

# Tri CTR

## Three-way Valve 1/2" ...2"



The Tri CTR is a three-way valve which can be used as a diverting or a mixing valve. When used as a diverting valve the Tri CTR has one inlet (AB) and two outlets (A and B). Depending on the stem position the flow is diverted to either outlet A or outlet B.

When used as a mixing valve the Tri CTR has two inlets (A and B) and one outlet (AB). Depending on the stem position the flow is mixed between inlets A and B.

The Tri CTR can be used with on/off, floating or modulating actuators; or with thermostats with remote water temperature sensor in which case no auxiliary energy is needed for actuation.

The Tri CTR is supplied with union nuts for use with flat sealing tailpipes.

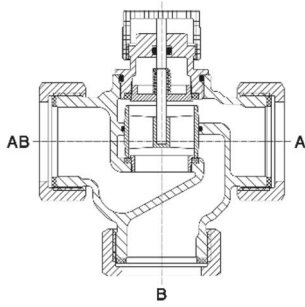
### Features

- + Use as diverting or mixing valve
- + Control with on/off, floating or modulating actuators
- + Body made of bronze

### Specifications

Sizes	1/2" to 2"		
Versions	external threads		
Operating temperature	14...248°F		
Operating pressure	max. 232 psi		
Medium	Heating and chilled system water, for example according to VDI 2035 Water glycol mixtures with max. 50% glycol content		
Cv values and maximum differential pressure	1/2"	2.9	43.5 psi
	3/4"	5.1	29.0 psi
	1"	6.6	14.5 psi
	1 1/4"	8.4	14.5 psi
	1 1/2"	9.9	14.5 psi
	2"	11.7	10.9 psi
Actuator connection	M30 x 1.5		
Stroke	0.11 inch		
Closing force	90...150 N		

## Design and materials



Item	Material
Body	Bronze
Insert	Brass
Stem	Stainless steel
Regulating sleeve	Fibre reinforced plastics
Seals	EPDM
O-rings	EPDM
Union nuts	Brass or cast iron
Connection seals	Fibre seal
Protection cap	Plastic

## Dimensions

	Size	D	L [inch]	H [inch]	H1 [inch]	SW [inch]	Weight [lbs]
	1/2"	G 3/4	2.76	2.99	1.50	1.18	1.32
	3/4"	G 1	3.15	3.46	1.85	1.46	1.76
	1"	G 1 1/4	3.54	3.58	1.97	1.81	2.65
	1 1/4"	G 1 1/2	4.33	3.78	2.17	2.05	3.31
	1 1/2"	G 1 3/4	4.53	4.17	2.52	2.68	4.85
	2"	G 2 3/8	5.12	4.41	2.56	2.95	6.39

## Item Nos.



Size	Connection size	Cv	Item No.
1/2"	G 3/4	2.9	1131204
3/4"	G 1	5.1	1131206
1"	G 1 1/4	6.6	1131208
1 1/4"	G 1 1/2	8.4	1131210
1 1/2"	G 1 3/4	9.9	1131212
2"	G 2 3/8	11.7	1131216

## Accessories

### Tailpieces

Set of three threaded tailpieces, flat sealing

Size	Item No.
NPT 1/2"	1706004
NPT 3/4"	1706006
NPT 1"	1706008
NPT 1 1/4"	1706010
NPT 1 1/2"	1706012
NPT 2"	1706016

Set of three sweat tailpieces, flat sealing


Size	Item No.
Sweat 3/4"	1987672
Sweat 1"	1987673
Sweat 1 1/2"	1987675

## Suitable actuators and controllers


All listed actuators and controllers are suitable for all sizes of the Tri CTR. Detailed specifications are listed in the data sheets of the products.

### Actuators


#### Aktor T electrothermal actuators, on/off

	Version	Item No.
	<b>24 V AC</b>	
	NC, cable 3.2 ft	1012416
	NC, cable 6.5 ft	1012442
	NO, cable 3.2 ft	1012426

#### Aktor T electrothermal actuator, 0...10V


	Version	Item No.
	<b>24 V AC</b>	
	NC, cable 3.2 ft	1012953

#### Aktor M electromotive actuators


	Version	Item No.
	<b>24 V AC</b>	
	on/off, floating, modulating 0...10V	1012725
	modulating 0...10V	1012726
	modulating 0...10V	1012717
	on/off, high speed	1012711
	Modbus RTU	1012745

### Temperature controllers

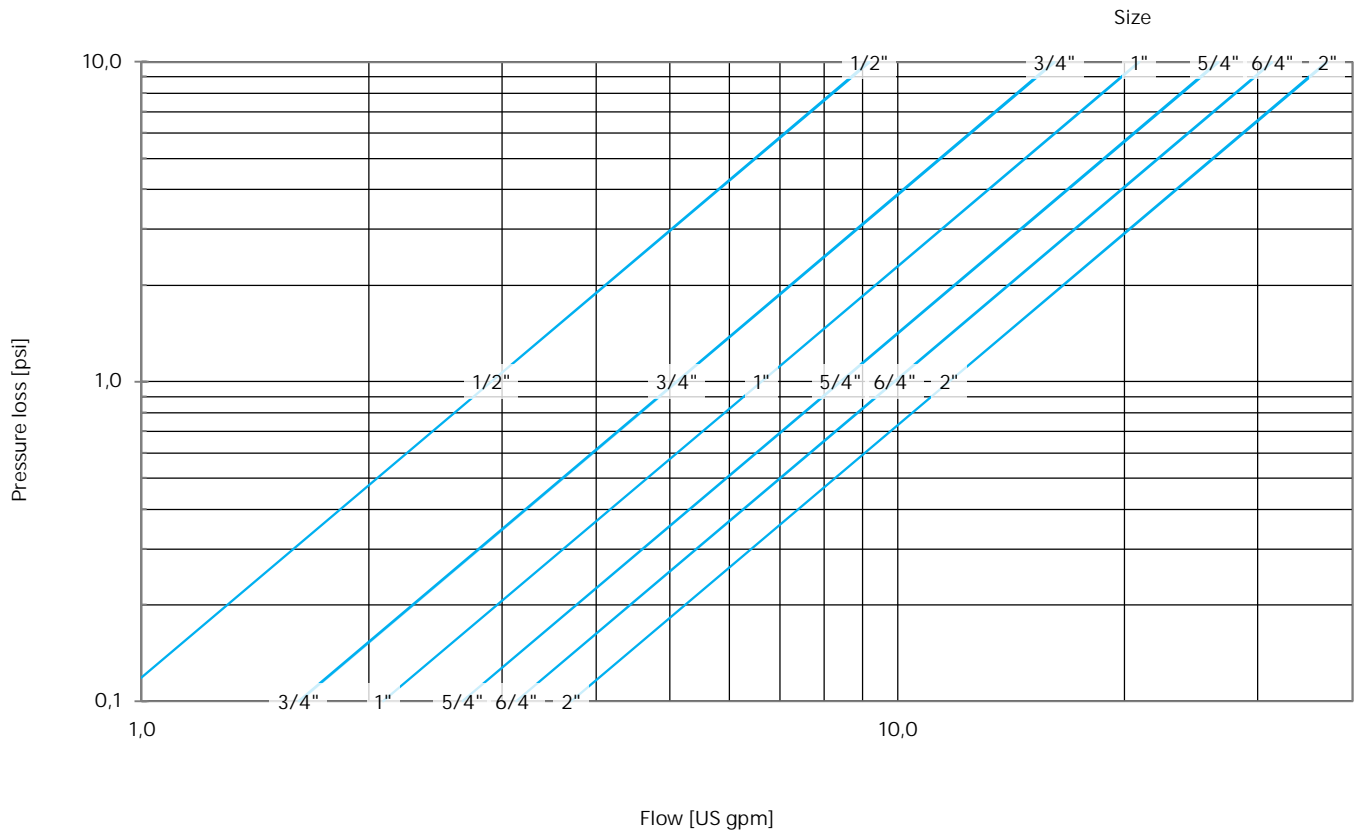
#### Temperature controllers with immersion sensor and sleeve G½

	Setting range	Item No.
	Capillary tube length: 6.5 ft	
	68...122°F	1140561
	104...158°F	1140562
	122...176°F	1140563
	158...212°F	1140564
	Capillary tube length: 16 ft	
	68...122°	1140571
	104...158°F	1140572
	158...212°F	1140574

#### Temperature controllers with contact sensor and heat conducting base

	Setting range	Item No.
	Capillary tube length: 6.5 ft	
	68...122°F	1142861
	86...140°F	1142862
	104...158°F	1142863
	122...176°F	1142864

# Pressure loss chart



## Cv values and maximum pressure loss

	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"
Cv	2.9	5.1	6.6	8.4	9.9	11.7
max. ΔP	43.5 psi	29 psi	14.5 psi	14.5 psi	14.5 psi	10.9 psi

- Cv values are valid for diverting and mixing valve
- Maximum differential pressure for positive shutoff at end positions

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 US-03112-11312-DB-V2126 – July 2021

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