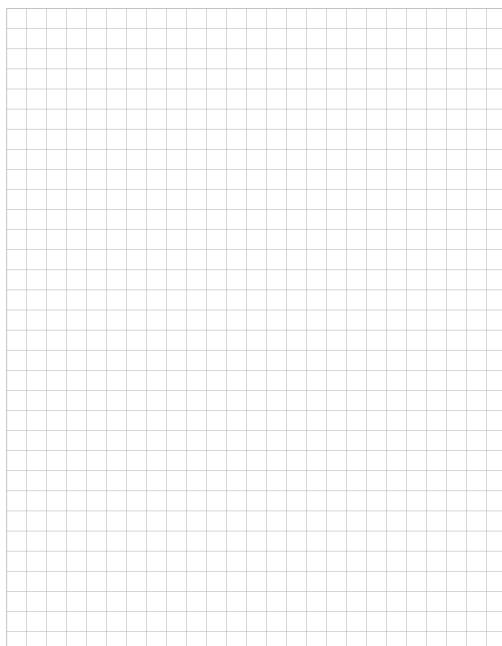
Notes







FISH S4 U Buffer tank without coils

OPERATING MANUAL

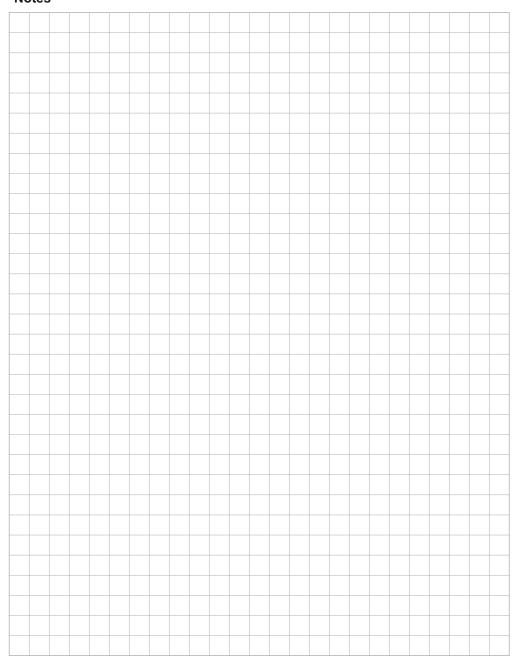
Buffer tanks

Do not start the unit until you have read the manual. The pictures of the products featured in this manual may differ from the products on sale.





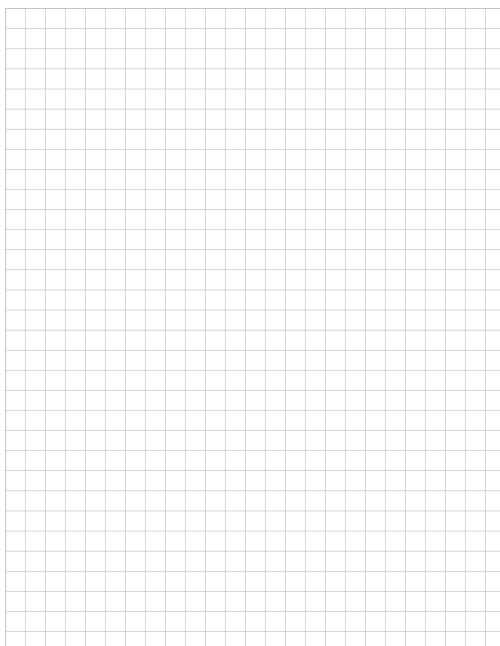
Notes





2

Notes



♦ INTRODUCTION

Thank you for purchasing our device. We hope that it will contribute to increased comfort in your home and reduce your expenses related to the constantly rising energy prices.

This manual has been prepared to enable you to become thoroughly familiar with the installation, use and operation of the tank. Please read this manual before installing and using your tank. Familiarization with this manual is in the interest of the customer and is one of the conditions for maintaining the warranty.

♦ TECHNICAL SPECIFICATIONS

Buffer tank is a device designed to buffer heat in heating system and to support central heating installation by solar installation. It can be used for needs in households, social rooms, workplaces, etc. The buffer tank is designed to work only in vertical position. Water can be heated by connection to a central heating boiler or through an external heat exchanger.

The thermal insulation of the buffers consists of a layer of polystyrene foam and wool and a layer of PVC foil

Buffer operating pressure - 3 bar Maximum buffer operating temperature - 95°C

♦ BUFFER INSTALLATION

Installation

The buffer can be connected to a variety of heat sources, but it is important not to exceed the permissible parameters listed in the above section.

The buffer connection procedure should be entrusted to a specialized installation company. Depending on the heat source used or the needs of the user, there are several ways to connect the buffer correctly. This is illustrated in detail in the hydraulic diagram on page 5.

Safety valve

Tanks must be operated only with an operational safety valve with the maximum opening pressure of 0.3 MPa, preferably installed in the heating water return. This valve protects the tank against excessive pressure increase in the heating circuit (see note below). The safety valve allows water from the buffer to flow outside after an excessive increase of pressure in the system. The safety valve should be installed in such a position that it is easily accessible and close to the buffer. Even during normal operation, water may temporarily escape from the safety valve, which indicates that the valve is functioning properly. In such cases, the outlet opening must not be blocked in any way. The solar coil circuit must also be secured by a safety valve with a maximum opening pressure of 6 bar. No isolating valves of any kind may be installed between the safety valve and the tank. Operation of the tank without safety valves or with inoperative safety valves may result in failure and constitutes a danger to human health and life.

Emptying the buffer

Install the drain plug on the return pipe to the buffer.

Expansion vessel

An expansion vessel must be installed in the buffer return line.

The pre-pressure of the expansion vessel must be set below the operating pressure of the system in accordance with the vessel's instructions in order to ensure a free flow through the vessel. Follow the relevant standards when selecting the expansion vessel.

3





Buffer tightness

It is necessary to check the buffer and system for leaks after filling.

♦ OPERATING REMARKS

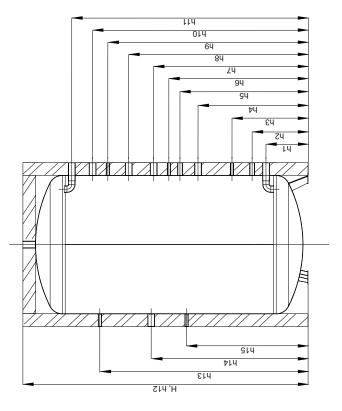
- 1. The buffer must be transported in a vertical position.
- 2. The buffer should be installed vertically on a durable, strong and leveled surface.
- 3. The devices should be stored indoors in a relatively dry place not exposed to direct water (such as rain) and sunlight.
- 4. Do not operate the buffer, without a working safety valve (the operation of the safety valve should be checked every 14 days by turning the cap to the right or left so that there is an outflow from the side discharge outlet to the outside. Then turn the cap in the opposite direction until it snaps into the previous position and press it against the valve body. If there is no outflow of water when the cap is turned, the valve is faulty. If after turning the cap and returning to the previous position set continuous leakage of water, the valve plug is contaminated and the valve should be flushed several times, opening the outflow by turning the cap. Attention: the possibility of hot water outflow. The manufacturer is not responsible for the malfunction of the safety valve caused by incorrect installation and installation errors.
- 5. Water intended for filling the heating system should not contain mechanical and organic impurities and should meet the requirements of PN-93/C04607. Failure to comply with the requirements for the quality of heating water may result in loss of warranty.

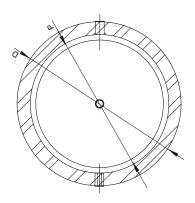
Heating water should have the following parameters:

- pH: $8.0 \div 9.5$ ($8.0 \div 8.5$ in installations with aluminum radiators)
- total hardness: < 11.2 °n
- free oxygen content < 0.05 mg/l
- chloride content < 60 mg/l
- 6. SUNEX S.A. reserves the right to make modifications to the design without prior notice to customers.

♦ MALFUNCTIONS AND REMEDIES

No.	MALFUNCTION	REASON	REPAIR METHOD
1	Safety valve does not open (even when blowing out)	Safety valve sealed	Clean the valve or replace it
2	The safety valve is leaking	Safety valve contact Surface contaminated or damaged Expensive water pressure in the network	Clean or grind the contact surface of the safety valve Use a pressure reducer







Subject to change

TECHNICAL SPECIFICATIONS

e capacity ermissible temperature from ion from ice with insulation from ice with insulation from ice with insulation from from from from from from from from		FISH S4 800 U	FISH S4 1000 U	FISH S4 800 U FISH S4 1000 U FISH S4 1500 U FISH S4 2000	FISH S4 2000 U
apacity inistible temperature inistible temperature inistible pressure inistible pressure initial pressure initial minion ight initial minion initial		800	1000	1500	2000
or sistle temperature °C 95 nissible pressure bar 3 n mm 80 with insulation P mm 950 with out insulation P mm 790 sight mm 1738 on h1 mm 260 on h4 mm 670 on h5 mm - on h7 mm - on h11 mm 1120 on h14 mm 920 eater h14 mm 570 ons h15 mm 570 ons Rp 11/2"	e capacity	734	856	1388	2046
num 3 num 80 with insulation D mm 80 with varians lation P mm 950 with varians lation P mm 738 on h1 mm 260 on h2 mm 515 on h3 mm 670 on h3 mm 1160 on h11 mm 1120 eater h14 mm 1120 eater h15 mm 570 ons Rp 11/2" ons <t< td=""><td></td><td>92</td><td>95</td><td>95</td><td>95</td></t<>		92	95	95	95
nwith insulation D mm 80 with insulation P mm 950 without insulation P mm 790 without insulation H mm 260 on h2 mm 260 on h4 mm 670 on h5 mm 670 on h6 mm - on h7 mm - on h10 mm - on h11 mm - on h14 mm - on h14 mm - on h12 mm - on h14 mm - <		m	co	m	m
with insulation D mm 950 without insulation P mm 790 light H mm 7738 on H mm 260 I connection h3 mm 515 on h4 mm 670 on h5 mm - on h7 mm - on h8 mm 1160 on h9 mm 1126 on h11 mm 1120 eater h14 mm 920 on h15 mm 570 ons h15 mm 570 on h15 mm 570 on Rp 11/2" on H H		80	80	80	80
without insulation P mm 790 sight H mm 1738 on h1 mm 260 on h2 mm 360 on h4 mm 670 on h5 mm 820 on h7 mm - on h7 mm - on h7 mm 1260 on h1 mm 1413 h1 mm 143 on h1 mm 143 on h1 mm 143 on h1 mm 172 on h1 mm 570 on h1 mm 570 on h1 mm 112 on h1 mm 570 on h1 h1 112 on h1 h1 112 on h1	٥	950	950	1160	1360
light H mm 1738 on h1 mm 260 l connection h2 mm 260 on h3 mm 515 on h4 mm 670 on h6 mm - on h7 mm - on h10 mm 1160 on h11 mm 1120 eater h14 mm 1120 ons h14 mm 570 ons Rp 11/2"	Ь	790	790	1000	1200
Note that Note No	Ξ	1738	1988	2055	2144
Il connection h2 mm 360 on h3 mm 515 on h4 mm 670 on h5 mm - on h8 mm 980 on h10 mm 1160 on h11 mm 1120 eater h14 mm 920 eater h15 mm 570 ons Rp 11/2" ons Rp 11/2" eater Rp 11/2" mm 11/2" mm 100	h1	260	260	303	356
by mm 515 on h4 mm 670 laconnection h5 mm 670 on h7 mm - on h8 mm 980 on h10 mm 1160 on h11 mm 1120 eater h14 mm 920 h15 mm 1738 h13 mm 1720 eater RP 11/2" ons eater RP 11/2"	h2	360	360	403	456
on h4 mm 670 l connection h5 mm 820 h6 mm - h7 mm - on h7 mm 980 on h9 mm 1160 on h10 mm 1120 eater h14 mm 920 on h15 mm 1738 h13 mm 1720 on h15 mm 570 on Rp 11/2" eater Rp 11/2" on H1/2"	h3	515	545	548	576
Il connection h5 mm 820 on h6 mm - on h7 mm - on h9 mm 1160 on h10 mm 1413 on h11 mm 1413 h12 mm 1720 sater h14 mm 920 h15 mm 570 on Rp 11/2" on Rp 11/2" on Rp 11/2" on Rp 11/2" mm 11/2" mm 11/2" mm 11/2"	h4	670	730	793	811
by mm	h5	820	880	923	1011
on h7 mm	94			1003	
on h8 mm 980 h9 mm 1160 on h10 mm 1260 on h11 mm 1413 h12 mm 1738 h13 mm 1738 h14 mm 920 ons h15 mm 570 ons RP 11/2" eater RP 11/2"	h7			1113	
by mm 1160 n h10 mm 1260 n h11 mm 1738 h13 mm 1738 h14 mm 920 h15 mm 570 ons nons RP 11/2" eater RP 11/2" mm 11/2"	h8	086	1060	1293	1201
on h10 mm 1260 on h11 mm 1413 h12 mm 1413 eater h14 mm 920 h15 mm 570 on h15 mm 570 eater Rp 11/2" eater Rp 11/2" in m 11/2" in m 11/2" in m 11/2"	6H	1160	1360	1443	1351
on h11 mm 1413 h12 mm 1738 h13 mm 1738 h14 mm 920 h15 mm 570 on RP 11/2" eater RP 11/2" RP 11/2" RP 11/2" PR 11/2"	h10	1260	1480	1553	1521
eater h12 mm 1738 h13 mm 1120 h14 mm 920 h15 mm 570 on h15 mm 570 on RP 11/2" eater RP 11/2" eater RP 11/2"	h11	1413	1652	1703	1751
4 h13 mm 1120 heater h14 mm 920 5 h15 mm 570 tion RP 11/2" nal connection RP 11/2" heater RP 11/2" mm 11/2" mm 11/2" mm 11/2" mm 102"	h12	1738	1988	2055	2144
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tions tion Rp 11/2" Rp 11/2" heater Rp 11/2" Rp 11/2" Rp 11/2"	. h14	920	1130	1130	1157
tion Rp 11/2" tion RP 1" heater RP 11/2" RP 11/2" mm 11/2"	h15	570	280	875	206
tion Rp 11/2" nal connection Rp 1" heater Rp 11/2" Rp 11/2" Rp 11/2"	ctions				
nal connection Rp 1" heater Rp 11/2" Rp 11/2" mm 11/2"		1 1/2"	1 1/2"	1 1/2"	1 1/2"
heater Rp 11/2" Rp 11/2" mm 11/2"		1",	1,"	1"	1"
Rp 1/2" mm 1/12" 0.01		1 1/2"	1 1/2"	11/2"	1 1/2"
mm 11/2"		1/2"	1/2"	1/2"	1/2"
		1 1/2"	1 1/2"	1 1/2"	1 1/2"
250	Kg	66	106	184	233

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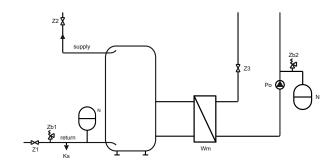
♦ MAINTENANCE

- 1. Safety fittings:
- To avoid possible overpressure, it is necessary to check once a month the proper functioning of the safety fittings.
- 2. The housing can be cleaned with soap and water.

♦ ENVIRONMENTAL PROTECTION

Used appliances contain recyclable materials that must be sent for processing. The components are easily disassembled. In this way, the various components can be sorted and sent for recycling or disposal.

♦ HYDRAULIC CONNECTIONS OF BUFFER TANKS



Zb1 - tank safety valve
Zb2 - solar systems safety valve
Z1 - shut-off valve on cold water supply
Z2 - shut-off valve on hot water outlet

Z3 - shut-off valve at the flow of the medium into the coil

Po - circulation pump

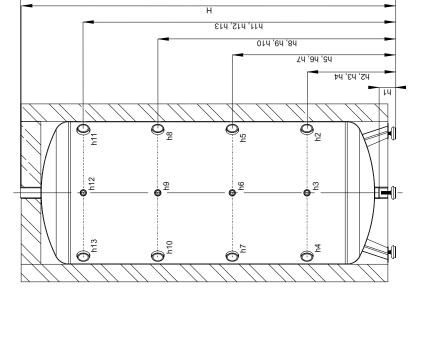
N - expansion tank
Ks - drain plug
Wm - external exchanger



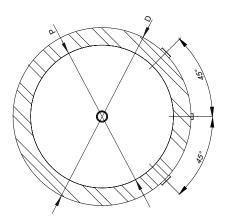
TECHNICAL SPECIFICATIONS

			FISH S4 200 U	FISH S4 300 U	FISH S4 500 U
Series			200	300	200
Storage capacity			201	339	477
Max. permissible temperature		ů	95	95	95
Max. permissible pressure		bar	ന	co	m
Insulation		mm	80	80	80
Diameter with insulation	D	mm	099	260	810
Tank diameter (without insulation)	Ь	mm	200	009	650
Device height	I	mm	1266	1440	1701
Water drain	h1	mm	26	80	72
Connection	h2	mm	316	275	400
Sensor 1	h3	mm	316	275	400
Connection	h4	mm	316	275	400
Connection	h5	mm	554	575	740
Sensor 2	94	mm	554	575	740
Connection	h7	mm	554	575	740
Connection	h8	mm	792	875	1079
Sensor 3	h9	mm	792	875	1079
Connection	h10	mm	792	875	1079
Connection	h11	mm	1030	1175	1418
Sensor 4	h12	mm	1030	1175	1418
Connection	h13	mm	1030	1175	1418
Air vent	h14	mm	1271	1445	1706
Connections					
Water drain		Кр	1 1/2"	1 1/2"	1 1/2"
Connection		Rp	1 1/2"	1 1/2"	11/2"
Sensor		Rp	1/2"	1/2"	1/2"
Air Vent		mm	1 1/2"	1 1/2"	1 1/2"
Weight		kg	35	55	09
R - external thread, Rp - internal thread					

♦ FISH S4 U (200, 300, 5001)



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