# oventrop

Technical information

#### Tender specification (examples):

Oventrop brass connection fittings, nickel plated, for the connection of radiators with integrated distributor G  $^{3}4$  male thread according to DIN EN 16313 (cone "Euro").

ZB preset isolating fitting for two pipe systems for filling and draining

G 3/4 collar nut x G 3/4 male thread

Oventrop brass connection fittings, nickel plated, for the connection of radiators with G  $\frac{1}{2}$  female thread.

ZB preset isolating fitting for two pipe systems for filling and draining

G ½ male thread x G ¾ male thread

#### Technical data:

Operating temperature ts: 2 °C up to 120 °C (for short

periods up to 130 °C)

Operating pressure ps: 10 ba

#### **Function:**

The Oventrop connection programme "Multiflex" for the connection of radiators with integrated distributor.

The extensive programme fulfils the following functions:

- connecting
- isolating
- one pipe operation
- draining
- fillina
- presetting
- re-directing
- bridging

#### Application:

The Oventrop connection programme "Multiflex" for radiators with integrated distributor is suitable for two or one pipe heating systems.

For use of the radiators with integrated distributor in one pipe system, special ZBU fittings (two pipe block, convertible) are available. In addition, Oventrop offers inversion fittings to achieve the correct direction of flow if supply and return pipe were mixed up and bridging fittings to fix the pipework and to bridge over the supply and return pipe in case of subsequent installation of radiators.

#### "Multiflex F" with soft seal

The connection to the radiator is self sealing. (The self sealing nipples are supplied with every fitting for radiators with G  $\frac{1}{2}$  female thread.)

#### Advantages of the connection programme "Multiflex F":

- all connection problems of radiators with integrated distributor can be solved
- easy to use
- suitable for one and two pipe systems (ZBU)
- increased leakage proofing due to soft sealing connection
- exact setting of the radiator shares via the bypass screw (ZBU) in lengthwise direction
- excellent flow rates of the ZBU fittings when used with the Oventrop thermostats (see flow chart)



"Multiflex"

#### "Multiflex V" with metal to metal seal

The connection fittings have a metal to metal seal to the radiator.

#### Advantages of the connection programme "Multiflex V":

- all connection problems of radiators with integrated distributor can be solved
- connection fittings with facilities to

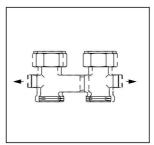
isolate

preset

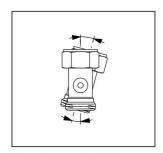
drain

fill

- easy to use
- suitable for one and two pipe systems
- tolerances in the connection dimensions of the supply and return nipples are technically perfectly balanced (patented solution). This means that there is no cross tension (see illustration).
- increased leakage proofing due to metal to metal sealing connection to the radiator
- no inner parts necessary to take elastic seals, therefore two points less where leakage could occur
- technical top performance regarding flow rates
- exact setting of radiator shares via the bypass screw in lengthwise direction (CE fitting)



Advantage: Adjustable distance of axis



Advantage: Adjustable angled position

## Connection programme "Multiflex V" with metal to metal seal for two pipe heating systems:

Brass connection fittings, nickel plated for radiators with integrated distributor

#### ZB fittings (ZB = two pipe block)

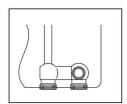
The ZB fittings (two pipe block) are used on radiators with two pipe distributors.

Balanced tolerance of the radiator connection due to patented body/shell connection.

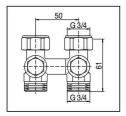
Distance between pipe centres 50 mm.

#### G 3/4 male thread (distributor)

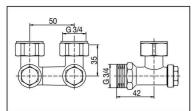
The connection fittings have a metal to metal seal to the radiator.



For radiators with G  $^{3}\!\!/_{4}$  male thread according to DIN EN 16313 (cone "Euro")



ZB preset isolating fitting for filling and draining G \(^3\)4 collar nut x G \(^3\)4 male Item no. 101 62 41



Fitting

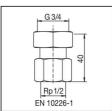
G 3/4 collar nut x Rp 1/2 female

Item no. 101 63 04

ZB angle pattern preset isolating fitting for filling and draining G ¾ collar nut x G ¾ male Item no. 101 62 42

#### Singe fittings

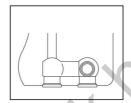
Item no. per piece. The single fittings are used on radiators with two pipe distributor.



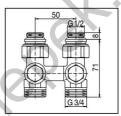
Fittings with Rp ½ female thread are not suitable for compression fittings (only for threaded pipes).

### G 1/2 female thread (distributor)

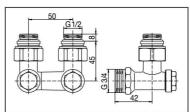
The connection to the radiator is self sealing. Self sealing nipples are supplied with each fitting.



For radiators with G ½ female thread



ZB preset isolating fitting for filling and draining G ½ male x G ¾ male Item no. 101 62 91



ZB angle pattern preset isolating fitting for filling and draining G ½ male x G ¾ male Item no. 101 62 92

## Connection programme "Multiflex V" with metal to metal seal for one pipe heating systems:

Brass connection fittings, nickel plated for radiators with integrated distributor

#### CE fittings (Combi one pipe)

Distance between pipe centres 50 mm.

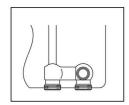
The CE fittings (Combi one pipe) are necessary to use radiators with two pipe distributors in **one pipe systems**.

Preset radiator flow share: about 35%\*

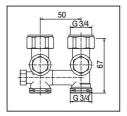
Balanced tolerance of the radiator connection due to patented body/shell connection.

#### G 3/4 male thread (distributor)

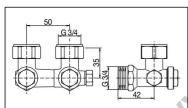
The connection fittings have a metal to metal seal to the radiator.



For radiators with G  $^{3}\!\!/_{4}$  male thread according to DIN EN 16313 (cone "Euro")



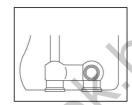
CE preset isolating fitting for filling and draining G ¾ collar nut x G ¾ male Item no. 101 63 41



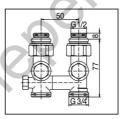
CE angle pattern preset isolating fitting for filling and draining G 3/4 collar nut x G 3/4 male Item no. 101 63 42

#### G ½ female thread (distributor)

The connection to the radiator is self sealing. Self sealing nipples are supplied with each fitting.

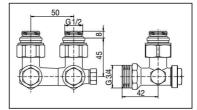


For radiators with G ½ female thread



CE preset isolating fitting for filling and draining G ½ male x G ¾ male

Item no. 101 63 91



CE angle pattern preset isolating fitting for filling and draining G ½ male x G ¾ male

Item no. 101 63 92

<sup>\*</sup>If the bypass screw is turned clockwise until stop, then the bypass is closed (two pipe operation).

#### Connection programme "Multiflex F" with soft seal for two pipe systems or heating systems in one pipe operation:

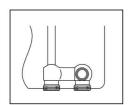
Brass connection fittings, nickel plated for radiators with integrated distributor

#### ZB fittings (two pipe block)

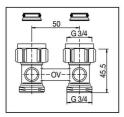
The ZB fittings (two pipe block) are used on radiators with two pipe distributors.

#### G 3/4 male thread (distributor)

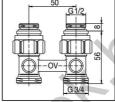
The connection fittings have a soft seal to the radiator.



For radiators with G 3/4 male thread according to DIN EN 16313 (cone "Euro")



ZB isolating fitting G 3/4 collar nut x G 3/4 male Item no. 101 58 13



G 1/2 female thread (distributor)

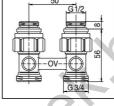
nipples are supplied with each fitting.

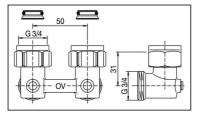
The connection to the radiator is self sealing. Self sealing

ZB isolating fitting G 1/2 male x G 3/4 male

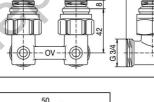
Item no. 101 58 83

For radiators with G 1/2 female thread

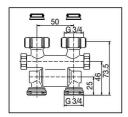




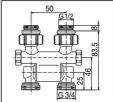
ZB angle pattern isolating fitting G 3/4 collar nut x G 3/4 male Item no. 101 58 14



ZB angle pattern isolating fitting G 1/2 male x G 3/4 male Item no. 101 58 84



ZB isolating fitting, pivoting G 3/4 collar nut x G 3/4 male Item no. 101 57 11



ZB isolating fitting, pivoting G 1/2 male x G 3/4 male Item no. 101 57 81



#### Design cover, white model

for ZB isolating and angle pattern isolating fittings for item no. 101 58 13/14/83/84

Item no. 101 58 96

#### Connection programme "Multiflex F" with soft seal for two pipe systems or heating systems in one pipe operation:

Brass connection fittings, nickel plated for radiators with integrated distributor

#### ZBU fittings (two pipe block, convertible)

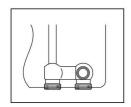
The ZBU fittings (two pipe block, convertible) can be used in both, two pipe systems (as delivered) or in systems with one pipe operation.

When used in one pipe systems, the bypass screw has to be set according to the installation instructions delivered with the fittings. CEW fitting as ZBU, but preset to one pipe operation with a radiator share of 35 %.

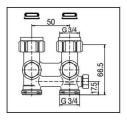
Distance between pipe centres 35 %.

#### G 3/4 male thread (distributor)

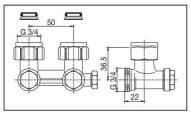
The connection fittings have a soft seal to the radiator.



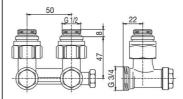
For radiators with G 3/4 male thread according to DIN EN 16313 (cone "Euro")



ZBU preset isolating fitting for filling and draining G 3/4 collar nut x G 3/4 male Item no. 101 59 43



ZBU angle pattern preset isolating fitting for filling and draining G 3/4 collar nut x G 3/4 male Item no. 101 59 44



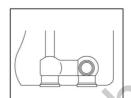
Single fittings

Item no. per piece.

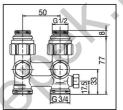
The single fittings are used in radiators with two pipe distributors.

#### G 1/2 female thread (distributor)

The connection to the radiator is self sealing. Self sealing nipples are supplied with each fitting.

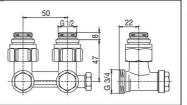


For radiators with G 1/2 female thread



ZBU/CEW preset isolating fitting for filling and draining G 1/2 male x G 3/4 male

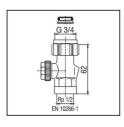
Item no. 101 59 93 Item no. 101 59 33\*



ZBU/CEW angle pattern preset isolating fitting for filling and draining G 1/2 male x G 3/4 male

Item no. 101 59 94 Item no. 101 59 34\*

preset to one pipe operation



Angle pattern preset isolating fitting for filling and draining G 3/4 collar nut x Rp 1/2 female Item no. 101 65 67

Preset isolating fitting

for filling and draining

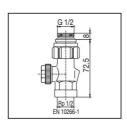
Item no. 101 61 66

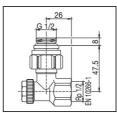
Item no. 101 61 68

G 3/4 collar nut x Rp 1/2 female

G 3/4 collar nut x G 3/4 male

G 3/4 collar nut x G 3/4 male Item no. 101 65 69





Preset isolating fitting for filling and draining G 1/2 male x Rp 1/2 female Item no. 101 61 75 G 1/2 male x G 3/4 male Item no. 101 61 77

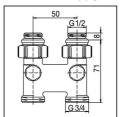
Angle pattern preset isolating fitting for filling and draining G ½ male x Rp ½ female Item no. 101 65 75 G 1/2 male x G 3/4 male Item no. 101 65 77

Fittings with Rp ½ female thread are not suitable for compression fittings (only for threaded pipes). The Oventrop compression fittings are to be used (see catalogue "Products", page 1.103).

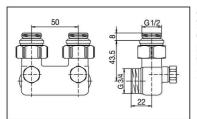
#### **Fittings**

brass

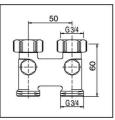
Inversion fitting, nickel plated
For reversed supply and return pipe



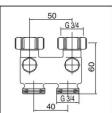
with isolating facility distance between pipe centres 50 mm G ½ male x G ¾ male Item no. 101 63 63



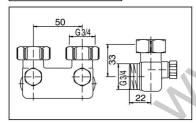
angle pattern, with isolating facility distance between pipe centres 50 mm G ½ male x G ¾ male Item no. 101 64 63



with isolating facility distance between pipe centres 50 mm G ¾ collar nut x G ¾ male Item no. 101 63 62

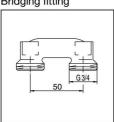


with isolating facility upper distance between pipe centres 50 mm lower distance between pipe centres 40 mm G 3/4 collar nut x G 3/4 male Item no. 101 63 72



angle pattern, with isolating facility distance between pipe centres 50 mm G ¾ collar nut x G ¾ male Item no. 101 64 62

#### Bridging fitting



For bridging-over the supply and the return pipe in case of subsequent installation of radiators. Distance between pipe centres 50 mm Item no. 101 64 52

1016674

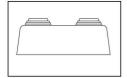
101 66 75



Plastic rosette cover, white

16 mm

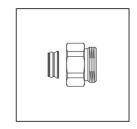
18 mm



for pipe diameters 10, 12, 15, 16, 18 and 20 mm Distance between pipe centres 50 mm 101 66 62

#### **Connection fittings**

brass



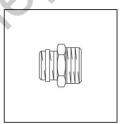
Distance piece for "Multiflex V" fittings Set = 2 pieces G ¾ female x G ¾ male Effective length: 15.5 mm Item no. 168 16 50



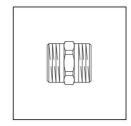
Nipple, unplated Port G  $\frac{1}{2}$ : self sealing For "Multibleck F", "Multiblock T", "Multiblock TF" and "Multiblock T-RTL" Port G  $\frac{3}{4}$ : flat sealing G  $\frac{1}{2}$  male x G  $\frac{3}{4}$  male, item no. 102 82 52 For "Multiflex V" Port G  $\frac{3}{4}$ : with tapered sealing according to DIN EN 16313 (cone "Euro") G  $\frac{1}{2}$  male x G  $\frac{3}{4}$  male, item no. 102 82 53



Insert as set = 2 pieces for cone according to DIN EN 16313 (cone "Euro") For "Multiflex F", "Multiblock T", "Multiblock TF" and "Multiblock T-RTL" Item no. 166 11 00



Nipple, nickel plated Port G ½ self sealing Port G ¾: with tapered sealing G ½ male x G ¾ male according to DIN EN 16313 (cone "Euro") Item no. 102 81 61

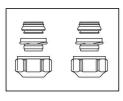


Double nipple, nickel plated Port G  $^3\!\!/_1$ : with tapered sealing according to DIN EN 16313 (cone "Euro") G  $^3\!\!/_1$  male x G  $^3\!\!/_1$  male ltem no. 102 82 63

#### **Connection fittings**

Brass, nickel plated for radiators with integrated distributor

#### Special applications:



## Compression fittings for G ¾ male thread according to DIN EN 16313 (cone "Euro")

#### "Ofix CEP" - Snap & Seal

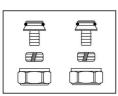
2-fold for copper pipes according to DIN EN 1057, precision steel pipes according to DIN EN 10305-1/2 and stainless steel pipes, collar nut nickel plated, with double compression ring function, one-piece pre-assembled, soft sealing, max. 95°C

10 mm	101 68 40
12 mm	101 68 41
14 mm	101 68 42
15 mm	101 68 43
16 mm	101 68 44
18 mm	101 68 45



2-fold for copper pipes according to DIN EN 1057 collar nut nickel plated, metal to metal sealing

10 mm	101 68 60
12 mm	101 68 61
14 mm	101 68 62
15 mm	101 68 63
16 mm	101 68 64
18 mm	101 68 65



#### "Ofix K"

2-fold for plastic pipes according to DIN 4726, PE-X according to DIN 16892/16893, PB according to DIN 16968, PP according to DIN 8078 A1, collar nut nickel plated, metal to metal sealing plus O-ring

12 x 1.1	mm	101 68 83
12 x 2	mm	101 68 70
14 x 2	mm	101 68 73
15 x 2.5	mm	101 68 85
16 x 1.5	mm	101 68 82
16 x 2	mm	101 68 74
17 x 2	mm	101 68 76
18 x 2	mm	101 68 77
20 x 2	mm	101 68 79

"Cofit S" for G 3/4 male thread according to DIN EN 16313 (cone "Euro") for composition pipe and, provided that similar preparation is used, for plastic pipe (PE-X pipe) 2-fold, metal to metal sealing plus O-ring, outlet made of bronze, compression ring and collar nut made of brass, collar nut nickel plated

14 x 2.0 mm x G 3/4 c/nut	150 79 34
16 x 2.0 mm x G 3/4 c/nut	150 79 35
17 x 2.0 mm x G 3/4 c/nut	150 79 37
18 x 2.0 mm x G 3/4 c/nut	1507938
20 x 2.0 mm x G 3/4 c/nut	150 79 39
20 x 2.5 mm x G 3/4 c/nut	150 79 40

Attention: When installing copper pipes with a wall thickness of  $\leq 1$  mm, it is necessary to use reinforcing sleeves for the additional stabilisation of the pipe. Should the wall thickness exceed 1 mm, please contact the pipe manufacturer.

Reinforcing sleeves for wall thickness = 1 mm: see catalogue "Products", page 1.104.

Exception:

Reinforcing sleeves are not required for soft sealing compression fittings.

Note: The pipes are not held by the soft sealing fitting, they have to be fixed additionally. Regarding stretching of the pipe ends, the instructions of the pipe manufacturers have to be observed.

Alternatively, the compression fittings for connection to G  $^3$ 4 male thread according to DIN EN 16313 (cone "Euro") of other manufacturers may also be used – except for composition pipe "Copipe".



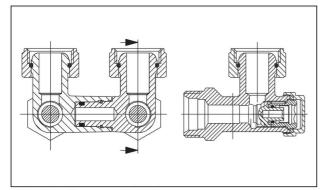
#### Service tool

with bag 109 05 51

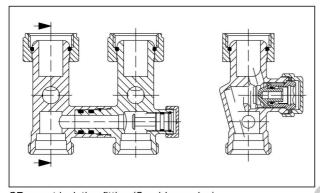
For filling and draining the radiators via the isolating fittings: 101 62 41, 101 62 42, 101 63 41/42, 101 62 91, 101 62 92, 101 63 91/92, 101 59 93/94, 101 59 33/34, 101 59 43/44, 101 61 75/77, 101 65 75/77, 101 61 66/68, 101 65 67/69

### Connection programme "Multiflex V" with metal to metal seal

#### Cross sections of one pipe fittings:



ZB angle pattern preset isolating fitting for filling and draining ltem no. 101 62 42



CE preset isolating fitting (Combi one pipe) for filling and draining Item no. 101 63 41

When using CE fittings in two pipe systems, the bypass screw has to be closed (turn clockwise until stop).

#### **Operating instructions:**

For ZB preset isolating fittings for filling and draining.

Item no.: 101 62 41/42 101 62 91/92

Setting for one pipe operation:

The CE connection fittings are preset at works to a radiator share of about 35 % of the circulated water quantity.

Different radiator shares must be set according to the flow charts.

Close the bypass stem (turn fully clockwise), open the stem according to the number of turns taken from the flow chart.

Item no.: 101 63 41/42 101 63 91/92

#### 1 Isolatina:

- 1.1 Remove protection caps.
- 1.2 Close valve disc by turning a 4 mm spanner clockwise.

#### 2 Draining:

- 2.1 Isolate the fitting as described in point 1.
- 2.2 Loosen the valve insert of the return pipe connection by turning a 10 mm spanner anticlockwise (max. ¼ turn of thread).
- 2.3 Fit the service tool to the return pipe connection and connect a hose.
- 2.4 Fit the 10 mm spanner to the service tool and drain the radiator by turning anticlockwise.

The venting screw at the radiator has to be opened.

#### 3 Filling:

- 3.1 via the service tool:
- 3.1.1 If the radiator was just drained via the service tool, no modifications to the tool or the fitting are required. The radiator can now be filled via the connected hose (now the radiator has to be bled).
- 3.1.2 With the filling operation completed, fit the 10 mm spanner to the service tool again and close the insert by turning clockwise.
- 3.1.3 Remove the service tool and tighten the insert with the 10 mm spanner (max. 10 Nm).
- 3.2 The heating system:
- 3.2.1 Close the valve by turning a 10 mm spanner clockwise and tighten it (max. 10 Nm).
- 3.2.2 Open the valve disc by turning a 4 mm spanner anticlockwise until stop. Bleed radiator.
- 3.2.3 Replace protection caps.

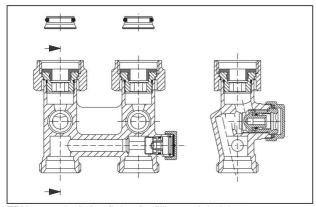
Filling and draining of the radiator with the help of the service tool item no. 109 05 51.

#### 4 Presetting:

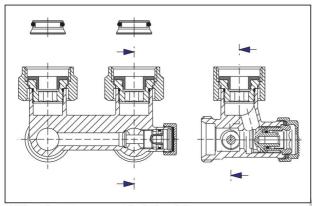
- 4.1 Unscrew protection cap.
- 4.2 Close the valve disc by turning a 4 mm spanner clockwise.
- 4.3 Then preset the valve disc by turning the 4 mm spanner anticlockwise according to the number of turns selected from the flow chart.

### Connection programme "Multiflex F" with soft seal

#### Cross sections of two pipe fittings ZBU and CEW:



ZBU preset isolating fitting for filling and draining ltem no. 101 59 43



ZBU angle pattern preset isolating fitting for filling and draining.
Item no. 101 59 44

The bypass stem of the CEW fitting is opened according to the radiator share (35 %).

#### Operating instructions:

For ZBU/CEW isolating fittings for filling, draining and

presetting. Item no.

101 59 43/44 ZBU 101 59 93/94 ZBU 101 59 33/34 CEW

For single fittings

Item no. 101 61 66/68

101 65 67/69 101 61 75/77 101 65 75/77

#### 1 Isolating:

- 1.1 Remove protection caps.
- 1.2 Close valve disc by turning a 4 mm spanner clockwise.

#### 2 Draining:

- 2.1 Isolate the fitting as described in point 1.
- 2.2 Loosen the valve insert of the return pipe connection by turning a 10 mm spanner anticlockwise (max. 1/4 turn of thread).
- 2.3 Fit the service tool to the return pipe connection and connect a hose.
- 2.4 Fit the 10 mm spanner to the service tool and drain the radiator by turning anticlockwise.

The venting screw at the radiator has to be opened.

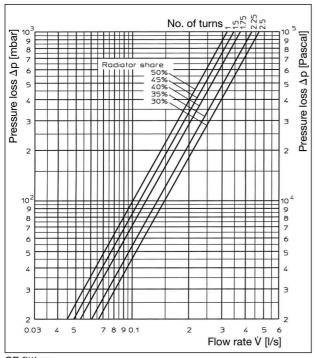
#### 3 Filling

- 3.1 via the service tool:
- 3.1.1 If the radiator was just drained via the service tool, no modifications to the tool or the fitting are required. The radiator can now be filled via the connected hose (now the radiator has to be bled).
- 3.1.2 With the filling operation completed, fit the 10 mm spanner to the service tool again and close the insert by turning clockwise.
- 3.1.3 Remove the service tool and tighten the insert with the 10 mm spanner (max. 10 Nm).
- 3.2 The heating system:
- 3.2.1 Close the valve by turning a 10 mm spanner clockwise and tighten it (max. 10 Nm).
- 3.2.2 Open the valve disc by turning a 4 mm spanner anticlockwise until stop. Bleed radiator.
- 3.2.3 Replace protection caps.

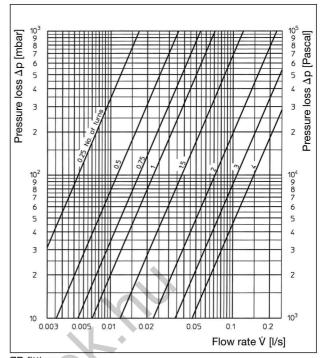
Filling and draining of the radiator with the help of the service tool item no. 109 05 51.

- 4 Presetting:
- 4.1 Unscrew protection cap.
- 4.2 Close the valve disc by turning a 4 mm spanner clockwise.
- 4.3 Then preset the valve disc by turning the 4 mm spanner anticlockwise according to the number of turns selected from the flow chart.

### Connection programme "Multiflex V" with metal to metal seal



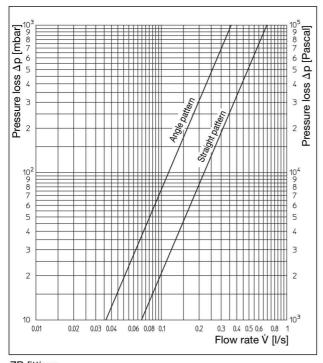
CE fittings Item no. 101 63 41/42 101 63 91/92



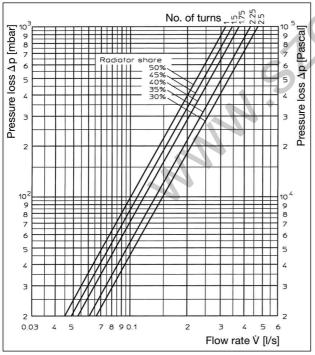
ZB fittings Item no. 101 62 41/42 101 62 91/92

	Presetting	0.25	0.5	0.75	1	1.5	2	3	4
	k <sub>V</sub> -value	0.060	0.126	0.190	0.250	0.420	0.819	1.236	1.700
70									
C									
, 5'									
N									

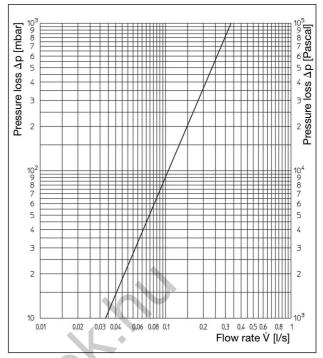
## Connection programme "Multiflex F" with soft seal



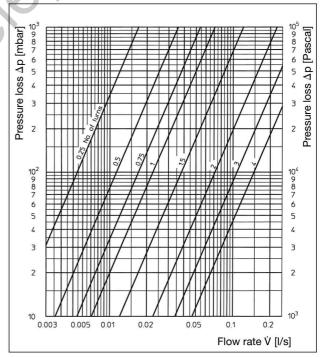
ZB fittings Item no. 101 58 13/14 101 58 83/84



ZBU and CEW fittings in one pipe operation



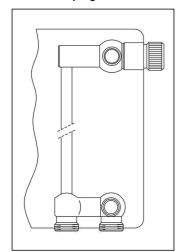
ZB fittings, pivoting Item no. 101 57 11/81



ZBU fittings and single fittings in two pipe operation:

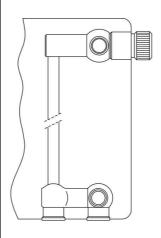
Presett.	0.25	0.5	0.75	1	1.5	2	3	4
k <sub>V</sub> -value	0.060	0.126	0.190	0.250	0.420	0.819	1.236	1.700

#### Connection programme "Multiflex"



Radiator manufacturers:
Baufa
Brötje
Brugman
Buderus
De'Longhi
Kermi
Radel
Ribe
Vogel + Noot
(subject to modifications)

Radiator with integrated distributor G ¾ male thread, distance between pipe centres 50 mm



stributor
Radiator with integrated distributor
G ½ female thread,
distance between pipe centres 50 mm

Radiator manufacturers: Agis, Alarko, Arbonia, Baykan, Bemm, Biasi, Borer, Bremo, Caradon-Stelrad, Celikpan, Concept, Cöskünöz, DEF, Delta, Demrad, DiaNorm, Dia-therm, Dunaferr, DURA, Ferroli, HM-Galant, Henrad, Hoval, Hudevad, IMAS, Itemar, Korado, Manaut, Quinn, Purmo, Radson, Runtal, Schäfer, Starpan, Stelrad, Superia, TermoTeknik, Thor, US-Steel, Vasco, VEHA, Zehnder, Zenith. (subject to modifications)

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Subject to technical modification without notice.

Product range 1 ti 107-0/10/MW Edition 2014