BA Series Bladder Accumulators

Accumulator & Cooler Division

ENGINEERING YOUR SUCCESS.

New BA Series Bladder Accumulators

- **Globalized certifications**
  - All sizes conform to ASME / PED (CE) requirements
  - 1 - 15 gal, 3K psi, Bottom repairable are ASME / PED(CE) / CRN (all provinces) / AS-1210
- **Increased working pressure for CE applications**
  - Rated up to 330bar (4786psi) on low pressure designs
  - Rated up to 690bar (10,007psi) on high pressure designs
- **Three Unique Service Options**
  - Oil, Water, & Chemical Service

New Model Code

PORT OPTIONS CHART						
Column 1	Column 2	Column 3	Column 4	Column 5	Column 6	Column 7
SIZE	"T" STYLE SAE	"U" STYLE NPTF PIPE THD	"F" STYLE ■ CODE 62 FLG	"R" STYLE BSPP PIPE THD	"Y" STYLE ISO 6149-1	"X" STYLE NPTF PIPE THD
10 CUIN	#8 SAE (3/4"-16)	3/4"-14 MALE THD	N/A	N/A	N/A	N/A
1 PINT	#12 SAE (1 1/16"-12 THD)	3/4"-14 FEMALE THD	N/A	G3/4"-14 THD	M27 X 2 THD	N/A
1 QUART	#16 SAE (1 5/16"-12 THD)	1"-11.5 FEMALE THD	N/A	G3/4"-14 THD	M33 X 2 THD	N/A
150 CUIN	#16 SAE (1 5/16"-12 THD)	1"-11.5 FEMALE THD	N/A	G3/4"-14 THD	M33 X 2 THD	N/A
■ 1 GAL	#20 SAE (1 5/8"-12 THD)	1 1/4"-11.5 FEMALE THD	1 1/4" CODE 62	G1 1/4"-11 THD	M42 X 2 THD	N/A
■ 2.5-15 GAL	#24 SAE (1 7/8"-12 THD)	2"-11.5 FEMALE THD	1 1/2" CODE 62	G2"-11 THD	M48 X 2 THD	1 1/4" NPTF

■ CODE 61 FLANGE AVAILABLE FOR "ASME ONLY" MODELS (3,000 PSI [207 BAR]) CONSULT FACTORY

SERIES	SIZE	CONST TYPE	PRESSURE	PORT	COMP	SERVICE TYPE	DESIGN CODE	DESIGN NUMBER
BA	05	B	3	T	01	-	P	2

SERIES TYPE
BA = BLADDER ACC
BG = GAS BOTTLE

ACCUMULATOR SIZE
C10 = 10 CUIN
001 = 1 PINT
002 = 1 QUART
005 = 150 CUIN
01 = 1 GALLON
02 = 2.5 GALLON
05 = 5 GALLON
10 = 10 GALLON
11 = 11 GALLON
15 = 15 GALLON

CONSTRUCTION TYPE
B = BOT RPR STD ALL SIZES
T = TOP RPR 2.5-15 GAL ONLY

ASME PRESSURE OPTIONS
3 = 3,000 PSI
5 = 5,000 PSI
SEE SHEET 2 DESIGN CODE TABLE FOR PRESSURES

BLADDER COMPOUND
01 = BUNA NITRILE (STD)
04 = HYDRIN
06 = BUTYL
08 = EPR
28 = FLUOROELASTOMER

SERVICE TYPE
BLANK = STANDARD OIL SERVICE
H = CHEMICAL SERVICE
N = PS GV OIL SERV (3K ONLY)
T = PS GV WTR SERV (3K ONLY)
W = WATER SERVICE

▲ DESIGN CODE
P = ASME-APPX22-PED (1-15 GAL)
Y = NON ASME-PED 10-150 CUIN

▲ ADDITIONAL CERTIFICATIONS AVAILABLE CONSULT FACTORY

DESIGN NUMBER
2 = STANDARD
= SPECIAL DESIGN NUMBER

ABBREVIATION DESCRIPTIONS
CUIN = CUBIC INCHES
GV = GAS VALVE
PS GV = POPPET STYLE GAS VALVE
T&B = TOP & BOTTOM
BOT = BOTTOM
RPR = REPAIR
CERT = CERTIFICATION

Parker

Available Certifications and Design Pressures

DESIGN CODE TABLE

Style	Size	US DESIGN CODES				PED DESIGN CODES			CANADIAN & AUSTRALIAN CODES			
		Non-ASME	ASME	Non-ASME & ASME Design Pressure	Appendix 22 Design Pressure	Stand. Eng. Practice (SEP)	CE	PED Design Pressure	CRN	AS 1210	CRN & AS 1210 Design Pressure	
											ASME	Appnd 22
Bottom Repairable, Standard Pressure	10 cu in	Y		3000 psi		Y		330 bar	Upon Request	Upon Request	Upon Request	Upon Request
	Pint	Y		3000 psi		Y		330 bar	Upon Request	Upon Request	Upon Request	Upon Request
	Quart	Y	R**	3000 psi	R**	Y		330 bar	Upon Request	Upon Request	Upon Request	Upon Request
	150 cu in	Y	R**	3000 psi	R**		Y	330 bar	Upon Request	Upon Request	Upon Request	Upon Request
	1 Gallon		P	3000 psi	4000 psi		P	330 bar	P	P	3000 psi	4000 psi
	2.5-15 Gallon		P	3000 psi	3600 psi		P	330 bar	P	P	3000 psi	3600 psi
Bottom Repairable, High Pressure	1 Gallon		P	5000 psi	6600 psi		P	690 bar	Upon Request	Upon Request	Upon Request	Upon Request
	2.5-15 Gallon*		P	5000 psi	6600 psi		P	690 bar	Upon Request	Upon Request	Upon Request	Upon Request
Top Repairable, Standard Pressure	2.5-15 Gallon		P	3000 psi	3600 psi		P	330 bar	P	P	3000 psi	3600 psi
Top Repairable, High Pressure	2.5-15 Gallon*		P	5000 psi	6600 psi		P	690 bar	Upon Request	Upon Request	Upon Request	Upon Request

*High Pressure not available for 11 gallon size

**ASME Designs available by requesting an "R" in the Design Code position of the Model Code (Call Factory)

DESIGN CODE KEY
P = ASME / APPX 22 /PED
R = ASME / PED 10-150 CU. IN.
Y = NON ASME / PED 10-150 CU.

- **4:1 design factor for all 1 Gal & below and 2.5-15 Gal, 5K & 6K designs**
- **3.5:1 design factor 2.5 -15 Gallon**
  - 3.6 KPSI per ASME appendix 22
  - 330 bar per Pressure Equipment Directive
- ****R – ASME versions available for quart & 150 cu. in sizes (consult ACD)**
- **Other Certifications available (ABS, DNV, NR-13, SELO, etc)**

Types of Service

	OIL SERVICE	WATER SERVICE	CHEMICAL SERVICE
Legacy Product	Shell Material: - Carbon Steel Shell External Coating: - Black Epoxy Paint Component Coating: - Zinc Phosphate	Shell Material: - Carbon Steel Shell External Coating: - Black Epoxy Paint Shell Internal Coating: - Scotchkote™ Wetted Component Coating: - Electroless Nickel	- Only available as a Design Number
New BA Series	Shell Material: - Carbon Steel Shell External Coating: - Black Epoxy Paint Component Coating: - Zinc Phosphate	Shell Material: - Carbon Steel Shell External Coating: - Electroless Nickel Shell's Internal Coating: - Electroless Nickel Wetted Component Coating: - Electroless Nickel	Shell Material: - Carbon Steel Shell External Coating: - Black Epoxy Paint Shell's Internal Coating: - Scotchkote™ Component Material: - Stainless Steel

ENGINEERING NOTES:

E1. ASME APPENDIX 22-PED DESIGN RATINGS:
- E1.1 SHELL DESIGN VOLUME (V): 1.09 G [4.13 L]
- E1.2 GAS DESIGN VOLUME: .96 G [3.65 L]
- E1.3 ALLOWABLE ELASTOMER TEMP RANGE: BUNA -20°F [-29°C] TO 200°F [93°C]
- E1.4 MIN HYDROSTATIC TEST PRESSURE: 6,846 PSI [472 BAR]

E2. ASME APPENDIX 22 DESIGN RATINGS:
- E2.1 MAX ALLOWABLE PRESSURE (MAWP): 3,000 PSI [207 BAR] / 4,000 PSI [276 BAR]
- E2.2 MIN HYDROSTATIC TEST PRESSURE (PT): 6,000 PSI [414 BAR]
- E2.3 ALLOWABLE SHELL TEMP RANGE (MDMT): -65°F [-54°C] TO 200°F [93°C]
- E2.4 MEETS ASME SECTION VIII, DIV 1 REQUIREMENTS
- E2.5 CORROSION ALLOWANCE: 0 IN [0 MM]

E3. PED DESIGN RATINGS:
- E3.1 MAX ALLOWABLE PRESSURE (PS): 4,786 PSI [330 BAR]
- E3.2 MIN HYDROSTATIC TEST PRESSURE (PT): 6,846 PSI [472 BAR]
- E3.3 ALLOWABLE SHELL TEMP RANGE (TS): -65°F [-54°C] TO 302°F [150°C]
- E3.4 MEETS EUROPEAN PRESSURE EQUIPMENT DIRECTIVE 97/23/EC
- E3.5 PED CATEGORY (ANNEX 2, TABLE 2): CATEGORY III

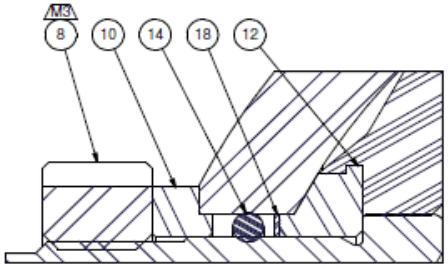
E4. SEE DRAWING 8738450000 FOR MODEL NUMBERING SYSTEM
E5. SEE DRAWING 871498 FOR PED CERTIFICATION REQUIREMENTS
E6. BLADDER REBUILD KIT PART NUMBER E702956-R
BLADDER REPAIR KIT PART NUMBER E702956
HYDRAULIC PORT ASSEMBLY KIT NUMBER E074161002
E7. CRN NUMBER FOR ALL PROVINCES OF CANADA 0H18049.5C
E8. AUSTRALIAN REGISTRATION NUMBER PV 6-196568/15

MANUFACTURING NOTES:

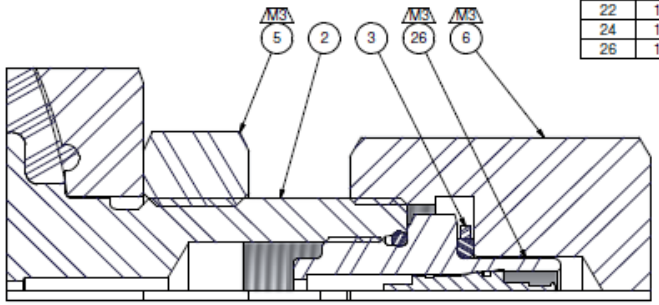
(C) M1. USE STANDARD LABEL PROGRAM FOR ITEM #20: StandardProduct_CE.lbl
M1.1 USE LABEL PROGRAM FOR ITEM #20A: AustCert.lbl
M2. PRINT THE FOLLOWING INFORMATION ON THE NAMEPLATE:
NAME OF MANUFACTURER, YEAR OF PRODUCTION, SERIAL NUMBER, MAXIMUM ALLOWABLE PRESSURE "PS" IN BAR, TEMPERATURE RANGE "TS" -/+ C, VOLUME IN LITERS, CE MARKING AND ORGANIZATION CLEARANCE NUMBER
M3. TORQUE ITEMS PER ACD AES-95
M4. TOP OF STANDARD LABEL TO BE LOCATED FROM GAS END AS SHOWN
IF BLEED PLUG EXISTS, LABEL TO BE LOCATED ±.50 [12.700] OF CENTERLINE WITH BLEED PLUG AS SHOWN
M5. PRECHARGE ACCUMULATOR PER ACD AES-13

PARTS LIST

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	8736380000	PAINTED SHELL
2	1	8714911004	BLADDER AND STEM ASSY
3	1	0870360031	SEALING WASHER
5	1	0849881000	HEX JAM NUT
6	1	0856870000	PROTECTIVE CAP
7	1	E074360002	HYDRAULIC PORT ASSY
8	1	1459760004	LOCKING RING
10	1	1459750004	HYDRAULIC PORT SPACER
12	1	1334451004	ANTI EXTRUSION RING ASSY
14	1	0104040248	O-RING
18	1	1459740004	BACKUP WASHER
20	1	8711920000	BLADDER ACC PRODUCT LABEL
(C) 20A	1	0870330000	PRODUCT LABEL
21	1	0139460036	BLEED PLUG
22	1	0100810020	PORT PROTECTOR PLUG
24	1	0119000006	O-RING
26	1	L074210009	GAS VALVE ASSEMBLY



DETAIL B



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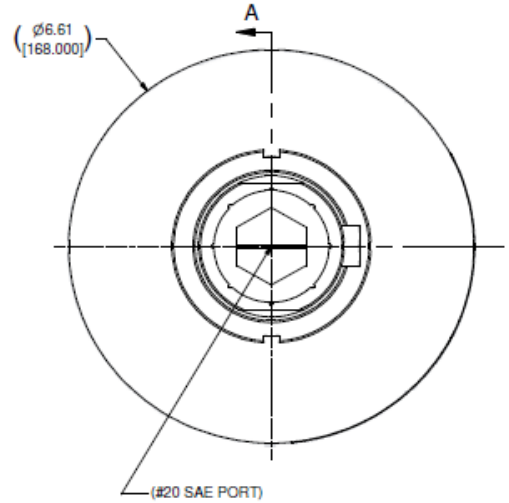

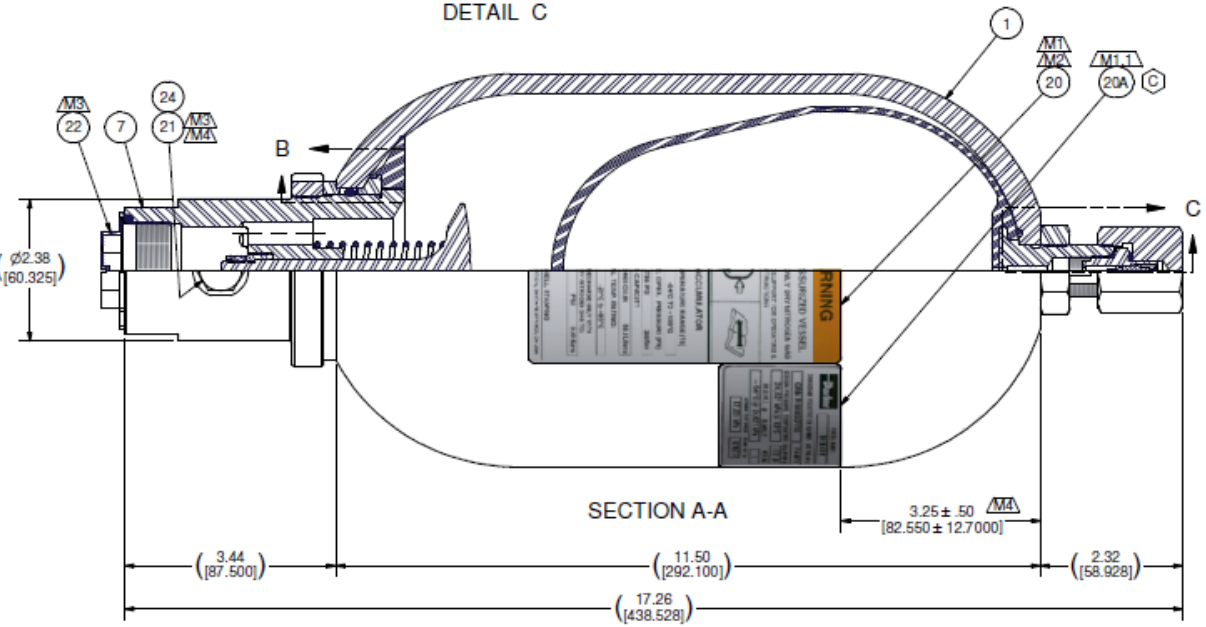

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UNLESS OTHERWISE SPECIFIED:
DIMENSIONS: IN [MM], WEIGHTS: LB [KG]
TOLERANCES: .XX [.XX] = ±.01 [0.254]
.XXX [.XXX] = ±.005 [0.127]
ANGLES = ±2°
SURFACE FINISH: 125 µIN [3.2 µM] RMS
BREAK EDGES: R.005-.015 [0.127]-0.381]
DO NOT SCALE DRAWING

ECR CHANGE DESCRIPTION
REVISED NOTE NUMBER M1 TO CALL OUT BALLOON NUMBER, ADDED NOTE NUMBER M.1.1, ADDED ITEM# 20A

THIRD ANGLE PROJECTION

INCH [METRIC]

MATERIAL
REFERENCE: 871402
WEIGHT: 29.6 [13.43]

ECR MM/DD/YYYY	ECR NUMBER	DRAWN MM/DD/YYYY	DRAWN BY	CHECKED BY	APPROVED BY
06/02/2016	HAD4833	10/06/2015	JPK	CK	

PARKER HANNIFIN CORPORATION
ACCUMULATOR & COOLER DIVISION
MACHESNEY PARK, IL 61115, USA

BLDR ACC ASSY, ASME-APPX22-PED-CRN-AS1210
1 GAL, 3-4 KPSI, 330 BAR, BUNA
STD GAS VLV, OIL SERV, BOT RPR
STD BLADDER ACC, #20 SAE PORT

SHEET 1 OF 1

REV C

MODEL / PART NUMBER
BA01B3T01P2

DRAWING NUMBER
BA01B3T01P2

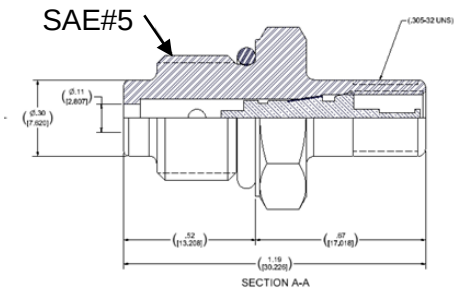
Bladder Ports & Gas Valves

Port Changes

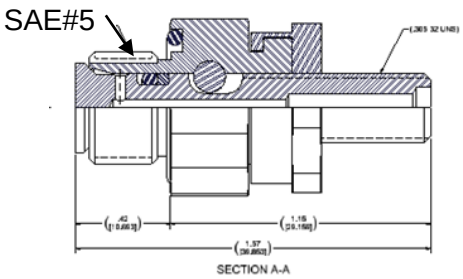
- Changed 1 Quart Port Size from #12 SAE to #16 SAE
- Code 61 Flange port doesn't meet 330 bar CE requirements and will no longer be offered as catalog

Gas Valves

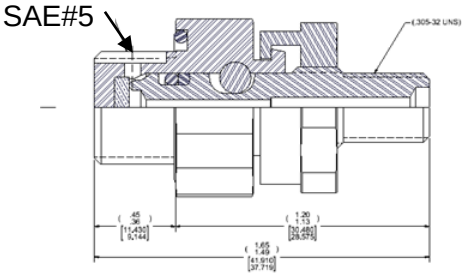
- Standardize on #5 SAE gas valve
- Gas valve type
  - Standard (cored style) 3K, 330bar
  - Poppet style 3K, 330 bar
  - HP (High pressure up to 10K) 5K, 690 bar
  - MIL Spec Valve MS-28889-2 still available as a design number



Core



Poppet



HP

Additional Specs

Standard and Optional Bladders

A variety of bladders are offered to suit a wide range of fluids and operating temperatures. The following table lists the optional bladders available, their recommended operating temperature ranges, and the types of fluids that are generally compatible.

Seal Code	Polymer	**Recommended Operating Temperature Range	Maximum Temperature with Reduced Life	General Application & Compatibility*
01	Buna-Nitrile	-20°F to 200°F -29°C to 93°C	225°F 107°C	Standard Compound – Compatible with most mineral oil-based fluids
04	Hydrin (Lo-Temp.)	-40°F to 225°F -40°C to 107°C	250°F 121°C	Compatible with most mineral oil-based fluids with enhanced low temperature performance
06	Butyl	-40°F to 200°F -40°C to 93°C	300°F 149°C	Compatible with most phosphate ester fluids and some synthetic fluids
08	Ethylene Propylene	-40°F to 200°F -40°C to 93°C	300°F 149°C	Compatible with some synthetic fluids and water
28	Fluorocarbon Elastomer	-10°F to 250°F -23°C to 121°C	400°F 204°C	Compatible with most mineral oil-based fluids at higher temperatures and some exotic fluids

** Consult your local distributor or the factory for fluid compatibility information.*

*** Temperature ranges may vary depending upon the fluid used in the hydraulic system.*

Maximum Flow Rates

Size (gallon)	Max. Recommended Flow for Standard Mineral Oils	
	GPM	LPM
10 cu in	23	87
1 pt & 1 qt	40	151
150 cu in	60	227
1	150	568
21/2 thru 15	220	833
21/2 thru 15, High-flow	600	2271

For additional information please go to:

http://ph.parker.com/us/21051/en/bladder-accumulator-ba-series