,20	2,97	2,85	2,81	2,70
Cooling output at +35 °C/+18 °C (2)	kW	4,56	6,40	8,23	11,90	13,90
Cooling EER at +35 °C/+18 °C (2)		5,49	5,12	5,19	4,52	4,22
Cooling output at +35 °C/+7 °C	kW	4,40	6,26	8,50	11,50	13,50
Cooling EER at +35 °C/+7 °C		3,69	3,20	3,28	3,05	2,80
Max. hot water volume (V40) (2)	litre	259,3	261	261	261	261
Heat-up time (th) from 10 °C to 55 °C (2)	hh:mn	1:20	1:00	1:00	0:54	0:54
Power absorbed at stabilised rate (Pes) (2)	W	45	40	40	43	43
Draw-off cycle (2)		L	L	L	L	L
COP-DHW (draw-off cycle) ECS (2)		3,34	3,28	2,99	2,78	2,77
Outdoor module sound power (3)	dB[A]	48	48	49	52	52
Indoor module sound power	dB[A]	30	30	30	30	30
TECHNICAL DATA						
Sound pressure outdoor module (4)	dB[A]	26	26	27	30	30
Sound pressure indoor module (4)	dB[A]	22	22	22	22	22
Nominal water flow rate at ΔT = 5 K (at +7°C / +55°C)	m^3/h	0,76	1,05	1,38	1,98	2,32
Power supply voltage of the outdoor unit	V	230V mono	230V mono	230V mono	230V mono 380V tri	230V mono 380V tri
Outdoor unit supply voltage	A	16	16	20	32 (mono) 16 (tri)	32 (mono) 16 (tri)
Refrigerant fluid R290	kg	0,7	0,7	1,1	1,25	1,25
CO_2 equivalent	tCO_2e	0,0021	0,0021	0,0033	0,0038	0,0038
Maximum hydraulic connection distance	m	30	30	30	30	30
Hydraulic connection diameter	pouce	1"	1"	1"1/4	1"1/4	1"1/4
Weight of outdoor unit without charge	kg	94	94	122	139,5 (mono) 141,5 (tri)	139,5 (mono) 141,5 (tri)
Weight of indoor unit without charge (electrical back-up)	kg	32	32	32	32	32
Weight of indoor unit without charge (hydraulic back-up)	kg	29	29	29	29	29

* Values certified according directives n°813/2013 s
** Values given as an indication

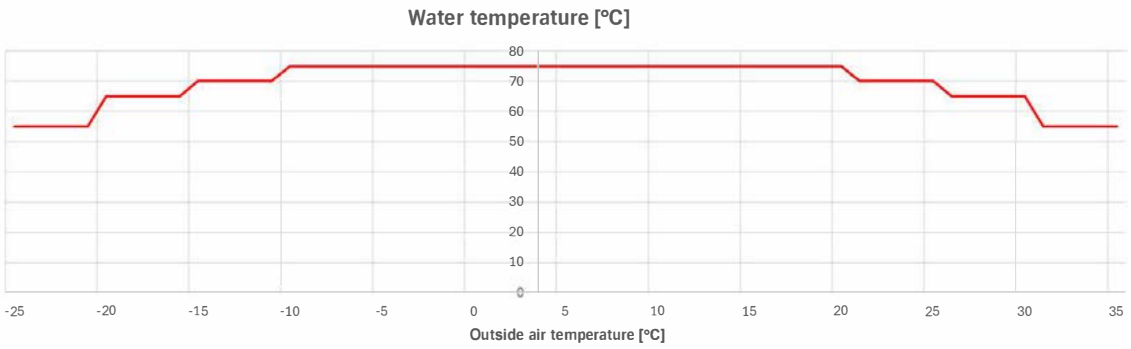
(1) Heating mode: outside air temperature/water temperature at outlet, performance in accordance with EN 14511-2
(2) Air conditioning mode: outdoor air temperature/water temperature at the outlet, performance according to EN 14511-2.
(3) Test performed in accordance with standard EN 12102-1
(4) At 1 m in a free field (5 m for the outdoor unit)

TECHNICAL SPECIFICATIONS

ALEZIO M R290, ALEZIO M COMPACT R290

WATER TEMPERATURE

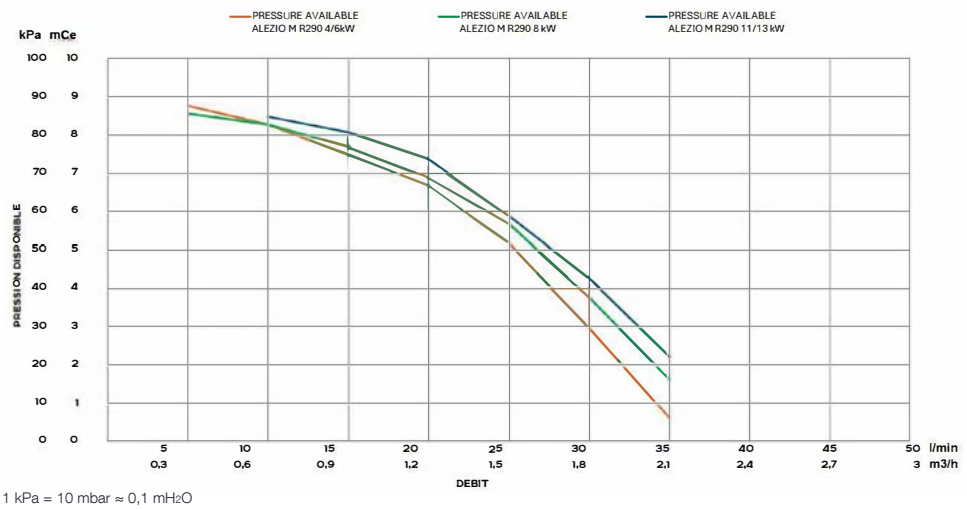
ALEZIO M R290 and ALEZIO M COMPACT R290 heat pump models can produce hot water up to a temperature of 60°C. The graph shows the water temperature produced for each model based on the outside temperature.



PRESSURE AVAILABLE AT THE OUTLET OF THE CIRCULATOR OF THE OUTDOOR UNIT

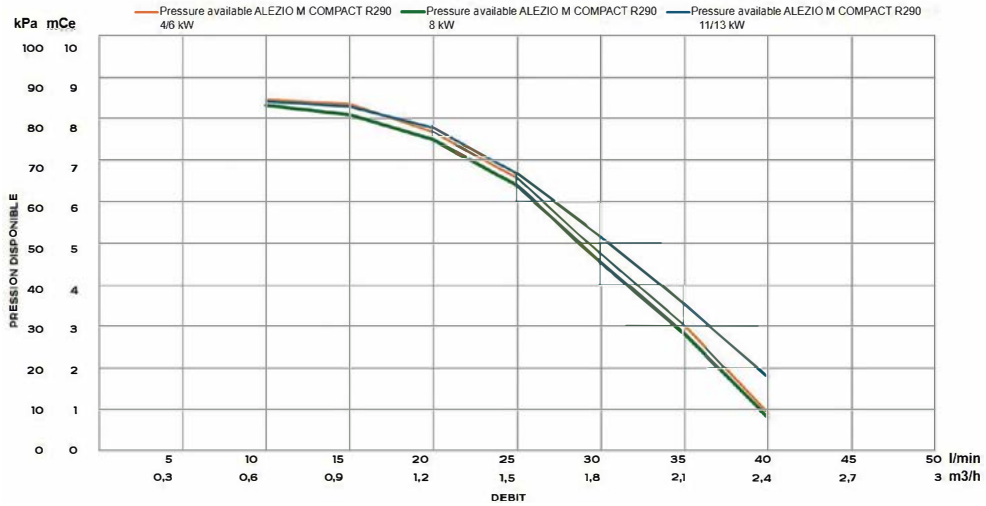
The circulator of the outdoor unit is a variable speed pump. Its speed adapts to the distribution network.
The circulator is controlled in speed to reach the set flow allowing to ensure a ΔT=5 K.
The head losses taken into account are those of the outdoor unit, the indoor unit and the hydraulic connection in Ø indoor DN25 (4 and 6 kW) and DN32 (8, 11 and 13 kW) between the 2 modules, i.e. a length of 2 x 30 meters.

ALEZIO M R290



1 kPa = 10 mbar ≈ 0,1 mH2O

ALEZIO M COMPACT R290



1 kPa = 10 mbar ≈ 0,1 mH2O

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TECHNICAL SPECIFICATIONS

ALEZIO M R290, ALEZIO M COMPACT R290

DATA TABLES FOR HEATING MODE SIZING

ALEZIO M R290 4 MR / ALEZIO M COMPACT R290 4 MR

OUTSIDE TEMPERATURE (°C)	FLOW TEMPERATURE (°C)										
	HEATING										
	25 Output [kW]	30 Output [kW]	35 Output [kW]	40 Output [kW]	45 Output [kW]	50 Output [kW]	55 Output [kW]	60 Output [kW]	65 Output [kW]	70 Output [kW]	75 Output [kW]
-25	3,24	3,22	3,19	3,15	3,1	3,03	2,87	-	-	-	-
-20	3,92	3,88	3,82	3,77	3,69	3,61	3,33	3,29	3,14	-	-
-15	4,73	4,65	4,56	4,47	4,37	4,24	4,01	3,86	3,69	3,53	-
-10	5,65	5,56	5,45	5,33	5,21	5,06	4,75	4,56	4,35	4,14	3,81
-7	5,94	5,83	5,70	5,58	5,44	5,29	4,95	4,78	4,53	4,34	4,02
0	6,56	6,43	6,28	6,13	5,99	5,83	5,68	5,5	5,26	5,10	4,76
2	6,77	6,64	6,50	6,36	6,19	6,03	5,88	5,69	5,45	5,28	4,93
7	7,18	7,03	6,86	6,71	6,55	6,35	6,2	5,97	5,71	5,52	5,15
12	7,26	7,42	7,23	7,05	6,87	6,69	6,50	6,26	5,98	5,77	5,35
15	6,9	6,74	6,86	6,69	6,51	6,31	6,15	5,91	5,62	5,37	4,94
20	6,48	6,35	6,20	6,32	6,14	5,95	5,78	5,52	5,19	4,92	4,38

ALEZIO M R290 6 MR / ALEZIO M COMPACT R290 6 MR

OUTSIDE TEMPERATURE (°C)	FLOW TEMPERATURE (°C)										
	HEATING										
	25 Output [kW]	30 Output [kW]	35 Output [kW]	40 Output [kW]	45 Output [kW]	50 Output [kW]	55 Output [kW]	60 Output [kW]	65 Output [kW]	70 Output [kW]	75 Output [kW]
-25	3,5	3,46	3,40	3,34	3,28	3,2	3	-	-	-	-
-20	4,35	4,3	4,24	4,17	4,08	3,98	3,73	3,6	3,44	-	-
-15	5,29	5,22	5,16	5,07	4,98	4,85	4,55	4,4	4,21	4,04	-
-10	6,21	6,12	6,03	5,95	5,83	5,69	5,33	5,16	4,93	4,26	3,89
-7	6,57	6,47	6,38	6,25	6,12	5,97	5,61	5,4	5,17	4,57	4,17
0	7,5	7,36	7,22	7,04	6,88	6,7	6,57	6,3	6,02	5,79	5,34
2	7,70	7,54	7,39	7,23	7,05	6,87	6,70	6,46	6,19	5,96	5,52
7	8	7,85	7,70	7,53	7,35	7	6,97	6,75	6,46	6,27	5,84
12	8,16	8,35	8,17	8,00	7,79	7,44	7,40	7,13	6,82	6,58	6,12
15	7,92	7,74	7,92	7,73	7,52	7,19	7,14	6,88	6,57	6,34	5,91
20	7,56	7,38	7,53	7,35	7,14	6,8	6,77	6,49	6,18	5,94	5,46

ALEZIO M R290 8 MR / ALEZIO M COMPACT R290 8 MR

OUTSIDE TEMPERATURE (°C)	FLOW TEMPERATURE (°C)										
	HEATING										
	25 Output [kW]	30 Output [kW]	35 Output [kW]	40 Output [kW]	45 Output [kW]	50 Output [kW]	55 Output [kW]	60 Output [kW]	65 Output [kW]	70 Output [kW]	75 Output [kW]
-25	5,55	5,46	5,37	5,29	5,21	4,99	5	-	-	-	-
-20	6,71	6,62	6,54	6,46	6,41	6,15	6,21	5,78	5,38	-	-
-15	7,81	7,72	7,60	7,50	7,39	7,1	6,77	6,32	5,81	5,49	-
-10	9,02	8,9	8,78	8,66	8,54	7,96	7,67	7,22	6,76	6,54	6,12
-7	9,63	9,49	9,37	9,25	9,12	8,78	8,39	7,88	7,37	7,09	6,61
0	10,64	10,5	10,33	10,18	10,02	9,61	9,16	8,47	7,82	7,36	6,72
2	10,95	10,78	10,61	10,45	10,28	9,85	9,88	8,85	8,15	7,64	6,96
7	11,46	11,24	11,05	10,86	10,47	10,16	10,17	9,9	8,79	8,14	7,33
12	12,16	11,95	11,73	11,51	11,08	10,75	10,72	10,41	9,08	8,32	7,36
15	11,93	11,73	11,53	11,30	10,87	10,51	10,48	10,17	9,36	8,55	7,59
20	11,73	11,56	11,35	11,13	10,67	10,31	10,25	9,93	9,56	8,60	7,70

These performances are not certified but can be used for the sizing of the heat pump.

TECHNICAL SPECIFICATIONS

ALEZIO M R290, ALEZIO M COMPACT R290

DATA TABLES FOR HEATING MODE SIZING

ALEZIO M R290 11 MR / ALEZIO M COMPACT R290 11 MR

OUTSIDE TEMPERATURE (°C)	FLOW TEMPERATURE (°C)										
	HEATING										
	25 Output [kW]	30 Output [kW]	35 Output [kW]	40 Output [kW]	45 Output [kW]	50 Output [kW]	55 Output [kW]	60 Output [kW]	65 Output [kW]	70 Output [kW]	75 Output [kW]
-25	7,62	7,2	7,00	6,82	6,64	6,46	6,35	-	-	-	-
-20	9,15	8,71	8,53	8,34	8,18	7,99	7,93	7,69	7,42	-	-
-15	10,99	10,38	10,21	10,03	9,85	9,67	9,62	9,38	8,99	8,45	-
-10	11,86	11,14	10,89	10,64	10,44	10,37	10,47	10,41	10,13	9,73	8,97
-7	12,4	12,16	11,93	11,69	11,44	11,25	11,35	11,29	10,95	10,71	10,02
0	13,99	13,39	13,14	12,87	12,58	12,27	12,14	11,74	10,98	10,50	9,63
2	14,57	13,95	13,68	13,40	13,10	12,77	12,61	12,21	11,60	11,19	10,25
7	15,69	15,02	14,72	14,41	14,06	13,69	13,61	13,13	12,53	12,22	10,89
12	17,67	16,81	15,92	15,56	15,17	14,74	14,54	14,03	13,45	13,09	12,01
15	17,05	16,33	15,55	15,33	15,07	14,78	14,7	14,35	13,93	13,72	13,20
20	14,83	14,25	13,54	13,35	13,11	12,87	12,8	12,49	12,14	11,95	11,12

ALEZIO M R290 13 MR / ALEZIO M COMPACT R290 13 MR

OUTSIDE TEMPERATURE (°C)	FLOW TEMPERATURE (°C)										
	HEATING										
	25 Output [kW]	30 Output [kW]	35 Output [kW]	40 Output [kW]	45 Output [kW]	50 Output [kW]	55 Output [kW]	60 Output [kW]	65 Output [kW]	70 Output [kW]	75 Output [kW]
-25	9,5	9,03	8,83	8,64	8,45	8,26	8,18	-	-	-	-
-20	11,26	10,78	10,56	10,39	11,15	9,99	9,82	9,37	8,66	-	-
-15	13,29	12,76	12,56	12,36	12,15	11,6	11,19	10,45	9,67	9,17	-
-10	14,26	13,65	13,34	13,06	12,78	12,35	11,88	11,37	10,82	10,39	9,69
-7	15,02	14,74	14,43	14,16	13,85	13,27	13,13	12,58	11,63	11,35	10,71
0	17,16	16,46	16,13	15,83	15,49	15,11	14,64	13,37	12,16	11,57	10,64
2	17,63	16,91	16,60	16,27	15,94	15,56	15,39	13,86	12,77	11,97	10,79
7	18,67	17,89	17,57	17,21	16,85	16,42	16,4	15,59	14,71	13,89	12,36
12	20,80	19,84	18,87	18,46	18,04	17,55	17,36	16,78	15,35	13,81	12,30
15	19,18	18,33	17,44	17,11	16,72	16,29	16,14	15,61	15,04	14,32	12,88
20	16,84	16,17	15,44	15,24	15,01	14,77	14,72	14,03	13,09	12,14	10,92

These performances are not certified but can be used for the sizing of the heat pump.

TECHNICAL SPECIFICATIONS

ALEZIO M R290, ALEZIO M COMPACT R290

DATA TABLES FOR COOLING MODE SIZING

ALEZIO M R290 4 MR / ALEZIO M COMPACT R290 4 MR

OUTSIDE TEMPERATURE (°C)	FLOW TEMPERATURE (°C)	
	COOLING	
	7 Cooling output [kW]	18 Cooling output [kW]
20	4,81	6,59
25	5,28	7,18
30	5,57	7,78
35	5,66	7,84
40	5,33	7,41

ALEZIO M R290 6 MR / ALEZIO M COMPACT R290 6 MR

OUTSIDE TEMPERATURE (°C)	FLOW TEMPERATURE (°C)	
	COOLING	
	7 Cooling output [kW]	18 Cooling output [kW]
20	5,90	7,98
25	6,50	9,03
30	7,11	9,77
35	7,14	9,75
40	5,82	8,07

ALEZIO M R290 8 MR / ALEZIO M COMPACT R290 8 MR

OUTSIDE TEMPERATURE (°C)	FLOW TEMPERATURE (°C)	
	COOLING	
	7 Cooling output [kW]	18 Cooling output [kW]
20	7,72	10,83
25	8,33	11,55
30	8,73	12,11
35	9,23	12,13
40	7,23	10,09

TECHNICAL SPECIFICATIONS

ALEZIO M R290, ALEZIO M COMPACT R290

DATA TABLES FOR COOLING MODE SIZING

ALEZIO M R290 11 MR / ALEZIO M COMPACT R290 11 MR

OUTSIDE TEMPERATURE (°C)	FLOW TEMPERATURE (°C)	
	COOLING	
	7 Cooling output [kW]	18 Cooling output [kW]
20	10,46	14,56
25	11,32	15,67
30	11,85	16,33
35	11,96	16,40
40	10,57	14,68

ALEZIO M R290 13 MR / ALEZIO M COMPACT R290 13 MR

OUTSIDE TEMPERATURE (°C)	FLOW TEMPERATURE (°C)	
	COOLING	
	7 Cooling output [kW]	18 Cooling output [kW]
20	11,95	16,58
25	12,93	17,81
30	13,94	19,18
35	14,26	18,64
40	11,13	15,34

TECHNICAL SPECIFICATIONS

INDOOR UNIT MIV-M /E AND MIV-M /H

The ALEZIO M R290 heat pumps consist of a MONO AWHP3R outdoor module (see p.19) and a MIV-M /E indoor module (for electric backup) or a MIV-M /H indoor module (for hydraulic backup).

The ALEZIO M COMPACT R290 heat pumps consist of a MONO AWHP3R outdoor module (p.19) and a MIV-M /E indoor module (with an integrated electrical resistance), an EVO hydraulic kit (p.17) and a DHW tank (p.18).

INDOOR MODULE MIV-M /E AND MIV-M /H

The MIV-M /E or MIV-M /H indoor module manages the entire system by providing the interface between the outdoor module and the heating installation.
It integrates the hydraulic and control components, making it easy to install and simple to use.
It cannot be installed without the outdoor module.

MAIN DIMENSIONS (MM AND INCHES)

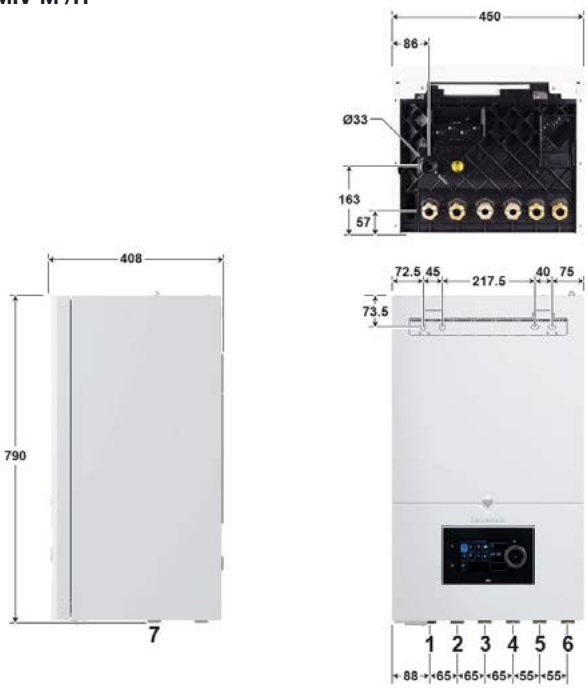
MIV-M /E

ALEZIO_M_F5001

Key

1 Heating flow Ø G 1"
2 Heating return Ø G 1"
5 Outdoor unit flow G 1"
6 Outdoor unit return G 1"
7 Condensate outlet

MIV-M /H



ALEZIO_M_F5002

Key

1 Heating flow Ø G 1"
2 Heating return Ø G 1"
3 Boiler return connection Ø G 1"
4 Boiler flow connection Ø G 1"
5 Outdoor unit flow G 1"
6 Outdoor unit return G 1"
7 Condensate outlet

De Dietrich

TECHNICAL SPECIFICATIONS

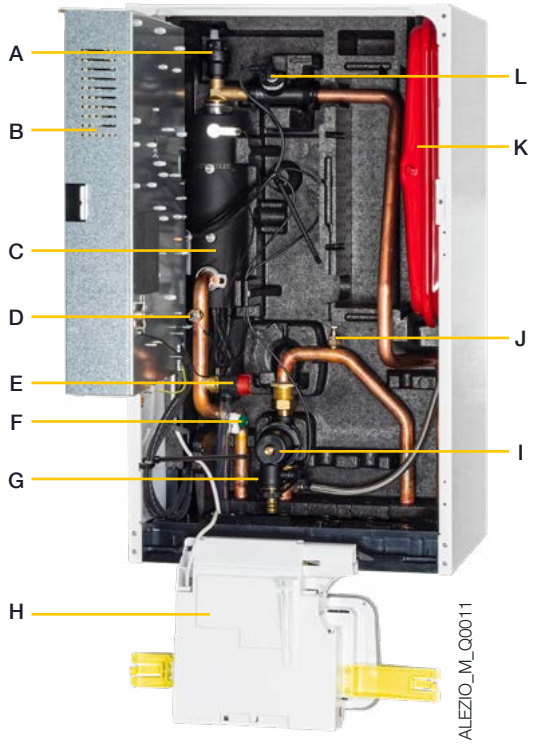
INDOOR UNIT MIV-M /E AND MIV-M /H

INDOOR UNIT MIV-M /E AND MIV-M /H

To operate the heating system.
All the components are easily accessible.

INDOOR UNIT COMPONENTS (FRONT PANEL REMOVED)

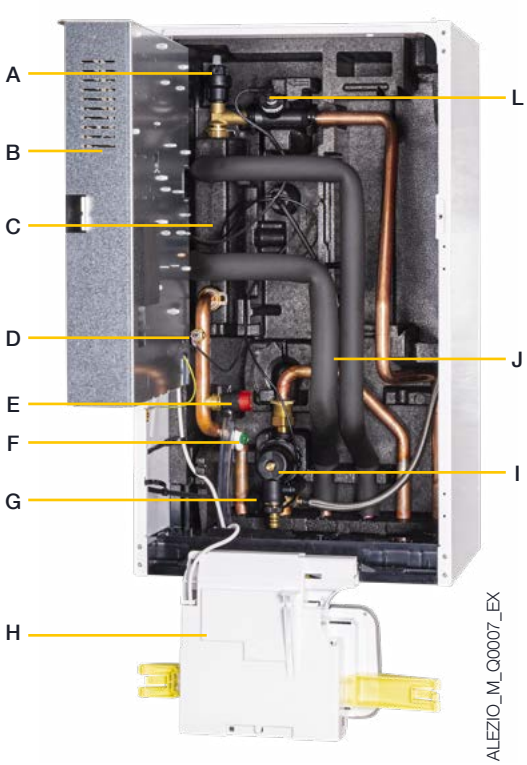
MIV-M / E (ELECTRIC BACK-UP)



Key

A Automatic air vent
B Electrical board
C Electrical resistance
D Temperature sensor flow heating
E Safety valve
F Draining valve
G Pressure outlet
H User interface support
I Magnetic filter
J Air vent
K Expansion vessel (8 litres)
L Flowmeter + outdoor unit return temperature sensor

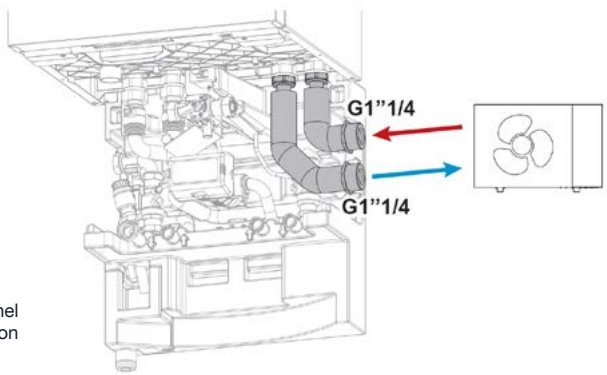
MIV-M / H (HYDRAULIC BACK-UP)



Key

A Automatic air vent
B Electrical board
C Collector
D Temperature sensor flow heating
E Safety valve
F Draining valve
G Pressure outlet
H User interface support
I Magnetic filter
J Collector start/return tubes
L Flowmeter + outdoor unit return temperature sensor

CONNECTION KIT TO THE OUTDOOR UNIT



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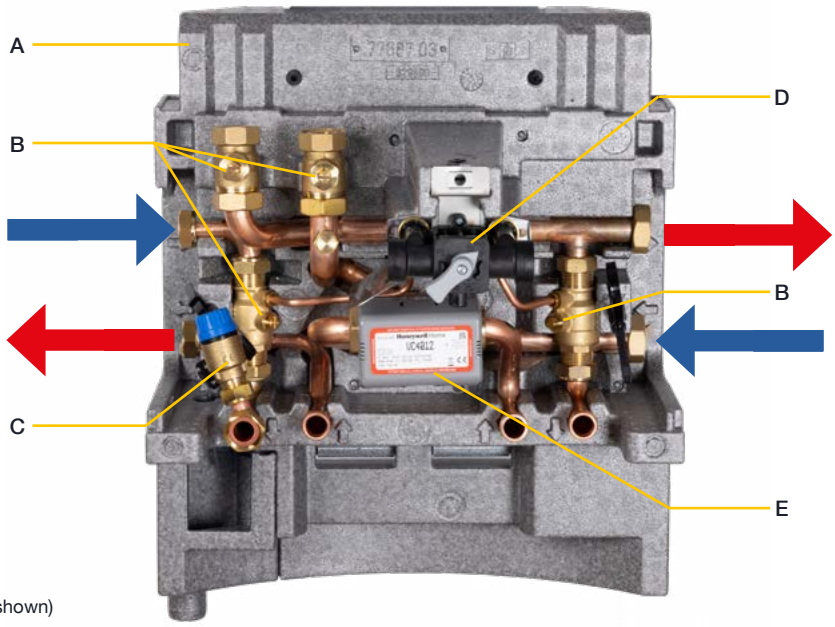
TECHNICAL SPECIFICATIONS

ALEZIO M COMPACT R290

EVO HYDRAULIC KIT FOR ALEZIO M COMPACT R290

The multifunction hydraulic kit acts as the interface between the DHW tank and the indoor module. It is fully insulated and equipped. Installed directly onto the wall mounting bracket.

EVO KIT DETAILS



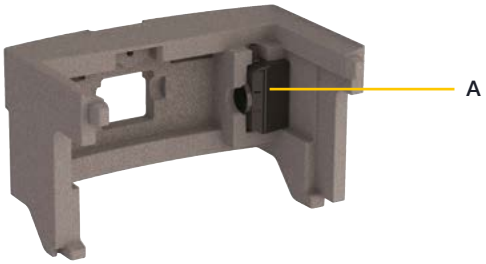
A Multi-function hydraulic kit
B Stop valve
C DHW safety valve
D Disconnector
E Reversal valve (motor not shown)

005_ALEZIOMCR32 kit sans facade det

KIT WITH INSULATING SHEL

Habillage_Kit_EVO

REVERSING VALVE MOTOR SUPPLIED IN THE KIT SHELL



PAC_Q9105

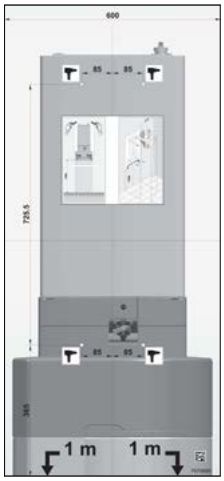
A Reversal valve motor

KIT MOUNTED ON WALL BRACKET

(DELIVERED WITH MOUNTING FRAME)

PAC_Q9101

MOUNTING FRAME



PAC_F0308

Motor supplied separately to ensure tightness on the domestic hot water coil exchanger side when the heating circuit is connected during the construction phase.

De Dietrich

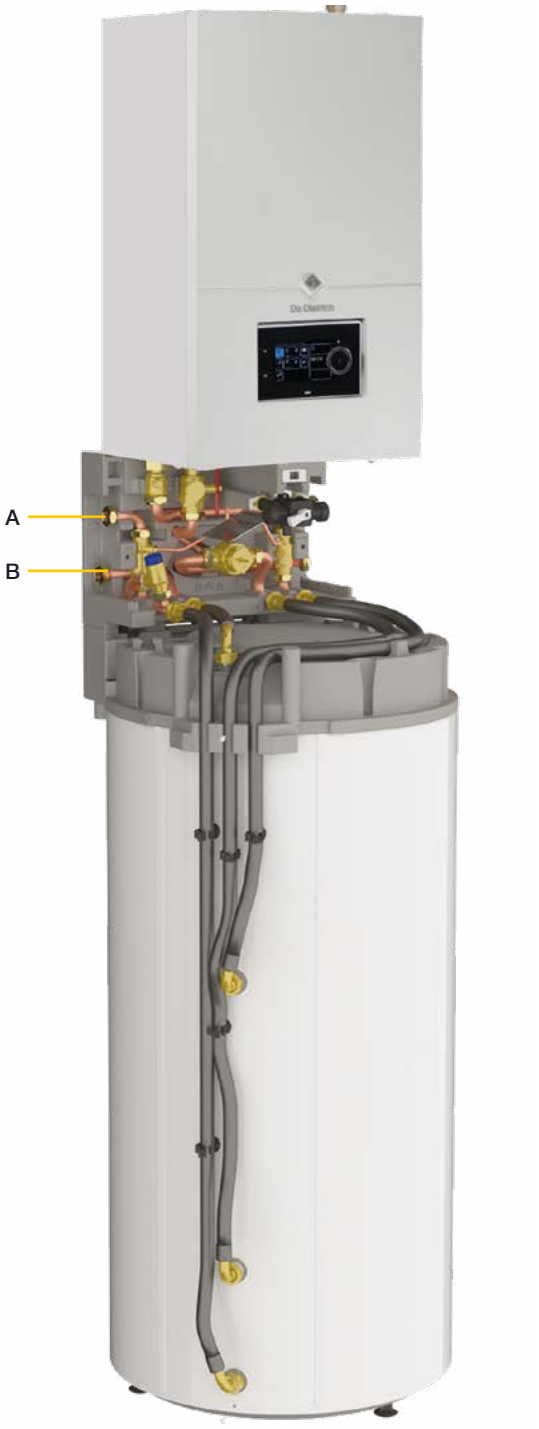
TECHNICAL SPECIFICATIONS

ALEZIO M COMPACT R290

180 HPSL EVO DOMESTIC HOT WATER TANK FOR ALEZIO M COMPACT R290

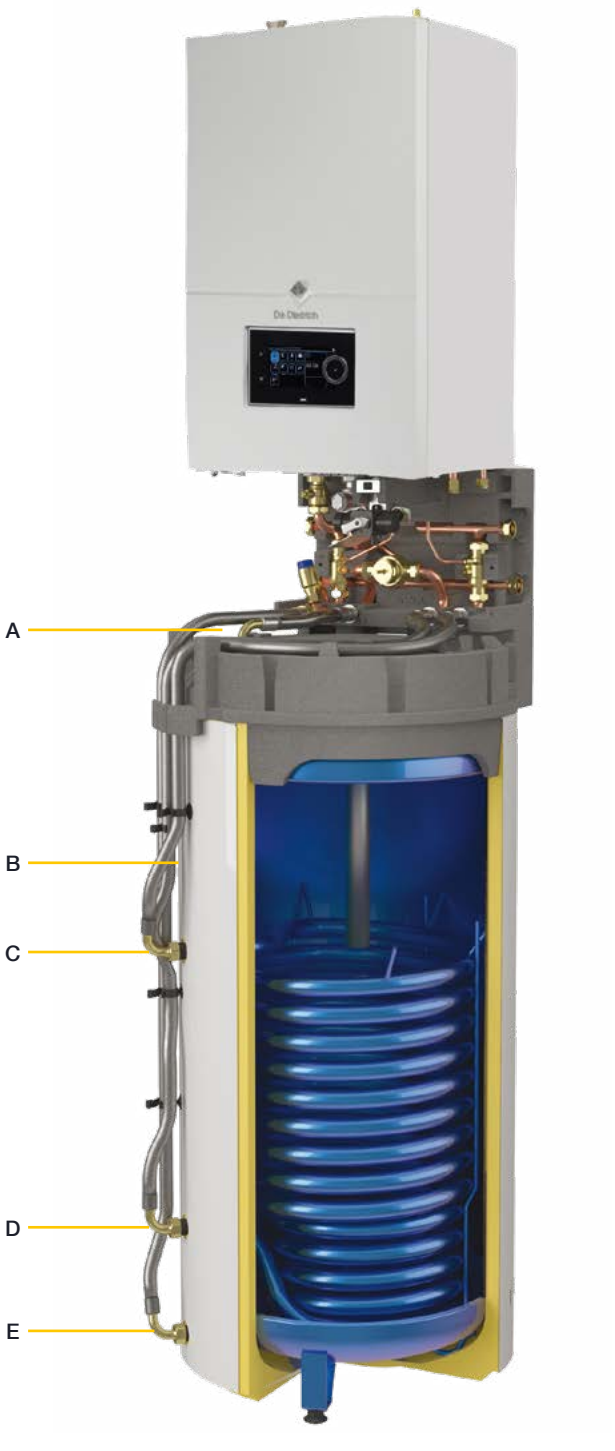
The 180 HPSL EVO hot water tank is located under the hydraulic kit. All connections to the hydraulic kit are easily made from the front. It is protected internally by a food-grade vitrified enamel with a high quartz content and a magnesium anode.

DETAILS OF THE 180 HPSL EVO TANK



ensemble3 v2

A Cold water inlet
B Domestic hot water outlet



ensemble4

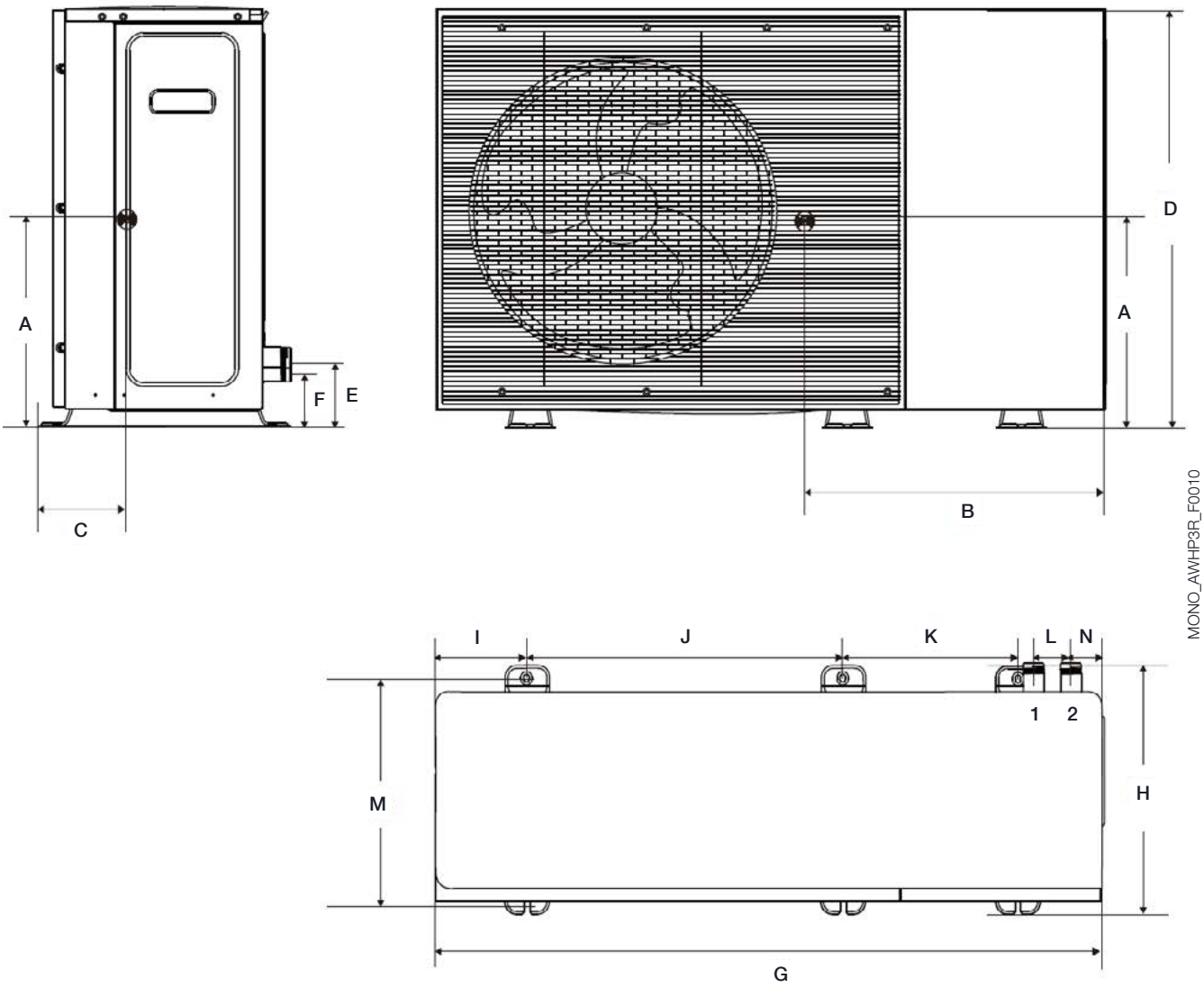
A Domestic hot water outlet
B Magnesium anode
C Input of domestic hot water tank exchanger
D Outlet of the domestic hot water tank exchanger
E Cold water inlet

De Dietrich

TECHNICAL SPECIFICATIONS

OUTDOOR UNIT MONO AWHP3R

OUTDOOR UNIT MONO AWHP3R: MAIN DIMENSIONS (MM AND INCHES)



Key

1 Outlet MONO AWHP3R :
G1" (4MR and 6 MR)
G1"1/4 (8MR, 11MR, 13MR, 11TR and 13TR)

2 Return MONO AWHP3R :
G1" (4MR and MR)
G1"1/4 (8MR, 11MR, 13MR, 11TR and 13TR)

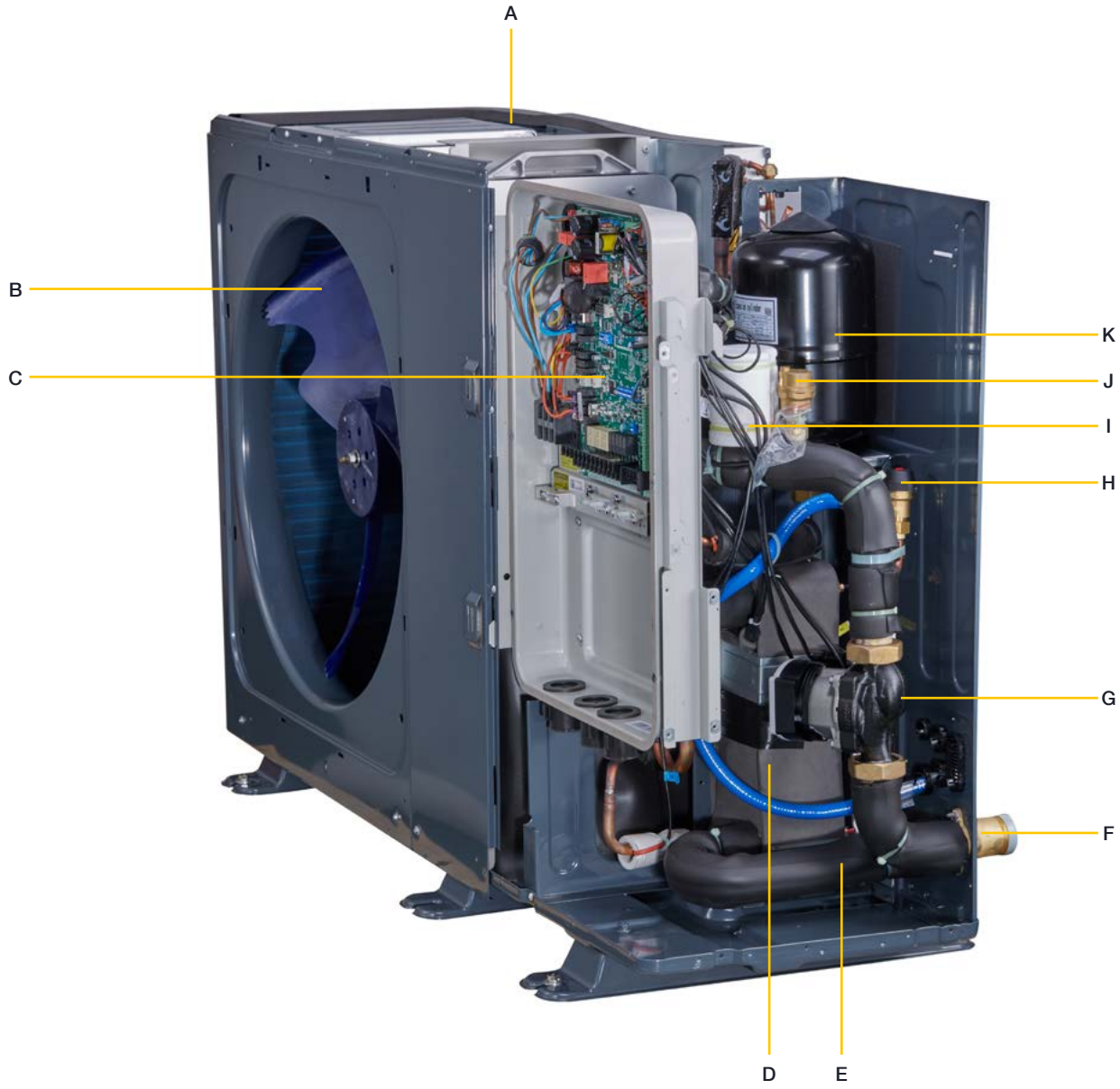
MODELS	DIMENSIONS (MM)													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
MONO AWHP3R 4 MR and 6 MR	333	528	210	725	99	99	1301	426	121	644	379	90	375	71
MONO AWHP3R 8 MR	360	550	234	872	136	107	1390	523	192	656	363	77	456	68
MONO AWHP3R 11 MR and 13MR MONO AWHP3R 11 TR and 13TR	415	550	234	872	136	107	1390	523	192	656	363	77	456	68

TECHNICAL SPECIFICATIONS

OUTDOOR UNIT MONO AWHP3R

OUTDOOR UNIT MONO AWHP3R: COMPONENTS

COMPONENTS OF THE OUTSIDE MODULE (FRONT PANEL REMOVED)



AWHP3R_8MR_88199

Key

A Evaporator
B Fan
C Electronic card with terminal block
D Condenser
E MIV-M indoor module water return
F Water outlet to MIV-M indoor module
G Circulating pump
H Safety valve 3 bars
I Flow switch
J Automatic air vent
K Expansion vessel

De Dietrich

CONTROL PANEL

ALEZIO M R290, ALEZIO M COMPACT R290

DIEMATIC EVOLUTION CONTROL PANEL

The control panels fitted to the ALEZIO M R290 and ALEZIO M COMPACT R290 heat pumps incorporate an electronic control system used to adapt heating output to the actual needs of the installation according to the outside temperature (sensor provided).

To do this, the control system operates the modulation of the compressor (via the BUS cable connecting the outside unit to the indoor unit) and, where applicable, manages backup via the boiler or the electrical resistor.

With MIV-M, it can be used to manage a single direct circuit, which may be a radiator circuit or a low temperature underfloor heating circuit. With MIV-M, it can also be used to manage an additional circuit with a 3-way mixing valve. Moreover, this control system manages the reversibility of the heating in winter/cooling in summer and incorporates a power cut-off function and an emergency help mode. The regulation can also be used to manage domestic hot water.

SELECTION OF OPTIONS ACCORDING TO THE CIRCUITS CONNECTED

ALEZIO M R290

TYPE OF CIRCUIT (1)		DHW	Direct	Direct + 1 valve
DIEMATIC EVOLUTION CONTROL PANEL M (1)	CONTROL OPTIONS	100000030 (DHW sensor)	standard	7847503 (2nd circuit control PCB kit)
	HYDRAULIC OPTIONS	7684175 (reversal valve)	standard	100020164 100020167 100020168 100020165 (external hydraulic kits)

(1) Each of the 'heating' circuits can be supplemented by a room sensor or thermostat listed in the options.

ALEZIO M COMPACT R290

TYPE OF CIRCUIT (1)		DHW	Direct	Direct + 1 valve
DIEMATIC EVOLUTION CONTROL PANEL M (1)	CONTROL OPTIONS	standard	standard	7847503 (2nd circuit control PCB kit)
	HYDRAULIC OPTIONS	standard	standard	100020164 100020167 100020168 100020165 (external hydraulic kits)

(1) Each of the 'heating' circuits can be supplemented by a room sensor or thermostat listed in the options.

THE APPLICATIONS

ALEZIO M R290, ALEZIO M COMPACT R290

App DE DIETRICH SMART for remote control

When combined with its application, our room units, available as an option, combine the height of comfort with ease of installation and use. The temperature of your home and your domestic hot water can be controlled wherever you are, both at home and remotely, and programmed hours entered to suit your lifestyle or requirements.

- « User friendly » with room units with attractive design
- Remote heating management via the application
- Quick and easy programming aid
- Monitoring of heating and DHW consumption *
- Fault alert

Download on the App Store

GET IT ON Google Play

Control your heating wherever you are in the world.
Our room units work in conjunction with your Alezio M R290 / Alezio M Compact R290 heat pump, giving you new ways to use it.

* depending on the model

App DE DIETRICH START for professional commissioning

The DE DIETRICH START application is used with the GTW35-Bluetooth option to guide you step-by-step through the commissioning of De Dietrich products.

You configure the products by answering questions – simple and intuitive, with no parameter codes to remember.

With this application, you can:

- Configure De Dietrich products
- Program the zone temperatures
- Save an installation configuration
- Send an installation report by e-mail
- Duplicate an installation configuration

Free application compatible with all De Dietrich products (boilers and heat pumps) that support the service tool or are factory-equipped with the Bluetooth© function.

THE APPLICATIONS

ALEZIO M R290, ALEZIO M COMPACT R290

App DE DIETRICH SERVICE TOOL for diagnostics

Diagnose each De Dietrich heat pump quickly and easily. This application is a practical tool which can be used for all types of work: installation, maintenance and troubleshooting.
The local Bluetooth connection ensures quick and easy access to all of the control system parameters:

- The status of the generator
- The values and measurements
- Viewing and resetting of errors
- Viewing and resetting of meters
- Fault messages in clear text format
- Viewing and resetting of service messages

Free application compatible with all De Dietrich products (boilers and heat pumps) that support the service tool or are factory-equipped with the Bluetooth© function.

ALEZIO M HEAT PUMP

ALEZIO M R290, ALEZIO M COMPACT R290

CONTROL OPTIONS

AD337

AD338

TH_Q0001 / Emetteur_thermostat

Wired programmable room thermostat
Ref.: 7768817 / AD337

Wireless programmable room thermostat - Ref.: 7768818 / AD338

Programmable thermostats provide weekly programming and regulation of the heating according to the various operating modes:
AUTOMATIC: depending on the programming.
PERMANENT: at a set temperature or **HOLIDAY**.
The wireless version includes an emitter module which is fixed to the wall near the MIV-S.

The non-programmable thermostat is only used to regulate the room temperature based on the specific setpoint.

AD324

SMARTTC_Q007

SMART TC° room temperature sensor R-BUS (wired)
Ref.: 7691375 / AD324

SMART_CDI_Q1003 / SMART_CDI_Q1002

SMART CDI RF room temperature sensor (with support)
Ref.: 7900088
+ Gateway LINK WIFI (GTW IoT)
Ref.: 7898722
Smart CDI RF is a room sensor that connects to all DE DIETRICH appliances equipped with a Diematic Evolution or E-Pilot panel. In combination with WiFi Link (GTW IoT), the system can be remotely connected and controlled.

AD346

AD_Q0050

Wireless outside temperature sensor
Ref.: 7776874 / AD346

The radio outside temperature sensor can be delivered as optional equipment for systems in which the installation of the external wire connection sensor delivered with DIEMATIC EVOLUTION control panel would be too complex. This sensor must be used with a radio remote control (AD341), already combined with an “appliance radio module”.

AD212

8518Q022

Domestic hot water sensor (length 5 M) - Ref.: 100000030 / AD212
(as standard for Alezio M Compact R290)

HK27

HPI_Q0017

Humidity sensor kit
Ref.: 100019114 / HK27

Sensor for measuring humidity in the flow part of an installation with underfloor heating/cooling. In « refreshing » mode, the heat pump is stopped if the humidity detected is high, avoiding the appearance of condensation.

HZ64

HYBRID_Q0050

Humidity sensor (0 - 10 v)
Ref.: 7622433 / HZ64

Collector for measuring the humidity in your installation in the flow part of the underfloor heating/cooling. In cooling mode, it is used to adapt the water flow temperature to avoid the appearance of condensation.

PAC_Q9116

Control card kit for 2nd circuit SCB17 + Sensor
Ref.: 7847503

This card is integrated into the MIV-M module, enabling the management of a secondary circuit kit such as the HK152 package.

AD199

GT220_Q0002

Flow sensor downstream of valve (length 2.5 M) - Ref.: 88017017 / AD199

This sensor is required to connect the first with mixing valve to a boiler fitted with a DIEMATIC Evolution control panel. When using the package « Internal 3-way valve kit » HK21, it is not necessary to order this sensor which is originally included in the HK21 package.

HA255

HA249_Q0001

Underfloor heating thermostat connection kit
Ref.: 7624902 / HA255

Wired for connecting a safety thermostat to the circulating pump in an underfloor heating circuit.

SCB10_Q0001

SCB-10 Multi-Zone Wall Box
Ref.: 7853119

ALEZIO M HEAT PUMP

ALEZIO M R290, ALEZIO M COMPACT R290

OPTIONS FOR THE OUTDOOR UNIT

HK602

PAC_Q9120

Kit 3 x rubber floor support 600 mm
Ref.: 7816801 / HK602

Kit of 3 rubber floor support for mounting the outdoor module on the ground.

DHW OPTIONS

EH812

8531Q019

Heating/DHW reversal valve
Ref.: 7684175 / EH812

This kit includes the motor and the body of the motorised reversal valve.

It enables the MIV-M R32 to be connected to an independent DHW tank.

EC790 / EC795 / ER615

BLC_Q0001A

HW Tanks (in combination with package EH812 - Ref.: 7684175)
- BPB 401 - Ref.: 7682199 / EC790
- BPB 501 - Ref.: 7682313 / EC795
- BEPC 300 - Ref.: 7620661 / ER615

EH149

PAC_Q0117

DHW Tank/Heat pump connection kit BLC - Ref.: 100015468 / EH149

This kit includes two stainless, insulated flexible conduits, for connecting the MIV-S to the tank.

HYDRAULIC OPTIONS

EH19

PAC_Q0010

DHW Tank/Heat pump connection kit BLC - Ref.: 100015468 / EH149

Kit of two insulated hydraulic hoses:
Length 1000 mm.
Diameter: 1".

EH85 / EH60

PAC_Q0021 - 8962Q024

Buffer Tank:
• B 80 T - Ref.: 100008841 / EH85
• B 150 T - Ref.: 100004415 / EH60

This 80- or 150-litre tank is used to limit compressor short-cycle operation and to provide a reserve for the defrosting phase on reversible air-to-water heat pumps.

It is also recommended for all heat pumps connected to installations with a water volume of less than 5 l/kW of heat output.

EXAMPLE: Heat pump output = 10 kW.

Minimum volume of installation: 50 litres.

DIMENSIONS: B 80 T:
H 850 x L 440 x D 450 mm.

B 150 T: H 1003 x Ø 601 mm.

HK146

PAC_Q5006

Decoupling cylinder 25 L
Ref.: 7746192 / HK146

The bottle is decoupling the secondary heating circuit from the MIV S primary circuit. Ideal in retrofit, especially to avoid any problem of flow with high pressure drop circuits.

HK150

PAC_Q5005

Differential by-pass valve
Ref.: 7746242 / HK150
This differential by-pass valve has to be installed on circuits equipped with thermostatic valves, in order to ensure a minimum flow rate in the MIV S.

ALEZIO M HEAT PUMP

ALEZIO M R290, ALEZIO M COMPACT R290

HYDRAULIC MODULE OPTIONS

EA143

EA144

8575Q062 / 8575Q063

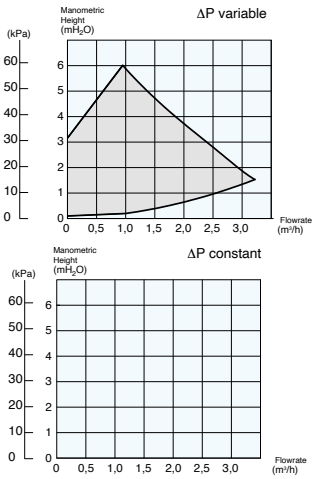
Hydraulic module:

for 1 direct circuit
Ref.: 100020167 / EA143

for 1 circuit with valve
Ref.: 100020168 / EA144

Fully assembled, insulated and tested; fitted with a pump, motorised 3-way mixing valve (EA144), thermometers integrated into the isolation valves, and a non-return valve integrated into the return valve.

Specifications heating circulating pump (WILO-yonos PARA RS 25/6 fitted to the module EA143 and EA144):



8575_F0202A

EA140

8575Q065

Insulated collector for 2 or 3 modules
Ref.: 100020164 / EA140

With an installation with 2 or 3 circuits with modules EA143/144.

EA142

8575Q067

Insulated collector for 1 hydraulic module
Ref.: 100020166 / EA142

This console allows secure one hydraulic module for one direct circuit or circuit with mixing valve on the wall.

Is used only when one of the two hydraulic modules is mounted. It includes two brass male / female connectors.

EA141

8575Q066

Set of 2 walls consoles for collector
Ref.: 100020165 / EA141

These consoles are used to fix the collector to the wall.

EH896

TF1 + raccords Fernox

Fernox TF1 filter - Ref.: 100020045 / EH896

De Dietrich

ADDITIONAL FEATURES
OF THE CONTROL SYSTEM

« HYBRID » FEATURE

The hybrid feature incorporated into the control system of the indoor module is used to manage solutions which combine a heat pump (partially using renewable energy) and a low-temperature boiler or condensing boiler (oil-fired or gas) which operate alone or simultaneously depending on the weather conditions and the heating requirements.

The hybrid feature serves to meet the needs of the installation by always optimising energy consumption between gas, oil and electricity, and it does so by:

- Either using the cheapest energy source (to minimise heating costs).
- Or using the one with the lowest primary energy consumption based on sustainable management.

The « energy tariff » or « primary energy co-efficient » values can be changed by adjusting the control system parameters.

This regulation mode also offers the following advantages:

- Reduction in the heat pump output to minimise electricity bills.
- Heating and DHW requirements are fully covered by the heat pump + boiler system.
- In the existing home, energy savings are higher compared to using a boiler alone, the installed boiler's CO2 emissions are reduced, and connection is possible without changing the existing heat emitters, and no need to use a very high temperature.

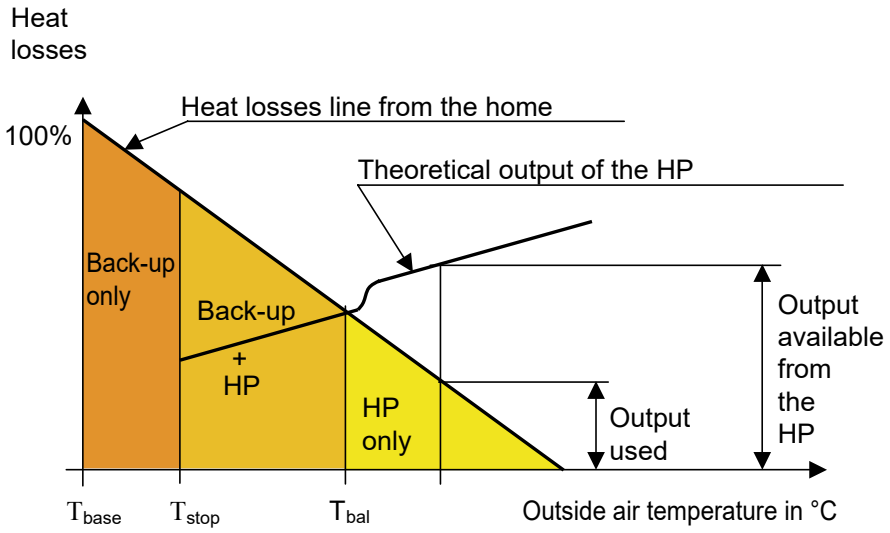
SIZING AN INSTALLATION

ALEZIO M R290

SIZING AIR-TO-WATER HEAT PUMPS

Air-to-water heat pumps alone cannot compensate for the heat losses of a home, as their output is reduced when the outside temperature drops, and they stop working at a certain temperature, known as the « stop temperature ». For the ALEZIO M R290 range, this temperature is - 20°C (- 15°C for 4.5 and 6 kW). Therefore, an electrical backup via an electrical resistance or a hydraulic backup via a boiler is necessary.

The balance temperature corresponds to the outside temperature at which the heat pump's output is equal to the losses.



PAC_F0030A

TO OPTIMISE SIZING, IT IS RECOMMENDED TO APPLY THE FOLLOWING RULES

- **70% of losses ≤ Heat pump output at T_o ≤ 100 % of losses where T_o = T_{base} si T_{stop} < T_{base} and T_o = stop otherwise** (take a value of 80% if the building has low inertia, e.g. timber frame).
- Heat pump output at T_{base} + Backup power = 120% of losses.

T_{base} = Base outside temperature, T_{bal} = Balance temperature, T_{stop} = Stop temperature.

SIZING AN INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

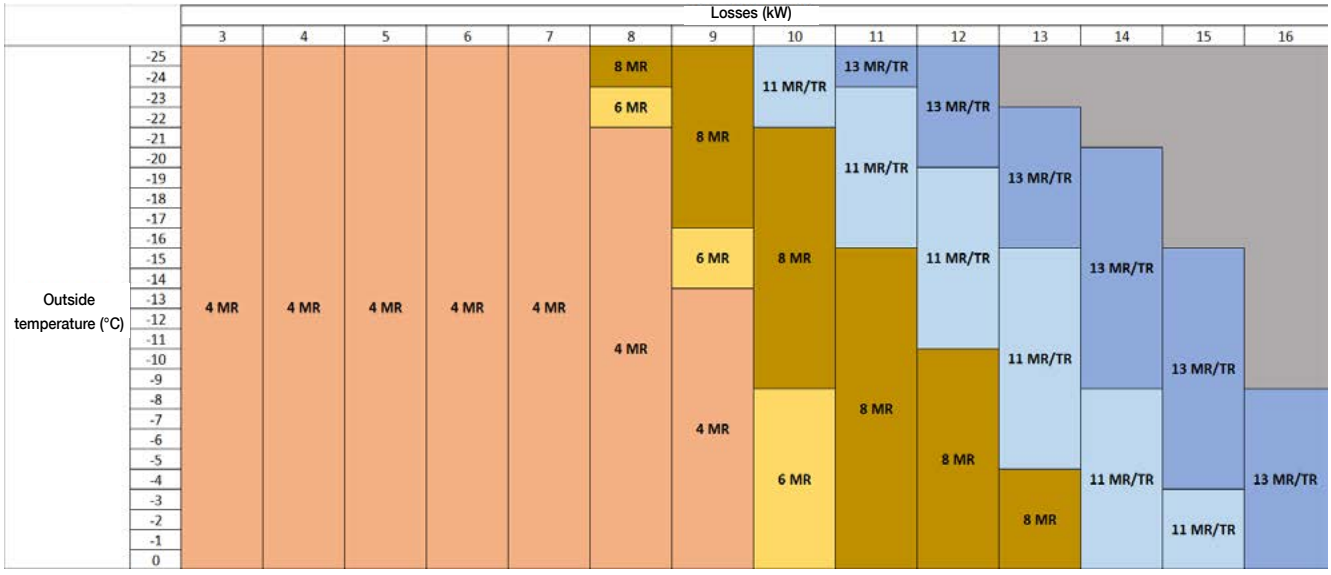
SELECTION TABLE MODELS ALEZIO M R290 AND ALEZIO M COMPACT R290

These tables provide a simplified definition of the capacity of the heat pump to be installed.

ALEZIO M R290 AND ALEZIO M COMPACT R290 FOR A FLOW TEMPERATURE AT 35°C (UNDERFLOOR HEATING)

ALEZIOM_R290_F5000

ALEZIO M R290 AND ALEZIO M COMPACT R290 FOR FLOW TEMPERATURE AT 45°C (LOW TEMPERATURE RADIATOR)



ALEZIOM_R290_F5001

NOTES

- Selection table given for each flow temperature (70% of heat loss for the heat pump and 120% heat loss for the heat pump + backup).
- The heat losses must be determined precisely and without any over-power coefficient.
- With a maximum of 6 kW of electric backup..
- **Below the outdoor shutdown temperature for the heat pump (-25°C), only the backup units operate.**

SIZING AN INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

SELECTION TABLE MODELS ALEZIO M R290 ET ALEZIO M COMPACT R290

These tables provide a simplified definition of the capacity of the heat pump to be installed.

ALEZIO M R290 AND ALEZIO M COMPACT R290 FOR A FLOW TEMPERATURE AT 55°C (LOW TEMPERATURE RADIATOR)

ALEZIOM_R290_F5002

NOTES

- Selection table given for each flow temperature (70% of heat loss for the heat pump and 120% heat loss for the heat pump + backup).
- The heat losses must be determined precisely and without any over-power coefficient.
- With a maximum of 6 kW of electric backup.
- **Below the outdoor shutdown temperature for the heat pump (-25°C), only the backup units operate.**

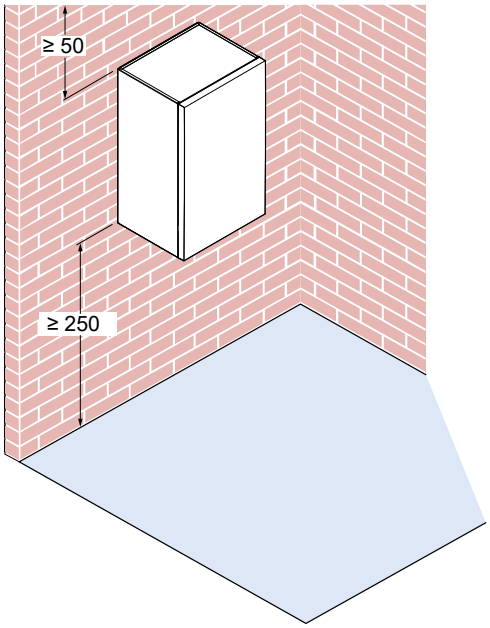
IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

INDOOR UNIT INSTALLING

- The indoor units are installed near the home, on a terrace or façade or in a garden. They are designed to work in rainy conditions, but can also be installed in a covered, well-ventilated location.
- The indoor unit must be installed so as to be sheltered from the prevailing winds which could affect the performance of the installation.
- It is also recommended to position the unit above the average snow line of the region in which it is installed.
- The location of the indoor unit must be chosen carefully to ensure that it is compatible with the requirements of the environment: integration in the location, compliance with regulations on town planning and joint ownership.
- There must be no obstacles impeding the free circulation of air through the heat exchanger at the suction and discharge points; it is therefore necessary to allow clearance around the appliance to enable maintenance.

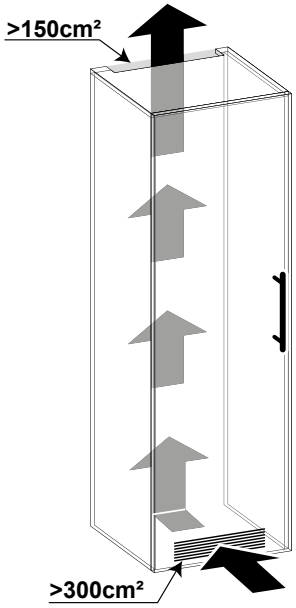
INDOOR UNIT: MINIMUM DISTANCES FOR INSTALLATION (MM)



MIV_M_F9903a

INSTALLATION IN A CUPBOARD

The MIV-M /E or MIV-M /H indoor unit of the ALEZIO M R290 can be installed in a cupboard provided that the minimum ventilation areas below are observed.



MIV_M_F0009

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IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M COMPACT R290

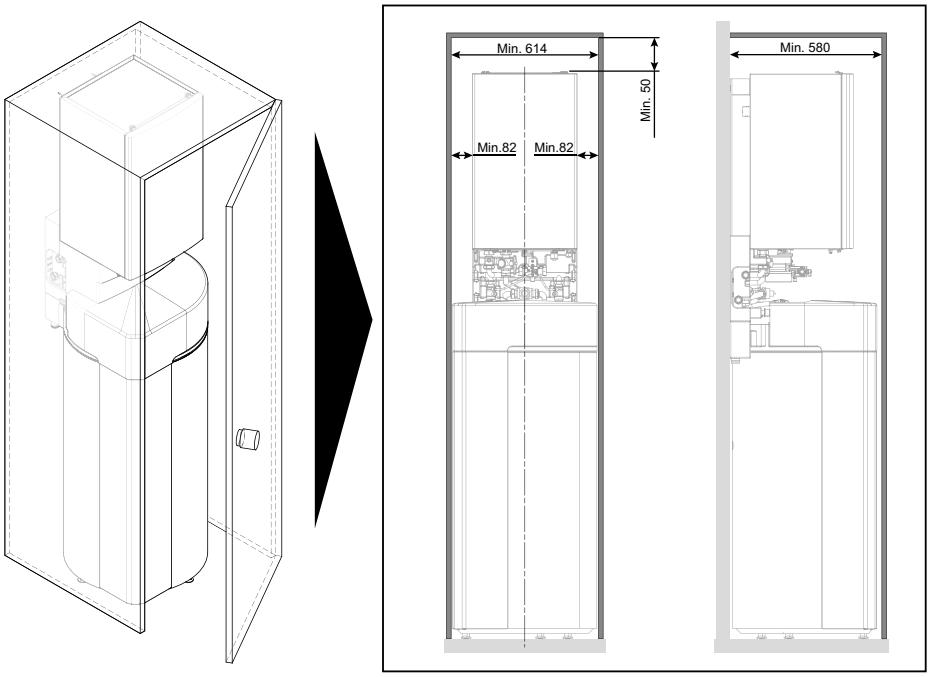
INDOOR UNIT INSTALLING

The ALEZIO M COMPACT R290 indoor unit must be installed in a frost-free room on a flat surface as close as possible to the draw-off points to limit losses.

The front panel must be accessible to facilitate maintenance of the appliance.

The indoor unit can be mounted in a cabinet or against a wall.

INSTALLATION IN A CUPBOARD

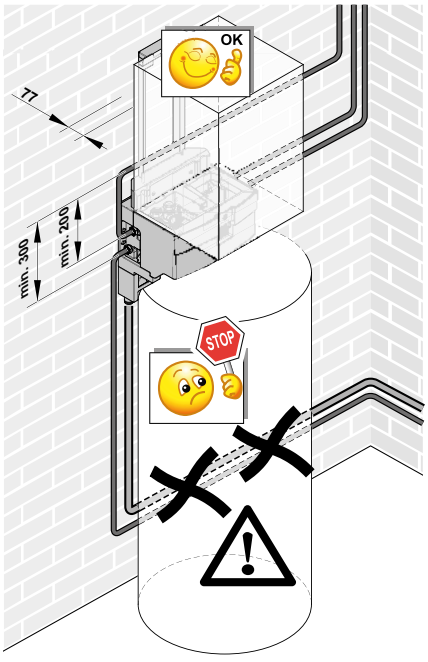


ALEZIOM_COMPACT_F0001

INSTALLATION AGAINST A WALL

There must be no pipe running between the wall and the hot water tank.

Valves or condensate can only be drained from the left-hand side of the appliance.



ALEZIOM_COMPACT_F0002

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IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

INSTALLATION OF THE MONO AWHP3R OUTDOOR UNIT: GENERAL INFORMATION

Choose the most suitable location, taking into account the space required and legal requirements.

The IP24 protection rating of the device during installation.

The following locations should be avoided to prevent noise pollution:
- Prevailing winds.
- Proximity to sleeping areas, terraces, etc.
- Facing a wall with windows.

Nothing must obstruct the free circulation of air around the appliance (air inlet and outlet).

Ensure that the support meets the following specifications:
- Flat surface capable of supporting the weight of the appliance and its accessories (concrete base, concrete or steel blocks).
- No rigid connection to the building to prevent the transmission of vibrations and noise.
- Position at least 200 mm above ground level to keep the appliance above rainwater and ice. In regions with a lot of snow, the position of the appliance should be calculated according to local weather conditions and in any case at least 200 mm above snow level.
- Provide a base with a metal frame or other resistant material to allow condensation to drain properly. In terms of fire resistance, the base must be classified M0.

Indoor installation is prohibited.

The condensate drain should be cleaned regularly to avoid blockages.

LOCATION IN COLD AND SNOWY REGIONS

The performance of the device may be reduced if the following conditions are not met:
- Install the appliance at a sufficient height to allow condensate to drain properly.
- If outside temperatures fall below zero, take the necessary precautions to avoid the risk of freezing in the condensate pipes.
- A condensate drain pipe heating solution may be required to prevent freezing. Ensure that the base meets The following requirements:

Ensure that the base meets the following requirements:

FEATURES	REASON
At least 200 mm higher than the average snow depth.	Protects the heat exchanger from snow and prevents the formation of ice during defrosting.
As far away as possible from the place of passage.	The condensate drain could freeze and become a hazard (icy patches).

IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

AWPH3R MONO OUTDOOR UNIT: INSTALLATION RULES TO BE OBSERVED

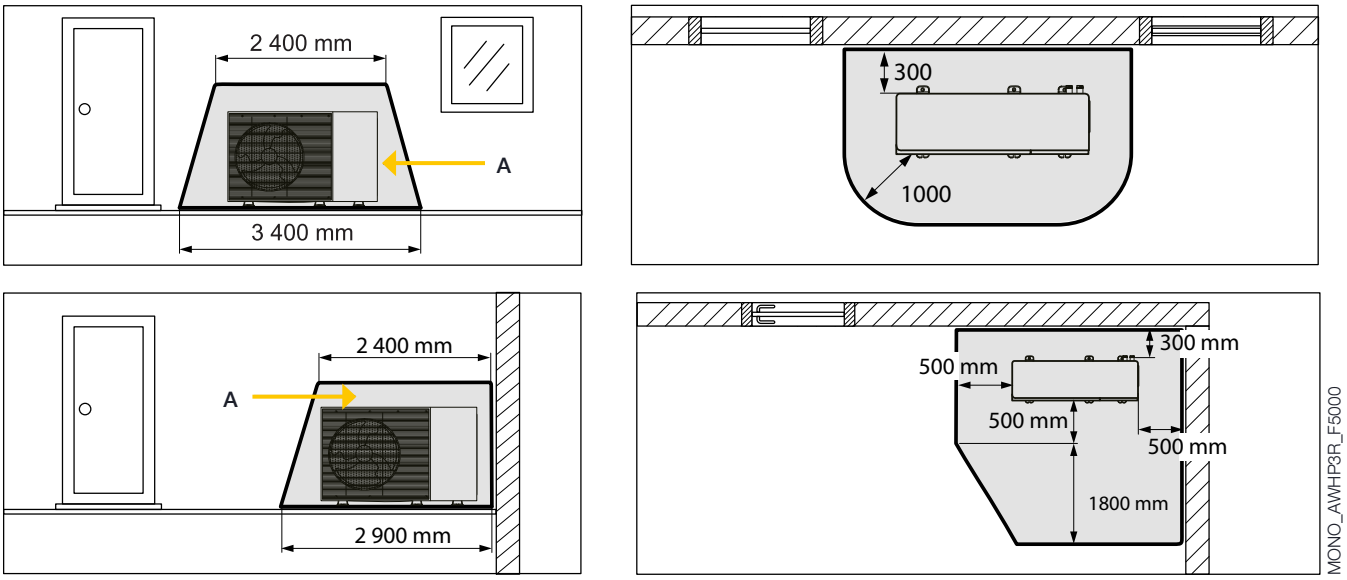
- The MONO AWHP3R outdoor units of the ALEZIO M R290 heat pumps are installed close to the house, on a terrace, on the facade or in the garden. They are designed to operate in the rain, but can also be installed under a ventilated shelter.
- The outdoor module should be installed away from prevailing winds, which can affect the performance of the installation.
- It is recommended that the module is positioned above the average snow height in the region where it is installed.
- The location of the outdoor module must be chosen carefully to ensure that it is compatible with the requirements of the environment: integration into the site, compliance with town planning or co-ownership regulations.
- There must be no obstructions to the free flow of air through the exchanger at the intake and discharge, so a clear space must be left all around the appliance. This will also allow connection, commissioning and maintenance operations to be carried out (see installation diagrams below).

SAFETY ZONE IN FRONT OF AN EXTERNAL WALL (IN MM)

- There must be no obstructions to the free flow of air through the exchanger at the intake and discharge, so a clear space must be left all around the appliance.
  This will also allow connection, commissioning and maintenance operations to be carried out (see installation diagrams below).
- This refrigerant has a higher density than air. In the event of a leak, escaping refrigerant can be collected near the ground.

The following conditions must be avoided in the safety zone:

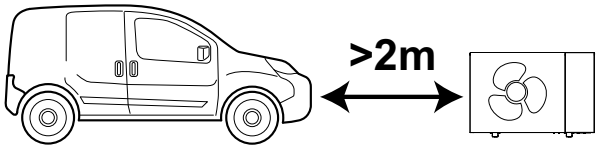
- Building openings such as windows, doors, skylights and flat roof windows;
- Outside air and exhaust air openings for ventilation and air-conditioning systems;
- Property boundaries, neighbouring properties, paths and driveways;
- Pump shafts, wastewater system inlets, downpipes and wastewater wells, etc.;
- Household power supply connections;
- Electrical systems, sockets, lamps and switches.
- Do not introduce sources of ignition into the safety zone.



A Security zone

SAFETY ZONE IN RELATION TO A MOTOR VEHICLE

Motor vehicles must not drive or park within 2 metres of the outdoor unit.



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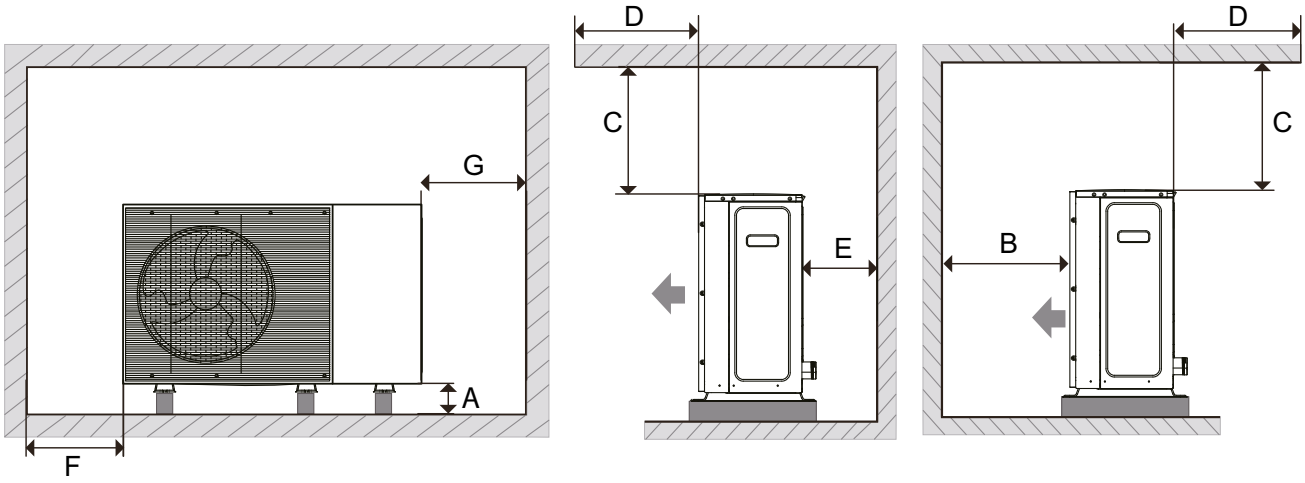
IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

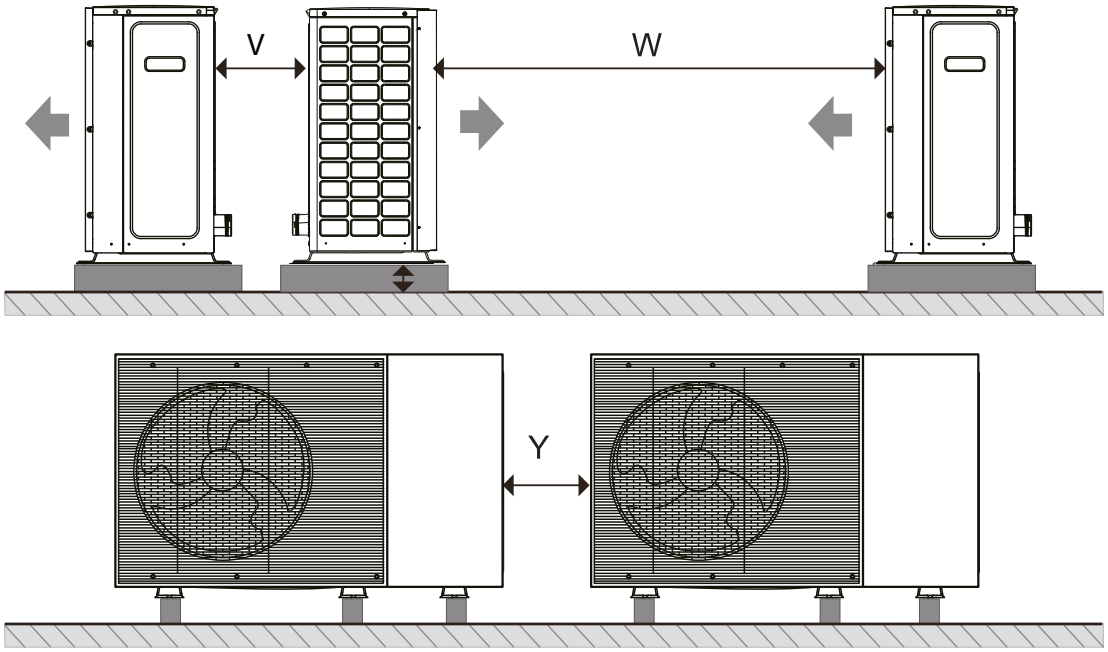
OUTDOOR UNIT MONO AWPH3R: SITING RULES TO BE RESPECTED

MINIMUM DISTANCES FOR INSTALLATION (MM)



MODEL	DIMENSIONS (MM)							
	A	B	C	D	E	F	G	H
MONO AWHP3R 4 MR, 6 MR and 8 MR	≥ 100	≥ 1000	≥ 500	≤ 500	≥ 300	≥ 500	≥ 500	≥ 500
MONO AWHP3R 11 MR and 13MR MONO AWHP3R 11 TR and 13TR	≥ 100	≥ 1500	≥ 500	≤ 500	≥ 300	≥ 500	≥ 500	523

DISTANCES BETWEEN OUTDOOR UNITS FOR INSTALLATION



MODEL	DIMENSIONS (MM)		
	V	W	Y
MONO AWHP3R 4 MR, 6 MR and 8 MR	≥ 600	≥ 2500	≥ 500
MONO AWHP3R 11 MR and 13MR MONO AWHP3R 11 TR and 13TR	≥ 600	≥ 3000	≥ 500

IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

ACOUSTIC INTEGRATION OF ALEZIO M R290 HEAT PUMPS

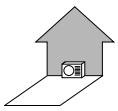
DEFINITIONS

The acoustic performance levels of the outdoor units are defined by the following two values:

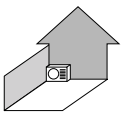
- **The sound power Lw expressed in dB[A] :** this characterises the sound emission capacity of the source, independently of its environment. It enables appliances to be compared.
- **The sound pressure Lp expressed in dB[A]:** this is the value perceived by the human ear, and depends on parameters such as the distance from the source, the size and the type of walls in the building.

RECOMMENDATIONS FOR ACOUSTIC INTEGRATION OF THE OUTDOOR UNIT

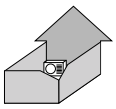
- Do not position the module close to bedrooms.
- Avoid placing it close to a terrace, and do not install the module opposite a wall. The increase in the noise level due to the installation configuration is shown in the diagrams below:



Module positioned against a wall: + 3 dB[A]



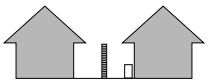
Module positioned in a corner: + 6 dB[A]



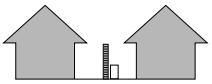
Module positioned in an inner courtyard: + 9 dB[A]

HPI_F0029

The following configurations must not be used:



Ventilation directed towards the neighbouring property



Module positioned at the boundary of the property

Module positioned under a window

HPI_F0029

The following recommendations should be followed to reduce environmental noise and the transmission of vibrations:

- Installing the outdoor module on a metal frame or an inertia base. This base must be at least twice as heavy as the module and be independent of the building.

  Anti-vibration mounts will still need to be installed to reduce the transmission of vibrations.
- The use of suitable sleeves at the points where the refrigerant connections are routed through the walls.
- The use of flexible, anti-vibration materials for mountings.
- The installation of vibration-damping devices such as loops or elbows on the refrigerant connections.
- It is also recommended to install an acoustic attenuation device, for example:
  - A wall dampener fitted on the wall behind the module.
  - A sound barrier: the surface of the barrier must be larger than the outdoor module and be positioned as close as possible to it, while allowing air to circulate freely. The barrier must be made from a suitable material such as acoustic bricks or concrete blocks covered with absorbent material. It is also possible to use natural barriers, such as banks of earth.

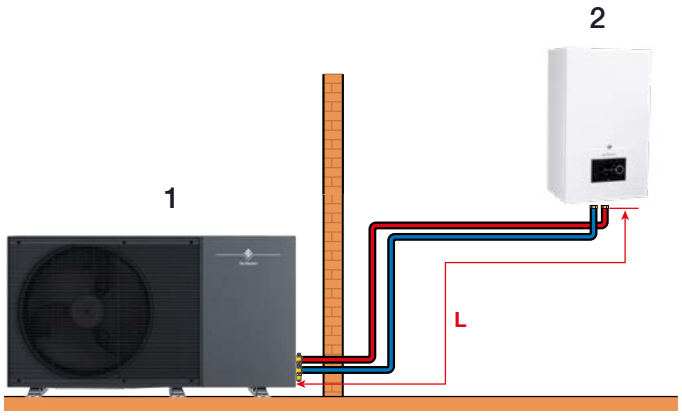
IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

MAXIMUM CONNECTION DISTANCES AND MINIMUM PIPE DIAMETERS

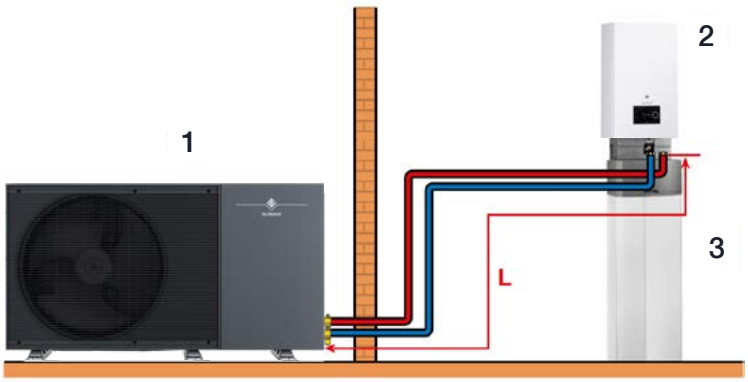
Respecting the maximum pipe length, the internal diameter of the pipes and the number of bends between the internal and external modules will limit pressure losses and guarantee optimum performance.

IMPORTANT
Identify the power rating of the outdoor unit using the nameplate.



L Maximum connection distance
1 Outdoor unit
2 Indoor unit

ALEZIOM_R290_F2001



L Maximum connection distance
1 Outdoor unit
2 Indoor unit
3 DHW

ALEZIO_M_COMPACT_F2001

The pressure losses in the connection between the two modules must ensure an available pressure at the outlet of the external module of :

- 33 kPa at nominal flow rate for 4, 6 and 8 kW outdoor units,
- 41 kPa at nominal flow rate for 11 and 13 kW outdoor units.

	MODEL ALEZIO M R290				
	4MR	6MR	8MR	11MR / 11TR	13MR / 13TR
Maximum pipe length **L** (m) *	2 x 30	2 x 30	2 x 30	2 x 30	2 x 30
Minimum internal diameter of pipes (mm)	25	25	32	32	32

* Maximum length incorporating equivalent straight lengths corresponding to pressure losses from elbows and fittings on the pipes between the 2 modules.

Note: these equivalent lengths, which depend on the material and geometry of the fittings used, are given by the chosen manufacturers.

IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

EXPANSION VESSEL VOLUME

The volume of the expansion vessel must be compatible with the volume of water in the circuit, taking into account the maximum temperature in heating mode (by default at least 55°C).

If the volume of the expansion vessels built into the outdoor module (8 litres) and indoor module (8 litres) is insufficient, add an external vessel to the heating circuit.

UNDERFLOOR HEATING SYSTEM: MAX. TEMPERATURE 40°C

STATIC HEIGHT (M)	EXPANSION VESSEL INFLATION PRESSURE (BAR)	EXPANSION VESSEL VOLUME AS A FUNCTION OF SYSTEM VOLUME (L)							
		75	100	125	150	175	200	225	250
5	1	7	7	8	8	8	9	9	9
10	1,3	7	8	8	9	9	10	10	11
15	1,8	10	10	11	11	12	13	14	14

RADIATOR INSTALLATIONS: MAX. TEMPERATURE 70°C

STATIC HEIGHT (M)	EXPANSION VESSEL INFLATION PRESSURE (BAR)	EXPANSION VESSEL VOLUME AS A FUNCTION OF SYSTEM VOLUME (L)							
		75	100	125	150	175	200	225	250
5	1	8	9	10	11	12	13	14	15
10	1,3	9	11	12	13	14	15	16	17
15	1,8	12	13	15	16	18	19	21	22

FLOW RANGE

Check that the minimum flow rate in the system is guaranteed under all conditions. This flow rate is required during defrosting and when the backup heating system is operating.

SPECIAL PRECAUTIONS FOR CONNECTING THE HEATING CIRCUIT

When one or more heating circuits are controlled by remote valves, the minimum water flow rate (threshold) must be guaranteed, even if all the valves are closed. (see table below).

If the minimum flow rate cannot be met, E0 and E8 (outdoor unit shutdown) will be triggered.

MIN. FLOW IN EXTERNAL GROUP	UNIT	4 MR	6 MR	8 MR	11 MR/TR	13 MR/TR
Threshold flow (critical)	l/mn	7	7	7	12	12
	m^3/h	0,42	0,42	0,42	0,72	0,72
(Functional) flow rate range	l/mn	7 - 15	7 - 20,8	7 - 35	12 - 41,6	12 - 50
	m^3/h	0,42 - 0,90	0,42 - 1,25	0,42 - 2,10	0,72 - 2,50	0,72 - 3,00

DECOUPLING CYLINDER

Depending on the output of the outdoor module, it may be necessary to install a decoupling cylinder between the indoor module and the heating circuit to compensate for pressure losses in the system.

APPLICATION	MODEL ALEZIO M R290				
	4 MR	6 MR	8 MR	11 MR/TR	13 MR/TR
35°C (underfloor heating)	not necessary	not necessary	not necessary	**mandatory**	**mandatory**
45°C (fan coil)	not necessary	not necessary	not necessary	**mandatory**	**mandatory**
55°C (radiator)	not necessary	not necessary	not necessary	not necessary	not necessary
65°C (radiator)	not necessary	not necessary	not necessary	not necessary	not necessary

IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

MINIMUM WATER VOLUME

The volume of free water in the system must be sufficient to avoid short operating cycles and allow optimum defrosting. Check that the total volume of water in the system is **at least 40 litres**, excluding the internal volume of water in the outdoor unit; extra water may be needed for critical processes or in rooms with a high heating load.

When the circulation in each space heating/cooling circuit is controlled by remote control valves, it is necessary to guarantee the minimum volume of water, even if all the valves are closed.

If the volume of the installation does not cover the minimum volume to be added, a buffer tank must be installed.

DOMESTIC HOT WATER PRODUCTION

A domestic hot water tank can be connected to the indoor unit:
- choose a domestic hot water tank with an exchange surface of at least 1.7 m^2.
- use an external 3-way valve for connection.

IMPORTANT NOTES

THE DIFFERENT TRANSMITTERS

R290 heat pumps are not limited in terms of water outlet temperature: maximum 75°C. It is therefore possible to work on low-temperature emitters, i.e. cooling underfloor heating and radiators sized for low temperature, as well as radiators sized for high temperature.

For cooling mode, only underfloor heating with a compatible slab and covering is suitable. It is also necessary to comply with the minimum flow temperatures for underfloor cooling in relation to the geographical area where the system is installed, to avoid any condensation (between 18°C and 22°C).

REFRIGERANTS

The R290 refrigerant has properties suited to high-temperature heat pumps.
It is better known as propane.
It contains no chlorine, so preserves the ozone layer.

COOLING OR AIR-CONDITIONING MODE

Reversible heat pumps can be used for cooling in summer. A 4-way valve, known as a cycle reversal valve, automatically switches the cycle from heating to cooling mode. The compressor inlet is connected to the indoor heat exchanger, which becomes the evaporator. The compressor discharge is connected to the outdoor exchanger, which becomes the condenser.

NOTE: For Air/Water heat pumps, this 4-way valve is also used for the evaporator defrost phase.

In the case of an underfloor heating and cooling system (flow/return water temperature:+ 18 °C/+ 23 °C), the cooling capacity is limited, but sufficient to maintain pleasant comfort conditions in the home. On average, this reduces the room temperature by 3 to 4°C.

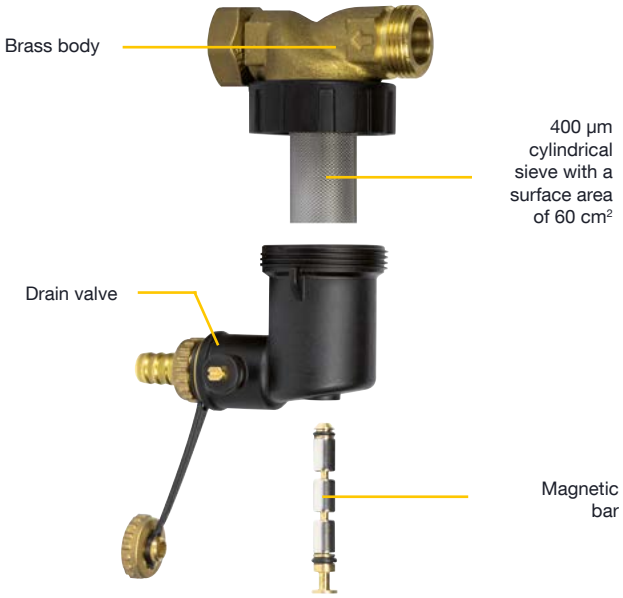
IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

MAGNETIC FILTER

The **magnetic sieve filter** is a safe and durable technical solution for guaranteeing the smooth operation of our heat pump solutions over time. **All our heat pumps** and hybrid systems **are factory fitted** with a brand new filter designed by Caleffi and specifically adapted to our products.

This filter consists of a sieve with a large collection surface area, three times larger than a conventional sieve filter, and a very high-capacity magnetic bar to retain all types of particles found in the heating network. It also acts as a **sludge trap** and has an integrated **drain valve** which can be operated with the back of the plug to remove the collected residue.



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IMPORTANT

Installing this filter does not exempt you from complying with good installation and commissioning practice. The filter must be cleaned simply and quickly at every annual service and if the flow rate is insufficient. Please comply with the heating water specifications given in the manual. Do not allow air to enter the hydraulic circuit. It is important to ensure that the expansion vessel is correctly sized and that it is inflated to the correct pressure.

IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290

ELECTRICAL CONNECTION

The electrical installation of the heat pumps must be carried out in accordance with good practice and in compliance with current standards, decrees and related texts, in particular standard NF C 15 100.

RECOMMENDED CABLE CROSS-SECTIONS AND CIRCUIT-BREAKERS TO BE USED

ALEZIO M R290 ...	TYPE …PHASE	POWER SUPPLY MONO OUTDOOR UNIT AWHP3R		POWER SUPPLY INDOOR UNIT MIV-M		COMMUNICATION BUS
		SC (mm²)	Curve C* DJ	SC (mm²)	Curve C DJ	SC (mm²)
4MR and 6MR	Mono	3 x 2.5 (< 30 metres)	16 A	3 x 1,5	10 A	3 x 0,75 shielded (< 30 metres)
8MR	Mono	3 x 4 (< 30 metres)	20 A	3 x 1,5	10 A	3 x 0,75 shielded (< 30 metres)
11MR and 13MR	Mono	3 x 6 (< 30 metres)	32 A	3 x 1,5	10 A	3 x 0,75 shielded (< 30 metres)
11TR and 13TR	Tri	5 x 2.5 (< 30 metres)	16 A	3 x 1,5	10 A	3 x 0,75 shielded (< 30 metres)

ELECTRICAL BACKUP (.../E MODELS)		
MONO: 3 kW and 6 kW	SC	3 x 6 mm²
	DJ	Curve C*, 32 A
TRI: 3 kW and 6 kW	SC	5 x 2,5 mm²
	DJ	Curve C*, 16 A

Key

SC Cable cross-section in mm²

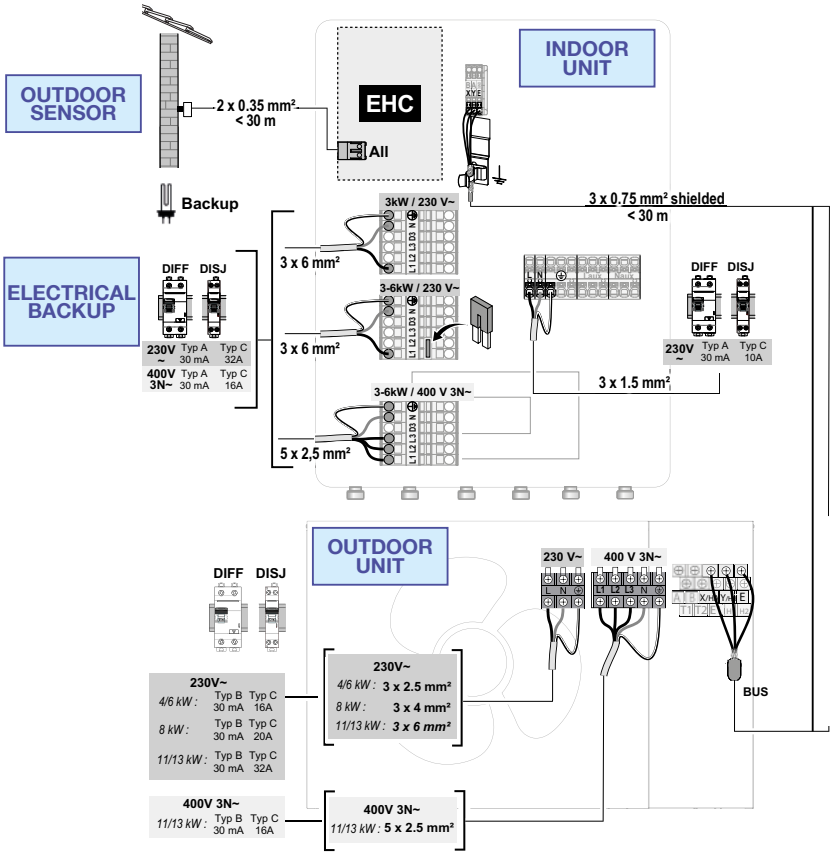
DJ Circuit-breaker

* motor differential protection

ELECTRICAL SIZING WITH 3-6 KW ELECTRICAL RESISTANCE

The product's power supply cables and the power supply cable for the electrical auxiliaries must be separate from the communication cables and the probes. Shielded cables should be used to avoid any interference with the low-voltage network.

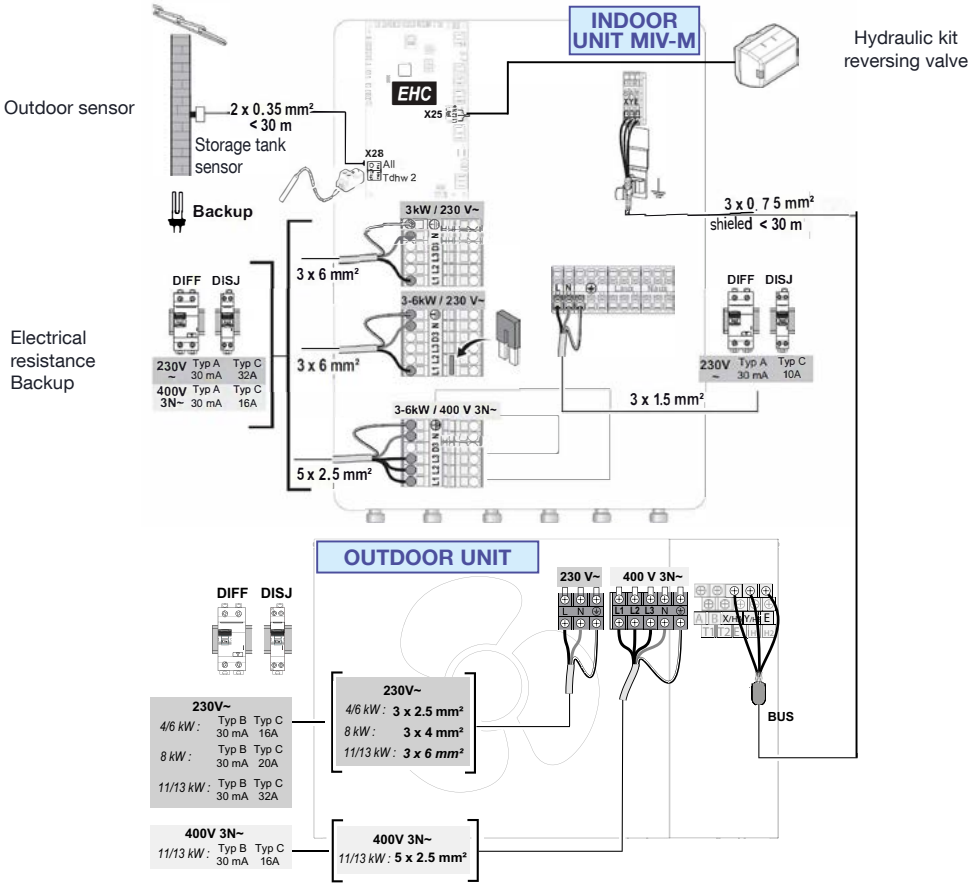
ALEZIO M R290



IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M COMPACT R290

ALEZIO M COMPACT R290



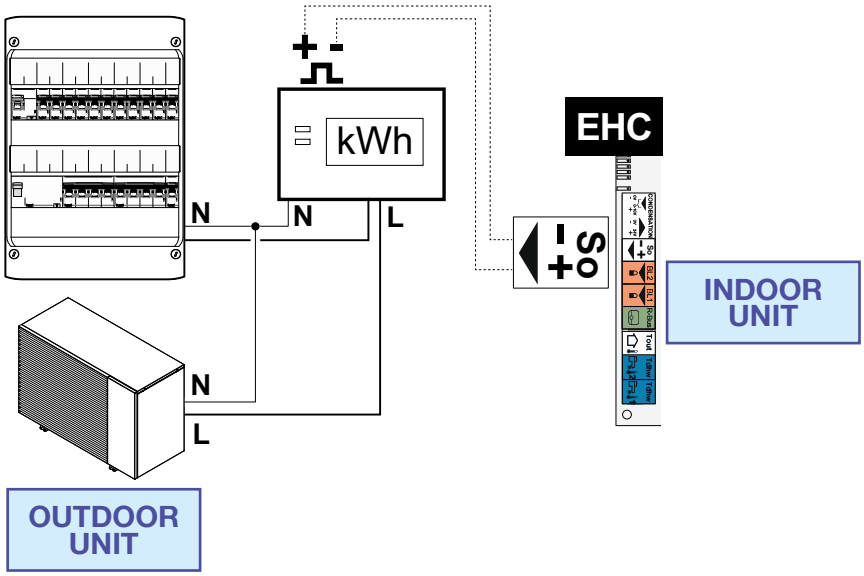
IMPORTANT INFORMATION FOR INSTALLATION

ALEZIO M R290, ALEZIO M COMPACT R290

ELECTRICAL CONNECTION

CONNECTION TO AN ENERGY METER

Connecting an energy meter to the power supply of the outdoor unit allows the heat pump to be informed of the exact measurement of the electrical energy consumed by the module. Choose a pulse-type energy meter to standard EN 62053-31.



ALEZIOM_R290_F7000

IMPORTANT

Do not install an energy meter on either the power supply to the electrical resistance or the power supply to the indoor unit.

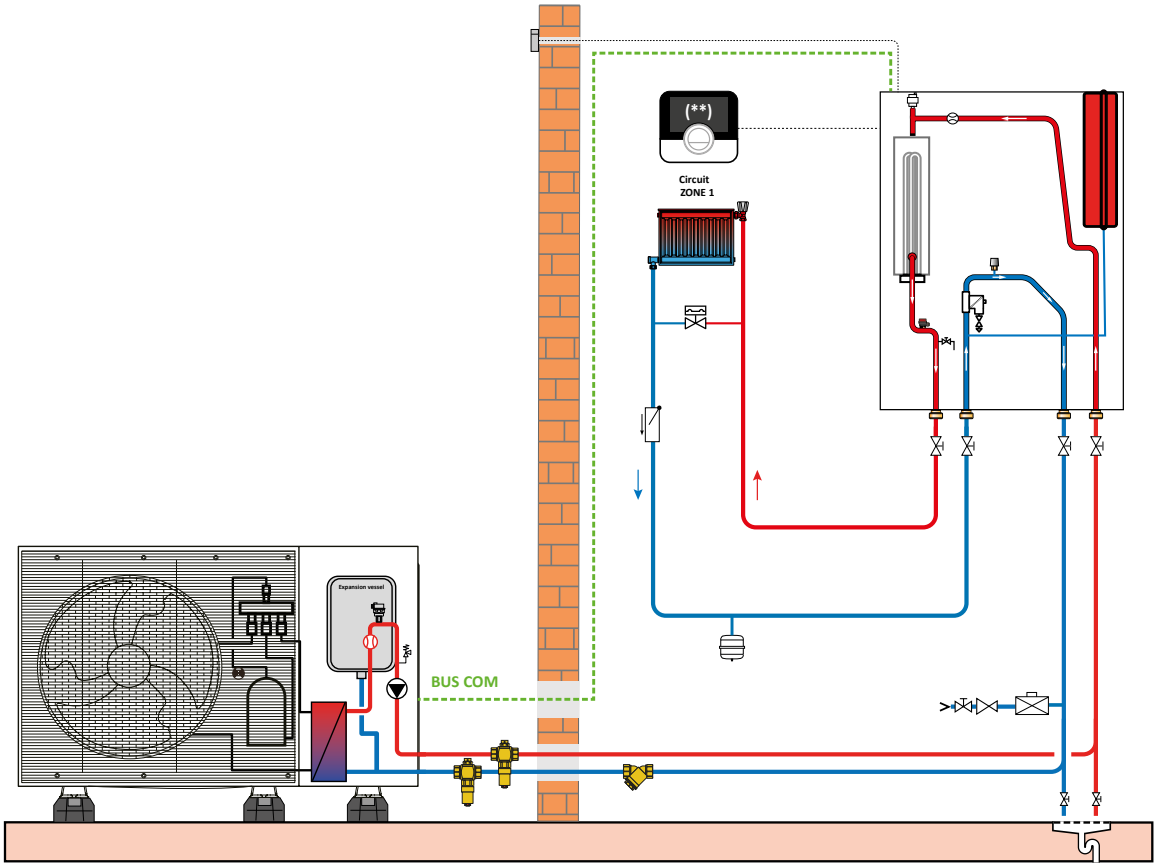
INSTALLATION EXAMPLE

ALEZIO M R290, ALEZIO M COMPACT R290

ALEZIO M R290

ALEZIO M R290 HEAT PUMP WITH INTEGRATED ELECTRIC BACKUP

• 1 direct radiator circuit



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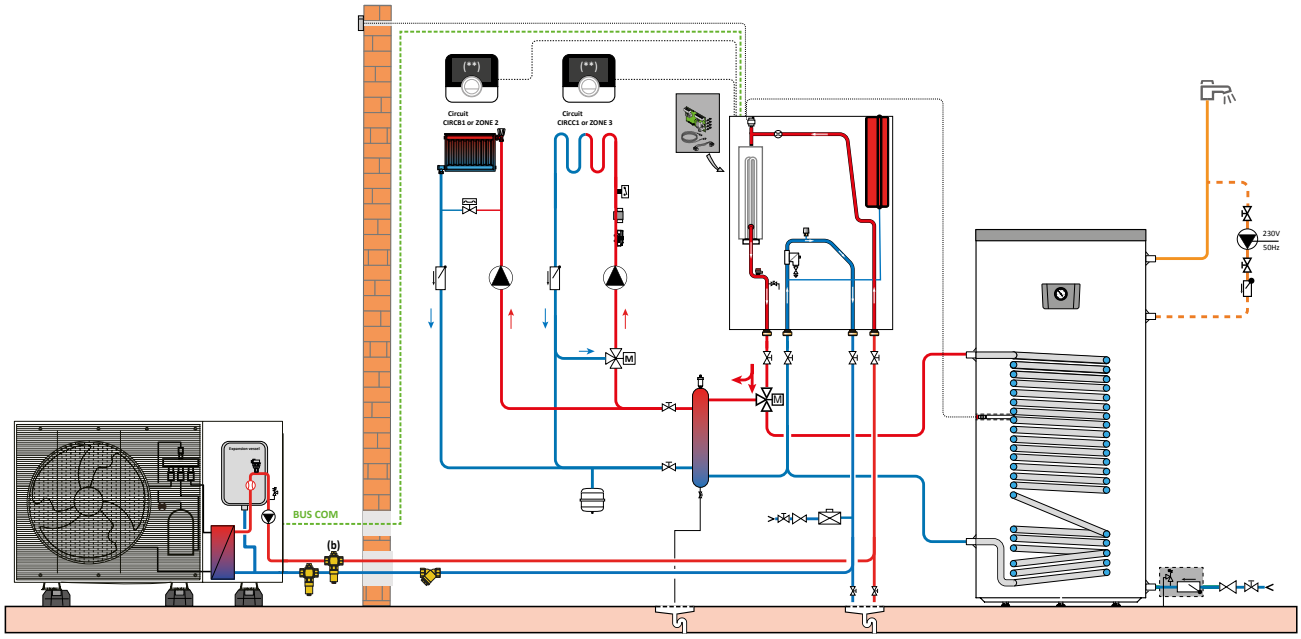
INSTALLATION EXAMPLE

ALEZIO M R290, ALEZIO M COMPACT R290

ALEZIO M R290

ALEZIO M R290 HEAT PUMP WITH INTEGRATED ELECTRIC BACKUP

- 1 direct radiator circuit underfloor heating
- 1 DHW tank



Schema_Alezio_M_3

De Dietrich

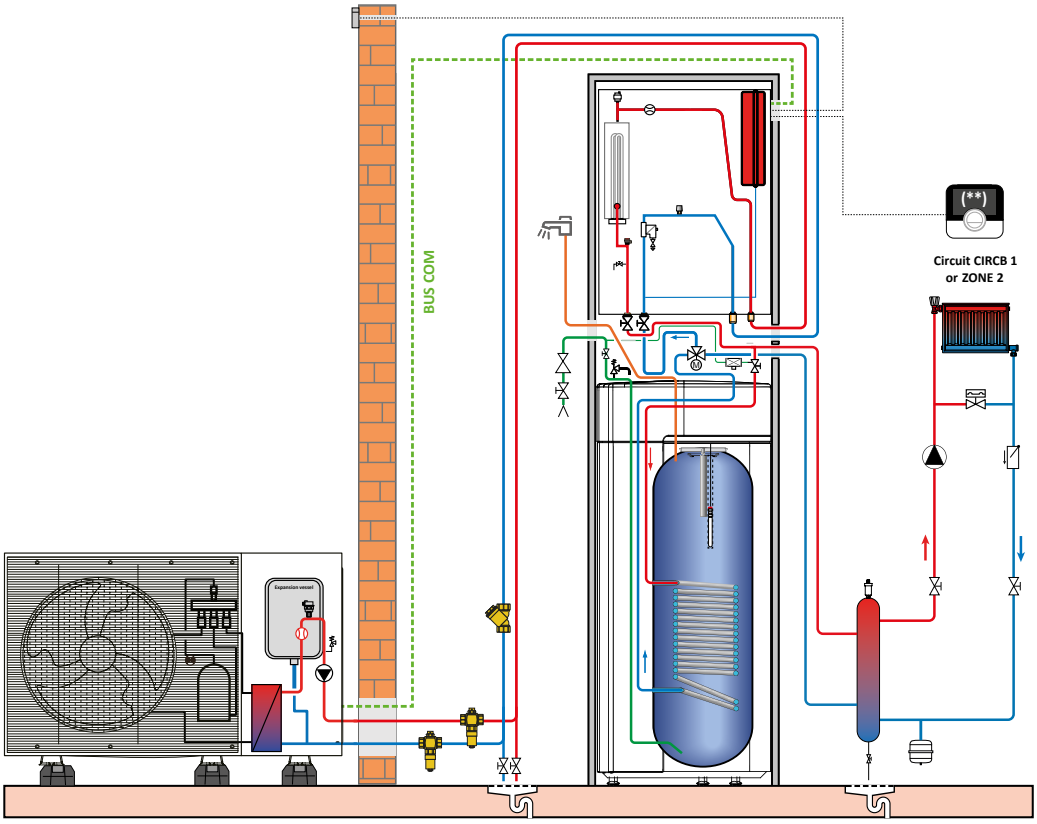
INSTALLATION EXAMPLE

ALEZIO M R290, ALEZIO M COMPACT R290

ALEZIO M COMPACT R290

HEAT PUMP ALEZIO M COMPACT R290 WITH ELECTRICAL BACKUP

• 1 direct circuit « underfloor heating »



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IMPORTANT RECOMMENDATIONS

In order to make the most of the performance of heat pumps for optimum comfort and to extend their service life as much as possible, we recommend that you take particular care with their installation, commissioning and maintenance; to this end, please refer to the various manuals supplied with the units. De Dietrich also offers heat pump commissioning in its catalogue, and a maintenance contract is also highly recommended.

De Dietrich

BDR THERMEA FRANCE
S.A.S. With corporate capital of 229 288 696 €
57, rue de la Gare - F - 67580 Mertzwiller
Tel: +33 388 80 27 00 / Fax: +33 388 80 27 99

www.dedietrich-heating.com

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