

FLOWRETT, TA-UNI



**Thermostatic valves with
radiator connection system**
Manifolds assemblies – One-pipe

*Engineering
GREAT Solutions*

FLOWRETT, TA-UNI

Compatible with most radiators on the market, this pre-assembled manifold for one-pipe radiator systems delivers balancing and room temperature control functionality. Constant Kv-value over the manifold assures easy balancing.

Key features

- > **RVT valve**
Ensures trouble-free operation and reduced maintenance costs.
- > **Side connection**
Ensures smoother installation.
- > **Bottom connection**
Ensures smoother installation.



Technical description

Application:

Heating systems

Functions:

Regulating
Presetting
Shut-off

Dimensions:

DN 10

Pressure classe:

PN 10

Max. differential pressure:

The max. pressure difference allowed for the valve not to open against a closed thermostat: 100 kPa.

Temperature:

Max. working temperature: 120°C
Min. working temperature: -10°C

Material:

Diverters:

Valve body: Hot stamped brass
Valve stem: Brass
O-rings: EPDM rubber

Radiator valves:

TRV-2, TRV-2S:
Valve body: AMETAL®
Other parts: see separate catalogue leaflet.

RVT and RVO:

Valve body: Hot stamped brass
Valve stem: AMETAL®
O-rings: EPDM rubber
Return spring and screw: Stainless steel
Others:
Connection pipes: Steel
Radiator connections: AMETAL®

AMETAL® is the dezincification resistant alloy of IMI Hydronic Engineering.

Surface treatment:

Nickel-plated

Identification:

The distributors are marked with TA and a flow direction arrow on the valve body.

FLOWRETT:

The **RSD 801** is marked on its cap with RSD 801 Kv = 1.2, and there are two turned grooves on the stem beneath the cap.

The **RSD 831** is marked on its cap with RSD 831 Kv = 2.8, and there is one turned groove on the stem beneath the cap.

TA-UNI:

The cap is marked with 1 or 2 to indicate whether it is set for one- or two-pipe application.

All radiator valves are marked with TA and flow direction arrow on the valve body. TRV-2/TRV-2S are also marked with country code and dimension, TRV-2 with KEYMARK symbol.

TRV-2: White protection cap.

TRV-2S: Red protection cap. The locking nut at the valve insert is marked in red.

General

Diverter

FLOWRETT/RSD 801/831, one-pipe, which can be mounted to suit connection from below or from the side.

TA-UNI, which can be mounted to suit connection from below or from the side, convertible for one- or two-pipe application.

Radiator valves

TRV-2/TRV-2S can be fitted with a thermostat, but is supplied with a protection cap and KOMBI connection. Using straight valve, the valve body can be arranged parallel or perpendicular to the radiator.

TRV-2/TRV-2S has stepless presetting and is delivered with presetting of 6, i.e. fully open valve. Presetting tool Article No 50 198-004. For further information on TRV-2/TRV-2S see separate leaflet.

RVT, RVO thermostat or hand controlled with KOMBI connection.

Connection pipes

Nickel-plated steel. 12 mm external diameter, standard length 1100 mm.

Subtract 80 mm from the radiator c/c distance for a TRV-2/TRV-2S straight valve and elbow. When using the TRV-2/TRV-2S reversed angle valve, obtain the distance by subtracting 43 mm from the radiator c/c distance.

When using RVT or RVO angle valve, subtract 36 mm from the radiator c/c distance.

Accessories

Radiator connections.

Pipe connections: Steel, copper or PEX pipes can be connected to the diverter using IMI TA couplings: See catalogue leaflets FPL and FPL-PX.

Thermostats: See catalogue leaflet TRV 300.

Actuator: See catalogue leaflet EMO T.

Noise

One-pipe system

There are no noise problems for the FLOWRETT/RSD 801 and RVT if the loop flow is less than 200 l/h or FLOWRETT/RSD 831 and RVT if the loop flow is less than 500 l/h.

Kv values

FLOWRETT with diverter RSD 801

Has a constant Kv value = 1.2. 0-50% of total flow range to the radiator is presettable.

FLOWRETT with diverter RSD 831

Has a constant Kv value = 2.8. 0-20% of total flow range to the radiator is presettable.

FLOWRETT provides a constant Kv value (when bottom connected), regardless of how the diverter is set. This means that the flow through the loop is not affected when the distribution to the radiator is changed. This is an important feature, as it means that each loop is independent of the others when balancing the system.

Manifold assembly with diverter TA-UNI

One-pipe system Kvs = 2.0

Setting

Presetting, FLOWRETT

Preset the FLOWRETT one-pipe manifold directly at the diverter, using a 6 mm Allen key.

The diverter is preset for maximum percentage flow to the radiator when delivered.

Adjust the presetting by screwing in the stem to the bottom and then unscrewing it the requisite number of turns to provide the required flow through the radiator. The preset value can be noted on the sealing in the cap of the diverter so that it can be reset afterwards if the radiator is turned off.

Presetting is so designed that the total Kv value of the set does not change when the preset value is altered. This simplifies pressure drop calculation of one-pipe systems and allows each radiator to be correctly adjusted to provide the desired heat output.

Shut-off:

The radiator return from a **bottom-connected** FLOWRETT can be shut off by screwing in the presetting stem on the diverter fully home, using a 6 mm Allen key. The radiator supply can be shut off by closing the valve, after which the radiator can be removed without having to drain the system. The flow through the loop is unaffected, and the rest of the circuit continues to operate as normal.

The radiator return from a **side-connected** FLOWRETT can **not** be shut off.

Presetting, TA-UNI

Converting one-/two-pipe:

To convert a valve to a two-pipe arrangement, remove the valve cover and use a 2,5 mm Allen key to close the innerspindle fully (= turn clockwise).

Screwing the innerspindle fully anti-clockwise will make the valve operate as a one-pipe valve.

This changeover can be carried out with the valve in operation.

Presetting, one-pipe:

Delivery setting 50% flow to radiator. Can be varied between 10-50% by resetting the outer spindle.

Presetting, two-pipe:

Presetting is carried out at the valve. To do this right, see the valve in question.

Shut-off:

The TA-UNI (bottom- and side-connected) can be shut off by screwing in the presetting stem on the distributor fully home, using a 4 mm Allen key. After which the radiator can be removed without having to drain the system.

Tool for shut-off, converting and presetting:

Inner spindle: Allen key 2,5 mm

Outer spindle: Allen key 4 mm.

Ordering

Complete manifold assembly is ordered by required diverter, valve, connection pipe, if any elbow and radiator connections.

Diagram FLOWRETT/RSD 801 with radiator valve RVT/RVO, one-pipe

Proportion of loop flow to radiator

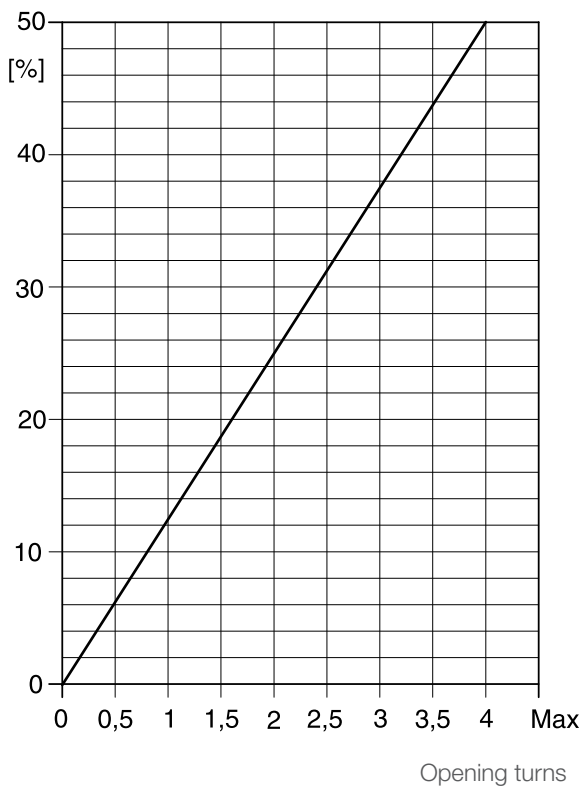


Diagram FLOWRETT/RSD 831 with radiator valve RVT/RVO, one-pipe

Proportion of loop flow to radiator

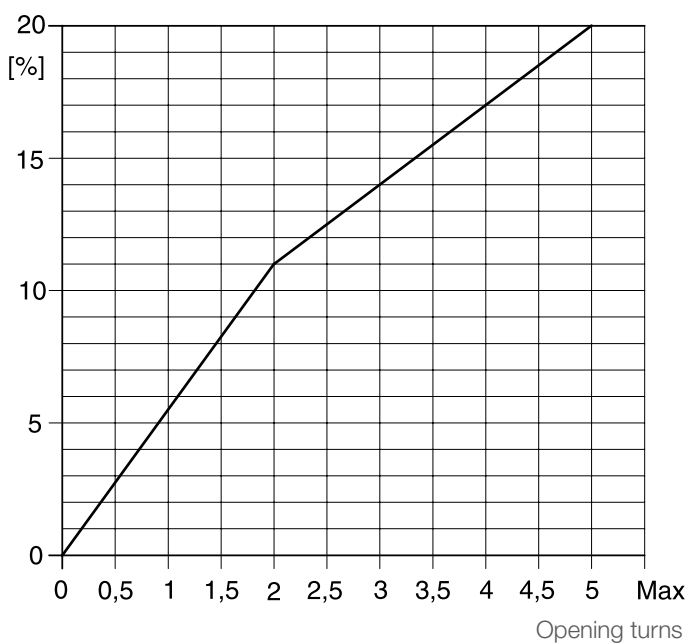
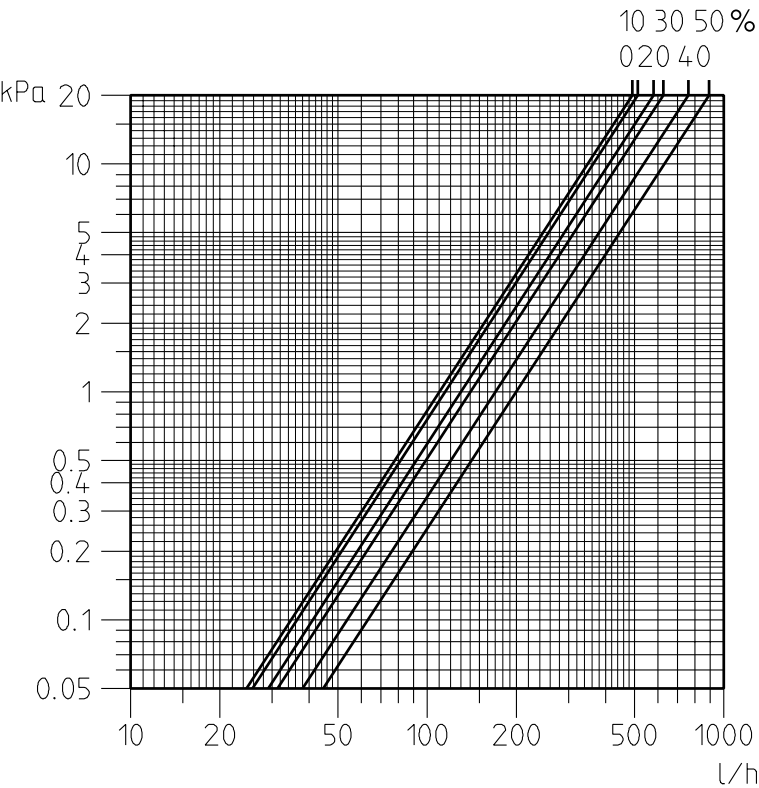


Diagram TA-UNI with radiator valve RVT/RVO, hand controlled, one-pipe.

Delivery setting 50% to radiator.
On/off regulation with EMO T.

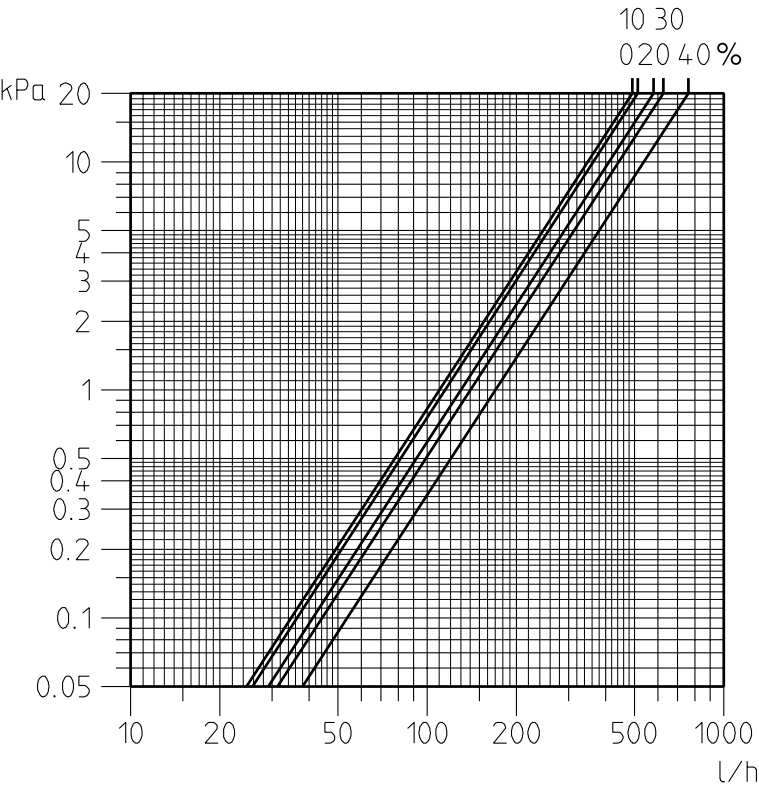


% flow to radiator	0	10	20	30	40	50
Kv	1,1	1,15	1,3	1,4	1,7	2
No of turns	**	4,5	3,75	3,5	2	*

*) Fully open
**) Closed

Diagram TA-UNI with radiator valve RVT, thermostatic controlled, one-pipe.

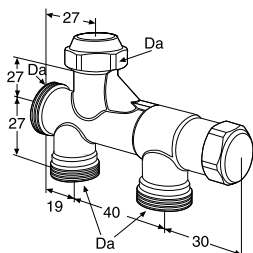
Delivery setting 40% to radiator



% flow to radiator	0	10	20	30	40
KvΔT2K	1,1	1,15	1,3	1,4	1,7
No of truns	**	4,5	3,75	3,5	*

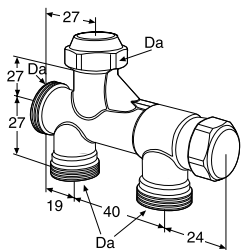
*) Fully open
**) Closed

Diverter



FLOWRETT/RSD 801/831

	DN	Da	Kvs*	EAN	Article No
RSD 801 1-pipe	10	M22x1,5	1,2	7318792693700	50 801-100
RSD 831 1-pipe	10	M22x1,5	2,8	7318792694806	50 831-100



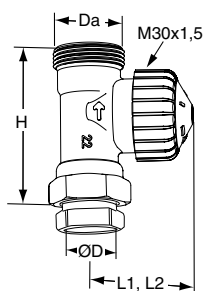
TA-UNI

	DN	Da	Kvs*	EAN	Article No
1-pipe (convertable to 2-pipe)	10	M22x1,5	2,0	7318792642807	50 600-100

*) Whole manifold assembly.

Kvs = m³/h at a pressure drop of 1 bar and fully open valve.

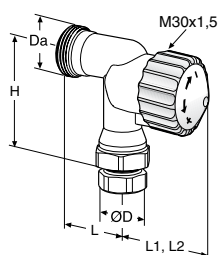
Valves with presetting



TRV-2, TRV-2S Straight

Thermostatic controlled

	DN	D	Da	L1	L2**	H	KvΔT2K	EAN	Article No
TRV-2	10	12	M22x1,5	36	107	50	0,047-0,468	7318793759207	50 861-112
TRV-2S	10	12	M22x1,5	36	107	50	0,017-0,316	7318793848000	50 861-212



TRV-2, TRV-2S Reversed angle

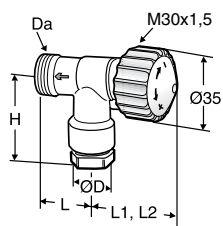
Thermostatic controlled

	DN	D	Da	L	L1	L2**	H	KvΔT2K	EAN	Article No
TRV-2	10	12	M22x1,5	27	37	108	46,5	0,047-0,468	7318793850508	50 864-112
TRV-2S	10	12	M22x1,5	27	37	108	46,5	0,017-0,316	7318793864802	50 864-212

**) Valve with fitted thermostatic head TRV 300.

KvΔT2K = The values are valid when used together with thermostic head TRV 300 (without diverter).

Valves without presetting

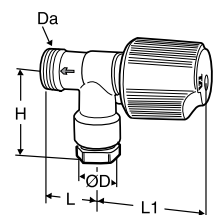


RVT Angle

Thermostatic controlled (not suitable for two-pipe system)

DN	D	Da	L	L1	L2	H	KvΔT2K	Kvs	EAN	Article No
10	12	M22x1,5	27	40	111	34	0,65	1,0	7318792619403	50 520-112

L2 = Valve with fitted thermostatic head.



RVO Angle

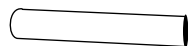
Hand controlled

DN	D	Da	L	L1	H	Kvs	EAN	Article No
10	12	M22x1,5	27	67	34	1,0	7318792644405	50 610-112

KvΔT2K = The values are valid when used together with thermostatic head TRV 300 (without diverter).

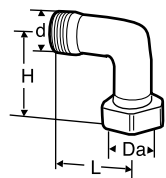
Kvs = m³/h at a pressure drop of 1 bar and fully open valve.

Connection pipe



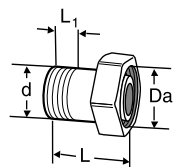
L	ØD	EAN	Article No
1100	12	7318793923103	50 630-001

Radiator connections



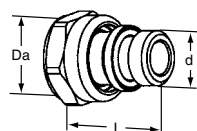
Elbow

d	Da	L	H	EAN	Article No
M22x1,5	M22x1,5	27	26,5	7318792689802	50 702-510



Straight

d	Da	L	L1	EAN	Article No
R3/8	M22x1,5	25	8	7318792687402	50 701-510
R1/2	M22x1,5	25	10	7318792687600	50 701-516



Straight with O-ring

d	Da	L	EAN	Article No
G3/8	M22x1,5	33	7318793825704	50 707-610
G1/2	M22x1,5	33	7318793825803	50 707-616

Thermostatic head - see catalogue leaflet TRV 300.

Thermoelectric actuator - see catalogue leaflet EMO T.

Other accessories - see catalogue leaflet ACCESSORIES.

Couplings - see catalogue leaflet FPL.