DUEDATE: 30 Days After Receipt

OMB No. 0607-0392 Approval expires 07-31-09

REPORT FOR CALENDAR YR 2006

U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS FORM MA333N

ININASSSIN

### **CURRENT INDUSTRIAL REPORTS**

FLUID POWER PRODUCTS FOR MOTION
CONTROL {INCLUDING AEROSPACE}

{Shipments}

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

Enter or correct email address:[

Fax number

The 8-digit number that appears above indicates that the Office of Management and Budget has approved this survey. If that number is not displayed, do not complete this form. YOUR REPORT IS CONFIDENTIAL BY LAW (Section 9 Title 13, United States Code). It is seen only by sworn Census Bureau employees and used only for statistical purposes. The law provides that copies retained in your files are immune from legal process. Although you are not required to respond, your cooperation is needed to make the results of this survey comprehensive, accurate, and timely.

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

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

PART I FOR EACH ITEM LISTED BELOW, ENTER FIGURES OR "0" for current period. (The figures shown in the shaded areas were reported

			Section I	- FLUID	POWER VALVI	S		
Item (Product code – Description)	Item code	Report period	Tot Shipm Quantity					
			{Units}	{\$1000}				
If BOOK FIGURES are not readily available, reasonable estimates are acceptable			1	2	3	4	5	6
					22.64.52.00			
3329125- NONAEROSPACE HYDRAULIC DIRECTIONAL CONTROL VALVES							reconstruction of the second o	
ONTROL VIEVES							The second secon	
3329125110-Manual: 3 and 4								
way monoblock	1201	2006			**************************************			
		2005			10000000000000000000000000000000000000			
		2004						
3329125120-Manual: 3 & 4 way sectional 1	1205	2006						
		2005		novel de la constante de la co	n de la companya de l			
		2004						

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

CURRENT INDUSTR	IAL RE	O OF THE CENTOOS	Identification shown, corre	Page 2				
▶ PART I – Continued								
			Section I	- FLUID	POWER VAL	VES		
Item (Product code – Description)	Item code	Report period	Tot Shipm Quantity		.  Whatever the contraction of t	in the state of th		TOTAL PROPERTY PROPERTY AND
			{Units}	{\$1000}			No.	TOTAL
3329125130-Manual: other	1000	0000	1	2	3	4	5	6
	1209	2006						
		2005						
2000105140.6.1		2004						
3329125140-Solenoid: 2 way types	1211	2006			e constanting and a second			***************************************
		2005						
		2004						
3329125150-Solenoid: 3 and 4 way types	1215	2006			Action Control			Score Control of the
way types	1213	2005						
		2004						
3329125160-Other directional		2004						
control {excl.cartridge,	1219	2006				200		***************************************
stack, logic & electro- hydraulic types}		2005				***************************************		
		2004						
3329127- NONAEROSPACE HYDRAULIC VALVES, EXCEPT DIRECTIONAL CONTROL								
3329127110-Pressure control: relief valves	1221	2006			a reconstruction and the second	***************************************	55000WWW.	
		2005	-					
		2004						
3329127120-Pressure control: Other, incl. load sensing	1225	2006					Day Construction of the Co	
& manual types		2005						
		2004						
3329127130-Flow control:	1231	2006				-	Secretary Secret	-
manual types	1231							
		2005						
3329127140-Flow control:		2004		·				
other flow control types	1235	2006						
		2005						
·		2004			on the state of th	ACCOMPANIES		
3329127155-Cartridge valves {except directional control}	1240	2006				v vitaus es establiques		
{except directional control}   1		2005						4.000000
		2004						

U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS shown, correct if wrong)  Page 19 (Enter if not shown, correct if wrong)								
CURRENT INDUSTRI	AL RE	PORTS	– Continue	ed	SHOWII, COITE	ct ii wrong)		
PART I – Continued					I.			3
·			Section I	- FLUID	OWER VAL	VES		
Item (Product code – Description)	Item code	Report period	Tot Shipm Quantity	ents	sensvettuttuttuttuttistissississississississississississis			
			{Units}	{\$1000}				
3329127160-Electrohydraulic valves: pilot operated, torque motor servovalves	1241	2006	1	2	3	4	5	6
3329127170-Electrohydraulic		2004			October 1971		771111	
valves: other types, incl. proportional	1243	2006				· · · · · · · · · · · · · · · · · · ·		
proport fond i		2005						
		2004						
3329127180-Other nonaerospace hydraul. valves, incl. stack	1249	2006			**************************************	OTTO DO THE WAY AND A STATE OF THE STATE OF		**************************************
and logic		2005						
		2004			000000000000000000000000000000000000000			To the second
3329129- NONAEROSPACE PNEUMATIC DIRECTIONAL						The second secon		
CONTROL VALVES						-		
3329129110-Manual		<del></del>						
SSESTESTIO HUMAN	1251	2006				***************************************		
		2005		***************************************				
		2004						
3329129120-Solenoid: under 1/8" port diameter	1253	2006				NAME AND ADDRESS OF THE ADDRESS OF T	www.	The state of the s
		2005						
		2004				Branch Colored		
3329129130-Solenoid: 1/8" up to & incl. 1/4" port	1255	2006				TO DO TO	**************************************	-
diameter: 3 way types		2005				-		
		2004		777			in the second se	
3329129140-Solenoid: 1/8" up to & incl. 1/4" port	1257	2006					·	no de maria de la compania del compania del compania de la compania de la compania del compania
diameter: 4 way types		2005					-	
		2004						
3329129150-Solenoid: over 1/4 " port diameter:	1265	2006						
3 way types		2005						
		2004						-
3329129160-Solenoid: over 1/4" port diameter:	1267	2006						
4 way types		2005						
		2004		***				

U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS  CURRENT INDUSTRIAL REPORTS – Continued  U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS Shown, correct if wrong)  P. Shown, correct if wrong)									
PART I - Continued		e e de recipió y elegador y el de			CONTRACTOR OF THE PERSON NAMED IN COLUMN			4	
			Section I	- FLUID	POWER VAL	VES	The state of the s		
Item (Product code – Description)	Item code	Report period	Tot Shipm Quantity		ideales and a second control of the second c			PREMIONAL DE LES CELLES CONTRACTORS DE LES CONTRACT	
			{Units}	{\$1000}		wein	***************************************		
3329129170-Solenoid: all other	1268	2006	1	2	3	4	5	6	
		2005					***************************************		
		2004							
3329129180-Mechanical, remote pilot and all other types	1269	2006							
<pre>{ex. those reported under item 1253}</pre>		2005	-						
		2004							
332912B- NONAEROSPACE PNEUMATIC VALVES, EXCEPT DIRECTIONAL CONTROL									
332912B110-Filter-regulator combination units, integral	1271	2006			77700000				
types		2005					MANUAL CONTRACTOR OF THE CONTR		
		2004							
332912B120-Other FRs and filter-regulator-lubricator	1273	2006			VO.				
combo units		2005							
		2004							
332912B130-Regulators sold separately	1275	2006			A CONTRACTOR AND A CONT				
		2005					-		
		2004							
332912B140-Flow control valves	1277	2004							
		2005							
2200100000 Nanaanaanaa tyra	<u> </u>	2004							
332912COOO-Nonaerospace-type pneumatic valves - for non-motion control	1278	2006			The state of the s				
applications		2005					***************************************		
		2004							
332912B150-Check, shuttle, exhaust, needle & all other types	1279	2006			***************************************				
		2005							
		2004							
3329121- AEROSPACE HYDRAULIO FLUID POWER VALVES					Organización de la composição de la comp		The state of the s	11 10 10 10 10 10 10 10 10 10 10 10 10 1	
		-				***			
1					-	77500554444		**************************************	

CURRENT INDUSTR	AL RE	OF COMMERCE J OF THE CENSUS ed	Identification shown, corre	Page 5				
PART I - Continued	1	r .	Icootion T	FLUTD	NOUED VAL	ur o		
ltem (Product code – Description)	Item code	Report	Tot Shipm Quantity		PUWEK VAL	VES	Office and the second s	
			{Units}	{\$1000}				
3329121110-Two-,three- & four-way directional control valves: manually or mechanically operated	1281	2006	1	2	3	4	5	6
		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						TO THE PROPERTY OF THE PROPERT
		2004	a planting and a plan		android			
3329121150-Flow, pressure, & other types of hydraulic valves	1289	2006 2005	2000-2000					The state of the s
		2004						
3329123- AEROSPACE PNEUMATIC FLUID POWER VALVES			200					
			***************************************			-	and the contract was	000
3329123110-Pneumatic valves {all types}	1291	2006						
		2005						
332912D- PARTS FOR FLUID		2004						
POWER VALVES			***************************************				,	
332912D110-Parts for nonaero-								
space type hydraulic and pneumatic valves, sold separately	1293	2006 2005	XXXXX			*		
35pui 405 i 3		2004	XXXXX					
332912D12O-Parts for aero- space type hydraulic and pneumatic valves, sold	1295	2006	XXXXX			The Commentary and the Commentar		
pneumatic valves, sold separately		2005	XXXXX					
		2004	xxxxx				***************************************	

shown, correct if wrong)										Page
CURRENT INDUSTR	IAL RE	PORTS	S – Continu	ed			O,		•	6
PART I - Continued	T		Ta		3 2			(Characteristic		
			Section I	I- FLUID	POWER	FITTI	NGS &	ASS	SEMBLIES	
Item (Product code – Description)	ltem code	Report period	Tot Shipm Quantity	al ents Value	Tabelea (Tabelea (Tab	***************************************			TO THE PROPERTY OF THE PROPERT	NATION AND THE
				{\$1000}		and the second			**************************************	22000
332912H-NONAEROSPACE FLARED {METAL} FITTINGS AND COUPLINGS, AND ASSEMBLIES OF TUBING			1	2	3		4		5	6
332912H110-Flared fittings: brass & bronze {SAE 45 & 37	2201	2006	XXXXX			***************************************		***************************************		***************************************
degrees}		2005	XXXXX							
		2004	XXXXX	social de la constant						-
332912H12O-Flared fittings: carbon steel {JIC 37	2203	2006.	XXXXX							
degrees}		2005	XXXXX			***************************************				
		2004	XXXXX	) Political designation of the second of the						The same of the sa
332912H130-Flared fittings: other, including alloy steel	2205	2006	XXXXX							
steer		2005	XXXXX			***************************************				
		2004	XXXXX		-					
332912H14O-Assemblies of tubing	2207	2006	XXXXX							
		2005	XXXXX					and the second		***************************************
		2004	XXXXX							
332912H150-Assemblies of tubing and hose	2209	2006	XXXXX			-				
		2005	XXXXX							
		2004	XXXXX							7.00
332912J- NONAEROSPACE FLARELESS FITTINGS AND COUPLINGS					-	Addition of the second of the				
					-					
		***************************************				***************************************				
332912J110-Metal types: brass & bronze	2211	2006	XXXXX							
		2005	XXXXX				***			
		2004	XXXXX							
332912J120-Metal types: carbon steel	2213	2006	XXXXX					***************************************		
		2005	XXXXX					-		
		2004	XXXXX			She was a second				
332912J130-Metal types: stainless steel	2215	2006	xxxxx							

2005

2004

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CURRENT INDUSTR	IAL RE			T OF COMMERCE AU OF THE CENSUS ed	Identificati shown, corn	Page 7		
PART I - Continued					·			
			Section	II- FLUID	POWER FIT	TINGS & AS	SSEMBLIES	The state of the s
ltem (Product code – Description)	ltem code	Report period	Tot Shipr Quantity	tal ments Value	NAME PROGRAMMA CONTRACTOR CONTRAC	***		·
				{\$1000}		***************************************		
332912J140-Metal types: other including alloy steel	2217	2006	1 XXXXX	2	3	4	5	6
		2005	XXXXX					
		2004	XXXXX	***************************************				
332912J150-Nonmetal fittings, including plastic	2221	2006	XXXXX	A CONTRACTOR OF THE CONTRACTOR		A STATE OF THE STA		***************************************
, ·		2005	XXXXX					
		2004	XXXXX					
332912L- NONAEROSPACE HYDRAULIC & PNEUMATIC FITTINGS & COUPLINGS FOR HOSE, AND MANIFOLDS								
noot, and married								
332912L110-Permanent hose end fittings {crimped and	2241	2006	XXXXX		NOOD TO THE TOTAL PROPERTY OF THE TOTAL PROP		oriente de la constante de la	
swaged}		2005	XXXXX					
		2004	XXXXX					
332912L120-Hydraulic & pneumatic reusable end	2243	2006	XXXXX		And the state of t			
fittings		2005	XXXXX	**************************************		observation and the second		
		2004	XXXXX					
332912L130-Hydraulic quick connect & disconnect	2245	2006	XXXXX		Control of	-		
couplings		2005	XXXXX					
		2004	XXXXX				CONTRACTOR	
332912L140-Pneumatic quick connect & disconnect couplings	2247	2006	XXXXX			200		
Coupings		2005	XXXXX					
		2004	XXXXX			reference and production		
332912L150-Manifolds and manifold assemblies for fluid power systems	2249	2006	XXXXX			The state of the s		
Trutu power systems		2005	XXXXX				***************************************	-
		2004	XXXXX					-
332912L160-All other, incl. steel adaptor, swivel, rotating, and extension	2251	2006	XXXXX			***************************************		11.00
rotating, and extension fittings		2005	XXXXX					

2004

XXXXX

332912N- NONAEROSPACE'

HYDRAULIC AND PNEUMATIC ASSEMBLIES OF HOSE

CURRENT INDUSTR	IAL RE	Identificat shown, corr	Page 8					
PART I - Continued	T	r	T6	TT FILITS	nouen er			
ltem (Product code – Description)	ltem code	Report period	То	II- FLUID tal ments Value	POWEK FI	IIINGS & AS	SSEMBLIES	According to the contract of t
				<pre>{\$1000}</pre>			WWW.	
332912N110-Assemblies with permanent end fittings	2261	2006	1 XXXXX	2	3	4	5	6
		2005	XXXXX					
		2004	xxxxx					
332912N120-Assemblies with reusable end fittings	2263	2006	xxxxx					0.000
		2005	XXXXX					
		2004	XXXXX					
332912N130-Nonaerospace-type hydraulic and pneumatic	2265	2006	xxxxx		CONTINUE CON		,	
bulk hose		2005	XXXXX					
		2004	XXXXX		e de la composition della comp			
332912F-AEROSPACE HYDRAULIC & PNEUMATIC HOSE OR TUBE END					OOTHAA BEARTON			
FITTINGS, ASSEMBLIES & MANIFOLDS						Manage Control of the		***************************************
332912F110-Aerospace assemblies of hose and/or	2271	2006	- XXXXX	-			o pontantina de la constantina della constantina	
tubing		2005	xxxxx			***************************************		
		2004	XXXXX					
332912F125-Aerospace hose and/or tube fittings,	2272	2006	XXXXX				di manananan mananan m	
all types		2005	XXXXX			***************************************		
		2004	XXXXX			***************************************		
332912F130-Aerospace - manifolds for hydraulic	2275	2006	xxxxx	THE PROPERTY OF THE PROPERTY O		organization of the control of the c	····	and an artistic section of the secti
systems		2005	XXXXX					
		2004	XXXXX		***************************************			
				,	nonnonoverable de la constante		**************************************	
			Section	III- FILTER POWER	S FOR HY	DRAULIC &	PNEU. FLUII	9
			To	ta1	SYSIEMS		***************************************	notice the section
			Ship Quantity	m <del>ents</del> Value				-
			{Units}	 { <b>\$1</b> 000}	Transmostation (Contraction)	Anna (14 / 14 / 14 / 14 / 14 / 14 / 14 / 14		
3339993- NONAEROSPACE FILTERS FOR HYDRAULIC FLUID		1		· ·		-		
POWER SYSTEMS								

FORM CIR-2 (Continuation) (10-24-2002)

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	Water Control of the							9
PART I - Continued	l .	T	Cootion T	TT CTITCE	ic con uve	DAILL TO A	PNEU. FLUII	
				POWER	SYSTEMS	KAULIC &	MNEU. FLUII	
Item (Product code – Description)	ltem code	Report period	Tot Shipm Quantity				The state of the s	
·			{Units}	{\$1000}		Personal Control of Co	9	
3339993110-With or without filter element installed:	3301	2006	1	2	3	. 4	5	6
low pressure {below 301 psi}	0001	2005			<b>V</b>		-	
		2004				-	Representation of the second o	
3339993120-With or without filter element installed:	3302	2006						-
medium pressure {301 -	3302	2005		and the second s				,
2999 psi}		2004						
3339993130-With or without	2204	2006					30-00-00-00-00-00-00-00-00-00-00-00-00-0	
filter element installed: high pressure {3,000 psi &	3304	2006						
above}		2003						
3339993140-Filter replacement								
elements: reusable {cleanable} type	3305	2006						
(orcandoro) type		2005						
2220002150 Filton nonlacement		2004						
3339993150-Filter replacement elements: nonreusable	3307	2006		***************************************		***************************************	**************************************	
		2005		48800000000000000000000000000000000000				
		2004						
3339993160-Filter replacement elements: strainers &	3309	2006	XXXXX	Statistical formation of the state of the st		Visibilitation control	***************************************	
separators, filter parts & accessories		2005	XXXXX					
		2004	xxxxx				**************************************	
3339994- NONAEROSPACE FILTERS FOR PNEUMATIC FLUID						The state of the s		
POWER SYSTEMS {SEE MANUAL}							****	
(000								
3339994110-Coalescing types, including elements sold	3311	2006	XXXXX			O CALLACTE CONTRACTOR		
separately	3311	2005	XXXXX					
		2004	XXXXX					
3339994120-Other types,	2212	2006	VVVV	000000000000000000000000000000000000000			11.11	
including elements sold separately	3313	2006	XXXXX	027-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-				Wat
		2003	XXXXX	1		special control of the control of th	Balance (1)	
3339994130-Air exhaust								
mufflers, diffusers, filter parts & air preparation	3323	2006	XXXXX	100 miles		700000000000000000000000000000000000000		
accessories		2005	XXXXX				***************************************	
FORM CIP 0 10 - 15 - 15 - 15 - 15 - 15 - 15 - 15		2004	XXXXX	Open Control of Contro				

CURRENT INDUSTRI	Identificatio shown, correc	Page 10						
PART I - Continued						I I U		
ltem (Product code – Description)	Item code	Report period	Section I Tot Shipm Quantity	POWER	S FOR HYD SYSTEMS	RAULIC &	PNEU. FLUI	
			{Units}	{\$1000}		-		***************************************
3339996- AEROSPACE HYDRAULIC AND PNEUMATIC FILTERS			1	2	3	4	5	6
3339996110-AEROSPACE, hydraulic filters	3325	2006	XXXXX			-		
		2005	XXXXX		***************************************			
		2004	XXXXX		***************************************		***************************************	***************************************
3339996120-AEROSPACE, pneumatic filters	3327	2006	XXXXX				-	
		2005	XXXXX		2000			
		2004	XXXXX					
3339998- COMPRESSED AIR AND GAS DRYERS, AND LUBRICATORS								
3339998A00-Compressed air and gas dryers	3340	2006						
		2005						
		2004						
3339998880-Lubricators for pneumatic systems, sold separately	3347	2006		***************************************	,		on the second se	
Separatery		2005						TRANSPORTER TO THE TRANSPORTER T
		2004						
				***************************************		**************************************		
			Soction T	ווואמטארוו ע	0 DNEII	CVI ACT	THAT TO D.C. A.C.	
			1 Tot	:al	, NONVEHI	CULAR SHO	UATORS, ACC OCK ABSORBER	RS
			Quantity	ents Value		io	***	
			{Units}	{ <b>\$1000</b> }				
3339951- NONAERO. HYDRAULIC CYLINDERS & ACTUATORS, LINEAR AND ROTARY	And the second s							
	ļ					***************************************		
3339951110-Tie-rod types: standard NFPA & JIC - less than 1500 psi	4501	2006				- Control of the Cont		

2005

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Identification Number (ID) (Enter if not shown, correct if wrong)

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# **CURRENT INDUSTRIAL REPORTS - Continued**

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PART I - Continued								<u> </u>
			Section I	V-HYDRAUL. CUSHIONS	& PNEU.	CYL., ACT	UATORS, AC	ÇUM.,
ltem	Item	Report	1 101	d	, NUNVEH	LULAK SHO	UK ABSORBE	.RS
(Product code – Description)	code	period ·	Shipm Quantity	ents Value				- Granden and a second
		-		 { <b>\$</b> 1000}		SOCIO DE LA COLO DE LA	***************************************	
3339951120-Tie-rod types:	45.00	0000	1	2	3	4	5	6
standard NFPA & JIC - 1500 - 3000 psi	4503	2006						
		2005						
3339951130-Tie-rod types:		2004						
standard NFPA & JIC - greater than 3000 psi	4505	2006						
greater than 3000 psi		2005						
		2004					0.000	
3339951140-Tie-rod types:	4507	2006					and the state of t	
		2005						
,		2004						
3339951150-Threaded/weld fused combination	4509	2006						
Tused combination	4509	2005						
		2003						
3339951160-Telescoping		2004						
3339931100 Telescoping	4511	2006						
•		2005						***************************************
		2004						
3339951170-Mill type	4513	2006				***************************************	antidaticidowww.	Vandrannonnen (VA)
		2005						
		2004				onoconomic		
3339951180-Other, including those threaded at both	4515	2006						
ends	7313	2005						
		2004						
3339951190-Electrohydraulic								
types	4517	2006						
		2005		***************************************	***			
33399511A0-Hydraulic rotary		2004						
actuators	4519	2006		and the state of t				
		2005	300000	-				
		2004	000100000000000000000000000000000000000	***************************************				
3339953- NONAEROSPACE PNEUMATIC CYLINDERS & ACTUATORS, LINEAR &			· ·	er and in the state of the stat		V		
ROTARY			and and an					
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CURRENT INDUSTRI	AL RE		12					
PART I - Continued								
ltem	Item	Report	To.	tal	& PNEU. S, NONVEH	CYL., ACT ICULAR SHO	UATORS, ACC OCK ABSORBE	CUM., RS
(Product code – Description)	code	period	Ship Quantity  {Units}		00000000000000000000000000000000000000			
3339953110-Tie-rod cyclinders {NFPA types} - steel	4601	2006	1	2	3	4	5	6
		2005						
		2004			***************************************			
3339953120-Tie-rod cylinders {NFPA types} - aluminum, less than 1 1/2" bore	4603	2006		SON PROPERTY AND A SON OF THE SON			CONTRACT HAVE AND A CONTRACT AND A C	,
size size		2005						
		2004						
3339953130-Tie-rod cyclinders {NFPA types} - aluminum, 1 1/2" bore size & over	4605	2006		The control of the co		**************************************	various and a second se	
		2005					70-00-00-00-00-00-00-00-00-00-00-00-00-0	
2220052140 Dodlogs ovlindons		2004						
3339953140-Rodless cylinders	4607	2006		Andrews and the second and the secon		PONTE MANAGEMENT AND	annertalisation de la constitución de la constituci	
		2005		000000000000000000000000000000000000000				
3339953150-Other pneumatic		2004						
cylinders, less than 1 1/2" bore size	4609	2006 2005		**************************************		TOTAL CONTRACTOR OF THE PARTY O	TOTAL PROPERTY AND ADDRESS OF THE PROPERTY ADDRESS OF THE PROPERTY AND ADDRESS OF THE PROPERTY	
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3339953160-Other pneumatic cylinders, 1 1/2" bore	4611	2006		100 000 000 000 000 000 000 000 000 000				
size and over		2005		100				
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3339953170-Pneumatic rotary actuators	4619	2006		And the state of t				
·		2005		A constant of the constant of				
		2004		***************************************				
3339955- PARTS FOR NONAERO.  HYDRAULIC & PNEUMATIC  CYLINDERS, ACTUATORS &								
RELATED ITEMS N.E.C.				300000000000000000000000000000000000000				
2220055110 Assumulations								
3339955110-Accumulators {bladder, piston, & other types}	4841	2006			<u> </u>	orderinda composition of the control	TOTAL TOTAL STATE OF THE STATE	
		2005						
3339955120-Shock absorbers,		2004		VIII ON THE STATE OF THE STATE			***************************************	
not for vehicle suspension, & cushions {hydraulic	4843	2006		**************************************		2002		
& cushions {hydraulic & pneumatic}		2005				***************************************		
		2004		000000000000000000000000000000000000000		0000	200	

U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS Identification Number (ID) (Enter if not shown, correct if wrong)

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### **CURRENT INDUSTRIAL REPORTS - Continued**

13 PART I - Continued Section IN-HYDRAUL, & PNEU. CYL., ACTUATORS, ACCUM., CUSHIONS, NONVEHICULAR SHOCK ABSORBERS Total ltem ltem Report Shipments (Product code - Description) code period Quantity Value {Units} {\$1000} 1 2 3339955130-Reservoirs. intensifiers, and other 4845 2006 devices for fluid energy 2005 absorption and/or storage 2004 3339955140-Parts for nonaero. 4847 hydrual./pneu. cylinders. 2006 XXXXX actuators, accumulators, etc 2005 XXXXXsold separately {see manual} 2004 XXXXX 3339957-**AEROSPACE** HYDRAULIC & PNEUMATIC CYCLINDERS & ACTUATORS 3339957110-Aerospace, hydrau-4851 2006 lic servo-actuator assemblies: mechanical input 2005 2004 3339957120-Aerospace, hydrau-4853 lic servo-actuator assem-2006 blies: electrical input 2005 2004 3339957130-Aerospace, hydraulic servo-actuator assem-4855 2006 blies: combination input 2005 2004 3339957140-Aerospace, hydrau-4861 lic utility actuators: 2006 linear {cylinders} 2005 2004 3339957150-Aerospace, hydrau-4863 lic utility actuators: 2006 rotary {limited rotation} 2005 2004 3339957160-Aerospace, shock absorb., snubbers, cushions, 4865 2006 all types excl. oleo strut 2005 assemblies 2004 3339957170-Aerospace, pneu-4871 2006 matic actuators {linear & rotary} 2005 2004

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Identification Number (ID) (Enter if not shown, correct if wrong)

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#### **CURRENT INDUSTRIAL REPORTS - Continued**

14 ► PART I - Continued Section IV-HYDRAUL, & PNEU. CYL., ACTUATORS, ACCUM., CUSHIONS, NONVEHICULAR SHOCK ABSORBERS Total Item Item Report Shipments code (Product code – Description) period Quantity Value {\$1000} {Units} 1 2 3339957180-Aero.,accumulators 4873 2006 {bladder, piston, & other types} 2005 2004 3339957190-Aerospace, reservoirs, intensifiers, & other 4875 2006 devices for fluid energy 2005 absorption and/or storage 2004 33399571A0-Other aerospacetype fluid power cylinders, 4877 2006 XXXXXrotary actuators, cushions, 2005 XXXXXrelated items n.e.c. 2004 XXXXX 3339955150-Aero., parts for 4893 2006 hydraulic & pneu. cylinders, XXXXX actuators, accumulators, 2005 XXXXX etc., sold sep. 2004 XXXXXSection V - FLUID POWER PUMPS AND MOTORS Total Shipments Quantity Value {Units} {\$1000} 3339961- NONAEROSPACE RECIPROCATING PUMPS 3339961110-Axial piston: variable displacement -5504 2006 closed loop 2005 2004 3339961120-Axial piston: variable displacement -5514 2006 open loop 2005 2004 3339961130-Axial piston: 5515 2006 fixed displacement types 2005

2004

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			{Units}	{ <b>\$</b> 1000}		***************************************	
3339961140-Radial piston			1	2	3	4 5	6
types	5517	2006					
		2005	:				
		2004					
3339963- NONAEROSPACE ROTARY AND OTHER FLUID POWER PUMPS				00110707070111100000000000000000000000			
		- L					
3339963110-Gear type: internal {including	5534	2006					Property of the Control of the Contr
gerotors}		2005					
		2004		organization of the state of th			
3339963120-Gear type: external	5535	2006					
		2005		111111111111111111111111111111111111111			
		2004	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COL	drawddouwerewed			
3339963150-Vane type: Fixed and variable displacement	5537	2006					-
чтэртисешенс		2005				or delication of the second of	***************************************
		2004				***************************************	
3339965- NONAEROSPACE FLUID POWER MOTORS	-				000000000000000000000000000000000000000		7777
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3339965120-Hydraul. motors, gear type: internal, excluding gerotor types	5548	2006					NA PAGE AND
exertaining gerotor types		2005				2000	
		2004				***************************************	· · · · · · · · · · · · · · · · · · ·
3339965130-Hydraul. motors, gear type: gerotor types	5550	2006					
		2005					
		2004					
3339965140-Hydraul. motors, gear type: external	5551	2006			Accommon and additional decommon a		
		2005					
	ļ	2004				***	
3339965150-Hydraul. motors, vane type: fixed & variable	5553	2006					
		2005					
		2004	1		TO THE PROPERTY OF THE PROPERT		-

U.S. DEPARTMENT OF COMMERCE BUREAU OF THE CENSUS Characteristics (ID) (Enter if not Page shown, correct if wrong) **CURRENT INDUSTRIAL REPORTS - Continued** 16 ▶ PART I - Continued Section V - FLUID POWER PUMPS AND MOTORS Total Item Item Report Shipments (Product code - Description) code period Quantity Value {Units} {\$1000} 3339965160-Hydraul. motors, 6 5555 2006 radial piston type: fixed & variable 2005 2004 3339965170-Hydraul. motors, axial piston type: fixed 5557 2006 displacement 2005 2004 3339965180-Hydraul. motors, axial piston type: variable 5559 2006 displacement 2005 2004 3339965110-Pneumatic {air} motors 5560 2006 2005 2004 3339965190-Prime movers 5571 shipped with pumps or 2006 XXXXXsold separately .2005 XXXXX

		2004	XXXXX		all transmission of the contract of the contra	**************************************		
3339967- AEROSPACE FLUID POWER PUMPS & MOTORS	·							
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•				Non-Action Constitution			7	
3339967110-Hydraulic pumps: fixed and variable dis-	5581	2006			The state of the s			The state of the s
placement types		2005		000000000000000000000000000000000000000				
		2004						
3339967120-Hydraul. pumps: pump/ elect. motor assemb-	5583	2006						Personal Parket Control of the Contr
lies, fixed & variable displacement		2005		MACCOLLIS FAMOURA				
		2004						
3339967130-Hydraulic pumps: other pump packages n.e.c.	5585	2006			on-vital delication of the state of the stat			
		2005						
		2004				overence and the second		
3339967170-Motors: Aerospace-type fluid power	5586	2006			**************************************	another statement of the statement of th		
motors, all kinds		2005		***************************************				
	[	2004						

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			{Units}	{\$1000}		**************************************	000000000000000000000000000000000000000
3339969- PARTS FOR FLUID POWER PUMPS, MOTORS, AND HYDROSTATIC TRANSMISSIONS				2	3	4 . 5	6
3339969110-Nonaerospace -	5501	2006	VVVV	-		2011	
hydraulic	5591	2006	. XXXXX				96991-96
		2005 2004	XXXXX			ACTION AC	
3339969120-Aerospace -	`	200,4	****				
hydraulic	5593	2006	XXXXX			-	
		2005	XXXXX				
		2004	XXXXX			200000000000000000000000000000000000000	
3339969130-Nonaerospace - pneumatic	5595	2006	XXXXX	Virane Addition (America)			
		2005	XXXXX			THE PROPERTY OF THE PROPERTY O	
		2004	XXXXX			2005	***************************************
3339969140-Aerospace - pneumatic	5597	2006	XXXXX			·	
		2005	XXXXX				
		2004	XXXXX	2			
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						**************************************	-
333996A000-Nonaerospace hydrostatic transmissions	5599	2006		and the commence of the commen			and the second s
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		2004					
333996B000-Nonaerospace hydraulic power units	5600	2006					
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FORM CIR-2 (Continuation) (10-24-2002)

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PART II Has there been any cha						during this period?		
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N	ame of c	ompany		Address (A	Number and street,	city, State, ZIP Code)	Date	of change
·								
A. Purchased from								
B. Sold to								
C. Plant discontinued all operations		Date	,					
<b>D.</b> Plant operations no longer cover	·····	s survey –	Describe in	"Remarks" the	e products currently	y produced.	····	
E. Reorganized - Describe in "Rema			<del></del>	· · · · · · · · · · · · · · · · · · ·				
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► PART V CERTIFICATION - This r Signature of authorized official	eport is s	substantia Title	lly accurate a	ind has been	prepared in accord	ance with instructions Da		
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envelope provided or to:			ast Tenth Str sonville, IN 47		NOTE: Please	make a photocopy of	this for you	ır records.

### 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.

#### **MA333N**

### DEFINITIONS AND SPECIAL INSTRUCTIONS — Continued

#### 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.

 $\begin{array}{ll} \textbf{Cylinder, rodless (shuttle)} & -\text{A linear actuator with a rod} \\ \textbf{that never leaves its case, that is sealed lengthwise.} \\ \textbf{Typically used in position control applications.} \end{array}$ 

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.

 $\operatorname{Gerotor}/\operatorname{Gerolor}-\operatorname{A}$  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.

#### MA333N

### DEFINITIONS AND SPECIAL INSTRUCTIONS — Continued

### 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.

# 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	Annual Survey of Manufactures
(Form MA333N)	,
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

# REFERENCE LIST

Product	ltem	
code	code	Item description
		Section I — FLUID POWER VALVES (hydraulic and pneumatic valves and parts)
		(Report quantity in number of units)
3329125		NONAEROSPACE TYPE HYDRAULIC DIRECTIONAL CONTROL VALVES, excluding cartridge, stack, logic and electrohydraulic types
		Manual:
3329125110 3329125120	1201 1205	3- & 4-way monoblock 3- & 4-way sectional
3329125130	1203	Other manual
		Solenoid:
3329125140 3329125150	1211 1215	2-way types 3- & 4-way types
3329125160	1215	Other directional control
3329127	·	NONAEROSPACE TYPE HYDRAULIC VALVES (EXCEPT DIRECTIONAL CONTROL)
		Pressure control:
3329127110	1221	Relief valves
3329127120	1225	Other, including load sensing and manual types Flow control:
3329127130	1231	Manual types
3329127140	1235	Other flow control types
*3329127155	1240	Cartridge valves (except directional control)
3329127160	1241	Electrohydraulic valves: Pilot operated, torque motor servovalves
3329127170	1243	Other types, including proportional
3329127180	1249	Other nonaerospace type hydraulic valves, including stack and logic
3329129		NONAEROSPACE TYPE PNEUMATIC DIRECTIONAL CONTROL VALVES
3329129110	1251	Manual
		Solenoid:
3329129120	1253	Under 1/8" port diameter 1/8" up to and including 1/4" port diameter:
3329129130	1255	3-way types
3329129140	1257	4-way types
	4.00=	Over 1/4" port diameter:
3329129150	1265	3-way types
3329129160 3329129170	1267 1268	4-way types All other solenoid
0020120170	1269	Mechanical, remote pilot and all other types

<sup>\*</sup> New or revised for 2006

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

<sup>\*</sup> New or revised for 2006

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

<sup>\*</sup> New or revised for 2006

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

<sup>\*</sup> New or revised for 2006

FORM MANAGONI		HEI EHEIVOE EIGT — Continued
FORM MA333N	·	
Product code	ltem code	Item description
		Section IV — HYDRAULIC AND PNEUMATIC CYLINDERS, ACTUATORS, ACCUMULATORS, CUSHIONS, NONVEHICULAR SHOCK ABSORBERS, AND PARTS (Report quantity in number of units)
3339951		NONAEROSPACE TYPE HYDRAULIC FLUID POWER CYLINDERS AND ACTUATORS, LINEAR AND ROTARY
3339951110 3339951120 3339951130 3339951140 3339951150 3339951160	4501 4503 4505 4507 4509 4511	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
3339951170 3339951180 3339951190 33399511A0	4513 4515 4517 4519	Mill type Other, including those threaded at both ends Electrohydraulic types Hydraulic rotary actuators
3339953		NONAEROSPACE TYPE PNEUMATIC FLUID POWER CYLINDERS AND ACTUATORS, LINEAR AND ROTARY
3339953110 3339953120 3339953130 3339953140 3339953150 3339953160 3339953170	4601 4603 4605 4607 4609 4611 4619	NFPA interchangeable cylinders: Steel Aluminum: Less than 1½" bore size 1½" bore size and over Rodless cylinders Other pneumatic cylinders: Less than 1½" bore size 1½" bore size and over Pneumatic rotary actuators
3339955 3339955110 3339955120 3339955130 3339955140	4841 4843 4845 4847	PARTS FOR NONAEROSPACE TYPE HYDRAULIC AND PNEUMATIC FLUID POWER CYLINDERS, ACTUATORS, AND RELATED ITEMS N.E.C.  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  Parts for nonaerospace type hydraulic and pneumatic cylinders, actuators, accumulators, cushions, and nonvehicular shock absorbers, sold separately

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

<sup>\*</sup> New or revised for 2006

Product	Item	
code	code	Item description
		Section V — FLUID POWER PUMPS AND MOTORS, AND PARTS — Continued
	-	(Report quantity in number of units)
3339965	-	NONAEROSPACE TYPE FLUID POWER MOTORS
		Hydraulic motors:
3339965120	5548	Gear type: 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
0000005470		Axial piston types:
3339965170 3339965180	5557 5559	Fixed displacement Variable displacement
3339965110	5560	Pneumatic (air) motors
3339965190	5571	Prime movers shipped with pumps or sold separately
3339967		AEROSPACE TYPE FLUID POWER PUMPS AND MOTORS
0000007		
3339967110	5581	Hydraulic pumps: Fixed and variable displacement types
3339967120	5583	Pump/electric motor assemblies, fixed, and variable displacement types
3339967130	5585	Other pump packages n.e.c.
		Motors:
*3339967170	5586	Aerospace-type fluid power motors, all kinds
3339969		PARTS FOR FLUID POWER PUMPS, MOTORS, AND HYDROSTATIC TRANSMISSIONS
		Hydraulic:
3339969110	5591	Nonaerospace
3339969120	5593	Aerospace
		Pneumatic:
3339969130 3339969140	5595 5597	Nonaerospace Aerospace
*333996A000	5599	Nonaerospace hydrostatic transmissions
*333996B000	5600	Nonaerospace hydraulic power units

<sup>\*</sup> New or revised for 2006