

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



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.

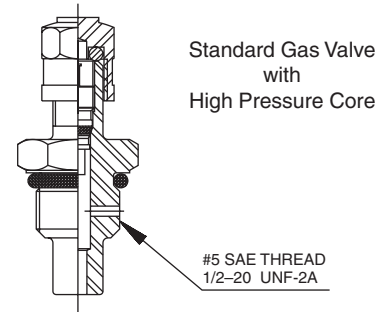
Standard Ports

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

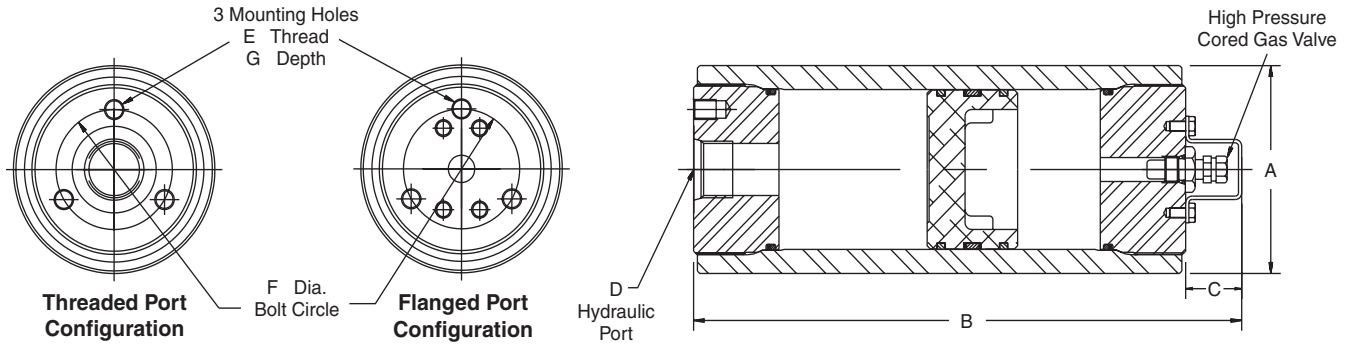
If your application requires a piston accumulator, gas bottle, or special option that falls outside of Parker’s broad offering, consult your local distributor, Parker representative, or the factory with your specific requirements. Parker has the manufacturing and engineering expertise to design and build 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

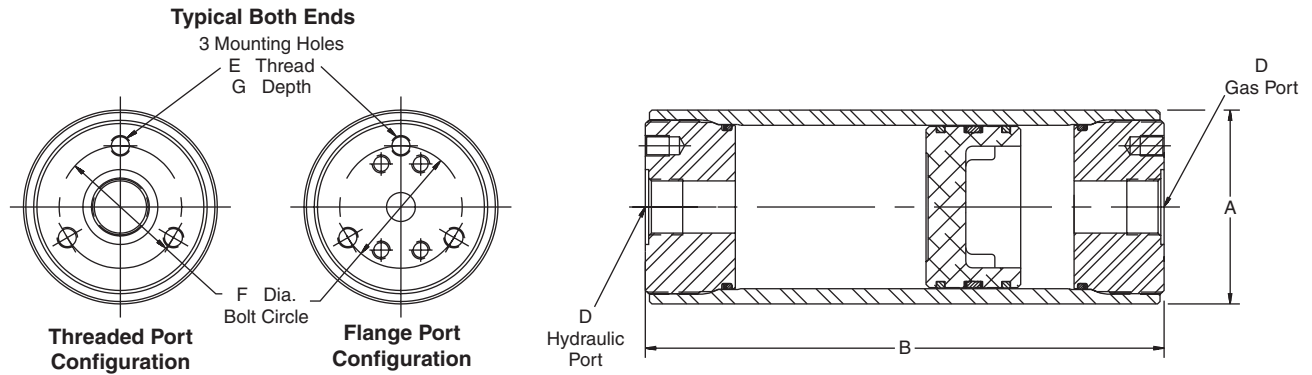


Model No.	Fluid Volume		Gas Volume (cu in)	A (in)	B (in)	C (in)	D-Hydraulic Port			E (in)	F (in)	G (in)	Weight (lbs)
	(gal)	(cu in)					SAE No.	Thread Size (in)	Tube Size				
A2N0005E1K	—	5	6.5	2.50	6.76	1.06	12	1-1/16 - 12	3/4	—	—	—	6
A2N0010E1K	—	10	11.5		8.31								6
A2N0015E1K	—	15	16.5		9.78								7
A2N0029E1K	1 Pint	29	30.5		14.19								9
A2N0058E1K	1 Quart	58	59.5		23.19								14
A3N0029E1K	1 Pint	29	34	3.75	10.25	1.13	12	1-1/16 - 12	3/4	3/8 - 24	2.25	0.56	17
A3N0058E1K	1 Quart	58	63		14.34								25
A3N0090E1K	1.5 Liter	90	95		18.94								33
A3N0116E1K	1/2 Gal.	116	121		22.56								39
A3N0183E1K	3 Liter	183	188		32.06								56
A4N0058E1K	1 Quart	58	68	5.00	12.06	1.13	16	1-5/16 - 12	1	1/2 - 20	3.25	0.75	37
A4N0116E1K	1/2 Gal.	116	126		16.62								46
A4N0231E1K	1 Gal.	231	241		25.62								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	7.06	19.18	1.13	16	1-5/16 - 12	1	1/2 - 20	4.38	0.75	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		45.62								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:

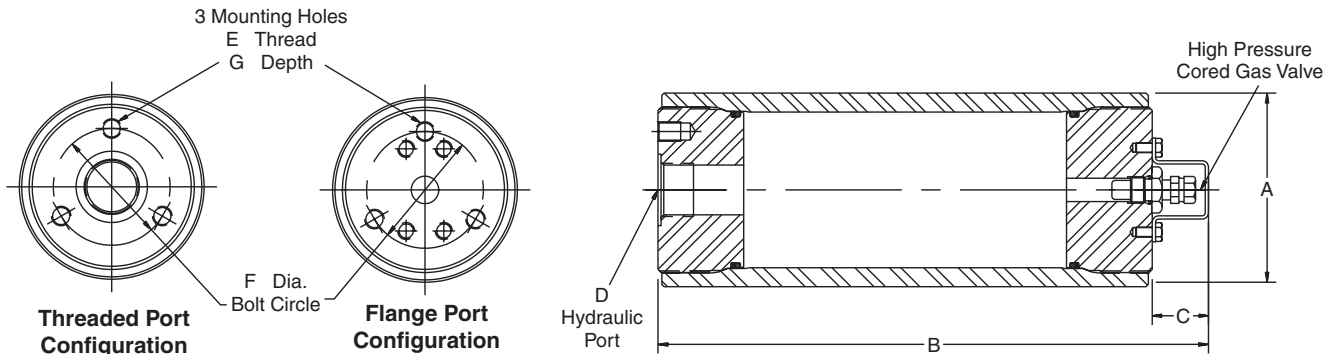
- 1) For Water Service add "W" after construction code, see "How to Order".
- 2) See Port Options for complete listing of optional ports.
- 3) When accumulators are to be used with Gas Bottles, order "Accumulators for Use with Gas Bottles."

4000 PSI Piston Accumulators for Use with Gas Bottles



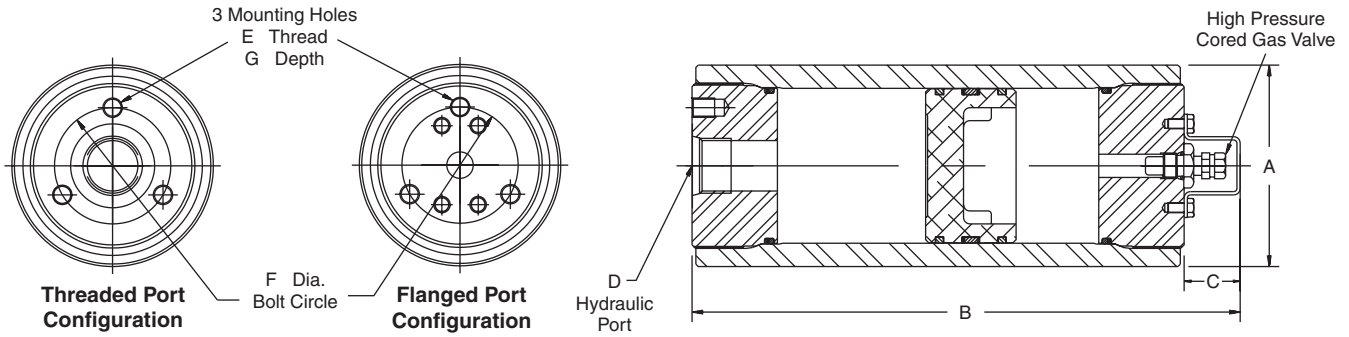
Accumulator Model No.	Fluid Volume		Gas Volume (cu in)	A (in)	B (in)	D Port (Both Ends)			E (in)	F (in)	G (in)	Weight (lbs)
	(gal)	(cu in)				SAE No.	Thread Size (in)	Tube Size				
A4N0058E3KTETE	1 Quart	58	68	5.00	11.63	16	1-5/16 - 12	1	1/2 - 20	3.25	0.75	37
A4N0116E3KTETE	1/2 Gal.	116	126		16.19							46
A4N0231E3KTETE	1 Gal.	231	241		25.19							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	7.06	17.38	16	1-5/16 - 12	1	1/2 - 20	4.38	0.75	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		43.81							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 Volume		A (in)	B (in)	C (in)	D Port			E (in)	F (in)	G (in)	Weight (lbs)
	Nominal (gal)	Actual (cu in)				SAE No.	Thread Size (in)	Tube Size				
B4N0058E1K	1 Quart	86	5.00	12.06	1.13	16	1-5/16 - 12	1	1/2 - 20	3.25	0.75	35
B4N0116E1K	1/2 Gal.	144		16.62								44
B4N0231E1K	1 Gal.	259		25.62								62
B4N0347E1K	1-1/2 Gal.	375		34.75								80
B4N0578E1K	2-1/2 Gal.	606		52.81								115
B6N0231E1K	1 Gal.	319	7.06	19.18	1.13	16	1-5/16 - 12	1	1/2 - 20	4.38	0.75	105
B6N0347E1K	1-1/2 Gal.	435		23.62								121
B6N0578E1K	2-1/2 Gal.	666		32.43								153
B6N0942E1K	4 Gal.	1012		45.62								202
B6N1155E1K	5 Gal.	1243		54.43								234
B6N1733E1K	7-1/2 Gal.	1821		76.43								315
B6N2310E1K	10 Gal.	2398		98.43								396

276 Bar Metric Piston Accumulators for Oil and Water Service

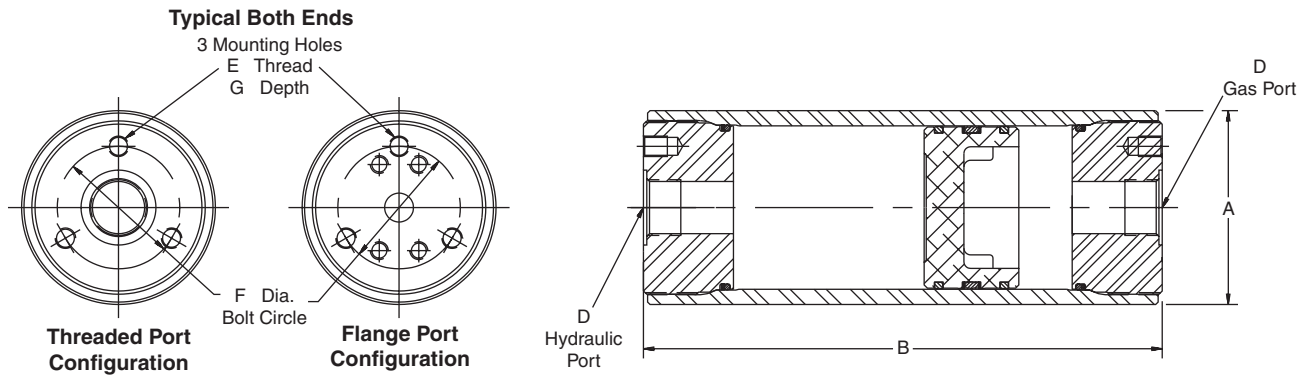


Model No.	Fluid Volume		Gas Volume (Liters)	A (mm)	B (mm)	C (mm)	D-Hydraulic Port		E (mm)	F (mm)	G (mm)	Weight (Kg)
	Oil Service	(Liters)					(cu in)	BSP/G (in)				
A2N0005E2K	0.08	5	0.11	64	172	27	3/4	-	-	-	-	2.4
A2N0010E2K	0.16	10	0.19		211							2.8
A2N0015E2K	0.25	15	0.24		248							3.1
A2N0029E2K	0.48	29	0.50		360							4.1
A2N0058E2K	0.95	58	0.98		589							6.1
A3N0029E2K	0.48	29	0.56	96	260	29	3/4	-	M10	60	15	7.8
A3N0058E2K	0.95	58	1.03		364							11.1
A3N0090E2K	1.47	90	1.56		481							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	127	306	29	1	-	M12	82	18	16.6
A4N0116E2K	1.90	116	2.06		422							20.6
A4N0231E2K	3.79	231	3.95		651							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	180	487	29	1	-	M12	110	18	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		1159							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:

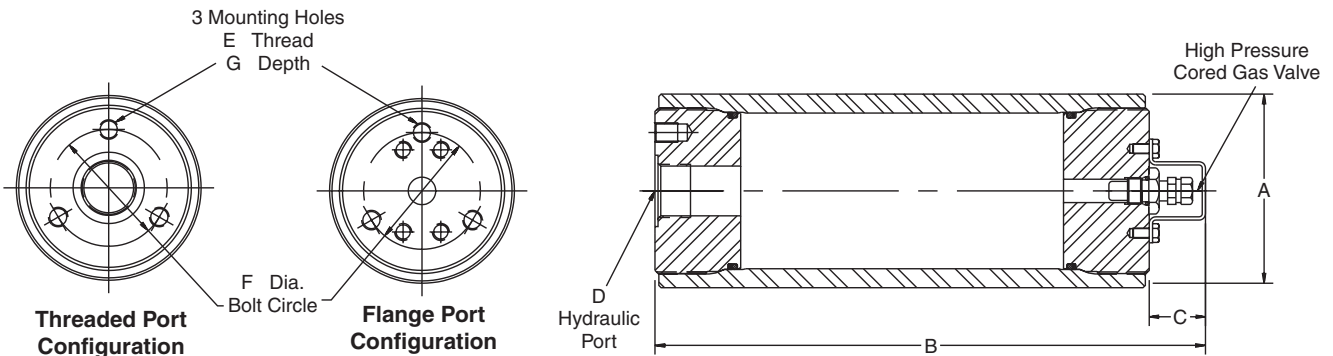
- 1) For Water Service add "W" after construction code, see "How to Order".
- 2) See Port Options for complete listing of optional ports.
- 3) When accumulators are to be used with Gas Bottles, order "Accumulators for Use with Gas Bottles."

276 Bar Metric Piston Accumulators for Use with Gas Bottles



Accumulator Model No.	Fluid Volume		Gas Volume (Liters)	A (mm)	B (mm)	D - Port (Both Ends)		E (mm)	F (mm)	G (mm)	Weight (Kg)
	(Liters)	(cu in)				BSPP/G (in)	SAE Flange				
A4N0058E2KRDRD	0.95	58	1.11	121	267	1	-	M12	82	18	16.6
A4N0116E2KRDRD	1.90	116	2.06		383						20.6
A4N0231E2KRDRD	3.79	231	3.95		611						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	175	413	1	-	M12	110	18	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		1084						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 (mm)	B (mm)	C (mm)	D-Hydraulic Port		E (mm)	F (mm)	G (mm)	Weight (Kg)
	Nominal (liters)	Actual (liters)				BSPP/G (in)	SAE Flange				
B4N0058E2K	0.95	1.41	121	267	29	1	-	M12	82	18	15.8
B4N0116E2K	1.90	2.36		383							19.9
B4N0231E2K	3.79	4.24		611							27.9
B4N0347E2K	5.69	6.15		843							36.1
B4N0578E2K	9.47	9.93		1302							52.2
B6N0231E2K	3.79	5.23	175	413	29	1	-	M12	110	18	47.5
B6N0347E2K	5.69	7.13		525							54.9
B6N0578E2K	9.47	10.90		749							69.6
B6N0924E2K	15.10	16.60		1084							91.6
B6N1155E2K	18.90	20.40		1308							106
B6N1733E2K	28.40	29.80		1867							143
B6N2310E2K	37.90	39.30		2426							180

Optional Ports

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

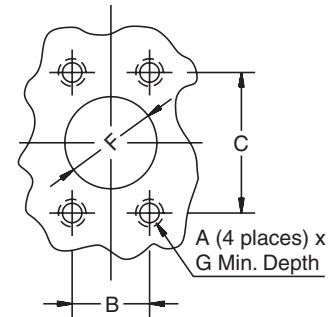
SAE Straight Thd.			Code 62 Flange				NPT			BSPP			ISO 6149-1		
Port Size	Port Code	Min. Bore	Port Size	Port Code		Min. Bore	Port Size	Port Code	Min. Bore	Port Size	Port Code	Min. Bore	Port Size	Port Code	Min. Bore
				Inch	Metric										
#5	TA	2"	1"	PG	MG	4"	3/8"	UT	2"	3/8"	RA	2"	M14	YA	2"
#6	TB	2"	1 1/4"	PH	MH	4"	1/2"	UU	2"	1/2"	RB	2"	M18	YB	2"
#8	TC	2"	1 1/2"	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"	—	—	—	—	1 1/4"	UX	3"	1 1/4"	RE	3"	M33	YE	3"
#16	TE	3"	—	—	—	—	1 1/2"	UY	4"	1 1/2"	RF	4"	M42	YF	3"
—	—	—	—	—	—	—	2"	UZ	4"	2"	RG	4"	—	—	—

Notes:

- 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.
- BSPT and Metric ports available, consult factory.

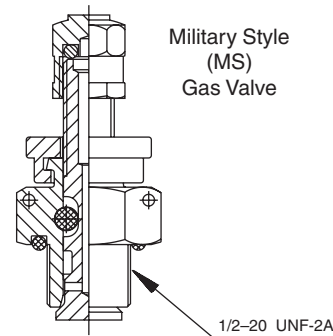
SAE 4-Bolt Flange Dimensions Code 62 (ISO 6162) (thru 2" diameter) – 6000 PSI (410 Bar)

Flange Size		SAE Flange Dimensions (in.)					Metric ISO 6162 Flange Dimensions (mm)				
in	mm	A	B	C	F	G	A	B	C	F	G
1 1/2"	38	5/8 - 11	1.438	3.125	1 1/2	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
2 1/2"	—	7/8 - 9	2.312	4.875	2 1/2	1.625	—	—	—	—	—



Gas Valve Option (M)

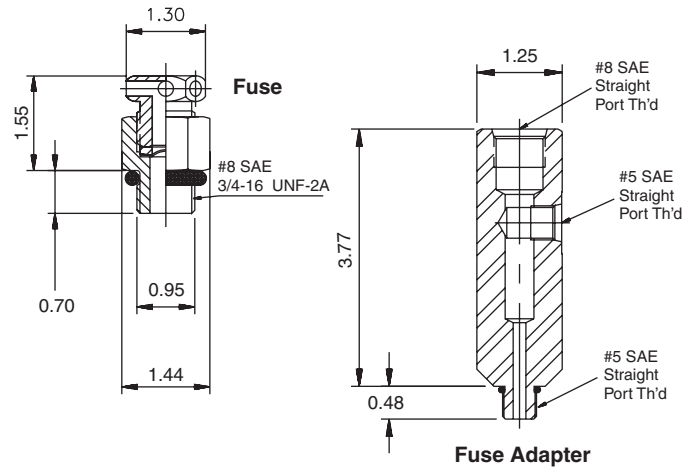
A heavy duty (military style) poppet-type gas valve cartridge (Mil. Spec. MS28889-2) is available as an option (M) – specify when ordering.



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)

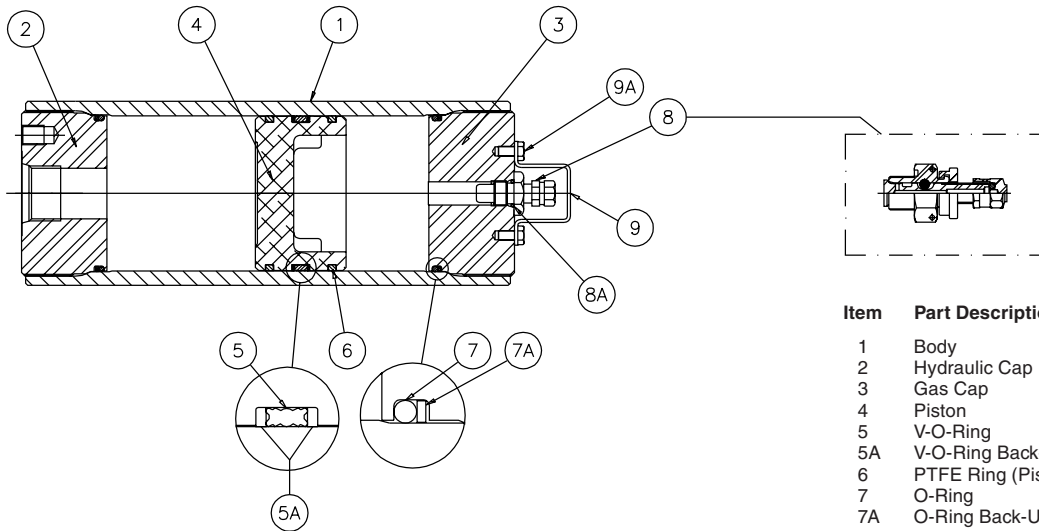
Piston accumulators are available for use with water as the fluid media. Modifications include electroless nickel plating all surfaces and metal parts.

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.

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

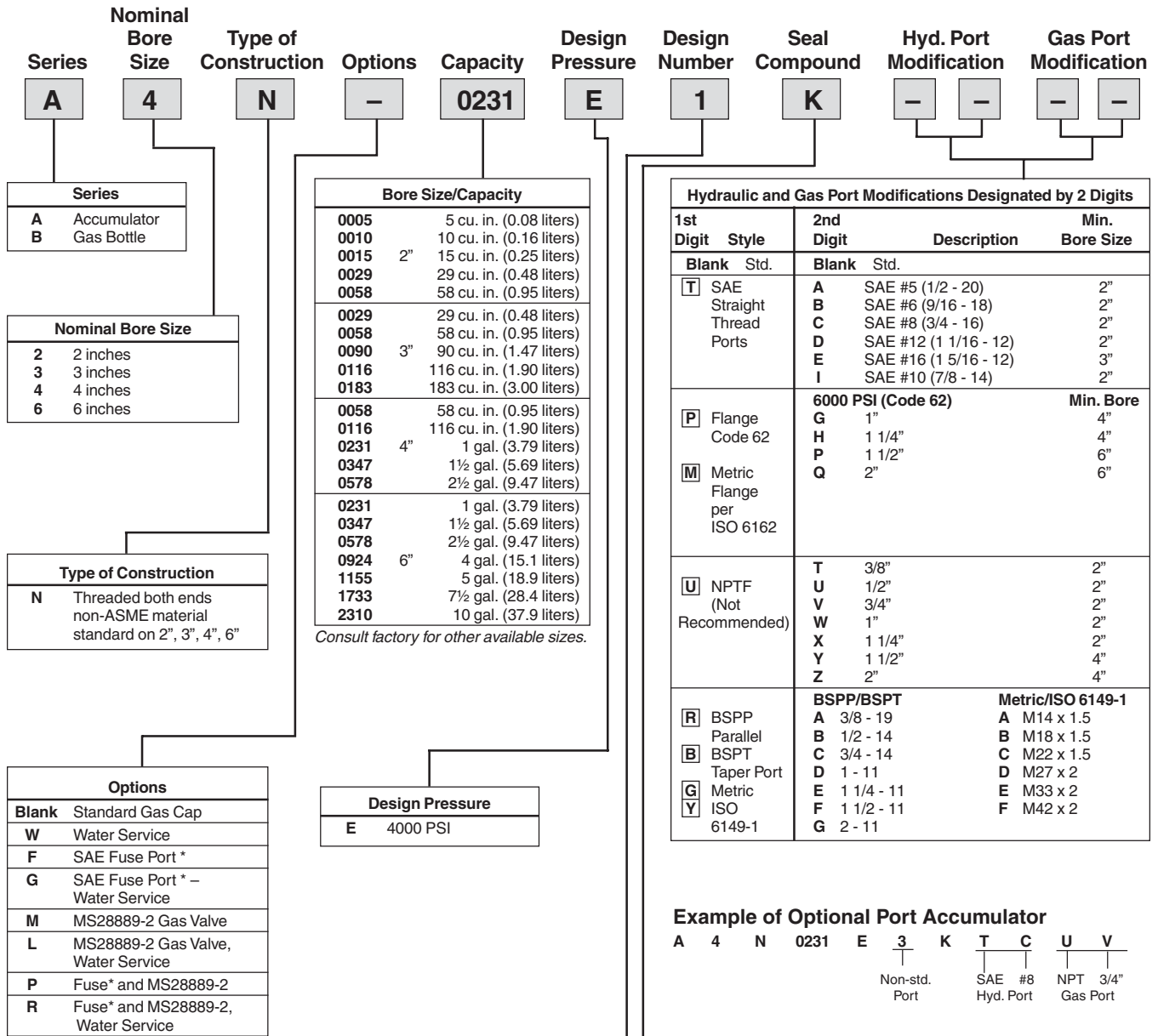
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- Special and Stainless Steel Materials
- Piston Position and Velocity Sensors and Switches
- Special Seals
- Non-Standard Capacities
- Tie Rod Construction
- Special Certifications
- Spring & Weight Loaded

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.



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

Example of Optional Port Accumulator

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

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)
D	Fluoroelastomer
E	EPDM
H	Hydrogenated Nitrile
Q	Low Temp.
S	Special Seals (to be specified)