

User's Guide



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It is the policy of OMEGA Engineering, Inc. to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

WARNING: These products are not designed for use in, and should not be used for, human applications.

MATERIALS OF CONSTRUCTION

BODY: Brass - ASTM B-16, or 316 Stainless Steel - ASTM A276

BALL AND STEM: 316 Stainless Steel

SEATS AND STEM SEAL: Glass Reinforced P.T.F.E. (Teflon®)

CONNECTION / STYLE SIZES

Tube / Compression 1/4" - 1"

RATINGS

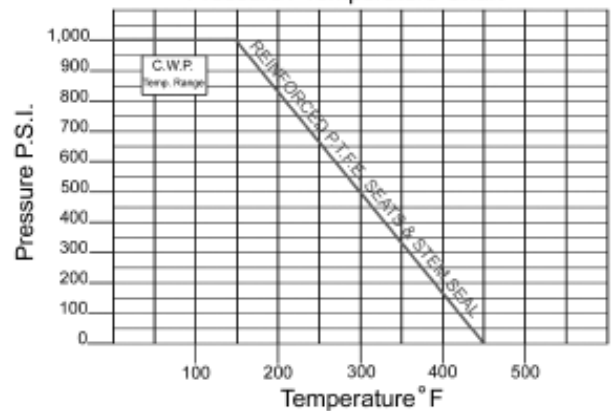
TEMPERATURE: -50 F to 450 F
(also see Pressure Temperature Chart)

PRESSURE: 1000 p.s.i. C.W.P. (Cold Working Pressure to 150 F)
(also see Pressure Temperature Chart)

VACUUM: 20 Micron

SATURATED STEAM: 150 p.s.i.

Pressure / Temperature Chart



FLOW CHARACTERISTICS

The approximate flow rate through a valve can be calculated as follows:

$$Q = C_v \sqrt{\frac{\Delta P}{G}}$$

where; Q = flow rate in gallons (U.S. Std.) per minute
C_v = valve constant
P = pressure drop across the valve in pounds per square inch
G = specific gravity of the media of relative to water

Note: The values derived from the flow equation are for estimating purposes only. Product variances or systemic factors may alter actual performance.

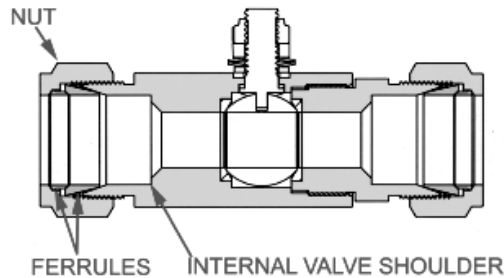
Size	1/4	3/8	1/2	3/4	1
C _v	*	*	5.5	8	12
* - N/A					

INSTALLATION INSTRUCTIONS

Tube (initial assembly):

1. Ensure the tube end is square and free from burrs, nicks, scratches and debris.
2. Loosen the NUT by turning it counter-clockwise one turn. Insert the tube through the NUT and FERRULES until it sits against the internal VALVE SHOULDER. Tighten the NUT (clock-wise) hand tight. Continue tightening the NUT with a wrench for 1 to 1-1/4 turns or until snug.

Note: for re-assembly, after initial assembly, approximately 1/4 turn with wrench is generally required to re-tighten.

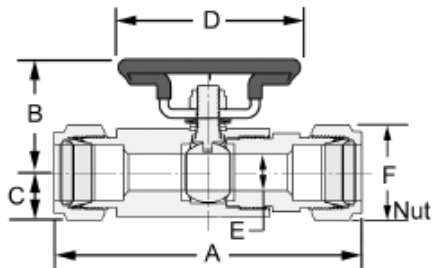


MAINTENANCE

The BV70 Series utilizes our self compensating stem seal design. This design automatically compensates for wear as well as thermal expansion and contraction resulting in a leak tight, maintenance free, service life.

Once the stem seal has worn beyond the compensation afforded by the Belleville springs adjustment of the stem nut may enable valve to be returned to service. Holding the 'flats' of the stem, tighten the stem nut until Belleville springs become fully compressed (flattened); the torque required to tighten the nut further increases sharply when this point is reached. Do not tighten the stem nut beyond this point to avoid damage of the stem seal.

DIMENSIONS



Tube Size OD	Dimensions - Inches					
	A	B	C	D	E	F
1/4	3.72	1.58	.50	2.31	.19	9/16
3/8	3.70	1.58	.50	2.31	.28	11/16
1/2	3.94	1.58	.50	2.31	.36	7/8
3/4	4.17	1.67	.59	3.41	.49	1-1/8
1	4.92	1.91	.75	3.41	.62	1-1/2



WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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