Large Gas Bottles

• Series GB

GB Series Large Gas Bottles Feature:

- Capacities from 40 to 150 Gallons
- High Strength Alloy Steel with Forged Ends
- Large 16" Diameter Shells
- Variety of Port Options

Parker Hannifin Corporation
Hydraulic Accumulator Division
Rockford, Illinois USA

Where space does not permit the installation of the required capacity accumulator, a smaller accumulator may be used by connecting it to a gas bottle(s) that can be located in a nearby spot where space is available. In some cases, an accumulator and gas bottle combination may be lower in cost, especially with large capacity applications.

Why Use GB Series Gas Bottles?

- reduce initial hydraulic system costs
- broad range of sizes and operating pressures
- heavy duty forged construction
- minimize plumbing with fewer large bottles
- interface well with Parker's accumulator products, especially piston accumulators

Parker GB Series Gas Bottles… The Right Choice!

Parker is the leading manufacturer of accumulators in North America. In addition to gas bottles, Parker's broad product line includes piston accumulators, bladder accumulators, and diaphragm accumulators. Parker's broad gas bottle offering includes:

- Large GB Series gas bottles (shown here)
- Piston Type Bottles (see Piston Accumulators)
- Bladder Type Bottles (see Bladder Accumulators)

Specifications

Materials

- Shell – high strength alloy steel, SA-372, exterior coated with primer.
- Ports – steel
- Gas Valve Cartridge – stainless steel

Pressure Ratings – Parker's GB Series offers 3200 psi and 5500 PSI gas bottles rated at minimum 3 to 1 design factors. See Models, Capacities and Dimensions for specific pressure ratings by size. Temperatures from -20°F to 200°F (-29°C to 93°C).

Optional Gas Valve – GB Series gas bottles are supplied as standard with high pressure cored gas valve cartridges (ISO-4570-8V1). Poppet type (military) gas valves (Mil. Spec. MS-28889-2) are available as an option.

Standard and Optional Ports – GB Series gas bottles are offered with 2" SAE 4-bolt flange ports as standard. Metric flange, SAE straight thread, and special ports are available as options, see next page for details.

Certifications – GB Series gas bottles are supplied as standard with ASME Section VIII Div. 1, Appendix 22 Certification. See page 3 for a complete certifications summary.

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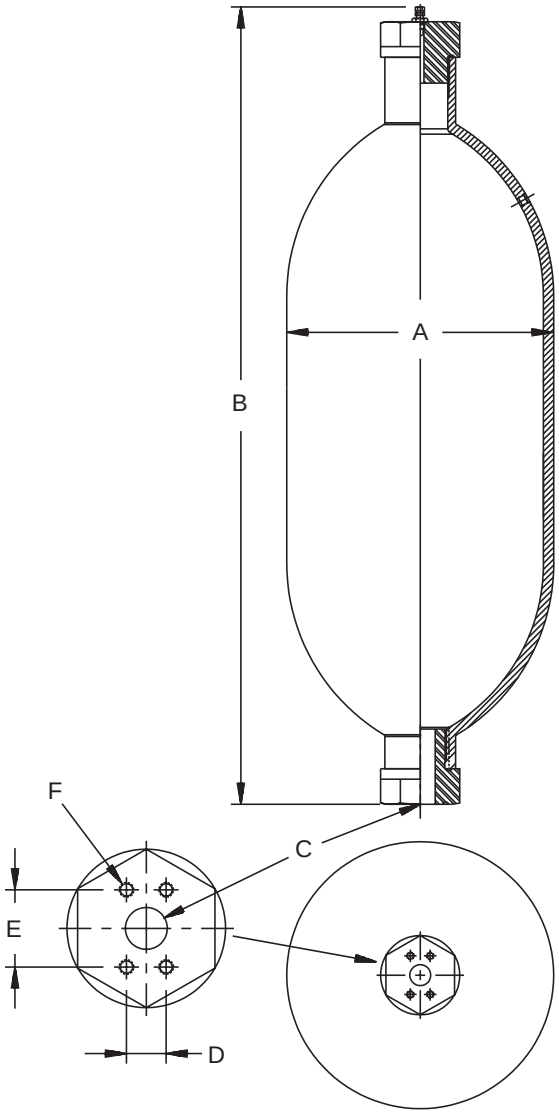
3200 PSI (220 Bar)

Model	Capacity Gallons (Liters)	A in. (mm)	B in. (mm)	C Port Size	Weight lbs. (kg)
GB16040A32PL1A1	40 (151.2)	16 (406)	69 (1753)	2" Code 61 SAE Flange	660 (300)
GB16050A32PL1A1	50 (189.0)	16 (406)	82 (2083)	2" Code 61 SAE Flange	785 (357)
GB16060A32PL1A1	60 (226.8)	16 (406)	96 (2438)	2" Code 61 SAE Flange	912 (415)
GB16070A32PL1A1	70 (264.6)	16 (406)	110 (2794)	2" Code 61 SAE Flange	1043 (474)
GB16080A32PL1A1	80 (302.4)	16 (406)	123 (3124)	2" Code 61 SAE Flange	1175 (534)
GB16090A32PL1A1	90 (340)	16 (406)	136 (3454)	2" Code 61 SAE Flange	1300 (591)
GB16100A32PL1A1	100 (378)	16 (406)	150 (3810)	2" Code 61 SAE Flange	1436 (653)
GB16125A32PL1A1	125 (473)	16 (406)	184 (4674)	2" Code 61 SAE Flange	1755 (798)
GB16150A32PL1A1	150 (567)	16 (406)	218 (5537)	2" Code 61 SAE Flange	2075 (943)

5500 PSI (380 Bar)

Model	Capacity Gallons (Liters)	A in. (mm)	B in. (mm)	C Port Size Thd. Size	Weight lbs. (kg)
GB16040A55PQ1A1	40 (151.2)	16 (406)	77 (1956)	2" Code 62 SAE Flange	1180 (536)
GB16050A55PQ1A1	50 (189.0)	16 (406)	92 (2337)	2" Code 62 SAE Flange	1420 (645)
GB16060A55PQ1A1	60 (226.8)	16 (406)	108 (2743)	2" Code 62 SAE Flange	1650 (750)
GB16070A55PQ1A1	70 (264.6)	16 (406)	123 (3124)	2" Code 62 SAE Flange	1898 (863)
GB16080A55PQ1A1	80 (302.4)	16 (406)	138 (3505)	2" Code 62 SAE Flange	2128 (967)
GB16090A55PQ1A1	90 (340)	16 (406)	153 (3886)	2" Code 62 SAE Flange	2358 (1072)
GB16100A55PQ1A1	100 (378)	16 (406)	168 (4267)	2" Code 62 SAE Flange	2606 (1185)
GB16125A55PQ1A1	125 (473)	16 (406)	207 (5258)	2" Code 62 SAE Flange	3190 (1450)
GB16150A55PQ1A1	150 (567)	16 (406)	244 (6198)	2" Code 62 SAE Flange	3795 (1725)



Port Size	C	D	E	F
2" SAE Code 61	2.0	1.688	3.062	1/2-13 UNC - 2B
2" SAE Code 62	2.0	1.750	3.812	3/4-10 UNC - 2B

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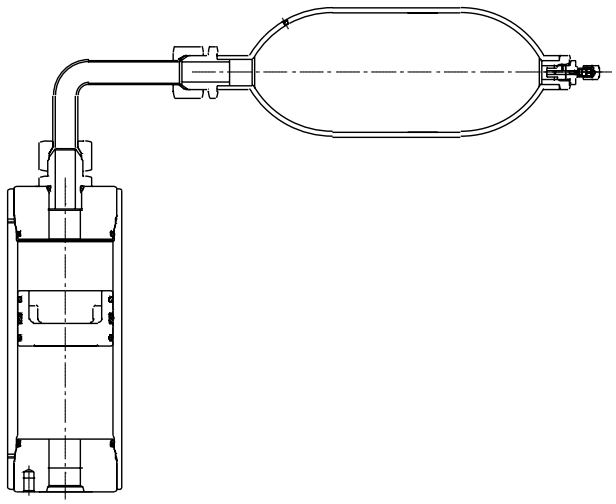
Gas Bottle and Accumulator Sizing Information

When hydro-pneumatic accumulators are sized, a required accumulator capacity or volume is calculated. This calculated capacity is the total "gas" volume required to discharge a specified amount of fluid at a given pressure differential and temperature. When selecting an accumulator(s) to satisfy the requirement, three different choices are possible:

- A single accumulator with the required gas capacity.
- Multiple smaller accumulators, plumbed in parallel, with the required total combined gas capacity.
- A single smaller accumulator with gas bottle(s) with the required total combined gas capacity.

Though all three of the above choices have their advantages, for large capacity applications the single smaller accumulator with gas bottle(s) usually proves to be the most cost effective. When sizing an accumulator with gas bottle(s) system, care must be taken when selecting the accumulator to insure that the piston does not bottom out on the end caps when being charged with or when discharging fluid. As a rule of thumb, size the accumulator with 20% to 25% greater capacity than the volume of fluid being discharged during operation. When selecting a gas bottle(s), make your selection such that the bottle(s) capacity plus the accumulator gas capacity will equal the total gas capacity required.

Example:
Using the *inPHorm Accumulator Sizing and Selection Software*, you calculated that you need an accumulator with an 80 gallon gas capacity. You know that 16 gallons of fluid will be discharged during operation. The proper selection would be a 20 gallon accumulator with a 60 gallon gas bottle.



How to Order Gas Bottles

GB Series 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	Size	Construction	Pressure	Gas Port[1]	Gas Valve Port	Options	Design Variation	Design Code
GB	16040	A	32	PL	M	1	A	1

GB Gas Bottles

A Standard

32 3200 PSI
55 5500 PSI

16040 16", 40 gallon
16050 16", 50 gallon
16060 16", 60 gallon
16070 16", 70 gallon
16080 16", 80 gallon
16090 16", 90 gallon
16100 16", 100 gallon
16125 16", 125 gallon
16150 16", 150 gallon

PJ 1-1/2" Code 61 Flange
PL 2" Code 61 Flange
PM 2-1/2" Code 61 Flange
PP 1-1/2" Code 62 Flange
PQ 2" Code 62 Flange
TE SAE #16
TF SAE #20
TG SAE #24

1 None

A Standard
S Special

1 Standard
- Special Design No. Assigned

Gas Valve Option (or 2nd Port Options):

- **M** Military Poppet Style Gas Valve - Standard on all

****** Ref. Additional Port Code per Gas Port Codes

1) See page 103 for flange port dimensions.

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