

# B VALVE

## Internally sensed thermostatic control valve

### Features

- ▼ **Easy installation**
- ▼ **Can be mounted in any position**
- ▼ **Vibration and shock resistant**
- ▼ **Low friction characteristics**
- ▼ **Automatic self-sensing control**
- ▼ **Positive proportional valve action**
- ▼ **Rugged, robust construction for long life**
- ▼ **Tamper-proof**
- ▼ **Environmentally friendly**



## SPECIFICATIONS

### FLOW RATE:

10 - 450 m<sup>3</sup>/Hr

### APPLICATION:

Diverting or Mixing

### MOUNTING POSITION:

Any Orientation

### PORTS:

Below Nominal Temperature:

Ports A & B connected

Above Nominal Temperature:

Ports A & C connected

### BODY MATERIALS:

Aluminium, Bronze, Cast Iron, Ductile Iron, Steel & Stainless Steel (Refer to Model Coding Table)

### SEAL MATERIALS:

Nitrile, Viton, Neoprene, Ethylene Propylene Rubber

### VALVE SIZES (nominal bore):

40, 50, 65, 80, 100, 125, 150 & 200mm (1½", 2", 2½", 3", 4", 5", 6" & 8")

### PORT CONNECTIONS:

Screwed – 40 & 50mm (1½" & 2") BSP.PL or NPT

Flanged – 50–200mm (2"–8") to most DIN, ANSI, JIS and other standards

### CONTROL TEMPERATURES:

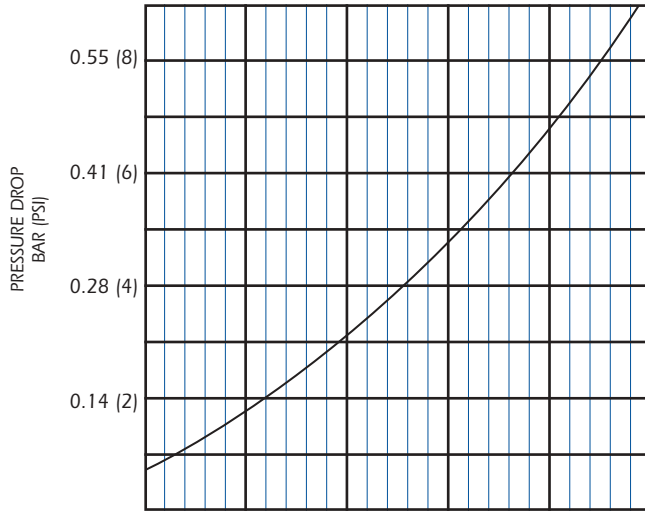
See element characteristics table

# AMOT CONTROLS

Quality and Reliability for over 50 years



## VALVE CHARACTERISTICS



### NOMINAL SIZE

1½	8	12	16	20	24	30
2	10	15	20	25	30	35
2½	19	28	37	46	55	64
3	20	30	40	50	60	70
33	28	41	55	69	84	97
4	40	60	80	100	120	140
5	60	90	120	150	180	210
6	90	135	180	225	270	315
8	135	195	260	320	390	450

FLOW RATE  
m<sup>3</sup>/Hr – Water

## ELEMENT CHARACTERISTICS

All temperatures in °C (°F)

Control Temp	Rated Range	Max temp Continuous	Application Types*		
			F.W.	L.O.	S.W.
13 (55)	8-20 (47-68)	35 (95)	✓	✓	✓
14 (57)	10-18 (50-65)	30 (86)	✓	✓	✓
24 (75)	20-30 (68-86)	38 (100)	✓	✓	✓
32 (90)	27-35 (81-95)	43 (110)	✓	✓	✓
35 (95)	29-41 (85-105)	49 (120)	✓	✓	✓
38 (100)	34-42 (93-108)	50 (122)	✓	✓	-
41 (105)	35-45 (95-113)	55 (131)	✓	✓	✓
43 (110)	38-47 (100-117)	56 (133)	✓	✓	✓
46 (115)	40-50 (104-122)	61 (142)	✓	✓	-
49 (120)	43-54 (110-130)	66 (150)	✓	✓	✓
54 (130)	51-60 (124-140)	68 (155)	✓	✓	✓
57 (135)	54-63 (129-145)	71 (160)	✓	✓	-
60 (140)	57-66 (135-151)	74 (165)	✓	✓	✓
63 (145)	60-69 (140-156)	79 (174)	✓	✓	-
66 (150)	63-72 (145-161)	82 (180)	✓	✓	✓
68 (155)	66-74 (150-165)	85 (185)	✓	✓	✓
71 (160)	68-78 (155-173)	88 (190)	✓	✓	✓
74 (165)	71-80 (160-175)	88 (190)	✓	✓	-
77 (170)	74-83 (165-181)	93 (200)	✓	✓	-
79 (175)	77-85 (170-185)	102 (215)	✓	✓	✓
82 (180)	79-88 (175-191)	104 (220)	✓	✓	-
85 (185)	82-91 (180-196)	106 (223)	✓	✓	-
91 (195)	87-98 (188-209)	107 (225)	✓	✓	-
96 (205)	93-102 (200-215)	108 (226)	✓	✓	-
102 (215)	98-107 (209-225)	115 (239)	✓	✓	-
107 (225)	102-113 (216-236)	118 (244)	✓	✓	-
110 (230)	104-115 (219-239)	127 (260)	✓	✓	-
116 (240)	108-122 (227-252)	132 (270)	✓	✓	-

\* Element temperature availability: F.W. = Fresh water, L.O. = Oil, S.W. = Saltwater

## MANUAL OVERRIDE OPTION

BR type valves are fitted with a variable manual override which allows a progressive opening of port A to C. Manual override is often a requirement for Marine applications.

**Function.** In automatic mode the valve will control the temperature automatically, but turning the adjusting nut on top of the operator clockwise will cause the element to move toward its hot (extended) position, regardless of temperature. There is a position indicator on each manual override which shows the element position during manual operation. Each element assembly has its own Manual Override.

Manual Override should only be used in case of an emergency.

## MAXIMUM WORKING PRESSURES (bar)

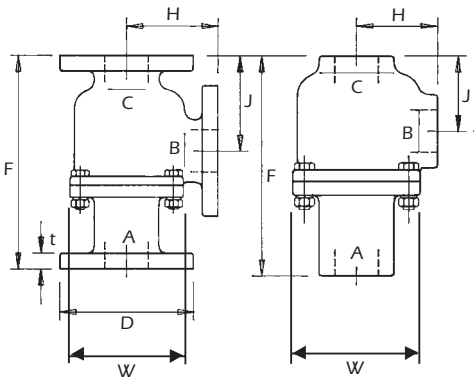
	Aluminium	Bronze	Cast Iron	Ductile Iron	Steel	Stainless Steel
1½B	N/A	10	10	N/A	N/A	N/A
2B	10	10	10	16	45	45
2BH	N/A	N/A	22	N/A	N/A	N/A
2½B	10	10	10	16	45	45
3B	10	10	10	16	45	45
33B	N/A	N/A	6	N/A	N/A	N/A
4B	10	10	10	16	20	N/A
5B	10	10	10	10	N/A	N/A
6B	10	10	10	10	N/A	N/A
8B	N/A	10	10	10	N/A	N/A

Type	DIMENSIONS (MM)							ND10/16			125/150LB		
	NB	F	H	J	D	W	t	K	d	n	K	d	n
1½BO	40	246	91	97	-	140	-	-	-	-	-	-	-
2BO/BH/BG	50	246	91	97	-	139	-	-	-	-	-	-	-
2BF	50	270	113	121	165	139	20	125	18	4	120.6	19	4
2BC/BR	50	225	149	-	165	140	20	125	18	4	120.6	19	4
2½BO/BR	65	254	165	-	185	210	20	145	18	4	139.7	19	4
3BO/BR	80	267	171	-	200	210	22	160	18	8	152.6	19	4
33BO/BR	80	267	171	-	200	245	22	160	18	8	152.6	19	4
4BO/BR	100	403	217	-	224	308	24	180	18	8	190.5	19	8
5BO/BR	125	489	241	-	254	349	26	210	18	8	216	22.2	8
6BO/BR	150	489	254	-	285	483	26	240	23	8	240	23	8
8BO/BR	200	840	280	-	340	485	30	295	22	8 or 12*	299	22	8

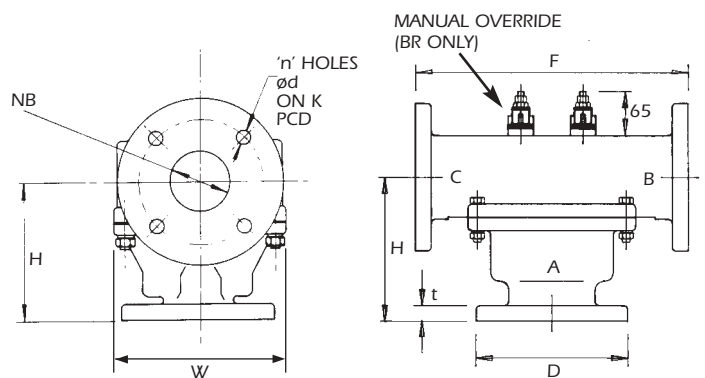
\* 8 Holes on ND10 Flange, 12 Holes on ND16 Flange

Type	Weights (Kilograms)			
	Bronze	Cast/Ductile Iron	Stainless Steel/Steel	Aluminium
1½BO	13	11	N/A	N/A
2BO/BH/BG	13	11	N/A	N/A
2BF	22	18	N/A	7
2BC/BR	26	18	20	N/A
2½BO/BR	29	24	34	10
3BO/BR	36	27	36	11
33BO/BR	42	35	N/A	14
4BO/BR	68	61	N/A	24
5BO/BR	109	91	N/A	35
6BO/BR	136	123	N/A	48
8BO/BR	315	285	N/A	N/A

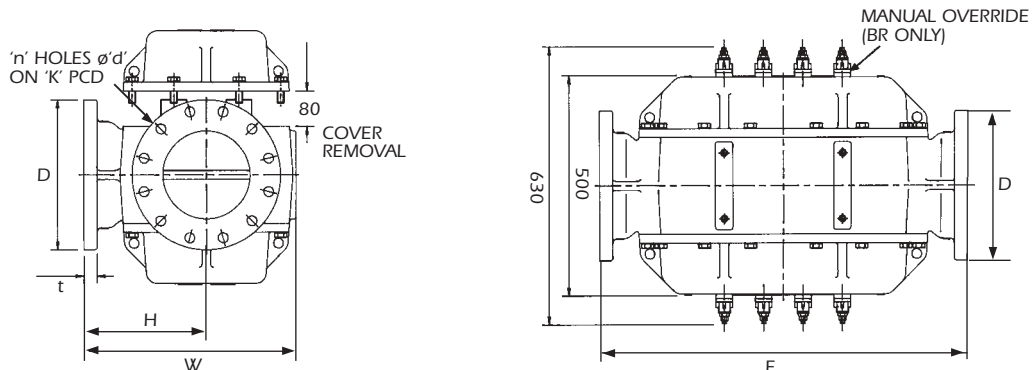
### 1½ & 2BO/BH/BG 2BF



### 2BC, 2BR & 2½ - 6BO/BR



### 8BO, BR



# MODEL CODING SYSTEM

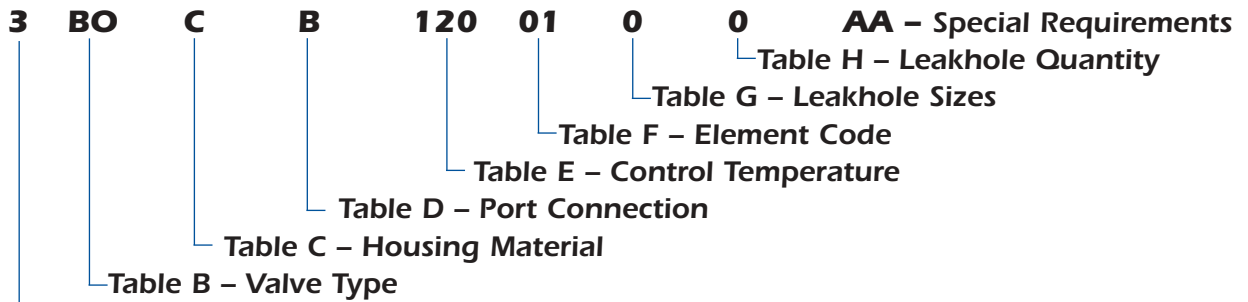


Table A – Valve Nominal Bore		
Code	Size mm (in)	Number of Elements
1½	40 (1½")	1
2	50 (2")	1
2½	65 (2½")	2
3	80(3")	2
33	80(3")	3
4	100(4")	4
5	125(5")	6
6	150(6")	9
8	200(8")	16

Table B – Valve Type	
Type	Description
BO	1½" & 2" screwed connections
BO	2½" to 8" flanged
BC	Flanged 'T' configuration (2" only)
BF	Flanged 'F' configuration (2" only)
BR	Manual override (2" to 8")
BH	Screwed high pressure (2" only) (cast iron)
BG	Screwed/screw retained sleeves (2" only) (cast iron)

Table C – Housing Material	
Type	Description
A	Aluminium (not 8 & 33)
B	Bronze (not 33)
C	Cast iron
D	Ductile iron
S	Steel (2, 2½, 3 and 4 only)
R	316 stainless steel (2, 2½, 3 only)

Table D Port Connection	
Code	Connection
A	Flanged ND6
B	Flanged ND10
C	Flanged ND16
D	Flanged BS:10 table D
E	Flanged BS:10 table E
F	Flanged ANSI 125lb (cast iron, bronze, and ductile only)
J	Flanged ANSI 150lb (steel and stainless steel only)
H	Flanged ANSI 300lb (steel and stainless steel only)
L	Flanged JIS 10k
M	Flanged JIS 5k
T	Screwed NPT (1½" & 2 BO only)
U	Screwed BSP:PL (1½" and 2 BO only)

Table E – Control Temperature	
For temperatures available see Element Characteristic Table. Model Code Temperature denoted in 'f' only.	

Table F – Element Code	
Type	Description
01	1096X Standard
05	6836S Saltwater
07	2433X Standard with manual override
09	6838S Saltwater with manual override

Table G – Leakhole Sizes	
Type	Description
0	None
A	13 (½")
B	6.5 (¼")
C	9.5 (⅜")
D	3.2 (⅛")
E	1.6 (⅙")
F	2.4 (⅜")
G	5 (⅞")
H	8 (⅝")

Table H – Leakhole Quantity	
Refer to nominal bore for maximum number of leakholes per valve size (1 per element)	

Special Requirements	
AA –	Contact AMOT Controls for special requirements

This document is distributed for information purposes only. It is not to be construed as becoming part of any contractual or warranty obligations of AMOT Controls, unless expressly so stated in a sales contract. AMOT Controls reserve the right to make product design changes at any time without notice.

## AMOT Controls

**In Europe**  
Western Way  
Bury St Edmunds  
Suffolk. IP33 3SZ, UK  
Tel: +44 (0)1284 762222  
Telefax: +44 (0)1284 760256  
E-mail: enquiries@amot.com

**In Germany**  
Rondenbarg 25, Tor 4  
22525 Hamburg  
Germany  
Tel: +49 40 85 371 298  
Telefax: +49 40 85 371 331  
E-mail: germany@amot.com

**In USA**  
401 First Street  
Richmond, California  
94801-2906, USA  
Tel: +1(510) 307-8300  
Telefax: +1(510) 234-9950  
E-mail: sales@amotusa.com

**In Asia**  
10 Eunos Road 8  
#12-06 Singapore Post Centre  
Singapore 408600  
Tel: +65 6293 4320  
Telefax: +65 6293 3307  
E-mail: singapore@amot.com

**With facilities also in**  
Russia  
Switzerland  
and China