

Montera värmeväxlaren enligt skiss.

Vid montage ovanför poolens vattenyta skall rören läggas i en loop för att undvika att värmeväxlaren kan självdräneras.

Värmeväxlaren skall ej monteras mot brännbart material och får ej övertäckas.

Dosering av klor, syra eller liknande skall göras efter värmeväxlaren för att undvika korrosion.

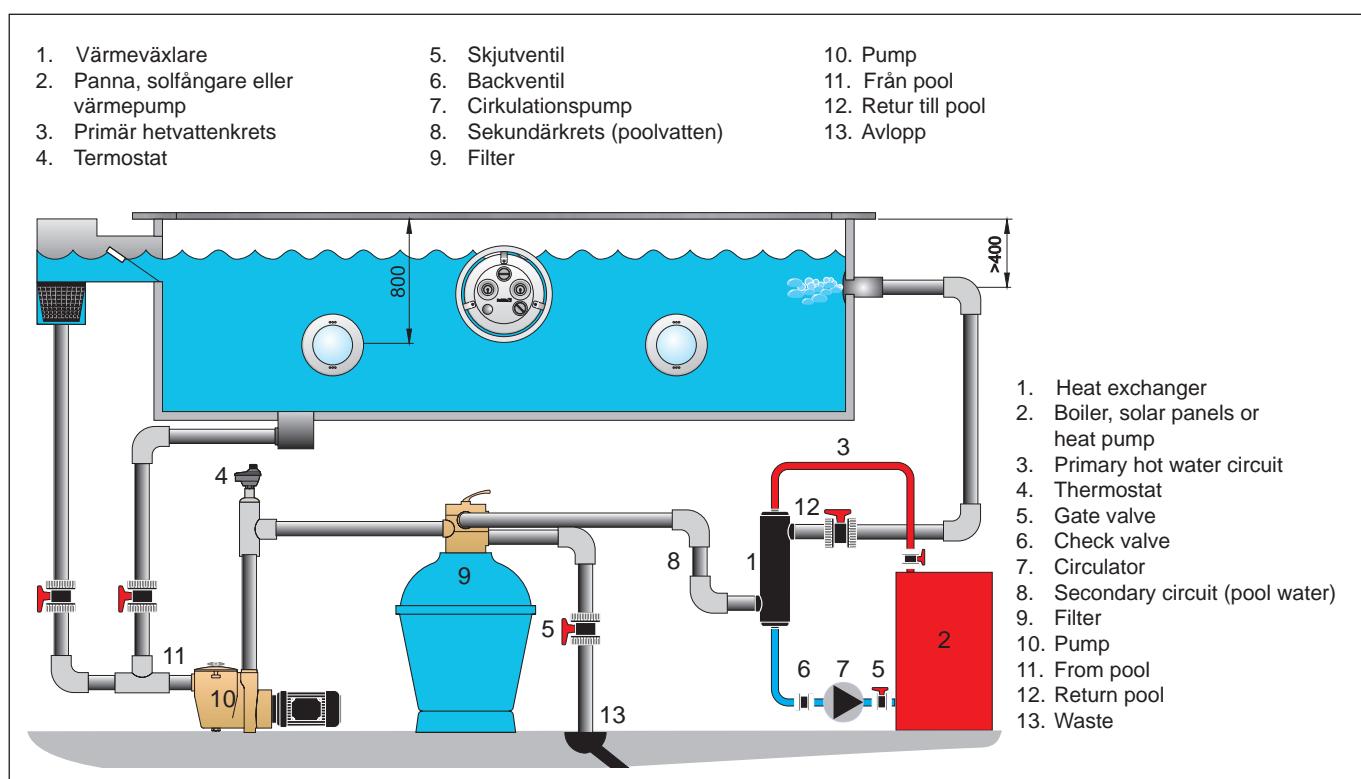
Om poolcirkulationen upphör eller stängs av, skall även cirkulationspumpen på primärsidan stängas av.

Vid frysrisk, samt om poolen är avstängd för vintern eller längre tid än 1 månad, skall värmeväxlaren dräneras på allt vatten.

Värmeväxlaren får ej användas i saltvatten eller i pooler med klormaskin/saltgenerator.

Följ nedanstående anvisningar:

Klorhalt:	max 3 mg/l (ppm)
Klorid(salt)halt:	max 150 mg/l
pH-värde:	7,2-7,8
Alkalinitet:	60-120 mg/l (ppm)
Kalciumhårdhet:	200-1000 mg/l (ppm)
Max temperatur:	130°C
Max tryck:	10 bar



Install the heat exchanger according to the illustration.

If the heat exchanger is installed above the pool water surface, the tubes shall be placed in a loop to avoid self-drainage of the heat exchanger.

The heat exchanger must not be covered or installed against inflammable material.

Dosage of chlorine, acid or similar, must be done after the heat exchanger to avoid corrosion.

If the pool circulation ceases or is shut off, the circulation pump on the primary side shall be shut off too.

In case of climate with sub-zero temperatures, or if the pool is closed for the winter or for more than 1 month, the heat exchanger must be completely emptied.

The heat exchanger must not be used in salt water or in pools where a chlorinator is used.

Follow the instructions stated below:

Chlorine content:	max 3 mg/l (ppm)
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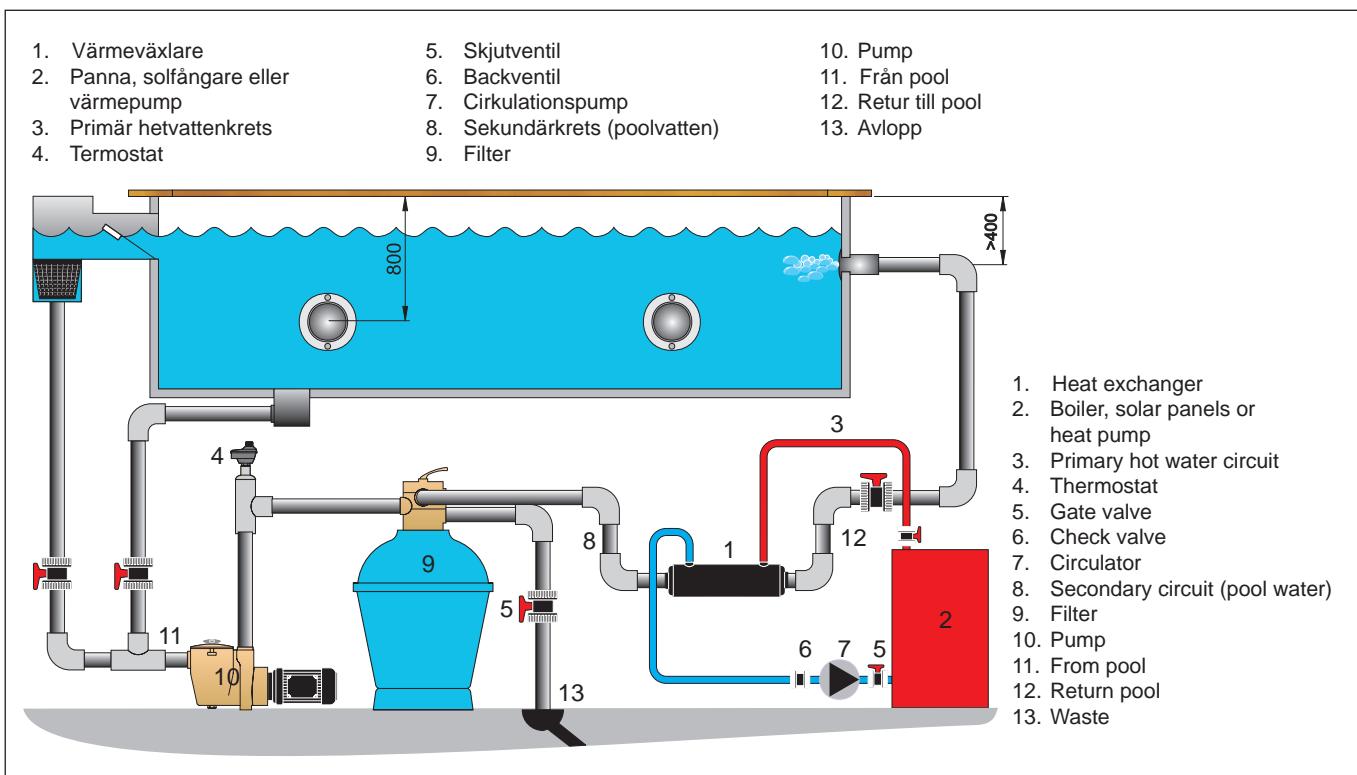
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Max temperatur:	130°C
Max tryck:	primär 60 bar, sekundär 10 bar



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Max. pressure:	primary 60 bar, secondary 10 bar

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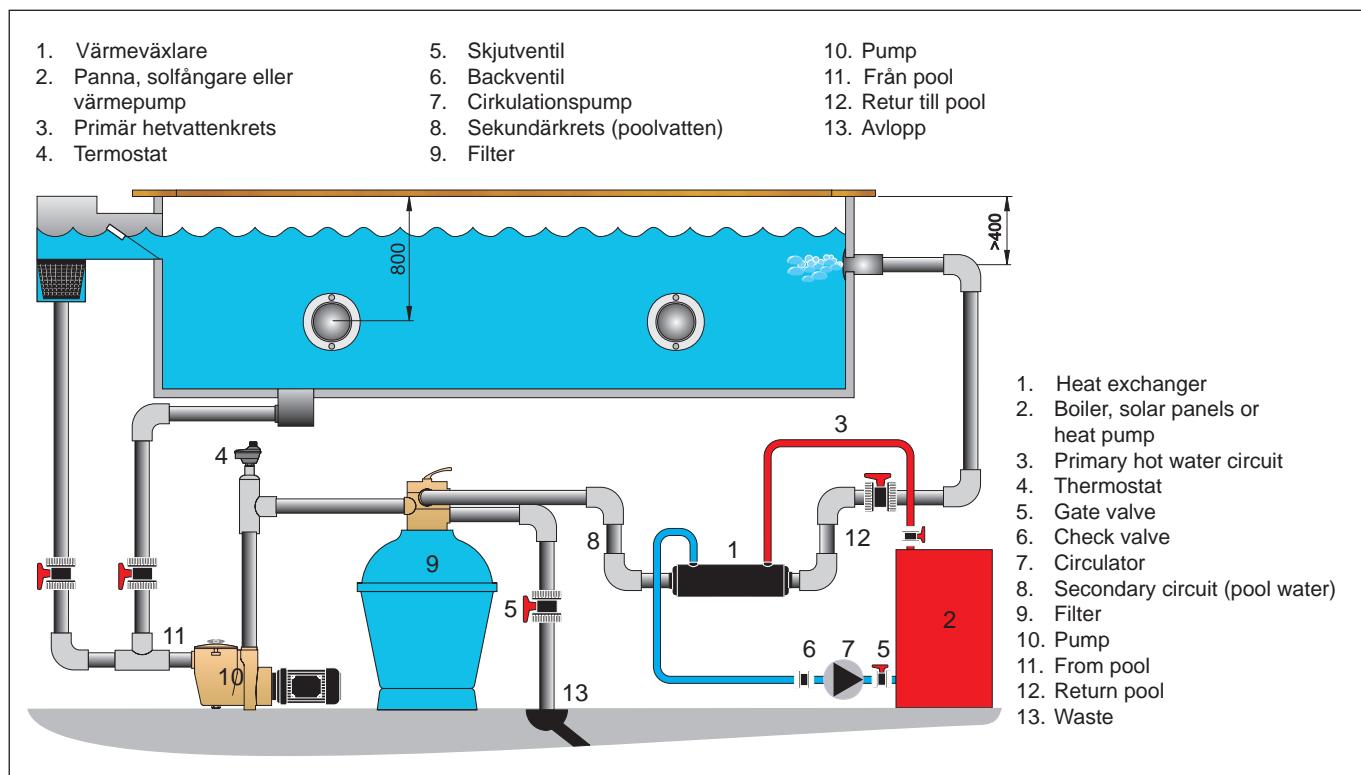
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Max temperatur:	130°C
Max tryck:	primär 30 bar, sekundär 5 bar



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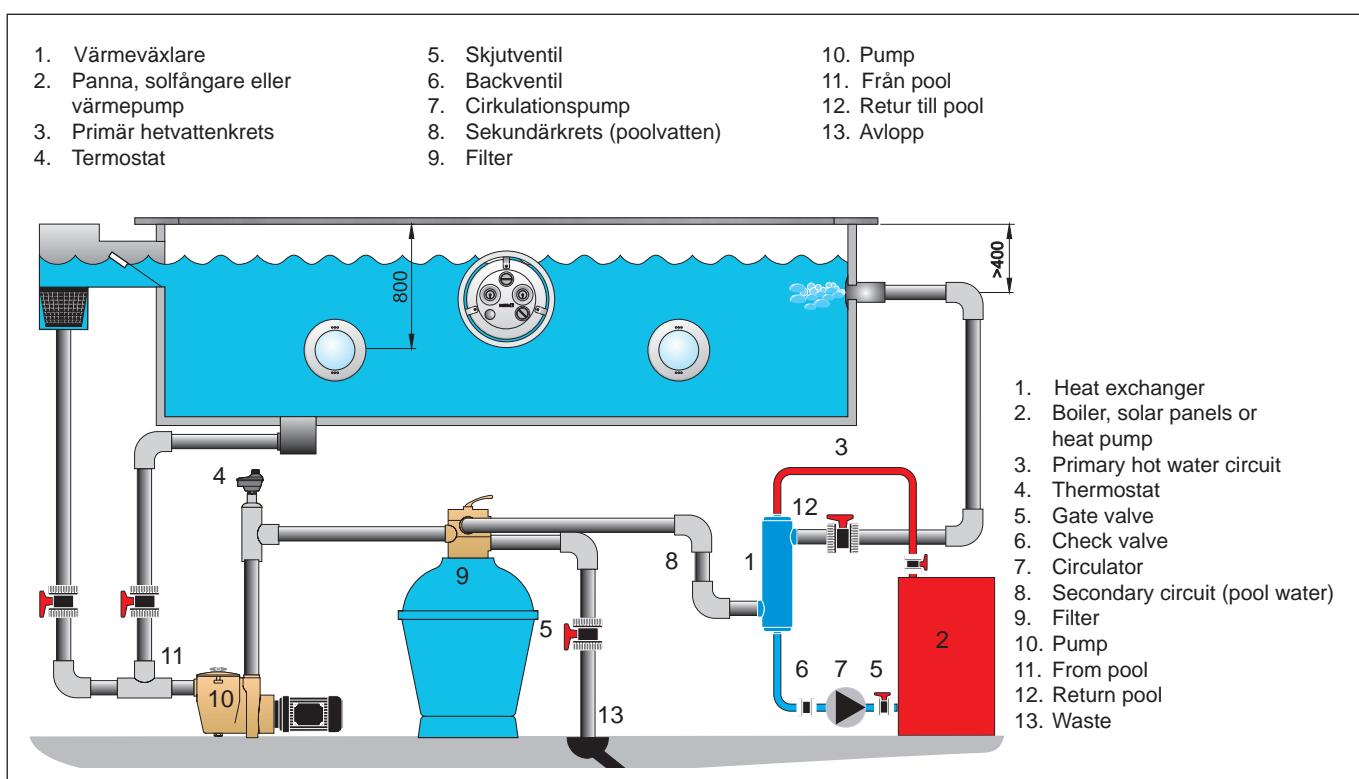
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Max temperatur:	100°C
Max tryck:	primär 5 bar, sekundär 4 bar



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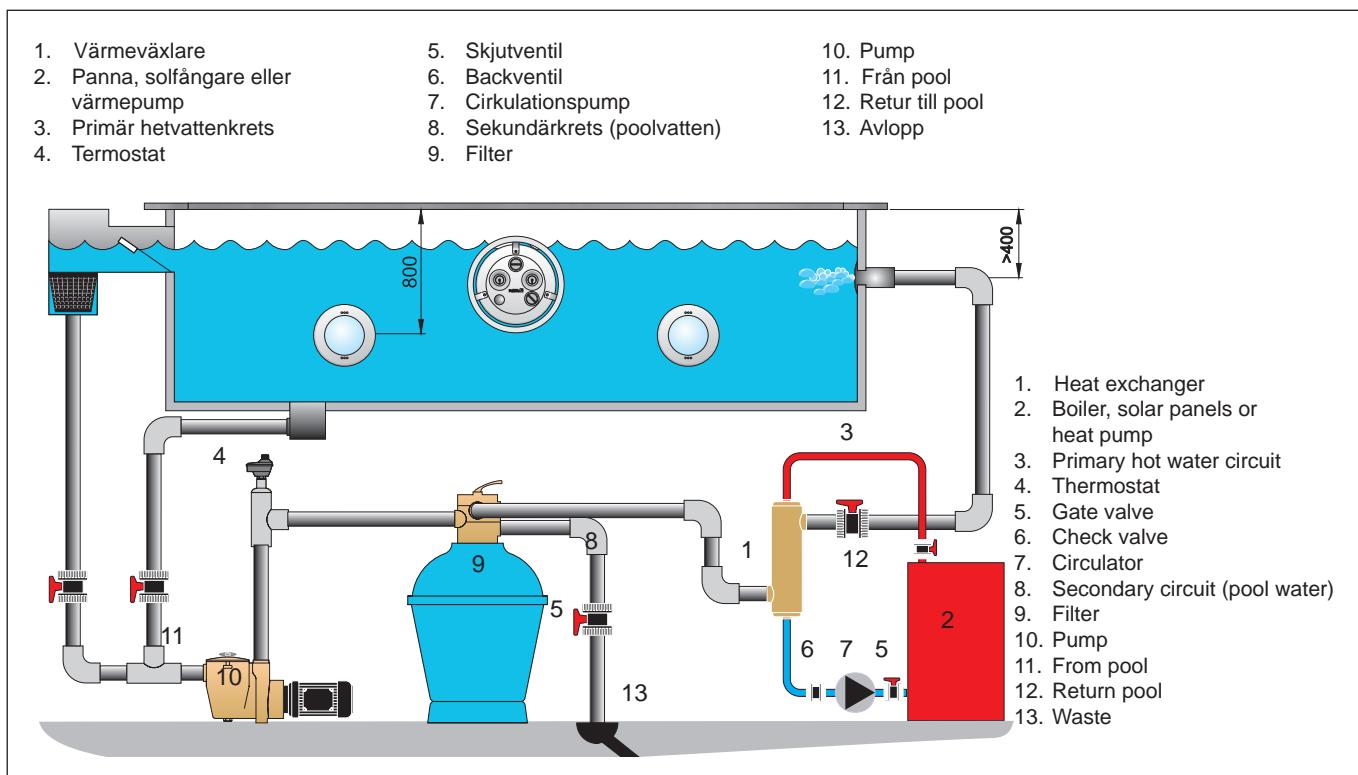
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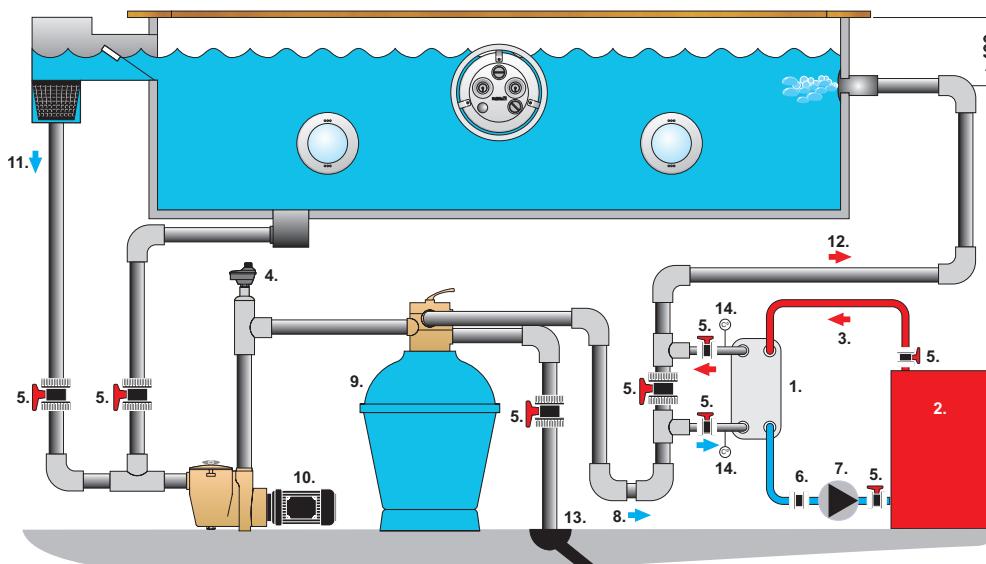
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Vattenflöde och temperatur på primär- och sekundärsida måste justeras så att inte utgående poolvatten från värmeväxlaren är för varmt. Temperaturen skall anpassas mot materialvalet i poolens rörsystem. Vid PVC gäller max 45°C

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Alkalinitet:	60-120 mg/l (ppm)
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Max temperatur:	Se märkskylt
Max tryck:	primär och sekundär, se märkskylt

1. Värmeväxlare
2. Panna, solfångare eller värmepump
3. Primär hetvattenkrets
4. Termostat
5. Skjutventil
6. Backventil
7. Cirkulationspump
8. Sekundärkrets (poolvatten)
9. Filter
10. Pump
11. Från pool
12. Retur till pool
13. Avlopp
14. Termometer



1. Heat exchanger
2. Boiler, solar panels or heat pump
3. Primary hot water circuit
4. Thermostat
5. Gate valve
6. Check valve
7. Circulator
8. Secondary circuit (pool water)
9. Filter
10. Pump
11. From pool
12. Return pool
13. Waste
14. Thermometer

Install the heat exchanger according to the illustration.

If the heat exchanger is installed above the pool water surface, the tubes shall be placed in a loop to avoid self-drainage of the heat exchanger.

The heat exchanger must not be covered or installed against inflammable material.

Dosage of chlorine, acid or similar, must be done after the heat exchanger to avoid corrosion.

If the pool circulation ceases or is shut off, the circulation pump on the primary side has to be shut off too.

In case of climate with sub-zero temperatures, or if the pool is closed for the winter or for more than 1 month, the heat exchanger must be completely emptied.

The heat exchanger must not be used in salt water or in pools where a chlorinator is used.

The water flow and the temperature on the primary and the secondary side must be adjusted to make sure the outgoing pool water from the heat exchanger is not too hot. The temperature shall be adjusted to the choice of material in the piping system. For PVC the maximum temperature is 45°C.

Follow the instructions stated below:

Chlorine content:	max 3 mg/l (ppm)
Chloride content:	max 150 mg/l
pH-value:	7,2-7,8
Alkalinity:	60-120 mg/l (ppm)
Calcium hardness:	200-1000 mg/l (ppm)
Max. temperature:	see designation label
Max. pressure:	primary and secondary, see designation label

Monteringsinstruktion / Installation instruction

Heat exchanger Maxi-Flo

Pahlén Maxi-Flo is a well-tried and tested heat exchanger with effective heat transference capabilities. It is intended for swimming pools and other applications where there is a demand for high capacity together with a low-pressure drop.

All models can be installed together with boilers, heat pumps, solar panels or other heat sources.

These heat exchangers are light and compact. The material used is acid-proof stainless steel AISI 316. Stainless steel adjustable fixings are included.

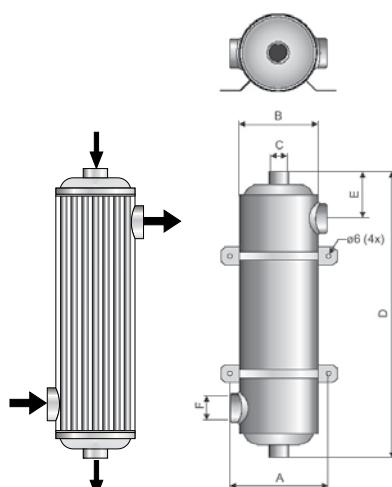
Maximum pressure: Primary 10 bar – Secondary 10 bar.



Heat exchanger in acid-proof stainless steel

Item no.	Model	Capacity		Primary side, hot water		Secondary side, cold water	
		kW	kBtu/h	l/min	pressure drop H(m)	l/min	pressure drop H(m)
11365	MF 135	40	135	25	0,05	200	0,8
11366	MF 200	60	200	30	0,2	250	1,4
11367	MF 260	75	260	35	0,4	300	1,8
11368	MF 400	120	400	50	0,7	360	2,4

Capacity at 60°C temperature difference



Dimensions

Item no.	A	B	C	D	E	F
11365	139	129	1"	355	92	1½"
11366	139	129	1"	485	92	1½"
11367	139	129	1"	600	85	2"
11368	139	129	1½"	1070	83	2"

Heat exchanger Maxi-Flo series connection

Pahlén heat exchangers Maxi-Flo connected in series are designed for swimming pools and other heating applications, where there is a demand for high capacity together with a low-pressure drop.

All models can be installed together with boilers, heat pumps, solar panels or other heat sources.

The heat exchangers are manufactured from acid-proof stainless steel AISI 316 and are interconnected with union couplings made of brass. Maximum pressure: Primary 10 bar - Secondary 10 bar.



Heat exchanger Maxi-Flo connected in series										Dimensions		
Item no.	Model	Capacity		Primary side, hot water		Connection	Secondary side, hot water		Con.	A(mm)	B(mm)	
		kW	kBtu/h	l/min	press. drop H(m)		l/min	press. drop H(m)				
113672	MF 435	127	433	70	0,4	1"	300	2,7	2"	385	613	
113673	MF 665	195	665	105	0,4	1"	300	3,6	2"	610	613	
113682	MF 695	204	696	100	0,7	1½"	360	3,6	2"	385	1070	
113683	MF 1050	308	1050	150	0,7	1½"	360	4,8	2"	610	1070	

Heat exchanger Hi-Flow

Pahlén Hi-Flow is a well-tried and tested heat exchanger with effective heat transference capabilities. It is intended for swimming pools and other applications where there is a demand for high capacity together with a low-pressure drop. All models can be installed together with boilers, heat pumps, solar panels or other heat sources.

These heat exchangers are light and compact. The material used - acid proof stainless steel AISI 316 - is chosen with regard to working conditions where there is a risk for corrosion. Stainless steel adjustable fixings are included.

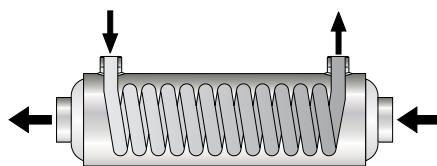
Maximum pressure: Primary 60 bar - Secondary 10 bar.



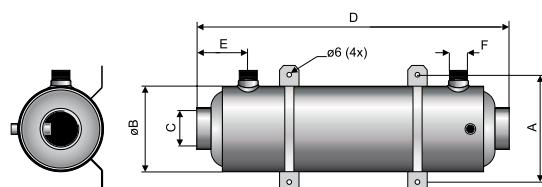
Heat exchanger in acid-proof stainless steel

Item no.	Model	Capacity		Primary side, hot water		Secondary side, cold water	
		kW	kBtu/h	l/min	pressure drop H(m)	l/min	pressure drop H(m)
11391	HF 13	13	45	25	0,9	200	0,6
11392	HF 28	28	95	25	1,7	300	1,6
Capacity at 60°C temperature difference							
11393	HF 40	40	135	60	1,6	300	1,8
11394	HF 75	75	260	60	2,1	300	0,9

Capacity at 70°C temperature difference



HF 75 - 75kW



Dimensions

Item no.	A	B	C	D	E	F
11391	139	129	1½"	235	72	¾"
11392	139	129	1½"	407	72	¾"
11393	139	129	1½"	455	85	1"
11394	139	129	2"	702	85	1"

Heat exchanger Hi-Flow titanium

Pahlén Hi-Flow titanium is a heat exchanger with excellent heat transference capabilities. The unit is intended for swimming pools and other applications where there is a demand for high flow rates together with a low-pressure drop.

Titanium is chosen for its high resistance to corrosion and is therefore suitable for pools and spas with aggressive water, salt water and where a salt chlorinator is used.

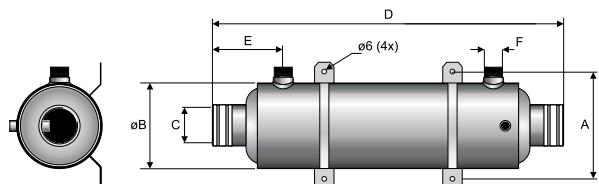
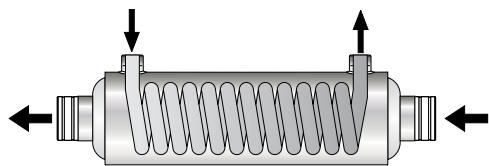
The titanium heat exchanger is light and compact with welded jackets and pipe system for the transfer medium. Titanium heat exchangers can be installed together with boilers, heat pumps, solar panels or other heat sources.

Maximum pressure: Primary 30 bar - Secondary 5 bar.



Heat exchanger in titanium

Item no.	Model	Capacity		Primary side, hot water		Secondary side, cold water	
		kW	kBtu/h	l/min	pressure drop H(m)	l/min	pressure drop H(m)
11332	T 28	28	95	20	1,3	300	1,6
11333	T 40	40	135	40	2,8	350	1,6
Capacity at 60°C temperature difference							
11334	T 75	75	260	45	7,2	350	1,9
Capacity at 70°C temperature difference							



Dimensions

Item no.	A	B	C	D	E	F	G
11332	139	113	1½"	470	95	1"	51
11333	139	127	1½"	510	108	1"	51
11334	139	127	1½"	754	108	1"	51

Heat exchanger Hi-Temp

Pahlén Hi-Temp heat exchangers are designed to suit all types of swimming pools and spas, where low pressure drop and high heat capacity are required. The heat exchangers are supplied with union connections for adhesive bonding of Ø 50 mm pipes. All models are light and compact and can be connected to a boiler, heat pump, solar collector system or other heat source.

Hi-Temp

The secondary (pool water) side is made of glass-fibre-reinforced plastic and the primary (hot water) side is of acid-resistant stainless steel.

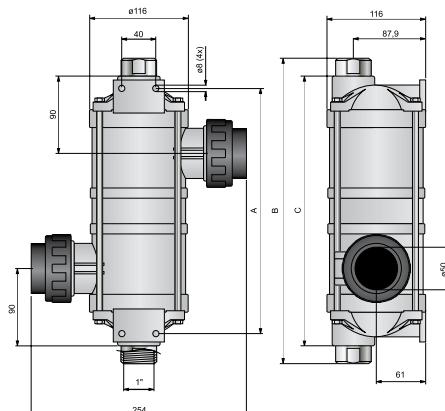
Max. pressure: Primary side 5 bar, Secondary side 4 bar



11312



11314



Heat exchanger Hi-Temp

Item no.	Model	Capacity		Primary side, hot water		Secondary side, cold water	
		kW	kBtu/h	l/min	H(m)	l/min	H(m)
11312	HT 40	40	135	34	2,4	300	0,5
11314	HT 75	75	260	43	6,0	300	1,0

Capacity at 60°C temperature difference

Dimensions Hi-Temp

Item no.	kW	A	B	C
11312	40	359	317	277
11314	75	534	492	452



Heat exchanger Hi-Temp titanium

Hi-Temp titanium

The secondary (pool water) side is made of glass-fibre-reinforced plastic and the primary (hot water) side is of titanium. This heat exchanger is corrosion-free and is suitable for swimming pools with aggressive water, e.g. salt water.

Max. pressure: Primary side 5 bar, Secondary side 4 bar



11322



11324

Heat exchanger Hi-Temp titanium

Item no.	Model	Capacity		Primary side, hot water		Secondary side, cold water	
		kW	kBtu/h	l/min	H(m)	l/min	H(m)
11322	HTT 40	40	135	52	1,7	300	0,8
11324	HTT 75	75	260	58	2,8	300	1,4

Capacity at 70°C temperature difference

Dimensions Hi-Temp titanium

Item no.	kW	A	B	C
11322	40	417	375	335
11324	75	667	625	585

Plate heat exchanger

The heat transfer surface consists of thin, corrugated plates in acid-proof stainless steel placed upon each other. Parallel flow channels are created, where the two fluids travel in opposite directions. The high thermal efficiency makes these plate heat exchangers extremely effective and also easy to install where there is little space. They do not have any gaskets and are therefore suitable in processes with high temperature and/or high pressure, e.g. in district heat systems.



Plate heat exchangers

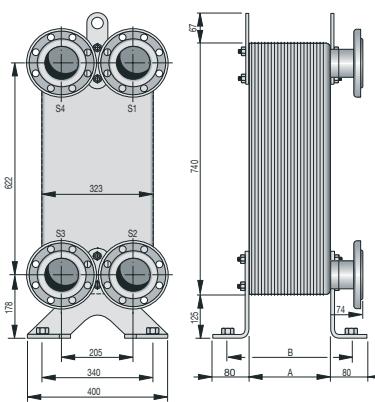
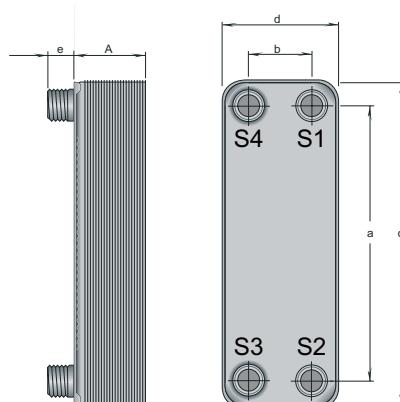
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		kW	kBtu/h	l/min	press. drop H(m)	l/min	press. drop H(m)
113510	CB14-20H	40	135	16	0,7	23	1,6
113512	CB14-40H	75	260	30	0,8	43	1,4
113521	CB27-24M	100	340	41	0,8	57	1,3
113522	CB27-50M	200	680	85	0,8	115	1,7
113573	CB76-30L	350	1195	168	0,9	228	1,5
113574	CB76-40L	450	1535	185	0,6	380	2,6
113575	CB76-70L	600	2050	287	0,5	344	1,1
113580	CB200-44L	800	2730	383	1,1	410	1,3
113582	CB200-56L	1000	3412	410	0,8	532	1,4

Capacity at 60°C temperature difference



Plate heat exchangers

Item.no	Model	Max working pressure bar		Connection	
		Primary	Secondary	Primary S3, S4	Secondary S1, S2
113510	CB14-20H	32	32	¾"	¾"
113512	CB14-40H	32	32	¾"	¾"
113521	CB27-24M	32	32	1"	1¼"
113522	CB27-50M	32	32	1"	1¼"
113573	CB76-30L	25	25	2"	2"
113574	CB76-40L	25	25	2"	2"
113575	CB76-70L	25	25	2"	2"
113580	CB200-44L	16	16	DN80	DN80
113582	CB200-56L	16	16	DN80	DN80



Dimensions

Item no.	Model	a	b	c	d	e	A
113510	CB14-20H	172	42	208	78	24	55
113512	CB14-40H	172	42	208	78	24	102
113521	CB27-24M	250	50	310	112	45	67
113522	CB27-50M	250	50	310	112	45	129
113573	CB76-30L	519	92	618	191	48	96
113574	CB76-40L	519	92	618	191	48	124
113575	CB76-70L	519	92	618	191	48	210

Dimensions

Item no.	Model	A	B
113580	CB200-44L	136	176
113582	CB200-56L	170	210

Pressure switches

Pressure switch mounted in an enclosure including housing and a connection nipple $\frac{1}{4}$ ".

Cut off at a pressure below 0,2 bar.

Item no. 12850



Pressure switch for mounting on an outer jacket. Connection $\frac{1}{8}$ ".

Cut off at a pressure below 0,2 bar.

Item no. 12856



Flow switches

Flow switch.

Item no.

12860 Cut off at a flow less than 43 l/min. Connection $\frac{1}{2}$ ". 230V, 0,35A

12870 Cut off at a flow less than 43 l/min. Connection $\frac{1}{2}$ ". 230V, 10A



12860



12870



Electric control box

Electric control box for regulation and control of circulation, heating and lighting.

Supplied complete with enclosure, contactors and main switch.

Item no.

11232 (A,B,C) Control box for 3-phase pump + heating max 9 kW + lighting

11234 (A,B,C) Control box for 3-phase pump + heat exchanger + lighting

11235 (A,B,C) Control box for 3-phase pump + heater max 2 x 9 kW + lighting, shared effect.



11232A

Please state size (kW) of pool pump

A= Rated current of motor 1,0-1,6 A, 0,37-0,55 kW

B= Rated current of motor 1,7-2,4 A, 0,75 kW

C= Rated current of motor 2,5-4,0 A, 1,1 - 1,5 kW