Ferroli

October 2018
Solar Thermal

CLIMA&COMFORT | RESIDENTIAL

SOLAR THERMAL

ERP

PRODUCT IN COMPLIANCE WITH EU REGULATIONS ON ECODESIGN* AND ENERGY LABELLING
* Minimum efficiency limits on global primary energy consumption for product & onboard heating system circulators

ECOTECH HD SYSTEM
ECOTECH G SYSTEM
SOLAR COMPACT KIT
ECOTOP VHM-N
ECOUNIT F 100-500
ACCESSORIES
SUPPORT SYSTEM FOR SLOPING ROOFS

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ECOTECH HD SYSTEM

**THERMOSYPHON SYSTEM (NATURAL CIRCULATION)
FOR TERRACE INSTALLATION**

ERP

mod. HD 300

> PRODUCT SPECIFICATIONS
- Complete system: flat collector, tank, hydraulic fittings, collector connection pipes, 8 bar pressure safety valves with non-return valve on cold water inlet; safety valve 1,7 bar solar primary circuit

COLLECTOR FEATURES
- Flat collectors with high efficiency
- Structure of the tub collector in dark painted aluminum
- Highly selective aluminum absorber with titanium oxide treatment
- Tempered glass, prismatic with high transparency

TANK FEATURES
- Storage tank for domestic hot water, with external cavity on the primary circuit side.
- Enamel surface on water side. Rigid insulation of 40 mm thickness and external finish in painted sheet steel.
- Supplied in standard configuration with magnesium anode and electrical integration resistance

TANK FEATURES			150	200	300	300 H
Water volume		l	145	190	273	273
Primary circuit volume		l	8,6	11,2	15,9	15,9
Magnesium anode		diam \ length	22 \ 500 mm	22 \ 650 mm	22 \ 790 mm	22 \ 790 mm
Overall dimensions	Diameter	mm	560	560	560	560
	Length	mm	1070	1315	1765	1765
Collector type and quantity (*)			1 x mod. VHM-N 2.1	1 x mod. VHM-N 2.1	2 x mod. VHM-N 2.1	2 x mod. VHM-N 2.7
Net weight		kg	53	72	83	83
Max working pressure	Water side	bar	8	8	8	8
	Heating side	bar	2,0	2,0	2,0	2,0
Electric backup capacity		kW	2,0	2,0	3,0	3,0
Connection	Water side	type	G 1/2" female			
	Heating side	type	G 1/2" female			
	Elect Heaters	type	G 1 1/4" female			
SYSTEM CODE			0XDC1AXA	0XDC1BXA	0XDC2BXA	0XDC2KXA

IMPORTANT NOTES: It is mandatory to install an expansion vessel on the hydraulic line of domestic hot water (at the inlet point before the storage tank) to protect the tank and the circuit in the house from pressure shocks, and to compensate overpressure in the solar storage tank which may damage or hamper the durability of flexible connection pipes into the house.

> THE COLLECTOR (*)

MODEL		VHM-N 2.1	VHM-N 2.7
Dimensions	mm	1017 x 2022 x 90	1294 x 2022 x 90
Gross area of the collector	m²	2,06	2,62
Net useful area (absorber)	m²	1,93	2,47
Total weight	kg	33,7	41,8
Stagnation temperature	°C	201,2	201,2
Solar absorption	%	95	95
Thermal emission	%	5	5
Solar collector insulation		40 mm high density mineral wool with ventilation openings	

> ACCESSORIES

	DESCRIPTION		CODE	
	Special premixed solar fluid, ready for use, antifreeze protection to -12°C (base: Propilene–glycol, demineralized water, anti-toxic patented pink traceant for pH, specific corrosion inhibitors)	5 kg	077102X0	
		25 kg	077103X0	
	Thermostatic mixing valve ½"		013002X0	
	Safety temperature valve (opening temperature: 95°C)		36903300	

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ECOTECH G SYSTEM

ERP

mod. G 300

THERMOSYPHON SYSTEM (NATURAL CIRCULATION) FOR TERRACE INSTALLATION

> PRODUCT SPECIFICATIONS
- Complete system: flat collector, tank, hydraulic fittings, collector connection pipes, antifreeze liquid (pure glycol to be mixed), 10 bar pressure safety valves with non-return valve on cold water inlet; safety valve 1,7 bar solar primary circuit

COLLECTOR FEATURES
- Flat collectors with high efficiency with NATURAL circulation
- Structure of the tub collector in dark painted aluminum
- Highly selective aluminum absorber with titanium oxide treatment
- Tempered glass, prismatic with high transparency
- 22 mm connection / interconnection connections on the four corners of the panel

TANK FEATURES
- Storage tank for domestic hot water, with external cavity on the primary circuit side.
- Enamel surface on water side. Rigid insulation of 40 mm thickness and external finish in painted sheet steel.
- Supplied in standard configuration with magnesium anode and electrical integration resistance

TANK FEATURES			150	200	300	300 H
Water volume		l	144	199	295	295
Primary circuit volume		l	8	9	19	19
Magnesium anode		diam \ length	22 \ 400 mm	22 \ 450 mm	32 \ 500 mm	32 \ 500 mm
Overall dimensions	Diameter	mm	500	580	580	580
	Length	mm	1290	1290	1790	1790
Collector type and quantity (**)			1 x mod. 2.0	1 x mod. 2.0	2 x mod. 2.0	2 x mod. 2.4
Net weight		kg	54	68	100	100
Max working pressure	Water side	bar	10	10	10	10
	Heating side	bar	2,0	2,0	2,0	2,0
Electric backup capacity		kW	2,0	2,0	3,5	3,5
Connection	Water side	type	G 1/2" female			
	Heating side	type	G 1/2" female			
	Elect Heaters	type	G 1 1/4" female			
SYSTEM CODE			0XED11XA	0XED12XA	0XED23XA	0XED33XA

IMPORTANT NOTES: *It is mandatory to install an expansion vessel on the hydraulic line of domestic hot water (at the inlet point before the storage tank) to protect the tank and the circuit in the house from pressure shocks, and to compensate overpressure in the solar storage tank which may damage or hamper the durability of flexible connection pipes into the house.*

> THE COLLECTOR (**)

MODEL		2.0	2.4
Dimensions	mm	1960 x 960 x 80	1960 x 1210 x 80
Gross area of the collector	m²	1,88	2,37
Net useful area (absorber)	m²	1,83	2,33
Total weight	kg	32,5	42
Stagnation temperature	°C	170	170
Solar absorption	%	95	95
Thermal emission	%	5	5
Solar collector insulation		40 mm high density mineral wool with ventilation openings	

SOLAR COMPACT KIT
PRE-ASSEMBLED COMPLETE SOLAR SOLUTION

ERP

SOLAR COMPACT KIT MADE OF

- **Pump station**, pre-assembled on the storage tank, including: 1/2" safety valve, flow meter with flow adjuster, filling and drain valves, no return valve and pressure gauge, solar pump, ON/OFF valve, 18 litres solar expansion tank
- **Integrated solar control unit**, featuring auto-diagnostic function and monitoring of temperatures in the solar installation through dedicated probes (1 PT 1000 + 1 NTC)
- **ECOUNIT 2C** enamelled storage cylinder with twin coil
- **ECOTOP VHM-N 2.1** vertical flat solar collector with prismatic glass (Vertical or Horizontal installation)
- Quick coupling adaptors, with 3/4" M connections to the external side, hydraulic connections included in the package for models ST 200/300 (not included for models BL 200/300)
- Preset for auxiliary electric heater, 1" ½ connection
- Monobloc assembly is eventually available alone and includes tank, pump, controller, expansion vessel: model BL 200/300

MODELLO		ST 200 H	BL 200	ST 300 H	BL 300
Storage tank: ERP efficiency class		C	C	C	C
Double coil tank	lt	200	200	300	300
Tank's heat loss	W	67	67	85	85
ECOTRONIC TECH solar controller	n	1	1	1	1
Solar collector: ECOTOP VHM 2.1 N + hydraulic connections	n	1	not supplied	2	not supplied
Total gross surface	m^2	2,09	0	4,18	0
Total useful surface	m^2	1,82	0	3,64	0
ARTICLE NR.		0XDU1AXA	0XDT0AXA	0XDU2BXA	0XDT0BXA

> ACCESSORIES

VERTICAL MOUNTING SETS	CODE	
FIXING BARS (1 couple for each collector) **mod. 2.1**	076224X0	
FIXING BARS (1 couple for each collector) **mod. 2.7**	076225X0	
ADDITIONAL MOUNTING SET FOR FLAT ROOFS (TERRACE): to be ordered in nr. equal to the total nr. of collectors in one hydraulic battery (or 2 pieces for one single collector) adjustable 30÷45°	076226X0	

BRACKETS FOR SLOPING ROOFS	CODE	
Stainless steel universal flexible brackets for each collector (4 pcs.)	076218X0	
Stainless steel brackets for 1 coll. - metallic roofs (threaded)	076172X0	
Stainless steel brackets for each additional collector - metallic roofs (threaded)	076176X0	
Stainless steel brackets for 1 coll.- metallic roofs (self-threading for wood)	076197X0	
Stainless steel brackets for each additional collector - metallic roofs (self-threading for wood)	076198X0	
Galvanised brackets for 1 coll. - flat tiles	076173X0	
Galvanised brackets for each additional collector - flat tiles	076175X0	
Galvanised brackets for 1 coll.- curved (florence) tiles	076174X0	
Galvanised brackets for each additional collector - curved (florence) tiles	076177X0	
Galvanised brackets for 1 coll.- slate tiles	076195X0	
Galvanised brackets for each additional collector - slate tiles	076196X0	

HORIZONTAL MOUNTING SETS	CODE	
FIXING BARS MOD 2.1 *1 couple for each collector*	076224X0	
FIXING BARS MOD 2.7 *1 couple for each collector*	076225X0	
VHM-N HORIZONTAL ADAPTING PLATES FOR SLOPING ROOFS	076228X0	
ADDITIONAL MOUNTING SET FOR FLAT ROOFS (TERRACE): *to be ordered in nr. equal to the total nr. of collectors in one hydraulic battery (or 2 pieces for one single collector)*	076227X0	
HYDRAULIC INTERCONNECTION SET *2 pcs, insulated (between 2 collectors - horizontal)*	072243X0	

	DESCRIPTION		CODE	
	Special premixed solar fluid, ready for use, antifreeze protection to -12°C	5 kg	077102X0	
		25 kg	077103X0	
	Thermostatic mixing valve ½"		013002X0	
	Airvent for the solar circuit		072237X0	
	2 kW electric auxiliary heater with overtemperature protection thermostat		073107X0	

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ECOTOP VHM-N FLAT PANEL COLLECTOR

ERP

> PRODUCT SPECIFICATIONS

- Solar collector with "tray" aluminum construction for better durability
- Solar collector absorber with laser-welded with harp copper pipes
- Tempered solar glass, high transparency
- Solar collector insulation: 40 mm high density mineral wool (rear) and 10 mm (side), with ventilation openings
- Max operating pressure: 10 bar

Connection type
- 3/4" M threaded connection / interconnection on the four corners of the panel

MODEL		VHM 2.1 N	VHM 2.7 N
Gross area / Useful area	m²	2,06 / 1,93	2,62 / 2,47
Length x Width x Height	mm	1017 x 2022 x 90	1294 x 2022 x 90
Number of connections	n.	4	4
Conversion factor $\eta 0$ (ref. to aperture area)		0,753	0,753
Heat transfer coeff. a1 (ref. to aperture area)	W/m²K	3,168	3,168
Heat transfer coeff. a2 (ref. to aperture area)	W/m²K	0,012	0,012
Weight	kg	33,7	41,8
Fluid content	l	0,87	1,1
Stagnation temperature	°C	201,2	201,2
Heat capacity c (ref. to aperture area)	kJ/m²K	4,243	4,243
Incidence angle modifier Kθ (50°)		0,94	0,94
Mass flow / Max mass flow	l/h	108 / 150	132 / 180
Max number of collectors in battery	n.	8	6
Solar absorption / Thermal emission	%	95 / 5	95 / 5
Thermal insulation	mm	40	40
Tempered solar glass with thickness	mm	3,2	3,2
Transmission factor	%	91,4	91,4
ARTICLE NR.		**0XDP1KXA**	**0XDP2KXA**

> ACCESSORIES

VERTICAL MOUNTING SETS	CODE	
FIXING BARS (1 couple for each collector) **mod. 2.1**	076224X0	
FIXING BARS (1 couple for each collector) **mod. 2.7**	076225X0	
ADDITIONAL MOUNTING SET FOR FLAT ROOFS (TERRACE): to be ordered in nr. equal to the total nr. of collectors in one hydraulic battery (or 2 pieces for one single collector) adjustable 30÷45°	076226X0	

BRACKETS FOR SLOPING ROOFS	CODE	
Stainless steel universal flexible brackets for each collector (4 pcs.)	076218X0	
Stainless steel brackets for 1 coll. - metallic roofs (threaded)	076172X0	
Stainless steel brackets for each additional collector - metallic roofs (threaded)	076176X0	
Stainless steel brackets for 1 coll.- metallic roofs (self-threading for wood)	076197X0	
Stainless steel brackets for each additional collector - metallic roofs (self-threading for wood)	076198X0	
Galvanised brackets for 1 coll. - flat tiles	076173X0	
Galvanised brackets for each additional collector - flat tiles	076175X0	
Galvanised brackets for 1 coll.- curved (florence) tiles	076174X0	
Galvanised brackets for each additional collector - curved (florence) tiles	076177X0	
Galvanised brackets for 1 coll.- slate tiles	076195X0	
Galvanised brackets for each additional collector - slate tiles	076196X0	

HORIZONTAL MOUNTING SETS	CODE	
FIXING BARS MOD 2.1 *1 couple for each collector*	076224X0	
FIXING BARS MOD 2.7 *1 couple for each collector*	076225X0	
VHM-N HORIZONTAL ADAPTING PLATES FOR SLOPING ROOFS	076228X0	
ADDITIONAL MOUNTING SET FOR FLAT ROOFS (TERRACE): *to be ordered in nr. equal to the total nr. of collectors in one hydraulic battery*	076227X0	
HYDRAULIC INTERCONNECTION SET *2 pcs, insulated (between 2 collectors - horizontal)*	072243X0	

DESCRIPTION			CODE	
	Special premixed solar fluid, ready for use, antifreeze protection to -12°C	5 kg	077102X0	
		25 kg	077103X0	
	Thermostatic mixing valve ½"		013002X0	
	Hydraulic connections - start set, 4 pcs. (side connections for the first/last collector)		072235X0	
	Hydraulic interconnection set 2 pcs, insulated (between 2 collectors - vertical)		072236X0	
	Airvent for the solar circuit		072237X0	

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ECOUNIT F 100-500

DOMESTIC HOT WATER STORAGES WITH SINGLE-DOUBLE COIL

ERP

> PRODUCT SPECIFICATIONS

- Vertical storages for DHW, with single heat exchanger/coil (version 1C) or double heat exchanger/coil (version 2C), made by enamelled steel, for solar systems.
- Rigid insulation 50 mm thickness, exterior in white painted steel.
- Supplied as standard with magnesium anode and electrical backup resistor (1500 Watt) adjustable temperature setpoint: 15-75°C
- 3 probe sockets

DIMENSIONS (mm)										
	100-1C	150-1C	200-1C	300-1C	400-1C	500-1C	200-2C	300-2C	400-2C	500-2C
A	500	500	540	620	750	750	540	620	750	750
B	978	1325	1453	1535	1469	1769	1453	1535	1469	1769
C	870	1216	1344	1431	1326	1626	1344	1431	1326	1626
D	736	1088	1084	1161	985	1261	1234	1311	1174	1474
E	636	988	984	1061	885	1161	1134	1211	1074	1374
F	536	888	884	961	785	1061	1034	1111	974	1274
G	336	336	334	361	441	441	934	961	852	1152
H	236	236	234	261	341	341	834	861	752	1052
I	126	126	124	131	155	155	734	761	661	898
J	-	-	-	-	-	-	234	261	391	398
K	-	-	-	-	-	-	124	131	291	298
L	-	-	-	-	-	-	324	351	155	155
M	400	400	440	520	650	650	440	520	650	650
N	326	326	324	351	418	418	324	351	418	418
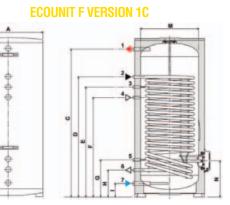
HYDRAULIC CONNECTIONS										
	100-1C	150-1C	200-1C	300-1C	400-1C	500-1C	200-2C	300-2C	400-2C	500-2C
DHW	3/4"	3/4"	3/4"	1"	1"	1"	3/4"	1"	1"	1"
Heat exchanger/coil(s)	3/4"	3/4"	3/4"	1"	1"	1"	3/4"	3/4"	1"	1"
DHW recirculation feed	3/4"	3/4"	3/4"	1"	1"	1"	3/4"	3/4"	3/4"	3/4"

ECOUNIT F VERSION 1C

ECOUNIT F VERSION 2C
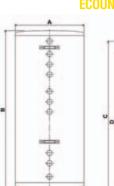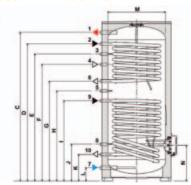
> NOMENCLATURE

1. hot water outlet
2. boiler inlet
3. thermal probe
4. dhw recirculation feed
5. thermal probe
6. boiler outlet
7. cold water inlet
8. thermal probe
9. solar circuit inlet
10. solar circuit outlet

MODEL		SINGLE COIL						DOUBLE COIL			
		100-1C	150-1C	200-1C	300-1C	400-1C	500-1C	200-2C	300-2C	400-2C	500-2C
ERP Class	(F - A+ Class)	C	C	C	C	C	C	C	C	C	C
Total capacity	l	89	129	173	261	335	460	174	262	356	461
Nominal power of the coil (Δt 35°C, upp/low)	m²	0,74	1,25	1,4	1,83	2,37	3,39	0,5/0,83	0,72/1	1,19/1,52	1,19/2,2
Coil surface (upp/low)	KW	18,5	31,25	35	45,75	59,25	84,75	12,5/20,75	18/25	29,6/38,1	29,6/55
Hydraulic losses of the coil (upp/low)	mbar	228	386	432	565	118	167	155/254	220/308	58/75	58/109
Thermal losses with water temp. 65°C	m²	0,74	1,25	1,4	1,83	2,37	3,39	0,5 / 0,83	0,72 / 1	1,19 / 1,52	1,19 / 2,2
Max operating temperature	kWh/24h	1,6	1,8	2,2	2,7	2,9	3,5	2,2	2,7	2,9	3,5
Primary circuit flow	°C	95	95	95	95	95	95	95	95	95	95
Max operating pressure	m³/h	2	2	2	2	2	2	2	2	3	3
Weight (empty)	bar	8	8	8	8	8	8	8	8	8	8
Peso a vuoto	kg	45	64	73	103	126	155	73	102	126	155
ARTICLE NR.		GRZ1010A	GRZ3010A	GRZ4110A	GRZ6310A	GRZ7410A	GRZ8410A	GRZ4120A	GRZ6320A	GRZ7420A	GRZ8420A

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HYDRAULIC MODULES FOR SOLAR SYSTEMS

PUMP + SAFETY VALVES + PRESSURE AND TEMPERATURE GAUGE + FILLING PORTS

IDRO 6-E

IDRO 12-E/30-E

IDRO 70-E

> PRODUCT SPECIFICATIONS

- High efficiency (ERP) solar circulator
- Fill/flush hydraulic connections for system charge
- Flow/return analogic thermometers integrated in the pump station
- PP insulation with mechanical rear plate for wall installation
- Hydraulic connection for solar expansion vessel
- Safety valve (6 bar) and pressure gauge of the solar circuit incorporated in the pump station
- Flowmeter (adjustable)
- Check valve (non-return valve) to block passive circulation incorporated in the pump station
- Lodging for Ecotronic controller (Idro 12/30)
- Manual de-aerator integrated in the Idro 12/30 (recommended in any case, mandatory if the filling is not made with high-pressure pumps, is the use of a de-aerator on top of the collector's field)
- Idro 6 includes only return pipe from tank, with accessories.

MODEL		6-E	12-E	30-E	70-E
Dimensions (WxHxL)	mm	155x425x150	308x434x169	308x434x169	285x500x170
Hydraulic connections diameter		3/4"M	1"M	1"M	1"1/4 M
Min-max nominal flow	l/min	1 - 6	2 - 12	8 - 28	20 - 70
Max operating pressure	bar	8	8	8	8
ARTICLE NR.		**0X2022XA**	**0X2021XA**	**0X2023XA**	**0X2027XA**

EXPANSION VESSELS FOR THE SOLAR CIRCUIT

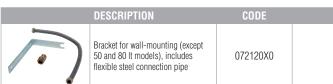SPECIFIC HIGH-TEMPERATURE AND GLYCOL-RESISTANT SOLAR VESSELS

> PRODUCT SPECIFICATIONS

- Suitable for high temperatures
- Suitable for high pressures
- Specific membrane for glycol-based solutions
- 50 and 80 lt models with legs for free-standing installation

MODEL	12	18	24	35	50	80
ARTICLE NR.	072101X0	072102X0	072103X0	072117X0	072118X0	072119X0

> ACCESSORIES

	DESCRIPTION	CODE	
	Bracket for wall-mounting (except 50 and 80 lt models), includes flexible steel connection pipe	072120X0	

ELECTRONIC CONTROL

FOR SINGLE OR DOUBLE EXPOSURE SOLAR FIELDS

> PRODUCT SPECIFICATIONS

- Electronic control for DHW solar thermal systems, with capability to control single exposure or double exposure collectors' fields *
- Self-diagnose function
- Digital display with graphical symbols of the solar circuit main components
- 3 probes supplied (2 x PT 1000 + 1 x NTC)
- Voltage supply range: 210-250 V
- Possibility to integrate and manage an auxiliary heater (boiler or electrical backup heater) with an additional thermal probe
- Output signal to control a device (blind) to cover the solar collectors (anti.stagnation function)

in case of double exposure collectors' fields the control can operate two solar pumps, or alternatively one solar pump + a couple of two-way valves via an external relay with double inputs (not supplied) which activates the single pump when the control opens either one or both the two way valves.

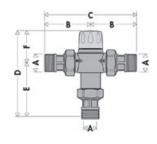| MODEL	ECOTRONIC TECH
ARTICLE NR.	0X3002XA

THERMOSTATIC MIXING VALVE

MIXING VALVE SPECIFIC FOR SOLAR SYSTEMS

> PRODUCT SPECIFICATIONS

- DHW thermostatic mixing valve, limestone-proof, adjustable, to prevent injuries due to water overheating (e.g. by thermosiphon uncontrolled solar systems) to persons at the DHW tapping point.
- Adjustable in the range: 30-65°C
- Diameter ½",
- EN 12165 compliant
- Max inlet temperature: 100°C
- Max operating pressure: 5 bar
- Two check-valves (non-return valves) included

DIMENSIONS (mm)					
A	B	C	D	E	F
1/2"	67	134	152	86,5	65,5

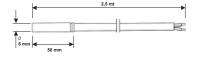| MODEL	THERMOSTATIC MIXING VALVE
ARTICLE NR.	013002X0

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SOLAR PROBE

SOLAR PROBE FOR FORCED SOLAR COLLECTORS, UV-RESISTANT, FOR OUTDOOR USE

> PRODUCT SPECIFICATIONS

- PT 1000 solar probe, AISI 304 Ø6x500 mm sensor head
- Bipolar silicon cable, 22 AWG; L = 2500 mm
- Operating temperature: -20 to +180 °C
- Max operating temperature: 200 °C

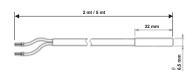| MODEL	PT 1000
ARTICLE NR.	043007X0

STORAGE PROBE

STORAGE PROBE FOR FORCED SOLAR SYSTEM

> PRODUCT SPECIFICATIONS

- Material: copper
- Insulation voltage strenght: 1500 V
- Resistance at 25°C: 10.000 Ω
- Available in 2 m or 5 m size

MODEL	NTC 2 mt	NTC 5 mt
ARTICLE NR.	1KWMA11W	043005X0

FERSOL - PREMIXED SOLAR FLUID

READY-FOR USE SOLAR FLUID FOR HIGH TEMPERATURES, WITH FROST PROTECTION

> PRODUCT SPECIFICATIONS

- Special premixed solar fluid, ready for use, antifreeze protection to -12°C (base: Propilene-glycol, demineralized water, anti-toxic patented pink traceant for pH, specific corrosion inhibitors), 5 kg or 25 kg.
- The change in colour (from purple to transparent) of the fluid means the pH is no longer suitable for the solar circuit (danger of corrosion), and the fluid must be replaced
- Can resist to stagnation temperatures up to 300 °C
- To be refilled/replaced ONLY with the same type of fluid.

MODEL	LT 5 KG	LT 25 KG
ARTICLE NR.	077102X0	077103X0

SUPPORT SYSTEM FOR SLOPING ROOFS

ERP

> UNIVERSAL STUD

Stainless steel fastening system with stud insert (M12x250 mm) for ECOTECH (all models)*, ECOTOP
Stainless steel fastening system with self-tapping screw for wood (M12x120 min.) for ECOTECH (model 150 and 200), ECOTOP
Specifically for fastening on cement tiles, bitumen tiles, flat metallic surfaces or corrugated one; can also be used for all other types of covering and tiles using drilled studs (lock nut required under the roof) or self-tapping screws for wood (Fischer type anchor required).
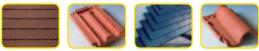*For installation on sloping roofs, use n°1 code 076172X0 + n° 1 code 076176X0 (for model 250).

THREADED
SELF-THREADING

DETAIL

SELF-TAPPING MODEL
M 12 x 120 (mm)   Ø 10 x 100
300

THREADED	FIRST COLLECTOR	ADDITIONAL COLLECTOR
ARTICLE NR.	076172X0	076176X0

SELF-THREADING	FIRST COLLECTOR	ADDITIONAL COLLECTOR
ARTICLE NR.	076197X0	076198X0

> UNIVERSAL UNDER-TILES BRACKET

Universal flexible stainless steel fixing set (4 pcs), for ECOTOP series
Fit for under-tile application for any type of sloping roof

MODEL	FOR EACH COLLECTOR
ARTICLE NR.	076218X0

> BRACKET FOR FLAT TILES

Adjustable galvanised steel fastening system for ECOTOP series
Suitable for roofs with flat tiles ("Marseille" style)

DETAIL
MAX 75 mm
MIN 40 mm

MODEL	FIRST COLLECTOR	ADDITIONAL COLLECTOR
ARTICLE NR.	076173X0	076175X0

> BRACKET FOR CURVED TILES

Adjustable galvanised steel fastening system for ECOTOP series
Suitable for roofs with curved tiles

DETAIL
MAX 150 mm
MIN 100 mm

MODEL	FIRST COLLECTOR	ADDITIONAL COLLECTOR
ARTICLE NR.	076174X0	076177X0

> BRACKET FOR SLATE TILES

Adjustable galvanised steel fastening system for ECOTOP series
Suitable for roofs with slate tiles

DETAIL
MAX 82 mm
MIN 55 mm

MODEL	FIRST COLLECTOR	ADDITIONAL COLLECTOR
ARTICLE NR.	076195X0	076196X0

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In accordance with the constant efforts to improve its range of products and thus raise the level of customer satisfaction, the Company stresses that the appearance and/or size, technical specifications and accessories may be subject to variation.