

SUBMITTAL COVERSHEET **Nanuet UFSD –Phase 3 Projects**

Architect:
KSQ Architects
215 W 40th Street, 15th Floor
New York, NY 10018

Owner:
Nanuet Union Free School District
101 Church Street
Nanuet, NY 10954

Construction Manager:
Jacobs
One Penn Plaza, 54th floor
New York, NY 10019

Contractor: Joe Lombardo Plumbing & Heating of Rockland Inc

Contract: Ron Lombardo

Address: 321 Spook Rock Road Suite 109A
Suffern, New York 10901

Telephone: 845-357-6537

Fax: 845-357-8529

School Name: Nanuet Union Free School District Phase 3 Bond Projects @ Barr Middle School & Nanuet High School

Type of Submittal:

Re-submittal: [] No [] Yes

[] Shop Drawings [] Product Data [] Schedule [] Sample [] _____
[] Test Report [] Certificate [] Color Sample [] Warranty [] _____

Submittal Description:

Product Name: HYDRONIC PIPING BALANCING VALVES

Manufacturer: NU TECH

Subcontractor/ Supplier: CONTROLS ASSOCIATES

References:

Spec. Section No.: 232113

Drawing No(s): _____

Paragraph: _____

Rm. or Detail No(s): _____

Architect's/ Engineer's Review Stamp

SAGE ENGINEERING ASSOCIATES, LLP

☒ Reviewed
☐ Rejected
☐ Submit Specified Item

☐ Furnish as Corrected
☐ Revise and Resubmit

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades and performing all Work in a safe and satisfactory manner.

SAGE LOG NO. M-29

Date: 11/8/2023

By: J. Venditte

Contractor Review Statement:

These documents have been checked for accuracy and coordinated with job conditions and Contract requirements by this office and have been found to comply with the provisions of the Contract Documents.

Ronald J. Lombardo

11.8.23

Name:

Date:

Company Name:

Joe Lombardo Plumbing & Heating of Rockland Inc.

Remarks:

SUBMITTAL

Nanuet Schools- Middle School & High School

Nutech Coil Kits

Engineer:
Sage
Albany, NY

Contractor:
Joe Lombardo Plumbiung
321 Spook Rock Road
Suffern, NY 10901

Prepared by: Roland Lopez
Revision: 0
Date: 11/8/2023



Control Associates, Inc.
20 Commerce Drive
Allendale, NJ 07401
USA
T (201) 934 5001
F (201) 934 5521
www.control-associates.com

Nutech Coil Kits:

As per schedule below:

Unit Ventilator

Tag	Flow (GPM)	Size (in.)	Equipment	Qty
UV-MS-1 thru UV-MS-41	2.0	3/4"	MB-075, (2) BB-075	41

HW Radiation

Tag	Flow (GPM)	Size (in.)	Equipment
R-MS-1	3.5	3/4"	MB-075, (2) BB-075
R-MS-2	3.5	3/4"	MB-075, (2) BB-075

Fin-Tube Radiation

Tag	Flow (GPM)	Size (in.)	Equipment
FT-MS-1	2.3	3/4"	CCK-M4

High School**Heating Coil**

Tag	Flow (GPM)	Size (in.)	Equipment
HC-HS-2	28.5	2"	CCK-MOD
HC-HS-3	20.23	1.5"	CCK-MOD
HC-HS-4	26.66	2"	CCK-MOD

HW Radiation

Tag	Flow (GPM)	Size (in.)	Equipment
R-1	0.48	3/4"	CCK-MOD
R-2	2.96	3/4"	CCK-MOD
R-3	0.50	3/4"	CCK-MOD

Blower Coil

Tag	Flow (GPM)	Size (in.)	Equipment
BC-HS-1	8.0	1"	CCK-MOD
BC-HS-2	5.0	1"	CCK-MOD

Unit Heater

Tag	Flow (GPM)	Size (in.)	Equipment
UH-HS-1	0.8	3/4"	CCK-M1

Cabinet Unit Heater

Tag	Flow (GPM)	Size (in.)	Equipment
CUH-HS-1	1.41	3/4"	CCK-M3 MOD
CUH-HS-2	1.64	3/4"	CCK-M3 MOD
CUH-HS-3	3.27	3/4"	CCK-M3 MOD

Convactor

Tag	Flow (GPM)	Size (in.)	Equipment
CV-HS-1	0.67	3/4"	CCK-M6
CV-HS-2	0.67	3/4"	CCK-M6
CV-HS-3	0.67	3/4"	CCK-M6
CV-HS-4	0.67	3/4"	CCK-M6
CV-HS-5	0.67	3/4"	CCK-M6
CV-HS-6	0.67	3/4"	CCK-M6
CV-HS-7	0.38	3/4"	CCK-M6
CV-HS-8	0.38	3/4"	CCK-M6
CV-HS-9	0.38	3/4"	CCK-M6
CV-HS-10	0.31	3/4"	CCK-M6
CV-HS-11	0.43	3/4"	CCK-M6

Indoor AHU (Heating)

Tag	Flow (GPM)	Size (in.)	Equipment
AHU-HS-3	45.9	2"	SV-200, (2) MB-200

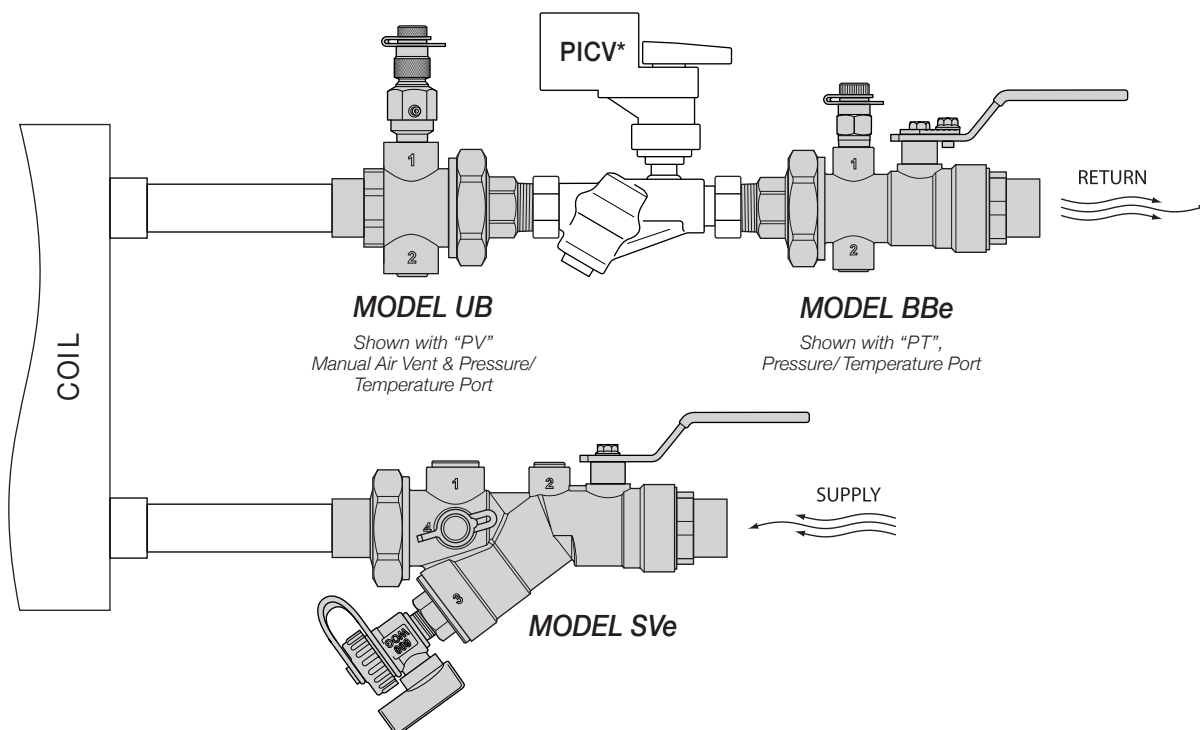
Qty (1) Model SV- (SWT) X U (SWT)– PT-DV Nutech combination Y Strainer and Ball Valve, Forged Brass Body, includes (1) P/T Port, (1) Hose End Drain Valve with Cap & Strap (SWEAT) Ends

Qty (1) Model UB (SWT) X U (MPT) PV1 Nutech Union, Forged Brass Body, (SWEAT) X Union (MNPT) connections, includes (1) combination P/T Port and Manual Air Vent.

Qty (1) Model MB (SWT) X U (MPT) Nutech Venturi Style Manual Balancing Valve, Forged Brass Body (SWEAT) X Union (MNPT) Connections includes (2) PT Ports, Ball Valve Shutoff with memory stop.

Qty (1) Model BB- Sweat X U-MPT Nutech Ball Valve, Forged Brass Body Sweat X Union MPT connections.

2-Way PICV on Return, 2.0" or smaller, w/o Balancing Valve, Strainer Supply, Components: SVe, UB & BBe



* Pressure Independent Control Valve (PICV), pipe and fittings illustrated above are by others and not supplied.

MODEL SVe

SVe Combination Strainer Valve is a combination ball valve, wye strainer and union. The 20 mesh S/S strainer screen is removable for cleaning. Fixed End connection available in FNPT or SWT. Tailpiece connection available in MNPT, FNPT or SWT. Size reductions available. Standard features include Pressure/ Temperature Port, Hose End Drain Valve and plugged Bypass Port.

MODEL BBe

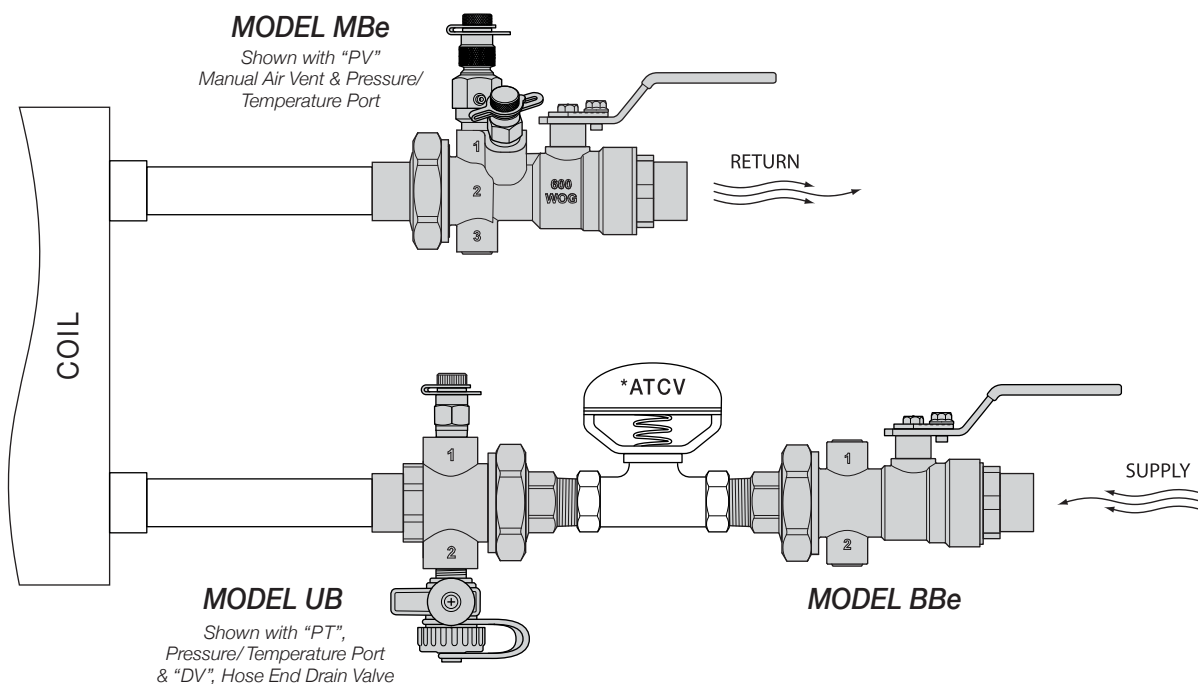
BBe Union End Ball Valve is a throttling and shut off valve. Fixed End connection available in FNPT or SWT. Tailpiece connection available in MNPT, FNPT and SWT. Size reductions available. Standard features include Adjustable Memory Stop and dual plugged accessory ports. Shown with "PT" Pressure/ Temperature Port.

MODEL UB

UB Union is an O-ring sealed union with two 0.25" plugged accessory ports. Fixed End Connections available in FNPT or SWT. Tailpiece Connections available in MNPT, FNPT or SWT. Size reductions available. Shown with "PV" Combination Manual Air Vent and Pressure/ Temperature Port.

QUANTITY	SIZE	GPM	TAG

2-Way ATCV on Supply, 2.0" or smaller, Manual Balanced, Ball Valve Supply, Components: BBe, UB & MBe



* Actuated Temperature Control Valve (ATCV), pipe and fittings illustrated above are by others and not supplied.

MODEL MBe

MBe Manual Balancing Valve is a venturi balancing and shut off valve. Accuracy $\pm 3\%$ of flow rate. Fixed End connection available in FNPT or SWT. Tailpiece connection available in MNPT, FNPT or SWT. Size reductions available. Standard features include Adjustable Memory Stop and Dual Pressure/Temperature Ports. Shown with "PV" Combination Manual Air Vent and Pressure/ Temperature Port.

MODEL BBe

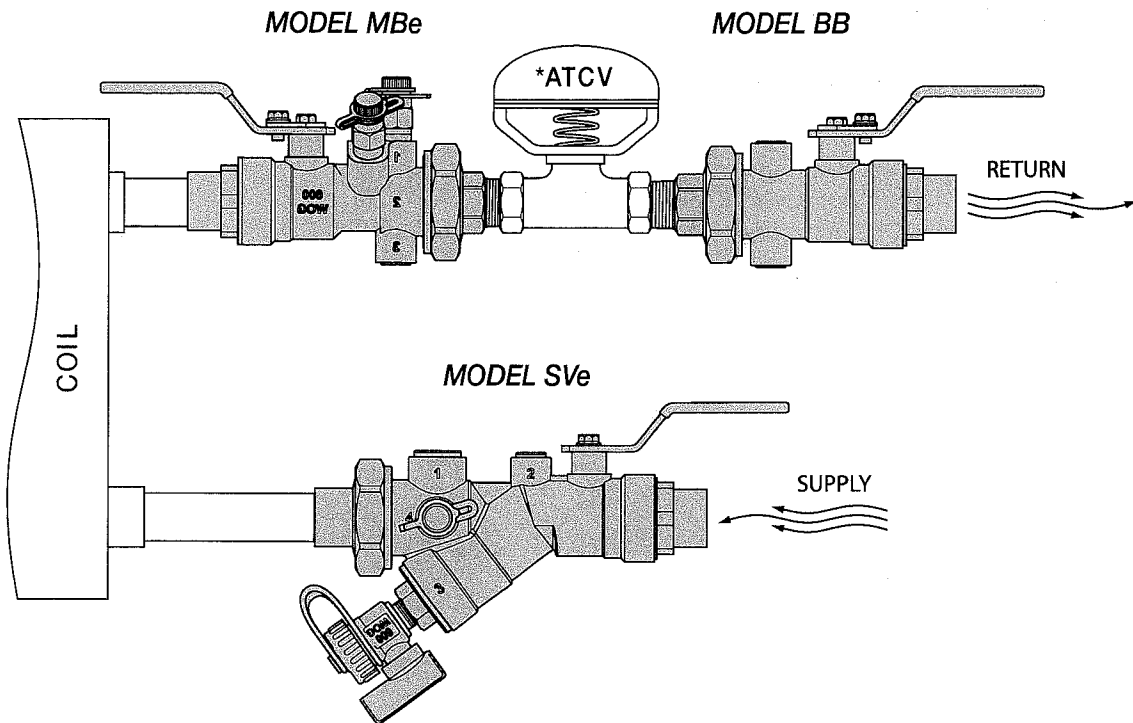
BBe Union End Ball Valve is a throttling and shut off valve. Fixed End connection available in FNPT or SWT. Tailpiece connection available in MNPT, FNPT and SWT. Size reductions available. Standard features include Adjustable Memory Stop and dual plugged accessory ports.

MODEL UB

UB Union is an O-ring sealed union with two 0.25" plugged accessory ports. Fixed End Connections available in FNPT or SWT. Tailpiece Connections available in MNPT, FNPT or SWT. Size reductions available. Shown with "PT" Pressure/ Temperature Port and "DV" Hose End Drain Valve.

QUANTITY	SIZE	GPM	TAG

2-Way ATCV on Return, 2.0" or smaller, Manual Balanced, Strainer Supply, Components: SVe, UB & MBe



* Actuated Temperature Control Valve (ATCV), pipe and fittings illustrated above are by others and not supplied.

MODEL MBe

MBe Manual Balancing Valve is a venturi balancing and shut off valve. Accuracy $\pm 3\%$ of flow rate. Fixed End connection available in FNPT or SWT. Tailpiece connection available in MNPT, FNPT or SWT. Size reductions available. Standard features include Adjustable Memory Stop and Dual Pressure/Temperature Ports.

MODEL SVe

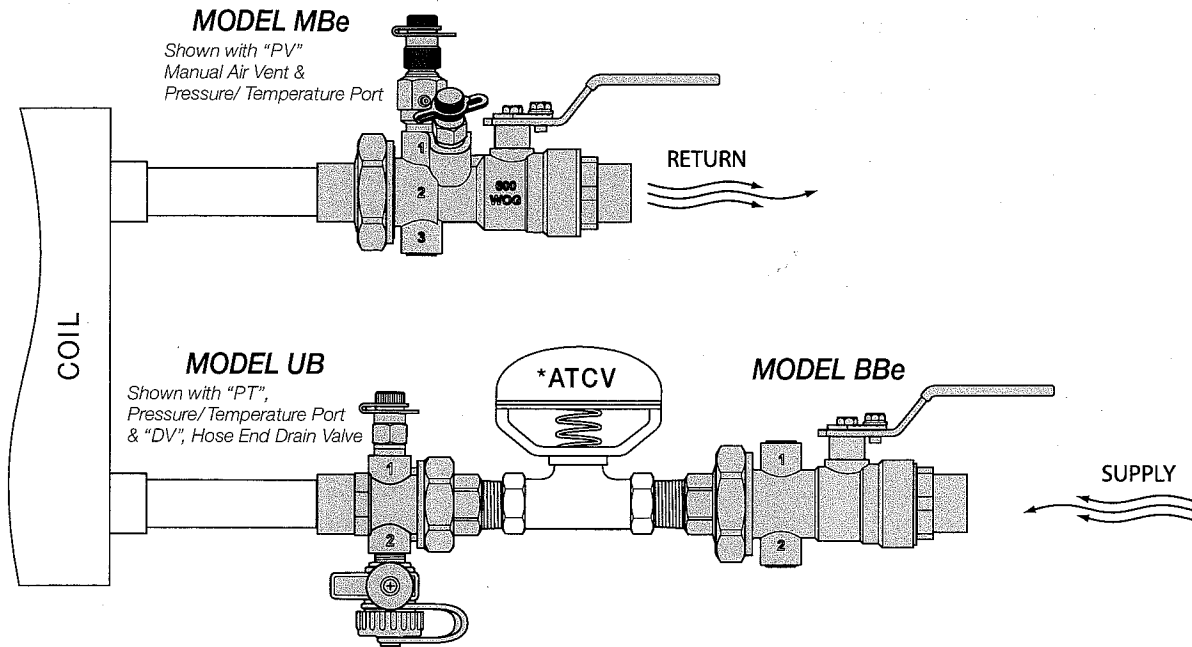
SVe Combination Strainer Valve is a combination ball valve, wye strainer and union. The 20 mesh S/S strainer screen is removable for cleaning. Fixed End connection available in FNPT or SWT. Tailpiece connection available in MNPT, FNPT or SWT. Size reductions available. Standard features include Pressure/Temperature Port, Hose End Drain Valve and plugged Bypass Port.

MODEL BB

BB Union End Ball Valve is a throttling and shut off valve. Fixed End connection available in FNPT or SWT. Tailpiece connection available in MNPT, FNPT and SWT. Size reductions available. Standard features include Adjustable Memory Stop and dual plugged accessory ports.

QUANTITY	SIZE	GPM	TAG

2-Way ATCV on Supply, 2.0" or smaller, Manual Balanced, Strainer Supply, Components: SVe, UB & MBe



* Actuated Temperature Control Valve (ATCV), pipe and fittings illustrated above are by others and not supplied.

MODEL MBe

MBe Manual Balancing Valve is a venturi balancing and shut off valve. Accuracy $\pm 3\%$ of flow rate. Fixed End connection available in FNPT or SWT. Tailpiece connection available in MNPT, FNPT or SWT. Size reductions available. Standard features include Adjustable Memory Stop and Dual Pressure/Temperature Ports. Shown with "PV" Combination Manual Air Vent and Pressure/ Temperature Port.

MODEL BB

BB Union End Ball Valve is a throttling and shut off valve. Fixed End connection available in FNPT or SWT. Tailpiece connection available in MNPT, FNPT and SWT. Size reductions available. Standard features include Adjustable Memory Stop and dual plugged accessory ports.

MODEL UB

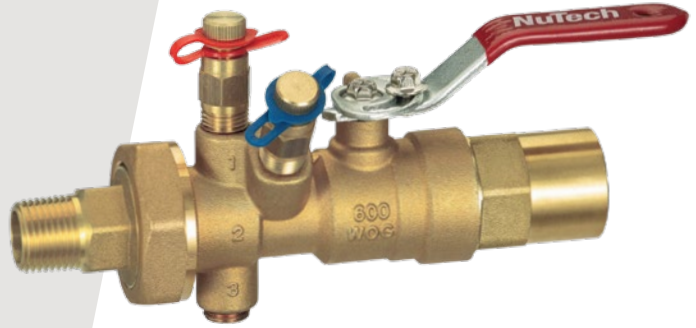
UB Union is an O-ring sealed union with two 0.25" plugged accessory ports. Fixed End Connections available in FNPT or SWT. Tailpiece Connections available in MNPT, FNPT or SWT. Size reductions available. Shown with "PT" Pressure/ Temperature Port and "DV" Hose End Drain Valve.

QUANTITY	SIZE	GPM	TAG

MBe/MB

Manual Balancing Valve

NuTech's MBe & MB Manual Balancing Valve offers manual balancing, shut-off and union. Valves feature a brass Venturi flow element for unsurpassed measurement accuracy and energy savings. The Ball Valve has a chrome plated ball with Teflon seats, blowout proof Stem with double EPDM O-ring Seals. The Union has an EPDM O-ring Seal with end connections available in SWT, FNPT, MNPT, *Press End and *Direct Connect Hose Assembly. Standard features include Adjustable Memory Stop and Dual Pressure/Temperature Ports.

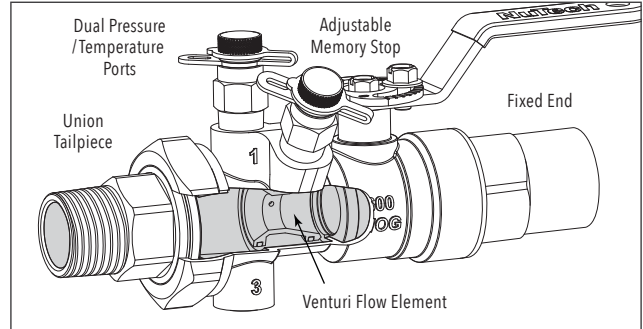


PRODUCT INFORMATION

PART	MATERIALS
Body	Forged Brass
Flow Element	Brass Venturi
End Conn.	Brass Fixed End: SWT, FNPT & *Press End Union End: SWT, FNPT, MNPT, *Press End & *Direct Connect HA
Stem	Brass Optional 316 Stainless Steel
Ball	Chrome Plated Brass Optional 316 Stainless Steel
Seals	EPDM
Seats	Teflon
Handles	Zinc Plated Lever With Vinyl Grip
Memory Stop	Zinc Plated Steel

SPECIFICATIONS

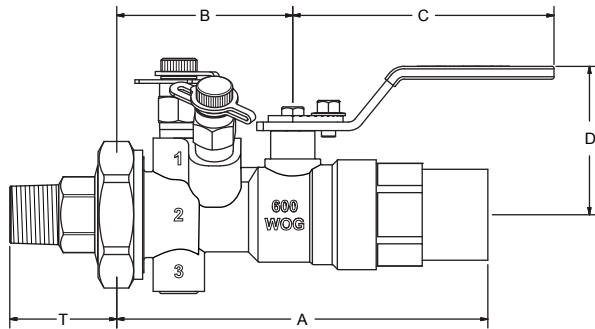
Function:	Manual Balancing Valve, Union and Shut Off Valve
Sizes:	0.50" - 2.00"
Ratings:	Pressures to 600 PSIG (4140 kPa) Temperatures to 250° F (120° C)
Accuracy:	± 3% of flow rate



CONNECTIONS

MODEL - SIZE	VENTURI	FIXED END SIZE	FIXED END TYPE	TAIL PIECE SIZE	TAIL PIECE TYPE
MB1e - 050	1A - 1B	0.50" 15mm	S, F, P	0.50", 0.75", (1.00" requires optional UA-1 Kit)	S, F, M, P, H
MB1e - 075	1A - 1B	0.75" 20mm	S, F, P	0.50", 0.75", (1.00" requires optional UA-1 Kit)	S, F, M, P, H
MB1e - 100	1A - 1B	1.00" 25mm	S, F, P	0.50", 0.75", 1.00"	S, F, M, P, H
MB2e - 075	2A - 2B	0.75" 20mm	S, F, P	0.50", 0.75", 1.00", (1.25" requires optional UA-2 Kit)	S, F, M, P, H
MB2e - 100	2A - 2B	1.00" 25mm	S, F, P	0.50", 0.75", 1.00", (1.25" requires optional UA-2 Kit)	S, F, M, P, H
MB2e - 125	2A - 2B	1.25" 32mm	S, F, P	0.50", 0.75", 1.00", 1.25"	S, F, M, P, H
MB3e - 125	3A	1.25" 32mm	S, F, P	(0.50" M only), 0.75", 1.00", 1.25", 1.50"	S, F, M, P, H
MB3e - 150	3A	1.50" 40mm	S, F, P	(0.50" M only), 0.75", 1.00", 1.25", 1.50"	S, F, M, P, H
MB4 - 200	4A	2.00" 50mm	S, F, P	(1.00" M only), 1.25", 1.50", 2.00"	S, F, M, P, H

Connections: S = Sweat SWT, F = Female FNPT, M = Male MNPT, *P = Press End, *H = Direct Connect Hose Assembly *Optional Accessories are an additional charge



MBe/MB 0.50\"/>

NOMINAL DIMENSIONS, WEIGHTS & FLOWS

MODEL	SIZE		FLOW RANGE GPM (10\"/>
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Nominal Dimensions & Weights shown above are not to be used for construction purposes unless first certified by the Factory.

*Refer to NuTech Replacement Tailpiece Chart RTC-1002-15

ORDERING DESIGNATION

MB2e - 2A - 075 - S - 075 - M - XX

MODEL/BODY SIZE

MB1e, MB2e (Shown), MB3e & MB4

VENTURI

1A, 1B, 2A, 2B, 3A, 3B & 4A

FIXED END CONNECTION SIZE

0.75\"/>

FIXED END CONNECTION TYPE

S = SWT (Shown), F = FNPT, *P = Press End

Fixed End & Tailpiece Connections: S = Sweat SWT, F = Female FNPT, M = Male MNPT *Optional Connections: *P = Press End, *H = Direct Connect Hose Assembly

ACCESSORIES

*Optional Accessories Designations Below

TAILPIECE CONNECTION TYPE

S = SWT, F = FNPT, M = MNPT (Shown), *P = Press End, *H = Direct Connect HA

TAILPIECE CONNECTION SIZE

0.75\"/>

AVAILABLE OPTIONS Please note *Optional Accessories are an extra charge and not included in the standard model price.

Accessory Designations:

BA Buy American Construction
BT Bag & Tag
CC Connection Charge

CV Control Valve Connection
DV Drain Valve
DX Dual PT Extenders
EH Extended Handle
HA Direct Connect Hose Assembly

HT Hanging Tag (Plastic)
PV Pressure/ Temperature Vent
PX Extended P/T Vent
SH Short Lever Handle (MB2e only)

SS 316 SS Ball & Stem
SX Single PT Extender
UA-1 Union Adaptor Kit
UA-2 Union Adaptor Kit

Models MB1e, MB2e, MB3e & MB4 Venturi Type Balancing Valve 0.50" - 2.00"

Differential Pressure: Inches W.C.

FLOW GPM	VENTURI SIZE						FLOW GPM	VENTURI SIZE	
	M1e 0.50", 0.75", 1.00"		M2e 0.75", 1.00", 1.25"		M3e 1.25", 1.50"	M4 2.00"		M3e 1.25", 1.50"	M4 2.00"
	1A	1B	2A	2B	3A	4A		3A	4A
0.10	1						18.00	71	14
0.20	2						19.00	79	15
0.30	5						20.00	87	17
0.42	10	0.8					21.00	96	19
0.50	14	1.1	1				22.00	106	21
0.75	31	2.5	2				23.00	116	23
1.00	55	4.4	4				24.00	126	25
1.25	86	6.8	6				25.00	137	27
1.35	101	7.9	7	1			26.00	148	29
1.50	124	10	9	1.4			27.00	159	31
2.00	221	17	16	2.5			28.00	171	34
2.25		22	21	3	1.1		29.00	184	36
2.50		27	25	4	1.4		30.00	197	39
3.00		39	36	6	2.0		31.00	210	41
3.50		53	50	8	2.7		32.00	224	44
4.00		70	65	10	3.5		33.00	238	47
4.50		88	82	13	4.4		34.00	253	50
5.00		109	101	15	5.5		35.00	268	53
5.50		132	123	19	6.6		36.00		56
6.00		157	146	22	7.9	1.5	37.00		59
6.50		184	171	26	9.2	1.8	39.00		65
7.25		229	213	33	11.5	2.1	40.00		69
7.50		245	228	35	12.3	2.4	41.00		72
8.00				40	14	2.7	42.00		76
8.50				45	15.8	3.1	43.00		79
9.00				50	17.7	3.5	44.00		83
9.50				56	19.7	3.9	45.00		87
10.00				62	21.9	4.3	48.50		101
10.50				68	24.1	4.7	55.00		130
11.00				75	26.4	5.2	60.00		154
11.50				82	28.9	5.7	65.00		181
12.00				89	31.5	6.2	70.00		210
12.50				97	34.2	6.7	75.00		241
13.00				105	36.9	7.3			
14.00				121	42.8	8.4			
15.00				139	49.2	9.7			
16.00				159	56.0	11.0			
17.00				179	63.2	12.4			
FF	0.1346	0.479	0.4967	1.2704	2.139	4.8274	FF	2.139	4.8274

Flow Formulas:

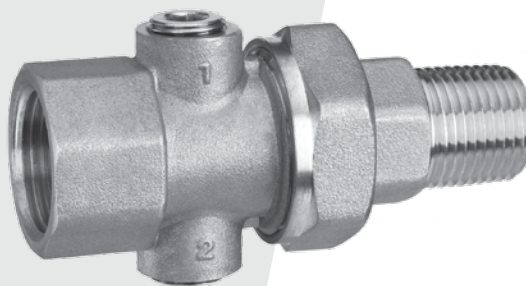
$$\begin{aligned} \text{GPM} &= \text{FF} \times (\sqrt{\text{DP}}) \\ \text{DP} &= (\text{GPM}/\text{FF})^2 \\ \text{PPL} &= \text{DP} \times 0.12 \end{aligned}$$

Notes:

- 1) Accuracy \pm 3% of flow rate
- 2) Repeatability \pm 0.25% of rate
- 3) Recommended ranges are in BOLD type.
- 4) All valves will function above and below ranges shown. Pressure drop and readability should be taken into account.
- 5) The Permanent Pressure Loss (PPL) equals 12% of the Differential Pressure (DP).

UB
Union

NuTech's UB Union offers numerous model sizes and End Connections with two 0.25" plugged accessory ports. The Union has an EPDM O-ring seal with Fixed End Connections available in SWT, FNPT, MNPT, or *Press End. Tailpiece End Connections are available in SWT, FNPT, MNPT, *Press End or *Direct Connect Hose Assembly.

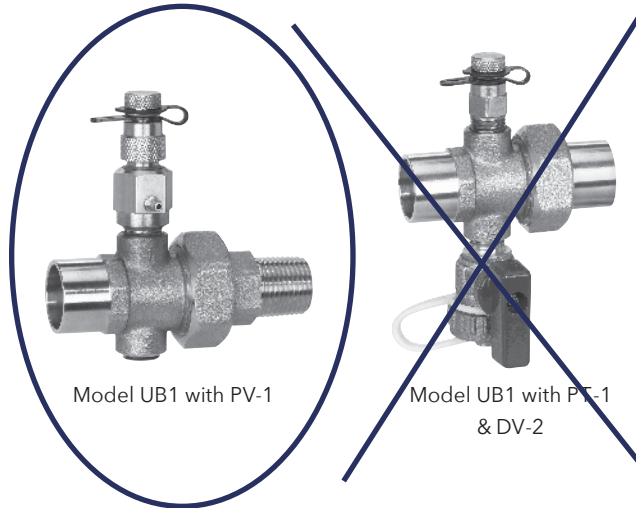
Standard
Model UB1

PRODUCT INFORMATION

PART	MATERIALS	
Body	Forged Brass	
End Conn.	Brass	Fixed End: SWT, FNPT & *Press End <i>MNPT available in 0.50"– 0.75" UB1 Model sizes only</i> Union End: SWT, FNPT, MNPT, *Press End & *Direct Connect HA
Seals	EPDM	

SPECIFICATIONS

Function:	Union
Sizes:	0.50" - 2.00"
Ratings:	Pressures to 600 PSIG (4140 kPa) Temperatures to 250° F (120° C)

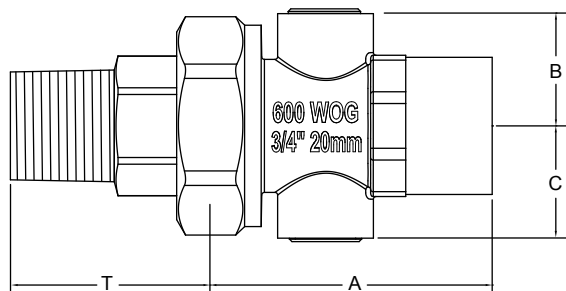


CONNECTIONS

MODEL - SIZE	FIXED END SIZE	FIXED END TYPE	TAIL PIECE SIZE	TAIL PIECE TYPE
UB1 - 050	0.50" 15mm	S, F, M, P	0.50", 0.75", (1.00" requires optional UA-1 Kit)	S, F, M, P, H
UB1 - 075	0.75" 20mm	S, F, M, P	0.50", 0.75", (1.00" requires optional UA-1 Kit)	S, F, M, P, H
UB2 - 100	1.00" 25mm	S, F, P	0.50", 0.75", 1.00", (1.25" requires optional UA-2 Kit)	S, F, M, P, H
UB3 - 125	1.25" 32mm	S, F, P	(0.50"M only), 0.75", 1.00", 1.25", 1.50"	S, F, M, P, H
UB3 - 150	1.50" 40mm	S, F, P	(0.50"M only), 0.75", 1.00", 1.25", 1.50"	S, F, M, P, H
UB4 - 200	2.00" 50mm	S, F, P	(1.00"M only), 1.25", 1.50", 2.00"	S, F, M, P, H

Connections: S = Sweat SWT, F = Female FNPT, M = Male MNPT, *P = Press End, *H = Direct Connect Hose Assembly *Optional Accessories are an additional charge

UB 0.50" - 2.00" Union



NOMINAL DIMENSIONS, WEIGHTS & FLOWS

MODEL	SIZE			A			B	C	* T MNPT	Wgt lbs
	in	mm		FNPT	MNPT	SWT				
UB1-050	0.50	15	in	1.90	2.25	1.88	.84	.84	1.50	0.59
			mm	48.26	57.23	47.75	21.34	21.34	38.10	
UB1-075	0.75	20	in	1.98	2.19	2.12	.84	.84	1.55	0.59
			mm	50.29	55.65	53.85	21.34	21.34	39.37	
UB2-100	1.00	25	in	2.15	N/A	2.28	1.08	1.08	1.75	0.90
			mm	54.61	N/A	57.91	27.43	27.43	44.45	
UB3-125	1.25	32	in	2.39	N/A	2.56	1.46	1.46	1.80	1.82
			mm	60.71	N/A	65.02	37.08	37.08	45.72	
UB3-150	1.50	40	in	2.39	N/A	2.69	1.46	1.46	1.80	1.91
			mm	60.71	N/A	68.32	37.08	37.08	45.72	
UB4-200	2.00	50	in	2.49	N/A	3.03	1.76	1.76	1.98	2.79
			mm	63.25	N/A	76.96	44.70	44.70	50.29	

Nominal Dimensions & Weights shown above are not to be used for construction purposes unless first certified by the Factory.

*Refer to NuTech Replacement Tailpiece Chart RTC-1002-15

ORDERING DESIGNATION

UB1 - 075 - S - 050 - M - XX				ACCESSORIES	
MODEL / BODY SIZE				*Optional Accessories Designations Below	
UB1 (Shown), UB2, UB3 & UB4				TAILPIECE CONNECTION TYPE	
FIXED END CONNECTION SIZE				S = SWT, F = FNPT, M = MNPT (Shown), *P = Press End, *H = Direct Connect HA	
0.75" (Shown)				TAILPIECE CONNECTION SIZE	
FIXED END CONNECTION TYPE				0.50" (Shown)	
S = SWT (Shown), F = FNPT, *P = Press End,					
M = MNPT Fixed End Connection available in					
0.50" - 0.75" UB1 Model sizes only					

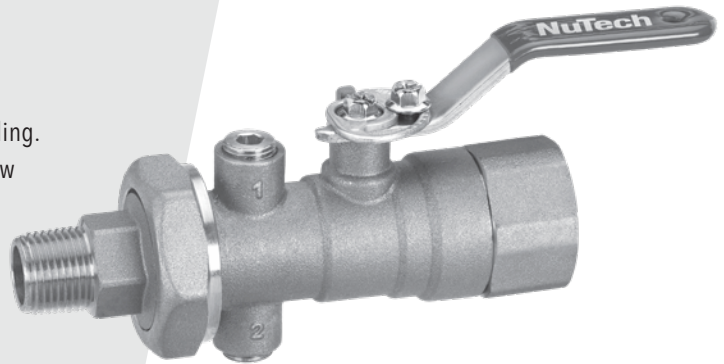
Fixed End & Tailpiece Connections: S = Sweat SWT, F = Female FNPT, M = Male MNPT *Optional Connections: *P = Press End, *H = Direct Connect Hose Assembly

AVAILABLE OPTIONS Please note *Optional Accessories are an extra charge and not included in the standard model price.

Accessory Designations:		CC	Connection Charge	PT	Pressure/Temperature Port	UA-1	Union Adaptor Kit
AV	Automatic Air Vent	DV	Drain Valve	PT/SX	Single Extended Pressure/Temperature Port	UA-2	Union Adaptor Kit
BA	Buy American Const.	EV	Extended Manual Air Vent	PV	Pressure/Temperature Vent		
BT	Bag & Tag	HT	Hanging Tag (Plastic)	PX	Extended Pressure/Temperature Vent		
		MV	Manual Air Vent				

BBe/BB Union End Ball Valve

NuTech's BBe & BB Union End Ball Valve offers shutoff and throttling. The position indicating Memory Stop provides quick and easy flow setting with a single screw adjustment. The Ball Valve has a chrome plated ball with Teflon seats, blowout proof stem with double EPDM O-ring seals. The Union has an EPDM O-ring seal and tailpiece available in SWT, FNPT, MNPT, *Press End and *Direct Connect Hose Assembly. Standard features include Adjustable Memory Stop and dual plugged Accessory Ports.

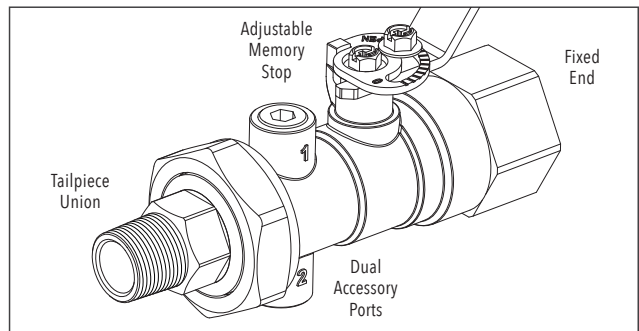


PRODUCT INFORMATION

PART	MATERIALS
Body	Forged Brass
End Conn.	Brass Fixed End: SWT, FNPT & *Press End Union End: SWT, FNPT, MNPT, *Press End & *Direct Connect HA
Stem	Brass Optional 316 Stainless Steel
Ball	Chrome Plated Brass Optional 316 Stainless Steel
Seals	EPDM
Seats	Teflon
Handle	Zinc Plated Lever With Vinyl Grip
Memory Stop	Zinc Plated Steel

SPECIFICATIONS

Function:	Union, shut off and throttling
Sizes:	0.50" - 2.00"
Ratings:	Pressures to 600 PSIG (4140 kPa) Temperatures to 250° F (120° C)

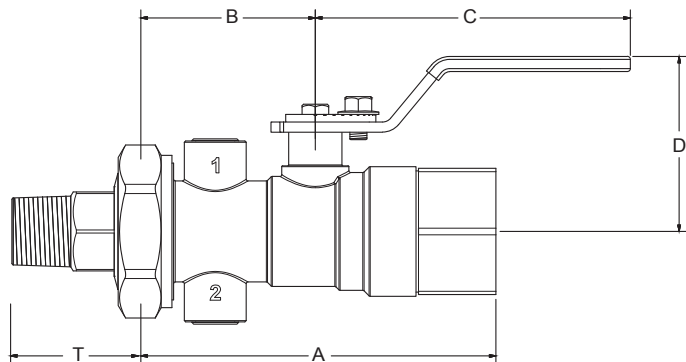


CONNECTIONS

MODEL - SIZE	FIXED END SIZE	FIXED END TYPE	TAIL PIECE SIZE	TAIL PIECE TYPE
BB1e - 050	0.50" 15mm	S, F, P	0.50", 0.75", (1.00" requires optional UA-1 Kit)	S, F, M, P, H
BB1e - 075	0.75" 20mm	S, F, P	0.50", 0.75", (1.00" requires optional UA-1 Kit)	S, F, M, P, H
BB1e - 100	1.00" 25mm	S, F, P	0.50", 0.75", 1.00"	S, F, M, P, H
BB2e - 075	0.75" 20mm	S, F, P	0.50", 0.75", 1.00", (1.25" requires optional UA-2 Kit)	S, F, M, P, H
BB2e - 100	1.00" 25mm	S, F, P	0.50", 0.75", 1.00", (1.25" requires optional UA-2 Kit)	S, F, M, P, H
BB2e - 125	1.25" 32mm	S, F, P	0.50", 0.75", 1.00", 1.25"	S, F, M, P, H
BB3e - 125	1.25" 32mm	S, F, P	(0.50" M only), 0.75", 1.00", 1.25", 1.50"	S, F, M, P, H
BB3e - 150	1.50" 40mm	S, F, P	(0.50" M only), 0.75", 1.00", 1.25", 1.50"	S, F, M, P, H
BB4 - 200	2.00" 50mm	S, F, P	(1.00" M only), 1.25", 1.50", 2.00"	S, F, M, P, H

Connections: S = Sweat SWT, F = Female FNPT, M = Male MNPT, *P = Press End, *H = Direct Connect Hose Assembly *Optional Accessories are an additional charge

BBe/BB 0.50" - 2.00" Union End Ball Valve



NOMINAL DIMENSIONS, WEIGHTS & FLOWS

MODEL	SIZE			A		B	C	D	* T MNPT	WEIGHT	
	in	mm		FNPT	SWT					lbs	gms
BB1e-050	0.50	15	in	3.72	4.08	2.03	2.33	1.61	1.50	1.15	521.6
			mm	94.5	103.6	51.6	59.18	40.9	38.10		
BB1e-075	0.75	20	in	3.84	4.37	2.03	2.33	1.61	1.56	1.19	539.8
			mm	97.5	111.0	51.6	59.18	40.9	39.62		
BB1e-100	1.00	25	in	4.19	4.64	2.03	2.33	1.61	1.75	1.34	607.0
			mm	106.4	117.9	51.6	59.18	40.9	44.45		
BB2e-075	0.75	20	in	3.92	4.49	2.03	3.66	2.08	1.56	1.22	553.0
			mm	99.6	114.0	51.6	93.0	52.8	39.62		
BB2e-100	1.00	25	in	4.13	4.53	2.03	3.66	2.08	1.75	1.70	771.1
			mm	105.0	115.1	51.6	93.0	52.8	44.45		
BB2e-125	1.25	32	in	4.31	4.86	2.03	3.66	2.08	1.80	1.50	680.0
			mm	109.5	123.4	51.6	93.0	52.8	45.72		
BB3e-125	1.25	32	in	5.42	6.41	2.37	5.03	2.26	1.80	3.97	1800.7
			mm	137.7	162.8	60.3	127.8	57.5	45.7		
BB3e-150	1.50	40	in	5.42	6.67	2.37	5.03	2.26	1.80	4.12	1868.8
			mm	137.7	169.3	60.3	127.8	57.5	45.7		
BB4-200	2.00	50	in	5.03	5.82	2.90	5.66	2.83	1.92	5.68	2576.4
			mm	127.76	148.83	73.66	143.76	71.88	50.29		

Nominal Dimensions & Weights shown above are not to be used for construction purposes unless first certified by the Factory.

*Refer to NuTech Replacement Tailpiece Chart RTC-1002-15

ORDERING DESIGNATION

BB2e - 100 - F - 050 - M - XX

MODEL / BODY SIZE

BB1e, BB2e (Shown), BB3e & BB4

FIXED END CONNECTION SIZE

1.00" (Shown)

FIXED END CONNECTION TYPE

S = SWT, F = FNPT (Shown), *P = Press End

ACCESSORIES

*Optional Accessories Designations Below

TAILPIECE CONNECTION TYPE

S = SWT, F = FNPT, M = MNPT (Shown), *P = Press End, *H = Direct Connect HA

TAILPIECE CONNECTION SIZE

0.50" (Shown)

Fixed End & Tailpiece Connections: S = Sweat SWT, F = Female FNPT, M = Male MNPT *Optional Connections: *P = Press End, *H = Direct Connect Hose Assembly

AVAILABLE OPTIONS Please note *Optional Accessories are an extra charge and not included in the standard model price.

Accessory Designations:

AV Automatic Air Vent
BA Buy American Const.
BT Bag & Tag
CC Connection Charge

DV

Drain Valve

EH

Extended Handle

EV

Extended Manual Air Vent

HT

Hanging Tag (Plastic)

MV

Manual Air Vent

PT

Pressure/Temperature Port

PT/SX

Single Extended Pressure/Temperature Port

PV

Pressure/Temperature Vent

PX

Extended Pressure/Temperature Vent

SH

Short Lever Handle (BB2e only)

SS

316 SS Ball & Stem

UA-1

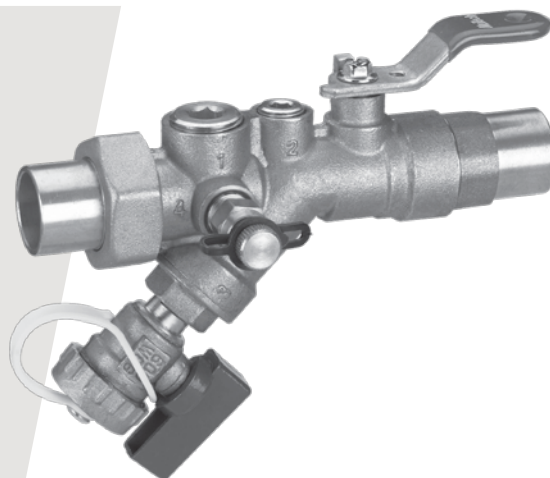
Union Adaptor Kit

UA-2

Union Adaptor Kit

SVe/SV Combination Strainer Valve

NuTech's SVe & SV Combination Strainer Valve is a combination Ball Valve, Wye Strainer and Union. The 20 mesh stainless steel strainer is removable for cleaning and inspection. The Ball Valve has a chrome plated ball with Teflon seats, blowout proof stem with double EPDM O-ring seals. The Union has an EPDM O-ring seal and tailpiece available in SWT, FNPT, MNPT, *Press End and *Direct Connect Hose Assembly. Standard features include Pressure/Temperature Port, Hose End Drain Valve and plugged Bypass and Accessory ports.



PRODUCT INFORMATION

PART	MATERIALS
Body	Forged Brass
End Conn.	Brass Fixed End: SWT, FNPT & *Press End Union End: SWT, FNPT, MNPT, *Press End & *Direct Connect HA
Stem	Brass Optional 316 Stainless Steel
Ball	Chrome Plated Brass Optional 316 Stainless Steel
Seals	EPDM
Seats	Teflon
Handle	Zinc Plated Lever With Vinyl Grip

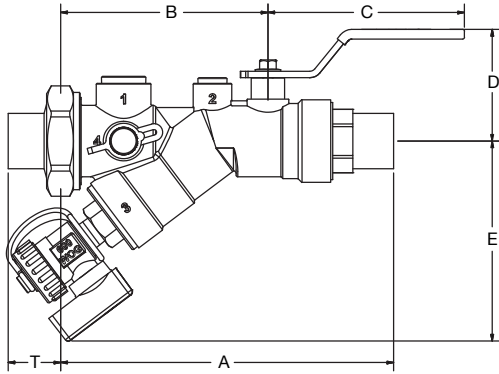
SPECIFICATIONS

Function:	Strainer Valve, Union and shut off
Sizes:	0.50" - 2.00"
Ratings:	Pressures to 600 PSIG (4140 kPa) Temperatures to 250° F (120° C)

CONNECTIONS

MODEL - SIZE	FIXED END SIZE	FIXED END TYPE	TAIL PIECE SIZE	TAIL PIECE TYPE
SV1e - 050	0.50" 15mm	S, F, P	0.50", 0.75", (1.00" requires optional UA-1 Kit)	S, F, M, P, H
SV1e - 075	0.75" 20mm	S, F, P	0.50", 0.75", (1.00" requires optional UA-1 Kit)	S, F, M, P, H
SV1e - 100	1.00" 25mm	S, F, P	0.50", 0.75", 1.00"	S, F, M, P, H
SV2e - 050	0.50" 15mm	S, F, P	0.50", 0.75", 1.00", (1.25" requires optional UA-2 Kit)	S, F, M, P, H
SV2e - 075	0.75" 20mm	S, F, P	0.50", 0.75", 1.00", (1.25" requires optional UA-2 Kit)	S, F, M, P, H
SV2e - 100	1.00" 25mm	S, F, P	0.50", 0.75", 1.00", (1.25" requires optional UA-2 Kit)	S, F, M, P, H
SV2e - 125	1.25" 32mm	S, F, P	0.50", 0.75", 1.00", 1.25"	S, F, M, P, H
SV3e - 100	1.00" 25mm	S, F, P	(0.50" M only), 0.75", 1.00", 1.25", 1.50"	S, F, M, P, H
SV3e - 125	1.25" 32mm	S, F, P	(0.50" M only), 0.75", 1.00", 1.25", 1.50"	S, F, M, P, H
SV3e - 150	1.50" 40mm	S, F, P	(0.50" M only), 0.75", 1.00", 1.25", 1.50"	S, F, M, P, H
SV4 - 150	1.50" 40mm	S, F, P	(1.00" M only), 1.25", 1.50", 2.00"	S, F, M, P, H
SV4 - 200	2.00" 50mm	S, F, P	(1.00" M only), 1.25", 1.50", 2.00"	S, F, M, P, H

Connections: S = Sweat SWT, F = Female FNPT, M = Male MNPT, *P = Press End, *H = Direct Connect Hose Assembly *Optional Accessories are an additional charge



SVe/SV 0.50" - 2.00" Combination Strainer Valve

NOMINAL DIMENSIONS, WEIGHTS & FLOWS

MODEL	SIZE			A		B	C	D	E	*T SWT	Bypass Port-In	Wgt. lbs
	in	mm		FNPT	SWT							
SV1e-050	0.50	15	in	4.74	4.88	2.99	2.33	1.73	3.53	0.83	.50	1.90
			mm	120.60	124.05	79.95	59.26	43.94	89.87	21.08		
SV1e-075	0.75	20	in	4.77	5.22	2.99	2.33	1.73	3.53	0.98	.50	2.67
			mm	121.36	132.66	79.95	59.26	43.94	89.87	24.89		
SV1e-100	1.00	25	in	4.91	5.60	2.99	2.33	1.73	3.53	0.98	.50	2.02
			mm	124.79	142.27	79.95	59.26	43.94	89.87	24.89		
SV2e-050	0.50	15	in	5.71	5.95	3.86	3.66	2.08	3.72	0.92	.50	2.57
			mm	145.24	151.33	98.04	93.01	52.83	94.64	23.37		
SV2e-075	0.75	20	in	5.75	6.20	3.86	3.66	2.08	3.72	1.43	.50	2.61
			mm	146.10	157.56	98.04	93.01	52.83	94.64	36.32		
SV2e-100	1.00	25	in	5.96	6.36	3.86	3.66	2.08	3.72	1.17	.50	2.69
			mm	151.59	161.62	98.04	93.01	52.83	94.64	29.72		
SV2e-125	1.25	32	in	6.14	6.69	3.86	3.66	2.08	3.72	1.50	.50	2.92
			mm	156.03	170.00	98.04	93.01	52.83	94.64	38.10		
SV3e-100	1.00	25	in	8.60	9.44	5.62	5.03	2.26	4.78	1.41	.75	4.54
			mm	218.4	239.8	142.9	127.76	57.40	121.40	35.81		
SV3e-125	1.25	32	in	8.67	9.66	5.62	5.03	2.26	4.78	1.43	.75	4.54
			mm	220.1	245.3	142.9	127.76	57.40	121.40	36.32		
SV3e-150	1.50	40	in	8.67	9.91	5.62	5.03	2.26	4.78	1.17	.75	4.44
			mm	220.1	251.7	142.9	127.76	57.40	121.40	29.71		
SV4-150	1.50	40	in	9.37	9.91	7.44	5.66	2.83	5.31	1.59	1.25	8.72
			mm	238.0	251.71	188.98	143.76	71.88	134.87	40.38		
SV4-200	2.00	50	in	9.56	10.35	7.44	5.66	2.83	5.31	1.50	1.25	9.42
			mm	232.16	262.89	188.98	143.76	71.88	134.87	38.10		

Nominal Dimensions & Weights shown above are not to be used for construction purposes unless first certified by the Factory.

*Refer to NuTech Replacement Tailpiece Chart RTC-1002-15

ORDERING DESIGNATION

SV2e - 075 - S - 050 - S - XX

MODEL / BODY SIZE

SV1e, SV2e (Shown), SV3e & SV4

FIXED END CONNECTION SIZE

0.75" (Shown)

FIXED END CONNECTION TYPE

S = SWT (Shown), F = FNPT, *P = Press End

ACCESSORIES

*Optional Accessories Designations Below

TAILPIECE CONNECTION TYPE

S = SWT (Shown), F = FNPT, M = MNPT, *P = Press End, *H = Direct Connect Hose

TAILPIECE CONNECTION SIZE

0.50" (Shown)

Fixed End & Tailpiece Connections: S = Sweat SWT, F = Female FNPT, M = Male MNPT *Optional Connections: *P = Press End, *H = Direct Connect Hose Assembly

AVAILABLE OPTIONS Please note *Optional Accessories are an extra charge and not included in the standard model price.

Accessory Designations:

AV Automatic Air Vent
BA Buy American Const.
BT Bag & Tag
CC Connection Charge

DX Dual PT Port Extenders
EH Extended Handle
EV Extended Manual Air Vent
HT Hanging Tag (Plastic)
MV Manual Air Vent

PT Pressure/Temperature Port
PT/SX Single Extended Pressure/Temperature Port
PV Pressure/Temperature Vent
PX Extended Pressure/Temperature Vent
SH Short Lever Handle (SV2e only)

SS 316 SS Ball & Stem
SC 40 Mesh SS Strainer Screen
UA-1 Union Adaptor Kit
UA-2 Union Adaptor Kit

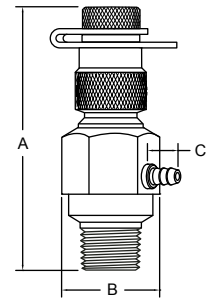


PV- MANUAL AIR VENT - PRESSURE / TEMPERATURE



Combination Manual Air Vent and Pressure/Temperature Test Port with brass body, dual durometer EPDM core, blowout-proof stem, side discharge vent with 1/8" (4mm) hose barb, threaded brass cap with O-ring seal and neoprene retainer strap. Accepts standard 1/8" (4mm) gauge adapter or thermometer stem. Rated to 250 PSI (1725 kPa) and 250°F (120°C).

MODEL	NPT CONN	A		B		C		WRENCH SIZE	WEIGHT	
		in	mm	in	mm	in	mm		lbs	kg
PV-025	0.25"	1.50	40	0.84	21	0.32	9	3/4"	0.154	0.07
PV-050	0.50"	1.50	40	0.98	25	0.32	9	3/4"	0.225	0.10

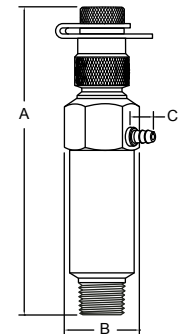


PX- EXTENDED MANUAL AIR VENT - PRESSURE / TEMPERATURE PORT



Extended Combination Manual Air Vent and Pressure/Temperature Test Port with brass body, dual durometer EPDM core, blowout-proof stem, side discharge vent with 1/8" (4mm) hose barb, threaded brass cap with O-ring seal and neoprene retainer strap. Accepts standard 1/8" (4mm) gauge adapter or thermometer stem. Rated to 250 PSI (1725 kPa) and 250°F (120°C).

MODEL	NPT CONN	A		B		C		WRENCH SIZE	WEIGHT	
		in	mm	in	mm	in	mm		lbs	kg
PX-025	0.25"	3.60	91	0.87	22	0.31	8	3/4"	0.28	0.12

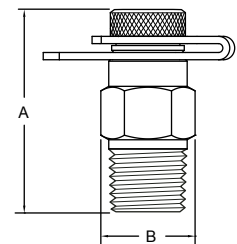


PT-PRESSURE / TEMPERATURE PORT



Pressure/Temperature Test Port with brass body, dual durometer EPDM core, brass cap with O-ring seal and neoprene retainer strap. Accepts standard 1/8" (4mm) gauge adapter or thermometer stem. Rated to 500 PSI (3450 kPa) and 275°F (135°C).

MODEL	NPT CONN	A		B		WRENCH SIZE	WEIGHT	
		in	mm	in	mm		lbs	kg
PT-025	0.25"	1.36	34	0.65	16	9/16"	0.06	0.03
PT-050	0.50"	1.36	34	1.01	25	7/8"	0.18	0.08

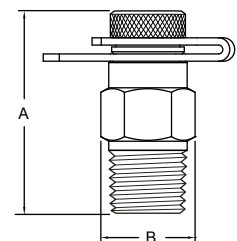


PL-LOW-LEAD PRESSURE / TEMPERATURE PORT



Pressure/Temperature Test Port with Low-Lead body, dual durometer EPDM core, brass cap with O-ring seal and neoprene retainer strap. Accepts standard 1/8" (4mm) gauge adapter or thermometer stem. Rated to 500 PSI (3450 kPa) and 275°F (135°C).

MODEL	NPT CONN	A		B		WRENCH SIZE	WEIGHT	
		in	mm	in	mm		lbs	kg
PL-025	0.25"	1.36	34	0.65	16	9/16"	0.06	0.03



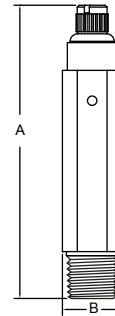


EV - EXTENDED MANUAL AIR VENT



Extended Manual Air Vent with brass body, knurled operator with screwdriver slot, blowout-proof stem, and side discharge vent.
Rated to 400 PSI (2760 kPa) and 250°F (120°C).

MODEL	NPT CONN	A		B		WRENCH SIZE	WEIGHT	
		in	mm	in	mm		lbs	kg
EV-025	0.25"	2.76	70	0.55	14	9/16"	0.14	0.06

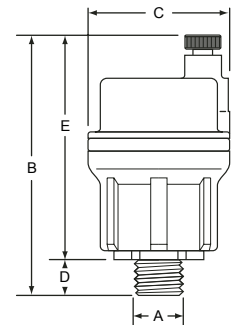


AV - AUTOMATIC AIR VENT / CHECK-VALUE

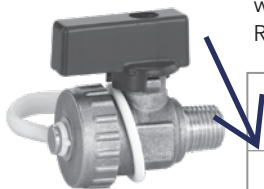


Automatic air vent with brass body, plastic float, brass seat, and EPDM seal.
Rated to 150 PSI (1035 kPa) and 240°F (115°C).

MODEL	NPT CONN		A	B	C	D	E	WRENCH SIZE	WEIGHT	
									lbs	kg
AV-025	0.25"	in	.25"	3.62"	1.56"	.50"	2.62"	7/8"	.31	0.14
		mm	6.35	92	40	13	66	22		

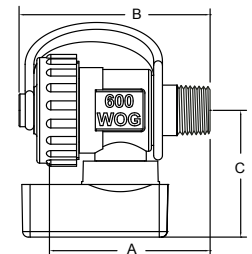


DV - HOSE END DRAIN VALVE



Drain Valve with forged brass body, chrome plated ball, Teflon seats, double EPDM O-ring stem seals, aluminum handle, 3/4" hose connection with cap and plastic retainer strap.
Rated to 600 PSI (4140 kPa) WOG and 250°F (120°C).

MODEL	NPT CONN	A		B		C		WEIGHT	
		in	mm	in	mm	in	mm	lbs	kg
DV-025	0.25"	1.72	44	2.04	52	1.37	35	0.30	0.13
DV-050	0.50"	2.45	62	2.77	70	1.46	37	1.46	0.65



FLUSHING ADAPTER



Brass body Flushing Adapter, available in 0.50", 0.75" and 1.00" sizes, connection ends feature NPSM threads and internal cone seats.
Use to connect hose ends to bypass and flush coil systems.

PART NUMBER	NPT CONN	A		B		WRENCH SIZE	WEIGHT	
		in	mm	in	mm		lbs	kg
200555	0.50"	1.10	28	0.875	22	7/8"	0.11	0.05
200109	0.75"	1.14	29	1.062	27	1"	0.14	0.06
200556	1.00"	1.47	37	1.375	35	1 1/2"	0.23	0.10

