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

Oil and Gas - O&G Series Bladder Accumulators

High Pressure, 207 to 760 bar

Parker OLAER

ENGINEERING YOUR SUCCESS.

Description

Designed for high pressure hydraulic systems, the O&G bladder accumulator has been developed for the hazardous environments encountered within the Oil & Gas Industry and other aggressive environments. Carbon and stainless steel (up to 760 bar).

The O&G bladder accumulator is specially designed and developed for the hazardous environments encountered within the Oil and Gas industry however it is also ideally suited for other highly demanding markets. They meet a wide range of approvals and are tailor made to meet your requirements (e.g. special coatings, IP-class and ATEX/Ex approvals).

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. 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.

Rigorous product testing and continuous product development help to ensure our hydraulic accumulators operate at optimum efficiency and can perform in the most demanding environments. Parker accumulator accessories such as Safety Blocks, Burst Discs and Permanent Charging Sets, 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 (PED 2014/68/EU, EN 14359, ATEX, ASME VIII div 1, SELO, CRN, AS1210, NR13, CUTR, DNV, BV Marine, ABS and GL)**
- **Rigorous product testing and continuous product development**
- **Large selection of materials and fittings to suit every hydraulic system.**
- **Parker Olaer offers a wealth of product knowledge and experience thus enabling us to provide first class technical support and customer service.**

Markets

- **Oil and Gas**
- **Industrial**

Applications

TOPSIDE APPLICATIONS

- **Intervention and Workover Control Systems (IWOCS) and Workover Control Systems (WOCS)**
- **Wellhead Control Panels (WHCP)**
- **Chemical Injection Skids**
- **Winch Systems**
- **A Frames**
- **Heave Compensation**
- **Davit Systems**
- **Cranes, Hydraulic Power Units (HPUs)**
- **Blow Out Preventers (BOP)**

SUBSEA APPLICATIONS

- **Christmas Trees**
- **Manifolds**
- **Blow Out Preventers (BOP)**
- **Subsea Accumulator Modules (SAMs) and/or Subsea Control Modules (SCMs)**

INDUSTRIAL

- **Hydraulic Power Units (HPUs)**
- **Plastic Moulding Machines**
- **Hydraulic Presses**

Technical Characteristics

The accumulator comprises of:

Shell
Forged seamless chrome molybdenum steel, designed and manufactured to PED 2014/68/EU and CE marked.

Label
With assembly specification and installation details.

Material Certification
Available on request for all major pressure loaded parts to EN 10204 3.1

Finish
One coat primer paint as standard. Special paints available.

Bladder
Totally enclosed construction with an extensive range of elastomers available.

Fluid Port Assembly
Integral high-flow port and poppet valve assembly with an anti-extrusion ring.

Safety
All gas-loaded accumulators are pressurised vessels and it is recommended that safety consideration be given to the application in which they are used. A relief valve should always be fitted to the hydraulic system with the option of a burst disc to protect the accumulator. See Installation and Servicing data sheet for information regarding installation of accumulators.

Pressure Testing
A hydro static pressure test is carried out on all our accumulator shells during the manufacturing process. We can carry out additional pressure testing witnessed by a specified Inspection Authority and/or customer as an optional extra if required.

We can also carry out a hydro-pneumatic pressure test on the complete assembly as an optional extra if required. Again this can be witnessed by a specified inspection authority and/or customer.

Accessories
A complete range of accumulator accessories are available from Parker.

Spare Parts
Available on request.

Bladder Details

Parker offer a wide range of bladder materials to suit most applications.

Table 1 - Material according to temperature range.
Range of bladder materials available with their corresponding working temperature range when handling non-aggressive fluids.

Material Code	Bladder Material	Temperature Range (Deg. C)			
		Static		Dynamic	
0	Nitrile	-20	100	-15	100
1	Butyl	-15	120	-15	120
2	Low Temp Nitrile	-40	70	-25	70
3	Low Permeability Nitrile	0	105		
6	Fluorocarbon (Viton)	-20	130		
7	High Aromatic Nitrile	0	105		
8	High Temp Nitrile	0	150		
9	EPI - Chlorohydin 100	-20	120		
A	Ethylene Propylene (EP)	-20	120		
B	EPI - Chlorohydin 200	-40	120		
K	Special Low Temp Nitrile	-79	100	-59	100
L	Peroxide Cured EPDM	please contact us for details			
M	High Temperature Fluro-carbon	-10	200		
N	Low Temp Nitrile	-45	70		

Table 2 - Bladder capacity / overall dimensions

Accumulator Capacity (Litres) Nominal	Dimension		Stem Diameters		
	"H"	"D"	5/8" (16mm)	7/8" (22mm)	2" (50mm)
0.16	154	41	*		
0.6	132	73	*		
1.15 (1.25)	147	91	*	*	
3	335	100	*	*	
4	203	142		*	
5	680	100		*	
6	305	142		*	
9 (10)	570	142		*	
12.5	655	142		*	
10	283	198		*	*
12	406	198			*
20	610	198		*	*
24.5	719	198			*
28	880	198		*	
37	1128	198		*	*
42	1280	198		*	
54	1603	198		*	*

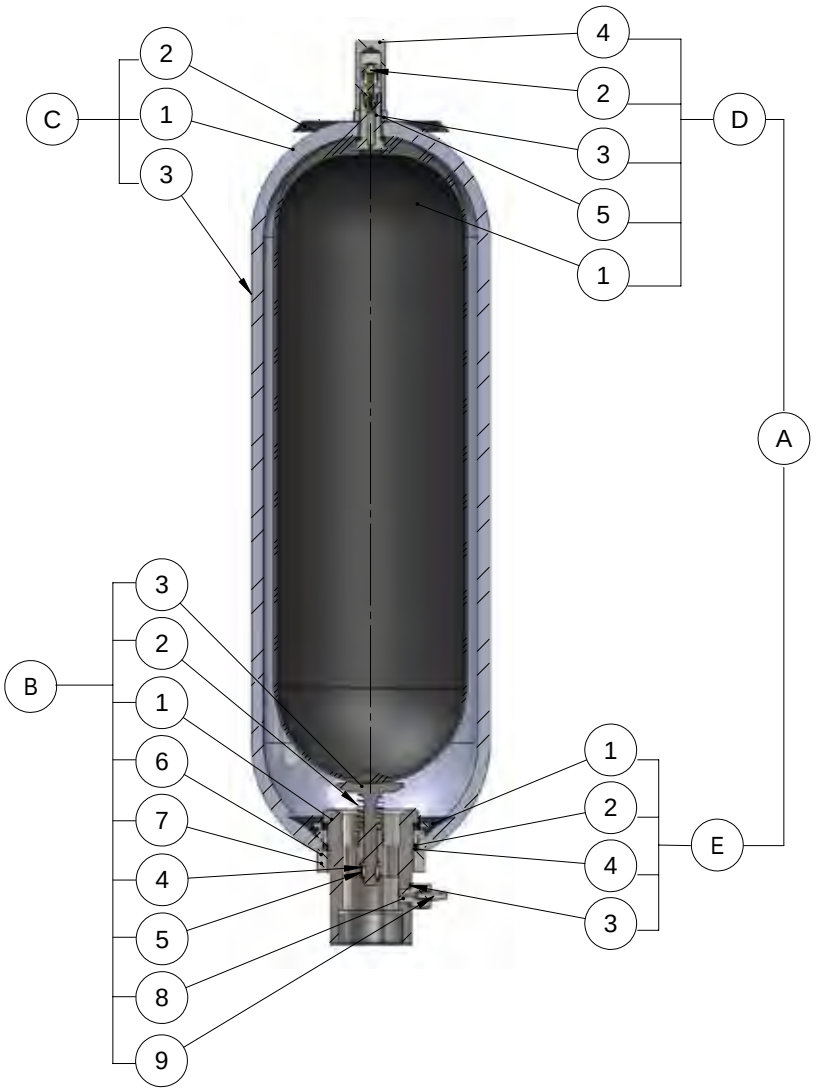
O&G Series, 207 to 420 bar

A	**Bladder Kit comprising:**
D	**Bladder assembly**
D1	Bladder
D2	Gas valve assembly
D3	Locknut
D4	Protective cap
D5	'O' ring stem
E	**Anti extrusion ring assembly**
E1	Anti extrusion ring
E2	'O' ring fluid port
E3	Bonded seal*
E4	Back-up ring

B	**Fluid port assembly comprising**
B1	Fluid port body
B2	Spring
B3	Poppet valve
B4	Collett
B5	Piston
B6	Flanged washer
B7	Locking ring
B8	Bleed adaptor*
B9	Bleed valve*

C	**Shell assembly comprising:**
C1	Shell
C2	Label
C3	Label warning

Note: Models 1/54 litres detailed above. Models 0.6 litres have Gas Valve assembly integral with bladder stem without protective cap fitted. * Not fitted on all models



O&G Series 207 to 420 bar: How to order

0400A-00-341

Volume in Litres

OB: for 0.16 Litres
OF: for 0.6 Litres
011: for 1 Litres
03: for 2.5 Litres
04: for 4 Litres
10: for 10 Litres
20: for 20 Litres
28: for 28 Litres
37: for 37 Litres
54: for 54 Litres

Bladder Material

0: Nitrile standard
1: Butyl
2: Low temperature nitrile
3: Low permeability nitrile
6: Viton
8: High temperature nitrile

Bladder Stem/Gas Valve

	0.16 to 3 Litres	4-37 Litres
0A:	5/8”UNF CS Stem/ 1/4”BSP Brass Gas Valve	7/8”UNF CS Stem/ 1/4”BSP Brass Gas Valve
SA:	5/8”UNF SS Stem/ 1/4”BSP SS Gas Valve	7/8”UNF SS Stem/ 1/4”BSP Brass Gas Valve
3F:	n/a	7/8”UNF SS Stem/ 1/4”BSP SS Gas Valve
9A:	5/8”UNF CS Stem/ 0.302”-32 Brass Gas Valve	n/a
4A:	n/a	7/8”UNF CS Stem/ 0.302”-32 Brass Gas Valve
6A:	n/a	n/a

54 Litres

0A: M50x1.5P CS Stem/ 1/4“BSP Brass Gas Valve
SA:M50x1.5P SS Stem/ 1/4“BSP Brass Gas Valve
3F: M50x1.5P SS Stem/ 1/4“BSP SS Gas Valve
4A: 7/8”UNF CS Stem/ 0.302”-32 Brass Gas Valve
6A: M50x1.5P CS Stem/ 0.302”-32 Brass Gas Valve

Shell and Fluid Port

00: Oil service
02: Low/medium corrosive service (lined shell)
W6: Stainless steel externals, unlined shell
CZ: Stainless steel externals, unlined shell 1/2”NPT connection (10-54 litre only)
DW: Stainless steel externals, unlined shell 3/4”NPT connection (10-54 litre only)
DU: Stainless steel externals, unlined shell 1”NPT connection (10-54 litre only)
DL: Stainless steel externals, unlined shell 1/2”BSP connection (10-54 litre only)
EZ: Stainless steel externals, unlined shell 3/4”BSP “necked” connection (10-54 litre only)13:
13: Oil service (NPT connection)
14: Low/ medium corrosive service (lined shell, NPT connection)

Maximum Working Pressure

20: 207 bar
31: 310 bar
34: 345 bar
35: 350 bar
42: 420 bar (10-54L only)

Design Standard/ Authority Approval

1: Lloyds/CE

O&G Series 345 bar, 10 to 57 Litres

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

Part numbers, Accessories, Dimensions

Part Number	Clamps	Support Bracket	Lifting Eye on gas side	Complete Repair Kit
	(quantity) Part number	Part number	Part number	Part number
100SA-CZ-341	10983	10961	FCH403922-3	100SA-CZ
200SA-CZ-341	10983	10961	FCH403922-3	200SA-CZ
280SA-CZ-341	10983	10961	FCH403922-3	280SA-CZ
370SA-CZ-341	10983	10961	FCH403922-3	370SA-CZ
540SA-CZ-341	10983	10961	10*5K-DC	540SA-CZ

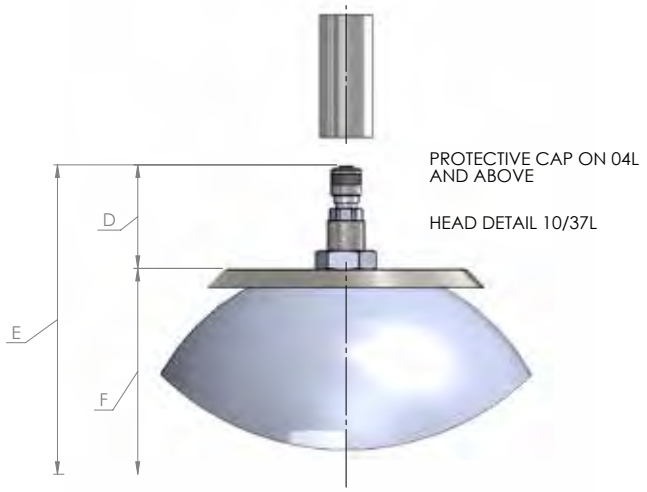
* For more adaptor options see pages 74&75.

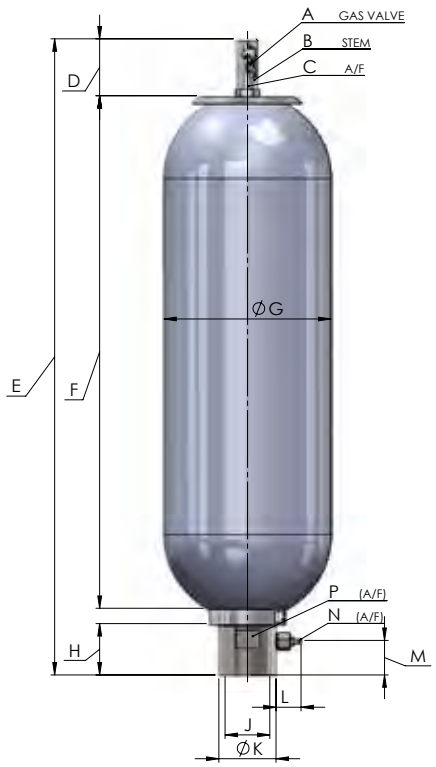
Nominal Capacity Litres	Effective Gas vol. Litres	Work press. bar	Max Flow Rate lt/min	Weight Dry Kilo	Dimensions in mm unless stated otherwise and subject to manufacturer's tolerances												
					A Inches	B Inches	C	D	E	F	G	H	J Inches	K	L	M	N	P
OB	0.16	345	27	2.00	¼ BSP	5/8 UNF	24	40	292	205	55	36	½ BSPF	26	-	-	-	23
OF	0.60	345	109	2.70	¼ BSP	5/8 UNF	24	40	266	175	90	37	¾ BSPF	35	-	-	-	32
011	1.15	207	109	5.4	¼ BSP	5/8 UNF	24	40	292	200	115	37	¾ BSPF	35	-	-	-	32
011	1.15	345	109	5.7	¼ BSP	5/8 UNF	23	40	292	200	115	37	¾ BSPF	35	-	-	-	32
03	2.5	345	215	10.00	¼ BSP	5/8 UNF	23	40	506	402	115	49	1 BSPF	44	5	32	15	41
04	3.8	207	477	15.20	¼ BSP	7/8 UNF	33	78	455	289	169	74	1 ¼ BSPF	60	36	39	9	55
04	3.8	345	477	15.20	¼ BSP	7/8 UNF	33	78	455	289	169	74	1 ¼ BSPF	60	36	39	9	55
10	9.4	207	749	35.00	¼ BSP	7/8 UNF	33	78	575	407	230	70	2 BSPF	76	36	46	9	69
10	9.4	310	749	35.00	¼ BSP	7/8 UNF	33	78	575	407	230	70	2 BSPF	76	36	46	9	69
10	9.4	345	749	35.00	¼ BSP	7/8 UNF	33	78	575	407	230	70	2 BSPF	76	36	46	9	69
10	9.4	420	749	34.00	¼ BSP	7/8 UNF	33	78	575	407	226	70	2 BSPF	76	36	46	9	69
20	18.8	207	749	55.00	¼ BSP	7/8 UNF	33	78	886	718	230	70	2 BSPF	76	36	46	9	69
20	18.8	310	749	55.00	¼ BSP	7/8 UNF	33	78	886	718	230	70	2 BSPF	76	36	46	9	69
20	18.8	345	749	55.00	¼ BSP	7/8 UNF	33	78	886	718	230	70	2 BSPF	76	36	46	9	69
20	18.8	420	749	54.00	¼ BSP	7/8 UNF	33	78	886	718	226	70	2 BSPF	76	36	46	9	69
28	25.8	207	749	61.00	¼ BSP	7/8 UNF	33	78	1158	990	230	70	2 BSPF	76	36	46	9	69
28	25.8	345	749	61.00	¼ BSP	7/8 UNF	33	78	1158	990	230	70	2 BSPF	76	36	46	9	69
37	35.2	207	749	91.00	¼ BSP	7/8 UNF	33	78	1407	1239	230	70	2 BSPF	76	36	46	9	69
37	35.2	310	749	91.00	¼ BSP	7/8 UNF	33	78	1407	1239	230	70	2 BSPF	76	36	46	9	69
37	35.2	345	749	91.00	¼ BSP	7/8 UNF	33	78	1407	1239	230	70	2 BSPF	76	36	46	9	69
37	35.2	420	749	86.00	¼ BSP	7/8 UNF	33	78	1407	1239	226	70	2 BSPF	76	36	46	9	69
54	49.2	207	749	130.00	¼ BSP	M50x 1.5	69	66	1922	1766	230	70	2 BSPF	76	36	46	9	69
54	49.2	310	749	130.00	¼ BSP	M50x 1.5	69	66	1922	1766	230	70	2 BSPF	76	36	46	9	69
54	49.2	345	749	130.00	¼ BSP	M50x 1.5	69	66	1922	1766	230	70	2 BSPF	76	36	46	9	69
54	49.2	420	749	119.00	¼ BSP	M50x 1.5	69	66	1922	1766	226	70	2 BSPF	76	36	46	9	69

Part Number	Vol. (Litres)	Max. Operating Pressure (bar)	Max. Flow Rate (lpm)	Min/Max Operating Temp. (ºC)	Weight (kg)	Dimensions												
						Gas Valve Size (A) (Inch)	B	C	D	E	F	G	H	Fluid Port Connec-tion (J)	K	L	M	N	P
100SA-CZ-341	10	345	110	-20/+80	35	G 1/4	7/8 UNF	33	78	553	407	230	48	½"NPTF	76	36	46	9	69
200SA-CZ-341	20	345	110	-20/+80	55	G 1/4	7/8 UNF	33	78	864	718	230	48	½"NPTF	76	36	46	9	69
280SA-CZ-341	28	345	110	-20/+80	61	G 1/4	7/8 UNF	33	78	1136	990	230	48	½"NPTF	76	36	46	9	69
370SA-CZ-341	37	345	110	-20/+80	91	G 1/4	7/8 UNF	33	78	1385	1239	230	48	½"NPTF	76	36	46	9	69
540SA-CZ-341	54	345	110	-20/+80	130	G 1/4	M50x1.5	69	66	1900	1766	230	48	½"NPTF	76	36	46	9	69

(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.



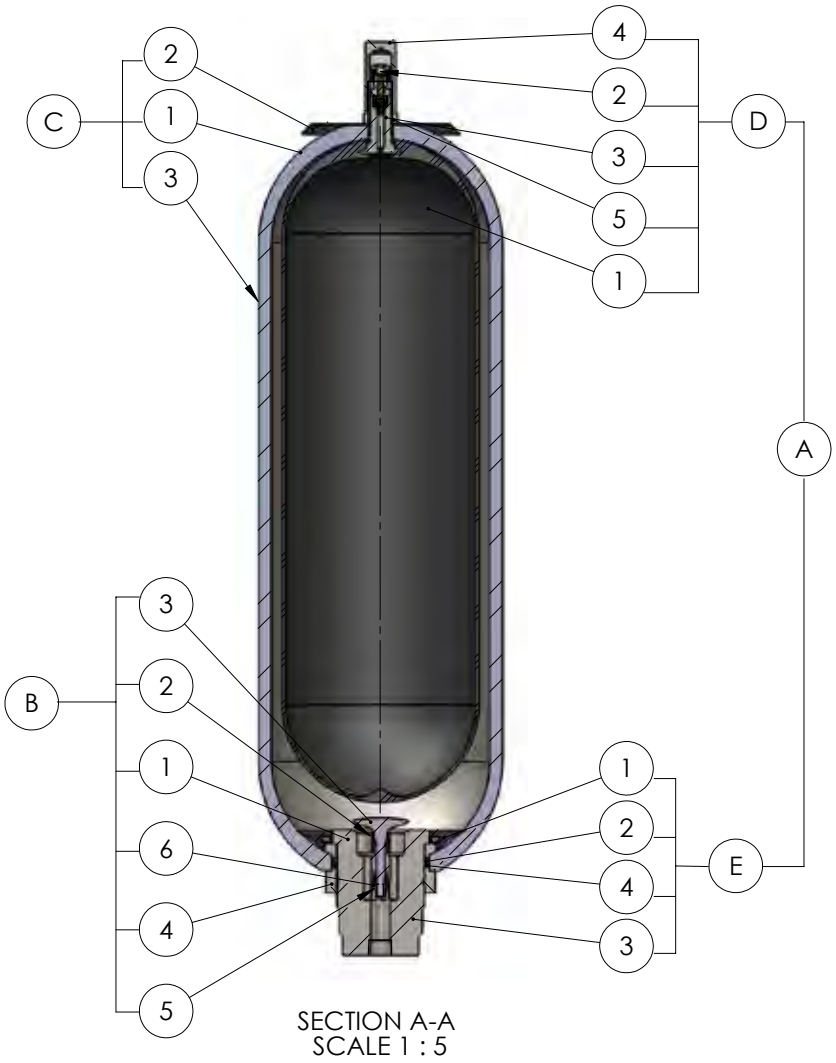


O&G Series, 480 & 517 bar

A	**Bladder Kit comprising:**
D	**Bladder assembly**
D1	Bladder
D2	Gas valve assembly
D3	Locknut
D4	Protective cap
D5	'O' ring stem
E	**Anti extrusion ring assembly**
E1	Anti extrusion ring
E2	'O' ring fluid port*
E3	Bonded seal
E4	Back-up ring

B	**Fluid port assembly comprising**
B1	Fluid port body
B2	Spring
B3	Poppet valve
B4	Collett
B5	Piston
B6	Flanged washer

C	**Shell assembly comprising:**
C1	Shell
C2	Label
C3	Label warning



SECTION A-A
SCALE 1 : 5

O&G Series 480 and 517 bar: Dimensions

Capacities and Dimensions

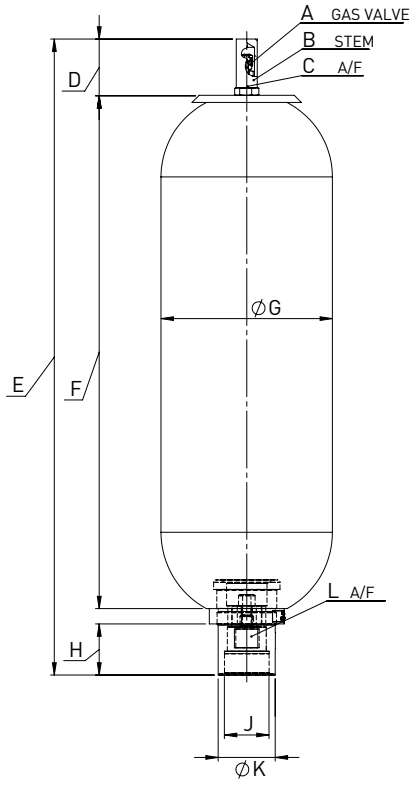
Nominal Capacity Litres	Effective Gas vol. Litres	Work press. bar	Max Flow Rate lt/min	Weight Dry Kilo	Dimensions in mm unless stated otherwise and subject to manufacturer's tolerances										
					A Inches	B Inches	C	D	E	F	G	H	J Inches	K	L
10	9.4	480	215	34	¼ BSP	7/8 UNF	33	78	575	407	229	70	see table	76	69
10	9.4	517	215	54	¼ BSP	7/8 UNF	33	78	575	407	243	70		76	69
20	18.8	480	215	54	¼ BSP	7/8 UNF	33	78	886	718	229	70		76	69
20	18.8	517	215	100	¼ BSP	7/8 UNF	33	78	886	718	243	70		76	69
37	35.2	480	215	86	¼ BSP	7/8 UNF	33	78	1407	1239	229	70		76	69
37	35.2	517	215	152	¼ BSP	7/8 UNF	33	78	1407	1239	243	70		76	69
54	49.2	480	215	119	¼ BSP	M50x 1.5P	69	66	1922	1766	229	70		76	69
57	54.5	517	215	220	¼ BSP	M50x 1.5P	69	66	1980	1824	243	70		76	69

Note: Dimensions are based on current stock and are subject to change without prior notice.

Dimension J

Code	Shell and Fluid Port
EH	Stainless Steel - 1/2” NPT female (480 bar)
GC	Stainless Steel - 1/2” BSP female (517 bar)
GJ	Stainless Steel - 1/2” BSP female (480 bar)
JB	Stainless Steel - 1/2” NPT female (517 bar)

Other available on request.



O&G Series 480 to 517 bar: How to order

1001M-EH-48

Volume in Litres

10: for 10 Litres
20: for 20 Litres
28: for 28 Litres
37: for 37 Litres (480 bar only)
54: for 54 Litres (517 bar only)

Bladder Material

0: Nitrile standard
1: Butyl
2: Low temperature nitrile
3: Low permeability nitrile
6: Viton
8: High temperature nitrile

Bladder Stem/Gas Valve

10 to 37 Litres

1M: 7/8“UNF SS Stem / 1/4“ BSP SS HP Gas Valve
3N: 7/8“UNF SS Stem / 1/2“ UNF Port (No Gas Valve/Pro Cap)

54 Litres

1M: M50 x 1.5P SS Stem / 1/4“ BSP SS HP Gas Valve
3N: M50 x 1.5P SS Stem / 1/2“ UNF Port (No Gas Valve/Pro Cap)

Shell and Fluid Port

EH: St. Steel Fluid Port - 1/2” NPT female (480 bar)
GC: St. Steel Fluid Port - 1/2” BSP female (517 bar)
GJ: St. Steel Fluid Port - 1/2” BSP female (480 bar)
JB: St. Steel Fluid Port - 1/2” NPT female (517 bar)

Maximum Working Pressure

48: 480 bar
51: 517 bar

Maximum Working Pressure

1: Lloyds/CE

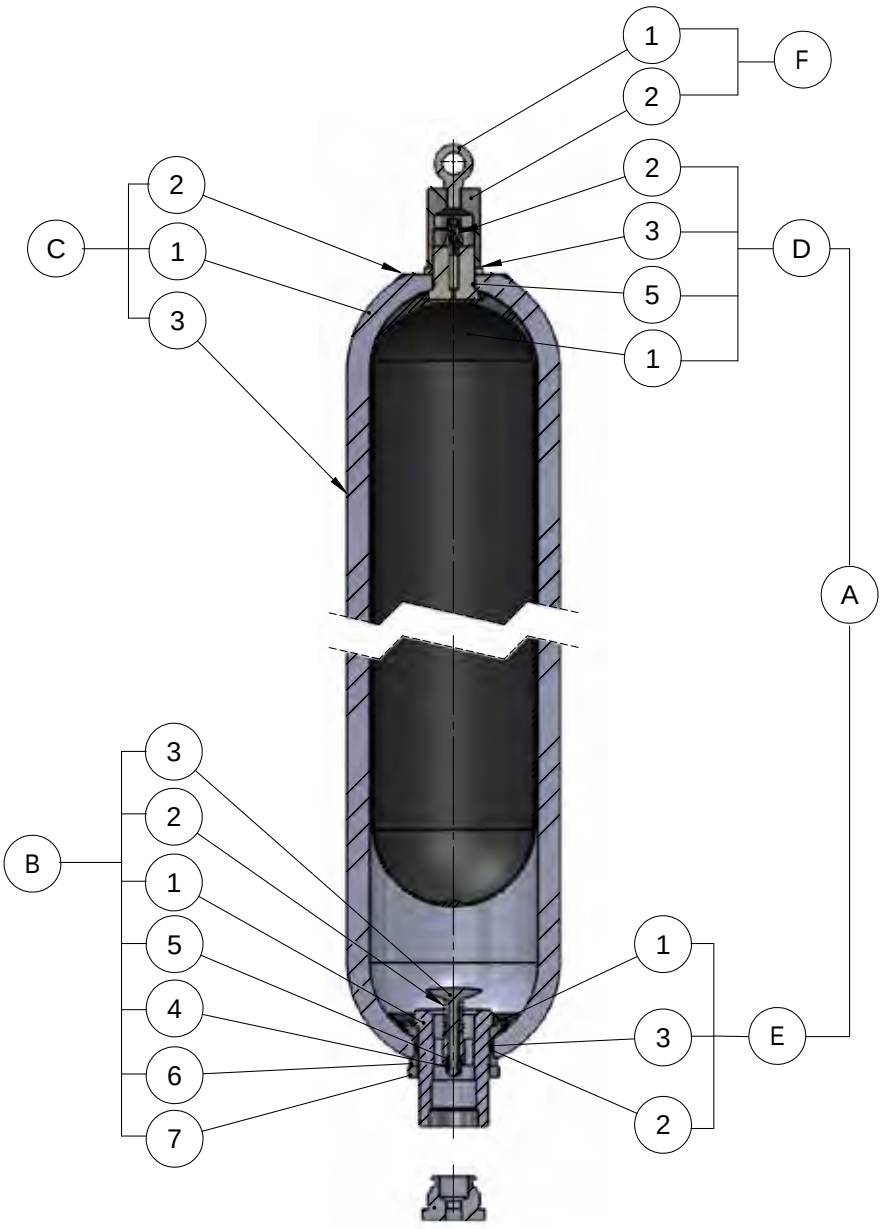
O&G Series, 690 to 760 bar

A	**Bladder Kit comprising:**
D	**Bladder assembly comprising of:-**
D1	Bladder
D2	Gas valve assembly
D3	Locknut
D4	Protective cap
D5	'O' ring stem
D6	Lifting Eye
E	**Anti extrusion ring assembly:-**
E1	Anti extrusion ring
E2	'O' ring fluid port*
E3	Back-up ring

B	**Fluid port assembly comprising:-**
B1	Fluid port body
B2	Spring
B3	Poppet valve
B4	Collett
B5	Piston
B6	Flanged washer
B7	Lock ring

C	**Shell assembly comprising:**
C1	Shell
C2	Label
C3	Label warning

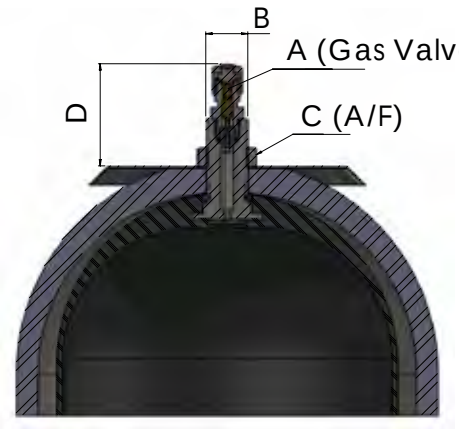
F	**Lifting Eye Assembly:-**
F1	Protective cap
F2	Lifting Eye



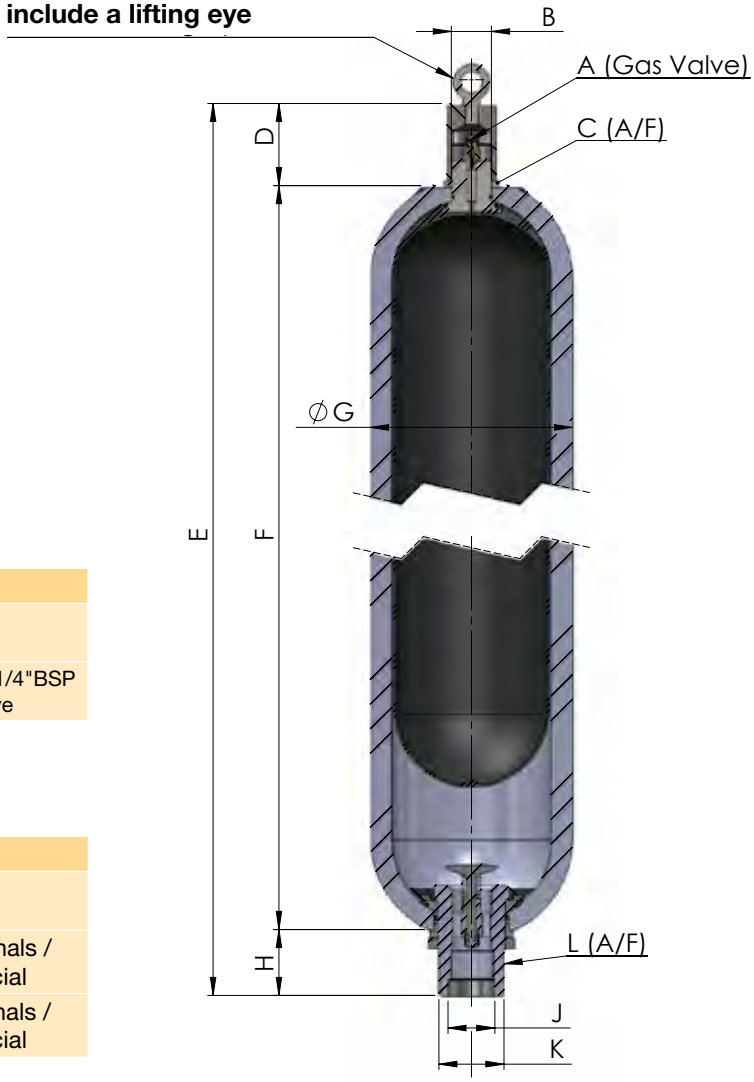
O&G Series 690 to 760 bar: Dimensions

Nominal Capacity Litres	Effective Gas vol. Litres	Work press. bar	Q Max (l/min)	Weight Dry Kilo	Dimensions in mm unless stated otherwise and subject to manufacturer's tolerances										
					A Inches	B Inches	C	D	E	F	G	H	J	K	L
1	1.1	690	240	9	See Below	7/8"UNF	33	69	376	239	122	68	See Below	48	45
3	2.4	690	240	15		7/8" UNF	33	69	551	414	122	68		48	45
5	5	690	240	29		7/8" UNF	33	69	900	763	122	68		48	45
12	9.4	690	749	97		M50x1.5P	69	166	768	518	267	84		82	77
12	9.4	760	749	97		M50x1.5P	69	166	768	518	267	84		82	77
20	18.8	690	749	134		M50x1.5P	69	166	978	728	267	84		82	77
20	18.8	760	749	134		M50x1.5P	69	166	978	728	267	84		82	77
37	35.2	690	749	227		M50x1.5P	69	166	1500	1250	267	84		82	77
37	35.2	760	749	227		M50x1.5P	69	166	1500	1250	267	84		82	77
54	49.2	690	749	318		M50x1.5P	69	166	2015	1765	267	84		82	77
54	49.2	760	749	318		M50x1.5P	69	166	2015	1765	267	84		82	77

1 - 5 Litre



12 Litre and above accumulators include a lifting eye



Dimension A - Bladder Stem/Gas Valve

Code	1 - 5 Litre	12 - 54 Litre
2L	7/8"UNF SS Stem / 1/4"BSP SS HP Gas Valve	
5K		M50x1.5P SS Stem / 1/4"BSP SS HP Gas Valve

Dimension J - Shell and Fluid Port

Code	1 - 5 Litre	12 - 54 Litre
DP	Stainless Steel / 1"BSP Female Special	
DC		SS Externals/CS Internals / 2"BSP Female Special
DF		SS Externals/SS Internals / 2"BSP Female Special

Note: Dimensions are based on current stock and are subject to change without prior notice.

O&G Series 690 to 760 bar: How to order

0502L-DP-691

Volume in Litres

011: for 1 Litres
03: for 2.5 Litres
05: for 5 Litres
12: for 12 Litres
20: for 20 Litres
37: for 37 Litres
54: for 54 Litres

Bladder Material

0: Nitrile standard
1: Butyl
2: Low temperature nitrile
3: Low permeability nitrile
6: Viton
8: High temperature nitrile

Bladder Stem/Gas Valve

1 - 5 Litres
2L: 7/8“UNF SS Stem / 1/4“ BSP SS HP Gas Valve

12 - 54 Litres
5K: M50 x 1.5P SS Stem / 1/4“ BSP SS HP Gas Valve

Shell and Fluid Port

1 - 5 Litres
DP: St. Steel Fluid Port / 1”BSP Female Special

12 - 54 Litres
DC: SS Externals/ CS Internals/ 2” BSP Female Special
DF: SS Externals/ SS Internals/ 2” BSP Female Special
(see table on next page for fluid port adaptors)

Maximum Working Pressure+

69: 690 bar
75: 750 bar (1-5 litre only)
76: 760 bar (12-54 litre only)

Maximum Working Pressure

1: Lloyds/CE

Fluid Port Adaptors

Nominal Capacity (Litres)	Dimensions			Part Number
	J	N	P (mm)	
1 - 5 litres	1"BSP	1/4"BSP	10	52799-XXX
	1"BSP	3/8" BSP	10	55456-XXX
	1"BSP	1/2" BSP	30	54260-XXX
	1"BSP	3/4" BSP	30	52762-XXX
	1"BSP	1/4" NPT	30	55712-XXX
	1"BSP	1/2" NPT	30	51059-XXX
	1"BSP	3/4" NPT	30	52113-XXX
	1"BSP	3/8"MP Autoclave	30	56002-XXX
	1"BSP	9/6"MP Autoclave	30	52722-XXX
12 - 54 litres	2"BSP	1/4"BSP	13	55374-XXX
	2" BSP	3/8"BSP	13	55375-XXX
	2" BSP	1/2"BSP	13	55376-XXX
	2" BSP	3/4"BSP	13	55377-XXX
	2" BSP	1/4"NPT	13	55369-XXX
	2" BSP	3/8"NPT	13	55370-XXX
	2" BSP	1/2"NPT	13	55371-XXX
	2" BSP	3/4"NPT	13	55372-XXX
	2" BSP	1/4"MP Autoclave	38	54116-XXX
	2" BSP	3/8"MP Autoclave	38	55873-XXX