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REPORT FOR CALENDAR YR 2006

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U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
FORM **MA333N**
CURRENT INDUSTRIAL REPORTS

FLUID POWER PRODUCTS FOR MOTION CONTROL {INCLUDING AEROSPACE}

{Shipments}

In correspondence pertaining to this establishment's report, please refer to the 11 digit Identification Number (ID)

If you have questions regarding this report form please contact:
PAUL COREY EXT4
1(800)201-4647

EMPLOYER IDENTIFICATION (EI) NUMBER. Identification number used on Employer's Quarterly Federal Tax Return (U.S. Treasury Department Form 941) **(Enter if not shown, correct if wrong.)**

CONTACT PERSON (Enter information if not shown, correct if wrong.)
Name ATTN: Controller

Area code Number

Fax number

(Please correct any error in name and address including ZIP Code)

Enter or correct email address:[_____]

PART I FOR EACH ITEM LISTED BELOW, ENTER FIGURES OR "0" for current period. (The figures shown in the shaded areas were reported for the previous two periods.) PLEASE REFER TO THE INSTRUCTIONS BEFORE COMPLETING THIS REPORT FORM.

Item (Product code - Description)	Item code	Report period	Section I - FLUID POWER VALVES					
			Total Shipments		3	4	5	6
			Quantity	Value				
{Units}	{\$1000}							
If BOOK FIGURES are not readily available, reasonable estimates are acceptable			1	2	3	4	5	6
3329125- NONAEROSPACE HYDRAULIC DIRECTIONAL CONTROL VALVES								
3329125110-Manual: 3 and 4 way monoblock	1201	2006						
		2005						
		2004						
3329125120-Manual: 3 & 4 way sectional	1205	2006						
		2005						
		2004						

* Figures not received when form was prepared. PLEASE ENTER, if not previously submitted.

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section I - FLUID POWER VALVES						
			Total Shipments		3	4	5	6	
			Quantity	Value					
{Units}	{\$1000}								
3329125130-Manual: other	1209	2006							
		2005							
		2004							
3329125140-Solenoid: 2 way types	1211	2006							
		2005							
		2004							
3329125150-Solenoid: 3 and 4 way types	1215	2006							
		2005							
		2004							
3329125160-Other directional control {excl. cartridge, stack, logic & electro-hydraulic types}	1219	2006							
		2005							
		2004							
3329127- NONAEROSPACE HYDRAULIC VALVES, EXCEPT DIRECTIONAL CONTROL									
3329127110-Pressure control: relief valves	1221	2006							
		2005							
		2004							
3329127120-Pressure control: Other, incl. load sensing & manual types	1225	2006							
		2005							
		2004							
3329127130-Flow control: manual types	1231	2006							
		2005							
		2004							
3329127140-Flow control: other flow control types	1235	2006							
		2005							
		2004							
3329127155-Cartridge valves {except directional control}	1240	2006							
		2005							
		2004							

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section I - FLUID POWER VALVES					
			Total Shipments		3	4	5	6
			Quantity	Value				
{Units}	{\$1000}							
3329127160-Electrohydraulic valves: pilot operated, torque motor servovalves	1241	2006						
		2005						
		2004						
3329127170-Electrohydraulic valves: other types, incl. proportional	1243	2006						
		2005						
		2004						
3329127180-Other nonaerospace hydraul. valves, incl. stack and logic	1249	2006						
		2005						
		2004						
3329129- NONAEROSPACE PNEUMATIC DIRECTIONAL CONTROL VALVES								
3329129110-Manual	1251	2006						
		2005						
		2004						
3329129120-Solenoid: under 1/8" port diameter	1253	2006						
		2005						
		2004						
3329129130-Solenoid: 1/8" up to & incl. 1/4" port diameter: 3 way types	1255	2006						
		2005						
		2004						
3329129140-Solenoid: 1/8" up to & incl. 1/4" port diameter: 4 way types	1257	2006						
		2005						
		2004						
3329129150-Solenoid: over 1/4 " port diameter: 3 way types	1265	2006						
		2005						
		2004						
3329129160-Solenoid: over 1/4" port diameter: 4 way types	1267	2006						
		2005						
		2004						

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section I - FLUID POWER VALVES					
			Total Shipments		3	4	5	6
			Quantity	Value				
{Units}	{\$1000}							
3329129170-Solenoid: all other	1268	2006	1	2	3	4	5	6
		2005						
		2004						
3329129180-Mechanical, remote pilot and all other types {ex. those reported under item 1253}	1269	2006						
		2005						
		2004						
332912B- NONAEROSPACE PNEUMATIC VALVES, EXCEPT DIRECTIONAL CONTROL								
332912B110-Filter-regulator combination units, integral types	1271	2006						
		2005						
		2004						
332912B120-Other FRs and filter-regulator-lubricator combo units	1273	2006						
		2005						
		2004						
332912B130-Regulators sold separately	1275	2006						
		2005						
		2004						
332912B140-Flow control valves	1277	2006						
		2005						
		2004						
332912C000-Nonaerospace-type pneumatic valves - for non-motion control applications	1278	2006						
		2005						
		2004						
332912B150-Check, shuttle, exhaust, needle & all other types	1279	2006						
		2005						
		2004						
332912I- AEROSPACE HYDRAULIC FLUID POWER VALVES								

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section I - FLUID POWER VALVES					
			Total Shipments		3	4	5	6
			Quantity	Value				
{Units}	{\$1000}							
3329121110-Two-, three- & four-way directional control valves: manually or mechanically operated	1281	2006						
		2005						
		2004						
3329121120-Two-, three- & four-way directional control valves: solenoid operated	1283	2006						
		2005						
		2004						
3329121130-Two-, three- & four-way directional control valves: motor operated	1285	2006						
		2005						
		2004						
3329121140-Two-, three- & four-way directional control valves: electrohydraulic servovalves	1287	2006						
		2005						
		2004						
3329121150-Flow, pressure, & other types of hydraulic valves	1289	2006						
		2005						
		2004						
3329123- AEROSPACE PNEUMATIC FLUID POWER VALVES								
3329123110-Pneumatic valves {all types}	1291	2006						
		2005						
		2004						
332912D- PARTS FOR FLUID POWER VALVES								
332912D110-Parts for nonaero-space type hydraulic and pneumatic valves, sold separately	1293	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912D120-Parts for aero-space type hydraulic and pneumatic valves, sold separately	1295	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section II- FLUID POWER FITTINGS & ASSEMBLIES					
			Total Shipments		3	4	5	6
			Quantity	Value				
				{\$1000}				
			1	2	3	4	5	6
332912H-NONAEROSPACE FLARED {METAL} FITTINGS AND COUPLINGS, AND ASSEMBLIES OF TUBING								
332912H110-Flared fittings: brass & bronze {SAE 45 & 37 degrees}	2201	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912H120-Flared fittings: carbon steel {JIC 37 degrees}	2203	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912H130-Flared fittings: other, including alloy steel	2205	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912H140-Assemblies of tubing	2207	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912H150-Assemblies of tubing and hose	2209	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912J- NONAEROSPACE FLARELESS FITTINGS AND COUPLINGS								
332912J110-Metal types: brass & bronze	2211	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912J120-Metal types: carbon steel	2213	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912J130-Metal types: stainless steel	2215	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section II- FLUID POWER FITTINGS & ASSEMBLIES					
			Total Shipments		3	4	5	6
			Quantity	Value				
			1	2				
			-----	-----				
				{ \$1000 }				
332912J140-Metal types: other including alloy steel	2217	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912J150-Nonmetal fittings, including plastic	2221	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912L- NONAEROSPACE HYDRAULIC & PNEUMATIC FITTINGS & COUPLINGS FOR HOSE, AND MANIFOLDS								
332912L110-Permanent hose end fittings {crimped and swaged}	2241	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912L120-Hydraulic & pneumatic reusable end fittings	2243	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912L130-Hydraulic quick connect & disconnect couplings	2245	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912L140-Pneumatic quick connect & disconnect couplings	2247	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912L150-Manifolds and manifold assemblies for fluid power systems	2249	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912L160-All other, incl. steel adaptor, swivel, rotating, and extension fittings	2251	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912N- NONAEROSPACE HYDRAULIC AND PNEUMATIC ASSEMBLIES OF HOSE								

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section II- FLUID POWER FITTINGS & ASSEMBLIES					
			Total Shipments		3	4	5	6
			Quantity	Value				
			1	2				

				{ \$1000 }				
332912N110-Assemblies with permanent end fittings	2261	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912N120-Assemblies with reusable end fittings	2263	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912N130-Nonaerospace-type hydraulic and pneumatic bulk hose	2265	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912F-AEROSPACE HYDRAULIC & PNEUMATIC HOSE OR TUBE END FITTINGS, ASSEMBLIES & MANIFOLDS								
332912F110-Aerospace assemblies of hose and/or tubing	2271	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912F125-Aerospace hose and/or tube fittings, all types	2272	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
332912F130-Aerospace - manifolds for hydraulic systems	2275	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
			Section III- FILTERS FOR HYDRAULIC & PNEU. FLUID POWER SYSTEMS					
			Total Shipments					
			Quantity	Value				

			{Units}	{ \$1000 }				
3339993- NONAEROSPACE FILTERS FOR HYDRAULIC FLUID POWER SYSTEMS								

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section III- FILTERS FOR HYDRAULIC & PNEU. FLUID POWER SYSTEMS					
			Total Shipments		3	4	5	6
			Quantity {Units}	Value {\$1000}				
3339993110-With or without filter element installed: low pressure {below 301 psi}	3301	2006						
		2005						
		2004						
3339993120-With or without filter element installed: medium pressure {301 - 2999 psi}	3302	2006						
		2005						
		2004						
3339993130-With or without filter element installed: high pressure {3,000 psi & above}	3304	2006						
		2005						
		2004						
3339993140-Filter replacement elements: reusable {cleanable} type	3305	2006						
		2005						
		2004						
3339993150-Filter replacement elements: nonreusable	3307	2006						
		2005						
		2004						
3339993160-Filter replacement elements: strainers & separators, filter parts & accessories	3309	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
3339994- NONAEROSPACE FILTERS FOR PNEUMATIC FLUID POWER SYSTEMS {SEE MANUAL}								
3339994110-Coalescing types, including elements sold separately	3311	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
3339994120-Other types, including elements sold separately	3313	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
3339994130-Air exhaust mufflers, diffusers, filter parts & air preparation accessories	3323	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section IV-HYDRAUL. & PNEU. CYL., ACTUATORS, ACCUM., CUSHIONS, NONVEHICULAR SHOCK ABSORBERS					
			Total Shipments		3	4	5	6
			Quantity {Units}	Value {\$1000}				
3339951120-Tie-rod types: standard NFPA & JIC - 1500 - 3000 psi	4503	2006						
		2005						
		2004						
3339951130-Tie-rod types: standard NFPA & JIC - greater than 3000 psi	4505	2006						
		2005						
		2004						
3339951140-Tie-rod types: other	4507	2006						
		2005						
		2004						
3339951150-Threaded/weld fused combination	4509	2006						
		2005						
		2004						
3339951160-Telescoping	4511	2006						
		2005						
		2004						
3339951170-Mill type	4513	2006						
		2005						
		2004						
3339951180-Other, including those threaded at both ends	4515	2006						
		2005						
		2004						
3339951190-Electrohydraulic types	4517	2006						
		2005						
		2004						
33399511A0-Hydraulic rotary actuators	4519	2006						
		2005						
		2004						
3339953- NONAEROSPACE PNEUMATIC CYLINDERS & ACTUATORS, LINEAR & ROTARY								

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section IV-HYDRAUL. & PNEU. CYL., ACTUATORS, ACCUM., CUSHIONS, NONVEHICULAR SHOCK ABSORBERS					
			Total Shipments		3	4	5	6
			Quantity {Units}	Value {\$1000}				
3339953110-Tie-rod cylinders {NFPA types} - steel	4601	2006						
		2005						
		2004						
3339953120-Tie-rod cylinders {NFPA types} - aluminum, less than 1 1/2" bore size	4603	2006						
		2005						
		2004						
3339953130-Tie-rod cylinders {NFPA types} - aluminum, 1 1/2" bore size & over	4605	2006						
		2005						
		2004						
3339953140-Rodless cylinders	4607	2006						
		2005						
		2004						
3339953150-Other pneumatic cylinders, less than 1 1/2" bore size	4609	2006						
		2005						
		2004						
3339953160-Other pneumatic cylinders, 1 1/2" bore size and over	4611	2006						
		2005						
		2004						
3339953170-Pneumatic rotary actuators	4619	2006						
		2005						
		2004						
3339955- PARTS FOR NONAERO. HYDRAULIC & PNEUMATIC CYLINDERS, ACTUATORS & RELATED ITEMS N.E.C.								
3339955110-Accumulators {bladder, piston, & other types}	4841	2006						
		2005						
		2004						
3339955120-Shock absorbers, not for vehicle suspension, & cushions {hydraulic & pneumatic}	4843	2006						
		2005						
		2004						

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section IV-HYDRAUL. & PNEU. CYL., ACTUATORS, ACCUM., CUSHIONS, NONVEHICULAR SHOCK ABSORBERS					
			Total Shipments		3	4	5	6
			Quantity {Units}	Value {\$1000}				
3339955130-Reservoirs, intensifiers, and other devices for fluid energy absorption and/or storage	4845	2006						
		2005						
		2004						
3339955140-Parts for nonaero. hydraulic./pneu. cylinders, actuators, accumulators, etc sold separately {see manual}	4847	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
3339957- AEROSPACE HYDRAULIC & PNEUMATIC CYLINDERS & ACTUATORS								
3339957110-Aerospace, hydraulic servo-actuator assemblies: mechanical input	4851	2006						
		2005						
		2004						
3339957120-Aerospace, hydraulic servo-actuator assemblies: electrical input	4853	2006						
		2005						
		2004						
3339957130-Aerospace, hydraulic servo-actuator assemblies: combination input	4855	2006						
		2005						
		2004						
3339957140-Aerospace, hydraulic utility actuators: linear {cylinders}	4861	2006						
		2005						
		2004						
3339957150-Aerospace, hydraulic utility actuators: rotary {limited rotation}	4863	2006						
		2005						
		2004						
3339957160-Aerospace, shock absorb., snubbers, cushions, all types excl. oleo strut assemblies	4865	2006						
		2005						
		2004						
3339957170-Aerospace, pneumatic actuators {linear & rotary}	4871	2006						
		2005						
		2004						

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section IV-HYDRAUL. & PNEU. CYL., ACTUATORS, ACCUM., CUSHIONS, NONVEHICULAR SHOCK ABSORBERS					
			Total Shipments		3	4	5	6
			Quantity	Value				
			{Units}	{\$1000}				
3339957180-Aero., accumulators {bladder, piston, & other types}	4873	2006						
		2005						
		2004						
3339957190-Aerospace, reservoirs, intensifiers, & other devices for fluid energy absorption and/or storage	4875	2006						
		2005						
		2004						
33399571A0-Other aerospace-type fluid power cylinders, rotary actuators, cushions, related items n.e.c.	4877	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
3339955150-Aero., parts for hydraulic & pneu. cylinders, actuators, accumulators, etc., sold sep.	4893	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
			Section V - FLUID POWER PUMPS AND MOTORS					
			Total Shipments					
			Quantity	Value				
			{Units}	{\$1000}				
3339961- NONAEROSPACE RECIPROCATING PUMPS								
3339961110-Axial piston: variable displacement - closed loop	5504	2006						
		2005						
		2004						
3339961120-Axial piston: variable displacement - open loop	5514	2006						
		2005						
		2004						
3339961130-Axial piston: fixed displacement types	5515	2006						
		2005						
		2004						

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section V - FLUID POWER PUMPS AND MOTORS					
			Total Shipments		3	4	5	6
			Quantity	Value				
{Units}	{\$1000}							
3339961140-Radial piston types	5517	2006						
		2005						
		2004						
3339963- NONAEROSPACE ROTARY AND OTHER FLUID POWER PUMPS								
3339963110-Gear type: internal {including gerotors}	5534	2006						
		2005						
		2004						
3339963120-Gear type: external	5535	2006						
		2005						
		2004						
3339963150-Vane type: Fixed and variable displacement	5537	2006						
		2005						
		2004						
3339965- NONAEROSPACE FLUID POWER MOTORS								
3339965120-Hydraul. motors, gear type: internal, excluding gerotor types	5548	2006						
		2005						
		2004						
3339965130-Hydraul. motors, gear type: gerotor types	5550	2006						
		2005						
		2004						
3339965140-Hydraul. motors, gear type: external	5551	2006						
		2005						
		2004						
3339965150-Hydraul. motors, vane type: fixed & variable	5553	2006						
		2005						
		2004						

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section V - FLUID POWER PUMPS AND MOTORS					
			Total Shipments		3	4	5	6
			Quantity	Value				
{Units}	{\$1000}							
3339965160-Hydraul. motors, radial piston type: fixed & variable	5555	2006						
		2005						
		2004						
3339965170-Hydraul. motors, axial piston type: fixed displacement	5557	2006						
		2005						
		2004						
3339965180-Hydraul. motors, axial piston type: variable displacement	5559	2006						
		2005						
		2004						
3339965110-Pneumatic {air} motors	5560	2006						
		2005						
		2004						
3339965190-Prime movers shipped with pumps or sold separately	5571	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
3339967- AEROSPACE FLUID POWER PUMPS & MOTORS								
3339967110-Hydraulic pumps: fixed and variable displacement types	5581	2006						
		2005						
		2004						
3339967120-Hydraul. pumps: pump/ elect. motor assemblies, fixed & variable displacement	5583	2006						
		2005						
		2004						
3339967130-Hydraulic pumps: other pump packages n.e.c.	5585	2006						
		2005						
		2004						
3339967170-Motors: Aerospace-type fluid power motors, all kinds	5586	2006						
		2005						
		2004						

CURRENT INDUSTRIAL REPORTS - Continued

PART I - Continued

Item (Product code - Description)	Item code	Report period	Section V - FLUID POWER PUMPS AND MOTORS					
			Total Shipments		3	4	5	6
			Quantity	Value				
{Units}	{\$1000}							
3339969- PARTS FOR FLUID POWER PUMPS, MOTORS, AND HYDROSTATIC TRANSMISSIONS			1	2	3	4	5	6
3339969110-Nonaerospace - hydraulic	5591	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
3339969120-Aerospace - hydraulic	5593	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
3339969130-Nonaerospace - pneumatic	5595	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
3339969140-Aerospace - pneumatic	5597	2006	XXXXX					
		2005	XXXXX					
		2004	XXXXX					
333996A000-Nonaerospace hydrostatic transmissions	5599	2006						
		2005						
		2004						
333996B000-Nonaerospace hydraulic power units	5600	2006						
		2005						
		2004						

CURRENT INDUSTRIAL REPORTS SERIES

2006

MA333N — FLUID POWER PRODUCTS FOR MOTION CONTROL (INCLUDING AEROSPACE) (SHIPMENTS)

DEFINITIONS AND SPECIAL INSTRUCTIONS

1. Scope of survey

This survey covers fluid power products manufactured in the United States. Fluid power productions use compressed fluid (liquid or gas) as a medium for transferring power and controlling motion. The focus of this report is fluid power products for motion control applications (some additional categories for non-motion control products are included to help ensure data integrity by keeping any of these products that may be reported separate).

The following products should be **excluded** from reporting:

- plumbing and heating valves and specialities (3329191);
- metal fittings, flanges and unions for piping systems (3329193)
- automatic regulating and control valves (332911F);
- solenoid-operated valves not used in a fluid power motion control system (332911H);
- nuclear valves (332911D);
- other industrial valves (3329111-332911B);
- non-fluid power industrial pumps and pumping equipment;
- pumps for farm and home use (3339111-3339115);
- constant speed drivers (3336123 and 3336127).

2. Figures to be reported

Companies with more than one establishment manufacturing the products covered by this survey are requested to complete a separate report form for each location. If you have not received a separate form for each of your establishments, please call the contact listed on the report form or write to the U.S. Census Bureau for additional forms.

a. Resales

Products bought and resold without further manufacture should not be included in shipments (this is regardless of whether or not they were imported). Further manufacture includes assembly of parts into finished fluid power products (pumps, valves, cylinders, etc).

b. Quantity and value of shipments

The figures on quantity and value of shipments should include physical shipment of products sold or shipped, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, net of discounts,

allowances, freight charges and returns.

Do not combine product lines.

In addition, these figures should include:

- Physical shipments of products manufactured and shipped from the reporting location to customers and distributors.
- Physical shipments of products manufactured and shipped for private labeling by another company.

The figures on quantity and value of shipments should **NOT** include:

- Physical shipments of products received from another division of your company and resold without further manufacture should not be included in shipments (this is regardless of whether or not they were imported). Further manufacture includes assembly of parts into finished fluid power products (pumps, valves, cylinders, etc).

Note: The quantity and value of hydrostatic transmissions and power units should be reported into their respective categories. The quantity and value for the pumps, motors, valves, and prime mover used in the hydrostatic transmissions and power units should also be reported into their respective categories for these products if manufactured in the U.S. by your company. The quantity and value of hydrostatic transmissions and power units will not be added into overall report totals.

c. Columnar structure of report

When entering your figures on the original report, please be sure to report the information in the correct columns.

Column 1 — Total Quantity

Column 2 — Total Shipments Value

Section I — Report all fluid power valves for motion control, including parts.

Section II — Report all fluid power fittings and assemblies for motion control.

3. Definitions — Continued

Section III — Report all fluid power filters for motion control, including parts.

Section IV — Report all fluid power cylinders, rotary actuators, accumulators, cushions, and non-vehicular shock absorbers, including parts.

Section V — Report all fluid power pumps and motors for motion control, including parts.

3. Definitions

Accumulators (hydraulic only) — Devices that store hydraulic fluid under pressure as a source of fluid power

Actuators — Devices that convert fluid power into linear or rotary mechanical force. Linear types are typically referred to as cylinders. Rotary types are referred to as rotary actuators and motors. Motors have shafts that rotate continuously in the same direction. Rotary actuator shafts do not rotate continuously. Typically, the shafts rotate a certain number of degrees before rotating in the opposite direction to their point of origin.

Air dryer — A device for reducing the moisture vapor content of the compressed air in a pneumatic system

Bulk hose — A hose and/or tubing to which fittings have not been attached.

Assembly — A length of hose and/or tubing that fittings have been attached to.

Cushion — A device that provides controlled resistance to non-linear motion.

Cylinder, electrohydraulic — A hydraulic, linear actuator that produces a continuously variable mechanical output, as a function of a continuously variable electronic input signal (voltage or current).

Cylinder, mill type — A linear actuator that has circular flanges welded to the cylinder barrel ends. This type of cylinder is used in severe duty applications like the steel mills from which it derived its name.

Cylinder, rodless (shuttle) — A linear actuator with a rod that never leaves its case, that is sealed lengthwise. Typically used in position control applications.

Cylinder, telescoping — A linear actuator with nested tubular rod segments that provide a long working stroke in a short retracted envelope.

Cylinder, threaded/weld fused combination — A linear actuator with one threaded end and one weld fused end.

Cylinder, tie rod — A linear actuator with head and cap end closures that are secured by tie rods.

Filter (filter assembly) — A device whose primary function is the retention of insoluble contaminants in a fluid by a porous media.

Filter element — That part of a filter that retains contaminants. Some elements are permanent (reusable or cleanable) and others are disposable (nonreusable). Disposable elements must eventually be replaced.

Fittings — Devices used to connect hoses and tubing to components (valves, cylinders, motors, pumps) of a fluid power system. They are constructed from metal or plastic, and are sometimes referred to as connectors or couplings.

Gerotor/Gerolor — A special type of internal gear motor where the internal gear is always in sliding contact with the external gear.

Hydrostatic transmission — A device that combines a hydraulic pump with an hydraulic motor. The quantity and value of hydrostatic transmissions should be reported to the hydrostatic transmission line. The quantity and value of pumps and motors sold together as hydrostatic transmissions should also be reported separately in the relevant pump and motor categories, if manufactured in the U.S. by your company.

Intensifier — Devices driven by a low pressure fluid to produce fluid at a higher pressure.

Lubricator — A device that adds controlled or metered amounts of lubricant into a pneumatic system.

Manifold (manifold assembly) — A fluid conductor that can provide multiple connection ports. In a fluid power system, manifolds are typically used as housings for cartridge valves.

Motor — A device that transforms fluid power into rotary mechanical force. Motors can be hydraulic or pneumatic.

Motor, axial piston — A motor with several parallel pistons arranged around a common axis.

CURRENT INDUSTRIAL REPORTS SERIES
DEFINITIONS AND SPECIAL INSTRUCTIONS — Continued

MA333N

3. Definitions — Continued

Motor, external gear — A motor that has only external gears and no internal gear.

Motor, internal gear — A motor with an internal gear that meshes with one or more external gears. See also gerotor/gerolor.

Motor, radial piston — A motor with several pistons arranged to operate radially.

Motor, vane — A motor with multiple vanes that cause rotation of internal member when under pressure.

Power unit — A device that combines a hydraulic pump with a prime mover (usually an electric motor), and hydraulic valves. As is done for hydrostatic transmissions, the quantity and value of power units should be reported to the power unit line. The quantity and value of pumps, prime movers and valves should also be reported to those respective categories, if manufactured in the U.S. by your company.

Pump, axial piston — A reciprocating pump with several parallel pistons arranged around a common axis.

Pump, external gear — A rotary pump that has only external gears, and no internal gear.

Pump, internal gear — A rotary pump that has an internal gear in engagement with one or more external gears. An internal gear pump generally has external gears that rotate on a fixed axis. A gerotor pump differs from other internal gear types in that its internal gear is always in sliding contact with the external gear.

Pump, radial piston — A reciprocating pump with several pistons arranged radially within the pump chamber.

Pump, reciprocating — A pump that uses pistons to create a partial vacuum to draw hydraulic fluid through the pump inlet. The return strokes of the pistons unseat outlet check valves and force the fluid through the pump outlet.

Pump, rotary — A pump that uses gears or vanes to cause rotary motion that moves hydraulic fluid from the pump inlet to the pump outlet.

Pump, vane — A rotary pump with multiple vanes within a supporting rotor.

Reservoir, hydraulic — A container for storage of hydraulic fluid under pressure.

Sealing devices — A dynamic or static devices for preventing fluid leakage (air or liquid) to the external environment or within sections of a component.

Valves, cartridge — Valves with working parts contained in a cylindrical body. The body must be inserted into a housing (usually a manifold) for use. Ports through the body of the valve align with ports in the housing.

Valves, electrohydraulic — Valves that use continuously variable electronic input (voltage or current) to produce a continuously variable hydraulic output.

Valves, manually operated — Valves actuated by means of a hand lever, or other manual energizing device.

Valves, mechanical — Valves that are actuated by cams, levers, rollers, screws, springs, stems or other mechanical energizing devices. Should not include hydraulically or pneumatically actuated valves for non-fluid power applications.

Valves, relief — Direct acting or pilot operated valves that are used to prevent a hydraulic system from exceeding its maximum pressure limits.

Valves, remote pilot — Pilot operated valves that are controlled remotely through the use of air pressure.

Valves, solenoid — Valves that are operated by a solenoid.

CURRENT INDUSTRIAL REPORTS SERIES
DEFINITIONS AND SPECIAL INSTRUCTIONS — Continued

4. Comparability

If you also report in the Annual Survey of Manufactures (Form MA-10000), the sum of values for item codes shown in column (a) should correspond to the dollar values reported under product class codes indicated in column (b) below:

Current Industrial Reports (Form MA333N)	Annual Survey of Manufactures
Item codes (a)	Product class codes (b)
1201 through 1219	3329125
1221 through 1249	3329127
1251 through 1269	3329129
1271 through 1279	332912B
1281 through 1289	3329121
1291	3329123
1293, 1295	332912D
2201 through 2209	332912H
2211 through 2221	332912J
2241 through 2251	332912L
2261 through 2265	332912N
2271 through 2275	332912F
3301 through 3309	3339993
3311 through 3323	3339994
3325, 3327	3339996
3340, 3347	3339998
4501 through 4519	3339951
4601 through 4619	3339953
4841 through 4847, 4893	3339955
4851 through 4877	3339957
5504 through 5517	3339961
5534 through 5537	3339963
5545 through 5571	3339965
5581 through 5586	3339967
5591 through 5597	3339969

CURRENT INDUSTRIAL REPORTS SERIES

REFERENCE LIST

FORM MA333N		
FLUID POWER PRODUCTS FOR MOTION CONTROL (INCLUDING AEROSPACE) (SHIPMENTS)		
Product code	Item code	Item description
3329125		Section I – FLUID POWER VALVES (hydraulic and pneumatic valves and parts) (Report quantity in number of units) NONAEROSPACE TYPE HYDRAULIC DIRECTIONAL CONTROL VALVES, excluding cartridge, stack, logic and electrohydraulic types Manual: 3- & 4-way monoblock 3- & 4-way sectional Other manual Solenoid: 2-way types 3- & 4-way types Other directional control
3329125110	1201	
3329125120	1205	
3329125130	1209	
3329125140	1211	
3329125150	1215	
3329125160	1219	
3329127		NONAEROSPACE TYPE HYDRAULIC VALVES (EXCEPT DIRECTIONAL CONTROL) Pressure control: Relief valves Other, including load sensing and manual types Flow control: Manual types Other flow control types Cartridge valves (except directional control) Electrohydraulic valves: Pilot operated, torque motor servovalves Other types, including proportional Other nonaerospace type hydraulic valves, including stack and logic
3329127110	1221	
3329127120	1225	
3329127130	1231	
3329127140	1235	
*3329127155	1240	
3329127160	1241	
3329127170	1243	
3329127180	1249	
3329129		NONAEROSPACE TYPE PNEUMATIC DIRECTIONAL CONTROL VALVES Manual Solenoid: Under 1/8" port diameter 1/8" up to and including 1/4" port diameter: 3-way types 4-way types Over 1/4" port diameter: 3-way types 4-way types All other solenoid Mechanical, remote pilot and all other types
3329129110	1251	
3329129120	1253	
3329129130	1255	
3329129140	1257	
3329129150	1265	
3329129160	1267	
3329129170	1268	
3329129180	1269	

* New or revised for 2006

CURRENT INDUSTRIAL REPORTS SERIES

REFERENCE LIST – Continued

FORM MA333N		
Product code	Item code	Item description
		<p>Section I – FLUID POWER VALVES (hydraulic and pneumatic valves and parts) – Continued</p> <p>(Report quantity in number of units)</p> <p>NONAEROSPACE TYPE PNEUMATIC VALVES (EXCEPT DIRECTIONAL CONTROL)</p>
332912B		
332912B110	1271	Filter-regulator combination units, integral types
332912B120	1273	Other FRs and filter-regulator-lubricator combo units
332912B130	1275	Regulators sold separately
332912B140	1277	Flow control valves
*332912C000	1278	Nonaerospace-type pneumatic valves-for non-motion control applications
332912B150	1279	Check, shuttle, exhaust, needle, and all other types
3329121		<p>AEROSPACE TYPE HYDRAULIC FLUID POWER VALVES</p> <p>2-, 3-, and 4-way directional control valves:</p>
3329121110	1281	Manually or mechanically operated
3329121120	1283	Solenoid operated
3329121130	1285	Motor operated
3329121140	1287	Electrohydraulic servovalves
3329121150	1289	Flow, pressure, and other types of hydraulic valves
3329123		<p>AEROSPACE TYPE PNEUMATIC FLUID POWER VALVES</p>
3329123110	1291	Pneumatic valves (all types)
332912D		<p>PARTS FOR FLUID POWER VALVES</p>
332912D110	1293	Parts for nonaerospace type hydraulic and pneumatic valves, sold separately
332912D120	1295	Parts for aerospace type hydraulic and pneumatic valves, sold separately
332912H		<p>Section II – FLUID POWER FITTINGS AND ASSEMBLIES (fittings for and assemblies of tubing and hose used in fluid power transfer systems)</p> <p>NONAEROSPACE TYPE FLARED (METAL) FITTINGS AND COUPLINGS FOR, AND ASSEMBLIES OF TUBING USED IN FLUID POWER TRANSFER SYSTEMS</p> <p>Flared fittings:</p>
332912H110	2201	Brass and bronze (SAE 45 degrees and 37 degrees)
332912H120	2203	Carbon steel (JIC 37 degrees)
332912H130	2205	Other, including alloy steel
332912H140	2207	Assemblies of tubing
332912H150	2209	Assemblies of tubing and hose

* New or revised for 2006

CURRENT INDUSTRIAL REPORTS SERIES

REFERENCE LIST — Continued

FORM MA333N		
Product code	Item code	Item description
		Section II — FLUID POWER FITTINGS AND ASSEMBLIES (fittings for and assemblies of tubing and hose used in fluid power transfer systems) — Continued
332912J		NONAEROSPACE TYPE FLARELESS FITTINGS AND COUPLINGS, INCLUDING NONMETAL FITTINGS, USED IN FLUID POWER TRANSFER SYSTEMS
		Metal types:
332912J110	2211	Brass and bronze
332912J120	2213	Carbon steel
332912J130	2215	Stainless steel
332912J140	2217	Other, including alloy steel
332912J150	2221	Nonmetal fittings, including plastic
332912L		NONAEROSPACE TYPE HYDRAULIC AND PNEUMATIC FITTINGS AND COUPLINGS FOR HOSE, AND MANIFOLDS
332912L110	2241	Permanent hose end fittings (crimped and swaged)
332912L120	2243	Hydraulic and pneumatic reusable end fittings
332912L130	2245	Hydraulic quick connect and disconnect couplings
332912L140	2247	Pneumatic quick connect and disconnect couplings
332912L150	2249	Manifolds and manifold assemblies for fluid power systems
332912L160	2251	All other, including steel adaptor, swivel, rotating, and extension fittings
332912N		NONAEROSPACE TYPE HYDRAULIC AND PNEUMATIC ASSEMBLIES OF HOSE
332912N110	2261	Assemblies with permanent end fittings
332912N120	2263	Assemblies with reusable fittings
*332912N130	2265	Nonaerospace-type hydraulic and pneumatic bulk hose
332912F		AEROSPACE TYPE HYDRAULIC AND PNEUMATIC HOSE OR TUBE END FITTINGS AND ASSEMBLES AND MANIFOLDS
332912F110	2271	Assemblies of hose and/or tubing
*332912F125	2272	Hose and/or tube fittings, all types
332912F130	2275	Manifolds for aerospace hydraulic systems

* New or revised for 2006

CURRENT INDUSTRIAL REPORTS SERIES

REFERENCE LIST – Continued

FORM MA333N		
Product code	Item code	Item description
		Section III – FILTERS FOR HYDRAULIC AND PNEUMATIC FLUID POWER SYSTEMS (Report quantity in number of units)
3339993		NONAEROSPACE TYPE FILTERS FOR HYDRAULIC FLUID POWER SYSTEMS
3339993110	3301	Hydraulic fluid filter assemblies, with or without filter element installed: Low pressure (below 301 psi)
3339993120	3302	Medium pressure (301 - 2,999 psi)
3339993130	3304	High pressure (3,000 psi and above)
3339993140	3305	Filter replacement elements: Reusable (cleanable) type
3339993150	3307	Nonreusable type
3339993160	3309	Strainers and separators, filter parts, and accessories
3339994		NONAEROSPACE TYPE FILTERS FOR PNEUMATIC FLUID POWER SYSTEMS
3339994110	3311	Air supply filter assemblies and filter replacement elements, excluding those shipped as part of a FR or FRL combo unit: Coalescing types, including elements sold separately
3339994120	3313	Other types, including elements sold separately
3339994130	3323	Air exhaust mufflers, diffusers, filter parts and air preparation accessories
3339996		AEROSPACE TYPE HYDRAULIC AND PNEUMATIC FILTERS
3339996110	3325	Hydraulic
3339996120	3327	Pneumatic
3339998		COMPRESSED AIR AND GAS DRYERS, AND LUBRICATORS
*3339998A00	3340	Compressed air and gas dryers
3339998880	3347	Lubricators for pneumatic systems, sold separately

* New or revised for 2006

CURRENT INDUSTRIAL REPORTS SERIES

REFERENCE LIST — Continued

FORM MA333N		
Product code	Item code	Item description
		<p>Section IV — HYDRAULIC AND PNEUMATIC CYLINDERS, ACTUATORS, ACCUMULATORS, CUSHIONS, NONVEHICULAR SHOCK ABSORBERS, AND PARTS</p> <p>(Report quantity in number of units)</p> <p>NONAEROSPACE TYPE HYDRAULIC FLUID POWER CYLINDERS AND ACTUATORS, LINEAR AND ROTARY</p> <p>Hydraulic cylinders, excluding electrohydraulic: Tie-rod types: Standard NFPA and JIC tie-rod types: Less than 1500 psi 1500 to 3000 psi Greater than 3000 psi Other tie-rod types Threaded/weld fused combination Telescoping Mill type Other, including those threaded at both ends Electrohydraulic types Hydraulic rotary actuators</p>
3339951		
3339951110	4501	
3339951120	4503	
3339951130	4505	
3339951140	4507	
3339951150	4509	
3339951160	4511	
3339951170	4513	
3339951180	4515	
3339951190	4517	
33399511A0	4519	
		<p>NONAEROSPACE TYPE PNEUMATIC FLUID POWER CYLINDERS AND ACTUATORS, LINEAR AND ROTARY</p> <p>NFPA interchangeable cylinders: Steel Aluminum: Less than 1 ½" bore size 1 ½" bore size and over Rodless cylinders Other pneumatic cylinders: Less than 1 ½" bore size 1 ½" bore size and over Pneumatic rotary actuators</p>
3339953		
3339953110	4601	
3339953120	4603	
3339953130	4605	
3339953140	4607	
3339953150	4609	
3339953160	4611	
3339953170	4619	
		<p>PARTS FOR NONAEROSPACE TYPE HYDRAULIC AND PNEUMATIC FLUID POWER CYLINDERS, ACTUATORS, AND RELATED ITEMS N.E.C.</p> <p>Accumulators (bladder, piston, and other types) Shock absorbers, not for vehicle suspension, and cushions (hydraulic and pneumatic) Reservoirs, intensifiers, and other devices for fluid energy absorption and/or storage</p> <p>Parts for nonaerospace type hydraulic and pneumatic cylinders, actuators, accumulators, cushions, and nonvehicular shock absorbers, sold separately</p>
3339955		
3339955110	4841	
3339955120	4843	
3339955130	4845	
3339955140	4847	

CURRENT INDUSTRIAL REPORTS SERIES

REFERENCE LIST — Continued

FORM MA333N		
Product code	Item code	Item description
<p>Section IV — HYDRAULIC AND PNEUMATIC CYLINDERS, ACTUATORS, ACCUMULATORS, CUSHIONS, NONVEHICULAR SHOCK ABSORBERS, AND PARTS — Continued</p> <p>(Report quantity in number of units)</p>		
3339957		<p>AEROSPACE TYPE FLUID POWER CYLINDERS AND ACTUATORS, HYDRAULIC AND PNEUMATIC</p>
3339957110	4851	Hydraulic servo-actuator assemblies (linear and rotary):
3339957120	4853	Mechanical input
3339957130	4855	Electrical input
		Combination input
3339957140	4861	Hydraulic utility actuators:
3339957150	4863	Linear actuators (cylinders)
		Rotary actuators (limited rotation)
3339957160	4865	Shock absorbers, snubbers, and cushions (all types), excluding oleo strut assemblies
3339957170	4871	Pneumatic actuators (linear and rotary)
3339957180	4873	Accumulators (bladder, piston, and other types)
3339957190	4875	Reservoirs, intensifiers, and other devices for fluid energy absorption and/or storage
33399571A0	4877	Other aerospace type fluid power cylinders, rotary actuators, cushions and related items, n.e.c.
3339555150	4893	Parts for aerospace type hydraulic and pneumatic cylinders, actuators, accumulators, cushions, and related items, sold separately
<p>Section V — FLUID POWER PUMPS AND MOTORS, AND PARTS</p> <p>(Report quantity in number of units)</p>		
3339961		<p>NONAEROSPACE TYPE RECIPROCATING PUMPS</p>
		Axial piston:
		Variable displacement types:
3339961110	5504	Closed loop
3339961120	5514	Open loop
3339961130	5515	Fixed displacement types
3339961140	5517	Radial piston types
3339963		<p>NONAEROSPACE TYPE ROTARY AND OTHER FLUID POWER PUMPS</p>
		Gear type:
3339963110	5534	Internal, including gerotors
3339963120	5535	External type
		Vane type:
*3339963150	5537	Fixed and variable displacement vanes

* New or revised for 2006

CURRENT INDUSTRIAL REPORTS SERIES

REFERENCE LIST — Continued

FORM MA333N

Product code	Item code	Item description
<p align="center">Section V — FLUID POWER PUMPS AND MOTORS, AND PARTS — Continued</p>		
<p align="center">(Report quantity in number of units)</p>		
<p align="center">NONAEROSPACE TYPE FLUID POWER MOTORS</p>		
<p>Hydraulic motors:</p>		
<p> Gear type:</p>		
3339965120	5548	Internal, excluding gerotor types
3339965130	5550	Gerotor types
3339965140	5551	External
3339965150	5553	Vane types, fixed and variable
3339965160	5555	Radial piston types, fixed and variable
<p> Axial piston types:</p>		
3339965170	5557	Fixed displacement
3339965180	5559	Variable displacement
3339965110	5560	Pneumatic (air) motors
3339965190	5571	Prime movers shipped with pumps or sold separately
<p align="center">AEROSPACE TYPE FLUID POWER PUMPS AND MOTORS</p>		
<p>Hydraulic pumps:</p>		
3339967110	5581	Fixed and variable displacement types
3339967120	5583	Pump/electric motor assemblies, fixed, and variable displacement types
3339967130	5585	Other pump packages n.e.c.
<p>Motors:</p>		
*3339967170	5586	Aerospace-type fluid power motors, all kinds
<p align="center">PARTS FOR FLUID POWER PUMPS, MOTORS, AND HYDROSTATIC TRANSMISSIONS</p>		
<p>Hydraulic:</p>		
3339969110	5591	Nonaerospace
3339969120	5593	Aerospace
<p>Pneumatic:</p>		
3339969130	5595	Nonaerospace
3339969140	5597	Aerospace
*333996A000	5599	Nonaerospace hydrostatic transmissions
*333996B000	5600	Nonaerospace hydraulic power units

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