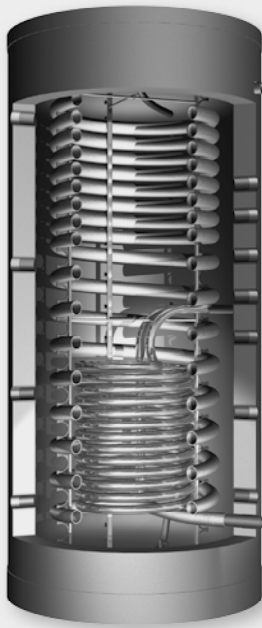


PRODUCT DESCRIPTION



FS/1R – Solar fresh water tank with one coil

Simple combination tank made of steel (S 235 JR) for heating operation and domestic hot water preparation with a solar system. Solar charging is by a smooth pipe coil in the lower half of the tank. The tank has an integrated corrugated stainless steel pipe in which the water is heated using the hygienic continuous heating process. All necessary connections are at hand; includes 1x 2" sleeves for electric screw-in heating elements. The tank stands on a stand ring. The polyester fibre fleece insulation must be ordered separately (compare Accessories).

Area of use

Water heating and heating operation with a solar system for single-family and semi-detached houses.

Product benefits

- Simple, cost-effective utilisation of solar energy for hot water and heating
- Backup heating from all common systems possible; attention: heat pump with restrictions!
- Hygienic water heating due to a special corrugated stainless steel pipe¹ (DN 40, 1.4404)
- 6 temperature measuring points (contact sensor sleeves) on tank
- Option to install TiSUN solar station and expansion container on tank
- Prepared for use with 1 electric screw-in heating element

Standards, guidelines and regulations

- "Pressure Equipment Directive" 97/23/EC
- "Directive on the quality of water intended for human consumption" 98/83/EC
- Sized according to guideline AD-2000
- Welding as per EN 287-1 and EN ISO 3834-2

SPECIFICATIONS

Max. operating temperature	110°C
Max. tank operating pressure:	3 bar
Max. stainless steel pipe operating pressure:	6 bar
Max. operating pressure of smooth pipe coil	10 bar
Boiler/heating connections	Rp 6/4"
Domestic hot water connections	Rp 1"
Cylinder feed and drain cock connections	Rp 1/2"
Thermometer connection	Rp 1/2"

Specifications

Type	FS 375/1R	FS 500/1R	FS 800/1R	FS 1000-S/1R
Item no.	1610603	1610303	1610304	1610305
Nominal volume [l]	342	514	744	930
Height without insulation [mm] ²	1675	1790	1940	2150
Height with insulation [mm] ²	1725	1860	2010	2220
Diameter without insulation [mm] ²	550	650	750	790
Diameter with insulation [mm] ²	710	850	950	990
Tilt height [mm] ²	1695	1820	1975	2185
Weight [kg]	135	175	215	250

1) For problem free maintenance of the corrugated stainless steel pipe (e.g. decalcification), when installing the tank, TiSUN recommends installation of flush connections with isolation valves at the hot water connections of the tank. Also, to protect the corrugated stainless steel pipe from excessive calcification, we recommend measures to stabilise or soften the water at tank temperatures of over 60 °C and water hardness of over 2.5 millimoles calcium carbonate per litre (= 14 °dH) (compare DIN 1988-200).

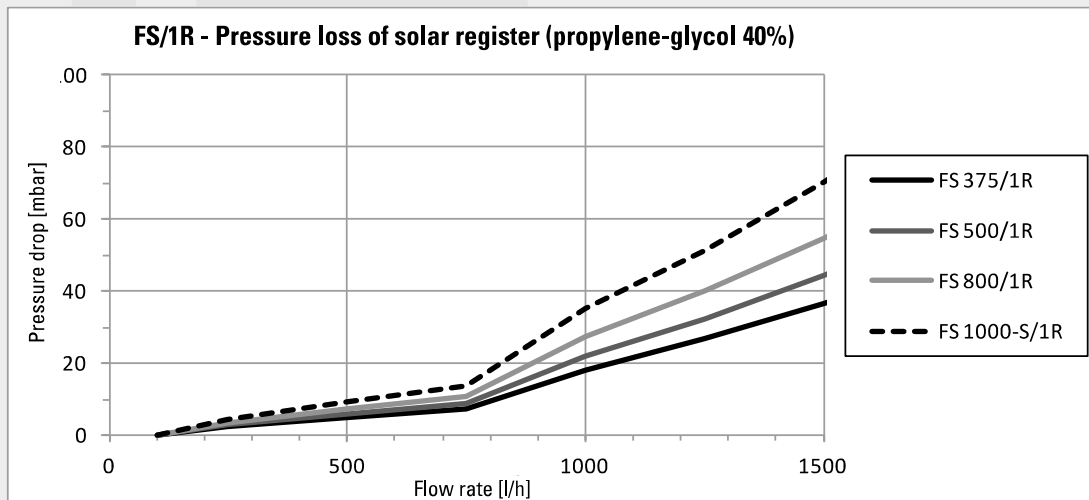
2) All size specifications have a tolerance range of +/- 3%

FS/1R FRESH WATER TANK

SPECIFICATIONS

Solar register

Type	FS 375/1R	FS 500/1R	FS 800/1R	FS 1000-S/1R
Material	Steel			
Outer diameter	33.7 mm			
Inner diameter	29.1 mm			
Wall thickness	2.3 mm			
Length	15 m	17 m	21 m	27 m
Surface area (smooth pipe)	1.5 m ²	1.8 m ²	2.2 m ²	2.8 m ²
Content	10 litres	11.31 litres	13.97 litres	17.96 litres
Max. collector area	10 m ²	10.5 m ²	13 m ²	15.5 m ²

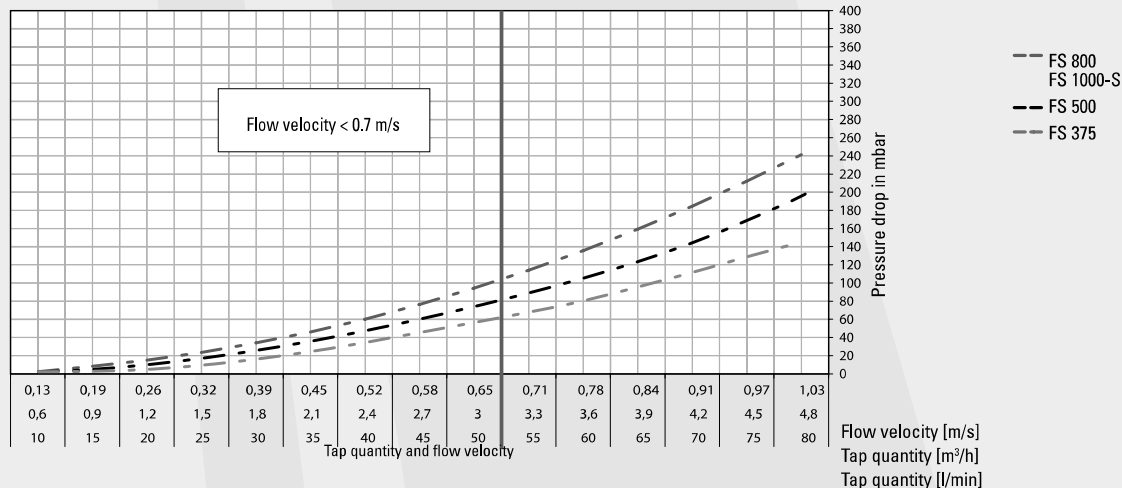


Corrugated pipe

Type	FS 375/1R	FS 500/1R	FS 800/1R	FS 1000-S/1R
Material	Corrugated stainless steel hose DIN 1.4404 (AISI 316L, V4A)			
Max. operating pressure	6 bar			
Length	15 m	19 m		24 m
Surface area (corrugated hose = 0.258 m ² /m)	3.87 m ²	4.90 m ²		6.19 m ²
Content	26 litres	35 litres		45 litres

Figures quoted with a tolerance of 5%

PRESSURE DROP FOR CORRUGATED PIPE DN 40



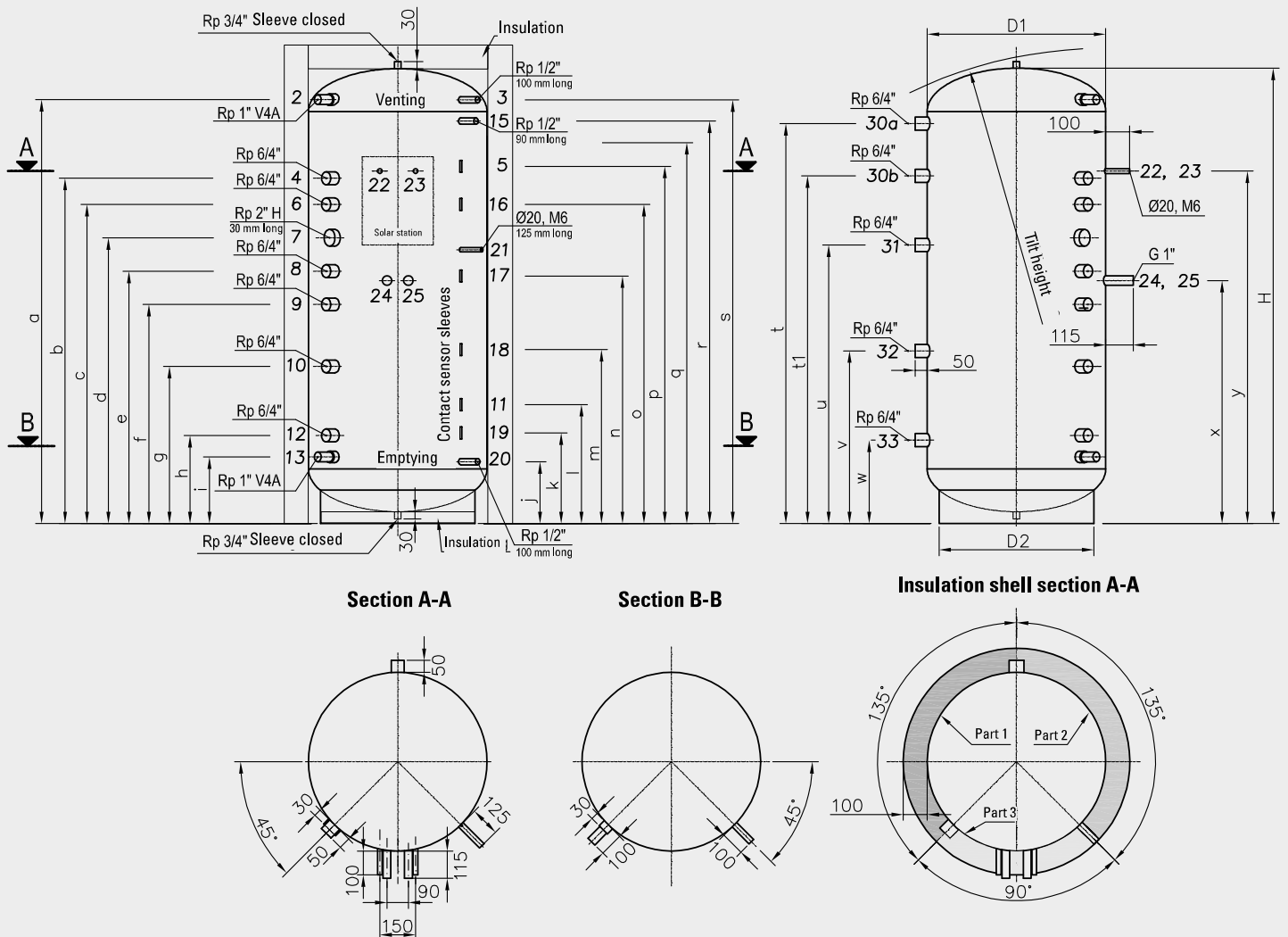
FS/1R FRESH WATER TANK

PERFORMANCE DATA

Specifications

Type		FS 375/1R	FS 500/1R	FS 800/1R	FS 1000-S/1R
Discharge capacity and hot water tap output (+/- 5% deviation)					
Single discharge capacity (hot water 38°C) when the backup tank is loaded at 60 °C	litres	270	380	540	700
Single discharge capacity (hot water 38 °C) when the backup tank is loaded at 55 °C	litres	216	304	432	560
Single discharge capacity (hot water 38°C) when the backup tank is loaded at 50°C	litres	186	262	372	483
Temperature difference between a semi-charged backup tank and hot water with an HW tap quantity of	30 l/min	°C	7	6	5
	40 l/min	°C	9	8	7
	50 l/min	°C	16	14	12

DIMENSIONS AND SLEEVE ASSIGNMENT



FS/1R FRESH WATER TANK

TABLE OF DIMENSIONS AND SLEEVE ASSIGNMENT

Table of dimensions as per illustrations [mm]

Type	FS 375/1R	FS 500/1R	FS 800/1R	FS 1000-S/1R
H	1645	1760	1910	2120
D1	550	650	750	790
D2	500	600	700	740
Tilt height	1695	1820	1975	2185
a	1550	1650	1780	1990
b	1220	1270	1450	1530
c	1110	1160	1340	1420
d	1000	1050	1200	1300
e	890	940	1060	1160
f	780	830	920	1000
g	590	640	660	710
h	340	340	370	380
i	260	260	280	280
j	240	240	260	265
k	330	380	380	380
l	430	480	500	500
m	660	710	730	780
n	860	910	1040	1140
o	1030	1080	1230	1235
p	1110	1160	1340	1420
q	1300	1350	1500	1610
r	1470	1570	1690	1900
s	1550	1650	1780	1990
t	1540	1540	1680	1900
t1	-	-	-	1680
u	1150	1150	1170	1170
v	720	720	725	725
w	270	270	350	350
x	820	870	1020	1020
y	1280	1330	1480	1480

Sleeve assignment

No.	Designation	Dimension	Use	Comment
2	V4A	Rp 1"	Hot water connection (stainless steel)	Mandatory (possibly with circulation lance)
3	-	Rp ½"	Exhaust pipe	Mandatory
4	-	Rp 1½"	Secondary heat source	Depending on hydraulic schematic
5	-	Di 6 mm	Sensor sleeve	Mandatory
6	-	Rp 1½"	Secondary heat source	Depending on hydraulic schematic
7	H	Rp 2"	Electric immersion heater with extension	Optional
8	-	Rp 1½"	Secondary heat source	Depending on hydraulic schematic
9	-	Rp 1½"	Secondary heat source	Depending on hydraulic schematic
10	-	Rp 1½"	Secondary heat source	Depending on hydraulic schematic
11	-	Di 6 mm	Solar sensor sleeve	Mandatory
12	-	Rp 1½"	Secondary heat source	Optional
13	V4A	Rp 1"	Cold water connection (stainless steel)	Mandatory
15	-	Rp ½"	Sensor pocket for boiler thermometer	Optional
16	-	Di 6 mm	Sensor sleeve	Depending on hydraulic schematic
17	-	Di 6 mm	Sensor sleeve	Depending on hydraulic schematic
18	-	Di 6 mm	Sensor sleeve	Depending on hydraulic schematic
19	-	Di 6 mm	Sensor sleeve	Depending on hydraulic schematic
20	-	Rp ½"	Drainage	Mandatory
21	-	M6	Mounting sleeve for solar expansion tank	Mandatory
22	-	M6	Mounting sleeve for solar station	Mandatory
23	-	M6	Mounting sleeve for solar station	Mandatory
24	-	G1"	Solar station connection, solar forward flow (hot)	Mandatory
25	-	G1"	Solar station connection, solar return flow (cold)	Mandatory
30a	-	Rp 1½"	Corrugated connection pipe	Optional, only in conjunction with other tanks
30b	-	Rp 1½"	Corrugated connection pipe	
31	-	Rp 1½"	Corrugated connection pipe	
32	-	Rp 1½"	Corrugated connection pipe	
33	-	Rp 1½"	Corrugated connection pipe	