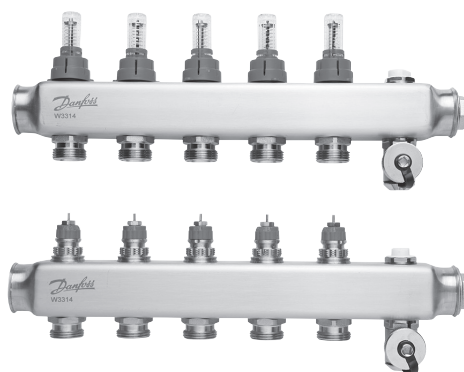


Data Sheet

SSM Floor Heating Manifold

Application



The SSM manifold is used for controlling water flow in under floor heating systems. Each tube of the floor heating system is connected to the manifold, thus making it possible to control water flow or heat supply to each room in the building individually.

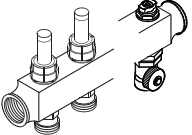
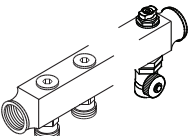
The manifold consists of a supply and return manifold. The supply manifold includes possibility for individual shut-off of each circuit on flowmeter or shut-off valve. The return manifold is equipped with integrated Danfoss presetting valves securing optimal hydraulic balance in the system.

The valves can be controlled electronically by thermal actuators or act as self-acting units by means of remote temperature adjusters.

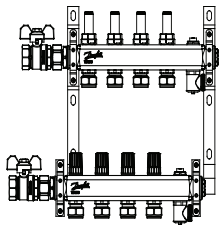
The manifold is supplied in modules of up to 12 outlets. Ball valves are available as an option for positive shut-off between manifold and system.

The SSM manifold is supplied with a manual air-vent and a purge valve.

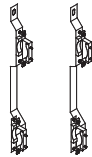
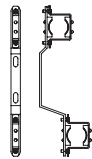
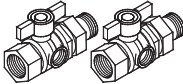
Ordering

Description	Type	Code no.
	Manifold set 2+2, with flowmeter	SSM-2F 088U0752
	Manifold set 3+3, with flowmeter	SSM-3F 088U0753
	Manifold set 4+4, with flowmeter	SSM-4F 088U0754
	Manifold set 5+5, with flowmeter	SSM-5F 088U0755
	Manifold set 6+6, with flowmeter	SSM-6F 088U0756
	Manifold set 7+7, with flowmeter	SSM-7F 088U0757
	Manifold set 8+8, with flowmeter	SSM-8F 088U0758
	Manifold set 9+9, with flowmeter	SSM-9F 088U0759
	Manifold set 10+10, with flowmeter	SSM-10F 088U0760
	Manifold set 11+11, with flowmeter	SSM-11F 088U0761
	Manifold set 12+12, with flowmeter	SSM-12F 088U0762
	Manifold set 2+2	SSM-2 088U0802
	Manifold set 3+3	SSM-3 088U0803
	Manifold set 4+4	SSM-4 088U0804
	Manifold set 5+5	SSM-5 088U0805
	Manifold set 6+6	SSM-6 088U0806
	Manifold set 7+7	SSM-7 088U0807
	Manifold set 8+8	SSM-8 088U0808
	Manifold set 9+9	SSM-9 088U0809
	Manifold set 10+10	SSM-10 088U0810
	Manifold set 11+11	SSM-11 088U0811
	Manifold set 12+12	SSM-12 088U0812

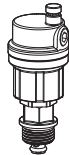
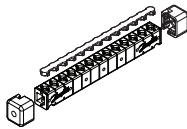
Ordering

	088U0752-62 SSM-F manifold with flow meter 088U0585 FHF-MB mounting bracket – set (off-set) 013G4186 Compression fittings for ALUPEX tubing, 16 x 2 mm Ball valve set (NO THERMOMETER)	SSM-FB	088U0652
		SSM-FB	088U0653
		SSM-FB	088U0654
		SSM-FB	088U0655
		SSM-FB	088U0656
		SSM-FB	088U0657
		SSM-FB	088U0658
		SSM-FB	088U0659
		SSM-FB	088U0660
		SSM-FB	088U0661
		SSM-FB	088U0662

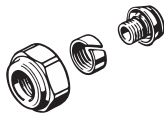
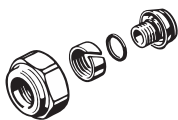
Accessories

Description	Type	Code no.
	FHF-MB	088U0585
	SSM-MB	088U0595
	SSM-MB	088U0596
	FHF-BV	088U0822
	FHD-T	088U0029
	—	088U0820
	—	013G7376
	FHF-R	088U0584
	FHF-C	088U0583
	—	088U0819
	Thermal actuator, 24V, NC, Danfoss RA connection to valve	TWA-A 088H3110
	Thermal actuator, 230V, NC, Danfoss RA connection to valve	TWA-A 088H3112
	Thermal actuator, 24V, NC, with end switch, Danfoss RA connection to valve	TWA-A 088H3114

Accessories

	Stuffing box for manifolds	DZR	013G0554
	Automatic air ventilation valve	SSM-AV	088U0945
	Insulation capsule for SSM manifold	SSM-I	088U0824

Compression fittings

Description		Type, mm	Code no.
 Compression fittings for PEX tubing in accordance with DIN16893 & DIN 4726. Max working pressure: 6 bar Test pressure: 10 bar Max. flow temperature: 95 °C G ¾" internal thread Max. flow temperature given by the tube manufacturer must not be exceeded.		12 × 2	013G4152
		13 × 2	013G4153
		14 × 2	013G4154
		15 × 2,5	013G4155
		16 × 1,5	013G4157
		16 × 2	013G4156
		16 × 2,2	013G4163
		17 × 2	013G4162
		18 × 2	013G4158
		18 × 2,5	013G4159
		20 × 2	013G4160
		20 × 2,25	013G4093
 Compression fittings for ALUPEX tubing in accordance with DIN16893 & DIN 4726. Max working pressure: 6 bar Test pressure: 10 bar Max flow temperature: 95 °C G ¾" internal thread Max flow temperature given by the tube manufacturer must not be exceeded.		20 × 2,5	013G4161
		12 × 2	013G4182
		14 × 2	013G4184
		15 × 2,5	013G4185
		16 × 2	013G4186
		16 × 2,25	013G4187
		18 × 2	013G4188
		20 × 2	013G4190
		20 × 2,25	013G4093
		20 × 2,5	013G4191

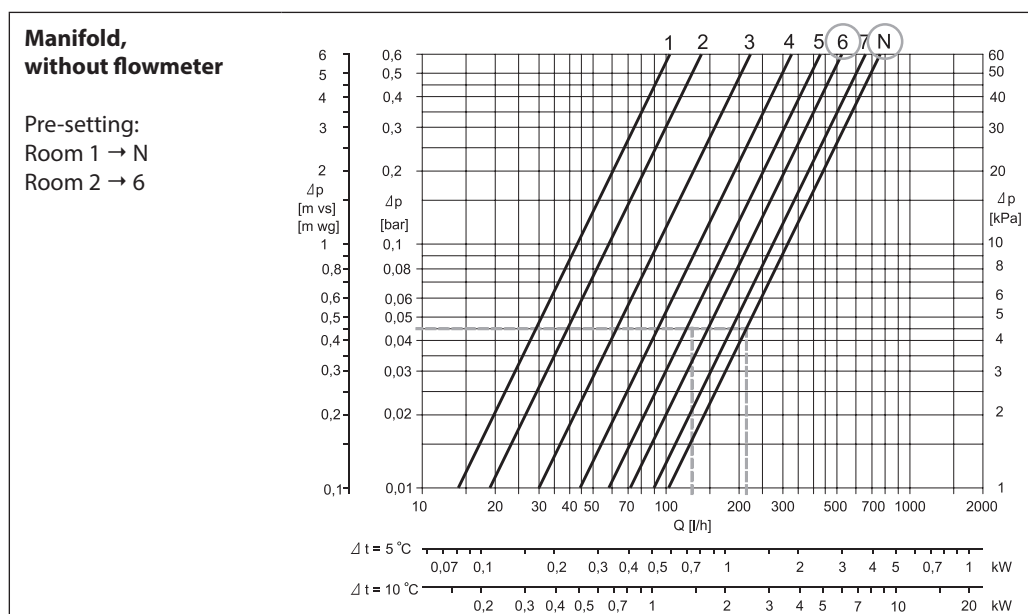
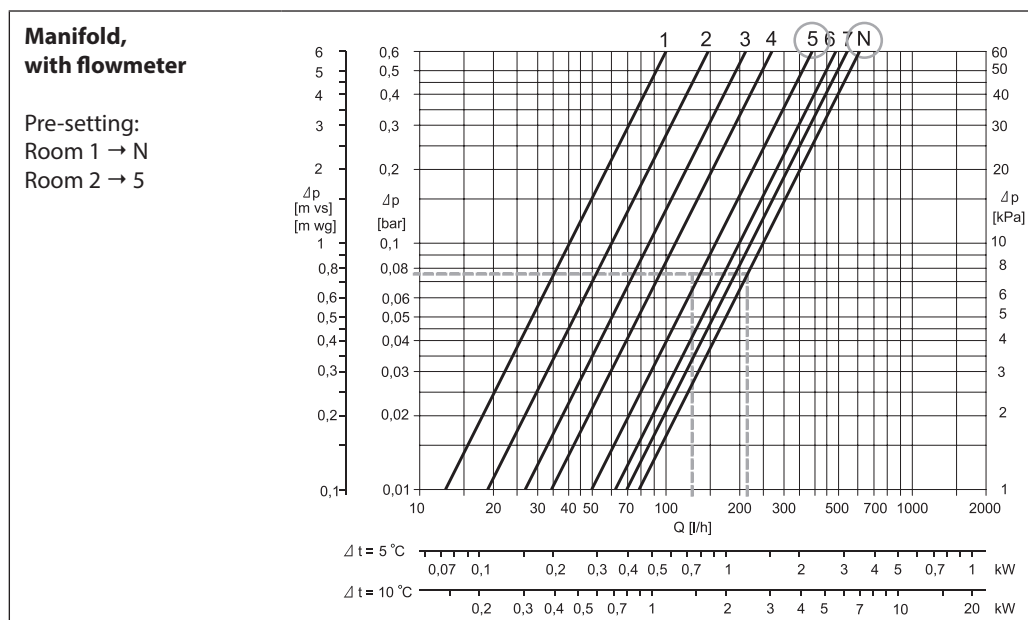
Capacity/commissioning

The pre-setting of the manifold valves determines the flow in the floor heating tubes and is therefore an important factor for obtaining optimal hydraulic balance in the system.

A correct hydraulic balance is important if optimal comfort shall be achieved with a minimum of energy consumption and is easily carried out following the example shown below.

Example

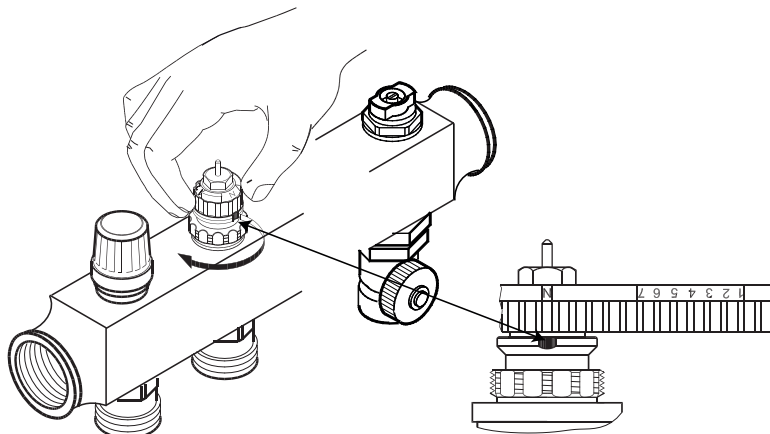
Room 1:	1. Determine longest tube/largest room	25 m ²
	2. Desired cooling (Δt)	5 °C (typical)
	3. Determine heat requirement for the room	50 W/m ²
	4. Conversion factor	1,16
	5. Calculation of flow for the room	$Q \text{ (l/h)} = \frac{50 \text{ W/m}^2 \times 25 \text{ m}^2}{5 \text{ °C} \times 1,16} = 216 \text{ l/h}$
Room 2:	6. Determine area for the next room	15 m ²
	7. Calculation of flow for the room (Δt and heat requirement is assumed identical for the rooms in this case)	$Q \text{ (l/h)} = \frac{50 \text{ W/m}^2 \times 15 \text{ m}^2}{5 \text{ °C} \times 1,16} = 129 \text{ l/h}$



Presetting the manifold valves

The diagram shows the capacities for each heating circuit at different presettings of the manifold valves.

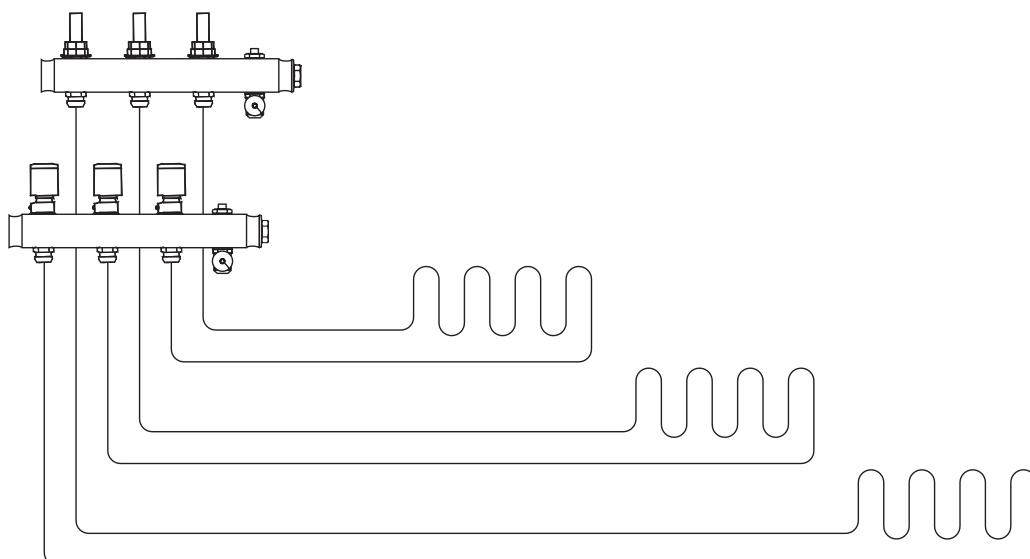
Based on the above calculations and capacity diagram each manifold valve is preset by rotating the red ring until the correct value on the ring is in-line with the sight mark on the valve.



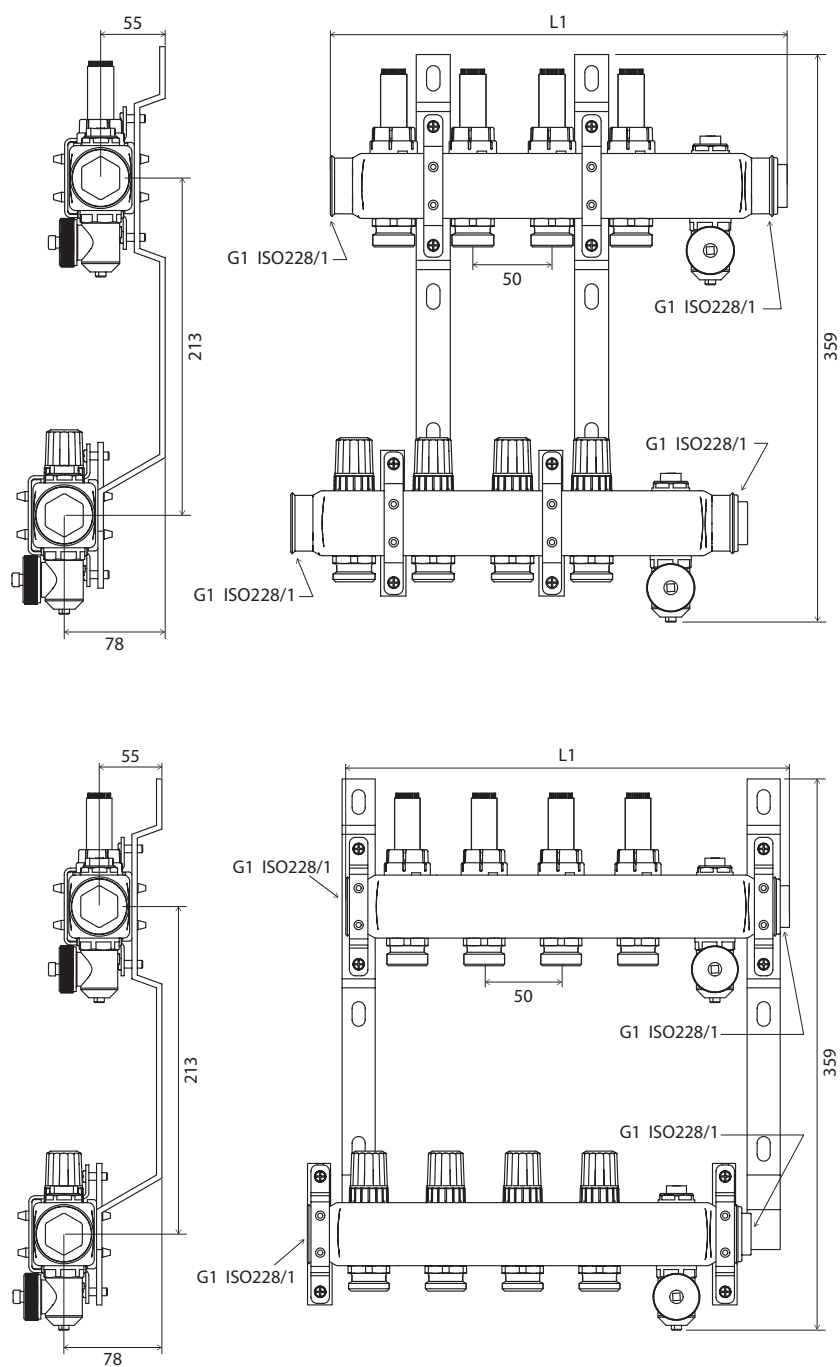
Operation conditions

	Supply manifold with flowmeter	Supply manifold without flowmeter
Max differential pressure	0,6 bar	0,6 bar
Max working pressure	6 bar	10 bar
Max test pressure	10 bar	16 bar
Max flow temperature	60 °C	90 °C

System layout



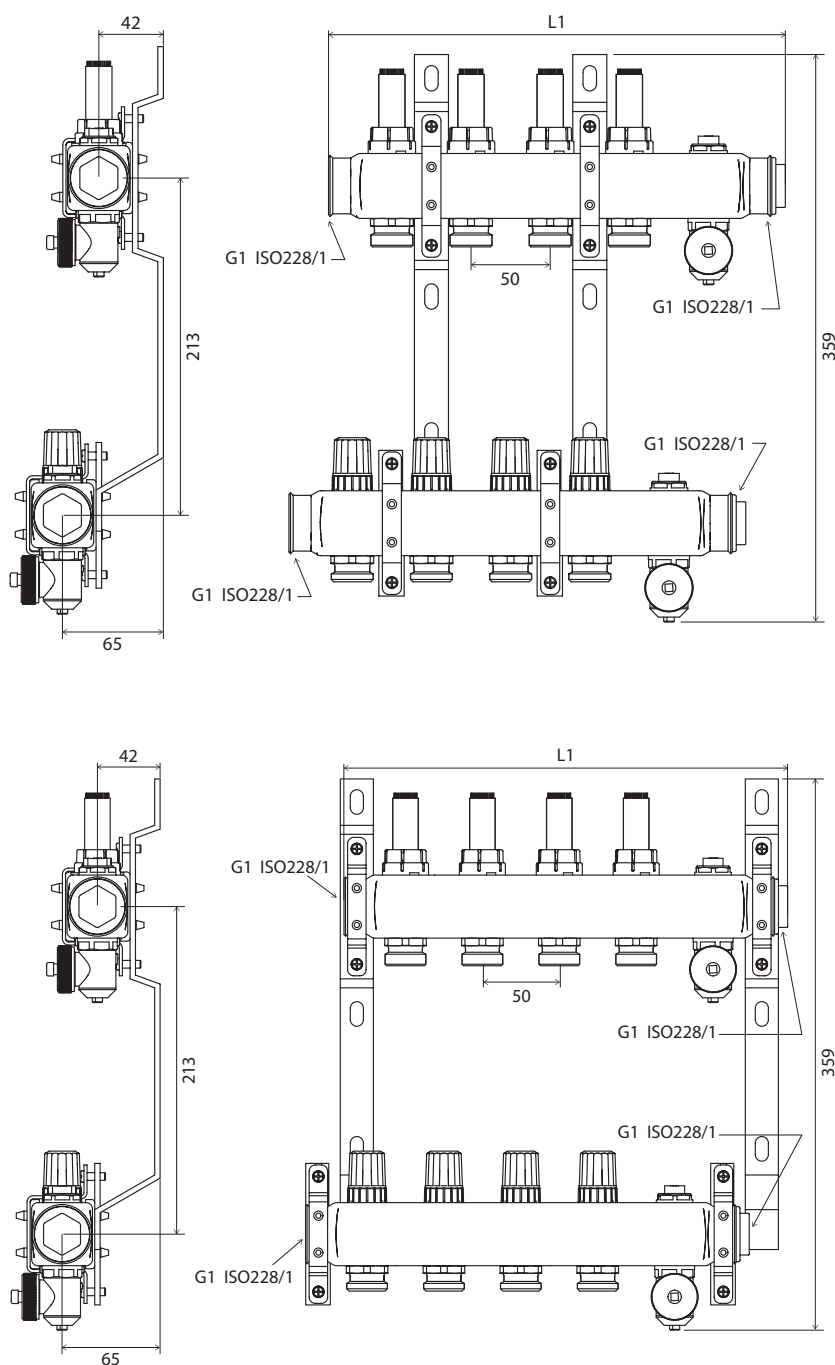
Dimensions



with **088U0585** brackets set

Type	2+2	3+3	4+4	5+5	6+6	7+7	8+8	9+9	10+10	11+11	12+12
L1 (mm)	190	240	290	340	390	440	490	540	590	640	690

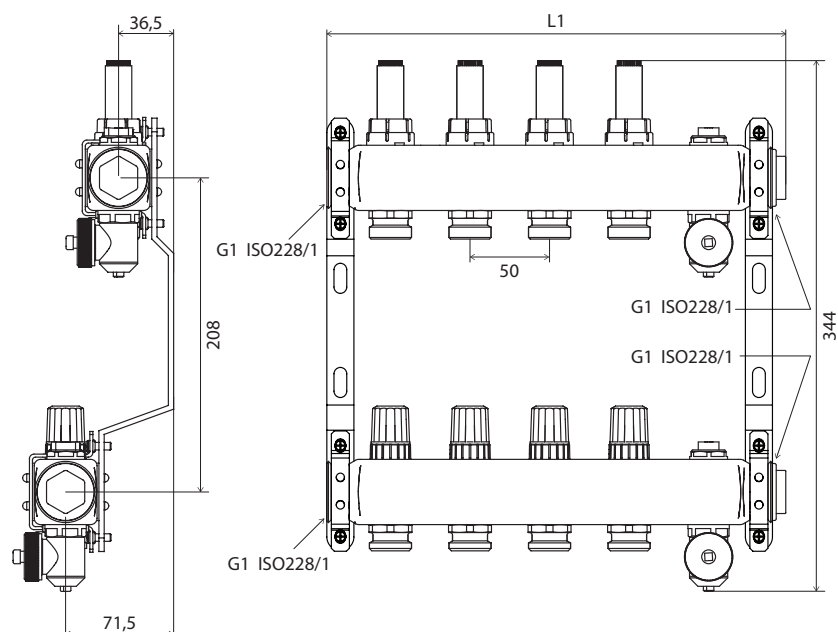
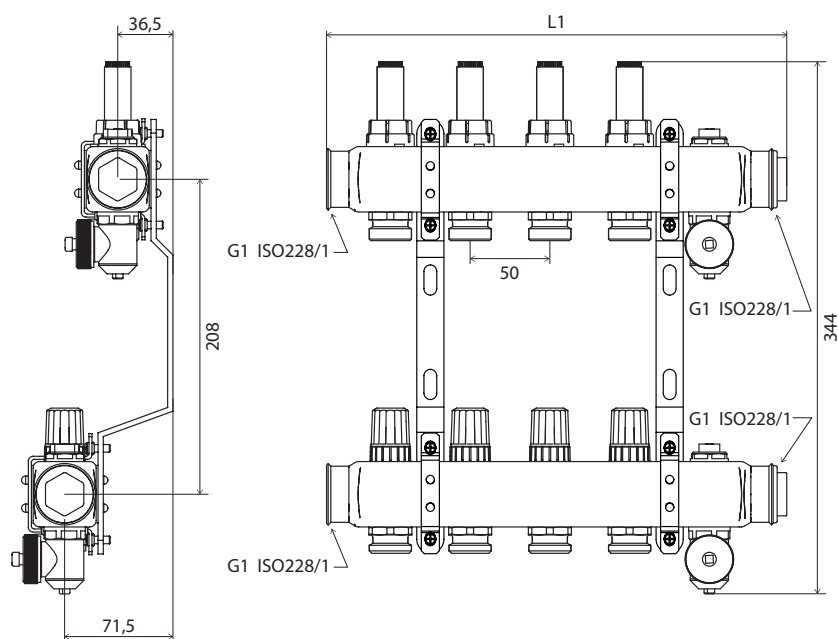
Dimensions



with **088U0595** brackets set

Type	2+2	3+3	4+4	5+5	6+6	7+7	8+8	9+9	10+10	11+11	12+12
L1 (mm)	190	240	290	340	390	440	490	540	590	640	690

Dimensions

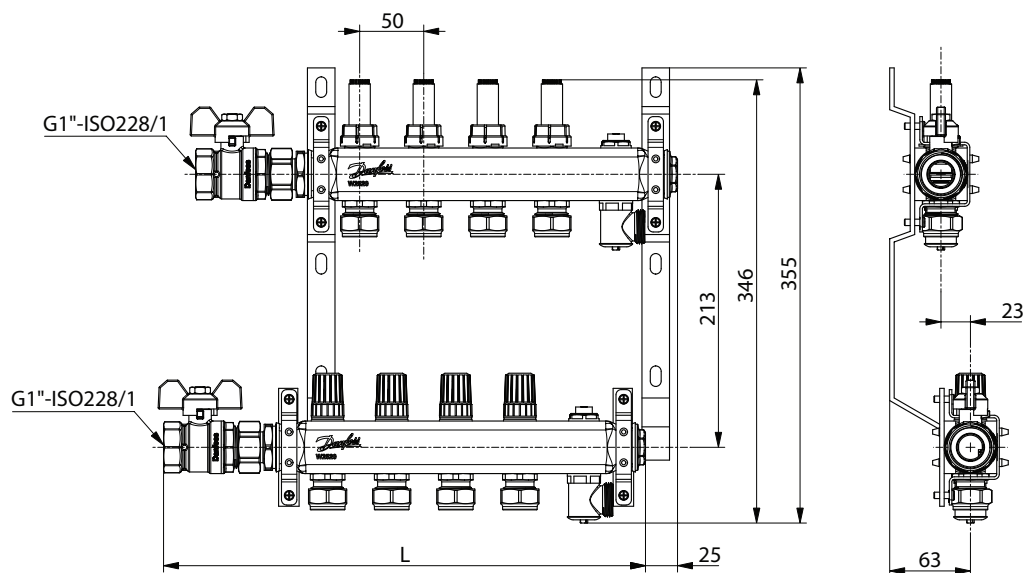


with **088U0596** brackets set

Type	2+2	3+3	4+4	5+5	6+6	7+7	8+8	9+9	10+10	11+11	12+12
L1 (mm)	190	240	290	340	390	440	490	540	590	640	690

Dimensions

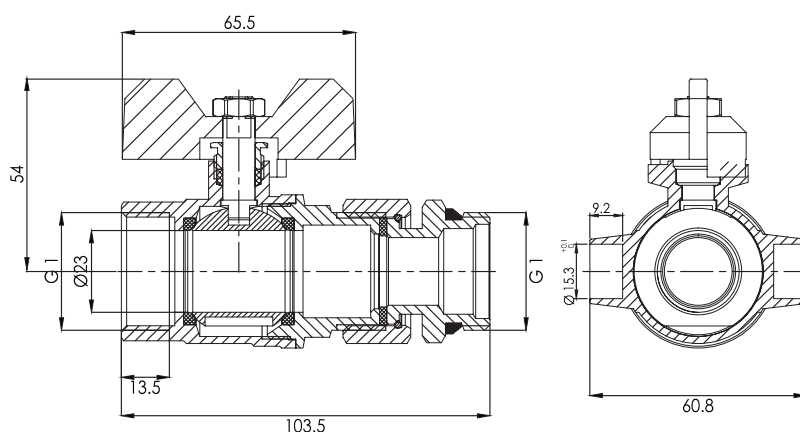
SSM bundle dimensional drawing



with **088U0585** brackets set

Type	2+2	3+3	4+4	5+5	6+6	7+7	8+8	9+9	10+10	11+11	12+12
L (mm)	276	326	376	426	476	526	576	626	676	726	776

Ball valve dimensional drawing



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