

# EHV Series: General Information Bladder Accumulators

Operation of the OLAER gas loaded bladder accumulator is based on the considerable difference in compressibility between a gas and a liquid, enabling a large quantity of energy to be stored in an extremely compact form. This enables a liquid under pressure to be accumulated, stored and recovered at any time.

Its special design allows the bladder (the strategic component) to compress the gas and usually form into three lobes in order for the accumulator to store, then to deliver the fluid under pressure, as required.

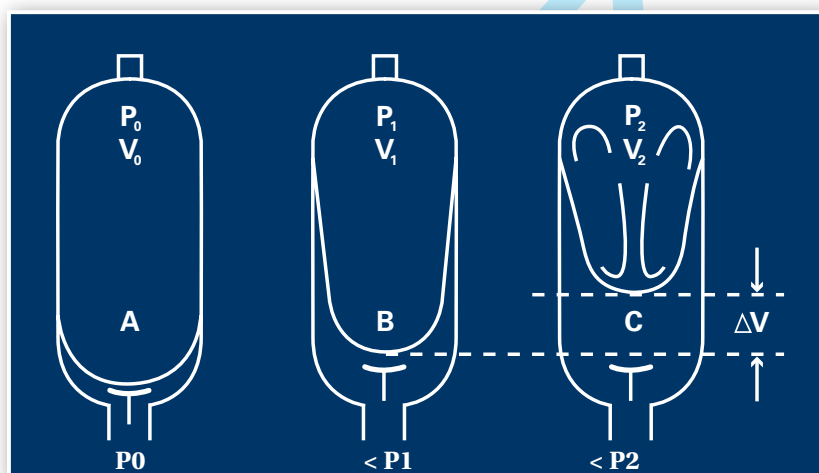
The OLAER gas loaded accumulator is an essential component for the optimum operation of a hydraulic circuit. In hydraulic circuits, the accumulator enables:

- An energy reserve which is instantaneously available to the system
- Compensation of pressure fluctuations and spikes.
- Pump pulsation dampening

The accumulator comprises of a pressure vessel, a rubber bladder and an anti-extrusion system. Shell material options include alloyed steel, stainless steel, aluminium, titanium and composites. Various bladder materials available which are compatible with a range of fluids and temperatures. Different anti-extrusion systems can be used for specific applications (fluidport assembly for high pressure, grid for low pressure, or button).

Taking into account the different needs of various applications, Olaer proposes different protections external and/or internal: Bare metal, nickel plating, epoxy paint, PTFE, Rilsan® and phenolic coating. This extensive range enables us to offer accumulators operating from - 50 to +150°C with pressures of up to 1500 Bar and capacities of up to 575 litres.

As the market leader in bladder type accumulators, Olaer has participated in the development of the EN 14359:2006 standard, which specifies the material, design, manufacturing, tests, safety devices and documentation (including the instruction manual), for pressure accumulators and gas bottles for hydraulic applications.



**A** - Bladder in the Pre-charge position, which means that the accumulator only contains nitrogen. The anti-extrusion system closes the hydraulic orifice which prevents the destruction of the bladder. In low pressure accumulators the bladder rests against the grid.

**B** - Position at the minimum operating pressure. There must be a certain amount of fluid between the bladder and the hydraulic orifice, such that the anti-extrusion system does not close the hydraulic orifice.

**C** - Position at the maximum operating pressure. The volume difference between the minimum and maximum positions of the operating pressures represents the working fluid quantity.

**V0** = Capacity in nitrogen of the accumulator  
**V1** = Gas volume at the minimum hydraulic pressure  
**V2** = Gas volume at the maximum hydraulic pressure  
 $\Delta V$  = Returned and/or stored volume of working fluid between P1 and P2  
**P0** = Initial preload of the accumulator  
**P1** = Gas pressure at the minimum hydraulic pressure  
**P2** = Gas pressure at the maximum hydraulic pressure

# EHV Series: How to order a high pressure accumulator

## Technical Characteristics

The accumulator comprises a forged steel shell, a rubber bladder and a fluid port assembly.

- Shell material options include alloyed steel, stainless steel, aluminium, titanium and composites.
- Various bladder materials available which are compatible with a range of fluids and temperatures.
- Anti-extrusion system; fluidport assembly for high pressure.

Taking into account the different needs of various applications, Parker Olaer offers different protections external and/or internal:

Bare metal, nickel plating, epoxy paint, PTFE, Rilsan® and phenolic coating. This extensive range enables us to offer accumulators operating from - 50 to +150°C with pressures of up to 690 Bar and capacities of up to 57 litres.

As the market leader in bladder type accumulators, Parker Olaer has participated in the development of the EN 14359:2006 standard, which specifies the material, design, manufacturing, fatigue tests, safety devices and documentation (including the instruction manual), for pressure accumulators and gas bottles for hydraulic applications.

Type	+	Part Number (11 characters)	+	Nitrogen Gas Pre-charge	+	Connection to be specified	+	Clamp for fixation	+	Support Bracket	+	Mounting Frame	+	Eye Fit	Part number
<i>Example</i>															
<b>EHV 32 - 330 / 90</b>		<b>10837301125</b>		<b>P0 = 200b</b>		<b>G 1"</b>		<b>D226 X 2</b>		<b>CE 300</b>		<b>EF1</b>			
<b>Series</b>															
EHV: High pressure bladder accumulator EHVF: EHV with Flange EHVDA: High Flow EHV ETHV: Transfer type EHV															
<b>Volume</b>															
in Litres															
<b>Max. working Pressure (PS)</b>															
in bar															
<b>Regulation Code</b>															
00 : According to the PED article 3.3 for the volumes from 0.2 to 1L , Fluid Group 2 90 : According to the PED Others: consult the table pages 44 & 45															
<b>Part Number: 6 characters</b>															
<b>Construction: 1 character</b>															
0 : All ranges except transfer 3 : Transfer range 5 : Transfer stainless steel range															
<b>Shell Construction: 2 characters</b>															
11 : In carbon steel 19 : Stainless steel, usable for ATEX Others: consult the table page 46															
<b>Bladder Mix: 2 characters</b>															
20 : Accumulators > 100L NBR NITRILE STANDARD 25 : Standard construction NBR NITRILE STANDARD Other mixes: Consult the table page 47															
<b>Nitrogen gas Pressure</b>															
Without specification: Accumulators will be delivered with a storage pressure between 2 and 5 bar. With specification: in specified bar at 20 °C															
<b>Connection to be specified</b>															
<b>Clamp</b>															
Specify model X quantity															
<b>Support Bracket</b>															
Specify model															
<b>Mounting Frame</b>															
Specify model															
<b>Lifting Eye</b>															
Proposal for easy handling															

# EHV Series 330 BAR, 10 to 57 Litres

Standard version (Carbon Steel shell/NBR mix) for mineral oils temperature from - 20° up to 80°C

According to PED 97/23/EC, EN 14359 Fluid Group 2

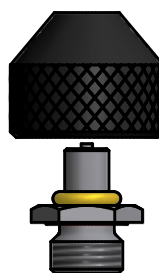
Part numbers, Accessories Dimensions

Type	Valve model see drawing	Pre-charge			Adaptor	Clamps	Support Bracket	Mounting Frame	Lifting Eye	Complete Repair Kit
Part number		1 - 109 bar	110 - 209 bar	210 - 300 bar	Threaded Part number	Model (quantity) Part number	Model Part number	Model Part number	Model Part number	Model Part number
EHV 10-330/90					G 1" cyl	D226 (2)	CE159A	EF2		KIT EHV 10-330/90
10837001125	A	751016	751023	751038	04557000223	20251503648	20109003620	20217600125	10912700200	19028900225
10865401125	B									19035800225
EHV 12-330/90					G 1" cyl	D226 (2)	CE159A	EF2		KIT EHV 12-330/90
10867101125	A	751016	751023	751038	04557000223	20251503648	20109003620	20217600125	10912700200	19032100225
10867401125	B									19035900225
EHV 20-330/90					G 1" cyl	D226 (2)	CE159A	EF2		KIT EHV 20-330/90
10837101125	A	751005	751024	751039	04557000223	20251503648	20109003620	20217600125	10912700200	19029000225
10865501125	B									19036000225
EHV24.5-330/90					G 1" cyl	D226 (2)	CE159A	EF2		KIT EHV 24.5-330/90
10837201125	A	751017	751025	751040	04557000223	20251503648	20109003620	20217600125	10912700200	19029400225
10865601125	B									19036300225
EHV 32-330/90					G 1" cyl	D226 (2)	CE159A	EF3		KIT EHV 32-330/90
10837301125	A	751006	751026	751041	04557000223	20251503648	20109003620	20217700125	10912700200	19029100225
10865701125	B									19036100225
EHV 42-330/90					G 1" cyl	D226 (2)	CE159A	EF3		KIT EHV 42-330/90
11112301125	A	751212	751213	751214	04557000223	20251503648	20109003620	20217700125	10912700200	19060800225
11123601125	B									19061100225
EHV 50-330/90					G 1" cyl	D226 (2)	CE159A	EF3		KIT EHV 50-330/90
11076701125	A	751007	751027	751042	04557000223	20251503648	20109003620	20217700125	10912700200	19054100225
11076801125	B									19054200225
EHV 57-330/90					G 1" cyl	D226 (2)	CE159A	EF3		KIT EHV 57-330/90
11112401125	A	751215	751216	751217	04557000223	20251503648	20109003620	20217700125	10912700200	19060900225
11123801125	B									19061200225

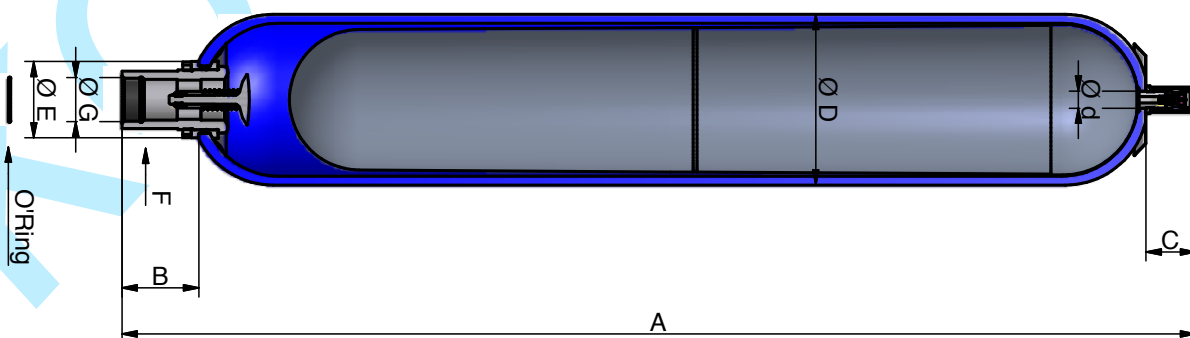
Model of valve stem  
5/8" 18 UNF  
(A)



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



Type	Effective Gas vol. Litres	Max. Working pressure (PS) bar	Max Flow Rate l/min	Weight kg	Gas connection	Dimensions in mm							
						A max height	B	C	øD max	ød	øE	F on flats	G connection
EHV 10-330/90	9.2	330	900	31	5/8" 18 UNF	587	103	66	226	22.5	101	70	G 2"
					7/8" 14 UNF								
EHV 12-330/90	11	330	900	36	5/8" 18 UNF	687	103	66	226	22.5	101	70	G 2"
					7/8" 14 UNF								
EHV 20-330/90	17.8	330	900	49	5/8" 18 UNF	897	103	66	226	22.5	101	70	G 2"
					7/8" 14 UNF								
EHV 24.5-330/90	22.5	330	900	56	5/8" 18 UNF	1032	103	66	226	22.5	101	70	G 2"
					7/8" 14 UNF								
EHV 32-330/90	32	330	900	81	5/8" 18 UNF	1420	103	66	226	22.5	101	70	G 2"
					7/8" 14 UNF								
EHV 42-330/90	42	330	900	87	5/8" 18 UNF	1562	103	66	226	22.5	101	70	G 2"
					7/8" 14 UNF								
EHV 50-330/90	48.5	330	900	110	5/8" 18 UNF	1936	103	66	226	22.5	101	70	G 2"
					7/8" 14 UNF								
EHV 57-330/90	53	330	900	116	5/8" 18 UNF	2032	103	66	226	22.5	101	70	G 2"
					7/8" 14 UNF								



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

# EHV Series 350 bar, 0.2 to 10 Litres

Standard Version (Carbon Steel shell/NBR mix) for mineral oils temperature from - 20° up to 80°C

According to PED 97/23/EC, EN 14359 Fluid Group 2

Part numbers, Accessories Dimensions

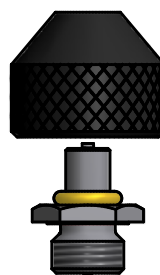
Type Part number	Valve model see drawing	Pre-charge			Adaptor Threaded Part number	Clamps Model (quantity) Part number	Support Bracket Model Part number	Mounting Frame Model Part number	Lifting Eye Model Part number	Complete Repair Kit Model Part number
		1 - 109 bar	110 - 209 bar	210 - 300 bar						
EHV 0.2-350/00*					G 1/4" cyl	A56 (1)	-	-	-	KIT EHV 0.2-350/00
10876301120	A	751013	751028	751043	04556500223	20149203625	-	-	-	19001000220
EHV 0.5-350/00*					G 3/8" cyl	E95 (1)	-	-	-	KIT EHV 0.5-350/00
10876401125	A	751000	751029	751044	04556400223	20250803648	-	-	-	19001100225
EHV 1-350/00*					G 3/8" cyl	E114 (1)	CE 89	-	-	KIT EHV 1-350/00
10845601125	C	751001	751030	751045	04556400223	20251003648	20151903620	-	-	19029700225
10866901125	B									19036400225
EHV 1.6-350/90					G 3/8" cyl	E114 (1)	CE 89	-	-	KIT EHV 1.6-350/90
10998301125	C	751014	751019	751034	04556400223	20251003648	20151903620	-	-	19060700225
11123501125	B									19061000225
EHV 2.5-350/90					G 3/4" cyl	E114 (2)	CE 89	-	-	KIT EHV 2.5-350/90
10854701125	C	751002	751031	751046	04555200223	20251003648	20151903620	-	-	19029800225
10866601125	B									19036500225
EHV 4-350/90					G 3/4" cyl	E168 (1)	CE108	EF1	-	KIT EHV 4-350/90
10845401125	C	751012	751020	751035	04555200223	20251303648	20118703620	20217500125	-	19029900225
10866101125	B									19036600225
EHV 5-350/90					G 3/4" cyl	E114 (2)	CE 89	-	-	KIT EHV 5-350/90
10861201125	C	751003	751032	751047	04555200223	20251003648	20151903620	-	-	19030000225
10866701125	B									19036700225
EHV 6-350/90					G 3/4" cyl	E168 (2)	CE108	EF1	-	KIT EHV 6-350/90
10857401125	C	751015	751021	751036	04555200223	20251303648	20118703620	20217500125	-	19030100225
10866201125	B									19036800225
EHV 10-350/90					G 3/4" cyl	E168 (2)	CE108	EF1	-	KIT EHV 10-350/90
10859701125	C	751004	751022	751037	04555200223	20251303648	20118703620	20217500125	10912700200	19030200225
10866301125	B									19036900225

\* according to the PED, article 3.3

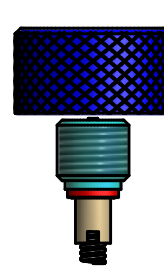
Model of valve stem  
5/8" 18 UNF 1A  
(A)



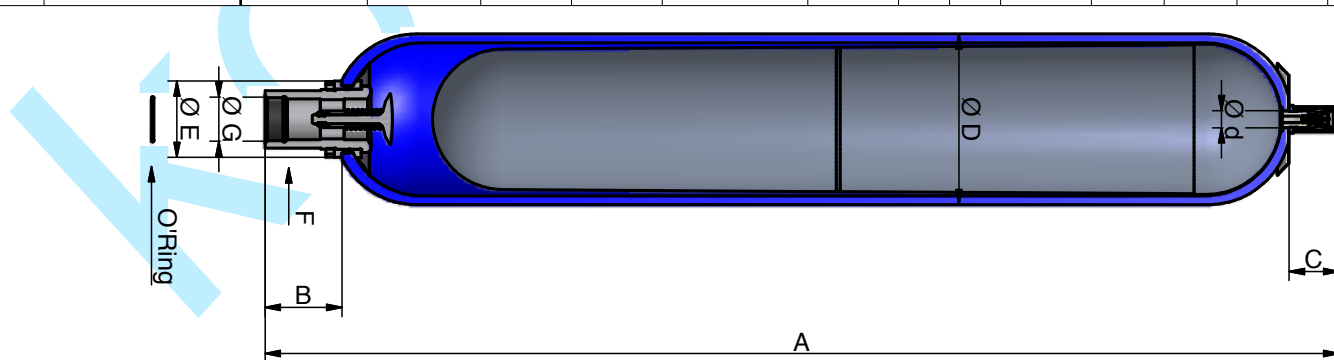
Model of valve stem  
7/8" 14 UNF  
(B)



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



	Type	Effective Gas vol. Litres	Max. Working pressure (PS) bar	Max Flow Rate l/min	Weight kg	Gas connection	Dimensions in mm							G connection
							A max height	B	C	øD max	ød	øE	F on flats	
	EHV 0.2-350/00*	0.2	350	120	2.5	5/8" 18 UNF	268	38	27	58	16	39	24	G ½"
	EHV 0.5-350/00*	0.6	350	240	2.7	5/8" 18 UNF	259	54	28	91	16	50	32	G ¾"
	EHV 1-350/00*	1	350	240	6	7/8" 14 UNF	330	54	66	116	22.5	50	32	G ¾"
	7/8" 14 UNF													
	EHV 1.6-350/90	1.6	350	240	8	7/8" 14 UNF	442	54	66	116	22.5	50	32	G ¾"
	7/8" 14 UNF													
	EHV 2.5-350/90	2.4	350	450	11	7/8" 14 UNF	549	66	66	116	22.5	68	50	G 1 ¼"
	7/8" 14 UNF													
	EHV 4-350/90	3.7	350	450	15	7/8" 14 UNF	434	65	66	170	22.5	68	50	G 1 ¼"
	7/8" 14 UNF													
	EHV 5-350/90	5	350	450	17	7/8" 14 UNF	898	66	66	116	22.5	68	50	G 1 ¼"
	7/8" 14 UNF													
	EHV 6-350/90	6	350	450	20	7/8" 14 UNF	560	65	66	170	22.5	68	50	G 1 ¼"
	7/8" 14 UNF													
	EHV 10-350/90	10	350	450	31	7/8" 14 UNF	825	65	66	170	22.5	68	50	G 1 ¼"
	7/8" 14 UNF													



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

# EHV Series 480 BAR, 10 to 50 Litres

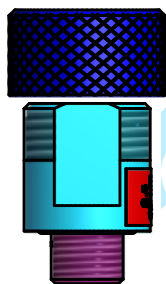
Standard Version (Steel shell/NBR mix) for mineral oils temperature from - 20° up to 80°C

According to PED 97/23/EC, EN 14359 Fluid Group 2

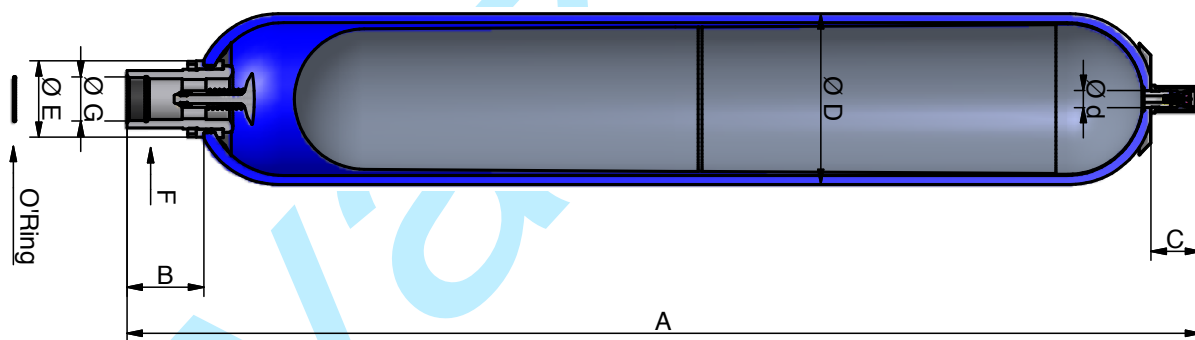
Part numbers, Accessories Dimensions

Type Part number	Pre-charge			Adaptor	Clamps	Support Bracket	Mounting Frame	Lifting Eye	Complete Repair Kit
	1 - 109 bar	110 - 209 bar	210 - 300 bar	Threaded Part number	Model (quantity) Part number	Model Part number	Model Part number	Model Part number	Model Part number
EHV 10-480/90 10949901125				G 1" cyl 04557000223	D226 (2) 20251503648	CE159A 20109003620	EF2 20217600125		KIT EHV 10-480/90 19055702525
EHV 12-480/90 10950001125				G 1" cyl 04557000223	D226 (2) 20251503648	CE159A 20109003620	EF2 20217600125		KIT EHV 12-480/90 19063002525
EHV 20-480/90 10950101125				G 1" cyl 04557000223	D226 (2) 20251503648	CE159A 20109003620	EF2 20217600125		KIT EHV 20-480/90 19050002525
EHV 32-480/90 10950201125				G 1" cyl 04557000223	D226 (2) 20251503648	CE159A 20109003620	EF3 20217700125		KIT EHV 32-480/90 19051302525
EHV 50-480/90 10950301125				G 1" cyl 04557000223	D226 (2) 20251503648	CE159A 20109003620	EF3 20217700125		KIT EHV 50-480/90 19050302525

Model of valve stem  
7/8" 14 UNF



Type	Effective Gas vol. Litres	Max. Working pressure (PS) bar	Max Flow Rate l/min	Weight kg	Gas connection	Dimensions in mm							
						A max height	B	C	øD max	ød	øE	F on flats	G connection
EHV 10-480/90	9.2	480	900	33	7/8" 14 UNF	593	103	74	228	22.5	101	70	G 2"
EHV 12-480/90	11	480	900	43	7/8" 14 UNF	693	103	74	228	22.5	101	70	G 2"
EHV 20-480/90	17.8	480	900	63	7/8" 14 UNF	903	103	74	228	22.5	101	70	G 2"
EHV 32-480/90	32	480	900	97	7/8" 14 UNF	1428	103	74	228	22.5	101	70	G 2"
EHV 50-480/90	48.5	480	900	132	7/8" 14 UNF	1968	103	99	228	50	101	70	G 2"



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



# EHV Series 690 BAR, 1 to 54 Litres

Standard Version (Carbon Steel shell/NBR mix) for mineral oils temperature from - 20° up to 80°C

According to PED 97/23, EN 14359 Fluid Group 2

Part numbers, Accessories Dimensions

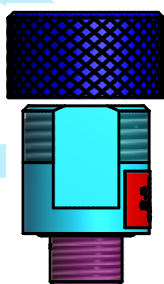
Type	Pre-charge			Adaptor	Clamps	Support Bracket	Lifting Eye	Complete Repair Kit
	1 - 109 bar	110 - 209 bar	210 - 300 bar	Threaded Part number	Model (quantity) Part number	Model Part number	Model Part number	Model Part number
EHV 1-690/00*				G 1/2" cyl	E114 (1)	CE89		KIT EHV 1- 690/00
10910101125	751001	751030	751045	04570400223	20251003648	20151903620	10912700200	19043500225
EHV 2.5-690/90				G 1/2" cyl	E114 (2)	CE89		KIT EHV 2.5-690/90
10910201125	751002	751031	751046	04570400223	20251003648	20151903620	10912700200	19043600225
EHV 5-690/90				G 1/2" cyl	E114 (2)	CE89		KIT EHV 5-690/90
10910301125	751003	751032	751047	04570400223	20251003648	20151903620	10912700200	19043700225

\* according to the PED, article 3.3

## EHV 690 bar

Type	Pre-charge			Adaptor	Clamps	Support Bracket	Complete Repair Kit
	1 - 109 bar	110 - 209 bar	210 - 300 bar	Threaded Part number	Model (quantity) Part number	Model Part number	Model Part number
EHV 12-690/90							KIT EHV 12-690/90
1203V-DC-691	751016	751023	751038				
EHV 20-690/90							KIT EHV 20-690/90
2003V-DC-691	751005	751024	751039				
EHV 37-690/90							KIT EHV 32-690/90
3703V-DC-691	751006	751026	751041				
EHV 54-690/90							KIT EHV 54-690/90
5003V-DC-691	751007	751027	751042				

Model of valve stem  
7/8" 14 UNF



Model of valve stem  
5/8" 18 UNF



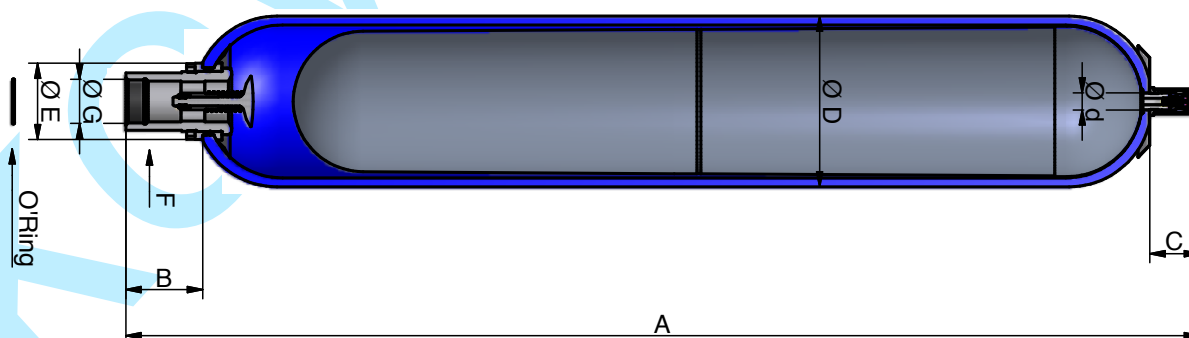
Accumulators are delivered with the nitrogen Pre-charge 3 bar.

Type	Effective Gas vol. Litres	Max. Working pressure (PS) bar	Max Flow Rate l/min	Weight kg	Dimensions in mm								
					A max height	B	C	øD max	ød	øE	F on flats	G connection**	
EHV 1-690/00*	1.1	690	360	8.9	376	68	69	122	22.5	68	45	G 1"	
EHV 2.5-690/90	2.4	690	360	15	551	68	69	122	22.5	68	45	G 1"	
EHV 5-690/90	5	690	360	29	900	68	69	122	22.5	68	45	G 1"	

\*\* Requires a special adaptor

Type	Effective Gas vol. Litres	Max. Working pressure (PS) bar	Max Flow Rate l/min	Weight kg	Dimensions in mm								
					A max height	B	C	øD max	ød	øE	F on flats	G connection**	
EHV 12-690/90	11	690	900	97	682	84	166	267	50	110	77	2"	
EHV 20-690/90	16.5	690	900	134	892	84	166	267	50	110	77	2"	
EHV 37-690/90	33.4	690	900	227	1417	84	166	267	50	110	77	2"	
EHV 54-690/90	48	690	900	318	1932	84	166	267	50	110	77	2"	

\*\* Requires a special adaptor



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