Piston Accumulators

- Piston Accumulators
- Gas Bottles
- Metric Accumulators & Bottles

Features:

- Heavy Duty Service with Operating Pressures to 5000 PSI
- 2" thru 12" Bores with Over Fifty Standard Capacities
- “Fatigue Tested” Designs, 2" thru 8" Bores
- Patented V-O-ring Piston Seals
- Serviceable Threaded End Construction
- ASME Certification and CE Marking available
- Five Standard Seal Options to Handle a Variety of Fluids and Temperatures

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

Piston accumulators provide a means of regulating the performance of a hydraulic system. They are suitable for storing energy under pressure, absorbing hydraulic shocks, and dampening pump pulsation and flow fluctuations. The simple, compact, cylindrical design of piston accumulators ensures dependable performance, maximum efficiency, and long service life.

Why Use Piston Accumulators?

- improves system efficiency
- supplements pump flow
- supplies power in emergency
- compensates for leakage
- absorbs hydraulic shocks
- wide range of sizes
- extremely high flow rates
- high/low temperature tolerance
- high compression ratios
- can be used with remote gas bottles
- can be mounted in any position
- failure mode is gradual, predictable
- sensors can be fitted for performance monitoring

Parker Piston Accumulators… Your #1 Choice!

Parker is the leading manufacturer of piston accumulators in North America. Parker's broad offering includes:

- Piston Accumulators for 3000, 4000 & 5000 PSI
- Gas Bottles for 3000, 4000 & 5000 PSI
- Metric Piston Accumulators for 207, 276 and 345 Bar
- Metric Gas Bottles for 207, 276 and 345 Bar
- A Wide Array of Options and Accessories

Parker manufactures most of the components used in the construction of its piston accumulators in its own plants. Parker even finish skive and burnishes the majority of the tubing used to manufacture its piston accumulator shells – all processes internally controlled to Parker's high standards of quality and consistency. For your convenience, Parker offers the latest in accumulator sizing technology with its *inPHorm Accumulator Sizing and Selection Software.*

Our Wide Range of Piston Accumulators . . .

Our Piston Accumulator Series

Parker offers piston accumulators rated for 3000, 4000 and 5000 PSI. To make it easier for you to order, we have divided the piston accumulator section into *Series 3000, Series 4000* and *Series 5000* with separate technical and ordering information.

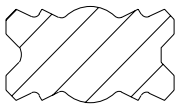
Series 3000 *7" and 8" Bore Now Available in Non-ASME*

ASME certification is a requirement of strength and material traceability (see page 4). Many states require ASME certification, but not all. It is the function of the system designer to specify whether ASME is or is not required.

We now offer true non-ASME accumulators in 7" and 8" bore sizes which meet ASME Section VIII, Division I design requirements while utilizing industry standard materials. When ASME certification is not required, specifying these accumulators can result in moderate savings. See pages 32-33.

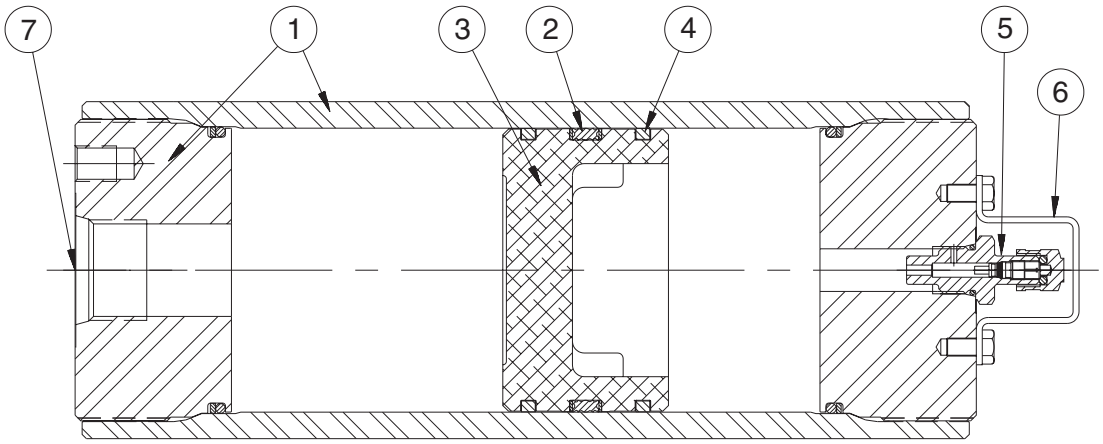
1. Piston type accumulators are designed with compact, rugged **steel shell and caps**. The steel shell allows heat to dissipate effectively. The bore is micro-finished for extended seal life. The threaded caps allow for easy repair and seal replacement.

2. The **piston seal** consists of a unique, patented five-bladed V-O-ring with back-up washers. This design eliminates seal roll-over and ensures total separation of fluid and gas under the most severe operating conditions.



The V-O-ring also holds full pressure throughout long idle periods between cycles, providing dependable, full pressure storage of hydraulic energy. It ensures safe, reliable absorption of pressure peaks. The piston seal design helps to prevent sudden failure of the accumulator.

The V-O-ring seals are available in a wide variety of compounds to cover a broad range of fluids and operating temperature ranges (see Options).



3. The **lightweight piston** design allows fast response to reduce shock in rapid cycling applications. The dished profile of the piston provides extra gas capacity and greater useable volume of fluid.

4. **PTFE glide rings** eliminate metal-to-metal contact between the tube and piston, reducing wear and extending service life.

5. All piston accumulators are fitted with a standard designed **gas valve** for ease of gas precharging. Series 3000, 2” thru 6” bores, are fitted with standard cored gas valve cartridges (ISO-4570-8V1). The Series 4000 and Series 5000, 2” thru 6” bores, have as standard a “Schrader” style valve with a 5000 psi high pressure valve cartridge. Offered as an option is a “military” poppet-style gas valve (Mil. Spec. MS28889-2). For 7” thru 12” bore sizes, the MS gas valve is standard.

6. The steel **gas valve protector** reduces the risk of damage to the gas valve from external impact.

7. A **wide range of port types and sizes** are available. SAE straight thread and SAE flange ports are fitted as standard. NPTF, SAE 4-bolt & special flanges, BSPP, Metric, and ISO 6149-1 ports are available options.

3000

Series 3000 Piston Accumulators

- Heavy Duty Service with 3000 PSI Operating Pressure
- 2" thru 12" Bores with Over 50 Standard Capacities
- Patented V-O-ring Piston Seals
- Serviceable Threaded End Construction
- Five Standard Seal Options to Handle a Variety of Fluids and Temperatures
- ASME Certification and CE Marking Available

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

Materials

- Shell – high strength alloy steel
- Caps – steel
- Pistons – aluminum (2" thru 8"), ductile iron (9" & 12")
- Gas Valve Cartridge – steel
- Gas Valve Protector – steel
- Piston Glide Rings – PTFE
- Piston & End Seals – various polymers
- Piston Seal Backups – PTFE

Actual Bore Sizes & Maximum Flow Rates

Pressure Ratings

Nominal Bore Size (in.)	Actual Bore Size		Max. Recommended Flow*	
	(in.)	(mm)	GPM	LPM
2	2.02	51.44	100	380
3	3.00	76.20	220	834
4	4.03	102.4	397	1504
6	5.78	146.9	818	3096
7	7.00	177.8	1199	4538
8	7.87	200	1199	4538
9	9.00	228.6	1982	7502
12	11.88	301.6	3450	13061

***Note:** Based on 120 in/sec maximum piston speed, port & fitting size will become limiting factors for most applications.

Parker Series 3000 piston accumulators are rated at 3000 psi and a minimum 4 to 1 design factor. For pressures over 3000 psi, see Series 4000 and Series 5000 accumulators.

Fluids

Parker's piston accumulators are compatible with a wide variety of fluids. Standard accumulators (with nitrile seals) may be used with petroleum-based industrial oils or water-based flame resistant fluids. Optional seals compatible with most industrial fluids are available with temperature ranges from -45°F to 325°F (-43°C to 162°C).

Precharge

Units are shipped with a nominal nitrogen precharge as standard. For specific precharge pressures, specify at the time of order.

Auxiliary Gas Bottles

When space does not permit the installation of the required piston accumulator, a smaller accumulator may be used by connecting it to an auxiliary gas bottle(s) that can be located in a nearby spot where space is available. In some cases, a piston accumulator and gas bottle combination may be more economical, especially large capacity sizes. Piston travel, confined to the accumulator, must be calculated with ample margins to store the required fluid.

Standard Ports

The following ports are supplied as standard on all fluid ends and on the gas end of accumulators ordered for use with gas bottles:

Notes:

1) For flange dimensions, see tables below.

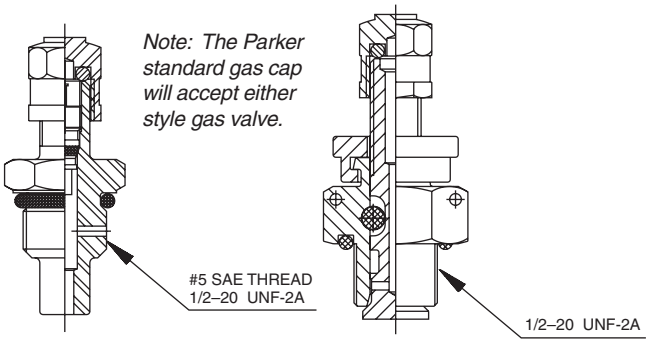
2) On standard 7", 8" & 9" bore accumulators, both SAE Straight Thread and Flange ports are available as standard. Omit port code for SAE #32 Straight Thread, specify "PL" port code for 2" Code 61 Flange when ordering. Flange ports are recommended at operating pressures above 2000 PSI due to pressure limitations of most #32 SAE Straight Thread fittings.

Bore Size	Standard Ports			
	Standard Models		Metric Models	
	SAE Port	SAE Flange[1]	BSPP Port (in)	Metric SAE Flange[1]
2	#12	–	3/4	–
3	#12	–	1	–
4	#20	–	1	–
6	#24	–	1-1/2	–
7	#32	2" Code 61	–	2" Code 61
8	#32	2" Code 61	–	2" Code 61
9	#32	2" Code 61	–	2" Code 61
12	–	3" Code 61	–	3" Code 61

1) See flange dimensions in Port Options.

Gas Valves

Two types of gas valves are available on Series 3000 piston accumulators and gas bottles. Units with 2" thru 6" bores, are offered with a cored gas valve cartridge (ISO-4570-8V1) as standard. All 7" thru 12" bore units are supplied with a heavy duty (military) poppet-type gas valve cartridge (MS28889-2) as standard.



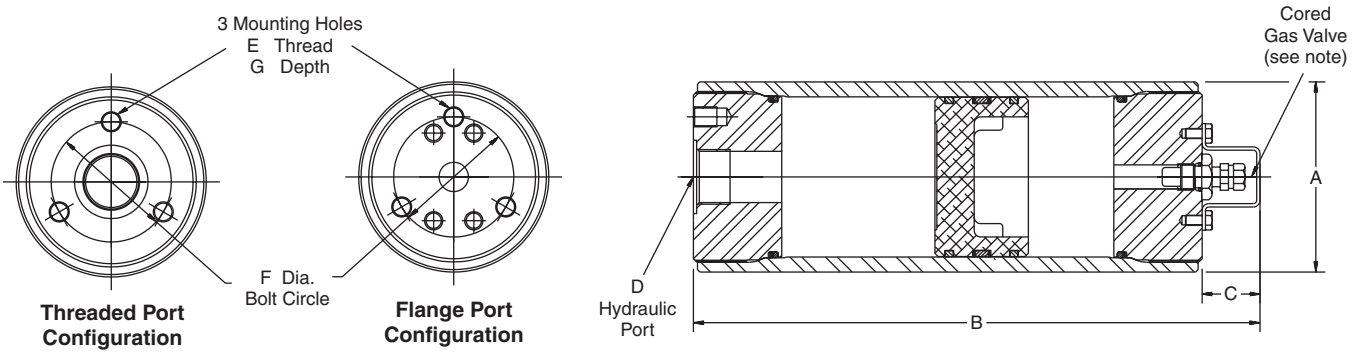
L07471000* **L07689000***

Available Options

If your application requires a piston accumulator, gas bottle, or special option that falls outside of Parker's broad offering, consult your local distributor, Parker representative, or the factory with your specific requirements. Parker has the manufacturing and engineering expertise to design and build piston accumulators to your exacting requirements, from simple modifications of standard units to complete designs. Some example of Parker's past special designs include:

- Special and Stainless Steel Materials
- Piston Position and Velocity Sensors and Switches
- Water Service
- Non-Standard Capacities

3000 PSI Piston Accumulators for Oil and Water Service

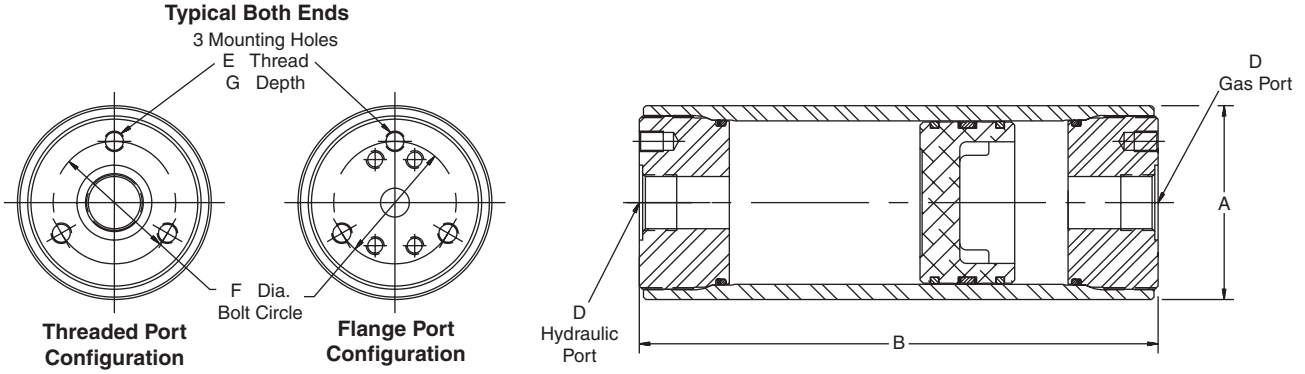


Model No.[1] Oil Service	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	C (in)	D-Hydraulic Port SAE No.	D-Hydraulic Port Thread Size (in)	D-Hydraulic Port Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
A2N0005D1K	–	5	6		6.76								5
A2N0010D1K	–	10	11		8.31								5
A2N0015D1K	–	15	16	2.38	9.78	1.06	12	1-1/16 - 12	3/4	–	–	–	6
A2N0029D1K	1 Pint	29	30		14.19								7
A2N0058D1K	1 Quart	58	59		23.19								10
A3N0029D1K	1 Pint	29	34		10.25								14
A3N0058D1K	1 Quart	58	63		14.34								18
A3N0090D1K	1.5 Liter	90	95	3.56	18.94	1.13	12	1-1/16 - 12	3/4	3/8 - 24	2.25	0.56	22
A3N0116D1K	1/2 Gal.	116	121		22.56								25
A3N0183D1K	3 Liter	183	188		32.06								32
A4N0058D1K	1 Quart	58	68		11.63								29
A4N0116D1K	1/2 Gal.	116	126		16.19								35
A4N0231D1K	1 Gal.	231	241	4.75	25.19	1.13	20	1-5/8 - 12	1-1/4	1/2 - 20	3.25	0.75	48
A4N0347D1K	1-1/2 Gal.	347	357		34.31								61
A4N0578D1K	2-1/2 Gal.	578	588		52.38								87
A6N0231D1K	1 Gal.	231	266		17.38								83
A6N0347D1K	1-1/2 Gal.	347	382		21.81								97
A6N0578D1K	2-1/2 Gal.	578	613		30.63								124
A6N0924D1K	4 Gal.	924	959	6.88	43.81	1.13	24	1-7/8 - 12	1-1/2	1/2 - 20	4.38	0.75	165
A6N1155D1K	5 Gal.	1155	1190		52.63								192
A6N1733D1K	7-1/2 Gal.	1733	1768		74.63								260
A6N2310D1K	10 Gal.	2310	2345		96.63								327

Notes:

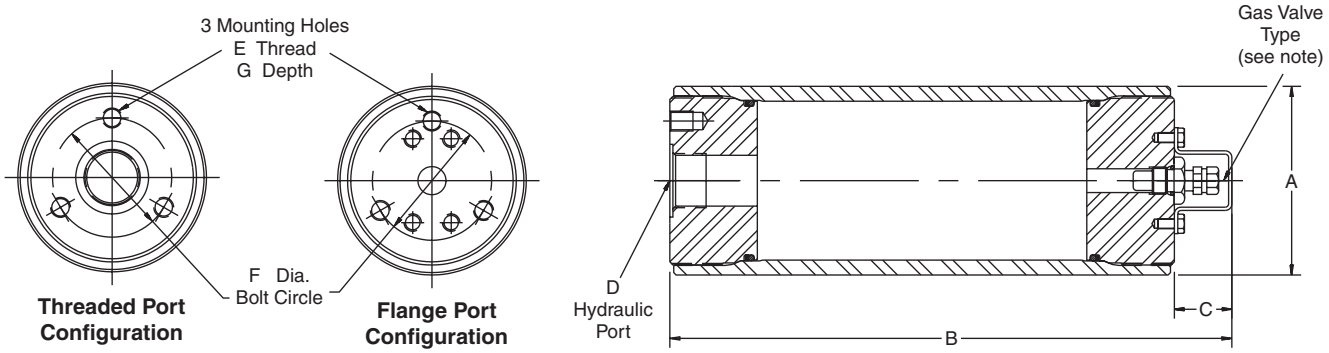
1) For Water Service add “W” after construction code, see “How to Order” information.
2) See Port Options for complete listing of optional ports.
3) ASME Certified and CE marked accumulators and gas bottles are available.
4) When accumulators are to be used with gas bottles, order “Accumulators for Use with Gas Bottles."
5) 2", 3", 4" & 6" bores standard with cored gas valves. Poppet type (MS28889-2) gas valve available as an option.

3000 PSI Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	D Port (Both Ends) SAE No.	D Port (Both Ends) Thread Size (in)	D Port (Both Ends) Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
A4N0058D3KTFTF	1 Quart	58	68		10.50							29
A4N0116D3KTFTF	1/2 Gal.	116	126		15.06							35
A4N0231D3KTFTF	1 Gal.	231	241	4.75	24.06	20	1-5/8 - 12	1-1/4	1/2 - 20	3.25	0.75	48
A4N0347D3KTFTF	1-1/2 Gal.	347	357		33.19							61
A4N0578D3KTFTF	2-1/2 Gal.	578	588		51.25							87
A6N0231D3KTGTG	1 Gal.	231	266		16.25							83
A6N0347D3KTGTG	1-1/2 Gal.	347	382		20.68							97
A6N0578D3KTGTG	2-1/2 Gal.	578	613		29.50							124
A6N0924D3KTGTG	4 Gal.	924	959	6.88	42.68	24	1-7/8 - 12	1-1/2	1/2 - 20	4.38	0.75	165
A6N1155D3KTGTG	5 Gal.	1155	1190		51.50							192
A6N1733D3KTGTG	7-1/2 Gal.	1733	1768		73.50							260
A6N2310D3KTGTG	10 Gal.	2310	2345		95.50							327

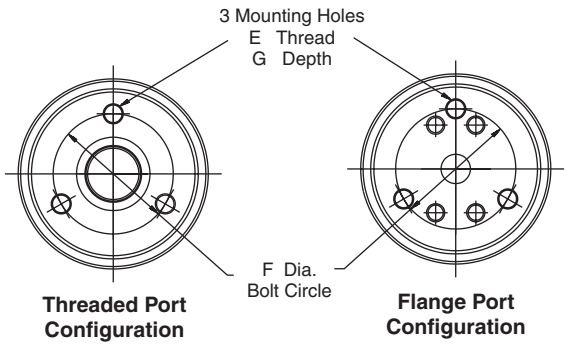
3000 PSI Auxiliary Gas Bottles



Model No. Gas Bottle	Gas Volume Nominal (gal)	Gas Volume Actual (cu in)	A (in)	B (in)	C (in)	D Port SAE No.	D Port Thread Size (in)	D Port Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
B4N0058D1K	1 Quart	86		11.63								27
B4N0116D1K	1/2 Gal.	144		16.19								33
B4N0231D1K	1 Gal.	259	4.75	25.19	1.13	20	1-5/8 - 12	1-1/4	1/2 - 20	3.25	0.75	46
B4N0347D1K	1-1/2 Gal.	375		34.31								59
B4N0578D1K	2-1/2 Gal.	606		52.38								85
B6N0231D1K	1 Gal.	319		17.38								68
B6N0347D1K	1-1/2 Gal.	435		21.81								82
B6N0578D1K	2-1/2 Gal.	666		30.63								111
B6N0924D1K	4 Gal.	1012	6.88	43.81	1.13	24	1-7/8 - 12	1-1/2	1/2 - 20	4.38	0.75	154
B6N1155D1K	5 Gal.	1243		52.63								182
B6N1733D1K	7-1/2 Gal.	1821		74.63								254
B6N2310D1K	10 Gal.	2398		96.63								325

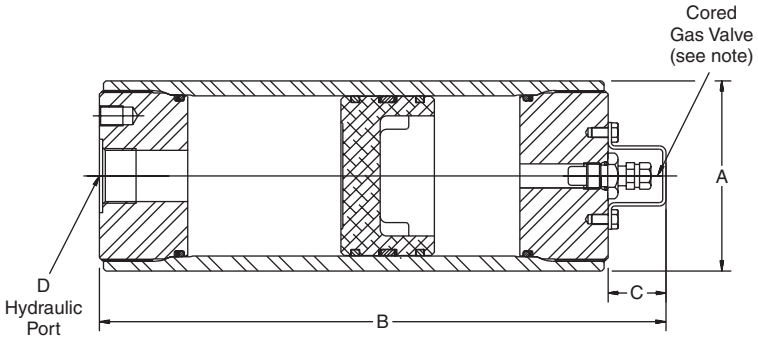
Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

207 Bar Metric Accumulators for Oil and Water Service



Threaded Port Configuration

Flange Port Configuration



Model No.[1] Oil Service	Fluid Volume (Liters)	Fluid Volume (cu in)	Gas Volume (Liters)	A (mm)	B (mm)	C (mm)	D-Hydraulic Port BSPP/G (in)	D-Hydraulic Port SAE Flange	E (mm)	F (mm)	G (mm)	Weight (Kg)
A2N0005D2K	0.08	5	0.11		172							2.1
A2N0010D2K	0.16	10	0.19		211							2.3
A2N0015D2K	0.25	15	0.24	60	250	27	3/4	–	–	–	–	2.6
A2N0029D2K	0.48	29	0.50		360							3.3
A2N0058D2K	0.95	58	0.98		589							4.7
A3N0029D2K	0.48	29	0.56		260							6.5
A3N0058D2K	0.95	58	1.03		364							8.1
A3N0090D2K	1.47	90	1.56	90	481	29	1	–	M10	60	15	9.8
A3N0116D2K	1.90	116	1.98		573							11.1
A3N0183D2K	3.00	183	3.08		814							14.6
A4N0058D2K	0.95	58	1.11		295							13.0
A4N0116D2K	1.90	116	2.06		411							15.9
A4N0231D2K	3.79	231	3.95	121	640	29	1	–	M12	82	18	21.8
A4N0347D2K	5.69	347	5.85		871							27.6
A4N0578D2K	9.47	578	9.64		1330							39.3
A6N0231D2K	3.79	231	4.36		441							37.8
A6N0347D2K	5.69	347	6.26		554							44.0
A6N0578D2K	9.47	578	10.0		778							56.3
A6N0924D2K	15.1	924	15.7	175	1113	29	1-1/2	–	M12	110	18	74.7
A6N1155D2K	18.9	1155	19.5		1337							87.0
A6N1733D2K	28.4	1733	29.0		1896							117.8
A6N2310D2K	37.9	2310	38.4		2454							148.5

Notes:

1) For Water Service add “W” after construction code, see “How to Order” information.
2) See Port Options for complete listing of port options.
3) ASME Certified and CE marked accumulators and gas bottles are available.
4) When accumulators are to be used with gas bottles, order "Accumulators for Use with Gas Bottles."
5) 2", 3", 4" & 6" bores standard with cored gas valves. Poppet type (MS28889-2) gas valves available as an option.

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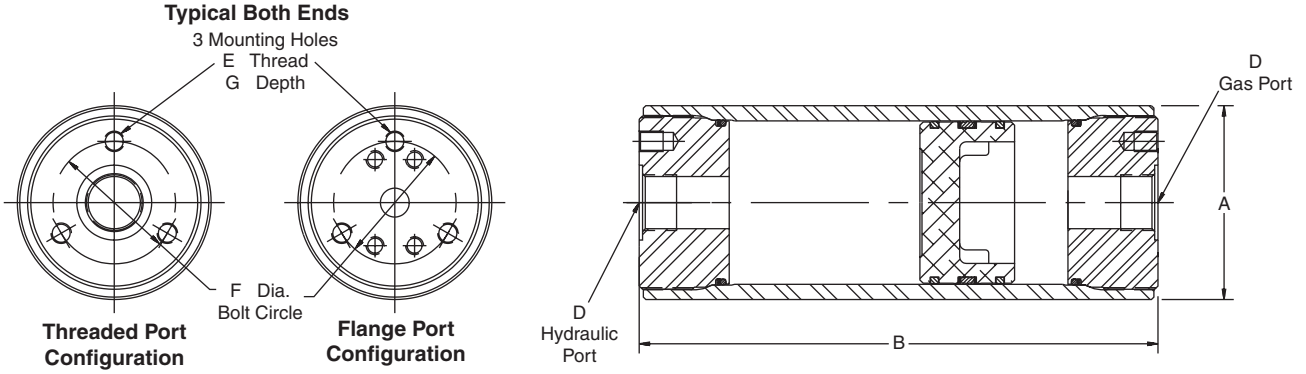
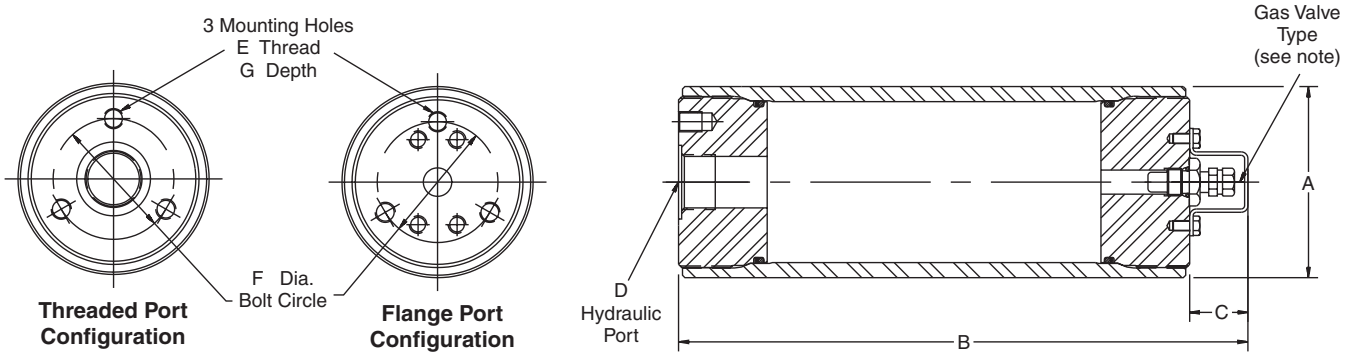
Hydraulic Accumulator Division
Rockford, Illinois USA

207 Bar Metric Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (Liters)	Fluid Volume (cu in)	Gas Volume (Liters)	A (mm)	B (mm)	D - Port (Both Ends) BSPP/G (in)	D - Port (Both Ends) SAE Flange	E (mm)	F (mm)	G (mm)	Weight (Kg)
A4N0058D2KRDRD	0.95	58	1.11		267						13
A4N0116D2KRDRD	1.90	116	2.06		383						16
A4N0231D2KRDRD	3.79	231	3.95	121	611	1	–	M12	82	18	22
A4N0347D2KRDRD	5.69	347	5.85		843						28
A4N0578D2KRDRD	9.47	578	9.64		1302						39
A6N0231D2KRFRF	3.79	231	4.36		413						38
A6N0347D2KRFRF	5.69	347	6.26		525						44
A6N0578D2KRFRF	9.47	578	10.0		749						56
A6N0924D2KRFRF	15.1	924	15.7	175	1084	1-1/2	–	M12	110	18	75
A6N1155D2KRFRF	18.9	1155	19.5		1308						87
A6N1733D2KRFRF	28.4	1733	29.0		1867						118
A6N2310D2KRFRF	37.9	2310	38.4		2426						149

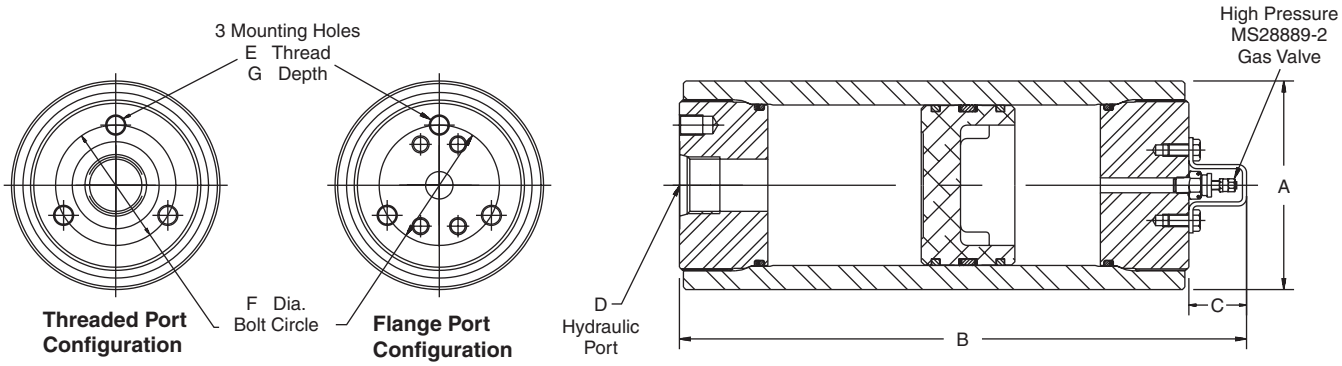
207 Bar Metric Auxiliary Gas Bottles



Model No.	Gas Volume		A	B	C	D-Hydraulic Port		E	F	G	Weight
Gas Bottle	Nominal (gal)	Actual (liters)	(mm)	(mm)	(mm)	BSPP/G (in)	SAE Flange	(mm)	(mm)	(mm)	(Kg)
B4N0058D2K	1 Quart	1.41		295							12
B4N0116D2K	1/2 Gal.	2.36		411							15
B4N0231D2K	1 Gal.	4.24	121	640	29	1	–	M12	82	18	21
B4N0347D2K	1-1/2 Gal.	6.15		871							27
B4N0578D2K	2-1/2 Gal.	9.93		1330							39
B6N0231D2K	1 Gal.	5.23		441							36
B6N0347D2K	1-1/2 Gal.	7.13		554							42
B6N0578D2K	2-1/2 Gal.	10.9		778							54
B6N0924D2K	4 Gal.	16.6	175	1113	29	1-1/2	–	M12	110	18	72
B6N1155D2K	5 Gal.	20.4		1337							85
B6N1733D2K	7-1/2 Gal.	29.8		1896							116
B6N2310D2K	10 Gal.	39.3		2454							146

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

3000 PSI Piston Accumulators for Oil and Water Service



Model No.[1] / Oil Service	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	C (in)	D-Hydraulic Port SAE No.	D-Hydraulic Port Thread Size (in)	D-Hydraulic Port Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
A7K0578D3KPL	2-1/2 Gal	578	633		27.25		32	2-1/2 - 12	2				170
A7K1155D3KPL	5 Gal.	1155	1210		42.25								226
A7K1733D3KPL	7-1/2 Gal.	1733	1788	8.13	57.25	1.63		or		5/8 - 18	5.75	0.94	283
A7K2310D3KPL	10 Gal.	2310	2365	±0.06	72.25			2" Code 61					340
A7K3465D3KPL	15 Gal.	3465	3520		102.25			Flange (PL)[2]					454
A7K5775D3KPL	25 Gal.	5775	5830		162.25								682
A9K2310D3KPL	10 Gal.	2310	2400		48.75		32	2-1/2 - 12	2				595
A9K3465D3KPL	15 Gal.	3465	3555		66.94								758
A9K4620D3KPL	20 Gal.	4620	4710	11.02	85.06	1.63		or		3/4 - 16	7.00	1.13	920
A9K5775D3KPL	25 Gal.	5775	5865	±0.09	103.18			2" Code 61					1083
A9K6930D3KPL	30 Gal.	6930	7020		121.37			Flange (PL)[2]					1246
A12K5775D1K	25 Gal.	5775	5975		67.50			3" SAE Flange					1336
A12K6930D1K	30 Gal.	6930	7130	14.41	76.31	1.63		Ports (Code 61)		7/8-9	9.00	1.50	1490
A12K9240D1K	40 Gal.	9240	9440	±0.09	98.88			See Port Options		(6X)			1799
A12K11550D1K	50 Gal.	11550	11750		119.62			for Dimensions					2108

The Minimum Design Metal Temperature (MDMT) for ASME certified 7" and 9" piston accumulators presented in this section is 20°F (-7°C).
The Minimum Design Metal Temperature (MDMT) for ASME certified 12" piston accumulators presented in this section is 32°F (0°C).

Notes:

1) For Water Service add "W" after construction code, see "How to Order" information.
2) Most SAE #32 fittings are rated for 2000 PSI. If 2000 to 3000 PSI service is required, two options are available; order accumulator with optional standard 2" SAE Code 61 4-bolt flange port by specifying "PL" code when ordering or order the accumulator with a SAE #24 port or smaller, see "Port Options" for dimensions and "How to Order".
3) See Port Options for complete listing of optional ports.
4) ASME Certified and CE marked accumulators and gas bottles are available.
5) When accumulators are to be used with gas bottles, order "Accumulators for Use with Gas Bottles."
6) Poppet type (MS28889-2) gas valve standard.

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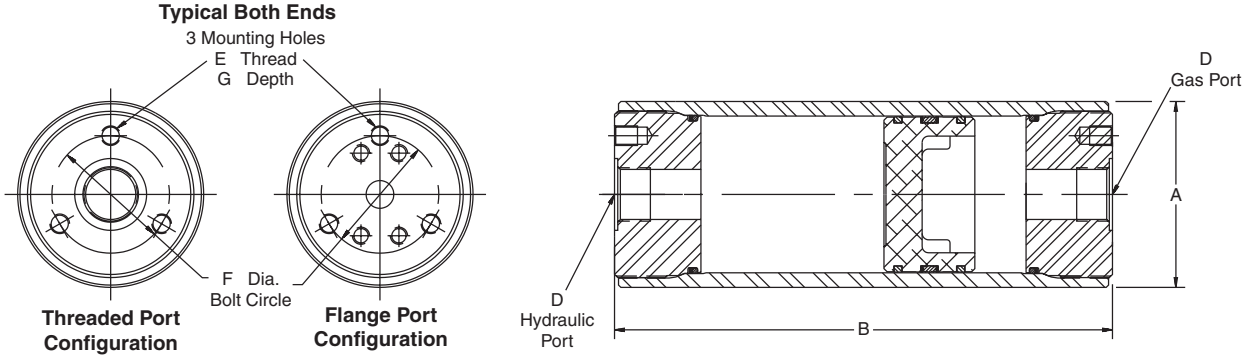
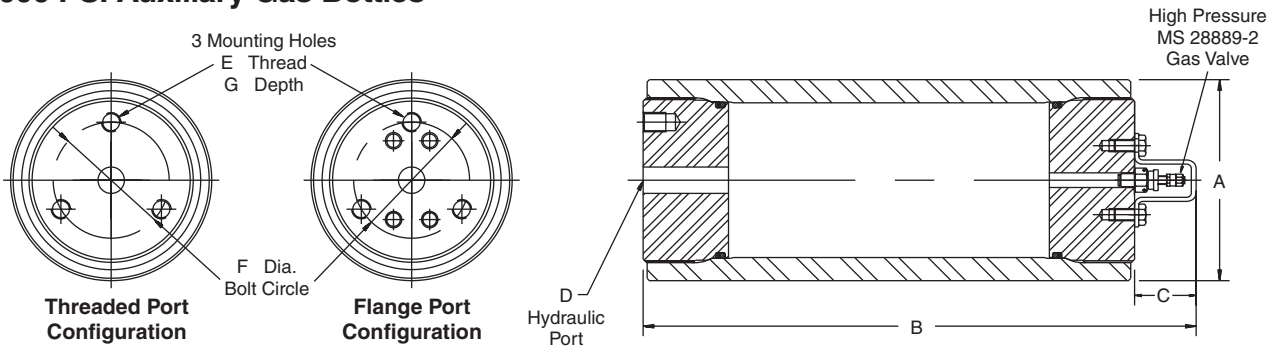
Hydraulic Accumulator Division
Rockford, Illinois USA

3000 PSI Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	D Port (Both Ends)(in)	E (in)	F (in)	G (lbs)	Weight
A7K0578D3KPLPL	2-1/2 Gal.	578	633		25.63					170
A7K1155D3KPLPL	5 Gal.	1155	1210		40.63	2" Code 61 Flange (PL)[2]				226
A7K1733D3KPLPL	7-1/2 Gal.	1733	1788	8.13	55.63	or	5/8 - 18	5.75	0.94	283
A7K2310D3KPLPL	10 Gal.	2310	2365	±0.06	70.63	#32 SAE Straight Thread				340
A7K3465D3KPLPL	15 Gal.	3465	3520		100.63					454
A9K2310D3KPLPL	10 Gal.	2310	2400		47.00					595
A9K3465D3KPLPL	15 Gal.	3465	3555		65.25	2" Code 61 Flange (PL)[2]				758
A9K4620D3KPLPL	20 Gal.	4620	4710	11.02	101.50	or	3/4 - 16	7.00	1.13	920
A9K5775D3KPLPL	25 Gal.	5775	5865	±0.09	119.62	#32 SAE Straight Thread				1083
A9K6930D3KPLPL	30 Gal.	6930	7020		137.75					1246
A12K5775D3KPNPN	25 Gal.	5775	5975		65.88	3" SAE Flange				1336
A12K6930D3KPNPN	30 Gal.	6930	7130	14.41	74.69	Ports (Code 61)	7/8 - 9	9.00	1.50	1490
A12K9240D3KPNPN	40 Gal.	9240	9440	±0.09	97.25	See Port Options	(6X)			1799
A12K11550D3KPNPN	50 Gal.	11550	11750		118.00	for Dimensions				2108

3000 PSI Auxiliary Gas Bottles



Model No.	Gas Volume		A	B	C	D Port	E	F	G	Weight
Gas Bottle	Nominal (gal)	Actual (cu in)	(in)	(in)	(in)		(in)	(in)	(in)	(lbs)
B7K0578D3K(PL)	2-1/2 Gal.	677		27.25						160
B7K1155D3K(PL)	5 Gal.	1254		42.25		2" Code 61 Flange (PL)[2]				217
B7K1733D3K(PL)	7-1/2 Gal.	1832	8.13	57.25	1.63	or	5/8 - 18	5.75	0.94	274
B7K2310D3K(PL)	10 Gal.	2401	±0.06	72.25		#32 SAE Straight Thread				331
B7K3465D3K(PL)	15 Gal.	3556		102.25						445
B9K2310D3K(PL)	10 Gal.	2474		48.75						546
B9K3465D3K(PL)	15 Gal.	3629		66.94		2" Code 61 Flange (PL)[2]				709
B9K4620D3K(PL)	20 Gal.	4620	11.02	85.06	1.63	or	3/4 - 16	7.00	1.13	872
B9K5775D3K(PL)	25 Gal.	5775	±0.09	103.25		#32 SAE Straight Thread				1035
B9K6930D3K(PL)	30 Gal.	6930		121.37						1197
B12K5775D1K	25 Gal.	6288		67.50		3" SAE Flange				1246
B12K6930D1K	30 Gal.	7443	14.41	76.31	1.63	Ports (Code 61)	7/8 - 9	9.00	1.50	1400
B12K9240D1K	40 Gal.	9783	±0.09	98.88		See Port Options	(6X)			1709
B12K11550D1K	50 Gal.	12093		119.62		for Dimensions				2017

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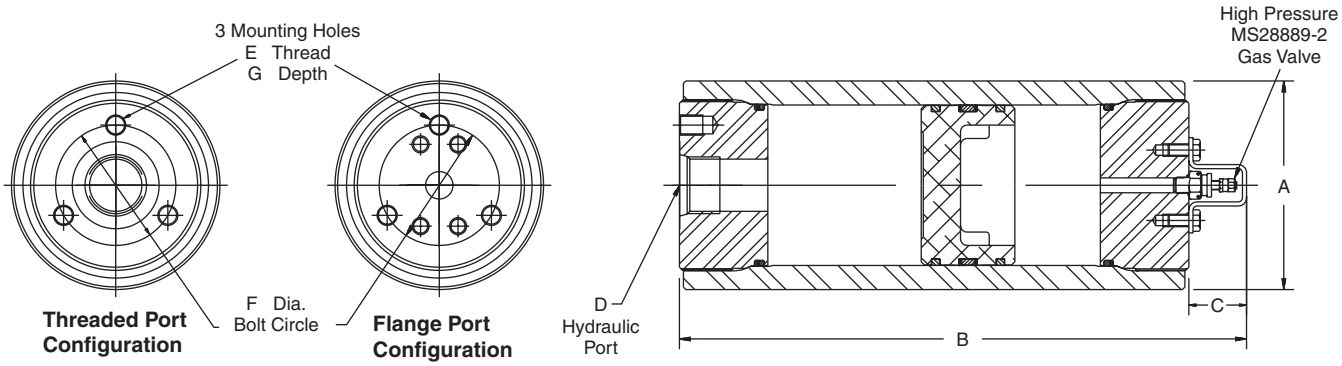
Rockford, Illinois USA

207 Bar Metric Accumulators for Oil and Water Service



Model No.[1] Oil Service	Fluid Volume (Liters)	Fluid Volume (cu in)	Gas Volume (Liters)	A (mm)	B (mm)	C (mm)	D-Hydraulic Port BSPP/G (in)	D-Hydraulic Port SAE Flange	E (mm)	F (mm)	G (mm)	Weight (Kg)
A7K0578D2K	9.47	578	10.4		692							76.9
A7K1155D2K	18.9	1155	19.8		1073			2" Metric				103
A7K1733D2K	28.4	1733	29.3	206.5	1454	41	–	Code 61	M16	150	24	129
A7K2310D2K	37.9	2310	38.8	±1.52	1835			Flange				154
A7K3465D2K	56.8	3465	57.7		2597							206
A9K2310D2K	37.9	2310	39.3		1238							270
A9K3465D2K	56.8	3465	58.3		1700			2"Metric				344
A9K4620D2K	75.7	4620	77.2	279.9	2161	41	–	Code 61	M20	182	30	417
A9K5775D2K	94.7	5775	96.2	±2.29	2622			Flange				491
A9K6930D2K	113.6	6930	115.1		3083							565
A12K5775D2K	94.6	5775	97.9		1715							606
A12K6930D2K	114	6930	117	365.9	1938	41	–	3" Metric	M20	230	30	676
A12K9240D2K	151	9240	155	±2.29	2512			Code 61	(6X)			816
A12K11550D2K	189	11550	193		3038			Flange				956

Notes:

1) For Water Service add “W” after construction code, see “How to Order” information.
2) Most SAE #32 fittings are rated for 2000 PSI. If 2000 to 3000 PSI service is required, two options are available; order accumulator with optional standard 2" SAE Code 61 4-bolt flange port by specifying “PL” code when ordering or order the accumulator with a SAE #24 port or smaller, see “Port Options” for dimensions and “How to Order”.
3) See Port Options for complete listing of optional ports.
4) ASME Certified and CE marked accumulators and gas bottles are available.
5) When accumulators are to be used with gas bottles, order “Accumulators for Use with Gas Bottles.”
6) Poppet type (MS28889-2) gas valve standard.

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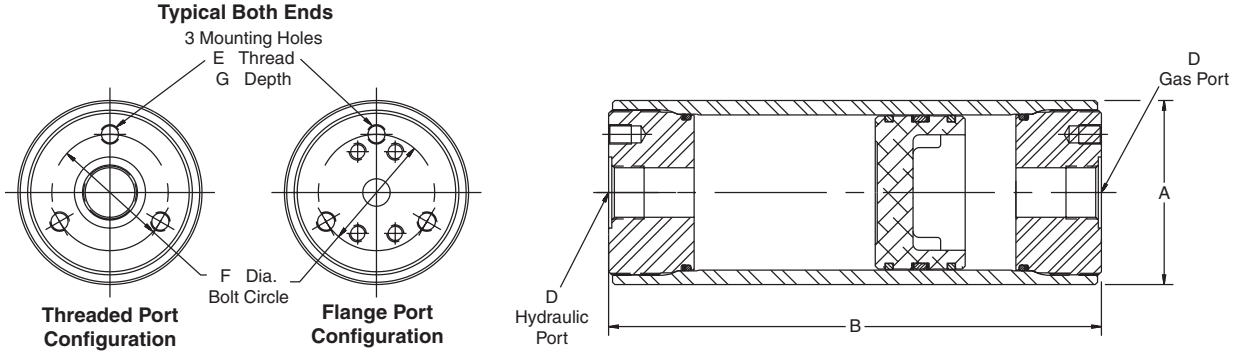
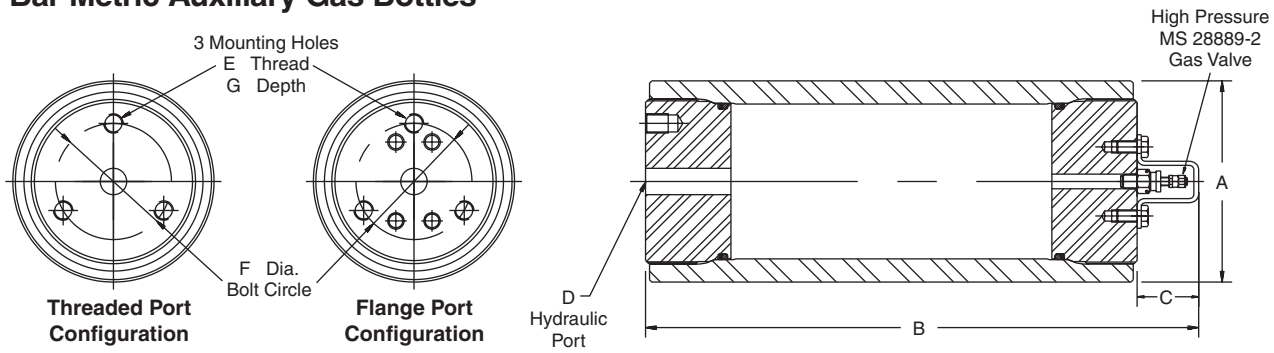
Hydraulic Accumulator Division
Rockford, Illinois USA

207 Bar Metric Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (Liters)	Fluid Volume (cu in)	Gas Volume (Liters)	A (mm)	B (mm)	D-Port (Both Ends) BSPP/G (in)	D-Port (Both Ends) SAE Flange	E (mm)	F (mm)	G (mm)	Weight (Kg)
A7K0578D2KMLML	9.47	578	10.4		651						77
A7K1155D2KMLML	18.9	1155	19.8		1032		2" Metric				103
A7K1733D2KMLML	28.4	1733	29.3	206.5	1413	–	Code 61	M16	150	24	129
A7K2310D2KMLML	37.9	2310	38.8	±1.52	1794		Flange				154
A7K3465D2KMLML	56.8	3465	57.7		2556						206
A9K2310D2KMLML	37.9	2310	39.3		1194						270
A9K3465D2KMLML	56.8	3465	58.3		1657		2" Metric				344
A9K4620D2KMLML	75.7	4620	77.2	279.9	2118	–	Code 61	M20	182	30	417
A9K3465D2KMLML	94.6	5775	96.1	±2.29	2581		Flange				419
A9K4620D2KMLML	113.6	6930	115.1		3044						565
A12K5775D2KMNMN	94.6	5775	97.9		1673						606
A12K6930D2KMNMN	114	6930	117	365.9	1897	–	3" Metric Code 61 Flange	M20 (6X)	230	30	676
A12K9240D2KMNMN	151	9240	155	±2.29	2470						816
A12K11550D2KMNMN	189	11550	193		2997						956

207 Bar Metric Auxiliary Gas Bottles



Model No.	Gas Volume		A	B	C	D-Hydraulic Port		E	F	G	Weight
Gas Bottle	Nominal (gal)	Actual (liters)	(mm)	(mm)	(mm)	BSPP/G (in)	SAE Flange	(mm)	(mm)	(mm)	(Kg)
B7K0578D2K	2-1/2 Gal.	11.1		692							73
B7K1155D2K	5 Gal.	20.5		1073			2" Metric				99
B7K1733D2K	7-1/2 Gal.	30.0	206.5	1454	41	–	Code 61	M16	150	24	125
B7K2310D2K	10 Gal.	39.3	±1.52	1835			Flange				150
B7K3465D2K	15 Gal.	58.3		2597							202
B9K2310D2K	10 Gal.	40.5		1238							248
B9K3465D2K	15 Gal.	59.5		1700			2" Metric				322
B9K4620D2K	20 Gal.	78.4	279.9	2161	41	–	Code 61	M20	182	30	396
B9K5775D2K	25 Gal.	98.0	±2.29	2623			Flange				469
B9K6930D2K	30 Gal.	117.6		3085							543
B12K5775D2K	25 Gal.	103		1715							565
B12K6930D2K	30 Gal.	122	365.9	1938	41	–	3" Metric Code 61 Flange	M20 (6X)	230	30	635
B12K9240D2K	40 Gal.	160	±2.29	2512							775
B12K11550D2K	50 Gal.	198		3038							915

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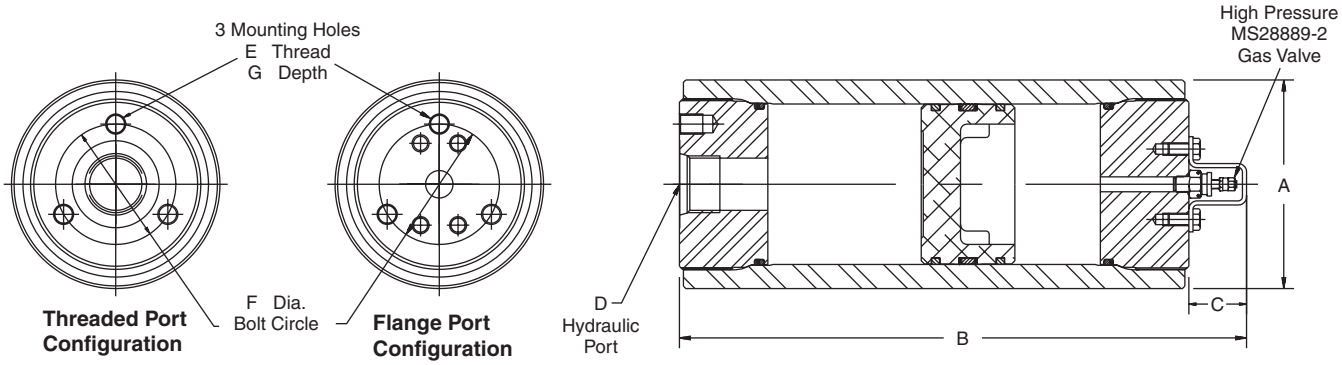
Rockford, Illinois USA

3000 PSI Non-ASME Piston Accumulators for Oil and Water Service

ASME certification is a requirement of strength and material traceability (see page 4). Many states require ASME certification, but not all. It is the function of the system designer to specify whether ASME is or is not required.

We now offer true non-ASME accumulators in 7" and 8" bore sizes which carry a full 4:1 design factor and utilize industry standard materials. When ASME certification is not required, specifying these accumulators can result in significant savings.

Local rules and regulations should be followed. However, the accumulators listed on these two pages can be used with confidence when ASME certification is not required.



Model No.[1] Oil Service	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	C (in)	D-Hydraulic Port SAE No.	D-Hydraulic Port Thread Size (in)	D-Hydraulic Port Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
A7N0578D3KPL	2½	578	633	8.13 ±0.06	27.25	1.63	32	2½ - 12	2	5/8 - 18	5.75	0.94	170
A7N1155D3KPL	5	1155	1210		42.25		or 2" Code 61 Flange (PL)[2]						226
A7N1733D3KPL	7½	1733	1788		57.25								283
A7N2310D3KPL	10	2310	2365		72.25								340
A7N3465D3KPL	15	3465	3520		102.25								454
A7N5775D3KPL	25	5775	5830		162.25								682
A8N0578D3KPL	2½	578	655	9.06 ±0.06	22.94	1.63	32	2½-12	2	5/8-18	6.75	0.94	216
A8N1155D3KPL	5	1155	1232		34.81		or 2" Code 61 Flange (PL)[2]						268
A8N1733D3KPL	7½	1733	1810		46.68								321
A8N2310D3KPL	10	2310	2387		58.50								374
A8N3465D3KPL	15	3465	3542		82.28								479
A8N5775D3KPL	25	5775	5852		129.68								690

Notes:

1) For Water Service add "W" after construction code, see "How to Order" information.
2) Most SAE #32 fittings are rated for 2000 PSI. If 2000 to 3000 PSI service is required, two options are available; order accumulator with optional standard 2" SAE Code 61 4-bolt flange port by specifying "PL" code when ordering or order the accumulator with a SAE #24 port or smaller, see "Port Options" for dimensions and "How to Order".
3) See Port Options for complete listing of optional ports.
4) ASME Certified and CE marked accumulators and gas bottles are available.
5) When accumulators are to be used with gas bottles, order "Accumulators for Use with Gas Bottles."
6) Poppet type (MS28889-2) gas valve standard.

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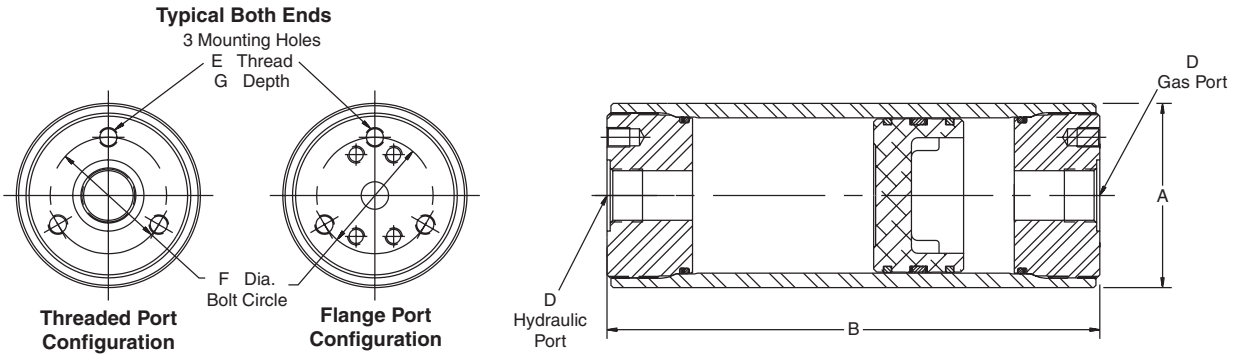
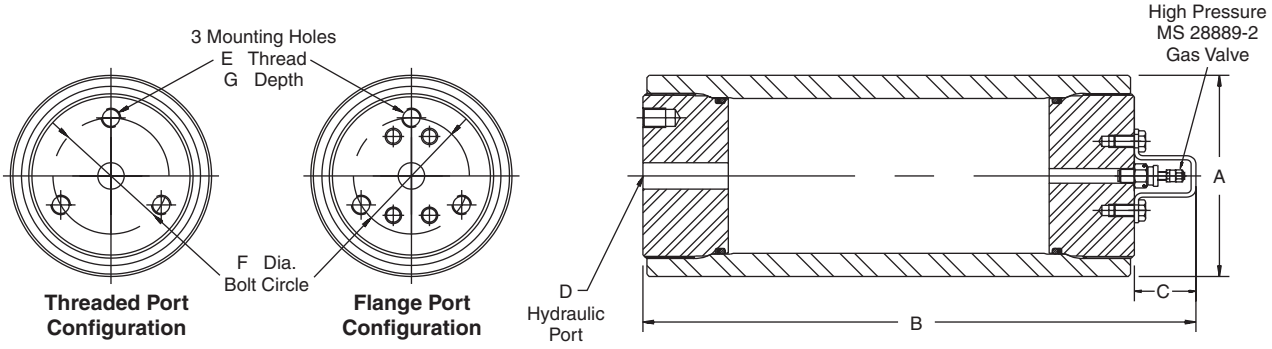
Rockford, Illinois USA

3000 PSI Non-ASME Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	D Port (Both Ends)(in)	E (in)	F (in)	G (lbs)	Weight
A7N0578D3KPLPL	2½	578	633		25.63					170
A7N1155D3KPLPL	5	1155	1210		40.63	2" Code 61 Flange (PL)[2]				226
A7N1733D3KPLPL	7½	1733	1788	8.13	55.63	or	5/8 - 18	5.75	0.94	283
A7N2310D3KPLPL	10	2310	2365	±0.06	70.63	#32 SAE Straight Thread				340
A7N3465D3KPLPL	15	3465	3520		100.63					454
A7N5775D3KPLPL	25	5775	5830		160.50					682
A8N0578D3KPLPL	2½	578	650		21.31					216
A8N1155D3KPLPL	5	1155	1228		33.18	2" Code 61 Flange (PL)[2]				268
A8N1733D3KPLPL	7½	1733	1806	9.06	45.06	or	5/8 - 18	6.75	0.94	321
A8N2310D3KPLPL	10	2310	2381	±0.06	56.88	#32 SAE Straight Thread				374
A8N3465D3KPLPL	15	3465	3537		80.63					479
A8N5775D3KPLPL	25	5775	5847		128.06					690

3000 PSI Non-ASME Auxiliary Gas Bottles



Model No.	Gas Volume		A	B	C	D Port	E	F	G	Weight
Gas Bottle	Nominal (gal)	Actual (cu in)	(in)	(in)	(in)		(in)	(in)	(in)	(lbs)
B7N0578D3K(PL)	2½	787		27.25						160
B7N1155D3K(PL)	5	1309		42.25		2" Code 61 Flange (PL)[2]				217
B7N1733D3K(PL)	7½	1942	8.13	57.25	1.63	or	5/8 - 18	5.75	0.94	274
B7N2310D3K(PL)	10	2464	±0.06	72.25		#32 SAE Straight Thread				331
B7N3465D3K(PL)	15	3619		102.25						445
B7N5775D3K(PL)	25	5929		162.13						673
B8N0578D3K(PL)	2½	772		22.94						205
B8N1155D3K(PL)	5	1350		34.81		2" Code 61 Flange (PL)[2]				257
B8N1733D3K(PL)	7½	1928	9.06	46.68	1.63	or	5/8 - 18	6.75	0.94	310
B8N2310D3K(PL)	10	2503	±0.06	58.50		#32 SAE Straight Thread				363
B8N3465D3K(PL)	15	3659		82.25						468
B8N5775D3K(PL)	25	5969		129.68						679

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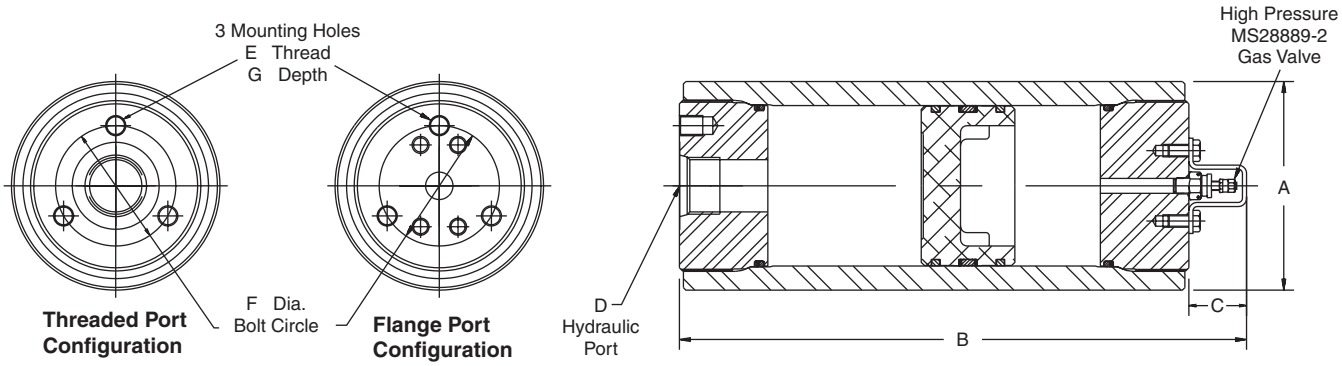
Hydraulic Accumulator Division
Rockford, Illinois USA

2000 PSI Piston Accumulators for Oil and Water Service

The aluminum die casting industry has been the primary user of our 2000 PSI accumulators. We offer a 2000 PSI accumulator in 12" bore size and a variety of capacities for industries where lower pressure ratings can be used.



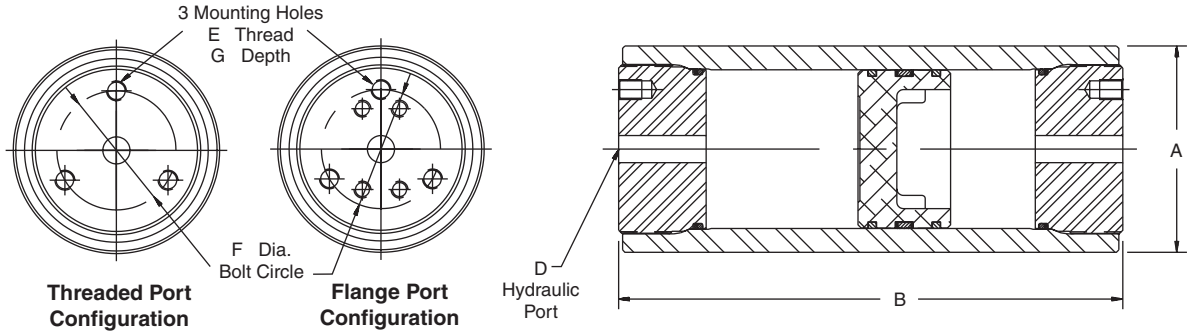
Model No.[1] / Oil Service	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	C (in)	D-Hydraulic Port SAE No.	D-Hydraulic Port Thread Size (in)	D-Hydraulic Port Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
A12K4620K1K	20	4620	4820		55.75								1048
A12K5775K1K	25	5775	5975		66.19								1193
A12K6930K1K	30	6930	7130	14.02	76.62	1.62	3" SAE Flange Ports (Code 61) See Port Options for Dimensions			7/8-9 (6X)	9.00	1.50	1338
A12K9240K1K	40	9240	9440	±0.09	97.50								1628
A12K11550K1K	50	11550	11750		118.37								1918

Notes:

1) For Water Service add "W" after construction code, see "How to Order" information.
2) Most SAE #32 fittings are rated for 2000 PSI. If 2000 to 3000 PSI service is required, two options are available; order accumulator with optional standard 2" SAE Code 61 4-bolt flange port by specifying "PL" code when ordering or order the accumulator with a SAE #24 port or smaller, see "Port Options" for dimensions and "How to Order".
3) See Port Options for complete listing of optional ports.
4) ASME Certified and CE marked accumulators and gas bottles are available.
5) When accumulators are to be used with gas bottles, order "Accumulators for Use with Gas Bottles."
6) Poppet type (MS28889-2) gas valve standard.

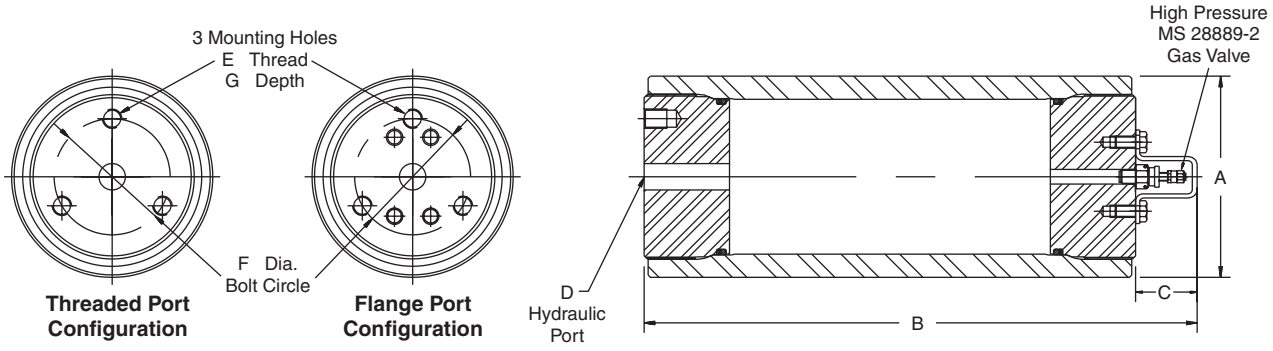
2000 PSI Accumulators for Use with Gas Bottles

Typical Both Ends



Accumulator Model No.	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	D Port (Both Ends)(in)	E (in)	F (in)	G (lbs)	Weight
A12K4620K3KPNPN	20	4620	4820		54.13					1048
A12K5775K3KPNPN	25	5775	5975		64.56	3" SAE Flange Ports (Code 61) See Port Options for Dimensions				1193
A12K6930K3KPNPN	30	6930	7130	14.02	75.00		7/8 - 9 (6X)	9.00	1.50	1338
A12K9240K3KPNPN	40	9240	9440	±0.09	95.88					1628
A12K11550K3KPNPN	50	11550	11750		116.75					1918

2000 PSI Auxiliary Gas Bottles



Model No. Gas Bottle	Gas Volume Nominal (gal)	Gas Volume Actual (cu in)	A (in)	B (in)	C (in)	D Port	E (in)	F (in)	G (in)	Weight (lbs)
B12K4620K1K	20	4620		55.75						957
B12K5775K1K	25	6288		66.19		3" SAE Flange Ports (Code 61) See Port Options for Dimensions				1167
B12K6930K1K	30	7443	14.02	76.62	1.62		7/8 - 9 (6X)	9.00	1.50	1312
B12K9240K1K	40	9783	±0.09	97.50						1606
B12K11550K1K	50	12093		118.37						1896

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Hydraulic Accumulator Division
Rockford, Illinois USA

Water Service Option (W)

Piston accumulators are available for use with water as the fluid media. Modifications include electroless nickel plating all surfaces and metal parts. Consult factory for details.

Seals

Seal Code	Polymer	**Recommended Operating Temperature Range	Maximum Temperature with Reduced Life	General Application and Compatibility*
K	Buna-Nitrile	-20°F to 165°F -29°C to 74°C	200°F 93°C	Parker's Standard Compound – Compatible with most mineral oil-based fluids
E	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
D	Ethylene Propylene	-40°F to 250°F -40°C to 121°C	300°F 149°C	Compatible with most phosphate ester fluids and some synthetic fluids
H	Hydrogenated Nitrile	-25°F to 320°F -32°C to 160°C	350°F 177°C	Compatible with most oil-based and biodegradable fluids, maintains sealing effectiveness at a wide range of temperatures
Q	Low Temp. Nitrile	-45°F to 160°F -43°C to 85°C	200°F 93°C	Compatible with most mineral oil-based fluids and maintains sealing effectiveness at low temperatures

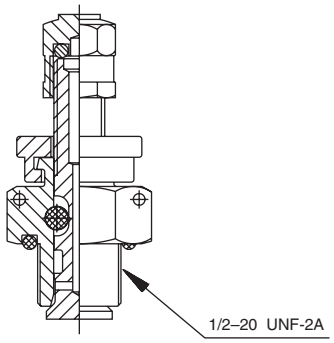
***Note:** Consult local distributor or factory for fluid compatibility information.

** The temperatures listed indicate the operating temperature range of the seals, not the accumulator. For the Minimum Design Metal Temperature (MDMT) of ASME certified accumulators, refer to page 28.

Gas Valve Option (M)

The military style (MS) gas valve is available on 2" thru 6" bores as an option (M). Specify when ordering.

L07689000*

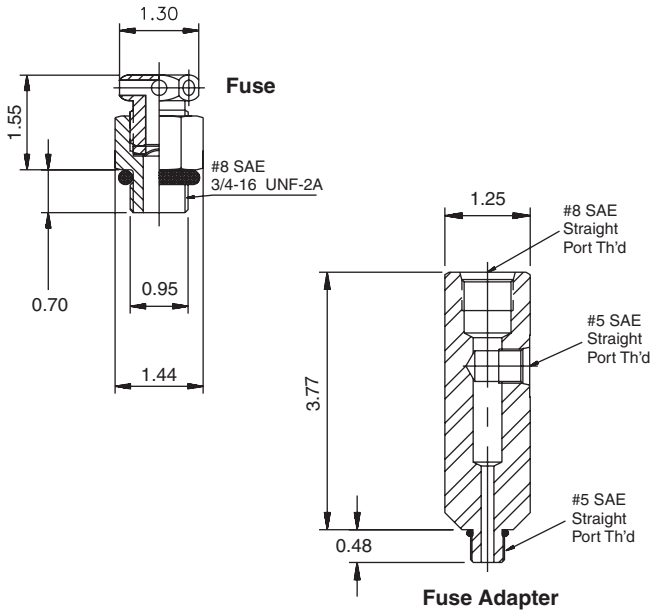


Safety Fuse Options (F)

Safety Fuses are used as a safety device on accumulators and gas bottles to prevent over-pressurization of gas due to external heat or hydraulic pressure (set at 140% of maximum system pressure to avoid rupture disk fatigue and premature failure). The rupture disks are calibrated to rupture at a pre-determined pressure. Safety fuses are available on most sizes of piston and bladder accumulators and gas bottles. Safety fuses can be installed on all piston accumulators by using the "Fuse Adapter" as shown to the right. 4" bore units and above can be equipped with a fuse port machined in the gas cap by specifying the "Safety Fuse Option" (F) at the time of order in the model code, see "How to Order." The safety fuse assembly and/or fuse adapter must be ordered separately.

Description	Part Number
Safety Fuse Assembly[1]	086471xxxx
Replacement Rupture Disks	756003xxxx
Fuse Adapter	1468970002

1) Assembly includes housing and rupture disk, xxxx = pressure setting in 100 psi increments, i.e., for an assembly with a 2000 PSI setting, order P/N 0864712000.



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Rockford, Illinois USA

Optional Ports

The following ports are available as options on all Series 3000 piston accumulators

SAE Straight Thd.			Code 61 Flange				NPT			BSPP			ISO 6149-1		
Port Size	Port Code	Min. Bore	Port Size	Port Code Inch	Port Code Metric	Min. Bore	Port Size	Port Code	Min. Bore	Port Size	Port Code	Min. Bore	Port Size	Port Code	Min. Bore
#5	TA	2"	1/2"	PT	MT	3"	3/8"	UT	2"	3/8"	RA	2"	M14	YA	2"
#6	TB	2"	3/4"	PU	MU	3"	1/2"	UU	2"	1/2"	RB	2"	M18	YB	2"
#8	TC	2"	1"	PV	MV	3"	3/4"	UV	2"	3/4"	RC	2"	M22	YC	2"
#10	TI	2"	1¼"	PW	MW	3"	1"	UW	3"	1"	RD	3"	M27	YD	2"
#12	TD	2"	1½"	PJ	MJ	4"	1¼"	UX	3"	1¼"	RE	3"	M33	YE	3"
#16	TE	3"	2"	PL	ML	6"	1½"	UY	4"	1½"	RF	4"	M42	YF	3"
#20	TF	3"	2½"	PM	MM	6"	2"	UZ	4"	2"	RG	4"	—	—	—
#24	TG	4"	3"	PN	MN	7"	—	—	—	—	—	—	—	—	—

Note:

1) 3000 PSI SAE Code 61 (ISO 6162) Flange dimensions are shown below.

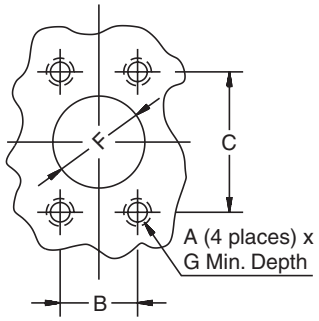
2) BSPT and Metric ports available, consult factory.

SAE 4-Bolt Flange Port Dimensions

Standard Pressure – 3000 PSI (207 Bar)

Flange Size	SAE Code 61 Flange Dimensions (in.)				
in	A	B	C	F	G
1½"	1/2 - 13	1.406	2.750	1½	1.062
2"	1/2 - 13	1.688	3.062	2	1.062
2½"	1/2 - 13	2.000	3.500	2½	1.188
3"	5/8 -11	2.438	4.188	3	1.188

Note: Some flanges using this bolt pattern are not rated for 3000 PSI.



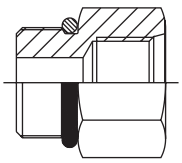
Flange Size	Metric ISO6162 Flange Dimensions (mm)				
mm	A	B	C	F	G
38	M12	35.7	69.9	38	26.9
51	M12	42.9	77.8	51	26.9
64	M12	50.8	88.9	64	30.1
76	M16	61.9	106.4	76	30.1

Note: Some flanges using this bolt pattern are not rated for 3000 PSI.

Port Adapters

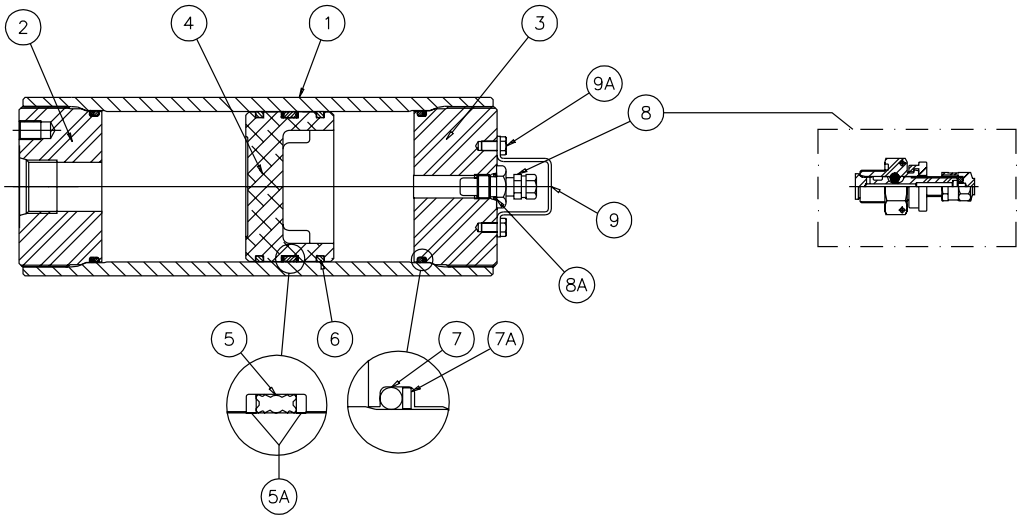
A wide variety of port adapters are offered for those that wish to convert Parker's standard SAE port offerings to NPTF or smaller SAE port sizes.

For a complete listing, see Accumulator Accessories.



Seal Kits

Seal Kits are available for all piston accumulator models. When ordering seal kits, please supply the complete model and serial numbers from the name plate and specify fluid type and operating temperature.



Parts List

1 Body
2 Hydraulic Cap
3 Gas Cap
4 Piston
5 V-O-ring Piston Seal
5A V-O-ring Backups
6 PTFE Glide Rings
7 O-ring
7A O-ring Backup
8 Gas Valve
8A Gas Valve O-ring
9 Gas Valve Guard
9A Screw

3000 PSI Seal Kit Numbers (Includes items 5, 5A, 6, 7, 7A, 8A)

Material	Bore Size						
	2"	3"	4"	6"	7"	9"	12"
Buna-Nitrile (Std.)	RK0200K000	RK0300K000	RK0400K000	RK0600K000	RK0700K000	RK0900K000	RK1200K000
Fluorocarbon	RK0200E000	RK0300E000	RK0400E000	RK0600E000	RK0700E000	RK0900E000	RK1200E000
EPR	RK0200D000	RK0300D000	RK0400D000	RK0600D000	RK0700D000	RK0900D000	CF*
Hydrogenated Nitrile	RK0200H000	RK0300H000	RK0400H000	RK0600H000	RK0700H000	CF*	CF*
Low Temp Nitrile	RK0200Q000	RK0300Q000	RK0400Q000	RK0600Q000	RK0700Q000	RK0900Q000	CF*

*CF = Consult Factory

Mounting, Charging & Gauging Accessories

Parker offers a wide variety of mounting, charging and gauging accessories. See “Accumulator Accessories.”

Special Options

If your application requires a piston accumulator, gas bottle, or special option that falls outside of Parker’s broad offering, consult your local distributor, Parker representative, or the factory with your specific requirements. Parker has the manufacturing and engineering expertise to design and build piston accumulators to your exacting requirements, from simple modifications of standard units to complete designs. Some example of Parker’s past special designs include:

- Special and Stainless Steel Materials
- Piston Position and Velocity Sensors and Switches
- Special Seals
- Non-Standard Capacities
- Tie Rod Construction
- Special Certifications
- Spring & Weight Loaded

Consult the experts at Parker with your next piston accumulator requirement!

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

How to Order Piston Accumulators

Piston accumulators and gas bottles can be specified by using the symbols in the chart below to develop a model number. Select only those symbols that represent the features desired, and place them in the sequence indicated by the example at the top of the chart.

Series	Nominal Bore Size	Type of Construction	Options	Capacity	Design Pressure	Design Number	Seal Compound	Hyd. Port Modification		Gas Port Modification	
A	7	K	–	2310	D	1	K	–	–	–	–

Series	
A	Accumulator
B	Gas Bottle

Nominal Bore Size	
2	2 inches
3	3 inches
4	4 inches
6	6 inches
7	7 inches
8	8 inches
9	9 inches
12	12 inches

Type of Construction	
N	Threaded both ends non-ASME mat'l standard on 2", 4", 6", 7" & 8" (3000 PSI fatigue design tested)
K	Threaded both ends A.S.M.E. mat'l standard on 7" & up
L	Same as K with A.S.M.E. approval stamp 7" & up. Available as special on smaller sizes
E	Threaded both ends, CE marked (1 liter and above) or SEP marked (under 1 liter)

Options	
Blank	Standard Gas Cap
W	Water Service
F	SAE Fuse Port *
G	SAE Fuse Port *, Water Service
M	MS28889-2 Gas Valve
L	MS28889-2 Gas Valve, Water Service
P	Fuse* and MS28889-2
R	Fuse* and MS28889-2, Water Service

** Safety fuse assembly not included. Order fuse assembly separately.*

Bore Size/Capacity		
0005	2"	5 cu. in. (0.08 liters)
0010		10 cu. in. (0.16 liters)
0029		29 cu. in. (0.48 liters)
0058		58 cu. in. (0.95 liters)
0029	3"	29 cu. in. (0.48 liters)
0058		58 cu. in. (0.95 liters)
0090		90 cu. in. (1.47 liters)
0116		116 cu. in. (1.90 liters)
0183		183 cu. in. (3.00 liters)
0058	4"	58 cu. in. (0.95 liters)
0116		116 cu. in. (1.90 liters)
0231		1 gal. (3.79 liters)
0347		1½ gal. (5.69 liters)
0578		2½ gal. (9.47 liters)
0231	6"	1 gal. (3.79 liters)
0347		1½ gal. (5.69 liters)
0578		2½ gal. (9.47 liters)
0924		4 gal. (15.1 liters)
1155		5 gal. (18.9 liters)
1733		7½ gal. (28.4 liters)
2310		10 gal. (37.9 liters)
0578	7"	2½ gal. (9.47 liters)
1155		5 gal. (18.9 liters)
1733		7½ gal. (28.4 liters)
2310		10 gal. (37.9 liters)
3465		15 gal. (56.8 liters)
5775		25 gal. (94.6 liters)
0578	8"	2½ gal. (9.47 liters)
1155		5 gal. (18.9 liters)
1733		7½ gal. (28.4 liters)
2310		10 gal. (37.9 liters)
3465		15 gal. (56.8 liters)
5755		25 gal. (94.6 liters)
2310	9"	10 gal. (37.9 liters)
3465		15 gal. (56.8 liters)
4620		20 gal. (75.7 liters)
5775		25 gal. (94.6 liters)
6930		30 gal. (113.6 liters)
5775	12"	25 gal. (94.6 liters)
6930		30 gal. (114 liters)
9240		40 gal. (151 liters)
11550		50 gal. (189 liters)

Consult factory for other available sizes.

Design Pressure	
D	3000 PSI (All Bore Sizes)
K	2000 PSI (12" Bore only)
X	Other
For CE Marked Only	
L	250 Bar (All Bore Sizes)
H	350 Bar (See page 63)

Design Number	
1	Standard
2	Metric Mounting Holes & Hyd. Port (BSPP Standard) Specify Optional Ports
3	Optional Port (Hyd. or Gas, See Port Table)
***	Special Design

Standard Ports Available (See Port Modifications Table if Using Other Than Standard Ports Shown Below)

Bore Size	Standard Port Sizes	Metric Port Sizes
2"	SAE #12	3/4
3"	SAE #12	3/4
4"	SAE #20	1
6"	SAE #24	1
7"	SAE #32	ISO 6162
8"	SAE #32	ISO 6162
9"	SAE #32	ISO 6162
12"	3" SAE Flange Code 61	ISO 6162

Hydraulic and Gas Port Modifications Designated by 2 Digits

1st Digit	Style	2nd Digit	Description	Min. Bore Size
Blank	Std.	Blank	Std.	
T	SAE Straight Thread Ports	A	SAE #5 (1/2 - 20)	2"
		B	SAE #6 (9/16 - 18)	2"
		C	SAE #8 (3/4 - 16)	2"
		D	SAE #12 (1 1/16 - 12)	2"
		E	SAE #16 (1 5/16 - 12)	3"
		F	SAE #20 (1 5/8 - 12)	3"
		G	SAE #24 (1 7/8 - 12)	4"
		H	SAE #32 (2 1/2 - 12)	7"
		I	SAE #10 (7/8 - 14)	2"
				Min. Bore
P	Flange (Code 61)	J	1 1/2"	4"
		L	2"	6"
		M	2 1/2"	6"
M	Metric Flange per ISO 6162	N	3"	7"
		T	1/2"	3"
		U	3/4"	3"
		V	1"	3"
		W	1 1/4"	3"
U	NPTF (Not Recommended)	T	3/8"	2"
		U	1/2"	2"
		V	3/4"	2"
		W	1"	2"
		X	1 1/4"	2"
		Y	1 1/2"	4"
		Z	2"	4"

		BSPP/BSPT		Metric/ISO 6149-1
R	BSPP Parallel	A	3/8 - 19	M14 x 1.5
B	BSPT Taper Port	B	1/2 - 14	M18 x 1.5
G	Metric	C	3/4 - 14	M22 x 1.5
Y	ISO 6149-1	D	1 - 11	M27 x 2
		E	1 1/4 - 11	M33 x 2
		F	1 1/2 - 11	M42 x 2
		G	2 - 11	M48 x 2

Example of Optional Port Accumulator

A	4	N	0231	D	3	K	T	C	U	V
					Non-std. Port		SAE Hyd. Port	#8	NPT Gas Port	3/4"

Seal Compound (See Catalog for Temperature Settings)

K	Buna-Nitrile (Std)
E	Fluoroelastomer
D	EPR
H	Hydrogenated Nitrile
Q	Low Temp.
S	Special (to be specified)

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

4000

***Series 4000** Accumulators Provide the Compatibility and Performance Specific for Your Mobile Application.*

Series 4000 Piston Accumulators

- Heavy Duty Service with 4000 PSI Operating Pressure
- 2" thru 6" Bores with Over 20 Standard Capacities
- Patented V-O-ring Piston Seals
- Serviceable Threaded End Construction
- Five Standard Seal Options to Handle a Variety of Fluids & Temperatures

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

Materials

- Shell – high strength steel
- Caps – steel
- Pistons – aluminum
- Gas Valve Cartridge – stainless steel
- Gas Valve Protector – steel
- Piston Glide Rings – PTFE
- Piston & End Seals – various polymers
- Piston Seal Backups – PTFE

Actual Bore Sizes & Maximum Flow Rates

Nominal Bore Size (in.)	Actual Bore Size		Max. Recommended Flow*	
	(in.)	(mm)	GPM	LPM
2	2.03	51.44	100	380
3	3.00	76.20	220	834
4	4.03	102.4	397	1504
6	5.78	146.9	818	3096

***Note:** Based on 120 in/sec maximum piston speed, port & fitting size will become limiting factors for most applications.

Pressure Ratings

Parker 4000 psi piston accumulators are all rated at minimum 4 to 1 design factors.

Fluids

Parker's piston accumulators are compatible with a wide variety of fluids. Standard accumulators (with nitrile seals) may be used with petroleum-based industrial oils or water-based flame resistant fluids. Optional seals compatible with most industrial fluids are available with temperature ranges from -45°F to 325°F (-43°C to 162°C).

Precharge

Units are shipped with a nominal nitrogen precharge as standard. For specific precharge pressures, specify at the time of order.

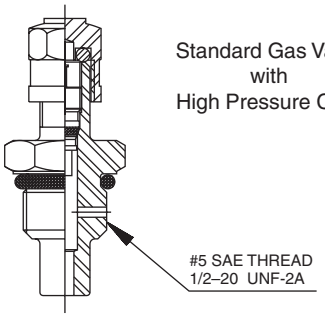
Standard Ports

The following ports are supplied as standard on all fluid ends and on the gas end of accumulators ordered for use with gas bottles:

Bore Size	Standard Ports	
	Standard Models SAE Port	Metric Models BSPP Port (in)
2	#12	3/4
3	#12	3/4
4	#16	1
6	#16	1

Gas Valve

Series 4000 accumulators and auxiliary gas bottles are equipped with a high pressure cored gas valve cartridge as standard.



Available Options

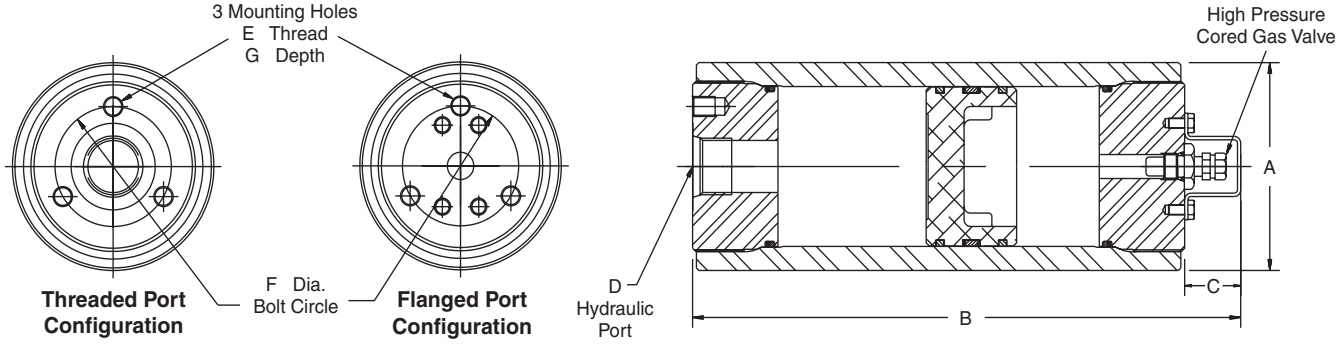
If your application requires a piston accumulator, gas bottle, or special option that falls outside of Parker's broad offering, consult your local distributor, Parker representative, or the factory with your specific requirements. Parker has the manufacturing and engineering expertise to design and build piston accumulators to your exacting requirements, from simple modifications of standard units to complete designs. Some example of Parker's past special designs include:

- Special and Stainless Steel Materials
- Piston Position and Velocity Sensors and Switches
- Special Seals
- Non-Standard Capacities
- Water Service
- Ports
- Fixed Gauge Mounts
- Fuse Plug Assemblies

Auxiliary Gas Bottles

When space does not permit the installation of the required piston accumulator, a smaller accumulator may be used by connecting it to an auxiliary gas bottle(s) that can be located in a nearby spot where space is available. In some cases, a piston accumulator and gas bottle combination may be more economical, especially large capacity sizes. Piston travel, confined to the accumulator, must be calculated with ample margins to store the required fluid.

4000 PSI Piston Accumulators for Oil and Water Service

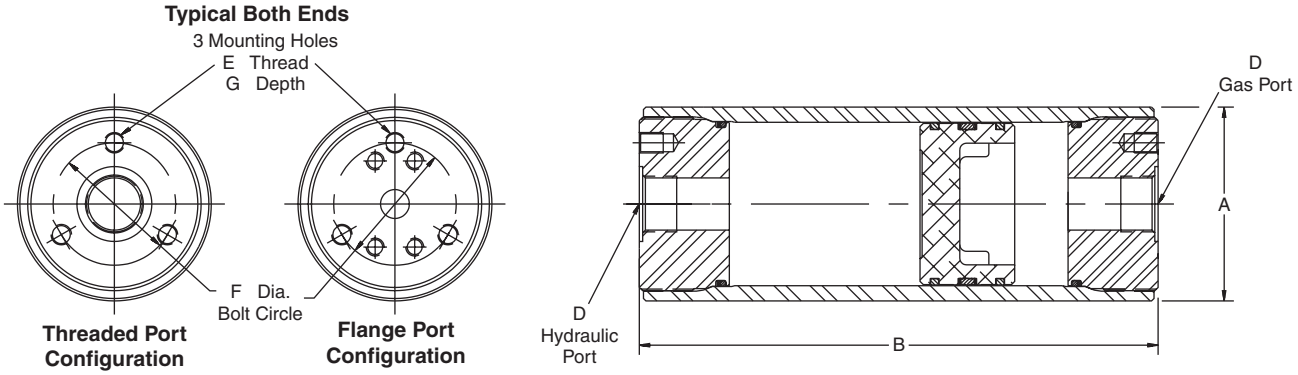


Model No. Oil Service	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	C (in)	D-Hydraulic Port SAE No.	D-Hydraulic Port Thread Size (in)	D-Hydraulic Port Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
A2N0005E1K	–	5	6.5		6.76								6
A2N0010E1K	–	10	11.5		8.31								6
A2N0015E1K	–	15	16.5	2.50	9.78	1.06	12	1-1/16 - 12	3/4	—	—	—	7
A2N0029E1K	1 Pint	29	30.5		14.19								9
A2N0058E1K	1 Quart	58	59.5		23.19								14
A3N0029E1K	1 Pint	29	34		10.25								17
A3N0058E1K	1 Quart	58	63		14.34								25
A3N0090E1K	1.5 Liter	90	95	3.75	18.94	1.13	12	1-1/16 - 12	3/4	3/8 - 24	2.25	0.56	33
A3N0116E1K	1/2 Gal.	116	121		22.56								39
A3N0183E1K	3 Liter	183	188		32.06								56
A4N0058E1K	1 Quart	58	68		12.06								37
A4N0116E1K	1/2 Gal.	116	126		16.62								46
A4N0231E1K	1 Gal.	231	241	5.00	25.62	1.13	16	1-5/16 - 12	1	1/2 - 20	3.25	0.75	63
A4N0347E1K	1-1/2 Gal.	347	357		34.75								81
A4N0578E1K	2-1/2 Gal.	578	588		52.81								117
A6N0231E1K	1 Gal.	231	266		19.18								110
A6N0347E1K	1-1/2 Gal.	347	382		23.62								126
A6N0578E1K	2-1/2 Gal.	578	613		32.43								158
A6N0924E1K	4 Gal.	924	959	7.06	45.62	1.13	16	1-5/16 - 12	1	1/2 - 20	4.38	0.75	207
A6N1155E1K	5 Gal.	1155	1190		54.43								239
A6N1733E1K	7-1/2 Gal.	1733	1768		76.43								320
A6N2310E1K	10 Gal.	2310	2345		98.43								401

Notes:

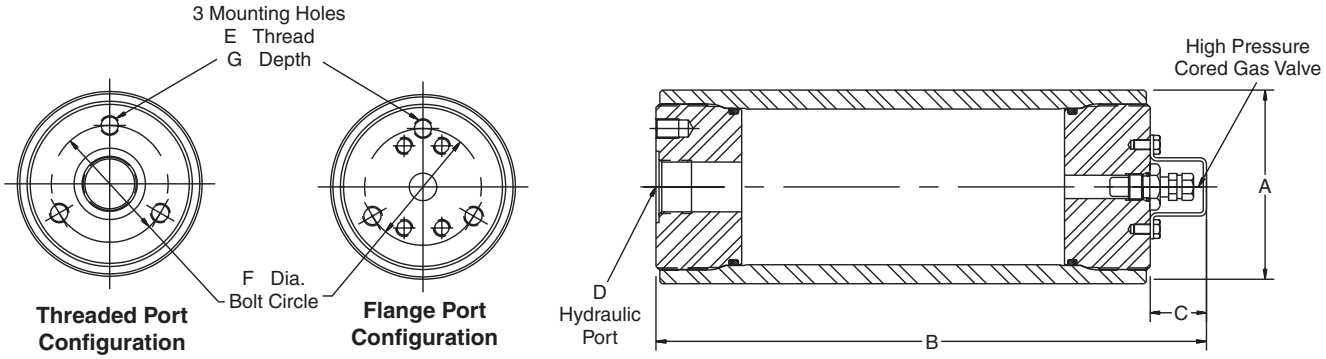
1) For Water Service add "W" after construction code, see "How to Order".
2) See Port Options for complete listing of optional ports.
3) When accumulators are to be used with Gas Bottles, order "Accumulators for Use with Gas Bottles."

4000 PSI Piston Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	D Port (Both Ends) SAE No.	D Port (Both Ends) Thread Size (in)	D Port (Both Ends) Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
A4N0058E3KTETE	1 Quart	58	68		11.63							37
A4N0116E3KTETE	1/2 Gal.	116	126		16.19							46
A4N0231E3KTETE	1 Gal.	231	241	5.00	25.19	16	1-5/16 - 12	1	1/2 - 20	3.25	0.75	63
A4N0347E3KTETE	1-1/2 Gal.	347	357		34.31							81
A4N0578E3KTETE	2-1/2 Gal.	578	588		52.38							117
A6N0231E3KTETE	1 Gal.	231	266		17.38							110
A6N0347E3KTETE	1-1/2 Gal.	347	382		21.81							126
A6N0578E3KTETE	2-1/2 Gal.	578	613		30.63							158
A6N0924E3KTETE	4 Gal.	924	959	7.06	43.81	16	1-5/16 - 12	1	1/2 - 20	4.38	0.75	207
A6N1155E3KTETE	5 Gal.	1155	1190		52.63							239
A6N1733E3KTETE	7-1/2 Gal.	1733	1768		74.63							320
A6N2310E3KTETE	10 Gal.	2310	2345		96.63							401

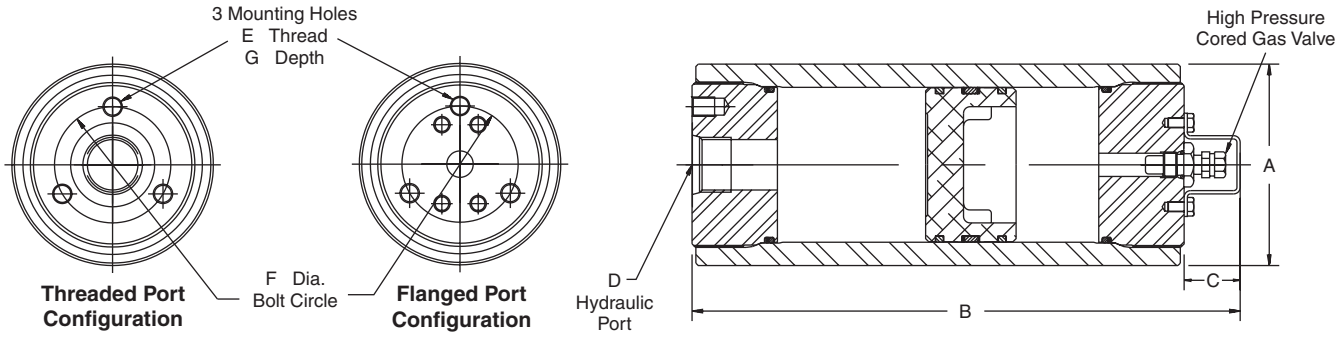
4000 PSI Auxiliary Gas Bottles



Model No. Gas Bottle	Gas Volume Nominal (gal)	Gas Volume Actual (cu in)	A (in)	B (in)	C (in)	D Port SAE No.	D Port Thread Size (in)	D Port Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
B4N0058E1K	1 Quart	86		12.06								35
B4N0116E1K	1/2 Gal.	144		16.62								44
B4N0231E1K	1 Gal.	259	5.00	25.62	1.13	16	1-5/16 - 12	1	1/2 - 20	3.25	0.75	62
B4N0347E1K	1-1/2 Gal.	375		34.75								80
B4N0578E1K	2-1/2 Gal.	606		52.81								115
B6N0231E1K	1 Gal.	319		19.18								105
B6N0347E1K	1-1/2 Gal.	435		23.62								121
B6N0578E1K	2-1/2 Gal.	666		32.43								153
B6N0942E1K	4 Gal.	1012	7.06	45.62	1.13	16	1-5/16 - 12	1	1/2 - 20	4.38	0.75	202
B6N1155E1K	5 Gal.	1243		54.43								234
B6N1733E1K	7-1/2 Gal.	1821		76.43								315
B6N2310E1K	10 Gal.	2398		98.43								396

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

276 Bar Metric Piston Accumulators for Oil and Water Service

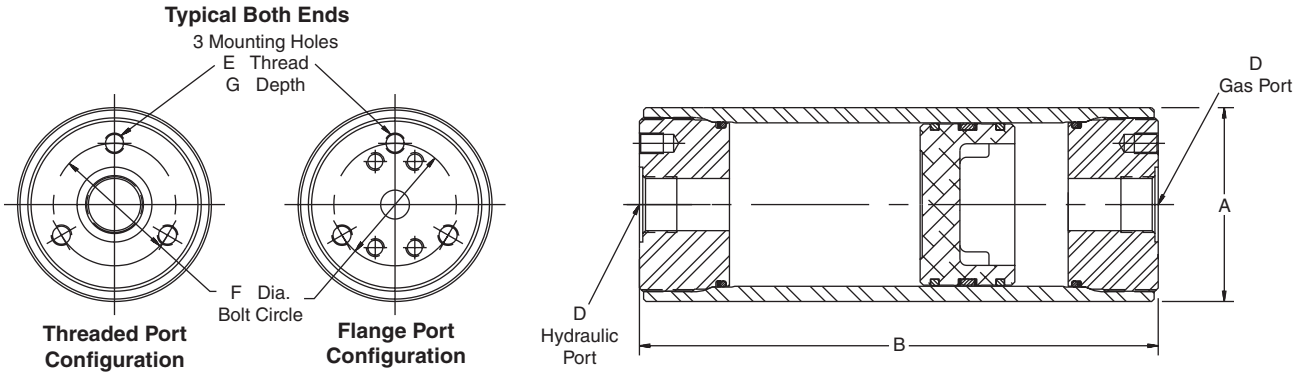


Model No. / Oil Service	Fluid Volume (Liters)	Fluid Volume (cu in)	Gas Volume (Liters)	A (mm)	B (mm)	C (mm)	D-Hydraulic Port BSPP/G (in)	D-Hydraulic Port SAE Flange	E (mm)	F (mm)	G (mm)	Weight (Kg)
A2N0005E2K	0.08	5	0.11		172							2.4
A2N0010E2K	0.16	10	0.19		211							2.8
A2N0015E2K	0.25	15	0.24	64	248	27	3/4	–	–	–	–	3.1
A2N0029E2K	0.48	29	0.50		360							4.1
A2N0058E2K	0.95	58	0.98		589							6.1
A3N0029E2K	0.48	29	0.56		260							7.8
A3N0058E2K	0.95	58	1.03		364							11.1
A3N0090E2K	1.47	90	1.56	96	481	29	3/4	–	M10	60	15	14.8
A3N0116E2K	1.90	116	1.98		573							17.7
A3N0183E2K	3.00	183	3.08		814							25.4
A4N0058E2K	0.95	58	1.11		306							16.6
A4N0116E2K	1.90	116	2.06		422							20.6
A4N0231E2K	3.79	231	3.95	127	651	29	1	–	M12	82	18	28.7
A4N0347E2K	5.69	347	5.85		883							36.8
A4N0578E2K	9.47	578	9.64		1341							53.0
A6N0231E2K	3.79	231	4.36		487							49.8
A6N0347E2K	5.69	347	6.26		600							57.2
A6N0578E2K	9.47	578	10.00		824							71.9
A6N0924E2K	15.10	924	15.70	180	1159	29	1	–	M12	110	18	93.9
A6N1155E2K	18.90	1155	19.50		1383							109
A6N1733E2K	28.40	1733	29.00		1941							145
A6N2310E2K	37.90	2310	38.40		2500							182

Notes:

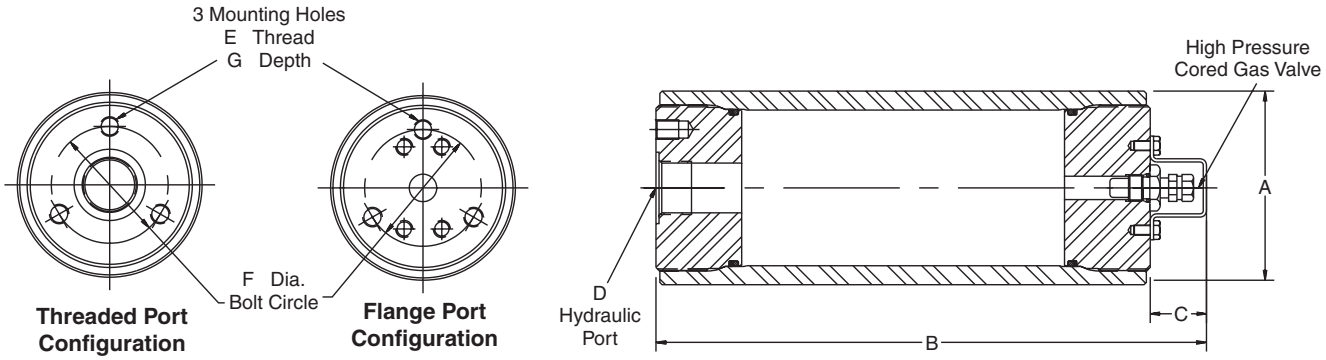
1) For Water Service add “W” after construction code, see “How to Order” .
2) See Port Options for complete listing of optional ports.
3) When accumulators are to be used with Gas Bottles, order “Accumulators for Use with Gas Bottles.”

276 Bar Metric Piston Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (Liters)	Fluid Volume (cu in)	Gas Volume (Liters)	A (mm)	B (mm)	D - Port (Both Ends) BSPP/G (in)	D - Port (Both Ends) SAE Flange	E (mm)	F (mm)	G (mm)	Weight (Kg)
A4N0058E2KRDRD	0.95	58	1.11		267						16.6
A4N0116E2KRDRD	1.90	116	2.06		383						20.6
A4N0231E2KRDRD	3.79	231	3.95	121	611	1	–	M12	82	18	28.7
A4N0347E2KRDRD	5.69	347	5.85		843						36.8
A4N0578E2KRDRD	9.47	578	9.64		1302						53.0
A6N0231E2KRDRD	3.79	231	4.36		413						49.8
A6N0347E2KRDRD	5.69	347	6.26		525						57.2
A6N0578E2KRDRD	9.47	578	10.00		749						71.9
A6N0924E2KRDRD	15.10	924	15.70	175	1084	1	–	M12	110	18	93.9
A6N1155E2KRDRD	18.90	1155	19.50		1308						109
A6N1733E2KRDRD	28.40	1733	29.00		1867						145
A6N2310E2KRDRD	37.90	2310	38.40		2426						182

276 Bar Metric Auxiliary Gas Bottles



Model No.	Gas Volume		A	B	C	D-Hydraulic Port		E	F	G	Weight
Gas Bottle	Nominal (liters)	Actual (liters)	(mm)	(mm)	(mm)	BSPP/G (in)	SAE Flange	(mm)	(mm)	(mm)	(Kg)
B4N0058E2K	0.95	1.41		267							15.8
B4N0116E2K	1.90	2.36		383							19.9
B4N0231E2K	3.79	4.24	121	611	29	1	–	M12	82	18	27.9
B4N0347E2K	5.69	6.15		843							36.1
B4N0578E2K	9.47	9.93		1302							52.2
B6N0231E2K	3.79	5.23		413							47.5
B6N0347E2K	5.69	7.13		525							54.9
B6N0578E2K	9.47	10.90		749							69.6
B6N0924E2K	15.10	16.60	175	1084	29	1	–	M12	110	18	91.6
B6N1155E2K	18.90	20.40		1308							106
B6N1733E2K	28.40	29.80		1867							143
B6N2310E2K	37.90	39.30		2426							180

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

Optional Ports

The following ports are available as options on all piston accumulators.

SAE Straight Thd.			Code 62 Flange				NPT			BSPP			ISO 6149-1		
Port Size	Port Code	Min. Bore	Port Size	Port Code Inch	Port Code Metric	Min. Bore	Port Size	Port Code	Min. Bore	Port Size	Port Code	Min. Bore	Port Size	Port Code	Min. Bore
#5	TA	2"	1"	PG	MG	4"	3/8"	UT	2"	3/8"	RA	2"	M14	YA	2"
#6	TB	2"	1¼"	PH	MH	4"	1/2"	UU	2"	1/2"	RB	2"	M18	YB	2"
#8	TC	2"	1½"	PP	MV	6"	3/4"	UV	2"	3/4"	RC	2"	M22	YC	2"
#10	TI	2"	2"	PQ	MQ	6"	1"	UW	3"	1"	RD	3"	M27	YD	2"
#12	TD	2"	—	—	—	—	1¼"	UX	3"	1¼"	RE	3"	M33	YE	3"
#16	TE	3"	—	—	—	—	1½"	UY	4"	1½"	RF	4"	M42	YF	3"
—	—	—	—	—	—	—	2”	UZ	4”	2”	RG	4”	—	—	—

Notes:

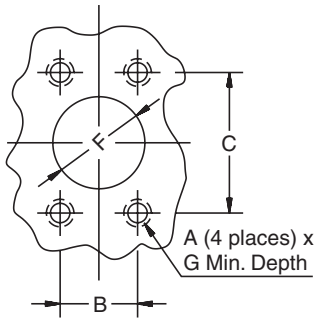
1) 1" thru 2" flanges are to standard SAE Code 62 dimensions, 2-1/2" to “Socket Weld Flange Adapter Pattern”, dimensions are shown below. Metric pattern supplied on 276 Bar Metric units unless otherwise specified.

2) BSPT and Metric ports available, consult factory.

SAE 4-Bolt Flange Dimensions

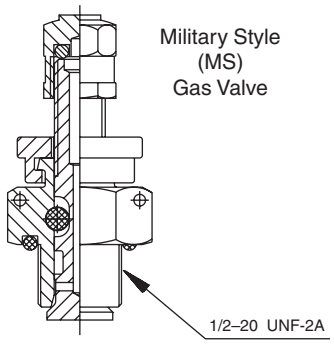
Code 62 (ISO 6162) (thru 2" diameter) – 6000 PSI (410 Bar)

Flange Size		SAE Flange Dimensions (in.)					Metric ISO 6162 Flange Dimensions (mm)				
in	mm	A	B	C	F	G	A	B	C	F	G
1½"	38	5/8 - 11	1.438	3.125	1½	1.375	M16	36.5	79.4	38	34.9
2"	50	3/4 - 10	1.750	3.812	2	1.500	M20	44.5	96.8	50	38.1
2½"	—	7/8 - 9	2.312	4.875	2½	1.625	—	—	—	—	—



Gas Valve Option (M)

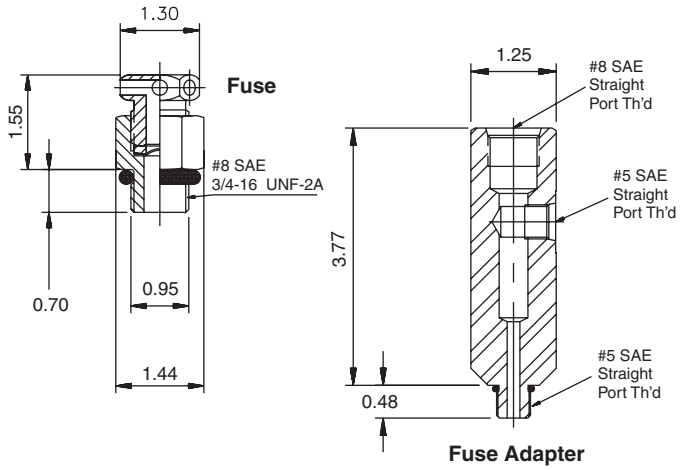
A heavy duty (military style) poppet-type gas valve cartridge (Mil. Spec. MS28889-2) is available as an option (M) – specify when ordering.



L07689000*

Safety Fuse Options (F)

Safety Fuses are used as a safety device on accumulators and gas bottles to prevent over-pressurization of gas due to external heat or hydraulic pressure (set at 140% of maximum system pressure to avoid rupture disk fatigue and premature failure). The rupture disks are calibrated to rupture at a pre-determined pressure. Safety fuses are available on most sizes of piston accumulators. Safety fuses can be installed on all piston accumulators by using a fuse adapter. 4" bore units and above can be equipped with a fuse port machined in the gas cap by specifying the "Safety Fuse Option" (F) at the time of order in the model code, see "How to Order." The safety fuse assembly and/or fuse adapter must be ordered separately.



Description	Part Number
Safety Fuse Assembly[1]	086471xxxx
Replacement Rupture Disks	756003xxxx
Fuse Adapter	1468970002

1) Assembly includes housing and rupture disk, xxxx = pressure setting in 100 psi increments, i.e., for an assembly with a 2000 PSI setting, order P/N 0864712000.

Water Service Option (W)

Piston accumulators are available for use with water as the fluid media. Modifications include electroless nickel plating all surfaces and metal parts.

Seal Material Options

Seal Code	Polymer	Recommended Operating Temperature Range	Maximum Temperature with Reduced Life	General Application and Compatibility*
K	Buna Nitrile	-20°F to 165°F -29°C to 74°C	200°F 93°C	Parker's Standard Compound – Compatible with most mineral oil-based fluids
E	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
D	Ethylene Propylene	-40°F to 250°F -40°C to 121°C	300°F 149°C	Compatible with most phosphate ester fluids and some synthetic fluids
H	Hydrogenated Nitrile	-25°F to 320°F -32°C to 160°C	350°F 177°C	Compatible with most oil-based and biodegradable fluids, maintains sealing effectiveness at a wide range of temperatures
Q	Low Temp. Nitrile	-45°F to 185°F -43°C to 85°C	200°F 93°C	Compatible with most mineral oil-based fluids and maintains sealing effectiveness at low temperatures

***Note:** Consult local distributor or factory for fluid compatibility information. Temperature ranges may vary depending upon fluid used in hydraulic system.

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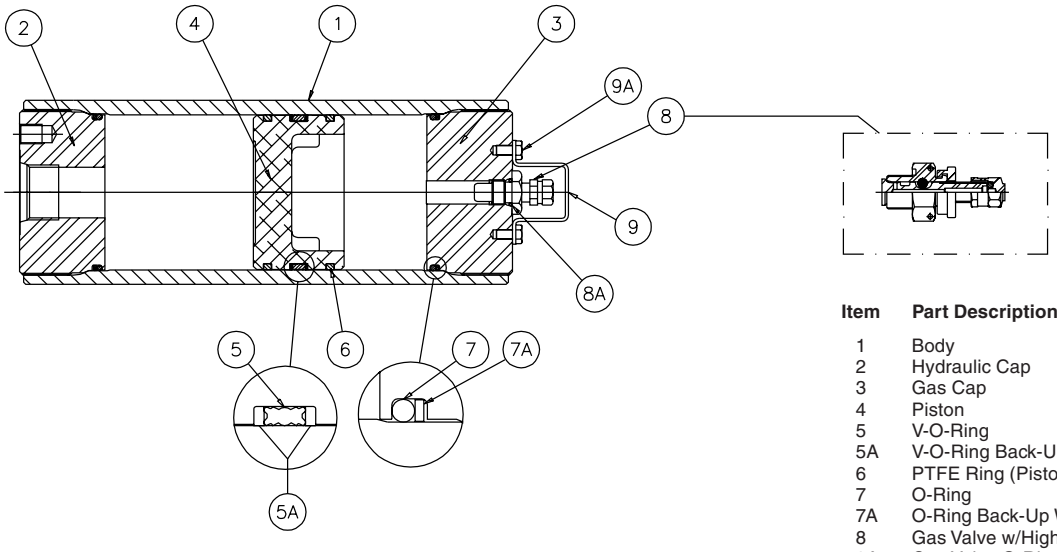
Rockford, Illinois USA

Parts List — Hydraulic Accumulators



Item	Part Description
1	Body
2	Hydraulic Cap
3	Gas Cap
4	Piston
5	V-O-Ring
5A	V-O-Ring Back-Up Washers
6	PTFE Ring (Piston)
7	O-Ring
7A	O-Ring Back-Up Washer
8	Gas Valve w/High Pressure Core
8A	Gas Valve O-Ring
9	Gas Valve Guard
9A	Screw

4000 PSI Seal Kit Numbers (Includes items 5, 5A, 6, 7, 7A, 8A)

Material	Bore Size			
	2"	3"	4"	6"
Buna-Nitrile (Std.)	RK0200K000	RK0300K000	RK0400K000	RK0600K000
Fluorocarbon	RK0200E000	RK0300E000	RK0400E000	RK0600E000
EPR	RK0200D000	RK0300D000	RK0400D000	RK0600D000
Hydrogenated Nitrile	RK0200H000	RK0300H000	RK0400H000	RK0600H000
Low Temp Nitrile	RK0200Q000	RK0300Q000	RK0400Q000	RK0600Q000

Mounting, Charging & Gauging Accessories

Parker offers a wide variety of mounting, charging and gauging accessories. See “Accumulator Accessories.”

Special Options

If your application requires a piston accumulator, gas bottle, or special option that falls outside of Parker’s broad offering, consult your local distributor, Parker representative, or the factory with your specific requirements. Parker has the manufacturing and engineering expertise to design and build piston accumulators to your exacting requirements, from simple modifications of standard units to complete designs. Some example of Parker’s past special designs include:

- Special and Stainless Steel Materials
- Piston Position and Velocity Sensors and Switches
- Special Seals
- Non-Standard Capacities
- Tie Rod Construction
- Special Certifications
- Spring & Weight Loaded

Consult the experts at Parker with your next piston accumulator requirement!

How to Order Series 4000 Piston Accumulators

Piston accumulators and gas bottles can be specified by using the symbols in the chart below to develop a model number. Select only those symbols that represent the features desired, and place them in the sequence indicated by the example at the top of the chart.

Series	Nominal Bore Size	Type of Construction	Options	Capacity	Design Pressure	Design Number	Seal Compound	Hyd. Port Modification		Gas Port Modification	
A	4	N	–	0231	E	1	K	–	–	–	–

Series

A	Accumulator
B	Gas Bottle

Nominal Bore Size

2	2 inches
3	3 inches
4	4 inches
6	6 inches

Type of Construction

N	Threaded both ends non-ASME material standard on 2", 3", 4", 6"

Options

Blank	Standard Gas Cap
W	Water Service
F	SAE Fuse Port *
G	SAE Fuse Port * – Water Service
M	MS28889-2 Gas Valve
L	MS28889-2 Gas Valve, Water Service
P	Fuse* and MS28889-2
R	Fuse* and MS28889-2, Water Service

** Safety fuse assembly not included. Order fuse assembly separately.*

Bore Size/Capacity

0005		5 cu. in. (0.08 liters)
0010		10 cu. in. (0.16 liters)
0015	2"	15 cu. in. (0.25 liters)
0029		29 cu. in. (0.48 liters)
0058		58 cu. in. (0.95 liters)
0029		29 cu. in. (0.48 liters)
0058		58 cu. in. (0.95 liters)
0090	3"	90 cu. in. (1.47 liters)
0116		116 cu. in. (1.90 liters)
0183		183 cu. in. (3.00 liters)
0058		58 cu. in. (0.95 liters)
0116		116 cu. in. (1.90 liters)
0231	4"	1 gal. (3.79 liters)
0347		1½ gal. (5.69 liters)
0578		2½ gal. (9.47 liters)
0231		1 gal. (3.79 liters)
0347		1½ gal. (5.69 liters)
0578		2½ gal. (9.47 liters)
0924	6"	4 gal. (15.1 liters)
1155		5 gal. (18.9 liters)
1733		7½ gal. (28.4 liters)
2310		10 gal. (37.9 liters)

Consult factory for other available sizes.

Design Pressure

E	4000 PSI

Hydraulic and Gas Port Modifications Designated by 2 Digits

1st Digit	Style	2nd Digit	Description	Min. Bore Size
Blank	Std.	**Blank**	Std.	
T	SAE Straight Thread Ports	**A**	SAE #5 (1/2 - 20)	2"
		B	SAE #6 (9/16 - 18)	2"
		C	SAE #8 (3/4 - 16)	2"
		D	SAE #12 (1 1/16 - 12)	2"
		E	SAE #16 (1 5/16 - 12)	3"
		I	SAE #10 (7/8 - 14)	2"
		6000 PSI (Code 62)		**Min. Bore**
P	Flange Code 62	**G**	1"	4"
		H	1 1/4"	4"
		P	1 1/2"	6"
M	Metric Flange per ISO 6162	**Q**	2"	6"
U	NPTF (Not Recommended)	**T**	3/8"	2"
		U	1/2"	2"
		V	3/4"	2"
		W	1"	2"
		X	1 1/4"	2"
		Y	1 1/2"	4"
		Z	2"	4"
		BSPP/BSPT		**Metric/ISO 6149-1**
R	BSPP Parallel	**A**	3/8 - 19	**A** M14 x 1.5
B	BSPT Taper Port	**B**	1/2 - 14	**B** M18 x 1.5
G	Metric	**C**	3/4 - 14	**C** M22 x 1.5
Y	ISO 6149-1	**D**	1 - 11	**D** M27 x 2
		E	1 1/4 - 11	**E** M33 x 2
		F	1 1/2 - 11	**F** M42 x 2
		G	2 - 11	

Example of Optional Port Accumulator

A	4	N	0231	E	3	K	T	C	U	V
					Non-std. Port		SAE Hyd. Port	#8	NPT Gas Port	3/4"

Design Number

1	Standard
2	Metric Mounting Holes & Hyd. Port (BSPP Standard) Specify Optional Ports
3	Optional Port (Hyd. or Gas, See Port Modifications Table)
***	Special Design

Standard Ports Available (See Port Modifications Table if Using Other Than Standard Ports Shown Below)

Bore Size	4000 PSI Port Sizes Standard	Metric (BSPP)
2"	SAE #12	3/4
3"	SAE #12	3/4
4"	SAE #16	1
6"	SAE #16	1

Seal Compound (See Catalog for Temperature Settings)

K	Buna Nitrile (Std)
E	Fluoroelastomer
D	EPR
H	Hydrogenated Nitrile
Q	Low Temp.
S	Special Seals (to be specified)

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

5000

Series 5000 Piston Accumulators

- Heavy Duty Service with 5000 PSI Operating Pressure
- 2" thru 9" Bores with Over 30 Standard Capacities
- Patented V-O-ring Piston Seals
- Serviceable Threaded End Construction
- Five Standard Seal Options to Handle a Variety of Fluids and Temperatures
- ASME Certification and CE Marking Available

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

Materials

- Shell – high strength alloy steel
- Caps – steel
- Pistons – aluminum (2" thru 7"), ductile iron (9")
- Gas Valve Cartridge – steel
- Gas Valve Protector – steel
- Piston Glide Rings – PTFE
- Piston & End Seals – various polymers
- Piston Seal Backups – PTFE

Actual Bore Sizes & Maximum Flow Rates Pressure Ratings

Nominal Bore Size (in.)	Actual Bore Size		Max. Recommended Flow*	
	(in.)	(mm)	GPM	LPM
2	2.03	51.4	100	380
3	3.00	76.2	220	834
4	4.03	102	397	1504
6	5.78	147	818	3096
7	7.00	178	1199	4538
9	9.00	229	1982	7502

***Note:** Based on 120 in/sec maximum piston speed, port & fitting size will become limiting factors for most applications.

Series 5000 piston accumulators are rated at minimum 4 to 1 design factors. For pressures over 5000 psi, consult the factory.

Fluids

Parker's piston accumulators are compatible with a wide variety of fluids. Standard accumulators (with nitrile seals) may be used with petroleum-based industrial oils or water-based flame resistant fluids. Optional seals compatible with most industrial fluids are available with temperature ranges from -45°F to 325°F (-43°C to 162°C).

Precharge

Units are shipped with a nominal nitrogen precharge as standard. For specific precharge pressures, specify at the time of order.

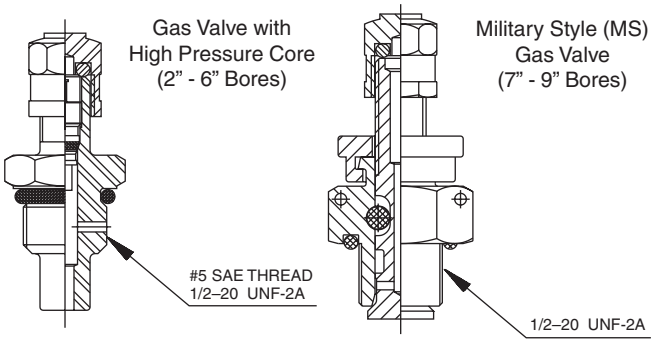
Standard Ports

The following ports are supplied as standard on all fluid ends and on the gas end of accumulators ordered for use with gas bottles:

Bore Size	Standard Ports	
	Standard Models	Metric Models BSPP Port (in)
2	SAE #12	3/4
3	SAE #12	3/4
4	SAE #16	1
6	SAE #16	1
7	2" Code 62 Flange	2" Metric ISO 6162 Flange
9	2" Code 62 Flange	2" Metric ISO6162 Flange

Gas Valve

Series 5000 accumulators and gas bottles with 2" through 6" bores are supplied with a high pressure cored gas valve as standard. Models with 7" and 9" bores are supplied with a heavy duty (military) poppet-type gas valve cartridge (Mil. Spec. MS28889-2) as standard.



Note: The standard Parker gas cap will accept either style gas valve.

Available Options

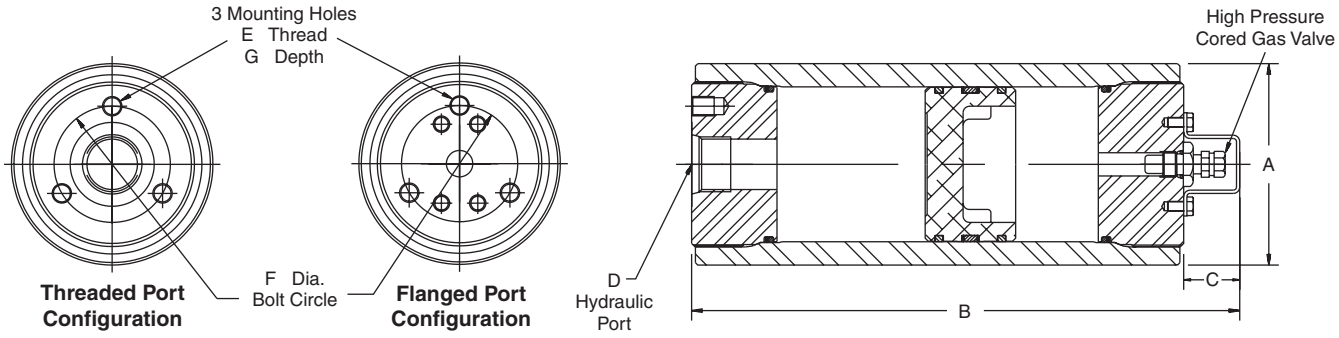
If your application requires a piston accumulator, gas bottle, or special option that falls outside of Parker's broad offering, consult your local distributor, Parker representative, or the factory with your specific requirements. Parker has the manufacturing and engineering expertise to design and build piston accumulators to your exacting requirements, from simple modifications of standard units to complete designs. Some example of Parker's past special designs include:

- Special and Stainless Steel Materials
- Piston Position and Velocity Sensors and Switches
- Special Seals
- Non-Standard Capacities
- Water Service
- Ports
- Fixed Gauge Mounts
- Fuse Plug Assemblies

Auxiliary Gas Bottles

When space does not permit the installation of the required piston accumulator, a smaller accumulator may be used by connecting it to an auxiliary gas bottle(s) that can be located in a nearby spot where space is available. In some cases, a piston accumulator and gas bottle combination may be more economical, especially large capacity sizes. Piston travel, confined to the accumulator, must be calculated with ample margins to store the required fluid.

5000 PSI Piston Accumulators for Oil and Water Service

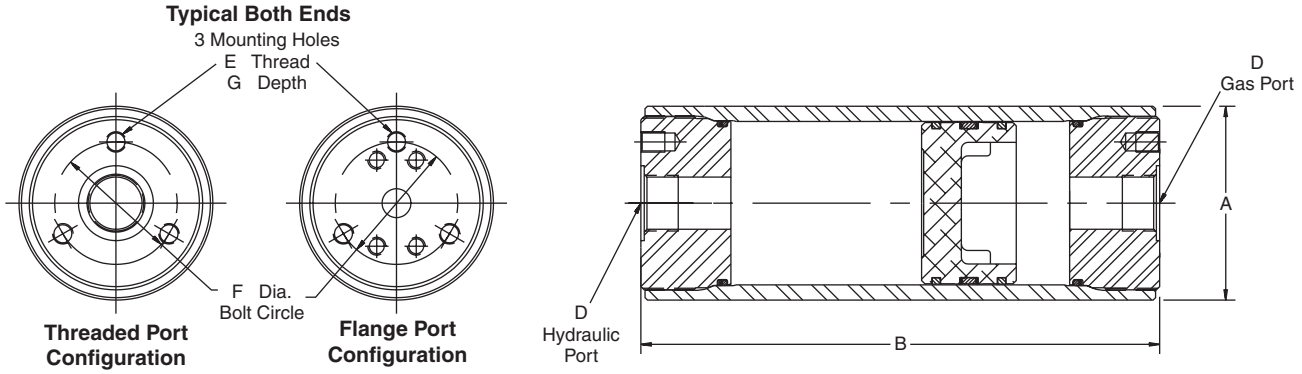


Model No. / Oil Service	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	C (in)	D-Hydraulic Port SAE No.	D-Hydraulic Port Thread Size (in)	D-Hydraulic Port Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
A2N0005C1K	–	5	6.5		6.76								6
A2N0010C1K	–	10	11.5		8.31								7
A2N0015C1K	–	15	16.5	2.63	9.78	1.06	12	1-1/16 - 12	3/4	–	–	–	8
A2N0029C1K	1 Pint	29	30.5		14.19								11
A2N0058C1K	1 Quart	58	59.5		23.19								17
A3N0029C1K	1 Pint	29	34		10.25								21
A3N0058C1K	1 Quart	58	63		14.34								28
A3N0090C1K	1.5 Liter	90	95	4.00	18.94	1.13	12	1-1/16 - 12	3/4	3/8 - 12	2.25	0.56	35
A3N0116C1K	1/2 Gal.	116	121		22.56								40
A3N0183C1K	3 Liter	183	188		32.06								55
A4N0058C1K	1 Quart	58	68		12.06								43
A4N0116C1K	1/2 Gal.	116	126		16.62								54
A4N0231C1K	1 Gal.	231	241	5.25	25.62	1.13	16	1-5/16 - 12	1	1/2 - 20	3.25	0.75	77
A4N0347C1K	1-1/2 Gal.	347	357		34.75								100
A4N0578C1K	2-1/2 Gal.	578	588		52.81								146
A6N0231C1K	1 Gal.	231	266		19.18								128
A6N0347C1K	1-1/2 Gal.	347	382		23.62								148
A6N0578C1K	2-1/2 Gal.	578	613		32.43								190
A6N0924C1K	4 Gal.	924	959	7.50	45.62	1.13	16	1-5/16 - 12	1	1/2 - 20	4.38	0.75	252
A6N1155C1K	5 Gal.	1155	1190		54.43								293
A6N1733C1K	7-1/2 Gal.	1733	1768		76.43								396
A6N2310C1K	10 Gal.	2310	2345		98.43								499

Notes:

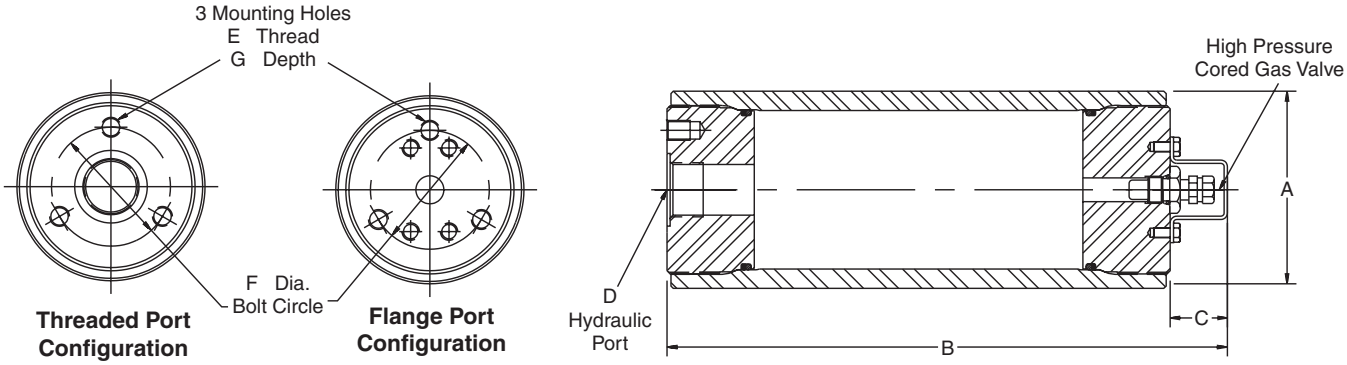
1) For Water Service add "W" after construction code, see "How to Order".
2) See "Port Options" for complete listing of port options.
3) ASME certified and CE marked accumulators and gas bottles available.

5000 PSI Piston Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	D Port (Both Ends) SAE No.	D Port (Both Ends) Thread Size (in)	D Port (Both Ends) Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
A4N0058C3KTETE	1 Quart	58	68		10.93							43
A4N0116C3KTETE	1/2 Gal.	116	126		15.49							54
A4N0231C3KTETE	1 Gal.	231	241	5.25	24.49	16	1-5/16 - 12	1	1/2 - 20	3.25	0.75	77
A4N0347C3KTETE	1-1/2 Gal.	347	357		33.62							100
A4N0578C3KTETE	2-1/2 Gal.	578	588		51.68							146
A6N0231C3KTETE	1 Gal.	231	266		18.05							128
A6N0347C3KTETE	1-1/2 Gal.	347	382		22.49							148
A6N0578C3KTETE	2-1/2 Gal.	578	613		31.30							190
A6N0924C3KTETE	4 Gal.	924	959	7.50	44.49	16	1-5/16 - 12	1	1/2 - 20	4.38	0.75	252
A6N1155C3KTETE	5 Gal.	1155	1190		53.30							293
A6N1733C3KTETE	7-1/2 Gal.	1733	1768		75.30							396
A6N2310C3KTETE	10 Gal.	2310	2345		97.30							499

5000 PSI Auxiliary Gas Bottles



Model No. Gas Bottle	Gas Volume Nominal (gal)	Gas Volume Actual (cu in)	A (in)	B (in)	C (in)	D Port SAE No.	D Port Thread Size (in)	D Port Tube Size	E (in)	F (in)	G (in)	Weight (lbs)
B4N0058C1K	1 Quart	86		12.06								41
B4N0116C1K	1/2 Gal.	144		16.62								53
B4N0231C1K	1 Gal.	259	5.25	25.62	1.13	16	1-5/16 - 12	1	1/2 - 20	3.25	0.75	75
B4N0347C1K	1-1/2 Gal.	375		34.75								98
B4N0578C1K	2-1/2 Gal.	606		52.81								144
B6N0231C1K	1 Gal.	319		19.18								123
B6N0347C1K	1-1/2 Gal.	435		23.62								143
B6N0578C1K	2-1/2 Gal.	666		32.43								185
B6N0942C1K	4 Gal.	1012	7.50	45.62	1.13	16	1-5/16 - 12	1	1/2 - 20	4.38	0.75	250
B6N1155C1K	5 Gal.	1243		54.43								288
B6N1733C1K	7-1/2 Gal.	1821		76.43								391
B6N2310C1K	10 Gal.	2398		98.43								494

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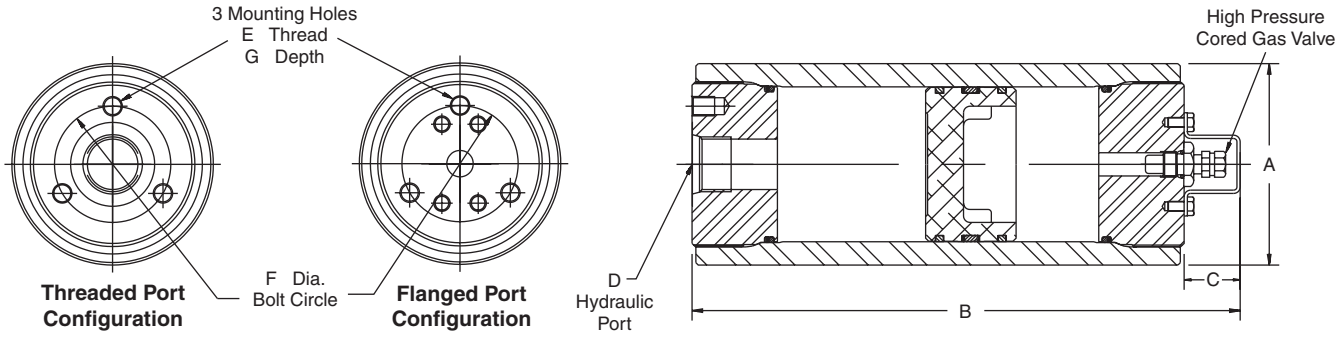
Rockford, Illinois USA

345 Bar Metric Piston Accumulators for Oil and Water Service



Model No. / Oil Service	Fluid Volume (Liters)	Fluid Volume (cu in)	Gas Volume (Liters)	A (mm)	B (mm)	C (mm)	D-Hydraulic Port BSPP/G (in)	D-Hydraulic Port SAE Flange	E (mm)	F (mm)	G (mm)	Weight (Kg)
A2N0005C2K	0.08	5	0.11		172							2.8
A2N0010C2K	0.16	10	0.19		211							3.2
A2N0015C2K	0.25	15	0.24	67	248	27	3/4	–	–	–	–	3.7
A2N0029C2K	0.48	29	0.50		360							5.0
A2N0058C2K	0.95	58	0.98		589							7.6
A3N0029C2K	0.48	29	0.56		260							9.6
A3N0058C2K	0.95	58	1.03		364							12.5
A3N0090C2K	1.47	90	1.56	102	481	29	3/4	–	M10	60	15	15.7
A3N0116C2K	1.90	116	1.98		573							18.3
A3N0183C2K	3.00	183	3.08		814							25.0
A4N0058C2K	0.95	58	1.11		306							19.4
A4N0116C2K	1.90	116	2.06		422							24.6
A4N0231C2K	3.79	231	3.95	134	651	29	1	–	M12	82	18	34.9
A4N0347C2K	5.69	347	5.85		883							45.4
A4N0578C2K	9.47	578	9.64		1341							66.2
A6N0231C2K	3.79	231	4.36		487							57.9
A6N0347C2K	5.69	347	6.26		600							67.3
A6N0578C2K	9.47	578	10.00		824							86.0
A6N0924C2K	15.10	924	15.70	191	1159	29	1	–	M12	110	18	114
A6N1155C2K	18.90	1155	19.50		1383							133
A6N1733C2K	28.40	1733	29.00		1941							180
A6N2310C2K	37.90	2310	38.40		2500							227

Notes:

1) For Water Service add “W” after construction code, see “How to Order”.
2) See “Port Options” for a complete listing of port options.
3) ASME certified and CE marked accumulators and gas bottles are available.

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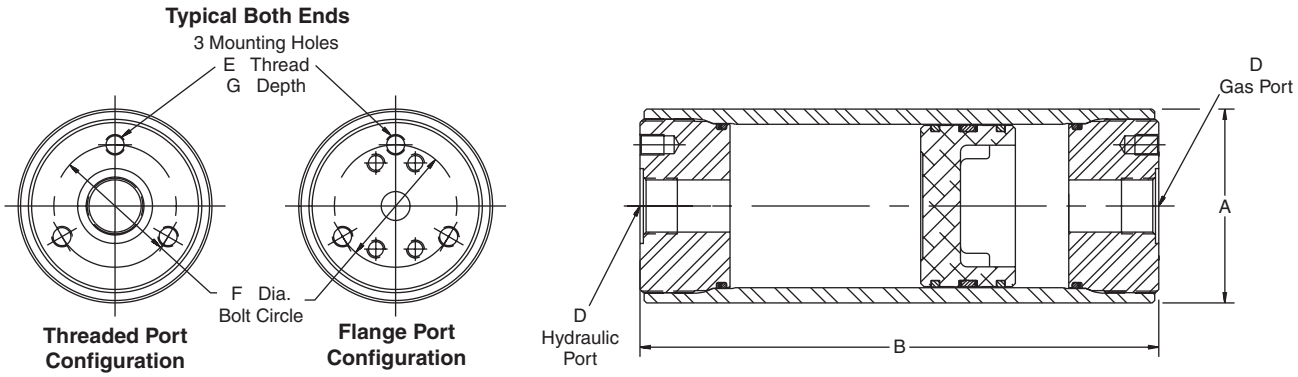
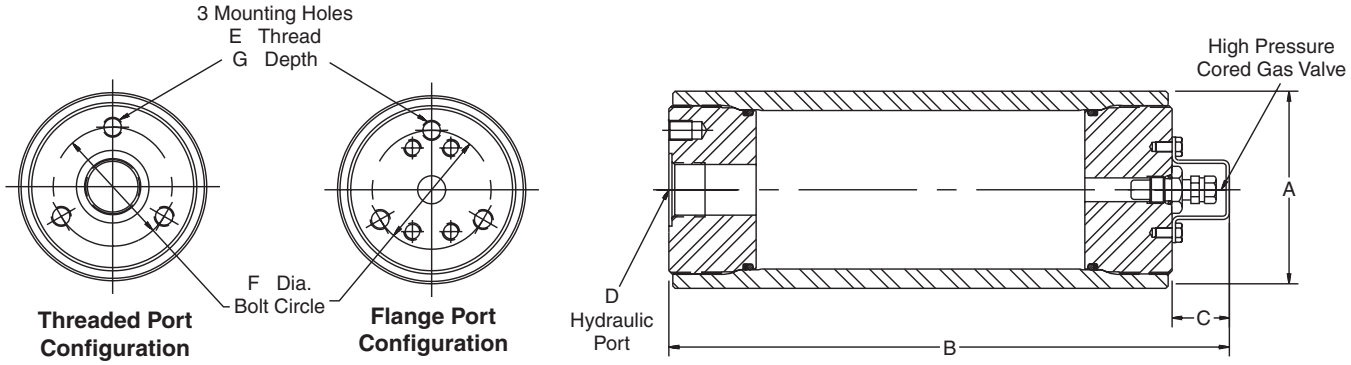
Rockford, Illinois USA

345 Bar Metric Piston Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (Liters)	Fluid Volume (cu in)	Gas Volume (Liters)	A (mm)	B (mm)	D - Port (Both Ends) BSPP/G (in)	D - Port (Both Ends) SAE Flange	E (mm)	F (mm)	G (mm)	Weight (Kg)
A4N0058C2KRDRD	0.95	58	1.11		277						19.4
A4N0116C2KRDRD	1.90	116	2.06		393						24.6
A4N0231C2KRDRD	3.79	231	3.95	134	622	1	–	M12	82	18	34.9
A4N0347C2KRDRD	5.69	347	5.85		854						45.4
A4N0578C2KRDRD	9.47	578	9.64		1312						66.2
A6N0231C2KRDRD	3.79	231	4.36		458						57.9
A6N0347C2KRDRD	5.69	347	6.26		571						67.3
A6N0578C2KRDRD	9.47	578	10.00		795						86.0
A6N0924C2KRDRD	15.10	924	15.70	191	1130	1	–	M12	110	18	114
A6N1155C2KRDRD	18.90	1155	19.50		1354						133
A6N1733C2KRDRD	28.40	1733	29.00		1912						180
A6N2310C2KRDRD	37.90	2310	38.40		2471						227

345 Bar Metric Auxiliary Gas Bottles



Model No.	Gas Volume		A	B	C	D-Hydraulic Port		E	F	G	Weight
Gas Bottle	Nominal (liters)	Actual (liters)	(mm)	(mm)	(mm)	BSPP/G (in)	SAE Flange	(mm)	(mm)	(mm)	(Kg)
B4N0058C2K	0.95	1.11		306							18.6
B4N0116C2K	1.90	2.06		422							23.9
B4N0231C2K	3.79	3.95	134	651	29	1	–	M12	82	18	34.2
B4N0347C2K	5.69	5.85		883							44.6
B4N0578C2K	9.47	9.64		1341							65.4
B6N0231C2K	3.79	4.36		487							55.6
B6N0347C2K	5.69	6.26		600							65.0
B6N0578C2K	9.47	10.00		824							83.8
B6N0924C2K	15.10	15.70	191	1159	29	1	–	M12	110	18	112
B6N1155C2K	18.90	19.50		1383							131
B6N1733C2K	28.40	29.00		1941							177
B6N2310C2K	37.90	38.40		2500							224

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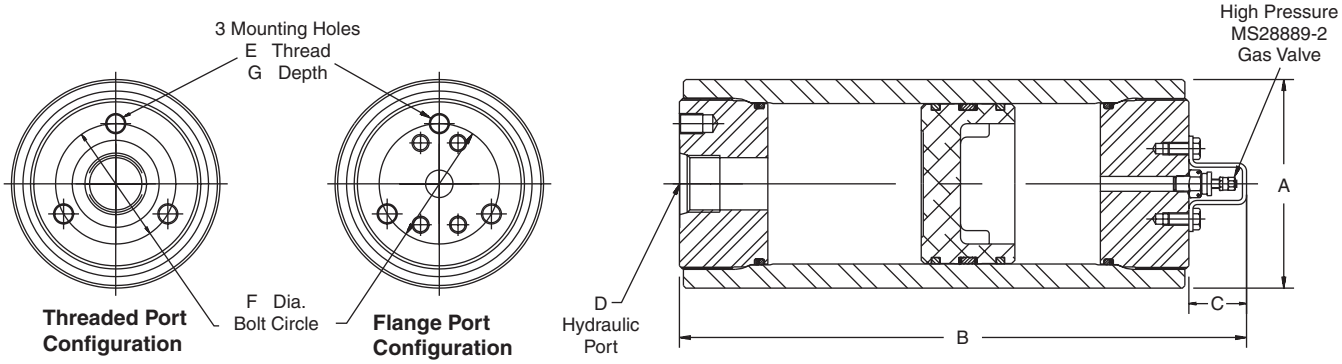
5000 PSI Piston Accumulators for Oil and Water Service



Model No.	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	C (in)	D Hydraulic Port	E (in)	F (in)	G (in)	Weight (lbs)
A7K1155C1K	5 Gal.	1155	1190	9.09 ±0.06	42.50	1.63	2" SAE Code 62 Flange[2]	5/8 - 18	5.75	0.94	385
A7K1733C1K	7-1/2 Gal.	1733	1768		57.50						495
A7K2310C1K	10 Gal.	2310	2345		72.50						611
A7K3465C1K	15 Gal.	3465	3520		102.50						837
A9K2310C1K	10 Gal.	2310	2400	11.78 ±0.09	50.75	1.63	2" SAE Code 62 Flange[2]	3/4-16	7.00	1.13	831
A9K3465C1K	15 Gal.	3465	3555		68.94						1064
A9K4620C1K	20 Gal.	4620	4710		87.12						1298
A9K5775C1K	25 Gal.	5775	5865		105.25						1532
A9K6930C1K	30 Gal.	6930	7020		123.43						1765

Notes:

1) For Water Service add "W" after construction code, see "How to Order".
2) See "Port Options" for a complete listing of port options.
3) ASME certified and CE marked accumulators and gas bottles are available.

The Minimum Design Metal Temperature (MDMT) for ASME certified piston accumulators presented in this section is 20°F (-7°C).

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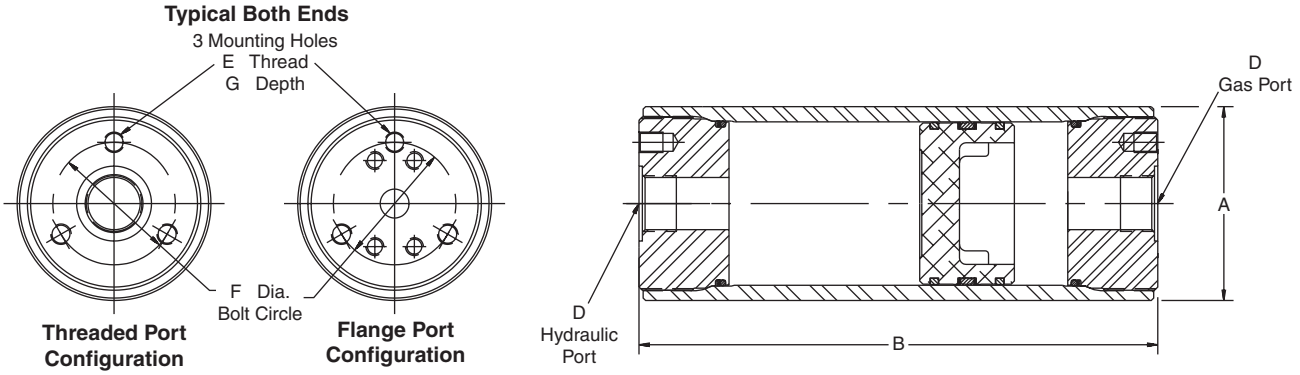
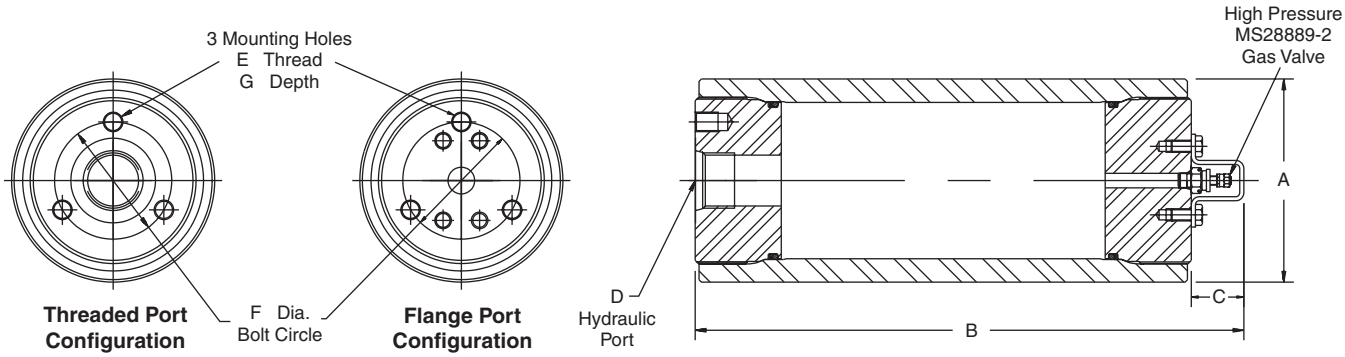
5000 PSI Piston Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (gal)	Fluid Volume (cu in)	Gas Volume (cu in)	A (in)	B (in)	D Port (Both Ends)	E (in)	F (in)	G (in)	Weight (lbs)
A7K1155C3KPQPQ	5 Gal.	1155	1190		40.87					385
A7K1733C3KPQPQ	7-1/2 Gal.	1733	1768	9.09	55.87	2" SAE Code 62	5/8-18	5.75	0.94	495
A7K2310C3KPQPQ	10 Gal.	2310	2345	±0.06	70.87					611
A7K3465C3KPQPQ	15 Gal.	3465	3520		100.87					837
A9K2310C3KPQPQ	10 Gal.	2310	2400		49.12					831
A9K3465C3KPQPQ	15 Gal.	3465	3555		67.31					1064
A9K4620C3KPQPQ	20 Gal.	4620	4710	11.78	85.49	2" SAE Code 62	3/4-16	7.00	1.13	1298
A9K5775C3KPQPQ	25 Gal.	5775	5865	±0.09	103.62					1532
A9K6930C3KPQPQ	30 Gal.	6930	7020		121.80					1765

5000 PSI Auxiliary Gas Bottles



Model No.	Gas Volume		A	B	C	D	E	F	G	Weight
Gas Bottle	Nominal (gal)	Actual (cu in)	(in)	(in)	(in)	Hydraulic Ports	(in)	(in)	(in)	(lbs)
B7K1155C1K	5 Gal.	1155		42.50						376
B7K1733C1K	7-1/2 Gal.	1733	9.09	57.50	1.63	2" SAE Code 62	5/8 - 18	5.75	0.94	489
B7K2310C1K	10 Gal.	2310	±0.06	72.50						602
B7K3465C1K	15 Gal.	3465		102.50						828
B9K2310C1K	10 Gal.	2310		50.75						782
B9K3465C1K	15 Gal.	3465		68.94						1016
B9K4620C1K	20 Gal.	4620	11.78	87.12	1.63	2" SAE Code 62	3/4 - 16	7.00	1.13	1250
B9K5775C1K	25 Gal.	5775	±0.09	105.25						1483
B9K6930C1K	30 Gal.	6930		123.43						1717

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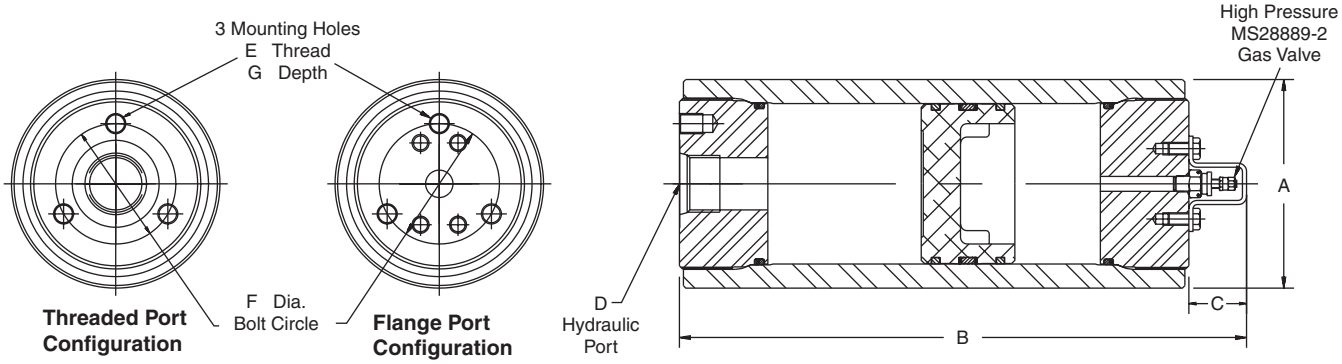
345 Bar Metric Piston Accumulators for Oil and Water Service

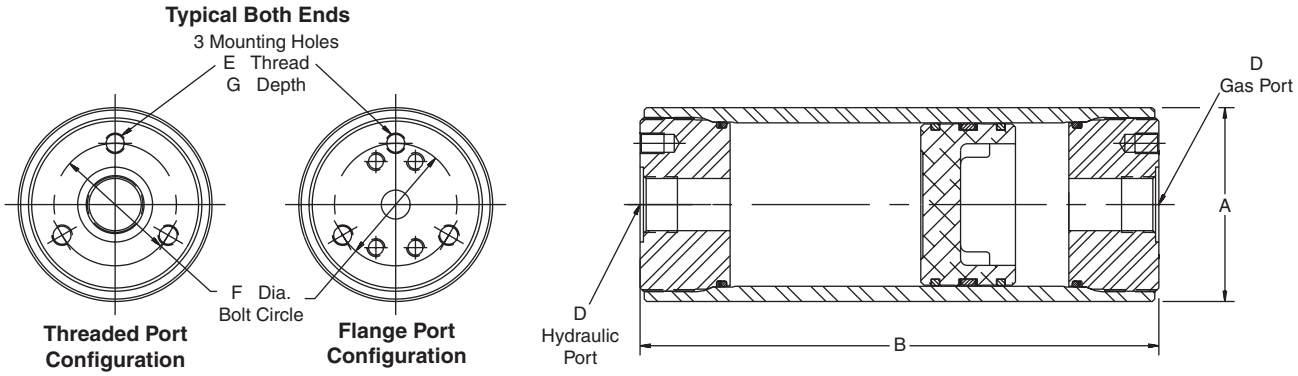


Model No.	Fluid Volume (Liters)	Fluid Volume (cu in)	Gas Volume (liters)	A (mm)	B (mm)	C (mm)	D Hydraulic Port	E (mm)	F (mm)	G (mm)	Weight (kg)
A7K1155C2K	18.90	1155	19.50		1080						175
A7K1733C2K	28.40	1733	29.00	231.1	1461	41	2" Metric	M16	146	24	226
A7K2310C2K	37.90	2310	38.40	±1.5	1842		SAE Code 62 Flange[2]				277
A7K3465C2K	56.85	3465	57.75		2604						380
A9K2310C2K	37.90	2310	39.37		1289						377
A9K3465C2K	56.85	3465	58.33		1751		2" Metric				483
A9K4620C2K	75.80	4620	77.27	299.2	2213	41	SAE Code 62	M19	178	29	589
A9K5775C2K	94.75	5775	96.23	±2.3	2673		Flange[2]				695
A9K6930C2K	113.70	6930	115.18		3135						801

Notes:

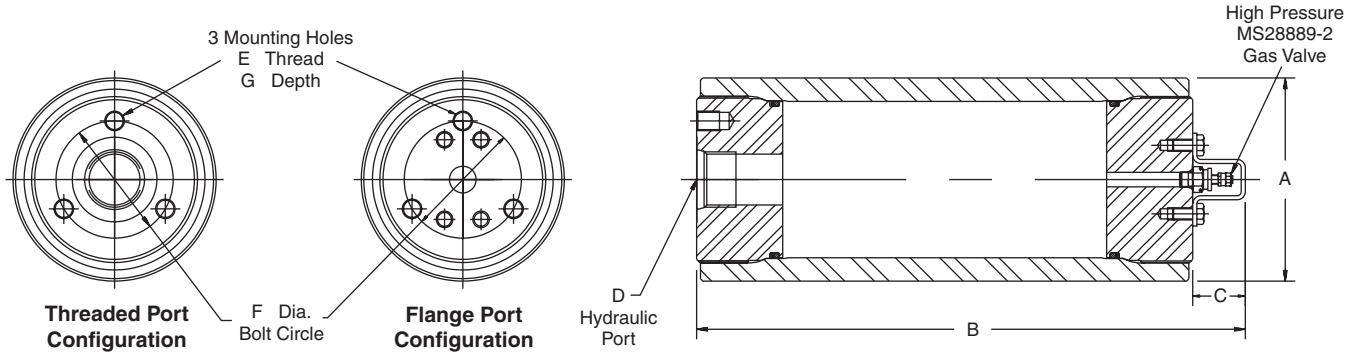
1) For Water Service add "W" after construction code, see "How to Order".
2) See "Port Options" for a complete listing of port options.
3) ASME certified and CE marked accumulators and gas bottles are available.

345 Bar Metric Piston Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume (Liters)	Fluid Volume (cu in)	Gas Volume (Liters)	A (mm)	B (mm)	D Port (Both Ends)	E (mm)	F (mm)	G (mm)	Weight (kg)
A7K1155C2KMQMQ	18.90	1155	19.50		1039					175
A7K1733C2KMQMQ	28.40	1733	29.00	231.1	1420	2" Metric	M16	146	24	226
A7K2310C2KMQMQ	37.90	2310	38.40	±1.5	1801	SAE Code 62 Flange[2]				277
A7K3465C2KMQMQ	56.85	3465	57.75		2563					380
A9K2310C2KMQMQ	37.90	2310	39.37		1248					377
A9K3465C2KMQMQ	56.85	3465	58.33		1710	2" Metric				483
A9K4620C2KMQMQ	75.80	4620	77.27	299.2	2172	SAE Code 62	M19	178	29	589
A9K5775C2KMQMQ	94.75	5775	96.23	±2.3	2632	Flange[2]				695
A9K6930C2KMQMQ	113.70	6930	115.18		3098					801

345 Bar Metric Auxiliary Gas Bottles



Model No.	Gas Volume		A	B	C	D	E	F	G	Weight
Gas Bottle	Nominal (Liters)	Actual (Liters)	(mm)	(mm)	(mm)	Hydraulic Ports	(mm)	(mm)	(mm)	(kg)
B7K1155C2K	18.90	19.50		1080						171
B7K1733C2K	28.40	29.00	231.1	1461	41	2" Metric	M16	146	24	222
B7K2310C2K	37.90	38.40	±1.5	1842		SAE Code 62 Flange[2]				273
B7K3465C2K	56.85	57.75		2604						376
B9K2310C2K	37.90	39.37		1289						355
B9K3465C2K	56.85	58.33		1751		2" Metric				461
B9K4620C2K	75.80	77.27	299.2	2213	41	SAE Code 62	M19	178	29	567
B9K5775C2K	94.75	96.23	±2.3	2673		Flange[2]				673
B9K6930C2K	113.70	115.18		3135						779

Notes:

1) For Water Service add "W" after construction code, see "How to Order".

2) See page 60 for complete listing of port options.

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Optional Ports

The following ports are available as options on all piston accumulators.

SAE Straight Thd.			Code 62 Flange				NPT			BSPP			ISO 6149-1		
Port Size	Port Code	Min. Bore	Port Size	Port Code Inch	Port Code Metric	Min. Bore	Port Size	Port Code	Min. Bore	Port Size	Port Code	Min. Bore	Port Size	Port Code	Min. Bore
#5	TA	2"	1"	PG	MG	4"	3/8"	UT	2"	3/8"	RA	2"	M14	YA	2"
#6	TB	2"	1¼"	PH	MH	4"	1/2"	UU	2"	1/2"	RB	2"	M18	YB	2"
#8	TC	2"	1½"	PP	MV	6"	3/4"	UV	2"	3/4"	RC	2"	M22	YC	2"
#10	TI	2"	2"	PQ	MQ	6"	1"	UW	3"	1"	RD	3"	M27	YD	2"
#12	TD	2"	2½"	PR	—	7"	1¼"	UX	3"	1¼"	RE	3"	M33	YE	3"
#16	TE	3"	3"	PS	—	9"	1½"	UY	4"	1½"	RF	4"	M42	YF	3"
—	—	—	—	—	—	—	2"	UZ	4"	2"	RG	4"	—	—	—

Notes:

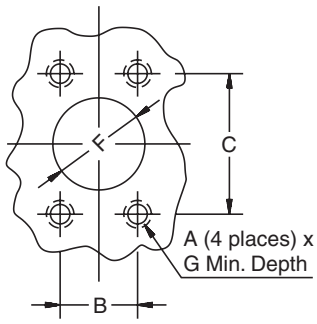
1) 1" thru 2" flanges are to standard SAE Code 62 dimensions, 2-1/2" to "Socket Weld Flange Adapter Pattern", dimensions are shown below. Metric pattern supplied on 345 Bar Metric units unless otherwise specified.

2) BSPT and Metric ports available, consult factory.

SAE 4-Bolt Flange Dimensions

Code 62 (ISO 6162) (thru 2" diameter) – 6000 PSI (410 Bar)

Flange Size		SAE Flange Dimensions (in.)					Metric SAE Flange Dimensions (mm)				
in	mm	A	B	C	F	G	A	B	C	F	G
1½"	38	5/8 - 11	1.438	3.125	1½	1.375	M16	36.5	79.4	38	34.9
2"	50	3/4 - 10	1.750	3.812	2	1.500	M20	44.5	96.8	50	38.1
2½"	—	7/8 - 9	2.312	4.875	2½	1.625	—	—	—	—	—



Seal Material

Seal Code	Polymer	**Recommended Operating Temperature Range	Maximum Temperature with Reduced Life	General Application and Compatibility*
K	Buna Nitrile	-20°F to 165°F -29°C to 74°C	200°F 93°C	Parker's Standard Compound – Compatible with most mineral oil-based fluids
E	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
D	Ethylene Propylene	-40°F to 250°F -40°C to 121°C	300°F 149°C	Compatible with most phosphate ester fluids and some synthetic fluids
H	Hydrogenated Nitrile	-25°F to 320°F -32°C to 160°C	350°F 177°C	Compatible with most oil-based and biodegradable fluids, maintains sealing effectiveness at a wide range of temperatures
Q	Low Temp. Nitrile	-45°F to 185°F -43°C to 85°C	200°F 93°C	Compatible with most mineral oil-based fluids and maintains sealing effectiveness at low temperatures

* **Note:** Consult local distributor or factory for fluid compatibility information. Temperature ranges may vary depending upon fluid used in hydraulic system.

** The temperature listed indicates the operating temperature range of the seals, not the accumulator. For the Minimum Design Metal Temperature (MDMT) of ASME certified accumulators, refer to page 56.

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

Water Service Option (W)

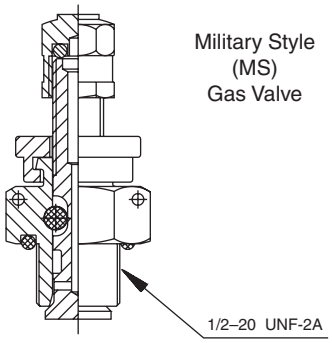
Piston accumulators are available for use with water as the fluid media. Modifications include electroless nickel plating all surfaces and metal parts.

Optional Military Style Gas Valve (M)

2" thru 6" Bore Sizes

A heavy duty (military style) poppet-type gas valve cartridge (Mil. Spec. MS28889-2) is available as an option (M) – specify when ordering.

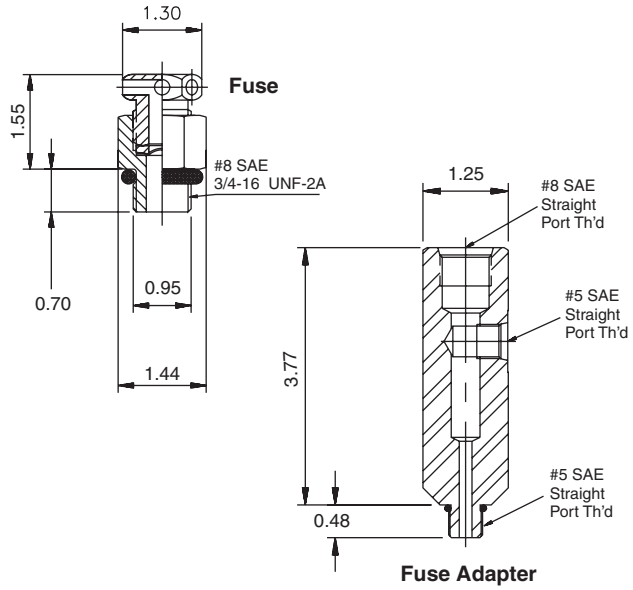
Note: This valve is standard on 7" and 9" bore sizes.



L07689000*

Safety Fuse Options (F)

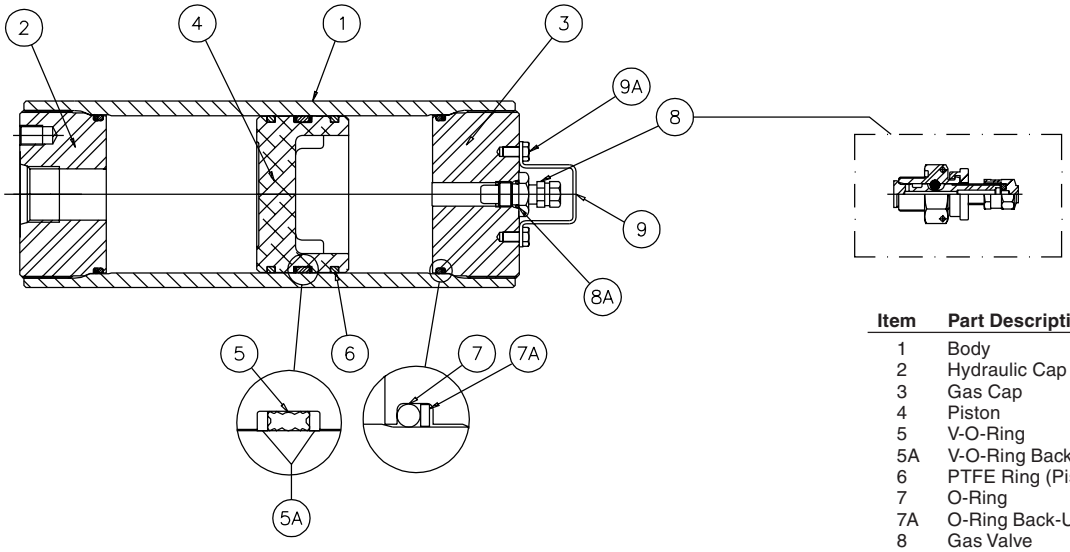
Safety Fuses are used as a safety device on accumulators and gas bottles to prevent over-pressurization of gas due to external heat or hydraulic pressure (set at 140% of maximum system pressure to avoid rupture disk fatigue and premature failure). The rupture disks are calibrated to rupture at a pre-determined pressure. Safety fuses are available on most sizes of piston accumulators. Safety fuses can be installed on all piston accumulators by using a fuse adapter. 4" bore units and above can be equipped with a fuse port machined in the gas cap by specifying the "Safety Fuse Option" (F) at the time of order in the model code, see "How to Order." The safety fuse assembly and/or fuse adapter must be ordered separately.



Description	Part Number
Safety Fuse Assembly[1]	086471xxxx
Replacement Rupture Disks	756003xxxx
Fuse Adapter	1468970002

1) Assembly includes housing and rupture disk, xxxx = pressure setting in 100 psi increments, i.e., for an assembly with a 2000 PSI setting, order P/N 0864712000.

Parts List — Hydraulic Accumulators



Item	Part Description
1	Body
2	Hydraulic Cap
3	Gas Cap
4	Piston
5	V-O-Ring
5A	V-O-Ring Back-Up Washers
6	PTFE Ring (Piston)
7	O-Ring
7A	O-Ring Back-Up Washer
8	Gas Valve
8A	Gas Valve O-Ring
9	Gas Valve Guard
9A	Screw

5000 PSI Seal Kit Numbers (Includes items 5, 5A, 6, 7, 7A, 8A)

Material	Bore Size					
	2"	3"	4"	6"	7"	9"
Buna-Nitrile (Std.)	RK0200K000	RK0300K000	RK0400K000	RK0600K000	RK0700K000	RK0900K000
Fluorocarbon	RK0200E000	RK0300E000	RK0400E000	RK0600E000	RK0700E000	RK0900E000
EPR	RK0200D000	RK0300D000	RK0400D000	RK0600D000	RK0700D000	RK0900D000
Hydrogenated Nitrile	RK0200H000	RK0300H000	RK0400H000	RK0600H000	RK0700H000	Consult Factory
Low Temp Nitrile	RK0200Q000	RK0300Q000	RK0400Q000	RK0600Q000	RK0700Q000	RK0900Q000

Mounting, Charging & Gauging Accessories

Parker offers a wide variety of mounting, charging and gauging accessories. See “Accumulator Accessories.”

Special Options

If your application requires a piston accumulator, gas bottle, or special option that falls outside of Parker’s broad offering, consult your local distributor, Parker representative, or the factory with your specific requirements. Parker has the manufacturing and engineering expertise to design and build piston accumulators to your exacting requirements, from simple modifications of standard units to complete designs. Some example of Parker’s past special designs include:

- Special and Stainless Steel Materials
- Piston Position and Velocity Sensors and Switches
- Special Seals
- Non-Standard Capacities
- Tie Rod Construction
- Special Certifications
- Spring & Weight Loaded

Consult the experts at Parker with your next piston accumulator requirement!

How to Order Series 5000 Piston Accumulators

Piston accumulators and gas bottles can be specified by using the symbols in the chart below to develop a model number. Select only those symbols that represent the features desired, and place them in the sequence indicated by the example at the top of the chart.

Series	Nominal Bore Size	Type of Construction	Options	Capacity	Design Pressure	Design Number	Seal Compound	Hyd. Port Modification		Gas Port Modification	
A	7	K	–	2310	C	1	K	–	–	–	–

Series	
A	Accumulator
B	Gas Bottle

Nominal Bore Size	
2	2 inches
3	3 inches
4	4 inches
6	6 inches
7	7 inches
9	9 inches

Type of Construction	
N	Threaded both ends non-ASME mat'l standard on 2", 3", 4", 6"
K	Threaded both ends A.S.M.E. mat'l standard on 7" & up
L	Same as K with A.S.M.E. approval stamp 7" & up. Available as special on smaller sizes
E	Threaded both ends, CE marked (1 liter and above) or SEP marked (under 1 liter)

Bore Size/Capacity		
0005	2"	5 cu. in. (0.08 liters)
0010		10 cu. in. (0.16 liters)
0015		15 cu. in. (0.25 liters)
0029		29 cu. in. (0.48 liters)
0058		58 cu. in. (0.95 liters)
0029	3"	29 cu. in. (0.48 liters)
0058		58 cu. in. (0.95 liters)
0090		90 cu. in. (1.47 liters)
0116		116 cu. in. (1.90 liters)
0183		183 cu. in. (3.00 liters)
0058	4"	58 cu. in. (0.95 liters)
0116		116 cu. in. (1.90 liters)
0231		1 gal. (3.79 liters)
0347		1½ gal. (5.69 liters)
0578		2½ gal. (9.47 liters)
0231	6"	1 gal. (3.79 liters)
0347		1½ gal. (5.69 liters)
0578		2½ gal. (9.47 liters)
0924		4 gal. (15.1 liters)
1155		5 gal. (18.9 liters)
1733		7½ gal. (28.4 liters)
2310		10 gal. (37.9 liters)
1155	7"	5 gal. (18.9 liters)
1733		7½ gal. (28.4 liters)
2310		10 gal. (37.9 liters)
3465		15 gal. (56.8 liters)
2310	9"	10 gal. (37.9 liters)
3465		15 gal. (56.8 liters)
4620		20 gal. (75.8 liters)
5775		25 gal. (94.6 liters)
6930		30 gal. (114 liters)

Consult factory for other available sizes.

Design Pressure	
C	5000 PSI
H	350 Bar (CE marked only)

Options	
Blank	Standard Gas Cap
W	Water Service
F	SAE Fuse Port *
G	SAE Fuse Port *, Water Service
M	MS28889-2 Gas Valve
L	MS 28889-2 Gas Valve, Water Service
P	Fuse Port* and MS28889-2
R	Fuse Port* and MS28889-2, Water Service

** Safety fuse assembly not included. Order fuse assembly separately.*

Hydraulic and Gas Port Modifications Designated by 2 Digits

1st Digit	Style	2nd Digit	Description	Min. Bore Size
Blank	Std.	Blank	Std.	
T	SAE Straight Thread Ports	A	SAE #5 (1/2 - 20)	2"
		B	SAE #6 (9/16 - 18)	2"
		C	SAE #8 (3/4 - 16)	2"
		D	SAE #12 (1 1/16 - 12)	2"
		E	SAE #16 (1 5/16 - 12)	3"
		F	SAE #20 (1 5/8 - 12)	3"
		G	SAE #24 (1 7/8 - 12)	4"
		H	SAE #32 (2 1/2 - 12)	7"
		I	SAE #10 (7/8 - 14)	2"
P	Flange Code 62		6000 PSI (Code 62)	Min. Bore
		F	3/4"	4"
		G	1"	4"
		H	1 1/4"	4"
		P	1 1/2"	6"
		Q	2"	6"
		R*	2 1/2"	7"
		S*	3"	9"
M	Metric Flange per ISO 6162			
U	NPTF (Not Recommended)	T	3/8"	2"
		U	1/2"	2"
		V	3/4"	2"
		W	1"	2"
		X	1 1/4"	2"
		Y	1 1/2"	4"
		Z	2"	4"
R	BSPP Parallel		BSPP/BSPT	Metric/ISO
B	BSPT Taper Port	A	3/8 - 19	A M14 x 1.5
G	Metric	B	1/2 - 14	B M18 x 1.5
Y	ISO 6149-1	C	3/4 - 14	C M22 x 1.5
		D	1 - 11	D M27 x 2
		E	1 1/4 - 11	E M33 x 2
		F	1 1/2 - 11	F M42 x 2
		G	2 - 11	G M48 x 2

** For socket weld flange. Not available with metric flange.*

Example of Optional Port Accumulator

A	4	N	0231	C	3	K	T	C	U	V
					Non-std. Port		SAE Hyd. Port	#8	NPT Gas Port	3/4"

Design Number	
1	Standard Ports
2	Metric Mounting Holes & Hyd. Port (BSPP/Metric Flange Standard) Specify Optional Ports
3	Optional Port (Hyd. or Gas, See Port Modifications Table)
***	Special Design

Standard Ports Available (See Port Modifications Table if Using Other Than Standard Ports Shown Below)

Bore Size	Standard Ports	Metric (BSPP) Ports
2"	SAE #12	3/4
3"	SAE #12	3/4
4"	SAE #16	1
6"	SAE #16	1
7"	2" Code 62 Flange	2" ISO6162 Flange
9"	2" Code 62 Flange	2" ISO6162 Flange

Seal Compound (See Catalog for Temperature Settings)	
K	Buna Nitrile (Std)
E	Fluoroelastomer
D	EPR
H	Hydrogenated Nitrile
Q	Low Temp.
S	Special (to be specified)

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Rockford, Illinois USA

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