

Heating Hot water Renewables

RENEWABLES NUOS HEAT PUMP WATER HEATERS CF 2.0 & XP 2.5 SOLAR COLLECTORS AQUABRAVO TWIN COIL UNVENTED CYLINDER





Eco-friendly home? With the Ariston NUOS now it (



Energy Savings as Standard

As the World's leading manufacturer of water heating equipment, **Ariston** continue to show their commitment to the research and development of both innovative and eco-friendly products with **NUOS**, the latest addition to their portfolio of energy efficient products.

A perfect choice for new build properties, as well as those off the gas grid, **Ariston NUOS** is the perfect alternative to a conventional electric hot water storage cylinder, in fact with a CoP* Co-efficient of Performance) of 3.7, NUOS is the perfect choice for those looking to reduce their carbon footprint, without having to compromise on their hot water requirements.

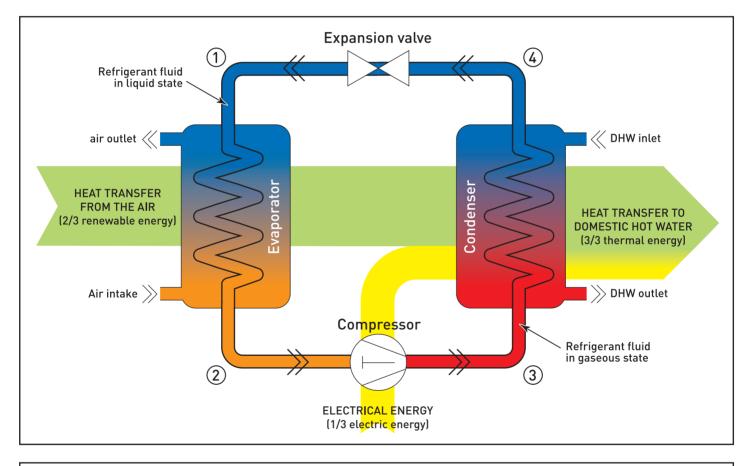
As the heat pump unit is combined with the cylinder, no F-Gas Qualifications are needed to install meaning an installer only need G3 Qualifications to fit **NUOS** meaning it really is **'Plug and Play'**.

* CoP is the measure of heat energy produced from every unit of energy consumed e.g. CoP of 3 = 3kW energy for every 1kW consumed.



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Working Principle

- 1 The refrigerant fluid crosses the evaporator and absorbs the heat from the air drawn in by the fan. This process ensures that the refrigerant changes phase by evaporating.
- 2 The compressor increases the pressure of the refrigerant gas which causes it to increase in temperature.
- 3 Inside the condenser, the refrigerant gas passes its heat to the water contained inside the cylinder.
 This exchange process ensures that the refrigerant begins returning to its original liquid state by condensing.
- 4 The refrigerant fluid loses further pressure and temperature by passing through the expansion valve, completely returning to its original state.



NUOS, a philosophy of energy e and total peace of mind

GREEN

If GREEN mode is selected, only the heat pump works, ensuring the most efficient operation.

Max achievable temperature in GREEN mode is 55°C

BOOST

If BOOST mode is activated, the heat pump and heating element work at the same time. This mode has to be manually selected by the end user every time hot water is required in as short a time as possible.

Max temperature in BOOST mode is 65°C

AUTO

In Auto mode only the heat pump works. However, should the set temperature be higher than 55°C or the ambient temperature is low (0°C), the heating element is activated, in order to achieve max energy saving and the max quantity of hot water.

Max temperature in AUTO mode is 65°C

FLEXIBLE PROGRAMMING

With the **NUOS** heat pump water heater, it is possible to set two water draw off times.

By monitoring both the stored water and the ambient air temperatures **NUOS** will start automatically to ensure that the stored water reaches the desired temperature at the time set by the user.

ANTI-LEGIONNELLA FUNCTION

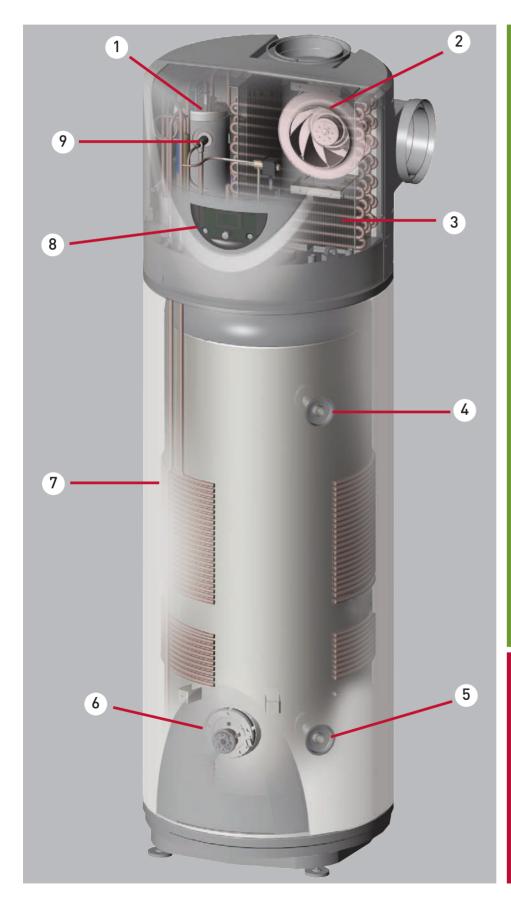
To guarantee maximum safety and hygiene, **NUOS** heat pump water heaters feature the anti-legionnella function.

This function regularly heats the contents of the tank to 65°C in order to pasteurise the stored water.



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LEGEND

- 1. Compressor
- 2. Fan
- 3. Evaporator
- 4. Hot Water Outlet
- 5. Cold Water Inlet
- 6. Electric Element (1kW +1.5kW)
- 7. Condenser
- 8. User Interface
- 9. Expansion Valve

NUOS

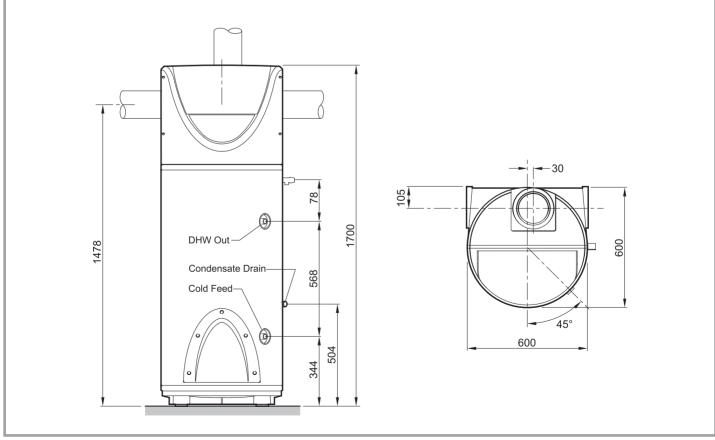
200 FS



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Dimensions

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Technical Data

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		NU05 FS 200
		1400313200
DESCRIPTION		
Tank Rated Capacity	litres	200
Footprint (minimum)	mm	600 x 600
Weight Empty	kg	90
Neight Full	kg	290
Minimum Ceiling Height	metres	1.85
CYLINDER		
Normal Operating Pressure	bar	3.5
Maximum Water Supply Pressure	bar	12
Hot/Cold Water Connection	D C I	3/4" BSP - 22mm
Heat Loss (@ 65°C)	kW/h in 24hr	2.06
Global Warming Potential (GWP)	KVV/1111124111	<5
		<5
Ozone Depletion Potential (ODP)		0
HEAT PUMP		
Heat Rating*	kW	2.775
Power Consumption*	kW	0.75
CoP (Co-efficient of Performance)*		3.7
Heating Time (∆T 45°C)*	mins	236
Heating Energy Consumed*	kW/h	2.2
Maximum Water Temp (Heat Pump Only)	°C	55
REFRIGERANT FLUID		
Type of Fluid		R134a
Quantity	kg	1.28
Practical Limit for Room Volume**	m³	5.12
ELECTRICAL DATA		
Electrical supply	V/Hz	220-240/50
Element Rating	kW	1.5 + 1
Protection grade of electrical system	IP	X4
AIR		
Air Flow Rate	m³/h	300 - 500
Available Static Pressure Loss	Pa	70
Sound Level @ 1m	dB(A)	56
Min. Temp of Room of Installation	°C	1
Max. Temp of Room of Installation	°C	35
Min. Volume of Room (non-ducted)	m ³	20
Min. Air Temp Required (w.b.) @ 90% r.h.	°C	-5
Max. Air Temp Required (w.b.) @ 90% r.h.	°C	35
REHEAT TIME		
100% Capacity (Heat Pump Only)	mins	236
		181
70% Capacity (Heat Pump Only)	mins	
100% Capacity (Heat Pump & Element)	mins	140
70% Capacity (Heat Pump & Element)	mins	114
Model		Code
NUOS FS 200		3210041
Unvented Kit		3069418
Duct Kit (Inlet/Outlet)		3208061
90º Elbow		3208067
Wall Fixing brackets (2)		3208068
Accessories		

AIR DUCT (Ø150mm)	Code
1m Tube	3208063
1.5m Tube	3208064
Joint	3208066
90° Elbow	3208067
Fixiing brackets	3208068
1m Flexible Tube	3208069

* Tested in accordance with EN 255-3
** The practical imit is the minimum room volume the appliance should be installed in, the volume is based on quantity of refrigerant in the system. In the event of a sudden release of refrigerant then the min. room volume will make it safer for the engineer.



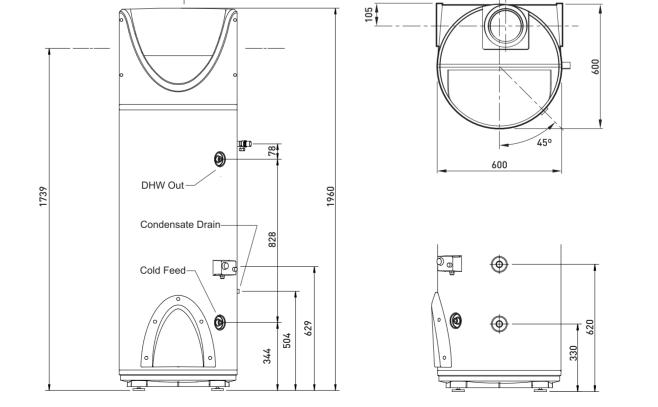
NUOS

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FS 250i



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Technical Data

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		NUOS ES 250:
		NUOS FS 250i
DESCRIPTION		
Tank Rated Capacity	litres	250
Footprint (minimum)	mm	600 x 600
Weight Empty	kg	110
Weight Empty	kg	360
Minimum Ceiling Height	metres	2.10
CYLINDER		
Normal Operating Pressure	bar	3.5
Maximum Water Supply Pressure	bar	12
Hot/Cold Water Connection		3/4" BSP - 22mm
Heat Loss (@ 65ºC)	kW/h in 24hr	2.40
Global Warming Potential (GWP)		<5
Ozone Depletion Potential (ODP)		0
HEAT PUMP		
Heat Rating*	kW	2.775
Power Consumption*	kW	0.75
CoP (Co-efficient of Performance)*		3.7
Heating Time ($\Delta T 45^{\circ}$ C)*	mins	302
Heating Energy Consumed*	kW/h	2.7
Maximum Water Temp (Heat Pump Only)	°C	55
REFRIGERANT FLUID		
Type of Fluid		R134a
Quantity	kg	1.28
Practical Limit for Room Volume**	m³	5.12
ELECTRICAL DATA		
Electrical supply	V/Hz	220-240/50
Element Rating	kW	1.5 + 1
Protection grade of electrical system	IP	X4
AIR		
Air Flow Rate	m³/h	300 - 500
Available Static Pressure Loss	Pa	70
Sound Level @ 1m		
	dB(A)	56
Min. Temp of Room of Installation	°C	1
Max. Temp of Room of Installation	°C	35
Min. Volume of Room (non-ducted)	m ³	20
Min. Air Temp Required (w.b.) 🛯 90% r.h.	°C	-5
Max. Air Temp Required (w.b.) @ 90% r.h.	°C	35
REHEAT TIME		
100% Capacity (Heat Pump Only - ∆T 45°C)	mins	302
70% Capacity (Heat Pump Only - ΔT 45°C)	mins	231
100% Capacity ((Heat Pump & Element - ΔT 45°C)	mins	194
70% Capacity (Heat Pump & Element - ΔT 45°C)	mins	137
Model		Code
		3210042
NUOS FS 250i		
Unvented Kit		3069419
Duct Kit (Inlet/Outlet)		3208061
90° Elbow		3208067
Wall Fixing brackets (2)		3208068

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Accessories		
	Code	
AIR DUCT (Ø150mm)		
1m Tube	3208063	
1.5m Tube	3208064	
Joint	3208066	
90º Elbow	3208067	
Fixiing brackets	3208068	
1m Flexible Tube	3208069	

* Tested in accordance with EN 255-3
 ** The practical imit is the minimum room volume the appliance should be installed in, the volume is based on quantity of refrigerant in the system. In the event of a sudden release of refrigerant then the min. room volume will make it safer for the engineer.





Solar Thermal. An informed choice



Solar Hot Water Heating

The Ariston SOLARcomfort system has three main components: solar panels, pump station and solar controller. In addition the system requires a hot water storage cylinder. Ariston supplies a stainless steel, twin coil unvented cylinder (Aquabravo ITSI), giving a complete solar package from a single source.

The solar panels absorb the heat from the sun's rays and use this to heat the heat transfer medium (a mixture of water and glycol). The fluid is circulated by a pump, the operation of which is controlled by the solar controller.

The heated fluid circulates around a heat exchanger in the hot water storage cylinder. The Ariston Aquabravo ITSI has two heat exchangers (coils). The lower coil is heated by the solar circuit and the upper coil by an auxiliary heat source (typically a gas, oil or electric system boiler).

Pump Station

The pump station circulates the water/glycol fluid around the solar circuit. The pump will only operate when there is sufficient heat in the panels to raise the temperature of the water in the cylinder. The pump will not operate when the cylinder is at a higher temperature than the panels, to do so would result in the cylinder being cooled.

The compact design of the pump station allows it to be easily and quickly fitted in small spaces.

Solar Panels

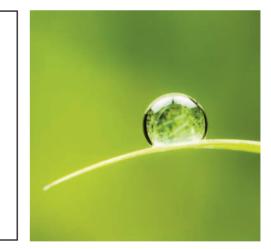
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The solar panels (collectors) can be mounted on either a sloping or flat roof or the ground.

The roof mounting system has been specifically designed for UK roofs. The inherently flexible fixing kit is supplied as standard with the panels. It removes the need to select and purchase additional roof fixings.

The flat roof/ground frame is easy to assemble and extremely rigid.

Whichever option is selected, you can be assured of a system which will last for many, many years.



Solar Controller

The differential temperature solar controller is simple to install and operate, with pleasing aesthetics. It is the 'brains' of the system and ensures effective operation and control of the pump. The illuminated digital display shows the current status of the system and the current temperatures in both the solar panels and the hot water store.

The householder can easily see how the system is operating and with an optional, additional sensor see how much energy has been saved.

SOLAR THERMAL



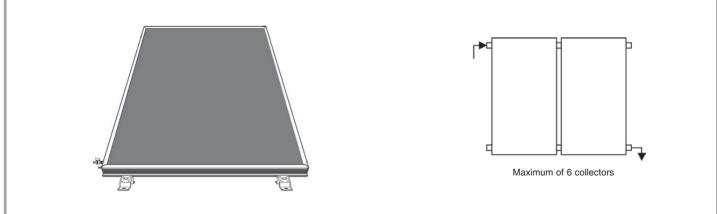


System Components

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		2 Panel Flat Roof/Ground	3 Panel Flat/Roof Ground
Solar Collectors	Qty	2	3
Flat Roof/Ground Frame	Qty	1	2
Solar Panel Connection Kit	Qty	1	1
Additional Collector Connection Kit	Qty	1	2
Pump Station	Qty	1	1
20 Litres Glycol	Qty	1	1
Solar Controller (incl. 3 sensors)	Qty	1	1
Expansion Vessel (25l)	Qty	1	1

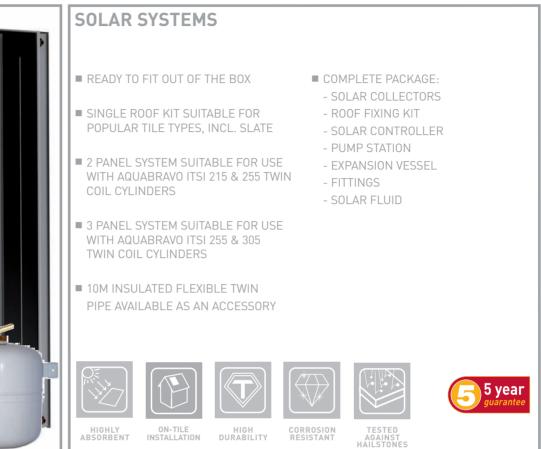




SOLAR THERMAL



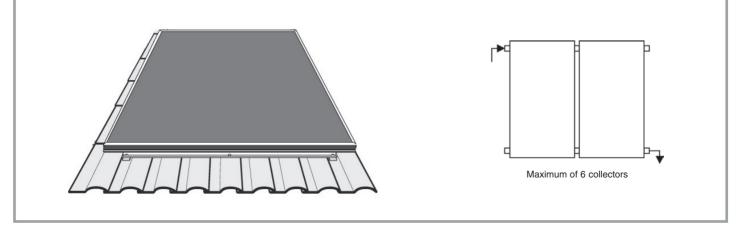
SOLAR COMFORT ON-TILE



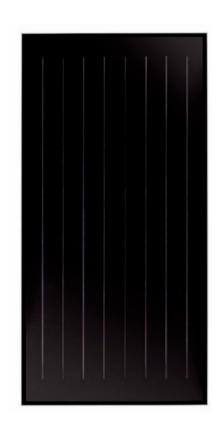
System Components

		2 Panel On-Tile	3 Panel On-Tile
Solar Collectors	Qty	2	3
Roof Fixing Kit	Qty	1	1
Solar Panel Connection Kit	Qty	1	1
Additional Collector Connection Kit	Qty	1	2
Pump Station	Qty	1	1
20 Litres Glycol	Qty	1	1
Solar Controller (incl. 3 sensors)	Qty	1	1
Expansion Vessel (25l)	Qty	1	1





SOLAR COLLECTORS



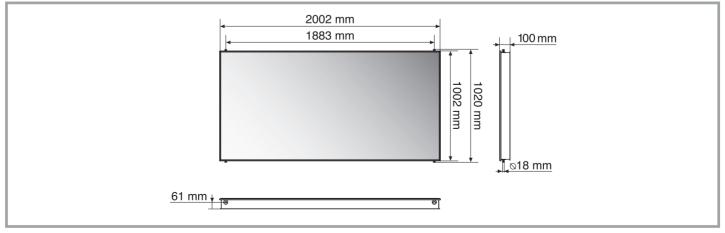
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Technical data - Overall dimensions SOLAR COLLECTOR CF 2.0 Weight when empty Kg Max. operating pressure Collector liquid capacity l 6 1.02 95 5 l % % Absorption Reflection Aperture area m^2 m^2 1.82 1.76 0.74* Absorbent area η₀ k₁ W/m²K² 3 4 2 5* W/m²K² °C 0.008* k₂ T stagnation 161.6 * Data refers to the aperture area





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SOLAR COLLECTORS

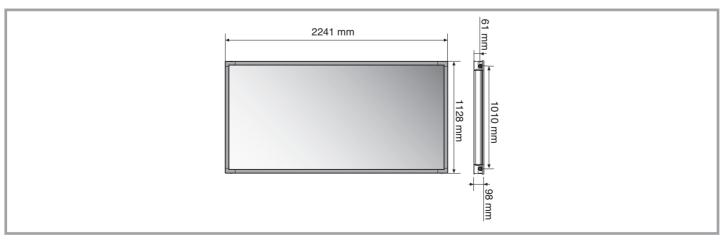
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Technical data - Overall dimensions SOLAR COLLECTOR XP 2.5V Weight when empty Kg Max. operating pressure Collector liquid capacity L 48 40 6 2.1 95 5 l % % Absorption Reflection Aperture area m² 2.256 2.227 0.79* Absorbent area m² η₀ k₁ W/m²K² W/m²K² °C k₂ T stagnation 177.1 * Data refers to the aperture area





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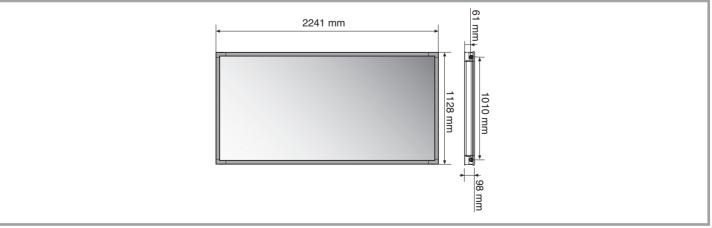
XP 2.5H



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AQUABRAVO

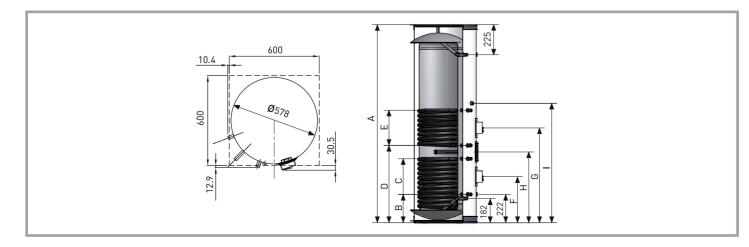
ITSI 215, 255, 305



Technical data - Overall dimensions

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fodel Product Code		ITSI 215 3060263	ITSI 255 3060264	ITSI 305 3060265		ITSI 215	ITSI 255	ITSI 305
Nominal capacity	l	215	255	305	a mm	1116	1029	1167
Weight empty Weight full	kg kg	55 270	60 315	65 370	b mm	213	213	213
Heat Exchanger performance (top)	kW	20.0	20.0	20.0	c mm	1462	1753	2029
Heat Exchanger performance (bottom)	kW	27.0	27.0	27.0	d mm	481	481	481
Coil surface area (top)	m ²	0.75	0.75	0.75	e mm	578	578	578
Coil surface area (bottom)	m ²	1.1	1.1	1.1				
Indirect reheat time* (∆T= 45°C)	min.	24	29	34	f mm	183	183	183
Indirect reheat time** (∆T= 45°C)	min.	17	20	24	g mm	580	580	580
Voltage	V	240	240	240	h mm	843	843	843
Power	kW	3	3	3				
Max. temperature.	°C	70	70	70	i mm	996	1269	1540



NUOS Air Source Heat Pump Water Heaters & Accessories

Description	Product Code
NUOS Air Source Heat Pump Cylinders	
NUOS FS 200 200 litre, Direct, Floor standing unvented heat pump cylinder (Requires 3069418)	3210041
NUOS FS 250i 250 litre, Indirect, Floor standing unvented heat pump cylinder (Requires: 3069419)	3210042
NUOS Accessories	
Unvented Kit (NUOS FS 200)	3069418
Unvented Kit (NUOS FS 250i)	3069419
Duct Kit (Inlet/Outlet) - ø150mm The kit consists of flexible grate with springs, two rigid pipes (1m and 1,5m) and a connector	3208061
90° Elbow - ø150mm	3208067
1 m Tube - ø150mm	3208063
1.5 m Tube - ø150mm	3208064
Flexible Joint - ø150mm	3208066
1 m Flexible Tube - ø150mm	3208069
Fixing Bracket (x2)	3208068



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Description	Product Code
Solar Comfort Systems	
Solar Comfort 2 Panel On-Tile System Includes: CF2.0 Solar Collectors x2 Roof Fixing Kit x1, Pump Station x1, 20 Litres Solar Fluid x1, Solar Controller (incl. 3 sensors) x1, Expansion Vessell (25l) x1, Single Panel Connection Kit x1, Additional Collector Connection Kit x1	3023217
Solar Comfort 3 Panel On-Tile System Includes: CF2.0 Solar Collectors x3 Roof Fixing Kit x1, Pump Station x1, 20 Litres Solar Fluid x1, Solar Controller (incl. 3 sensors) x1, Expansion Vessell (251) x1, Single Panel Connection Kit x1, Additional Collector Connection Kit x2	3023218
Solar Comfort 2 Panel Flat Roof / Ground Includes: CF2.0 Solar Collectors x2 Flat Roof/Ground Frame x1, Pump Station x1, 20 Litres Solar Fluid x1, Solar Controller (incl. 3 sensors) x1, Expansion Vessell (251) x1, Single Panel Connection Kit x1, Additional Collector Connection Kit x1	3023219
Solar Comfort 3 Panel On-Tile System Includes: CF2.0 Solar Collectors x3 Flat Roof/Ground Frame x2, Pump Station x1, 20 Litres Solar Fluid x1, Solar Controller (incl. 3 sensors) x1, Expansion Vessell (25l) x1, Single Panel Connection Kit x1, Additional Collector Connection Kit x2	3023220







Solar Thermal Components & Accessories

Description	Product Code
CF2.0 Solar Panels & Fixing Kits	
CF2.0 Solar Collector	3020008
Connection Kit - 1 Collector (incl. Air Vent)	3024017
Connection Kit - Additional Collector	3024018
On-Tile Rail Kit - 2 Collectors	3107024
On-Tile Rail Kit - 3 Collectors	3107025
Ground/Flat Roof Frame - 1 Collector	3024103
XP 2.5 Solar Panels & Fixing Kits	
XP 2.5 V Solar Collector	3020027
XP 2.5 H Solar Collector	3020028
Connection Kit - Single Collector (XP 2.5 V/H)	3024093
Air Vent (XP 2.5 V/H)	3024098
Connection Kit - Additional Collector (XP 2.5 V/H)	3024094
Ground/Flat Roof Frame - 1 Collector (XP 2.5 V)	3024103
Ground/Flat Roof Frame - 1 Collector (XP 2.5 H)	3024105
Solar Thermal Accessories	
Solar Pump Station	3024056
Solar Controller & Probes	3104047
Expansion Vessel & Bracket (251)	4448666451
Glycol (20l)	3820001
Insulated Flexible Twin Pipe - 10m	3024069

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Twin Coil Cylinders

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Description P	roduct Code
Stainless Steel Twin Coil Unvented Cylinders	
Aquabravo ITSI 215 215 litre, Stainless Steel, Unvented Twin Coil Cylinder c/w Unvented control kit	3060263
Aquabravo ITSI 255 255 litre, Stainless Steel, Unvented Twin Coil Cylinder c/w Unvented control kit	3060264
Aquabravo ITSI 305 305 litre, Stainless Steel, Unvented Twin Coil Cylinder c/w Unvented control kit	3060265

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