MODULAR MANIFOLDS

1. DESCRIPTION

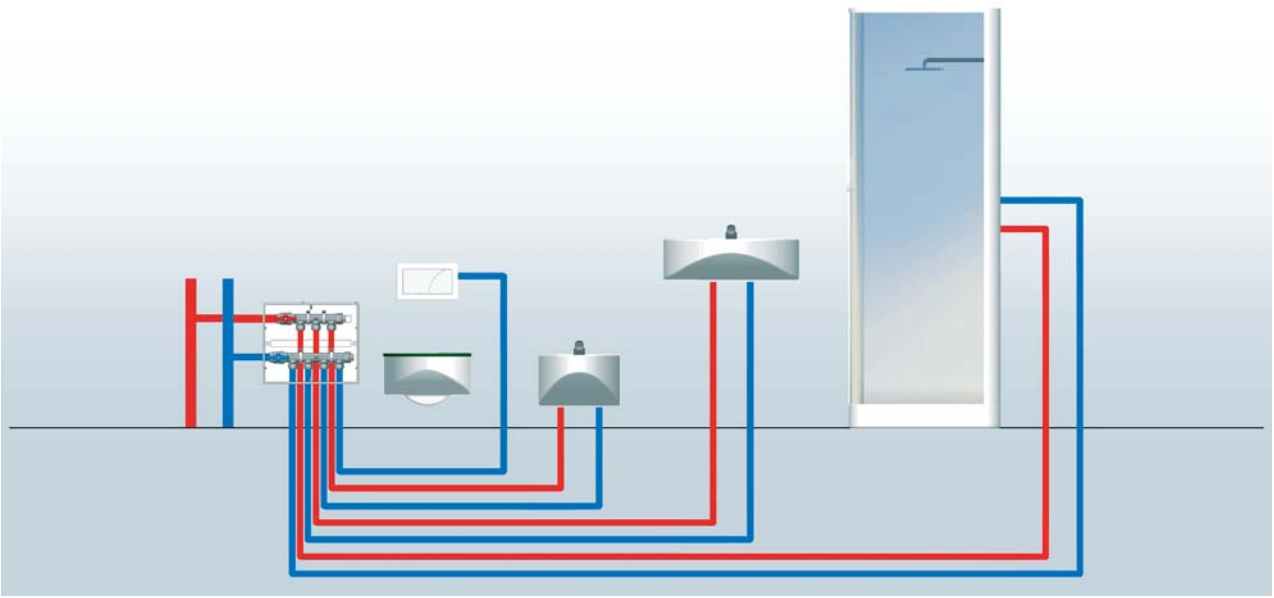
FAR modular manifolds are foundry made of brass. They are available in a range of sizes from 3/4" up to 2" with a variety of outlets in order to meet differing installation requirements.
Reliability, practicality and toughness are the main features of the entire range. They are offered in male-female versions with 2-3 or 4 outlets and a 36mm centre line between ports, however, for easy installation it is also possible to have manifolds with a 50mm or 100mm centre line between ports. In addition to the male-female version, closed manifolds are available to remove the need for installation of a terminal plug and a special 1" flanged manifold with a 50mm centre line between ports can be supplied pre-assembled with up to 12 outlets. FAR also produces CR brass manifolds suitable for use not just in domestic services, but in both heating and cooling systems, too.

2. INSTALLATION

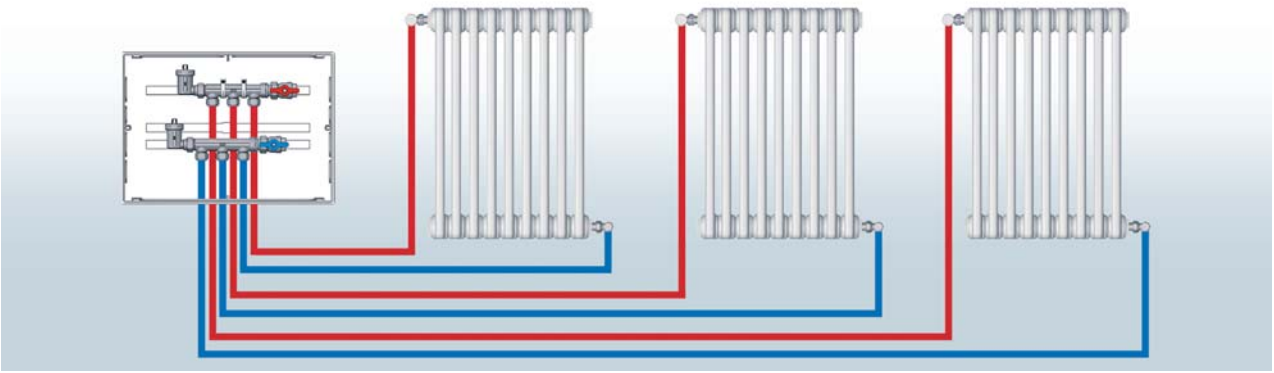
The main advantages that attract operators towards manifold systems include the following:

- Fast and easy installation using a variety of materials such as copper or plastic pipes
- Lower installation costs, plus increased reliability of the system
- Parallel connection to heat emitters, a feature of manifold systems, ensures a constant supply temperature, maximizing the heat output of the emitter.
- Thanks to parallel connection, manifold systems are suitable for installation of individual thermostatic valves on each heat emitter.
- Manifold systems require less powerful circulating pumps than other types of system
- Creation of a heat emitter system requires less work than can be expected for a singlepipe ring system
- Manifold systems make it possible to create "area" systems particularly appropriate for metering energy consumption

Installation overview of manifolds serving a domestic system



Installation overview of manifolds serving a radiator heating system

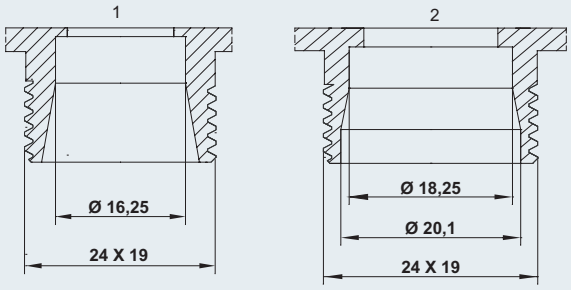


3. MANIFOLDS WITH FAR 24 x 19 INTERCHANGEABLE CONNECTION

FAR CONNECTION

With this kind of connection it is possible to connect to manifolds with:

1) - Multilayer pipe up to Ø 20 mm
   - Plastic pipe up to Ø 20 mm
   - Ø 10 - 12 - 14 - 15 - 16 mm copper pipe
2) Connection is also available for Ø 18 mm copper pipe.



3.1 MANIFOLDS AVAILABLE WITH FAR 24 x 19 CONNECTION

Chrome-plated modular manifold
• Side connections: 3/4" - 1" - 1"1/4
• Centre line between ports: 50 mm
Art.3401 No. 2 outlets
Art.3402 No. 3 outlets
Art.3403 No. 4 outlets

Chrome-plated modular manifold
• Side connections: 3/4" - 1"
• Centre line between ports: 36 mm
Art.3300 No. 2 outlets
Art.3350 No. 3 outlets
Art.3400 No. 4 outlets

Chrome-plated closed manifold
• Side connection: 3/4" - 1" female
• Centre line between ports: 36 mm
Art.3000 No. 2 outlets
Art.3050 No. 3 outlets
Art.3100 No. 4 outlets

Chrome-plated flanged modular manifold with screws and O-ring for coupling
• Side connections: 1" female-female
• Centre line between ports: 50 mm
Art.3410 up to 12 outlets

3.2 SPARE PARTS FOR MANIFOLDS WITH FAR CONNECTION

Adapters for copper pipe

The sealing kit for copper pipe consists of a reducer (Ø 10-12-14-15-16), a single-taper (Ø 10-12-14-15-16) and pipe guide washer (Ø 10-12-14)

Materials

Reducer and washer:	CW614N-CW617N
Single-taper:	anti-heat rubber
Nut:	CW617N

Technical features

Working temperature:	0-95°C
Max. working pressure:	10 bar

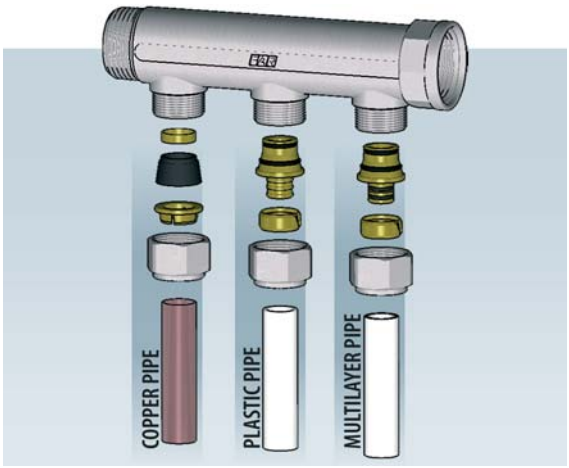
IN ORDER TO CARRY OUT ASSEMBLY OF THE SEALING KIT IT IS NECESSARY TO:

- Insert the nut on the pipe
- Insert the ring on the pipe
- Insert the single-taper on the pipe. If they are Ø 10-12-14 pipes, leave a space at the end of the pipe for a washer, which may be required
- Insert the kit with pipe into the conical seat
- Tighten the nut

N.B. For copper pipes, sealing is ensured with pipe thicknesses of 1 mm or greater. For thicknesses less than 0.5 ± 0.7 mm it is necessary to insert a metallic sleeve inside the pipe.
It is important to tighten the nut in such a way as to permit pipe locking by the reduction, thus preventing threading. The min. torque is 40 Nm.

Art. 8427
Sealing kit for Ø 10-12-14 copper pipe

Art. 8429
Sealing kit for Ø 15-16 copper pipe



Adapters for plastic and multilayer pipe:

Sealing for plastic and multilayer pipe is carried out by means of a nut, an adapter and a gasket.

Materials

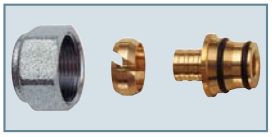
Gasket and adapter:	CW614N-CW617N
O-Ring:	EPDM
Nut:	CW617N

Technical feature

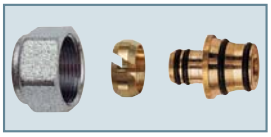
Working temperature:	0-95°C
Max. working pressure:	10 bar

IN ORDER TO CARRY OUT ASSEMBLY IT IS NECESSARY TO:

- Insert the ring on the pipe
- When using adapters for multilayer pipe, calibrate the pipe slightly with special tools or round strip to avoid damaging the O-rings and insert the adapter
- Insert the whole assembly into the conical connection
- Tighten the nut



Art. 6052
Kit for plastic pipes with interchangeable connections

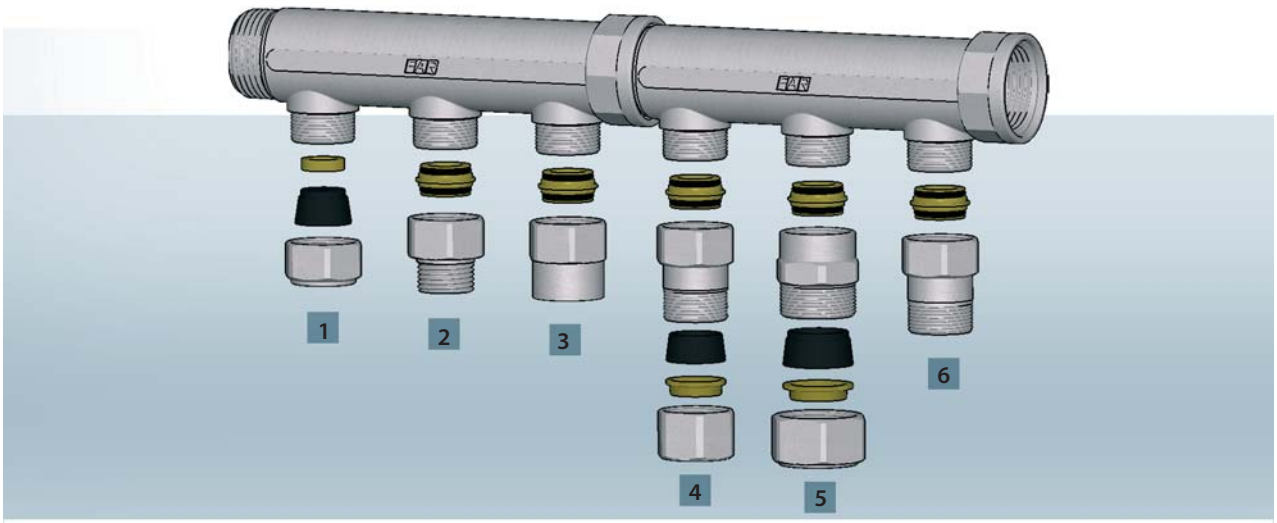


Art. 6055
Kit for multilayer pipes with interchangeable connections

DO NOT use grease or oil to lubricate the fitting

N.B. It is important to tighten the nut in such a way to permit pipe locking by the reduction, thus preventing threading. The min. torque is 40 Nm.

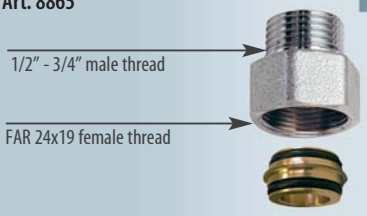
Installable components



Art. 4250 — 1

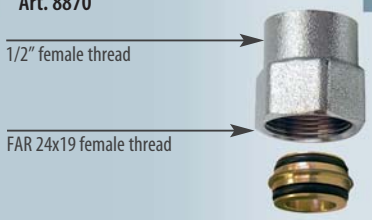
Complete kit for closing manifolds outlets with chrome-plated nut. (Suitable for interchangeable sizes except Ø18)

Art. 8865 — 2



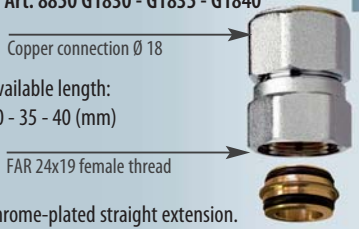
Chrome-plated reducer. Permits changing a FAR 24x19 male thread in a 1/2" - 3/4" male thread.
• metal sealing gasket with double O-ring

Art. 8870 — 3



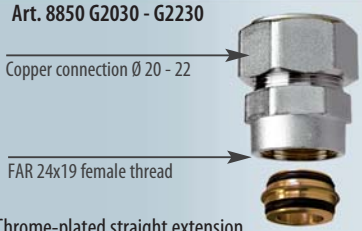
Chrome-plated reducer. Permits changing a FAR 24x19 male in a 1/2" female thread.
• metal sealing gasket with double O-ring

Art. 8850 G1830 - G1835 - G1840 — 4



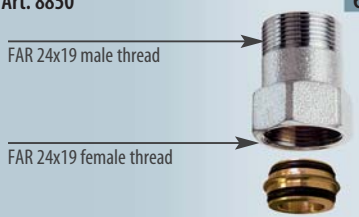
Chrome-plated straight extension.
Permits changing a FAR 24 x 19 male thread in a Ø18 connection for copper pipe.
• interchangeable sizes for copper, plastic and multilayer pipe
• metal sealing gasket with double O-ring

Art. 8850 G2030 - G2230 — 5



Chrome-plated straight extension.
Permits changing a FAR 24 x 19 male thread in a Ø20-22 connection for copper pipe.
• interchangeable sizes for copper, plastic and multilayer pipe
• metal sealing gasket with double O-ring

Art. 8850 — 6

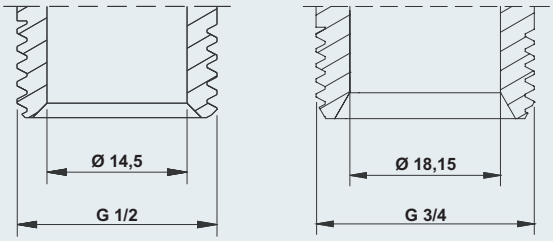


Chrome-plated straight extension.
• interchangeable sizes for copper, plastic and multilayer pipe
• metal sealing gasket with double O-ring

4. MANIFOLDS WITH EUROKONUS CONNECTION

EUROKONUS CONNECTIONS

Eurokonus connections are available in 1/2" and 3/4" sizes.
Permits connection of multilayer and plastic pipe to manifolds by means of adapters, i.e.:
- **Art. 6075** for plastic pipe
- **Art. 6076** for multilayer pipe



4.1 MANIFOLDS AVAILABLE WITH EUROKONUS CONNECTION

Chrome-plated modular manifold
• Side connections: 3/4" - 1" - 1"1/4
• Centre line between ports: 50 mm
Art.3625 EU No. 2 outlets
Art.3675 EU No. 3 outlets
Art.3725 EU No. 4 outlets

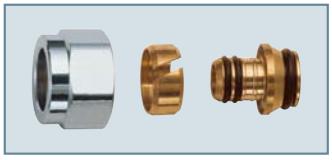
Chrome-plated modular manifold
• Side connections: 3/4" - 1"
• Centre line between ports:36 mm
Art.3475 EU No. 2 outlets
Art.3525 EU No. 3 outlets
Art.3575 EU No. 4 outlets

Chrome-plated closed manifold
• Side connection: 3/4" - 1" female
• Centre line between ports:36 mm
Art.3175 EU No. 2 outlets
Art.3225 EU No. 3 outlets
Art.3275 EU No. 4 outlets

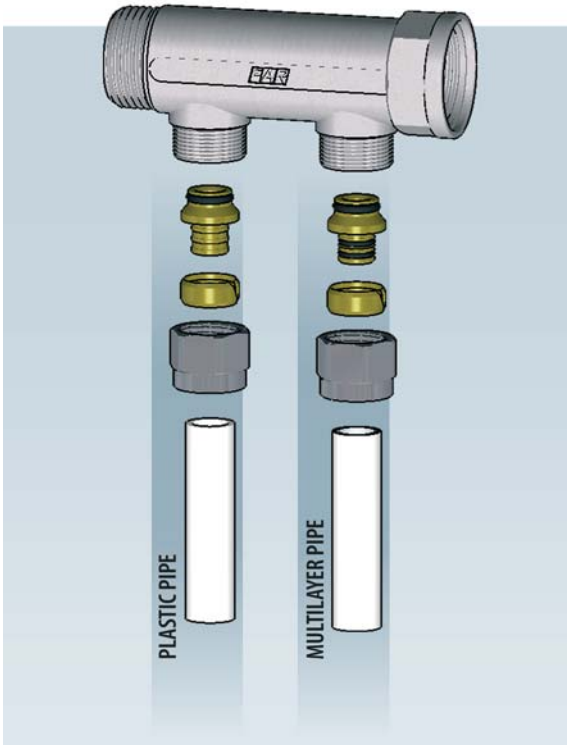
4.2 ADAPTERS FOR MANIFOLDS WITH EUROKONUS CONNECTIONS

The sealing of plastic and multilayer pipe is carried out by means of a nut, an adapter and a gasket.

Art. 6075
Adapters for plastic pipes



Art. 6076
Adapters for multilayer pipes



Materials

Gasket and adapters:	CW614N-CW617N
O-Ring:	EPDM
Nut:	CW617N

Technical features

Working temperature:	0-95°C
Max. working temperature:	10 bar

IN ORDER TO CARRY OUT ASSEMBLY IT IS NECESSARY TO:
- Insert the nut on the pipe
- Insert the gasket on the pipe
- When using adapters for multilayer pipe, calibrate the pipe with special tools or with a round strip to avoid damaging the O-rings and insert the adapter
- Insert the whole assembly into the conical connection
- Tighten the nut

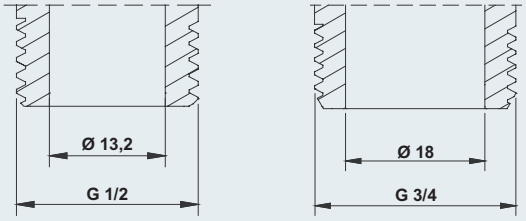
DO NOT use grease or oil to lubricate the fitting

N.B. It is important to tighten the nut in such a way to permit pipe locking by the reduction, thus preventing threading. The min. torque is 40 Nm.

5. MANIFOLDS WITH FLAT FACED CONNECTIONS

FLAT FACED CONNECTION

This kind of connection has a flat base on the thread head thus providing support for a flat gasket.
It is available in 1/2" and 3/4" sizes.



5.1 MANIFOLDS AVAILABLE WITH FLAT FACED CONNECTIONS

Chrome-plated modular manifold
• Side connections: 3/4" - 1"
• Centre line between ports: 50 mm
Art.3625 TP No. 2 outlets
Art.3675 TP No. 3 outlets
Art.3725 TP No. 4 outlets

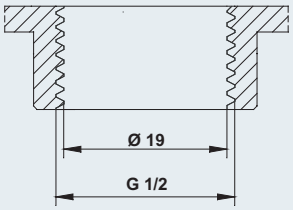
Chrome-plated modular manifold
• Side connections: 3/4" - 1"
• Centre line between ports: 36 mm
Art.3475 TP No. 2 outlets
Art.3525 TP No. 3 outlets
Art.3575 TP No. 4 outlets

Chrome-plated closed manifold
• Side connection: 3/4" - 1" female
• Centre line between ports: 36 mm
Art.3175 TP No. 2 outlets
Art.3225 TP No. 3 outlets
Art.3275 TP No. 4 outlets

6. MANIFOLDS WITH FEMALE IRON CONNECTION

FEMALE IRON CONNECTION

This is the common female connection for iron pipe with BSP thread. Available in 1/2" size.



6.1 MANIFOLDS AVAILABLE WITH FEMALE IRON CONNECTION

Chrome-plated modular manifold
• Side connections: 3/4" - 1" - 1"1/4
• Centre line between ports: 50 mm
Art.3600 No. 2 outlets
Art.3650 No. 3 outlets
Art.3700 No. 4 outlets

Chrome-plated modular manifold
• Side connections: 3/4" - 1"
• Centre line between ports: 36 mm
Art.3450 No. 2 outlets
Art.3500 No. 3 outlets
Art.3550 No. 4 outlets

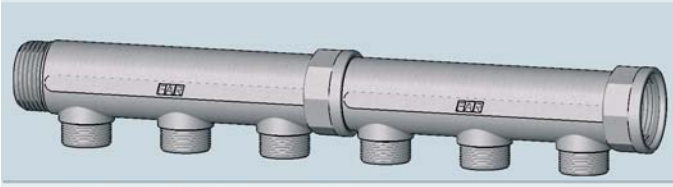
Chrome-plated closed manifold
• Side connection: 3/4" - 1" female
• Centre line between ports: 36 mm
Art.3150 No. 2 outlets
Art.3200 No. 3 outlets
Art.3250 No. 4 outlets

Chrome-plated flanged modular manifold with screws and O-ring for coupling
•Side connections: 1" female-female
• Centre line between ports: 50 mm
Art.3710 up to 12 outlets

6.2 ACCESSORIES FOR MANIFOLDS WITH FEMALE IRON CONNECTION

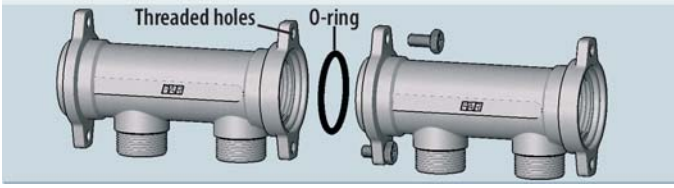
Art. 4125
Male plug for manifold closing

7. CONNECTION OF OTHER MANIFOLDS



MALE-FEMALE MANIFOLDS

For systems requiring more than 4 outlets it is possible to connect two or more manifolds together. The connection is carried out by applying a sealing material such as hemp, loctite or PTFE onto the thread and screwing the manifolds together.



FLANGED MANIFOLDS

Flanged manifolds can be ordered pre-assembled up to 12 outlets. Connection between two or more manifolds requires an O-ring seal and connection by means of two screws linking the flanges.

8. RELATED PRODUCTS

In order to meet the requirements of those installers who require insulated manifolds, FAR offers insulation shells in 2, 3 and 4-way versions with a 36-50-100 mm centre line between ports.

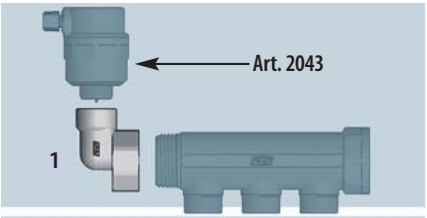
Art.9303-9304

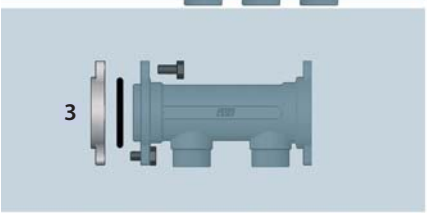
The anti-condensate protection shell is made of thermo-formed expanded polyethylene

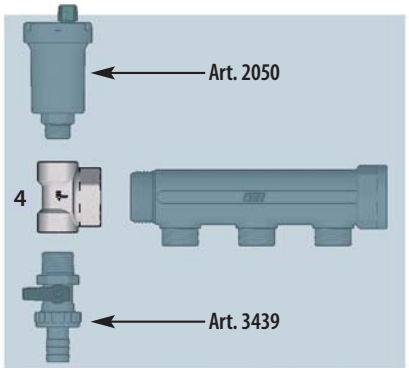
Art. 9303 for 1"1/4 manifolds with 50 mm centre line between ports
Art. 9304 for 1"1/4 - 1"1/2 - 2" manifolds with 100 mm centre line between ports

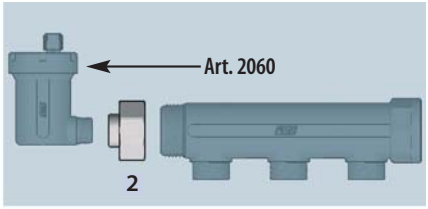
Art.9305

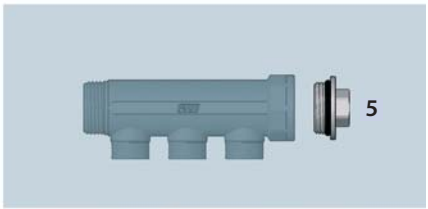
Art. 9305 for 1" manifolds with 36 mm centre line between ports











Art. 4050

L-shaped terminal blanking plug

Art. 4000

Straight terminal blanking plug

Art. 4310

End closing plug for flanged manifolds

Art. 4060

Terminal connection with double radial connection

Art. 4150

Terminal blanking plug

Art. 4200

Terminal blanking reduction with connection for air vent valve

Art. 4100

Blind cap complete with gasket

Art. 4061

Terminal connection with double radial connection

Art. 4300

Connection with interchangeable sizes

Art. 3423

Complete by-pass kit

Inspection boxes suitable for wall mounting of manifolds and their components are also available. When selecting the appropriate box for the system requirements, we suggest reference is made to technical data: ST.06.01.00 ST.06.02.00

9. MANIFOLDS WITH 100 mm CENTRE LINE BETWEEN PORTS

FAR also offers manifolds in CR brass, particularly suitable for use in domestic services, but applicable in both heating and cooling systems too. An interesting feature of these manifolds is the 100 mm centre line between ports.

A special manifolds range is available in 1"1/2 size with connections in opposing positions on the two sides. Outlets are available in 1/2" or 3/4" female.

Art. 3610 with 1 outlet - Art. 3611 with 2 outlets - Art. 3612 with 3 outlets

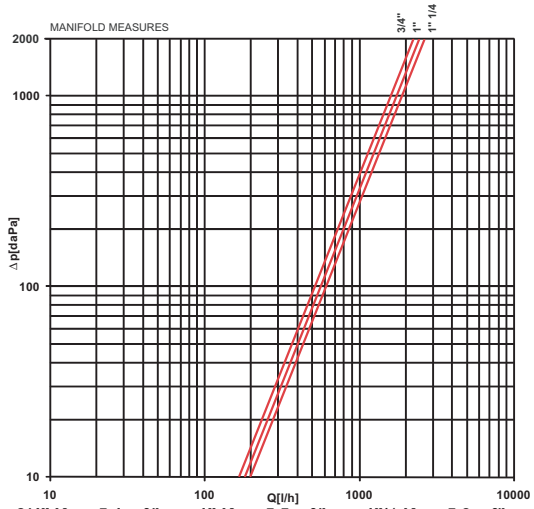
Art. 3615 with 1 outlet - Art. 3616 with 2 outlets - Art. 3617 with 3 outlets

Art. 3618 with 2 outlets
Art. 3619 with 4 outlets
Art. 3620 with 6 outlets

10. FLUID DYNAMIC FEATURES

FAR CONNECTIONS

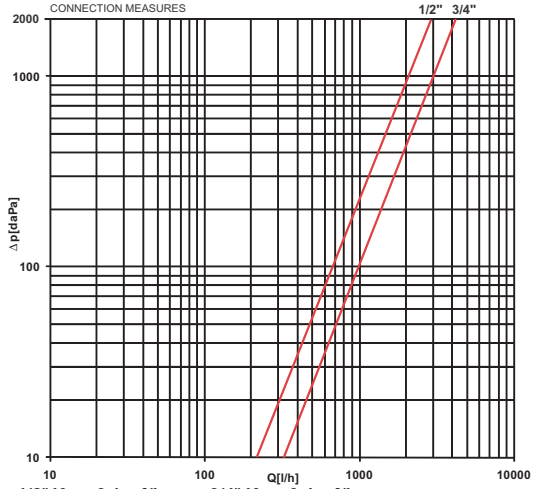
Art.3000-3050-3100-3300-3350-3400-3401-3402-3403-3410



3/4" Kv = 5,1 m³/h **1" Kv = 5,5 m³/h** **1"¼ Kv = 5,9 m³/h**

FLAT FACED AND EUROKONUS CONNECTIONS

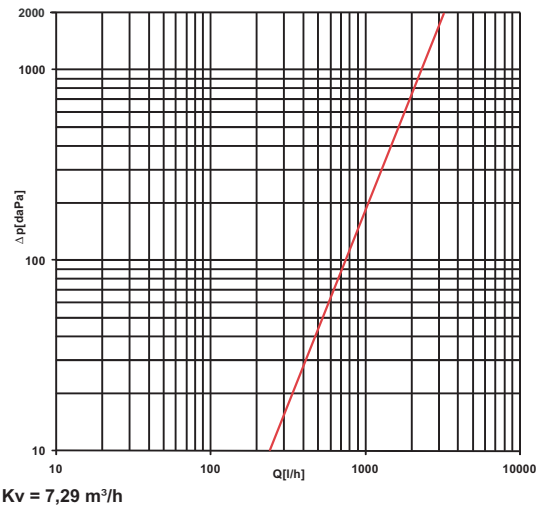
Art.3175-3225-3275-3475-3525-3575-3625-3675-3725 with 1/2" connection
Art.3625-3675-3725 with 3/4" connections



1/2" Kv = 6,1 m³/h **3/4" Kv = 9,4 m³/h**

FEMALE IRON CONNECTION

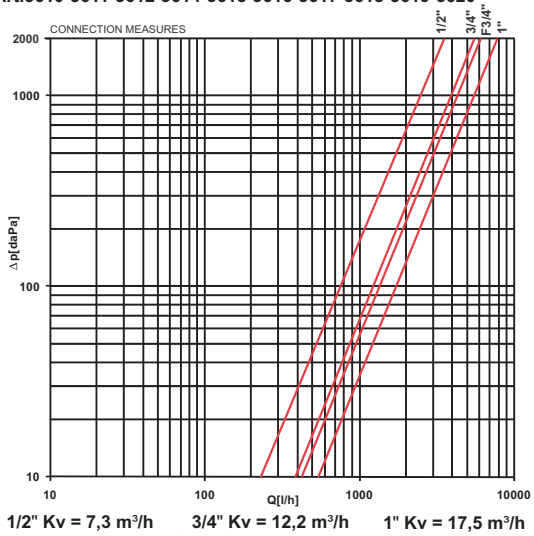
Art.3150-3200-3250-3450-3500-3550-3600-3650-3700-3710



Kv = 7,29 m³/h

MANIFOLDS WITH 100mm CENTRE LINE BETWEEN PORTS

Art.3610-3611-3612-3614-3615-3616-3617-3618-3619-3620

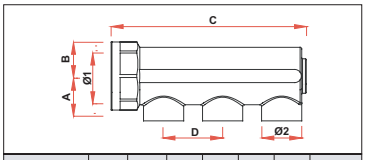


1/2" Kv = 7,3 m³/h **3/4" Kv = 12,2 m³/h** **1" Kv = 17,5 m³/h**
Female connection (F3/4") Kv = 13,5 m³/h

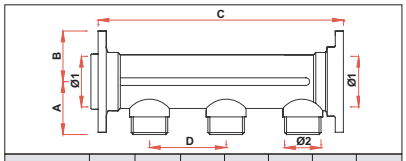
11. TECHNICAL FEATURES

Material:	CB753S and CB752S brass
Nominal pressure:	10 bar
Max. working temperature:	95°C

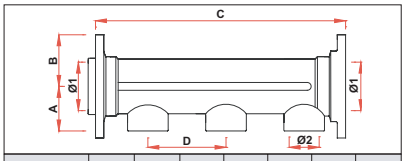
12. DIMENSIONAL FEATURES



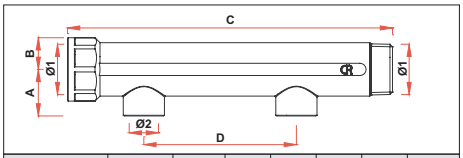
CODE	OUT.	Ø1	A	B	C	D	Ø2
3150 34	2	G3/4	24	17	85	36	G1/2
3150 1	2	G1	27	20	85	36	G1/2
3200 34	3	G3/4	24	17	121	36	G1/2
3200 1	3	G1	27	20	121	36	G1/2
3250 34	4	G3/4	24	17	157	36	G1/2
3250 1	4	G1	27	20	157	36	G1/2



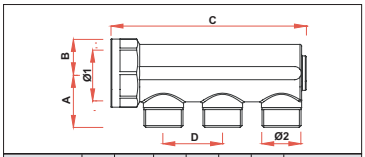
CODE	OUT.	Ø1	A	B	C	D	Ø2
3410 102	2	G1	35	33	110	50	24x19
3410 103	3	G1	35	33	160	50	24x19
3410 104	4	G1	35	33	220	50	24x19
3410 105	5	G1	35	33	270	50	24x19
3410 106	6	G1	35	33	320	50	24x19
3410 107	7	G1	35	33	380	50	24x19
3410 108	8	G1	35	33	430	50	24x19
3410 109	9	G1	35	33	480	50	24x19
3410 111	10	G1	35	33	540	50	24x19
3410 111	11	G1	35	33	590	50	24x19
3410 112	12	G1	35	33	640	50	24x19



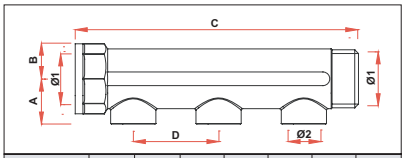
CODE	OUT.	Ø1	A	B	C	D	Ø2
3710 102	2	G1	29	33	110	50	G1/2
3710 103	3	G1	29	33	160	50	G1/2
3710 104	4	G1	29	33	220	50	G1/2
3710 105	5	G1	29	33	270	50	G1/2
3710 106	6	G1	29	33	320	50	G1/2
3710 107	7	G1	29	33	380	50	G1/2
3710 108	8	G1	29	33	430	50	G1/2
3710 109	9	G1	29	33	480	50	G1/2
3710 111	10	G1	29	33	540	50	G1/2
3710 111	11	G1	29	33	590	50	G1/2
3710 112	12	G1	29	33	640	50	G1/2



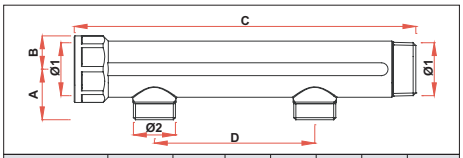
CODE	OUT.	Ø1	A	B	C	D	Ø2
3610 112	1	G1	31	21	113	-	G1/2
3611 112	2	G1	31	21	213	100	G1/2
3611 11412	2	G1 1/4	35	26	215	100	G1/2
3611 11434	2	G1 1/4	34	26	215	100	G3/4
3611 11234	2	G1 1/2	40	29	217	100	G3/4
3611 1121	2	G1 1/2	40	29	217	100	G1
3611 234	2	G2	47	35	223	100	G3/4
3611 21	2	G2	47	35	223	100	G1
3612 112	3	G1	31	21	313	100	G1/2
3612 11412	3	G1 1/4	35	26	315	100	G1/2
3612 11434	3	G1 1/4	34	26	315	100	G3/4
3612 11234	3	G1 1/2	40	29	317	100	G3/4
3612 1121	3	G1 1/2	40	29	317	100	G1
3612 234	3	G2	47	35	323	100	G3/4
3612 21	3	G2	47	35	323	100	G1



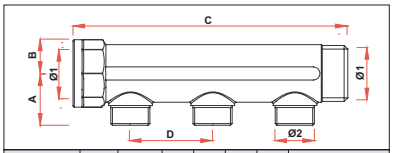
CODE	OUT.	Ø1	A	B	C	D	Ø2
3000-3175	2	G3/4	30	17	82	36	24x19-G1/2
3000-3175	2	G1	33	21	83	36	24x19-G1/2
3050-3225	3	G3/4	30	17	118	36	24x19-G1/2
3050-3225	3	G1	33	21	119	36	24x19-G1/2
3100-3275	4	G3/4	30	17	154	36	24x19-G1/2
3100-3275	4	G1	33	21	155	36	24x19-G1/2



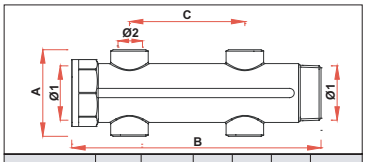
CODE	OUT.	Ø1	A	B	C	D	Ø2
3450 34	2	G3/4	25	17	96	36	G1/2
3450 1	2	G1	27	21	97	36	G1/2
3500 34	3	G3/4	25	17	132	36	G1/2
3500 1	3	G1	27	21	133	36	G1/2
3550 34	4	G3/4	25	17	168	36	G1/2
3550 1	4	G1	27	21	169	36	G1/2
3600 34	2	G3/4	25	17	115	50	G1/2
3600 1	2	G1	27	21	116	50	G1/2
3600 114	2	G1 1/4	33	26	119	50	G1/2
3650 34	3	G3/4	25	17	165	50	G1/2
3650 1	3	G1	27	21	166	50	G1/2
3650 114	3	G1 1/4	33	26	169	50	G1/2
3700 34	4	G3/4	25	17	215	50	G1/2
3700 1	4	G1	27	21	216	50	G1/2
3700 114	4	G1 1/4	33	26	219	50	G1/2



CODE	OUT.	Ø1	A	B	C	D	Ø2
3615 134	1	G1	32	21	113	-	G3/4
3616 134	2	G1	32	21	213	100	G3/4
3616 11434	2	G1 1/4	36	26	215	100	G3/4
3617 134	3	G1	32	21	313	100	G3/4
3617 11434	3	G1 1/4	36	26	315	100	G3/4



CODE	OUT.	Ø1	A	B	C	D	Ø2
3300-3475	2	G3/4	30	17	95	36	24x19-G1/2
3300-3475	2	G1	33	21	97	36	24x19-G1/2
3350-3525	3	G3/4	30	17	131	36	24x19-G1/2
3350-3525	3	G1	33	21	133	36	24x19-G1/2
3400-3575	4	G3/4	30	17	167	36	24x19-G1/2
3400-3575	4	G1	33	21	169	36	24x19-G1/2
3401-3625	2	G3/4	29	17	115	50	24x19-G1/2
3401-3625	2	G1	32	21	117	50	24x19-G1/2-G3/4
3401-3625	2	G1 1/4	38	26	117	50	24x19-G1/2-G3/4
3402-3675	3	G3/4	29	17	165	50	24x19-G1/2
3402-3675	3	G1	32	21	167	50	24x19-G1/2-G3/4
3402-3675	3	G1 1/4	38	26	167	50	24x19-G1/2-G3/4
3403-3725	4	G3/4	29	17	213	50	24x19-G1/2
3403-3725	4	G1	32	21	215	50	24x19-G1/2-G3/4
3403-3725	4	G1 1/4	38	26	217	50	24x19-G1/2-G3/4



CODE	OUT.	Ø1	A	B	C	Ø2
3618 11212	2	G1 1/2	75	117	100	G1/2
3618 11234	2	G1 1/2	73	117	100	G3/4
3619 11212	4	G1 1/2	75	217	100	G1/2
3619 11234	4	G1 1/2	73	217	100	G3/4
3620 11212	6	G1 1/2	75	317	100	G1/2
3620 11234	6	G1 1/2	73	317	100	G3/4