Fast Heaters for DHW
FST



Fast DHW heaters
FST

FST domestic hot water heaters are pre-assembled units which, together with a storage tank of the desired volume, make it possible to quickly produce and store large quantities of domestic hot water at a predefined temperature, ensuring space optimisation.

FST DHW heaters consist of a:
- ✔ Gasketed plate heat exchanger in AISI 316 stainless steel;
- ✔ High-efficiency electronic pump on the primary circuit
- ✔ High-efficiency electronic pump for DHW storage tank loading
- ✔ Height-adjustable electrical control panel, fully wired and connected to pumps, servomotor and probes fitted with an electronic control unit with graphic display, and anti-legionella function;
- ✔ Self-supporting frame.
- ✔ Insulation on pipes and fittings (standard), exchanger insulation (optional)
- ✔ Three-way motorised mixing valve (optional)

The FST units are also available in the following versions:
- ✔ 1P+1P: semi-fast DHW heater with single circulator on the primary and secondary circuits
- ✔ 2P+1P: semi-fast DHW heater with double circulator on the primary circuit and single on the secondary circuit
- ✔ 0+1P: semi-fast DHW heater with single circulator on the secondary circuit

If there is no pump on the primary, it is not possible to install the mixing kit.

In short, the main advantages of the FST unit are the following:
- ✔ Very compact monoblock unit with reduced overall control panel dimensions;
- ✔ Easy maintenance owing to easy access to the components utilised;
- ✔ Easy installation;
- ✔ Option of increasing power by adding exchanger plates;
- ✔ Adjustable control panel for easier use.

Start-up: the first start-up is recommended. See page 381





Primary circuit		Secondary circuit	
max. temperature	max. pressure	max. temperature	max. pressure
95°C	10 bar	90°C	10 bar

360°

Line up the QR code for a 360° video of the product

FST
Codes and Prices

				Packed	
Model	Size	Code	Price	Dimensions cm	Weight kg
1P+1P	55	842010050X		100x65x110	68
	65	842010051X		100x65x110	69
	100	842010052X		100x65x110	71
	150	842010120X		100x65x110	73
	180	842010121X		100x65x110	75
	210	842010053X		100x65x110	76
	240	842010054X		100x65x110	78
	270	842010055X		100x65x110	81
	330	842010122X		100x65x110	83
	350	842010056X		100x65x150	226
	410	842010057X		100x65x150	227
	440	842010058X		100x65x150	229
	500	842010059X		100x65x150	231
	560	842010060X		100x65x150	233
	600	842010061X		100x65x150	236
	630	842010123X		100x65x150	240
	660	842010062X		100x65x150	244
	700	842010063X		100x65x150	252
2P+1P	55	842010064X		100x65x110	78
	65	842010065X		100x65x110	79
	100	842010066X		100x65x110	81
	150	842010124X		100x65x110	83
	180	842010125X		100x65x110	85
	210	842010067X		100x65x110	86
	240	842010068X		100x65x110	88
	270	842010069X		100x65x110	91
	330	842010126X		100x65x110	93
	350	842010070X		100x65x150	240
	410	842010071X		100x65x150	241
	440	842010072X		100x65x150	243
	500	842010073X		100x65x150	245
	560	842010074X		100x65x150	250
	600	842010075X		100x65x150	253
	630	842010127X		100x65x150	257
	660	842010076X		100x65x150	261
	700	842010077X		100x65x150	269

				Packed	
Model	Size	Code	Price	Dimensions cm	Weight kg
0P+1P	55	842010140X		100x65x110	65
	65	842010141X		100x65x110	66
	100	842010142X		100x65x110	68
	150	842010143X		100x65x110	70
	180	842010144X		100x65x110	72
	210	842010145X		100x65x110	73
	240	842010146X		100x65x110	75
	270	842010147X		100x65x110	78
	330	842010148X		100x65x110	80
	350	842010149X		100x65x150	212
	410	842010150X		100x65x150	213
	440	842010151X		100x65x150	215
	500	842010152X		100x65x150	217
	560	842010153X		100x65x150	219
	600	842010154X		100x65x150	222
	630	842010155X		100x65x150	226
	660	842010156X		100x65x150	230
	700	842010157X		100x65x150	238

Accessories

Description	Code	Price
3WAY MIX VALVE FST 55 - FST 330	842040001X	
3WAY MIX VALVE FST 350 - FST 700	842040002X	
INSULATION FST 55 - FST 330	821080137X	
INSULATION FST 350 - FST 700	821080138X	

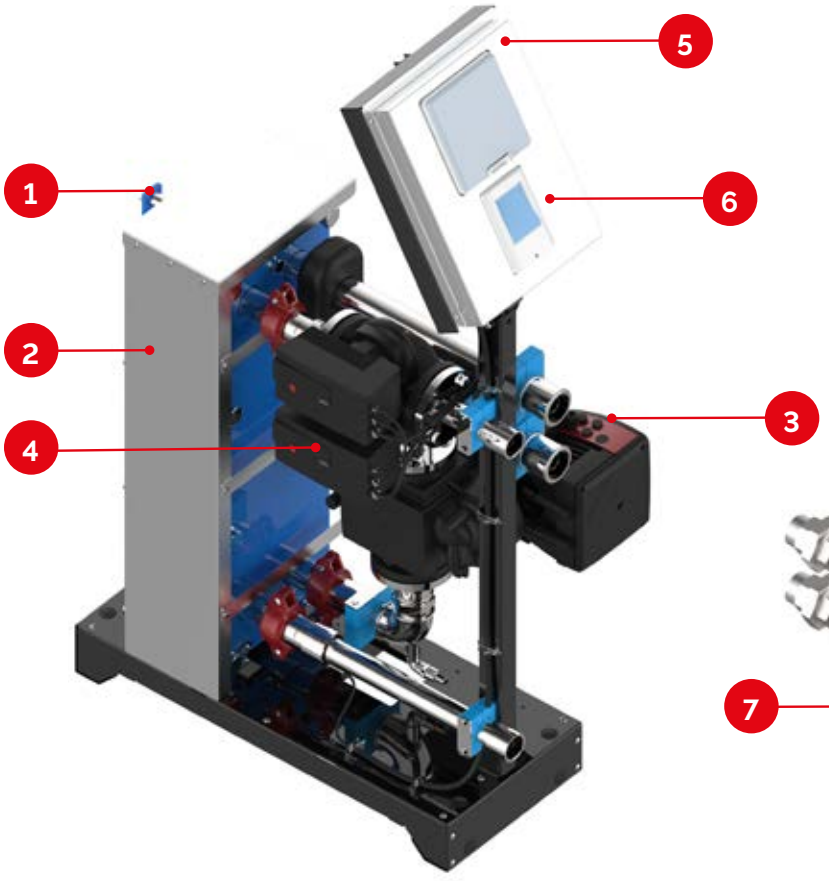
NOTE: The 3-way mixing valve cannot be used in 0P+1P setup.

FST
Features

Features of the control unit

FST Fiorini units are equipped with an electronic control unit to control and command the device as follows:

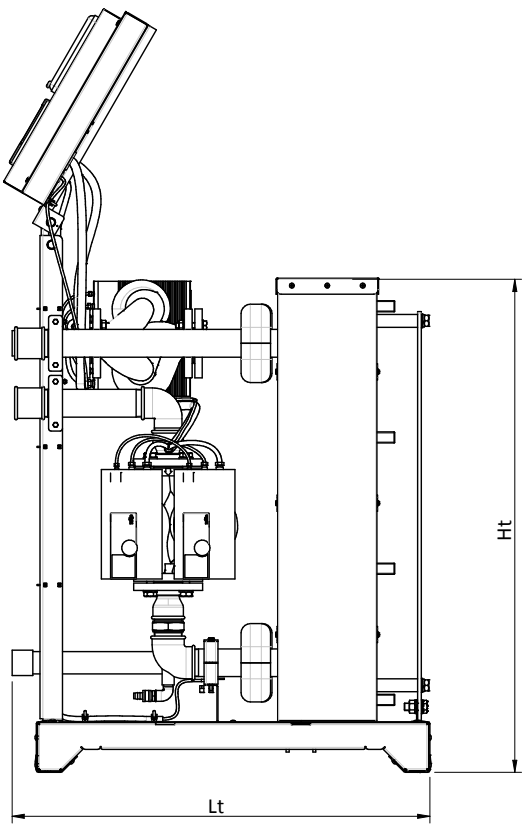
- ✔ Adjust the temperature set-point based on different time bands;
- ✔ Adjust the circulator flow rate on the hot water side to optimise the stratification of the DHW storage tank;
- ✔ Control the primary and secondary circuit pumps, shutting them off them when the set-point is reached;
- ✔ Programme the anti-legionella process using thermal shock treatment;
- ✔ Display an on-screen notification when the anti-legionella treatment is running;
- ✔ Provide an error alert in the event of a unit malfunction;
- ✔ Control a DHW recirculating pump (pump not supplied).

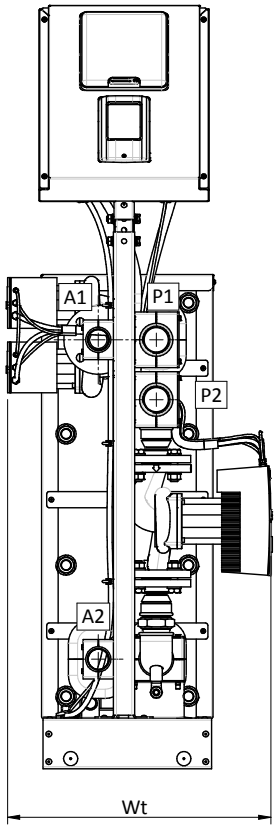


Key

1	Plate exchanger
2	Heat exchanger insulation (optional)
3	Primary circuit pump
4	Secondary circuit pump (fast version)
5	Electrical control and monitoring panel
6	Regulator
7	Three-way motorised mixing valve (optional)

FST
Components and dimensions





Legend

A1	DHW inlet
A2	DHW outlet
P1	To energy source
P2	From energy source

Technical features

Version	size	Ht mm	Lt mm	Wt mm	A1 mm	A2 mm	P1 mm	P2 mm	A1 inch	A2 inch	P1 inch	P2 inch
1P+1P	55-330	650	910	365	475	95	610	515	1"	1"	1"1/4	1"1/4
	350-700	1070	910	445	932	238	932	802	1"1/2	1"1/2	2"	2"
2P+1P	55-330	650	910	450	475	95	610	515	1"	1"	1"1/4	1"1/4
	350-700	1070	910	630	932	238	932	802	1"1/2	1"1/2	2"	2"
0P+1P	55-330	650	910	365	475	95	475	95	1"	1"	1"1/4	1"1/4
	350-700	1070	910	500	932	238	932	802	1"1/2	1"1/2	2"	2"

FST performance

Nominal power in kW under different temperature conditions

	Nominal power in kW under different temperature conditions											
Temp. primary inlet	FST 55				FST 65				FST 100			
°C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C
80	50	58	68	86	55	70	83	103	100	117	133	165
70	20	35	45	65	25	40	53	77	50	70	90	124
60	-	-	20	40	-	-	25	50	-	-	40	82

	Nominal power in kW under different temperature conditions											
Temp. primary inlet	FST 150				FST 180				FST 210			
°C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C
80	115	135	154	190	130	155	180	215	140	165	194	205
70	55	80	105	145	60	95	117	165	70	100	130	177
60	-	-	45	95	-	-	55	105	-	-	60	115

	Nominal power in kW under different temperature conditions											
Temp. primary inlet	FST 240				FST 270				FST 330			
°C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C
80	185	215	245	245	205	235	270	270	250	295	330	380
70	95	130	165	200	100	155	185	220	130	180	225	300
60	-	-	80	150	-	-	100	170	-	-	110	190

	Nominal power in kW under different temperature conditions											
Temp. primary inlet	FST 350				FST 410				FST 440			
°C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C
80	256	304	345	345	290	350	395	395	335	397	430	430
70	130	177	228	325	140	210	265	325	155	235	295	340
60	-	-	100	200	-	-	130	230	-	-	140	275

	Nominal power in kW under different temperature conditions											
Temp. primary inlet	FST 500				FST 560				FST 600			
°C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C
80	365	438	500	500	415	490	558	558	452	540	613	650
70	180	255	333	450	205	290	445	450	225	330	412	560
60	-	-	158	290	-	-	174	333	-	-	185	371

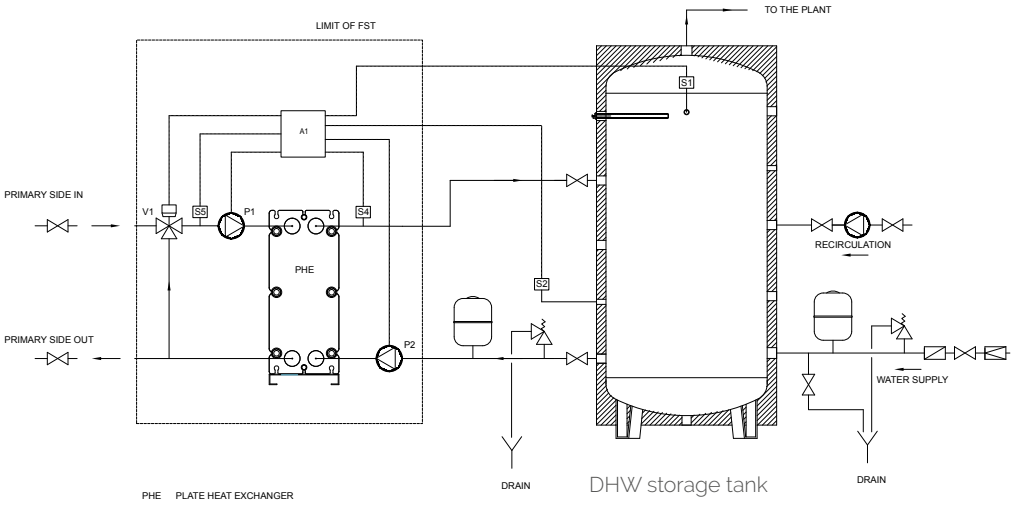
	Nominal power in kW under different temperature conditions											
Temp. primary inlet	FST 630				FST 660				FST 700			
°C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C	10-65 °C	10-60 °C	10-55 °C	10-45 °C
80	480	555	635	722	513	590	674	730	560	665	740	740
70	230	350	420	580	257	375	460	616	330	410	505	620
60	-	-	200	380	-	-	210	410	-	-	280	430

Installation diagrams

1P+1P version

Key

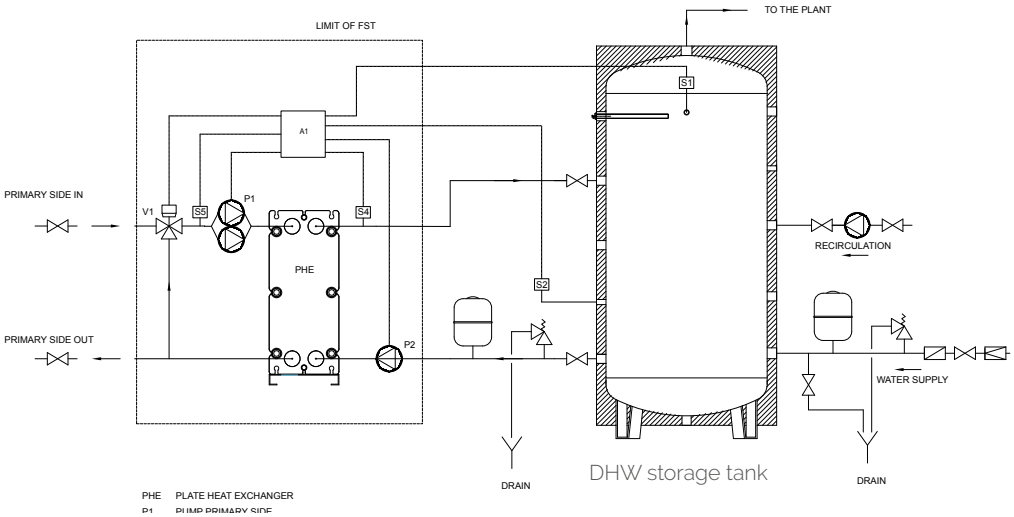
PHE	Plate exchanger
P1	Pump on primary side
P2	Pump on secondary side
V1	3-way mixing valve (optional)
S1	Temperature probe (supplied unassembled)
S2	Temperature probe (optional)
S4	Temperature probe
S5	Temperature probe (optional with V1)



2P+1P version

Key

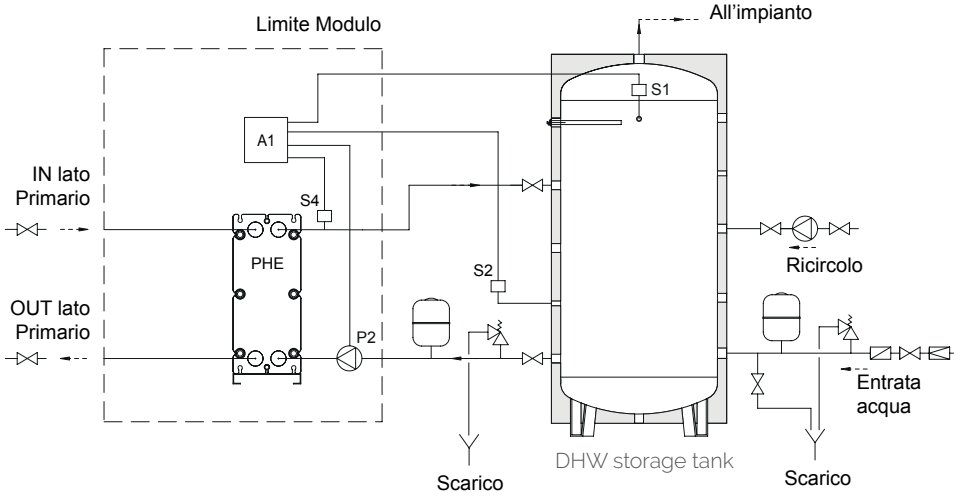
PHE	Plate exchanger
P1	Pump on primary side
P2	Pump on secondary side
V1	3-way mixing valve (optional)
S1	Temperature probe (supplied unassembled)
S2	Temperature probe (optional)
S4	Temperature probe
S5	Temperature probe (optional with V1)



0P+1P version

Key

PHE	Plate exchanger
P2	Pump on secondary side
S1	Temperature probe (supplied unassembled)
S2	Temperature probe (optional)
S4	Temperature probe



Installation diagrams

Installation and use

Install the product on a flat surface which is suitable for supporting the weight of the product and its content (see data plate with technical specifications).
Connect the circuit supply and return pipes so that they do not weigh on the product and allow access and the dismantling of accessories, if present.
Fit a safety valve on the installation with a suitable working pressure, in accordance with Directive 97/23/EC and an opening with a suitable diameter.
When storage tanks are used, equip the installation or the tank with expansion vessels in compliance with Directive 97/23/EC, with a maximum working pressure that is no lower than that of the storage tank itself and with a capacity commensurate with the volume and temperature of the installation to protect the latter from possible overpressures. The electrical connections must be carried out by authorised personnel in compliance with the regulations in force.

Maintenance

It is recommended that the following maintenance tasks be performed to ensure that the FST heat exchange units function correctly:

- A periodic check of the water hardness values which must be between 10 and 15° F
- A periodic check that the safety valve on the installation is functioning;
- A periodic inspection of the expansion vessel load pressure;
- A periodic check that there are no leaks;
- A periodic cleaning of the exchanger using suitable solutions available on the market (contact us for further information);
- A periodic anti-legionella heat treatment to disinfect the installation

WARNING
Disconnect the heat exchanger from the system before carrying out any electrical welding on installation pipes.

CE mark
The product bears the CE mark in accordance with the specific European Union directives.



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