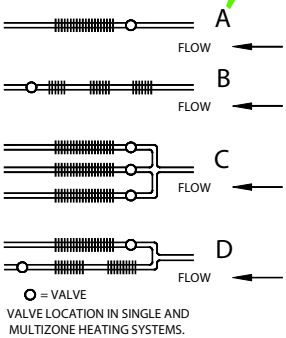
TUNSTALL-MACON non-electric Valves for HIGH - HEAT® *with* Stainless Steel Valving

Operation

The *Macon* valve is designed to save energy by controlling hot water or low pressure steam heat in freestanding radiators, convectors, baseboards, fan coil units and the like in a loop, a zone or a unit. The valve, coupled with a *Macon* operator, provides a reliable automatic modulating unit. As room temperature drops, the *Macon* valve opens to allow more hot water or steam to flow through the radiator, thus allowing more heat into the room. When the room approaches the selected temperature, the operator causes the valve to begin closing off the flow of hot water or steam. This continued monitoring of the temperature is fully automatic, using no electricity whatsoever. The *Macon* valve can be equipped with any wide variety of *Macon* operators.

Features

- 303 Stainless steel valve
- Easy transfer to electronic controls
- Replaceable insert
- Stainless steel spindle
- Individual room control
- Easy one-trade installation
- Fuel savings up to 30%
- Prevents over- and under-heating
- Helps balance the heating system
- Same valve used for hot water or low pressure steam
- All NPT are forged brass nickel-plated
- Minimizes or eliminates expansion noises
- Suitable for nearly any hydronic heating application
- Operators can be changed without draining the system
- Shipped with a protective cap that can be used to control heating during the installing period



VALVE LOCATION IN SINGLE AND MULTIZONE HEATING SYSTEMS.

Vertical angle valve with straight nipple. NPT - female inlet, male union outlet.

N10637-SS-1/2”
N10657-SS-3/4”
N10677-SS-1”
N10697-SS-1-1/4”

Straight valve with straight nipple. NPT - female inlet, male union outlet.

N10737-SS-1/2”
N10757-SS-3/4”
N10777-SS-1”
N10797-SS-1-/4”

Horizontal angle valve with straight nipple. NPT - female inlet, male union outlet.

N10837-SS-1/2”
N10857-SS-3/4”
N10877-SS-1”
N10897-SS-1-1/4”

Sweat valve with female inlet and outlet

N10930-SS-1/2”
N10950-SS-3/4”
N10970-SS-1”

Fail closed valves also available, consult factory.
All Macon valves and thermostats conform to ASHRAE Standard 102P-1983 and European Standard EN 215/1215. We are also ISO 9001 certified (1994) and ISO 14001 certified (1998).

118 Exchange Street · Chicopee, MA 01013
www.tunstall-inc.com
Tunstall
Phone (413) 594-8695 · Fax (413) 598-8109
www.maconcontrols.com

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DATA: HIGH-HEAT Stainless Steel Valving

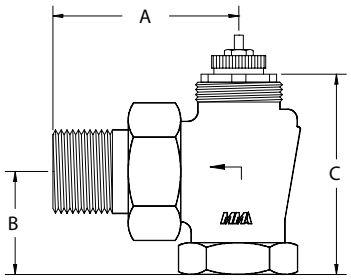
Vertical Angle NPT
1/2”, 3/4”, 1”, 1-1/4”

Straight NPT
1/2”, 3/4”, 1”, 1-1/4”

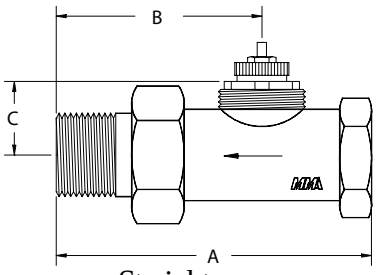
Horizontal Angle NPT
1/2”, 3/4”, 1”, 1-1/4”

Straight Female Sweat
1/2”, 3/4”, 1”

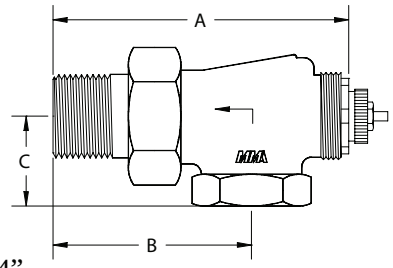
Disc Material: 303 Stainless Steel
Body Styles: Straightway or angle
Maximum steam pressure: 15 psig
Maximum static pressure: 145 PSI
Maximum water temperature: 250°F
Body tappings: Female inlet, male union outlet, Female sweat
Body Material: Forged brass, NPT valves are nickel-plated
Max. Differential pressure: 20 psi H_2O, refer to thermostat specs
Suggested Differential Pressure = 0.5 to 2.9 psi
Overall Height: Add thermostat dimensions less 1/4”



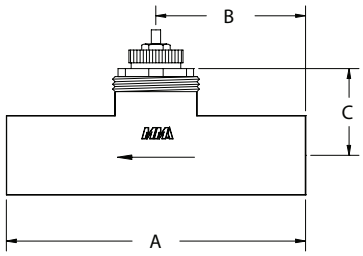
Vertical Angle



Straightway



Horizontal Angle



Sweat

Macon NT Series Valves are in an open position when no operator is attached.

CV: 1/2” = 1.8
3/4” = 2.5
1” = 2.74
1-1/4” = 3.5

DIMENSIONS

VERTICAL ANGLE

BODY #	SIZE	A	B	C
N10637-SS	1/2"	2-1/4"	1 "	1-3/4"
N10657-SS	3/4"	2-1/2"	1-1/8"	2-1/8"
N10677-SS	1"	3"	1-3/8"	2-1/4"
N10697-SS	1-1/4"	3-1/4"	1-3/4"	2-3/4"

STRAIGHTWAY

BODY #	SIZE	A	B	C
N10737-SS	1/2"	3-1/2"	2-1/16"	1"
N10757-SS	3/4"	4"	2-1/2"	1"
N10777-SS	1"	4-5/8"	2-15/16"	1"
N10797-SS	1-1/4"	5-1/4"	3-3/8"	1-1/8"

HORIZONTAL ANGLE

BODY #	SIZE	A	B	C
N10837-SS	1/2"	3-3/8"	2-3/16"	1-1/2"
N10857-SS	3/4"	3-3/4"	2-1/2"	1-1/4"
N10877-SS	1"	4-3/16"	3"	1-3/8"
N10897-SS	1-1/4"	4-3/4"	3-1/4"	1-7/8"

SWEAT VALVES

BODY #	SIZE	A	B	C
N10930-SS	1/2"	2-3/16"	1-3/32"	1"
N10950-SS	3/4"	2-11/16"	1-11/32"	7/8"
N10970-SS	1"	3-5/32"	1-9/16"	1"

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CAPACITY TABLES for
HIGH - HEAT® with Stainless Steel Valving

STEAM

BTU/hour

P.D.* with 10 PSI Inlet	3.5 C_v 1-1/4" Valves	2.74 C_v 1" Valves	2.5 C_v 3/4" Valves	1.8 C_v 1/2" Valves
1 psi	48,000	39,000	36,000	28,000
3 psi	87,000	70,000	65,000	46,000
5 psi	113,000	91,000	84,000	63,000
7 psi	130,000	104,000	96,000	72,000
10 psi	162,000	130,000	120,000	90,000

*P.D. = Pressure Drop
Capacity measured with 10 psi inlet pressure.
EDR = Equivalent Direct Radiation (in ft.^{2})

$$EDR = \frac{BTU/hr}{240} \qquad BTU/hr = 240 \times EDR$$

BTU/hour = Lbs. steam/hour x 1000

HOT WATER

BTU/hour**

**Pressure Drop Ft.	P.D. PSI	3.5 C_v 1-1/4" Valves	2.74 C_v 1" Valves	2.5 C_v 3/4" Valves	1.8 C_v 1/2" Valves
1	.43	21,000	17,000	16,500	12,000
2	.87	28,000	23,000	22,000	15,500
4	1.7	44,000	35,000	32,500	23,500
6	2.6	53,000	43,000	40,000	29,000
8	3.5	64,000	51,000	47,000	33,500
10	4.3	70,000	56,000	52,000	37,500
12	5.2	77,000	62,000	57,000	41,000
14	6.1	83,000	67,000	62,000	44,500
16	7.0	88,000	71,000	66,000	47,500

**Assumes 20° F drop in water temperature through radiation.

$GPM = C_v\sqrt{P.D.}$ 1PSI = 2.31 Ft. H_2O
BTU/hour = GPM x 10,000 1Ft. H_2O = .433 psi

EDR (Equivalent Direct Radiation in ft.^{2}) for hot water

Water Temperature	Cast Iron Radiator	Convector
200° F	209	205
190° F	187	183

BTU/hour = EDR in ft.^{2} x (Appropriate number from above EDR Table)
For example 205 for 200°F water in convector.

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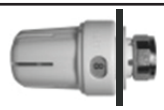
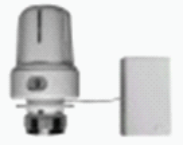
SUGGESTED APPLICATIONS

	 MTW-SSHS (stainless steel w/heat shield)	 MTW-SS (stainless steel)	 MTW	 MTWZ	 ENTL B46000	 ENTLZ B56000	 VM - 24 Volt
 Vertical Angle	Yes	Not recommended (may shut off prematurely due to poor air circulation)	Not recommended (may shut off prematurely due to poor air circulation)	Yes	Yes	Yes	Yes
 Straight	Yes	Yes, if thermostat is mounted inverted or horizontal	Yes, if thermostat is mounted inverted or horizontal	Yes	Yes	Yes	Yes
 Horizontal Angle	Yes	Yes	Yes	Yes	Yes	Yes	Yes
 Sweat	Yes	Yes, if thermostat is mounted inverted or horizontal	Yes, if thermostat is mounted inverted or horizontal	Yes	Yes	Yes	Yes

We reserve the right to alter designs, specifications and information without notice.

* Heat Shield (HS) not recommended within enclosure.

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