



aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



EBV Series Bladder Accumulators

EBV Series, up to 80 bar



ENGINEERING YOUR SUCCESS.

Description

Designed for LOW pressure fluid systems, Parker EBV/IBV bladder accumulators are ideally suited for the Energy, Process & Marine Markets. Available in volumes 0.5 to 575 Litres, in carbon steel (20 to 80 bar), and in stainless steel (20 to 40 bar).

The EBV bladder accumulator offers a reliable and efficient solution for water hammer arrestor, thermal expansion, energy storage and pulsation dampening. Utilizing comprehensive tools and resources including an applications database, CAD/CAM, finite element analysis, reliability studies and simulation we have optimized the design and performance of the accumulator.

A high volume solution (up to 4000 litres) has been specially developed for energy storage and thermal expansion. Parker Olaer bladder accumulators are suitable for use in more than 35 countries (all hydraulic accumulators for Europe are CE marked) and they can meet an extensive range of international and industry approvals.

The standard EBV bladder accumulator has a female threaded fluid port or optional flange fluid port with different flange design standards.

Rigorous product testing and continuous product development help to ensure our hydro-pneumatic accumulators operate at optimum efficiency and can perform in the most demanding environments.

Parker accumulator accessories such as safety blocks, charging sets, brackets & clamps, adaptors and flanges, lifting eyes, bladder kits, can aid the safe installation and operation of the accumulators in any hydraulic system.

Parker Olaer have developed very sophisticated simulation software to optimize sizing recommendations for hydraulic accumulators. You can download the accumulator sizing software from www.Parker.com/acde.

Features/Benefits

- **Extensive range of international and industry approvals/standards (PED 2014/68/EU, ATEX 2014/34/EU, ASME VIII div 1, SELO, CRN, AS1210, NR13, CUTR, DNV, BV Marine, ABS and GL).**
- **Suitable for Fluid Groups 1 & 2.**
- **Available in carbon and stainless steel (304, 316, 316L).**
- **Rigorous product testing and continuous product development.**
- **Parker Olaer offers a wealth of product knowledge and experience thus enabling us to provide first class technical support and customer service.**
- **A large selection of materials and fittings enable us to provide complete low pressure systems to suit every application.**
- **The EBV bladder accumulator can provide an instantaneous response.**

Markets

- **Industrial**
- **Defence**
- **Energy**
- **Marine**
- **Mining**
- **Oil and Gas**
- **Processing**
- **HVAC**
- **Industrial Chemical Processing**

Applications

- **Hydraulic Power Units**
- **Lubrication Systems**
- **Power Generation**
- **Energy Transmission & Distribution**
- **Defence**
- **Plumbing**
- **Refrigeration**
- **Heating**

Technical Specifications

The accumulator comprises a forged or welded steel shell, a rubber bladder and anti-extrusion system.

Pressure: Maximum working pressure: (PS) = 40 bar. Operating pressure (OP): 14 to 80 bar.

Volume: from 0.5 to 575 Litres

Shell Material: Options include; alloyed steel, stainless steel, aluminium, titanium and composites.

Bladder Materials: Various bladder materials available which are compatible with a wide range of fluids and temperatures.

Anti-extrusion System: perforated bushing.

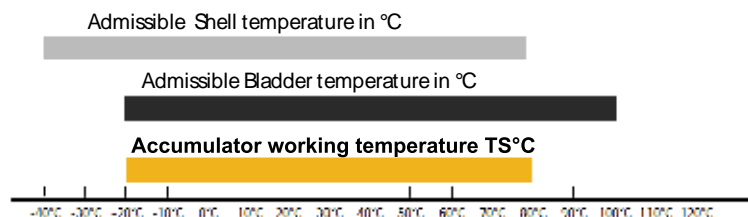
Approvals: PED 2014/68/EU, ATEX, ASME VIII div 1, SELO, CUTR, DNV, BUREAU VERITAS MARINE, ABS, Germanischer Lloyd's.

Specials: - For special constructions please consult Parker.

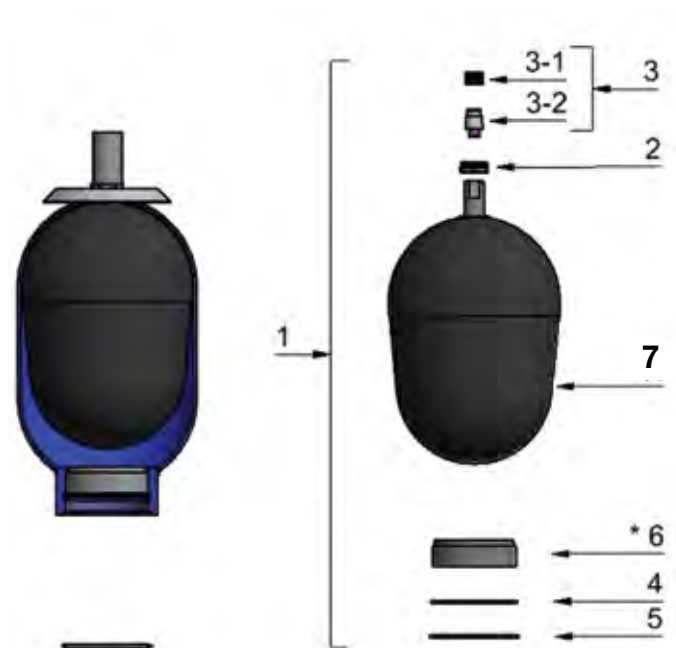
Maximum pressure differential (P2/P0): 4:1

Nitrogen gas pressure : Never precharge accumulators at a pressure exceeding 20 bar at maximum working temperature with nitrogen purity > 99,8% N2 class 2.8

Accumulator working temperature determination example :



Spare Parts



Item	Spare parts
1	Spare Parts Kit
2	Valve nut
3	Gas valve Assembly
3.1	Gas valve
3.2	Gas valve plug
4	Snap ring
5	Sealing ring
6*	Bushing assembly
7	Bladder

* These parts are not delivered in the spare parts kit (complete repair kit)

Installation

Position: Preferably vertical (liquid connection downwards) to horizontal, depending upon application. If the accumulator is installed in any position other than vertical with fluid port down, contact Parker. The accumulator could have reduced volumetric efficiency and Parker can help you to take these factors into account.

Mounting: A 200mm clearance is required above the accumulator to allow for gas charging. Each accumulator is delivered with a user instructions manual.

Nitrogen gas pressure: If not specified, the accumulator will be delivered with a storage pressure between 2 and 5 bar.

Safety instruction : Never precharge accumulator at a precharge pressure exceeding 20 bar at maximum working temperature or limited to the pressure of the shell if under 20 bar.



EBV Series: How to order a low pressure accumulator

EBV 10- 40 /90-A25GA-200/020

Product Type

EBV: Low pressure bladder
ETBV: Low pressure transfer bladder

Volume in L (up to 3 Characters)

0,5 - for 0,5 Liter
20 - for 20 Liters
100 - for 100 Liters

Maximum Working Pressure

20 - for 20 bar max working pressure
40 - for 40 bar max working pressure
80 - for 80 bar max working pressure
* - If the product is not CE, use highest MWP according to regulation relevant to the product (see Approvals PAGES 82&83)

Approvals*

00 According to PED2014/68/EU, article 4.3
11 According to PED2014/68/EU + BV Marine
13 According to PED2014/68/EU, article 4.3 + BV Marine
15 According to ASME VIII div 1
23 According to PED2014/68/EU, article 4.3 + ABS
24 According to PED2014/68/EU + DNVGL
41 According to PED2014/68/EU + ABS
43 According to PED2014/68/EU, article 4.3 + ABS
71 According to CUTR 032/2013
83 According to PED2014/68/EU + AS1210
85 According to PED2014/68/EU, article 4.3 + SELO
88 According to PED2014/68/EU + SELO
90 According to PED2014/68/EU
AA According to PED2014/68/EU + NR13
AE According to ASME VIII div 1 + NR13
AU According to ASME VIII div 1 + CUTR 032/2013
* - (Please refer to Approvals PAGES 82&83)

Material (Shell and Fluid Port)

A - All parts in carbon steel with Epoxy paint for shell only [-20°C;+130°C]
B - Carbon Steel shell + Internal Protection Epoxy 80 µm + stainless steel fluid port and valve
C - Carbon Steel shell + Int- Ext Protection Kanigen 50 µm + stainless steel fluid port and valve
D - Carbon Steel shell + Int- Ext Protection Blue Rilsan 200-300 µm + carbon steel fluid port and valve
E - Carbon Steel shell + stainless steel fluid port and valve
F - Carbon steel shell + Internal Protection Teflon 40-50 µm
I - All parts in stainless steel [-40°C;+80°C]
R - Carbon Steel shell + Int- Ext Protection Blue Rilsan 200-300 µ + stainless steel fluid port and valve
Z - Special

Bladder Mix

02 - For Mix 02 [-32°C;+115°C] Hydrin C
10 - For Mix 10 [-30°C;+80°C] Nitrile Low Temperature
20 - For Mix 20 [-6°C;+100°C] Nitrile Heavy Duty
25 - For Mix 25 [-20°C;+100°C] Nitrile standard
30 - For Mix 30 [-5°C;+115°C] Nitrile Low Permeability
35 - For Mix 35 [0°C;+130°C] Nitrile high temperature
37 - For Mix 37 [-59°C;+110°C] Nitrile Extreme Low Temp
40 - For Mix 40 [-15°C;+120°C] Butyl
47 - For Mix 47 [-40°C;+120°C] EPDM
80 - For Mix 80 [-20°C;+140°C] Viton

Fluid Port Configuration

K - Gas cyl. 2" (max flow rate : 450 L/min, 0,5 to 5L only)
L - Gas cyl. 3" 1/2 (max.flow rate : 300L/min)
P - Metric M 205x3 (3000L/min)
Z - Special

Gas Valve Configuration

0 - No gas valve
A - Gas Valve Type - 5/8" - 18 UNF
B - Gas Valve Type - 7/8" - 14 UNF
C - Gas Valve Type- 7/8" -14 UNF integrated
D - Gas Valve Type - 5/8" - 18 UNF integrated
Z - Special

Fluid Type

0 - Not applicable
1 - Fluid Type 1 CE Fluid Group 1
2 - Fluid Type 2 - CE Fluid Group 2

Special

00 - No Special features or configuration
EX - ATEX
EZ - ATEX with other special configuration
SP - Special painting
D1 - Standard documentation + Leak test report
D2 - Standard documentation + Descriptive statement + Design calculation note
ZZ - Special configuration or several options

Precharge @ 20°C in Bar

When at storage pressure (Keep empty)*
20 - From 0 to 20 Bar precharge MAXI example
*Parker precharge accumulator with 2 Bar for storage

EBV Series 40, 50 & 80 bar, 0.5 to 200 Litres

Standard version (**Carbon Steel** shell/NBR mix) compatible with mineral oils (2). According to PED 2014/68/EU, Fluid Group 2 (3)

Part numbers, Accessories, Dimensions

Type	Valve	Adaptor	Flange		Clamps	Support Bracket	Lifting Eye on gas side	Complete Repair KIT
Part number	see drawing	Threaded	Model	Model	Model (quantity) Part number	Model Part number	Model Part number	Model Part number
EBV 0.5-50/00-A25KD-200* 10383101125	D	G 1" cyl 04557000223	1½" ANSI 150 lbs 04542000123		E95 (1) 20250803648			KIT EBV 0.5-50/00-A25GD 19002900225
EBV 1-80/00-A25KC-200* 10909801125	C	G 1" cyl 04557000223	1½" ANSI 150 lbs 04542000123	1½" ANSI 300 lbs 04524100123	E114 (1) 20251003648	CE 89 20151903620		KIT EBV 1-80/00-A25GC 19044300225
EBV 2.5-80/90-A25KC-200 10909901125	C	G 1" cyl 04557000223	1½" ANSI 150 lbs 04542000123	1½" ANSI 300 lbs 19050600225	E114 (2) 20251003648	CE 89 20151903620		KIT EBV 2.5-80/90-A25GC 19044400225
EBV 5-80/90-A25KC-200 10910001125	C	G 1" cyl 04557000223	1½" ANSI 150 lbs 04542000123	1½" ANSI 300 lbs 19050700225	E114 (2) 20251003648	CE 89 20151903620		KIT EBV 5-80/90-A25GC 19044500225
EBV 10-40/90-A25LA-200 10910401125	A	G 2" cyl 04570300223	4" ANSI 150 lbs 04500300123	4" ANSI 300 lbs 04520800123	D215 (2) 20251403648	CE 159A 20109003620	10912700200	KIT EBV 10-40/90-A25LA 19043900225
EBV 20-40/90-A25LA-200 10910501125	A	G 2" cyl 04570300223	4" ANSI 150 lbs 04500300123	4" ANSI 300 lbs 04520800123	D215 (2) 20251403648	CE 159A 20109003620	10912700200	KIT EBV 20-40/90-A25LA 19044000225
EBV 32-40/90-A25LA-200 10910601125	A	G 2" cyl 04570300223	4" ANSI 150 lbs 04500300123	4" ANSI 300 lbs 04520800123	D215 (2) 20251403648	CE 159A 20109003620	10912700200	KIT EBV 32-40/90-A25LA 19044100225
EBV 50-40/90-A25LA-200 11077501125	A	G 2" cyl 04570300223	4" ANSI 150 lbs 04500300123	4" ANSI 300 lbs 19051100225	D215 (2) 20251403648	CE 159A 20109003620	10912700200	KIT EBV 50-40/90-A25LA 19054700225
EBV 100-40/90-A20PA-200 (4) 10918001120	A	G 2" cyl 04565600223	8" ANSI 150 lbs 04500800123	8" ANSI 300 lbs 04500900123	D368 (2) 20127403625	CE 300 20150800100		KIT EBV 100-40/90-A20PA 19044600220
EBV 200-40/90-A20PA-200 (4) 10918101120	A	G 2" cyl 04565600223	8" ANSI 150 lbs 04500800123	8" ANSI 300 lbs 04500900123	D368 (2) 20127403625	CE 300 20150800100		KIT EBV 200-40/90-A20PA 19044700220

* According PED 2014/68/EU Article 4.3

(2) For other fluids consult Parker

(3) For Fluid group 1 consideration : consult Parker

(4) Accumulators 100&200 Litres standar Nitrile Mix 20

Accumulators are delivered with the nitrogen pre-charge 3 bar.

The charging pressure for low pressure accumulators must never exceed **20 bar** at the maximum operating temperature.

Model of valve stem
5/8" 18 UNF
(A)



Model of valve stem
integrated
7/8" 14 UNF
(C)



Model of valve stem
integrated
5/8" 18 UNF
(D)



Type	Effective Gas vol. Litres	Max. Working pressure (PS) bar	Max. Flow Rate l/min	Admissible accumulator Temp. min/max °C (1)	Max. Weight kg	Gas Connection	Dimensions in mm							
							A max height	B	C	øD max	ød	øe	F on flats	G connection BSP
EBV 0.5-50/00-A25KD-200*	0.5	50	450	-20/100	3	5/8" 18 UNF	245	52	28	90	16	68	-	G2"
EBV 1-80/00-A25KC-200*	1	80	450	-20/100	5	7/8"14 UNF	310	47	66	116	22.5	68	-	G2"
EBV 2.5-80/90-A25KC-200	2.3	80	450	-20/100	10	7/8"14 UNF	484	47	66	116	22.5	68	-	G2"
EBV 5-80/90-A25KC-200	5	80	450	-20/100	17	7/8"14 UNF	867	47	66	116	22.5	68	-	G2"
EBV 10-40/90-A25LA-200	10	40	900	-20/100	13	5/8" 18 UNF	454	51	75	212	22.5	120	112	G3½"
EBV 20-40/90-A25LA-200	18	40	900	-20/100	22	5/8" 18 UNF	776	51	75	212	22.5	120	112	G3½"
EBV 32-40/90-A25LA-200	34	40	900	-20/100	37	5/8" 18 UNF	1309	51	75	212	22.5	120	112	G3½"
EBV 50-40/90-A25LA-200	50	40	900	-20/100	51	5/8" 18 UNF	1824	51	75	212	22.5	120	112	G3½"
EBV 100-40/90-A20PA-200	90	40	3000	-6/110	124	5/8" 18 UNF	1318	158	93	371	80	224	-	M205x3
EBV 200-40/90-A20PA-200	202	40	3000	-6/110	215	5/8" 18 UNF	2529	158	93	371	80	224	-	M205x3

(1)Temperature range can change depending on shell and elastomer material. Please see bladder materials and Type (page 87)

Above dimensions are in mm and are subject to manufacturing tolerances.



EBV Series 20 & 40 bar, 0.5 to 200 Litres

Standard version (**Stainless Steel** shell/NBR mix) compatible with mineral oils (2). According to PED 2014/68/EU, Fluid Group 2 (3)

Part numbers, Accessories, Dimensions

Type Part number	Valve	Adaptor	Flange		Clamps	Support Bracket	Lifting Eye on gas side	Complete Repair Kit
	see drawing	Threaded Part number	Model Part number	Model Part number	Model Part number	Model Part number	Model Part number	Model Part number
EBV0,5-40/00-I25KD-200* 10929001925	D	G 1" cyl 04557001423	-	-	10957	-	-	KIT EBV 0.5-40/00-I25GD 19010401725
EBV 1-40/00-I25KC-200* 10929101925	C	G 1" cyl 04557001423	1½" ANSI 150 lbs 04542001423	1½" ANSI 300 lbs 04524101423	10981	CE 89 20151901220	-	KIT EBV 1-40/00-I20GC 19044301720
EBV 2,5-40/90-I25KC-200 10929201925	C	G 1" cyl 04557001423	1½" ANSI 150 lbs 04542001423	1½" ANSI 300 lbs 04524101423	10981	CE 89 20151901220	-	KIT EBV 2.5-40/90-I20GC 19044401720
EBV 5-40/90-I25KC-200 10929301925	C	G 1" cyl 04557001423	1½" ANSI 150 lbs 04542001423	1½" ANSI 300 lbs 04524101423	10981	CE 89 20151901220	-	KIT EBV 5-40/90-I25GC 19044501725
EBV 10-40/90-I25LA-200 10910401925	A	G 2" cyl 04570301423	4" ANSI 150 lbs 04500301423	4" ANSI 300 lbs 04520801423	-	CE 159A 20109001220	10912701200	KIT EBV 10-40/90-I25LA 19043901725
EBV 20-40/90-I25LA-200 10910501925	A	G 2" cyl 04570301423	4" ANSI 150 lbs 04500301423	4" ANSI 300 lbs 04520801423	-	CE 159A 20109001220	10912701200	KIT EBV 20-40/90-I25LA 19044001725
EBV 32-40/90-I25LA-200 10910601925	A	G 2" cyl 04570301423	4" ANSI 150 lbs 04500301423	4" ANSI 300 lbs 04520801423	-	CE 159A 20109001220	10912701200	KIT EBV 32-40/90-I25LA 19044101725
EBV 50-40/90-I25LA-200 11077501925	A	G 2" cyl 04570301423	4" ANSI 150 lbs 04500301423	4" ANSI 300 lbs 04520801423	-	CE 159A 20109001220	10912701200	KIT EBV 50-40/90-I25LA 19054701725
EBV 100-20/90-I20PA-200 (1) 10951901920	A	-	8" ANSI 150 lbs 04500801423	8" ANSI 300 lbs 04500901423	-	CE 300	-	KIT EBV 100-40/90-I20PA 19044601220
EBV 200-20/90-I20PA-200 (1) 10952001920	A	-	8" ANSI 150 lbs 04500801423	8" ANSI 300 lbs 04500901423	-	CE 300	-	KIT EBV 200-40/90-I20PA 19044701220

- * According to PED 2014/68/EU Article 4.3
- (2) For other fluids consult Parker
- (3) For Fluid group 1 consideration : consult Parker
- (4) Accumulators 100&200 Litres standar Nitrile Mix 20

Model of valve stem
5/8" 18 UNF
(A)



Model of valve stem
integrated
7/8"14 UNF
(C)

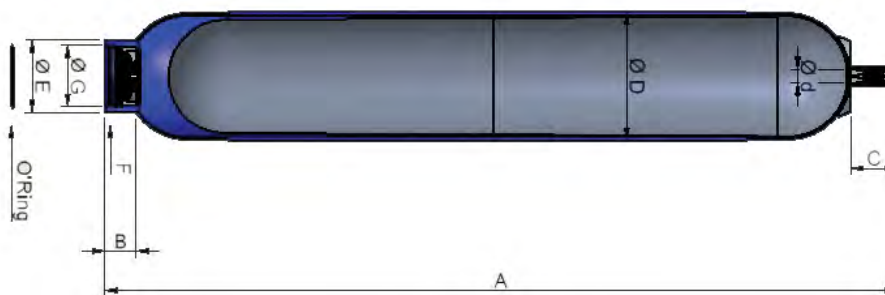


Model of valve stem
integrated
5/8" 18 UNF
(D)



Type	Effective Gas volume Litres	Max. Working pressure (PS) bar	Max. Flow rate (l/ mn)	Admissible Accumulator Temp. min/max °C (1)	Max Weight kg	Gas connection	Dimensions in mm							
							A max height	B	C	øD max	ød	øE	F on flats	G connection
EBV0,5-40/00-I25KD-200*	0.5	40	450	- 20/100	1.2	5/8" 18 UNF	246	52	30	91	16	70	-	G2"
EBV 1-40/00-I25KC-200*	1	40	450	- 20/100	1.7	7/8" 14 UNF	312	52	75	110	22.5	70	-	G2"
EBV 2,5-40/90-I25KC-200	2.5	40	450	- 20/100	3.5	7/8" 14 UNF	486	51	75	110	22.5	70	-	G2"
EBV 5-40/90-I25GC-200	5	40	450	- 20/100	6.5	7/8" 14 UNF	869	51	75	110	22.5	70	-	G2"
EBV 10-40/90-I25LA-200	10	40	900	- 20/100	13	5/8" 18 UNF	454	51	75	212	22.5	120	112	G3½"
EBV 20-40/90-I25LA-200	18	40	900	- 20/100	22	5/8" 18 UNF	776	51	75	212	22.5	120	112	G3½"
EBV 32-40/90-I25LA-200	34	40	900	- 20/100	37	5/8" 18 UNF	1309	51	75	212	22.5	120	112	G3½"
EBV 50-40/90-I25LA-200	50	40	900	- 20/100	51	5/8" 18 UNF	1829	51	75	212	22.5	120	112	G3½"
EBV 100-20/90-I20PA-200	90	20	3000	- 6/80	92	5/8" 18 UNF	1317	158	93	371	80	224	-	M205 x 3
EBV 200-20/90-I20PA-200	202	20	3000	- 6/80	171	5/8" 18 UNF	2528	158	93	371	80	224	-	M205 x 3

(1)Temperature range can change depending on shell and elastomer material. Please see bladder materials and Type (page 87)
 Above dimensions are in mm and are subject to manufacturing tolerances.



Adaptors EBV Carbon Steel

Part numbers, Dimensions

Accumulator model	Connection of accumulator \varnothing F	Connection \varnothing I	Part Number
EBV 0,5 to 5 Litres 50 & 80 Bar	G 2"	G1"	04557000223
		Blind	04502400223
EBV 10 to 50 Litres 40 Bar	G 3 1/2"	G2"	04570300223
		Blind	04500500223
EBV 100 to 200 Litres 40 Bar	M205 x 3	G2"	04565600223
		Blind	04500600123

Adaptors EBV Stainless Steel

Accumulator model	Connection of accumulator \varnothing F	Connection \varnothing I	Part Number
EBV 0,5 to 5 Litres 40 Bar	G 2"	G1"	04557001423
		Blind	04502401423
EBV 10 to 50 Litres 40 Bar	G 3 1/2"	G2"	04570301423
		Blind	04500501423
EBV 100 to 200 Litres 20 Bar	M205 x 3	G2"	Consult Division
		Blind	Consult Division

(1) 2 holes dia 8,5 x 10

Flanges EBV Carbon Steel

Accumulator model	Connection of accumulator \varnothing G	Flange Model	Part Number	K
EBV 1 to 5 Litres 40 Bar	G 2"	1 1/2" ANSI 150 lbs	04542000123	21.5
		1 1/2" ANSI 300 lbs	04524100123	25
EBV 10 to 50 Litres 40 Bar	G 3 1/2"	4" ANSI 150 lbs	04500300123	28
		4" ANSI 300 lbs	04520800123	36.5
EBV 100 to 575 Litres 40 Bar	M205 x 3	8" ANSI 150 lbs	04500800123	142
		8" ANSI 300 lbs	04500900123	151

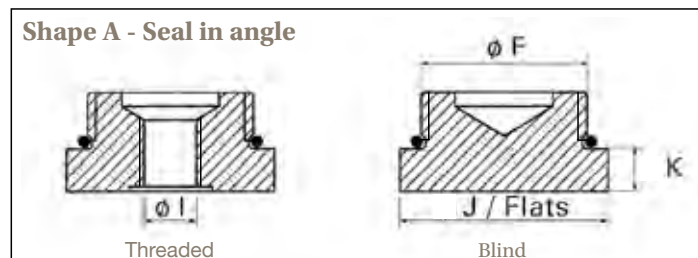
Flanges EBV Stainless Steel

Accumulator model	Connection of accumulator \varnothing G	Flange Model	Part Number	K
EBV 1 to 5 Litres 40 Bar	G 2"	1 1/2" ANSI 150 lbs	04542001423	21.5
		1 1/2" ANSI 300 lbs	04524101423	25
EBV 10 to 50 Litres 40 Bar	G 3 1/2"	4" ANSI 150 lbs	04500301423	28
		4" ANSI 300 lbs	04520801423	36.5
EBV 100 to 575 Litres 40 Bar	M205 x 3	8" ANSI 150 lbs	04500801223	142
		8" ANSI 300 lbs	04500901223	151

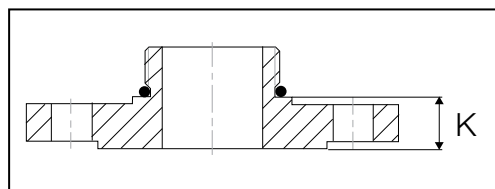
Shape	J/Flats	K	O-ring
A	65	13	A. O-Ring 54 x 3
A	65	13	O-Ring 54 x 3
A	112	20	O-Ring 96 x 4
A	112	20	O-Ring 96 x 4
A	2x Ø8,5x10	20	O-Ring 196,21 x 5,33
A	2x Ø8,5x10	20	O-Ring 196,21 x 5,33

Shape	J/Flats	K	O-ring
A	-	13	A. O-Ring 54 x 3
A	65	13	O-Ring 54 x 3
A	112	20	O-Ring 96 x 4
A	112	20	O-Ring 96 x 4
A	-	20	O-Ring 196,21 x 5,33
A	-	20	O-Ring 196,21 x 5,33

Adaptors EBV



Flanges EBV



These accessories are designed to perfectly fit Parker ACDE accumulators. They meet the latest regulations and are compliant with the CETOP standard.