Please hang up this folder next to the buffer.



Technical documentation

Installation and operation instruction **Buffer storage Multi PD Buffer storage Schichtungs-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?





Schichtungs PD 600

Multi 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 1¹/₄ (250-1000 ltr.) 2 sleeves R 1¹/₂ (1250-3000 ltr.)
- **3** = collar with heat exchanger with cirkulation
- 4 = collar with heat exchanger without cirkulation
- 4a = Multi PD from 600 to1000 ltr.
 1 sleeve R 1¹/₄ additionally Multi PD from 1250 to 3000 ltr.
 1 sleeve R 1¹/₂ additionally for variable buffer volume (drinking water/ heating)
- 5 = 2 sleeves R 1¹/₄ (250-1000 ltr.) 2 sleeves R 1¹/₂ (1250-3000 ltr.) for forerun or return
- 6 = 2 sleeves R 1¹/₄ (250-1000 ltr.) 2 sleeves R 1¹/₂ (1250-3000 ltr.) for forerun or return
- 7 = 2 sleeves R 1¹/₄ (250-1000 ltr.) 2 sleeves R 1¹/₂ (1250-3000 ltr.)
- **8** = 1 sleeve $\frac{1}{2}$ " for thermometer
- 9 = force fit 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 "Schichtungs PD 350-3000 Itr."

- 1 = transport lug
- 2 = 2 sleeves R 1¹/₄ (350-1000 ltr.) 2 sleeves R 1¹/₂ (1250-3000 ltr.)
- **3** = collar with heat exchanger with cirkulation
- 4 = collar with heat exchanger without cirkulation
- 4a = Schichtungs PD from 600 to1000 ltr.
 1 sleeve R 1¹/₄ additionally Schichtungs PD from 1250 to 3000 ltr.
 1 sleeve R 1¹/₂ additionally for variable buffer volume (drinking water/ heating)
- 5 = 2 sleeves R 11/4 (350-1000 ltr.) 2 sleeves R 11/2 (1250-3000 ltr.) for forerun or return
- 6 = 2 sleeves R 1¹/₄ (350-1000 ltr.) 2 sleeves R 1¹/₂ (1250-3000 ltr.) for forerun or return
- **6a** = collar for optional heat exchanger **7** = 2 sleeves R $1\frac{1}{4}$ (350-1000 ltr.)
- 7 = 2 sleeves R 1¹/₂ (350-1000 ltr.) 2 sleeves R 1¹/₂ (1250-3000 ltr.)
- **8** = 1 sleeve $\frac{1}{2}$ " for thermometer
- 9 = force fit for sensor
 (Schichtungs PD 900, 1000, 1500 und 2000 with 5 force fits, the others with 4)
- 10 = screwed bush with adjustable screw



- 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 connectionfitting 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.

a)

i)

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
 - 1 piece insulation for the top b)
 - 1 piece insulation for the bottom c) d)
 - 1 piece cover plate
 - 4 pieces insulation-sleeves e) **f**)
 - 4 pieces cover for the collar
 - 4 pieces insulation for the collar g) h)
 - 10 pieces rosettes
 - 1 piece pair of compasses
- 3. Take all aforementioned pieces of the insulation out of the packing.
- Put the insulation for the bottom c) (with polythene sheet, do 4. not remove the sheet) under the buffer. Do not remove the polythene sheet around this piece of insulation!
- 5. Justify 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 force fits (9) and clamp with the screws. Tie up the screws only that much until the sensor clings to the sheathing of the storage. Attention: If you tie up too strong you can damage the sensors.













b)

C)



d)

8. Punching futher 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 by means of a pair of compasses (i). For the cutout of a collar the existing hole (picture) conduces as clue.

Put 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.







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.

Schichtungs-PD 350

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.









Multi-PD 350





- 9. Insert the soft foam insulation for the top on the top of the stoarge.
- 10. Put the cover plate d) over the sheathing.
- 11. Insert the themometer into the sleeve.
- 12. Attach the rosettes h)
- 13. Srew the covers for the collars f) onto the pre-installed attachment clipse.
- 14. Stick the enclosured identification plate on the insulation.











Schichtungs PD 600



Multi PD 600

3. The fresh heating of drinking water of Multi PD and Schichtungs PD

Description:

The discharge heat exchangers type 30, 30a and 40 are helically wounded 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: in the exchangers: permissible operating pressure inside: permissible operating temperature: boiler water

fresh drinking water from the water pipeline 20 bar

120°C (with water that is high in calcium carbonate the operating temp. 65°C should not be exceeded if possible)

type	a _{ma} x	D _{ma} X	warm inch	chilled inch	circu- lation	weight kg
	mm	Ø			inch	
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 "	7	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 causal.

A rinsing device, 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!

Тур	Multi PD													
buffer volume	ltr.	250	350	450	600	750	900	1000	1250	1500	1750	2000	2500	3000
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
dimensions	mm:													
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

4. Output/ dimensions

Тур	Schichtungs PD													
buffer volume	350	450	600	750	900	1000	1250	1500	1750	2000	2500	3000		
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	
dimensions	mm:													
with insulation	hight	1575	1895	1875	1855	2175	2305	5 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/Schichtungs PD 600 and bigger one additional sleevefor variable buffer volume (drinking water/heating) *) output of 40°C warm water in 10-20 min., boiler temperature 65°C, chilled water temparature $10^{\circ}C$ = tolerances for geometrical dimensions ± 10 mm.

5. General information for installation and operation

The CAPITO buffer storage Multi PD and Schichtungs 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/Schichtungs 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/Schichtungs 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 wich 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:





	M-PD2500 M-PD3000	S-PD2500 S-PD3000	Serie Serie	Ontion Option	Option Option	•	•	,	1	Serie Serie	Option Option	Option Option	Serie Serie	Option Option	420 420	•	- 010	1530 1530	1830 1830
	M-PD2000	S-PD2000	Serie	Option	Option	,		,		Serie	Option	Option	Serie	Option	380	•	- 020	1570	1870
-2childotor Childotor Chil	M-PD1750	S-PD1750	Serie	Option	Option		•	,		Serie	Option	Option	Serie	Option	380	•	- 020	1300	1600
₹ ∾ ¤ M-bD\2-bD \20-3000	M-PD1500	S-PD1500	Serie	Option	Option	Option	Option	1	•	Serie	Option	Option	Serie	Option	330		850	1600	1900
	M-PD1250	S-PD1250	Serie	Option	Option	ä	n		•	Serie	Option	Option	Serie	Option	330	10	-	1320	1620
B Halsstutz	M-PD1000	S-PD1000	Serie	Option	Option	Option	Option	Serie V1		Option	Option	Option	Serie	Option	250	690	970	1625	1905
ungs-PD province illeo un, our,	00604-W	S-PD900	Serie	Option	Option	Option	Option	1	•	Serie	Option	Option	Serie	Option	250	ı	175	1520	1800
Schicht Schicht Schicht Schicht	M-PD750	S-PD750	Serie	Option	Option			,	•	Serie	Option	Option	Serie	Option	250			1175	1455
tiss tutzen	M-PD600	S-PD600	Serie	Ontion	Option	3	i.	,		Option	Option	Option	Serie	Option	250	•	146	1215	1495
	M-PD450	S-PD450	Serie	Ontion	Option		ı	,	•	Option	Option	Option	Serie	Option	240		745	1250	1530
M-PD 3 X-PD 3 X-	M-PD350	S-PD350	Serie	Ontion	Option	a	r	1		Option	Option	Option	Serie	Option	240	1		930	1210
	M-PD250		Serie	Ontion	Option			,		'n		Option	•	Option	240	ı	1	570	850
Anordana Von hin: Von hin: Von hin:		Position	-	7	9 4	5	9	6	o Halsst. f.	Vorwärm- tauscher V1	Halsst. f. Vorwärm- tauscher V2	5	5	U2	f	e	p	م د	a Achtura: Boi do







aerial photograph: Merkur flight GmbH, Freigeg. Reg.-Präs. Münster NR. 3308/81

CAPITO Heiztechnik	exsists	since the year 1900 and is busy in the areas heating engineering, transportation engineering, apparatus engineering.
	developes	devices, systems and methods for work improvement in industry, trade and private households
	produces	in 3 works standard devices in large quantities and special productions after customer's requests.
	advises	by technical advisers in all fields of activity.
	supplies	products of proven quality, which correspond fully all safety regulations and the demands of practice.

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