



Flamco

Your reliable partner

ENERGY EFFICIENT • HYGIENIC • MAINTENANCE FREE

Stainless Steel Calorifiers

Technical Brochure

High Quality
1.4521
Stainless Steel



A Complete Range of Stainless Steel Calorifiers

Flamco offers a wide selection of stainless steel calorifiers for various applications. From indirectly heated water heaters for use in combination with gas or oil-fired boilers, to hot potable water storage vessels for combination with external heat

exchangers, through to storage systems such as solar and heat pump tanks developed especially for renewable energies. The sizes available range from 100 to 910 litres.

High Quality
1.4521
Stainless Steel

Made from high-quality, hygienic and low-maintenance stainless steel 1.4521 containing molybdenum, with excellent corrosion resistance.

DUO HLS-E

Stainless steel indirect water heater. Can be combined with all modern heating systems.

DUO HLS-E Solar

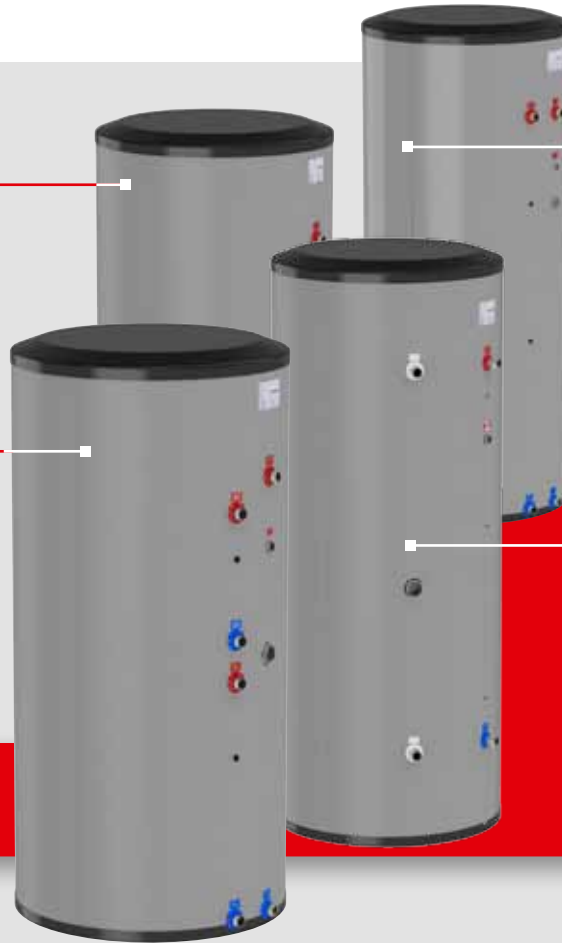
Stainless steel indirect water heater. Can be used for combining thermal solar systems with modern heating systems.

WPS-E

Stainless steel indirect water heater with large heating coil, specially developed for use in conjunction with heat pumps.

LS-E

Stainless steel potable hot water storage vessel (without heating coil). Can be used for potable water heating systems in conjunction with external heat exchangers.



Also available (see page 16 - 21):



WPS-E XL



WPS-E Solar



TRIPLE-E



KPS-E



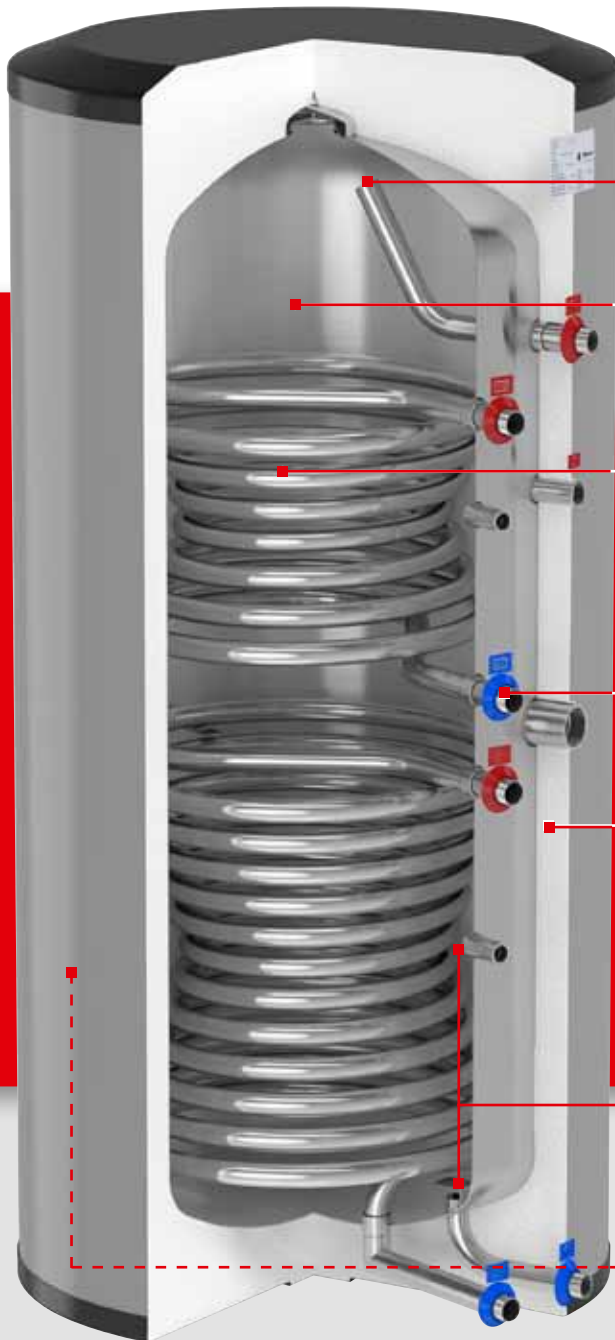
TS-E



WS-E

Flamco Stainless Steel Calorifier Advantages:

- Economical: Minimal heat loss, quick heating, ensuring energy efficiency.
- Low maintenance: no anode needed.
- Light weight.
- Excellent stratification.
- High chloride resistance up to 250 ppm chloride.



DUO HLS-E Solar

Takes the hot water from the highest point (best stratification)

- Extremely long-lasting through special post-treatment (pickling and passivation).

Internally and externally 100% pickled and passivated.

- High energy efficiency. The diaboloid-shaped heating coil (LS-E without heat exchangers) ensures efficient heat transfer and short reheating time.

Innovative, diaboloid-shaped heating coils for optimum heat transfer.

Easy accessible, coloured and labeled connections, all to one side, for easy installation.

- The calorifiers with a capacity of up to 500 litres are supplied with high quality EPS insulation with foil jacket and cover caps. Calorifiers with a capacity over 500 litres have removable fleece insulation.

Optimum insulation.

Smooth surface weldings and connections to prevent legionella growth.



With easy accessible cleaning and inspection flange (750/910 litre versions)

The Ideal Stainless Steel Calorifiers For Your Needs

Flamco has extended our range of calorifiers with a complete line of stainless steel water heaters and potable hot water storage vessels.

Extensive research has been done to make sure the Flamco stainless steel calorifiers are a step ahead of their competitors.

General Properties

Material

- Vessel and coil: Stainless Steel 1.4521 (AISI 444).
PRE-value (corrosion resistance level): > 24.
- Insulation: 50 mm EPS insulation (100 - 500 litre).
100 mm FCKW-free polyester fleece insulation (750 - 910 litre).
- Colour: Available in white (RAL 9016) or silver (RAL 9006).
(not applicable to all versions)

Complete stainless steel range:

- Potable hot water storage vessels
- Indirect water heaters
- Twin coil water heaters (solar)
- Triple coil water heaters
- Heat pump water heaters
- Wall mounted water heaters
- Horizontal water heaters



- | | |
|-------------------------------|---|
| Usage: | Normal drinking water up to 250 ppm chloride. |
| Max. working pressure vessel: | 10 bar. |
| Max. working pressure coil: | 40 bar. |
| Max. working temperature: | 95 °C. |
| Guarantee: | 5 years on all calorifier parts. |

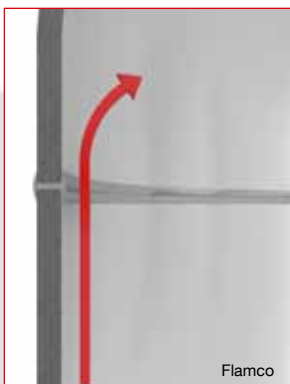
The Main Advantages of Flamco Stainless Steel Calorifiers

Completely Stained and Passivated

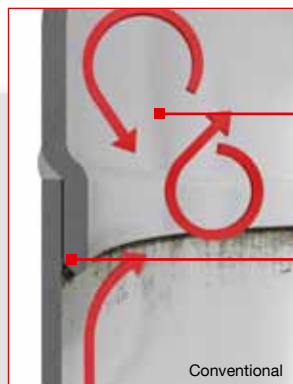
The Chromium oxide layer is recovered after welding. This restores the long lifetime and excellent corrosion resistant properties of the stainless steel.

Hygienic

Flamco has designed the calorifiers in such a way that all surfaces are smooth, especially around the welds and connections. This eliminates the creation of non-flow zones which could cause legionella growth.



VS



Conventional welding seams create more turbulence which results in reduced stratification.

Chance of legionella growth in dead zone.



Welding seams in Flamco calorifiers compared to conventional calorifiers.

Excellent Stratification

The design makes sure layering of water temperature zones is optimized. The separation of cold, incoming water at the bottom and the heated water at the top is maintained, so you always have the hottest water in the upper part, ready for use.



VS

hot
cold



Stratification in heat up (half way) with Flamco calorifiers compared to conventional calorifiers.



Easy Accessible

The Flamco Stainless Steel Calorifiers are designed with all connections conveniently coloured, labeled and on one side of the calorifier for easy installation.

Coloured and labeled connections.

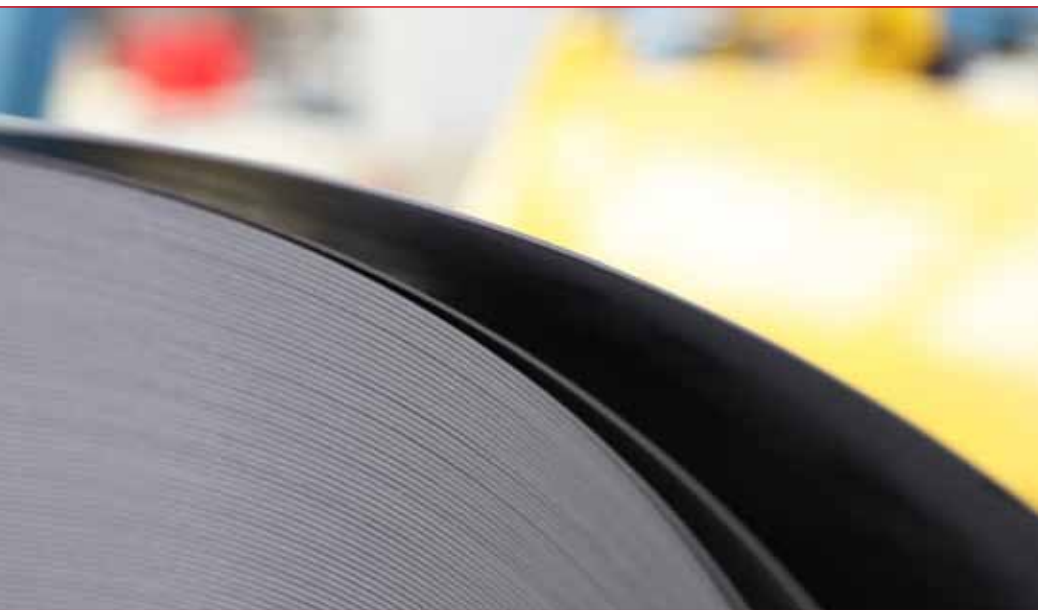


Premium Materials

The Next Step in High Quality Stainless Steel: 1.4521

1.4521 distinguishes itself through its high corrosion resistance and the wide variety of systems it can be used in. When it comes to durability and optimal water quality in drinking water and industrial systems, long term performance is ensured.

- Optimal corrosion resistance: Corrosion resistance equal to 1.4401 (AISI 316) for drinking water. (1.4521 is in some aspects even more resistant (PRE-value > 24) than 1.4401)
- Nickel free: Chromium and molybdenum provide corrosion resistance.
- High chloride resistance: Up to 250 ppm chloride, at a temperature of 90 °C.
- Best choice for potable water: Preferred and recommended material for use with all drinking water installations, accepted by water authorities.



Insulating Jackets

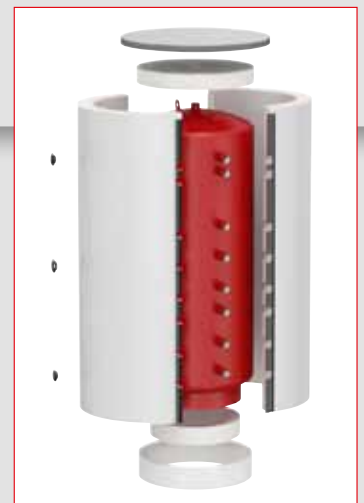
EPS insulation

- For all stainless steel calorifiers up to 500 litre.
- Easy to separate from the calorifier at the end of its lifetime, easy recyclable, environmentally friendly.
- Can be installed without removing the insulation.
- Skintight fit which optimizes insulation.
- Conforms to B2 fire safety class under the terms of DIN 4102.
- Thermal conductivity (λ): 0.033 W/m °K according to DIN EN 12667.



Fleece insulation

- For all stainless steel calorifiers of 750 and 910 litre.
- Easy to install after the calorifier is installed.
- 25% less loss of residual heat compared to soft foam insulation.
- Made out of 50% recycled material.
- Lightweight.
- Conforms to B2 fire safety class under the terms of DIN 4102.
- Thermal conductivity (λ): 0.0386 W/m °K according to DIN EN 12667.

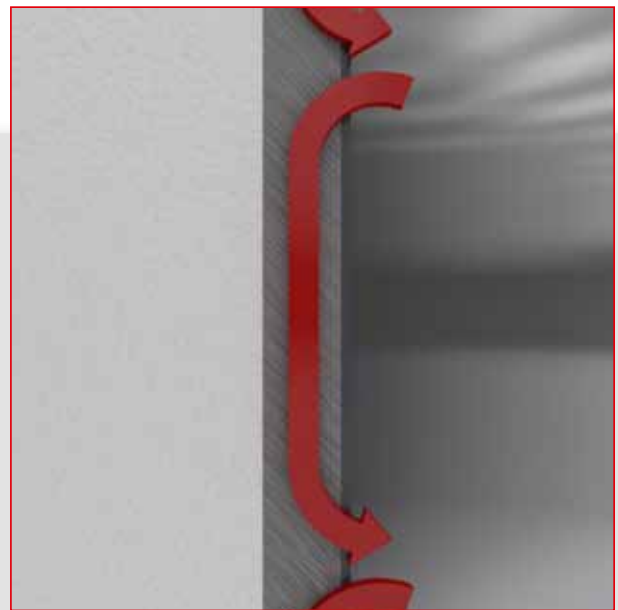
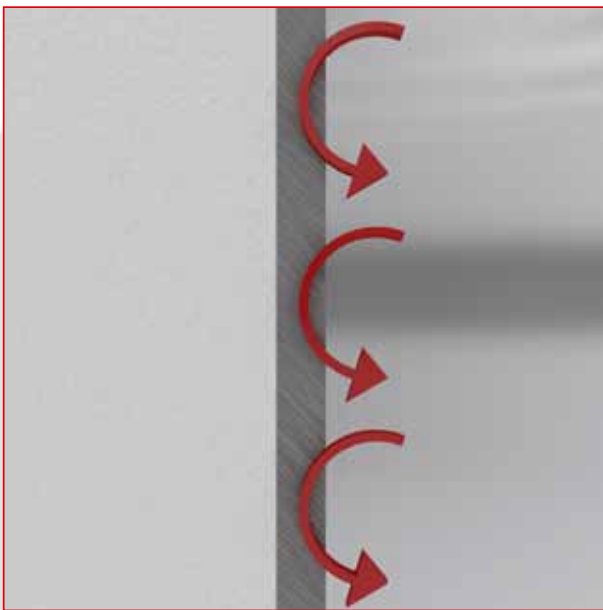


Fleece insulation

Flamco Stainless Steel Calorifiers in Comparison

Stainless Steel Calorifiers compared to Glass Lined Calorifiers

- Lighter: Material has a lower specific weight and is thinner.
- No anode needed: Stainless Steel is unaffected by oxidation. Welding seams are pickled and passivated after welding.
- Better heat transfer of coil: No glass lined coils are used. Glass lining on coils acts as insulation, making heat transfer less efficient.
- Better stratification: The body of stainless steel calorifiers is thinner which results in reduced conductivity => less heat transfer through the vessel body.



Heat transfer of thin stainless steel calorifier body (left) and thick glass lined calorifier body (right) compared.

Stainless Steel Calorifiers Compared to Copper Calorifiers

- Non-Toxic: Copper is toxic and dissolves in water.
- Lower material costs: Copper is significantly more expensive.
- No fins: With copper calorifiers fins are needed for comparable heat exchange. Fins create dead water zones which could result in legionella growth.
- Larger heat exchanger coil surface: Copper coils are smaller than in stainless steel calorifiers.

Heating Coil Compared to Tank-in-Tank Solutions

- Better stratification: Tank-in-tank solutions do not benefit from stratification => less efficient / economical.
- Better flow through: The coil ensures all water is circulated. Tank-in-tank solutions provide less flow through, which increases the chance of legionella growth.
- Better energy efficiency: The coil is completely in contact with the water it is heating up. Tank-in-tank solutions have all the heating water outside of the tank, which means more heat/energy loss.



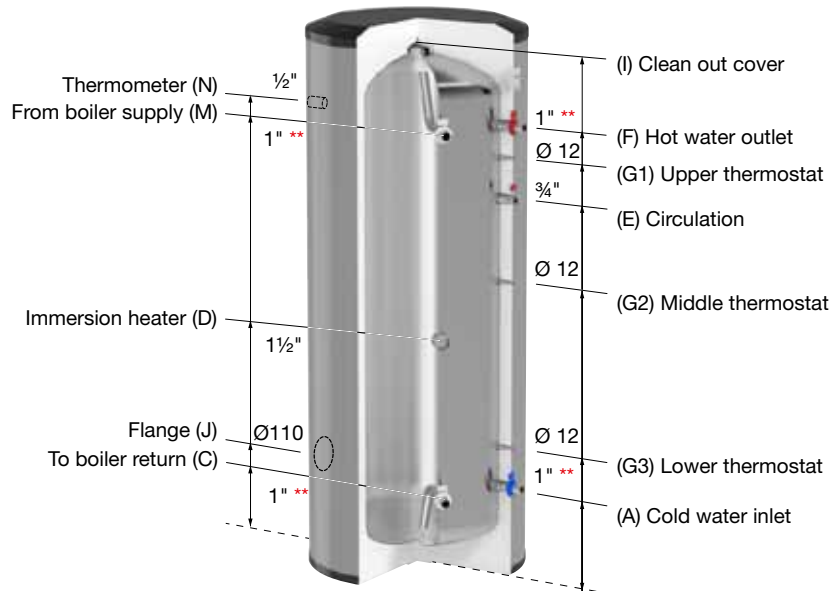
Our Complete Stainless Steel Calorifier Range

LS-E STAINLESS STEEL POTABLE HOT WATER STORAGE VESSEL

Stainless steel 1.4521 potable hot water storage vessel which can be used for storage in potable water heating systems connected to external heat exchangers.

Storage vessel for use in systems in which heat is exchanged by external plate heat exchangers. Enables heating of large volumes of potable water in a short time span.

- Max. working pressure vessel: 10 bar.
- Max. working temperature: 95 °C.
- LS-E 300 and 500 with 1 ½" connection for immersion heater.
- LS-E 750 and 910 with lateral inspection flange DN 110.




Connection Diagram

Type	Distance from floor to connection								
	A/C [mm]	D [mm]	G3 [mm]	G2 [mm]	E [mm]	G1 [mm]	F/M/N [mm]	I [mm]	J [mm]
LS-E 300	272	792	372	792	1125	1412	1537	1712	-
LS-E 500	312	836	446	1002	1276	1412	1517	1739	-
LS-E 750	323	-	448	1003	1278	1413	1518	1848	413
LS-E 910	323	-	448	1003	1453	1588	1693	2023	413

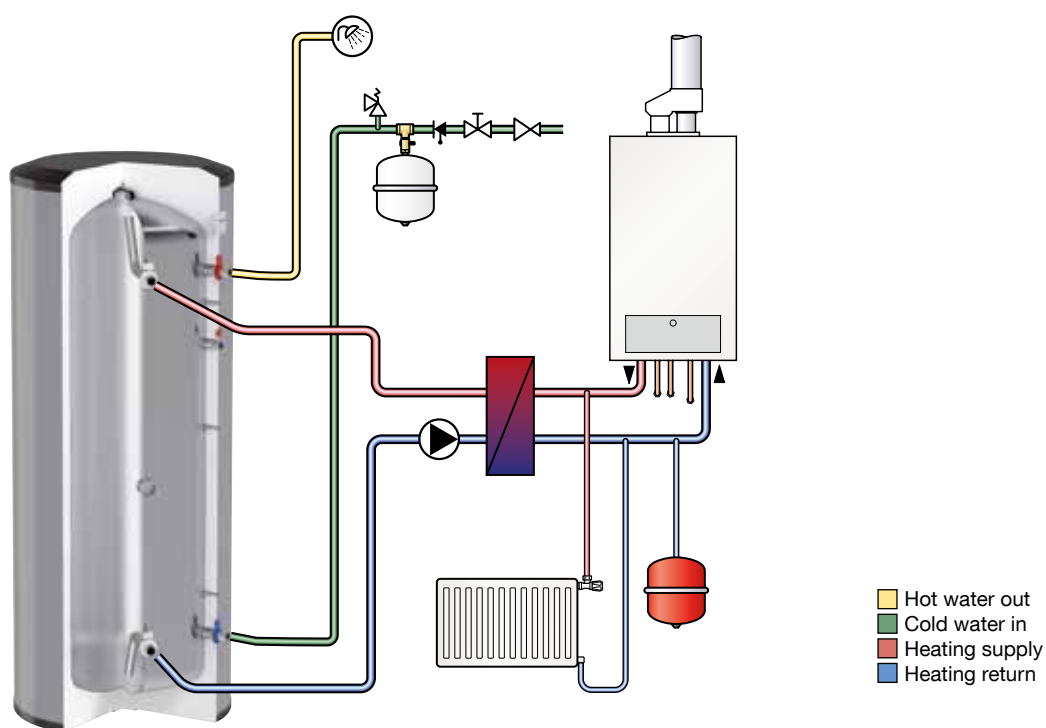


Technical Data

Type	Volume [L]	Dimensions			Insulation		Weight [kg]	Overall thermal loss (EN 12897) [kWh/24h]		Article Code
		Ø [mm] *	H. [mm] *	Tilting height [mm]	Colour	Material				
LS-E 300	300	605	1775	1842	silver	50 mm EPS	39	2.29	1	19440
LS-E 500	500	735	1849	1958	silver	50 mm EPS	61	3.09	1	19441
LS-E 750	750	990	1848	1833	silver	100 mm Fleece	84	3.42	1	19442
LS-E 910	910	990	2023	2004	silver	100 mm Fleece	92	3.84	1	19443

* Includes Insulation.

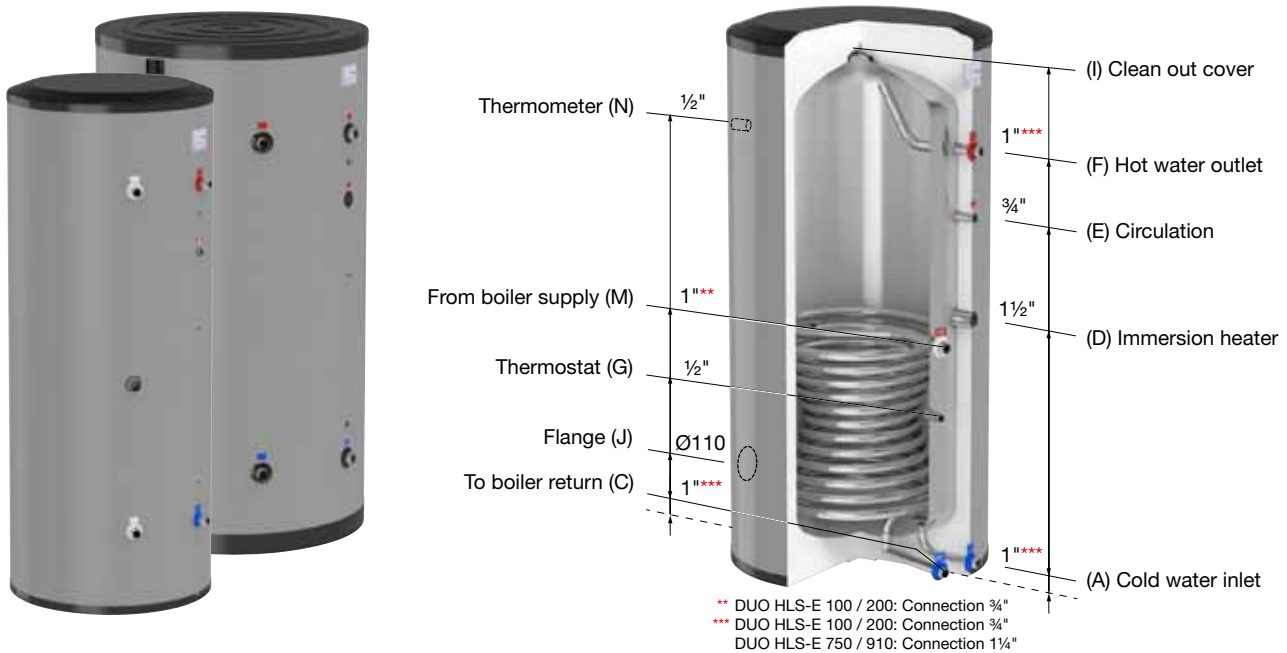
Installation Example



DUO HLS-E STAINLESS STEEL INDIRECT WATER HEATER

Indirectly heated stainless steel 1.4521 water heater. Can be combined with all modern central heating systems. The diablo shaped heating coil ensures efficient heat transfer, with short heating time. The Duo HLS-E offers optimum performance combined with high energy efficiency.


- Max. working pressure vessel: 10 bar.
- Max. working pressure coil: 40 bar.
- Max. working temperature: 95 °C.
- From 300 litre with 1 ½" connection for immersion heater.
- Duo HLS-E 750 and 910 with lateral inspection flange DN 110.



Connection Diagram

Type	Distance from floor to connection							
	A/C [mm]	M [mm]	D [mm]	E [mm]	F/N [mm]	G [mm]	I [mm]	J [mm]
DUO HLS-E 100	55	395	-	660	765	295	992	-
DUO HLS-E 150	55	455	-	1065	1170	335	1398	-
DUO HLS-E 200	51	554	-	1111	1341	379	1558	-
DUO HLS-E 300	47	652	792	1287	1472	452	1690	-
DUO HLS-E 400	52	687	742	1025	1210	487	1476	-
DUO HLS-E 500	52	687	836	1317	1517	487	1783	-
DUO HLS-E 750	50	838	936	1293	1518	568	1807	413
DUO HLS-E 910	50	838	936	1468	1693	568	1982	413

Technical Data

Type	Volume [L]	Dimensions			Insulation		Weight [kg]		Article Code
		Ø [mm] *	H. [mm] *	Tilting height [mm]	Colour	Material			
DUO HLS-E 100	100	510	1005	1097	white	50 mm EPS	20	1	19400
DUO HLS-E 150	150	510	1411	1486	white	50 mm EPS	28	1	19401
DUO HLS-E 150	150	510	1411	1488	silver	50 mm EPS	28	1	19402
DUO HLS-E 200	200	555	1593	1655	white	50 mm EPS	32	1	19403
DUO HLS-E 200	200	555	1593	1655	silver	50 mm EPS	32	1	19404
DUO HLS-E 300	300	605	1775	1842	white	50 mm EPS	47	1	19405
DUO HLS-E 300	300	605	1775	1842	silver	50 mm EPS	47	1	19406
DUO HLS-E 400	400	733	1542	1677	white	50 mm EPS	63	1	19407
DUO HLS-E 400	400	733	1542	1677	silver	50 mm EPS	63	1	19408
DUO HLS-E 500	500	733	1849	1958	white	50 mm EPS	71	1	19409
DUO HLS-E 500	500	733	1849	1958	silver	50 mm EPS	71	1	19410
DUO HLS-E 750	750	990	1875	1833	silver	100 mm Fleece	101	1	19411
DUO HLS-E 910	910	990	2050	2004	silver	100 mm Fleece	110	1	19412

* Includes insulation.

Performance

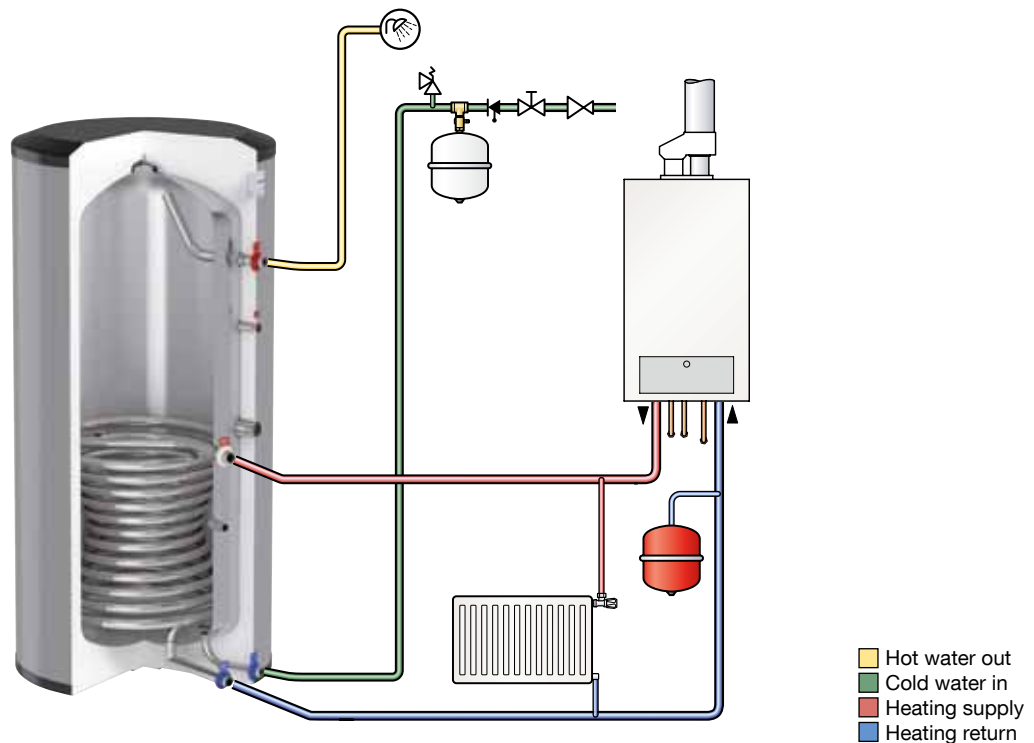
Specifications	DUO HLS-E							
	100	150	200	300	400	500	750	910
Heating surface coil [m ²]	0.57	0.66	0.91	1.32	1.59	1.59	2.25	2.25
Continuous output (DIN 4708) [kW]	29	33	42	65	85	85	130	130
Service water output (10 - 45 °C) [L/h]	712	810	1031	1596	2088	2088	3193	3193
Total heat loss (EN 12897) [Kwh/24h]	1.35	1.64	1.94	2.29	2.86	3.09	3.42	3.84
Heating water throughput [m ³ /h]	2.5	2.5	2.5	3	4	4	5	5
Pressure drop [mbar]	75	90	125	260	190	190	380	380
Performance index (60 °C) [NL]	1.5	2.5	6	16	22	27	47	54
Peak flow (T = 40 °C) [L/10 min.] *	194	261	365	552	685	772	1211	1350
Peak flow (T = 60 °C) [L/10 min.] *	140	194	268	403	513	600	890	1029
Peak flow (T = 40 °C) [L/60 min.] *	729	911	1320	2007	2370	2457	4001	4140
Peak flow (T = 60 °C) [L/60 min.] *	405	512	738	1113	1338	1425	2075	2214
Permanent flow (T = 40 °C) [L/60 min.] *	642	780	1146	1746	2022	2022	3348	3348
Permanent flow (10 -> 40 °C, with water 90 °C) [L/60 min.]	714	864	1272	1938	2250	2250	3240	3240
Heat up time (10 -> 40 °C, with water 90 °C) [min.]	8	10	9	9	10	12	13	16
Output (at ΔT = 35 °C) [kW]	21.4	26.0	38.2	58.3	67.3	67.3	97.2	97.2
Heat up time (at ΔT = 35 °C) [min.]	11	13	12	12	13	17	18	21
Rated output 85/65 °C coil [kW]	16.9	20.5	30.1	45.7	52.9	52.9	76.1	76.1
Continuous output 85/65 °C [L/h]	266	322	474	720	834	834	1200	1200
First hour continuous output 85/65 °C [L]	353	453	648	981	1182	1269	1853	1992
Pressure drop coil 85/65 °C [kPa]	1.1	1.9	5.2	15.9	8.3	8.3	22.9	22.9
Rated output 90/70 °C coil [kW]	21.2	25.7	37.3	56.3	65.4	65.4	93.9	93.9
Continuous output 90/70 °C [L/h]	335	406	587	888	1031	1031	1479	1479
First hour continuous output 90/70 °C [L]	422	537	761	1149	1379	1466	2132	2271
Pressure drop coil 90/70 °C [kPa]	1.7	2.8	7.6	23.0	12.0	12.0	34.1	34.1

* Hot leg temperature: 85 °C.

Heating water throughput as per rated output 85/65 °C.

Cold water temperature: 10 °C.

Installation Example

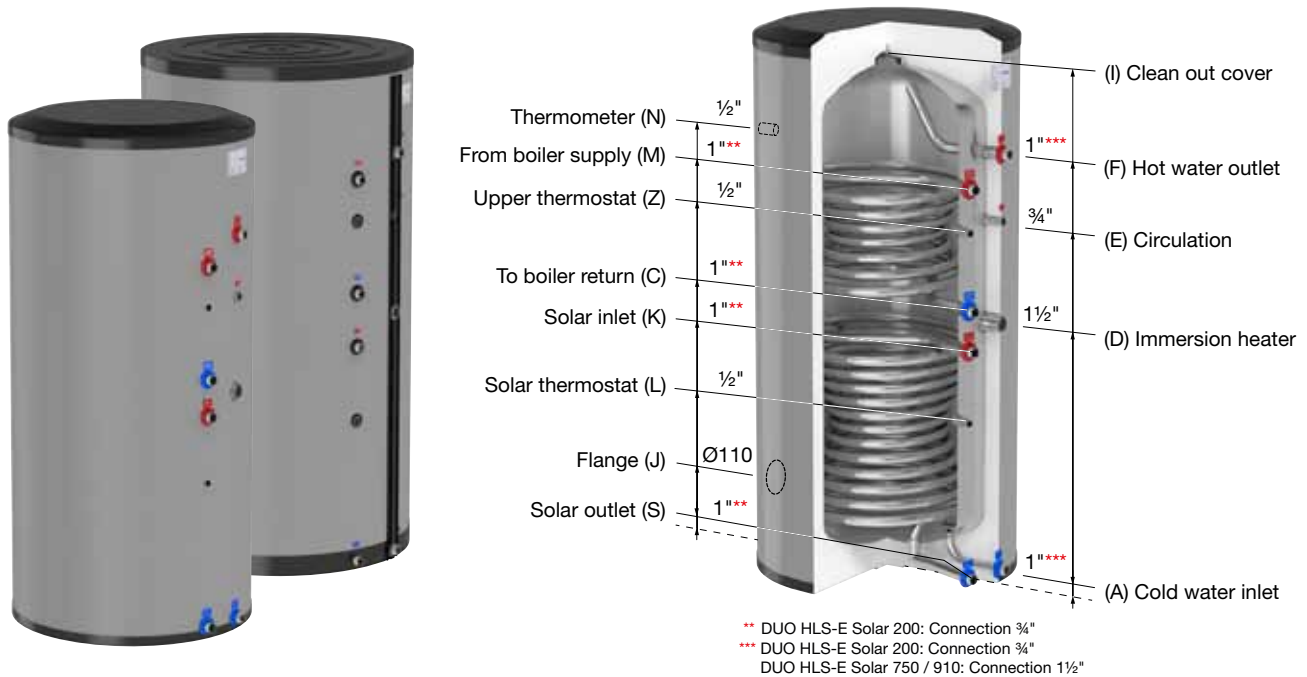


DUO HLS-E SOLAR STAINLESS STEEL TWIN COIL WATER HEATER

Indirectly heated stainless steel 1.4521 water heater which can be used to combine thermal solar systems with all modern central heating systems.

Solar water heater for use in systems using renewable energy. The diabolo shaped heating coils ensure efficient heat transfer, with short heating time. The Duo HLS-E Solar offers optimum performance combined with high energy efficiency.


- Max. working pressure vessel: 10 bar.
- Max. working pressure coil: 40 bar.
- Max. working temperature: 95 °C.
- With 1 1/2" connection for immersion heater.
- Duo HLS-E Solar 750 and 910 with lateral inspection flange DN 110.



Connection Diagram

Type	Distance from floor to connection											
	A/S [mm]	C [mm]	M [mm]	D [mm]	E [mm]	F [mm]	Z [mm]	N [mm]	I [mm]	K [mm]	L [mm]	J [mm]
DUO HLS-E Solar 200	51	1005	1245	762	1147	1377	1147	1341	1558	554	379	-
DUO HLS-E Solar 300	47	927	1287	792	1287	1537	1167	1537	1690	652	452	-
DUO HLS-E Solar 400	52	798	1130	742	1025	1210	1010	1210	1476	687	487	-
DUO HLS-E Solar 500	52	985	1317	836	1197	1517	1197	1517	1783	687	487	-
DUO HLS-E Solar 750	50	1031	1441	936	1291	1516	1291	1518	1805	838	568	413
DUO HLS-E Solar 910	50	1208	1618	936	1468	1693	1468	1693	1982	838	568	413

Technical Data

Type	Volume [L]	Dimensions			Insulation		Weight [kg]		Article Code
		Ø [mm] *	H. [mm] *	Tilting height [mm]	Colour	Material			
DUO HLS-E Solar 200	200	555	1593	1655	white	50 mm EPS	35	1	19415
DUO HLS-E Solar 200	200	555	1593	1655	silver	50 mm EPS	35	1	19416
DUO HLS-E Solar 300	300	605	1775	1842	white	50 mm EPS	53	1	19417
DUO HLS-E Solar 300	300	605	1775	1842	silver	50 mm EPS	53	1	19418
DUO HLS-E Solar 400	400	733	1542	1677	white	50 mm EPS	70	1	19419
DUO HLS-E Solar 400	400	733	1542	1677	silver	50 mm EPS	70	1	19420
DUO HLS-E Solar 500	500	733	1849	1958	white	50 mm EPS	77	1	19421
DUO HLS-E Solar 500	500	733	1849	1958	silver	50 mm EPS	77	1	19422
DUO HLS-E Solar 750	750	990	1875	1833	silver	100 mm Fleece	111	1	19423
DUO HLS-E Solar 910	910	990	2050	2004	silver	100 mm Fleece	119	1	19424

* Includes Insulation.

** With 200 litre connection 3/4".

Performance

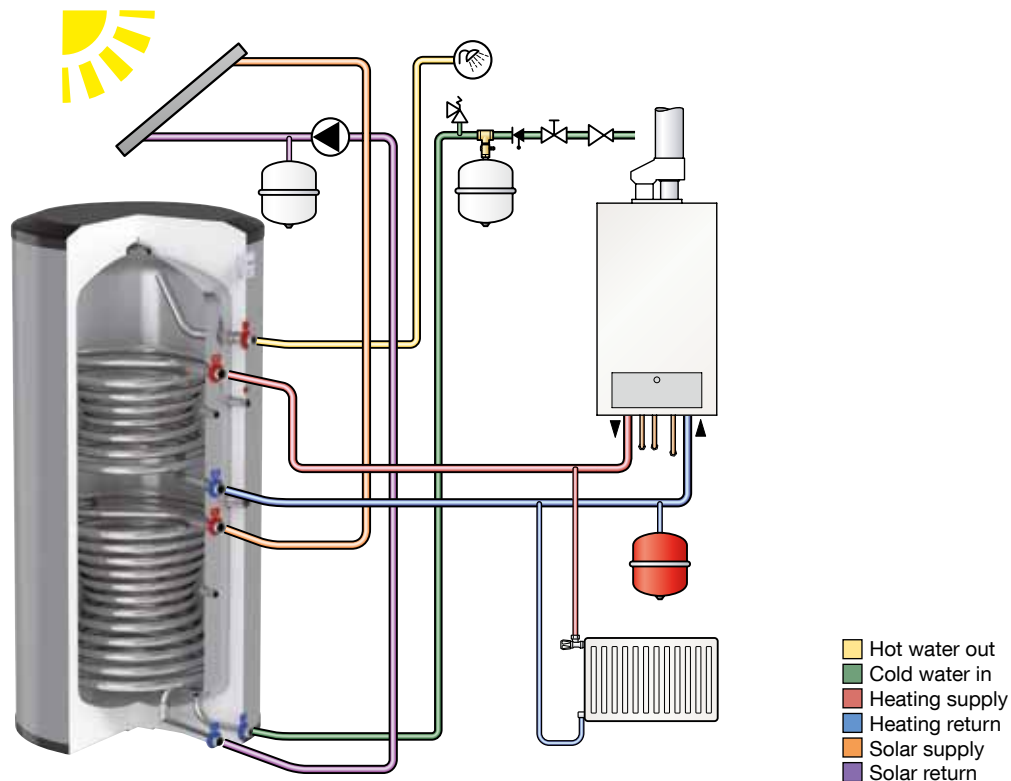
Specifications	DUO HLS-E Solar					
	200	300	400	500	750	910
Heating surface bottom coil [m²]	0.91	1.32	1.59	1.59	2.25	2.25
Heating surface top coil [m²]	0.50	0.88	0.89	0.89	1.58	1.58
Continuous output (DIN 4708) [kW]	24 / 42	44 / 65	46 / 85	46 / 85	70 / 130	70 / 130
Service water output (10 - 45 °C) [L/h]	590 / 1031	1031 / 1596	1130 / 2088	1130 / 2088	1720 / 3193	1720 / 3193
Total heat loss (EN 12897) [Kwh/24h]	1.94	2.29	2.86	3.09	3.42	3.42
Heating water throughput [m³/h]	2 / 2.5	3 / 3	3.5 / 4	4 / 4	4 / 5	4 / 5
Pressure drop [mbar]	61 / 125	188 / 260	98 / 190	125 / 190	215 / 380	215 / 380
Performance index (60 °C) [NL]	1 / 6	3.5 / 16	6 / 22	6 / 27	15 / 47	24 / 54
Peak flow (T = 40 °C) [L/10 min.] *	365	552	685	772	1211	1350
Peak flow (T = 60 °C) [L/10 min.] *	268	403	513	600	890	1029
Peak flow (T = 40 °C) [L/60 min.] *	1320	2007	2370	2457	4001	4140
Peak flow (T = 60 °C) [L/60 min.] *	738	1113	1338	1425	2075	2214
Permanent flow (T = 40 °C) [L/60 min.] *	1146	1746	2022	2022	3348	3348
Permanent flow (10 -> 40 °C, with water 90 °C) [L/60 min.]	1272	1938	2250	2250	3240	3240
Heat up time (10 -> 40 °C, with water 90 °C) [min.]	9	9	10	12	13	16
Output (at ΔT = 35 °C) [kW]	38.2	58.3	67.3	67.3	97.2	97.2
Heat up time (at ΔT = 35 °C) [min.]	12	12	13	17	18	21
Rated output 85/65 °C bottom coil [kW]	30.1	45.7	52.9	52.9	76.1	76.1
Rated output 85/65 °C top coil [kW]	14.5	28.9	25.9	25.9	52.7	52.7
Continuous output 85/65 °C [L/h]	474	720	834	834	1200	1200
First hour continuous output 85/65 °C [L]	648	981	1182	1269	1853	1992
Pressure drop bottom coil 85/65 °C [kPa]	5.2	15.9	8.3	8.3	22.9	22.9
Pressure drop top coil 85/65 °C [kPa]	0.8	4.6	1.3	1.3	8.0	8.0
Rated output 90/70 °C bottom coil [kW]	37.3	56.3	65.4	65.4	93.9	93.9
Rated output 90/70 °C top coil [kW]	18.6	35.8	32.5	32.5	64.9	64.9
Continuous output 90/70 °C [L/h]	293	564	513	513	1023	1023
First hour continuous output 90/70 °C [L]	467	825	861	948	1676	1815
Pressure drop bottom coil 90/70 °C [kPa]	7.6	23.0	12.0	12.0	34.1	34.1
Pressure drop top coil 90/70 °C [kPa]	1.2	6.7	2.0	2.0	11.5	11.5

* Hot leg temperature: 85 °C.

Heating water throughput as per rated output 85/65 °C.

Cold water temperature: 10 °C.

Installation Example

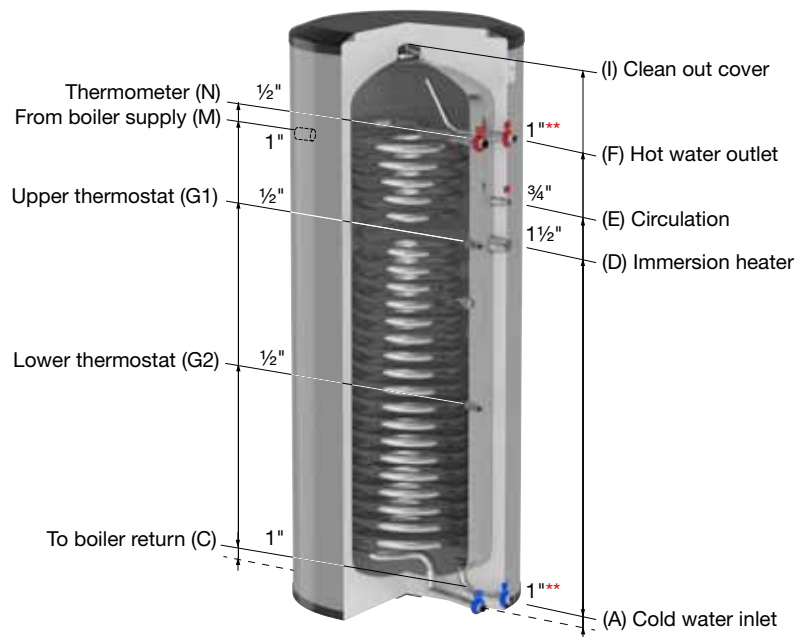


WPS-E STAINLESS STEEL HEAT PUMP WATER HEATER

Indirectly heated stainless steel 1.4521 water heater which can be used in combination with heat pumps.

A water heater developed specially for the combination with heat pumps. The large heat exchanging surface of the heating coils and their innovative diablo shape ensure highly efficient hot water production. This means a short heating time and guaranteed hot water performance.

- Max. working pressure vessel: 10 bar.
- Max. working pressure coil: 40 bar.
- Max. working temperature: 95 °C.
- With 1 ½" connection for immersion heater.




** WPS-E 200: Connection ¾"

Connection Diagram

Type	Distance from floor to connection							
	A/C [mm]	D [mm]	E [mm]	F/M [mm]	G1 [mm]	G2 [mm]	N [mm]	I [mm]
WPS-E 200	51	1001	1111	1341	1054	554	1341	1593
WPS-E 300	47	1152	1287	1537	1252	722	1537	1775
WPS-E 400	52	875	1025	1210	1010	582	1210	1542
WPS-E 500	52	1182	1317	1517	1197	687	1517	1849

Technical Data

Type	Volume [L]	Dimensions			Insulation		Weight [kg]		Article Code
		Ø [mm] *	H. [mm] *	Tilting height [mm]	Colour	Material			
WPS-E 200	200	555	1593	1660	silver	50 mm EPS	45	1	19430
WPS-E 300	300	605	1775	1850	silver	50 mm EPS	61	1	19431
WPS-E 400	400	735	1542	1680	silver	50 mm EPS	82	1	19432
WPS-E 500	500	735	1849	1960	silver	50 mm EPS	86	1	19433

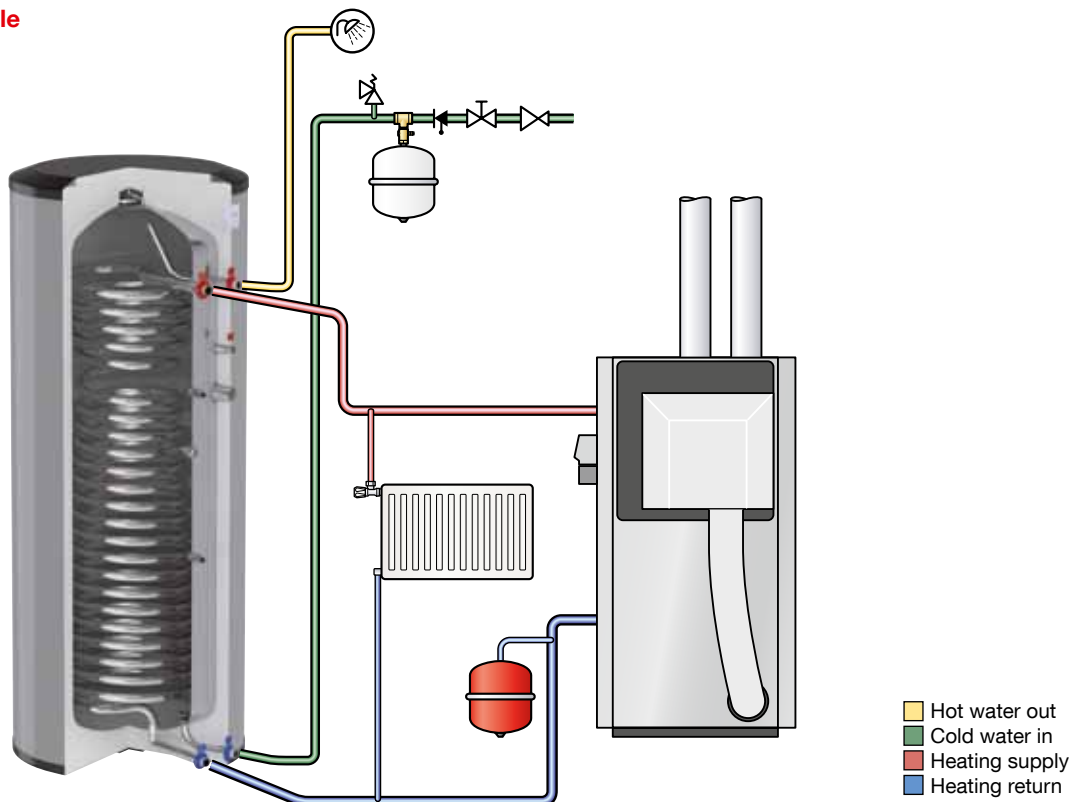
* Includes Insulation.

Performance

Specifications	WPS-E			
	200	300	400	500
Heating surface coil [m ²]	2.5	2.9	3.2	3.7
Continuous output (DIN 4708) [kW]	41 / 47	45 / 52	49 / 56	52 / 62
Service water output (10 - 45 °C) [L/h]	1008 / 1163	1104 / 1284	1182 / 1386	1284 / 1530
Total heat loss (EN 12897) [Kwh/24h]	1.94	2.28	2.73	3.09
Heating water throughput [m ³ /h]	2 / 3	2 / 3	2 / 3	2 / 3
Pressure drop [mbar]	117 / 243	132 / 276	144 / 298	165 / 342
Performance index (60 °C) [NL]	6	9	10	12
Peak flow (T = 40 °C) [L/10 min.] *	707	868	1028	1215
Peak flow (T = 60 °C) [L/10 min.] *	424	543	658	790
Peak flow (T = 40 °C) [L/60 min.] *	3472	4053	4628	5365
Peak flow (T = 60 °C) [L/60 min.] *	1774	2103	2408	2815
Permanent flow (T = 40 °C) [L/60 min.] *	3318	3822	4320	4980
Permanent flow (10 -> 40 °C, with water 90 °C) [L/60 min.]	3672	4260	4770	5520
Heat up time (10 -> 40 °C, with water 90 °C) [min.]	3	3	4	4
Output (at ΔT = 35 °C) [kW]	115.3	127.1	143.4	165.3
Heat up time (at ΔT = 35 °C) [min.]	4	5	6	6
Rated output 85/65 °C coil [kW]	86.5	99.7	112.9	129.8
Continuous output 85/65 °C [L/h]	474	1572	1781	2046
First hour continuous output 85/65 °C [L]	648	1803	2089	2431
Pressure drop coil 85/65 °C [kPa]	35.30	51.50	69.80	103.50
Rated output 90/70 °C coil [kW]	107.1	123.7	137.4	160.3
Continuous output 90/70 °C [L/h]	293	1950	2166	2526
First hour continuous output 90/70 °C [L]	467	2181	2474	2911
Pressure drop coil 90/70 °C [kPa]	51.80	75.90	99.20	151.00

* Hot leg temperature: 85 °C.
 Heating water throughput as per rated output 85/65 °C.
 Cold water temperature: 10 °C.

Installation Example

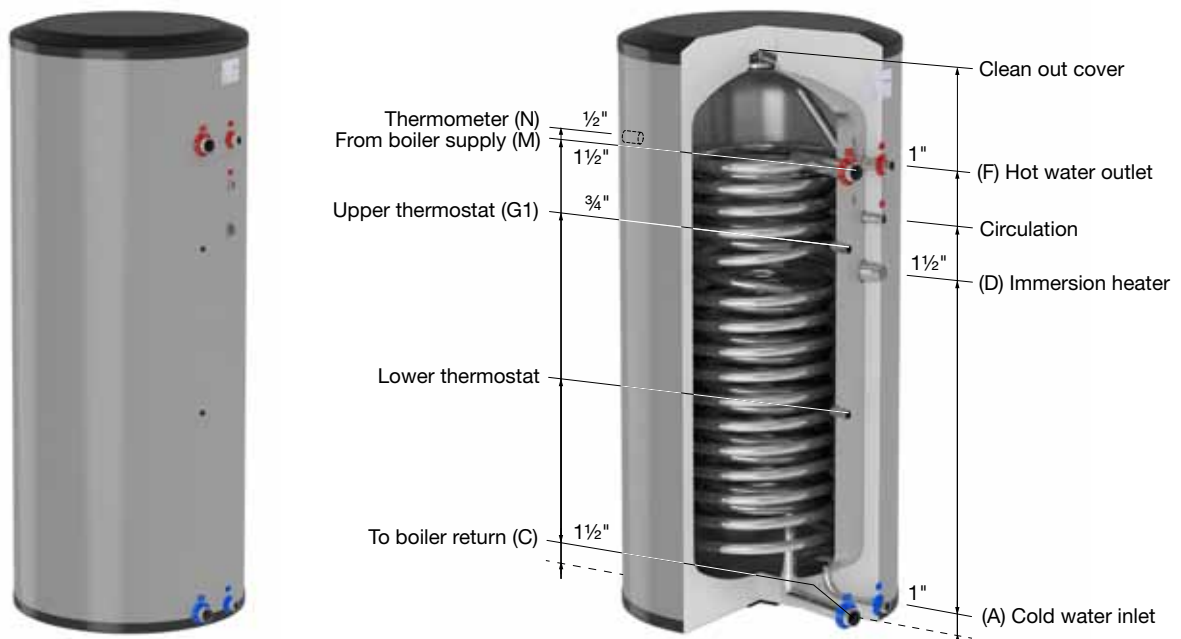


WPS-E XL STAINLESS STEEL HEAT PUMP WATER HEATER

Indirectly heated stainless steel 1.4521 water heater which can be used in combination with heat pumps.

A double coiled water heater developed specially for combination with larger heat pumps. The extra large heat exchanging surface of the high flow double heating coil ensures highly efficient hot water production. The WPS-E XL offers extra short heating time and guaranteed hot water performance.


- Max. working pressure vessel: 10 bar.
- Max. working pressure coil: 40 bar.
- Max. working temperature: 95 °C.
- With 1 ½" connection for immersion heater.



Connection Diagram

Type	Distance from floor to connection			
	A/C [mm]	D [mm]	G1 [mm]	F/M/N [mm]
WPS-E 400 XL	52	932	932	1210
WPS-E 500 XL	52	1239	1317	1517

Technical Data

Type	Volume [L]	Dimensions			Insulation		Weight [kg]		Article Code
		Ø [mm] *	H. [mm] *	Tilting height [mm]	Colour	Material			
WPS-E 400 XL	400	734	1541	1680	silver	50 mm EPS	82	1	19434
WPS-E 500 XL	500	734	1848	1960	silver	50 mm EPS	103	1	19435

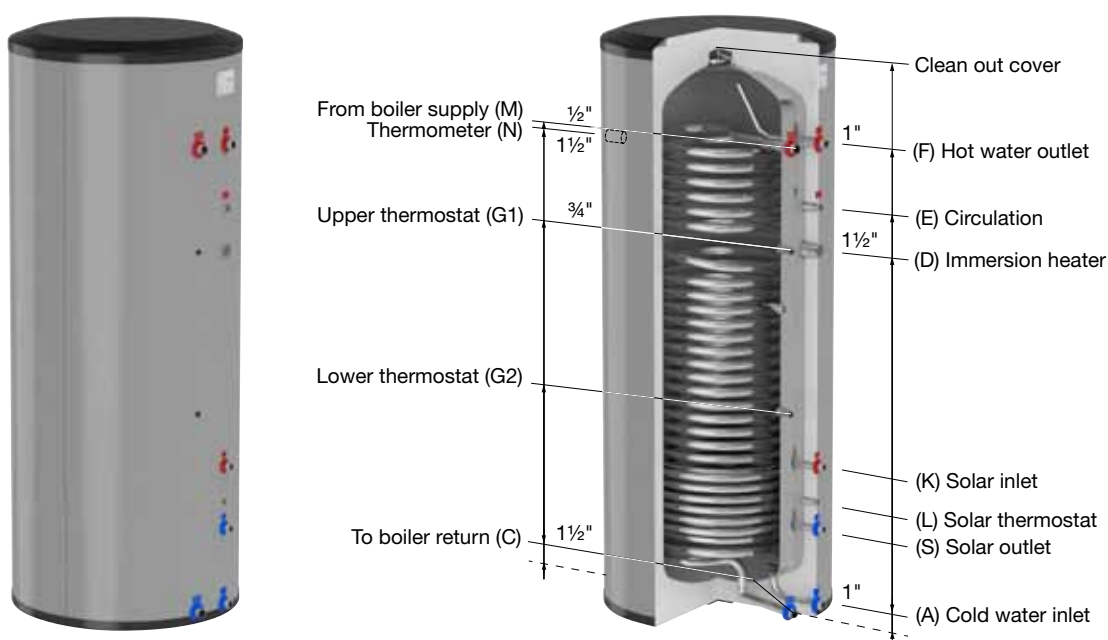
* Includes Insulation.

WPS-E SOLAR STAINLESS STEEL HEAT PUMP WATER HEATER

Indirectly heated stainless steel 1.4521 water heater which can be used to combine heat pumps and thermal solar systems for hot potable water production.

A combined heat pump and solar water heater developed specially for use in systems using renewable energy. The large heat exchanging surface of the heating coils ensure highly efficient hot water production. This means a short heating time and guaranteed hot water performance.


- Max. working pressure vessel: 10 bar.
- Max. working pressure coil: 40 bar.
- Max. working temperature: 95 °C.
- With 1 1/2" connection for immersion heater.



Connection Diagram

Type	Distance from floor to connection									
	A/C [mm]	S [mm]	L [mm]	K [mm]	G2 [mm]	D [mm]	G1 [mm]	E [mm]	F [mm]	M/N [mm]
WPS-E 500 Solar	52	292	392	512	687	1182	1212	1332	1517	1532

Technical Data

Type	Volume [L]	Dimensions			Insulation		Weight [kg]		Article Code
		Ø [mm] *	H. [mm] *	Tilting height [mm]	Colour	Material			
WPS-E 500 Solar	500	735	1541	1680	silver	50 mm EPS	91	1	19452

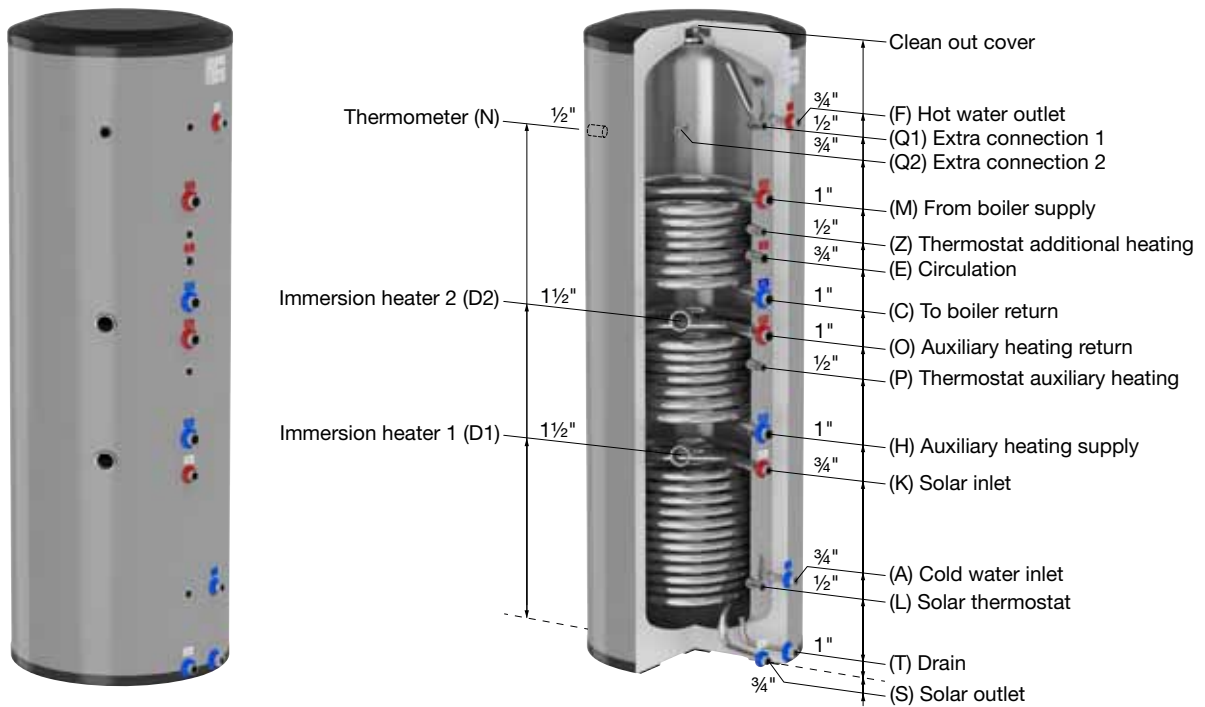
* Includes Insulation.

TRIPLE-E STAINLESS STEEL TRIPLE COIL WATER HEATER

Indirectly heated stainless steel 1.4521 water heater which can be used to combine multiple heating sources for hot potable water production.

A water heater developed specially for the combination of up to three different indirect heating sources. Can also be used for floor heating purposes. The large heat exchanging surface of the heating coils and their innovative diablo shape ensure highly efficient hot water production. The Triple-E offers optimum performance combined with high energy efficiency.


- Max. working pressure vessel: 10 bar.
- Max. working pressure coil: 40 bar.
- Max. working temperature: 95 °C.
- With two 1 ½" connections for immersion heaters.



Connection Diagram

Type	Distance from floor to connection														
	S/T [mm]	A/L [mm]	K [mm]	D1 [mm]	O [mm]	P [mm]	H [mm]	D2 [mm]	C [mm]	E [mm]	Z [mm]	M [mm]	Q2 [mm]	F/Q1 [mm]	N [mm]
Triple-E 300	47	252	582	632	682	862	952	1002	1052	1160	1232	1322	1512	1517	1537
Triple-E 450	46	292	497	547	597	772	862	912	962	1057	1137	1227	1327	1340	1340

Technical Data

Type	Volume [L]	Dimensions			Insulation		Weight [kg]		Article Code
		Ø [mm] *	H. [mm] *	Tilting height [mm]	Colour	Material			
Triple-E 300	300	605	1771	1842	silver	50 mm EPS	60	1	19444
Triple-E 450	450	735	1670	1797	silver	50 mm EPS	83	1	19445

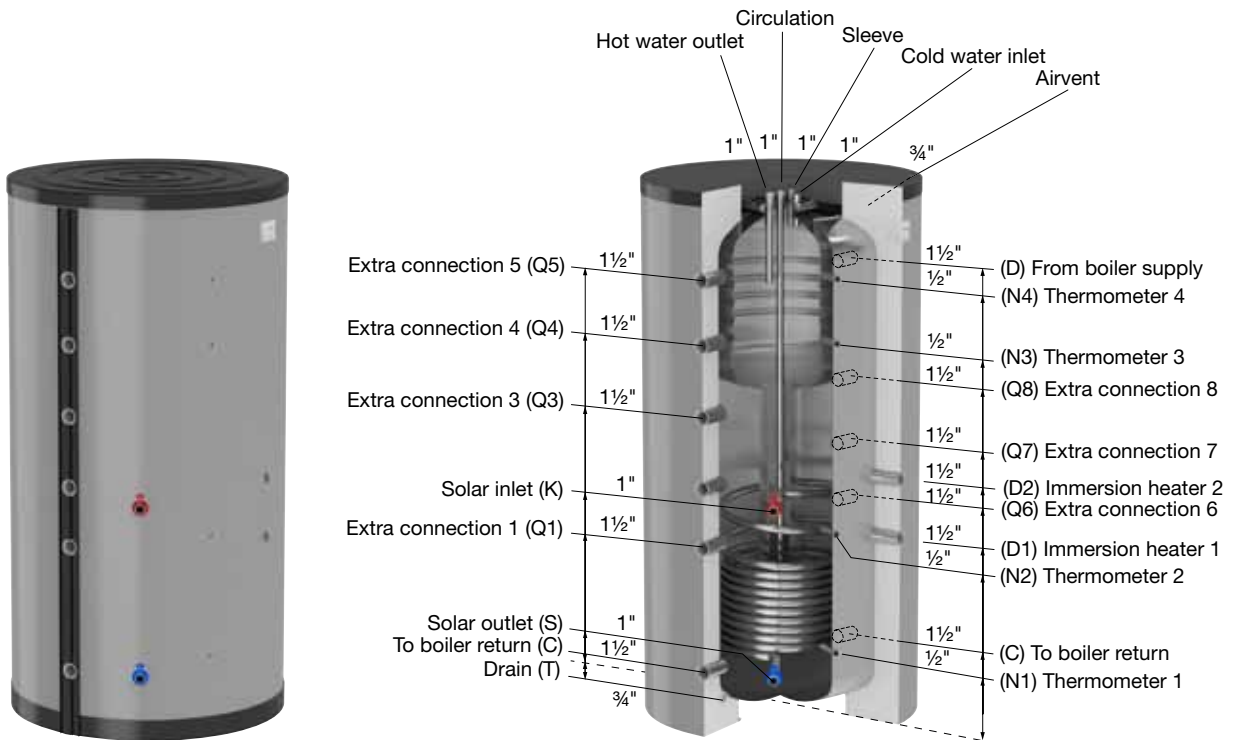
* Includes Insulation.

KPS-E STAINLESS STEEL COMBI LAYERED WATER HEATER

Indirectly heated stainless steel 1.4521 water heater which can be used to combine multiple heating sources for hot potable water production.

A combined water heater developed specially for the combination of multiple heating sources. Consisting of a stainless steel 1.4521 inner vessel and steel outer vessel. The heating coil for connection with thermal solar systems and the large number of extra connections make the combination of multiple heating systems possible. The heating coil is positioned deep in the outer vessel which prevents legionella build up. The inner vessel has a reinforced ribbed wall which enlarges the heat exchanging surface.


- Max. working pressure outer vessel: 3 bar.
- Max. working pressure inner vessel: 6 bar.
- Max. working pressure coil: 40 bar.
- Max. working temperature: 95 °C.
- With two 1 1/2" connections for immersion heaters.



Connection Diagram

Type	Distance from floor to connection										
	T [mm]	C [mm]	S [mm]	N1 [mm]	D2 [mm]	N2 [mm]	K [mm]	D1 [mm]	N3 [mm]	N4 [mm]	M [mm]
KPS-E 155	129	236	235	295	680	720	837	891	1390	1615	1616
KPS-E 255	129	236	235	295	680	720	837	891	1390	1615	1616

Technical Data

Type	Volume [L]	Dimensions			Insulation		Weight [kg]		Article Code
		Ø [mm] *	H. [mm] *	Tilting height [mm]	Colour	Material			
KPS-E 155	725 / 155	990	1920	2022	silver	100 mm fleece	235	1	19450
KPS-E 255	625 / 255	990	1920	2022	silver	100 mm fleece	245	1	19451

* Includes Insulation.

TS-E STAINLESS STEEL HORIZONTAL WATER HEATER

Indirectly heated stainless steel 1.4521 horizontal water heater which can be combined with all modern central heating systems.

A horizontal water heater developed specially for minimal vertical spaces. The heating coil ensures efficient heat transfer with short heating time. The TS-E offers optimum performance combined with high energy efficiency.


- Max. working pressure vessel: 10 bar.
- Max. working pressure coil: 40 bar.
- Max. working temperature: 95 °C.



Connection Diagram

Type	Distance from floor to connection					
	C [mm]	A [mm]	G [mm]	M [mm]	E [mm]	F [mm]
TS-E 150	46	126	211	258	430	492
TS-E 200	46	126	211	258	430	492

Technical Data

Type	Volume [L]	Dimensions			Insulation		Weight [kg]		Article Code
		L. [mm] *	W. [mm] *	H. [mm] *	Colour	Material			
TS-E 150	150	948	600	612	white	50 mm EPS	62	1	19446
TS-E 200	200	1208	600	612	white	50 mm EPS	82	1	19447

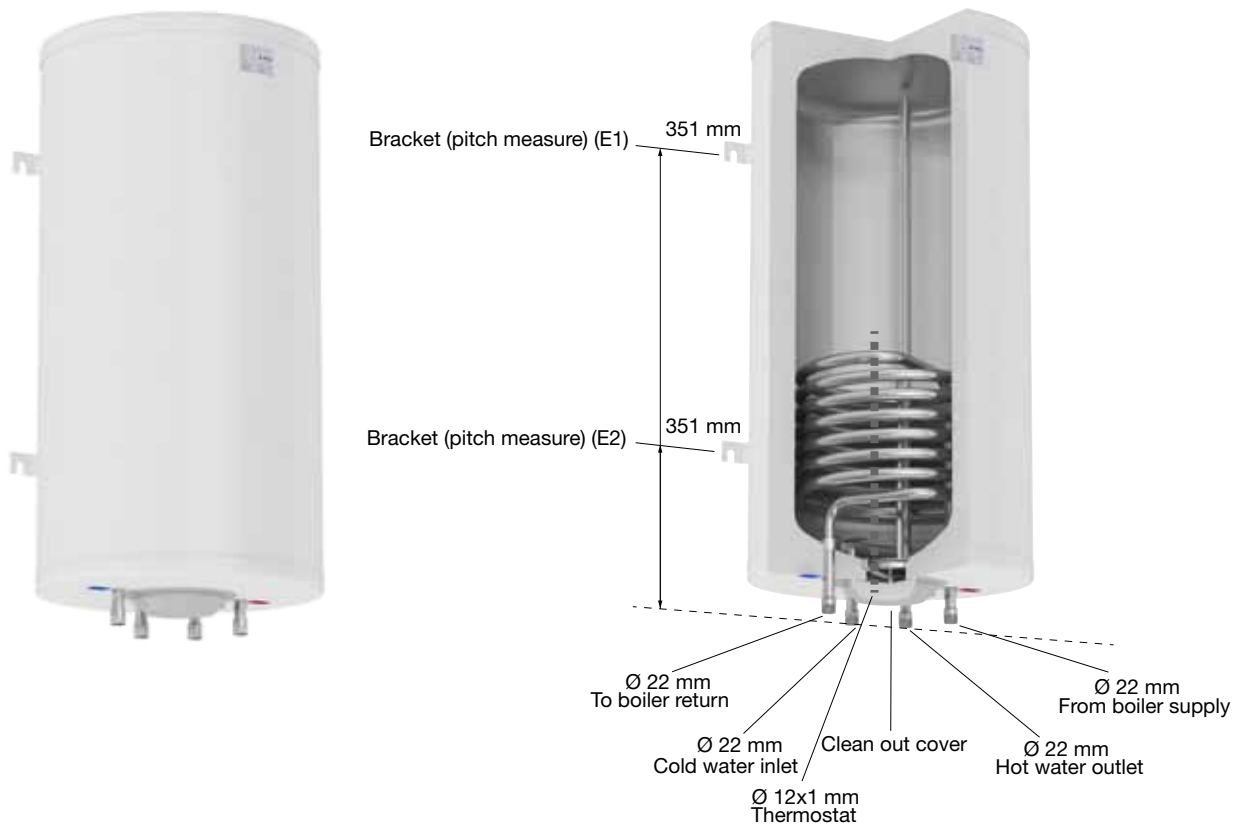
* Includes Insulation.

WS-E STAINLESS STEEL WALL-HUNG WATER HEATER

Indirectly heated stainless steel 1.4521 wall-hung water heater which can be combined with all modern central heating systems.

A water heater developed specially for wall mounting. Including mounting brackets and with all connections conveniently positioned at the bottom. The heating coil ensures efficient heat transfer with short heating time. The WS-E offers optimum performance combined with high energy efficiency.


- Max. working pressure vessel: 10 bar.
- Max. working pressure coil: 40 bar.
- Max. working temperature: 95 °C.



Connection Diagram

Type	Distance from lowest point to bracket	
	E1 [mm]	E2 [mm]
WS-E 110	320	260
WS-E 150	884	760

Technical Data

Type	Volume [L]	Dimensions				Insulation		Weight [kg]		Article Code
		Ø [mm] *	H. [mm] *	H. without conn. [mm] *	Tilting height [mm]	Colour	Material			
WS-E 110	110	510	1060	998	1117	white	50 mm EPS	22	1	19448
WS-E 150	150	605	1000	948	1125	white	50 mm EPS	36	1	19449

* Includes Insulation.

Accessories

Flamco has a range of accessories for our stainless steel indirect water heaters and potable hot water storage vessels. As with the water heaters and

storage vessels, the range of accessories are made from the highest quality materials and contribute to the efficiency of the system.

Accessories for Stainless Steel Calorifiers

Type	Inspection port [DN]	Gasket face seal	Flange	Thermometer		Screw-in heating element				
		DN 110-F	DN 180 m. socket G 1 1/2"	TH 63/100 1/2"	TH 80/150 1/2"	EHK-E 3	EHK-E 4,5	EHK-E 6	EHK-E 8	EHK-E 10
		18990	19458	18925	18926	19453	19454	19455	19456	19457
LS-E	300			✓	✓	✓	✓			
	500			✓	✓	✓	✓	✓		
	750	110	✓	✓	✓	✓	✓**	✓**	✓**	✓**
	910	110	✓	✓	✓	✓	✓**	✓**	✓**	✓**
Duo-HLS-E	100			✓	✓					
	150			✓	✓					
	200			✓	✓					
	300			✓	✓	✓	✓			
	400			✓	✓	✓	✓	✓		
	500			✓	✓	✓	✓	✓		
	750	110	✓	✓	✓	✓	✓*	✓*	✓*	✓
910	110	✓	✓	✓	✓	✓*	✓*	✓*	✓	✓
Duo-HLS-E-Solar	200			✓	✓	✓	✓			
	300			✓	✓	✓	✓			
	400			✓	✓	✓	✓	✓		
	500			✓	✓	✓	✓	✓		
	750	110	✓	✓	✓	✓	✓*	✓*	✓*	✓
910	110	✓	✓	✓	✓	✓*	✓*	✓*	✓	✓
WPS-E	200			✓	✓	✓	✓			
	300			✓	✓	✓	✓			
	400			✓	✓	✓	✓			
	500			✓	✓	✓	✓			

* Installation in combination with blind flange DN 110 incl. 1 1/2" socket, can alternatively be mounted directly in 1 1/2" socket.
 ** Installation in combination with blind flange DN 110 incl. 1 1/2" socket.



Contact

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Flamco B.V.

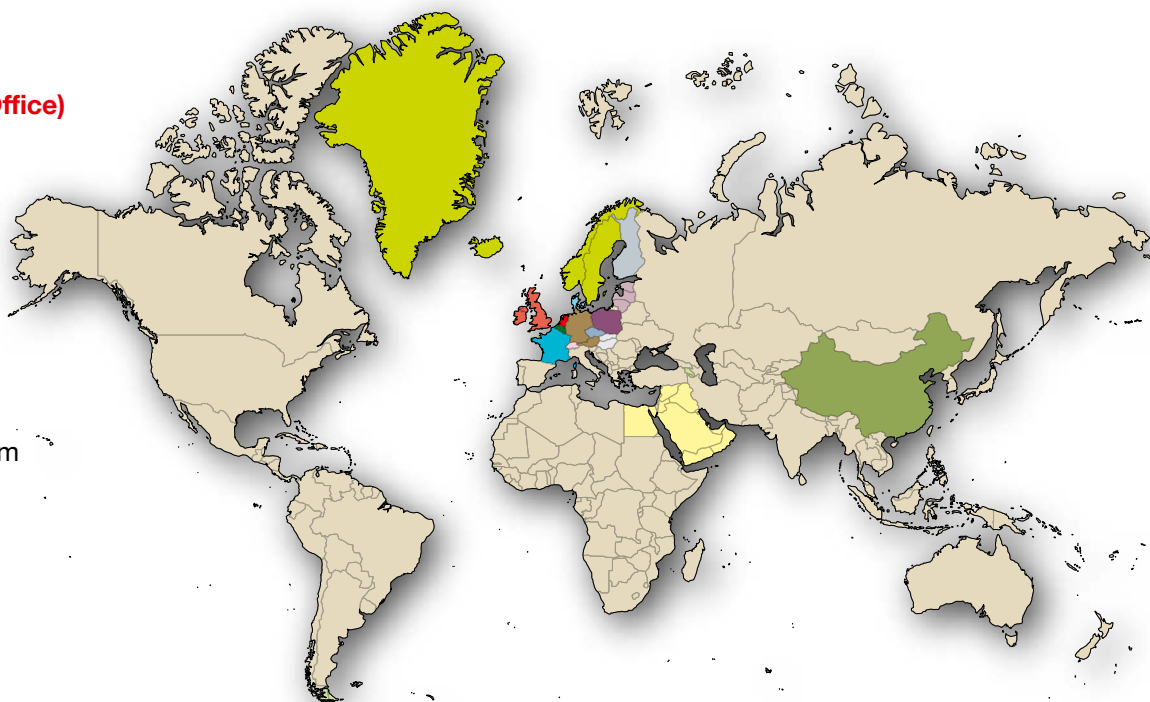
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