

MA333P(06)-1

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SUMMARY OF FINDINGS

For 2006, the value of shipments for the types of pumps and compressors included in this report increased by 4 percent, from \$7,761.6 million in 2005 to \$8,079.8 million. Value of shipments for pumps (except vacuum pumps), including parts, rose from \$6,595.1 million in 2005 to \$6,917.2 million in 2006, an increase of 5 percent. Vertical

turbine pumps (except drivers) increased in value of shipments in 2006 by 10 percent, from \$259.3 million in 2005 to \$236.2 million.

Domestic water systems, including drivers, increased 2 percent in value of shipments for 2006, from \$383.4 million in 2005 to \$389.7 million.

Domestic sump pumps, including drivers, decreased in value of shipments by 19 percent in 2006, from \$222.6 million in 2005 to \$187.7 million.

Oil-well and oil-field pumps greatly increased in value of shipments for 2006, from \$448 million in 2005 to \$589.5 million, an increase of 32 percent. The value of shipments of parts for pumps made by manufacturers of complete pumps increased 7 percent in 2006, from \$1,300.3 million in 2005 to \$1,389.1 million.

Compressors, including vacuum pumps and parts, increased in value of shipments for 2006 by 11 percent, from \$3,658.8 million in 2005 to \$4,070 million.

For general CIR information, explanation of general terms and historical note, see the appendix.

Address inquiries concerning these data to Investment Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900, or call Tiffany Brooks, 301-763-4488.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-763-4673.

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

Helping You Make Informed Decisions

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU

Table 1. Summary of Shipments of Pumps and Compressors: 2006 and 2005
 [Quantity in number of units. Value in thousands of dollars]

Product description	2006		2005	
	Quantity	Value	Quantity	Value
Industrial pumps.....	(X)	3,922,191	(X)	3,855,580
Value of Drivers.....	(X)	508,170	(X)	480,925
Centrifugal pumps (excluding drivers).....	9,440,566	1,899,681	8,115,708	1,896,541
Vertical turbine pumps (excluding drivers).....	41,103	236,159	47,245	259,291
Reciprocating pumps (excluding drivers).....	539,943	413,907	442,936	325,363
Diaphragm pumps (excluding drivers).....	2,110,451	360,470	2,126,560	407,617
Rotary pumps (excluding drivers).....	1,234,006	467,546	1,648,988	425,893
Other industrial pumps (excluding drivers).....	171,027	36,258	607,963	59,950
Domestic water systems and pumps, including drivers.....	5,238,089	577,420	5,592,239	606,037
Water Systems.....	2,324,761	389,693	2,169,928	383,428
Sump pumps.....	2,913,328	187,727	3,422,311	222,609
Oil well and oil field pumps.....	65,960	589,526	62,993	447,961
Other pumps, including drivers.....	2,811,342	438,989	2,524,832	385,293
Parts and attachments for pumps and pumping equipment.....	(X)	1,389,122	(X)	1,300,258
Air and gas compressors.....	(X)	3,415,636	(X)	2,973,255
Value of Drivers.....	(X)	318,980	(X)	223,281
Air compressors, new.....	3,767,561	1,714,385	4,042,043	1,723,371
Gas compressors, new.....	6,202	1,321,921	5,184	993,511
Other compressors.....	6,275	60,350	5,477	33,092
Vacuum pumps, excluding laboratory.....	(X)	218,940	(X)	217,682
Parts and attachments for air and gas compressors and vacuum pumps.....	(X)	435,462	(X)	467,865

X Not applicable.

Table 2. Quantity and Value of Shipments of Selected Construction Machinery: 2006 and 2005
 [Quantity in units. Value in thousands of dollars]

Product Code	Product description	No. of cos.	2006		2005	
			Quantity	Value	Quantity	Value
3339111 pt.	Pumps and compressors 1/.....	(X)	(X)	8,079,820	(X)	7,761,601
	Industrial pumps (excluding hydraulic fluid power pumps).....	(X)	(X)	3,922,191	(X)	3,855,580
3339111401	Value of drivers 2/.....	77	(X)	a/ 508,170	(X)	a/ 480,925
	Centrifugal pumps:					
	Sewage type (nonsubmersible), vertical or horizontal with nonclog impeller.....	(X)		10,605	(D)	104,741
3339111411	12" and under.....	22	a/	10,237	a/ 88,968	b/ 9,510
3339111412	More than 12".....	7	b/	368	a/ 17,628	(D) b/ 21,375
	Submersible effluent pumps, less than 1" solids handling capacity.....	(X)		310,828		353,043
3339111424	Less than 1 hp.....	13	a/	302,328	a/ 40,691	342,805
3339111425	1 hp and over.....	13		8,500	a/ 9,962	a/ 10,238
	Submersible solids handling pumps, solids 1" to 2" inclusive.....	(X)		475,918		540,143
3339111428	1/2 hp and under.....	11	a/	428,386	b/ 76,422	a/ 486,773
3339111429	More than 1/2 hp.....	16		47,532		53,370
	Submersible nonclog pumps, greater than 2" solids handling capacity.....	(X)		24,235		24,383
333911142C	3" discharge and under.....	12		7,179	a/ 10,412	a/ 6,326
333911142E	Discharge more than 3" but less than 7".....	16		16,453	b/ 50,137	b/ 17,241
333911142G	7" and over discharge.....	10	a/	603	a/ 7,425	a/ 816
	Submersible grinder pumps, incorporating a hardened stainless steel cutter mechanism to macerate the solids into a fine slurry.....	(X)		76,320		91,580
333911142K	2 hp and below.....	8		65,446		78,349
333911142M	More than 2 hp.....	6		10,874		13,231
	Single and two stage, single and end suction, close coupled with driver.....	49		1,098,728	a/ 195,766	925,842
3339111448	Single and two stage, single suction, in-line, close coupled with driver.....	15	(D)	c/ 27,344	(D)	b/ 23,767
333911144E	Single stage, single suction, vertical, in-line frame.....	13	(D)	c/ 55,437	(D)	c/ 38,793
	Single stage, single suction, frame or foot mounted, metallic pumps, built to National or International Standards ANSI B73.1 or ISO 2858.....	30	a/	66,352	a/ 205,695	a/ 70,901
333911144H	ISO 2858:					
	Single stage, single suction, frame or foot mounted, nonmetallic pumps, built to National or International Standards ANSI B73.1 or ISO 2858.....	5	b/	1,761	b/ 8,547	c/ 3,392
333911144L	Single stage, single suction, frame or foot mounted, non-ANSI, non-ISO, with or without recessed impeller.....	(X)	(D)		132,262	(D)
333911144M	1" discharge and under.....	14	(D)		24,152	(D)
333911144N	Discharge more than 1", up to 2".....	20	a/	21,949	a/ 15,445	a/ 22,881
333911144R	Over 2" discharge.....	26	b/	50,234	a/ 92,665	b/ 54,709
333911144S	Single stage, single suction, replaceable elastomer lined or hard metal, frame or foot mounted.....	7		4,462		46,773
3339111458	Single stage, single suction, centerline mounted.....	9	(D)	a/ 35,368	r/ 5,250	(D) b/ 63,116
3339111459	Single stage, axially split, double suction.....	(X)		15,056		121,634
333911145A	4" discharge and under.....	10	a/	4,835	a/ 22,258	b/ 4,639
333911145B	Discharge more than 4", up to 8".....	12	a/	8,096	b/ 55,608	b/ 9,511
333911145C	Over 8" discharge.....	13	a/	2,125	a/ 43,768	b/ 2,470
333911145G	Single stage, radially split, double suction impeller pumps, API-610 compliant.....	3	(D)		(D)	(D)
333911145M	Single stage, radially split, double suction impeller pumps, non-API compliant.....	4	(D)		(D)	(D)
3339111468	Multistage, single or double suction, diffuser design, radially split case.....	18	(D)	b/ 63,866		22,350
333911146F	Multistage, single or double suction, volute or diffuser design, diffuser design, axially split case.....	12	c/	1,573	a/ 80,140	b/ 4,072
3339111478	Sealless centrifugal pumps, magnetic drive.....	13	b/	267,238	a/ 43,375	r/ 255,745
333911147D	Sealless centrifugal pumps, canned motor.....	7		6,054		30,322
	Propeller and mixed flow, horizontal and vertical including vertical turbine over 36".....	(X)		1,308		48,301
3339111481	36" and under.....	14	b/	1,234	a/ 40,769	b/ 868
3339111484	Over 36".....	9	b/	74	a/ 7,532	b/r/ 130
333911148N	All other centrifugal pumps.....	32	c/	4,499,290	b/ 366,268	a/ 3,870,124
	Vertical turbine pumps not exceeding 36" discharge, including deep-well:					
	Pump with submersible motor.....	(X)		24,591		25,775
3339111493	Bowl diameter 6" and under.....	13		18,804	a/ 12,670	18,823
3339111498	Bowl diameter over 6".....	10	a/	5,787	c/ 13,105	a/ 5,555
	Pump and bowl assemblies through 36" (all column and shaft lengths, including FM or UL approved vertical turbine fire pumps; deep well and short coupled pumps, excluding can and pot type).....	14	b/	12,677	a/ 154,089	c/r/ 19,942
333911149F	Can and pot type (pump and bowl assemblies, suction can and pot type).....	9	c/	3,835	c/ 56,295	c/ 2,925
333911149N						
	Reciprocating pumps:					
	Driven by electric motor, engine, or steam turbine:					
	Reciprocating piston, plunger or diaphragm (not air operated) pumps.....	31		539,943	a/ 413,907	442,936
33391114C7						a/ 325,363
33391114D5	Diaphragm pumps, air operated.....	20	a/	2,110,451	b/ 360,470	b/ 2,126,560
	Rotary pumps:					
	100 PSI and under designed pressure.....	(X)		580,529		249,116
33391114R1	10 GPM and under, designed capacity.....	25	a/	455,530	a/ 106,781	a/ 688,441

Table 2. Quantity and Value of Shipments of Selected Construction Machinery: 2006 and 2005
 [Quantity in units. Value in thousands of dollars]

Product Code	Product description	No. of cos.	2006			2005		
			Quantity	Value	Quantity	Value		
33391114R3	11 to 99 GPM, designed capacity.....	25	a/ 102,095	a/ 51,216	b/ 116,551	r/ 45,316		
33391114R5	100 to 299 GPM, designed capacity.....	16	b/ 21,148	b/ 51,252	13,354	31,650		
33391114R7	300 GPM and over, designed capacity.....	10	b/ 1,756	c/ 39,867	b/ 1,506	34,130		
	101 to 249 PSI, designed pressure:	(X)	144,847	104,116	122,220	88,051		
33391114RA	10 GPM and under, designed capacity.....	13	78,637	22,633	b/r/ 68,809	18,693		
33391114RC	11 to 99 GPM, designed capacity.....	12	45,834	39,884	a/ 35,142	32,964		
33391114RE	100 GPM, and over, designed capacity.....	10	20,376	41,599	r/ 18,269	36,394		
33391114RN	250 PSI and over, designed pressure.....	23	a/ 508,630	b/ 114,314	c/ 706,916	b/ 117,725		
33391114T5	Other industrial pumps.....	12	(D)	b/ 36,258	c/ 607,963	b/ 59,950		
3339111	Domestic water systems, including drivers.....	(X)	2,324,761	389,693	2,169,928	383,428		
	Nonsubmersible pump systems (jet and nonjet, including drivers).....	11	1,409,684	199,011	1,343,035	198,141		
3339111167	Submersible pump systems including drivers.....	(X)	835,561	172,466	779,245	173,850		
3339111172	Up to 1 hp.....	14	741,564	148,345	680,886	148,837		
3339111175	Over 1 hp to 3 hp.....	9	93,997	24,121	98,359	25,013		
3339111178	Over 3 hp to 5 hp.....	10	(D)	(D)	(D)	(D)		
3339111179	Over 5 hp 3/.....	3	(D)	(D)	(D)	(D)		
3339111190	Domestic hand and windmill pumps, pump jacks, and cylinders, sold separately, including drivers.....	3	(D)	1,322	21,362	1,501		
3339111	Domestic sump pumps, 1 hp and under, including drivers.....	(X)	2,913,328	187,727	3,422,311	222,609		
3339111235	Pedestal, including drivers.....	16	a/ 241,158	b/ 12,438	a/ 286,805	b/ 14,980		
	Submersible, including drivers.....	(X)	2,672,170	175,289	3,135,506	207,629		
3339111238	1/3 hp and under.....	12	b/ 1,686,463	b/ 111,443	a/ 2,017,227	a/ 130,885		
3339111239	Over 1/3 hp.....	10	b/ 985,707	b/ 63,846	b/ 1,118,279	b/ 76,744		
3339111	Oil-well and oil-field pumps (except boiler feed).....	(X)	65,960	589,526	62,993	447,961		
3339111335	Value of drivers 2/.....	11	(X)	249,660	(X)	202,989		
3339111341	Subsurface pumps for oil-well pumping.....	5	(D)	(D)	b/ 49,473	150,951		
3339111364	Other oil-well and oil-field pumps, including mud pumps (slush pumps) 3/.....	10	(D)	(D)	13,520	94,021		
3339111580	Other pumps, including drivers.....	(X)	2,811,342	438,989	2,524,832	385,293		
	Other pumps (excluding vacuum pumps, automotive pumps, measuring and dispensing or service station pumps, hand pumps, and hydraulic fluid power pumps), including oil burner and appliance pumps, fire engine pumps, laboratory pumps packaged pump units, hot water heating circulator pumps, etc.	21	b/ 2,811,342	a/ 438,989	a/r/ 2,524,832	a/r/ 385,293		
3339115	Parts and attachments for pumps and pumping equipment whose product codes begin with 333911.....	(NA)	(X)	1,389,122	(X)	1,300,258		
3339115144	Aftermarket (spare) parts for centrifugal pumps.....	56	(X)	667,908	(X)	694,545		
3339115155	Aftermarket (spare) parts for vertical turbine pumps.....	11	(X)	61,113	(X)	47,495		
3339115166	Aftermarket (spare) parts for reciprocating pumps.....	26	(X)	191,964	(X)	165,054		
3339115199	Other.....	33	(X)	468,137	(X)	393,164		
3339121	Air and gas compressors 1/.....	(X)	(X)	3,415,636	(X)	2,973,255		
3339121115	Value of drivers 2/.....	26	(X)	318,980	(X)	223,281		
	Air compressors, new:							
	Stationary, reciprocating, single acting.....	(X)	1,091,136	453,513	1,096,020	456,218		
3339121121	1-1/2 hp and under.....	13	(D)	33,807	(D)	40,286		
3339121124	Over 1-1/2 hp to 5 hp.....	22	c/ 678,255	c/ 217,202	r/ 679,592	r/ 212,743		
333912112B	6 hp and over 3/.....	19	(D)	202,504	(D)	203,189		
3339121133	Reciprocating, double acting.....	6	b/ 697	b/ 11,232	511	b/ 6,578		
	Rotary positive:							
3339121144	Discharge pressure 50 PSIG and under, all hp sizes.....	7	(D)	52,368	(D)	41,600		
	Discharge pressure of 51 PSIG and over.....	(X)	27,713	399,764	23,955	351,661		
3339121151	40 hp and under.....	10	c/ 15,361	c/ 103,389	a/r/ 12,257	a/r/ 79,628		
3339121154	41-150 hp.....	11	c/ 10,187	c/ 191,785	b/r/ 9,671	b/ 179,132		
3339121157	151-300 hp.....	10	b/ 1,346	b/ 56,341	b/r/ 1,340	b/r/ 53,804		
333912115A	301 hp and over.....	7	c/ 819	c/ 48,249	a/ 687	a/ 39,097		
3339121166	Stationary, centrifugal and axial.....	9	(D)	240,203	(D)	258,943		
	Portable.....	(X)	2,547,902	557,305	2,798,785	608,371		
3339121171	Under 11 C.F.M.....	7	(D)	291,516	(D)	344,555		
333912117B	11- 249 C.F.M.....	11	(D)	178,386	(D)	154,927		
333912117E	250 to 599 C.F.M.....	5	b/ 2,111	c/ 44,286	1,552	b/ 32,309		
333912117H	600 C.F.M. and over.....	3	(D)	43,117	c/ 3,681	b/ 76,580		
	Gas compressors, new:							
	Stationary, centrifugal and axial.....	(X)	571	504,476	643	481,243		
3339121183	Natural gas.....	5	331	277,515	r/ 325	290,685		
3339121188	All other gases.....	7	240	226,961	r/ 318	r/ 190,558		
3339121198	Stationary reciprocating 3/.....	15	5,072	a/ 786,586	3,910	485,322		
33391211CC	Stationary rotary positive.....	8	a/ 559	30,859	r/ 631	r/ 26,946		
33391211FF	Other compressors (except for refrigeration, air-conditioning, and ice making), including rebuilt compressors, compressor packages, and packaged compressor units assembled from purchased compressors.....	7	b/ 6,275	b/ 60,350	5,477	a/ 33,092		
3339121 pt.	Vacuum pumps, excluding laboratory.....	(X)	(X)	218,940	(X)	217,682		
3339121225	Value of drivers 2/.....	11	(X)	32,915	(X)	36,543		
	Low vacuum, 29.5" mercury vacuum and lower:							
3339121261	Under 5 hp.....	14	180,306	35,724	189,710	37,999		
3339121265	5 hp and over.....	13	a/ 2,973	a/ 19,920	b/r/ 3,327	a/r/ 23,970		

Table 2. Quantity and Value of Shipments of Selected Construction Machinery: 2006 and 2005
 [Quantity in units. Value in thousands of dollars]

Product Code	Product description	No. of cos.	2006		2005	
			Quantity	Value	Quantity	Value
	High vacuum, 29.6 in. mercury vacuum and over:					
3339121273	Under 5 hp.....	10	b/ 14,448	a/ 22,178	b/ 12,045	a/ 16,805
3339121277	5 hp and over.....	7	b/ 8,607	c/ 108,203	b/ 9,337	c/ 102,365
3339125	Parts and attachments for air and gas compressors and vacuum pumps.....	(X)	(X)	435,462	(X)	467,865
3339125111	Parts and attachments for air and gas compressors and vacuum pumps (excluding laboratory).....	39	(X)	435,462	(X)	467,865

D Withheld to avoid disclosing data of individual companies. pt. Part. r/ Revised by 5 percent or more from previously published data.
 X Not applicable.

1/For all "Pumps and compressors" product codes, value includes parts but quantity does not.
 2/The value of drivers (electric motors, internal combustion engines, hydrostatic transmissions, steam turbines, etc.) is not included for most product categories but rather placed in one of four separate "driver" categories within the product class. Drivers may be included in values for products in product classes without separate driver categories.
 3/New item for this year.

Note: Percent of estimation of each item is indicated as follows: a/16 to 25 percent of this item is estimated. b/26 to 50 percent of this item is estimated. c/Over 50 percent of this item is estimated.

Table 3. Shipments, Exports, and Imports of Pumps and Compressors: 2006 and 2005
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments 1/		Export shipments 2/		Import shipments 4/	
		Quantity	Value	Quantity	Value 3/	Quantity	Value/5
2006							
	Pumps 6/.....	13,033,262	2,845,986	2,370,015	1,356,499	98,782,029	1,703,707
3339111424, 425, 428, 429, 42C, 42E, 42G, 42K, 42M	Centrifugal pumps, submersible.....	887,301	315,237	813,603	123,228	5,360,221	211,744
3339111411, 412, 448, 450, 44E, 44H, 44L, 44M, 44N, 44R, 455, 458, 459, 45A, 45C, 45G, 45M, 468, 46F, 478, 47D, 481, 484, 48N	Centrifugal pumps, other.....	(D)	(D)	189,332	472,596	16,337,660	507,991
3339111493, 498, 49F, 49N	Turbine pumps, vertical.....	41,103	236,159	9,070	46,374	2,679	8,711
33391114C7	Reciprocating pumps.....	539,943	413,907	65,837	87,597	1,242,007	165,419
33391114D5	Diaphragm pumps.....	2,110,451	360,470	388,977	123,293	1,549,764	52,753
33391114R1, 4R3, 4R5, 4R7, 4RA, 4RC, 4RE, 4RN	Rotary pumps.....	1,234,006	467,546	64,700	133,129	3,695,605	154,016
3339111335, 341, 364	Oil-well and oil-field pumps (except boiler feed).....	(D)	(D)	8,177	131,608	54,655	256,895
3339111167, 172, 175, 178, 179, 190	Domestic water systems, including windmill and hand pumps.....	(D)	(D)	501,657	39,674	37,724,842	57,881
33391114T5, 235, 238, 239, 580	Other pumps, including sump pumps, hot water circulator pumps, etc.	(D)	662,974	328,662	199,000	32,814,596	288,297
	Compressors 6/.....	3,773,763	3,036,306	1,483,973	1,260,695	6,165,876	130,312
	Stationary air compressors:						
3339121121, 124, 12B, 133	Reciprocating, single and double acting 7/.....	(D)	464,745	98,998	57,827	(NA)	(NA)
3339121144, 151, 154, 157, 15A, 166	Rotary positive, centrifugal, and axial 7/.....	(D)	692,335	109,292	581,636	(NA)	(NA)
3339121171, 17B, 17E, 17H	Portable air compressors 7/.....	(D)	557,305	14,963	162,534	909,589	68,852
3339121183, 188, 198, 1CC, 1FF	Other air and gas compressors, including gas compressors, and compressor packages.....	6,202	1,321,921	1,260,720	458,698	5,256,287	61,460
3339121225, 261, 265, 273, 277	Vacuum pumps 6/.....	(X)	218,940	457,903	159,992	4,650,076	423,886
2005							
	Pumps 6/.....	14,060,173	3,274,605	2,626,617	1,187,079	97,800,656	1,301,154
3339111424, 425, 428, 429, 42C, 42E, 42G, 42K, 42M	Centrifugal pumps, submersible.....	1,006,417	357,200	632,173	89,092	3,006,857	171,076
3339111411, 412, 448, 450, 44E, 44H, 44L, 44M, 44N, 44R, 455, 458, 459, 45A, 45C, 45G, 45M, 468, 46F, 478, 47D, 481, 484, 48N	Centrifugal pumps, other.....	(D)	(D)	195,606	431,269	14,848,559	410,450
3339111493, 498, 49F, 49N	Turbine pumps, vertical.....	47,245	259,291	18,084	39,108	27,073	3,797
33391114C7	Reciprocating pumps.....	442,936	325,363	95,719	79,969	1,031,375	139,994
33391114D5	Diaphragm pumps.....	2,126,560	407,617	428,817	88,650	817,737	41,215
33391114R1, 4R3, 4R5, 4R7, 4RA, 4RC, 4RE, 4RN	Rotary pumps.....	1,648,988	425,893	70,278	121,412	3,468,161	121,860
3339111335, 341, 364	Oil-well and oil-field pumps (except boiler feed).....	62,993	447,961	7,015	73,357	25,692	92,659
3339111167, 172, 175, 178, 179, 190	Domestic water systems, including windmill and hand pumps.....	(D)	(D)	505,027	39,995	39,221,975	56,576
33391114T5, 235, 238, 239, 580	Other pumps, including sump pumps, hot water circulator pumps, etc.	6,555,106	667,852	673,898	224,227	35,353,227	263,527

Table 3. Shipments, Exports, and Imports of Pumps and Compressors: 2006 and 2005
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments 1/		Export shipments 2/		Import shipments 4/	
		Quantity	Value	Quantity	Value 3/	Quantity	Value/5
	Compressors 6/.....	4,047,227	2,716,882	1,938,003	210,800	4,699,510	129,865
	Stationary air compressors:						
3339121121, 124, 12B, 133	Reciprocating, single and double acting 7/.....	(D)	462,796	(NA)	(NA)	(NA)	(NA)
3339121144, 151, 154, 157, 15A, 166	Rotary positive, centrifugal, and axial 7/.....	(D)	652,204	(NA)	(NA)	(NA)	(NA)
3339121171, 17B, 17E, 17H	Portable air compressors 7/.....	(D)	608,371	5,908	76,790	321,581	42,061
3339121183, 188, 198, 1CC, 1FF	Other air and gas compressors, including gas compressors, and compressor packages.....	5,184	993,511	1,932,095	134,010	4,377,929	87,804
3339121225, 261, 265, 273, 277	Vacuum pumps 6/.....	(X)	217,682	660,962	145,478	5,622,912	419,873

D Withheld to avoid disclosing data for individual companies. NA Not available. X Not applicable.

1/Manufacturers' shipments generally exclude values of drivers.

2/Source: Census Bureau report EM 545, U.S. Exports.

3/Excludes the value of drivers.

4/Sources: Bureau of Census report IM 145, General Imports, and IM 146, U.S. Imports for Consumption.

5/Value represents the c.i.f. (cost, insurance, and freight) value at the first port of entry in the United States plus import duties.

6/Manufacturers' Shipments detail of quantity cannot be shown, as drivers and parts quantities are not collected, see Table 2.

7/Import and export data for three categories of compressors are combined because one harmonized code in the third category may be used interchangeably with any of several codes in the first two categories.

Note: For comparison of North American Industry Classification System (NAICS)-based codes with Schedule B export codes and HTSUSA import codes, see Table 4.

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes and HTSUSA Import Codes: 2006

Product code	Product description	Export code 1/	Import code 2/
3339111424, 425, 428, 429, 42C, 42E, 42G, 42K, 42M	Centrifugal pumps, submersible.....	8413.70.2004	8413.70.2004
3339111411, 412, 448, 450, 44E, 44H, 44L, 44M, 44N, 44R, 455, 458, 459, 45A, 45C, 45G, 45M, 468, 46F, 478, 47D, 481, 484, 48N	Centrifugal pumps, other.....	8413.70.1000	8413.70.1000
		8413.70.2005	8413.70.2005
		8413.70.2015	8413.70.2015
		8413.70.2022	8413.70.2022
		8413.70.2025	8413.70.2025
		8413.70.2030	8413.70.2030
3339111493, 498, 49F, 49N	Turbine pumps, vertical.....	8413.81.0020	8413.81.0020
33391114C7	Reciprocating pumps.....	8413.50.0090	8413.50.0090
33391114D5	Diaphragm pumps.....	8413.50.0050	8413.50.0050
33391114R1, 4R3, 4R5, 4R7, 4RA, 4RC, 4RE, 4RN	Rotary pumps.....	8413.60.0070	8413.60.0070
		8413.60.0090	8413.60.0090
3339111335, 341, 364	Oil-well and oil-field pumps (except boiler feed).....	8413.50.0010	8413.50.0010
		8413.60.0050	8413.60.0050
3339111167, 172, 175, 178, 179, 190	Domestic water systems, including windmill and hand pumps.....	8413.20.0000	8413.20.0000
		8413.81.0030	8413.81.0030
3339111167, 172, 175, 178, 179, 190	Other pumps.....	8413.81.0040	8413.81.0040
3339121121, 124, 12B, 133	Stationary air compressors, reciprocating, single and double acting.....	8414.80.1018	8414.80.1605
		8414.80.1042	8414.80.1615
		8414.80.1055	8414.80.1625
		8414.80.1618	8414.80.1635
		8414.80.1642	8414.80.1640
		8414.80.1655	8414.80.1645
3339121144, 151, 154, 157, 15A, 166	Stationary air compressors. rotary positive, centrifugal, and axial.....	8414.80.1660	8414.80.1660
		8414.80.1667	8414.80.1665
		8414.80.1675	8414.80.1670
		8414.80.1680	8414.80.1675
		8414.80.2015	8414.80.1680
			8414.80.2015
3339121171, 17B, 17E, 17H	Portable air compressors.....	8414.40.0000	8414.80.1685
		8414.80.1685	8414.80.1690
		8414.80.1690	
3339121183, 188, 198, 1CC, 1FF	Gas/other compressors.....	8414.80.2055	8414.80.2055
		8414.80.2065	8414.80.2065
		8414.80.2075	8414.80.8075
		8414.80.9000	8414.80.9000
3339121225, 261, 265, 273, 277	Vacuum pumps.....	8414.10.0000	8414.10.0000

1/Source: 2006 edition, Harmonized System-based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated (2006).

Appendix.

General CIR Survey Information, Explanation of General Terms and Historical Note

GENERAL

The CIR program has been providing monthly, quarterly, and annual measures of industrial activity for many years. Since 1904, with its cotton and fats and oils surveys, the CIR program has formed an essential part of an integrated statistical system involving the quinquennial economic census, manufacturing sector, and the annual survey of manufactures. The CIR surveys, however, provide current statistics at a more detailed product level than either of the other two statistical programs.

The primary objective of the CIR program is to produce timely, accurate data on production and shipments of selected products. The data are used to satisfy economic policy needs and for market analysis, forecasting, and decision making in the private sector. The product-level data generated by these surveys are used extensively by individual firms, trade associations, and market analysts in planning or recommending marketing and legislative strategies, particularly if their industry is significantly affected by foreign trade. Although production and shipments information are the two most common data items collected, the CIR program collects other measures also such as inventories, orders, and consumption. These surveys measure manufacturing activity in important commodity areas such as textiles and apparel, chemicals, primary metals, computer and electronic components, industrial equipment, aerospace equipment, and consumer goods.

The CIR program uses a unified data collection, processing, and publication system. The U.S. Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic census, manufacturing sector. The manufacturing sector provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is too large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. The CIR program includes a group of mandatory and voluntary surveys. Typically the monthly and quarterly surveys are conducted on a voluntary basis. Those companies that choose not to respond to the voluntary surveys are required to submit a mandatory annual counterpart corresponding to the more frequent survey.

NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS), 1997

The adoption of the North American Industry Classification System (NAICS) in the 1997 Economic Census has had a major impact on the comparability of current and historic data. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those that left manufacturing are logging and portions of publishing. Prominent among the industries that came into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. The net effect of the classification changes are such that if the 1997 value of shipments data for all manufacturers were tabulated on an SIC basis, it would be approximately 3 percent higher.

Listed below are the NAICS sectors:

- 21 Mining
- 22 Utilities
- 23 Construction
- 31-33 Manufacturing
- 42 Wholesale Trade
- 44-45 Retail Trade
- 48-49 Transportation and Warehousing
- 51 Information
- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing
- 54 Professional, Scientific, and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste Management and Remediation Services
- 61 Educational Services
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Food Services
- 81 Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

FUNDING

The Census Bureau funds most of the surveys. However, a number of surveys are paid for either fully or partially by other Federal Government agencies or private trade associations. A few surveys are mandated, but all are authorized by Title 13 of the United States Code.

RELIABILITY OF DATA

Survey error may result from several sources including the inability to obtain information about all cases in the survey, response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding the reported data, and other errors of collection, response, coverage, and estimation. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to these nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is the imputing of data for nonrespondents, for late reporters, and for data that fail logic edits. Missing figures are imputed based on period-to-period movements shown by reporting firms. A figure is considered to be an impute if the value was not directly reported on the questionnaire, directly derived from other reported items, directly available from supplemental sources, or obtained from the respondent during the analytical review phase. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are suppressed or footnoted. The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

DATA REVISIONS

Statistics for previous years may be revised as the result of corrected figures from respondents, late reports for which imputations were originally made, or other corrections. Data that have been revised by more than 5 percent from previously published data are indicated by footnotes.

DISCLOSURE

The Census Bureau collects the CIR data under the authority of Title 13, United States Code, which specifies that the information can only be used for statistical purposes and cannot be published or released in any manner that would identify a person, household, or establishment. "D" indicates that data in the cell have been suppressed to avoid disclosure of information pertaining to individual companies.

EXPLANATION OF GENERAL TERMS

Capacity. The maximum quantity of a product that can be produced in a plant in 1 day if operating for 24 hours. Includes the capacity of idle plants until the plant is reported to be destroyed, dismantled, or abandoned.

Consumption. Materials used in producing or processing a product or otherwise removing the product from the inventory.

Exports. Includes all types of products shipped to foreign countries, or to agents or exporters for reshipment to foreign countries.

Gross shipments. The quantity or value of physical shipments from domestic establishments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale or use. Shipments of products purchased for resale are omitted. Shipments of products made under toll arrangements are included.

Interplant transfers. Shipments to other domestic plants within a company for further assembly, fabrication, or manufacture.

Inventories. The quantity or value of finished goods, work in progress, and materials on hand.

Machinery in place. The number of machines of a particular type in place as of a particular date whether the machinery was used for production, prototype, or sampling, or was idle. Machinery in place includes all machinery set up in operating positions.

Net receipts. Derived by subtracting the materials held at the end of the previous month from the sum of materials used during the current month.

Production. The total volume of products produced, including: products sold; products transferred or added to inventory after adjustments for breakage, shrinkage, and obsolescence, plus any other inventory adjustment; and products that undergo further manufacture at the same establishment.

Quantities produced and consumed. Quantities of each type of product produced by a company for internal consumption within that same company.

Quantity and value of new orders. The sales value of orders received during the current reporting period for products and services to be delivered immediately or at some future date. Also represents the net sales value of contract change documents that increase or decrease the sales value of the orders to which they are related, when the parties concerned are in substantial agreement as to the amount involved. Included as orders are only those that are supported by binding legal documents such as signed contracts or letter contracts.

Quantity and value of shipments. The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and returns. Shipments to a company's own branches are assigned the same value as comparable appropriate

allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

Stocks. Total quantity of ending finished inventory.

Unfilled orders (backlog). Calculated by adding net new orders and subtracting net sales from the backlog at the end of the preceding year.

HISTORICAL NOTE

Data on pumps and compressors have been collected by the Census Bureau since 1960. Data on hydraulic fluid power pumps and motors formerly collected on this survey are now included in the Current Industrial Report, MA333N, Fluid Power Products. Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library.