

Model EHSF: High Capacity Water Heater with Spiral Flat Heating Coil

50 - 1,000 kW for water / water operation

"The Green Calorifiers"

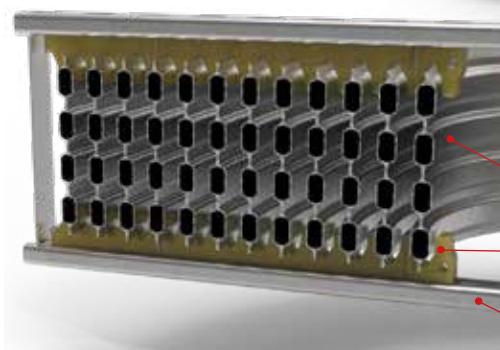


EHSF 2000L

Description

The ECOTHERM's new patented high-performance spiral coil has a maximum heat exchange area in the cold water zone or in the desired temperature zone due to its design and horizontal installation.

- Storage water heater made of stainless steel duplex / V4A with patented high-performance flat heating coil welded at the bottom of the tank.
- Optimal performance and layering, almost 100% storage volume available, bath pickled, low maintenance, improved hygiene, flange DN 200 (and DN100 up 500 liter) at front for cleaning purpose or for mounting an additional heat exchanger or screw-in heating element, sleeve 6/4" for screw-in heating element in the upper third, sleeves 1/2" for thermometers and temperature sensors, cold water connection at the front, hot water outlet at the center top.
- Fibre-fleece insulation of storage tank with robust outer sheath made of PP (RAL7037, dusty grey), patented aluminum closure strips and self-fixing closure caps, quick and easy installation, 80mm insulation up to 1,000 litres and 100mm above. 100% recyclable, fire protection class B2 (B1 upon request)
- Production by TÜV certified welding company according to HP-0 and ISO 3834-2, approval to SVGW and certified according to ISO 9001: 2015.
- Simple installation and short mounting time due to pre-assembled units.
- Maximum pressure/testing pressure: secondary 6/9bar; primary 3/6bar



- Flat Spiral Heating Coil
- Plastic spacing guide with KTW certification
- Metal framing profile

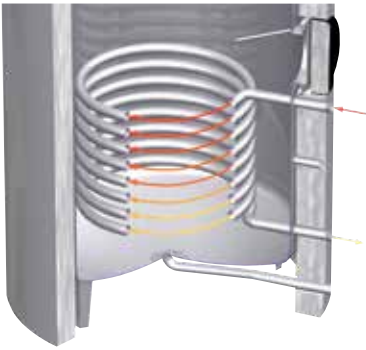
ECOTHERM Flat Spiral Heating Coil

- avoids damage of the passive layer
- floated mounting of the heat exchanger - no forces transferred to the tank shell

Patented Spiral Flat Heating Coil

Conventional heating coils

Conventional heat exchangers are always in mixing temperature zones from 10°C to 60°C and thus have a reduced heat transfer rate. During the heating phase heating coils produce circulations in the storage tank and need more primary energy. The available standby volume is usually only about 70% of the capacity of the storage tank.



- Up to 30% reduced effective volume & risk of legionella
- Reduced power consumption and poor heat layering
- Limited heat exchanger surfaces and reduced installation options
- Increased primary energy consumption

ECOTHERM Spiral Flat Heating Coils

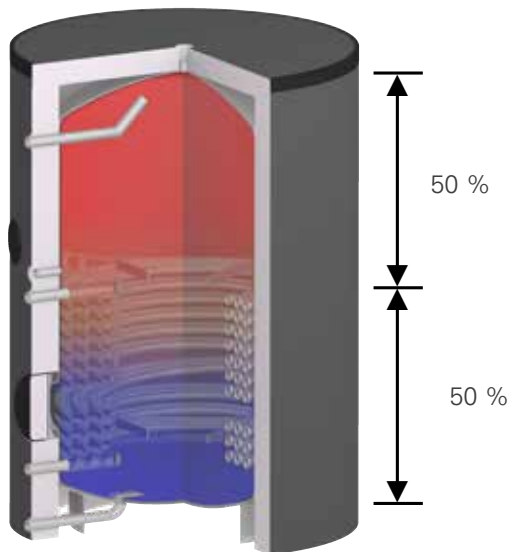
The patented spiral heating coil is mounted horizontally at the bottom of the storage tank. It is 100% in the cold water zone, respectively only in one temperature zone.

The installation directly above the tank bottom and the low height (13cm) allow an almost complete heating of the storage tank.



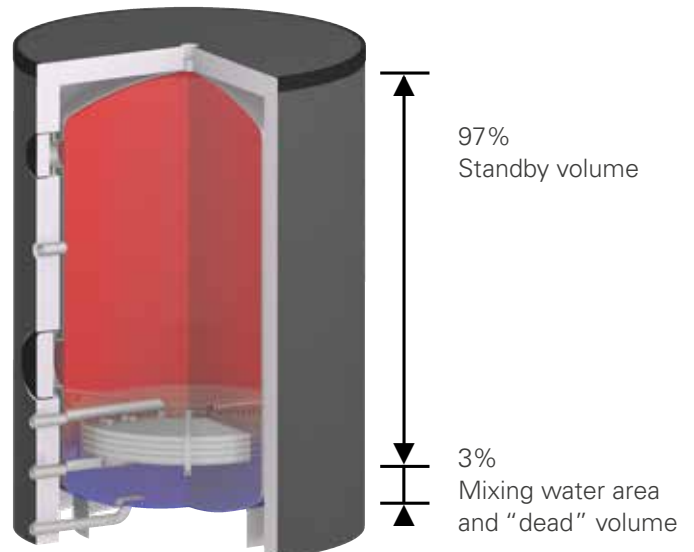
- The special construction of the register ensures:
- High standby volume (97% of the tank capacity)
- Hygienic water
- High efficiency due to efficient heat transfer
- Optimized heat layering
- Primary energy savings

Conventional heating coils



- 50% Standby volume
- 50% Mixing water area and "dead" volume

ECOTHERM Spiral Flat Heating Coils



- 97% Standby volume
- 3% Mixing water area and "dead" volume

Type: EHSF

Performance Data

One heating coil



Type	volume [l]	temperature primary 75°C - 55°C		temperature primary 85°C - 65°C		temperature primary 60°C - 55°C	
		capacity [kW]	continuous hot water output [l/h]	capacity [kW]	continuous hot water output [l/h]	capacity [kW]	continuous hot water output [l/h]
EHSF-400-2,5	400	54	1161	77	1655	35	752
EHSF-630-3	630	64	1376	92	1978	42	903
EHSF-800-4,2	800	90	1935	129	2773	59	1268
EHSF-1000-5,5	1000	117	2515	169	3633	77	1655
EHSF-1250-7	1250	149	3203	215	4622	98	2107
EHSF-1500-9,4	1500	200	4299	288	6191	131	2816
EHSF-2000-11,2	2000	238	5116	344	7395	156	3353
EHSF-3000-13,2	3000	281	6040	405	8706	183	3934
EHSF-4000-15,3	4000	325	6986	469	10082	213	4579

Two heating coils



Type	volume [l]	temperature primary 75°C - 55°C		temperature primary 85°C - 65°C		temperature primary 60°C - 55°C	
		capacity [kW]	continuous hot water output [l/h]	capacity [kW]	continuous hot water output [l/h]	capacity [kW]	continuous hot water output [l/h]
EHSF-400-5,1	400	109	2343	157	3375	71	1526
EHSF-630-6,1	630	130	2794	187	4020	85	1827
EHSF-800-8,4	800	179	3848	258	5546	117	2515
EHSF-1000-11	1000	234	5030	337	7244	153	3289
EHSF-1250-14	1250	298	6406	429	9222	195	4192
EHSF-1500-18,8	1500	400	8598	576	12382	261	5610
EHSF-2000-22,4	2000	476	10232	687	14768	311	6685
EHSF-3000-26,4	3000	561	12059	809	17390	366	7868
EHSF-4000-30,6	4000	650	13972	938	20163	425	9136

Three heating coils



Type	volume [l]	temperature primary 75°C - 55°C		temperature primary 85°C - 65°C		temperature primary 60°C - 55°C	
		capacity [kW]	continuous hot water output [l/h]	capacity [kW]	continuous hot water output [l/h]	capacity [kW]	continuous hot water output [l/h]
EHSF-400-7,6	400	162	3482	233	5009	106	2279
EHSF-630-9,1	630	194	4170	279	5997	127	2730
EHSF-800-12,6	800	268	5761	386	8298	175	3762
EHSF-1000-16,5	1000	351	7545	506	10877	229	4923
EHSF-1250-21	1250	447	9609	644	13844	292	6277
EHSF-1500-28,2	1500	599	12876	864	18573	391	8405
EHSF-2000-33,6	2000	714	15348	1030	22141	466	10017
EHSF-3000-39,6	3000	842	18100	1213	26075	549	11801
EHSF-4000-45,9	4000	975	20959	1406	30224	637	13693

Four heating coils



Type	volume [l]	temperature primary 75°C - 55°C		temperature primary 85°C - 65°C		temperature primary 60°C - 55°C	
		capacity [kW]	continuous hot water output [l/h]	capacity [kW]	continuous hot water output [l/h]	capacity [kW]	continuous hot water output [l/h]
EHSF-400-10,1	400	215	4622	310	6664	140	3009
EHSF-630-12,2	630	260	5589	374	8040	170	3654
EHSF-800-16,8	800	357	7674	515	11071	233	5009
EHSF-1000-22	1000	468	10060	674	14488	305	6556
EHSF-1250-28	1250	595	12790	858	18444	389	8362
EHSF-1500-37,6	1500	799	17175	1152	24764	522	11221
EHSF-2000-44,8	2000	952	20464	1373	29514	621	13349
EHSF-3000-52,8	3000	1122	24119	1618	34781	732	15735
EHSF-4000-61,2	4000	1300	27945	1875	40305	849	18250

EHSF: key to model number

Type	kW	t ₁	t ₂	Vol	Opt
1 2 3 4	5	6 7	8 9	10	11

Type

1st digit: **E** = ECOTHERM
 2nd digit: **H** = high capacity water heater
 3rd digit: **S** = spiral internal heating coil
 4th digit: **F** = flat

kW

5th digit: heat exchanger nominal rating in kilowatt

t₁

6th digit: feed temperature from boiler in °C
 7th digit: return temperature to boiler °C

t₂

8th digit: domestic cold water inlet temperature in °C
 9th digit: domestic hot water output temperature in °C

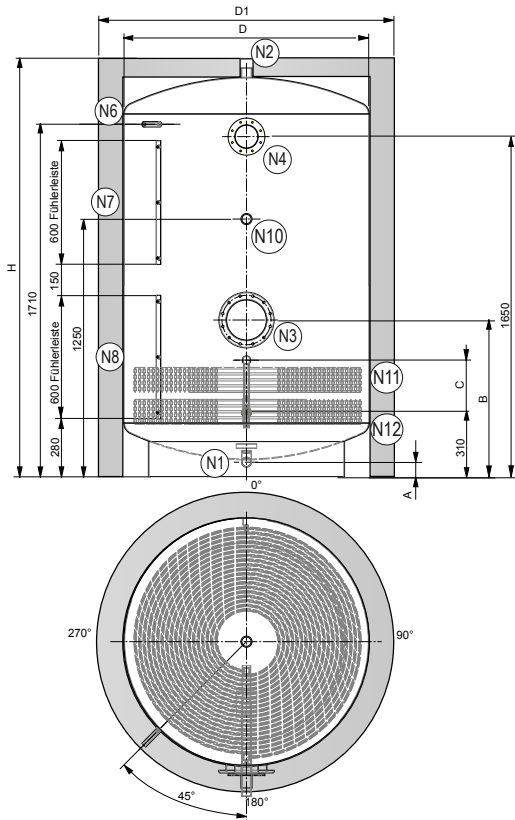
Vol

10th digit: tank capacity in liters

Opt - Options

11th digit: **E... kW** = electric heating element ... kW,
G... kW-t₁ = tube heat exchanger ... kW + t₁ boiler feed & return °C,
A = electric anode

Measurements and ports



Storage tank ports

port	size	angle°	description	
N1	50-75 kW	1" ext	180°	cold water inlet
N1	100-150 kW	5/4" ext	180°	cold water inlet
N1	200-250 kW	6/4" ext	180°	cold water inlet
N1	300-450 kW	2" ext	180°	cold water inlet
N1	500-800 kW	DN65	180°	cold water inlet
N1	900-1000 kW	DN80	180°	cold water inlet
N2	50-75 kW	1" int	top	hot water outlet
N2	100-150 kW	5/4" int	top	hot water outlet
N2	200-250 kW	6/4" int	top	hot water outlet
N2	300-450 kW	2" int	top	hot water outlet
N2	500-800 kW	DN65	180°	hot water outlet
N2	900-1000 kW	DN80	180°	hot water outlet
N3		DN 200	180°	purification flange (up to 3000 l)
N3		DN 400	180°	manhole (ab 4000 Liter)
N4		DN 100	180°	purification flange (from 630 l)
N6		1/2" IG	225°	thermometer
N7		-	225°	temperature sensors on top
N8		-	225°	temperature sensors on bottom
N10		6/4" IG	180°	circulation, electric element
N11	50-100 kW	1" ext	180°	boiler feed boiler return
N12				
N11	100-150 kW	5/4" ext	180°	boiler feed boiler return
N12				
N11	200-250 kW	6/4" ext	180°	boiler feed boiler return
N12				
N11	300-450 kW	2" ext	180°	boiler feed boiler return
N12				
N11	500-800 kW	DN65	180°	boiler feed boiler return
N12				
N11	900-1000 kW	DN80	180°	boiler feed boiler return
N12				

Storage tank dimensions

storage capacity		weight empty*	A	B	C	D	D ₁	H	tipping mass	insulation thickness
Model	Liter	kg	mm	mm	1/2/3/4 Reg. mm	mm	mm	mm	mm	mm
EHSF...-400	400	80	90	610	100/250/400/550	650	890	1920	1840	120
EHSF...-630	630	105	90	610	100/250/400/550	700	940	1980	1920	120
EHSF...-800	800	120	80	610	100/250/400/550	790	1030	1980	1945	120
EHSF...-1000	1000	147	70	610	100/250/400/550	890	1130	1980	1945	120
EHSF...-1500	1500	228	70	610	100/250/400/550	1100	1340	2025	2010	120
EHSF...-2000	2000	335	70	610	100/250/400/550	1200	1440	2050	2045	120
EHSF...-3000	3000	470	115	660	100/250/400/550	1350	1590	2615	2490	120
EHSF...-4000	4000	557	165	740	100/250/400/550	1500	1740	2630	2750	120
EHSF...-5000	5000	662	165	740	100/250/400/550	1680	1920	2900	2960	120

*) weight of empty storage tank excl. internal heating coil