

**OHIO DEPARTMENT OF DEVELOPMENT**  
**Office of Strategic Research**

**THE OHIO MACHINERY INDUSTRY**



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**A State Affiliate of the U.S. Census Bureau**



Bob Taft, Governor

Bruce Johnson, Director

# **THE OHIO MACHINERY INDUSTRY**

**JULY 2005**

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## **DESCRIPTION OF OHIO'S MACHINERY INDUSTRY**

# Leading and Notable Machinery Manufacturing Establishments in Ohio Employing 500 or More Persons 2004



- Key**
- Machinery Establishment
  - Ohio County

Source:  
2005 Selectory CD-ROM, Prospecting  
Business Database, Harris InfoSource,  
Twinsburg, Ohio

Prepared by:  
Ohio Department of Development,  
Office of Strategic Research (June 2005)

## NOTABLE MACHINERY INDUSTRY MANUFACTURERS

Forty-five companies on Fortune magazine's U.S.-1,000 or Global-500 lists have machinery industry establishments in Ohio. Five of them maintain their world headquarters in Ohio: Cooper Tire & Rubber, Dana, Goodyear Tire & Rubber, Parker Hannifin, and Timken. Lincoln Electric Holdings is the largest employer in Ohio's machinery industry with 3,500 people. Illinois Tool Works is second with over 2,300, and Crown Equipment is third with about 2,200. Other companies employing from 1,000 to 1,999 people in Ohio include 3M, Berkshire-Hathaway, Emerson Electric, Gorman-Rupp, Isuzu, and MTD Products.<sup>2</sup>

The map above shows the locations of the 23 establishments with at least 500 employees. The list below includes the Fortune companies with at least 50 people at a site as well as other companies employing 500 or more people in Ohio and having at least 50 people at a site. It is organized by NAICS code and includes the location county of the site. Machinery manufacturing is not the principal business of some companies on the list. However, the sites of such companies are included because the primary NAICS codes of the specific establishments define them as part of the industry.

Group/Company/Subsidiary	Primary NAICS	Location County	Jobs at Site
<b>3331: Agriculture-Construction-Mining</b>			
MTD Products, Inc.	333112	Cuyahoga	320
MTD Products, Inc./MTD Midwest Industries	333112	Huron	1,100
Textron, Inc.*/Steiner Turf Equipment, Inc.	333112	Wayne	160
Trimble Navigation Ltd./Trimble Engineering & Construction	33312	Montgomery	600
<b>3332: Industrial</b>			
Illinois Tool Works, Inc.*/Ride Quality Products Akron	33322	Summit	175
KKR & Co.*-Siemens AG*/Demag Plastics Group	33322	Cuyahoga	370
FMC Technologies, Inc.*/FMC FoodTech.	333294	Erie	250
Henny Penny Corp.	333294	Preble	500
Illinois Tool Works, Inc.*/Hobart Corp.	333294	Highland	260
Nestle SA*/Norse Dairy Systems	333294	Franklin	120 <sup>+</sup>
<b>3333: Commercial and Service</b>			
Standard Register Co.	333313	Montgomery	500

Group/Company/Subsidiary	Primary NAICS	Location County	Jobs at Site
3M*/3M Precision Optics, Inc.	333314	Clermont	1,100
ABN AMRO Holding*/Cincinnati Industrial Machinery Co.	333319	Hamilton	200
Illinois Tool Works, Inc.*/Hobart Corp.	333319	Miami	1,100
Mitsubishi Heavy Industries, Ltd.*/Mitsubishi Heavy Industries America	333319	Columbiana	50 <sup>+</sup>
Pentair, Inc.*/Pentair Pump	333319	Ashland	400
3334: VHAC and Commercial Refrigeration			
Thermo Electron Corp.*/Thermo Forma, Inc.	333411	Washington	500
Lennox International, Inc.*/Armstrong Air Conditioning, Inc.	333415	Huron	300
Parker Hannifin Corp.*	333415	Cuyahoga	100
3335: Metalworking			
Ashland, Inc.*/Ashland Specialty Chemical Co./Casting Solutions Div.	333511	Cuyahoga	70
Cooper Tire & Rubber Co.*/Mold Production Div.	333511	Hancock	100
Metaldyne Corp.*/Hydraulic Controls Div.	333511	Cuyahoga	100
MTD Products, Inc./Industrial Plastics Co.	333511	Medina	100
SGS Tool Co./Burr Div.	333512	Summit	100
Alcoa, Inc.*/Stolle Machinery, Inc.	333513	Shelby	52
Federal Signal Corp./Dayton Progress Corp.	333514	Montgomery	650
Metaldyne Corp.*/Di-Rite Co.	333514	Cuyahoga	298
Federal Signal Corp./Clappdico Corp.	333515	Lucas	100
Federal Signal Corp./Manchester Tool Co.	333515	Summit	130
Kennametal, Inc.*	333515	Ashtabula	500
Kennametal, Inc.*	333515	Cuyahoga	400
Newell Rubbermaid, Inc.*/IRWIN Industrial Tool Co.	333515	Clinton	400
SGS Tool Co.	333515	Summit	360
SGS Tool Co./End Mill Div.	333515	Summit	70
Itochu International, Inc.*/P E Technologies, Inc.	333516	Cuyahoga	80
3336: Engine, Turbine, and Power Transmission			
Rolls-Royce PLC/Rolls-Royce Energy Systems, Inc.	333611	Knox	800

Group/Company/Subsidiary	Primary NAICS	Location County	Jobs at Site
Joy Global*/Joy Mining Machinery/Bedford Gear Div.	333612	Cuyahoga	145
Dana Corp.* & Daido Metal/Dana Glacier Daido America LLC	333613	Logan	425 <sup>+</sup>
Dover Corp.*/Dover Resources, Inc./OPW Engineered Systems, Inc.	333613	Warren	80
DuPont & Co.*/DuPont Vespel Parts & Shapes	333613	Cuyahoga	150
Metaldyne Corp.*/Forging Operations/Shaft Operations	333613	Carroll	250
DaimlerChrysler AG*/Detroit Diesel Remanufacturing	333618	Guernsey	550
Isuzu Motors Ltd.*-General Motors Corp.*/DMAX Ltd.	333618	Montgomery	1,000
<b>3339: Other General-Purpose Machinery</b>			
Crane Co.*/Crane Pumps & Systems, Inc.	333911	Miami	250
Crane Co.*/Deming Pump Div.	333911	Columbiana	115
Giant Industries, Inc.*	333911	Lucas	75
Gorman-Rupp Co.	333911	Richland	500
Gorman-Rupp Co.	333911	Richland	450
Gorman-Rupp Co./Gorman-Rupp Industries	333911	Richland	100
Pentair, Inc.*/Hydromatic Pumps, Inc.	333911	Ashland	210
Saint-Gobain*/Saint-Gobain Calmar, Inc.	333911	Fayette	300
Berkshire Hathaway, Inc.*/Scott Fetzer Co./Campbell Hausfeld	333912	Hamilton	663
Emerson Electric Co.*/Copeland Corp.	333912	Shelby	1,700
Illinois Tool Works, Inc.*/Ransburg Electrostatic	333912	Lucas	50
Dover Corp.*/Dover Resources, Inc./Hydro Systems Co.	333913	Hamilton	100
Manitowoc Co., Inc.*/Manitowoc Beverage Systems	333913	Lucas	198
Nordson Corp.	333913	Cuyahoga	75
Nordson Corp.	333913	Lorain	300
Goodyear Tire & Rubber Co.*/Engineered Products Div.	333922	Union	300
KKR & Co.*-Siemens AG*/Demag Cranes & Components/ Crane America Services, Inc.	333923	Cuyahoga	210
Crown Equipment Corp.	333924	Auglaize	2,000
Crown Equipment Corp.	333924	Mercer	150
Crown Equipment Corp./Crown Lift Trucks	333924	Montgomery	60
General Electric Co., Inc.*	333924	Hamilton	900

Group/Company/Subsidiary	Primary NAICS	Location County	Jobs at Site
Illinois Tool Works, Inc.*/Hobart Ground Power	333924	Miami	50
Stanley Works*/Stanley Assembly Technologies	333991	Cuyahoga	200
Berkshire Hathaway, Inc.*/Scott Fetzer Co./Western Enterprises	333992	Cuyahoga	250
Berkshire Hathaway, Inc.*/Scott Fetzer Co./Western Enterprises	333992	Lorain	190
Illinois Tool Works, Inc.*/Hobart Brothers Co.	333992	Miami	700
Lincoln Electric Holdings*/Lincoln Electric Co.	333992	Cuyahoga	3,000
Lincoln Electric Holdings*/Lincoln Electric Co.	333992	Lake	500
DuPont & Co.*/Liqui-Box Corp.	333993	Franklin	65
International Paper*/Packaging Development Center	333993	Clermont	800
Paxar Corp./Paxar Americas, Inc.	333993	Montgomery	757
Nordson Corp.	333994	Lorain	300
Parker Hannifin Corp.*	333995	Summit	80
Parker Hannifin Corp.*/Automation Actuator Div.	333995	Medina	125
Crane Co.*/Lea Romec Div.	333996	Lorain	200
Parker Hannifin Corp.*/Cylinder Div.	333996	Auglaize	200
Parker Hannifin Corp.*/Denison Hydraulics, Inc.	333996	Union	200
Parker Hannifin Corp.*/Hydraulic Valve Div.	333996	Lorain	200
Robert Bosch GmbH*/Bosch Rexroth Corp.	333996	Wayne	386
Mettler-Toledo International, Inc.*/Mettler-Toledo, Inc.	333997	Delaware	140
Mettler-Toledo International, Inc.*/Mettler-Toledo, Inc.	333997	Franklin	220
Mettler-Toledo International, Inc.*/Mettler-Toledo, Inc.	333997	Franklin	150
Mettler-Toledo International, Inc.*/Mettler-Toledo, Inc.	333997	Franklin	110
Ingersoll-Rand Co. Ltd.	333999	Williams	500
Parker Hannifin Corp.*/Hydraulic Filter Div.	333999	Fulton	200
Rockwell Automation, Inc.*/Entek	333999	Delaware	110

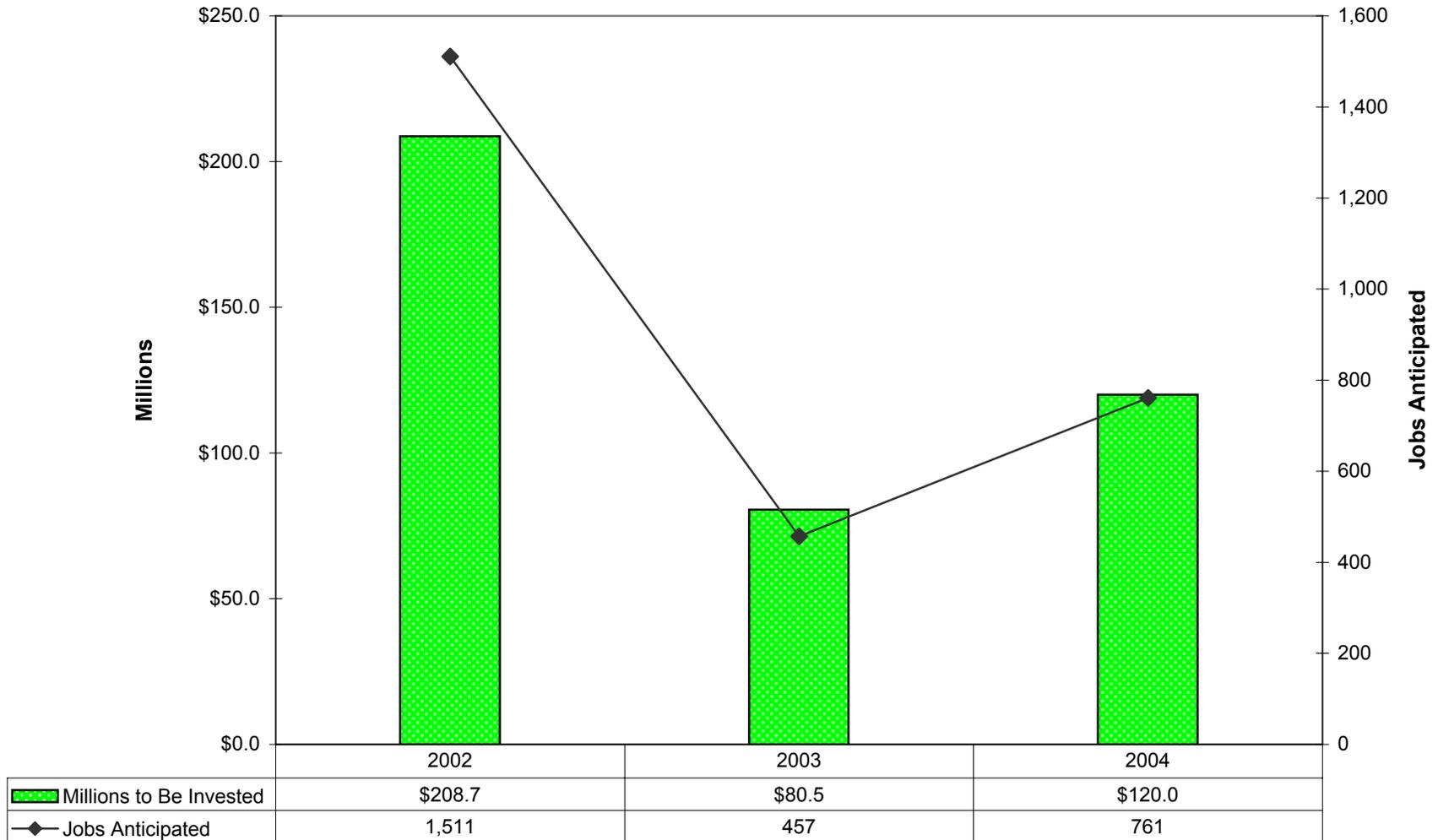
Notes: \* - A Fortune U.S. 1,000 or Global 500 company.  
+ - Jobs figure is from Office of Strategic Research (2005a).

Sources: Fortune (2004, 2005), Harris (2004), LexisNexis (2004), Office of Strategic Research (2005a).



## Investment Announcements in Ohio's Machinery Industry, 2002-2004

Three-Year Totals: \$409.3Million; 2,729 Jobs



Source: Office of Strategic Research

## RECENT EXPANSIONS AND ATTRACTIONS

From 2002 through 2004 the Office of Strategic Research recorded 92 major investments by 87 companies in Ohio's machinery industry totaling almost \$409.3 million (M). The largest dollar amounts and projected new jobs from investments were recorded in 2002. These figures include the \$87.0M invested by Isuzu and General Motors to expand operations at the DMAX plant in Moraine – by far the single largest machinery industry investment in this three-year time period. Excluding that investment and the anticipated 185 new jobs leaves totals of \$121.7M and 1,326 for 2002, still the largest totals for any year covered.

The Isuzu-GM investment also skews the industry group statistics. Excluding it from the engine, turbine and transmission equipment group (NAICS 3336) lowers the group's three-year totals from \$108.8M and 314 jobs – the largest and fourth largest subtotals, respectively – to \$21.8M and 129 jobs – the smallest subtotals. After the exclusion, other general-purpose machinery (3339) received the largest investment – \$79.8M and 668 jobs. Metalworking machinery (3335) received the next largest amount – a \$64.8M and 431 jobs, closely followed by industrial machinery (3332) – \$62.4M and 654 jobs, and VHAC and commercial refrigeration (3334) – \$57.4M and 251 jobs. Industry groups receiving the smallest investments were commercial and service machinery (3333) – \$22.0M and 176 jobs, and agriculture-construction-mining (3331) – \$14.1M and 235 jobs.

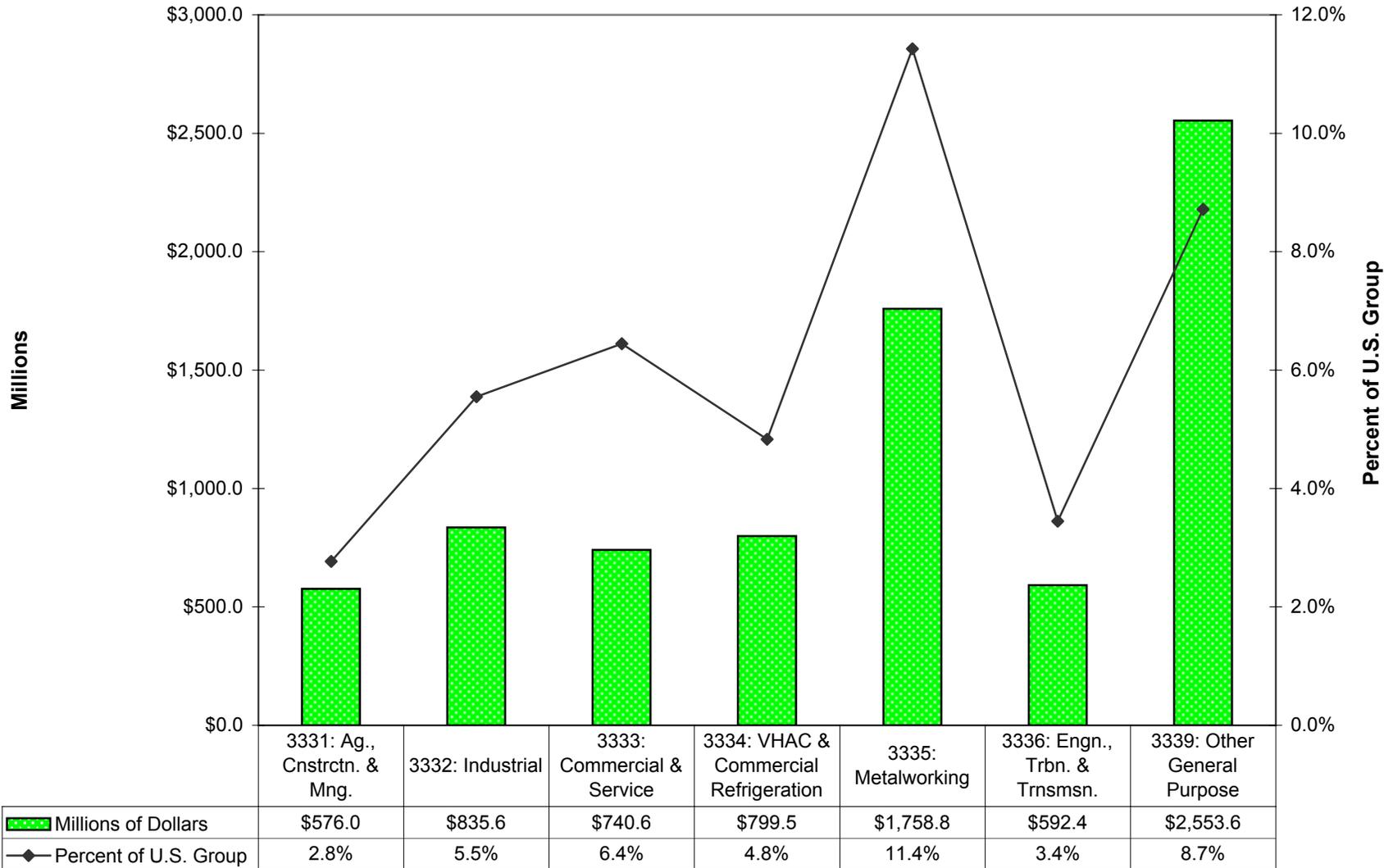
No other company's investment came close to that of Isuzu-GM, but eight invested at least \$10M. These include Atlantic Tool & Die, DaimlerChrysler, Emerson Electric, First Solar, Liebert North America, Mettler-Toledo, Milacron, and Ransohoff (Office of Strategic Research, 2005b).

These counts are derived from a list of major investments compiled by the Office of Strategic Research (2005b). To be included, a major investment must meet at least one of the following criteria: 20,000 square feet of new space; \$1 million to be spent for land, building(s), or equipment; or 50 new jobs. Many of the major investments are phased in over a two-to-three year cycle, with production and employee counts phased in after project completion. The data are not comparable with the Census data on capital expenditures.

See Table A1

# Value-Added by Group in Ohio's Machinery Industry, 2003

Total Dollars and Percent of U.S. Totals



Source: U.S. Bureau of the Census.

## THE COMPOSITION OF OHIO'S MACHINERY INDUSTRY: GROSS STATE PRODUCT AND VALUE-ADDED

Gross State Product (GSP) data are summary figures for the net value of goods and services provided by people and capital in each industry of every state. With some minor technical exceptions, GSP is the state counterpart to the national Gross Domestic Product (GDP). Machinery manufacturers in Ohio produced \$5.73 billion (B) of goods in 2003 – this was 1.44 percent of Ohio's total GSP, and 5.94 percent of the value of all machinery made in America. Ohio's total GSP was 3.65 percent of the U.S. total.<sup>3</sup> Comparing the last two percentages – 5.94 vs. 3.65 – indicates that American machinery production is concentrated here. Ohio ranks fourth among the 50 states and the District of Columbia in machinery production and seventh in total GSP.

Value-added data from the 2003 Annual Survey of Manufacturers provide additional insight into Ohio's machinery industry by focusing on the groups in the industry.<sup>4</sup> The chart above illustrates the distribution of value-added across the groups and the percentages of national production originating in Ohio. The largest group is other general-purpose machinery (NAICS 3339, \$2.55B), followed by metalworking (3335, \$1.76B). These two groups accounted for 54.9 percent of machinery industry (333) value-added in Ohio. These groups also are more concentrated in Ohio with 8.7 and 11.4 percent, respectively, of the national industry group value-added originating here. Ohio ranks first in the nation in other general-purpose machinery and second in metalworking machinery manufacturing.

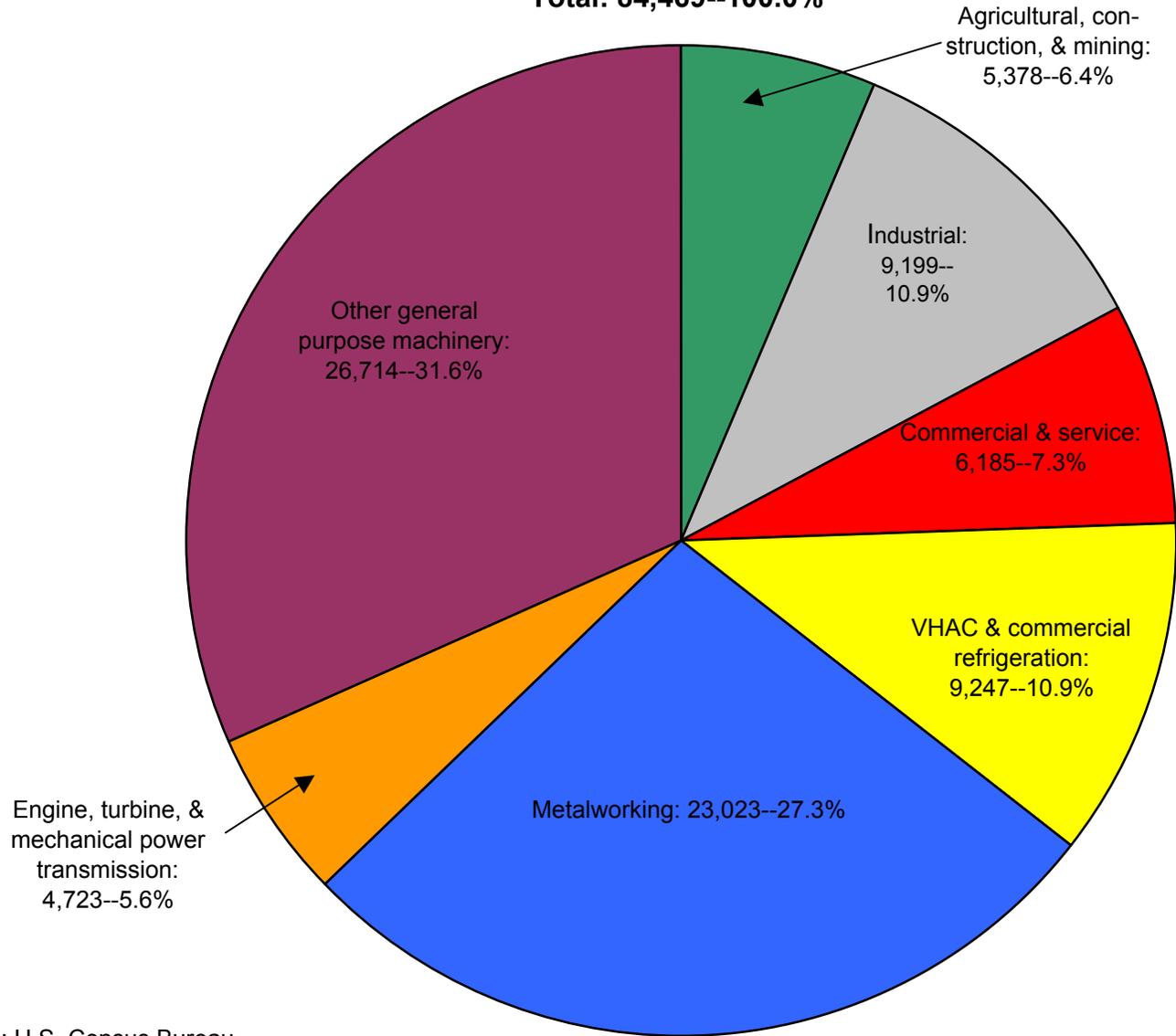
The production of commercial and service (3333), industrial (3332), and VHAC and commercial refrigeration machinery (3334) are somewhat concentrated in Ohio with 6.4, 5.5, and 4.8 percent, respectively, of national production. Ohio ranked fifth in the nation in each group. The production of agricultural, construction, and mining machinery, and engines, turbines, and transmission equipment is not concentrated here.

Initial reports from the 2002 Economic Census provide more details about the nature of the industry in Ohio. These are the industries that drive Ohio's GSP rank to fifth. As judged by value-added, Ohio ranks first in the nation in five machinery industries: food products, industrial and commercial fans and blowers, metal forming machine tools, rolling mill machinery, and welding and soldering equipment. Ohio ranks second in nine industries: lawn and garden equipment, plastic and rubber working, industrial molds, special dies-tools-fixtures-and-jigs, machine tool accessories, mechanical power transmission, conveyors, industrial trucks-tractors-trailers-stackers, and fluid-power pumps and motors. Ohio ranks third in five industries: mining equipment, other metalworking equipment, pumps, packaging, and fluid-power cylinders and actuators. Details about product classes are in the appendix tables.

See tables A2a-A2c

# Employment in Ohio's Machinery Industry, 2002

Total: 84,469--100.0%



Source: U.S. Census Bureau.

## THE COMPOSITION OF OHIO'S MACHINERY INDUSTRY: EMPLOYMENT

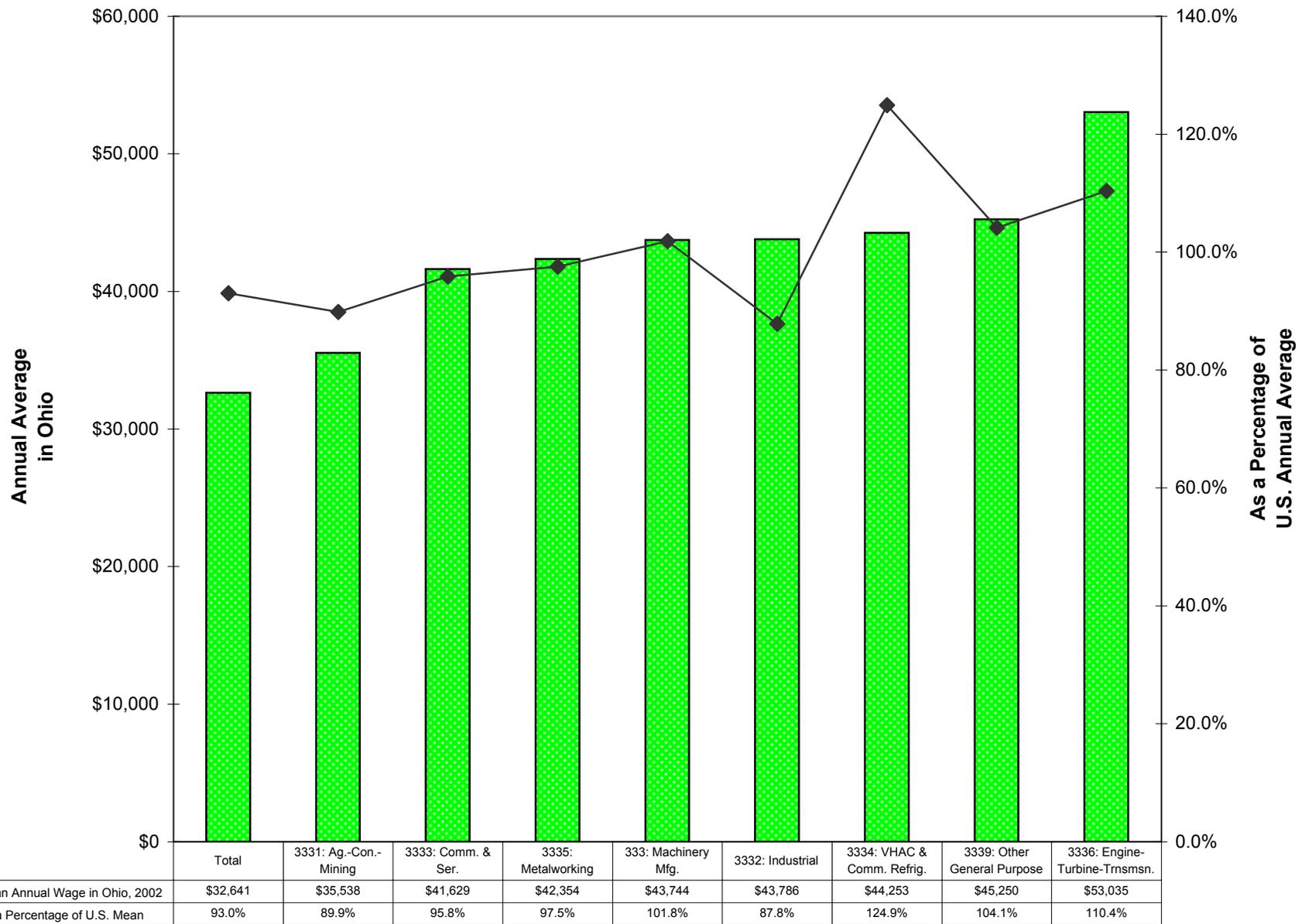
2,075 establishments employed over 84,400 people in Ohio's machinery industry (NAICS 333) during 2002. No one group dominates the industry. As judged by employment, the two largest groups are producers of other general-purpose machinery (3339 – 26,700 jobs) and metalworking machinery (3335 – 23,000 jobs). The same two groups also have the largest numbers of establishments: 475 and 976, respectively. Other groups, in descending order of employment, are VHAC and commercial refrigeration (3334 – over 9,200 jobs), industrial machinery (3332 – 9,200 jobs), commercial and service machinery (3333 – almost 6,200 jobs), agricultural-construction-mining (3331 – close to 5,400 jobs) and engines, turbines, and transmission equipment (3336 – over 4,700 jobs).

Between seven and eight percent of the nation's machinery industry establishments and employees were found in Ohio in 2002. (Ohio's portions of all private non-farm employees and associated establishments were 4.2 and 3.8 percent, respectively.) Metalworking machinery production is particularly concentrated in Ohio, with 10 percent of the national industry group's establishments and 12 percent of the jobs. Other groups with generally greater-than-average concentration of the industry in Ohio include industrial machinery, VHAC and commercial refrigeration, and other general-purpose machinery.

The average industry establishment in Ohio employs about the same number of people (41) as the average industry establishment in the U.S. (42). There is, however, variation among the groups. The VHAC and commercial refrigeration and the engine-turbine-transmission equipment groups typically employ the largest numbers (U.S. Bureau of the Census, 2004).

See Table A3

## Comparing Ohio Industry-Group Wages with National Averages, 2002



Source: U.S. Census Bureau.

Total-Industry-Group

## INDUSTRY WAGES

The average annual wage for an Ohio machinery industry (NAICS 333) worker was \$43,744 in 2002. This was about 102 percent of the corresponding average for the U.S. – \$42,960. Annual averages vary among industry groups, but the groups clustered in the \$41,500--\$45,500 range in Ohio. The exceptions were employees in agricultural-construction-mining (3331), averaging less than \$36,000, and those in engines-turbines-transmissions (3336) who averaged \$53,000.

Greater variation is shown among the individual industries. The lowest-paying industries were air purification equipment (333411) and agricultural implements (33311). The highest paying industries were other engine equipment (333618 – \$63,928), photographic and photocopying equipment (333315 – \$54,905), and rolling mill machinery (333516 – \$54,877).

While wages in Ohio's machinery industry are slightly greater than the national average, they are not uniformly greater. Wages for Ohio workers in the VHAC and commercial refrigeration group (3334) were 125 percent of the corresponding U.S. average, while those in the industrial machinery group (3332) were 88 percent of the national group average. Again, greater variation occurs among industries. Jobs in fluid power cylinders and actuators (333995) paid 79 percent of the national average for that industry, while power-driven hand tools (333991), AC-warm-air-furnaces-refrigeration (333415), and other engine equipment job paid over 130 percent of the national averages.

See Table A4



## THE DISTRIBUTION OF INDUSTRY ESTABLISHMENTS IN OHIO

The map above illustrates the distribution of 2,075 machinery industry establishments across Ohio in 2002. They are widely distributed, with 86 counties having at least one such establishment. However, the majority of establishments were located in eight counties: Cuyahoga – 306, Montgomery – 167, Summit – 164, Lake – 115, Hamilton – 113, Lucas – 73, Stark – 65, and Franklin – 61. Lorain and Mahoning each had between 50 and 60 establishments. Seventeen counties had from 20 to 49 establishments, 14 had from 10 to 19 establishments, and 45 had from one to nine.

See Table A5





## THE DISTRIBUTION OF INDUSTRY EMPLOYMENT IN OHIO

The map above illustrates the distribution of the 84,400-plus machinery industry jobs across Ohio in 2002; employment closely follows the distribution of establishments. The majority of jobs were located in nine counties: Cuyahoga – almost 12,100, Montgomery – 8,160-plus, Hamilton – 5,360, Summit – almost 4,440, Franklin – almost 3,460, Lake – 2,980, Auglaize – 2,660-plus, Clermont – 2,560-plus, and Lorain – about 2,370. Miami and Shelby Counties also had well over 2,100 jobs each. Fourteen counties had between 1,000 and 1,999 jobs, and 41 counties had 100 to 999 jobs.

See Table A5

## FOREIGN INVESTMENT IN OHIO

Seventy-nine foreign-based companies have subsidiaries and/or joint ventures in Ohio's machinery industry; nine are on Fortune's Global 500 list. The nine are: ABN AMRO Holding, DaimlerChrysler, Isuzu Motors, Mettler-Toledo International, Mitsubishi Heavy Industries, Nestle, Robert Bosch, Saint-Gobain, and Siemens. The list in Appendix Table A6 identifies all 79 companies, the countries where the home office is located, their Ohio subsidiaries, and the total number of employees here.

The foreign parent companies or joint venture partners have headquarters in 14 nations. Twenty-four are located in Japan, 17 in Germany, nine in the United Kingdom, eight in Canada, and five in Switzerland. Three each are headquartered in France and the Netherlands, and two each in Austria, Finland, and Italy. Belgium, Denmark, Norway, and South Korea are home to one a-piece.

Altogether, the 79 companies employ 12,310 people. Isuzu is the single largest employer with 1,000 people at its DMAX subsidiary (a joint venture with GM), followed by Rolls Royce with 800, Siemens with 671,<sup>5</sup> Mettler-Toledo with 660, and DaimlerChrysler with 550.

See Table A6