ecoFOREST

Accessories

Ecoforest

Technology for a sustainable future

The commitment to developing renewable air conditioning systems with maximum efficiency is one of the fundamental pillars in Ecoforest's history. This commitment has enabled the company to achieve numerous milestones in the sector, positioning it as a benchmark for innovation.

The ecoGEO+ water-to-water and ecoAIR+ air-to-water modulating heat pump ranges offer unique solutions and technologies that are unrivalled on the market. The correct implementation of these solutions to obtain optimal performance requires the design and selection of accessories that are appropriate for the needs of the installation. To this end, Ecoforest offers professionals a complete range of high-quality tanks for DHW, heating and cooling applications.

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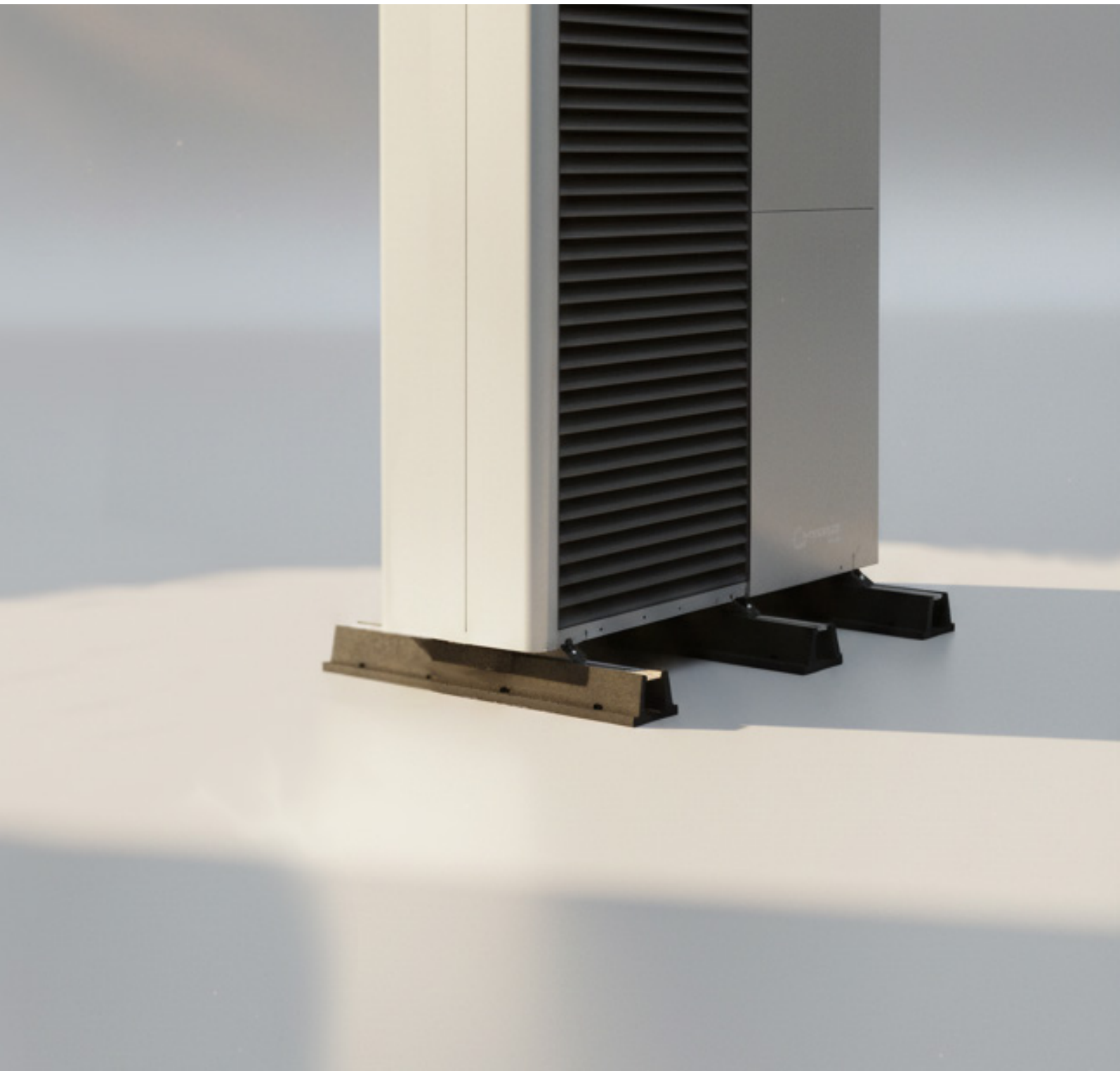
Supports

The range of supports for Ecoforest product provides solutions for both wall and floor installation, indoors or outdoors.

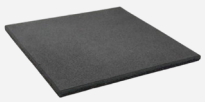


Acoustic bases for ecoGEO+
Anti-vibration bases for ecoGEO+ heat pumps

Supports for exterior units
Shock-absorbing supports for floor installation equipped with a level compatible with AU and ecoAIR+ outdoor units

Support brackets
Metal brackets for wall mounting AU and ecoAIR+ outdoor units

Acoustic bases for ecoGEO+



Anti-vibration bases for ecoGEO+ heat pumps

FEATURES			Acoustic base ecoGEO+ B/C	Acoustic base ecoGEO+ HP
			3800	3810
APPLICATION	Place of installation	-	Indoor	Indoor
	Type of mounting	-	Floor	Floor
	Compatibility	-	ecoGEO+ B/C	ecoGEO+ HP
PERFORMANCE	Material	-	Vulcanized SBR	Vulcanized SBR
	Number of pieces	-	1	1
DIMENSIONS & WEIGHT	Height x width x depth	mm	45 x 640 x 740	45 x 900 x 1000
	Empty weight (without packaging)	kg	16.5	32

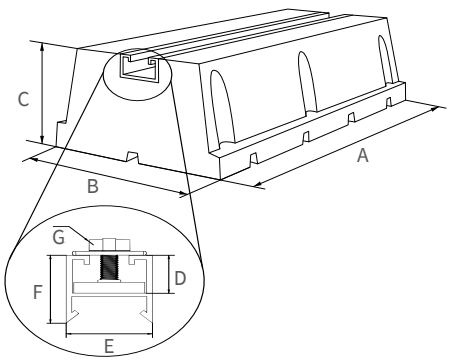
Supports for exterior units

Shock-absorbing supports for floor installation equipped with a level compatible with AU and ecoAIR+ outdoor units

FEATURES			Kit Ecoblock 600x150x95	Kit Ecoblock 1000x150x95	Kit Ecoblock 1000x150x95 (x3)	Kit Silentblock (x4)
			3850	3860	3863	3410
APPLICATION	Place of installation	-	Outdoor	Outdoor	Outdoor	Indoor & Outdoor
	Type of mounting	-	Floor	Floor	Floor	-
	Compatibility	-	AU6 / AU12 / AU22 ecoAIR+ 1-7 / 1-9 / 3-12 PRO	ecoAIR+ 3-18 PRO / ecoAIR+ EVI 4-20	ecoAIR+ 400 6-24 PRO	"AU6 / AU12 / AU22 ecoAIR+ PRO / EVI"
PERFORMANCE	Maximum load	kg	980	980	1470	70
	Screw	mm	M10	M10	M10	M8
	Material	-	Vulcanized SBR	Vulcanized SBR	Vulcanized SBR	Rubber
	Number of pieces	-	2	2	3	4
DIMENSIONS & WEIGHT	Height x width x depth	mm	95 x 150 x 600	95 x 150 x 1000	95 x 150 x 1000	20 x 30 x 30
	Empty weight (without packaging)	kg	10.2	17.2	25.8	-

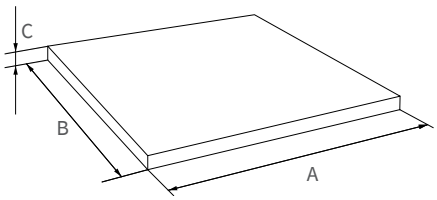
Dimensions

Ecoblock



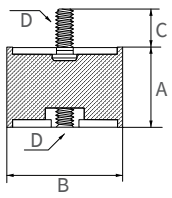
Model	A	B	C	D	E	F	G
Ecoblock (3850)	600 mm	150 mm	95 mm	21 mm	40 mm	35 mm	M10
Ecoblock (3860/3863)	1000 mm	150 mm	95 mm	21 mm	40 mm	35 mm	M10

Acoustic Base



Model	A	B	C
ecoGEO+ B/C Base (3800)	740 mm	640 mm	45 mm
ecoGEO+ HP Base (3810)	1000 mm	900 mm	45 mm

Silentblock



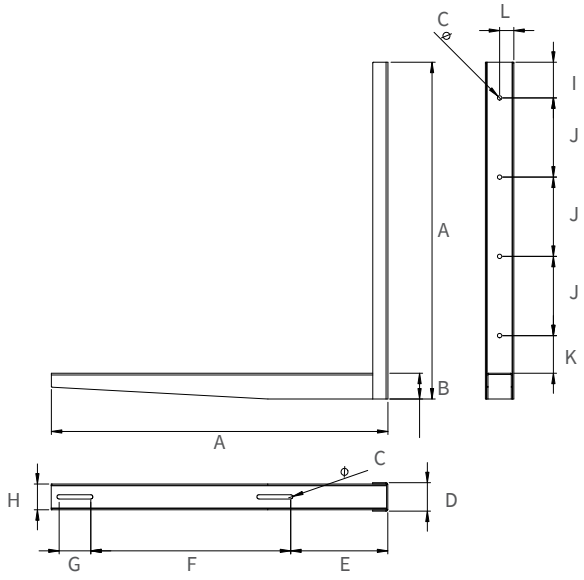
Model	A	B	C	D
Kit silentblock (3410)	1000 mm	900 mm	45 mm	M8

Support brackets

Metal brackets for wall mounting AU and ecoAIR+ outdoor units

FEATURES			Support brackets
			3400
APPLICATION	Place of installation	-	Indoor & Outdoor
	Type of mounting	-	Wall mounting
	Compatibility	-	AU6 / AU12 / AU22 / ecoAIR+ 1-7 PRO / ecoAIR+ 1-9 PRO / ecoAIR+ 3-12 PRO
PERFORMANCE	Maximum load	kg	-
	Screw	mm	M10
	Material	-	Carbon steel
	Number of pieces	-	2
DIMENSIONS & WEIGHT	Height x width x depth	mm	850 x 72 x 850
	Empty weight (without packaging)	kg	-

Dimensions

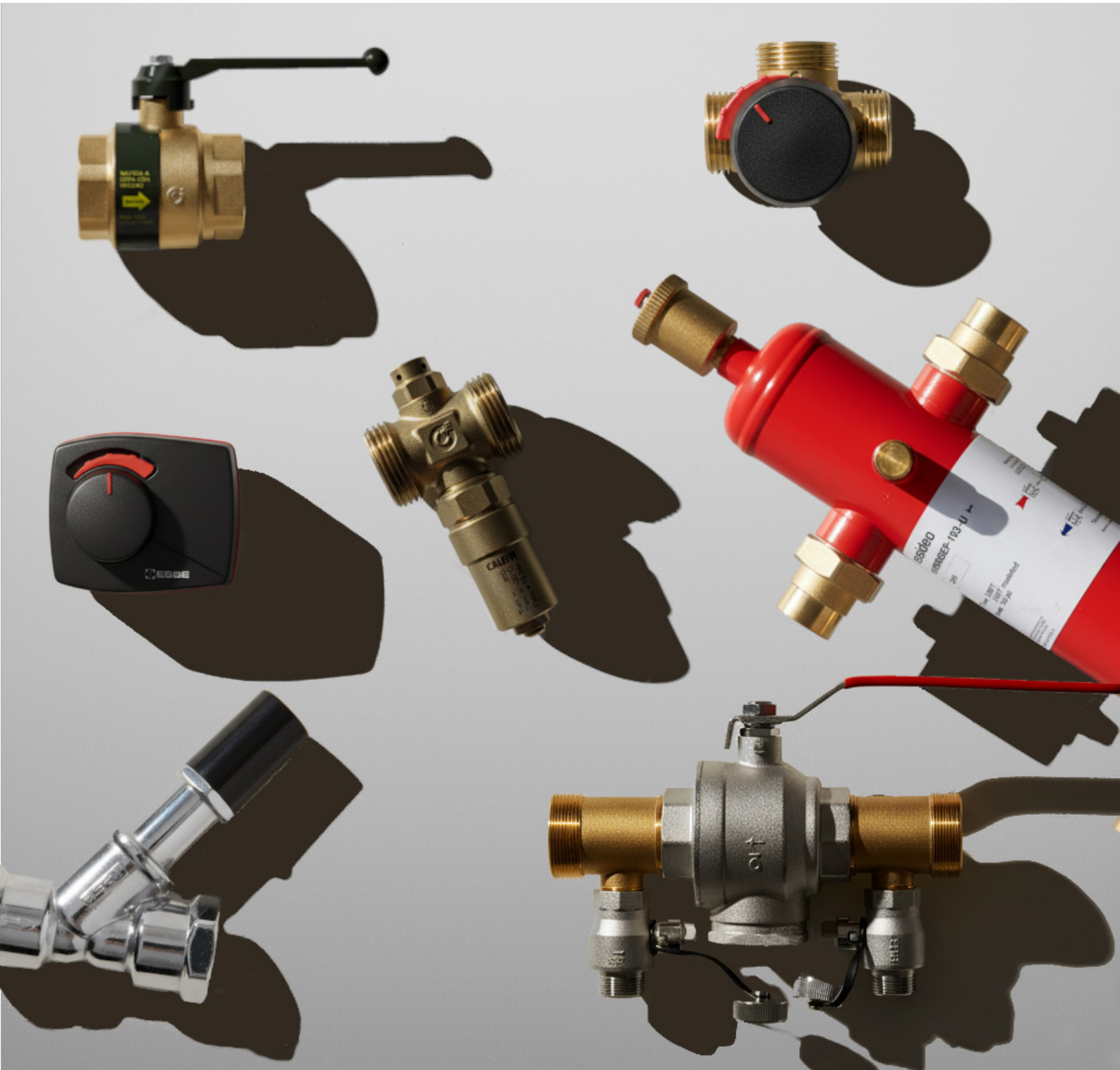


Model	A	B	C	D	E	F	G	H	I	J	K	L
Support bracket (3400)	850 mm	65 mm	11 mm	72 mm	245 mm	505 mm	80 mm	65 mm	90 mm	200 mm	95 mm	36 mm

Hydraulic accessories

The Ecoforest range of hydraulic accessories contains the elements necessary for the basic operation of any installation. From motorised valves to separator manifolds.

All these accessories are compatible with Ecoforest heat pumps.



Filling Kits
Insulated filling kits for glycol circuits equipped with a set of valves, filter and nickel-plated brass body

Filterball
Manual valves with integrated filter, nickel-plated brass body and stainless steel filter

Ballstop
Manual valves with integrated check valve and brass body

Bypass valves
Bypass valves for hydraulic circuits in which the maximum differential pressure is exceeded

Antifreeze valves
Valves for protecting circuits against freezing

Expansion joints
Expansion joints with carbon steel flanged connections and EPDM body

Hydraulic separators
Hydraulic separators with threaded connections, PE foam thermal insulation and aluminium exterior finish.

Motorized valves
Two- and three-way valves with brass body and 0-10V modulating motor and two- and three-point on-off motor

Filling station
Portable station for filling circuits with glycol solutions equipped with a tank, pump and filter

High efficiency deareator
High-efficiency deaerator for removing R290 from the fluid in a single step

Immersion heaters
Immersion heaters with stainless steel finish for use in tanks

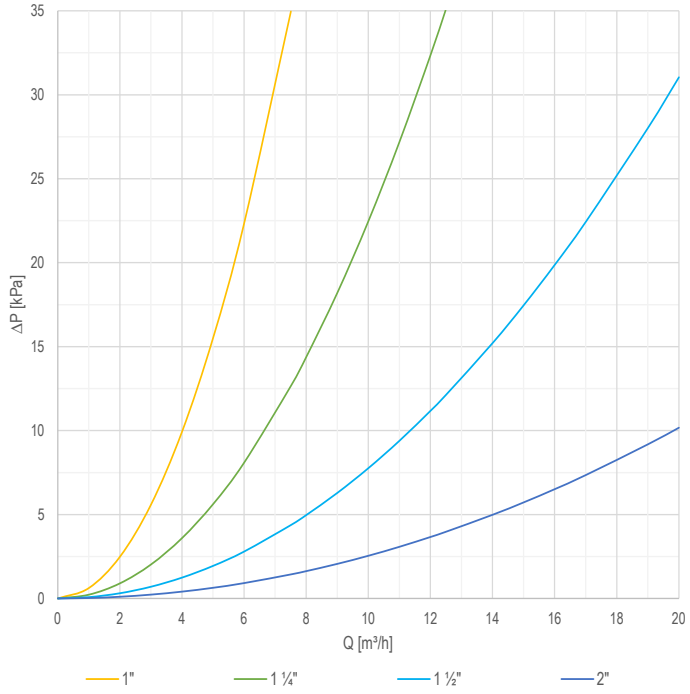
Filling kit

Insulated filling kits for glycol circuits equipped with a set of valves, filter and nickel-plated brass body

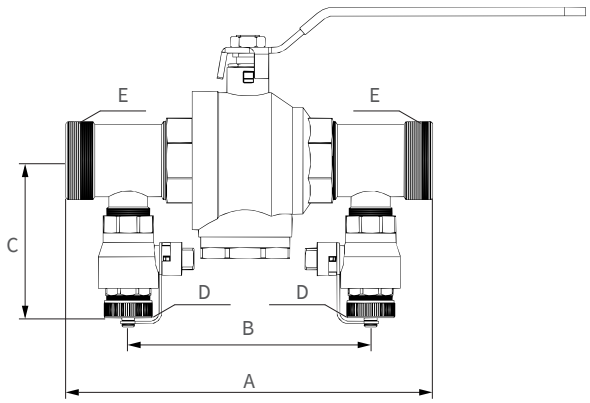
	FEATURES		1"	1 ¼"	1 ½"	2"
			30401	30402	30403	30404
APPLICATION	Service	-	Heating / Cooling			
	Working fluid	%wt	Water / Glycol mixture (max 60%) / Ethanol mixture (max 30%)			
	Place of installation	-	Indoor & Outdoor			
PERFORMANCE	Nominal diameter	-	2 x 1"	2 x 1¼"	2 x 1½"	2 x 2"
	Connection type	-	G Male thread			
	Filling port connection	-	2 x ¾"	2 x ¾"	2 x 1"	2 x 1"
	Material	-	Nickel-plated brass			
	Maximum pressure	bar	16			
	Max fluid temperature	ºC	100			
	Min fluid temperature	ºC	-20			
	Kv straight	m³/h	12.6	24.7	36.8	62.7
	Valve type	-	Ball valve			
	Valve's seal	-	PTFE			
	O-ring	-	EPDM			
	Stainless steel strainer	-	■			
	Mesh size	µm	600			
	Magnet	-	■			
	Insulation	-	■	■	-	-
	Type of handle	-	Steel lever	Steel lever	Steel lever	Steel lever
DIMENSIONS & WEIGHT	Height x width x depth	mm	- x 200 x -	- x 251 x -	- x 255 x -	- x 280 x -
	Distance between filling ports	mm	133	171	165	185
		kg	1.9	2.6	3.8	5.8

MAINTENANCE: The filling device must be cleaned when the system is first put into operation, and thereafter at regular intervals, once or twice a year.

Head losses



Dimensions and hydraulic connections



Model	A	B	C	D	E
1" (30401)	200 mm	133 mm	107 mm	¾" M	1" M
1¼" (30402)	251 mm	171 mm	96 mm	¾" M	1¼" M
1½" (30403)	255 mm	165 mm	112 mm	1" M	1½" M
2" (30404)	280 mm	185 mm	120 mm	1" M	2" M

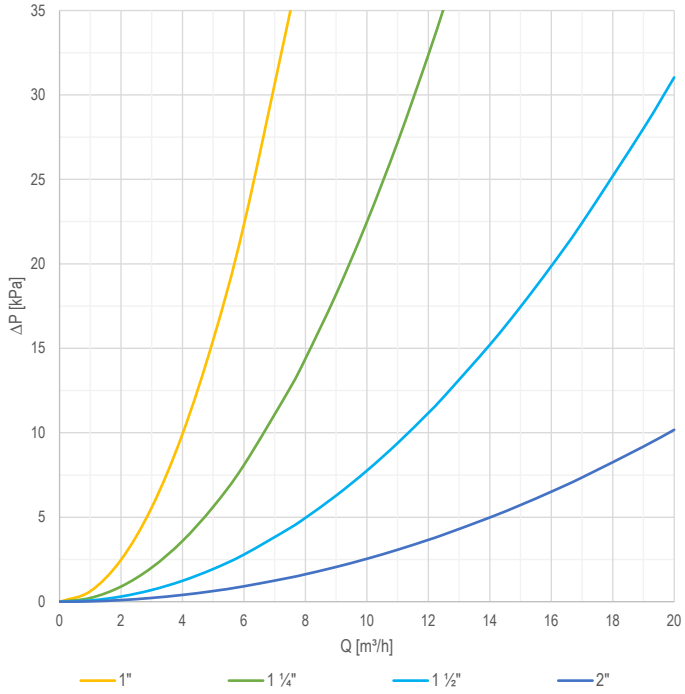
Filterball

Manual valves with integrated filter, nickel-plated brass body and stainless steel filter

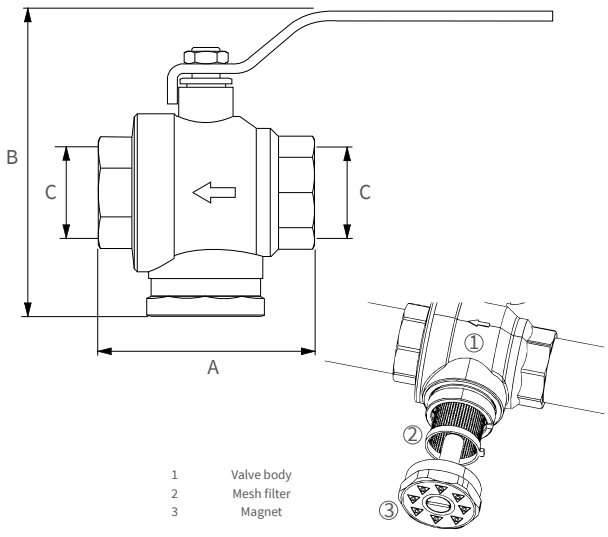
FEATURES				1 ¼"	1 ½"	2"
			30301	30302	30303	11452
APPLICATION	Service	-	Heating / Cooling			
	Working fluid	-	Water / max 60% glycol mixture / max 30% ethanol mixture			
	Place of installation	-	Indoor & Outdoor			
PERFORMANCE	Nominal diameter	-	1"	1¼"	1½"	2"
	Connection type	-	G Female thread			
	Material	-	Nickel-plated brass			
	Maximum pressure	bar	16			
	Max fluid temperature	ºC	100			
	Min fluid temperature	ºC	-20			
	Kv straight	m³/h	12.7	21.1	35.9	62.7
	Valve type	-	Ball valve			
	Valve's seal	-	PTFE			
	O-ring	-	EPDM			
	Stainless steel strainer	-	■			
	Mesh size	µm	600			
	Magnet	-	■			
	Type of handle	-	T-handle	Steel lever	Steel lever	Steel lever
DIMENSIONS & WEIGHT	Height x width x depth	mm	112 x 78 x -	140 x 87 x -	146 x 108 x -	191 x 127 x -
	Empty weight	kg	0.84	1.34	2.07	3.77

MAINTENANCE: Close the valve and clean the strainer as required. The ball valve should be operated periodically, two or three times a year. The strength of the magnet diminishes over time and it should be replaced if necessary, or at least after 2–3 years.

Head losses



Dimensions and hydraulic connections



1 Valve body
2 Mesh filter
3 Magnet

Model	A	B	C
1" (30301)	78 mm	112 mm	1" H
1¼" (30302)	87 mm	140 mm	1¼" H
1½" (30303)	108 mm	146 mm	1½" H
2" (30304)	127 mm	191 mm	2" H

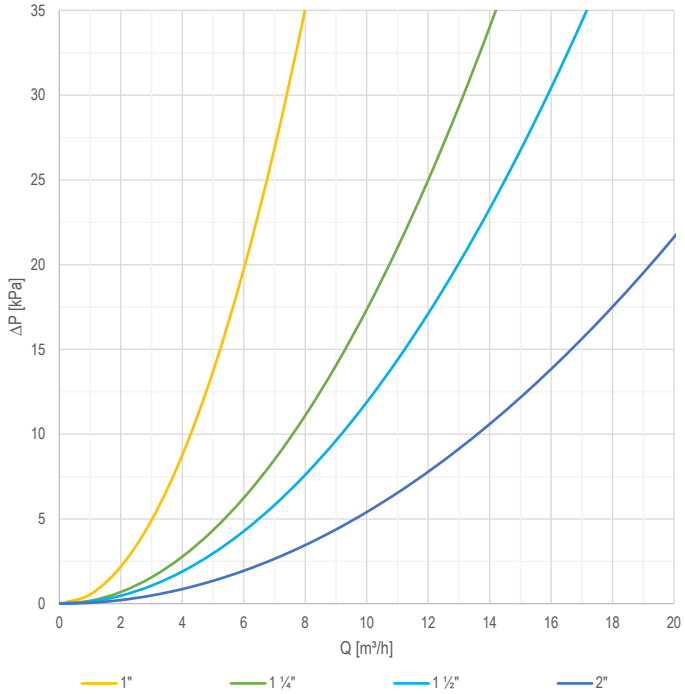
Ballstop

Manual valves with integrated check valve and brass body

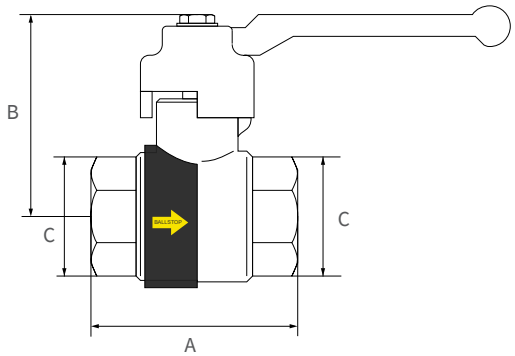
FEATURES			1"	1 ¼"	1 ½"	2"
			11303	11304	11310	11311
APPLICATION	Service	-	Heating / Cooling			
	Working fluid	-	Water			
	Place of installation	-	Indoor & Outdoor			
PERFORMANCE	Nominal diameter	-	1"	1¼"	1½"	2"
	Connection type	-	G Female thread			
	Material	-	Brass			
	Maximum pressure	bar	16			
	Check valve's minimum opening pressure	ΔP (bar)	0.02			
	Max fluid temperature	ºC	90			
	Min fluid temperature	ºC	5			
	Kv straight	m³/h	13.5	24	29	43
	Valve's seal	-	PTFE			
	Check valve material	-	Polysulfone	Polysulfone	Chrome plated brass	Chrome plated brass
	Check valve spring	-	Stainless steel			
	Check valve seal	-	NBR			
	Type of handle	-	Aluminium lever			
DIMENSIONS & WEIGHT	Height x width x depth	mm	- x 70 x 111	- x 83 x 111	- x 89 x 149	- x 110 x 149
	Empty weight (without packaging)	kg	0.55	1.01	1.6	2.8

MAINTENANCE: During system commissioning or maintenance, the check valve can be bypassed by setting the lever to 45°; this allows the fluid to flow through it. This also allows any air pockets that may have formed due to the system being inactive to be released.

Head losses



Dimensions and hydraulic connections



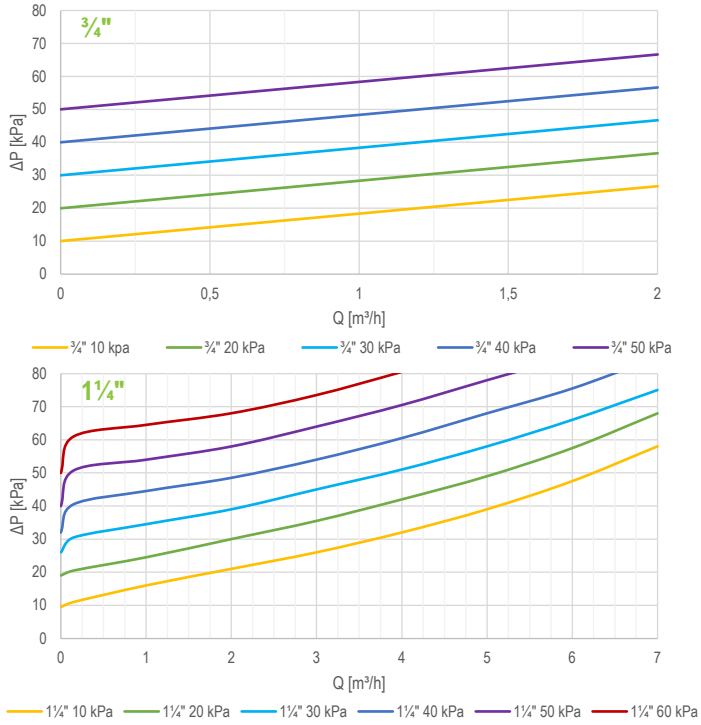
Model	A	B	C
1" (11303)	70 mm	61.5 mm	1" H
1¼" (11304)	83 mm	65.5 mm	1¼" H
1½" (11310)	89 mm	80 mm	1½" H
2" (11311)	110 mm	90 mm	2" H

Bypass valves

Bypass valves for hydraulic circuits in which the maximum differential pressure is exceeded

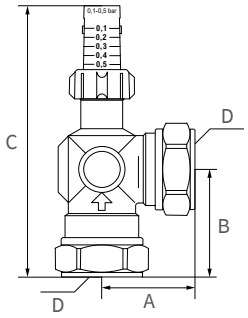
	FEATURES			1 ¼"
			3660	3662
APPLICATION	Service	-	Heating / Cooling	
	Working fluid	-	Water	
	Place of installation	-	Indoor	
PERFORMANCE	Nominal diameter	-	¾"	1¼"
	Connection type	-	G Female thread	
	Material	-	Brass	
	Maximum pressure	bar	4	25
	Pressure regulating range	ΔP (kPa)	10 - 50	10 - 60
	Maximum temperature	ºC	100	120
	Minimum temperature	ºC	-	-20
	Kv straight	m³/h	1.2	10.5
DIMENSIONS & WEIGHT	Height x width x depth	mm	106 x - x -	124 x 118 x 56
	Connection layout	-	L shape	Straight
	Empty weight (without packaging)	kg	-	-

Head losses

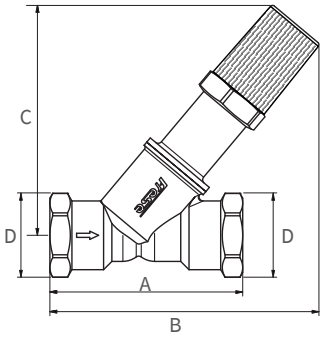


Dimensions and hydraulic connections

¾"



1¼"



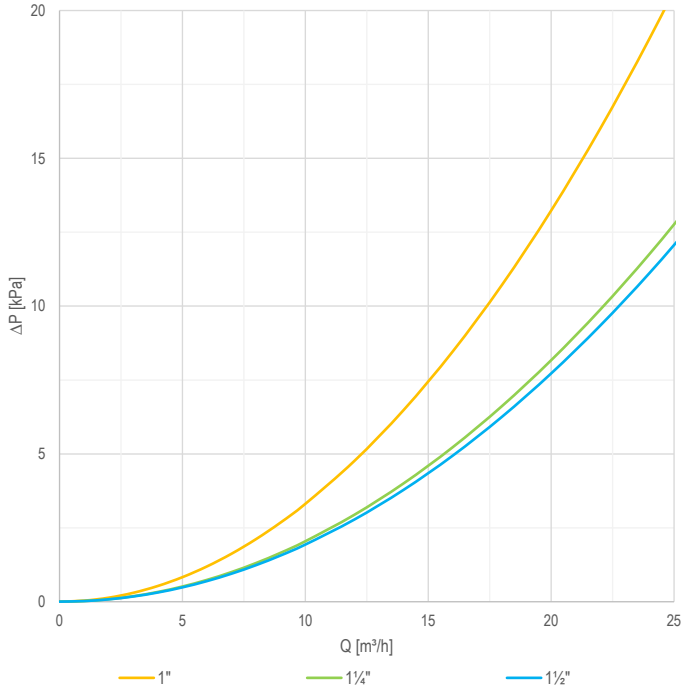
Model	A	B	C	D
¾" (3660)	36 mm	42 mm	106 mm	¾" H
1¼" (3662)	103 mm	118 mm	96 mm	1¼" H

Antifreeze valves

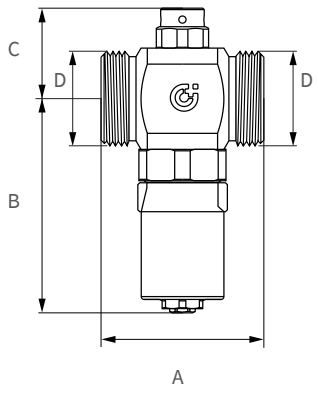
Valves for protecting circuits against freezing

FEATURES			1"	1 ¼"	1 ½"
			3650	3651	3652
APPLICATION	Service	-		Heating / Cooling	
	Working fluid	-		Water	
	Place of installation	-		Outdoor	
PERFORMANCE	Nominal diameter	-	1"	1¼"	1½"
	Connection type	-		G Male thread	
	Material	-		Brass	
	Maximum pressure	bar		10	
	Maximum temperature	ºC		60	
	Minimum temperature	ºC		-30	
	Kv straight	m³/h	55	70	72
	Valve type	-		Needle valve	
	Opening / Closing temperature	ºC		3 / 4	
	Valve's seal	-		EPDM	
	Tightening torque	Nm		80	
DIMENSIONS & WEIGHT	Height x width x depth	mm	111 x 52 x -	111 x 59 x -	119 x 62 x -
	Empty weight (without packaging)	kg	0.78	1.28	3.77

Head losses



Dimensions and hydraulic connections



Model	A	B	C	D
1" (3650)	52 mm	79 mm	32 mm	1" M
1¼" (3651)	59 mm	83 mm	36 mm	1¼" M
1½" (3652)	62 mm	83 mm	36 mm	1½" M

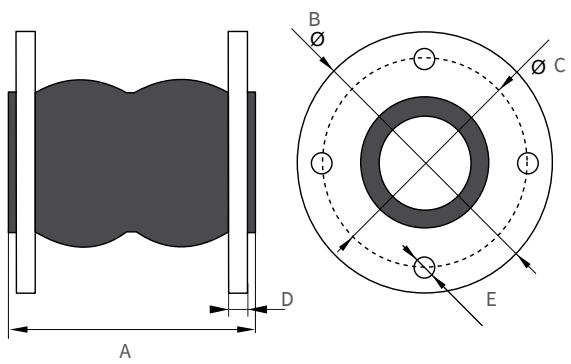
Expansion joints

Expansion joints with carbon steel flanged connections and EPDM body

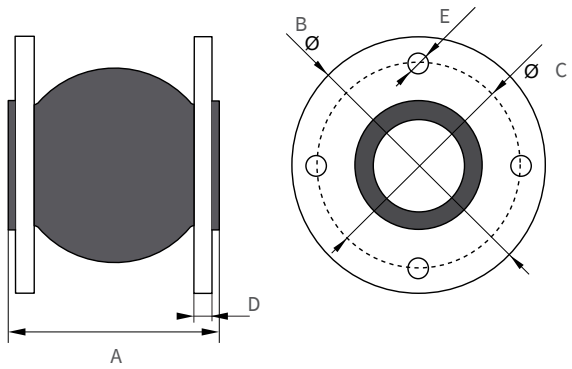
	FEATURES		2" simple	2 ½" simple	2" double	2 ½" double
			3180	3181	3182	3183
APPLICATION	Working fluid	-	Water / Glycol mixture (max 50%)			
	Service	-	Heating / Cooling			
	Place of installation	-	Indoor			
PERFORMANCE	Nominal diameter	-	DN50	DN65	DN50	DN65
	Connection type	-	Flanged			
	Flange's standard	-	EN 1092			
	Material	-	EPDM + Nylon			
	Flange material	-	Zinc plated carbon steel			
	Max fluid temperature	ºC	105			
	Min fluid temperature	ºC	-10			
	Maximum pressure	bar	16			
	Compression / elongation	mm	10 / 6	13 / 8	30 / 20	50 / 25
	Off-axis displacement	mm	10	12	45	45
	Angular deflection	º	15	15	30	30
DIMENSIONS & WEIGHT	Height x width x depth	mm	165 x 105 x 165	185 x 115 x 185	165 x 105 x 165	185 x 115 x 185
	Empty weight (without packaging)	kg	4.1	4.87	4.4	5.2

Dimensions and hydraulic connections

Double joint



Simple joint



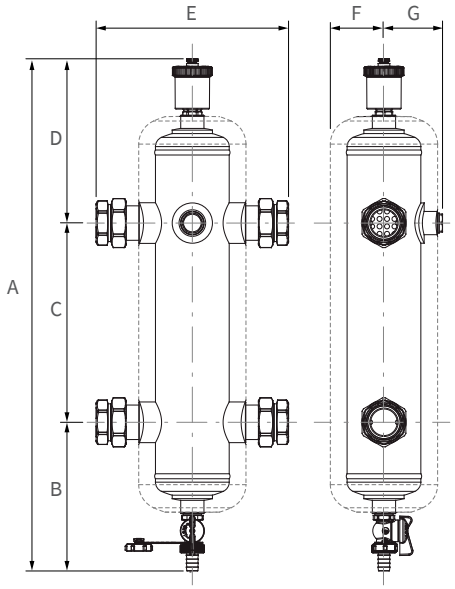
Model	A	B	C	D	E
2" simple (3180)	105 mm	165 mm	125 mm	16 mm	18 mm
2 ½" simple (3181)	115 mm	185 mm	145 mm	16 mm	18 mm
2" double (3182)	175 mm	165 mm	125 mm	16 mm	18 mm
2 ½" double (3183)	175 mm	185 mm	145 mm	16 mm	18 mm

Hydraulic separators

Hydraulic separators with threaded connections, PE foam thermal insulation and aluminium exterior finish.

	FEATURES		1"	1 ¼"	1 ½"	2"
			3210	3211	3212	3213
APPLICATION	Service	-	Heating / Cooling			
	Working fluid	%wt	Water / Glycol mixture (max 50%)			
	Place of installation	-	Indoor			
PERFORMANCE	Nominal diameter	-	1"	1¼"	1½"	2"
	Connection type	-	G Female	G Female	Rc Female	Rc Female
	Fluid volume	l	1.5	2.5	4.5	7.2
	Maximum pressure	bar	10 Bar			
	Maximum flow rate	m³/h	2.5	4	6	9
	Max fluid temperature	ºC	110			
	Min fluid temperature	ºC	0			
	Material	-	Carbon steel			
	Accessories material	-	Brass			
	O-ring	-	EPDM			
	Insulation	-	Open cell polyethylene foam			
DIMENSIONS & WEIGHT	Height x width x depth	mm	572 x 213 x 123	617 x 232 x 136	667 x 310 x 161	712 x 353 x 187
	Empty weight (without packaging)	kg	2.7	3.7	5.7	7.2

Dimensions and hydraulic connections



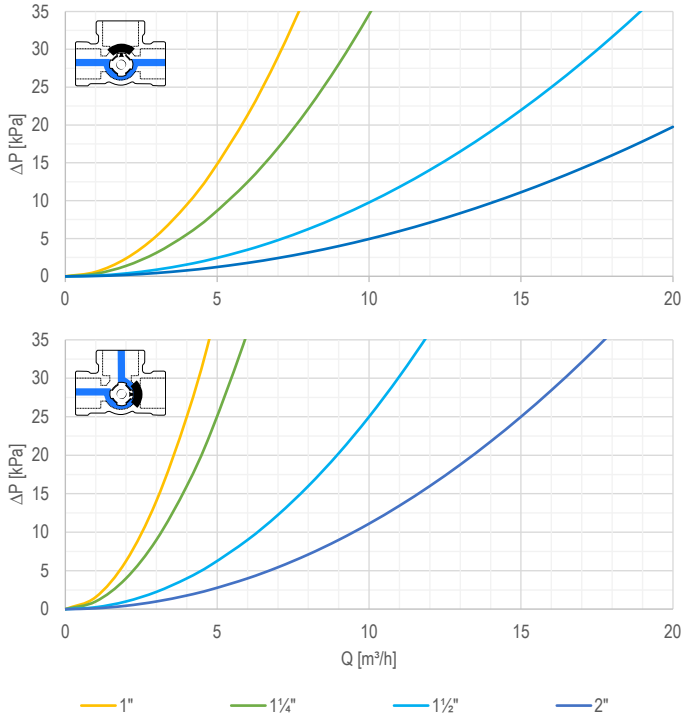
Model	Connections	A	B	C	D	E	F	G
1" (3210)	G 1" H	572 mm	167 mm	220 mm	185 mm	213 mm	59 mm	64 mm
1¼"" (3211)	G 1¼" H	617 mm	179 mm	240 mm	198 mm	232 mm	65 mm	71 mm
1½"(3212)	Rc 1½"	667 mm	194 mm	260 mm	213 mm	310 mm	78 mm	83 mm
2" (3213)	Rc 2"	712 mm	207 mm	280 mm	225 mm	353 mm	91 mm	96 mm

Motorized valves

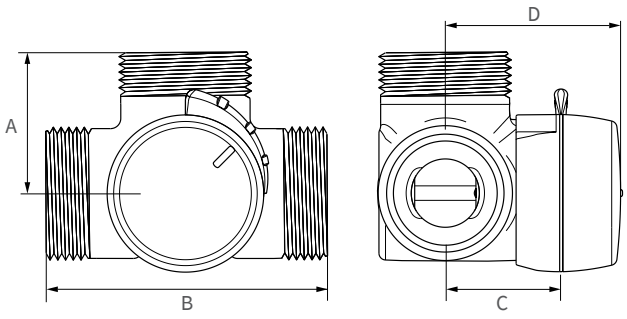
3-way valves with brass body

FEATURES			1"	1 ¼"	1 ½"	2"
			3160	3162	3164	3163
APPLICATION	Service	-	Heating / Cooling			
	Working fluid	-	Water / Glycol mixture (max 50%) / Ethanol mixture (max 28%)			
	Place of installation	-	Indoor			
PERFORMANCE	Nominal diameter	-	1"	1¼"	1½"	2"
	Connection type	-	G male thread			
	Resistant torque	Nm	< 3	< 3	< 3	< 5
	Material	-	Brass			
	Maximum pressure	bar	10			
	Maximum close-off pressure	bar	2			
	Max fluid temperature	ºC	110			
	Min fluid temperature	ºC	-10			
	Kv straight	m³/h	13	17	32	45
	Kv right angle	m³/h	8	10	20	30
	O-ring	-	EPDM			
DIMENSIONS & WEIGHT	Height x width x depth	mm	- x 72 x -	- x 82 x -	- x 94 x -	- x 106 x -
	Empty weight	kg	0.43	0.70	0.95	1.66

Head losses



Dimensions and hydraulic connections



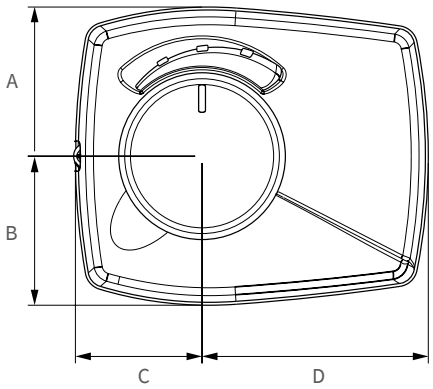
Model	A	B	C	D
1" (3160)	36 mm	72 mm	32 mm	50 mm
1¼" (3162)	41 mm	82 mm	34 mm	52 mm
1½" (3164)	47 mm	94 mm	37 mm	55 mm
2" (3163)	53 mm	106 mm	44 mm	62 mm

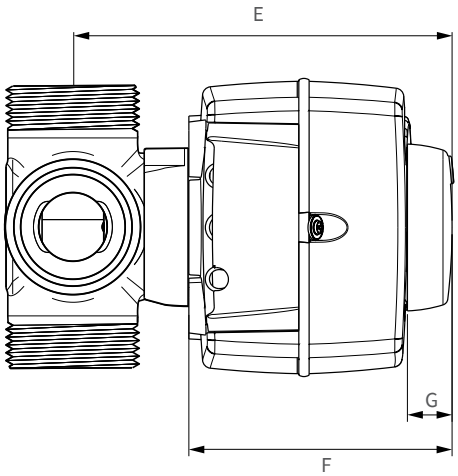
Motorized valves

0–10 V modulating and on/off actuators for two- and three-point control

FEATURES			0-10V (ARA639)	2 Point (ARA645)	3 Point (ARA661)
			3161	3165	3166
APPLICATION	Service	-		Heating / Cooling	
	Place of installation	-		Indoor	
PERFORMANCE	Control signal	-	0-10V	2-point SPST	3-point SPDT
	Power supply	-	24 V AC/DC ±10%, 50-60HZ	230VAC ±10%, 50HZ	230VAC ±10%, 50HZ
	Power consumption	VA		5	
	Auxiliary switch / Rating	-		Optional / 6A - 250V	
	Ambient maximum temperature	ºC		55	
	Ambient minimum temperature	ºC		-5	
	Torque	Nm		6	
	Cycle time	s	15 / 30 / 60 / 120	30	120
	Enclosure IP rating	-		IP41	
	Protection class	-		II	
	Actuator connection	-		-	
DIMENSIONS & WEIGHT	Height x width x depth	mm		88 x 105 x 77	
	Empty weight (without packaging)	kg		0.4	

Dimensions and hydraulic connections





Model	A	B	C	D	E	F	G
0-10V ARA369 (3161)	44 mm	44 mm	38 mm	67 mm	77 mm + C[1]	77 mm	13 mm
2 Point ARA645 (3165)	44 mm	44 mm	38 mm	67 mm	77 mm + C[1]	77 mm	13 mm
3 Point ARA661 (3166)	44 mm	44 mm	38 mm	67 mm	77 mm + C[1]	77 mm	13 mm

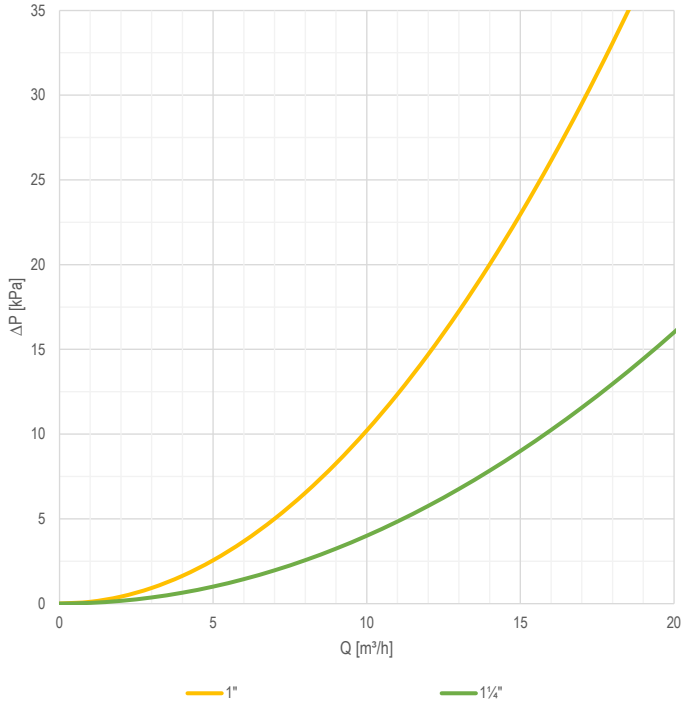
C[1]: Dimension C of the valve body on page 19.

Motorized valves

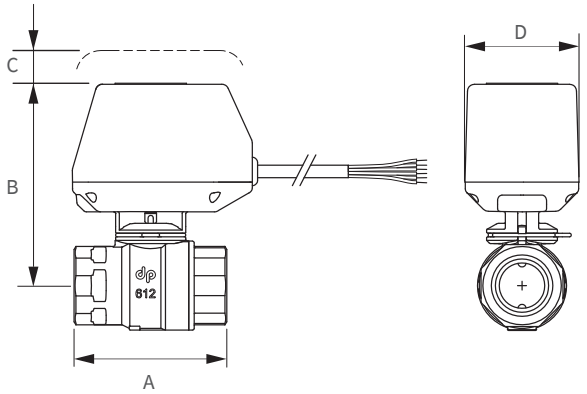
Two-way valves with brass body and actuator

FEATURES			1"	1¼"	2-Way On/Off
			3300/1	3301	3305/1
APPLICATION	Service	-	Heating / Cooling		
	Working fluid	-	Water / Glycol mixture (max 50%)		
	Place of installation	-	Indoor		
PERFORMANCE	Nominal diameter	-	1"	1¼"	-
	Connection type	-	G Female thread	G Female thread	-
	Material	-	Brass	Brass	-
	Maximum pressure	bar	10	10	-
	Max fluid temperature	ºC	110	110	-
	Min fluid temperature	ºC	0	0	-
	Ambient maximum temperature	-	-	-	65
	Ambient minimum temperature	-	-	-	0
	Kv straight	m³/h	31.3	50	-
	Valve type	-	Total flow ball valve	Total flow ball valve	-
	Valve's seal	-	PTFE	PTFE	-
	O-ring	-	EPDM	EPDM	-
	Power supply	-	-	-	230VAC, 50HZ
	Power consumption	W	-	-	3.5
	Enclosure IP rating	-	-	-	IP54
	Gear reductor material	-	-	-	Steel
	Torque	Nm	-	-	5
	Cycle time	s	-	-	60
	Control signal	-	-	-	2-point SPST
DIMENSIONS & WEIGHT	Height x width x depth	mm	115 x 87 x 64	120 x 94 x 64	0
	Empty weight (without packaging)	kg	-	-	0.4

Head losses



Dimensions and hydraulic connections



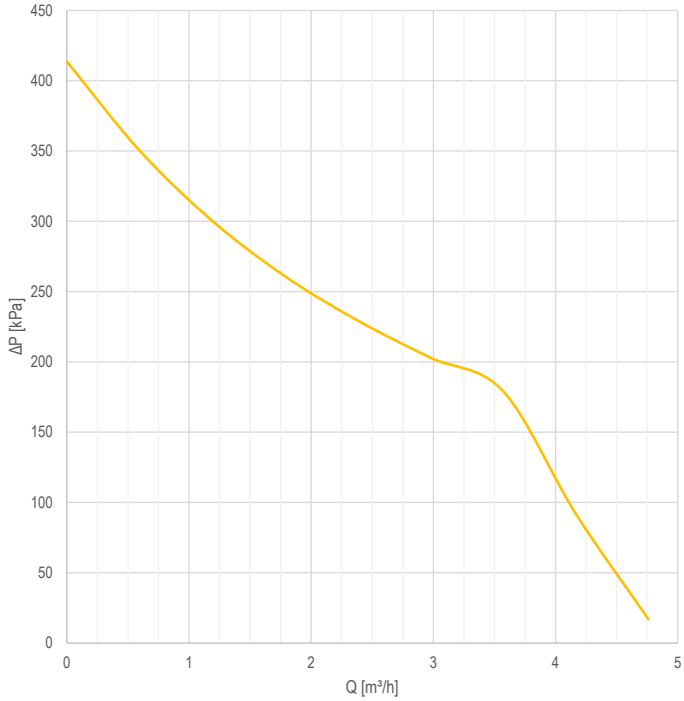
Model	A	B	C	D
1" (3300/1)	87 mm	115 mm	20 mm	64 mm
1¼" (3301)	94 mm	120 mm	20 mm	64 mm

Filling stations

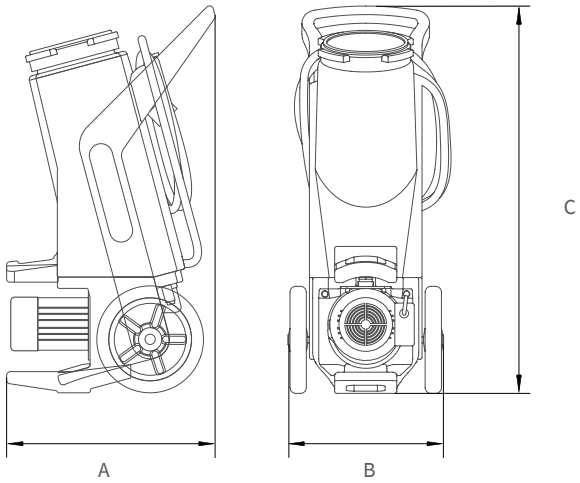
Portable station for filling circuits with glycol solutions equipped with a tank, pump and filter

FEATURES			Filling station
			3004
APPLICATION	Service	-	Heating / Cooling
	Working fluid	-	Water / Max 50% glycol solution
PERFORMANCE	Fluid volume	l	30
	Connection type	-	3/4" Union nut
	Drain tap diameter	-	1/2"
	Maximum pressure	bar	4.2
	Flow rate range	m³/h	5 - 47
	Power consumption	W	550
	Maximum temperature	ºC	65
DIMENSIONS & WEIGHT	Height x width x depth	mm	1000 x 400 x 530
	Empty weight (without packaging)	kg	21

Available head



Dimensions and hydraulic connections



Model	A	B	C
Filling station (3004)	530 mm	400 mm	1000 mm

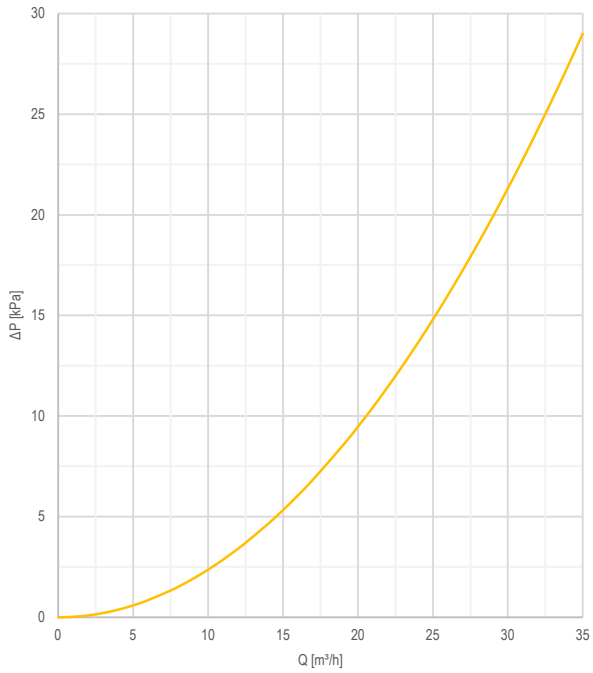
High efficiency deareator

High-efficiency deaerator for removing R290 from the fluid in a single step

FEATURES			High Efficiency Deaerator	Air Vent 1"
			30603	30603/P
APPLICATION	Working fluid	-	Water	Air
	Installation orientation	-	Vertical with maximum deviation of 2°	-
PERFORMANCE	Connection diameter	-	DN50	1"
	Connection type	-	Victaulic	ISO 228 Male
	Maximum pressure	bar	6	-
	Maximum temperature	ºC	90	-
	Material	-	Stainless steel	Brass
	Gasket material	-	EPDM	FKM
	Maximum flow rate	m³/h	15	-
	Kv straight	m³/h	65	-
DIMENSIONS & WEIGHT	Height x width x depth	mm	617 x 330 x 170	158 x 136 x 120
	Empty weight (without packaging)	kg	6.6	2.4

NOTE: Reference 30603 includes a high-efficiency deaerator unit and an air vent

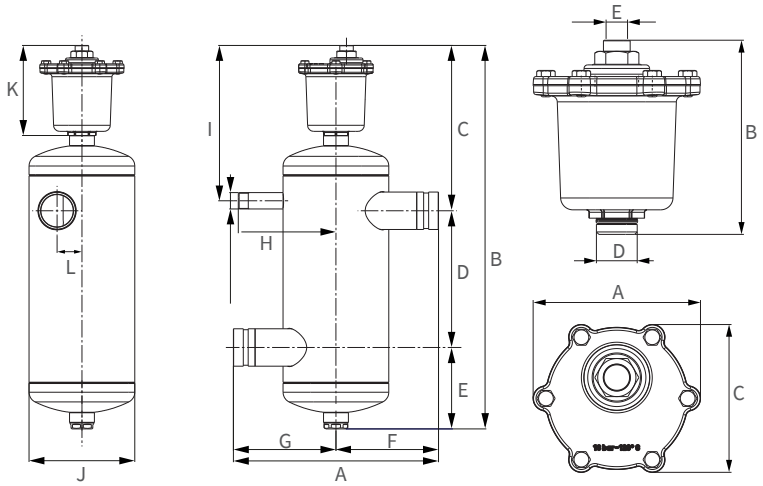
Head losses



Dimensions and hydraulic connections

High efficiency deaerator

Air vent



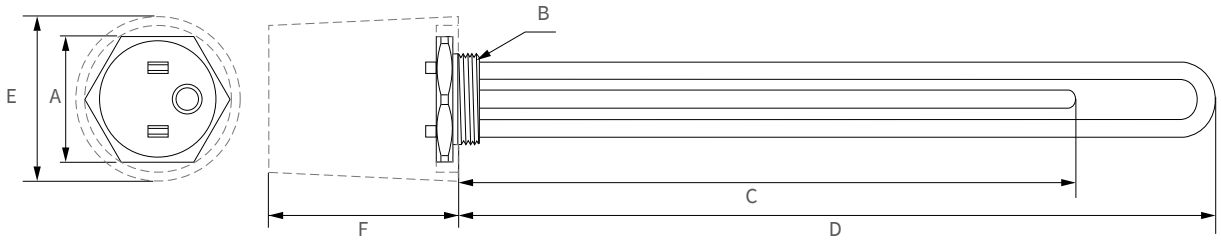
Model	A	B	C	D	E	F	G	H	I	J	K	L
Deareator (30603)	330 mm	617 mm	266 mm	220 mm	131 mm	165 mm	165 mm	157 mm	250 mm	170 mm	145 mm	40 mm
Air vent (30603/P)	136 mm	158 mm	120 mm	G 1" M	G 3/8" F	-	-	-	-	-	-	-

Immersion electrical heater

Immersion heaters with stainless steel finish for use in tanks

FEATURES			Immersion electrical heater 1.5kW	Immersion electrical heater 2kW	Immersion electrical heater 2.5kW
			3570	3571	3572
APPLICATION	Service			Heating	
	Working fluid			Water	
	Place of installation			Indoor	
	Compatibility			T-DW, T-DS, T-B, T-B INOX	
PERFORMANCE	Connection type		G thread - M	G thread - M	G thread - M
	Connection diameter		1 1/4"	1 1/4"	1 1/4"
	Material		Incoloy® 800	Incoloy® 800	Incoloy® 800
	Power supply		230V 50Hz	230V 50Hz	230V 50Hz
	Maximum current	A	6.5	8.7	10.9
	Thermostat temperature regulation range	ºC		20 / 80	
	Thermostat maximum current	ºC		15A	
	Thermostat capsule IP rating			IP40	
	Enclosure material			Rubber coated polyamide	
DIMENSIONS & WEIGHT	Height x width x depth	mm	54 x 300 x 62	54 x 295 x 62	54 x 385 x 62
	Thermostat length	mm	280	280	280
	Empty weight (without packaging)	kg	-	-	-

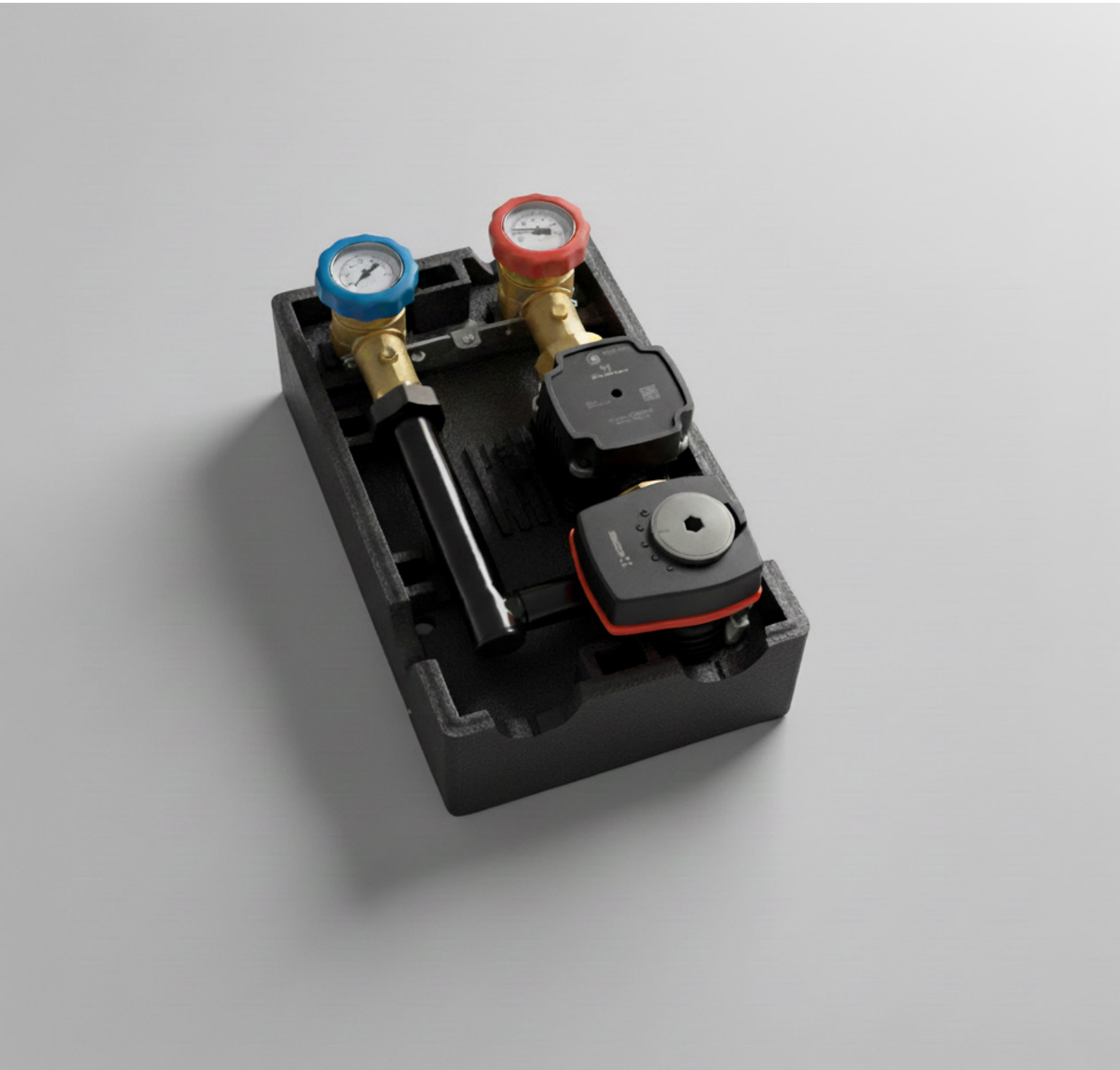
Dimensions and hydraulic connections



Model	A	B	C	D	E	F
Immersion Electrical Heater 1.5kW (3570)	54 mm	G 1¼" M	280 mm	300 mm	70 mm	80 mm
Immersion Electrical Heater 2 kW (3571)	54 mm	G 1¼" M	280 mm	295 mm	70 mm	80 mm
Immersion Electrical Heater 2.5kW (3572)	54 mm	G 1¼" M	280 mm	385 mm	70 mm	80 mm

Shunt groups

Pre-assembled units with circulator, insulation, mixing valve and temperature sensor depending on model. Compatible with pre-assembled manifolds and all Ecoforest heat pumps

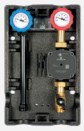


Direct circulation groups
Pre-assembled, insulated direct circulation groups for direct heating/cooling distribution circuits

Mixed circulation groups
Pre-assembled, insulated mixed circulation groups for mixed heating/cooling distribution circuits

Collector-separator
Wall-mounted insulated collectors with brackets for residential applications

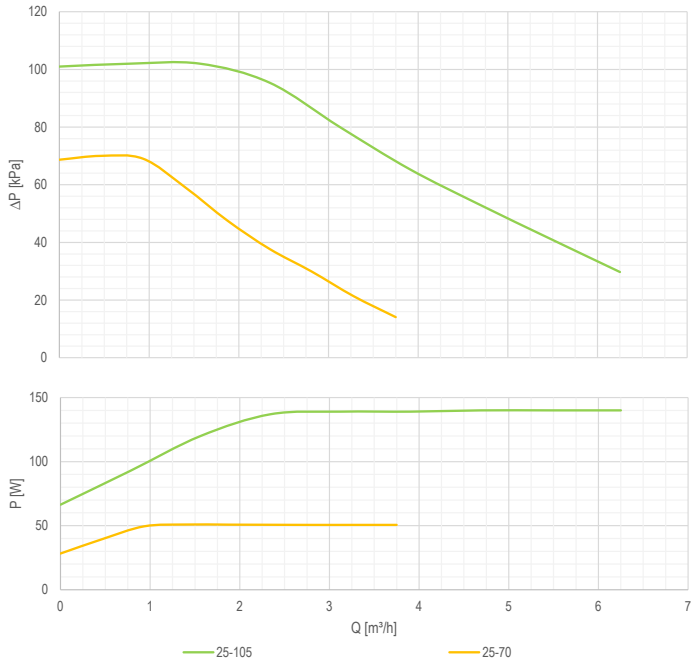
Direct circulation groups



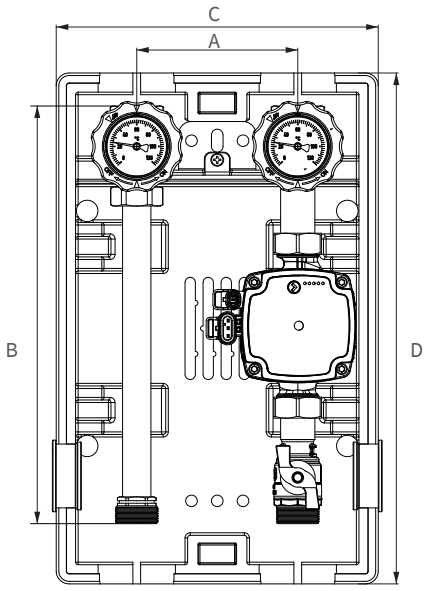
Pre-assembled, insulated direct circulation groups for direct heating/cooling distribution circuits

FEATURES			UPM3 25-70	UPML 25-105
			3130	3131
APPLICATION	Service	-	Heating / Cooling	
	Working fluid	-	Water / Glycol mixture (max 30%)	
	Place of installation	-	Indoor	
PERFORMANCE	Nominal diameter	-	1"	
	Source side connection	-	G Male thread	
	Distribution side connection	-	G Female thread	
	Circulator pump	-	UPM3 Hybrid 25-70	UPML 25-105 130 AUTO
	Circulator pump max head	kPa	70	105
	Circulator pump connection	-	G 1 1/2"	
	Max fluid temperature	ºC	95.0	
	Min fluid temperature	ºC	5.0	
	Impulsion and return thermometer	-	■	
	Impulsion and return isolation valves	-	■	
	Incorporated check valve	-	■	
	Check valve's minimum opening pressure	kPa	2	
	Probe sheath	-	-	
	3-way valve incorporated	-	-	
	Power supply	-	230V / 50Hz	
	Maximum power consumption	W	52	140
	Enclosure IP rating	-	IPX0D	
	Pipe material	-	Copper	
	Insulation	-	■	
DIMENSIONS & WEIGHT	Height x width x depth	mm	250 x 400 x 210	
	Distance between pipe axes	mm	125	
	Length between inlet and outlet ports	mm	330	
	Empty weight (without packaging)	kg	-	-

Available head



Dimensions and hydraulic connections



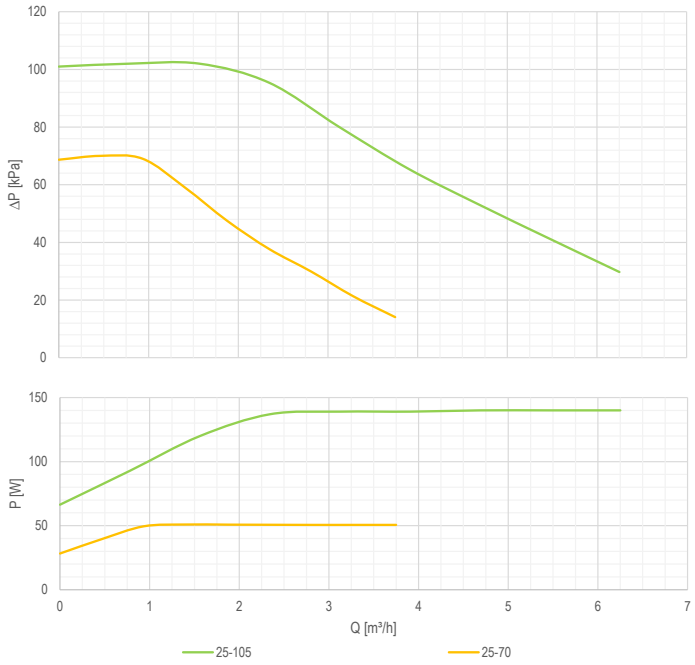
Model	Connections	A	B	C	D
25-70 (3130)	2x G1"M / 2x G1"H	125mm	332 mm	250 mm	400 mm
25-105 (3131)	2x G1"M / 2x G1"H	125mm	332 mm	250 mm	400 mm

Mixed circulation groups

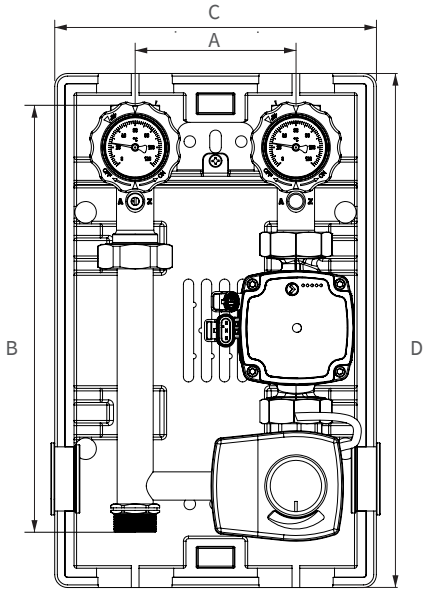
Pre-assembled, insulated mixed circulation groups for mixed heating/cooling distribution circuits

FEATURES			UPM3 25-70	UPML 25-105
			3142	3143
APPLICATION	Service	-	Heating / Cooling	
	Working fluid	-	Water / Glycol mixture (max 30%)	
	Place of installation	-	Indoor	
PERFORMANCE	Nominal diameter	-	1"	
	Source side connection	-	G Male thread	
	Distribution side connection	-	G Female thread	
	Circulator pump	-	UPM3 Hybrid 25-70	UPML 25-105 130 AUTO
	Circulator pump max head	kPa	70	105
	Circulator pump connection	-	G 1 1/2"	
	Max fluid temperature	ºC	95.0	
	Min fluid temperature	ºC	5.0	
	Impulsion and return thermometer	-	■	
	Impulsion and return isolation valves	-	■	
	Incorporated check valve	-	■	
	Check valve's minimum opening pressure	kPa	2	
	Probe sheath	-	■	
	3-way valve incorporated	-	■	
	Power supply	-	230V / 50Hz	
	Maximum power consumption	W	52	140
	Enclosure IP rating	-	IPX0D	
	Pipe material	-	Copper	
	Insulation	-	■	
DIMENSIONS & WEIGHT	Height x width x depth	mm	250 x 400 x 210	
	Distance between pipe axes	mm	125	
	Length between inlet and outlet ports	mm	330	
	Empty weight (without packaging)	kg	-	-

Available head

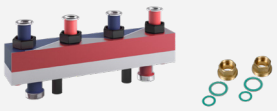


Dimensions and hydraulic connections



Model	Connections	A	B	C	D
25-70 (3142)	2x G1"M / 2x G1"H	125mm	332 mm	250 mm	400 mm
25-105 (3143)	2x G1"M / 2x G1"H	125mm	332 mm	250 mm	400 mm

Collector-separator



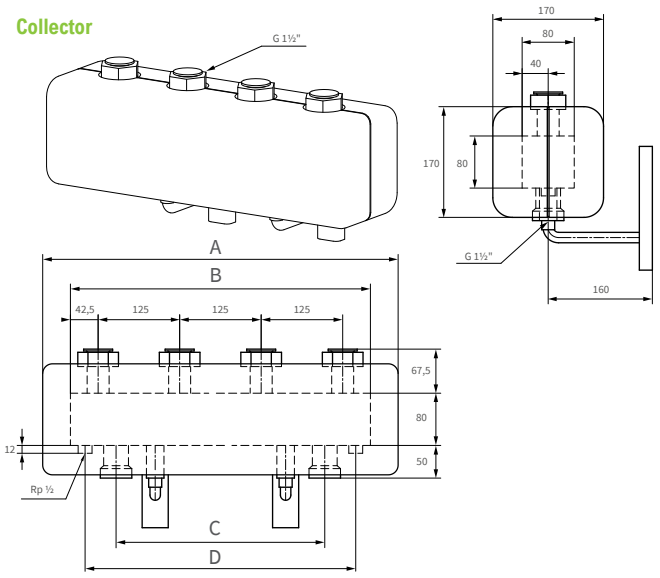
Wall-mounted insulated collectors with brackets for residential applications

FEATURES			For 2 groups	For 3 groups	For 4 groups	Connection kit
			3150	3151	3152	3155
APPLICATION	Service	-		Heating / Cooling		Heating / Cooling
	Working fluid	-		Water		Water
	Place of installation	-		Indoor		Indoor
	Compatibility	-		DN25		Ecoforest combined manifold
PERFORMANCE	Nominal diameter	-	1½"			1 1/2" Male to 1 1/4" Female
	Connection type	-		G coupling nut		G thread
	Fluid volume	l	2.5	3.9	3.9	-
	Maximum pressure	bar		4		-
	Maximum flow rate	m³/h		3		-
	Max fluid temperature	ºC		110		-
	Min fluid temperature	ºC		-10		-
	Material	-		Carbon steel		Brass
	Number of pieces	-		1		2
	Gasket material	-	-	-	-	Klingersil C-4324
	Insulation	-		Expanded polypropylene foam		-
DIMENSIONS & WEIGHT	Height x width x depth	mm	192 x 460 x 80	192 x 710 x 80	192 x 960 x 80	-
	Distance between pipe axes	mm	125	125	125	-
	Empty weight (without packaging)	kg	7.1	9.9	17.6	0.4

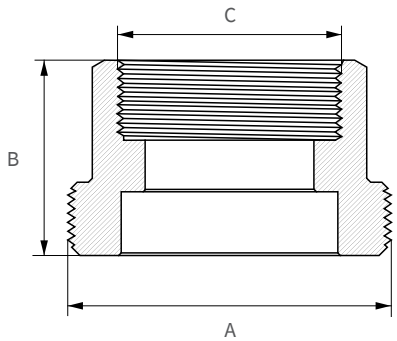
INSTALLATION: Not compatible with storage tanks or upstream separators

Dimensions and hydraulic connections

Collector



Connection kit



Model	A	B	C	D
Collector for 2 groups (3150)	545 mm	460 mm	320 mm	415 mm
Collector for 3 groups (3150)	800 mm	710 mm	570 mm	665 mm
Collector for 4 groups (3150)	1065 mm	960 mm	820 mm	915 mm
Connection Kit (3155)	G1"H	29 mm	G1½"M	-

Circulator pumps

Ecoforest's range of high-efficiency circulators for heating and cooling applications includes different solutions for domestic, residential and tertiary applications. With on/off, proportional or PWM control. Threaded or flanged connections, they adapt to each installation.

On/Off circulators
High-efficiency circulators with 230Vac power supply, on/off control

0-10V modulating circulators
High-efficiency circulators with 230Vac power supply, proportional control 0-10V

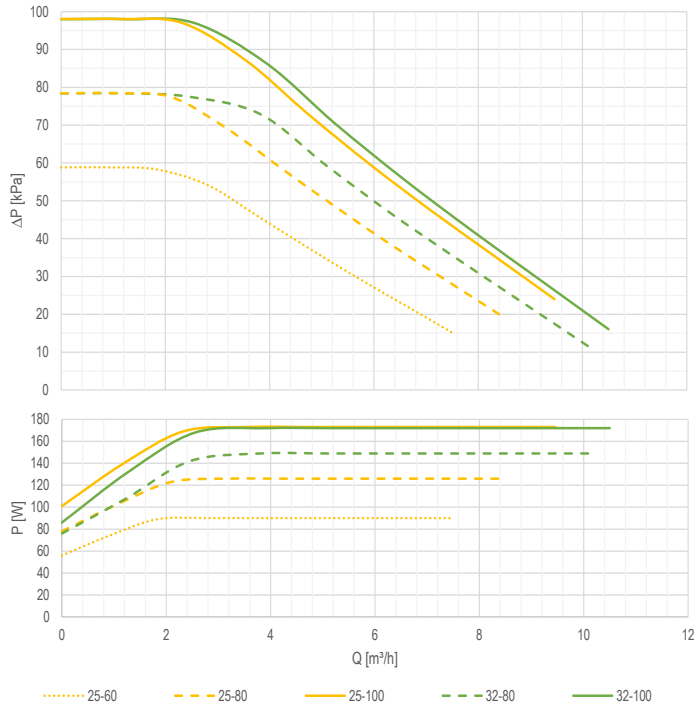
PWM modulating circulators
High-efficiency circulators with 230Vac power supply, PWM control

On/Off circulators

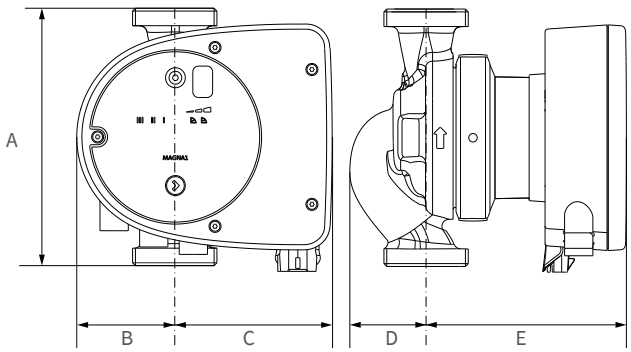
High-efficiency circulators with 230Vac power supply, on/off control

FEATURES			MAGNA1 25-80	MAGNA1 25-100	MAGNA1 32-80	MAGNA1 32-100
			5579	5582	5583	5580	5581
APPLICATION	Service	-	Heating / Cooling				
	Working fluid	-	Water / Max 50% glycol solution				
	Place of installation	-	Indoor				
PERFORMANCE	Nominal diameter	-	DN25	DN25	DN25	DN32	DN32
	Circulator pump connection	-	G female thread				
	Connection diameter	-	1 1/2"	1 1/2"	1 1/2"	2"	2"
	Circulator pump max head	kPa	60	80	100	80	100
	Maximum pressure	bar	10				
	Fluid temperature range (min/max)	ºC	-10 / 110				
	Pump housing material	-	Grey cast iron				
	Impeller material	-	Polyethersulfone				
	Enclosure IP rating	-	IPX4D				
	Insulation class (EN 60335-1)	-	F				
	Power supply	-	230V 50/60Hz				
	Current consumption range (min/max)	A	0.09 / 0.74	0.09 / 1.03	0.09 / 1.42	0.09 / 1.22	0.08 / 1.41
	Energy efficiency index (EEI)	-	0.2				
DIMENSIONS & WEIGHT	Height x width x depth	mm	180 x 182 x 196	180 x 182 x 196	180 x 182 x 196	180 x 182 x 196	180 x 182 x 196
	Length between inlet and outlet ports	mm	180	180	180	180	180
	Empty weight (without packaging)	kg	4.9	4.9	4.9	5.1	5.4

Available head



Dimensions and hydraulic connections



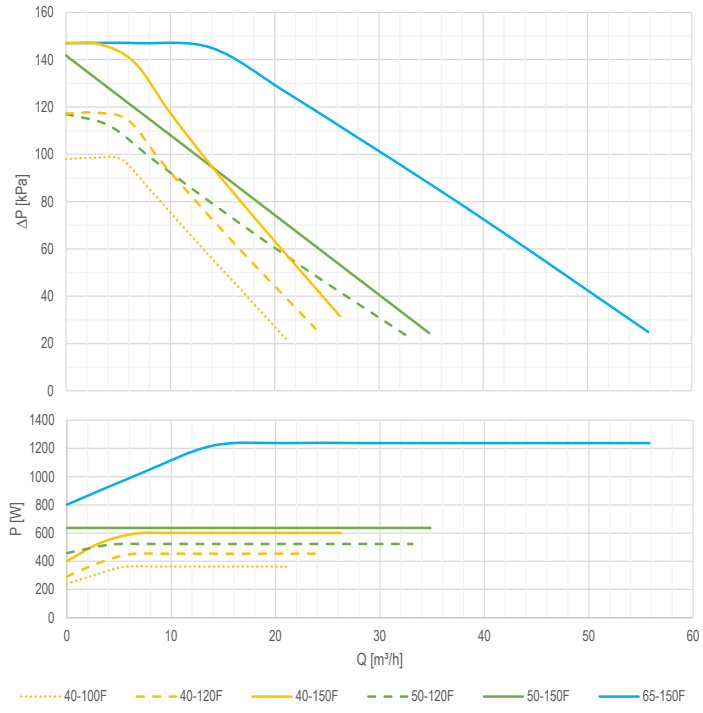
Model	Connections	A	B	C	D	E
25-60 (5579)	2x G1½" M	180 mm	69 mm	113 mm	54 mm	142 mm
25-80 (5582)	2x G1½" M	180 mm	69 mm	113 mm	54 mm	142 mm
25-100 (5583)	2x G1½" M	180 mm	69 mm	113 mm	54 mm	142 mm
32-80 (5580)	2x G2" M	180 mm	69 mm	113 mm	54 mm	142 mm
32-100 (5581)	2x G2" M	180 mm	69 mm	113 mm	54 mm	142 mm

On/Off circulators

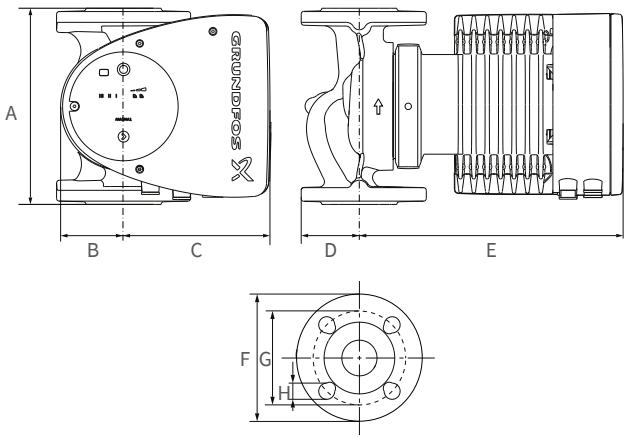
High-efficiency circulators with 230Vac power supply, on/off control

FEATURES			MAGNA1 40-100F	MAGNA1 40-120F	MAGNA1 40-150F	MAGNA1 50-120F	MAGNA1 50-150F	MAGNA1 65-150F
			28001/11	28001/10	28001/9	28001/8	28001/7	28001/6
APPLICATION	Service	-	Heating / Cooling					
	Working fluid	-	Water / Max 50% glycol solution					
	Place of installation	-	Indoor					
PERFORMANCE	Nominal diameter	-	DN40	DN40	DN40	DN50	DN50	DN65
	Circulator pump connection	-	Flanged					
	Connection diameter	-	DIN2576 DN 40	DIN2576 DN 40	DIN2576 DN 40	DIN2576 DN 50	DIN2576 DN 50	DIN2576 DN 65
	Circulator pump max head	kPa	100	120	150	120	150	150
	Maximum pressure	bar	10					
	Fluid temperature range (min/max)	ºC	-10 / 110					
	Pump housing material	-	Grey cast iron					
	Impeller material	-	Polyethersulfone	Polyethersulfone	Composite	Composite	Composite	Composite
	Enclosure IP rating	-	IPX4D					
	Insulation class (EN 60335-1)	-	F					
	Power supply	-	230V 50/60Hz					
	Current consumption range (min/max)	A	0.19 / 1.65	0.18 / 2.05	0.18 / 2.71	0.22 / 2.37	0.24 / 2.87	0.31 / 5.53
	Energy efficiency index (EEI)	-	0.2					
DIMENSIONS & WEIGHT	Height x width x depth	mm	220 x 237 x 369	250 x 237 x 369	250 x 237 x 369	280 x 237 x 376	280 x 237 x 376	340 x 237 x 386
	Length between inlet and outlet ports	mm	220	250	250	280	280	340
	Empty weight (without packaging)	kg	18.2	17.6	17.6	19.9	20.7	26.8

Available head



Dimensions and hydraulic connections



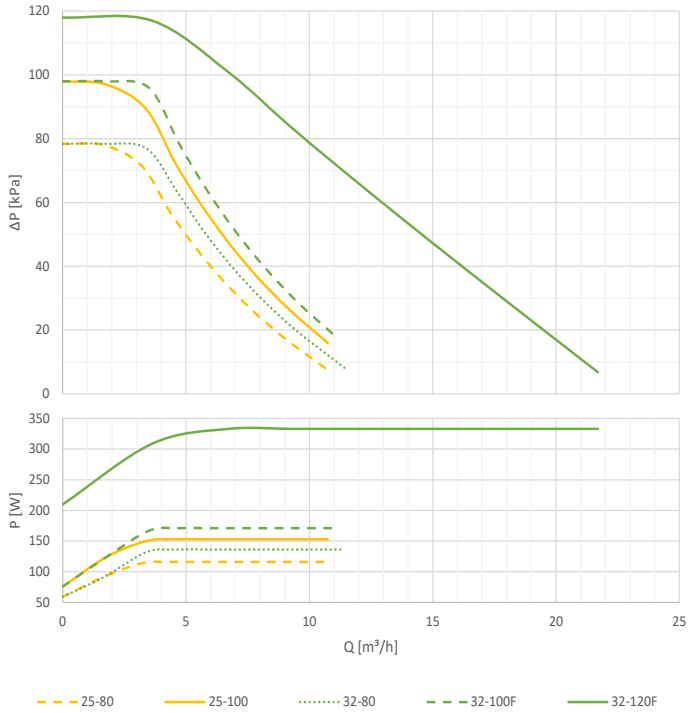
Model	Connections	A	B	C	D	E	F	G	H
40-100F (28001/11)	DIN2576 DN40	220 mm	73 mm	164 mm	65 mm	304 mm	150 mm	110 mm	19 mm
40-120F (28001/10)	DIN2576 DN40	220 mm	73 mm	164 mm	65 mm	304 mm	150 mm	110 mm	19 mm
40-150F (28001/9)	DIN2576 DN40	220 mm	73 mm	164 mm	65 mm	304 mm	150 mm	110 mm	19 mm
50-120F (28001/8)	DIN2576 DN50	280 mm	73 mm	164 mm	72 mm	304 mm	165 mm	125 mm	19 mm
50-150F (28001/7)	DIN2576 DN50	280 mm	73 mm	164 mm	72 mm	304 mm	165 mm	125 mm	19 mm
65-150F (28001/6)	DIN2576 DN65	340 mm	73 mm	164 mm	74 mm	312 mm	185 mm	145 mm	19 mm

0-10V modulating circulators

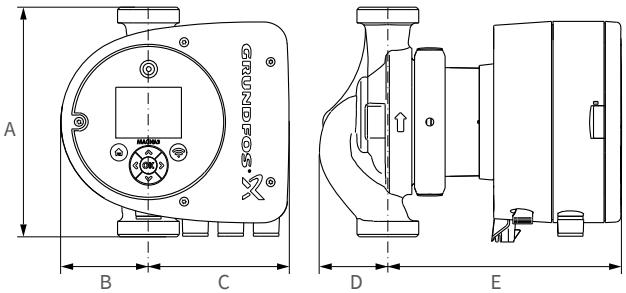
High-efficiency circulators with 230Vac power supply, proportional control 0-10V

FEATURES			MAGNA3 25-80	MAGNA3 25-100	MAGNA3 32-80	MAGNA3 32-100F	MAGNA3 32-120F
			5574	5575	5576	5577	5578
APPLICATION	Service	-	Heating / Cooling				
	Working fluid	-	Water / Max 50% glycol solution				
	Place of installation	-	Indoor				
PERFORMANCE	Nominal diameter	-	DN25	DN25	DN32	DN32	DN32
	Circulator pump connection	-	G Female thread	G Female thread	G Female thread	Flanged	Flanged
	Connection diameter	-	1 1/2"	1 1/2"	2"	DIN2576 DN 32	DIN2576 DN 32
	Circulator pump max head	kPa	80	100	80	100	120
	Maximum pressure	bar			10		
	Fluid temperature range (min/max)	ºC			-10 / 110		
	Pump housing material	-			Grey cast iron		
	Impeller material	-			Polyethersulfone		
	Enclosure IP rating	-			IPX4D		
	Insulation class (EN 60335-1)	-			F		
	Power supply	-			230V 50/60Hz		
	Current consumption range (min/max)	A	0.09 / 1.02	0.09 / 1.33	0.09 / 1.19	0.09 / 1.47	0.18 / 1.55
	Energy efficiency index (EEI)	-			0.18		
DIMENSIONS & WEIGHT	Height x width x depth	mm	180 x 180 x 239	180 x 180 x 239	180 x 180 x 239	220 x 180 x 250	220 x 237 x 366
	Length between inlet and outlet ports	mm	180	180	180	220	220
	Empty weight (without packaging)	kg	5.75	5.75	5.89	8.6	17

Available head



Dimensions and hydraulic connections



Model	Connections	A	B	C	D	E
25-80 (5574)	2x G1½" M	180 mm	69 mm	111 mm	54 mm	185 mm
25-100 (5575)	2x G1½" M	180 mm	69 mm	111 mm	54 mm	185 mm
32-80 (5576)	2x G2" M	180 mm	69 mm	111 mm	54 mm	185 mm
32-100F (5577)	DIN2576 DN32[1]	220 mm	69 mm	111 mm	65 mm	185 mm
32-120F (5578)	DIN2576 DN32[1]	220 mm	69 mm	111 mm	65 mm	185 mm

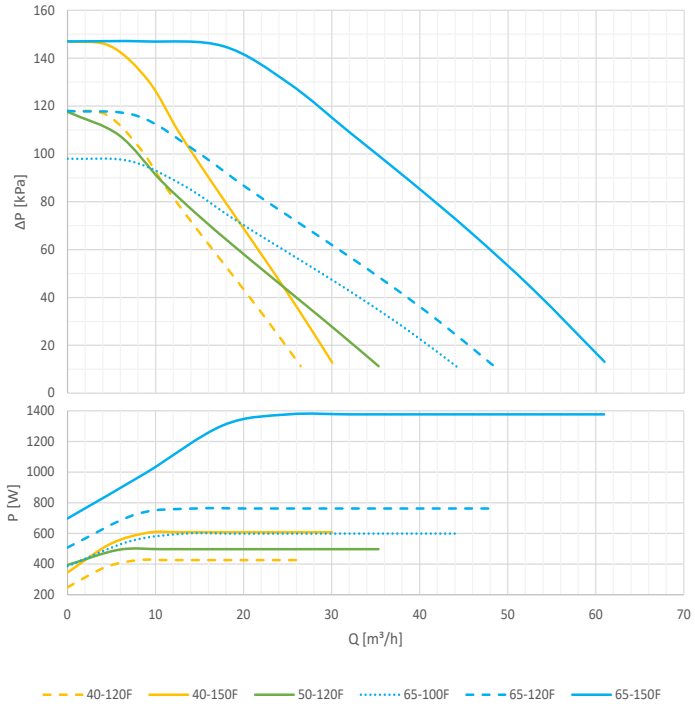
1: Flange dimensions in page 37

0-10V modulating circulators

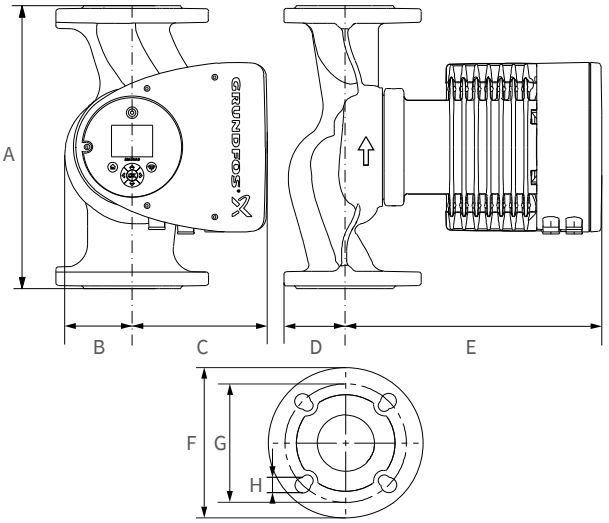
High-efficiency circulators with 230Vac power supply, proportional control 0-10V

FEATURES			MAGNA3 40-120F	MAGNA3 40-150F	MAGNA3 50-120F	MAGNA3 65-100F	MAGNA3 65-120F	MAGNA3 65-150F
			5570	5571	5572	28001/1	28001/2	5573
APPLICATION	Service	-	Heating / Cooling					
	Working fluid	-	Water / Max 50% glycol solution					
	Place of installation	-	Indoor					
PERFORMANCE	Nominal diameter	-	DN40	DN40	DN50	DN65	DN65	DN65
	Circulator pump connection	-	Flanged					
	Connection diameter	-	DIN2576 DN 40	DIN2576 DN 40	DIN2576 DN 50	DIN2576 DN 65	DIN2576 DN 65	DIN2576 DN 65
	Circulator pump max head	kPa	120	150	120	100	120	150
	Maximum pressure	bar	10					
	Fluid temperature range (min/max)	ºC	-10 / 110					
	Pump housing material	-	Grey cast iron					
	Impeller material	-	Polyethersulfone					
	Enclosure IP rating	-	IPX4D					
	Insulation class (EN 60335-1)	-	F					
	Power supply	-	230V 50/60Hz					
	Current consumption range (min/max)	A	0.19 / 1.96	0.19 / 2.78	0.22 / 2.3	0.23 / 2.74	0.18 / 3.45	0.3 / 6.18
	Energy efficiency index (EEI)	-	0.18	0.18	0.17	0.17	0.17	0.17
DIMENSIONS & WEIGHT	Height x width x depth	mm	250 x 237 x 369	250 x 237 x 369	280 x 237 x 376	340 x 237 x 386	340 x 237 x 386	340 x 237 x 386
	Length between inlet and outlet ports	mm	250	250	280	340	340	340
	Empty weight (without packaging)	kg	17.6	17.6	19.9	23.7	23.7	24.9

Available head



Dimensions and hydraulic connections



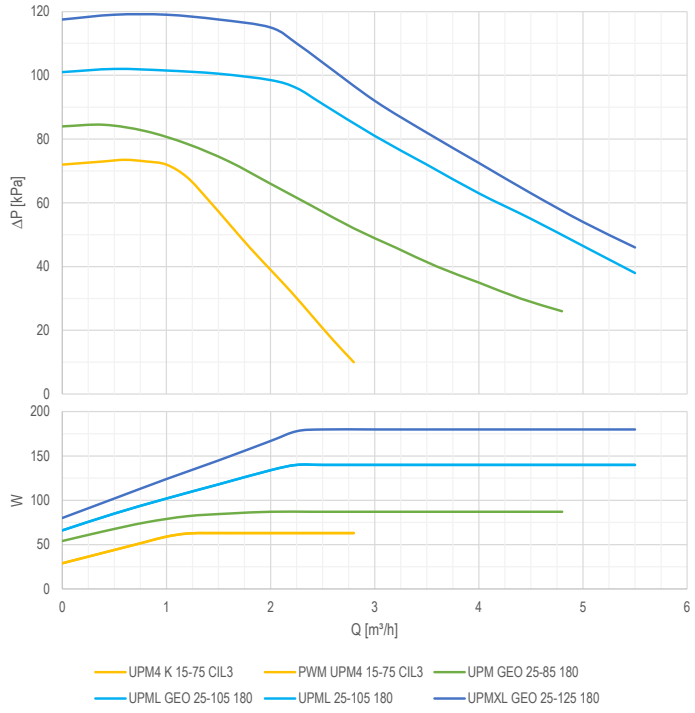
Model	Connections	A	B	C	D	E	F	G	H
40-120F (5570)	DIN2576 DN40	250 mm	73 mm	164 mm	65 mm	304 mm	150 mm	110 mm	19 mm
40-150F (5571)	DIN2576 DN40	250 mm	73 mm	164 mm	65 mm	304 mm	150 mm	110 mm	19 mm
50-120F (5572)	DIN2576 DN50	280 mm	73 mm	164 mm	72 mm	304 mm	165 mm	125 mm	19 mm
65-100F (28001/1)	DIN2576 DN65	340 mm	73 mm	164 mm	74 mm	312 mm	185 mm	145 mm	19 mm
65-120F (28001/2)	DIN2576 DN65	340 mm	73 mm	164 mm	74 mm	312 mm	185 mm	145 mm	19 mm
65-150F (5573)	DIN2576 DN65	340 mm	73 mm	164 mm	74 mm	312 mm	185 mm	145 mm	19 mm

PWM modulating circulators

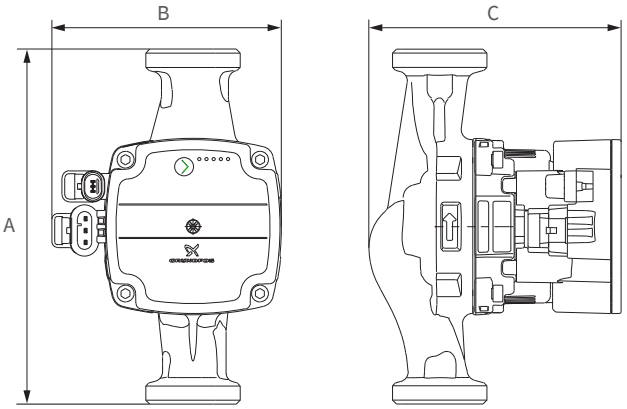
High-efficiency circulators with 230Vac power supply, PWM control

	FEATURES		UPM4 K 15-75	UPM4 15-75	UPML GEO 25-105	UPM GEO 25-85	UPMXL GEO 25-125	UPML 25-105
			11150/2	11151/2	11155	11153	11154	11152
APPLICATION	Service	-	Heating / Cooling					
	Working fluid	-	Water / Max 50% glycol solution					
	Place of installation	-	Indoor					
PERFORMANCE	Nominal diameter	-	DN20	DN20	DN25	DN25	DN25	DN25
	Circulator pump connection	-	G female thread					
	Connection diameter	-	1"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
	Maximum tightening torque	Nm	30	30	-	-	-	-
	Circulator pump max head	kPa	75	75	105	85	125	105
	Maximum pressure	bar	3	3	10	10	10	10
	Minimum inlet pressure	bar	0.5	0.5	0.1	0.5	0.1	0.1
	Fluid temperature range (min/max)	ºC	-20 / 95	2 / 95	-10 / 95	-10 / 95	-10 / 95	-10 / 95
	Pump housing material	-	PA6 GF30	PA6 GF30	Grey cast iron	Stainless steel CF8	Grey cast iron	Grey cast iron
	Impeller material	-	PES GF30	PES GF30	PES GF30	PES GF30	PES GF30	PES GF30
	Enclosure IP rating	-	IPX4D	IP44	IPX2D	IPX4D	IPX2D	IPX2D
	Equipment class (EN60335-1)	-	I					
	Insulation class (EN 60335-1)	-	F					
	Power supply	-	230V ±10% 50/60Hz					
	Current consumption range (min/max)	A	0.04 / 0.53	0.04 / 0.53	0.04 / 1.1	0.06 / 0.71	0.06 / 1.4	0.04 / 1.1
	Energy efficiency index (EEI)	-	0.2	0.2	0.23	0.23	0.23	0.23
	Control box arrangement	-	Left	Below	Left	Left	Left	Left
DIMENSIONS & WEIGHT	Height x width x depth	mm	130 x 117 x 124	130 x 117 x 124	180 x 145 x 142	180 x 145 x 142	180 x 167 x 142	180 x 145 x 142
	Length between inlet and outlet ports	mm	130	130	180	180	180	180
	Empty weight (without packaging)	kg	1.3	1.3	2.5	2.6	2.7	2.5

Available head



Dimensions and hydraulic connections



Model	Connections	A	B	C
UPM4 K 15-75 (11150/2)	2x G1"M	130 mm	124 mm	117 mm
UPM4 15-75 (11151/2)	2x G1"M	130 mm	124 mm	117 mm
UPML GEO 25-105 (11155)	2x G1½" M	180 mm	142 mm	145 mm
UPM GEO 25-85 (11153)	2x G1½" M	180 mm	142 mm	145 mm
UPMXL GEO 25-125 (11154)	2x G1½" M	180 mm	142 mm	167 mm
UPML 25-105 (11152)	2x G1½" M	180 mm	142 mm	145 mm

Heat exchangers

Ecoforest's range of heat exchangers includes different solutions, including removable plates, welded plates and tubular plates, for groundwater collection, circuit separation and swimming pool heating. Manufactured in stainless steel or titanium, these heat exchangers offer the best performance and adaptability to all types of water and glycol solutions.

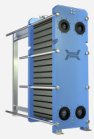
Groundwater heat exchangers
Removable titanium plate heat exchangers with NBR gaskets

Tubular pool heat exchangers
Triple-pass tubular heat exchangers with corrugated titanium tubes for swimming pool heating applications

ecoAIR+ separator heat exchanger
Stainless steel brazed plate heat exchangers for efficient heat transfer between hydraulic circuits

Defrost heat exchanger
Stainless steel brazed plate heat exchangers for efficient heat transfer between hydraulic circuits

Groundwater heat exchanger



Removable titanium plate heat exchangers with NBR gaskets

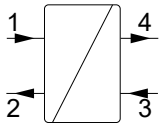
FEATURES			11kW	22kW	40kW	70kW	100kW
			3008	3009	3190	3191	3192
APPLICATION	Service	-	Heating / Cooling				
	Working fluid	-	Water / Glycol mixture (max 50%)				
	Place of installation	-	Indoor				
PERFORMANCE	Rated power	kW	11	20	40	70	100
	Connection diameter	-	1¼"	1¼"	2"	DN65	DN65
	Connection type	-	G Male thread	G Male thread	G Male thread	Flanged	Flanged
	Hot side volume	l	1.4	2.6	9.6	15.7	24.2
	Cold side volume	l	1.4	2.6	9.6	15.7	24.2
	Maximum pressure	bar	10	10	10	10	10
	Maximum temperature	ºC	130	130	110	110	110
	Minimum temperature	ºC	-10	-10	-10	-10	-10
	Frame material	-	Carbon steel				
	Plates material	-	Titanium				
	Plates thickness	mm	0.5				
	Gasket material	-	NBR HT				
	Heat exchange surface	m^2	0.7	1.2	4.2	7.5	11.5
DIMENSIONS & WEIGHT	Height x width x depth	mm	473 x 190 x 347	473 x 190 x 347	896 x 300 x 558	946 x 395 x 553	946 x 395 x 753
	Empty weight (without packaging)	kg	33.7	36.8	133.1	244.7	271.5

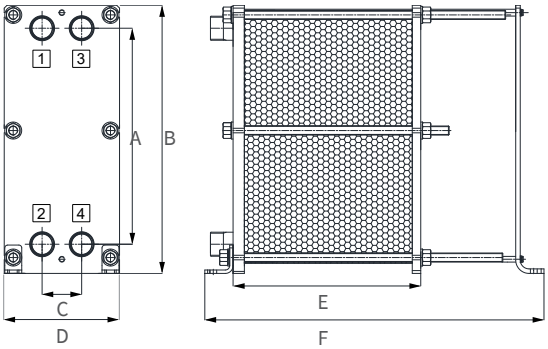
OPERATING CONDITIONS: Pressure drop shown on the primary side (1-2). Inlet (1): Pure water at 15°C. Maximum pressure drop on the secondary side (3-4) of 30 kPa and a temperature rise of 3°C.

Performance

Heat exchanger model	ΔT_{1-4}	P_{th}	1-2			3-4		
			ΔT	Flowrate	Head losses	ΔT	Flowrate	Head losses
	[ºC]	[kW]	[ºC]	[m^3/h]	[kPa]	[ºC]	[m^3/h]	[kPa]
11kW	2	5	3	1.4	6.3	3	1.5	7.3
		8	3	2.3	15.5	3	2.4	16.7
		12	3	3.4	33.5	3	3.6	34.2
22kW	2	16	3	4.6	19.9	3	4.9	23.5
		20	3	5.7	30.6	3	6.1	35.0
		22	3	6.3	36.7	3	6.7	41.5
40kW	2	32	3	9.2	10.6	3	9.7	15.5
		40	3	11.5	16.2	3	12.1	22.9
		48	3	13.7	22.9	3	14.6	31.6
70kW	2	60	3	17.2	17.0	3	18.2	22.2
		70	3	20.3	22.8	3	21.2	29.2
		80	3	22.9	29.4	3	24.2	37.0
100kW	2	90	3	25.8	17.5	3	27.3	23.4
		100	3	28.6	21.5	3	30.3	28.3
		110	3	31.5	25.8	3	33.3	33.5

Dimensions and hydraulic connections





Model	Connections	A	B	C	D	E	F
3008	G 1¼" M	381 mm	473 mm	70 mm	190 mm	87 mm	347 mm
3009	G 1¼" M	381 mm	473 mm	70 mm	190 mm	122 mm	347 mm
3190	G 2" M	694 mm	896 mm	126 mm	300 mm	147 mm	558 mm
3191	DN65 DIN2576	700 mm	946 mm	192 mm	395 mm	177 mm	553 mm
3192	DN65 DIN2576	700 mm	946 mm	192 mm	395 mm	237 mm	753 mm

Tubular pool heat exchangers

Triple-pass tubular heat exchangers with corrugated tubes for swimming pool heating applications

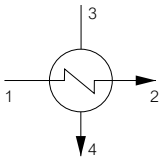
	FEATURES		11kW	22kW	44kW
			2900	2901	2902
APPLICATION	Service			Heating / Cooling	
	Working fluid			Water / Glycol mixture (max 50%)	
	Place of installation			Indoor	
PERFORMANCE	Rated power		11	22	40
	Connection diameter		1½"	1½"	1½"
	Shell side connection		G Male thread		
	Tubes side connection		G Female thread		
	Tubes side water volume	l	1.3	1.7	2.2
	Shell side water volume	l	2.5	3.8	5
	Maximum pressure	bar		16	
	Maximum temperature	ºC		150	
	Minimum temperature	ºC		-20	
	Material			AISI 316 stainless steel	
	Heat exchange surface	m²	0.6	0.9	1.2
DIMENSIONS & WEIGHT	Height x width x depth	mm	140 x 603 x 102	140 x 853 x 102	140 x 1103 x 102
	Empty weight (without packaging)	kg	6.3	8.7	11.1

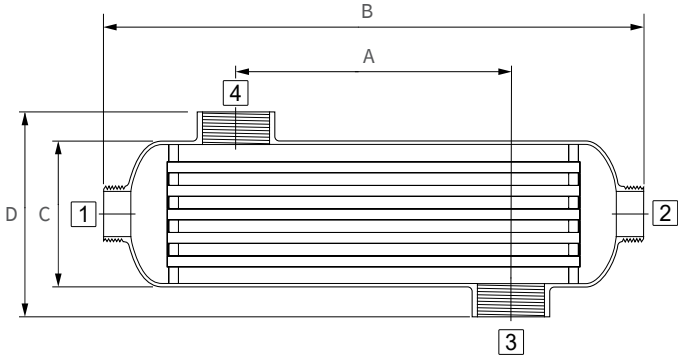
OPERATING CONDITIONS: Pressure drop shown on the primary side (1-2). Inlet (1): Pure water at 45°C. Maximum pressure drop on the secondary side (3-4) of 30 kPa and a temperature difference of 5°C.

Performance

Heat exchanger model	ΔT_{1-4}	P_{th}	1-2			3-4		
			ΔT	Flowrate	Head losses	ΔT	Flowrate	Head losses
	[ºC]	[kW]	[ºC]	[m³/h]	[kPa]	[ºC]	[m³/h]	[kPa]
11kW	12	8	10	0.7	0.9	5	1.4	0.6
		11	10	1.0	1.7	5	1.9	1.0
		14	10	1.2	2.6	5	2.4	1.3
22kW	12	18	10	1.6	5.1	5	3.1	2.2
		22	10	1.9	7.4	5	3.8	3.2
		28	10	2.4	11.7	5	4.8	5.1
44kW	12	35	10	3.1	20.9	5	6.1	8.0
		44	10	3.8	32.2	5	7.6	12.4
		53	10	4.6	45.9	5	9.2	17.7

Dimensions and hydraulic connections





Model	Connections	A	B	C	D
2900	2x G 1½" M / 2x G 1½" F	420 mm	603 mm	102 mm	140 mm
2901	2x G 1½" M / 2x G 1½" F	670 mm	853 mm	102 mm	140 mm
2902	2x G 1½" M / 2x G 1½" F	920 mm	1103 mm	102 mm	140 mm

ecoAIR+ separator heat exchanger

Stainless steel brazed plate heat exchangers for efficient heat transfer between hydraulic circuits

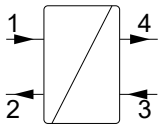
FEATURES			7kW	12kW	20kW	24kW
			10246/1	10245/1	10247/1	10249
APPLICATION	Service	-	Heating / Cooling			
	Place of installation	-	Indoor			
PERFORMANCE	Rated power	kW	7	12	20	24
	Connection diameter	-	1"	1"	1¼"	1"
	Connection type	-	G male thread			
	Hot side volume	l	0.6	0.9	0.7	2
	Cold side volume	l	0.55	0.85	0.7	2.1
	Maximum pressure	bar	30	30	25	25
	Maximum temperature	ºC	200	200	180	180
	Minimum temperature	ºC	-196	-196	-10	-10
	Frame material	-	AISI 304 stainless steel			
	Plates material	-	AISI 316 stainless steel			
	Number of plates	-	24	36	50	50
	Heat exchange surface	m²	0.55	0.85	1.34	2.69
DIMENSIONS & WEIGHT	Height x width x depth	mm	311 x 111 x 95	311 x 111 x 120	289 x 118 x 95	525 x 119 x 94
	Empty weight	kg	4.32	5.88	5.53	10.6

OPERATING CONDITIONS: Pressure drop shown on the primary side (1-2). Inlet (1): 30% glycol mixture at 40°C. Maximum pressure drop on the secondary side (3-4) of 30 kPa and a temperature difference of 5°C.

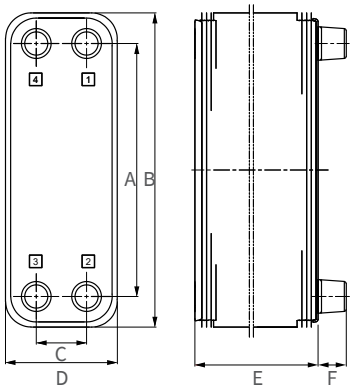
Performance

Heat exchanger model	ΔT_{1-4}	P_{th}	1-2			3-4		
			ΔT	Flowrate	Head losses	ΔT	Flowrate	Head losses
	[ºC]	[kW]	[ºC]	[m³/h]	[kPa]	[ºC]	[m³/h]	[kPa]
7kW	2	5	5	0.9	4.2	5	0.8	3.0
		7	5	1.3	8.1	5	1.2	5.7
		10	5	1.8	15.9	5	1.7	11.3
12kW	2	9	5	1.7	5.8	5	1.5	4.4
		12	5	2.2	10.1	5	2.1	7.6
		15	5	2.8	15.5	5	2.6	11.6
20kW	2	16	5	3.0	16.8	5	2.8	12.2
		18	5	3.3	21.8	5	3.1	16.1
		20	5	3.7	27.4	5	3.5	20.2
24kW	2	20	5	3.7	14.5	5	3.5	9.8
		24	5	4.4	20.9	5	4.1	15.0
		28	5	5.1	28.2	5	4.8	20.9

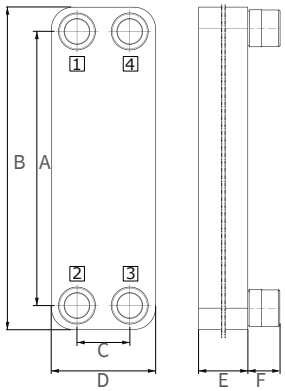
Dimensions and hydraulic connections



7 / 12 kW



20 / 24 kW



Model	Connections	A	B	C	D	E	F
10246/1	G 1" M	250 mm	311 mm	50 mm	111 mm	66 mm	29 mm
10245/1	G 1" M	250 mm	311 mm	50 mm	111 mm	94 mm	29 mm
10247/1	G 1¼" M	234 mm	289 mm	63 mm	118 mm	70 mm	25 mm
10249	G 1" M	525 mm	479 mm	72 mm	119 mm	94 mm	20 mm

ecoAIR+ separator heat exchanger

Stainless steel brazed plate heat exchangers for efficient heat transfer between hydraulic circuits

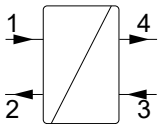
FEATURES			40kW	60kW	80kW	100kW	120kW	140kW	160kW
			38100	38101	38102	38103	38104	38109	38110
APPLICATION	Service	-	Heating / Cooling						
	Place of installation	-	Indoor						
PERFORMANCE	Rated power	kW	40kW	60kW	80kW	100kW	120kW	140kW	160kW
	Connection diameter	-	2"	2"	2"	2"	2"	2"	2"
	Connection type	-	G-M thread						
	Hot side volume	dm^3	3.1	4.7	6.4	8	8.8	10.4	13.9
	Cold side volume	dm^3	3.1	4.9	6.5	8.2	9	10.6	14
	Maximum pressure	bar	25	25	25	25	25	25	25
	Maximum temperature	ºC	180	180	180	180	180	180	180
	Minimum temperature	ºC	-10	-10	-10	-10	-10	-10	-10
	Frame material	-	AISI 304 stainless steel						
	Plates material	-	AISI 316 stainless steel						
	Number of plates	-	40	60	80	100	110	130	180
	Heat exchange surface	m^2	3.99	6.09	8.19	10.29	11.34	13.44	17.8
DIMENSIONS & WEIGHT	Height x width x depth	mm	466 x 256 x 86	466 x 256 x 120	466 x 256 x 155	466 x 256 x 190	466 x 256 x 208	466 x 256 x 245	613 x 186 x 325
	Empty weight (unpackaged)	kg	18.5	26.6	29	34.4	37.1	42.5	54.9

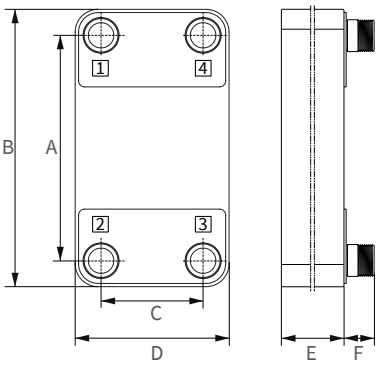
OPERATING CONDITIONS: Pressure drop shown on the primary side (1-2). Inlet (1): 30% glycol mixture at 40°C. Maximum pressure drop on the secondary side (3-4) of 30 kPa and a temperature difference of 5°C.

Performance

Heat exchanger model	ΔT_{1-4}	P_{th}	1-2			3-4		
			ΔT	Flowrate	Head losses	ΔT	Flowrate	Head losses
	[ºC]	[kW]	[ºC]	[m^3/h]	[kPa]	[ºC]	[m^3/h]	[kPa]
40kW	2	32	5	5.9	7.6	5	5.5	4.8
		40	5	7.3	12.9	5	6.9	8.6
		47	5	8.6	18.4	5	8.1	12.6
60kW	2	52	5	9.6	9.1	5	9.0	6.3
		60	5	11.1	12.8	5	10.3	8.9
		67	5	12.3	16.4	5	11.6	11.6
80kW	2	72	5	13.2	10.2	5	12.4	7.3
		80	5	14.7	13.0	5	13.8	9.3
		87	5	16.0	15.8	5	15.0	11.5
100kW	2	92	5	16.9	11.2	5	15.9	8.1
		100	5	18.4	13.5	5	17.2	9.9
		107	5	19.7	15.8	5	18.4	11.7
120kW	2	112	5	20.6	14.4	5	19.3	10.7
		120	5	22.1	16.9	5	20.7	12.6
		127	5	23.4	19.1	5	21.9	14.3
140kW	2	132	5	24.3	15.2	5	22.8	11.5
		140	5	25.7	17.3	5	24.1	13.1
		147	5	27.0	19.2	5	25.3	14.7
160kW	2	152	5	28.0	22.6	5	26.2	17.9
		160	5	29.4	25.4	5	27.6	20.1
		167	5	30.7	27.8	5	28.8	22.1

Dimensions and hydraulic connections





Model	Connections	A	B	C	D	E	F
38100	G 2" M	379 mm	466 mm	170 mm	256 mm	85 mm	50 mm
38101	G 2" M	379 mm	466 mm	170 mm	256 mm	120 mm	50 mm
38102	G 2" M	379 mm	466 mm	170 mm	256 mm	155 mm	50 mm
38103	G 2" M	379 mm	466 mm	170 mm	256 mm	190 mm	50 mm
38104	G 2" M	379 mm	466 mm	170 mm	256 mm	208 mm	50 mm
38109	G 2" M	379 mm	466 mm	170 mm	256 mm	243 mm	50 mm
38110	G 2" M	519 mm	613 mm	92 mm	186 mm	325 mm	52 mm

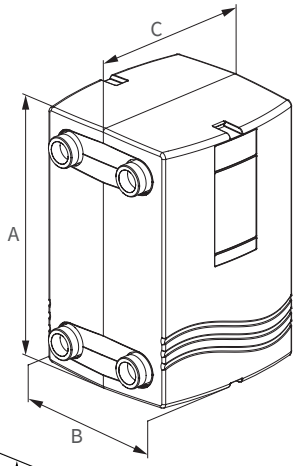
ecoAIR+ separator heat exchanger

Accessories for mounting and insulating ecoAIR+ heat exchangers

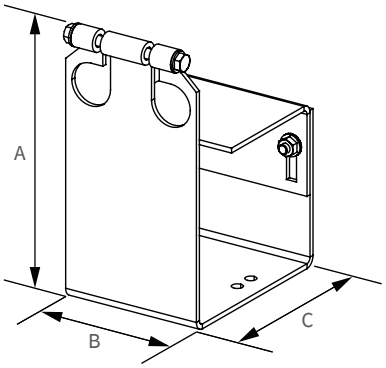
FEATURES			Insulation for 24kW	Insulation for 40-60kW	Insulation for 80-100kW	Insulation for 120-140kW	Insulation for 160kW	24kW support	40 - 140 kW support	160kW support
			10249/AIS	38106	38107	38108	38112	10249/S	38105	38111
APPLICATION	Service	-	Heating / Cooling							
	Place of installation	-	Indoor							
	Compatibility	-	10249	38100 / 38101	38102 / 38103	38104 / 38109	38110	10249	38100 / 38101 / 38102 / 38103 / 38104 / 38109	38110
PERFORMANCE	Material	-	Polyurethane foam	Polyurethane foam	Polyurethane foam	Polyurethane foam	Polystyrene covered polyurethane foam	Carbon steel	Carbon steel	Carbon steel
	Maximum temperature	ºC	130	130	130	130	130	-	-	-
	Tightening torque	Nm	-	-	-	-	-	15	15	45
	Average heat transfer coefficient	W/mK	0.035	0.035	0.035	0.035	0.035	-	-	-
	Insulation thickness	mm	20	20	20	20	20	-	-	-
DIMENSIONS & WEIGHT	Height x width x depth	mm	572 x 200 x 180	512 x 320 x 197	512 x 320 x 257	512 x 320 x 337	662 x 264 x 454	220 x 118 x 156	255 x 240 x 155	238 x 425 x 250
	Empty weight	kg	1.52	1.9	2.1	2.15	2.2	2	4.6	1.25

Dimensions

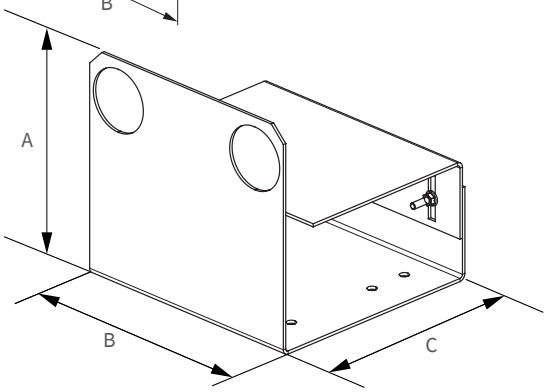
Insulation



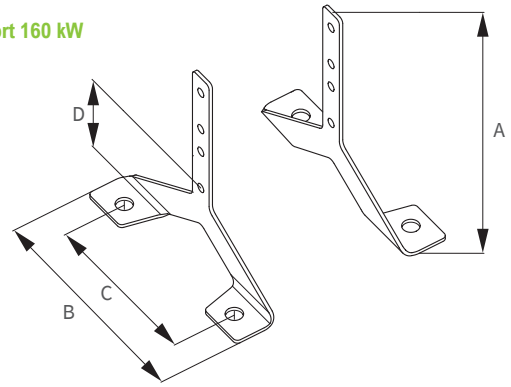
Support 24 kW



Support 40-140 kW



Support 160 kW



Model	A	B	C	D
Insulation 24kW (10249/AIS)	572 mm	180 mm	200 mm	-
Insulation 40-60kW (38106)	512 mm	320 mm	197 mm	-
Insulation 80-100kW (38107)	512 mm	320 mm	257 mm	-
Insulation 120-140kW (38108)	512 mm	320 mm	337 mm	-
Insulation 160kW (38112)	662 mm	264 mm	454 mm	-
Support 24kW (10249/S)	220 mm	118 mm	156 mm	-
Support 40-140kW (38105)	225 mm	240 mm	155 mm	-
Support 160kW (38111)	238 mm	250 mm	203 mm	87 mm

Defrost heat exchanger

Stainless steel brazed plate heat exchangers for efficient heat transfer between hydraulic circuits

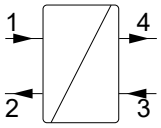
FEATURES			33kW	55kW	80kW
			3700	3701	3702
APPLICATION	Service	-	Heating / Cooling		
	Working fluid	-	Water / Glycol mixture (max 50%)		
	Place of installation	-	Indoor		
PERFORMANCE	Rated power	kW	33	55	80
	Connection diameter	-	1"	1¼"	2"
	Connection type	-	G male thread		
	Hot side volume	l	1.8	3.7	4.7
	Cold side volume	l	1.9	3.7	4.9
	Maximum pressure	bar	30	30	25
	Maximum temperature	ºC	230		
	Minimum temperature	ºC	-195		
	Frame material	-	AISI 304 stainless steel		
	Plates material	-	AISI 316 stainless steel		
	Heat exchange surface	m²	1.8	3.6	6.9
DIMENSIONS & WEIGHT	Height x width x depth	mm	286 x 123 x 179	286 x 123 x 320	466 x 258 x 314
	Empty weight (without packaging)	kg	8.4	15.5	33.2

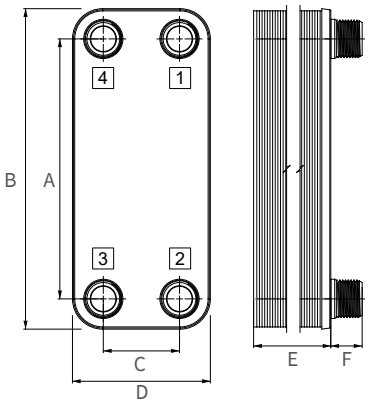
OPERATING CONDITIONS: Pressure drop shown on the primary side (1-2). Inlet (1): 30% glycol mixture at 0°C. Maximum pressure drop on the secondary side (3-4) of 30 kPa and a temperature difference of 5°C.

Performance

Heat exchanger model	ΔT_{1-4}	P_{th}	1-2			3-4		
			ΔT	Flowrate	Head losses	ΔT	Flowrate	Head losses
	[ºC]	[kW]	[ºC]	[m^3/h]	[kPa]	[ºC]	[m^3/h]	[kPa]
33kW (3700)	15	25	7	3.3	5.6	5	4.3	7.2
		33	7	4.3	9.4	5	5.7	12.3
		40	7	5.2	13.3	5	6.9	17.9
55kW (3701)	15	48	7	6.2	8.7	5	8.3	13.3
		55	7	7.1	11.3	5	9.5	17.4
		62	7	8.1	14.2	5	10.8	22.0
80kW (3702)	15	70	7	9.1	10.2	5	12.2	12.2
		80	7	10.4	13.0	5	13.9	15.8
		90	7	11.7	16.0	5	15.6	19.2

Dimensions and hydraulic connections





Model	Connections	A	B	C	D	E	F
3700	G 1" M	232 mm	286 mm	68 mm	123 mm	151 mm	28 mm
3701	G 1¼" M	232 mm	286 mm	68 mm	123 mm	292 mm	28 mm
3702	G 2" M	378 mm	466 mm	170 mm	258 mm	155 mm	30 mm

Emitters

Low-temperature, high-efficiency hydraulic emitters provide solutions for space heating and cooling with wall or ceiling installation. Specially designed for energy refurbishment.

Radiant panels

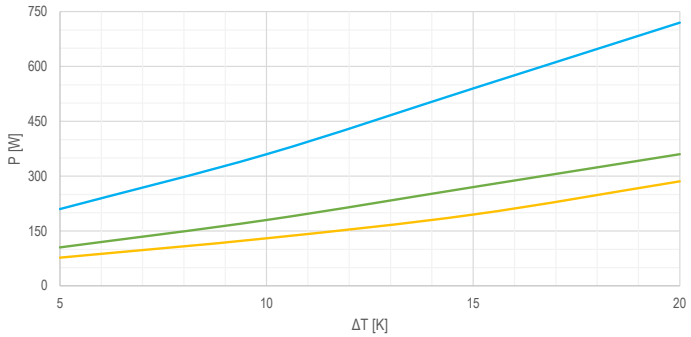
Low-temperature radiant panels for efficient, cutting-edge climate control

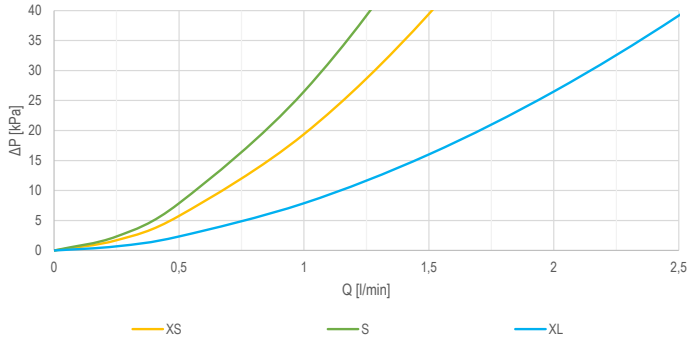
Radiant panels

Low-temperature radiant panels for efficient, cutting-edge climate control

FEATURES			Sunthalpanel XS	Sunthalpanel S	Sunthalpanel XL
			1170	1171	1172
APPLICATION	Service	-		Heating / Cooling	
	Place of installation	-		Indoor	
PERFORMANCE	Connection diameter	-		1/2"	
	Connection type	-		Male thread	
	Heat exchange surface	dm^3	1.1	1.5	3
	Nominal flow rate	l/min	1	1	2
	Nominal pressure drop	kPa	19.4	26.5	26.5
	Maximum pressure	bar		6	
	Maximum temperature	ºC		65	
	Minimum temperature	ºC		5	
	Thermal transmittance	W/m·K	8		
	Room area recommendation	m^2	3.5	5	12
	Average heat transfer coefficient	W/ºC	13	18	36
	Heating power output at 25ºC (Air at 20ºC)	W	77	105	210
	Heating power output at 30ºC (Air at 20ºC)	W	130	180	360
	Heating power output at 35ºC (Air at 20ºC)	W	195	270	540
	Heating power output at 40ºC (Air at 20ºC)	W	286	360	720
	Cooling power output at 18ºC (Air at 24ºC)	W	78	113	216
DIMENSIONS & WEIGHT	Recommended distance to wall/ceiling	mm	25	25	25
	Height x width x depth	mm	1500 x 740 x 15	1500 x 1000 x 15	1991 x 1500 x 15
	Empty weight (without packaging)	kg	15	18	37

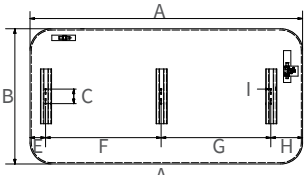
Performance / Head losses



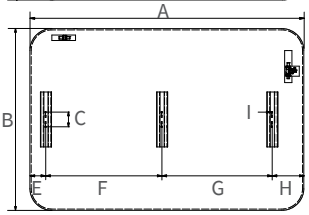


Dimensions and hydraulic connections

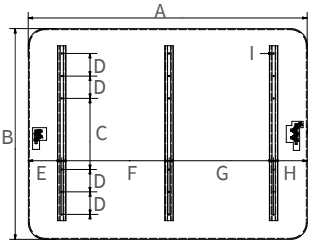
Sunthalpanel XS



Sunthalpanel S



Sunthalpanel XL



Model	Connection	A	B	C	D	E	F	G	H	Ø I
Sunthalpanel XS	¾" M - ¾" M	1500 mm	740 mm	80 mm	-	86 mm	636 mm	603 mm	175 mm	7 mm
Sunthalpanel S	¾" M - ¾" M	1500 mm	1000 mm	80 mm	-	86 mm	636 mm	603 mm	175 mm	7 mm
Sunthalpanel XL	¾" M - ¾" M	1991 mm	1500 mm	506 mm	160 mm	238 mm	766 mm	746 mm	241 mm	7 mm

Control

The Ecoforest range of controls for heat pumps includes accessories for managing temperature, flow rate, photovoltaic surplus, and various communication protocols.

Photovoltaic hybridisation
Single-phase and three-phase bidirectional meters for managing photovoltaic surpluses and power consumption

Expansion cards
Modules for bus communication with ecoGEO+ and ecoAIR+ heat pumps using the main protocols: ModBUS, KNX and BACnet

Thermostats
Room terminals to communicate heating and cooling requirements and improve system efficiency

Flow switch
Electronic sensor with no moving parts to prevent incidents due to lack of flow

Refrigerant sensor
Designed to detect A3 refrigerant leaks with high selectivity

Extraction fan
ATEX-certified fan for air extraction in machine rooms using A3 refrigerants

Temperature probes
NTC probes suitable for temperature measurements in ecoGEO+, ecoAIR+ heat pumps and ecoSMART controllers

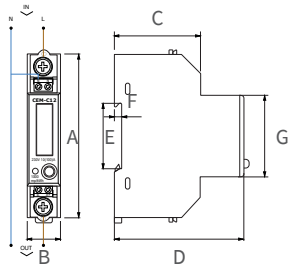
Photovoltaic hybridisation

Single-phase and three-phase bidirectional meters for managing photovoltaic surpluses and power consumption

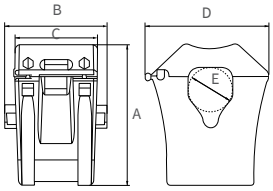
	FEATURES		CEM C12 Meter	CEM C21 Meter	CEM C31 Meter	Transformer PA-100A-5A	Transformer PA-150A-5A	Transformer PA-200A-5A
			43102	43100/1	43101/1	43351	43350	43352
APPLICATION	Service	-	PV hybridisation	PV hybridisation	PV hybridisation	Monitoring	Monitoring	Monitoring
	Place of installation	-	Indoor					
PERFORMANCE	Type of measurement	-	Direct	Direct	Indirect	-	-	-
	Tension measure range	V	230	3x 127/220 … 3x 230/400	3x 57/100 … 3x 230/400	720	720	720
	Number of phases	-	1	3	3	1	1	1
	Nominal frequency	Hz	50	50/60	50/60	-	-	-
	Intensity measure range	A	0.25 / 100	65	10	100/5	150/5	200/5
	Reference current	A	5	5	5	-	-	-
	Number of modules	-	1	4	4	-	-	-
	Inner diameter	mm	-	-	-	24	24	24
	Safety factor	-	-	-	-	2.5	2.5	2.5
	Communication protocol	-	RS-485 Modbus RTU	RS-485 Modbus RTU	RS-485 Modbus RTU	-	-	-
	Programmable impulse output	-	-	1	1	-	-	-
	Digital input	-	-	-	-	-	-	-
	Tariff selection	-	-	1	1	-	-	-
	Baudrate	Bd	9600-19200-38400	9600-19200-38400	9600-19200-38400	-	-	-
	Certification class	-	IEC 62053-21 / IEC 62052-11				IEC 60044-1, IEC 61010-1	
DIMENSIONS & WEIGHT	Height x width x depth	mm	18 x 90 x 72	70 x 90 x 64	70 x 90 x 64	66 x 76 x 55	66 x 76 x 55	66 x 76 x 55
	Empty weight	kg	0.1	0.38	0.185	0.219	0.17	0.2

Dimensions and hydraulic connections

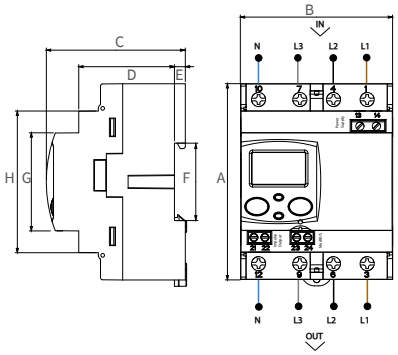
CEM 12



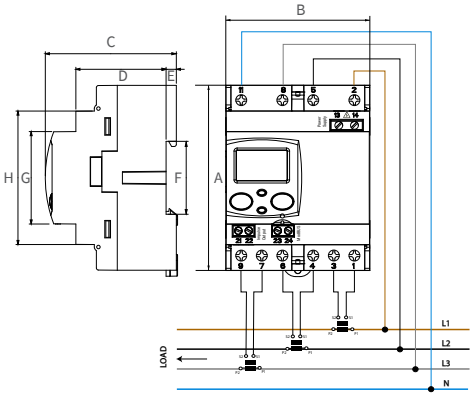
Transformer PA-100A / PA-150A / PA-200A



CEM 21



CEM 31



Model	A	B	C	D	E	F	G	H
CEM 12 (43102)	90 mm	18 mm	47.8 mm	72 mm	36 mm	4 mm	45 mm	-
CEM 21 (43100/1)	90 mm	70 mm	64 mm	44 mm	5 mm	36 mm	45 mm	65 mm
CEM 31 (43101/1)	90 mm	70 mm	64 mm	44 mm	5 mm	36 mm	45 mm	65 mm
PA-100A-5A	75.4 mm	55 mm	44.4 mm	66 mm	24 mm	-	-	-
PA-150A-5A	75.4 mm	55 mm	44.4 mm	66 mm	24 mm	-	-	-
PA-200A-5A	75.4 mm	55 mm	44.4 mm	66 mm	24 mm	-	-	-

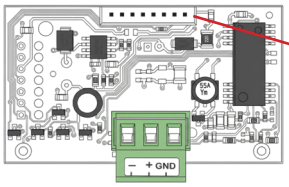
Expansion cards

Modules for bus communication with ecoGEO+ and ecoAIR+ heat pumps using the main protocols: ModBUS, KNX and BACnet

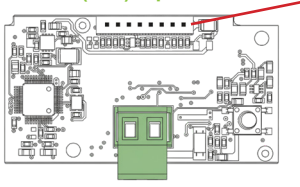
FEATURES			Modbus Expansion Card	KNX Expansion Card	BACnet Expansion Card
			609	3093	900/1
APPLICATION	Requirements		-	ETS5 or above, Device Configuration Apps tool and the product database	-
	Place of installation	-	Indoor	Indoor	Indoor
PERFORMANCE	Communication protocol	-	RS485	KNX	Ethernet physical standard
	Cable section	mm^2	0.2 to 2.5, shielded cable, two wires	0.2 to 1.5	RJ45 class 5 shielded cable
	Temperature range (min./max.)	ºC	-20 / 70	-20 / 60	-40 / 70
	Power supply	V	-	12-33 V from control motherboard	-
	Maximum power consumption	mW	-	200mW	-
	Bus power supply	V	-	11 - 32	-
	Maximum bus current	mA	-	5	-
	Maximum number of datapoints	-	-	250	-
DIMENSIONS & WEIGHT	Height x width x depth	mm	60 x 29 x 20	-	-
	Empty weight (without packaging)	kg	-	-	-

Dimensions and hydraulic connections

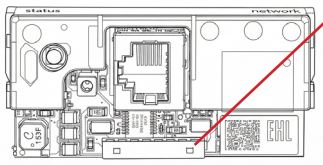
ModBUS RS485 expansion card



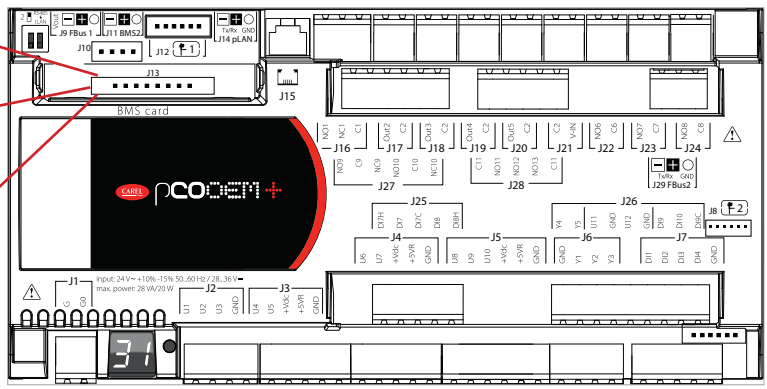
Konnex® (KNX) expansion card



BACnet expansion card



The card is connected to port J13 on the pCOOEM+



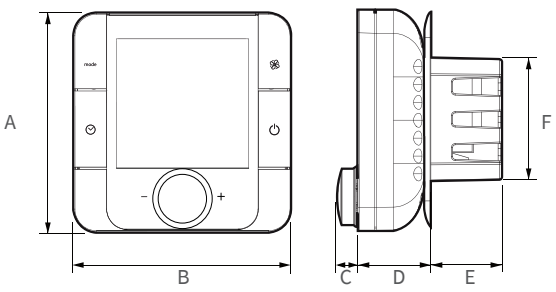
Thermostats

Thermostats with temperature and humidity control and ModBUS communication

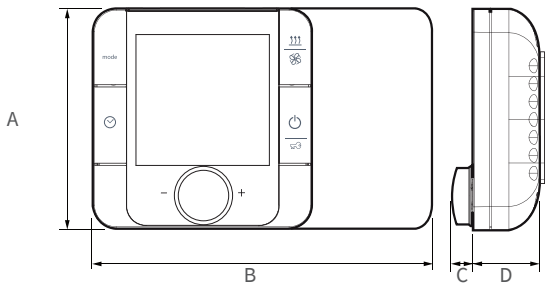
FEATURES			ModBUS TH-Tune	ModBUS TH-Tune 24V	ModBUS TH-T	ModBUS TH-T
			704	3022	3019	28103
APPLICATION	Service	-	Heating / Cooling			
	Type of mounting	-	Flush mount	Flush mount	Wall mount	Flush mount
	Place of installation	-	Indoor			
PERFORMANCE	Power supply	-	196/253 V - 50/60Hz	20/27 Vac - 22/35 Vdc	85/260V - 50/60Hz	85/260V - 50/60Hz
	Battery life	-	-	-	-	-
	Power consumption	W	-	-	-	-
	Enclosure IP rating	-	IP20			
	Target temperature range (min./max.)	ºC	0 / 40 ±1	0 / 40 ±1	0 / 45 ± 0.5	0 / 45 ± 0.5
	Humidity range (min./max.)	%Hr	20 / 80 ± 5	20 / 80 ±5	5 / 90	5 / 90
	Antifreeze temperature range (min./max.)	ºC	-	-	-	-
	Cable section	mm²	0.5 - 1.5	0.5 - 1.5	-	-
	RS485 ModBUS cable	-	0.5 to 0.75 mm², shielded cable, maximum lenght of 500m			
	Relay voltage	V	-	-	230	230
	Relay current	A	2	2	-	-
	Max. Fan load	A	-	-	5 (resistive) / 3 (inductive)	5 (resistive) / 3 (inductive)
	Communication protocol	-	RS485			
	Temperature regulation	-	-	-	-	-
	Program modes	-	Winter / Summer			
	Fan modes	-	3 speed / Auto			
	Screen	-	-	-	Backlit LCD screen	Backlit LCD screen
	Remote control	-	-	-	-	-
DIMENSIONS & WEIGHT	Height x width x depth	mm	86 x 86 x 30.55	86 x 86 x 30.55	86 x 143 x 32	86 x 86 x 30.55
	Empty weight (without packaging)	kg	-	-	-	-

Dimensions and electrical connections

TH-T / TH-Tune Flush mounted



TH-T / TH-Tune wall mounted



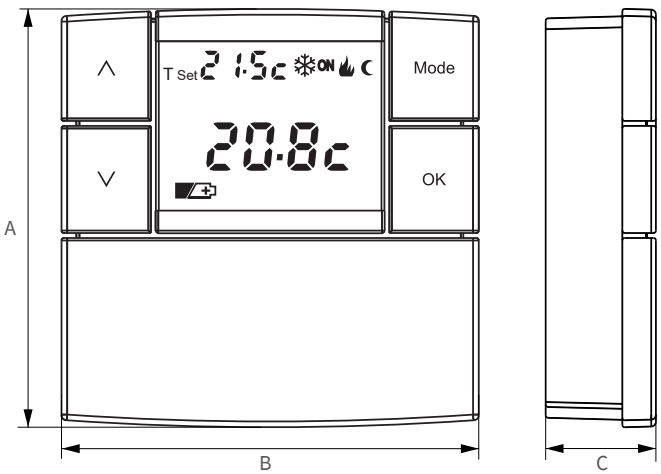
Model	A	B	C	D	E	F
Th-Tune (704)	86 mm	86 mm	8 mm	22.5 mm	28 mm	48 mm
Th-Tune (3022)	86 mm	86 mm	8 mm	22.5 mm	28 mm	48 mm
Th-T (28103)	86 mm	86 mm	8 mm	22.5 mm	28 mm	48 mm
Th-T (3019)	86 mm	143 mm	8 mm	28 mm	-	-

Thermostats

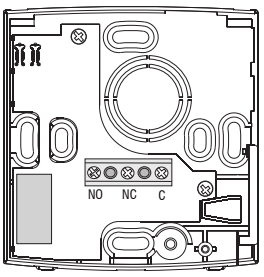
Dry contact thermostats

FEATURES			1TPTE alimentado a pilas	1TPTE 230VAC
			3100	3101
APPLICATION	Service	-	Heating / Cooling	
	Type of mounting	-	Wall mount	
	Place of installation	-	Indoor	
PERFORMANCE	Power supply	-	2x 1.5V AAA (LR03)	230V - 50/60Hz
	Battery life	-	2 years	-
	Power consumption	W	-	-
	Enclosure IP rating	-	IP30	
	Target temperature range (min./max.)	ºC	5 / 37.7 ±0.1	
	Humidity range (min./max.)	%Hr	-	
	Antifreeze temperature range (min./max.)	ºC	4 / 12 ±0.5	
	Cable section	mm²	1.5 - 2.5	
	RS485 ModBUS cable	-	-	
	Relay voltage	V	250	
	Relay current	A	-	
	Max. Fan load	A	5 (resistive) / 3 (inductive)	
	Communication protocol	-	-	
	Temperature regulation	-	On/Off with differential: 0.2 - 1.2 ºC (default 0.5ºC) / Proportional with control period: 7 - 20 min (default 10 min)	
	Program modes	-	Winter confort / Winter night economy / Summer confort / Summer night economy	
	Fan modes	-	-	
	Screen	-	-	
	Remote control	-	-	
DIMENSIONS & WEIGHT	Height x width x depth	mm	84 x 23 x 84	-
	Empty weight (without packaging)	kg	-	-

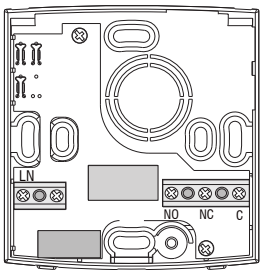
Dimensions and electrical connections



1 TPTE batteries



1 TPTE 230V



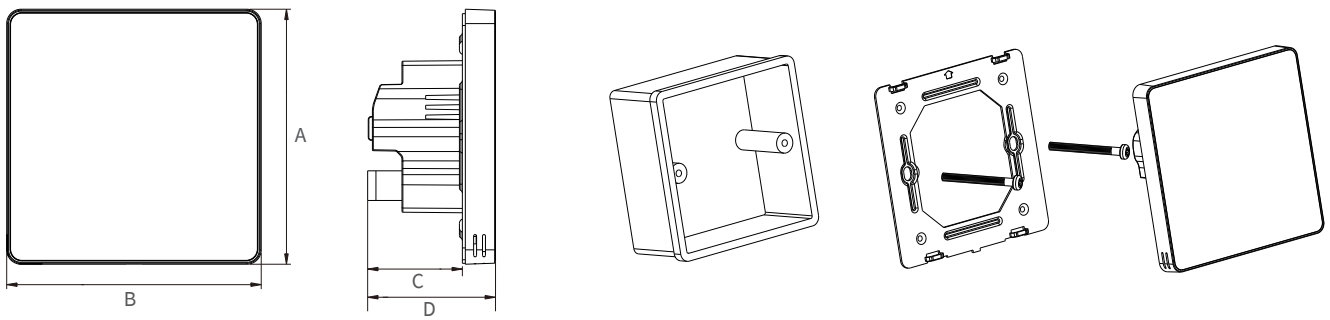
Model	A	B	C
1TPTE batteries (3100)	84 mm	84 mm	23 mm
1TPTE 230V (3101)	84 mm	84 mm	23 mm

Thermostats

Thermostats with temperature and humidity control, featuring ModBUS communication and a smartphone app

FEATURES			TH-Comfort
			3020
APPLICATION	Service	-	Heating / Cooling
	Type of mounting	-	Wall mount
	Place of installation	-	Indoor
PERFORMANCE	Power supply	-	100/230V - 50/60Hz
	Battery life	-	-
	Power consumption	W	2
	Enclosure IP rating	-	IP40
	Target temperature range (min./max.)	ºC	5 / 35 ±1
	Humidity range (min./max.)	%Hr	-
	Antifreeze temperature range (min./max.)	ºC	7 / 17 ±1
	Cable section	mm²	-
	RS485 ModBUS cable	-	-
	Relay voltage	V	Equal to power supply
	Relay current	A	5
	Max. Fan load	A	3 (resistive) / 1 (inductive)
	Communication protocol	-	RS485
	Temperature regulation	-	-
	Program modes	-	Heating / Cooling
	Fan modes	-	3 speed / Auto
	Screen	-	4" Touch screen
	Remote control	-	Using Wifi Network and TuyaSmart APP
DIMENSIONS & WEIGHT	Height x width x depth	mm	86 x 86 x 11
	Empty weight (without packaging)	kg	-

Dimensions and electrical connections



Model	A	B	C	D	E
Th-Comfort (3020)	86 mm	86 mm	32 mm	43 mm	52 mm

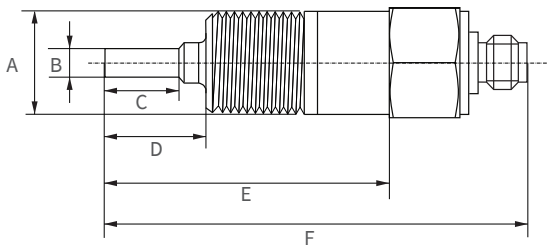
Flowswitch

Electronic sensor with no moving parts to prevent incidents due to lack of flow

FEATURES			Flowswitch	Flowswitch cable
			3012	3013
APPLICATION	Service	-	Heating / Cooling	Heating / Cooling
	Working fluid	-	Water / Max 50% glycol solution	-
	Place of installation	-	Indoor	
PERFORMANCE	Switching point	cm/s	10 to 60, in steps of 5	-
	Default contact state	-	Normally Open	-
	Operating voltage	V	24AC / 24DC	-
	Reverse polarity protection	-	Yes	-
	Power-On delay time	s	15	-
	Output signal	-	Switching signal	-
	Required electrical protection	-	Miniature fuse ≤2A; Fast acting	-
	Max. Cable length	m	10	2
	Protection class	-	III	II
	Maximum current	mA	80	4000
	Connection type	bar	1/2 NPT	Female M12
	Maximum pressure	ºC	25	-
	Maximum temperature	ºC	60	70
	Minimum temperature	-	-10	-25
	Material	-	AISI 316 stainless steel	Nickel-plated brass
DIMENSIONS & WEIGHT	Height x width x depth	mm	22 x 22 x 87	15.5 x 15.5 x 45
	Cable section	mm²	-	4 x 0.25mm²
	Empty weight (without packaging)	kg	0.125	0.085

MAINTENANCE: Check the sensor tip for buildup from time to time. Clean it with a soft cloth. If necessary, stubborn buildup (e.g., limescale) can be removed with a common vinegar-based cleaning agent

Dimensions



Model	A	B	C	D	E	F
Flowswitch (3012)	½" NPT	7.7 mm	15 mm	20.6	58 mm	87 mm

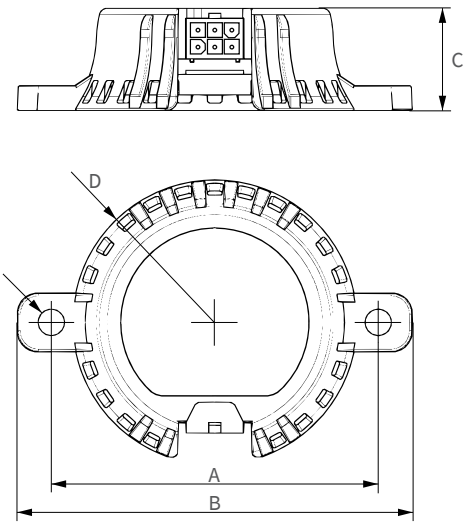
Refrigerant sensor

Designed to detect A3 refrigerant leaks with high selectivity.

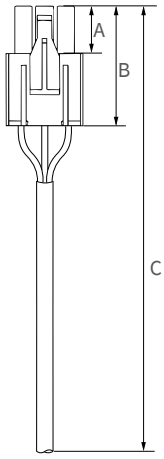
	FEATURES		R290 Sensor	Cable for sensor	Relay kit for ATEX fan
			10650/2	WNP0490A	WNP0390D
APPLICATION	Safety Class according to EN378 / ISO5149-1	-	A3/B3	-	-
	Type of mounting		-	-	DIN rail IEC60715
	Installation orientation	-	Vertical	-	-
PERFORMANCE	Power supply	-	12-24 V AC/DC	-	230V AC / 24V AC/DC
	Maximum power consumption	W	1.1	-	-
	Maximum current	A	-	-	12
	Refrigerant	-	R290	-	-
	Equipment class (EN60335-1)	-	IP55	-	-
	Maximum temperature	ºC	80	-	55
	Minimum temperature	ºC	-40	-	-20
	Delay setting range	-	-	-	0.1s - 10d
	Alarm off delay	s	5	-	-
	Trigger threshold	-	15% of the low inflamability limit	-	-
	Output signal	-	Relay and Modbus	-	-
	Maximum tightening torque	Nm	3	-	-
	Connector type	-	6 Pin Mini Mate-N-Lok	6 Pin Mini Mate-N-Lok	-
DIMENSIONS & WEIGHT	Height x width x depth	mm	97 x 70 x 25	16 x 10 x 2500	90 x 36 x 64
	Empty weight (without packaging)	g	48	179	52
	Cable section	-	-	AWG18	-

Dimensions

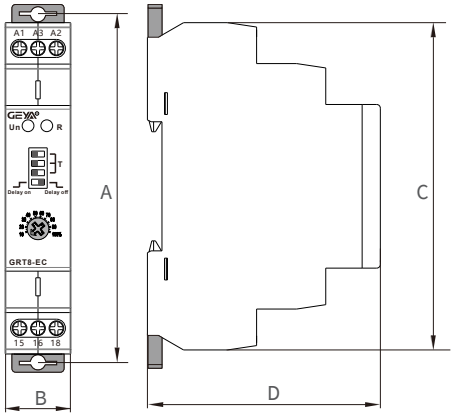
Refrigerant sensor



Cable for sensor



Time-delay relay



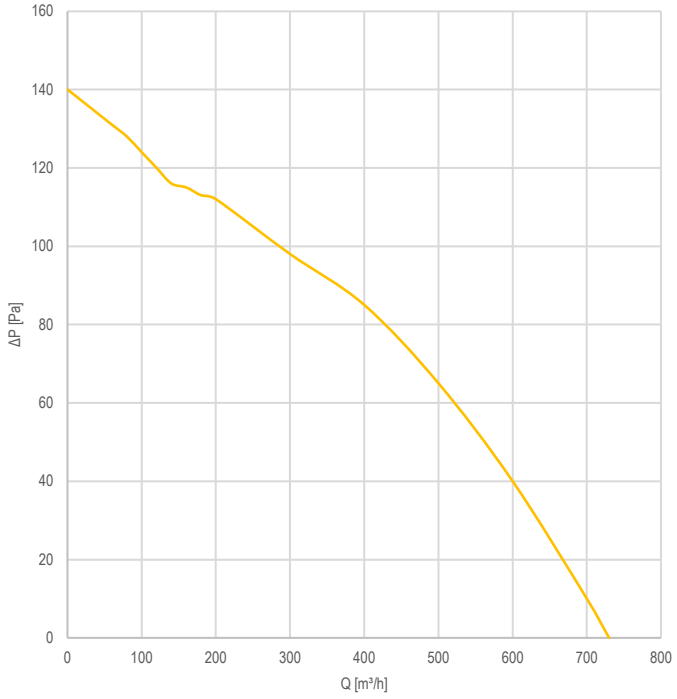
Model	A	B	C	D
Sensor R290 (10650/2)	80 mm	97 mm	25 mm	70 mm
Cable for sensor (WNP0490A)	10 mm	24 mm	2500 mm	-
Time-delay relay (WNP0490D)	95 mm	18 mm	90 mm	64 mm

Extraction fan

ATEX-certified fan for air extraction in machine rooms using A3 refrigerants.

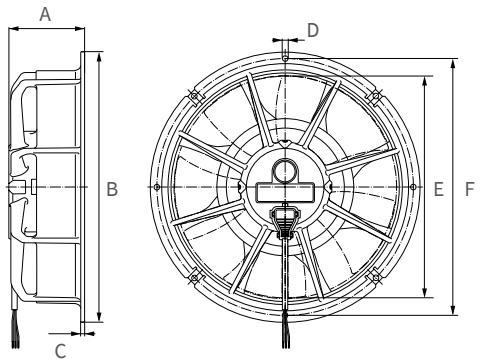
FEATURES			Fan	Cable
			38901	38901/C
APPLICATION	Compatibility		ecoGEO+ HP	-
	Safety Class according to EN378 / ISO5149-1		A3/B3	-
PERFORMANCE	Power supply		230 VAC 50/60Hz	230 VAC 50/60Hz
	Cable section		-	3x20AWG
	Maximum power consumption	W	30	-
	Maximum speed	rpm	1700	-
	Maximum pressure	Pa	110	-
	Max surface temperature	ºC	225	-
	Ambient maximum temperature	ºC	50	50
	Ambient minimum temperature	ºC	-30	-30
	Equipment class (EN60335-1)	Pa	IP 55	-
	Insulation class (EN 60335-1)		B	-
	Rotor material		Polyamide	-
	Material		Polypropylene	-
	Cable insulation		-	PVC
DIMENSIONS & WEIGHT	Height x width x depth	mm	306 x 306 x 84	22.5 x 27.5 x 2000
	Empty weight (without packaging)	mm	1.34	-

Available head

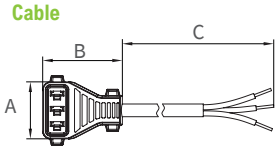


Dimensions and electrical connections

Fan



Cable



Model	A	B	C	D	E	F
Fan (38901)	84 mm	306 mm	4 mm	4.5mm	252 mm	292 mm
Cable (38901/C)	23 mm	32 mm	2000 mm	-	-	-

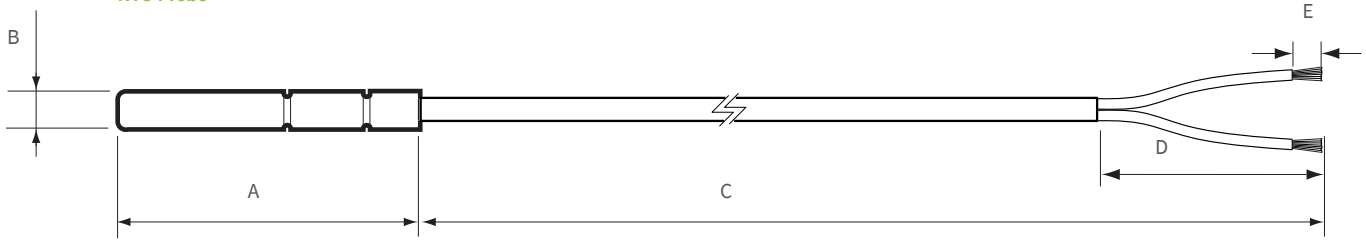
Temperature probes

NTC sensors and sheaths for installation in tanks

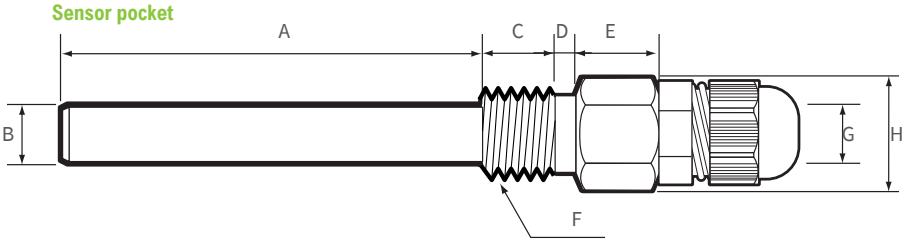
FEATURES			NTC Probe 1.5m	NTC Probe 2.5m	Sensor Pocket
			10550	10551/1	705
APPLICATION	Service			Heating / Cooling	
	Place of installation			TD / TD-W	
PERFORMANCE	Connection type				G 1/4"
	Connection diameter	mm	4	4	7.5
	Sheath length	mm	40	40	60
	Sensor housing		Stainless steel	Stainless steel	-
	Sheath material		-	-	AISI 316 stainless steel
	Maximum pressure	bar	-	-	40
	Cable length		1500	2500	-
	Cable material		Tinned Copper 2xAWG24	Tinned Copper 2xAWG24	-
	Temperature range (min./max.)	ºC	-50 / 120	-50 / 120	-20 / 95
	Cable insulation		TPE - 20MΩ @ 500Vac	TPE - 20MΩ @ 500Vac	-
	Response time	s	10	10	-
	Enclosure IP rating		IP 67	IP 67	-
DIMENSIONS & WEIGHT	Height x width x depth	mm	4 x 4 x 40	4 x 4 x 40	7.5 x 7.5 x 83
	Empty weight (without packaging)	kg	0.175	0.2	0.03

Dimensions and electrical connections

NTC Probe



Sensor pocket



Model	A	B	C	D	E	F	G	H
NTC Probe 1.5m (10550)	40 mm	4 mm	1500 mm	40 mm	5 mm	-	-	-
NTC Probe 2.5m (10551/1)	40 mm	4 mm	2500 mm	40 mm	5 mm	-	-	-
Sensor pocket (705)	60 mm	7.5 mm	9 mm	3 mm	11 mm	G ¼"	6.5 mm	17 mm

ecoforest

May 2026

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