

Fluid Power Products, Including Aerospace

2000

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Information about the scope of the survey, methodology, explanation of terms and historical notes for this survey may be found in the introduction of the 1998 Manufacturing Profiles, issued December 2000.

Current data are released electronically on Internet for all individual surveys as they become available. Use: <http://www.census.gov/econ/www/manumenu.html>. Individual reports can be accessed by choosing "Current Industrial Reports (CIR's)," clicking on "Report Number Index;" from the "Industrial Products by Numeric Index," choose the survey of interest. Follow the menu to view the PDF file or to download the worksheet file (WK format) to your personal computer.

These data are also available through the U.S. Department of Commerce and STAT-USA Electronic Bulletin Board by subscription. To access, dial 202-482-3870 and follow the prompts to register. Also, you may call 202-482-1986 or 1-800-STAT-USA, for further information. The Internet address is: www.stat-usa.gov/.

NOTE. Data are now published on the new North American Industry Classification System (NAICS) basis and therefore are not always comparable

to the old Standard Industrial Classification (SIC) code. For further information on NAICS, see www.census.gov/epcd/www/naics.html.

SUMMARY OF FINDINGS

In 2000, fluid power product manufacturers, including aerospace, had shipments of \$12,037.1 million, an increase of 5.6 percent from \$11,400.5 million reported in 1999. Hydraulic and pneumatic valves increased 6.0 percent to \$3,364.3 million in 2000 from \$3,174.8 million in 1999. Fittings and assemblies for tubing and hose, excluding plumbers' brass goods, increased 6.0 percent to \$2,611.5 million in 2000 from \$2,463.0 million in 1999. Hydraulic and pneumatic cylinder, actuators, accumulators, cushions, and nonvehicular shock absorbers increased by 7.4 percent to \$3,070.7 million in 2000 from \$2,857.9 million in 1999. Compressed air and gas dryers and lubricators decreased 9.9 percent to \$71.9 million in 2000 from \$79.8 million in 1998. Filters of hydraulic and pneumatic systems decreased 1.1 percent to \$508.3 million in 2000 from \$514.0 million in 1999. Hydraulic and pneumatic pumps, motors, and hydrostatic transmission components increased 4.3 percent to \$2,410.4 million in 2000 from \$2,311.1 million in 1999.

Address inquiries concerning these data to Primary Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call James Hinckley, 301-457-4772.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-457-4673.

U S C E N S U S B U R E A U

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Economics and Statistics Administration
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Table 1. Value of Shipments of Fluid Power Products, Including Aerospace: 2000 and 1999
 [Value in thousands of dollars]

Product code	Product description	2000		1999
	Fluid power products, including aerospace.....	12,037,101		11,400,473
3329125	Nonaerospace-type hydraulic directional control valves.....	557,701		553,529
3329127	Nonaerospace-type hydraulic valves (except directional control).....	766,736	r/	712,934
3329129	Nonaerospace-type pneumatic directional control valves.....	525,232		482,945
332912B	Nonaerospace-type pneumatic valves (except directional control).....	261,977		267,413
3329121	Aerospace-type hydraulic fluid power valves.....	419,101		398,787
3329123	Aerospace-type pneumatic fluid power valves.....	534,739		507,413
332912D	Parts for fluid power valves.....	298,778	r/	251,734
332912H	Nonaerospace-type flared (metal) fittings and couplings for, and assemblies of tubing used in fluid power transfer systems.....	299,382		288,432
332912J	Nonaerospace-type flareless fittings and couplings, including nonmetal fittings, used in fluid power transfer systems.....	446,790	r/	442,430
332912L	Nonaerospace-type hydraulic and pneumatic fittings and couplings for hose, and manifolds.....	921,496		832,619
332912N	Nonaerospace-type hydraulic and pneumatic assemblies of hose.....	359,584		322,644
332912F	Aerospace-type hydraulic and pneumatic hose or tube end fittings and assemblies and manifolds.....	584,235		576,873
3339993	Nonaerospace-type filters for hydraulic fluid power systems.....	316,439	r/	323,930
3339994	Nonaerospace-type filters for pneumatic fluid power systems.....	118,509		121,534
3339996	Aerospace-type hydraulic and pneumatic filters.....	73,376	r/	68,527
3339998 pt.	Compressed air and gas dryers, and lubricators.....	71,914		79,777
3339951	Nonaerospace-type hydraulic fluid power cylinders and actuators, linear and rotary.....	1,187,710	r/	1,168,913
3339953	Nonaerospace-type pneumatic fluid power cylinders and actuators, linear and rotary.....	501,599		466,567
3339955	Parts for nonaerospace-type hydraulic and pneumatic fluid power cylinders, actuators, and related items, n.e.c.	300,192		292,193
3339957	Aerospace-type fluid power cylinders and actuators, hydraulic and pneumatic.....	1,081,245		930,194
3339961	Nonaerospace-type reciprocating pumps.....	563,278		532,657
3339963	Nonaerospace-type rotary and other fluid power pumps.....	411,964		436,993
3339965	Nonaerospace-type fluid power motors.....	688,496		628,096
3339967	Aerospace-type fluid power pumps and motors.....	244,093		235,659
3339969	Parts for fluid power pumps, motors, and hydrostatic transmissions.....	502,562	r/	477,680

n.e.c. Not elsewhere classified. pt. Part. r/Revised by 5 percent or more from previously published data.

Table 2. Manufacturer's Shipments of Fluid Power Products, Including Aerospace by Types: 2000 and 1999
 [Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000		No. of cos.	1999	
			Quantity	Value		Quantity	Value
	Fluid power products, including aerospace.....	(X)	(X)	12,037,101	(X)	(X)	11,400,473
3329125	Nonaerospace-type hydraulic directional control valves.....	(X)	10,822,169	557,701	(X)	r/ 10,017,470	553,529
	Manual:						
3329125110	3- and 4-way monoblock.....	28	3,612,949	108,130	27	3,605,449	108,946
3329125120	3- and 4-way sectional.....	17	1,077,430	202,154	19	a/ 1,005,548	a/ 201,839
3329125130	Other manual.....	5	c/ 44,998	b/ 1,735	5	c/ 47,130	b/ 1,808
	Solenoid:						
3329125140	2-way types.....	15	(D)	32,601	14	(D)	32,935
3329125150	3- and 4-way types.....	23	990,353	124,713	22	1,098,221	134,558
3329125160	Other directional control.....	30	(D)	88,368	29	(D)	73,443
3329127	Nonaerospace-type hydraulic valves (except directional control).....	(X)	21,697,064	766,736	(X)	20,524,981	r/ 712,934
	Pressure control:						
3329127110	Relief valves.....	26	(S)	37,091	26	a/ 925,085	33,777
3329127120	Other, including load sensing and manual types.....	12	(D)	28,876	14	(D)	24,374
	Flow control:						
3329127130	Manual types.....	19	a/ 914,290	a/ 22,422	19	a/ 971,959	a/ 22,189
3329127140	Other flow control valves.....	22	a/ 2,866,277	64,291	24	2,742,800	57,507
3329127150	Cartridge valves (all types).....	18	11,639,455	280,083	20	10,924,462	242,110
	Electrohydraulic valves:						
3329127160	Pilot operated, torque motor servovalves.....	8	(D)	51,295	9	(D)	43,798
3329127170	Other types, including proportional.....	11	b/ 176,017	b/ 55,606	11	201,995	54,303
3329127180	Other nonaerospace-type hydraulic valves, including stack and logic.....	21	2,250,689	227,072	23	a/ 2,957,624	234,876
3329129	Nonaerospace-type pneumatic directional control valves.....	(X)	20,347,659	525,232	(X)	18,349,951	482,945
3329129110	Manual.....	35	b/ 5,089,487	a/ 92,689	36	b/ 4,497,685	b/ 77,138
	Solenoid:						
3329129120	Under 1/8 inch port diameter.....	11	3,846,945	63,994	12	b/ 3,522,769	b/ 58,810
	1/8 inch up to and including 1/4 inch port diameter:						
3329129130	3-way types.....	19	a/ 2,756,700	a/ 65,187	21	b/ 2,380,994	b/ 57,698
3329129140	4-way types.....	19	3,835,439	128,305	20	3,309,538	119,190
	Over 1/4 inch port diameter:						
3329129150	3-way types.....	17	568,925	a/ 43,042	18	a/ 561,121	b/ 41,597
3329129160	4-way types.....	15	1,504,929	a/ 76,725	16	1,420,854	a/ 73,295
3329129170	All other types.....	5	c/ 133,427	c/ 7,594	5	c/ 134,890	c/ 7,265
3329129180	Mechanical, remote pilot and all other types.....	26	b/ 2,611,807	a/ 47,696	27	b/ 2,522,100	a/ 47,952
332912B	Nonaerospace-type pneumatic valves (except directional control).....	(X)	15,061,147	261,977	(X)	16,115,182	267,413
332912B110	Filter-regulator combination units, integral types.....	13	1,374,848	27,015	14	1,540,676	29,302
332912B120	Other FRs and filter-regulator-lubricator combo units.....	15	a/ 404,549	17,956	16	a/ 462,319	19,223
332912B130	Regulators, sold separately.....	18	3,749,397	72,996	19	4,610,878	79,261
332912B140	Flow control valves.....	26	a/ 5,320,994	94,044	28	a/ 5,138,030	c/r/ 94,521
332912B150	Check, shuttle, exhaust, needle and all other types.....	27	b/ 4,211,359	b/ 49,966	28	b/ 4,363,279	b/ 45,106
3329121	Aerospace-type hydraulic fluid power valves.....	(X)	1,211,496	419,101	(X)	1,298,873	398,787
	2-, 3-, and 4-way directional control valves:						
3329121110	Manually or mechanically operated.....	15	(D)	a/ 66,667	15	(D)	79,265
3329121120	Solenoid operated.....	24	(D)	a/ 62,749	24	(D)	b/ 63,969
3329121130	Motor operated.....	8	26,834	17,246	8	27,442	18,414
3329121140	Electrohydraulic servovalves.....	8	92,079	155,528	9	a/ 88,080	c/r/ 132,507
3329121150	Flow, pressure, and other types of hydraulic valves.....	27	b/ 370,371	b/ 116,911	27	b/r/ 381,233	b/ 104,632
3329123	Aerospace-type pneumatic fluid power valves.....	(X)	1,166,640	534,739	(X)	1,057,495	507,413

Continued

Table 2. Manufacturer's Shipments of Fluid Power Products, Including Aerospace by Types: 2000 and 1999
 [Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000		No. of cos.	1999	
			Quantity	Value		Quantity	Value
3329123110	Pneumatic valves (all types).....	26	1,166,640	534,739	26	a/ 1,057,495	a/ 507,413
332912D	Parts for fluid power valves.....	(X)	(X)	298,778	(X)	(X)	r/ 251,734
332912D110	Parts for nonaerospace-type hydraulic and pneumatic valves, sold separately.....	50	(X)	b/ 236,984	51	(X)	b/r/ 198,963
332912D120	Parts for aerospace-type hydraulic and pneumatic valves, sold separately.....	25	(X)	a/ 61,794	24	(X)	a/ 52,771
332912H	Nonaerospace-type flared (metal) fittings and couplings for, and assemblies of tubing used in, fluid power transfer systems.....	(X)	(X)	299,382	(X)	(X)	288,432
	Flared fittings:						
332912H110	Brass and bronze (SAE 45 degrees and 37 degrees).....	8	(X)	(D) 8	8	(X)	(D) 8
332912H120	Carbon steel (JIC 37 degrees).....	11	(X)	107,925	11	(X)	101,845
332912H130	Other, including alloy steel.....	14	(X)	a/ 60,139	14	(X)	a/ 56,909
332912H140	Assemblies of tubing.....	7	(X)	(D) 7	7	(X)	(D) 7
332912H150	Assemblies of tubing and hose.....	6	(X)	24,923	6	(X)	23,338
332912J	Nonaerospace-type flareless fittings and couplings, including nonmetal fittings, used in fluid power transfer systems.....	(X)	(X)	446,790	(X)	(X)	r/ 442,430
	Metal types:						
332912J110	Brass and bronze.....	15	(X)	96,300	16	(X)	r/ 89,373
332912J120	Carbon steel.....	13	(X)	(D) 13	13	(X)	(D) 13
332912J130	Stainless steel.....	13	(X)	(D) 14	14	(X)	r/ 249,816
332912J140	Other, including alloy steel.....	7	(X)	a/ 14,196	7	(X)	a/ 8,620
332912J150	Nonmetal fittings, including plastic.....	8	(X)	3,035	9	(X)	a/ 3,595
332912L	Nonaerospace-type hydraulic and pneumatic fittings and couplings for hose, and manifolds.....	(X)	(X)	921,496	(X)	(X)	832,619
332912L110	Permanent hose end fittings (crimped and swaged).....	19	(X)	401,341	19	(X)	345,583
332912L120	Hydraulic and pneumatic reusable end fittings.....	25	(X)	132,017	26	(X)	b/ 121,894
332912L130	Hydraulic quick connect and disconnect couplings.....	16	(X)	142,253	16	(X)	r/ 136,214
332912L140	Pneumatic quick connect and disconnect couplings.....	20	(X)	89,609	22	(X)	b/r/ 87,317
332912L150	Manifolds and manifold assemblies for fluid power systems.....	20	(X)	100,520	20	(X)	94,123
332912L160	All other, including steel adaptor, swivel, rotating, and extension fittings.....	22	(X)	55,756	23	(X)	b/ 47,488
332912N	Nonaerospace-type hydraulic and pneumatic assemblies of hose.....	(X)	(X)	359,584	(X)	(X)	322,644
332912N110	Assemblies with permanent end fittings.....	22	(X)	a/ 307,271	20	(X)	a/ 272,626
332912N120	Assemblies with reusable end fittings.....	9	(X)	52,313	9	(X)	50,018
332912F	Aerospace-type hydraulic and pneumatic hose or tube end fittings and assemblies and manifolds.....	(X)	(X)	584,235	(X)	(X)	576,873
332912F110	Assemblies of hose and/or tubing.....	13	(X)	(D) 13	13	(X)	a/ 185,464
332912F120	Quick connect, rotating, swivel, and extension fittings.....	11	(X)	193,191	12	(X)	171,988
332912F130	Manifolds for aerospace hydraulic systems.....	6	(X)	(D) 6	6	(X)	(D) 6
332912F140	Aerospace hose and tube fittings, n.e.c.	14	(X)	177,370	14	(X)	r/ 174,908
3339993	Nonaerospace-type filters for hydraulic fluid power systems.....	(X)	(X)	316,439	(X)	(X)	r/ 323,930
	Hydraulic fluid filter assemblies, with or without filter element installed:						

Table 2. Manufacturer's Shipments of Fluid Power Products, Including Aerospace by Types: 2000 and 1999
 [Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000			No. of cos.	1999		
			Quantity	Value	Quantity		Value	Quantity	Value
3339993010	Low pressure (below 301 psi).....	24	a/	832,679	31,234	24	820,502	r/	30,636
3339993020	Medium pressure (301 to 2,999 psi).....	19		706,420	37,254	19	675,744	r/	32,766
3339993030	High pressure (3,000 psi and above).....	14		158,421	31,249	15	153,122	r/	30,150
	Filter replacement elements:								
3339993040	Reusable (cleanable) type.....	14	a/	974,209	a/ 16,501	14	a/ 940,534	a/	16,355
3339993050	Nonreusable type.....	25		15,766,120	174,858	25	a/ 15,222,637		184,874
3339993060	Strainers and separators, filter parts, and accessories.....	19		(X)	a/ 25,343	19	(X)	a/r/	29,149
3339994	Nonaerospace-type filters for pneumatic fluid power systems.....	(X)		(X)	118,509	(X)	(X)		121,534
	Air supply filter assemblies and filter replacement elements, excluding those shipped as part of a FR or FRL combo unit:								
3339994010	Coalescing types, including elements sold separately.....	15		(X)	51,869	15	(X)		58,169
3339994020	Other types, including elements sold separately.....	12		(X)	35,497	12	(X)		33,449
3339994030	Air exhaust mufflers, diffusers, filter parts and air preparation accessories.....	14		(X)	31,143	15	(X)		29,916
3339996	Aerospace-type hydraulic and pneumatic filters.....	(X)		(X)	73,376	(X)	(X)	r/	68,527
3339996010	Hydraulic.....	7		(X)	(D)	7	(X)		(D)
3339996020	Pneumatic.....	3		(X)	(D)	3	(X)		(D)
3339998 pt.	Compressed air and gas dryers, and lubricators.....	(X)		449,347	71,914	(X)	r/ 553,569		79,777
	Compressed air and gas dryers:								
3339998872	Refrigerated dryers.....	4		(D)	31,256	4	(D)		34,159
3339998874	Dessicant dryers.....	5		(D)	(D)	4	(D)		28,856
3339998879	Other compressed air and gas dryers.....	4		(D)	(D)	4	(D)		3,555
3339998880	Lubricators for pneumatic systems, sold separately.....	8		352,934	10,727	8	r/ 473,186		13,207
3339951	Nonaerospace-type hydraulic fluid power cylinders and actuators, linear and rotary.....	(X)		4,968,736	1,187,710	(X)	r/ 4,495,868		1,168,913
	Hydraulic cylinders, excluding electrohydraulic:								
	Tie-rod types:								
	Standard NFPA and JIC tie-rod types:								
3339951110	Less than 1,500 psi.....	19	a/	171,006	47,133	20	a/ 162,652		41,958
3339951120	1,500 to 3,000 psi.....	17		245,899	97,148	17	243,617		95,700
3339951130	Greater than 3,000 psi.....	7		(D)	(D)	7	(D)		(D)
3339951140	Other tie-rod types.....	15		(D)	(D)	16	(D)		(D)
3339951150	Threaded/weld fused combination....	45	a/	3,385,656	a/ 710,828	45	b/r/ 2,935,256	a/r/	691,938
3339951160	Telescoping.....	19		117,142	100,814	20	136,903		116,663
3339951170	Mill type.....	11		46,975	a/ 29,140	12	r/ 50,323	a/	29,157
3339951180	Other, including those threaded at both ends.....	20		526,981	a/ 59,102	21	555,680	a/	65,004
3339951190	Electrohydraulic types.....	9	a/	6,671	a/ 29,499	9	a/ 6,392	a/	26,478
33399511A0	Hydraulic rotary actuators.....	13		63,183	55,627	13	b/r/ 54,875	b/	47,884
3339953	Nonaerospace-type pneumatic fluid power cylinders and actuators, linear and rotary.....	(X)		6,473,515	501,599	(X)	6,239,061		466,567
	NFPA interchangeable cylinders:								
3339953110	Steel.....	17	a/	283,126	88,898	17	a/ 279,569		83,501
	Aluminum:								
3339953120	Less than 1-1/2 inch bore size.....	7	b/	68,385	a/ 6,688	7	a/ 57,043	a/	6,155
3339953130	1-1/2 inch bore size and over.....	17		390,686	56,862	18	a/ 337,352	a/	56,104
3339953140	Rodless cylinders.....	12		(D)	(D)	11	129,586		42,032
	Other pneumatic cylinders:								
3339953150	Less than 1-1/2 inch bore size.....	25	a/	3,877,081	a/ 151,051	25	a/ 3,784,492	a/	133,871
3339953160	1-1/2 inch bore size and over.....	37	b/	1,593,501	a/ 115,141	37	a/ 1,534,192	a/	108,904
3339953170	Pneumatic rotary actuators.....	15		(D)	(D)	15	b/ 116,827	b/	36,000

Table 2. Manufacturer's Shipments of Fluid Power Products, Including Aerospace by Types: 2000 and 1999
 [Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000		No. of cos.	1999	
			Quantity	Value		Quantity	Value
3339955	Parts for nonaerospace-type hydraulic and pneumatic fluid power cylinders, actuators, and related items, n.e.c.	(X)	(X)	300,192	(X)	(X)	292,193
3339955110	Accumulators (bladder, piston, and other types).....	18	264,430	55,513	21	262,510	55,909
3339955120	Shock absorbers, not for vehicle suspension, and cushions (hydraulic and pneumatic).....	16	4,155,812	a/ 83,481	15	3,512,125	a/ 77,687
3339955130	Reservoirs, intensifiers, and other devices for fluid energy absorption and/or storage.....	13	2,742	1,774	12	2,459	1,558
3339955140	Parts for nonaerospace-type hydraulic and pneumatic cylinders, actuators, accumulators, cushions, and non-vehicular shock absorbers, sold separately.....	53	(X)	159,424	54	(X)	a/ 157,039
3339957	Aerospace-type fluid power cylinders and actuators, hydraulic and pneumatic.....	(X)	(X)	1,081,245	(X)	(X)	930,194
	Hydraulic servo-actuator assemblies (linear and rotary):						
3339957110	Mechanical input.....	7	22,230	204,935	6	a/ 18,793	b/ 159,729
3339957120	Electrical input.....	7	21,942	371,645	6	b/ 17,934	b/ 300,609
3339957130	Combination input.....	4	(D)	(D)	4	(D)	(D)
	Hydraulic utility actuators:						
3339957140	Linear actuators (cylinders).....	10	a/ 20,440	a/ 98,718	9	r/ 19,518	a/ 99,781
3339957150	Rotary actuators (limited rotation).....	3	(D)	(D)	3	(D)	(D)
3339957160	Shock absorbers, snubbers, and cushions, all types, excluding oleo strut assemblies.....	8	(D)	b/ 30,925	8	(D)	c/ 27,919
3339957170	Pneumatic actuators (linear and rotary).....	7	(D)	(D)	7	(D)	(D)
3339957180	Accumulators (bladder, piston, and other types).....	10	11,870	17,152	10	12,040	16,114
3339957190	Reservoirs, intensifiers, and other devices for fluid energy absorption and/or storage.....	5	b/ 1,589	a/ 13,852	5	b/ 1,626	a/ 13,619
33399571A0	Other aerospace-type fluid power cylinders, rotary actuators, cushions and related items, n.e.c.	4	(X)	(D)	4	(X)	2,263
3339955150	Parts for aerospace-type hydraulic and pneumatic cylinders, actuators, accumulators, cushions, and related items, sold separately.....	11	(X)	a/ 21,610	13	(X)	b/ 21,316
3339961	Nonaerospace-type reciprocating pumps.....	(X)	2,070,909	563,278	(X)	1,974,058	532,657
	Axial piston:						
	Variable displacement types:						
3339961110	Closed loop.....	9	1,245,625	324,115	9	1,150,961	303,665
3339961120	Open loop.....	10	(D)	131,964	10	(D)	a/ 126,534
3339961130	Fixed displacement types.....	7	(D)	(D)	6	(D)	(D)
3339961140	Radial piston types.....	4	(D)	(D)	3	(D)	(D)
3339963	Nonaerospace-type rotary and other fluid power pumps.....	(X)	2,872,136	411,964	(X)	3,049,693	436,993
	Gear type:						
3339963110	Internal gear type, including gerotors.....	10	914,088	94,209	10	1,002,566	105,174
3339963120	External gear type.....	13	1,739,431	232,988	14	1,795,785	238,113
	Vane type:						
3339963130	Fixed displacement.....	3	(D)	(D)	3	(D)	(D)
3339963140	Variable displacement.....	4	(D)	(D)	5	(D)	(D)
3339965	Nonaerospace-type fluid power motors.....	(X)	(X)	688,469	(X)	(X)	628,096
3339965110	Pneumatic (air) motors.....	2	(D)	(D)	3	(D)	(D)
	Hydraulic motors:						
	Gear type:						
3339965120	Internal types, excluding gerotors.....	7	(D)	(D)	7	(D)	(D)
3339965130	Gerotor types.....	4	1,436,492	225,831	4	1,304,234	210,390

Table 2. Manufacturer's Shipments of Fluid Power Products, Including Aerospace by Types: 2000 and 1999
 [Quantity in units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2000		No. of cos.	1999	
			Quantity	Value		Quantity	Value
3339965140	External.....	7	188,589	28,646	7	195,018	28,620
3339965150	Vane types, fixed and variable.....	8 a/	5,248	7,482	8 b/r/	7,773	9,612
3339965160	Radial piston types, fixed and variable.....	3	(D)	(D)	2	(D)	(D)
	Axial piston types:						
3339965170	Fixed displacement.....	8	(D)	90,796	8	690,786	88,087
3339965180	Variable displacement.....	6	237,041	130,717	7	213,373	108,256
3339965190	Prime movers shipped with pumps or sold separately.....	5	(X)	(D)	6	(X)	(D)
3339967	Aerospace-type fluid power pumps and motors.....	(X)	105,145	244,093	(X)	97,084	235,659
	Hydraulic pumps:						
3339967110	Fixed and variable displacement types.....	8 a/	35,153	124,682	9 r/	32,557	118,754
3339967120	Pump/electric motor assemblies, fixed and variable displacement types.....	9	(D)	(D)	10	30,125	83,605
3339967130	Other pump packages, n.e.c.	6	(D)	(D)	7	(D)	(D)
	Motors:						
3339967140	Pneumatic (air) motors and motor packages.....	1	(D)	(D)	1	(D)	(D)
3339967150	Hydraulic motors, fixed and variable displacement types.....	2	(D)	(D)	2	(D)	(D)
3339967160	Hydraulic motor packages, including motor/gearbox, motor/valve, motor/generator, and similar combination units.....	4	(D)	(D)	4	(D)	(D)
3339969	Parts for fluid power pumps, motors, and hydrostatic transmissions.....	(X)	(X)	502,562	(X)	(X) r/	477,680
	Hydraulic:						
3339969110	Nonaerospace.....	26	(X)	426,514	27	(X)	412,578
3339969120	Aerospace.....	7	(X)	(D)	8	(X)	(D)
	Pneumatic:						
3339969130	Nonaerospace.....	2	(X)	(D)	2	(X)	(D)
3339969140	Aerospace.....	2	(X)	(D)	1	(X)	(D)

D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified. pt. Part. r/Revised by 5 percent or more from previously published data. S Does not meet publication standards. X Not applicable.

Note: Percent of estimation for each item is indicated as follows: a/10 to 25 percent of this item is estimated. b/26 to 50 percent of this item is estimated. c/Over 50 percent of this item is estimated.

Table 3. Shipments, Exports, and Imports of Fluid Power Products: 2000
 [Quantity in units. Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments		Export shipments 1/		Import shipments 2/	
		Quantity	Value	Quantity	Value	Quantity	Value
3329121, 25, 27	Hydraulic fluid power valves.....	33,730,729	1,743,538	4,049,247	224,879	22,319,444	203,514
3329123, 29, 2B	Pneumatic fluid power valves.....	36,575,446	1,321,948	3,739,363	118,386	30,930,584	254,515
332912D	Parts for fluid power valves: hydraulic, pneumatic, all types.....	(X)	298,778	(X)	133,779	(X)	115,844
3339951 pt., 57 pt.	Hydraulic cylinders and hydraulic actuators (except electrohydraulic types).....	5,032,514	2,006,124	399,542	91,016	4,435,316	253,605
3339953 pt.	Pneumatic cylinders (tie-rod types).....	742,197	152,448	322	545	27,481	6,236
3339953 pt., 57 pt.	Pneumatic cylinders (except tie-rod types).....	5,990,366	496,563	278,067	41,170	3,168,472	62,417
3339951 pt., 57 pt.	Fluid power accumulators, hydraulic and pneumatic, and other hydraulic, pneumatic or combination devices for fluid energy absorption and/or storage, all types.....	(X)	93,809	181,320	73,052	451,970	78,392
3339965 pt., 67 pt.	Pneumatic (air) motors and motor packages, all types.....	(D)	(D)	9,807	3,182	11,935	982
3339965 pt., 67 pt.	Hydraulic motors, all types.....	3,646,612	650,187	413,160	88,590	317,647	169,217
3339961, 63, 67 pt.	Hydraulic pumps, all types.....	5,043,540	1,195,759	(S)	385,252	3,053,935	320,075
3339969	Parts for fluid power pumps and motors.....	(X)	502,562	(X)	211,561	(X)	291,123

D Withheld to avoid disclosing data for individual companies. pt. Part. S Does not meet publication standards. X Not applicable.

1/Source: Census Bureau report, EM 545, U.S. Exports.
 2/Source: Census Bureau report, IM 145, U.S. Imports for Consumption.

Table 4. Comparison of North American Industry Classification System-Based Product Codes with Schedule B Export Numbers, and HTSUSA Numbers: 2000

Product code	Product description	Export number 1/	Import number 2/
3329121, 25, 27	Hydraulic fluid power valves.....	8481.10.0020	8481.10.0020
		8481.20.0010	8481.20.0010
		8481.20.0020	8481.20.0020
		8481.20.0030	8481.20.0030
		8481.20.0040	8481.20.0040
3329123, 29, 2B	Pneumatic fluid power valves.....	8481.10.0040	8481.10.0040
		8481.10.0060	8481.10.0060
		8481.20.0060	8481.20.0060
		8481.20.0070	8481.20.0070
		8481.20.0080	8481.20.0080
332912D	Parts for fluid power valves: hydraulic, pneumatic, all types.....	8481.90.9010	8481.90.9020 8481.90.9040
3339951 pt., 57 pt.	Hydraulic cylinders and hydraulic actuators (except electrohydraulic types).....	8412.21.0015	8412.21.0015
		8412.21.0030	8412.21.0030
		8412.21.0045	8412.21.0045
		8412.21.0060	8412.21.0060
		8412.21.0075	8412.21.0075
3339953 pt.	Pneumatic cylinders (tie-rod types).....	8412.31.0040	8412.31.0040
3339953 pt., 57 pt.	Pneumatic cylinders (except tie-rod types).....	8412.31.0080	8412.31.0080
3339951 pt., 57 pt.	Fluid power accumulators, hydraulic and pneumatic, and other hydraulic, pneumatic or combination devices for fluid energy absorption and/or storage, all types.....	8412.29.8075	8412.29.8075
		8412.39.0080	8412.39.0080
		8479.89.9765	8479.89.9765
3339965 pt., 67 pt.	Pneumatic (air) motors and motor packages, all types.....	8412.39.0040	8412.39.0040
3339965 pt., 67 pt.	Hydraulic motors, all types.....	8412.29.8015	8412.29.8015
		8412.29.8030	8412.29.8030
		8412.29.8045	8412.29.8045
		8412.29.8060	8412.29.8060
3339961, 63, 67 pt.	Hydraulic pumps, all types.....	8413.50.0070	8413.50.0070
		8413.50.0080	8413.50.0080
		8413.60.0020	8413.60.0020
		8413.60.0030	8413.60.0030
		8413.60.0040	8413.60.0040
3339969	Parts for fluid power pumps and motors.....	8412.90.9005	8412.90.9005
		8412.90.9015	8412.90.9015
		8412.90.9025	8412.90.9025
		8412.90.9035	8412.90.9035
		8413.91.9050	8413.91.9050

pt. Part.

1/Source: 2000 edition, Harmonized System-Based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated (2000).