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language

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Storage tanks are our element

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The TWL company

TWL-Technologie GmbH was founded more than 15 years ago, and has now developed into an innovative company, one that has established itself successfully in the future-oriented segments of renewable energy and ecological heating systems. Thanks to solid knowledge, strategically planned company structures, exceptional commitment and a proper helping of ambition, space considerations led the company in 2007 to give up its first premises in Weiden and to set up operations at the new company site in Freihung. To provide room for the steadily growing demands for yet more space, an energy-efficient office and showroom building, built according to solar house principles, was created in 2013 next to the four existing factory halls.

As early as the planning stage, care was taken to see that the alignment and shape of the building met the conditions needed for high solar yields from the sunshine falling directly on the glazed southern facade. A 150 m² heat pipe-vacuum tube solar installation was installed on the roof as an active component. Together with a 24 000 litre season storage tank it provides 50% of the heating energy needed over the year. This plant is supplemented by a 45 kW pellet boiler as an emergency heater for the winter months. This almost self-powering office building reflects the philosophy and the founding principles of the company.

Storage tanks are our element

That's not just our advertising slogan. It's a statement that describes the foundation and origin of our work. TWL-Technologie GmbH was founded with a focus on the manufacture of storage tanks for heating systems, and has grown continuously throughout the succeeding years. Our comprehensive range of storage tanks includes buffer tanks of every usual size with a variety of connection options and insulation variants. On top of this, we offer a large number of very special storage solutions to our customers. Enamelled, high-performance storage tanks, solar storage tanks, efficiency combination tanks, hygiene tanks and high-quality, stainless-steel storage tanks complete our range of standard storage tanks. TWL always works to maintain close contact with its customers, and keeps its eyes open for the needs of the market. We are able to react quickly, and that means that you can always expect the latest and most innovative storage tank technologies from TWL.

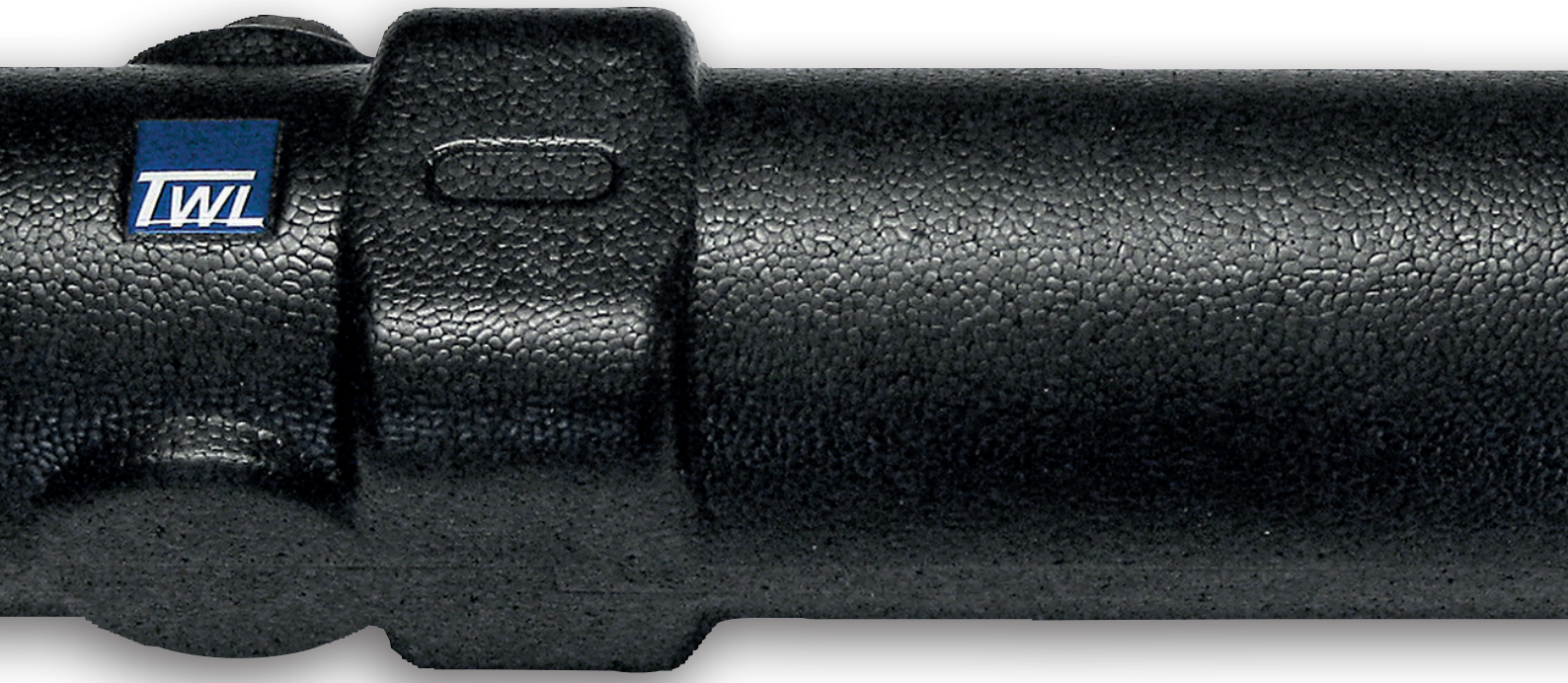
But even that is not enough. Our custom storage tank production facility has specialised in solving problems through fabricating individual storage tanks to meet customers' wishes. Different scenarios give rise to highly varied tasks. Large commercial complexes sometimes need larger volumes, well beyond the 10.000 litres available from us as standard. Small cellars with low ceilings often do not allow standard storage tanks to be used, while crooked spaces, difficult to access, are an obstacle to making the proper connection to the couplings provided on a normal commercial storage tank. Whoever comes across problems of this sort is in good hands at TWL. Our professionals in the custom storage tank field construct individual solutions for detached houses, apartment blocks, commercial buildings and public facilities.

Collectors are our passion

In addition to marketing top-quality storage tank technologies, TWL is also a retailer and wholesaler for the solar industry. This second field of business forms the perfect supplement to a regenerative heating installation. We look on the use of natural solar energy as an important element of modern, sustainable energy schemes. TWL is working with its international partners in the solar thermal energy field to develop powerful, top-class solar collectors. From flat collectors through to heat pipe-vacuum tube collectors, we offer first-class products of various sizes to our customers. On the one hand, our range comprises individual collectors, spare parts and accessories, while on the other hand we offer carefully planned complete solutions, from solar simulation through to delivery of all the individual components required, including the appropriate storage tanks.

The manufacture of our collectors takes place under the supervision of the strictest quality controls. We cooperate with one of the world's most famous manufacturers of vacuum tubes to make sure that this happens. The best quality materials are combined there under ideal conditions, according to our specifications. This results in first-class vacuum tube collectors, with the highest specification figures and long service life, and all at fair prices.

The circle of regenerative or ecologically sound heating installations is completed by marketing pellet and wood log boilers. To ensure that our customers continue to enjoy a convenient supply of heat even in the sunless months of winter, TWL also markets powerful heating boilers designed for pellets or wood logs.



Innovation through research

The capacity of TWL-Technologie GmbH to innovate is unlimited. Continuous further development and the courage to explore new directions have meant that, over and above the basic range, we are able to offer and to implement products meeting our customers' expectations. TWL makes samples and prototypes, and has them tested by independent test laboratories and research institutes. We optimise any product until it is ready for market, and search for the best possible production methods. In this way TWL-Technologie GmbH has in the past put customer-specific wishes into practice. It has, for example, established our Effect Heater, which heats up very much more rapidly, as well as the Efficiency combination storage tank which measurably raises the efficiency of heat pumps and other sources of heat.

The application of new and normative materials also plays an important role at TWL. In this way, exploiting graphite-coated polystyrene, a unique storage tank insulation was developed and was able to capture the market with astounding success. For us it was a logical consequence to withdraw conventional flexible foam and fleece insulation from our range. To the great enthusiasm of its customers, TWL established another forward-looking product on the market with significantly better insulation figures and with markedly easier assembly for the heating engineer, even at low temperatures.

Satisfied customers

It is the goal of TWL-Technologie GmbH to manufacture products with high efficiency that offer the customer constant quality at a sensible price. Our customers ever-and-again confirm that we are indeed following that path. Products from TWL are in use all across Europe. Famous companies and construction projects, such as those for Deutsche Telekom AG, Pro7/ Sat1 Media AG, EDEKA and REWE, the OBI chain of hardware stores, the stadium in Nuremberg, along with many public utilities, rely on the quality from TWL amongst others.
The Zugspitze is the highest mountain in Germany, where again a custom storage tank from TWL is in service, while another of our storage tanks is travelling the oceans, installed on a cargo ship.

Effective innovation and sound pricing policies make a significant contribution to the success of our products. The close contact with our customers, and the many meetings we hold with construction specialists, inspire us again and again to rethink what already exists, to make what is good even better, and to develop something new. The company has developed a wide network of first-class suppliers, participation in production sites and exceptionally well-trained employees, so that we can continue to remain true to these values in the future. We would be happy to give you advice over the telephone, and always strive to support you with solutions to your problems. We can supply you with up-to-date information, price offers and advertising material on our Internet site.

ÖkoLine insulation

the efficient insulation for your storage tank

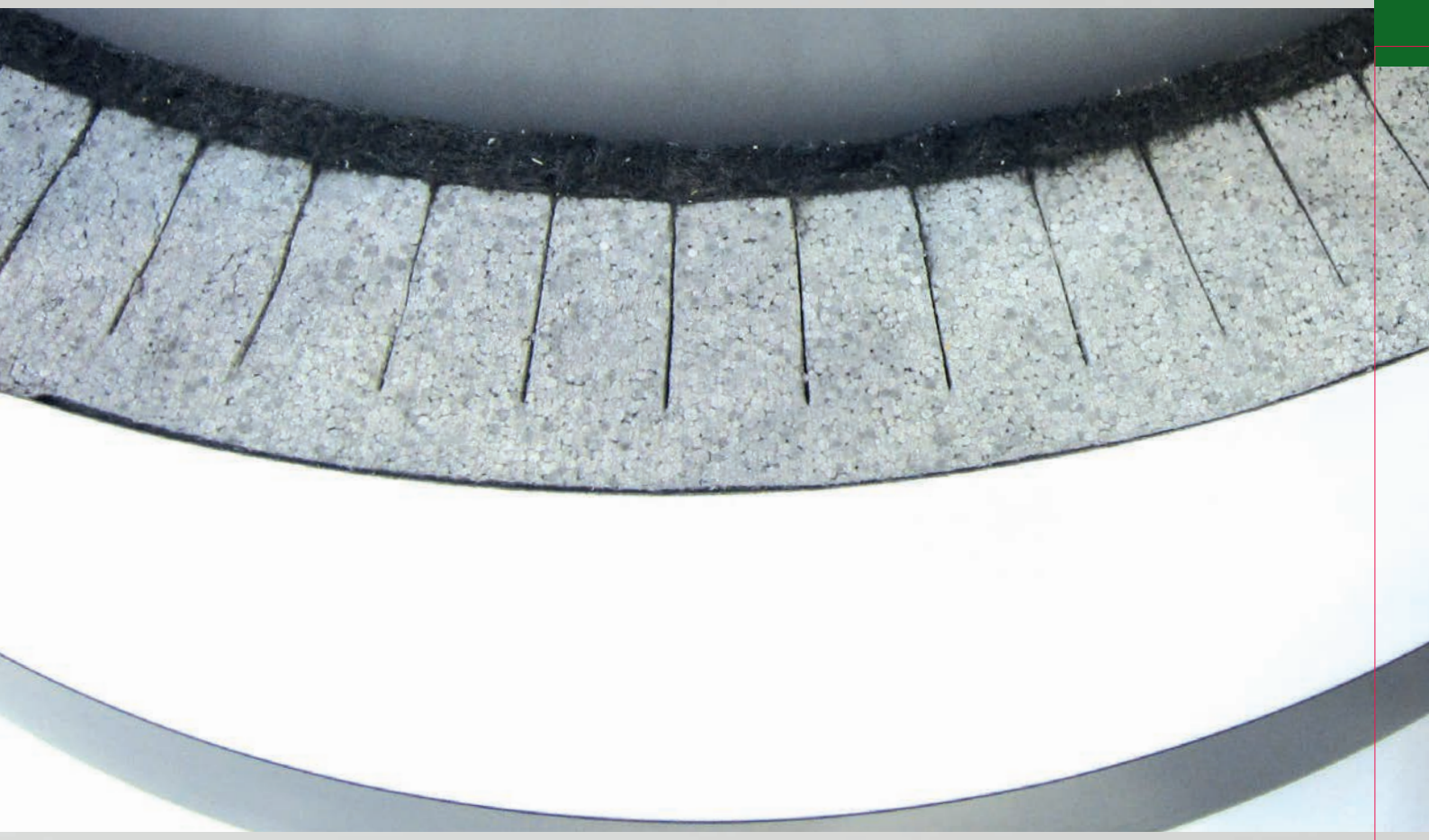
To save the warmth of our own bodies, we wrap ourselves in clothing, so that the heat that our bodies have worked hard to generate is not wasted and lost. Things are much the same for the storage tank of a heating installation. Here too it is important that the heat that has been generated is protected in the tank, so that it is not lost without value in the heating cellar, but can be used where it is needed. For this reason, we do quite literally put a jacket around the storage tank. Ideally this is a 100% fit, and offers ideal insulation properties. This allows the storage tank to reach the highest possible degree of efficiency.

At TWL it is possible to choose between four different storage tank installations: beginning with the basic model, with which you already achieve energy efficiency class D, up to our premium insulation, with which you even reach class A.

ÖkoLine stands for innovative insulation

The ÖkoLine insulation consists of an intelligent arrangement of different insulation materials at different locations. This significantly improves the heat insulating properties. The insulation has V-shaped notches so that the insulation material can be formed flexibly. On the storage tank side, the insulation has a 20 mm polyester fleece inlay, as a result of which the insulation achieves its accurate fit on the container along with optimum closure. Problem-free fitting is possible at any time. The insulation is encased in an elegant jacket, and can be closed by a zip fastener.

In addition to the exceptional insulation properties and the low standing thermal losses, our new ÖkoLine insulation particularly features smooth installation during cold weather. Every heating installer knows the difficult problem of installing soft foam insulation at low temperatures. It often seems impossible to close the insulation.

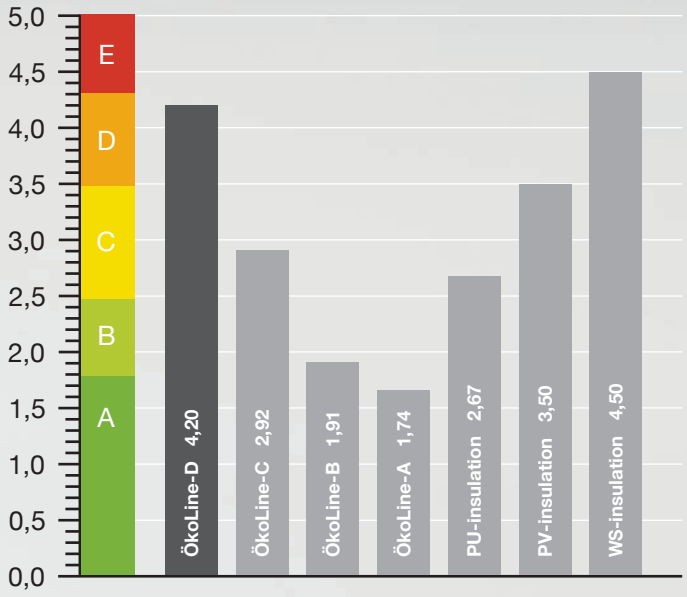


The result of this time-consuming installation is often that the insulation splits or that the zip-fastener is damaged. Things are different with our insulation. The ongoing development of our TLB ÖkoLine insulation up to the latest version, the ÖkoLine-A, demonstrates the advantages of the path we have taken. The ÖkoLine family thus not only achieves significantly better standing thermal losses than fleece insulations, but also an outstanding price/performance ratio.

We have tested a 1000 litre storage tank with 90 mm permanently foamed-on PU hard insulation against a container of the same construction with 120 mm of removable ÖkoLine-B insulation, and come to this impressive result:

PU hard foam: 2.67 kWh/24 h heat loss
ÖkoLine-B: 1.91 kWh/24 h heat loss

The ÖkoLine-D insulation



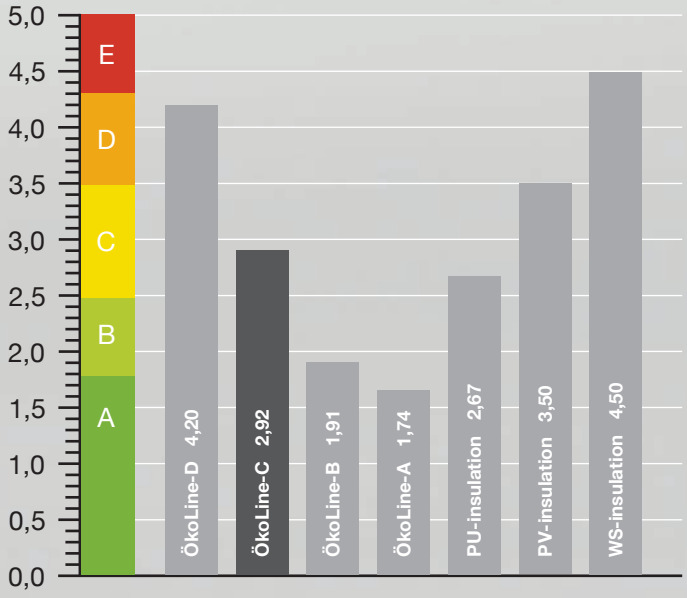
kWh/24h (loss of heat over 24 h with 1000 litres)

with 1000 litres Storage tank volumes **D**

The insulation consists of 80 mm of expanded polystyrene and 20 mm of polyester fibre fleece. You reach efficiency class D with this insulation and by using our ÖkoLine insulation caps to close off unused connections.

The insulation has standing thermal losses that are about 10% less than those of conventional flexible foam or fleece insulation. It also features a very good price/performance ratio and a low weight of 13 kg/m³. (Note: since September 2017, efficiency class D has only been permissible for sizes larger than 2000 litres.)

The ÖkoLine-C insulation



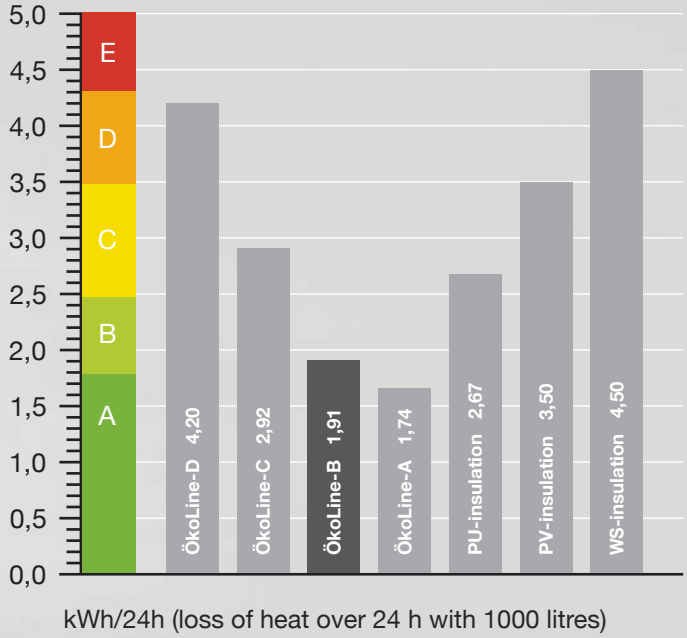
kWh/24h (loss of heat over 24 h with 1000 litres)

with 1000 litres Storage tank volumes **C**

The insulation consists of 80 mm of Neopor (a specially coated, grey polystyrene) and 20 mm of polyester fibre fleece. You reach efficiency class C with this insulation and by using our ÖkoLine insulation caps to close off unused connections.

The insulation has standing thermal losses that are about 30% less than those of conventional flexible foam or fleece insulation. It is also characterised by its additional floor insulation, and achieves this with a low weight of only 15 kg/m³.

The ÖkoLine-B insulation



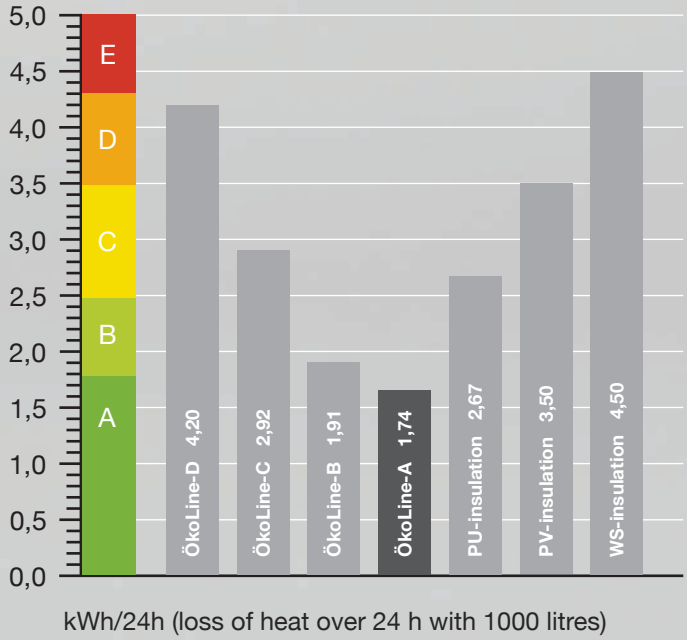
kWh/24h (loss of heat over 24 h with 1000 litres)

with 1000 litres
Storage tank volumes **B**

The insulation consists of 100 mm of Neopor (a specially coated, grey polystyrene) and 20 mm of polyester fibre fleece. You reach efficiency class B with this insulation and by using our ÖkoLine insulation caps to close off unused connections.

The insulation has standing thermal losses that are about 50% less than those of conventional flexible foam or fleece insulation. It is also characterised by its additional floor insulation, and achieves this with a low weight of only 15 kg/m³.

The ÖkoLine-A insulation



kWh/24h (loss of heat over 24 h with 1000 litres)

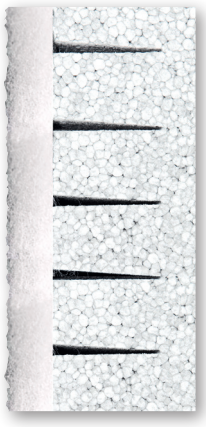
with 1000 litres
Storage tank volumes **A**

Depending on the storage tank volume, the insulation consists of an appropriately thick layer of Neopor (a specially coated, grey polystyrene) as well as of a partial installation of vacuum panels. You reach efficiency class A with this insulation and by using our ÖkoLine insulation caps to close off unused connections.

The insulation has standing thermal losses that are about 65% less than those of conventional flexible foam or fleece insulation. It is also characterised by its additional floor insulation, and achieves this with a low weight.

The Ökoline insulations

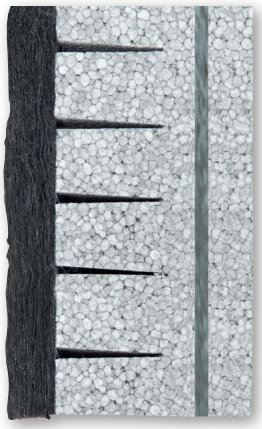
200 to 10 000 litres – types D, C, B, A



ÖkoLine-D insulation
(formerly TLB)

ÖkoLine-C insulation
(formerly ERP)

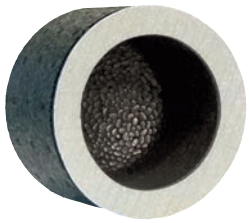
ÖkoLine-B insulation
(formerly Profi)



ÖkoLine-A insulation
(NEW in 2018)

ÖkoLine insulation cap ½“ – 2“	
Item no.	IK 40

A storage tank has a large number of connections. Often, not all of them are used. If these unused connections remain uninsulated, valuable energy gets lost. Insulation caps were therefore developed for these connections in order to save additional energy (easy assembly). If something has to be connected at a later stage, the caps can be removed - again, this is easy.



Designations and weight data:

(not applicable to enamelled and stainless-steel storage tanks)

Insulation	ÖkoLine-D		ÖkoLine-C		ÖkoLine-B		ÖkoLine-A	
Nominal volume*	Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)	Designation	Weight (kg)
200	- - -	- - -	- - -	- - -	Iso-B 0200	8	- - -	- - -
300	- - -	- - -	Iso-C 0300	10	Iso-B 0300	10	- - -	- - -
500	- - -	- - -	Iso-C 0500	12	Iso-B 0500	13	Iso-A 0500	18
800	- - -	- - -	Iso-C 0800	15	Iso-B 0800	16	Iso-A 0800	32
1000	- - -	- - -	Iso-C 1000	17	Iso-B 1000	18	Iso-A 1000	36
1500	- - -	- - -	Iso-C 1500	20	Iso-B 1500	22	- - -	- - -
2000	- - -	- - -	Iso-C 2000	23	Iso-B 2000	25	- - -	- - -
2500	Iso-D 2500	27	Iso-C 2500	27	Iso-B 2500	29	- - -	- - -
3000	Iso-D 3000	29	Iso-C 3000	29	Iso-B 3000	31	- - -	- - -
4000	Iso-D 4000	35	Iso-C 4000	35	Iso-B 4000	37	- - -	- - -
5000	Iso-D 5000	39	Iso-C 5000	39	Iso-B 5000	42	- - -	- - -
7500	Iso-D 7500	53	Iso-C 7500	53	Iso-B 7500	56	- - -	- - -
10.000	Iso-D 10.000	65	Iso-C 10.000	65	Iso-B 10.000	68	- - -	- - -

* The nominal volume is not the same as the exact capacity of the storage tank.

Nominal volume*		200**	300	500	800	1000
ÖkoLine-C insulation		- - -	C	C	C	C
Thermal consumption on standby	kWh/24 h	- - -	2,30	2,15	2,49	2,92
Heat loss	W	- - -	95,8	89,6	103,8	121,7
Diameter with insulation	mm	- - -	750	850	990	990
Height with insulation	mm	- - -	1550	1770	1870	2080
Weight	kg	- - -	10	12	15	17
ÖkoLine-B insulation		B	B	B	B	B
Thermal consumption on standby	kWh/24 h	1,35	1,60	1,50	1,75	1,91
Heat loss	W	56,3	66,7	62,5	72,9	79,6
Diameter with insulation	mm	610	750	890	1030	1030
Height with insulation	mm	1475	1550	1820	1920	2130
Weight	kg	8	10	13	16	18
ÖkoLine-A insulation		- - -	- - -	A	A	A
Thermal consumption on standby	kWh/24 h	- - -	- - -	1,40	1,65	1,74
Heat loss	W	- - -	- - -	58,3	68,8	72,5
Diameter with insulation	mm	- - -	- - -	950	1070	1070
Height with insulation	mm	- - -	- - -	1870	1970	2180
Weight	kg	- - -	- - -	18	32	36

** Data for implementation: Coupling orientation 90°

Nominal volume*		1500	2000	2500	3000	4000	5000	7500	10.000
ÖkoLine-D insulation		D	D	D	D	D	D	D	D
Thermal consumption on standby	kWh/24 h	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Heat loss	W	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Diameter with insulation	mm	- - -	- - -	1350	1450	1600	1800	1800	1800
Height with insulation	mm	- - -	- - -	2645	2645	2870	2820	4175	5325
Material thickness	mm	- - -	- - -	100	100	100	100	100	100
ÖkoLine-C insulation		C	C	C	C	C	C	C	C
Thermal consumption on standby	kWh/24 h	3,70	4,20	- - -	- - -	- - -	- - -	- - -	- - -
Heat loss	W	154,2	175,0	- - -	- - -	- - -	- - -	- - -	- - -
Diameter with insulation	mm	1200	1350	1350	1450	1600	1800	1800	1800
Height with insulation	mm	2145	2155	2645	2645	2870	2820	4175	5325
Material thickness	mm	100	100	100	100	100	100	100	100
ÖkoLine-B insulation		B	B	B	B	B	B	B	B
Thermal consumption on standby	kWh/24 h	2,40	2,70	- - -	- - -	- - -	- - -	- - -	- - -
Heat loss	W	100,0	112,5	- - -	- - -	- - -	- - -	- - -	- - -
Diameter with insulation	mm	1240	1390	1390	1490	1640	1840	1840	1840
Height with insulation	mm	2195	2205	2695	2695	2920	2870	4225	5375
Material thickness	mm	120	120	120	120	120	120	120	120

Subject to changes and errors.

Buffer tank

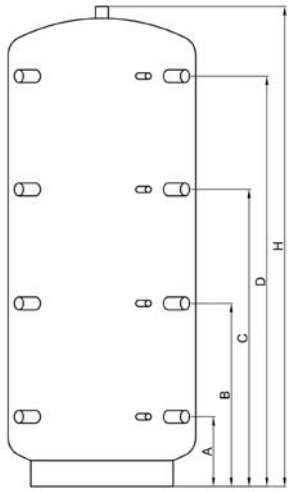
for storing heating water

Buffer tanks are thermal stores filled exclusively with heating water. Their purpose is to achieve a balance between the generation and consumption of thermal power. This allows system components for heat generation to be operated largely independently of consumption. For many heat sources this leads to better operating conditions and a more favourable efficiency.

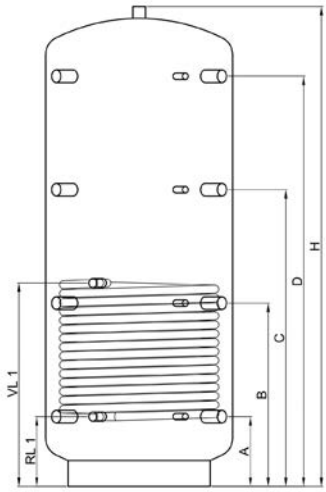
Our buffer tanks are manufactured from S235JR+AR quality steel in accordance with DIN 4753 and DIN EN 12897. The containers are untreated on the inside, primed on the outside, and have a large number of connection options. Up to two heat exchangers can be installed as standard. We offer coupling orientations with angles of between 90° and 180° depending on the circumstances at the place of installation. Customised fabrications to meet customers' wishes are possible.

Buffer storage tanks with 90° coupling orientations

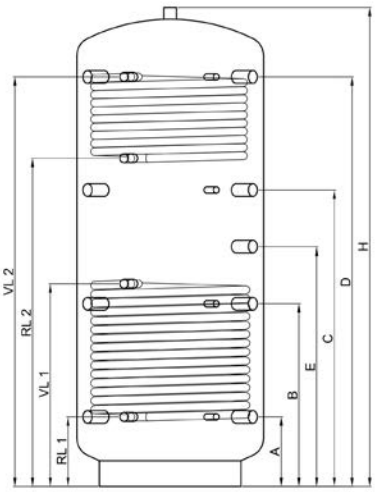
200 to 1000 litres – types P, PR, PR-2



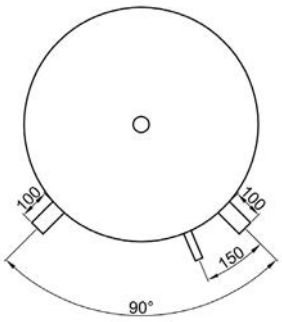
Buffer tank type P
(without heat exchanger)

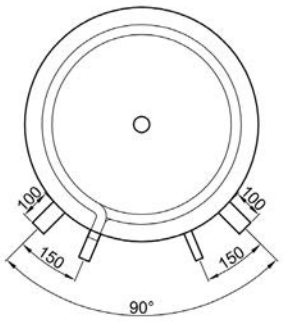


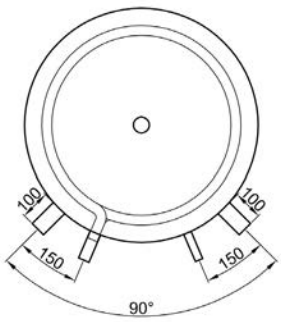
Buffer tank type PR
(with one heat exchanger)



Buffer tank type PR-2
(with two heat exchangers)







Dimensions and technical data:

Nominal volume*		200	300	500	800	1000
Diameter without insulation	mm	450	550	650	790	790
Height without insulation	mm	1425	1500	1720	1820	2030
Tilted dimension without insulation	mm	1439	1517	1743	1850	2057
Smooth tube heat exchanger (bottom)	m²	1,5	1,5	2,1	2,8	3,2
Tube coil content (bottom)	litres	9,6	9,3	13,1	17,4	20,1
Smooth tube heat exchanger (top)	m²	1,0	1,1	1,4	1,9	2,1
Tube coil content (top)	litres	6,4	6,8	8,8	12,1	13,4
permissible pressure	bar	4.5 (buffer tank) / 16.0 (smooth-tube heat exchanger)				
permissible temperature	°C	0 – 95 (buffer tank) / 0 – 110 (smooth-tube heat exchanger)				
Weight type P	kg	45	61	83	108	118
Weight type PR	kg	70	87	119	156	172
Weight type PR-2	kg	88	107	139	192	212

* The nominal volume is not the same as the exact capacity of the storage tank.

Connection dimensions:

Nominal volume*			200	300	500	800	1000
A	Height	mm	220	235	275	295	295
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
B	Height	mm	550	580	665	705	775
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
C	Height	mm	875	920	1055	1115	1255
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
D	Height	mm	1205	1265	1445	1525	1735
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
E	Height	mm	- - -	- - -	860	910	1015
	Connection	Internal thread	- - -	- - -	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
VL 1 (WT bottom)	Height	mm	670	675	755	825	860
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL 1 (WT bottom)	Height	mm	220	235	275	295	295
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
VL 2 (WT top)	Height	mm	1205	1265	1445	1525	1735
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL 2 (WT top)	Height	mm	905	945	1125	1205	1390
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
H	Height	mm	1425	1500	1720	1820	2030
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“

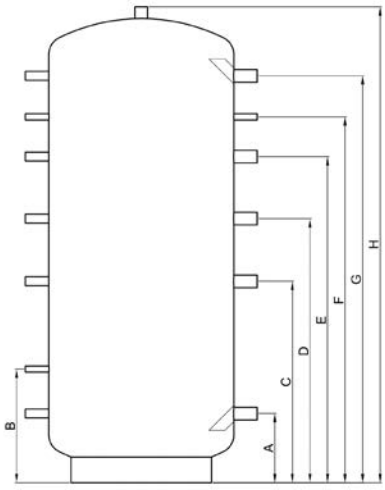
Insulations:

Nominal volume*		200	300	500	800	1000
ÖkoLine-C insulation		- - -	C	C	C	C
Thermal consumption on standby	kWh/24 h	- - -	2,30	2,15	2,49	2,92
Heat loss	W	- - -	95,8	89,6	103,8	121,7
Diameter with insulation	mm	- - -	750	850	990	990
Height with insulation	mm	- - -	1550	1770	1870	2080
Weight	kg	- - -	10	12	15	17
ÖkoLine-B insulation		B	B	B	B	B
Thermal consumption on standby	kWh/24 h	1,35	1,60	1,50	1,75	1,91
Heat loss	W	56,3	66,7	62,5	72,9	79,6
Diameter with insulation	mm	610	750	890	1030	1030
Height with insulation	mm	1475	1550	1820	1920	2130
Weight	kg	8	10	13	16	18
ÖkoLine-A insulation		- - -	- - -	A	A	A
Thermal consumption on standby	kWh/24 h	- - -	- - -	1,40	1,65	1,74
Heat loss	W	- - -	- - -	58,3	68,8	72,5
Diameter with insulation	mm	- - -	- - -	950	1070	1070
Height with insulation	mm	- - -	- - -	1870	1970	2180
Weight	kg	- - -	- - -	18	32	36

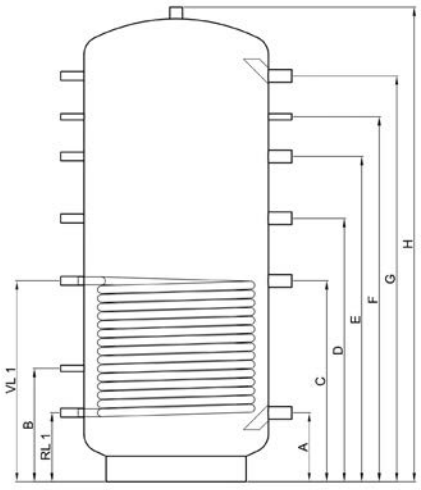
Subject to changes and errors.

Buffer storage tanks with 180° coupling orientations

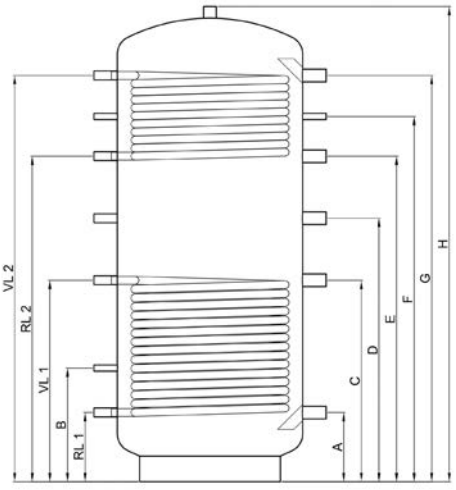
200 to 1000 litres – types P, PR, PR-2



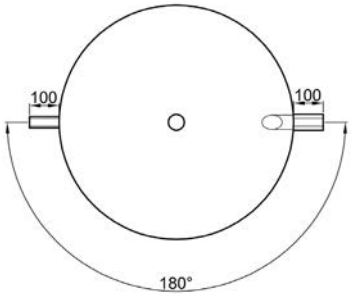
Buffer tank type P
(without heat exchanger)

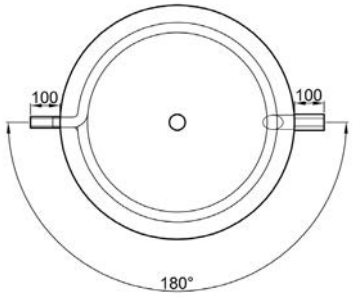


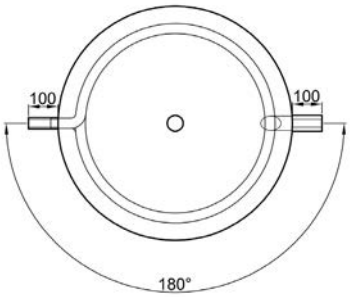
Buffer tank type PR
(with one heat exchanger)



Buffer tank type PR-2
(with two heat exchangers)







Dimensions and technical data:

Nominal volume*		200	300	500	800	1000
Diameter without insulation	mm	400	550	650	790	790
Height without insulation	mm	1730	1500	1720	1820	2030
Tilted dimension without insulation	mm	1742	1517	1743	1850	2057
Smooth tube heat exchanger (bottom)	m²	1,4	1,5	2,1	2,8	3,2
Tube coil content (bottom)	litres	9,0	9,3	13,1	17,4	20,1
Smooth tube heat exchanger (top)	m²	1,0	1,1	1,4	1,9	2,1
Tube coil content (top)	litres	6,0	6,8	8,8	12,1	13,4
permissible pressure	bar	4.5 (buffer tank) / 16.0 (smooth-tube heat exchanger)				
permissible temperature	°C	0 – 95 (buffer tank) / 0 –110 (smooth-tube heat exchanger)				
Weight, type P	kg	50	61	83	108	118
Weight type PR	kg	75	87	119	156	172
Weight type PR-2	kg	93	107	139	192	212

* The nominal volume is not the same as the exact capacity of the storage tank.

Connection dimensions:

Nominal volume*			200	300	500	800	1000
A	Height	mm	230	250	270	295	295
	left / right	Internal thread	Rp 1“ / Rp 1“	Rp 1“ / Rp 1“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“
B	Height	mm	410	400	440	475	485
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
C	Height	mm	780	690	750	825	860
	left / right	Internal thread	Rp 1“ / Rp 1“	Rp 1“ / Rp 1“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“
D	Height	mm	900	790	970	1025	1125
	left / right	Internal thread	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“
E	Height	mm	1145	960	1140	1225	1390
	left / right	Internal thread	Rp 1“ / Rp 1“	Rp 1“ / Rp 1“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“
F	Height	mm	1345	1120	1300	1385	1560
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
G	Height	mm	1545	1280	1460	1545	1735
	left / right	Internal thread	Rp 1“ / Rp 1“	Rp 1“ / Rp 1“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“
VL 1 (WT bottom)	Height	mm	780	690	750	825	860
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL 1 (WT bottom)	Height	mm	230	250	270	295	295
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
VL 2 (WT top)	Height	mm	1545	1280	1460	1545	1735
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL 2 (WT top)	Height	mm	1145	960	1140	1225	1390
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
H	Height	mm	1730	1500	1720	1820	2030
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“

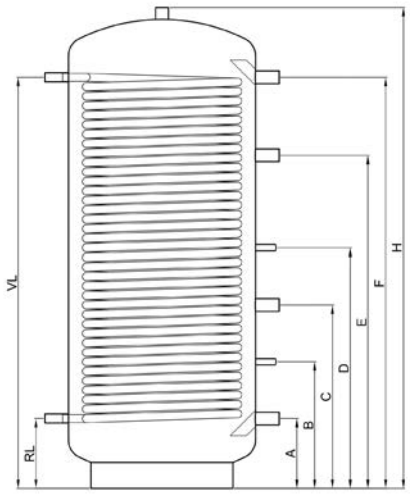
Insulations:

Nominal volume*		200	300	500	800	1000
ÖkoLine-C insulation		- - -	C	C	C	C
Thermal consumption on standby	kWh/24 h	- - -	2,30	2,15	2,49	2,92
Heat loss	W	- - -	95,8	89,6	103,8	121,7
Diameter with insulation	mm	- - -	750	850	990	990
Height with insulation	mm	- - -	1550	1770	1870	2080
Weight	kg	- - -	10	12	15	17
ÖkoLine-B insulation		B	B	B	B	B
Thermal consumption on standby	kWh/24 h	1,35	1,60	1,50	1,75	1,91
Heat loss	W	56,3	66,7	62,5	72,9	79,6
Diameter with insulation	mm	560	750	890	1030	1030
Height with insulation	mm	1780	1550	1820	1920	2130
Weight	kg	8	10	13	16	18
ÖkoLine-A insulation		- - -	- - -	A	A	A
Thermal consumption on standby	kWh/24 h	- - -	- - -	1,40	1,65	1,74
Heat loss	W	- - -	- - -	58,3	68,8	72,5
Diameter with insulation	mm	- - -	- - -	950	1070	1070
Height with insulation	mm	- - -	- - -	1870	1970	2180
Weight	kg	- - -	- - -	18	32	36

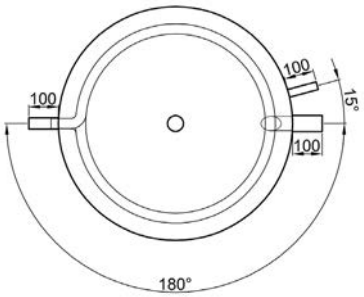
Subject to changes and errors.

High-performance buffer tank

500 to 1000 litres – type HLP



High-performance buffer tank type HLP
(with one heat exchanger)



Dimensions and technical data:

Nominal volume*		500	800	1000
Diameter without insulation	mm	650	790	790
Height without insulation	mm	1720	1820	2030
Tilted dimension without insulation	mm	1743	1850	2057
Smooth-tube heat exchanger	m²	5,0	6,4	7,7
Tube coil content	litres	31,5	40,2	48,2
permissible pressure	bar	4.5 (buffer tank) / 16.0 (smooth-tube heat exchanger)		
permissible temperature	°C	0 – 95 (buffer tank) / 0 – 110 (smooth-tube heat exchanger)		
Weight type HLP	kg	166	218	243

* The nominal volume is not the same as the exact capacity of the storage tank.

Connection dimensions:

Nominal volume*			500	800	1000
A	Height	mm	275	295	295
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
B	Height	mm	470	500	535
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
C	Height	mm	665	705	775
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
D	Height	mm	860	910	1015
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
E	Height	mm	1205	1265	1405
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
F	Height	mm	1445	1525	1735
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
VL (WT)	Height	mm	1445	1525	1735
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
RL (WT)	Height	mm	275	295	295
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
H	Height	mm	1720	1820	2030
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“

Insulations:

Nominal volume*		500	800	1000
ÖkoLine-C insulation		C	C	C
Thermal consumption on standby	kWh/24 h	2,15	2,49	2,92
Heat loss	W	89,6	103,8	121,7
Diameter with insulation	mm	850	990	990
Height with insulation	mm	1770	1870	2080
Weight	kg	12	15	17

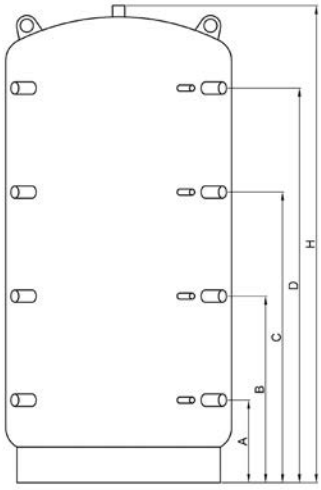
ÖkoLine-B insulation		B	B	B
Thermal consumption on standby	kWh/24 h	1,50	1,75	1,91
Heat loss	W	62,5	72,9	79,6
Diameter with insulation	mm	890	1030	1030
Height with insulation	mm	1820	1920	2130
Weight	kg	13	16	18

ÖkoLine-A insulation		A	A	A
Thermal consumption on standby	kWh/24 h	1,40	1,65	1,74
Heat loss	W	58,3	68,8	72,5
Diameter with insulation	mm	950	1070	1070
Height with insulation	mm	1870	1970	2180
Weight	kg	18	32	36

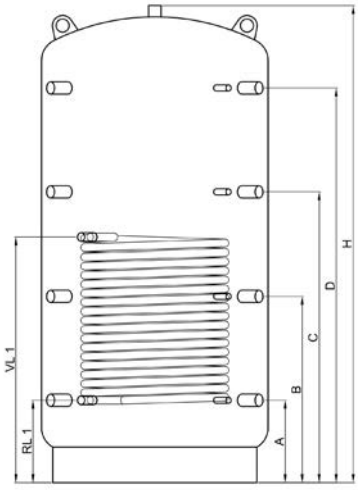
Subject to changes and errors.

Buffer storage tanks with 100° coupling orientations

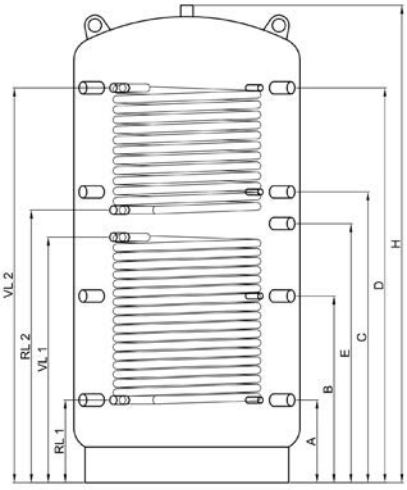
1500 to 10 000 litres – types P, PR, PR-2



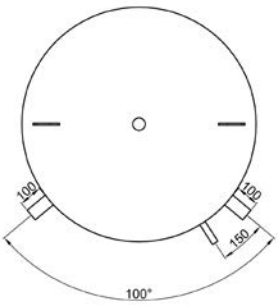
Buffer tank type P
(without heat exchanger)

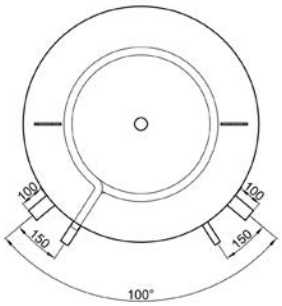


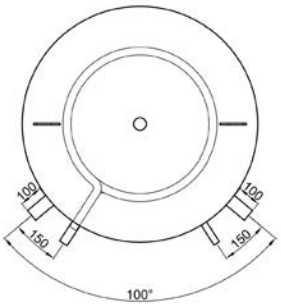
Buffer tank type PR
(with one heat exchanger)



Buffer tank type PR-2
(with two heat exchangers)







Dimensions and technical data:

Nominal volume*		1500	2000	2500	3000	4000	5000	7500	10.000
Diameter without insulation	mm	1000	1150	1150	1250	1400	1600	1600	1600
Height without insulation	mm	2095	2105	2595	2595	2820	2770	4125	5275
Tilted dimension without insulation	mm	2149	2184	2648	2648	2879	2894	4182	5320
Smooth tube heat exchanger (bottom)	m²	3,7	4,8	4,8	4,8	5,4	6,4	8,5	10,6
Tube coil content (bottom)	litres	23,5	30,2	30,2	30,3	33,9	40,1	53,4	66,7
Smooth tube heat exchanger (top)	m²	2,5	2,7	2,7	3,2	3,8	4,6	6,4	7,8
Tube coil content (top)	litres	15,7	16,9	16,9	20,3	24,0	29,0	40,1	49,0
permissible pressure	bar	3.0 (buffer tank) / 16.0 (smooth-tube heat exchanger)							
permissible temperature	°C	0 – 95 (buffer tank) / 0 –110 (smooth-tube heat exchanger)							
Weight, type P	kg	201	234	278	363	475	527	786	970
Weight type PR	kg	265	317	361	446	568	687	931	1150
Weight type PR-2	kg	309	364	408	503	635	768	1042	1290

* The nominal volume is not the same as the exact capacity of the storage tank.

Connection dimensions:

Nominal volume*			1500	2000	2500	3000	4000	5000	7500	10.000
A	Height	mm	375	375	375	375	405	455	455	455
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
B	Height	mm	820	820	985	985	1065	1065	1515	1955
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
C	Height	mm	1345	1345	1600	1600	1730	1680	2575	3285
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
D	Height	mm	1755	1755	2205	2205	2385	2285	3635	4785
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
E	Height	mm	1150	1150	1300	1300	1405	1380	2045	2620
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
VL 1 (WT bottom)	Height	mm	1095	1095	1095	1095	1125	1175	1415	1655
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL 1 (WT bottom)	Height	mm	375	375	375	375	405	455	455	455
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
VL 2 (WT top)	Height	mm	1755	1755	2205	2205	2385	2285	3635	4785
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL 2 (WT top)	Height	mm	1215	1215	1665	1665	1845	1745	2915	3905
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
H	Height	mm	2095	2105	2595	2595	2820	2770	4125	5325
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“

Insulations:

Nominal volume*		1500	2000	2500	3000	4000	5000	7500	10.000
ÖkoLine-D insulation		D	D	D	D	D	D	D	D
Thermal consumption on standby	kWh/24 h	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Heat loss	W	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Diameter with insulation	mm	- - -	- - -	1350	1450	1600	1800	1800	1800
Height with insulation	mm	- - -	- - -	2645	2645	2870	2820	4175	5325
Weight	kg	- - -	- - -	27	29	35	39	53	65
ÖkoLine-C insulation		C	C	C	C	C	C	C	C
Thermal consumption on standby	kWh/24 h	3,70	4,20	- - -	- - -	- - -	- - -	- - -	- - -
Heat loss	W	154,2	175,0	- - -	- - -	- - -	- - -	- - -	- - -
Diameter with insulation	mm	1200	1350	1350	1450	1600	1800	1800	1800
Height with insulation	mm	2145	2155	2645	2645	2870	2820	4175	5325
Weight	kg	20	23	27	29	35	39	53	65
ÖkoLine-B insulation		B	B	B	B	B	B	B	B
Thermal consumption on standby	kWh/24 h	2,40	2,70	- - -	- - -	- - -	- - -	- - -	- - -
Heat loss	W	100,0	112,5	- - -	- - -	- - -	- - -	- - -	- - -
Diameter with insulation	mm	1240	1390	1390	1490	1640	1840	1840	1840
Height with insulation	mm	2195	2205	2695	2695	2920	2870	4225	5375
Weight	kg	22	25	29	31	37	42	56	68

Subject to changes and errors.

Hygiene combination storage tank

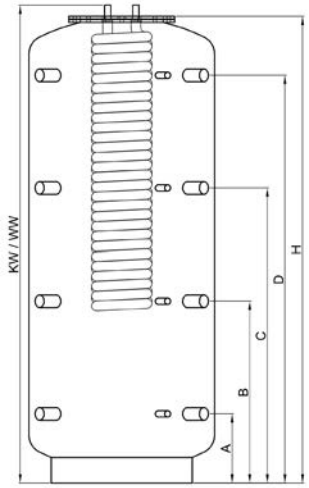
for storing heating water and drinking water heating in one

Hygiene combination storage tanks from TWL have a generously-dimensioned, stainless-steel corrugated tube heat exchanger for optimum hygienic hot water provision. The heat exchangers are mounted in the storage tanks by means of a flange plate and gasket, and can be removed again for monitoring purposes. It consists of high-quality stainless steel, and is designed such that the lower region of the buffer tank, where the solar heat exchanger is also located, is cooled by the incoming cold water first. The colder the tank is in the lower region, the more heat can be fed in by a solar installation.

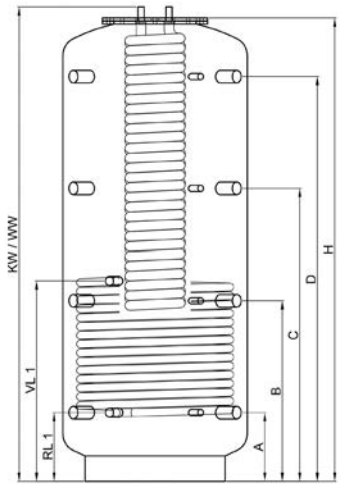
The hygiene tanks are manufactured from S235JR+AR quality steel in accordance with DIN 4753 and DIN EN 12897. The containers are untreated on the inside, primed on the outside, and have a large number of connection options. In addition to the installed stainless-steel exchanger, up to two further heat exchangers can be chosen. We offer coupling orientations with angles of between 90° and 180° depending on the circumstances at the place of installation. Customised fabrications to meet customers' wishes are possible.

Hygiene combination storage tank with 90° coupling orientation

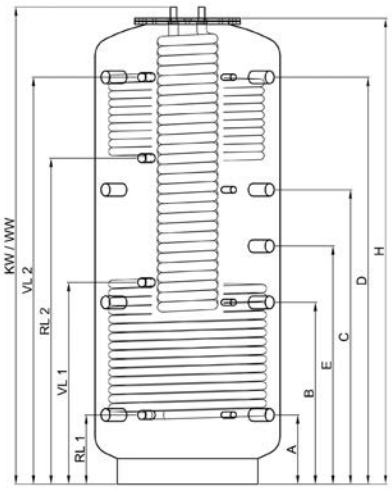
500 to 1000 litres – types KE, KER, KER-2



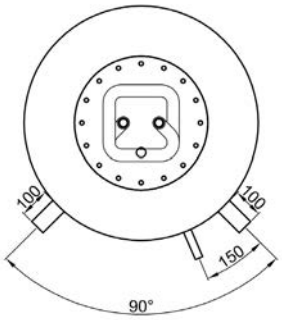
Hygiene combination storage tank type KE
(without heat exchanger)

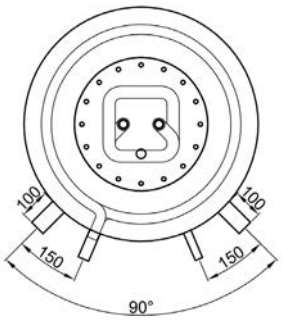


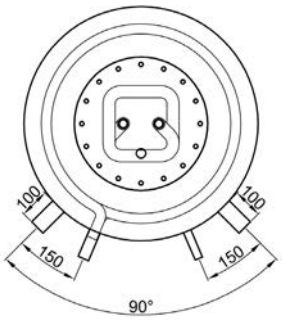
Hygiene combination storage tank type KER
(with one heat exchanger)



Hygiene combination storage tank type KER-2
(with two heat exchangers)







Dimensions and technical data:

Nominal volume*		500	800	1000
Diameter without insulation	mm	650	790	790
Height without insulation	mm	1725	1830	2040
Tilted dimension without insulation	mm	1753	1865	2071
Smooth tube heat exchanger (bottom)	m²	2,1	2,8	3,2
Tube coil content (bottom)	litres	13,1	17,4	20,1
Smooth tube heat exchanger (top)	m²	1,4	1,9	2,1
Tube coil content (top)	litres	8,8	12,1	13,4
permissible pressure	bar	4.5 (buffer tank) / 16.0 (smooth-tube heat exchanger)		
permissible temperature	°C	0 – 95 (buffer tank) / 0 –110 (smooth-tube heat exchanger)		
corrugated tube heat exchanger	m²	5.8 (drinking water heat exchanger)		
Tube coil content	litres	29.2 (drinking water heat exchanger)		
permissible pressure	bar	10.0 (drinking water heat exchanger)		
permissible temperature	°C	0 –110 (drinking water heat exchanger)		
Output capacity (WW with 45 °C) **	litres	221	353	405
Weight type KE	kg	122	147	157
Weight type KER	kg	157	195	211
Weight type KER-2	kg	178	231	251

* The nominal volume is not the same as the exact capacity of the storage tank.

** with 24 kW boiler power, storage tank temperature of 65 °C and cold water temperature of 10 °C

Connection dimensions:

Nominal volume*			500	800	1000
A	Height	mm	275	295	295
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
B	Height	mm	665	705	775
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
C	Height	mm	1055	1115	1255
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
D	Height	mm	1445	1525	1735
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
E	Height	mm	860	910	1015
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
VL 1 (WT bottom)	Height	mm	755	825	860
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
RL 1 (WT bottom)	Height	mm	275	295	295
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
VL 2 (WT top)	Height	mm	1445	1525	1735
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
RL 2 (WT top)	Height	mm	1125	1205	1390
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
H	Height	mm	1675	1780	1990
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
KW / WW (WT drinking water)	Height	mm	1725	1830	2040
	Connection	Internal thread	R ¾“	R ¾“	R ¾“

Insulations:

Nominal volume*		500	800	1000
ÖkoLine-C insulation		C	C	C
Thermal consumption on standby	kWh/24 h	2,15	2,49	2,92
Heat loss	W	89,6	103,8	121,7
Diameter with insulation	mm	850	990	990
Height with insulation	mm	1770	1870	2080
Weight	kg	12	15	17

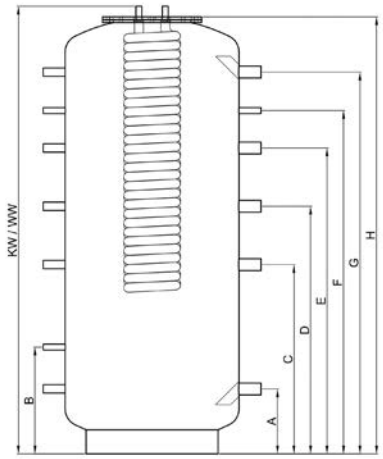
ÖkoLine-B insulation		B	B	B
Thermal consumption on standby	kWh/24 h	1,50	1,75	1,91
Heat loss	W	62,5	72,9	79,6
Diameter with insulation	mm	890	1030	1030
Height with insulation	mm	1820	1920	2130
Weight	kg	13	16	18

ÖkoLine-A insulation		A	A	A
Thermal consumption on standby	kWh/24 h	1,40	1,65	1,74
Heat loss	W	58,3	68,8	72,5
Diameter with insulation	mm	950	1070	1070
Height with insulation	mm	1870	1970	2180
Weight	kg	18	32	36

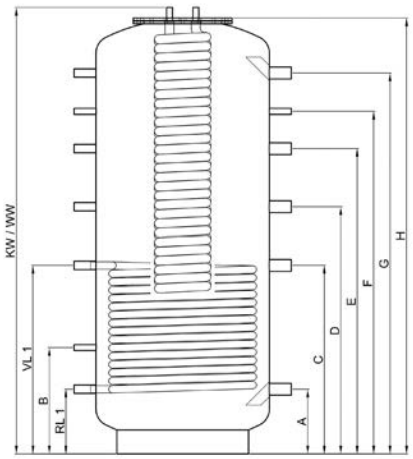
Subject to changes and errors.

Hygiene combination storage tank with 180° coupling orientation

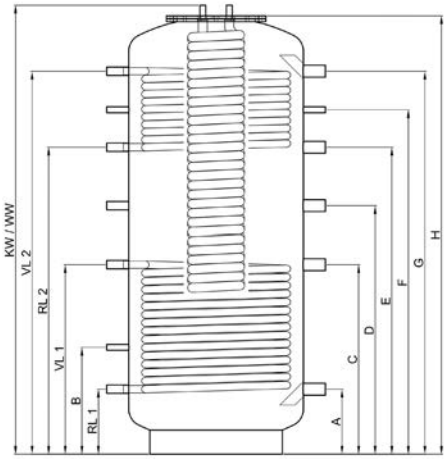
500 to 1000 litres – types KE, KER, KER-2



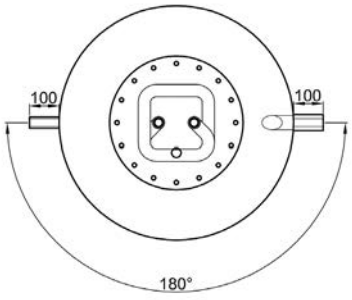
Hygiene combination storage tank type KE
(without heat exchanger)

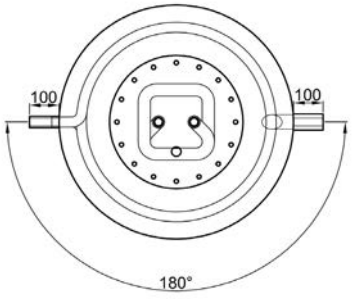


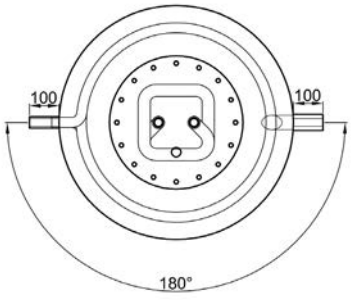
Hygiene combination storage tank type KER
(with one heat exchanger)



Hygiene combination storage tank type KER-2
(with two heat exchangers)







Dimensions and technical data:

Nominal volume*		500	800	1000
Diameter without insulation	mm	650	790	790
Height without insulation	mm	1725	1830	2040
Tilted dimension without insulation	mm	1753	1865	2071
Smooth tube heat exchanger (bottom)	m²	2,1	2,8	3,2
Tube coil content (bottom)	litres	13,1	17,4	20,1
Smooth tube heat exchanger (top)	m²	1,4	1,9	2,1
Tube coil content (top)	litres	8,8	12,1	13,4
permissible pressure	bar	4.5 (buffer tank) / 16.0 (smooth-tube heat exchanger)		
permissible temperature	°C	0 – 95 (buffer tank) / 0 – 110 (smooth-tube heat exchanger)		
corrugated tube heat exchanger	m²	5.8 (drinking water heat exchanger)		
Tube coil content	litres	29.2 (drinking water heat exchanger)		
permissible pressure	bar	10.0 (drinking water heat exchanger)		
permissible temperature	°C	0 –110 (drinking water heat exchanger)		
Output capacity (WW with 45 °C) **	litres	221	353	405
Weight type KE	kg	122	147	157
Weight type KER	kg	158	195	211
Weight type KER-2	kg	178	231	251

* The nominal volume is not the same as the exact capacity of the storage tank.

** with 24 kW boiler power, storage tank temperature of 65 °C and cold water temperature of 10 °C

Connection dimensions:

Nominal volume*			500	800	1000
A	Height	mm	270	295	295
	left / right	Internal thread	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“
B	Height	mm	440	475	485
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
C	Height	mm	750	825	860
	left / right	Internal thread	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“
D	Height	mm	970	1025	1125
	left / right	Internal thread	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“
E	Height	mm	1140	1225	1390
	left / right	Internal thread	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“
F	Height	mm	1300	1385	1560
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
G	Height	mm	1460	1545	1735
	left / right	Internal thread	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“	Rp 1“ / Rp 1 ½“
VL 1 (WT bottom)	Height	mm	750	825	860
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
RL 1 (WT bottom)	Height	mm	270	295	295
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
VL 2 (WT top)	Height	mm	1460	1545	1735
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
RL 2 (WT top)	Height	mm	1140	1225	1390
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
H	Height	mm	1675	1780	1990
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
KW / WW (WT drinking water)	Height	mm	1725	1830	2040
	Connection	Internal thread	R ¾“	R ¾“	R ¾“

Insulations:

Nominal volume*		500	800	1000
ÖkoLine-C insulation		C	C	C
Thermal consumption on standby	kWh/24 h	2,15	2,49	2,92
Heat loss	W	89,6	103,8	121,7
Diameter with insulation	mm	850	990	990
Height with insulation	mm	1770	1870	2080
Weight	kg	12	15	17

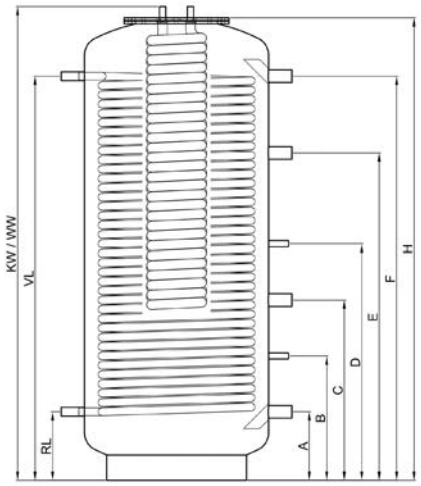
ÖkoLine-B insulation		B	B	B
Thermal consumption on standby	kWh/24 h	1,50	1,75	1,91
Heat loss	W	62,5	72,9	79,6
Diameter with insulation	mm	890	1030	1030
Height with insulation	mm	1820	1920	2130
Weight	kg	13	16	18

ÖkoLine-A insulation		A	A	A
Thermal consumption on standby	kWh/24 h	1,40	1,65	1,74
Heat loss	W	58,3	68,8	72,5
Diameter with insulation	mm	950	1070	1070
Height with insulation	mm	1870	1970	2180
Weight	kg	18	32	36

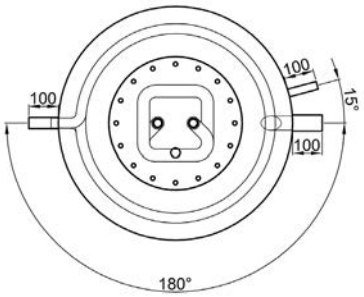
Subject to changes and errors.

High-performance hygiene combination storage tank

500 to 1000 litres – type KEH



High-performance hygiene combination storage tank type KEH
(with one heat exchanger)



Dimensions and technical data:

Nominal volume*		500	800	1000
Diameter without insulation	mm	650	790	790
Height without insulation	mm	1725	1830	2040
Tilted dimension without insulation	mm	1753	1865	2071
Smooth-tube heat exchanger	m²	5,0	6,4	7,7
Tube coil content	litres	31,5	40,2	48,2
permissible pressure	bar	4.5 (buffer tank) / 16.0 (smooth-tube heat exchanger)		
permissible temperature	°C	0 – 95 (buffer tank) / 0 – 110 (smooth-tube heat exchanger)		
corrugated tube heat exchanger	m²	5.8 (drinking water heat exchanger)		
Tube coil content	litres	29.2 (drinking water heat exchanger)		
permissible pressure	bar	10.0 (drinking water heat exchanger)		
permissible temperature	°C	0 –110 (drinking water heat exchanger)		
Output capacity (WW with 45 °C) **	litres	221	353	405
Weight type KEH	kg	166	218	243

* The nominal volume is not the same as the exact capacity of the storage tank.

** with 24 kW boiler power, storage tank temperature of 65 °C and cold water temperature of 10 °C

Connection dimensions:

Nominal volume*			500	800	1000
A	Height	mm	275	295	295
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
B	Height	mm	470	500	535
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
C	Height	mm	665	705	775
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
D	Height	mm	860	910	1015
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
E	Height	mm	1205	1265	1405
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
F	Height	mm	1445	1525	1735
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
VL (WT)	Height	mm	1445	1525	1735
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
RL (WT)	Height	mm	275	295	295
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
H	Height	mm	1675	1780	1990
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
KW / WW (WT drinking water)	Height	mm	1725	1830	2040
	Connection	Internal thread	R ¾“	R ¾“	R ¾“

Insulations:

Nominal volume*		500	800	1000
ÖkoLine-C insulation		C	C	C
Thermal consumption on standby	kWh/24 h	2,15	2,49	2,92
Heat loss	W	89,6	103,8	121,7
Diameter with insulation	mm	850	990	990
Height with insulation	mm	1770	1870	2080
Weight	kg	12	15	17

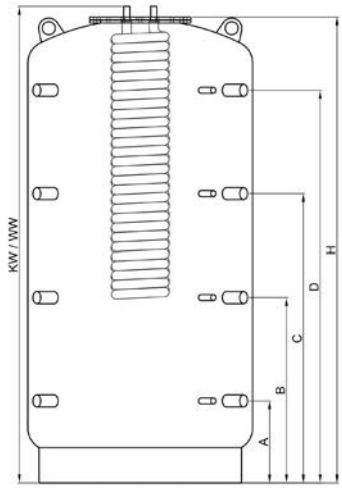
ÖkoLine-B insulation		B	B	B
Thermal consumption on standby	kWh/24 h	1,50	1,75	1,91
Heat loss	W	62,5	72,9	79,6
Diameter with insulation	mm	890	1030	1030
Height with insulation	mm	1820	1920	2130
Weight	kg	13	16	18

ÖkoLine-A insulation		A	A	A
Thermal consumption on standby	kWh/24 h	1,40	1,65	1,74
Heat loss	W	58,3	68,8	72,5
Diameter with insulation	mm	950	1070	1070
Height with insulation	mm	1870	1970	2180
Weight	kg	18	32	36

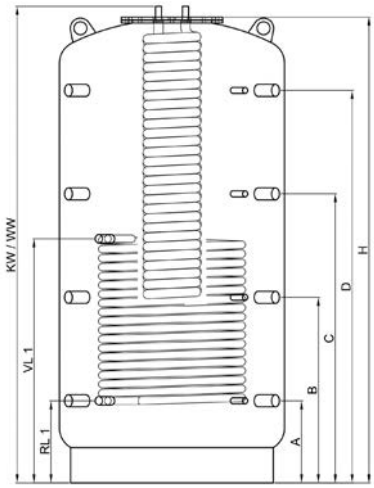
Subject to changes and errors.

Hygiene combination storage tank with 100° coupling orientation

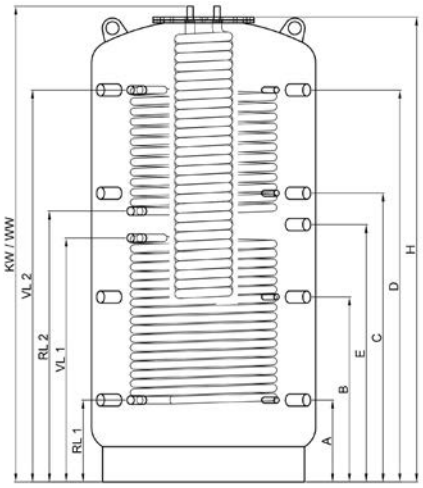
1500 to 10 000 litres – types KE, KER, KER-2



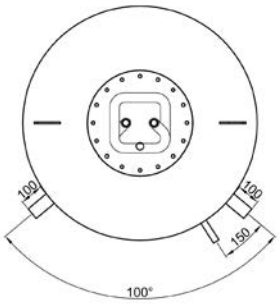
Hygiene combination storage tank type KE
(without heat exchanger)

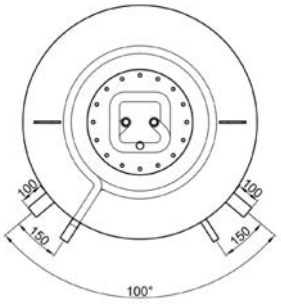


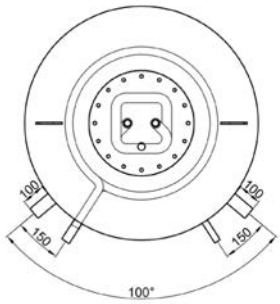
Hygiene combination storage tank type KER
(with one heat exchanger)



Hygiene combination storage tank type KER-2
(with two heat exchangers)







Dimensions and technical data:

Nominal volume*		1500	2000	2500	3000	4000	5000	7500	10.000
Diameter without insulation	mm	1000	1150	1150	1250	1400	1600	1600	1600
Height without insulation	mm	2115	2120	2610	2610	2840	2790	4140	5290
Tilted dimension without insulation	mm	2175	2195	2670	2675	2905	2895	4200	5340
Smooth tube heat exchanger (bottom)	m²	3,7	4,8	4,8	4,8	5,4	6,4	8,5	10,6
Tube coil content (bottom)	litres	23,5	30,2	30,2	30,3	33,9	40,1	53,4	66,7
Smooth tube heat exchanger (top)	m²	2,5	2,7	2,7	3,2	3,8	4,6	6,4	7,8
Tube coil content (top)	litres	15,7	16,9	16,9	20,3	24,0	29,0	40,1	49,0
permissible pressure	bar	3.0 (buffer tank) / 16.0 (smooth-tube heat exchanger)							
permissible temperature	°C	0 – 95 (buffer tank) / 0 – 110 (smooth-tube heat exchanger)							
corrugated tube heat exchanger	m²	5.8 (drinking water heat exchanger)							
Tube coil content	litres	29.2 (drinking water heat exchanger)							
permissible pressure	bar	10.0 (drinking water heat exchanger)							
permissible temperature	°C	0 –110 (drinking water heat exchanger)							
Output capacity (WW with 45 °C) **	litres	502	593	690	785	975	1168	1785	2374
Weight type KE	kg	240	273	317	402	514	566	825	1009
Weight type KER	kg	304	356	400	485	607	726	970	1189
Weight type KER-2	kg	348	403	447	542	674	807	1081	1329

* The nominal volume is not the same as the exact capacity of the storage tank.

** with 24 kW boiler power, storage tank temperature of 65 °C and cold water temperature of 10 °C

Connection dimensions:

Nominal volume*			1500	2000	2500	3000	4000	5000	7500	10.000
A	Height	mm	375	375	375	375	405	455	455	455
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
B	Height	mm	820	820	985	985	1065	1065	1515	1955
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
C	Height	mm	1345	1345	1600	1600	1730	1680	2575	3285
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
D	Height	mm	1755	1755	2205	2205	2385	2285	3635	4785
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
E	Height	mm	1150	1150	1300	1300	1405	1380	2045	2620
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
VL 1 (WT bottom)	Height	mm	1095	1095	1095	1095	1125	1175	1415	1655
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL 1 (WT bottom)	Height	mm	375	375	375	375	405	455	455	455
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
VL 2 (WT top)	Height	mm	1755	1755	2205	2205	2385	2285	3635	4785
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL 2 (WT top)	Height	mm	1215	1215	1665	1665	1845	1745	2915	3905
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
H	Height	mm	2065	2070	2560	2560	2790	2740	4090	5240
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
KW / WW (WT drinking water)	Height	mm	2115	2120	2610	2610	2840	2790	4140	5290
	Connection	Internal thread	R ¾“	R ¾“	R ¾“	R ¾“	R ¾“	R ¾“	R ¾“	R ¾“

Insulations:

Nominal volume*		1500	2000	2500	3000	4000	5000	7500	10.000
ÖkoLine-D insulation		D	D	D	D	D	D	D	D
Thermal consumption on standby	kWh/24 h	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Heat loss	W	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
Diameter with insulation	mm	- - -	- - -	1350	1450	1600	1800	1800	1800
Height with insulation	mm	- - -	- - -	2645	2645	2870	2820	4175	5325
Weight	kg	- - -	- - -	27	29	35	39	53	65
ÖkoLine-C insulation		C	C	C	C	C	C	C	C
Thermal consumption on standby	kWh/24 h	3,70	4,20	- - -	- - -	- - -	- - -	- - -	- - -
Heat loss	W	154,2	175,0	- - -	- - -	- - -	- - -	- - -	- - -
Diameter with insulation	mm	1200	1350	1350	1450	1600	1800	1800	1800
Height with insulation	mm	2145	2155	2645	2645	2870	2820	4175	5325
Weight	kg	20	23	27	29	35	39	53	65
ÖkoLine-B insulation		B	B	B	B	B	B	B	B
Thermal consumption on standby	kWh/24 h	2,40	2,70	- - -	- - -	- - -	- - -	- - -	- - -
Heat loss	W	100,0	112,5	- - -	- - -	- - -	- - -	- - -	- - -
Diameter with insulation	mm	1240	1390	1390	1490	1640	1840	1840	1840
Height with insulation	mm	2195	2205	2695	2695	2920	2870	4225	5375
Weight	kg	22	25	29	31	37	42	56	68

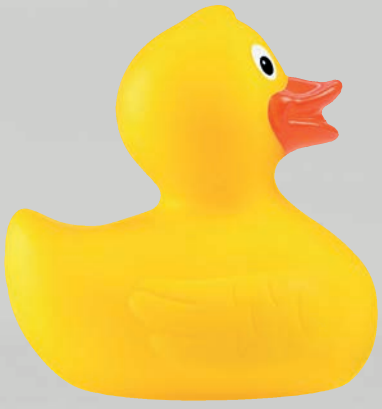
Subject to changes and errors.

Enamelled service water storage tank

for heating and storing drinking water

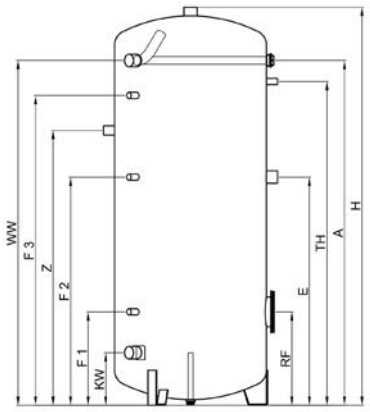
Service water storage tanks are thermal stores filled only with drinking water. They are used to keep large quantities of hot water ready such as may be used, for example, for showering. The system components for heat generation can be operated largely independently of consumption. This provides better operating conditions and higher efficiency for many heat generators.

Service water storage tanks from this series are manufactured of S235JR+AR quality steel according to DIN 4753 and DIN EN 12897. The container is enamelled twice on the inside, primed on the outside, and has a large number of connection options. Up to two heat exchangers can be installed. A magnesium anode and thermometer are included with this series. An impressed-current anode can be retrofitted. An additional electric heating element can be fitted using an optional flange plate or an Effect Heater. The bushing for on electric heating element is standard with the SO and SP types and with the S types from 800 litres upwards.

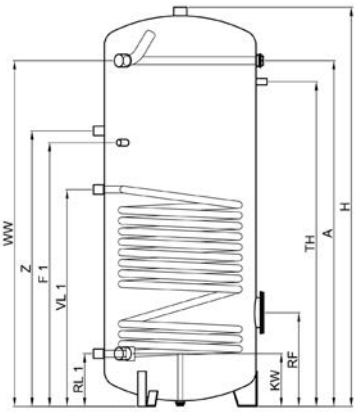


Enamelled storage tank

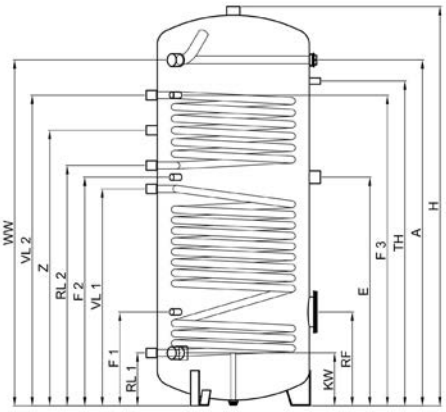
150 to 500 litres – types SP, S, SO



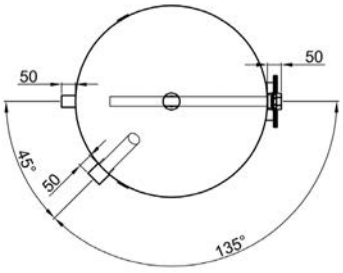
Enamelled buffer tank type SP
(without heat exchanger)

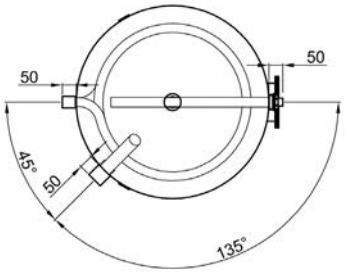


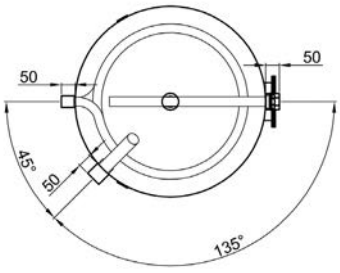
Enamelled upright tank type S
(with one heat exchanger)



Enamelled solar storage tank type SO
(with two heat exchangers)







Dimensions and technical data:

Nominal volume*		150	200	300	400	500
Diameter with insulation	mm	550	550	650	750	750
Height with insulation	mm	1070	1340	1420	1470	1720
Tilted dimension with insulation	mm	1204	1449	1562	1655	1880
Smooth tube heat exchanger (bottom / top)	m²	1,0 / - - -	1,2 / 0,8	1,4 / 1,1	1,8 / 1,2	2,1 / 1,3
Tube coil content (bottom / top)	litres	5,6 / - - -	6,6 / 4,6	7,6 / 6,3	10,1 / 6,7	11,7 / 7,6
Pressure loss(bottom / top)	mbar	65 / - - -	75 / 55	120 / 70	180 / 80	210 / 90
Continuous power (bottom / top) (WW with 45 ° C) **	litres/h	610 / - - -	710 / 440	1300 / 520	1520 / 660	1770 / 840
	kW	25,0 / - - -	29,0 / 18,0	53,0 / 21,0	62,0 / 27,0	72,0 / 34,0
Performance indicator (bottom / top) ***	NL	2,5 / - - -	4,5 / 1,5	11,0 / 2,0	13,0 / 2,2	18,0 / 2,8
permissible pressure	bar	10.0 (buffer tank) / 16.0 (smooth-tube heat exchanger)				
permissible temperature	°C	0 – 95 (buffer tank) / 0 – 110 (smooth-tube heat exchanger)				
Weight with insulation type SP	kg	- - -	66	87	125	143
Weight with insulation type S	kg	68	81	104	147	169
Weight with insulation type SO	kg	- - -	91	113	162	192

* The nominal volume is not the same as the exact capacity of the storage tank.

** at 80 °C inlet temperature, 60 °C return temperature and 10 °C cold water temperature

*** at 80 °C storage tank temperature, 45 °C hot water temperature and 10 °C cold water temperature

Connection dimensions:

Nominal volume*			150	200	300	400	500
KW	Height	mm	200	200	200	225	225
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1 ¼“	Rp 1 ½“
WW	Height	mm	875	1150	1175	1225	1475
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1 ¼“	Rp 1 ½“
Z (Type SP / S / SO)	Height	mm	- - - / 450 / - - -	850 / 500 / 975	875 / 675 / 1000	900 / 625 / 1075	1175 / 1175 / 1175
	Connection	Internal thread	Rp ¾“	Rp ¾“	Rp ¾“	Rp 1“	Rp 1“
F1 (Type SP / S / SO)	Height	mm	- - - / 625 / - - -	350 / 900 / 350	325 / 900 / 325	400 / 900 / 400	400 / 1125 / 400
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
F2 (Type SP / SO)	Height	mm	- - - / - - -	800 / 800	850 / 850	850 / 850	975 / 975
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
F3 (Type SP / SO)	Height	mm	- - - / - - -	1050 / 1050	1075 / 1075	1125 / 1125	1325 / 1325
	Sensor	Internal thread	- - - / - - -	Rp ½“	Rp ½“	Rp ½“	Rp ½“
TH	Height	mm	875	1150	1175	1135	1385
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
E	Height	mm	- - -	750	850	850	975
	Connection	Internal thread	- - -	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
A	Height	mm	1070	1340	1420	1225	1475
	Connection	Internal thread	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“
VL 1 (WT bottom)	Height	mm	600	700	800	800	925
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL 1 (WT bottom)	Height	mm	200	200	200	225	225
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
VL 2 (WT top)	Height	mm	- - -	1100	1175	1175	1325
	Connection	Internal thread	- - -	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL 2 (WT top)	Height	mm	- - -	800	900	900	1025
	Connection	Internal thread	- - -	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RF	Height	mm	300	300	325	400	400
	Revision	Factory standard	180/120	180/120	180/120	180/120	180/120
H	Height	mm	1070	1340	1420	1470	1720
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“

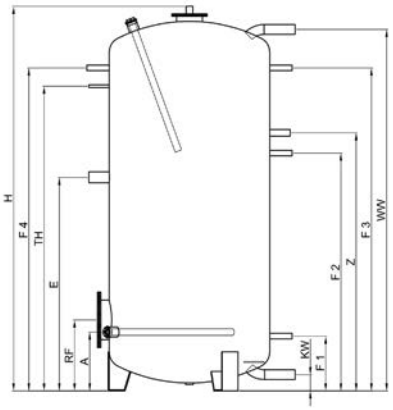
Insulations:

Nominal volume*		150	200	300	400	500
Insulation PU		B	B	B	C	C
Thermal consumption on standby	kWh/24 h	1,12	1,37	1,64	2,17	2,27
Heat loss	W	46,5	57,0	68,4	90,5	94,5

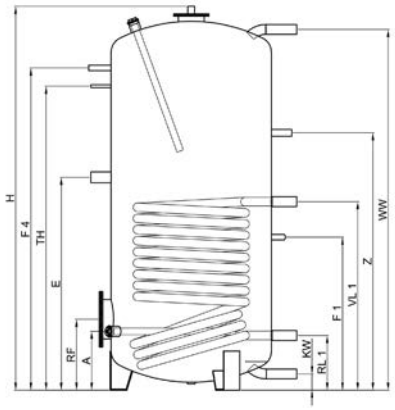
Subject to changes and errors.

Enamelled storage tank

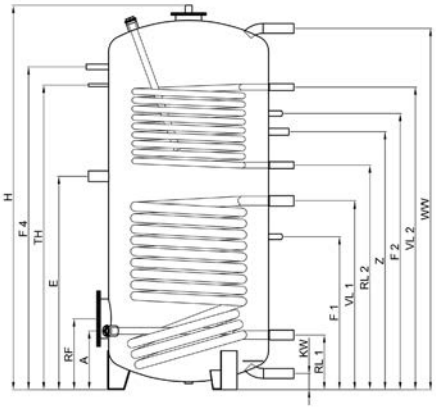
800 to 2000 litres – types SP, S, SO



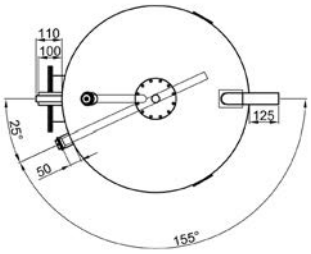
Enamelled buffer tank type SP
(without heat exchanger)

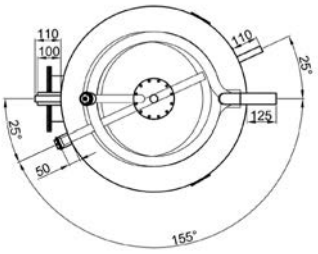


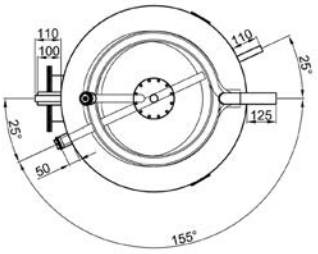
Enamelled upright tank type S
(with one heat exchanger)



Enamelled solar storage tank type SO
(with two heat exchangers)







Dimensions and technical data:

Nominal volume*		800	1000	1500	2000
Diameter without insulation	mm	790	850	1000	1100
Height without insulation	mm	1895	1975	2185	2355
Tilted dimension without insulation	mm	2026	2111	2349	2552
Smooth tube heat exchanger (bottom / top)	m²	2,9 / 1,5	3,5 / 1,3	3,3 / 2,3	4,5 / 2,7
Tube coil content (bottom / top)	litres	26,2 / 9,4	31,3 / 7,9	30,4 / 20,5	41,6 / 25,2
Pressure loss (bottom / top)	mbar	210 / 150	260 / 210	310 / 260	420 / 300
Continuous power (bottom / top) (WW with 45 ° C) **	litres/h	1963 / 1107	2342 / 891	3450 / 2349	4874 / 2658
	kW	80,0 / 45,0	95,0 / 36,0	140,0 / 95,0	198,0 / 108,0
Performance indicator (bottom / top) ***	NL	30,0 / 12,0	40,0 / 19,0	70,0 / 18,0	94,0 / 31,0
permissible pressure	bar	10.0 (buffer tank) / 16.0 (smooth-tube heat exchanger)			
permissible temperature	°C	0 – 95 (buffer tank) / 0 – 110 (smooth-tube heat exchanger)			
Weight type SP	kg	185	212	296	388
Weight type S	kg	220	266	382	454
Weight type SO	kg	252	280	421	497

* The nominal volume is not the same as the exact capacity of the storage tank.

** at 80 °C inlet temperature, 60 °C return temperature and 10 °C cold water temperature

*** at 80 °C storage tank temperature, 45 °C hot water temperature and 10 °C cold water temperature

Connection dimensions:

Nominal volume*			800	1000	1500	2000
KW	Height	mm	80	80	90	90
	Connection	External thread	R 1 ½“	R 1 ½“	R 2“	R 2“
LA (Type SP)	Height	mm	- - -	- - -	1750	1905
	Connection	External thread	- - -	- - -	R 2“	R 2“
WW	Height	mm	1780	1845	2070	2245
	Connection	External thread	R 1 ½“	R 1 ½“	R 2“	R 2“
Z	Height	mm	1270	1275	1380	1550
	Connection	Internal thread	Rp ¾“	Rp ¾“	Rp ¾“	Rp 1 ½“
E	Height	mm	1050	1130	1170	1300
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
F1 (Type SP / S / SO)	Height	mm	270 / 755 / 755	270 / 815 / 815	370 / 580 / 580	390 / 580 / 580
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“
F2 (Type SP / S / SO)	Height	mm	1170 / - - - / 1360	1175 / - - - / 1375	1080 / - - - / 1330	1130 / - - - / 1530
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“
F3 (Type SP / S / SO)	Height	mm	1590 / - - - / - - -	1655 / - - - / - - -	- - - / - - - / - - -	- - - / - - - / - - -
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“
F4 (Type SP / S / SO)	Height	mm	1590 / 1590 / 1590	1475 / 1475 / 1475	1770 / 1770 / 1770	1920 / 1920 / 1920
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“
TH	Height	mm	1500	1385	1680	1830
	Sensor	Internal thread	ø14	ø14	ø14	ø14
A	Height	mm	290	295	395	415
	Connection	Internal thread	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“
VL 1 (WT bottom)	Height	mm	930	985	1085	1235
	Connection	External thread	R 1 ½“	R 1 ½“	R 1 ½“	R 1 ½“
RL 1 (WT bottom)	Height	mm	270	270	425	410
	Connection	External thread	R 1 ½“	R 1 ½“	R 1 ½“	R 1 ½“
VL 2 (WT top)	Height	mm	1490	1475	1695	1865
	Connection	External thread	R 1“	R 1“	R 1 ½“	R 1 ½“
RL 2 (WT top)	Height	mm	1105	1175	1255	1370
	Connection	External thread	R 1“	R 1“	R 1 ½“	R 1 ½“
RF	Height	mm	350	355	470	490
	Revision	Factory standard	280/180	280/180	280/180	280/180
H	Height	mm	1895	1975	2185	2355
	Connection	Internal thread	Rp ¾“	Rp ¾“	Rp ¾“	Rp ¾“

Insulations:

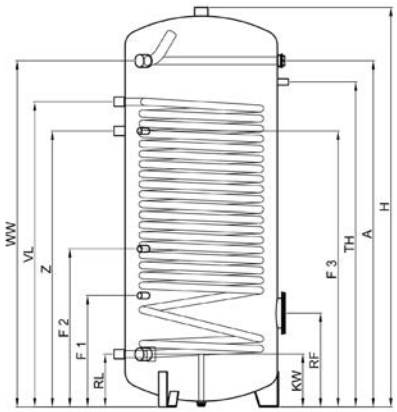
Nominal volume*		800	1000	1500	2000
ÖkoLine-C insulation		C	C	C	C
Thermal consumption on standby	kWh/24 h	2,69	3,12	3,90	4,40
Heat loss	W	112,1	130,0	162,5	183,3

ÖkoLine-B insulation		B	B	B	B
Thermal consumption on standby	kWh/24 h	1,95	2,11	2,80	3,10
Heat loss	W	81,3	87,9	116,7	129,2

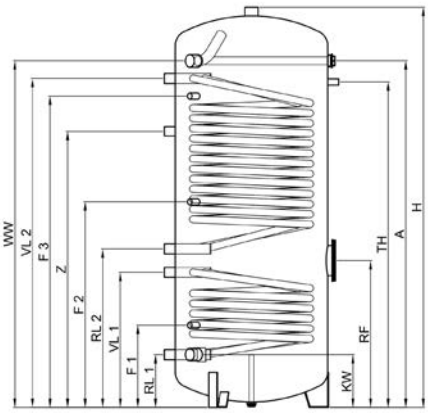
Subject to changes and errors.

Enamelled high-performance storage tank

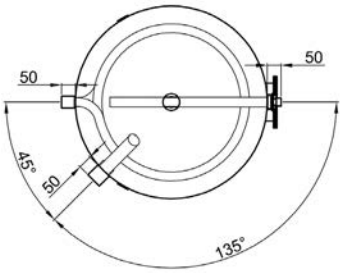
150 to 500 litres – types SWP, SWP-2

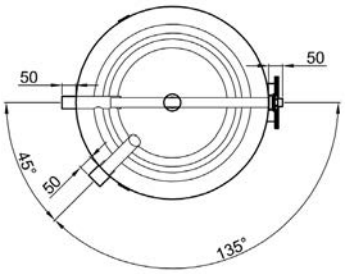


Enamelled high-performance storage tank type SWP
(with one heat exchanger)



Enamelled high-performance solar storage tank type SWP-2
(with two heat exchangers)





Dimensions and technical data:

Nominal volume*		150	200	300	400	500
Diameter with insulation	mm	550	550	650	750	750
Height with insulation	mm	1070	1340	1420	1470	1720
Tilted dimension with insulation	mm	1204	1449	1562	1655	1880
Smooth-tube heat exchanger (type SWP)	m²	1,5	2,0	3,4	4,2	4,5
Tube coil content (type SWP)	litres	8,6	11,1	19,4	23,4	25,1
Pressure loss (type SWP)	mbar	120	150	400	600	710
Continuous power (type SWP) (WW with 45 ° C) **	litres/h	990	1250	1520	1840	2060
	kW	40,4	51,0	62,0	75,0	84,0
Performance indicator (type SWP) ***	NL	6,0	8,0	20,0	27,0	34,0
Smooth-tube heat exchanger (type SWP-2) (bottom / top)	m²	- - -	- - -	1,3 / 3,0	1,8 / 3,5	2,1 / 4,5
Tube coil content (type SWP-2) (bottom / top)	litres	- - -	- - -	7,2 / 16,5	9,2 / 19,7	12,2 / 25,7
Pressure loss (type SWP-2) (bottom / top)	mbar	- - -	- - -	55 / 70	70 / 85	90 / 120
Continuous power (type SWP-2) (bottom / top) (WW with 45 °C) **	litres/h	- - -	- - -	1300 / 1840	1520 / 2010	1770 / 2310
	kW	- - -	- - -	53,0 / 75,0	62,0 / 82,0	72,0 / 94,0
Performance indicator (type SWP-2) (bottom / top)	NL	- - -	- - -	8,0 / 20,0	13,0 / 24,0	17,0 / 32,0
permissible pressure	bar	10.0 (buffer tank) / 16.0 (smooth-tube heat exchanger)				
permissible temperature	°C	0 – 95 (buffer tank) / 0 –110 (smooth-tube heat exchanger)				
Weight with insulation type SWP	kg	77	97	120	167	193
Weight with insulation type SWP-2	kg	- - -	- - -	145	208	247

* The nominal volume is not the same as the exact capacity of the storage tank.

** at 80 °C inlet temperature, 60 °C return temperature and 10 °C cold water temperature

*** at 80 °C storage tank temperature, 45 °C hot water temperature and 10 °C cold water temperature

Connection dimensions:

Nominal volume*			150	200	300	400	500
KW	Height	mm	200	200	200	225	225
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1 ¼“	Rp 1 ½“
WW	Height	mm	875	1150	1175	1225	1475
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1 ¼“	Rp 1 ½“
Z	Height	mm	650	925	1000	1075	1175
	Connection	Internal thread	Rp ¾“	Rp ¾“	Rp ¾“	Rp 1“	Rp 1“
F1 (Type SWP / SWP-2)	Height	mm	375 / - - -	400 / - - -	400 / 325	450 / 375	475 / 350
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
F2 (Type SWP / SWP-2)	Height	mm	575 / - - -	700 / - - -	700 / 700	775 / 800	675 / 875
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
F3 (Type SWP / SWP-2)	Height	mm	800 / - - -	975 / - - -	1075 / 1075	1075 / 1075	1175 / 1325
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
TH	Height	mm	875	1150	1175	1135	1385
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
A	Height	mm	1070	1340	1420	1225	1475
	Connection	Internal thread	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“
VL (WT) (Type SWP)	Height	mm	850	1100	1150	1175	1300
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
RL (WT) (Type SWP)	Height	mm	200	200	200	225	225
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
VL 1 (WT bottom) (Type SWP-2)	Height	mm	- - -	- - -	450	525	575
	Connection	Internal thread	- - -	- - -	Rp 1“	Rp 1“	Rp 1“
RL 1 (WT bottom) (Type SWP-2)	Height	mm	- - -	- - -	200	225	225
	Connection	Internal thread	- - -	- - -	Rp 1“	Rp 1“	Rp 1“
VL 2 (WT top) (Type SWP-2)	Height	mm	- - -	- - -	1150	1175	1400
	Connection	Internal thread	- - -	- - -	Rp 1“	Rp 1“	Rp 1“
RL 2 (WT top) (Type SWP-2)	Height	mm	- - -	- - -	575	625	675
	Connection	Internal thread	- - -	- - -	Rp 1“	Rp 1“	Rp 1“
RF (Type SWP/SWP-2)	Height	mm	300 / - - -	300 / - - -	325 / 515	400 / 575	400 / 625
	Revision	Factory standard	180/120	180/120	180/120	180/120	180/120
H	Height	mm	1070	1340	1420	1470	1720
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“

Insulations:

Nominal volume*		150	200	300	400	500
Insulation PU		B	B	B	C	C
Thermal consumption on standby	kWh/24 h	1,12	1,37	1,64	2,17	2,27
Heat loss	W	46,5	57,0	68,4	90,5	94,5

Subject to changes and errors.

Stainless steel service water storage tank

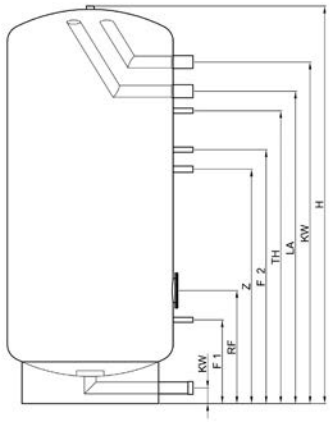
for heating and storing drinking water

Anyone who is looking for an uncompromising solution in terms of service life, maintenance and drinking water quality would be well advised to use our stainless-steel service water storage tanks. The rust-proof properties of the material allow an additional sacrificial anode to be omitted. This means on the one hand that deposits sometimes caused by such anodes are avoided, and on the other hand that the associated maintenance work at the storage tank is no longer necessary. Stainless-steel storage tanks from TWL offer you the maximum degree of hygienic, efficient, hot water preparation and an extraordinarily long service life.
Service water storage tanks in this series are manufactured from high-quality V4A stainless-steel. The container is bath-pickled and passivated. A large number of connection options are available. Up to two heat exchangers can be installed. An additional electric heating element can be retrofitted using an optional flange plate or Effect Heater.

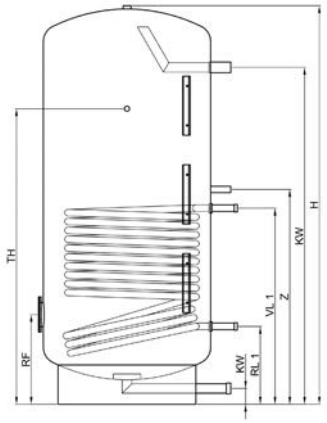
The tank is approved for use with a chloride content up to 250 mg/litre. Otherwise, the guarantee is void.

Stainless-steel storage tank

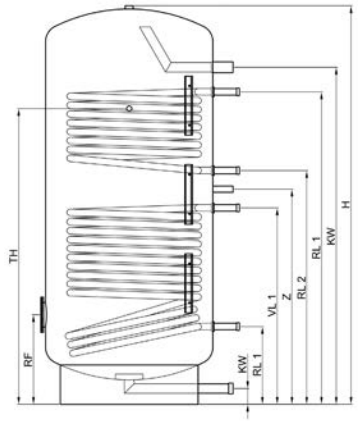
150 to 1000 litres – types EP, ES, ESO



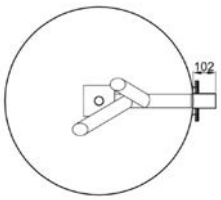
Stainless steel buffer tank type EP
(without heat exchanger)

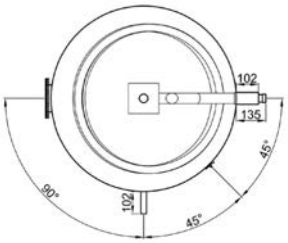


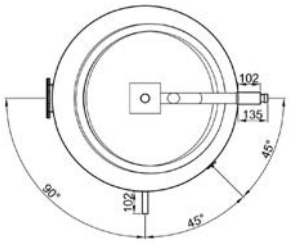
Stainless steel upright tank type ES
(with one heat exchanger)



Stainless steel solar storage tank type ESO
(with two heat exchangers)







Dimensions and technical data:

Nominal volume*		150	200	300	400	500	750	1000
Diameter without insulation	mm	500 (EP) 400 (ES)	500	500	600	600	750	850
Height without insulation	mm	992 (EP) 1313 (ES)	1362	1612	1657	1907	1989	2037 (EP) 2022 (ES) 2022 (ESO)
Tilted dimension without insulation	mm	1016 (EP) 1325 (ES)	1379	1627	1671	1919	2015	2072 (EP) 2058 (ES) 2058 (ESO)
Smooth tube heat exchanger (top/bottom)	m²	0,8 / - - -	0,8 / 0,8	1,4 / 0,9	1,8 / 0,9	1,8 / 0,9	2,4 / 1,4	2,8 / 1,7
Tube coil content (top/bottom)	litres	2,9 / - - -	3,0 / 3,0	7,2 / 4,5	12,5 / 6,3	12,5 / 6,3	16,6 / 9,7	19,5 / 12,1
Volume flow rate (bottom/top)	m³/h	1,6 / - - -	1,7 / 0,8	2,6 / 1,3	3,0 / 1,4	3,3 / 1,6	4,0 / 2,1	4,8 / 2,3
Pressure loss(bottom/top)	mbar	530 / - - -	580 / 160	190 / 40	90 / 15	105 / 15	200 / 35	320 / 50
Continuous power (bottom/top) (WW with 45 °C) **	l/h	926 / - - -	978 / 476	1522 / 784	1743 / 820	1924 / 943	2413 / 1215	2846 / 1348
	kW	37,7 / - - -	39,8 / 19,4	62,0 / 31,9	71,0 / 33,4	78,3 / 38,4	98,2 / 49,5	115,8 / 54,9
Performance indicator (bottom/top) ***	NL	2 / - - -	4 / 2	12 / 3	20 / 3	23 / 4	35 / 10	46 / 14
permissible pressure	bar	10.0 (buffer tank) / 25.0 (smooth-tube heat exchanger)						
permissible temperature	°C	0 – 95 (buffer tank) / 0 – 110 (smooth-tube heat exchanger)						
Weight type EP	kg	40	55	70	80	85	135	145
Weight type ES	kg	50	65	88	103	108	168	190
Weight type ESO	kg	- - -	75	100	115	120	185	210

* The nominal volume is not the same as the exact capacity of the storage tank.

** at 80 °C inlet temperature, 60 °C return temperature and 10 °C cold water temperature

*** at 80 °C storage tank temperature, 45 °C hot water temperature and 10 °C cold water temperature

Connection dimensions:

Nominal volume*			150	200	300	400	500	750	1000
KW (Type EP)	Height	mm	65	65	65	65	65	80	80
	Connection	Internal thread	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
KW (Type ES, ESO)	Height	mm	65	65	65	70	70	80	80
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1 ½“	Rp 1 ½“
LA (Type EP)	Height	mm	680	1000	1250	1270	1520	1565	1600
	Connection	Internal thread	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
WW (Type EP)	Height	mm	780	1150	1400	1420	1670	1715	1750
	Connection	Internal thread	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ½“	Rp 1 ½“	Rp 2“	Rp 2“
WW (Type ES, ESO)	Height	mm	1130	1145	1375	1420	1670	1720	1710
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1 ½“	Rp 1 ½“
Z (Type EP)	Height	mm	590	600	850	870	1120	1165	1200
	Connection	Internal thread	Rp ¾“	Rp ¾“	Rp ¾“	Rp ¾“	Rp ¾“	Rp ¾“	Rp ¾“
Z (Type ES, ESO)	Height	mm	760	685	870	975	975	1025	1090
	Connection	Internal thread	Rp ¾“	Rp ¾“	Rp ¾“	Rp ¾“	Rp ¾“	Rp ¾“	Rp ¾“
F1 (Type EP)	Height	mm	310	305	305	350	350	400	430
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
F2 (Type EP)	Height	mm	570	700	950	970	1220	1265	1300
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
TH (Type EP)	Height	mm	730	900	1150	1170	1420	1465	1500
	Sensor	Internal thread	Rp ½ “	Rp ½ “	Rp ½ “	Rp ½ “	Rp ½ “	Rp ½ “	Rp ½ “
TH (Type ES, ESO)	Height	mm	1100	1115	1345	1375	1430	1480	1500
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“	Rp ½“
VL 1 (WT bottom) (Type ES, ESO)	Height	mm	685	605	795	890	890	940	995
	Connection	External thread	R 1“	R 1“	R 1 ¼“	R 1 ½“	R 1 ½“	R 1 ½“	R 1 ½“
RL 1 (WT bottom) (Type ES, ESO)	Height	mm	260	305	305	330	330	380	395
	Connection	External thread	R 1“	R 1“	R 1 ¼“	R 1 ½“	R 1 ½“	R 1 ½“	R 1 ½“
VL 2 (WT top) (Type ESO)	Height	mm	- - -	1065	1260	1325	1380	1430	1585
	Connection	External thread	- - -	R 1“	R 1 ¼“	R 1 ½“	R 1 ½“	R 1 ½“	R 1 ½“
RL 2 (WT top) (Type ESO)	Height	mm	- - -	765	945	1055	1110	1115	1185
	Connection	External thread	- - -	R 1“	R 1 ¼“	R 1 ½“	R 1 ½“	R 1 ½“	R 1 ½“
RF (Type EP)	Height	mm	380	455	455	505	505	550	580
	Revision	Factory standard	180/120	180/120	180/120	180/120	180/120	180/120	180/120
RF (Type ES, ESO)	Height	mm	340	365	365	390	390	440	455
	Revision	Factory standard	180/120	180/120	180/120	180/120	180/120	180/120	180/120
H (Type EP)	Height	mm	992	1362	1612	1657	1907	1989	2037
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“
H (Type ES, ESO)	Height	mm	1313	1362	1612	1657	1907	1989	2022
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“	Rp 1“

Type ES, ESO with 3x sensor terminal blocks 300 mm

Insulations:

Nominal volume*		150	200	300	400	500	750	1000
ÖkoLine-C insulation		- - -	- - -	- - -	C	C	C	C
Thermal consumption on standby	kWh/24 h	- - -	- - -	- - -	1,95	2,35	2,64	3,12
Heat loss	W	- - -	- - -	- - -	81,3	97,9	110,0	130,0
Weight	kg	- - -	- - -	- - -	11	12	15	17

ÖkoLine-B insulation		B	B	B	B	B	B	B
Thermal consumption on standby	kWh/24 h	1,25	1,40	1,60	1,60	1,70	1,90	2,11
Heat loss	W	52,1	58,3	66,7	66,7	70,8	79,2	87,9
Weight	kg	6	8	10	12	13	16	18

Subject to changes and errors.

Efficiency combination storage tank

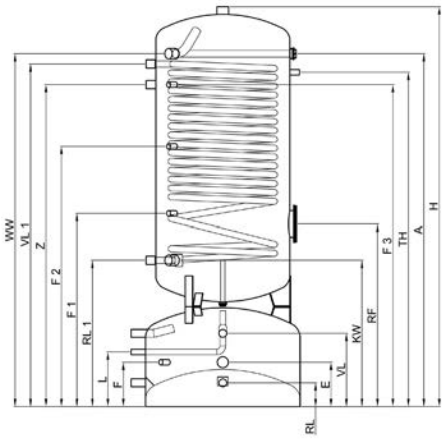
for improving the efficiency of heat pumps and condensing boiler technology

Heat pumps and condensing boiler technology work most efficiently when they do not generate high temperatures. These low temperatures are needed for optimum heat transfer over large exchanger surfaces. Our range includes high-performance storage tanks with extra-large exchanger surfaces in order to counter this problem.

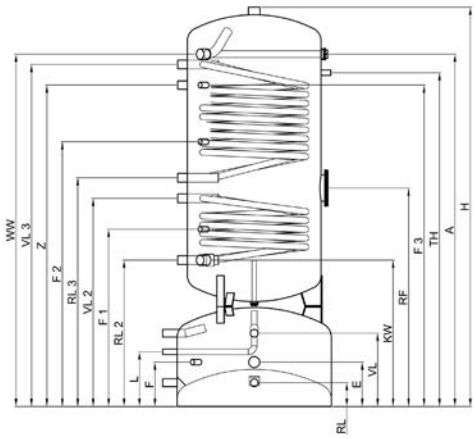
To improve this existing system even further, we place an additional buffer tank under this storage tank, and clad both of them with a common insulation. The result of the strict separation of drinking and heating water, and the lower return temperatures that result from this, is an increase in the efficiency of heat pumps and condensing boiler technology. This combination of different storage tanks and insulation types achieves a demonstrable energy efficiency class of A or B.

Efficiency combination storage tank

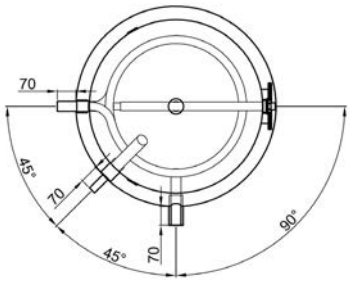
200 to 400 litres – types EKS, EKS-2

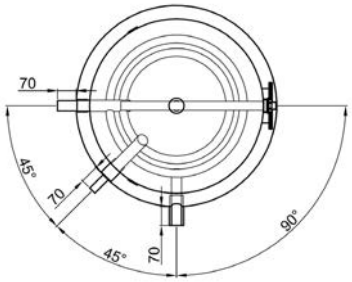


Efficiency combination storage tank type EKS
(with one heat exchanger)



Efficiency combination storage tank type EKS-2
(with two heat exchangers)





Dimensions and technical data:

Nominal volume*		200/80	300/100	400/120
Diameter without insulation	mm	550	650	750
Height without insulation	mm	1805	1885	1955
Tilted dimension without insulation	mm	1892	1994	2094
Smooth-tube heat exchanger (type EKS)	m²	2,0	3,4	4,2
Tube coil content (type EKS)	litres	11,1	19,4	23,4
Pressure loss (type EKS)	mbar	150	400	600
Continuous power (type EKS) (WW with 45 °C) **	litres/h	1250	1520	1840
	kW	51,0	62,0	75,0
Performance indicator (type EKS) ***	NL	8,0	20,0	27,0
Smooth-tube heat exchanger (type EKS-2) (bottom / top)	m²	- - -	1,3 / 3,0	1,8 / 3,5
Tube coil content (type EKS-2) (bottom / top)	litres	- - -	7,2 / 16,5	9,2 / 19,7
Pressure loss (type EKS-2) (bottom / top)	mbar	- - -	55 / 70	70 / 85
Continuous power (type EKS-2) (bottom / top) (WW with 45 °C) **	litres/h	- - -	1300 / 1840	1520 / 2010
	kW	- - -	53,0 / 75,0	62,0 / 82,0
Performance indicator (type EKS-2) (bottom / top)	NL	- - -	11,0 / 17,0	14,0 / 22,0
permissible pressure	bar	4.5 (buffer tank) / 10.0 (drinking water tank / 16.0 (smooth-tube heat exchanger)		
permissible temperature	°C	0 – 95 (buffer tank) / 0 – 95 (drinking water tank) 0 –110 (smooth-tube heat exchanger)		
Weight type EKS	kg	127	159	216
Weight type EKS-2	kg	- - -	184	257

* The nominal volume is not the same as the exact capacity of the storage tank.

** at 80 °C inlet temperature, 60 °C return temperature and 10 °C cold water temperature

*** at 80 °C storage tank temperature, 45 °C hot water temperature and 10 °C cold water temperature

Connection dimensions:

Nominal volume*			200/80	300/100	400/120
KW	Height	mm	665	665	710
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1 ¼“
WW	Height	mm	1615	1640	1710
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1 ¼“
Z	Height	mm	1390	1465	1560
	Connection	Internal thread	Rp ¾“	Rp ¾“	Rp 1“
E	Height	mm	175	185	195
	Heating element	Internwal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“
L	Height	mm	305	285	265
	Bleeding	Internal thread	Rp ½“	Rp ½“	Rp ½“
F	Height	mm	175	185	195
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
F1 / F2 / F3 (Type EKS)	Height	mm	865 / 1165 / 1440	865 / 1165 / 1540	935 / 1260 / 1560
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
F1 / F2 / F3 (Type EKS-2)	Height	mm	- - -	790 / 1165 / 1540	860 / 1285 / 1560
	Sensor	Internal thread	- - -	Rp ½“	Rp ½“
TH	Height	mm	1520	1570	1615
	Sensor	Internal thread	Rp ½“	Rp ½“	Rp ½“
A	Height	mm	1810	1885	1700
	Connection	Internal thread	Rp 1 ¼“	Rp 1 ¼“	Rp 1 ¼“
VL	Height	mm	375	365	355
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
RL	Height	mm	75	85	95
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
VL (WT) (Type EKS)	Height	mm	1565	1615	1660
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
RL (WT) (Type EKS)	Height	mm	665	665	710
	Connection	Internal thread	Rp 1“	Rp 1“	Rp 1“
VL 1 (WT bottom) (Type EKS-2)	Height	mm	- - -	915	1010
	Connection	Internal thread	- - -	Rp 1“	Rp 1“
RL 1 (WT bottom) (Type EKS-2)	Height	mm	- - -	665	710
	Connection	Internal thread	- - -	Rp 1“	Rp 1“
VL 2 (WT top) (Type EKS-2)	Height	mm	- - -	1615	1660
	Connection	Internal thread	- - -	Rp 1“	Rp 1“
RL 2 (WT top) (Type EKS-2)	Height	mm	- - -	1040	1110
	Connection	Internal thread	- - -	Rp 1“	Rp 1“
RF (Type EKS / EKS-2)	Height	mm	765 / - - -	790 / 980	885 / 1060
	Revision	Factory standard	180 / 120	180 / 120	180 / 120
H	Height	mm	1805	1885	1955
	Connection	Internal thread	Rp 1 ½“	Rp 1 ½“	Rp 1 ½“

Insulations:

Nominal volume*		200/80	300/100	400/120
Drinking water tank insulation		A	A	A
Thermal consumption on standby	kWh/24 h	1,00	1,05	1,14
Heat loss	W	41,7	43,8	47,5

Buffer tank insulation		B	B	B
Thermal consumption on standby	kWh/24 h	1,10	1,18	1,25
Heat loss	W	45,8	49,2	52,1
Diameter with insulation	mm	690	790	890
Height with insulation	mm	1910	1985	2055

Subject to changes and errors.

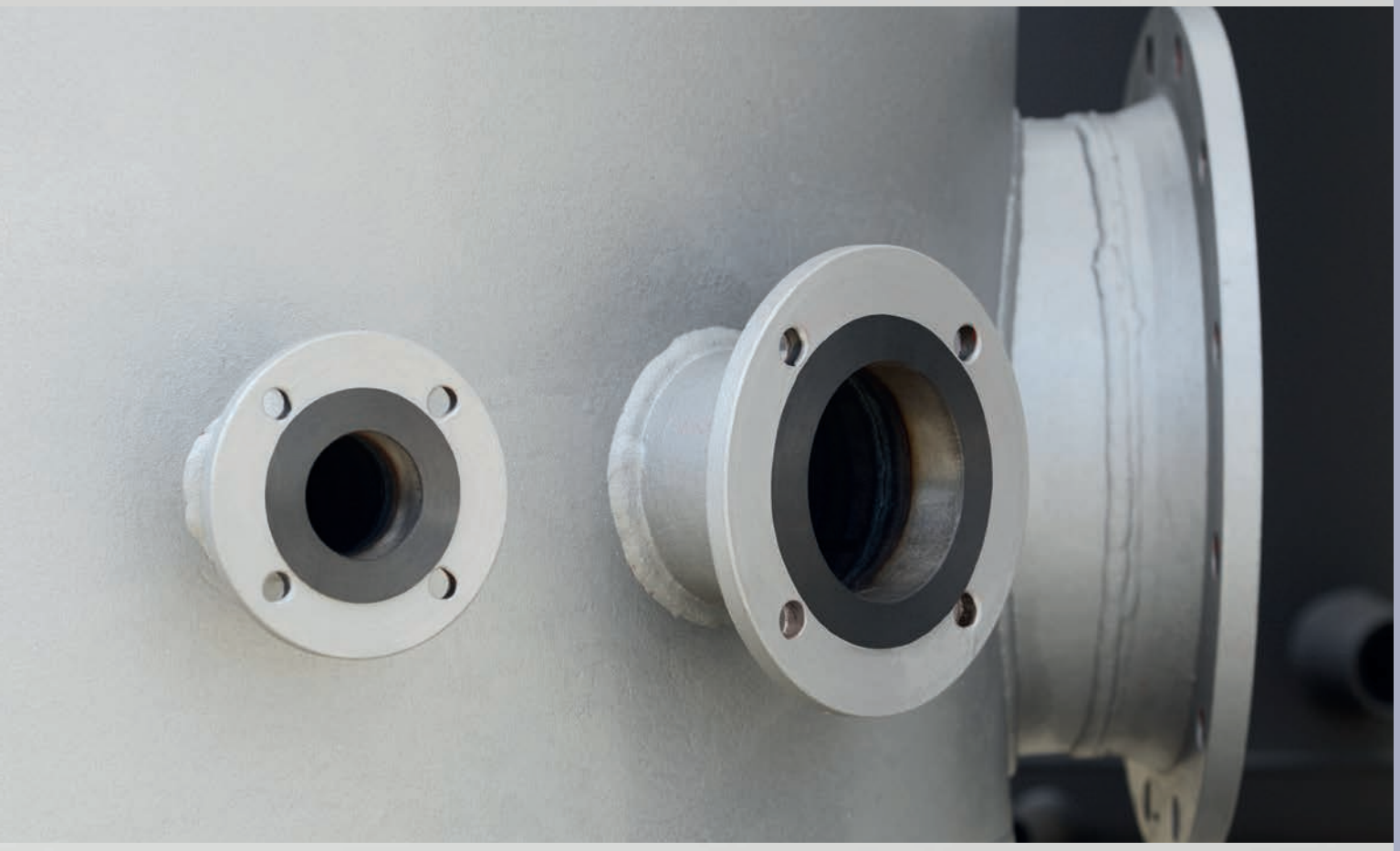
Custom storage tanks

Made-to-measure production

Our in-house custom storage tank production facility has specialised in solving problems through fabricating individual storage tanks to meet customers' wishes. Different scenarios give rise to highly varied tasks. Large commercial complexes sometimes need larger volumes, well beyond the 10.000 litres available from us as standard. Small cellars with low ceilings often do not allow standard storage tanks to be used, while crooked spaces with difficult access are an obstacle to making the proper connection to the couplings provided on a usual commercial storage tank. Anyone who comes across problems of this sort is in good hands at TWL. Our professionals in the custom storage tank field construct individual solutions for detached houses, apartment blocks, commercial buildings and public facilities.

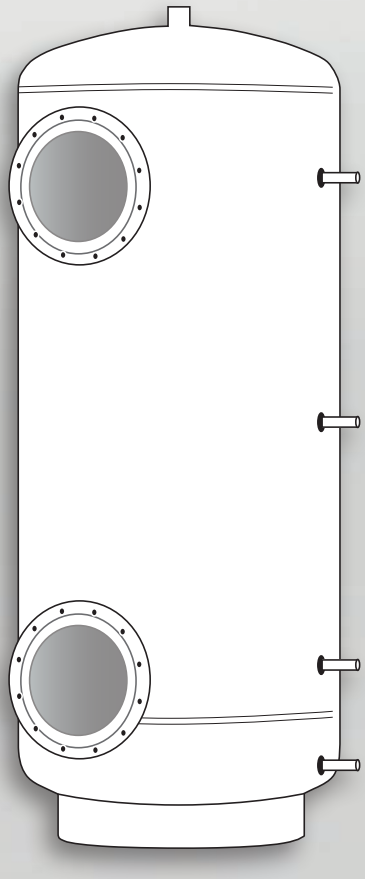
Outstanding quality for individual demands and needs

Our custom storage tanks are fabricated including the appropriate insulation as well as the individually required connections and flanges. We build for you to measure, and can handle up to a maximum size of 40.000 litres. The maximum diameter of our custom fabrications is 2.400 mm. They are made of high-quality steel and stainless steel. The tanks are manufactured in accordance with DIN 4753 and with the European standard, using optimised fabrication and approved welded joints meeting company standards. Selected materials with quality certification, such as S235JR+AR high-quality steel or 1.4571 (V4A), stainless steel are used in our production.



Convenient ordering, simple structures and problem-free procedures

The process of creating one of our custom tanks is as easy as you could wish. You describe the situation for us and tell us what you want on the telephone, by email or fax, and we will do the calculations for your custom fabrication. We then give you a price quotation. If this leads to an order, the sparks fly in our production site. Our qualified employees will do everything possible to make a first-class product for you, one that we will be pleased to deliver with a 5-year manufacturer's warranty. It is even simpler if you use our ready-made custom storage tank form. You can find it towards the back of this catalogue, or in the download area of our Internet site at www.twl-technologie.de.



Storage tank types:

- Buffer tank
- Cold tanks
- Drinking water tanks
- Compressed air boilers
- Seasonal storage tanks

Maximum configuration:

- up to maximum 2.400 millimetres
- up to maximum 40.000 litres
- up to maximum 16 bar (depending on volume)
- certified by test centre if required

Connection variants:

- Sleeve connections
- DN flange
- Group connections for Victaulic connector

Insulation:

- Various efficiency classes
- Diffusion-resistant cold insulation
- Insulation certified to B1 if desired
- Cladding with sheet metal jacket

Coating:

- Protective lacquer
- AGI coating for cold water tanks
- Galvanised

Possible test centres:

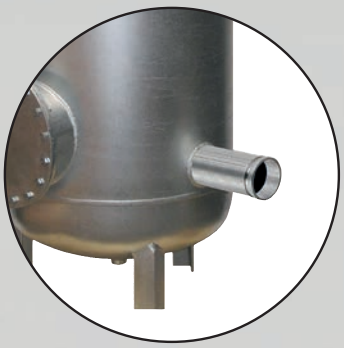
- TÜV
- SWISS TS.
- Germanischer Lloyd
- Det Norske Veritas
- Bureau Veritas

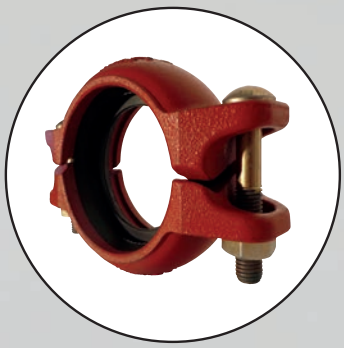
Possible certificates:

- AD-2000 HP-0
- DIN EN ISO 3834-2
- MSZ EN 3834-2
- ISO 9001:2008
- 97/23/EG D Modul

Victaulic clamp rings for groove connections. For easy, secure connection of multi-tank systems.

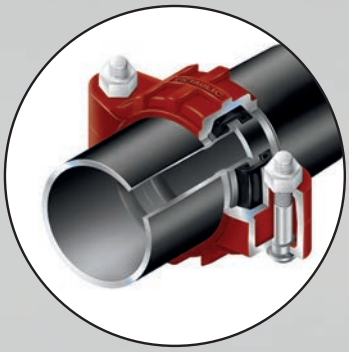
For connecting a storage tank battery to our series tanks as well as for custom tanks made to customers' wishes, we offer groove connections for mounting clamp rings from Victaulic. In contrast to conventional types of connection, this system has the advantage of quicker assembly. Multiple connections positioned opposite one another on a pair of containers do not necessarily match up exactly; floors, for instance, are not always flat. Nevertheless they can easily be given a permanent, pressure-resistant connection to one another.





Victaulic connections with a corresponding groove are available as an option on storage tanks from TWL.

Victaulic couplings are also often used in the plant construction of larger properties. We therefore offer an implementation with groove connections as an option on our custom storage tanks. The connection, already present on the storage tank and suitable for the Victaulic system, is permanently connected to the onward-leading groove pipe by means of Victaulic clamp rings. The system saves time, offers flexibility and a high level of reliability. We can also supply the necessary clamp-rings if required.



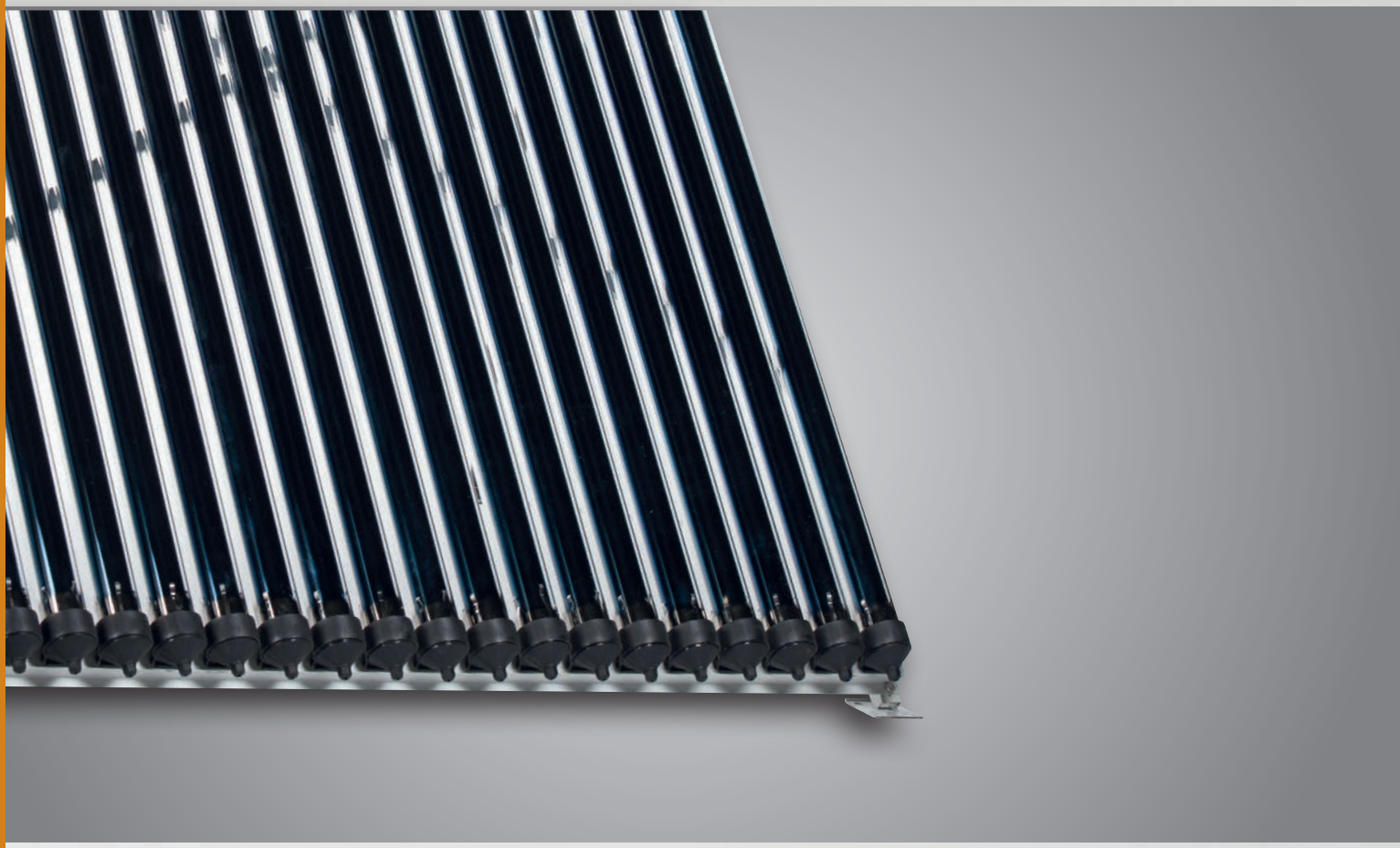
Solar heating

Clean heat for your home

The advantages of solar energy production can be defined quickly: it is clean, environmentally sound, economical, and provides independence from the ever-rising prices in the heating oil and natural gas markets. With a solar installation from TWL, you exploit an inexhaustible source of energy – the sun. In eight minutes it supplies as much energy as the whole of humanity uses in a year. It pays for households to make use of this free energy.

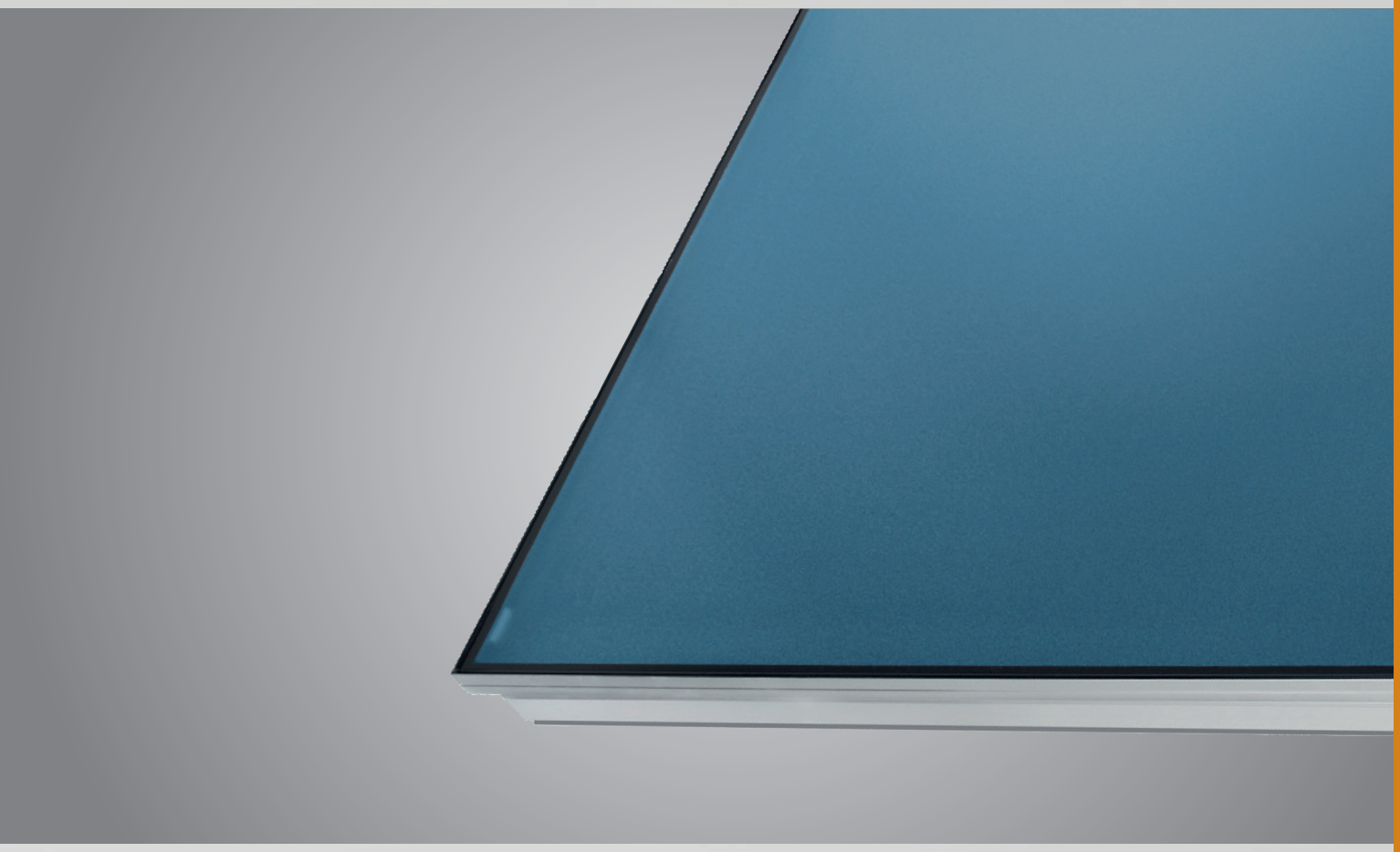
TWL solar installations are matched to one another perfectly, and are made from high-quality materials. You can therefore be sure that the collectors operate optimally and produce a maximum yield.

Whether for new constructions or for the renovation of existing buildings, for heating drinking water or to assist space heating, we offer you the right solution for every situation.



The highlights of our tube collectors

- ✔ High-quality vacuum tubes from hail-resistant or a silicate glass
- ✔ High-performance even at low temperatures due to vacuum insulation
- ✔ Exceptionally high vacuum, top-quality coating
- ✔ Outstanding collector insulation for the best possible heat insulation
- ✔ Glass, copper, aluminium and absorbers of optimum thickness
- ✔ Dry connection with heat-pipe principle
- ✔ Barium mirror as indicator of vacuum resistance
- ✔ Best heat-pipe quality from first-class suppliers
- ✔ Tubes can be replaced while operation continues
- ✔ Nickel-galvanised condenser protects against corrosion
- ✔ Easy handling: collector is only fully assembled on the roof

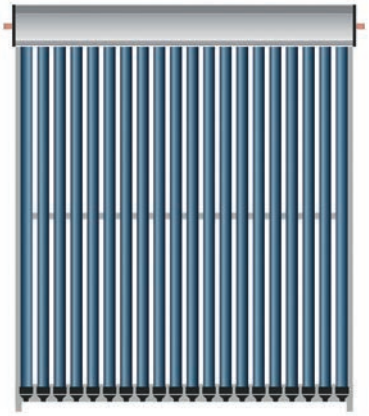


The highlights of our flat collectors

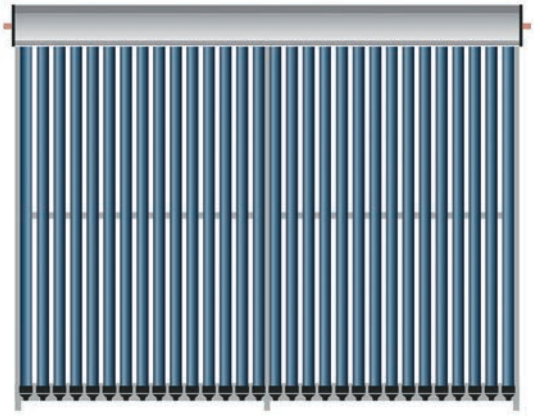
- ✔ Consistent quality through high manufacturing precision
- ✔ Maximum heat transfer through laser welding technologies
- ✔ Flat construction through intelligent frame design
- ✔ Short assembly time through extra-simple fastening systems
- ✔ Can be fitted with an inclination between 15° and 75°, with roof hooks for regular types of roofing tile
- ✔ Minimal distance between collectors through direct 1-inch screwed joints
- ✔ Optimised venting concept prevents ingress of dust and insects
- ✔ Absorber with ideal figures: absorption 95%, emission 5%
- ✔ Top durability and hail protection thanks to low-iron safety glass
- ✔ Outstanding light refraction thanks to prismatic glass
- ✔ The required minimum yield of 525 kWh/(m² a) is being achieved at the Würzburg site with a solar proportion of 40%.

Vacuum tube collector

EtaSunPro – type VRK20, VRK30



EtaSunPro VRK20
(with 20 tubes)



EtaSunPro VRK30
(with 30 tubes)

Dimensions and technical data:

Collector EtaSunPro / item no.	VRK20	VRK30
Solar Keymark	SP SC0414-17	SP SC0414-17
Dimensions (H x W x D)	1983 x 1565 x 162 mm	1983 x 2303 x 162 mm
Empty collector weight	67 kg	95 kg
Number of vacuum tubes	20 pcs.	30 pcs.
Vacuum tube diameter	58 mm	58 mm
Vacuum tube length	1800 mm	1800mm
Tube spacing	74.57 mm	74.57 mm
Gross area according to BAFA	3.10 m²	4.57 m²
Aperture area	1.87 m²	2.81 m²
Absorber area	1.62 m²	2.43 m²
Liquid volume	1.06 litres	1.59 litres
Connections (external thread)	1" external thread	1" external thread
Maximum operating pressure	6.0 bar	6.0 bar
Test pressure	10.0 bar	10.0 bar
Stagnation temperature	220.3° C	220.3° C
Collector material	Aluminium	Aluminium
Frame material	Stainless steel	Stainless steel
Glass material	Borosilicate	Borosilicate
Set-up angle	15° – 90°	15° – 90°
Recommended tank volume	50 litre/m² collector area	50 litre/m² collector area
Manufacturer's guarantee	10 years	10 years

Complete EtaSunPro® solar package VRK20

Package designation / item no.	VRK20-1	VRK20-2	VRK20-3	VRK20-4	VRK20-5	VRK20-6	VRK20-7	VRK20-8
Number of collectors	1	2	3	4	5	6	7	8
Installation size m² (gross)	3.10	6.20	9.30	12.40	15.50	18.60	21.70	24.80
Expansion vessel, litres with cap valve	MAGS35	MAGS35	MAGS35	MAGS35	MAGS50	MAGS50	MAGS50	MAGS50
Solar fluid Tyfo (kg)	40	40	50	60	60	70	80	90
Controller SmartSolNano Basic	incl.	incl.	incl.	incl.	incl.	–	–	–
Controller SmartSol Top	–	–	–	–	–	incl.	incl.	incl.
Controller Deltasol MX	surcharge	surcharge	surcharge	surcharge	surcharge	surcharge	surcharge	surcharge
Quick connector	0	1	2	3	4	5	6	7
Flow meter (WMZ)	surcharge	surcharge	surcharge	surcharge	surcharge	incl.	incl.	incl.
Bleed valve unit	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.
Regusol solar station	LH-15	LH-15	LH-15	LH-15	LH-15	LH-15	LH-15	LH-15
Replacement tubes, each	1	1	2	2	3	3	4	4
Roof hooks, each	4	8	12	16	20	24	28	32
Roof rails, each	2	4	6	8	10	12	14	16
Collector connection set	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.
Thermally conductive paste	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.

Complete EtaSunPro® solar package VRK30

Package designation / item no.	VRK30-1	VRK30-2	VRK30-3	VRK30-4	VRK30-5	VRK30-6	VRK30-7	VRK30-8
Number of collectors	1	2	3	4	5	6	7	8
Installation size m² (gross)	4.57	9.14	13.71	18.28	22.85	27.42	31.99	36.56
Expansion vessel, litres with cap valve	MAGS35	MAGS35	MAGS35	MAGS50	MAGS50	MAGS50	MAGS50	MAGS50
Solar fluid Tyfo (kg)	40	50	50	70	70	80	100	100
Controller SmartSolNano Basic	incl.	incl.	incl.	incl.	–	–	–	–
Controller SmartSol Top	–	–	–	–	incl.	incl.	incl.	incl.
Controller Deltasol MX	surcharge	surcharge	surcharge	surcharge	surcharge	surcharge	surcharge	surcharge
Quick connector	0	1	2	3	4	5	6	7
Flow meter (WMZ)	surcharge	surcharge	surcharge	surcharge	incl.	incl.	incl.	incl.
Bleed valve unit	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.
Regusol solar station	LH-15	LH-15	LH-15	LH-15	LH-15	LH-15	LH-15	LH-15
Replacement tubes, each	1	1	2	2	3	3	4	4
Roof books, each	6	12	18	24	30	36	42	48
Roof rails, each	2	4	6	8	10	12	14	16
Collector connection set	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.
Thermally conductive paste	incl.	incl.	incl.	incl.	incl.	incl.	incl.	incl.

Flat collector

Type FK200

Flat collector
FK200

Dimensions and technical data:

Collector EtaSunPro / item no.	FK200
Solar Keymark	011-7S1854 F
Dimensions (H x W x D)	2000 x 1170 x 83 mm
Empty collector weight	35 kg
Gross area according to BAFA	2.34 m²
Aperture area	2.22 m²
Absorber area	2.14 m²
Absorber surface design	Full-surface absorber with copper "harp"
Liquid volume	1.6 litres
Connections (external thread)	2x1" external thread, 2x1" union nut
Maximum operating pressure	10 bar
Test pressure	15 bar
Stagnation temperature	184.4° C
Frame material	Aluminium
Glass material	Prismatic solar glass 3.2 mm
Set-up angle	15° – 75°
Recommended tank volume	40 litre/m² collector area
Manufacturer guarantee	10 years

Complete solar package 2-6 FK200

Package designation / item no.	FK200-2	FK200-3	FK200-4	FK200-5	FK200-6
Number of collectors	2	3	4	5	6
Installation size m² (gross)	4.68	7.02	9.36	11.70	14.04
Expansion vessel, litres with cap valve	MAGS35	MAGS35	MAGS50	MAGS50	MAGS50
Solar fluid Tyfo (kg)	40	50	50	70	70
Controller SmartSolNano Basic	incl.	incl.	incl.	incl.	incl.
Controller SmartSol Top	surcharge	surcharge	surcharge	surcharge	surcharge
Controller Deltasol MX	surcharge	surcharge	surcharge	surcharge	surcharge
Flow meter (WMZ)	surcharge	surcharge	surcharge	surcharge	surcharge
Bleed valve unit	incl.	incl.	incl.	incl.	incl.
Regusol solar station	LH-15	LH-15	LH-15	LH-15	LH-15
Roof books, each	8	12	16	20	24
Roof rails, each	4	6	8	10	12
Collector connection set	incl.	incl.	incl.	incl.	incl.
Screws and accessories	incl.	incl.	incl.	incl.	incl.

Complete solar package 7-10 FK200

Package designation / item no.	FK200-7	FK200-8	FK200-9	FK200-10
Number of collectors	7	8	9	10
Installation size m² (gross)	16.38	18.72	21.06	23.40
Expansion vessel, litres with cap valve	MAGS50	MAGS50	MAGS50	MAGS80
Solar fluid Tyfo (kg)	80	90	100	100
Controller SmartSolNano Basic	incl.	incl.	–	–
Controller SmartSol Top	surcharge	surcharge	incl.	incl.
Controller Deltasol MX	surcharge	surcharge	surcharge	surcharge
Flow meter (WMZ)	surcharge	surcharge	incl.	incl.
Bleed valve unit	incl.	incl.	incl.	incl.
Regusol solar station	LH-15	LH-15	LH-15	LH-15
Roof books, each	28	32	36	40
Roof rails, each	14	16	18	20
Collector connection set	incl.	incl.	incl.	incl.
Screws and accessories	incl.	incl.	incl.	incl.

Complete EtaSunPro® solar package VRK30

The complete EtaSunPro® solar package consists optionally of 1–8 collectors, including accessories. All the components of the TWL solar packages are precisely matched to one another, and ensure problem-free operation. All the accessory parts required for assembly and control of the TWL solar installation are supplied as part of the solar packages.

1) connector set, 2) quick connector, 3) bleed valve, 4) thermally conductive paste, 5) controller, 6) roof rails, 7) roof hooks, 8) solar fluid, 9) solar expansion vessel, 10) solar station, 11) cap valve

Complete solar package FK200

The complete FK200 solar package consists optionally of 2-10 collectors, including accessories. All the components of the TWL solar packages are precisely matched to one another, and ensure problem-free operation. All the accessory parts required for assembly and control of the TWL solar installation are supplied as part of the solar packages.

1) connection set, 3) bleed valve, 5) controller, 6) roof rails, 7) roof hooks, 8) solar fluid, 9) solar expansion vessel, 10) solar station, 11) cap valve

Additional individual components for the FK200 and EtaSunPro® collectors

You can obtain, for a price supplement, the following individual components in order to augment the technical side of your solar installation. You will find a details description of the individual components in the corresponding data sheets on our Internet site at www.twl-technologie.de.

12) motor valve, 13) external sensor, 14) BMV service water mixing valve, 15) tilt frames, 16) oval clamping straps 17) spiral solar tube, 18) corrugated solar tube


ATMOS

Boilers

Natural heat for your home

Investing in a new heating system is a genuine economy measure, since the prices for oil and gas rise without end. Modern installations use significantly less fuel, and the costs for servicing and repair are falling. Public subsidies also beckon.

Wood is humanity's oldest fuel and an energy source with a future! This is because burning wood is CO^2-neutral, releases no sulphur and is therefore environmentally friendly. It is also a renewable raw material which is available, in principle, anywhere.

The manufacture of wood pellets requires the use of much less energy than the fossil fuels such as oil or gas. Enormous quantities of waste wood are produced by the wood industry, and this can be economically exploited through the manufacture of pellets. Pellets are therefore a reliable energy source with high availability.

Economics of wood gasification boilers

1 m³ of beech wood replaces about 211 l of heating oil or 211 m³ natural gas.
1 m³ of beech wood chips replaces about 150 l of heating oil or 150 m³ natural gas.
1 l of heating oil or 1 m³ of natural gas corresponds to about 2.5 kg of beech wood.

1 m³ of spruce wood replaces about 160 l of heating oil or 160 m³ natural gas.
1 m³ of spruce wood chips replaces about 113 l of heating oil or 113 m³ natural gas.
1 l of heating oil or 1 m³ of natural gas corresponds to about 2.2 kg of spruce wood.

Conversion factors

The consumption figures of old oil or gas heating systems provide the basis for calculation. Dry, well-seasoned wood with a low moisture content is assumed. Comparative calculation for a previous consumption of 2.000 litre of heating oil or 2 000 m³ natural gas:

Beech wood: 2.000 x 2.5 = 5.000 kg beech wood (1 RM = about 500 kg)
Spruce wood: 2.000 x 2.2 = 5.000 kg beech wood (1 RM = about 350 kg)

Economics of pellet boilers

1 m³ wood pellets replaces about 325 litres of heating oil.
1 litre of heating oil corresponds to about 2.0 kg of wood pellets.

Conversion factors

The consumption figures of old oil or gas heating systems provide the basis for calculation. Pellets that have been stored dry, have low moisture content, and meet the DIN Plus quality grade are assumed. Comparative calculation for a previous consumption of 2.000 litres of heating oil or 2.000 m³ natural gas:

Pellets: 2.000 x 2.0 = 4.000 kg pellets

ATMOS pellet boiler P

Eligible for (German) BAFA subsidy

Dimensions and technical data:

Boiler type/item no.		P 14	P 21	P 25
Boiler power	kW	4–14	4–19,5	7–24
Boiler weight	kg	231	231	254
Heating area	m²	1,7	1,7	2
Height	mm	1207	1207	1207
Width	mm	620	620	620
Depths	mm	770	770	870
Diameter of the flue duct	mm	150/152	150/152	150/152
Electrical power consumption	W	42	42	42
Maximum positive water pressure	kPa	250	250	250
Covering of the electrical part	IP	20	20	20
Fuel pellets		High-quality wood pellets dmr. 6–8 mm, calorific value 15–18 MJ/kg, pellets according to DIN		
Combustion chamber volume	dm³	88	88	105
Average fuel consumption	kg/h	3,5	4,5	5,4
Water volume in the boiler	litres	56	56	62
Exhaust temperature at rated power	°C	127	147	151
Boiler efficiency	%	90,3	90,2	90,2
Specified chimney draught	mbar	0,16	0,18	0,22
Boiler class according to EN 303-5		3	3	3
Burner type not incl. (surcharge)	Item no.	A 25	A 25	A 25
Pellet container not incl. (surcharge)	litres	250, 500, 1000	250, 500, 1000	250, 500, 1000
Screw conveyor not incl. (surcharge)	m	1,5–5,0	1,5–5,0	1,5–5,0

Please take note of our current price at which you can obtain on the Internet at www.twl-technologie.de after entering your customer password.
Pellet burners are NOT included in the scope of supply, and must be ordered separately.

ATMOS pellet boiler P with emergency wood-burning operation

Eligible for (German) BAFA subsidy

Dimensions and technical data:

Boiler type/item no.		P 20	P 30	P 40
Boiler power	kW	6,5–22	8,9–29,8	8,9–40
Boiler weight	kg	315	386	386
Heating area	m^2	2	2,7	2,7
Height	mm	1405	1405	1405
Width	mm	606	606	606
Depths	mm	754	954	954
Diameter of the flue duct	mm	152	152	150/152
Electrical power consumption	W	92	97	97
Maximum positive water pressure	kPa	250	250	250
Covering of the electrical part	IP	20	20	20
Fuel pellets		High-quality wood pellets dmr. 6–8 mm, calorific value 16-19 MJ/kg, white pellets		
substitute fuel in emergency		Wood logs with 12–20 % moisture, calorific value 15–17 MJ/kg, dmr. 80–150 mm		
Maximum fuel wood length	mm	310	510	510
Combustion chamber volume	dm^3	70	105	105
Average fuel consumption	kg/h	5	8,6	9,4
Water volume in the boiler	litres	82	91	91
Exhaust temperature at rated power	°C	128	133	157
Boiler efficiency	%	91,1	92,4	90,1
Specified chimney draught	mbar	0,15	0,21	0,22
Boiler class according to EN 303-5		5	5	5
Burner type not incl. (surcharge)	Item no.	A 25	A 25	A 45
Pallet container not incl. (surcharge)	litres	250, 500, 1000	250, 500, 1000	250, 500, 1000
Screw conveyor not incl. (surcharge)	m	1,5–5,0	1,5–5,0	1,5–5,0

Please take note of our current price at which you can obtain on the Internet at www.twl-technologie.de after entering your customer password.
Pellet burners are NOT included in the scope of supply, and must be ordered separately.

ATMOS wood gasification boiler GSE

Eligible for (German) BAFA subsidy

Dimensions and technical data:

Boiler type/item no.		DC 22 GSE	DC 25 GSE	DC 30 GSE	DC 40 GSE	DC 50 GSE
Boiler power	kW	23	25	29,8	40	49
Boiler weight	kg	373	469	466	548	565
Heating area	m²	2,5	3,1	3,1	3,8	4,1
Height	mm	1281	1281	1281	1431	1431
Width	mm	680	680	680	680	680
Depths	mm	830	1030	1030	1120	1120
Diameter of the flue duct	mm	150/152	150/152	150/152	150/152	150/152
Electrical power consumption	W	50	50	50	50	50
Maximum sound level	dB	65	65	65	65	65
Maximum positive water pressure	kPa	250	250	250	250	250
Covering of the electrical part	IP	20	20	20	20	20
Wooden log fuel		Wood logs with 12–20 % moisture, calorific value 15–17 MJ/kg, dmr. 80–150 mm				
Combustion chamber volume	dm³	86	125	125	170	170
Maximum fuel wood length	mm	330	530	530	530	530
Average fuel consumption	kg/h	5,2	6	7,1	10	13
Water volume in the boiler	litres	73	105	105	112	128
Exhaust temperature at rated power	°C	158	132	155	175	183
Boiler efficiency	%	90,7	90,5	90,8	90,5	92
Temperature controller setting range	°C	75–95	75–95	75–95	75–95	75–95
Specified chimney draught	mbar	0,18	0,18	0,20	0,22	0,24
Boiler class according to EN 303-5		5	5	5	5	5

Please take note of our current price at which you can obtain on the Internet at www.twl-technologie.de after entering your customer password.

ATMOS GSP combination boiler for wood and pellet operation

Eligible for (German) BAFA subsidy

Dimensions and technical data:

Boiler type/item no.		DC 25 GSP	DC 30 GSP
Boiler power (wood)	kW	25	29,8
Boiler power (pellets)	kW	6–20	6–20
Boiler weight	kg	659	656
Heating area	m²	4,1	4,1
Height	mm	1765	1765
Width	mm	680	680
Depths	mm	1030	1030
Diameter of the flue duct	mm	150/152	150/152
Electrical power consumption	W	42/92	42/92
Maximum positive water pressure	kPa	250	250
Covering of the electrical part	IP	20	20
Wood fuel		Wood logs with 12–20 % moisture, calorific value 15–17 MJ/kg, dmr. 80–150 mm	
Fuel pellets		High-quality wood pellets dmr. 6–8 mm, calorific value 16-19 MJ/kg, white pellets	
Combustion chamber volume	dm³	125	125
Average fuel consumption	kg/h	6	7,1
Water volume in the boiler	litres	100	100
Exhaust temperature at rated power (wood)	°C	132	155
Exhaust temperature at rated power (pellets)	°C	129,4	129,4
Boiler efficiency (wood)	%	90,5	90,8
Boiler efficiency (pellets)	%	90,2	90,2
Specified chimney draught (wood)	mbar	0,18	0,20
Specified chimney draught (pellets)	mbar	0,18	0,18
Boiler class according to EN 303-5		5	5

Please take note of our current price at which you can obtain on the Internet at www.twl-technologie.de after entering your customer password.
Pellet burners are NOT included in the scope of supply, and must be ordered separately.


CIMM
TWL
wilo

Accessories

for storage tanks, solar and heating

All the items marked with this symbol are part of our complete solar package. The parts can, of course, also be ordered separately.

Tank accessories

Unless otherwise stated, storage tanks, solar installations or boilers are carriage paid.

Electric immersion element 2 – 12 kW

- suitable for both drinking water and for buffer tanks
- 1½" external thread
- Material: Stainless steel 1.4876 (2.4858 for 12 kW)
- up to 8 kW with insulating disconnection / 12 kW without insulating disconnection
- The insulated installation interrupts the electrochemical series
- With thermostat and current limiter
- Temperature can be regulated between 30 °C and 85 °C
- Unheated area: 100 mm
- For the 12 kW immersion heater we recommend a conductor cross-section of 2.5 mm² and current limiting at 20 A

Item no.	Instal. length (mm)	Weight (kg)	Voltage (V)	Power (kW)
EH 2000	310	0,96	230	2
EH 3000	380	1,04	230	3
EH 4500	460	1,12	400	4,5
EH 6000	610	1,20	400	6
EH 8000	710	1,38	400	8
EH 12000*	690	1,70	400	12

* without insulating disconnection, only suitable for buffer tanks

EffectHeater-AC

- compatible with all common storage tank systems
- external wall mounting close to the tank
- suitable for both drinking water and for buffer tanks
- all water-carrying parts made of high-quality V4A stainless steel
- temperature regulator for 30°–85° with safety temperature limiter
- suitable for up to 10 bar operating pressure
- optimum supplement for solar thermal energy installations
- suitable for effective support of heat pumps
- prevents development of legionella
- no pump required

Item no.:	Length (mm)	Weight (kg)	Voltage (V)	Power (kW)
EffectHeater-AC 2,0	810	3,40	230	2
EffectHeater-AC 3,0	810	3,50	230	3
EffectHeater-AC 4,5	810	3,60	400	4,5
EffectHeater-AC 6,0	810	3,80	400	6

EffectHeater-PV

- Utilises excess PV current to heat storage tank
- Control by intelligent energy manager(included)
- Compatible with all common storage tank systems
- external wall mounting close to the tank
- suitable for both drinking water and for buffer tanks
- all water-carrying parts made of high-quality V4A stainless steel
- temperature regulator for 30°-80° with safety temperature limiter
- suitable for up to 10 bar operating pressure
- optimum supplement for solar thermal energy installations
- suitable for effective support of heat pumps
- prevents development of legionella
- no pump required

Item no.:	Length (mm)	Weight (kg)	Power (kW)
EffectHeater-PV	860	4,50	0,5–3,5

EffectHeater connection set

- for fast, easy assembly
- incl. 3 m corrugated stainless steel tube with insulation
- with 4 pipe clamps and sufficient installation material

Item no.:	EAS
Weight (kg)	3.0

Magnesium anode

- For enamelled storage tanks
- Long service life
- Thread: 1 ¼”
- Spanner opening: 41 mm

Item no.:	max. volume (l)	Weight (kg)	Length with thread (mm)
MA.0200.00	200	0,70	280
MA.0300.00	300	0,86	410
MA.0500.00	1000	1,02	530

Correx impressed current anode

- For enamelled storage tanks
- Maximum tank volume 1000 litres
- 1 ¼” thread
- Maintenance-free

Item no.:	FA.0500
Weight (kg)	0.60
Length with thread (mm)	390

Anticor

- Optimum corrosion protection
- Applications: closed heating circuits, buffer tanks, etc.
- Very good price/performance ratio
- Easy to use: just add to the heating water
- Contains no nitride, phosphate, amine, borate or zinc
- Does not attack the seals used in heating system construction

Item no.:	Content (litres)	Sufficient for (litres)
Anticor 1000	1	250
Anticor 5000	5	1250

Tank connector

Item no.:	SPV 40

- Quick connector for 2 storage tanks
- Made of stainless steel tube (1.4404 AISI 316 L), DN 32
- Length: 380 mm
- 1 ½” connections
- 1 ½” brass union nut
- 2 x sealing gasket, heat-resistant
- 2 x double-thread nipple 1 ½”
- 13 mm insulation

Solar thermal energy accessories

Unless otherwise stated, storage tanks, solar installations or boilers are carriage paid.

Membrane pressure expansion vessel for solar systems

	Vol.	D	H	PV	PM	Temp. max	A	Weight
Item no.:	(litres)	(mm)	(mm)	(bar)	(bar)	(°C)		(kg)
MAGS35	35	380	450	2,5	10	100	¾	7,7
MAGS50	50	380	590	2,5	10	100	¾	9,5
MAGS80	80	460	690	2,5	10	100	¾	14,0

D = diameter, H = height, PV = inlet pressure, PM = max. pressure,
A = threaded connection in inches

Storage tanks, solar installations or boilers are carriage paid.

Cap valve for membrane pressure expansion vessel

- Suitable for solar power and heating
- Suitable for all popular membrane pressure expansion vessels

Item no.:	**KV.05**	**KV.10**
Connection (inches)	¾	1

Service water mixing valve

Item no.:	**BMV**

- DN 20
- 1” connection
- Withdrawal quantity: 39 ltr./min.
- Regulation range: 30-70°C
- Incl. backflow preventer

Roof hook set for FK200 flat collector

The item number consists, optionally, of 4 roof hooks, 4 hanger bolts or 4 folded metal brackets incl. the full set of fastening accessories

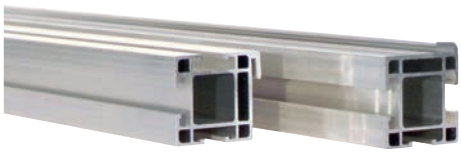
Item no.:	
DHFB	Roof hook set for plain tiles
DHFP	Roof hook set for pan tiles
DHFS	Roof hook set for slate
DHFStock	Fastening with hanger bolts
DHFBlech	Fastening with folded metal brackets

Roof hook set for one collector, material: stainless steel

Individual roof hooks

Item no.:	
DH B	Roof hook for plain tiles
DH P	Roof hook for pan tiles
DH S	Roof hook for slate

for collectors HLK20/HLK30 and FK200, material: stainless steel



Roof rails for solar installations

- Roof rails for vacuum and flat collectors
- Aluminium profile rails
- incl. screws and accessories

Item number refers to one rail piece (2 are required for each collector)

Item no.:	Collector type
DS-20	HLK20
DS-30	HLK30
DS-FK	FK200

Oval clamping straps for spiral/corrugated solar tube

Item no.:	OVAL

Oval clamping strap for DN 20 solar pipe (for feed and return)

Included:
- 4 oval clamping straps with wall plugs
- 4 hanger bolts M8 x 80 in PE pouch

Flat roof tilt frame for FK200 flat collector

Item no.:	
FLADAF2	Flat roof tilt frame for 2 collectors
FLADAF1	Flat roof tilt frame for 1 collector

Flat roof tilt frame vacuum tube collector

Item no.:	FLADA HLK20 / FLADA HLK30

- for vacuum tube collectors of types HLK20/HLK30
- Suitable for all flat roofs
- Rails and screws included
- 45° construction, not adjustable
- Frame material: aluminium

Quick connector vacuum tube collector

Item no.:	SVB

- For connecting 2 vacuum tube collectors
- Made of stainless steel tube (1.4404 AISI 316 L)
- DN 25, length: 100 mm
- 2 x union nuts 1” internal thread
- 2 x heat-resistant gaskets
- 13 mm insulation, resistant to UV and heat, with peck protection

Solar thermal energy accessories

Unless otherwise stated, storage tanks, solar installations or boilers are carriage paid.

Corrugated solar tube

- Flexible quick-fit tube laying system DN 20
- Material: stainless steel 1.4404
- Operating pressure max.: 6 bar
- Operating temperature: –100 °C to +200 °C
- EPDM insulation with peck protection
- Incl. control cable
- With 4 union nuts, 1” internal thread, gasket and flange set

Item no.:	Length (m)	Weight (kg)
SOLEI10W	10	10
SOLEI15W	15	15
SOLEI20W	20	20
SOLEI25W	25	25

Spiral solar tube

Advantages over corrugated tube:
lower flow resistance, better pleading, more resistance to pressure

- Flexible quick-fit tube laying system DN 20
- Material: stainless steel 1.4404
- Operating pressure max.: 16 bar
- Operating temperature: –100 °C to +350 °C
- EPDM insulation with peck protection
- Incl. control cable
- with gasket set, graphite gasket for high temperatures

Item no.:	Length (m)	Weight (kg)
SOLEI10S	10	10
SOLEI15S	15	15
SOLEI20S	20	20
SOLEI25S	25	25

Solar system screw joint for spiral solar tube

Item no.:	SOVS

- Item number refers to 1 item
- With union nut 1” internal thread, with graphite gasket
- For use with the spiral solar tube
- For the fabrication of short pipe connections
- 4 solar system screw joints are included with the spiral tube

Solar system screw joint for corrugated solar tube

Item no.:	SOVW

- Item number refers to 4 item
- With union nut 1” internal thread, with flat gasket
- For use with the corrugated solar tube
- For the fabrication of short pipe connections
- 4 solar system screw joints are included with the corrugated tube

Collector connection set KAS-1

Item no.:	KAS-1

- Solar tube with insulation, suitable for: roof feed-throughs, storage tank connection, connection of the expansion vessel, etc.
- 8 m stainless steel corrugated tube DN 20 (stainless steel 1.4404)
- Insulation resistant to high temperatures made of dimensionally stable EPDM rubber, resistant to weather and UV
- Insulation thickness: 14 mm, temperature: -40°C to +150°C (+200°C for short periods)
- Fitting set:
  12 x union nuts and gasket DN 20
  6 x nipples, compression-sealing DN 20
  1 x reducer 1" external thread x ¾" internal thread (for solar station/MAG connection)

Solar bleed valve with T-piece

Item no.:	LÜF

- Solar bleed valve ½" external thread
- Material: brass
- Incl. T-piece 1" internal thread, 1 x double-thread nipple 1"
- With ball valve ½"

Calorimeter / volume meter

Item no.:	WMZ

- For registering the throughput of solar fluids, water and water-glycol mixtures
- Incl. 2 x PT1000 sensors with immersion sleeve and cable gland
- incl. 2 x screw connection ¾"

3-way motor-operated valve

Item no.:	MOVE

- Changeover valve for switching individual installation zones
- Can be operated manually for commissioning or in an emergency
- Operated by two-point or floating changeover contact
- Limit switch signal output can be used for control signals (max. 1 A)
- No reduction in flow, full passage
- Closing/opening time: 18 s / actuating angle: 90°

Solar fluid

Item no.:	Tyfo

- Optimum heat transport and corrosion protection
- Ready-mixed
- Environmentally friendly, biologically degradable
- Usable between -28 °C and +210 °C
- For our collector types FK200 and HLK20/HLK30

Thermally conductive paste

Item no.:	WLP

- For assembly of the heat pipe heads on vacuum tube collectors in the accumulator

Solar thermal energy accessories

Unless otherwise stated, storage tanks, solar installations or boilers are carriage paid.

Temperature difference controller emz smart Sol nano Basic

Item no.:	nano Basic

- Complete package
- Easy operation through rotary control
- Internal Service Assistant helps fault finding
- Speed-controlled pump operation
- High-efficiency pumps can be controlled
- Heat quantity balancing
- Frost protection function

Included accessories:
1 x sensor PT1000 silicon collector
2 x sensor PT1000 PVC storage tank
Operating instructions

Temperature difference controller emz smart Sol Top

Item no.:	Smart Sol Top

- 15 % higher installation efficiency through prognosis of incoming solar radiation
- Fully graphical colour display for clear, logical visual display
- Innovative operating concept for easy handling
- Intelligent, time-saving wiring concept
- Commissioning assistant for safe commissioning
- High-efficiency pumps can be controlled
- Data logging for analysis and systematic plant optimisation
- Comprehensive operating, safety, control and service functions

Included accessories:
2 x sensor PT1000 silicon collector
3 x sensor PT1000 PVC storage tank
Operating instructions

Temperature difference controller DeltaSol MX

Item no.:	DeltaSOL-MX

- Complete package
- Many basic systems to choose from
- Speed-controlled pump operation
- High-efficiency pumps can be controlled
- 12 sensor inputs
- 14 relays (output)
- Heat quantity metering is possible with additional calorimeter
- Incl. VBus

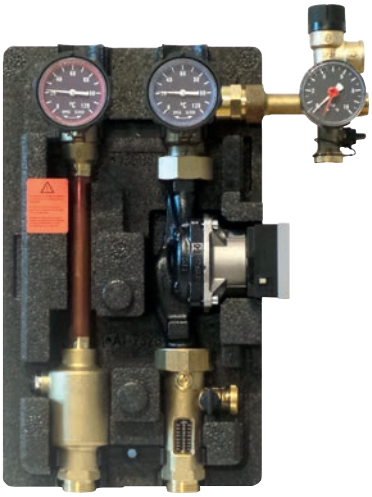
Included:
2 x sensor PT1000 silicon collector
4 x sensor PT1000 PVC storage tank
1 x accessories pouch DeltaSol MX
1 x installation instructions DeltaSol MX
1 x application examples DeltaSol MX

Outside temperature sensor AF

Item no.:	AF

- Acquisition of outside temperature with a platinum sensing element
- Splash proof housing
- Cable inlets underneath

Included:
1 x external temperature sensor
1 x fastening material



Solar station Regusol LH 180

The hydraulic balancing, flow measurement and bleeding can be performed directly at the Regusol LH 180 solar station. The fluid quantity in the primary circuit can be adjusted and monitored conveniently with the integrated flowmeter. Permanent bleeding meets the highest demand, and keeps the installation free of air.

- Measuring and display unit is integrated into the body of the fitting
- Bleeding is performed by a vent pot in the feed pipe

Item no.:	Regusol LH 15
Pump	Yonos Para ST 25/7.5
Intake max. (°C)	200
Return max. (°C)	120
Operating pressure max. (bar)	10
Safety valve (bar)	6
Accuracy of measurement +/– (%)	10
Internal parts	Stainless steel, brass and plastic

The volume flow rate circulating in the installation depends on the mode of operation, the collector area, and on the power of the heat exchanger.

Heating accessories

Unless otherwise stated, storage tanks, solar installations or boilers are carriage paid.

Heating regulator for solid fuel burning boiler

Item no.:	Resol HC

Complete package for the regulation of a weather-controlled heating circuit, service water charging and reheating requirement

Oventrop Regumat M3-180 with 3-way motor mixer and Wilo Pico 25 1-6 pump

- Pump group for connecting the boiler to the heat circulation system
- Temperature measuring range 20 °C – 120 °C

Item no.:	M3-180
Actuating drive voltage (V)	230
Cable length (m)	2,2
Max. operating pressure (bar)	10
Max. operating temperature (°C)	110
Temperature measuring range (°C)	20 –100
Opening pressure / stop valve (mbar)	20

Oventrop Regumat Return flow temperature boost RTA-180

- Return temperature is raised up to the set value (40°C - 70°C) with a three-way valve
- Modular thermal insulation
- High-efficiency circulation pump Wilo Yonos PARA 25/6 RKC

Item no.:	RTA-180
Nominal width	DN 25
Continuous operation temperature (°C)	max. 95
max. operating pressure (bar)	10
Connection to the heating circuit	1½" external thread, compression-sealing
Connection to the boiler	1½" external thread, compression-sealing

Circulation pump Wilo

- Wet-running circulation pump with screwed connection, stalling-current-resistant motor and integrated electronic power regulation
- High-efficiency pump of energy class A

Item no.:	Yonos PICO 25/1-4	Yonos PICO 25/1-6	Yonos PICO 30/1-4	Yonos PICO PLUS 30/1-6
Power consumption (W)	4–20	4–40	4–20	4–40
Delivery head (m)	4	6	4	6
Delivery quantity (m³/h)	2,7	3,8	2,7	3,8
Connections (inches)	1	1	1 ¼	1 ¼
Pump fitting (inches)	1 ½	1 ½	2	2
Installation length (mm)	180	180	180	180

Circulation pump Wilo Stratos

- Wet-running circulation pump with screwed connection
- Motor with automatic power adaptation
- High-efficiency pump of energy class A
- Operation from the front and access to the terminal compartment
- Variable mounting position, orientation-independent display

Item no.:	Stratos 30/1-12
Power consumption (W)	12-31
Delivery head (m)	10
Delivery quantity (m³/h)	11
Connections (inches)	1½"
Pump fitting (inches)	2 external thread
Installation length (mm)	180

Membrane pressure expansion vessel for heating systems

	Vol.	D	H	PV	PM	Temp. max.	A	Weight
Item no.:	(litres)	(mm)	(mm)	(bar)	(bar)	(°C)		(kg)
MAGH35	35	380	475	1,5	5	100	¾“	7,7
MAGH50	50	380	595	1,5	6	100	¾“	9,5
MAGH80	80	460	690	1,5	6	100	¾“	14 ,0
MAGH100	100	460	810	1,5	6	100	¾“	15,5
MAGH150	150	510	970	1,5	6	100	1“	24,5
MAGH200	200	590	985	1,5	6	100	1“	33,0
MAGH250	250	590	1230	1,5	6	100	1“	38,5
MAGH300	300	650	1220	1,5	6	100	1“	42,5
MAGH400	400	650	1550	1,5	6	100	1“	57,5
MAGH500	500	750	1570	2,5	6	100	1“	69,5

D = diameter, H = height, PV = inlet pressure, PM = max. pressure,
A = threaded connection in inches

Storage tanks, solar installations or boilers are carriage paid.

Heating accessories

Unless otherwise stated, storage tanks, solar installations or boilers are carriage paid.

Oventrop fresh water station Regumaq XH-M

- Hygienic drinking water heating
- For connection to the storage tank circuit (DN 20) and the drinking water circuit (DN 15), compression sealing
- Circulation connection (XH-MZ) can be retrofitted
- max. operating temperature 95° C

Item no.:	
XH-M	Fresh water station without circulation line
XH-MZ	Circulation connection for XH-M (without pump)

Oventrop fresh water station Regumaq X-30/X-80/XZ-30 (with/without circulation pump and storage tank sensor)

- Hygienic drinking water heating
- Electronic control
- High transmission capacity
- For connection to the storage tank circuit and the drinking water circuit (DN 25)
- Compression-sealing
- With mounting aid for wall fastening

Item no.:	X-30	X-80	XZ-30
Special feature	Without circulation	Without circulation	With circulation
Capacity	30 ltr./min.	80 ltr./min.	30 ltr./min.
Freight costs like one storage tank, as bulky item			

Thermal safety discharge valve

Item no.:	TAS-1

- ¾" internal thread
- 1 m capillary tube, temperature 97 °C

ATMOS ACD01 control panel

The Äquitermregler ATMOS ACD 01 is a controller for all the boilers from ATMOS.

· Heating with two heating circuits (e.g. classic radiator and underfloor heating)
· Service water heated to the desired temperature
· Solar heating using solar collectors
· Optimum charging and discharging of the buffer storage tank
· Automatic switchover between two boilers
· Complete boiler operation

Item no.:	ACD 01		
Included sensors	Designation	Number	Measuring range
Outside temperature sensor (AF)	T7416A 1022	1	-40 to +70 °C
Boiler temperature sensor (WF)	KTF 20	2	-20 to +100 °C
Contact centre of the heating boiler (VF)	VF20A	2	0 to +110 °C
Service water sensor	KTF 20	1	-20 to +100 °C

Boiler safety group

Item no.:	KSB-1

- 1” internal thread
- Can be used for boiler powers up to 50 kW
- Manometer up to 4 bar
- Fast bleeder
- Safety valve 3 bar

Automatic ash discharge for pellet boilers

Item no.:	See the respective net price list

- For boiler types: P14, P21, P25; D15P, D20P, D30P, D45P

Additional ash box for pellet boilers

Item no.:	
ZuAsch P	28 litres for pellet boiler types P14-P30
ZuAsch D15P-D30P	86 litres for pellet boiler types D15P-D30P
ZuAsch D45P	135 litres for pellet boiler type D45P

Pellet burner

Item no.:	A25	A25 GSP	A45
Rated power (kW)	5–30	5–30	10–45
Description	Electric ignition, without screw conveyor		

Pellet container

Item no.:	PB-250	PB-500	PB-1000
Contents (litres)	250	500	1000
Height (mm)	1250	1250	1250
Width (mm)	480	760	1040
Depth (mm)	480	760	1040
Volume capacity (kg ~ kWh)	163 ~ 730	325 ~ 1460	650 ~ 2925

Screw conveyor for pellet boiler

Item no.:	Length (m)
FÖS15	1,5
FÖS20	2,0
FÖS25	2,5
FÖS30	3,0
FÖS40	4,0
FÖS50	5,0

Forms & contact

You will find our contact data, opening times and copyable fax templates on the following pages. Send your order conveniently via email, fax, or call us - we will be happy to help you!

You've already got a customer account?
Register directly on our Internet page, or give us a call.

Delivery times:

Standard delivery:
Following confirmation of order,
in general between 1 and 3 working days.

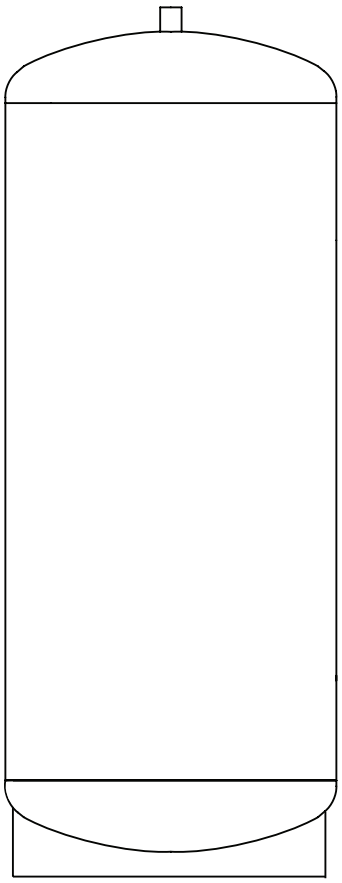
Express delivery:
For orders received before 11:00
Delivery can take place on the day following confirmation of order by 10:00 for a price supplement, optionally by 12:00.

Delivery of custom fabrications:
Between 2 and 20 working days, depending on what is involved.

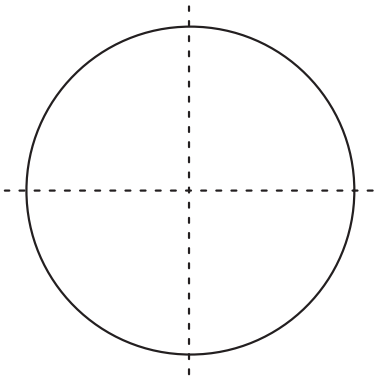
Delivery of large storage tanks of 2500 litres and above:
The haulage company does not have lifting gear for large storage tanks on-board. for such cases, please have a forklift truck or similar ready on site.

Custom storage tanks fax form

Please sketch in the position of the connecting pieces



TWL quotation no.:	
TWL quotation date:	
Inquiry from company:	
Phone:	
Commission:	



Buffer tank: _____ litres _____ bar

Diameter: _____ mm (without insulation)

Diameter: _____ mm (with insulation)

Total height: _____ mm Material: _____

Bleeding: _____ inches Emptying: _____ inches

Thermometer/controller bushing: _____ inches, _____ pieces

Please cross where relevant

- ☐ Foot ring
- ☐ 3-foot
- ☐ Insulation _____
- ☐ AGI coating
- ☐ Cold protection insulation _____ mm

Please cross out were not relevant

Item 1: Flange DN / bushing:	_____	Length:	_____ mm	PN:	_____	Quantity:	_____
Item 2: Flange DN / bushing:	_____	Length:	_____ mm	PN:	_____	Quantity:	_____
Item 3: Flange DN / bushing:	_____	Length:	_____ mm	PN:	_____	Quantity:	_____
Item 4: Flange DN / bushing:	_____	Length:	_____ mm	PN:	_____	Quantity:	_____
Item 5: Flange DN / bushing:	_____	Length:	_____ mm	PN:	_____	Quantity:	_____
Item 6: Flange DN / bushing:	_____	Length:	_____ mm	PN:	_____	Quantity:	_____

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Further information

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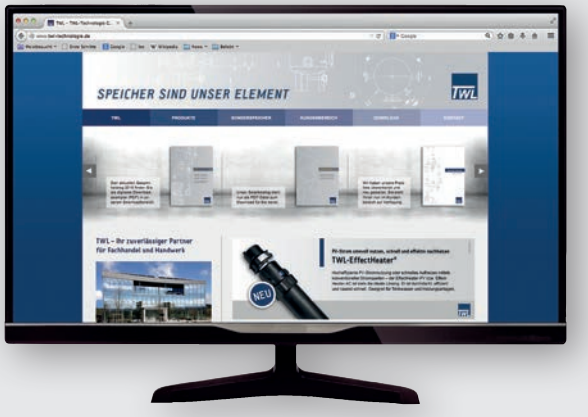

Business hours

Mo. - Th.	07:30 Uhr - 12:00 Uhr
	12:30 Uhr - 17:00 Uhr
Fr.	07:30 Uhr - 12:00 Uhr
	12:30 Uhr - 16:00 Uhr

Outside business hours
by agreement