

#### Function

Luxor distribution manifolds are from drawn brass bar CW617N with a special profile which undergoes a stress relieving heat treatment. The manifolds are tooled and assembled internally by the use of automated machineries and are 100 % tested when complete with their accessories to guarantee their absolute tightness.

The threads of the main connections are in compliance with ISO228. The secondary circuits are connected through fittings assembled, tightened with o-ring sealings and glued to the manifold in order not to unscrew should the compression fitting be dismantled. All Luxor fittings and accessories for manifolds are provided with soft o-ring sealing and do not require any intermediate sealing element.

It is recommended to tighten the fittings to a maximum torque of 60 Nm. The manifolds are produced with yellow or nickel plated finish, the side interaxes are:

- 40 mm – G3/4
- 50 mm – G1"
- 50 mm – G1"1/4

Luxor manifolds and their accessories meet all the requirements of a modern heating system and can be divided into: Distribution manifolds with or without pre-assembled fittings for the secondary circuits, suitable for traditional heating systems or sanitary systems.

Distribution manifolds with pre-assembled fittings, shut-off and balancing valves, mainly suitable for radiant panel systems. Flow control manifolds must be used with the liquid entering the manifolds always through the secondary circuits. To avoid noise this manifold must be always assembled on the return circuit. The tightening device on the stem of the manifolds with built-in valves set for thermoelectric adjustment can be inspected and replaced even while the system is working. The protection cap, where required, is necessary to protect the threading and, occasionally, to intercept the flow.

Adjusting and balancing manifolds (lockshield type) are with micrometric adjustment and memory of position in case of a temporary shutdown and can be mounted on both Inlet and return circuits.

With regulators and flow meters TM 4012, adjusting and balancing manifolds allow for an immediate verification of the system balancing by reading the flow rate. The adjustment can be stopped through a block cap. The glass and the measuring spring can be disassembled and cleaned while the system is operating. This manifold must be installed on the inlet circuit.

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#### Technical data

Maximum working pressure:	10 bar
Maximum working temperature:	120 °C
Maximum differential pressure:	1 bar
Working fluids:	water in compliance with UNI 8065:2019

#### Technical data with thermoelectric heads

Liquid temperature:	0 °C ÷ 100 °C
Room working temperature:	0 °C ÷ 60 °C
Max relative humidity (without condensation):	80%

#### Technical data with regulators / flow meters

Maximum working pressure:	6 bar
Maximum working temperature:	70 °C
Maximum differential pressure:	1 bar
Flow meter regulation range:	0 ÷ 5 l/min
Flow meter regulation precision:	± 10%

## **Materials**

### **Manifolds**

Manifold:	CW 617 N – DW UNI-EN 12165:2016
Housing:	CW 617 N – DW UNI-EN 12165:2016
Gaskets:	Peroxide cured EPDM

### **Flow meters**

Flow meter:	Thermo-resistant plastic material
Flow meter body:	CW 614 N – DW UNI-EN 12164:2016
Spring:	Stainless steel
Gaskets:	Peroxide cured EPDM

### **Thermostatic screw**

Screw:	CW 614 N – DW UNI-EN 12164:2016
Stem:	Stainless steel
Gaskets:	Peroxide cured EPDM
Stuffing gasket:	Teflon
Knob:	RAL9016 white ABS

### **Lockshield**

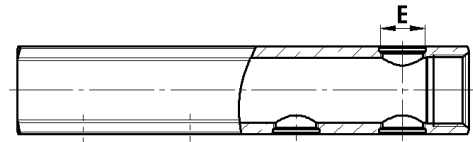
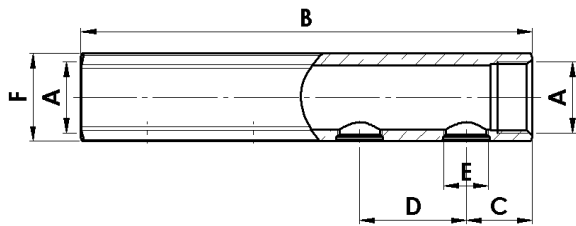
Lockshield:	CW 614 N – DW UNI-EN 12164:2016
Gaskets:	Peroxide cured EPDM
Knob:	RAL9016 white ABS
Flat gasket:	Fasit

### **Finish**

Yellow or nickel plated finish

## Dimensional Drawings

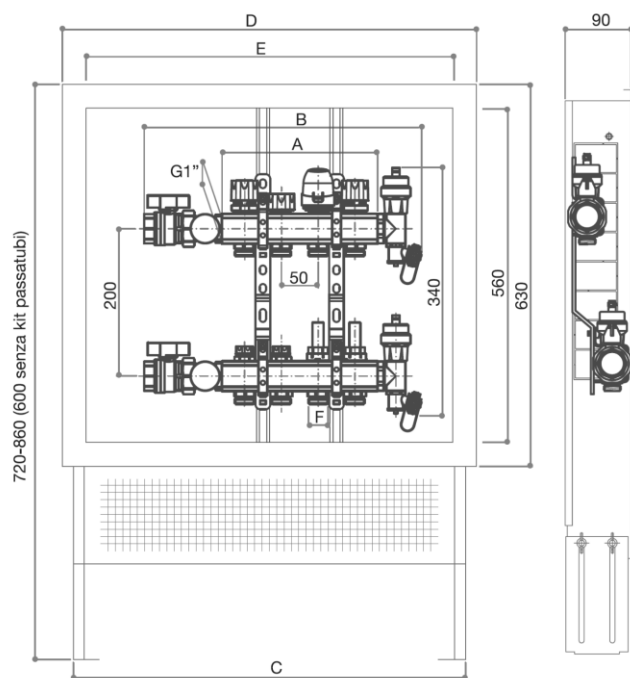
### Distribution manifolds with G1/2F connection and drain



Size	Ways No.	A	B	C	D	E	F
G 3/4	2	G3/4	93	26.5	40	G 1/2	35
	3	G3/4	133	26.5	40	G 1/2	35
	4	G3/4	173	26.5	40	G 1/2	35
	5	G3/4	213	26.5	40	G 1/2	35
	6	G3/4	253	26.5	40	G 1/2	35
	7	G3/4	293	26.5	40	G 1/2	35
	8	G3/4	333	26.5	40	G 1/2	35
	9	G3/4	373	26.5	40	G 1/2	35
	10	G3/4	413	26.5	40	G 1/2	35
G 1"	2	G1"	112	31	50	G 1/2	41
	3	G1"	162	31	50	G 1/2	41
	4	G1"	212	31	50	G 1/2	41
	5	G1"	262	31	50	G 1/2	41
	6	G1"	312	31	50	G 1/2	41
	7	G1"	362	31	50	G 1/2	41
	8	G1"	412	31	50	G 1/2	41
	9	G1"	462	31	50	G 1/2	41
	10	G1"	512	31	50	G 1/2	41
	11	G1"	562	31	50	G 1/2	41
	12	G1"	612	31	50	G 1/2	41
	13	G1"	662	31	50	G 1/2	41
G 1"1/4	2	G1"1/4	114	32	50	G 1/2	51
	3	G1"1/4	164	32	50	G 1/2	51
	4	G1"1/4	214	32	50	G 1/2	51
	5	G1"1/4	264	32	50	G 1/2	51
	6	G1"1/4	314	32	50	G 1/2	51
	7	G1"1/4	364	32	50	G 1/2	51
	8	G1"1/4	414	32	50	G 1/2	51
	9	G1"1/4	464	32	50	G 1/2	51
	10	G1"1/4	514	32	50	G 1/2	51
	11	G1"1/4	564	32	50	G 1/2	51
	12	G1"1/4	614	32	50	G 1/2	51
	13	G1"1/4	664	32	50	G 1/2	51

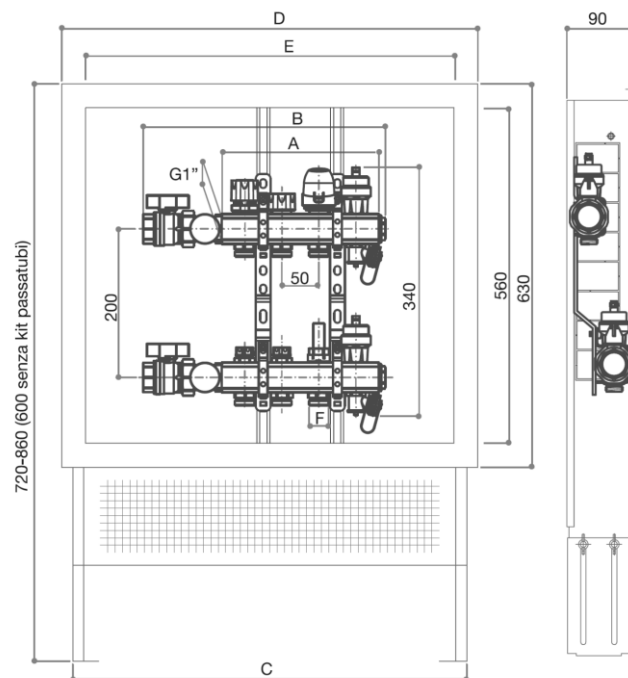
## How to choose the right cabinet

### G 1"



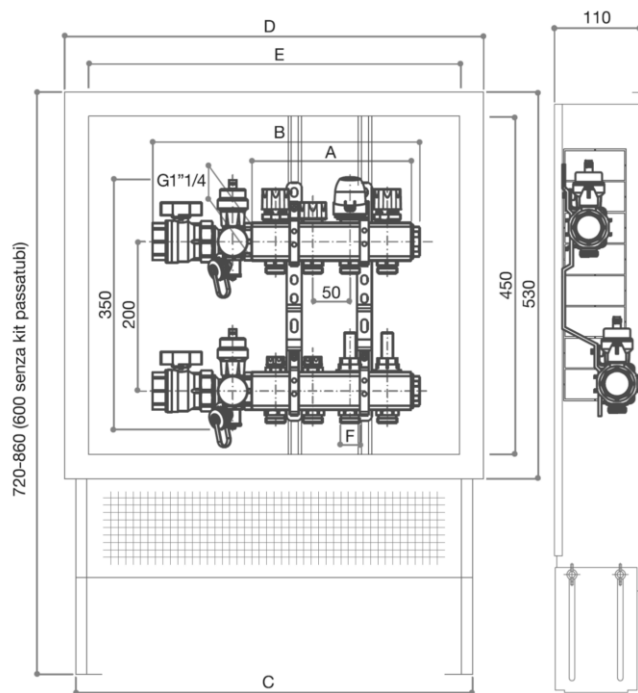
Ways No.	A	B	C	D	E	F
2	112	276	500	560	490	W24x19 – G3/4Ek
3	162	326				
4	212	376				
5	262	426	700	760	690	
6	312	476				
7	362	526				
8	412	576				
9	462	626	850	910	840	
10	512	676				
11	562	726				
12	612	776	1000	1060	990	
13	662	826				

### G 1" with drain



Ways No.	A	B	C	D	E	F
2	162	276	500	560	490	W24x19 – G3/4Ek
3	212	326				
4	262	376				
5	312	426				
6	362	476	700	760	690	
7	412	526				
8	462	576				
9	512	626				
10	562	676	850	910	840	
11	612	726				
12	662	776				

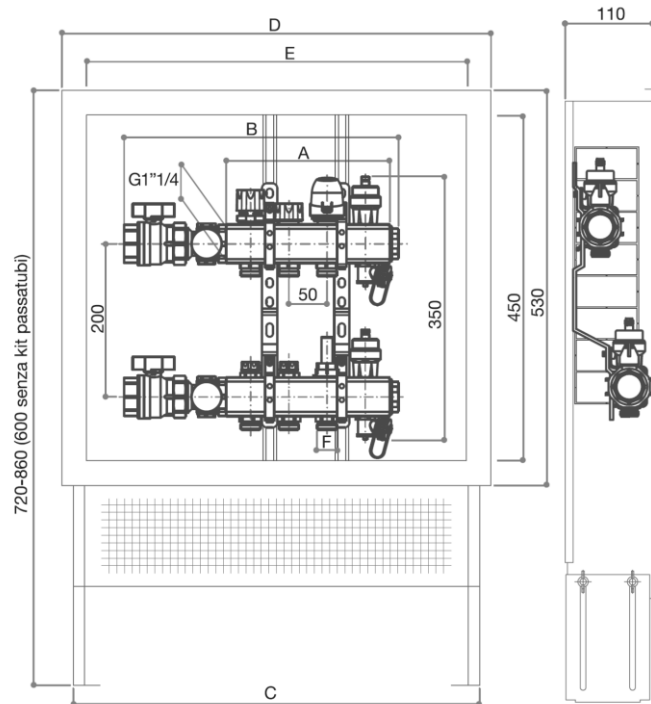
## G 1"1/4



Ways No.	A	B	C	D	E	F
2	114	260				
3	164	310				
4	214	360	500	565	490	
5	264	410				
6	314	460				
7	364	510	700	765	690	
8	414	560				
9	464	610				
10	514	660				
11	564	710	850	915	840	
12	614	760				
13	664	810	1000	1060	990	

W24x19  
-  
G3/4Ek

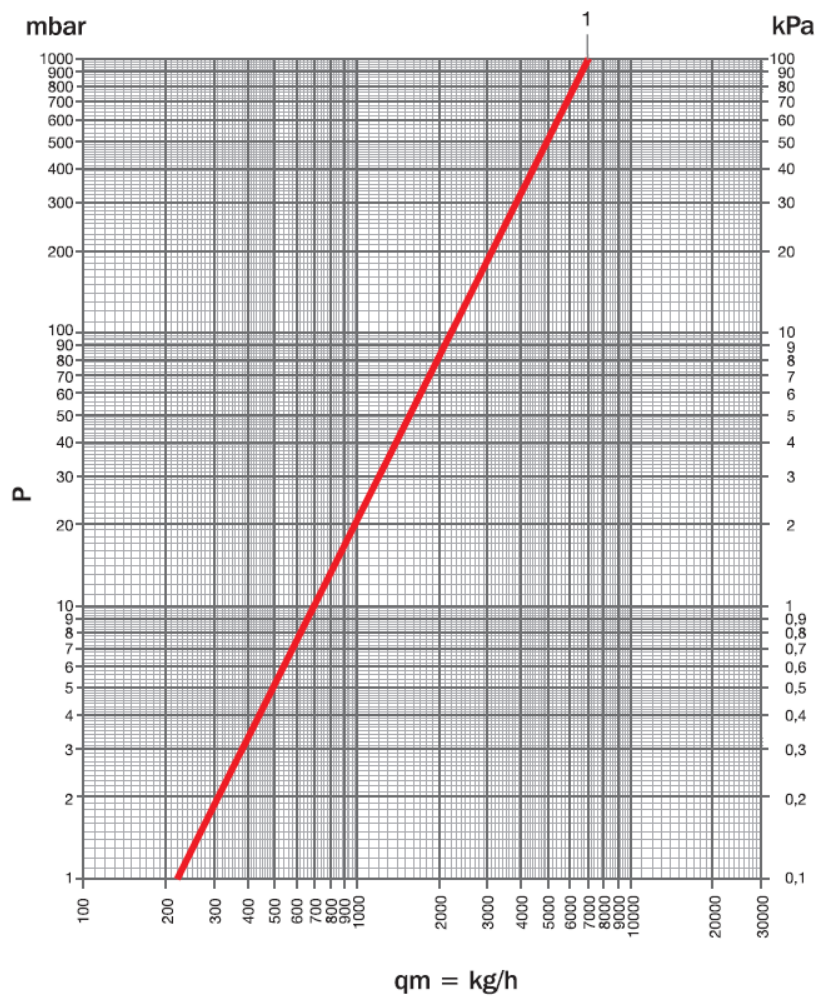
## G 1"1/4 with drain



Ways No.	A	B	C	D	E	F
2	164	310				
3	214	360				
4	264	410	500	560	490	
5	314	460				
6	364	510				
7	414	560	700	760	690	
8	464	610				
9	514	660				
10	564	710	850	910	840	
11	614	760				
12	664	810	1000	1065	990	

W24x19  
-  
G3/4Ek

Flow rate chart for distribution manifolds with G1/2 F connection

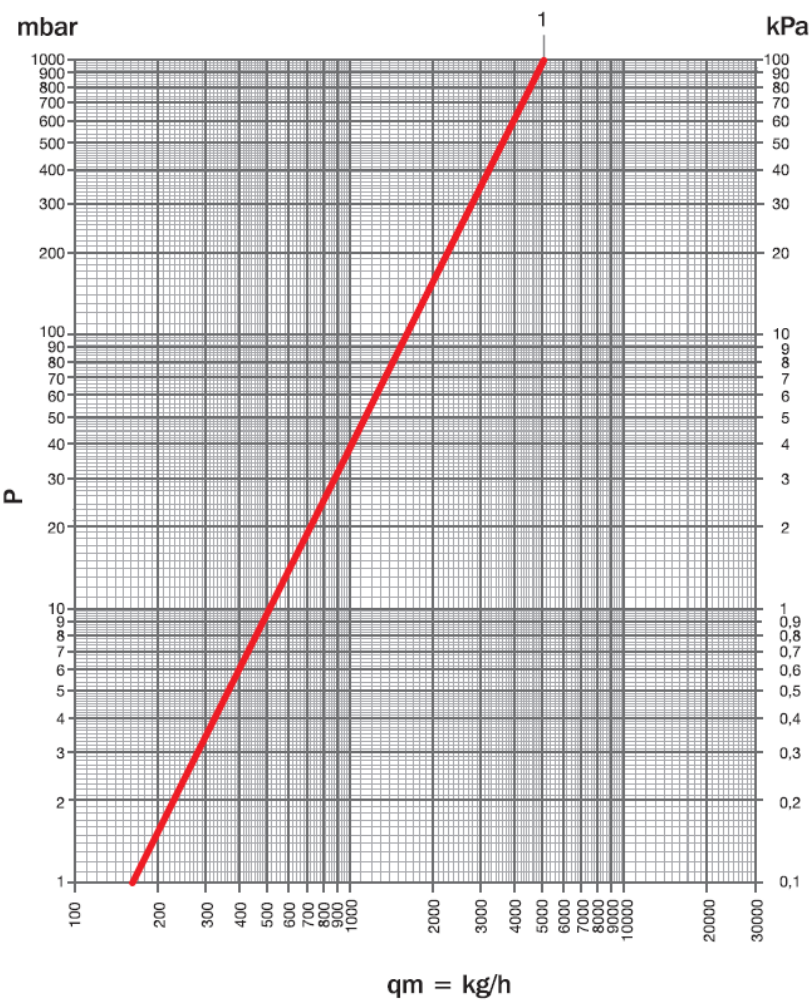
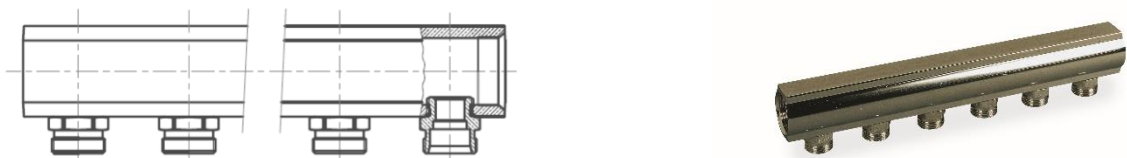


Pos.	Kv	Item
1	7.00	CD 451; CD 456; CD 860; CD 457; CD 861.

Max suggested flow rate:	G 3/4	2450 l/h
	G 1"	3950 l/h
	G 1"1/4	6450 l/h

Flow rate chart for distribution manifolds with pre-assembled RD 900 connection

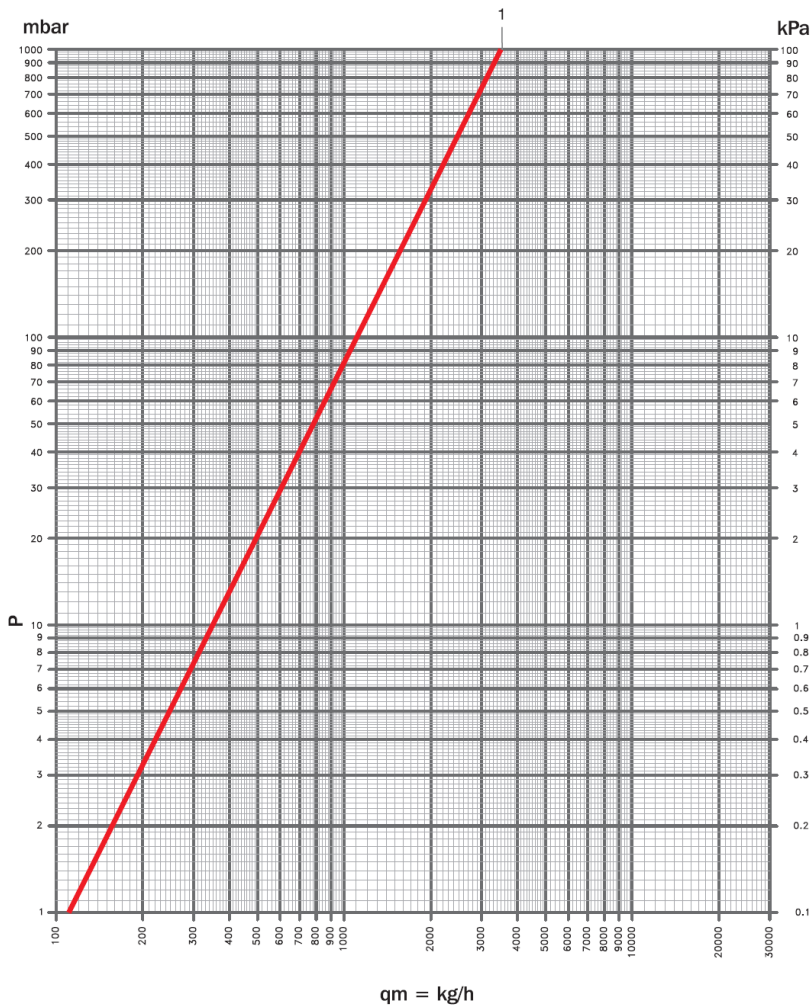
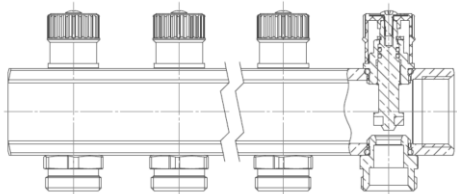


Pos.	Kv	Item
1	5.1	CD 459; CD 461; CD 862; CD 864; CD 460; CD 462; CD 863; CD 865.

Max suggested flow rate:

G 1"	3650 l/h
G 1"1/4	6200 l/h

Flow rate chart for pre-assembled distribution manifold with manual screw

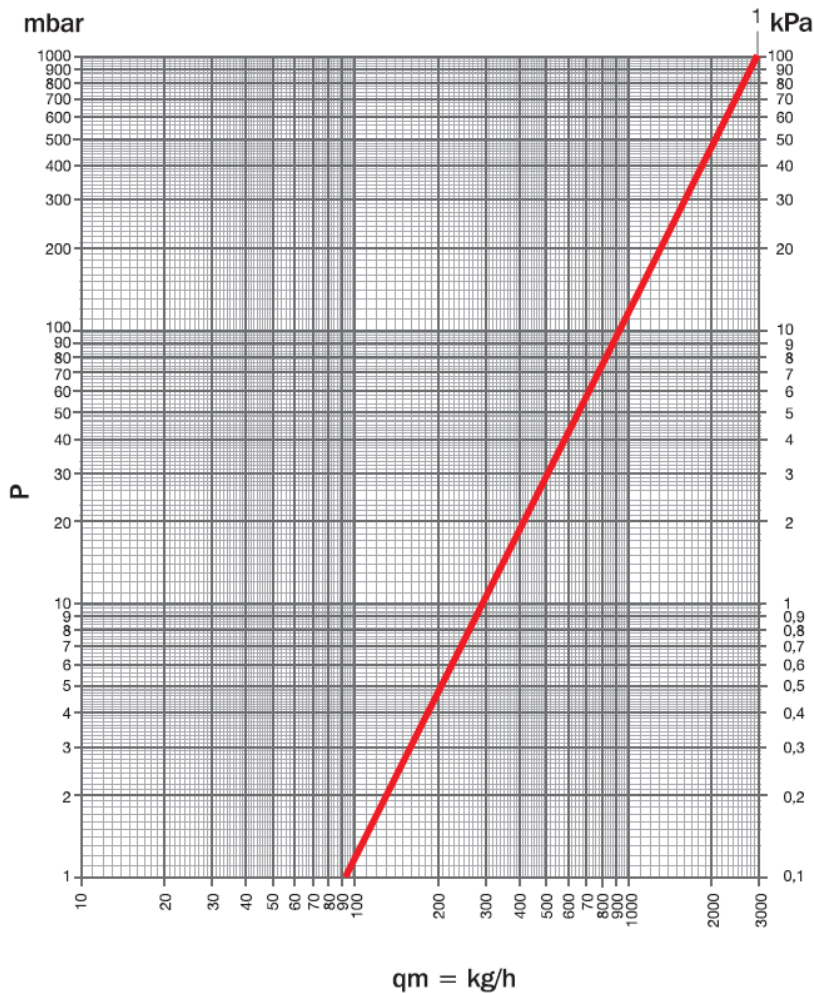
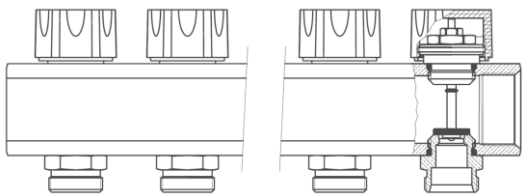


Pos.	Kv	Item
1	3.5	CD 100; CD 101

Max suggested flow rate: G 1" 2300 l/h



Flow rate chart for pre-assembled distribution manifolds with built-in valves

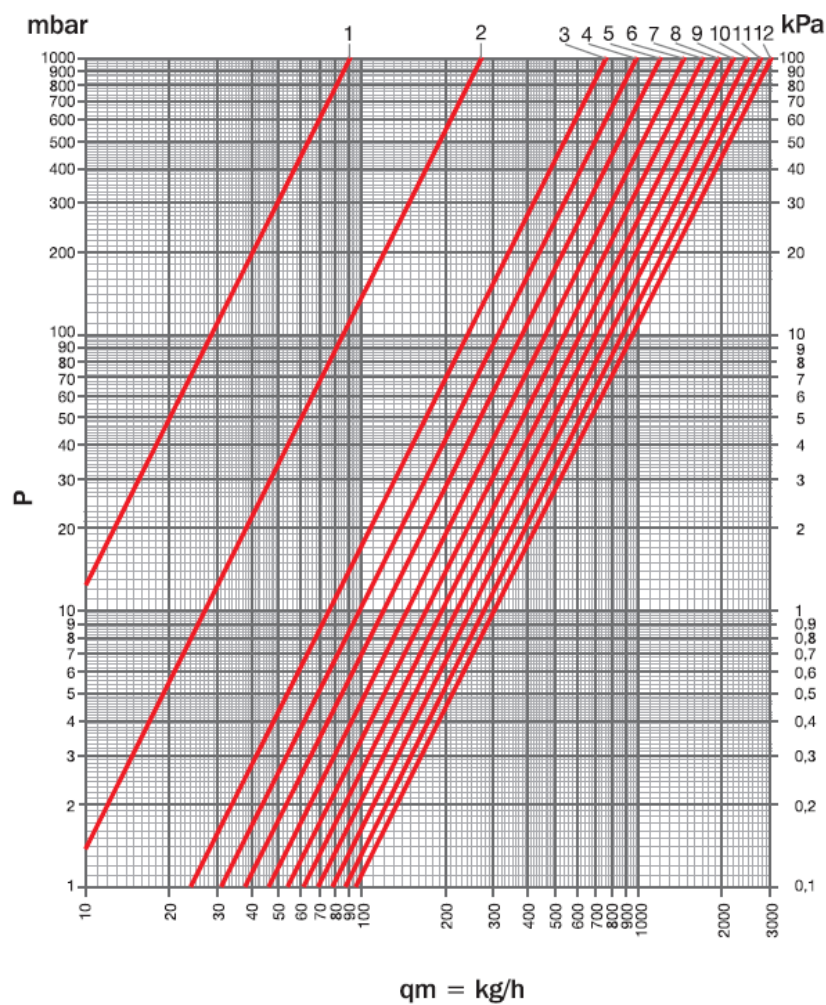
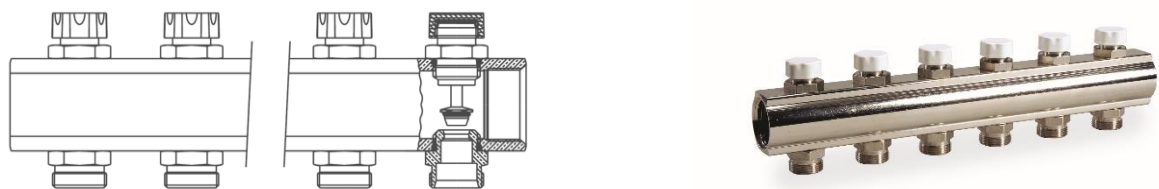


Pos.	Kv	Item
1	2.98	CD 1466; CD 466; CD 1446; CD 446; CD 875; CD 871; CD 876; CD 872; CD 3466; CD 2466; CD 3446; CD 2446; CD 877; CD 873; CD 878; CD 874.

Max suggested flow rate:

G 1"	2600 l/h
G 1"1/4	4350 l/h

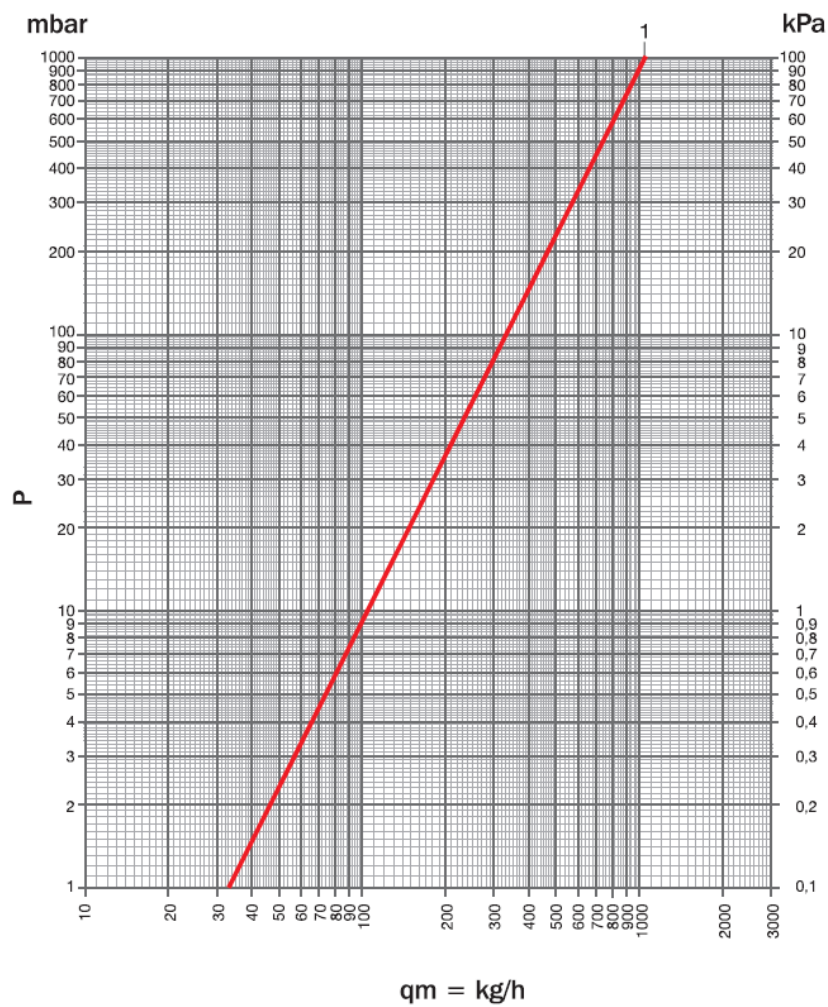
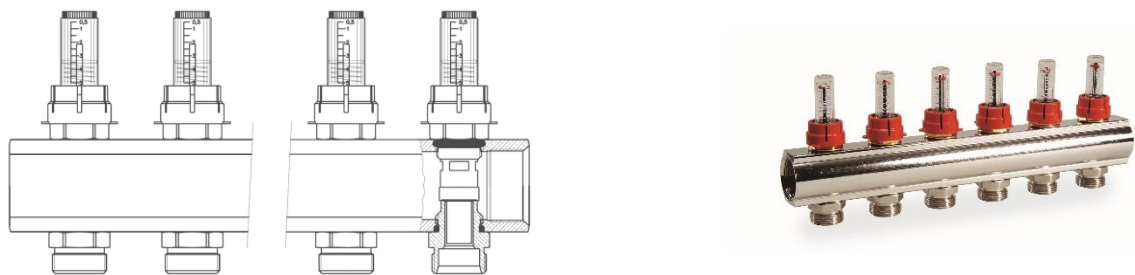
Flow rate chart for distribution manifolds with lockshields



Pos.	Turns No.	Kv	Item
1	1/2	0.09	CD 449; CD 448; CD 879; CD 880; CD 1449; CD 1448; CD 881; CD 882.
2	1	0.27	
3	1+1/2	0.76	
4	2	0.98	
5	2+1/2	1.20	
6	3	1.46	
7	3+1/2	1.70	
8	4	1.93	
9	4+1/2	2.19	
10	5	2.47	
11	5+1/2	2.75	
12	All open	3.01	

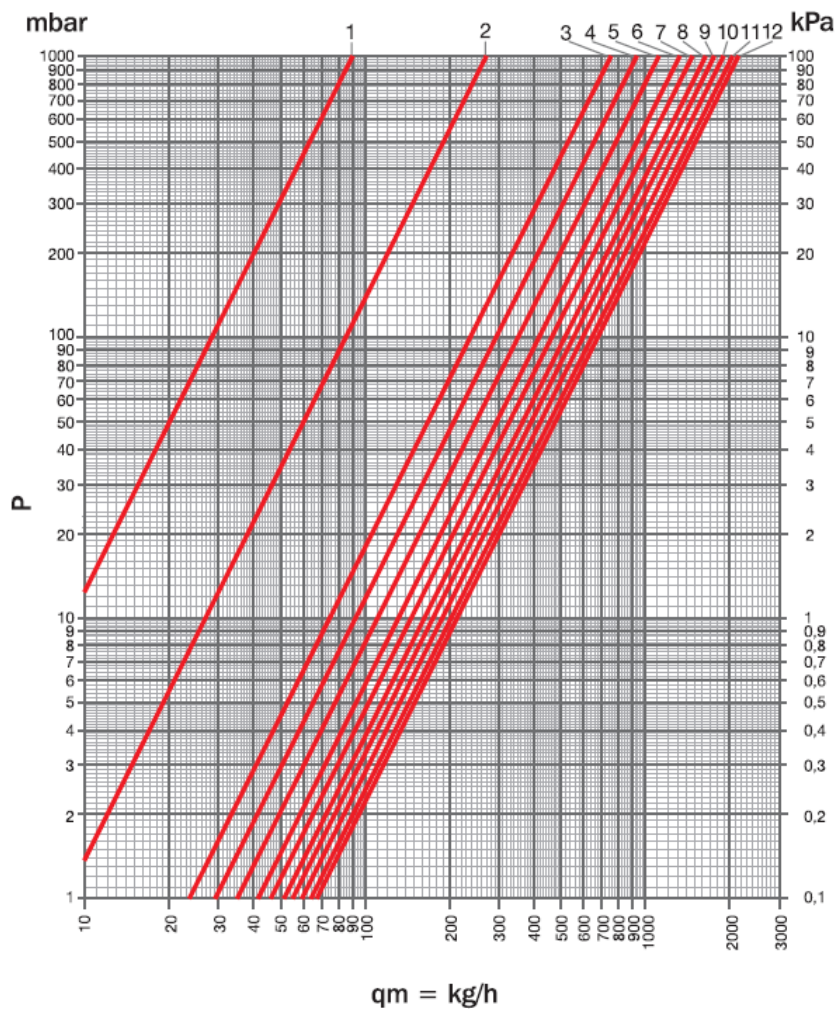
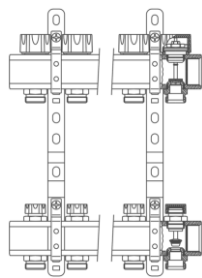
Max suggested flow rate:	G 1"	2350 l/h
	G 1"1/4	4100 l/h

Flow rate chart for distribution manifolds with TM flow meters



Pos.	Kv	Item
1	1.05	CD 1474; CD 474; CD 868; CD 867; CD 3474; CD 2474; CD 870; CD 869.
Max suggested flow rate:		
	G 1"	1600 l/h
	G 1"1/4	3350 l/h

## Flow rate chart for distribution manifolds with built-in lockshields



Pos.	Turns No.	Kv	Item
1	1/2	0.09	
2	1	0.27	
3	1+1/2	0.75	
4	2	0.93	
5	2+1/2	1.11	
6	3	1.31	CD 2465; CD 2468; CD 2865; CD 2868; CD 2467; CD 2469; CD 2867; CD 2869;
7	3+1/2	1.48	CD 465; CD 468; CD 1865; CD 1868; CD 467; CD 469; CD 1867; CD 1869.
8	4	1.62	
9	4+1/2	1.76	
10	5	1.90	
11	5+1/2	2.02	
12	All open	2.12	

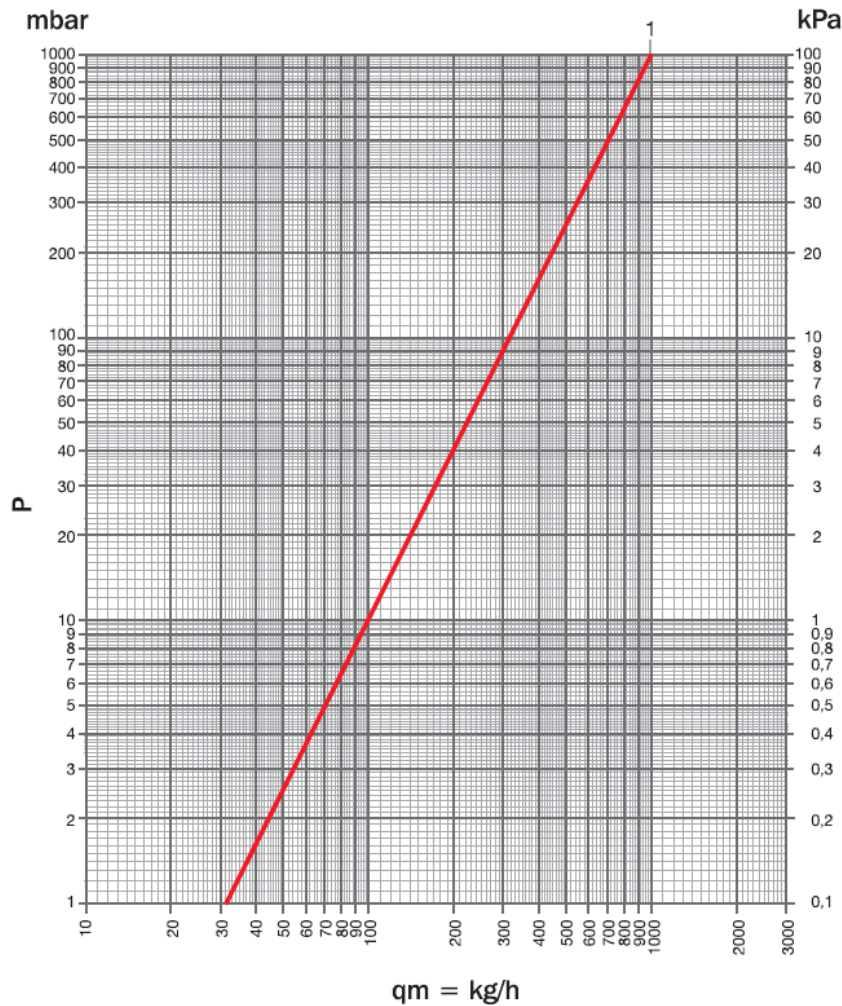
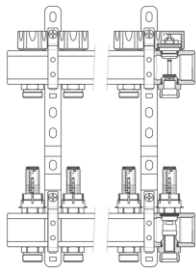
Max suggested flow rate:

G 1" 2350 l/h

G 1"1/4 4100 l/h



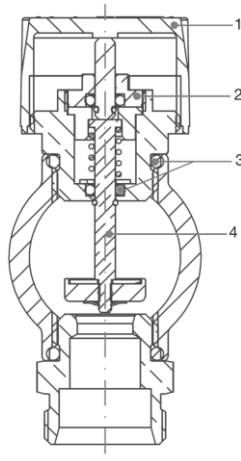
Flow rate chart for distribution manifolds with TM flow meters



Pos.	Kv	Item
1	0.99	CD 2478; CD 2473; CD 2878; CD 2873; CD 2479; CD 2477; CD 2879; CD 2877; CD 478; CD 473; CD 1878; CD 1873; CD 479; CD 477; CD 1879; CD 1877.
Max suggested flow rate:		
G 1"		1600 l/h
G 1"1/4		3350 l/h

## Operating instructions

### Thermostatic screw



1. ABS plug or manual knob

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2. Sealing assembly item 516

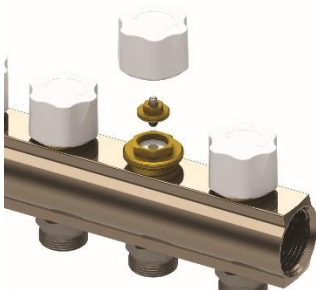
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3. Gasket

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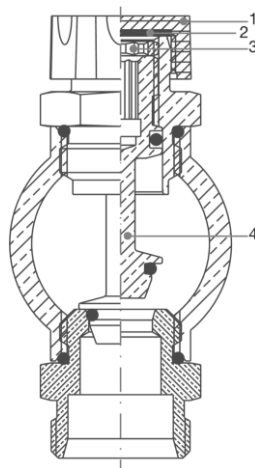
4. Obturator

In case of water leakage from the screw stem, the sealing assembly can be tightened until the flow comes to a full stop. Should the leakage continue, the whole sealing assembly can be replaced by following the instructions below while the group is operating.



- Remove the protection cap, the manual knob, the thermostatic head or the thermoelectric head;
- Unscrew the sealing assembly with a 9mm key blocking the screw body with a 19mm key;
- Replace the sealing assembly with the spare part screwing it in with a 9mm key;
- Replace the protection cap, the manual knob, the thermostatic head or the thermoelectric head.

### Lockshield



1. ABS plug

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2. Gasket

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3. Adjusting collar 3346656

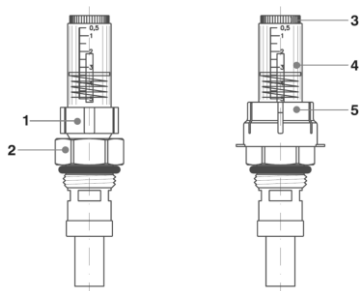
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4. Obturator

Adjustment instructions for manifolds with lockshields:

- Unscrew the plug (1);
- Screw the obturator (4) with a hex key until it reaches the closed position;
- The lockshield is ready to be set. The relation between the Kv values, the position of the obturator and the corresponding curve, are described in the differential pressure diagram. This means that by unscrewing the obturator for a certain number of turns, it is possible to obtain the required Kv value.
- Using the collar (3) code 3346656 (supplied separately) it is possible to create a mechanical stop of the obturator. Once the required flow rate has been set through the obturator, the regulating collar must be screwed to the obturator. It is now possible to open and close the obturator without losing the position of the previously set regulation.

## Regulator / Flow meter



1. Adjusting collar

2. Fixing collar

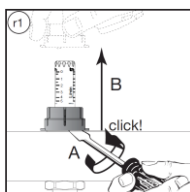
3. Glass collar

4. Glass

5. Block cap

The glass and the measuring spring can be disassembled for maintenance and cleaned while the system is operating:

- Close the flow meter and the corresponding valve placed on the return manifold.
- Unscrew the glass applying strength on its collar and take it out.
- During this operation, a negligible water leakage will appear.
- The glass can now be easily cleaned.
- To reassemble, follow the above instructions in reverse.

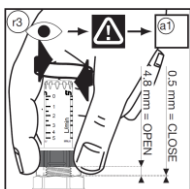


The theoretical flow rate of a hydraulic circuit, assigned by a technician, is given by the adjustment carried out through the regulators / flow meters placed on the delivery manifold.

The adjustment must be carried out with the valve on the return circuit fully open. Since the flow rates of each heating ring affect each other, each single heating ring has to be adjusted until the values in litres/minute laid down in the project are satisfactorily reached.

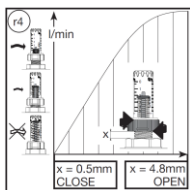
To adjust the flow:

- Remove the red fixing collar.

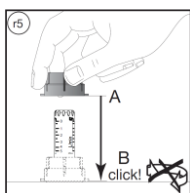


- Place the flow meter on closed position.

(a1) = Act on the flow meter manually without using instruments.



- Open the flow meter until the desired flow rate is displayed.



- Replace the fixing collar.

How to prevent tampering with the hydraulic balancing:

- The regulation of the regulators / flow meters can be blocked through a block cap. If necessary, these caps can be sealed with iron wire and lead seal.

## Warnings

Do only use Luxor manifolds with Luxor accessories with soft o-ring sealing. All Luxor fittings and accessories for manifolds (such as drain valves, terminals, plugs, etc.) are provided with this kind of sealing and do not require the use of any intermediate sealing element (PTFE, hemp, etc.), which could result in cracks.