



# Process to Instrument and Piping Valves Double Block and Bleed (DBB)

Monoflange and Pro-Bloc® Valves  
Including Low Emissions and API 6A Valves



ENGINEERING YOUR SUCCESS.

# Introduction

Parker's range of Process to Instrument valves has evolved and grown over the last two decades. The range has been designed to meet customer requirements for both double block and bleed and single block and bleed valves in all materials used by the industry today. It covers all the pressure requirements for ASME flange ended valves up to class 2500 and for API 6A up to 15K pressures. The bore sizes start at 10mm and are offered in increments up to 54mm (2"). Many of the valves were designed to meet specific customer needs.

One of Parker's unique advantages is the offering of an integral A-LOK® two ferrule fitting or CP1™ single

ferrule fitting connections for remote mounting of an instrument or for sample and injection valves. The specification of the world renowned and universally acceptable Parker compression type connections will improve system performance, increase safety, reduce size and weight and simplify installation which ultimately reduces overall user costs.

Continuous product development may from time to time necessitate changes in the details contained in this catalogue. Parker reserves the right to make such changes at their discretion and without prior notice. All dimensions shown in this catalogue are approximate and subject to change.

Every effort is made to provide sufficient, clear and accurate information to allow the correct selection of product from this catalogue, but ultimately it is the system designer's or user's responsibility to ensure selected product is suitable for the intended application. Should you require further information please do not hesitate to contact your local Parker support.

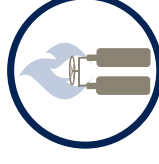
With thousands of distributor outlets and stores worldwide, and hundreds of Parker personnel and locations, Parker also offers the superior advantage of supply and support in your locale.



Upstream Oil & Gas



Downstream Oil & Gas



Industrial Gas

## Parker EHS Vision Statement:

Parker recognizes, and believes, in the importance of safeguarding natural resources and the global environment. We are committed to our employees, our communities, and our customers: their health, safety and understanding of the need for environmental stewardship.

We are committed to the concept of continuous improvement in environmental performance. Accordingly, we are committed to the following principles:

- We will seek to comply with environmental, health, and safety laws worldwide.
- We strive to minimize or eliminate the generation of waste.
- We will monitor compliance with environmental, health and safety regulations.

# General Technical Information

## Design

Parker's Process to Instrument valves are designed to meet the pressure and temperature ratings of ASME B16.34 Class 2500. Conformity to the recommendations of MSS SP-99 is also assured.

- Parker's Pro-Bloc® EP series valves conform to the EEMUA 182 specification for integral block and bleed valve manifolds for direct connection to pipework. This specification covers manifolds comprising two or more isolating valves and a vent valve, in an integral body, intended for the following applications:
- Having an inlet directly connected to the process pipework and an outlet connection not larger than DN 50 (NPS 2), whose principal use is as a replacement for individual block and bleed valves at tapping points in piping systems.
  - Arrangements having an inlet and outlet directly connected to the process pipework, whose principal use is for equipment or process isolation.

Code/Specification	Description
EEMUA 182	Specification for Integral Block and Bleed and Bleed Valve Manifolds for Direct Connection to Pipework
ASME B16.34/ ASME VIII Div. I	Valves - Flanged, Threaded and Welding End
ASME B16.5	Pipe Flanges and Flanged Fittings
NACE MR0175 / ISO 15156	Petroleum and Natural Gas Industries - Materials for use in H2S - Containing Environments in Oil and Gas Production
API 598	Valves Inspection and Testing
API 607 / ISO 10497	Fire Test of Soft-Seated Quarter Turn Valves Fire Type-Testing Requirements
MSS SP-25	Standard Marking Systems for Valves, Fittings, Flange and Unions
MSS SP-61	Pressure Testing of Valves
MSS SP-99	Instrument Valves
ISO 15848	Industrial valves— Measurement, test and qualification procedures for fugitive emissions
TA Luft	TA-Luft 2002, Absatz 5.2.6.4 und VDI 2440 (Ausgabe Nov. 2000), Absatz 3.3.1.3

## Materials of Construction

All materials are purchased from long standing reputable sources, conforming not only to recognised national/international standards, but also to additional requirements imposed by Parker to assure suitability/usability across the widest spectrum of user applications.

A range of techniques and processes including PMI (Positive Material Identification) are used to validate all incoming material supplies, segregation, storage and maintenance of product quality.

### Body material options

Material Group	Material Designator	UNS No.	ASTM Material Grade
Carbon Steel	A105 / A350-LF2	UNS 1.0482	A105
Austenitic Stainless Steel	316/316L Dual Certified	UNS S31600	A479 Gr 316
		UNS S31603	A479 Gr 316L
		UNS S31254	A479/A276
Super Austenitic Stainless Steel	6Mo	UNS S31803	A479/A276
Austenitic-Ferritic Steel (Duplexes)	Duplex 22Cr	UNS S32750	A479/A276
		UNS S32760	A479/A276
		UNS N08825	ASTM B425
Nickel Alloy	Alloy 825	UNS N06625	ASTM B446

All materials will meet (as applicable) the requirements of NACE MR0103/MR0175 and ISO 15156. They are further supplied as per Norsok M650/M630 as required.

## Flange Connections

### Pressure-temperature ratings for flanges ASME/ANSI B 16.5

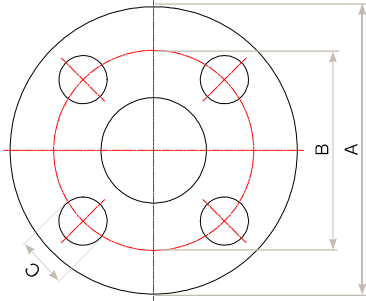
Parker's Process to Instrument valves carry the pressure-temperature ratings of their flange end interface according to ASME B16.5 dimensional specifications and pressure ratings.

Flange Material	°C	-29	38	50	100	150	200	250
	°F	-20	100	122	212	302	392	482
Working Pressure - PSI (bar)								
Class 150								
Carbon Steel		284 (19.6)	284 (19.6)	278 (19.2)	257 (17.7)	229 (15.8)	200 (13.8)	175 (12.1)
316/316L St.Steel		276 (19.0)	276 (19.0)	267 (18.4)	235 (16.2)	215 (14.8)	199 (13.7)	175 (12.1)
Duplex		290 (20.0)	290 (20.0)	283 (19.5)	257 (17.7)	229 (15.8)	200 (13.8)	175 (12.1)
Class 300								
Carbon Steel		741 (51.1)	741 (51.1)	727 (50.1)	676 (46.6)	654 (45.1)	635 (43.8)	608 (41.9)
316/316L St.Steel		719 (49.6)	719 (49.6)	698 (48.1)	612 (42.2)	558 (38.5)	518 (35.7)	484 (33.4)
Duplex		750 (51.7)	750 (51.7)	750 (51.7)	735 (50.7)	666 (45.9)	619 (42.7)	587 (40.5)
Class 600								
Carbon Steel		1481 (102.1)	1481 (102.1)	1453 (100.2)	1352 (93.2)	1308 (90.2)	1270 (87.6)	1271 (83.9)
316/316L St.Steel		1440 (99.3)	1440 (99.3)	1395 (96.2)	1224 (84.4)	1117 (77.0)	1034 (71.3)	969 (66.8)
Duplex		1500 (103.4)	1500 (103.4)	1500 (103.4)	1469 (101.3)	1333 (91.9)	1237 (85.3)	1173 (80.9)
Class 900								
Carbon Steel		2222 (153.2)	2222 (153.2)	2181 (150.4)	2028 (139.8)	1961 (135.2)	1906 (131.4)	1824 (125.8)
316/316L St.Steel		2159 (148.9)	2159 (148.9)	2093 (144.3)	1836 (126.6)	1675 (115.5)	1552 (107.0)	1452 (100.1)
Duplex		2249 (155.1)	2249 (155.1)	2249 (155.1)	2204 (152.0)	1999 (137.8)	1856 (128.0)	1761 (121.4)
Class 1500								
Carbon Steel		3703 (255.3)	3703 (255.3)	3634 (250.6)	3379 (233.0)	3269 (225.4)	3176 (219.0)	3041 (209.7)
316/316L St.Steel		3600 (248.2)	3600 (248.2)	3489 (240.6)	3060 (211.0)	2792 (192.5)	2586 (178.3)	2421 (166.9)
Duplex		3750 (258.6)	3750 (258.6)	3750 (258.6)	3674 (253.3)	3330 (229.6)	3093 (213.3)	2934 (202.3)
Class 2500								
Carbon Steel		6171 (425.5)	6171 (425.5)	6058 (417.7)	5632 (388.3)	5447 (375.6)	5294 (365.0)	5069 (349.5)
316/316L St.Steel		6000 (413.7)	6000 (413.7)	5814 (400.9)	5099 (351.6)	4653 (320.8)	4310 (297.2)	4033 (278.1)
Duplex		6249 (430.9)	6249 (430.9)	6249 (430.9)	6123 (422.2)	5550 (382.7)	5154 (355.4)	4890 (337.2)

# General Technical Information

## Flange Connections

### Flange dimensions



Nominal Pipe Size inch	Dimensions inch (mm)			Number of Mounting Holes
	A	B	C	
Class 150				
1/2	3 1/2 (88.9)	2 3/8 (60.5)	1/2	4
3/4	3 7/8 (98.6)	2 3/4 (69.8)	1/2	4
1	4 1/4 (108)	3 1/8 (79.2)	1/2	4
1 1/2	5 (127)	3 7/8 (98.6)	1/2	4
2	6 (152)	4 3/4 (121)	5/8	4
Class 300/Class 600				
1/2	3 3/5 (95.2)	2 5/8 (66.5)	1/2	4
3/4	4 5/8 (117)	3 1/4 (82.6)	5/8	4
1	4 7/8 (124)	3 1/2 (88.9)	5/8	4
1 1/2	6 1/8 (155)	4 1/2 (114)	3/4	4
2	6 1/2 (165)	5 (127)	5/8	8
Class 900/Class 1500				
1/2	4 3/4 (121)	3 1/4 (82.6)	3/4	4
3/4	5 1/8 (130)	3 1/2 (88.9)	3/4	4
1	5 7/8 (149)	4 (102)	7/8	4
1 1/2	7 (178)	4 7/8 (124)	1	4
2	8 1/2 (216)	6 1/2 (165)	7/8	8
Class 2500				
1/2	5 1/4 (134)	3 1/2 (88.9)	3/4	4
3/4	5 1/2 (140)	3 3/4 (95.2)	3/4	4
1	6 1/4 (159)	4 1/4 (108)	7/8	4
1 1/2	8 (203)	5 3/4 (156)	1 1/8	4
2	9 1/4 (235)	6 3/4 (171)	1	8

Note: Dimensions are for reference only and are subject to change.

## Meeting the ISO Standard

From 2007 EU's IPPC directive 96/61/EC legislates for the minimisation of pollution from industrial sources (Many other regions and countries have similar legislation). An important part of this legislation is reducing Ultra-Low emissions, which will have significant consequences for all processes. According to the IPPS all plants and factories which fail to comply with the standards set by the directive may be closed from this point.

To put the scale of the challenge into perspective, a typical European refinery loses between 600 and 10,000 tonnes of emissions per annum. Around 70% of these losses are estimated to be caused by plant equipment such as pipe flanges, pumps, valves and vessels. Leakage from valves is often the biggest culprit, reportedly accounting for around 50% of the Ultra-Low emissions within the chemical and petrochemical industries.

Irrespective of the environmental impact, there is a tremendous financial burden on industry because it represents a huge loss of product, and cause of plant inefficiency. However, the true costs to industry are not always appreciated, as many of the costs associated with Ultra-Low emissions are hidden, such as labour and materials to repair leaks, wasted energy, environmental fines and clean up costs. Lost sales due to a poor green image, claims for personal injury and more. In this way, reducing Ultra-Low emissions not only protects the environment, but can save companies time and money.

With the above in mind, the legislation introduces a concept of Best Available Technique (BAT), urging plants to find the best available solution for reducing Ultra-Low emissions throughout the process, from areas such as design, product selection, fitting and fitter training, to maintenance, site monitoring, and so on.

With regard to the design and site monitoring of Ultra-Low emissions ISO 15848 parts 1 and 2 have been developed respectively.

Part 1 covers the classification system and qualification procedure for type testing of valves. The standard specifies three tightness classes of leakage with respect to stem sealing diameter. These classes are class A, B and C. Class A having the smallest environmental leakage. Each class level is one hundred fold lower than the class above i.e. a class B product may have a leakage of 100 times that of a class A product. The standard also specifies the duty that the valve has been tested to.

Parker Hannifin is now able to offer our full range of

flanged products with a class A approval to ISO 15848-1. These products are identified as the Ultra-Low Emissions range and are certified as ISO FE AH-C01-SSA1-t (RT,180°C)-ANSI2500-ISO 15848-1. This states that the product has been classified as meeting the ISO 15848-1 standard with the following criteria;

- Class A tested with Helium
- Endurance class C01 – a mechanical valve which has been tested throughout 500 mechanical actuations with two thermal cycles
- Temperature class RT-180°C – Fully thermal cycled and tested from -29°C to +180°C Pressure class ANSI 2500 – 6000 psi in 316 st.st.

Part 2 of the standard covers production acceptance testing of valves. This production testing can only be carried out to product which has already been approved to part 1 of the standard. Production testing can be carried out to and sampling percentage specified by the purchaser with a minimum of one per lot. The production testing is a simpler helium sniffer test which is carried out at room temperature with no mechanical actuations.







## ISO 15848 standard

ISO 15848 parts 1&2 (defining a classification system and qualification procedures, and production acceptance test of industrial valves, respectively) specify new Ultra-Low standards for emissions. This standard is becoming the requirement for oil and gas and petrochemical organisations worldwide. The standard was originally created for process valves and control valves but is now being applied to Instrumentation valves which include primary isolation valves, especially on environmentally sensitive projects.

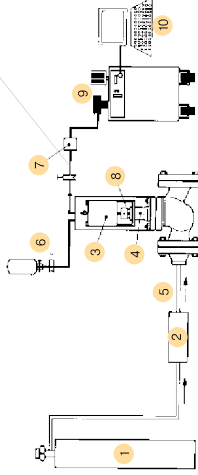
Meeting these low levels is a challenge, which Parker Instrumentation has solved with the new ball and needle valve designs used in these Double Block and Bleed valves and monoflanges. These designs meet the highest class 'A' level over the temperature range -29°C to +180°C celsius, alongside the standard instrumentation manifold pressure ranges.

Production testing and certification is available upon request. Please specify sample quantity required for production testing with your order.

O-ring material grade is a fluoroelastomer FKM tetrapolymer, specially formulated for explosive decompression (ED) resistance. The seals are qualified to the stringent Norsok M-710 standard that covers both ED resistance and sour gas (H<sub>2</sub>S) ageing tests.

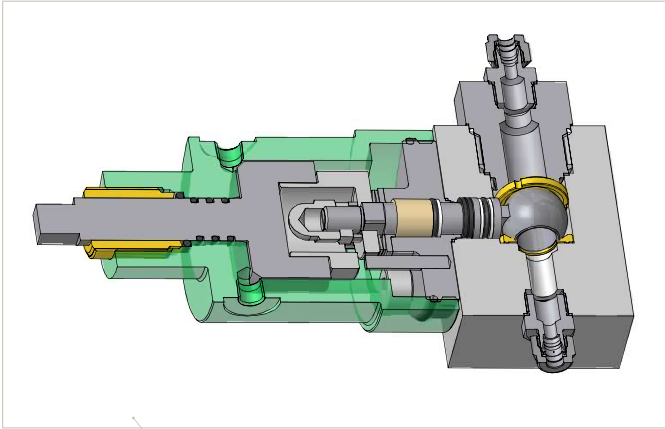
### Features

- Class 'A' leakage rates achieved
- Bolted ball valve bonnet assembly
- All threads sealed from the media
- All ball valves are bi-directional
- Firesafe design available



Prototype testing schematic as per ISO 15848-1

Reference	Description
1	Helium at 97% purity
2	Pressure control
3	Actuator
4	Vacuum
5	Helium
6	Standard calibrated leak
7	Vacuum safety
8	Tested stem sealing
9	Helium mass spectrometer
10	Data acquisition



Ball valve ISO 15848-1  
Prototype testing assembly

# Live Loaded Pro-Bloc® - Modular Single Piece DBB Valve - API 6A

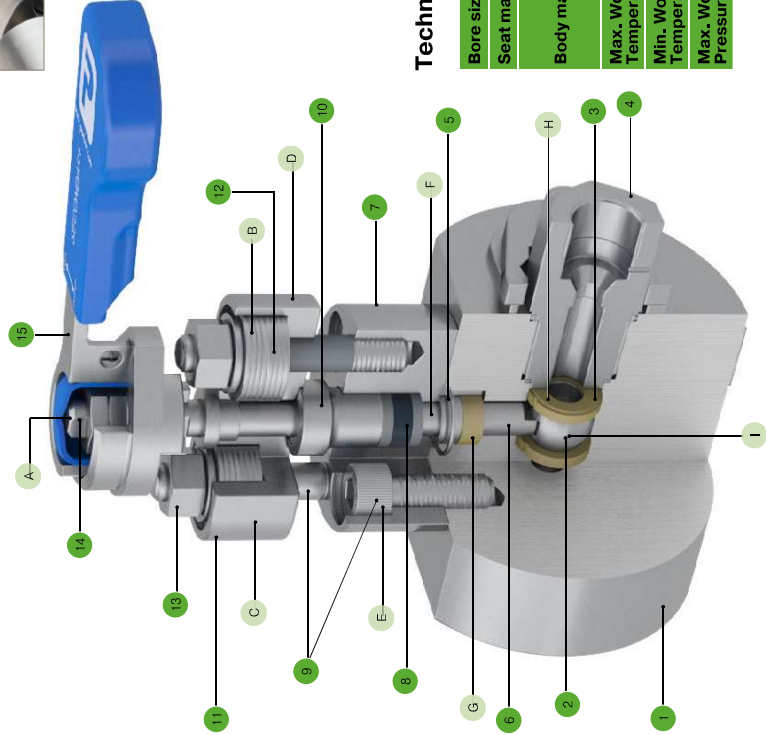
5K, 10K and 15K - API 6A

## Overview

In addition to the features mentioned for the 5K and 10K ball valve design, the stem packing is live loaded graphite. The live loading maintains a constant pressure on the stem packing compensating for any potential wear during the valve's lifetime. In turn it also improves the efficiency of the sealing capabilities. These valves have passed extensive third party testing to gain ISO 15848-1 certification.

## Tru-Loc® Mechanical Sealed End Connection

Designed specifically for Pro-Bloc® end connection security. Extensive tests have proved that end connections locked with the Tru-Loc® end connector locking mechanism give 100% security and prevent end connector movement when disconnecting instruments or connectors. This ensures that the ball seat is securely positioned at all times.



## Technical Specifications

Bore sizes	10 mm
Seat materials	PAI
Body materials	Duplex A182-F51 Super Duplex ASTM A182-F53/F55 Alloy 625
Max. Working Temperature	180° C (356 ° F)
Min. Working Temperature	-46° C (-51° F)
Max. Working Pressure	15K PSI (1034 bar)

## Bill of Materials

Reference	Description	Duplex	Super Duplex	625/725	PSL 3/3G
1	Body (Hub)	A182-F51	A182-F53/F55	ASTM B564 Gr. N06625	YES
1	Body (Flange)	A182-F51	A182-F53/F55	Alloy 725 - ASTM B637 Gr. N07725 with 625 Trim	YES
2	Ball	A479-JUNS S32750/S32760	A479-JUNS S32750/S32760	Alloy 718 API	YES
3	Seats	PAI	PAI	PAI	
4	End Adaptor	A479-JUNS S31803	A479-JUNS S32750/S32760	ASTM B446 Gr. N06625	YES
5	Joint Seal	6mo	Alloy 625	Alloy 625	
6	Stem	A479-JUNS S32750/S32760	A479-JUNS S32750/S32760	Alloy 718 API	YES
7	Bonnet	A479-JUNS S31803	A479-JUNS S32750/S32760	ASTM B446 Gr. N06625	YES
8	Packing	Graphite	Graphite	Graphite	
9	Studs	ASTM A453 GR.660D	ASTM A453 GR.660D	ASTM A453 GR.660D	
10	Thrust Bush	A479-JUNS S31803	A479-JUNS S32750/S32760	ASTM B446 Gr. N06625	
11	OSY Bridge	Super Duplex ASTM A995 Gr. 6A	Super Duplex ASTM A995 Gr. 6A	Super Duplex ASTM A995 Gr. 6A	
12	Spring Washer	X12CNI17 7 (DIN 1.4310)	X12CNI17 7 (DIN 1.4310)	X12CNI17 7 (DIN 1.4310)	
13	OSY Nuts	ASTM A453 GR.660D	ASTM A453 GR.660D	ASTM A453 GR.660D	
14	Spindle Nuts	A4. St.Stl	A4. St.Stl	A4. St.Stl	
15	Handle	316 St.Stl	316 St.Stl	316 St.Stl	

Note: NPT & Autoclave plugs/glands are not PSL3 tested as standard.

## Features, Benefits and Values

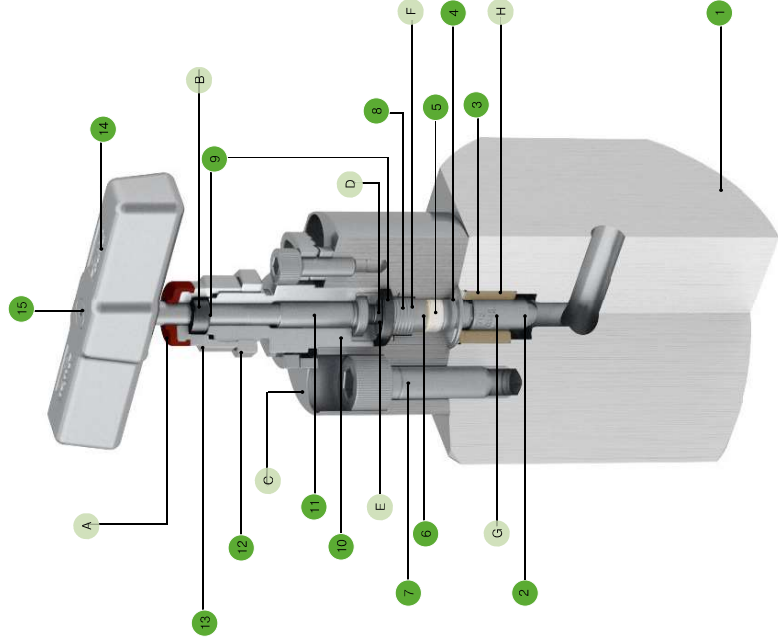
Reference	Feature	Benefit	Value
A	Handle locking mechanism	Enables the valve to be locked in either the open or closed position	Safety
B	Bevel washers (coned disk spring) for live loading of packing	Compensates for wear of the packing, preventing stem leakage (FE Class B)	Safety, performance and reliability
C	Yoke (bridge) is manufactured from Super Duplex casting as standard	API 6A material compliant	Safety
D	Proprietary high pressure graphite packing with corrosion inhibitor	Fire safe	Safety
E	Bolted bonnet	Removes mechanical hold threads from the process media	Performance and reliability
F	Anti blow out stem	Prevents stem blow out	Safety
G	Primary metallic atmospheric seal	No elastomers, therefore no seal deterioration	Performance and reliability
H	Slotted seats	Provides equalization of cavity pressure	Performance and reliability
I	Vented ball	Ensures body cavity relief is achieved	Safety

# Live Loaded Pro-Bloc® - Modular Single Piece DBB Valve - API 6A

5K, 10K and 15K - API 6A

The Parker heavy duty needle valve has been extensively used both offshore and onshore, including sour gas fields. The two piece stem ensures the tip does not rotate on closure ensuring a gas tight shut off with no opportunity for seat damage or galling. The packing itself is below the stem threads protecting them from the media and ensuring the thread lubricant is not “washed out”.

The stem packing is a combination of PTFE and high purity graphite which is live loaded to reduce the need for packing adjustment. A protective cap is secured above the threads to prevent ingress of moisture or dirt. The valve has a bolted bonnet construction which is stronger, safer and more reliable than a screwed bonnet design. The sealing between bonnet and head unit is a metal seal for increased durability and increased operating life. The handle is held firmly into the top of the stem with an anti-vibration design to prevent the handle becoming loose in operation.



## Bill of Materials

Reference	Description	Duplex	Super Duplex	625	PSL 3/3G
1	Body (Hub)	A 182-F51	A 182-F53/F55	ASTM B564 Gr. N06625	YES
1	Body (Flange)	A 182-F51	A 182-F53/F55	Alloy 725 - ASTM B637 Gr. N0725 with 625 Trim	YES
2	Lower Stem	A479-UNS S32750/S32760	ASTM B446 Gr. N06625	Alloy 718 API	YES
3	Stem Guide	PEEK	PEEK	PEEK	
4	Joint Seal	6mo	ASTM B446 Gr. N06625	ASTM B446 Gr. N06625	
5	Packing	P.T.F.E	P.T.F.E	P.T.F.E	
6	Thrust Bush	A479-UNS S31803	A479-UNS S32750/S32760	ASTM B446 Gr. N06625	
7	Bonnet Studs	ASTM A453 GR.660D	ASTM A453 GR.660D	ASTM A453 GR.660D	
8	Spring Washer	X12CrNi17 7 (DIN 1.4310)	X12CrNi17 7 (DIN 1.4310)	X12CrNi17 7 (DIN 1.4310)	
9	Firesafe Packing	Graphite	Graphite	Graphite	
10	Gland Adjuster	A479-UNS S31803	A479-UNS S32750/S32760	ASTM B446 Gr. N06625	YES
11	Upper Stem	A479-UNS S31803	A479-UNS S32750/S32760	ASTM B446 Gr. N06625	YES
12	Bolted Bonnet	A479-UNS S31803	A479-UNS S32750/S32760	ASTM B446 Gr. N06625	YES
13	Firesafe Gland	A479-UNS S31803	A479-UNS S32750/S32760	ASTM B446 Gr. N06625	YES
14	Handle	316 St.Sil	316 St.Sil	316 St.Sil	
15	Handle Screw	316 St.Sil	316 St.Sil	316 St.Sil	

## Notes:

- NPT & Autoclave plugs/glands are not PSL3 tested as standard.
- When API 6A Integral flange is selected, body material changes to Alloy 725 [ASTM B637 Gr. N0725] with 625 Trim.

## Features, Benefits and Values

Reference	Feature	Benefit	Value
A	Protective cap	Secured above the threads to prevent ingress of moisture or dirt	Durability
B	Fire safe / environmental seal	Fire safe	Safety
C	Bolted bonnet	Removes mechanical hold threads from the process media	Performance and reliability
D	Anti blow out stem	Prevents stem blow out	Safety
E	Two piece stem	Lower stem non rotational for increased cycle life and improved seal ability, preventing damage to seat	Safety, performance and reliability
F	Bevel washers (coned disk spring) for live loading of packing	Compensates for wear of the packing, preventing stem leakage and compensates for temperature cycling	Performance and reliability
G	PEEK guide bush	Aides with centering of tip	Performance
H	Primary metallic atmospheric seal	No elastomers, therefore no seal deterioration	Performance and reliability



# Live Loaded Pro-Bloc® - Modular Single Piece DBB Valve - API 6A

Ordering Information - 5K, 10K and 15K

**APBL** **Y** **1** **00** **F29T15K** **9C** **L** **FN** **B**

**Series** API Pro-Bloc **APBL**

**Style** Flange x Screw **1** Flange x Flange **2**

**Ball Valve Bore Size** 10 mm **Y**

**Arrangement** Block Bleed Block **00** Vent Needle Ball **2nd Isolation Ball** **30**

**Outlet / Vent Connection** 1/2" Female NPT <sup>1</sup> **9C** 9/16" MP Autoclave **6C** 3/8" MP Autoclave **6C**

<sup>1</sup> 5K and 10K valves only.

**Valve Handle Options** Padlock Locking **L** Secondary Ball Valve **FN**

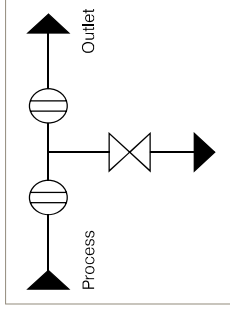
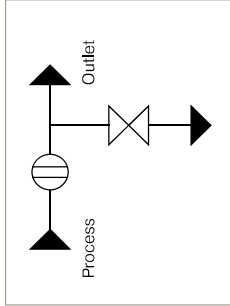
**Condition** Fire Safe **F** NACE **N** Fire Safe & NACE **FN**

**Condition 2** FE Class B **B**

Process / Instrument Connection				Flange Class	
Material	Flange Size	Face Style	Flange Class		
5,000 PSI					
Duplex	E				
Super Duplex	F	2 - 1/16"	33	Ring Type Joint	T
725/625	Q				5K
10,000 PSI					
		1 - 13/16"	29		
Duplex	E	2 - 1/16"	33		
		2 - 9/16"	41		
		1 - 13/16"	29		
Super Duplex	F	2 - 1/16"	33	Ring Type Joint	T
		2 - 9/16"	41		
		1 - 13/16"	29		
725/625	Q	2 - 1/16"	33		
		2 - 9/16"	41		
15,000 PSI					
		1 - 13/16"	29		
Super Duplex	F	2 - 1/16"	33	Ring Type Joint	T
		1 - 13/16"	29		
725/625	Q	2 - 1/16"	33		
		2 - 1/16"	33		
		2 - 1/16"	33		
15K					

Notes:

- PAI seat as standard
- If 1/2" Female NPT outlet is selected then vent connection is 1/2" Female NPT only. No connection designator required



# Pro-Bloc® - API 6A Grayloc® Hub Connection

Ball - Needle Design

Ordering Information - 10K

**APB** **Y** **1** **00** **E24G11** **10K** **L** **FN**

**Series** API Pro-Bloc **APB**

**Ball Valve Bore Size** 10 mm **Y**

**Arrangement** Block Bleed Block **00** Vent Needle Ball **2nd Isolation Ball** **30**

**Outlet / Vent Connection** 1/2" Female NPT <sup>2</sup> **9C** 9/16" MP Autoclave **9C** 3/8" MP Autoclave **6C**

<sup>2</sup> The female medium pressure vent is supplied with a plug.

**Valve Handle Options** Padlock Locking **L** Primary and Secondary Ball Valve **FN**

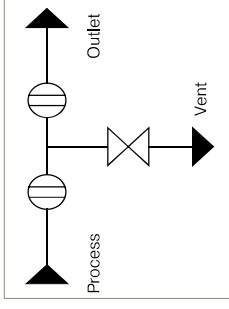
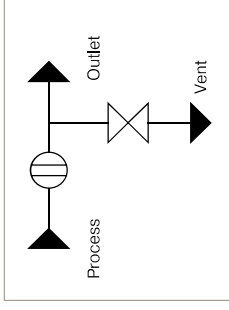
**Pressure Rating** 10K PSI **10K**

**Condition** Fire Safe **F** NACE **N** Fire Safe & NACE **FN**

Process / Instrument Connection <sup>(1)</sup>		Hub Size	
Material	Hub Size	Seal	Seal
AISI 4140 Clamp & A320-L7 Bolting	1 - 1/2"	24	11
	1 - 1/2"	24	14
	2"	32	11
	2"	32	13
AISI 4140 Clamp & A320-L7 Bolting	2"	32	14
	2"	32	16
	2"	32	14
	2"	32	14
AISI 4140 Clamp & A320-L7 Bolting	2"	32	14
	2"	32	14
	2"	32	14
	2"	32	14
A182-F304 Clamp & A320-B8 Bolting	1 - 1/2"	24	11
	2"	32	11
	2"	32	13
	2"	32	14

Notes:

- If 1/2" Female NPT outlet is selected then vent connection is 1/2" Female NPT only. No connection designator required.
- Hub/Seal size selection shown is based on the overall combined pressure capability of base material with the clamp and bolt materials as listed.
- Hub ended valves are NOT supplied with seals, clamps and bolts as standard.





# Live Loaded Pro-Bloc® - API 6A Grayloc® Hub Connection

Ball - Needle Design

Ordering Information - 10K and 15K

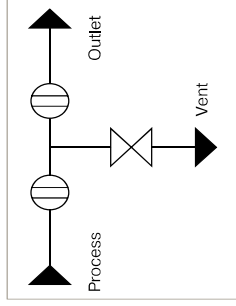
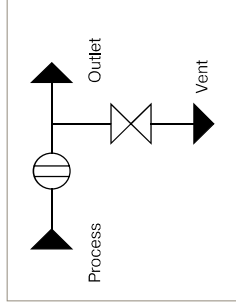
APB		Y	1	00	E24G1110K	
Series		Style		Arrangement		
API Pro-Bloc		Hub x Screw		Block Bleed Block		
APB		Hub x Hub		1st Isolate Ball		
				2nd Isolate Ball		
				Block and Bleed		
				1st Isolate Ball		
				Vent Needle		
				30		

<b>9C</b>	<b>L</b>	<b>FN</b>	<b>B</b>
Outlet / Vent Connection <sup>1</sup>		Valve Handle Options	Condition
1/2" Female NPT <sup>2</sup>		Podlock Handle Locking Primary and Secondary Ball Valve	FE Class B
9/16" MP Autoclave			N
3/8" MP Autoclave			FN
			Condition 2
			B

Note: UFE is not required B is not required. If the valve is not the same, no FE production testing will be conducted.

1. The vent connection is supplied with a plug.  
2. 10K values only.

- Notes:
- If 1/2" Female NPT outlet is selected then vent connection is 1/2" Female NPT only. No connection designator required.
  - Hub/Seal size selection shown is based on the overall combined pressure capability of base material with the clamp and bolt materials as listed
  - Hub ended valves are NOT supplied with seals, clamps and bolts as standard



# Live Loaded Pro-Bloc® API 6A - Grayloc® Hub Connection

Needle Design

Ordering Information - 10K and 15K

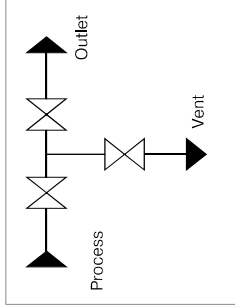
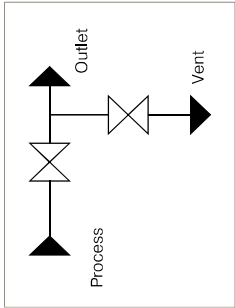
APB		2		N3		F32B14					
Series		Style <sup>1</sup>		Arrangement							
API Pro-Bloc		Hub x Screw	1	Block Bleed Block							
APB		Hub x Hub	2	1st Bolting Needle		N3					
		1 <sup>1</sup> . The hub x hub offset end will also include a female 9/16" MP Autoclave Connection		2nd Bolting Needle							
				Block and Bleed		N2					
				1st Bolting Needle							
				Vent Needle							
*Clamp & Bolt Material				Material		Hub Size					
Process / Instrument Connection				Pressure Rating							
				10,000 PSI							
AISI 4140 Clamp & A320-L7 Bolting		Duplex		E		1 - 1/2"		24	Seal 11	11	
						1 - 1/2"		24	Seal 14	14	
						2"		32	Hub	Seal 11	11
						2"		32	Hub	Seal 13	13
						2"		32	Hub	Seal 14	14
AISI 4140 Clamp & A320-L7 Bolting		Super Duplex		F		2"		32	Seal 16	16	
						2"		32	Seal 14	14	
						2"		32	Seal 11	11	
						2"		32	Seal 13	13	
						2"		32	Seal 14	14	
A182-F304 Clamp & A320-B8 Bolting		625		M		1 - 1/2"		24	Seal 11	11	
						2"		32	Hub	Seal 11	11
						2"		32	Hub	Seal 13	13
						2"		32	Heavy Duty Hub	Seal 13	13
						2"		32	Heavy Duty Hub	Seal 14	14
				15,000 PSI							
AISI 4140 Clamp & A320-L7 Bolting		Duplex		E		1 - 1/2"		24	Seal 11	11	
						2"		32	Hub	Seal 11	11
						2"		32	Hub	Seal 13	13
						2"		32	Heavy Duty Hub	Seal 14	14
						2"		32	Heavy Duty Hub	Seal 14	14
AISI 4140 Clamp & A320-L7 Bolting		Super Duplex		F		1 - 1/2"		24	Seal 11	11	
						2"		32	Hub	Seal 11	11
						2"		32	Hub	Seal 13	13
						2"		32	Heavy Duty Hub	Seal 14	14
						2"		32	Heavy Duty Hub	Seal 16	16
A182-F304 Clamp & A320-B8 Bolting		625		M		1 - 1/2"		24	Seal 14	14	
						2"		32	Hub	Seal 11	11
						2"		32	Hub	Seal 13	13
						2"		32	Heavy Duty Hub	Seal 14	14
						2"		32	Heavy Duty Hub	Seal 16	16
				15,000 PSI							

9C	Outlet / Vent Connection <sup>1</sup>	Condition	FN	B
9C	1/2" Female NPT <sup>2</sup>	Fire Safe	F	B
9C	9/16" MP Autoclave	NACE	N	B
9C	3/8" MP Autoclave	Fire Safe & NACE	FN	B

Note, if FE is not required B is not necessary. If FE is required remains the same. No FE reduction testing will be conducted.

1. The vent connection is supplied with a plug.  
2. 10K valves only.

- Notes:
- If 1/2" Female NPT outlet is selected then vent connection is 1/2" Female NPT only. No connection designator required.
  - Needle Valve bore size 8mm
  - Hub/Seal size selection shown is based on the overall combined pressure capability of base material with the clamp and bolt materials as listed
  - \* Hub ended valves are NOT supplied with seals, clamps and bolts as standard



# Complementary Products for Complete Installation Solutions

## Flushing Rings (Spoofs)

Flushing Rings, historically referred to as drip rings are used between an isolation valve and the diaphragm seal of a pressure transmitter. Side ports on the rings allow media to be injected/ejected so that the diaphragm seal can be flushed free of deposits that affect transmitter measurement accuracy.

Parker offers a bespoke range of flushing rings in number of different styles and configurations. Historically, drip rings are secured between the two raised faces only and held in position by the force exerted through the bolts. The Parker Flushing Ring solution is held in place by the through bolting, this allows for ease of installation and give positive locating. Options with this range of flushing rings include captive studs. This gives the added benefit of the flushing ring staying in place if either the process valve side or diaphragm side require removal.

For full details see Data Sheet ref. 4190-FR.

## ProSpool

The Parker ProSpool feature a combined, single-piece valve consisting of a double block and bleed configuration with an integral flushing spool. It can be easily installed and, having fewer component parts, reduces inventory and purchase orders.

With the captive stud option torquing of the nuts is simplified. Extremely useful in restricted spaces.

For full details see Data Sheet ref. 4190-PSV.

## Ball Valves and Manifolds Hi-Pro Series

These high performance bi-directional Ball Valves & Manifolds offer the user full cold working pressure ratings up to 10,000 psi (689 bar), giving 100% bubble tight shut off and continuous repeatable performance. These products are suitable for the most demanding applications in the oil, gas and process control industries. All valves also meet the requirements of ANSI B31.1 for use in power plants. The design reduces potential body leakage paths to a minimum. With the added opportunity to select Parker Superior Advantage integral compression ends the user can eliminate the use of taper threads and thread sealant, thus avoiding system contamination, reducing leakage paths, installation costs, weight and space.

For full details see Catalogues ref. 4190-HBV and 4190-HBM.

## Air Header Distribution Manifolds - LPAHM Series

These air header distribution manifolds are designed to distribute air from the compressor to the actuators on pneumatic instruments, such as steam flow meters, pressure controllers and valve positioners. They are widely used in industrial chemical processing, plastic processing and energy industries and are approved for low pressure applications up to 275 psi. Manufactured from AISI 316 Stainless Steel material, the air header distribution manifolds offer complete customer system compatibility that reduces installation time and potential leak paths. The coded welded construction with non-destructive tested design minimises the number of potential leak paths, rather than fabricating with instrumentation connections with tubing, therefore reducing labour costs. These manifolds are designed for use with air only and are supplied with a number of lockable ball valves on opposite sides, right side or left side only to prevent unauthorized access.

For full details see Catalogue ref. 4190-DM.



## Air Header Distribution Manifolds - HPAHM Series

These distribution manifolds are designed for applications that use liquid or gas, low temperature steam and hydraulic actuation. The pressure rating of these manifolds is dictated by the inlet/outlet Flange Class or the thread connection. These distribution manifolds feature an ergonomic vinyl sleeve on the valve handle to provide positive grip and to ensure ease of operation. Each nut has an innovative domed design, which prevents ingress of moisture and contamination of the thread, therefore preventing corrosion. They feature a part-welded construction, with all welds carried out by coded welders, providing assurance of their robustness and performance. These manifolds are NDT (Non-Destructive Testing) applied, giving the customer greater assurance.

For full details see Catalogue ref. 4190-DM.

## Hi-Pro Modular Distribution Manifold

Unique to Parker, these manifolds are the ideal choice when ultimate flexibility is required within a distribution manifold. They are approved to operate at pressures up to 6,000 psi and are used extensively in the oil, gas, chemical and petrochemical industries to provide safety and performance. These innovative Hi-Pro modular distribution manifolds can be easily arranged in a layout to suit a wide range of different applications to distribute liquid or gas. They use standard components, therefore making it more affordable for the customer. The Hi-Pro modular distribution manifolds feature an ergonomic vinyl sleeve on the valve handle to provide positive grip and to ensure ease of operation. Each nut is domed in shape, which prevents ingress of moisture and contamination of the thread, which could cause corrosion. This manifold is available with up to 20 valves (even numbers only - spare valves can be blanked off). Temperature range is up to 232°C with PEEK seats.

For full details see Catalogue ref. 4190-DM.

## Lapped Joint Tube Adaptor

Available in the full range of fitting materials and sizes up to 1/2" (M12) as standard, these lapped joint tube adaptors are suitable for applications involving small flanged process valves and offer a simple, safe and effective conversion to instrument lines.

## Flange Connector - Flange to Parker Tube Fittings

Offered in a range of materials and with either A-LOK® or CP1™ tube fitting technology, these flange connectors deliver huge flexibility in terms of offering. Tube connections up to 1" (25mm), flange connections up to 2" NB and pressures to ANSI Class 2500 (6,000 PSI Nom.). The one-piece integral connection adaptors allow the safe, easy and efficient transition from process to instrumentation in just one step.