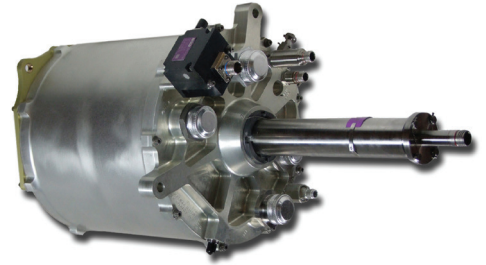


Bootstrap Reservoirs

Parker bootstrap reservoirs — designed and manufactured by the Parker Aerospace Hydraulic Systems Division — are found on many of today's leading military and commercial aircraft, including the F-22 Raptor, F-16 Fighting Falcon, F/A-18 E/F Hornet, C-17 Globemaster, V-22 Osprey, and 787 Dreamliner. Our reservoirs range in size from 21.5 to 3,119 cubic inches and operate at system pressures between 3,000 to 5,000 psi.

Working side by side with our customers, we have provided everything from stand-alone reservoirs to highly customized and fully integrated reservoir/filter modules. Our reservoir/filter modules contain electrical sensors for measuring fluid level, temperature, and pressure, as well as filter replacement indicators.

Most of our reservoirs also include an overboard relief valve and a bleed valve. New Parker proprietary auto-bleed valve technology is also available to improve system performance and reduce the time and cost of maintenance.



Operation

The hydraulic pump supplies system pressure to the reservoir connection and acts on the small piston. The force of this pressure is balanced by the induced pressure in the reservoir, which acts on the large main piston.

For example, a bootstrap system can be designed so that a 3,000 psi system pressure at the small piston will produce 85 psi of reservoir pressure. Depressing the bleed valve stem permits the inner chamber pressures to reduce to ambient pressure, thus bleeding off any entrapped air. The overboard relief valve protects the reservoir assembly from over pressurization.

Features

- High reliability
- Extensive service history
- Integrated bleed and relief valves
- Automatic bleed capability
- Visual and electrical level sensors
- Temperature compensated level sensor
- Isolation valves
- No external high-pressure leak paths
- Distribution manifold
- Compatible with phosphate ester-based and hydrocarbon-based (MILPRF-87257, 83282, 5606) operating fluids

Optional Features

- Electrical fluid level sensor
- Mechanical fluid level sensor
- Temperature sensor
- Pressure sensor
- Relief valves
- Bleed valves (auto and manual)
- Filter system

Our substantial experience in developing hydraulic systems and our extensive line of hydraulic products enable us to custom design a solution for your application.

Contact Information

Parker Hannifin Corporation
Parker Aerospace
Hydraulic Systems Division
2220 Palmer Avenue
Kalamazoo, Michigan 49001-4165
Phone: (269) 384-3400
Fax: (269) 384-3423
www.parker.com

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Bootstrap Reservoirs

A partial listing of our reservoir assemblies is provided in the table below.
More information is available upon request.

Fluid Volume (in3)	Parker Part Number	System Pressure (psi)	Reservoir Pressure (psi)	Dry Weight (lbs)	Diameter "A" (in)	Length "B" (in)	Features Included	Remarks	Production Status
115	3810040	3000	40	14	9.75	10.37	2,5	--	Inactive**
300	3810041	3000	40	15	9.75	15.43	2,5	--	Inactive**
330	377300	5000	80	43	12.10	20.90	1, 3, 4	Integrated filter/reservoir module with dirty filter indicator	Inactive**
355	3920031	5000	145	26	9.94	22.30	1,2, 4	--	Active*
366	368900	3000	41	12	9.17	20.00	1,2,5,6	--	Active*
370	2750514-5	3000	85	16	10.80	19.40	2, 3,5	Charge Valve	Active*
370	417300-1001	3000	85	18	10.75	15.08	2, 3, 4,5	--	Inactive**
428	377200	3000	95	--	9.34	23.80	1,2,3,5,6	--	Inactive**
450	3780017	3000	85	23	11.20	19.50	2, 4	--	Inactive**
486	960441-7	3000	55	21	11.71	12.97	1,2,3,5,6	--	Active*
660	379900	5000	85	47	12.62	20.20	1, 3, 4	Integrated filter/reservoir module with dirty filter indicator	Inactive**
685	3920035	5000	145	30	9.53	31.12	1, 2, 4	--	Active*
700	417300-1003	3000	85	20	10.75	23.30	2, 3, 4,5	--	Inactive**
726	960442-7	3000	55	22	11.71	17.51	1,2,3,5,6	--	Active*
766	3780016	3000	85	26	11.20	23.00	2, 4	--	Inactive**
800	2750514-6	3000	85	19	10.80	30.00	2, 3,5	--	Inactive**
1000	624600-1004	3000	61	27	9.29	45.66	1,2,3,5,6	--	Active*
1000	624500-1004	3000	61	27	9.29	46.19	1,2,3,5,6	Suction shutoff, thermal fuse	Active*
1150	624400-1004	3000	61	29	9.29	51.40	1,2,3,5,6	--	Active*
1165	616400-1007	5000	76	37	12.50	35.43	1,2,3,4,5,6	Automatic bleed valve	Active*
1300	377100	3000	95	--	11.20	37.91	1,2,3,5,6	--	Inactive**
1800	373500	4000	85	32	11.90	42.40	1, 2, 3, 4	--	Inactive**
2550	616500-1007	5000	56	51	14.00	61.33	1,2,3,4,5,6	Automatic bleed valve	Active*
3051	622100-1003	5000	71	61	15.98	44.81	1,2,3,4,5,6	Automatic bleed valve	Active*
3119	3870092-152	4000	85	63	20.10	64.30	1, 2, 3	--	Inactive**
3906	622200-1003	5000	71	66	15.98	56.55	1,2,3,4,5,6	Automatic bleed valve	Active*

*Typical lead time **Request quote

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