

Please hang up this folder  
next to the buffer.

# Technical documentation

Installation and operation instruction

**Buffer storage Multi PD**  
**Buffer storage Solar-PD**

**Attention!**  
After heating up please  
make a leak test  
and retorque screws if  
necessary.

Flange screws pull tight  
crossed.

Did you already think of your  
maintenance contract?



**Multi PD 600**



**Solar PD 600**

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**Note:**

Subject to change without notice if it subserves the technical progress.

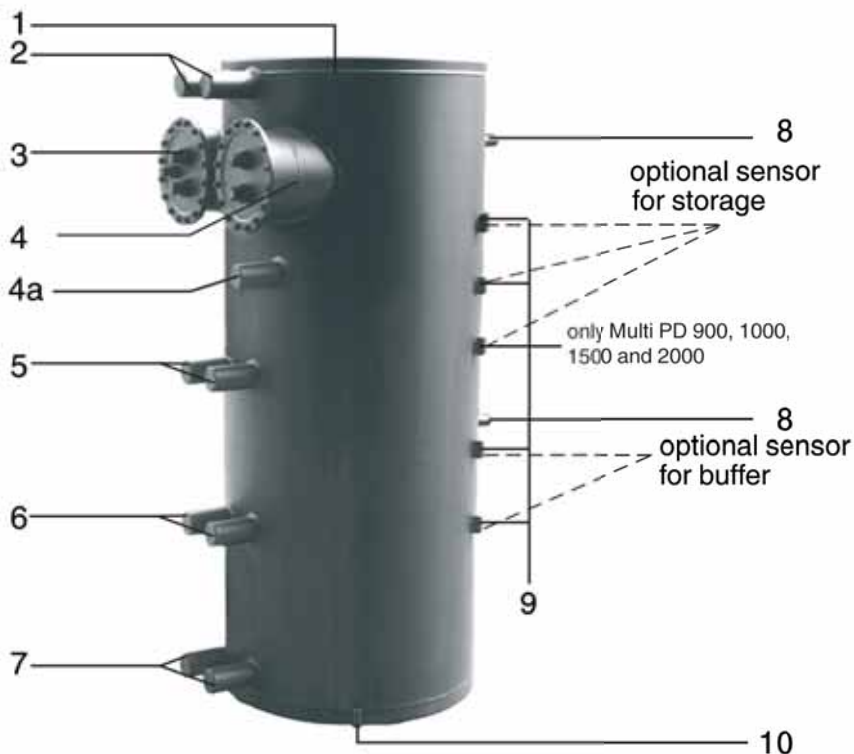
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## 1. Image of the connections

### Buffer storage

#### "Multi PD 250-3000 ltr."

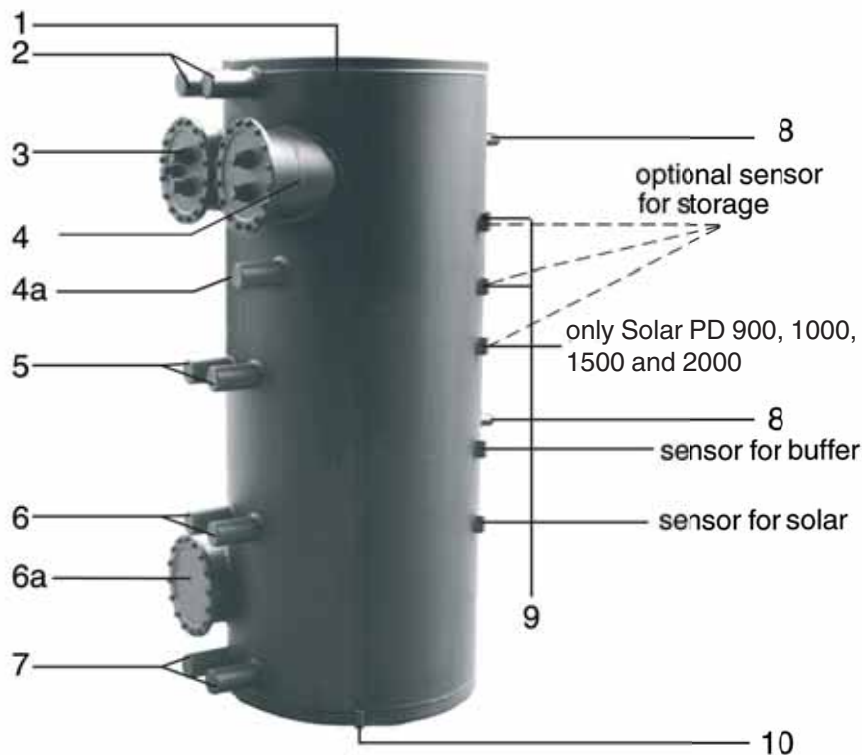
- 1 = transport lug
- 2 = 2 sleeves R 1¼ (250-1000 ltr.)  
2 sleeves R 1½ (1250-3000 ltr.)
- 3 = collar with heat exchanger with cirkulation
- 4 = collar with heat exchanger without cirkulation
- 4a = Multi PD from 600 to 1000 ltr.  
1 sleeve R 1¼ additionally  
Multi PD from 1250 to 3000 ltr.  
1 sleeve R 1½ additionally  
for variable buffer volume (drinking water/ heating)
- 5 = 2 sleeves R 1¼ (250-1000 ltr.)  
2 sleeves R 1½ (1250-3000 ltr.)  
for forerun or return
- 6 = 2 sleeves R 1¼ (250-1000 ltr.)  
2 sleeves R 1½ (1250-3000 ltr.)  
for forerun or return
- 7 = 2 sleeves R 1¼ (250-1000 ltr.)  
2 sleeves R 1½ (1250-3000 ltr.)
- 8 = 1 sleeve ½" for thermometer
- 9 = bracket for sensor  
(Multi PD 900, 1000, 1500 und 2000  
with 5 force fits, the others with 4)
- 10 = screwed bush with adjustable screw



### Buffer storage

#### "Solar PD 350-3000 ltr."

- 1 = transport lug
- 2 = 2 sleeves R 1¼ (350-1000 ltr.)  
2 sleeves R 1½ (1250-3000 ltr.)
- 3 = collar with heat exchanger with cirkulation
- 4 = collar with heat exchanger without cirkulation
- 4a = Solar PD from 600 to 1000 ltr.  
1 sleeve R 1¼ additionally  
Solar PD from 1250 to 3000 ltr.  
1 sleeve R 1½ additionally  
for variable buffer volume (drinking water/ heating)
- 5 = 2 sleeves R 1¼ (350-1000 ltr.)  
2 sleeves R 1½ (1250-3000 ltr.)  
for forerun or return
- 6 = 2 sleeves R 1¼ (350-1000 ltr.)  
2 sleeves R 1½ (1250-3000 ltr.)  
for forerun or return
- 6a = collar for optional heat exchanger
- 7 = 2 sleeves R 1¼ (350-1000 ltr.)  
2 sleeves R 1½ (1250-3000 ltr.)
- 8 = 1 sleeve ½" for thermometer
- 9 = bracket for sensor  
(Solar PD 900, 1000, 1500 und 2000  
with 5 force fits, the others with 4)
- 10 = screwed bush with adjustable screw



## 2. Assembly of casing and heat insulation

1. Before you assemble the casing and heat insulation please retorque all screws of the collar (with heat exchanger) crossed.

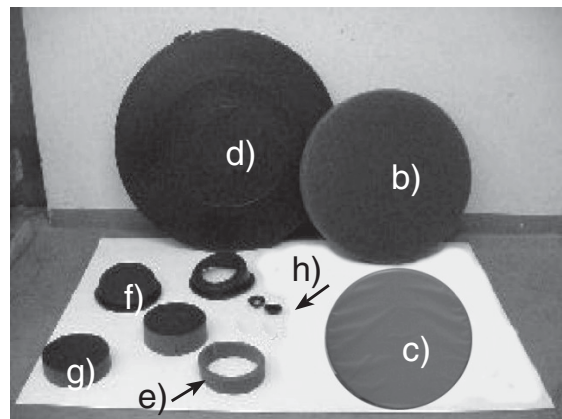


2. Also pull tight the nuts of the warm-, chilled- and circulation-connection. The connection-fitting is protected from stripping by a locking plate (on the inside of the collar-lid). The casing and heat insulation has to be assembled before tubing the buffer storage.

The Casing and heat insulation is composed of :

2 side parts storages from 250 to 1000 ltr  
 3 side parts storages from 1250 to 1750 ltr  
 4 side parts storages from 2000 to 3000 ltr

- |                                    |    |
|------------------------------------|----|
| 2-4 pieces side parts              | a) |
| 1 piece insulation for the top     | b) |
| 1 piece insulation for the bottom  | c) |
| 1 piece cover plate                | d) |
| 4 pieces insulation-sleeves        | e) |
| 4 pieces cover for the collar      | f) |
| 4 pieces insulation for the collar | g) |
| 10 pieces rosettes                 | h) |



3. Take all aforementioned pieces of the insulation out of the packing.

4. Put the insulation for the bottom c) (with polythene sheet, do not remove the sheet) under the buffer. **Do not remove the polythene sheet around this piece of insulation!**



5. Level the buffer storage by means of the 3 screwed bushes with adjustable screw at the bottom.

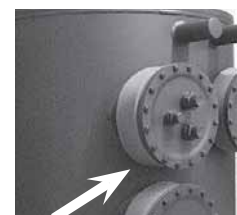
Attention: If there are variations in temperature synthetic material shows differences in dimension . do not assemble the insulation under 10°C. If there are low temperatures outside store the insulation in a warm room before.

If you get a delivery with **solar heat exchanger** the cover for the collar has to be adjusted individually in the area of the forerun and return (take a carpet cutter to do that).



6. Pull the insulation-sleeves e) over the lid of the collar.

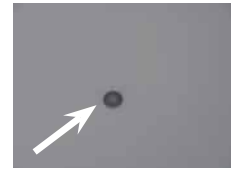
7. Put the storage sensor and the buffer sensor in the intended bracket (9) and clamp with the screws. Tie up the screws **only that much** until the sensor is securely in place against the wall of the buffer. Attention: If you tie up too tight you can damage the sensors.



8. Cutting further holes in the casing and heat insulation for additional connections.

If further connections are necessary for the existing sleeves and collars, then they must be cut out. For the cutout of a collar the existing hole (picture) provides the dimensions.

Put the the sheathing of the storage smoothly on the floor. First cut out the hole circular in the polystyrene outer skin only and remove it. Afterwards cut out the foam material or fleece with a knife.



Solar-PD 350



Solar-PD 350



Multi-PD 350

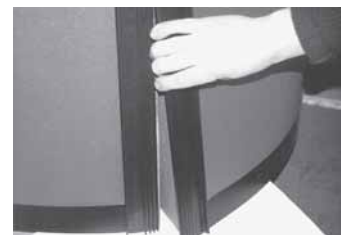


Multi-PD 350

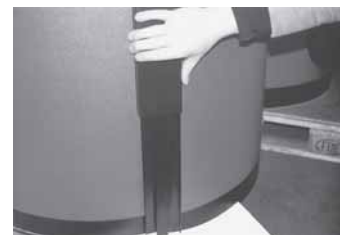
8.

Put

on the side parts (a) congruently at the storage body according to the storage connections and the hole pattern of the collars.



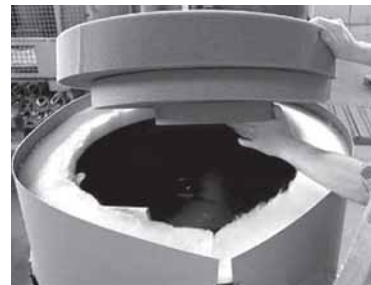
Put the closure board on the one side into the last root face (groove). Then attach the three assembly aids (channel) distributed on the closure board.



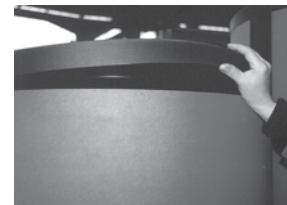
Subsequently, put the opposite closure board into the root face (groove). The snapping into the next grooves of the closure board (from above downward) gets easier by softly knocking on the side part.



9. Insert the soft foam insulation for the top on the top of the storage.



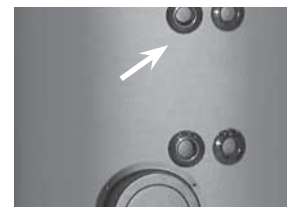
10. Put the cover plate d) over the sheathing.



11. Insert the thermometer into the sleeve.



12. Attach the rosettes h)



13. Sew the covers for the collars f) onto the pre-installed attachment clipse.

14. Stick the enclosed identification plate on the insulation.



Multi PD 600



Solar PD 600

### 3. The fresh heating of drinking water of Multi PD and Solar PD

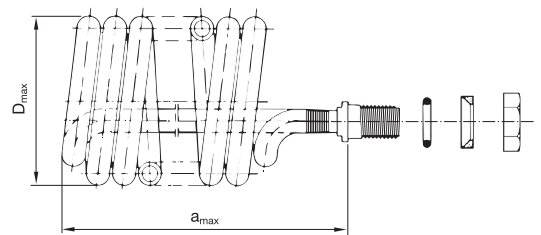
#### Description:

The discharge heat exchangers type 30, 30a and 40 are helically wound heat exchangers, consisting of a smoothly rolled ribbed type pipe made of copper with hard up-soldered connection screw joints. The inner walls of the pipes are chemically tinned.

#### Area of application:

around the exchanger:	boiler water
in the exchangers:	fresh drinking water from the water pipeline
permissible operating pressure inside:	20 bar
permissible operating temperature:	120°C (with water that is high in calcium carbonate the operating temp. 65°C should not be exceeded if possible)

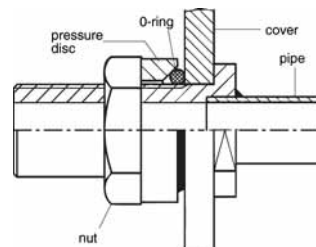
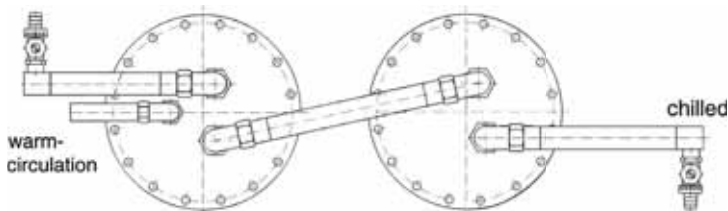
type	$a_{max}$ mm	$D_{max}$ ø	warm inch	chilled inch	circu- lation inch	weight kg
30	600	170	3/4"	3/4"	-	8,0
30a	600	170	3/4"	3/4"	1/2"	8,5
40	600	170	3/4"	3/4"	-	12,0



#### Installation:

After heating up it is urgently necessary to pull tight all hexagon nuts (flange and spiral) carefully.

#### Connection for drinking water:



**Attention:** That you can make a simple and economical flushing of the heat exchanger if it is necessary later, you should install a T-fitting with a drain tap 3/4" in every warm and chilled water connection to the purpose that you can connect the rinsing device with it.

**Cleaning:** If the quantity of warm drinking water and/or the drinking water temperature is getting lower, a calcification of the inner pipe walls can be the cause.

A drain cock, attached to the chilled and warm water connections, helps to detach the incrustation inside by using a diluted solvent for lime.

After cleaning the heat exchangers rinse them with water. The chilled water connection has to be laid after DIN 1988 or consider local regulations!

## 4. Output/ dimensions

Type		Multi PD												
buffer volume	ltr.	<b>250</b>	<b>350</b>	<b>450</b>	<b>600</b>	<b>750</b>	<b>900</b>	<b>1000</b>	<b>1250</b>	<b>1500</b>	<b>1750</b>	<b>2000</b>	<b>2500</b>	<b>3000</b>
output*	ltr.	100-200	150-275	200-350	250-450	320-625	400-750	420-830	500-1000	600-1200	700-1400	800-1600	1000-2000	1200-2400
<b>dimensions</b>	<b>mm:</b>													
with insulation	hight	1215	1575	1895	1875	1855	2175	2305	2075	2355	2105	2375	2375	2375
	Ø	850	850	850	950	1040	1040	1040	1250	1250	1450	1450	1550	1650
without insulation	hight	1090	1450	1770	1750	1730	2050	2180	1950	2230	1980	2250	2250	2250
	Ø	600	600	600	700	790	790	790	1000	1000	1200	1200	1300	1400
tilting measure	mm	1250	1575	1875	1890	1910	2205	2320	2200	2450	2335	2550	2610	2665
weight	kg	115	140	151	185	210	235	252	340	380	425	465	520	570

Typ		Solar PD												
buffer volume	ltr.	<b>350</b>	<b>450</b>	<b>600</b>	<b>750</b>	<b>900</b>	<b>1000</b>	<b>1250</b>	<b>1500</b>	<b>1750</b>	<b>2000</b>	<b>2500</b>	<b>3000</b>	
output*	ltr.	150-275	200-350	250-450	320-625	400-750	420-830	500-1000	600-1200	700-1400	800-1600	1000-2000	1200-2400	
<b>dimensions</b>	<b>mm:</b>													
with insulation	hight	1575	1895	1875	1855	2175	2305	2075	2355	2105	2375	2375	2375	
	Ø	850	850	950	1040	1040	1040	1250	1250	1450	1450	1550	1650	
without insulation	hight	1450	1770	1750	1730	2050	2180	1950	2230	1980	2250	2250	2250	
	Ø	600	600	700	790	790	790	1000	1000	1200	1200	1300	1400	
tilting measure	mm	1575	1875	1890	1910	2205	2320	2200	2450	2335	2550	2610	2665	
weight	kg	148	159	196	224	249	266	362	406	456	496	557	619	

From Multi PD/Solar PD 600 and bigger one additional sleeve for variable buffer volume (drinking water/heating)

\*) output of 40°C warm water in 10-20 min., boiler temperature 65°C, chilled water temperature 10°C = tolerances for geometrical dimensions ± 10 mm.

## 5. General information for installation and operation

The CAPITO buffer storage Multi PD and Solar PD are used for heating systems with forerun temperatures to 90° C. The forerun temperature may amount to maximally 75° C with low-temperature heating systems.

Each heating system has to be built according to DIN 4751:

4571 sheet 1: closed heating systems or open with high-lying expansion tank and safety-forerun and -return-pipe.

4751 sheet 2: thermostatically secured heating systems with a thermal output of maximal 350 kW and 2.5 bar.

Our guarantee applies only with observance of the above-mentioned DIN standards in its particular valid version and this installation and operating instructions.

## 6. Factory-made inspection

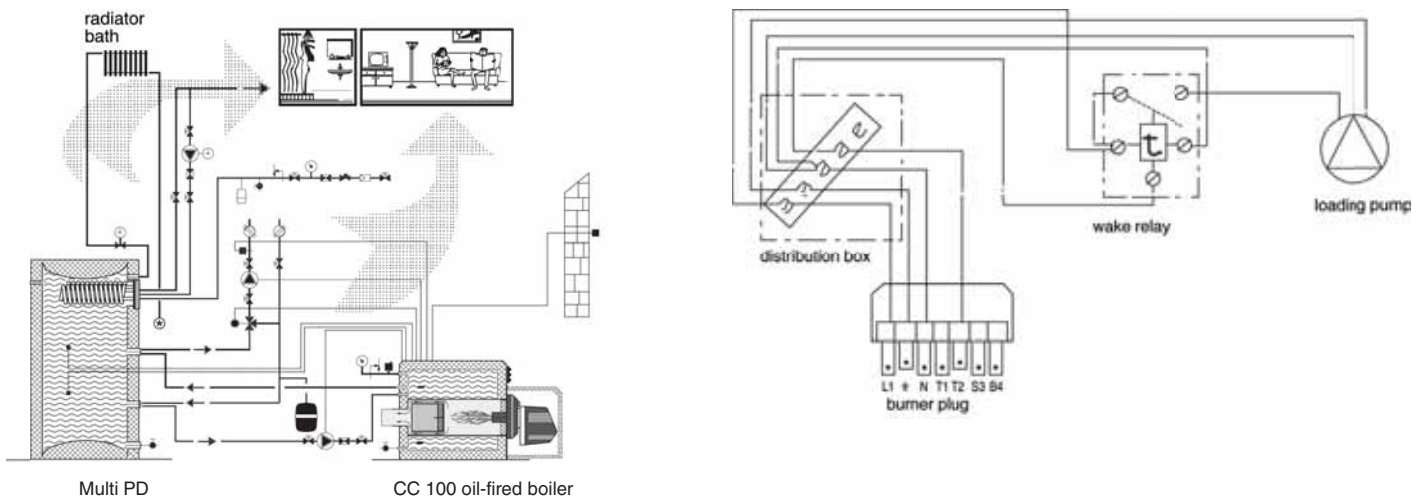
Each CAPITO buffer storage is examined for pressure and tightness.

## 7. Connection of the loading pump for the combination: Bufferstorage Multi PD/Solar PD and external energy sources

Because the loading pump has to run parallel to the burner its connection is made by means of the burner plug. In order to use the remainder warmth of the boiler and to protect the boiler against overheating, a wake relay has to be installed into the circuit. The wake time shall amount approximately 5 - 7 min.

In the case of CAPITO regulation PILOT 7 + 10 the ports „L1-PE-N-T2“ are led by means of a cable with 4 vessels from the burner plug into a distribution box. From here the connection of the loading pump takes place by means of the wake relay as it is shown in the following connection diagram:

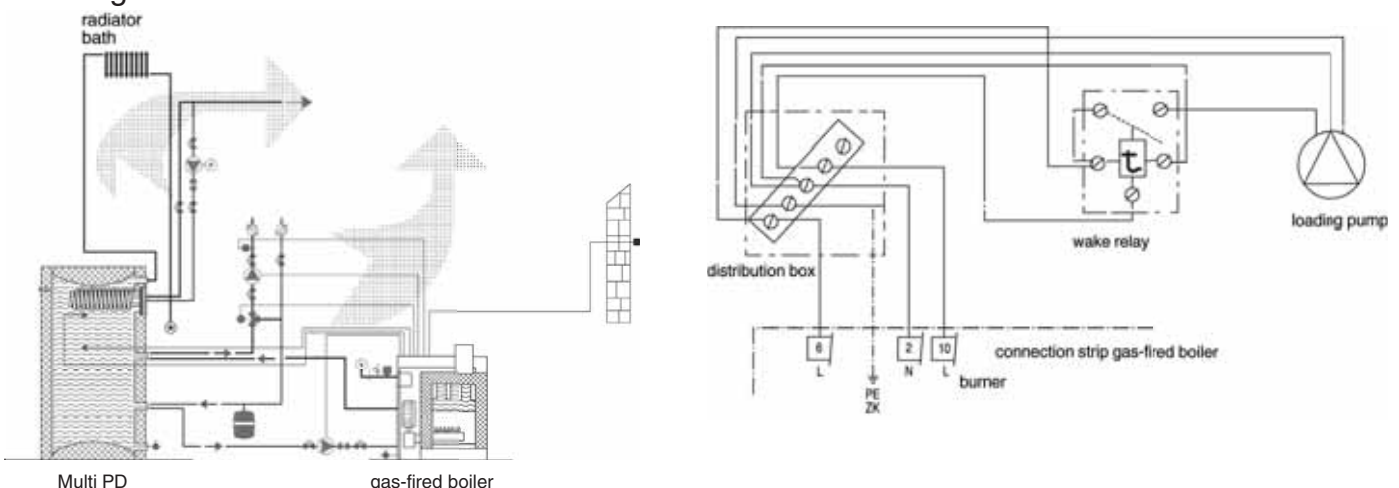
The control of the buffer loading pump is taken over by the boiler regulation. If this control should not be possible, please use one of the alternative connection examples.

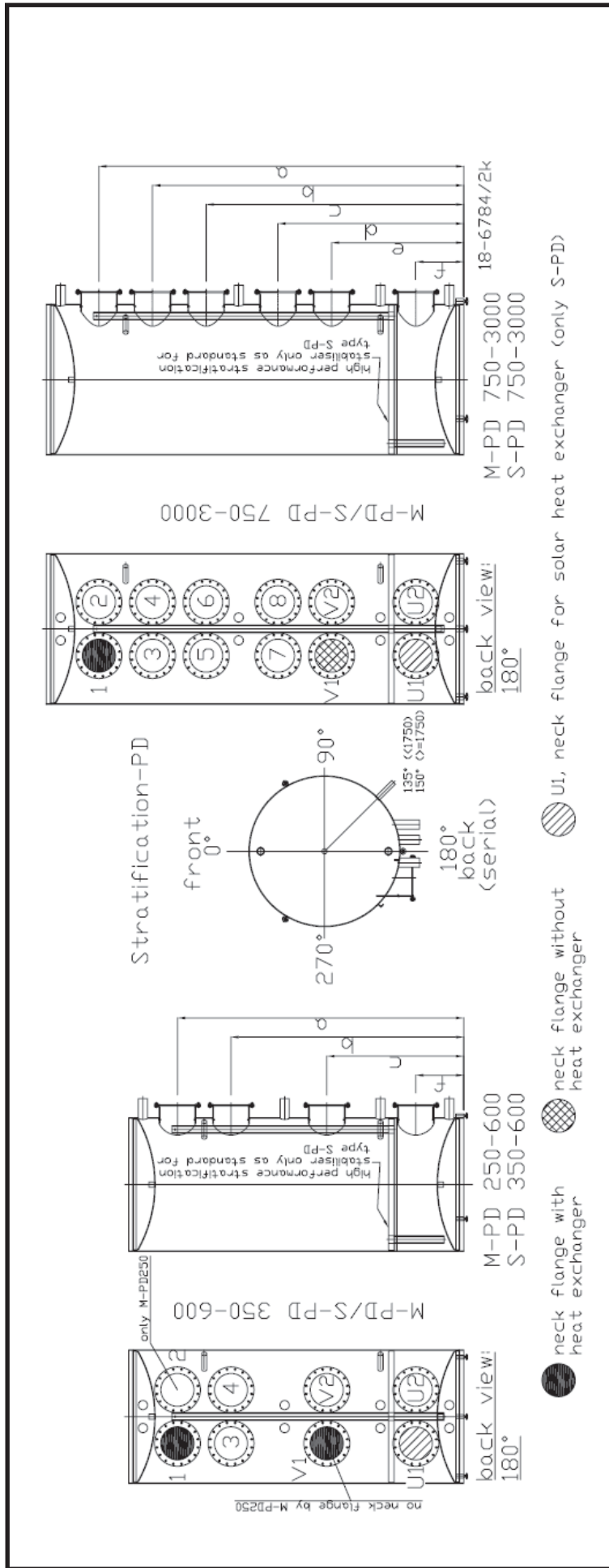


## 8. Connection of the loading pump for the combination: Bufferstorage Multi PD/Solar PD and external energy sources

Because the loading pump has to run parallel to the burner its connection is made at the connection strip of the boiler which contains 11 contacts. In order to use the remainder warmth of the boiler and to protect the boiler against overheating, a wake relay has to be installed into the circuit. The wake time shall amount approximately 5 - 7 min.

In the case of CAPITO regulation PILOT 7 + 10 the ports „L-N-PE-- and L“(burner) are led by means of a cable with 4 vessels into a distribution box. From here the connection of the loading pump takes place by means of the wake relay as it is shown in the following connection diagram:





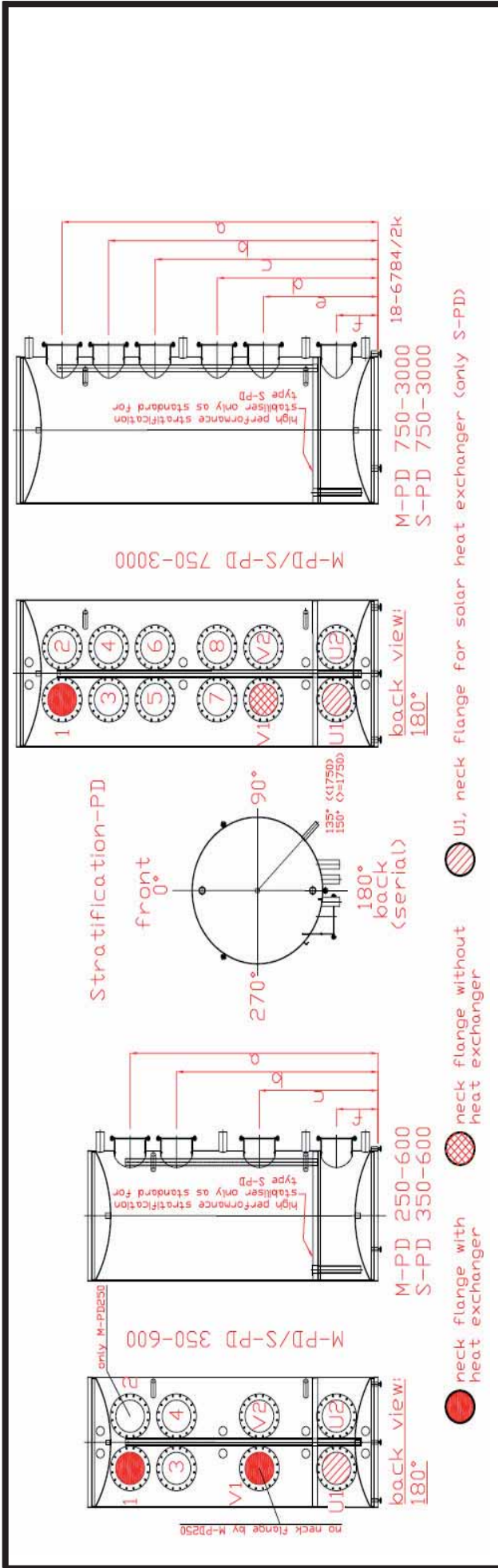
**Geometrical dimensions Multi-PD and Stratification PD ( without insulation; size (mm); tolerance +/- 10mm)**

at the Multi-PD/PS models the neck flange for the solar heat exchanger ( SU1) and the stratification stabiliser are non applicable

Multi/Schichtungs-PD	a*	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	weight kg	tilting size
M-PD 250	1235	1090	710	405	600	115	100	75	-	405	-	-	-	850	1015	120	280	115	1250
M-PD/S-PD 350	1575	1450	1070	425	600	115	100	75	240	425	590	765	-	1210	1375	120	280	140	1575
M-PD/S-PD 450	1905	1770	1390	425	600	115	100	75	240	425	715	935	-	1530	1695	120	280	151	1875
M-PD/S-PD 600	1905	1750	1355	435	700	115	100	75	250	435	715	935	1215	1495	1675	120	280	185	1890
M-PD/S-PD 750	1875	1730	1315	435	790	115	100	75	250	435	715	935	1175	1455	1655	120	280	210	1910
M-PD/S-PD 900	2195	2050	1660	435	790	115	100	75	250	435	775	1025	1520	1800	1975	120	280	235	2205
M-PD/S-PD 1000	2325	2180	1765	435	790	115	100	75	250	435	690	1175	1625	1905	2105	120	280	252	2320
M-PD/S-PD 1250	2125	1950	1470	515	1000	115	110	100	330	515	820	1090	1320	1620	1875	120	360	340	2200
M-PD/S-PD 1500	2465	2230	1750	515	1000	115	110	100	330	515	850	1115	1600	1900	2155	120	360	380	2450
M-PD/S-PD 1750	2115	1980	1450	565	1200	115	110	110	380	565	870	1085	1300	1600	1895	120	360	425	2335
M-PD/S-PD 2000	2385	2250	1720	565	1200	115	110	110	380	565	870	1060	1570	1870	2165	120	360	465	2555
M-PD/S-PD 2500	2395	2250	1680	605	1300	115	110	110	420	605	910	1070	1530	1830	2165	120	360	520	2610
M-PD/S-PD 3000	2395	2250	1680	605	1400	115	110	110	420	605	910	1200	1530	1830	2165	120	360	570	2665
M-PS 250	1235	1090	710	-	600	-	-	75	-	-	-	-	-	850	1015	-	-	110	1250

\*Thickness of insulation ca. 20mm RP = inside thread, R = outside thread

Stand: 07.11.08



**Configuration**

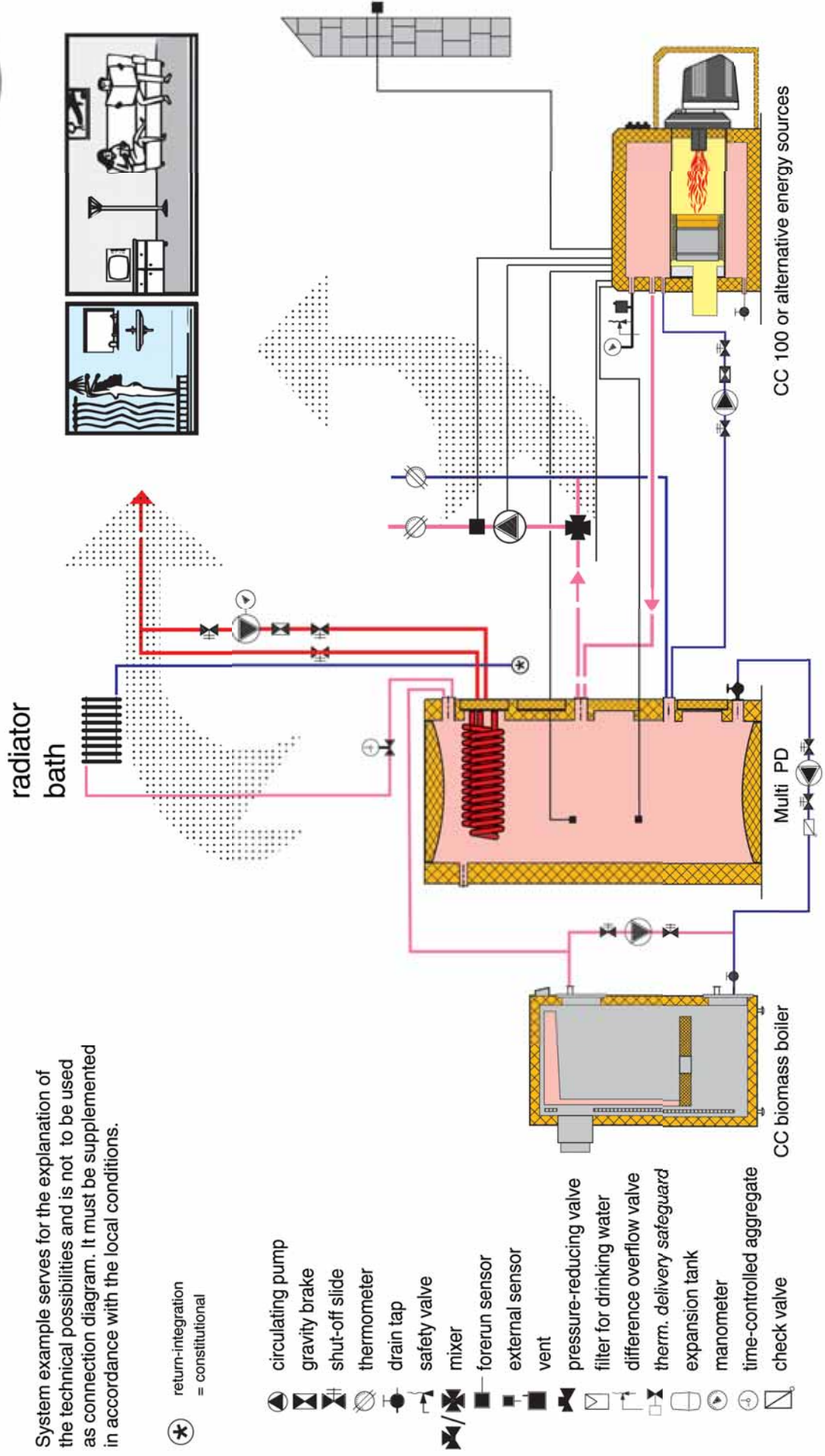
	M-PD250	M-PD350	M-PD450	M-PD600	M-PD750	M-PD900	M-PD1000	M-PD1250	M-PD1500	M-PD1750	M-PD2000	M-PD2500	M-PD3000
Position 1	S-PD350 Serie WT30	S-PD450 Serie WT30	S-PD600 Serie WT30	S-PD750 Serie WT50	S-PD900 Serie WT50	S-PD1000 Serie WT50	S-PD1250 Serie WT50	S-PD1500 Serie WT50	S-PD1750 Serie WT50	S-PD2000 Serie WT50	S-PD2500 Serie WT50	S-PD3000 Serie WT50	S-PD3000 Serie WT50
2	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option
3	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option
4	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option
5	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	Serie V1 Blind	-	-	-	-	-	-
8	-	-	-	-	-	-	Option V2	-	-	-	-	-	-
neck flange for pre-heat exchanger V 1	-	Serie WT30	Serie WT30	Serie WT30	Serie Blind	Serie Blind	Serie Blind	Serie Blind	Serie Blind	Serie Blind	Serie Blind	Serie Blind	Serie Blind
neck flange for pre-heat exchanger V 2	-	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option
U1	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option	Option
U2	-	-	-	-	-	-	-	-	-	-	-	-	-
f	240	240	240	250	250	250	250	330	330	380	380	420	420
e	-	590	715	715	715	775	690	820	850	870	870	910	910
d	-	-	-	-	-	1240	970	-	-	-	-	-	-
b	570	930	1250	1215	1175	1520	1625	1320	1600	1300	1570	1530	1530
a	850	1210	1530	1495	1455	1800	1905	1620	1900	1600	1870	1830	1830

**Warning: By ordering of additional neck flanges, please indicate the number of the neck flanges and the angular degree ( 0°; 90°;180°;270°)**

Stand: 17.12.08



# buffer storage „Multi PD” with oil-/gas-low-temperature boiler CC 100 or alternative energy sources, with CC biomass boiler



System example serves for the explanation of the technical possibilities and is not to be used as connection diagram. It must be supplemented in accordance with the local conditions.

⊛ return-integration = constitutional

- ⊛ circulating pump
- ⊛ gravity brake
- ⊛ shut-off slide
- ⊛ thermometer
- ⊛ drain tap
- ⊛ safety valve
- ⊛ mixer
- ⊛ forerun sensor
- ⊛ external sensor
- ⊛ vent
- ⊛ pressure-reducing valve
- ⊛ filter for drinking water
- ⊛ difference overflow valve
- ⊛ therm. delivery safeguard
- ⊛ expansion tank
- ⊛ manometer
- ⊛ time-controlled aggregate
- ⊛ check valve



# buffer storage "Solar PD"

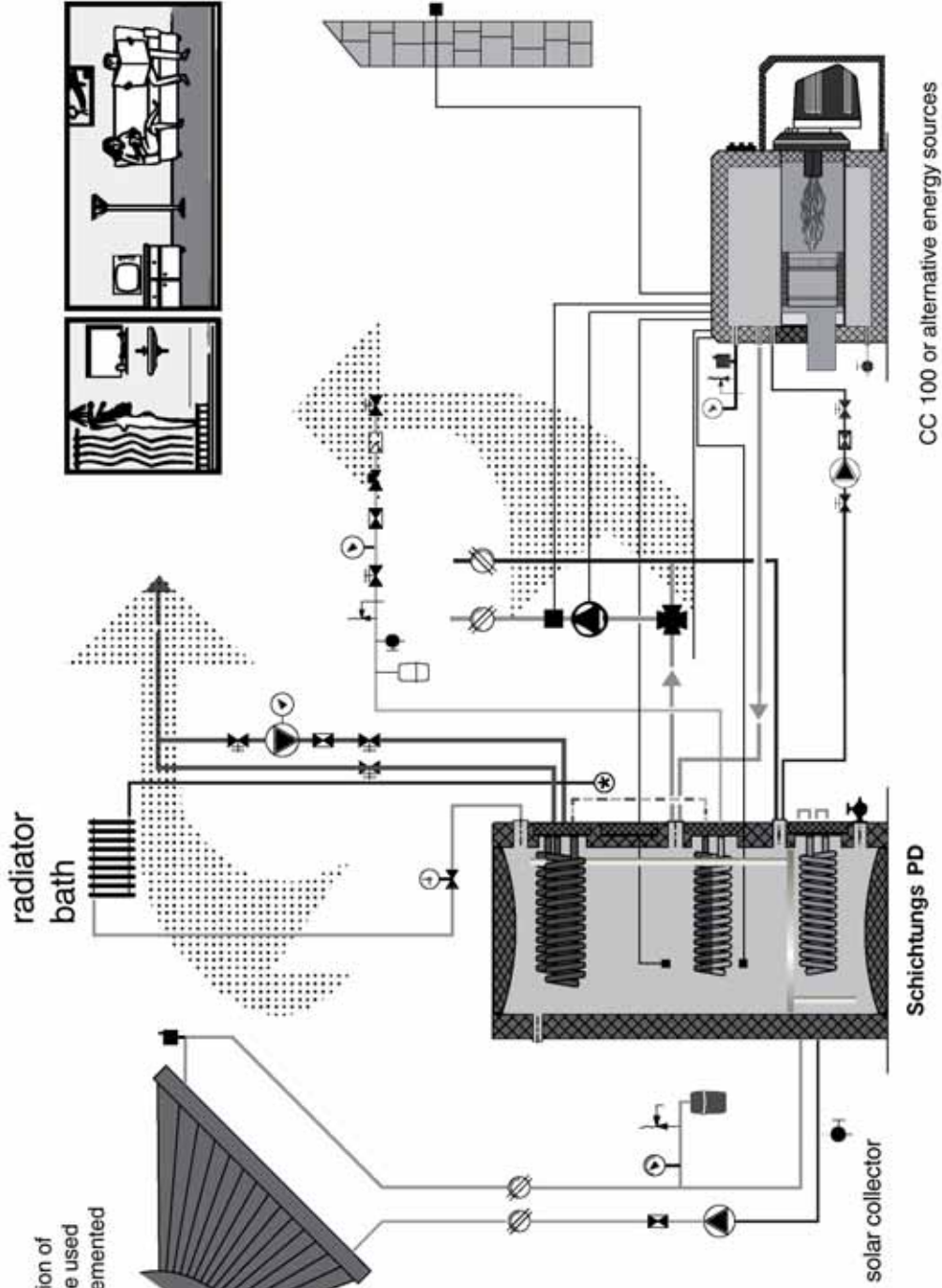
with high-efficiency stratification system  
with oil-/gas-low-temperature boiler CC 100  
or alternative energy sources and solar collector



System example serves for the explanation of the technical possibilities and is not to be used as connection diagram. It must be supplemented in accordance with the local conditions.

⊛ return-integration = constitutional

- ⬇️ circulating pump
- ⬇️ gravity brake
- ⬇️ shut-off slide
- ⬇️ thermometer
- ⬇️ drain tap
- ⬇️ safety valve
- ⬇️ mixer
- ⬇️ forerun sensor
- ⬇️ external sensor
- ⬇️ vent
- ⬇️ pressure-reducing valve
- ⬇️ filter for drinking water
- ⬇️ difference overflow valve
- ⬇️ therm. delivery safeguard
- ⬇️ expansion tank
- ⬇️ manometer
- ⬇️ time-controlled aggregate



CC 100 or alternative energy sources

Schichtungs PD

solar collector



[www.evinox.co.uk](http://www.evinox.co.uk)

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