



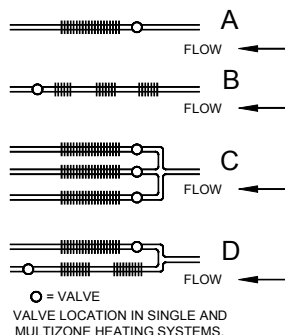
## VALVES FOR NT SERIES OPERATORS

### 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

- Compact dimensions
- 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



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



N10637 - 1/2"  
N10657 - 3/4"  
N10677 - 1"  
N10697 - 1-1/4"

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



N10737 - 1/2"  
N10757 - 3/4"  
N10777 - 1"  
N10797 - 1-1/4"

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



N10837 - 1/2"  
N10857 - 3/4"  
N10877 - 1"  
N10897 - 1-1/4"

Sweat valve with female inlet and outlet



N10930 - 1/2"  
N10950 - 3/4"  
N10970 - 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).

# DATA - Macon Valves for NT Series

## 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:** EPDM

**Body Styles:** Straightway or angle

**Maximum steam pressure:** 15 psig

**Maximum static pressure:** 145 PSI

**Maximum water temperature:** 250°F

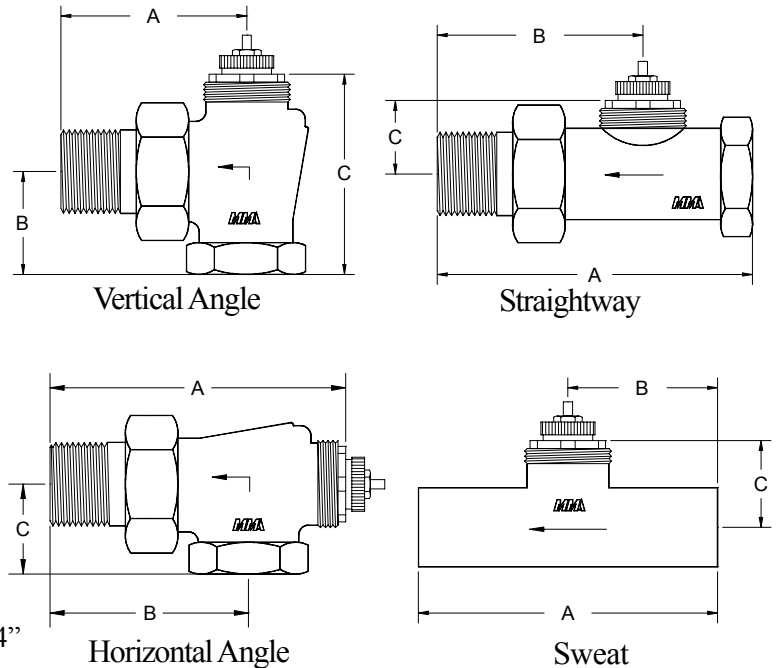
**Body tappings:** Female inlet, male union outlet, Female sweat

**Body Material:** Forged brass, NPT valves are nickel-plated

**Max. Differential pressure:** 20 psi H<sub>2</sub>O, refer to thermostat specs

**Suggested Differential Pressure** = 0.5 to 2.9 psi

**Overall Height:** Add thermostat dimensions less 1/4"



**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	1/2"	2-1/4"	1"	1-3/4"
N10657	3/4"	2-1/2"	1-1/8"	2-1/8"
N10677	1"	3"	1-3/8"	2-1/4"
N10697	1-1/4"	3-1/4"	1-3/4"	2-3/4"

### STRAIGHTWAY

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

### HORIZONTAL ANGLE

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

### SWEAT VALVES

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





**CAPACITY TABLES for  
"NI" SERIES VALVES**

**STEAM  
BTU/hour**

P.D.* with 10 PSI Inlet	3.5 C <sub>v</sub> 1-1/4" Valves	2.74 C <sub>v</sub> 1" Valves	2.5 C <sub>v</sub> 3/4" Valves	1.8 C <sub>v</sub> 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.<sup>2</sup>)

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

BTU/hour = Lbs. steam/hour x 1000

**HOT WATER  
BTU/hour\*\***

**Pressure Drop Ft.	P.D. PSI	3.5 C <sub>v</sub> 1-1/4" Valves	2.74 C <sub>v</sub> 1" Valves	2.5 C <sub>v</sub> 3/4" Valves	1.8 C <sub>v</sub> 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.

$$\text{GPM} = C_v \sqrt{\text{P.D.}} \quad 1 \text{ PSI} = 2.31 \text{ Ft. H}_2\text{O}$$

$$\text{BTU/hour} = \text{GPM} \times 10,000 \quad 1 \text{ Ft. H}_2\text{O} = .433 \text{ psi}$$

**EDR (Equivalent Direct Radiation in ft.<sup>2</sup>) for hot water**

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

BTU/hour = EDR in ft.<sup>2</sup> x (Appropriate number from above EDR Table)




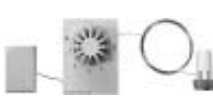





For example 205 for 200°F water in convactor.



## COMPARISON CHART

Description	MACON	Ammark		Bell & Gossett (ITT)	Honeywell Braukmann	Honeywell Sparco/Braukmann	Danfoss RA 2000	Taco	Notes
		Old(SYR)	New						
½" Vertical Angle	N10637	70	60	TM12-50	V110E1004	V100E1055/5030	013G8014	5323	
½" Horizontal Angle	N10837	77	67	TM42-50	V110F1002	V100F1054	013G8013	5322	
½" Straight	N10737	71	61	TM21-50	V110D1000	V100D1056/5057	013G8015	5321	
½" Sweat	N10930	-	-		-	V100G5054	013G8042		
¾" Vertical Angle	N10657	70	60	TM12-75	V110E1012	V100E1063	013G8019	5333	
¾" Horizontal Angle	N10857	77	67	TM42-75	V110F1010	V100F1062	013G8018	5332	
¾" Straight	N10757	71	61	TM12-75	V110D1008	V100D1064/5065	013G8020	5331	
¾" Sweat	N10950	-	-		-	V100G5062	013G8044		
1" Vertical Angle	N10677	70	60	TM12-100	V110E1020	V100E1071	013G8024		
1" Horizontal Angle	N10877	77	67	TM42-100	V110F1018	V100F1070	013G8023		
1" Straight	N10777	71	61	TM21-100	V110D1016	V100D1072	013G8025		
1" Sweat	N10970	-	-		-	-	-		
1¼" Vertical Angle	N10697	70	60	-	V110E1028	-	013G8031	-	
1¼" Horizontal Angle	N10897	77	67	-	V110F1026	-	013G8030	-	
1¼" Straight	N10797	71	61	-	V110D1024	-	013G8032	-	
Direct Mount T'Stat	ENT B26000	72	62	TM5	T104A1018/1040	T100A1028/1018	013G8200	5201	
Direct Mount T'Stat	MTW-28	72	62	TM5	T104A1018/1040	T100A1028/1018	013G8250	5201-3	
Remote Sensor T'Stat	MTWZ	73	63	TM6	T104F1021/1512	T100F1395/1021	013G8252	5203	
Remote Dial T'Stat	ENTL B46000	76	66	TM9	T104B1019/1038	T100B1035/1387	013G8562	5206	
Remote Sensor & Dial	ENTLZ B56000	74	-	-	T104C1015/1036	T100C1026/1015	013G8564	5211	
One Pipe Steam Valve	OPSK	-	-	TM1PS	Y108P	Y100P	013G0140	5213	

## SUGGESTED APPLICATIONS

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