







Ball Valves & Manifolds



Stewart-Buchanan Gauges Ltd

AN EMPLOYEE-OWNED COMPANY









About Us

At Stewart-Buchanan Gauges, we are a company that likes to stay one step ahead. Our commitment to innovation has led to an enviable reputation as a manufacturer of market-leading, technically advanced products. This reputation has enabled us to grow in highly competitive markets across Europe and around the world.

Founded in Glasgow in the 1870's, we have thrived over our long history because we put our customers at the heart of everything we do. As an employee-owned company, our workforce is dedicated to manufacturing products of the highest quality to meet or even exceed the needs of our customers.

We employ over 120 people at our 4,000 square metre production facility located near Glasgow, Scotland. The plant is home to state-of-the-art machinery, including the Manufacturing Resource Planning system (MRP II), 3D design and CNC machines, enabling us to use the very latest manufacturing techniques.

VISION STATEMENT

An employee owned company responding to customer demands while setting the standards for Safety, Quality and Reliability.

MISSION STATEMENT

To recognize and exceed customer expectations. To build a strong ownership culture to create sustainable employment and the opportunity for each employee to contribute and succeed.

WE DESIGN & MANUFACTURE:

- Pressure Gauges
- Temperature Gauges
- High Pressure Needle & Ball Valves
- Needle Valve & Ball Valve Manifolds
- Monoflanges & OS&Y Monoflanges
- Double Block & Bleed Valves
- Injection Valves
- Sampling Valves
- Distribution Manifolds & Instrumentation
- Panel & Instrument Assemblies/Enclosures

MAIN MARKETS

Our main markets include, but are not limited to:

- Oil and Petrochemical
- Gas and Compressed Air
- Power Generation
- Original Equipment Manufacturers (OEM)
- Food and Beverage
- Hydraulic
- Heating and Ventilation
- Test and Inspection
- Manufacturing Process

BALL VALVES & MANIFOLDS AT A GLANCE



Stewarts

Offer a variety of precision engineered high performance quality ball valve products in 316 stainless steel as standard. Even the pressed handle on the valve is 316 stainless steel. Offered in 6,000 and 10,000 PSI and from 9.5mm to 19mm diameter bore these valves are recommended for use in oil, gas and petrochemical applications where reliable long-term performance is essential.

Threaded connections are High Tolerance NPT.

NB:- data sheets show dimensions for 6,000 psi valves/manifolds contact sales for 10,000 psi dimensions.

Stewarts work extensively with a large proportion of its clients in customising designs and configurations. We are well equipped to reproduce any "special" valve manifold manufactured in the past. We will also work with any client in tailoring and producing a precision product with any number of valves; configured to meet the specific requirements of the system.

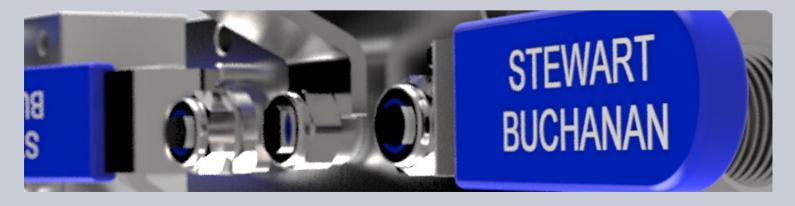
STEWARTS Ball Valves & Manifolds have been designed to provide the safest possible connection and mounting of instruments.

STANDARD FEATURES

- 6000psi standard Maximum Working Pressure
- Hydrostatically tested to 1.5 times Maximum Working Pressure. In accordance with EN 12266
- Full 316/316L St.St. Dual Certified,
- Valves have trace code on body with original mill certificates available all to EN 10204-3.1
- · High Tolerance NPT Thread Engagement with 5-6 threads engaged when fully tightened
- All valves and manifolds are individually boxed for protection and storage
- Laser etching valve detail on body
- 90 Deg turn precision ball with 9.5 or 19mm Ø thru bore allowing rodding through bi-directional flow
- (Ø9.5 Bore CV = 6) Fully open
- (Ø19 CV = 25) Fully open

PRESSURE EQUIPMENT DIRECTIVE 97/23/EC

Due to internal bore size and internal volumes up to and including 25mm, products offered in this catalogue comply with S.E.P (Sound Engineering Practice) article 3, paragraph 3 of the Pressure Equipment Directive P.E.D. 97/23/EC and therefore CE marking is not applicable.



TECHNICAL SPECIFICATION

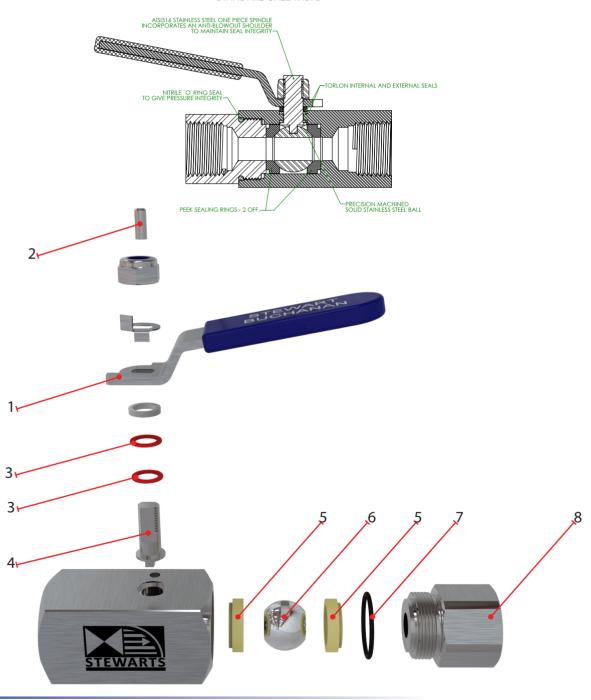
BALL VALVE



FEATURES

- 1. One piece stamped 316 Stainless Steel handle gives positive feel, quarter turn operation.
- 2. A 316 Stainless Steel "dead stop" pin is held into the body by a machined anti-vibration spline.
- 3. Torlon internal & external stem seals.
- 4. AISI 316 Stainless Steel one piece spindle incorporates an anti-blowout shoulder to maintain seal integrity at all pressures.
- 5. Peek ball seats (2).
- 6. Precision machined solid stainless steel ball, super finished to reduce operating torque.
- 7. Nitrile o-ring seal to give pressure integrity.
- 8. Process threads High Tolerance NPT Thread Engagement with 5-6 threads engaged when fully tightened.

STANDARD BALL VALVE



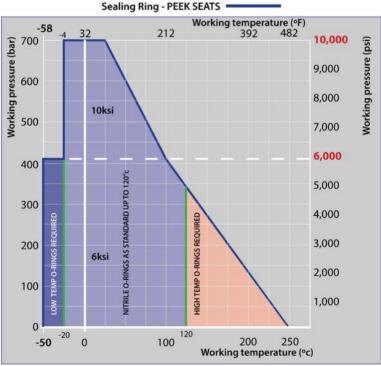
TECHNICAL SPECIFICATION

BALL VALVE



OPTIONAL FEATURES

- Valves can be supplied to ISO 15156/NACE MR-01-75 or NORSOK M-630 specifications
- PMI Certified material identification XRF (See data sheet)
- Cleaned and degreased for Oxygen service (or Oxidizing Gases)
- Wide variety of process connections available by arrangement
- Panel mounting valve, where available, on request
- Laser etching customisable options available
- Other seals available by arrangement
- Firesafe certification to BS EN ISO 10497 (BS 6755 Part 2), API 607, API 6FA, where available
- 10,000psi optional designs, where available
- Choice of exotic alloys i.e., MONEL®, Duplex, Super Duplex, Titanium, HASTELLOY®, Alloys 625, 825, 6%Mo
- All NORSOK M-630 materials sourced from NORSOK M-650 approved mills on request
- · Optional mounting bracket kits, where available



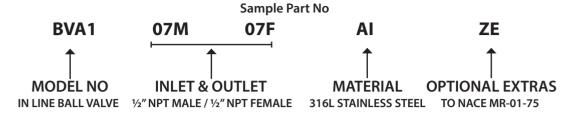
Pressure-Temperature Rating Ball Valves

Note: Contact SBG Sales to discuss sealing options in Temperature range 120°C - 250°C

HOW TO ORDER

BALL VALVES & MANIFOLDS





Inlet & Outlet
M = Male $F = Female Thread$
02M or F = $G\frac{1}{8}$ B or $G\frac{1}{8}$ (BSPP)
03M or F = 1/4" NPT
04M or F = $G\frac{1}{4}$ B or $G\frac{1}{4}$ (BSPP)
05M or F = %"NPT
06M or F = G%B or G%(BSPP)
07M or F = ½" NPT
08M or F = $G\frac{1}{2}B$ or $G\frac{1}{2}$ (BSPP)
09M or F = 3/4" NPT
10M or F = G^{3}/B or G^{3}/A (BSPP)
11M or F = 1"NPT
12M or $F = G1B$ or $G1$ (BSPP)
13M or F = $R\frac{1}{4}$ or $Rc\frac{1}{4}$ (BSPT)
14M or $F = R\%$ or $Rc\%(BSPT)$
15M or F = $R\frac{1}{2}$ or $Rc\frac{1}{2}$ (BSPT)
16M or $F = R^{3}/4$ or $Rc^{3}/4$ (BSPT)
17M or F = R1 or Rc1 (BSPT)
18M or F = $R\frac{1}{8}$ or $Rc\frac{1}{8}(BSPT)$
Key GxB = Parallel Male Class B G = Parallel Female R = Taper Male Rc = Taper Female

Material
AI = 316L Stainless Steel (UNS S31600 / S31603)
MO = MONEL® 400 (UNS N04400)
HA = HASTELLOY® C-276 ® (UNS N10276)
IL = INCONEL® 625 (UNS N06625)
IN = INCOLOY® 825 (UNS N08825)
TI = TITANIUM Gr.2 (UNS R50400)
DU = DUPLEX (UNS S31803)
SD = SUPER DUPLEX (UNS S32760)
HC = HASTELLOY® C-22 (UNS N06022)
SA = SUPER AUSTENITIC ST.ST 6%Mo (UNS S31254)
Note: Other materials available on request.

Optional Extras
ZA = Rated 700 bar / 10,000 psi (Dimensions available on request)
ZB = Panel Mount
ZC = Lockable Handle Without Padlock
ZD = Lockable Handle With Padlock
ZE = To Nace MR-01-75 (ISO 15156 Latest Edition)
ZF = Fire Safe (Dimensions available on request)
ZG = Surface Mount Tapped Holes
ZH = Degreased to Oxygen Standard
ZJ = Complete with Tamperproof Spanner Flat Handle
ZK = NORSOK M630 (Latest edition)

Note: Please add any additional optional extras in alphabetical order and consider that not all options are available on all models.

OPTIONAL EXTRAS

BALL VALVES



SUFFIX-ZB Panel Mount



SUFFIX-ZB PANEL CUT OUT

A No. Ø 4.2 HOLES
FOR M4 SCREW
CLEARANCE

SUFFIX-ZC Locable Handle Only

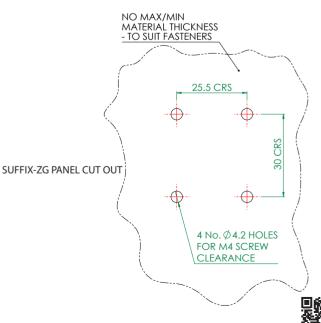


SUFFIX-ZD Lockable handle with padlock



SUFFIX-ZG Surface Mount Tapped Holes

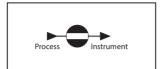




MODEL - BVA1

IN LINE BALL VALVE (413 bar 6000 psi)





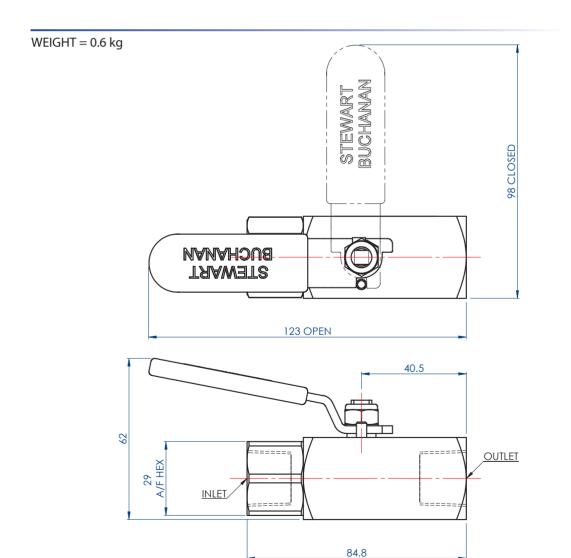
APPLICATION

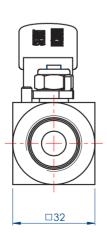
High Integrity instrument isolation of pressure gauges and pressure transmitters.

Recommended for use in oil, gas and petrochemical applications for essential long-term performance.

Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).







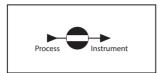




MODEL - BVB1

RIGHT ANGLED BALL VALVE

413 bar (6000 psi)





High Integrity instrument isolation of pressure gauges and pressure transmitters.

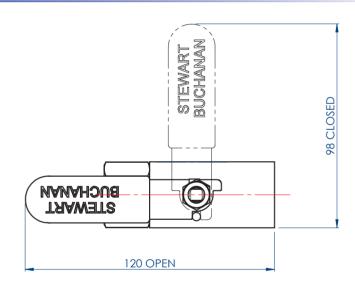
Recommended for use in oil, gas and petrochemical applications for essential long-term performance.

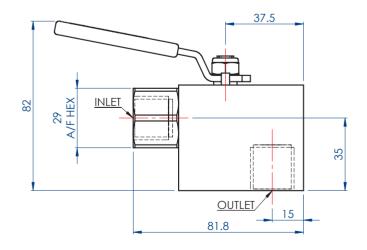
Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).

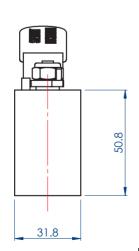




WEIGHT = 0.9 kg







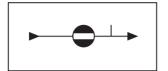


MODEL - BVC1

IN LINE BALL VALVE WITH VENT PLUG

413 bar (6000 psi)





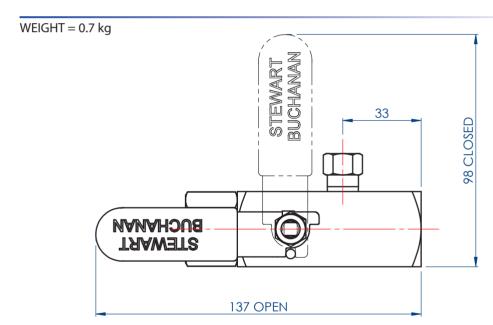
APPLICATION

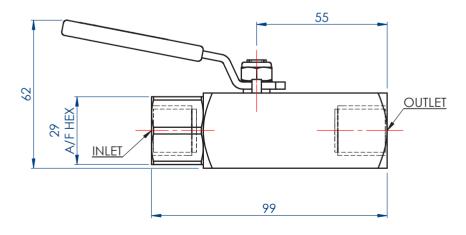
High Integrity instrument isolation of pressure gauges and pressure transmitters.

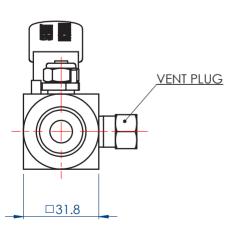
Recommended for use in oil, gas and petrochemical applications for essential long-term performance.

Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).









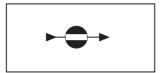


MODEL - BV8

SPANNER ACTUATED IN LINE BALL VALVE

207 bar (3000 psi)





APPLICATION

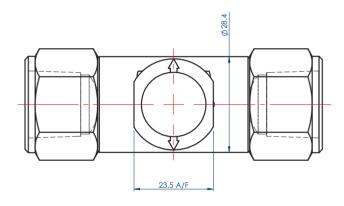
High Integrity spanner actuated isolation valve.

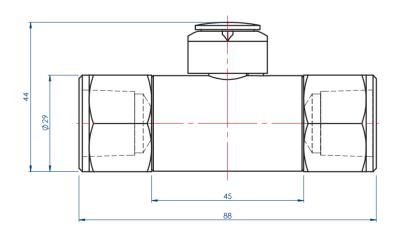
Recommended for use in gas applications for essential long-term performance.

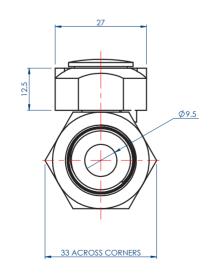
Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).



WEIGHT = 0.4kg









MODEL-BVD1

3 WAY BOTTOM ENTRY DIVERTION VALVE WITH "L" PORTED BALL VALVE 90° OPERATION 413 bar (6000 psi)





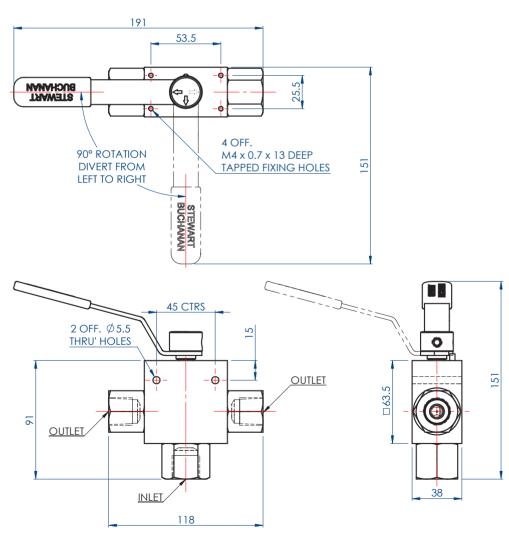
APPLICATION

An excellent choice for diverting flow applications. Recommended for use in oil, gas and petrochemical applications for essential long-term performance.

Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).



WEIGHT = 2.4 kg



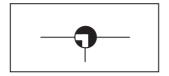




MODEL - BVE1

3 WAY SIDE ENTRY DIVERTION VALVE WITH "L" PORTED BALL VALVE 90° OPERATION 413 bar (6000 psi)





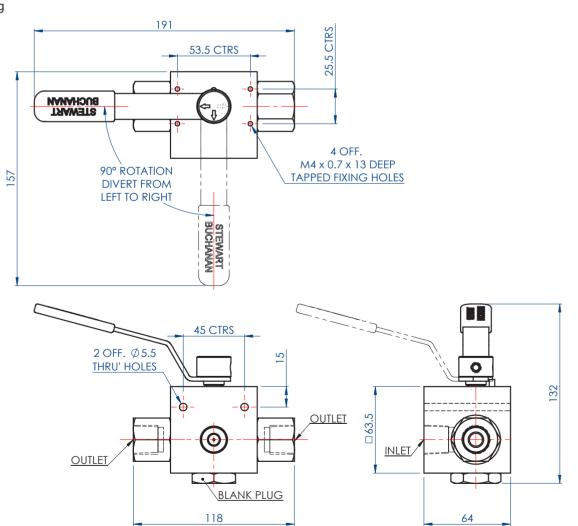
APPLICATION

An excellent choice for diverting flow applications. Recommended for use in oil, gas and petrochemical applications for essential long-term performance.

Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).



WEIGHT = 2.4 kg







MODEL - BVJ1

3 WAY BOTTOM ENTRY DIVERTION VALVE WITH "L" PORTED BALL VALVE 180° OPERATION 413 bar (6000 psi)



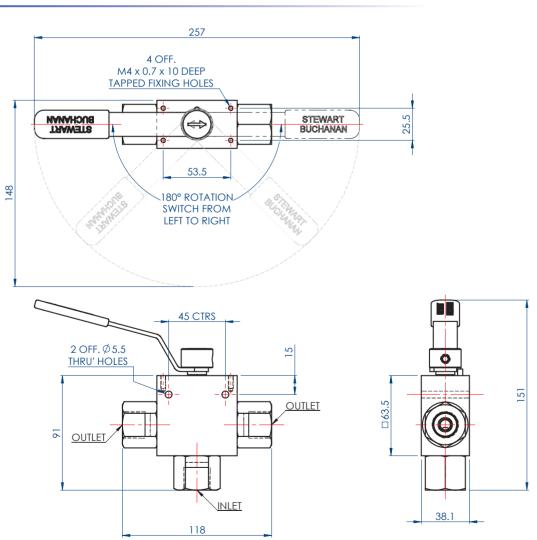


APPLICATION

An excellent choice for diverting flow applications. Recommended for use in oil, gas and petrochemical applications for essential long-term performance Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).



WEIGHT = 1.6 kg







MODEL - BVF3

DOUBLE BLOCK AND BLEED (DBB) VALVE WITH CENTRAL "L" PORTED BALL VALVE 413 bar (6000 psi)





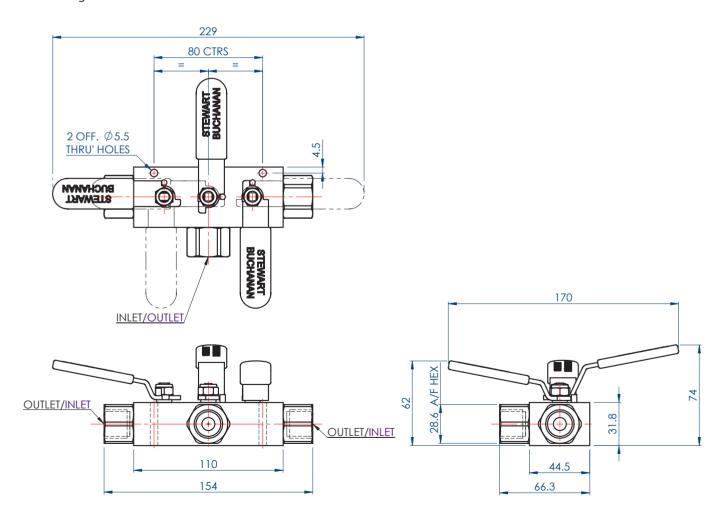
APPLICATION

An excellent choice for sampling, chemical injection and bleeding of instruments.

Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).



WEIGHT = 5.4 kg



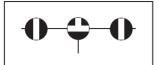




MODEL - BVH3

DOUBLE BLOCK AND BLEED (DBB) VALVE WITH CENTRAL "T" PORTED BALL VALVE 413 bar (6000 psi)

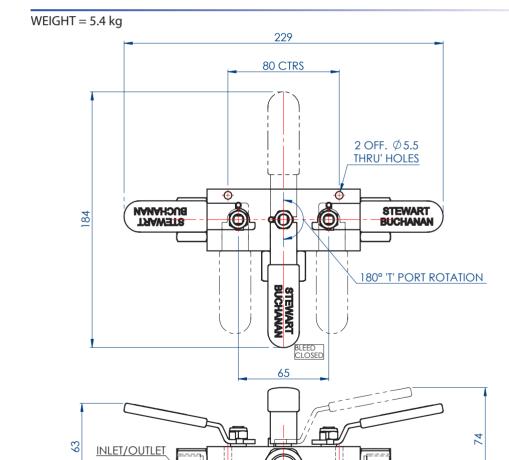


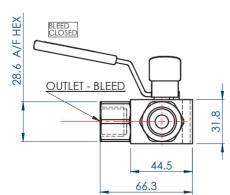


APPLICATION

An excellent choice for sampling or chemical injection. Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).







OUTLET/INLET



STEWART-BUCHANAN GAUGES LTD

110

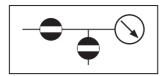
154

MODEL - BVL

BLOCK AND BLEED VALVE MANIFOLD

413 bar (6000 psi)



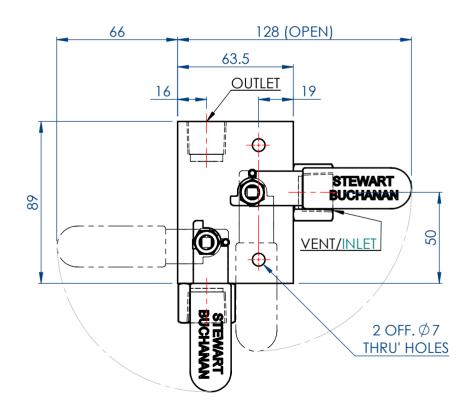


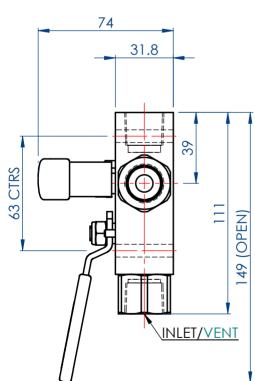
APPLICATION

Block and bleed of instruments Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).



WEIGHT = 1.7 kg





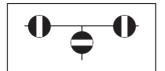


MODEL - BVG3

DOUBLE BLOCK AND BLEED (DBB) VALVE MANIFOLD

413 bar (6000 psi)





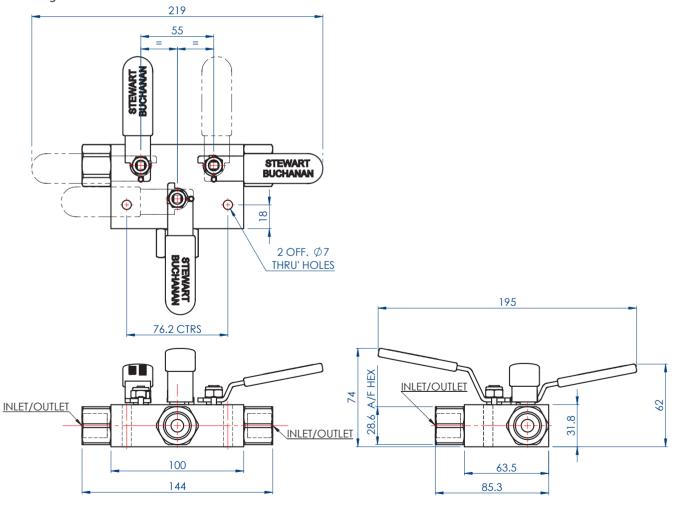
APPLICATION

An excellent choice for sampling, chemical injection or double block and bleed of instrument.

Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).



WEIGHT = 2.3 kg





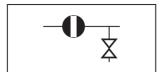


MODEL - BVM

BLOCK AND BLEED VALVE WITH NEEDLE VENT

413 bar (6000 psi)





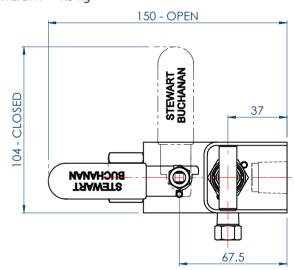
APPLICATION

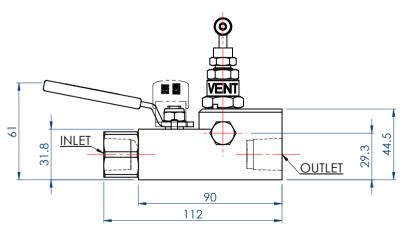
Block and bleed
Also available in a range of

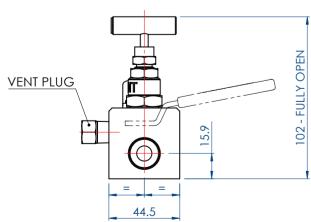
Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).



WEIGHT = 1.3 kg







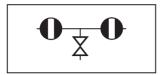


MODEL - BVN

DOUBLE BLOCK AND BLEED VALVE WITH NEEDLE VENT

413 bar (6000 psi)



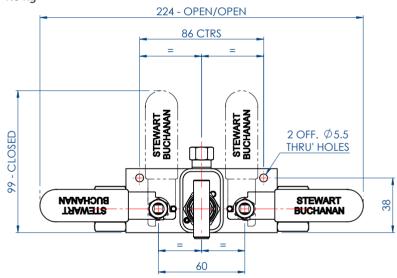


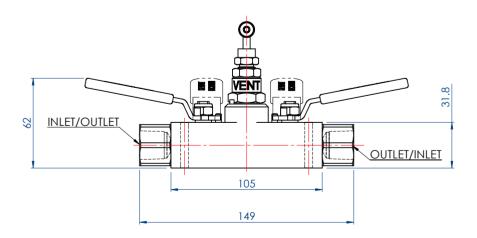
APPLICATION

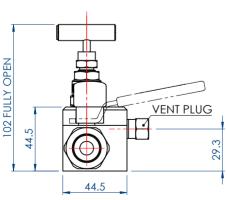
Double block and bleed Also available in a range of other materials and options (See HOW TO ORDER Data Sheet).



WEIGHT = 1.6 kg









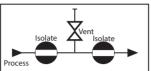


MODEL - BVP

FLANGED Double Block and Bleed (DBB) Valves (With Vent Plug)





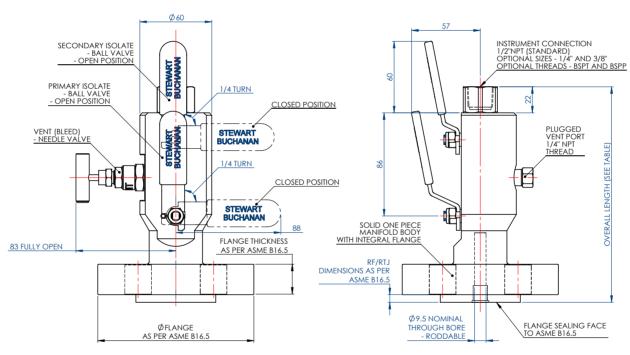


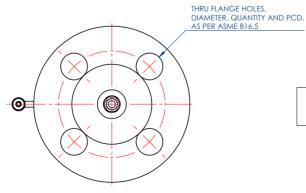
APPLICATION

The BVP flanged double block bleed valves are suitable for gauge or instrument mounting direct to a system via a standard flange take off point. Various flange ratings are available to suit many pressure ratings and sizes within the piping system. Standard applications include static instrumentation, pressure gauges, manometers and pressure switches. With its integral design, considerable cost, weight and space saving is gained over traditional installations, as well as increased safety due to reduced potential leak paths. Manufactured with the primary and secondary isolate ball valves in line, the BVP is fully rodable allowing for efficient cleaning and maintenance.

Fire safe models are available to meet EEMUA pub. No. 182 – contact SBG sales for details.







FLANGE DIMENSIONS AND WORKING PRESSURES ARE AS STATED IN ASME B16.5

STEWART-BUCHANAN GAUGES LTD

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MODEL - BVP

FLANGED Double Block and Bleed (DBB) Valves (With Vent Plug)



DIMENSION CHART

Flange Size Code							Standard Overall Manifold Dimensions in mm (excluding valve handles) TO 2", tol'± 1mm																		
Code	1/2" (1)					3/4" (2)				1" (3)					1.5" (4)					2" (5)					
Туре	R	F	R	ΤJ	Je Je	R	F	R	ΤJ	Je Je	R	F	R	LJ	Je Je	R	F	R'	TJ (T	ge	R	F	R'	ĽJ	Je Je
Class Code	Std	Fire Safe	Std	Fire Safe	ø Flang	Std	Fire Safe	Std	Fire Safe	ø Flang	Std	Fire Safe	Std	Fire Safe	ø Flang	Std	Fire Safe	Std	Fire Safe	ø Flang	Std	Fire Safe	Std	Fire Safe	ø Flang
150 (A)	173	177	-	-	89	173	177	-	-	98	173	177	178	182	108	173	177	178	182	127	173	177	178	182	152
300 (B)	173	177	177	181	95	173	177	178	182	118	173	177	178	182	124	173	177	178	182	156	173	177	179	183	165
600 (C)	178	182	177	181	95	180	184	180	180	118	180	184	180	184	125	180	184	180	184	156	180	184	181	185	165
900/1500 (D/E)	180	184	180	184	121	180	184	180	180	130	193	197	193	193	149	193	197	193	197	178	213	217	213	217	216
2500 (F)	193	197	193	197	133	193	197	193	193	140	193	197	193	193	159	213	217	213	217	203	216	220	216	220	235

HOW TO ORDER

BVP FLANGE Part No Creation										
SAMPLE PART NO BVP-1C-07F-RF-AI-AL (ADD AL WHEN ISO15156 / NACE MR0175 IS REQUIRED)										
1	c 07F RF AI									
INLET	SIZE & RATING	OUTLET CODES	FLANGE TYPE	316 Stainless Steel (UNS S31600)						
$1 = \frac{1}{2}$ " (DN15)	A = 150 CLASS	03F = 1/4" NPT	RF = RAISED FACE	AI = 316 Stainless Steel (UNS S31600)						
$2 = \frac{3}{4}$ " (DN20)	B = 300 CLASS	05F = 3/8"NPT	RTJ = RING TYPE JOINT	MO = MONEL® 400 (UNS N04400)						
3 = 1" (DN25)	C = 600 CLASS	07F = ½" NPT		HA = HASTELLOY® C-276 ® (UNS N10276)						
4 = 1.5" (DN40)	D = 900 CLASS	04F = 1/4" BSPP		IL = INCONEL® 625 (UNS N06625)						
5 = 2" (DN50)	E = 1500 CLASS	06F = 3/8"BSPP		IN = INCOLOY® 825 (UNS N08825)						
6 = 2.5" (DN65)	F = 2500 CLASS	08F = 3/8"BSPP		TI = TITANIUM Gr.2 (UNS R50400)						
7 = 3" (DN80)	G = PN2.5	13F = 1/4" BSPTaper		DU = DUPLEX UNS (UNS S31803)						
8 = 4" (DN100)	H = PN6	14F = 3/8" BSPTaper		SD = SUPER DUPLEX (UNS S32760)						
	J = PN10	15F = ½" BSPTaper		HC = HASTELLOY® C-22 (UNS N06022)						
	K = PN16	Integral SWIVEMAS®		SA = SUPER AUSTENITIC ST.ST 6%Mo (UNS S31254)						
	L = PN25	Connection to Stewarts Pressure Gauge available								
	M=PN40	Tressure Gauge available		Note: Other materials available on request.						
	N=PN63									

See HOW TO ORDER NEEDLE VALVE & BALL VALVE Data Sheets For Optional Extras

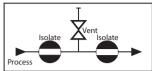


MODEL - BVQ

FLANGE TO FLANGE Double Block and Bleed (DBB) Valves (With Vent Plug)







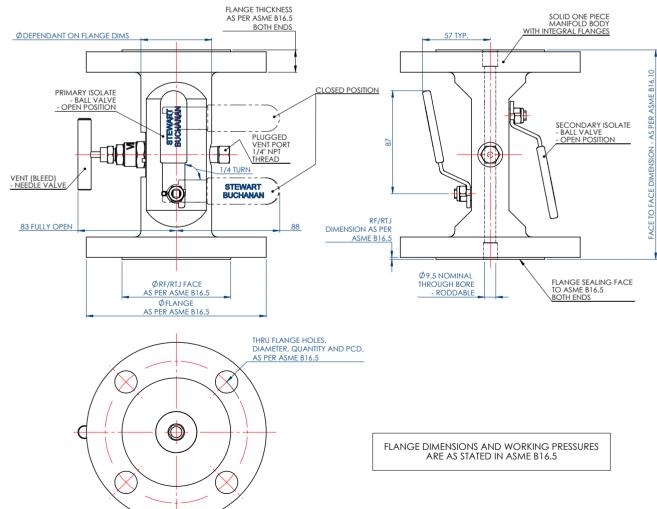
APPLICATION

The BVQ flange to flange double block bleed valves are suitable for modular gauge or instrument mounting and provide safe means of isolating and venting equipment via standard flange take off points. Various flange ratings are available to suit different pressure ratings and sizes within the piping system. Standard applications include static instrumentation, pressure gauges, manometers and pressure switches.

With its integral design, considerable cost, weight and space saving is gained over traditional installations, as well as increased safety due to reduced potential leak paths. With standard face to face dimensions retrofit and/or new installations can be performed quickly and easily with minimal disruption to existing systems. Manufactured with the primary and secondary isolate ball valves in line, the BVQ is fully rodable allowing for efficient cleaning and maintenance.

Fire safe models are available to meet EEMUA pub. No. 182 – contact SBG sales for details.





For DIMENSIONS & HOW TO ORDER BVQ Flanged Manifolds Please Contact STEWARTS Sales Department for details.





NOTES



GUIDANCE ON USE

Ball Valves & Manifolds

6. BALL VALVES

6.1 MATERIALS.

- 6.1.1 Materials must be compatible with medium.
- 6.1.2 Pressure and temperature also have direct bearing on the correct material to be used and must be considered when specifying.
 See pressure / temperature ratings table contained in our printed literature.
- 6.1.3 If in any doubt, consult the manufacturer.

6.2 THREADS AND JOINTING.

- 6.2.1 See Pressure Gauges Guidance on use Para.2.7 where same recommendations apply.
- 6.2.2 Particular care must be taken to ensure the valve has the correct pressure rating for the application.

6.3 INSTALLATION

- 6.3.1 When joining up a valve to the system, depending on certain conditions of size etc., this may generate pressure, which must be released in a controlled manner.
- 6.3.2 Manifolds and equalising valves are accompanied by specific installation instructions and these should be referred to before proceeding with installation.
- 6.3.3 On installation valves should be fitted in the open position to prevent build up of unregistered pressure. Care should therefore be taken to confirm that all systems are sealed before pressurising.

6.4 MAINTENANCE

- 6.4.1 Valves etc. should be part of a planned maintenance programme to ensure they continue to function properly.
- 6.4.2 The time interval between examinations will vary depending upon site conditions, the number of opening and shutting operations etc. and should be determined in the light of experience.
- 6.4.3 Threaded connections should be checked for leaks and tightened as required.

6.5 REPAIRS - Refer to Manufacturer.

6.6 SPARES

• 6.6.1 We recommend that spares should be held in the form of complete valve assemblies.

Continued on Next Page



GUIDANCE ON USE

WARNING - For Your Safety—USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Stewart-Buchanan, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

IT IS SOLELY THE RESPONSIBILITY OF THE SYSTEM DESIGNER AND USER TO SELECT PRODUCTS SUITABLE FOR THEIR SPECIFIC APPLICATION REQUIRE-MENTS AND TO ENSURE PROPER INSTALLATION, OPERATION AND MAINTENANCE OF THESE PRODUCTS, MATERIAL COMPATABILITY, PRODUCT RATINGS AND APPLICATION DETAILS SHOULD BE CONSIDERED IN THE SELECTION.

The user through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyse all aspects of the application; follow applicable industry standards; and follow the information concerning the product in the current product catalogue and in any other materials provided by Stewart-Buchanan or authorized distributors.

To the extent that Stewart-Buchanan or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems. (Please refer to our Guidance on Use of Equipment document).

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OFFER OF SALE

The items described in this document are hereby offered for sale by Stewart-Buchanan its subsidiaries or its distributors. Any order accepted by Stewart-Buchanan will be subject to our terms and conditions of sale, copy available on www. stewarts-group.com, or by request.















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