

Refrigeration, Air Conditioning, and Warm Air Heating Equipment

1999

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Information about the scope of the survey, methodology, explanation of terms and historical notes for this survey may be found in the introduction of the 1997 Manufacturing Profiles, issued August 1999.

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NOTE

Data are now published on the new North American Industry Classification System (NAICS) basis and therefore are not always comparable to the old Standard Industrial Classification (SIC) code. For further information on NAICS, see www.census.gov/epcd/www/naics.html.

SUMMARY OF FINDINGS

In 1999, the value of shipments of heat transfer equipment increased by 1 percent to \$4,548 million, compared with the 1998 figure of \$4,493 million. The value of shipments of condensing units, refrigeration (complete), increased by 1 percent to \$344 million, from the 1998 level of \$340 million. Room air-conditioners showed an increase of 12 percent in 1999 with \$1,225 million shipped, compared with the \$1,098 million shipped in 1998. The value of shipments of motor vehicle mechanical air-conditioning systems increased by 11 percent to \$2,330 million, compared with the 1998 figure of \$2,100. Compressors and compressor units increased by 8 percent to \$3,034 million, compared with \$2,814 million in 1998. Automotive air-conditioning compressors showed an increase of 6 percent in 1999 with \$2,104 million shipped, compared with the \$1,977 million shipped in 1998. Non-electric warm air furnaces and humidifiers had a value of shipments for 1999 of \$1,564 million, a 3-percent decrease from the 1998 value of \$1,607 million. Unitary air-conditioners increased by 3 percent to \$5,386 million, from the 1998 level of \$5,248 million. The value of shipments of air source heat pumps decreased by 5 percent to \$997 million, compared with the 1998 figure of \$1,054 million.

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

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Table 1. Summary of Shipments of Refrigeration, Air-Conditioning, and Warm Air Heating Equipment: 1999 and 1998
 [Value in thousands of dollars]

Product code	Product description	1999	1998
3334151	Heat transfer equipment.....	4,548,427	4,493,307
3334153 pt.	Commercial refrigeration equipment.....	243,672	234,476
3334155	Condensing units, refrigeration (complete).....	344,013	339,623
3334156	Room air-conditioners and dehumidifiers.....	1,225,230	1,098,416
3363917	Motor vehicle mechanical air-conditioning systems 1/.....	2,330,090	2,099,860
333415A	Compressors and compressor units.....	3,034,234	2,814,238
336391B	Automotive air-conditioning compressors 1/.....	2,103,575	1,976,832
333415C	Nonelectric warm air furnaces and humidifiers 1/.....	1,564,269	1,606,949
333415E	Unitary air conditioners.....	5,386,341	5,247,751
333415F	Air source heat pumps 1/.....	997,059	1,053,837
333415G	Ground and ground water source heat pumps 2/...	105,006	(D)

D Withheld to avoid disclosing data for individual companies. pt. Partial.

1/Data for this product were collected separately in 1997.

2/New product code for 1997.

Table 2. Quantity and Value of Shipments of Refrigeration, Air-Conditioning, and Warm Air Heating Equipment: 1999 and 1998
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	1999		1998	
			Quantity	Value	Quantity	Value
3334151	Heat transfer equipment (except room and unitary air-conditioners).....	147	(X)	4,548,427	(X)	4,493,307
3334151001	Packaged terminal air-conditioners 1/.....	9	191,564	109,036	185,745	107,771
3334151003	Packaged terminal heat pumps.....	9	155,774	81,498	156,132	82,695
	Evaporative condensers.....	(X)	2,552	65,598	2,715	68,687
3334151005	100 tons and under.....	10	530	4,598	556	4,854
3334151007	Over 100 tons.....	13	2,022	61,000	2,159	63,833
	Room fan-coil air-conditioning units.....	(X)	335,308	210,249	r/ 310,345	183,726
3334151009	Vertical stack.....	6	a/ 42,758	a/ 31,994	a/r/ 26,452	a/ 20,063
3334151011	Vertical.....	11	163,061	117,549	r/ 146,423	101,139
3334151013	Horizontal.....	9	129,489	60,706	137,470	62,524
3334151015	Room air induction units.....	2	(D)	(D)	(D)	(D)
	Central station air-handling units (motor-driven fan type).....	(X)	392,673	650,321	381,797	614,865
3334151017	Draw through.....	27	b/ 369,889	558,197	356,540	532,922
3334151019	Blow through.....	13	7,568	61,046	8,617	48,665
3334151021	Heating and ventilating.....	14	b/ 15,216	a/ 31,078	16,640	33,278
	Coolers (refrigeration):					
	Ceiling, wall-mounted, and floor-mounted unit coolers.....	(X)	226,527	166,401	219,943	157,967
3334151023	4,000 Btuh and below.....	9	b/ 46,926	b/ 10,219	61,365	12,676
3334151025	4,001 to 6,000 Btuh.....	9	b/ 17,917	b/ 5,278	11,967	3,616
3334151027	6,001 to 8,000 Btuh.....	9	b/ 29,169	a/ 15,103	24,390	9,329
3334151029	8,001 to 12,000 Btuh.....	10	b/ 54,850	b/ 26,146	47,934	22,624
3334151031	12,001 to 18,000 Btuh.....	11	b/ 43,048	b/ 28,776	39,130	26,217
3334151033	Over 18,000 Btuh.....	16	a/ 34,617	a/ 80,879	35,157	83,505
	Air-cooled refrigerant condensers (remote type).....	(X)	26,335	78,961	25,292	65,095
3334151035	Under 30 tons.....	11	a/ 17,677	a/ 15,198	17,656	13,578
3334151037	30 to 50 tons.....	10	a/ 2,656	11,033	2,187	8,104
3334151039	Over 50 tons.....	10	a/ 6,002	a/ 52,730	5,449	43,413
	Miscellaneous heat transfer equipment:					
	Shell-and-tube, shell-and-coil, shell-and-u-tube, tube-in-tube.....	(X)	(X)	53,435	(X)	50,982
3334151041	Condensers.....	9	(X)	26,287	(X)	26,085
3334151043	Liquid coolers.....	11	(X)	27,148	(X)	24,897
3334151045	Liquid-suction heat exchangers and refrigerant liquid receivers.....	6	(X) a/	10,944	(X)	11,647
	Central system finned coils (air-conditioning and refrigeration type).....	(X)	(X)	84,617	(X)	81,537
3334151047	Standard steam and steam distributing tube.....	14	(X)	16,790	(X)	17,435
3334151049	Standard water cooling and/or heating and cleanable tube water.....	18	(X)	60,287	(X)	53,669
3334151051	Volatile refrigerant cooling.....	11	(X)	7,540	(X)	10,433
	Coil sales by original equipment manufacturers intended for resale or assembly into equipment by other manufacturer (all types).....	(X)	(X)	460,919	(X)	456,883
3334151053	Copper and aluminum.....	16	(X)	323,049	(X)	309,794
3334151055	Aluminum (only).....	8	(X)	70,949	(X)	70,427
3334151057	Other, including steel and copper.....	12	(X)	66,921	(X)	r/ 76,662
3334151059	Factory-assembled, refrigeration type, finned gravity coils, including wetted-surface dehumidifiers.....	5	(X) b/	16,005	(X) b/	14,923
	Centrifugal liquid chilling packages, hermetic and open types.....	(X)	7,528	585,507	8,354	695,217
3334151061	200 hp and under.....	11	1,851	46,451	1,965	55,993
3334151063	201 to 300 hp.....	8	1,361	75,446	1,541	86,914
3334151065	301 to 400 hp.....	7	1,263	87,724	1,377	102,961
3334151067	Over 400 hp.....	7	3,053	375,886	3,471	449,349
	Ice-making machines.....	(X)	292,420	426,621	295,661	434,801
	Self-contained ice-cube makers.....	(X)	186,171	205,089	183,674	211,700
3334151069	Automatic, 200 lb and under.....	6	120,757	86,976	109,469	75,815
3334151071	Automatic, 201 lb and over.....	7	65,414	a/ 118,113	74,205	135,885
	Self-contained flake or chip machines.....	(X)	15,863	38,269	16,992	42,697
3334151073	300 lb and under.....	4	a/ 3,263	5,030	b/ 2,072	a/ 2,681
3334151075	Over 300 lb.....	12	b/ 12,600	b/ 33,239	14,920	40,016
3334151077	Not self-contained.....	8	55,514	96,234	59,601	94,950

Table 2. Quantity and Value of Shipments of Refrigeration, Air-Conditioning, and Warm Air Heating Equipment: 1999 and 1998
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	1999		1998	
			Quantity	Value	Quantity	Value
3334151079	Combination ice makers and ice/drink dispensers.....	6	34,872	87,029	35,394	85,454
3334151081	Absorption refrigeration and dehydration systems.....	6	5,800	86,555	8,647	94,355
3334151083	Mechanical refrigeration systems used on all types of vehicles.....	7	(D)	(D)	(D)	(D)
	Reciprocating air and reciprocating water cooled, air-cooled screw, air-cooled scroll, and water-cooled scroll machines.....	(X)	23,910	473,484	24,073	455,858
3334151085	20 hp and under.....	26	7,979	40,649	8,231	41,853
3334151087	21 to 49 hp.....	21	4,234	32,206	4,477	36,985
3334151089	50 to 75 hp.....	20	3,391	66,215	4,197	81,303
3334151091	Over 75 hp.....	19	8,306	334,414	7,168	295,717
3334151093	Factory-fabricated water cooling towers.....	16 a/	9,197 a/	169,868	8,859	161,608
3334153146	Commercial refrigeration equipment, mechanical drinking water coolers.....	5	1,101,804	243,672	1,015,578	234,476
3334155	Condensing units, refrigeration (complete).....	27	529,779	344,013	521,481	339,623
	Air-cooled hermetic-type.....	(X)	515,539	246,306	500,893	222,923
3334155023	1 hp and under.....	15	421,439	118,928	398,877	96,966
3334155025	1.5 hp.....	11	20,047 a/	14,164	19,825	14,000
3334155028	2 and 2.5 hp.....	13	22,896	20,805	24,530	20,563
3334155030	3 hp.....	11	24,533 a/	30,279	22,626	26,934
3334155032	Over 3 hp, but under 15 hp.....	14 a/	26,624 a/	62,130	35,035	64,460
3334155044	Water-cooled hermetic-type, under 15 hp.....	4	6,967 a/	5,324	(D)	(D)
	Water or air-cooled hermetic-type.....	(X)	5,628	81,016	5,906	66,285
3334155061	15 hp.....	9	2,629	44,848	2,544	32,269
3334155063	20 hp.....	7 a/	789 a/	5,486	944	5,541
3334155065	25 hp.....	7 a/	380 a/	3,399	681	4,774
3334155067	30 hp.....	8 a/	744 a/	7,441	809	6,621
3334155070	40 hp.....	6 a/	1,086 a/	19,842	928	17,080
3334155080	Water or air-cooled open-type (all sizes).....	7	1,645 b/	11,367	(D)	(D)
3334156	Room air-conditioners and dehumidifiers.....	17	(X) a/	1,225,230	(X) a/	1,098,416
3334156011	Electrically operated dehumidifiers, mechanically refrigerated, self-contained.....	11 a/	963,428 a/	141,716	a/ 925,137 a/	139,306
	Room air-conditioners.....	(X)	3,906,923	1,083,514	3,223,981	959,110
3334156031	5,999 Btuh and under.....	7	985,463	156,552	855,326 a/	158,955
3334156034	6,000 to 6,999 Btuh.....	7	209,463	40,606 a/	88,419 a/	19,878
3334156038	7,000 to 7,999 Btuh.....	7	279,503	67,199	395,704	97,169
3334156042	8,000 to 8,999 Btuh.....	6	403,271	94,431 b/	141,450 b/	38,617
3334156046	9,000 to 9,999 Btuh.....	6	91,508	28,590 b/	115,675 b/	36,842
3334156052	10,000 to 10,999 Btuh.....	8 a/	496,839 a/	137,427	437,488	128,185
3334156056	11,000 to 12,999 Btuh.....	9	594,552	184,118 a/	542,990 a/	176,047
3334156061	13,000 to 14,999 Btuh.....	7 a/	66,871 a/	28,825	62,453	25,824
3334156063	15,000 to 16,999 Btuh.....	7	100,946	38,881 b/	71,114 b/	29,119
3334156065	17,000 to 19,999 Btuh.....	7 a/	384,999 a/	148,699	311,437	129,980
3334156067	20,000 to 22,999 Btuh.....	6	49,468	21,897 a/	26,892 a/	13,405
3334156071	23,000 to 25,999 Btuh.....	9 a/	211,109 a/	93,928	152,437	76,911
3334156075	26,000 Btuh and over.....	9	32,931	42,361 a/	22,596	28,178
3363917	Motor vehicle mechanical air-conditioning systems....	(X)	(X)	2,330,090	(X)	2,099,860
3363917010	Air-conditioning units and systems for passenger automobiles 2/.....	20 a/	11,037,562	1,573,498	10,376,957	1,476,079
3363917020	Air-conditioning units and systems for buses.....	9 a/	288,944 a/	125,447	257,637	109,686
3363917030	Other motor vehicle mechanical air-conditioning systems.....	8	3,866,929	631,145	3,151,793	514,095
333415A	Compressors and compressor units 3/ 4/.....	31	(X)	3,034,234	(X)	2,814,238
	All refrigerants (except ammonia).....	(X)	25,361,583	2,922,480	23,954,891	2,699,413
	Hermetic-type motor compressors.....	(X)	25,294,235	2,811,968	23,885,557	2,609,154
333415A011	Under 3 hp.....	10	19,025,876	1,354,931	18,569,966	1,330,806
333415A023	3 to 10 hp.....	11	6,160,641	1,125,172 r/	5,212,680	972,330
333415A030	15 hp.....	11	30,044	30,920 r/	28,384 r/	32,902
333415A032	20 hp.....	12	21,895	33,370	20,229	31,669
333415A034	25 hp.....	11	16,931	27,227	15,441	25,747
333415A036	30 hp.....	12	10,471	27,039 r/	11,112 r/	27,873
333415A039	40 and 50 hp.....	10	15,226	51,406 r/	16,111 r/	50,609
333415A042	60 hp.....	8	4,255	16,913 r/	3,890 r/	14,498

Table 2. Quantity and Value of Shipments of Refrigeration, Air-Conditioning, and Warm Air Heating Equipment: 1999 and 1998
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Product code	Product description	No. of cos.	1999		1998	
			Quantity	Value	Quantity	Value
333415A046	75 hp.....	8	(D)	(D)	(D)	(D)
333415A049	100 hp and over	8	(D)	(D)	(D)	(D)
333415A052	Open-type compressors (with or without motor--all sizes).....	12	(D)	(D)	(D)	(D)
333415A054	Screw type.....	6	(D)	(D)	(D)	(D)
333415A058	Ammonia refrigerants (all types).....	8	b/ 2,860	b/ 111,754	2,936	114,825
336391B000	Automotive air-conditioning compressors (open-type, with or without motor)	8	19,974,721	2,103,575	18,491,604	1,976,832
333415C pt.	Nonelectric warm air furnaces and humidifiers.....	(X)	(X)	1,564,269	(X)	1,606,949
	Oil, forced air:					
333415C001	150,000 Btuh bonnet output and under.....	18	134,566	98,897	135,114	a/ 95,197
333415C005	150,001 Btuh bonnet output and over.....	16	5,903	7,680	6,536	a/ 9,070
	Gas, forced air:					
333415C007	150,000 Btuh bonnet output and under.....	20	2,919,047	1,216,333	3,025,498	1,260,708
333415C009	150,001 to 400,000 Btuh bonnet output.....	16	6,347	13,523	b/ 14,392	18,256
333415C011	Over 400,000 Btuh bonnet output.....	9	b/ 370,584	b/ 156,448	369,484	156,059
333415C079	All other nonelectric warm air furnaces.....	5	b/ 1,083	b/ 1,654	b/ 1,489	b/ 2,160
333415C081	Humidifiers (attachments to warm air furnaces) (all types), including central systems and self-contained (except portable humidifiers).....	18	656,308	69,734	633,800	65,499
333415E	Unitary air-conditioners.....	62	(X)	5,386,341	(X)	a/ 5,247,751
333415E005	Recreational vehicle air-conditioners.....	6	(D)	(D)	(D)	(D)
	Single package air-conditioners, with or without evaporator fans, including refrigeration chassis and remote-condenser type.....	(X)	(D)	(D)	(D)	(D)
	Horizontal.....	(X)	253,286	633,594	265,546	617,025
333415E007	Under 27,000 Btuh.....	18	22,931	a/ 25,978	22,336	a/ 25,085
333415E009	27,000 to 32,999 Btuh.....	16	33,563	a/ 36,653	31,341	33,032
333415E011	33,000 to 53,999 Btuh.....	19	a/ 94,707	a/ 91,381	94,045	90,878
333415E013	54,000 to 64,999 Btuh.....	17	40,923	57,235	51,063	64,429
333415E015	65,000 to 96,999 Btuh.....	13	18,830	48,265	21,680	51,726
333415E017	97,000 to 134,999 Btuh.....	12	15,511	52,861	16,695	54,600
333415E019	135,000 to 184,999 Btuh.....	11	9,521	43,500	10,873	47,152
333415E021	185,000 to 249,999 Btuh.....	8	6,240	46,817	6,847	46,599
333415E023	250,000 to 319,999 Btuh.....	9	4,862	40,982	5,108	40,970
333415E035	320,000 to 379,999 Btuh.....	9	1,345	21,016	1,150	16,540
333415E041	380,000 Btuh and over.....	9	4,853	168,906	4,408	146,014
	Other than horizontal.....	(X)	(D)	(D)	(D)	(D)
333415E043	Under 54,000 Btuh	6	(D)	(D)	(D)	(D)
333415E045	54,000 to 64,999 Btuh.....	5	(D)	(D)	a/ 4,727	b/ 11,951
333415E047	65,000 to 96,999 Btuh.....	4	485	1,852	487	1,822
333415E049	97,000 to 134,999 Btuh.....	4	611	2,921	615	2,994
333415E051	135,000 to 184,999 Btuh.....	4	529	3,621	771	5,110
333415E053	185,000 Btuh and over.....	5	(D)	(D)	(D)	(D)
	Year-round air-conditioners, single package and remote-condenser type (except heat pumps).....	(X)	648,931	1,543,564	649,786	1,429,261
333415E055	Under 33,000 Btuh.....	19	140,682	130,756	148,741	135,484
333415E057	33,000 to 38,999 Btuh.....	19	120,488	132,085	118,405	125,277
333415E059	39,000 to 43,999 Btuh.....	15	35,118	38,665	39,511	42,878
333415E061	44,000 to 53,999 Btuh.....	18	74,438	98,072	70,850	92,234
333415E063	54,000 to 64,999 Btuh.....	18	103,464	180,439	102,907	160,052
333415E065	65,000 to 134,999 Btuh.....	13	112,190	327,655	109,653	313,294
333415E067	135,000 to 184,999 Btuh.....	10	31,089	159,719	31,447	155,363
333415E069	185,000 to 249,999 Btuh.....	11	15,344	123,634	13,890	109,275
333415E071	250,000 to 319,999 Btuh.....	9	7,670	72,734	7,080	66,828
333415E073	320,000 to 379,999 Btuh.....	9	2,155	34,154	2,015	30,049
333415E075	380,000 to 539,999 Btuh.....	7	2,201	43,394	1,800	35,238
333415E077	540,000 to 639,999 Btuh.....	8	1,470	a/ 50,137	1,252	a/ 43,198
333415E079	640,000 Btuh and over.....	8	2,622	152,120	2,235	120,091
333415E081	Water source heat pumps (except room air-conditioners).....	9	120,137	133,971	120,080	129,668
	Split system air-conditioning condensing units.....	(X)	4,335,967	2,138,899	4,465,836	2,168,059
333415E082	Under 22,000 Btuh.....	14	a/ 309,824	a/ 98,523	363,464	114,849
333415E083	22,000 to 26,999 Btuh.....	16	874,204	301,289	930,517	317,102
333415E085	27,000 to 32,999 Btuh.....	17	753,539	306,805	888,608	354,077

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 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	1999		1998	
			Quantity	Value	Quantity	Value
333415E087	33,000 to 38,999 Btuh.....	15	1,074,364	470,800	895,784	401,393
333415E089	39,000 to 43,999 Btuh.....	14	378,134	201,883	438,753	232,181
333415E091	44,000 to 53,999 Btuh.....	15	505,668	298,008	468,134	275,339
333415E093	54,000 to 64,999 Btuh.....	13	373,839	259,275	404,316	275,513
333415E095	65,000 to 96,999 Btuh.....	6	26,255	34,002	30,364	38,874
333415E097	97,000 to 134,999 Btuh.....	6	18,296	34,870	21,411	39,347
333415E099	135,000 to 184,999 Btuh.....	8	9,948	51,092	11,244	32,993
333415E09A	185,000 to 249,999 Btuh.....	7	5,266	22,147	5,989	24,734
333415E09C	250,000 to 319,999 Btuh.....	3	1,661	9,482	1,899	10,458
333415E09E	320,000 to 379,999 Btuh.....	4	1,761	11,304	2,051	13,137
333415E09G	380,000 to 539,999 Btuh.....	4	1,305	11,662	1,475	12,789
333415E09J	540,000 to 639,999 Btuh.....	4	604	6,792	742	7,912
333415E09L	640,000 Btuh and over.....	4	1,299	20,965	1,085	17,361
	Split system air-conditioning coils.....	(X)	3,292,218	663,239	3,290,633	666,305
333415E09M	With blower.....	14 a/	1,516,567	431,908	1,521,713	435,716
333415E09P	Without blower.....	16	1,775,651	231,331	1,768,920	230,589
333415F	Air source heat pumps (except room air-conditioners).....	23	1,247,863	997,059	1,326,736	1,053,837
	Single package:					
333415F023	Under 27,000 Btuh.....	19	29,446	25,592 a/	42,284	33,343
333415F034	27,000 to 41,999 Btuh.....	18	96,416	108,295 a/	146,547	139,897
333415F045	42,000 to 64,999 Btuh.....	17	76,746	104,940	94,319	119,504
333415F056	65,000 Btuh and over.....	9	13,028	46,917	14,610	50,884
	Split system:					
333415F067	Under 27,000 Btuh.....	17 a/	345,534	170,857	339,436	168,415
333415F078	27,000 to 41,999 Btuh.....	15	429,294	291,356	448,299	306,067
333415F089	42,000 to 64,999 Btuh.....	14	236,697	213,653	223,220	202,904
333415F095	65,000 Btuh and over.....	6	20,702	35,449	18,021	32,823
333415G	Ground and ground water source heat pumps.....	5 a/	76,750 a/	105,006	(D)	(D)
	Single and split systems:					
333415G010	Under 27,000 Btuh.....	3	(D)	(D)	(D)	(D)
333415G020	27,000 to 41,999 Btuh.....	2	(D)	(D)	(D)	(D)
333415G030	42,000 to 64,999 Btuh.....	3	8,528 a/	11,274	(D)	(D)
333415G040	65,000 Btuh and over.....	3	(D)	(D)	(D)	(D)

Btuh British thermal units-per hour. D Withheld to avoid disclosing data for individual companies. pt. Partial. r/Revised by 5 percent or more from previously published data. X Not applicable.

1/Defined as factory-selected combinations of heating and cooling components or assemblies intended to serve an individual room and comprising: (1) heating assembly available with element for use with hot water, steam, and electricity; means for forced heated air circulation and distribution; integral or remote temperature controls; (2) slide-in cooling section with complete refrigerant cycle; (3) room cabinet; (4) provision for outdoor air intake and discharge and accessories as required for mounting in a building wall; (5) provisions for air filtration and ventilation; (6) permanent individual branch circuit wiring with a suitable line cord or terminating at a junction box within the room cabinet; and (7) provision for free conditioned air distribution, or when forced circulation is employed for minimal duct work having a total external static resistance not exceeding 1/10 inch of water.

2/Data exclude systems assembled from purchased components and installed at passenger automobile assembly lines. The values are understated for some systems because of exclusion of compressors.

3/Represents only those compressors and compressor units produced and shipped separately, including interplant transfers.

4/Includes units shipped for household refrigerators.

Note: The percent of estimation for each item is indicated as follows: a/15 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. Quantity of Assembled Compressor Bodies: 1999 and 1998
[Quantity in number of units]

Product description	No. of cos.	1999	1998
Compressor bodies 1/ 2/.....	(X)	36,314,428	34,589,120
All refrigerants (except ammonia).....	(X)	24,822,829	23,904,977
Other than automotive air-conditioning.....	(X)	(D)	(D)
1/4 hp and under.....	5	7,021,657	7,164,966
1/3 and 1/2 hp.....	6	(D)	(D)
3/4 and 1 hp.....	5	(D)	(D)
1-1/2 hp.....	6	532,883	r/ 646,698
2 hp.....	6	(D)	(D)
3 hp.....	10	4,578,269	r/ 3,999,312
4 hp.....	3	378,925	r/ 405,044
5 hp.....	8	1,180,249	r/ 1,100,477
7-1/2 hp.....	11	184,170	r/ 216,010
10 hp.....	14	(D)	(D)
15 hp.....	12	155,173	138,818
20 hp.....	10	(D)	27,774
25 hp.....	11	24,504	22,934
30 hp.....	13	25,622	r/ 19,835
40 hp.....	13	22,732	r/ 22,967
50 hp.....	10	4,033	r/ 3,746
60 hp.....	11	6,229	r/ 5,583
75 hp.....	11	9,535	r/ 3,775
100 hp and over.....	10	16,506	15,623
Automotive air-conditioning, including passenger automobiles, trucks, buses, agricultural, and construction equipment.....	4	(D)	(D)
Ammonia refrigerants.....	4	(D)	(D)

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

1/Includes units for household refrigerators.

2/Represents total number of compressor bodies assembled, whether shipped separately or incorporated into a condensing package or unitary end-use product such as single package air-conditioners, freezers, and refrigerators (manufactured and remanufactured units).

Table 4. Shipments, Exports, Imports, and Apparent Consumption of Air-Conditioning and Refrigeration Equipment: 1999 and 1998
[Value in thousands of dollars]

Product code 1/	Product description	Manufactures' shipments (value f.o.b. plant)	Exports of domestic merchandise 1/		Imports for consumption 4/ 5/
			Value at port 2/	Estimated producers' value 3/	
1999					
3334151	Heat transfer equipment, excluding room and unitary air-conditioners and dehumidifiers.....	4,548,427	267,984	201,042	98,087
3334153146	Commercial refrigeration equipment, mechanical drinking water coolers.....	243,672	13,902	10,429	13,680
3334155	Condensing units, all refrigerants.....	344,013	31,396	23,553	61,431
3334156	Room air-conditioners and dehumidifiers.....	1,225,230	98,980	74,255	323,130
3363917	Motor vehicle mechanical air-conditioning systems 6/.....	2,330,090	(NA)	(NA)	(NA)
333415A	Compressors and compressor units, all refrigerants.....	3,034,234	998,308	748,931	820,581
336391B	Automotive air-conditioning compressors 7/.....	2,103,575	(NA)	(NA)	(NA)
333415C pt.	Nonelectric warm air furnaces and humidifiers.....	1,564,269	(NA)	(NA)	(NA)
333415E	Unitary air-conditioners.....	5,386,341	383,078	287,385	123,282
333415F	Air source heat pumps 8/.....	997,059	(NA)	(NA)	(NA)
333415G	Ground and ground water source heat pumps.....	105,006	(NA)	(NA)	(NA)
1998					
3334151	Heat transfer equipment, excluding room and unitary air-conditioners and dehumidifiers.....	4,493,307	337,882	253,479	91,626
3334153146	Commercial refrigeration equipment, mechanical drinking water coolers.....	234,476	15,567	11,678	10,269
3334155	Condensing units, all refrigerants.....	339,623	29,089	21,823	18,047
3334156	Room air-conditioners and dehumidifiers.....	1,098,416	125,391	94,068	366,950
3363917	Motor vehicle mechanical air-conditioning systems 6/.....	2,099,860	(NA)	(NA)	(NA)
333415A	Compressors and compressor units, all refrigerants.....	2,814,238	939,405	704,742	743,445
336391B	Automotive air-conditioning compressors 7/.....	1,976,832	(NA)	(NA)	(NA)
333415C pt.	Nonelectric warm air furnaces and humidifiers.....	1,606,949	(NA)	(NA)	(NA)
333415E	Unitary air-conditioners.....	5,247,751	373,425	280,143	62,913
333415F	Air source heat pumps 8/.....	1,053,837	(NA)	(NA)	(NA)
333415G	Ground and ground water source heat pumps.....	(D)	(NA)	(NA)	(NA)

D Withheld to avoid disclosing data for individual companies. NA Not available. pt. Partial.

1/Source: Census Bureau report EM 545, U.S. Exports (see Table 5 for a comparison of North American Industry Classification System-Based codes and import and export numbers).

2/Dollar value represents c.i.f. (cost, insurance, and freight) value at port of export.

3/Values were derived by use of adjustment factors to exclude freight, insurance, and other charges incurred in moving goods to port of export. Adjustment is made to convert values to an approximation of the producers' value of exported goods. Current adjustment factors are based on data for 1992 which are published in "Exports from Manufacturing Establishments, AR92-1, Appendix B". The adjustment factor for this report is 0.7502.

4/Source: Census Bureau report IM 145, U.S. Imports for Consumption. Figures include both import value and duty value.

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

6/Data for this product is collected separately from product code 35851 in 1997.

7/Data for this product is collected separately from product code 35854 in 1997.

8/Data for this product is collected separately from product code 35852 in 1997.

Table 5. Comparison of North American Industry Classification System-Based Product Codes with Schedule B Export Numbers, and HTSUSA Import Numbers: 1999

Product code	Product description	Export number 1/	Import number 2/
3334151	Heat transfer equipment.....	8415.82.0030	8415.82.0030
		8415.82.0035	8415.82.0035
		8415.83.0040	8415.83.0040
		8418.69.0010	8418.69.0010
		8418.69.0015	8418.69.0015
		8418.69.0045	8418.69.0045
		8418.69.0050	8418.69.0050
		8418.69.0060	8418.69.0060
3334153146	Mechanical drinking water coolers.....	8418.69.0020	8418.69.0020
3334155	Refrigeration condensing units.....	8418.99.0005	8418.99.8005
		8418.99.0010	8418.99.8010
		8418.99.0015	8418.99.8015
		8418.99.0020	8418.99.8020
		8418.99.0025	8418.99.8025
3334156	Room air-conditioners and dehumidifiers.....	8415.10.0040	8415.10.0040
		8415.10.0060	8415.10.0060
		8415.10.0080	8415.10.0080
		8415.82.0050	8415.82.0055 8415.82.0060
3363917	Motor vehicle mechanical air-conditioning systems 3/.....	(X)	(X)
333415A	Compressors and compressor units, all refrigerants.....	8414.30.4000	8414.30.4000
		8414.30.8010	8414.30.8010
		8414.30.8020	8414.30.8020
		8414.30.8030	8414.30.8030
		8414.30.8050	8414.30.8050
		8414.30.8060	8414.30.8060
		8414.30.8070	8414.30.8070
		8414.30.8080	8414.30.8080
8414.30.8090	8414.30.8090		
336391B	Automotive air-conditioning compressors 3/.....	(X)	(X)
333415C	Nonelectric warm air furnaces and humidifiers 3/.....	(X)	(X)
333415E	Unitary air-conditioners (except room).....	8415.81.0010	8415.81.0010
		8415.81.0020	8415.81.0020
		8415.81.0030	8415.81.0030
		8415.82.0005	8415.82.0005
		8415.82.0010	8415.82.0010
		8415.82.0015	8415.82.0015
		8415.82.0020	8415.82.0020
		8415.82.0025	8415.82.0025
8415.83.0050	8415.83.0050		
8415.83.0060	8415.83.0060		
333415F	Air source heat pumps 3/.....	(X)	(X)
333415G	Ground and ground water source heat pumps 3/.....	(X)	(X)

X Not applicable.

1/Source: Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States, 1999.

2/Source: Harmonized Tariff Schedule of the United States, 1999.

3/Import-Export classification not directly comparable.