

Economics and Statistics



Statistical Yearbook for mechanical engineering

Edition 2024

Editor: Florian Scholl
Phone +49 69 6603-1374
Fax +49 69 6603-2374
E-mail florian.scholl@vdma.org

www.vdma.org/markets-economy

For order requests please contact:

© 2024 by VDMA Verlag GmbH,
Lyoner Str. 18, 60528 Frankfurt/M.

Phone +49 69 6603-1596
Fax +49 69 6603-1611
E-mail verlag@vdma.org

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Bestell-Nr. vf 130124
ISBN 978-3-8163-0767-9

Preface

In a world full of uncertainty and rapid change, reliable data and facts are essential to provide orientation and reduce complexity. The more the turnaround progresses, the more important it becomes to take a sober and objective view of the current situation.

The tensions between the USA and China, the ongoing shortage of skilled workers and the challenges facing Germany as a production location make a positive outlook difficult. However, it is precisely in these difficult times that precise data allows us to see the situation more clearly and make informed decisions.

Despite all the adversity, they show us positive developments that offer our industry great opportunities. Digitalization and the climate-neutral transformation are opening up new perspectives and strengthening our competitiveness in the long term.

With a sound understanding of current trends and a clear vision for the future, you will be equipped to master the challenges ahead and take advantage of the opportunities that present themselves. I hope this book will help you do just that.

Frankfurt/Main, September 2024

VDMA e.V.

Karl Haeusgen
President

Thilo Brodtmann
Executive Director

General Inquiries

VDMA
Economics and Statistics
Lyoner Str. 18
60528 Frankfurt am Main

Liliane Klein
Assistant to the Head of Department
069 6603-1219
liliane.klein@vdma.org

Chief Economist

Dr. Ralph Wiechers
069 6603-1371
ralph.wiechers@vdma.org

Team of Experts

Dr. Johannes Germandt
Economic Principles
069 6603-1829
johannes.germandt@vdma.org

Janine Heimann
Education & Skilled Workers, R&D and
Environment, Africa
069 6603-1382
janine.heimann@vdma.org

Ulla Nickol
External Trade
069 6603-1370
ulla.nickol@vdma.org

Florian Scholl
Labour Market, Economic Indicators Germany,
Press and Public Relations
069 6603-1374
florian.scholl@vdma.org

Gesine Schneider
VDMA Incoming Orders and Turnover Statistics,
Production Statistics, Forecasts for sectors
069 6603-1385
gesine.schneider@vdma.org

Dr. Thomas Steinwachs
External trade, Value Chains,
Data Science
069 6603-1195
thomas.steinwachs@vdma.org

Anke Uhlig
EU Market Data, Global Economic Analysis &
Forecasts
069 6603-1388
anke.uhlig@vdma.org

Michael Werner
America, Foreign Direct Investment,
Econometric analyses, Forecast
069 6603-1375
michael.werner@vdma.org

Katrin Wessel
VDMA Incoming Orders and Turnover Statistics,
Price Indices
069 6603-1381
katrin.wessel@vdma.org

Birgit Wolff
Production Index, Turnover, Charts
069 6603-1379
birgit.wolff@vdma.org

Olaf Wortmann
Economic Analysis and Forecast for Mechanical
Engineering Germany
069 6603-1373
olaf.wortmann@vdma.org

N.N.
Asia, other Europe

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2. Sectors of German mechanical engineering

The numbering of sectors in this part follows VDMA sector classification.

An **alphabetical register of the specified sectors** is to be found on page 88

For some sectors the definition as regards content does not match the statistical classification. For this reason sums for subgroups are sometimes denoted by names that differ from the sector name.

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Symbols

- = no data available

0 = less than half of the smallest unit,
that can be showed in the table

. = value unknown, not to be shown or
to be kept secret

n.e.c. = not elsewhere classified

Explanatory notes

Definition mechanical engineering:

As far as possible mechanical engineering is displayed according to the VDMA definition, which is as follows: official statistics in Germany are collected according to the German subdivision of NACE (Klassifikation der Wirtschaftszweige, WZ 2008), which shows "Manufacture of machinery and equipment" in chapter 28. VDMA adds data concerning service like installation, repair and maintenance from chapters 33.12 and 33.20. The resulting aggregate is called "Mechanical engineering". For some data the old classification WZ 2003 is still in use, where "Manufacture of machinery and equipment" is found in chapter 29. In addition to mechanical engineering this chapter includes manufacture of weapons and ammunition as well as manufacture of household appliances, which do not belong to mechanical engineering as it is understood by VDMA. Thus the two sub-units are subtracted and parts of the neighbouring chapters 28 and 31-35 are integrated. If data according to chapter 29 (NACE) is displayed, it is titled "Mechanical engineering including weapons and household appliances".

Register:

The register for official statistics in Germany normally comprises all enterprises with 20 and more employees.

As far as the "Monatsbericht" a monthly report on data for employees, turnover and incoming orders is concerned, the coverage of the reporting enterprises has been changed from 2008 on. Only for this report the register comprises only enterprises with 50 and more employees.

Official statistics in Germany follow different concepts. On the one hand data is collected for local units, on the other hand for kind-of-activity units. According to the local unit principle a unit with a combined production program will as a whole be attributed to the sector in which the heavyweight of its production lies. According to the kind-of-activity principle all data will be separately collected for the different sectors.

Generally the tables in our statistical yearbook follow the kind-of-activity unit principle.

Only tables 1.3, 1.4, 1.24 and 1.25 contain data that is collected according to local units/enterprises principle. In these tables data for turnover and number of employees differ from those in other tables.

All data for Germany displayed in the yearbook refer to the respective register. Industry classifications in other countries often refer to different registers. Especially the selected characteristics of mechanical engineering in part III are not fully comparable with the German figures. Please consider the footnotes on the respective pages.

Sources

Table

Source

1. Manufacturing and mechanical engineering in Germany

1.1	Federal Statistical Office Germany; VDMA
1.2	Federal Statistical Office Germany; ZVEI
1.3-1.7, 1.13-1.18, 1.21-1.25, 1.28-1.31	Federal Statistical Office Germany
1.12	ifo Institute; VDMA
1.8	Stifterverband für die Deutsche Wissenschaft
1.9	Fed. German labour office; Federal Statistical Office Germany
1.10, 1.27	VDMA
1.11, 1.30	Federal Statistical Office Germany; VDMA
1.19-1.20, 1.26	German Central Bank
1.32	Fed. German labour office

2. Sectors of German mechanical engineering

ifo Institute; Federal Statistical Office Germany; VDMA

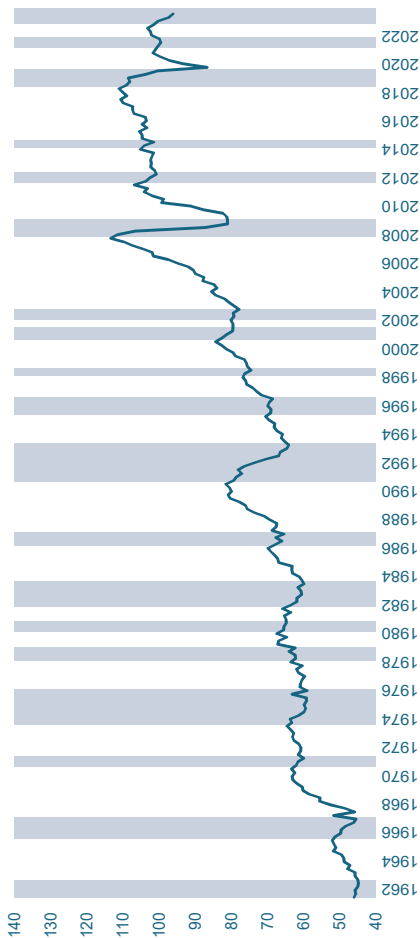
3. International tables

3.1	German Central Bank
3.2-3.4	National statistics; OECD; Eurostat
3.5	CMIF (China Machinery Industry Federation)
3.6	US-Census Bureau
3.7	METI (Ministry of Economy, Trade and Industry)
3.8, 3.10, 3.11, 3.14-3.21	Eurostat
3.9	Statistics Korea
3.12	IBGE (Instituto Brasileiro de Geografia e Estatística)
3.13	StatCan (Statistics Canada)
3.22	INEGI (Instituto Nacional de Estadística y Geografía)
3.23-3.26	National statistics; VDMA calculation

1 Manufacturing and mechanical engineering in Germany

Periods of recession* in German mechanical engineering

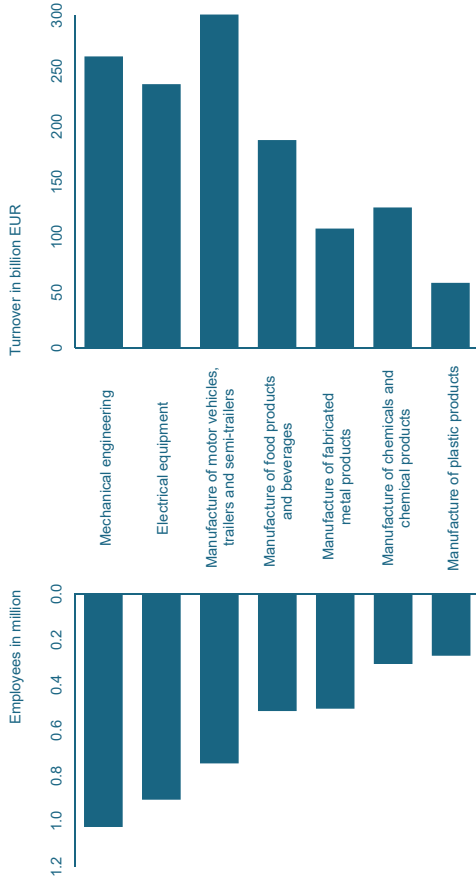
Index, price- and seasonally adjusted



*) calculated by Harding-Pagan (quarterly Bry-Boschan) procedure based on machinery production in germany
Since 1991 Germany, chained indices, 2015=100.

Employees and turnover by activity sectors in Germany

2023



Data for kind-of-activity units of enterprises with 50 and more employees; activity sector classification according to WZ 2008.

1.2 Employees and turnover by activity sectors in Germany

Activity sector	Employees				Turnover			
	2022		2023		2022		2023	
	1'000	%-share	1'000	%-share	bn EUR	%-share	bn EUR	%-share
Building industry ¹	530	.	536	.	110.0	.	113.8	.
Manufacturing	5,333	100.0	5,375	100.0	1,793.1	100.0	1,770.0	100.0
Mechanical Engineering²	1,009	18.9	1,026	19.1	244.0	13.6	262.9	14.9
Manufacture of electrical equipment	885	16.6	906	16.8	224.5	12.5	237.9	13.4
Manufacture of motor vehicles, trailers and semi-trailers	749	14.0	746	13.9	316.0	17.6	329.3	18.6
Manufacture of fabricated metal products	506	9.5	505	9.4	106.3	5.9	107.6	6.1
Manufacture of structural metal products	85	1.6	85	1.6	19.5	1.1	20.4	1.2
Man. of metal tanks, central heating radiators and boilers	15	0.3	15	0.3	3.6	0.2	3.9	0.2
Man. of steam generators except central heating boilers	3	0.1	3	0.1	0.7	0.0	0.8	0.0
Man. of weapons and ammunition	10	0.2	12	0.2	2.9	0.2	3.6	0.2
Forging, pressing, stamping and roll forming of metal etc	92	1.7	92	1.7	22.4	1.3	22.6	1.3
Treatment and coating of metals; general mechanical engineering	106	2.0	107	2.0	17.9	1.0	18.3	1.0
Man. of cutlery, tools and locks and hinges	103	1.9	100	1.9	17.9	1.0	18.0	1.0
Man. of other fabricated metal products	91	1.7	90	1.7	21.3	1.2	20.1	1.1
Manufacture of food products and beverages	510	9.6	515	9.6	176.6	9.8	187.4	10.6
Manufacture of chemicals and chemical products	311	5.8	308	5.7	151.0	8.4	126.7	7.2
Manufacture of plastic products	276	5.2	271	5.1	62.8	3.5	58.8	3.3

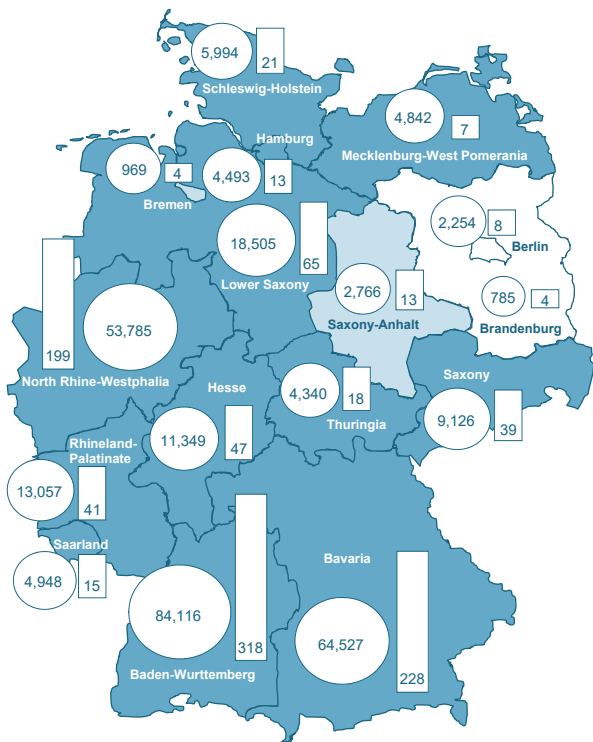
Manufacture of basic metals	225	4.2	226	4.2	115.7	6.5	104.6	5.9
Man. of basic iron and steel and of ferro-alloys	64	1.2	65	1.2	43.7	2.4	38.8	2.2
Manufacture of tubes and related fittings, of steel	21	0.4	22	0.4	6.6	0.4	7.5	0.4
Other first processing of iron and steel	18	0.3	18	0.3	10.0	0.6	8.3	0.5
Man. of basic precious and non-ferrous metals	53	1.0	54	1.0	41.5	2.3	3.6	0.2
Casting of metals	68	1.3	68	1.3	13.8	0.8	1.4	0.1
Manufacture of pulp, paper and paper products	116	2.2	114	2.1	45.0	2.5	37.9	2.1
Man. of instruments for measuring, testing; watches and clock	128	2.4	132	2.4	28.2	1.6	30.2	1.7
Manufacture of furniture	78	1.5	76	1.4	17.4	1.0	16.7	0.9
Printing and reproduction of recorded media	59	1.1	57	1.1	11.0	0.6	10.3	0.6
Manufacture of rubber products	58	1.1	58	1.1	11.0	0.6	12.3	0.7
Manufacture of aircraft and spacecraft	70	1.3	76	1.4	25.6	1.4	29.6	1.7
Man. of stones, sand, other non-metallic mineral products	67	1.3	67	1.2	16.7	0.9	16.5	0.9
Man. of wood and wood products (except furniture)	68	1.3	68	1.3	23.6	1.3	19.9	1.1
Manufacture of textiles	47	0.9	46	0.8	9.7	0.5	9.6	0.5
Manufacture of glass and glass products	49	0.9	50	0.9	11.6	0.6	11.1	0.6
Manufacture of ceramics	32	0.6	31	0.6	5.5	0.3	4.9	0.3
Man. of wearing apparel; dressing and dyeing of fur	19	0.4	19	0.4	4.7	0.3	5.1	0.3
Man. of railway and tramway locomotives and rolling stock	27	0.5	26	0.5	9.7	0.5	8.1	0.5
Manufacture of refined petroleum products	18	0.3	19	0.3	137.2	7.7	101.5	5.7
Manufacture of leather and leather products	11	0.2	11	0.2	2.5	0.1	2.6	0.1
Building of ships and boats	15	0.3	15	0.3	.	.	6.2	.
Manufacture of office machinery and computers	13	0.2	13	0.2	3.2	0.2	3.3	0.2

Data for kind-of-activity units of enterprises with 50 and more employees; industry classification according to WZ 2008.

1) Local units with 20 and more employees.

Employees and turnover in mechanical engineering*

2023



Turnover of mechanical engineering per inhabitant
(in EUR)



Turnover in
million EUR



Employees in
'000

*) Mechanical engineering according to WZ 2008 chapter 28 (excl. repair and installation).

1.3 Employees and turnover for selected activity sectors by land

Activity sector	Employees		Turnover million EUR	
	2022	2023	2022	2023
Germany				
Manufacturing	6,251,678	6,277,401	2,348,233	2,357,411
Mechanical engineering*	1,021,783	1,040,266	245,515	285,857
Repair of machinery	52,273	51,778	10,728	11,770
Installation of machinery and equipment	88,242	89,955	16,590	17,851
Baden-Württemberg				
Manufacturing	1,293,048	1,305,360	436,242	446,743
Mechanical engineering*	316,861	317,840	80,866	84,116
Motor vehicles, trailers and semi-trailers	217,006	219,687	135,690	141,425
Fabricated metal products	154,000	151,712	31,349	31,701
Electrical equipment	106,926	108,393	28,795	29,810
Information processing, electronical and optical equip.	77,745	84,670	27,352	29,815
Food products	71,530	72,138	18,307	19,441
Rubber and plastic products	62,428	61,671	17,182	16,458
Other goods	51,367	51,491	10,650	10,569
Chemicals and chemical products	36,722	36,714	19,900	19,110
Pharmaceutical products	27,752	30,139	7,091	7,778
Bavaria				
Manufacturing	1,311,110	1,321,410	473,759	501,352
Mechanical engineering*	225,342	228,188	60,572	64,527
Motor vehicles, trailers and semi-trailers	197,933	200,110	165,598	185,666
Food products	124,136	125,816	33,001	34,974
Fabricated metal products	113,832	114,452	21,373	22,525
Electrical equipment	108,532	108,138	28,382	30,973
Information processing, electronical and optical equip.	97,408	99,967	37,026	39,196
Rubber and plastic products	78,005	76,028	17,291	16,399
Chemicals and chemical products	56,264	56,311	19,979	17,527
Glass, glass products, ceramics, other non-met. min. prod.	51,182	51,264	11,912	11,392
Other transport equipment	42,686	46,155	15,461	18,028

Employees and turnover for selected activity sectors by land

Activity sector	Employees		Turnover million EUR	
	2022	2023	2022	2023
Berlin				
Manufacturing	84,445	.	.	.
Information processing, electronical and optical equip.	12,923	13,528	3,478	3,529
Food products	9,033	9,000	3,268	3,469
Electrical equipment	9,271	8,801	2,278	2,356
Mechanical engineering*	8,215	8,458	2,055	2,254
Repair and installation of machinery and equipment	6,414	6,523	1,116	1,187
Pharmaceutical products	6,344	6,218	8,894	7,381
Fabricated metal products	5,479	5,312	1,061	1,112
Motor vehicles, trailers and semi-trailers	4,781	5,102	.	.
Publishing, printing and reproduction of recorded media	4,759	4,872	1,044	1,144
Other goods	4,747	4,871	846	894
Brandenburg				
Manufacturing	101,443	102,599	35,839	39,691
Motor vehicles, trailers and semi-trailers	14,304	17,226	4,126	10,260
Food products	10,850	10,836	3,862	3,945
Fabricated metal products	9,846	9,795	1,860	1,843
Repair and installation of machinery and equipment	8,338	8,455	1,762	2,074
Rubber and plastic products	7,749	7,768	1,826	1,761
Manufacture of basic metals	6,063	5,947	4,127	4,115
Other transport equipment	5,223	5,260	2,608	.
Glass, glass products, ceramics, other non-met. min. prod.	5,040	4,918	1,615	1,533
Chemicals and chemical products	4,956	4,842	3,121	2,528
Mechanical engineering*	5,100	4,345	888	785
Bremen				
Manufacturing	48,704	48,465	36,149	37,900
Motor vehicles, trailers and semi-trailers	15,029	14,469	.	.
Other transport equipment	6,569	6,951	4,117	4,867
Food products	5,264	4,983	3,313	3,356
Mechanical engineering*	3,935	3,989	841	969
Repair and installation of machinery and equipment	3,930	3,975	602	1,223
Manufacture of basic metals	3,621	3,711	.	.
Fabricated metal products	3,057	3,135	730	525

Employees and turnover for selected activity sectors by land

Activity sector	Employees		Turnover million EUR	
	2022	2023	2022	2023
Hamburg				
Manufacturing				
Other transport equipment	20,065	22,440		
Repair and installation of machinery and equipment	15,027	15,986	5,372	6,354
Mechanical engineering*	12,349	12,851	3,833	4,493
Food products	6,462	6,496	4,014	3,892
Other goods	5,610	5,616	1,454	1,478
Chemicals and chemical products	4,964	4,838	2,180	2,028
Information processing, electrical and optical equip.	4,442	4,521	895	869
Manufacture of basic metals	4,173	4,265	12,097	10,576
Hesse				
Manufacturing	391,199	384,489	135,757	135,131
Mechanical engineering*	46,084	46,518	10,371	11,349
Motor vehicles, trailers and semi-trailers	44,665	43,875	20,042	21,056
Fabricated metal products	33,044	33,108	7,762	8,220
Chemicals and chemical products	37,616	32,508	19,427	15,189
Rubber and plastic products	32,107	31,350	7,542	7,744
Food products	30,390	30,242	6,500	6,994
Pharmaceutical products	24,869	25,704	15,466	16,812
Electrical equipment	26,110	25,607	6,596	7,280
Information processing, electrical and optical equip.	22,961	23,525	5,138	5,491
Other goods	15,654	15,430	5,145	5,196
Mecklenburg-West Pomerania				
Manufacturing	62,267	61,299	18,278	20,861
Food products	16,774	16,206	5,822	5,767
Mechanical engineering*	6,811	6,780	2,107	4,842
Fabricated metal products	5,645	5,534	883	934
Wood and wood products, except furniture	3,900	3,731	1,571	1,267
Repair and installation of machinery and equipment	3,136	3,380	418	543
Motor vehicles, trailers and semi-trailers	3,078	2,877	1,103	1,174
Other goods	2,829	3,108	355	414
Other transport equipment	2,661	2,432	494	500

Employees and turnover for selected activity sectors by land

Activity sector	Employees		Turnover million EUR	
	2022	2023	2022	2023
Lower Saxony				
Manufacturing	564,209	565,076	240,186	246,022
Food products	85,023	86,215	37,189	38,883
Mechanical engineering*	64,387	65,453	17,745	18,505
Rubber and plastic products	44,114	43,337	10,399	10,084
Fabricated metal products	42,506	42,497	10,756	10,949
Electrical equipment	32,501	33,078	10,046	10,279
Chemicals and chemical products	23,719	23,350	14,154	11,511
Repair and installation of machinery and equipment	19,282	19,363	4,501	4,993
Glass, glass products, ceramics, other non-met. min. prod.	19,236	18,948	4,923	4,685
Manufacture of basic metals	18,137	18,514	12,042	10,249
North Rhine-Westphalia				
Manufacturing	1,218,545	1,223,473	409,561	400,312
Mechanical engineering*	197,112	198,911	51,318	53,785
Fabricated metal products	173,325	172,101	37,245	37,075
Food products	108,662	111,996	42,349	45,870
Chemicals and chemical products	102,653	102,511	59,717	49,661
Manufacture of basic metals	100,607	100,858	50,461	46,600
Electrical equipment	88,752	90,669	24,982	24,835
Rubber and plastic products	79,596	79,138	18,297	17,560
Motor vehicles, trailers and semi-trailers	71,882	68,134	32,889	32,813
Information processing, electronical and optical equip.	43,142	45,025	12,669	13,671
Repair and installation of machinery and equipment	43,107	41,508	8,537	8,380
Rhineland-Palatinate				
Manufacturing	294,167	294,878	122,015	111,428
Chemicals and chemical products	48,063	47,466	36,980	28,529
Mechanical engineering*	40,222	41,455	12,107	13,057
Fabricated metal products	29,250	29,713	6,103	6,554
Rubber and plastic products	24,645	24,402	6,734	6,051
Motor vehicles, trailers and semi-trailers	21,032	22,501	13,018	14,324
Food products	19,102	18,845	5,794	6,162
Glass, glass products, ceramics, other non-met. min. prod.	17,223	16,573	4,714	4,552
Pharmaceutical products		11,418		4,610

Employees and turnover for selected activity sectors by land

Activity sector	Employees		Turnover million EUR	
	2022	2023	2022	2023
Saarland				
Manufacturing	79,321	79,444	29,300	30,036
Motor vehicles, trailers and semi-trailers	15,547	16,425	7,646	9,183
Mechanical engineering*	15,329	14,814	5,292	4,948
Manufacture of basic metals	10,859	10,705	5,529	4,721
Fabricated metal products	9,222	9,640	2,555	2,703
Food products	7,899	7,833	1,912	2,061
Rubber and plastic products	4,103	3,964	1,056	1,093
Glass, glass products, ceramics, other non-met. min. prod.	2,710	2,347	527	415
Electrical equipment	2,538	2,519	525	580
Other goods	2,432	2,464	1,035	1,121
Repair and installation of machinery and equipment	2,264	2,216	290	321
Saxony				
Manufacturing	281,847	281,835	82,581	84,962
Motor vehicles, trailers and semi-trailers	40,710	41,673	21,059	24,514
Fabricated metal products	37,969	38,956	8,357	9,126
Mechanical engineering*	38,168	37,602	6,606	6,584
Information processing, electronical and optical equip.	21,381	22,110	6,008	6,461
Food products	19,533	19,608	6,822	6,828
Electrical equipment	18,069	18,352	5,710	6,113
Rubber and plastic products	13,637	13,037	2,645	2,397
Repair and installation of machinery and equipment	10,458	10,601	1,850	1,877
Glass, glass products, ceramics, other non-met. min. prod.	10,810	10,509	2,597	2,421
Saxony-Anhalt				
Manufacturing	126,595	126,266	58,088	52,231
Food products	22,360	21,761	8,483	8,909
Chemicals and chemical products	13,941	14,071	13,793	10,072
Mechanical engineering*	12,911	12,701	2,612	2,766
Fabricated metal products	13,152	13,080	2,605	2,628
Rubber and plastic products	9,041	8,577	2,777	2,392
Glass, glass products, ceramics, other non-met. min. prod.	7,778	7,630	2,536	2,465
Repair and installation of machinery and equipment	7,465	7,736	1,144	1,398
Manufacture of basic metals	7,136	7,172	4,426	4,447
Pharmaceutical products	5,565	5,762	2,140	1,868

Employees and turnover for selected activity sectors by land

Activity sector	Employees		Turnover million EUR	
	2022	2023	2022	2023
Schleswig-Holstein				
Manufacturing	136,231	135,234	45,536	45,845
Food products	23,457	23,502	9,320	9,216
Mechanical engineering*	20,526	20,647	5,855	5,994
Other goods	11,574	11,439	2,912	3,026
Information processing, electronical and optical equip.	9,780	10,061	2,590	2,759
Repair and installation of machinery and equipment	8,333	8,752	2,304	3,320
Fabricated metal products	8,214	8,025	1,352	1,334
Rubber and plastic products	8,121	7,909	1,770	1,725
Other transport equipment	7,294	7,721	1,883	2,648
Chemicals and chemical products	6,416	6,081	4,210	3,214
Pharmaceutical products	6,182	6,136	2,015	2,048
Thuringia				
Manufacturing	168,560	168,557	41,901	41,977
Fabricated metal products	26,673	25,877	5,622	5,629
Food products	19,527	19,844	5,088	5,312
Mechanical engineering*	18,128	18,360	3,833	4,340
Rubber and plastic products	17,782	17,252	3,802	3,562
Information processing, electronical and optical equip.	14,259	14,911	3,592	3,752
Motor vehicles, trailers and semi-trailers	13,188	13,435	3,845	3,949
Electrical equipment	10,955	11,585	2,672	3,072
Glass, glass products, ceramics, other non-met. min. prod.	9,243	9,096	2,080	1,968
Other goods	6,040	6,085	1,472	1,526
Manufacture of basic metals	6,247	6,073	2,426	1,980

Activities according to WZ 2008, local units with more than 20 employees.

Employees state September 30th; turnover: accumulated monthly results.

*) Mechanical engineering according to WZ 2008 chapter 28 (excl. repair and installation).

1.4 Regional data for German mechanical engineering* 2023

Land, district	Local units	Employees	Turnover	thereof: foreign
	number		million EUR	
Baden-Württemberg	983	298,027	80,791	51,733
admin. region Stuttgart	401	144,299	34,635	22,449
urban distr. Stuttgart	15	.	3,427	2,122
admin. distr. Böblingen	24	.	889	601
" Esslingen	60	19,556	6,520	4,347
" Göppingen	30	7,395	2,151	1,304
" Ludwigsburg	50	21,778	5,213	3,020
" Rems-Murr-Kreis	59	17,114	4,578	3,452
urban distr. Heilbronn	8	1,405	382	240
admin. distr. Heilbronn	36	9,111	2,078	1,106
" Hohenlohekreis	19	10,264	3,035	2,225
" Schwäbisch Hall	33	11,356	2,431	1,836
" Main-Tauber-Kreis	22	7,090	1,301	578
" Heidenheim	15	4,675	1,214	882
" Ostalbkreis	30	6,366	1,416	736
admin. region Karlsruhe	175	46,314	14,090	9,674
urban distr. Baden-Baden	6	1,215	305	165
" Karlsruhe	5	774	126	91
admin. distr. Karlsruhe	32	5,638	1,468	892
" Rastatt	8	1,344	346	195
urban distr. Heidelberg	4	.	.	.
" Mannheim	8	.	.	.
admin. distr. Neckar-Odenwald-Kreis	19	4,016	746	339
" Rhein-Neckar-Kreis	22	8,404	1,993	1,445
urban distr. Pforzheim	9	1,393	307	185
admin. distr. Calw	15	1,824	465	287
" Enzkreis	26	4,707	1,263	774
" Freudenstadt	21	10,048	2,641	1,736
admin. region Freiburg	209	48,310	12,342	7,565
urban distr. Freiburg im Breisgau	4	554	124	.
admin. distr. Breisgau-Hochschwarzwald	21	4,415	886	559
" Emmendingen	7	1,251	318	.
" Ortenaukreis	51	16,146	4,128	2,726
" Rottweil	23	6,938	1,982	1,275

Regional data for German mechanical engineering*

2023

Land, district		Local units	Employees	Turnover	thereof: foreign
		number		million EUR	
"	Schwarzwald-Baar-Kreis	28	5,418	1,158	534
"	Tuttlingen	28	5,610	1,582	861
"	Constance	15	2,545	680	404
"	Lörrach	23	4,076	1,157	835
"	Waldshut	9	1,357	327	124
admin. region	Tübingen	198	59,104	19,724	12,045
admin. distr.	Reutlingen	38	8,863	2,271	.
"	Tübingen	16	2,688	884	.
"	Zollernalbkreis	28	6,846	1,451	999
urban distr.	Ulm	6	3,128	.	.
admin. distr.	Alb-Donau-Kreis	23	3,635	.	.
"	Biberach	27	13,333	5,427	3,098
"	Bodenseekreis	13	8,323	.	.
"	Ravensburg	31	6,615	1,813	1,167
"	Sigmaringen	16	5,673	.	.
Bavaria**		941	228,188	64,527	43,123
admin. region	Upper Bavaria	229	40,178	14,156	10,244
urban distr.	Ingolstadt	3	522	.	.
"	Munich	13	2,192	1,220	882
"	Rosenheim	3	.	.	.
admin. distr.	Altötting	5	875	185	99
"	Berchtesgadener Land	9	1,912	451	296
"	Bad Tölz-Wolfratshausen	15	3,516	660	393
"	Dachau	8	797	199	103
"	Ebersberg	6	2,101	594	.
"	Eichstätt	10	982	201	136
"	Erding	6	1,239	272	58
"	Freising	12	3,303	1,222	883
"	Fürstenfeldbruck	12	626	84	41
"	Garmisch-Partenkirchen	2	.	.	.
"	Landsberg am Lech	15	1,489	600	465
"	Miesbach	4	417	157	96
"	Mühldorf am Inn	17	2,135	467	228
"	Munich	25	5,099	3,379	2,782

Regional data for German mechanical engineering*

2023

Land, district		Local units	Employees	Turnover	thereof: foreign
		number		million EUR	
admin. distr.	Neuburg-Schrobenhausen	5	.	.	.
"	Pfaffenhofen an der Ilm	7	1,433	460	256
"	Rosenheim	21	3,385	784	518
"	Starnberg	7	1,132	411	330
"	Traunstein	10	2,722	1,225	1,071
"	Weilheim-Schongau	14	1,689	352	227
admin. region	Lower Bavaria	92	20,734	6,002	3,550
urban distr.	Landshut	3	.	.	.
"	Passau	2	.	.	.
"	Straubing	8	1,802	560	309
admin. distr.	Deggendorf	16	1,786	406	225
"	Freyung-Grafenau	4	352	65	.
"	Kelheim	4	1,265	452	280
"	Landshut	16	1,808	382	258
"	Passau	17	2,471	535	213
"	Regen	2	.	.	.
"	Rottal-Inn	6	599	154	59
"	Straubing-Bogen	7	932	324	99
"	Dingolfing-Landau	6	.	.	.
admin. region	Upper Palatinate	102	24,222	7,001	5,077
urban distr.	Amberg	8	2,375	438	253
"	Regensburg	8	516	82	55
"	Weiden in der Oberpfalz	6	443	92	.
admin. distr.	Amberg-Weizbach	5	299	41	15
"	Cham	15	2,195	388	259
"	Neumarkt in der Oberpfalz	9	1,411	272	140
"	Neustadt an der Waldnaab	15	3,022	1,041	.
"	Regensburg	14	8,724	2,760	2,308
"	Schwandorf	16	3,415	1,098	776
"	Tirschenreuth	6	1,822	789	630
admin. region	Upper Franconia	86	25,575	5,531	3,691
urban distr.	Bamberg	5	.	.	.
"	Bayreuth	8	357	61	32
"	Coburg	6	4,123	1,263	1,100

2023

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Regional data for German mechanical engineering*

2023

Land, district		Local units	Employees	Turnover	thereof: foreign
		number		million EUR	
admin. distr.	Schweinfurt	2	.	.	.
"	Würzburg	11	1,568	290	164
admin. region	Schwaben	194	51,872	12,061	7,439
urban distr.	Augsburg	15	9,002	2,776	1,994
"	Kaufbeuren	1	.	.	.
"	Kempten (Allgäu)	6	1,819	.	.
"	Memmingen	7	.	.	.
"	Aichach-Friedberg	12	2,181	490	227
"	Augsburg	17	1,900	404	230
"	Dillingen an der Donau	11	2,038	994	499
"	Günzburg	17	2,191	508	251
"	Neu-Ulm	23	4,342	1,328	754
"	Lindau (Bodensee)	10	1,720	351	196
"	Ostallgäu	22	8,107	1,434	996
"	Unterallgäu	24	11,852	2,430	1,555
"	Donau-Ries	14	3,520	397	225
"	Oberallgäu	15	1,867	354	144
Berlin		28	7,663	2,112	1,530
Brandenburg		27	3,086	578	202
urban distr.	Brandenburg an der Havel	1	.	—	—
"	Cottbus	—	—	—	—
"	Frankfurt (Oder)	—	—	—	—
"	Potsdam	—	—	—	—
admin. distr.	Barnim	2	.	.	.
"	Dahme-Spreewald	4	411	103	.
"	Elbe-Elster	2	.	.	.
"	Havelland	2	.	.	.
"	Märkisch-Oberland	1	.	.	.
"	Oberhavel	2	.	.	.
"	Oberspreewald-Lausitz	2	.	.	.
"	Oder-Spree	—	—	—	—
"	Ostprignitz-Ruppin	1	.	.	.
"	Potsdam-Mittelmark	2	.	.	.

Regional data for German mechanical engineering*

2023

Land, district		Local units	Employees	Turnover	thereof: foreign
		number		million EUR	
admin. distr.	Prignitz	3	319	67	.
"	Spree-Neiße	—	—	—	—
"	Teltow-Fläming	3	397	83	.
"	Uckermark	2	.	.	.
Bremen		43	3 989	969	443
urban distr.	Bremen	39	3 781	938	430
"	Bremerhaven	4	208	31	13
Hamburg		29	12,076	4,344	2,712
Hesse**		390	46,518	11,349	6,818
admin. region	Darmstadt	168	20,868	5,268	3,453
urban distr.	Darmstadt, Wissenschaftsstadt	7	1,083	325	252
"	Frankfurt am Main	1	.	.	.
"	Offenbach am Main	5	1,048	240	185
"	Wiesbaden	7	1,482	232	177
admin. distr.	Bergstraße	19	1,269	212	83
"	Darmstadt-Dieburg	10	983	217	105
"	Groß-Gerau	6	.	.	.
"	Hochtaunuskreis	15	1,929	509	273
"	Main-Kinzig-Kreis	31	2,700	858	593
"	Main-Taunus-Kreis	8	1,070	314	199
"	Odenwaldkreis	7	494	161	128
"	Offenbach	22	2,535	604	438
"	Rheingau-Taunus-Kreis	10	1,741	610	420
"	Wetteraukreis	20	2,053	489	272
admin. region	Gießen	118	14,098	3,315	1,963
admin. distr.	Gießen	27	3,340	728	419
"	Lahn-Dill-Kreis	37	4,059	1,122	697
"	Limburg-Weilburg	14	1,624	320	131
"	Marburg-Biedenkopf	22	3,387	767	569
"	Vogelsbergkreis	18	1,688	378	146

Regional data for German mechanical engineering*

2023

Land, district		Local units	Employees	Turnover	thereof: foreign
		number		million EUR	
admin. region	Kassel	103	11,189	2,633	1,345
urban distr.	Kassel, documenta-Stadt	15	1,021	232	126
admin. distr.	Fulda	28	3,398	664	294
"	Hersfeld-Rotenburg	13	891	178	68
"	Kassel	12	1,285	218	85
"	Schwalm-Eder-Kreis	11	1,508	459	328
"	Waldeck-Frankenberg	18	2,182	659	270
"	Werra-Meißner Kreis	6	904	223	175
Mecklenburg-West Pomerania		28	5,845	4,685	4,266
urban distr.	Rostock, Hansestadt	4	2,715	.	.
"	Schwerin, Landeshauptstadt	3	249	31	16
admin. distr.	Mecklenburgische Seenplatte	4	806	185	127
"	Rostock	2	.	.	.
"	Vorpommern-Rügen	-	-	-	-
"	Nordwestmecklenburg	6	838	256	136
"	Vorpommern-Greifswald	-	-	-	-
"	Ludwigslust-Parchim	9	1,016	159	83
Lower Saxony**		452	65,453	18,505	11,498
admin. region	Brunswick	67	9,929	2,793	1,837
urban distr.	Brunswick	15	1,876	470	311
"	Salzgitter	6	567	127	70
"	Wolfsburg	2	.	.	.
admin. distr.	Gifhorn	2	.	.	.
"	Goslar	2	.	.	.
"	Helmstedt	3	.	.	.
"	Northeim	10	1,291	261	178
"	Peine	5	567	134	62
"	Wolfenbüttel	5	1,093	277	.
"	Göttingen	17	4,148	1,465	1,105

Regional data for German mechanical engineering*

2023

Land, district		Local units	Employees	Turnover	thereof: foreign
		number		million EUR	
admin. region	Hanover	107	14,898	3,598	2,329
region	Hanover	30	5,208	1,412	1,017
admin. distr.	Diepholz	19	1,637	295	159
"	Hameln-Pyrmont	13	2,766	687	469
"	Hildesheim	22	3,028	728	419
"	Holz Minden	4	261	32	17
"	Nienburg (Weser)	6	436	93	34
"	Schaumburg	13	1,562	352	215
admin. region	Lüneburg	86	11,750	3,851	2,576
admin. distr.	Celle	12	1,955	694	589
"	Cuxhaven	5	1,056	.	.
"	Harburg	10	606	135	48
"	Lüchow-Dannenberg	6	977	375	.
"	Lüneburg	11	1,147	420	266
"	Osterholz	5	988	189	125
"	Rotenburg (Wümme)	5	220	.	.
"	Heidekreis	10	801	154	68
"	Stade	6	746	143	92
"	Uelzen	3	204	30	.
"	Verden	13	3,050	674	594
admin. region	Weser-Ems	192	28,876	8,263	4,756
urban distr.	Delmenhorst	1	.	.	.
"	Emden	4	.	.	.
"	Oldenburg (Old.)	6	679	123	67
"	Osnabrück	8	665	145	91
"	Wilhelmshaven	3	.	.	.
admin. distr.	Ammerland	10	953	222	94
"	Aurich	3	193	25	7
"	Cloppenburg	16	2,702	474	154
"	Emsland	42	9,020	3,528	2,322
"	Friesland	5	618	106	42
"	Grafschaft Bentheim	5	1,234	288	63
"	Leer	9	866	128	20
"	Oldenburg	14	2,229	720	482
"	Osnabrück	42	5,360	1,622	886

Regional data for German mechanical engineering*

2023

Land, district	Local units number	Employees	Turnover million EUR	thereof: foreign
admin. distr. Vechta	22	3,436	711	446
" Wesermarsch	1	.	.	.
" Wittmund	1	.	.	.
North Rhine-Westphalia**	1,483	198,911	53,785	33,055
admin. Region Düsseldorf	324	42,737	10,668	7,158
urban distr. Düsseldorf	15	3,673	979	838
" Duisburg	11	2,837	637	482
" Essen	24	1,694	460	324
" Krefeld	20	1,932	746	546
" Mönchengladbach	17	3,317	.	.
" Mülheim an der Ruhr	10	4,711	417	292
" Oberhausen	2	.	.	.
" Remscheid	20	2,849	822	629
" Solingen	14	551	90	29
" Wuppertal	24	.	445	268
admin. distr. Kleve	20	1,851	.	.
" Mettmann	52	4,252	1,128	587
" Rhein-Kreis Neuss	22	3,644	779	456
" Viersen	37	2,059	508	254
" Wesel	36	5,655	2,038	1,135
admin. region Cologne	281	34,878	10,410	7,268
urban distr. Bonn	5	.	59	.
" Cologne	26	7,773	3,284	2,433
" Leverkusen	6	537	116	.
urban region Aix-La-Chapelle	62	5,596	1,559	1,138
admin. distr. Düren	25	2,256	613	394
" Rhein-Erft-Kreis	15	1,568	535	410
" Euskirchen	11	.	189	111
" Heinsberg	18	2,343	662	574
" Oberbergischer Kreis	42	5,714	1,488	916
" Rheinisch-Bergischer Kreis	22	2,902	513	296
" Rhein-Sieg-Kreis	49	5,092	1,394	935

Regional data for German mechanical engineering*

2023

Land, district	Local units	Employees	Turnover	thereof: foreign
	number		million EUR	
admin. region Münster	244	35,943	8,231	4,606
urban distr. Bottrop	6	811	180	118
" Gelsenkirchen	6	639	113	58
" Münster	14	2,335	718	436
admin. distr. Borken	61	9,048	1,759	772
" Coesfeld	26	4,097	923	493
" Recklinghausen	29	1,489	308	157
" Steinfurt	54	7,430	1,873	1,208
" Warendorf	48	10,094	2,357	1,365
admin. region Detmold	271	35,746	10,177	6,021
urban distr. Bielefeld	40	5,255	1,276	689
admin. distr. Gütersloh	62	11,252	4,230	2,794
" Herford	31	3,643	966	563
" Höxter	13	1,634	273	153
" Lippe	41	3,297	771	425
" Minden-Lübbecke	54	7,033	1,574	846
" Paderborn	30	3,632	1,087	550
admin. region Arnsberg	363	49,607	14,298	8,002
urban distr. Bochum	18	1,759	.	.
" Dortmund	23	4,986	1,685	1,245
" Hagen	19	1,709	333	157
" Hamm	8	613	.	.
" Herne	7	.	340	218
admin. distr. Ennepe-Ruhr-Kreis	59	6,388	1,508	891
" Hochsauerlandkreis	34	4,409	793	298
" Märkischer Kreis	65	8,466	2,641	1,750
" Olpe	25	3,770	2,156	655
" Siegen-Wittgenstein	46	.	.	.
" Soest	25	4,752	1,315	553
" Unna	34	4,454	1,167	587

Regional data for German mechanical engineering*

2023

Land, district	Local units	Employees	Turnover	thereof: foreign
	number		million EUR	
Rhineland-Palatinate	146	37,656	12,431	8,745
urban distr. Koblenz	1	.	.	.
admin. distr. Ahrweiler	4	574	111	.
" Altenkirchen (Ww)	12	2,409	494	271
" Bad Kreuznach	6	2,097	614	254
" Birkenfeld	2	.	.	.
" Cochem-Zell	3	387	.	.
" Mayen-Koblenz	7	1,679	357	257
" Neuwied	13	4,243	1,417	1,191
" Rhein-Hunsrück-Kreis	7	3,188	1,260	982
" Rhein-Lahn-Kreis	4	418	77	.
" Westerwaldkreis	14	2,066	448	263
urban distr. Trier	3	176	21	.
admin. distr. Bernkastel-Wittlich	7	1,333	184	115
" Eifelkreis Bitburg-Prüm	4	1,285	.	.
" Vulkaneifel	5	1,147	348	190
" Trier-Saarburg	3	1,122	.	.
urban distr. Frankenthal (Pfalz)	4	2,629	.	.
" Kaiserslautern	5	1,418	322	146
" Landau in der Pfalz	2	.	.	.
" Ludwigshafen	2	.	.	.
" Mainz	2	.	.	.
" Pirmasens	3	804	.	.
" Speyer	3	892	164	101
" Worms	4	578	172	.
" Zweibrücken	5	3,441	2,372	1,929
admin. distr. Alzey-Worms	4	378	92	.
" Bad Dürkheim	1	.	.	.
" Donnersbergkreis	5	1,739	723	.
" Germersheim	2	.	.	.
" Kaiserslautern	1	.	.	.
" Kusel	2	.	.	.
" Südliche Weinstraße	2	.	.	.
" Rhein-Pfalz-Kreis	1	.	.	.
" Mainz-Bingen	2	.	.	.
" Südwestpfalz	1	.	.	.

Regional data for German mechanical engineering*

2023

Land, district		Local units	Employees	Turnover	thereof: foreign
		number		million EUR	
Saarland		38	14,262	4,883	2,771
St.-Verband	Saarbrücken	12	2,829	980	520
admin. distr.	Merzig-Wadern	3	.	.	.
"	Neunkirchen	2	.	.	.
"	Saarlouis	7	593	119	29
"	Saarpfalz-Kreis	12	9,225	3,423	2,051
"	Sankt Wendel	2	.	.	.
Saxony		196	34,698	8,512	4,386
admin. region	Chemnitz	89	13,699	3,149	1,529
urban distr.	Chemnitz	18	3,051	668	446
admin. distr.	Erzgebirgskreis	26	3,123	549	207
"	Mittelsachsen	18	2,616	735	342
"	Vogtlandkreis	13	2,016	417	166
"	Zwickau	14	2,893	779	367
admin. region	Dresden	86	16,492	4,199	2,263
urban distr.	Dresden	23	5,544	1,170	789
admin. distr.	Bautzen	20	3,892	1,191	401
"	Görlitz	12	2,512	526	.
"	Meißen	16	2,865	982	.
"	Sächsische Schweiz- Osterzgebirge	15	1,679	330	107
admin. region	Leipzig	20	4,508	1,164	594
urban distr.	Leipzig	6	1,465	335	215
admin. distr.	Leipzig	7	1,184	294	155
"	Nordsachsen	7	1,859	535	224

Regional data for German mechanical engineering*

2023

		Local units	Employees	Turnover	thereof: foreign
Land, district		number		million EUR	
Saxony-Anhalt		63	10,700	2,507	1,204
urban distr.	Dessau-Roßlau, Stadt	1	.	.	.
"	Halle (Saale), Stadt	3	1,005	230	.
"	Magdeburg, Landeshauptstadt	4	511	157	.
admin. distr.	Altmarkkreis Salzwedel	-	-	-	-
"	Anhalt-Bitterfeld	7	1,303	306	107
"	Börde	10	2,319	542	247
"	Burgenlandkreis	4	690	88	58
"	Harz	12	2,120	487	246
"	Jerichower Land	2	.	.	.
"	Mansfeld-Südharz	4	338	32	.
"	Saalekreis	3	402	.	.
"	Salzlandkreis	6	1,091	270	105
"	Stendal	4	332	48	.
"	Wittenberg	3	355	.	.
Schleswig-Holstein		78	18,290	5,622	3,766
urban distr.	Flensburg	3	794	221	152
"	Kiel	6	1,158	507	422
"	Lübeck	7	1,696	352	292
"	Neumünster	2	.	.	.
admin. distr.	Dithmarschen	2	.	.	.
"	Herzogtum Lauenburg	6	1,871	434	313
"	Nordfriesland	—	—	—	—
"	Ostholstein	2	.	.	.
"	Pinneberg	12	1,315	285	156
"	Plön	1	.	.	.
"	Rendsburg-Eckernförde	6	1,609	518	367
"	Schleswig-Flensburg	1	.	.	.
"	Segeberg	10	2,358	921	508
"	Steinburg	6	987	249	125
"	Stormarn	14	3,846	1,365	873

Regional data for German mechanical engineering*

2023

Land, district		Local units	Employees	Turnover	thereof: foreign
		number		million EUR	
Thuringia		101	16,308	4,052	1,856
urban distr.	Erfurt	-	-	-	-
"	Gera	3	486	.	.
"	Jena	5	515	197	82
"	Suhl	4	448	85	.
"	Weimar	1	.	.	.
admin. distr.	Eichsfeld	7	879	129	23
"	Nordhausen	7	2,265	492	230
"	Wartburgkreis	11	2,531	809	515
"	Unstrut-Hainich-Kreis	2	.	.	.
"	Kyffhäuserkreis	2	.	.	.
"	Schmalkalden-Meiningen	8	877	157	28
"	Gotha	8	907	194	.
"	Sömmerda	-	-	-	-
"	Hildburghausen	5	1,009	.	.
"	Ilm-Kreis	8	1,170	282	62
"	Weimarer Land	2	.	.	.
"	Sonneberg	4	247	60	36
"	Saalfeld-Rudolstadt	5	837	205	.
"	Saale-Holzland-Kreis	5	844	127	49
"	Saale-Orla-Kreis	3	266	79	45
"	Greiz	6	964	.	.
"	Altenburger Land	5	1,060	189	95

*) Mechanical engineering according to WZ 2008 chapter 2 (excl. repair and installation).

**) Data refer to all local units with more than 50 employees.

For reasons of continuity the statistical offices of Lower Saxony, Hesse, North Rhine-Westphalia, Bavaria and Bremen keep on publishing data for local units with at least 20 employees.

1.5 Production index in production industries in Germany

Base 2021 = 100

Activity sector*	2015	2016	2017	2018	2019	2020	2022	2023	%-change 2023/2022
Production industries	100.9	102.6	105.1	106.0	103.4	96.4	99.2	97.0	-2.2
Intermediate goods	96.9	98.0	101.4	102.0	98.4	92.4	96.7	90.7	-6.2
Investment goods	109.7	110.6	113.3	114.4	111.9	97.3	101.7	106.5	4.7
Manufacturing	103.0	104.1	106.9	108.1	104.7	95.4	99.8	98.6	-1.2
Food and animal feed	98.3	99.7	101.1	100.1	101.4	99.9	99.7	96.1	-3.6
Beverages	101.7	102.7	100.5	104.3	104.2	98.9	104.0	100.9	-3.0
Tobacco processing	140.4	141.5	135.4	138.2	118.8	105.7	93.4	97.4	4.3
Textiles	103.0	104.6	107.7	104.9	103.4	94.9	93.4	87.1	-6.7
Wearing apparel	142.5	141.9	138.7	132.2	127.8	101.8	112.2	106.4	-5.1
Leather, leather goods and shoes	94.7	95.3	98.3	102.5	100.5	80.3	105.0	100.2	-4.6
Wood and wood products	91.8	92.0	95.0	96.7	95.0	101.3	89.3	83.2	-6.8
Pulp, paper and paper products	100.9	99.9	100.8	100.2	98.1	94.9	94.4	82.4	-12.6
Publishing, printing and reproduction of recorded media	126.1	123.8	122.4	119.6	111.7	97.8	92.2	79.5	-13.7
Refined petroleum products	106.1	106.7	105.8	102.8	100.0	99.2	107.6	91.2	-15.3
Chemicals and chemical products	99.0	99.3	100.7	98.5	95.5	94.6	89.9	78.6	-12.6
Pharmaceutical products	85.5	88.2	92.8	108.7	91.7	94.5	105.2	101.6	-3.5
Rubber and plastic products	100.3	102.4	105.7	105.9	103.4	94.9	97.1	91.1	-6.1
Glass, ceramics, sand, stone, non-metallic mineral products	94.1	96.8	98.4	98.8	97.3	95.3	97.4	83.3	-14.5
Basic metals	110.0	108.6	111.3	111.5	104.6	91.1	96.0	91.6	-4.6
Fabricated metal products	97.3	100.4	104.9	106.4	102.5	91.7	98.4	94.3	-4.2
Computer, electronic and optical products	85.6	87.3	92.8	94.6	97.1	90.9	105.0	106.8	1.7
Electrical equipment	96.5	97.6	101.8	103.4	96.6	90.2	102.3	101.3	-1.0
Mechanical engineering	103.4	103.1	107.2	109.4	106.5	93.9	100.4	99.8	-0.6
Motor vehicles, trailers and semi-trailers	134.1	134.5	135.7	133.4	126.6	102.7	103.7	116.2	12.0
Other vehicle construction	84.7	90.4	92.1	98.7	105.6	98.1	104.7	111.6	6.6
Furniture	108.7	108.9	107.0	105.6	104.3	98.0	94.0	84.0	-10.6
Repair and installation of machinery and equipment	97.5	96.2	101.0	104.3	107.0	97.6	99.8	105.2	5.5
Mining and quarrying	133.4	125.8	126.5	118.1	102.2	96.6	94.2	86.2	-8.5
Energy	112.0	111.6	111.9	111.2	104.1	97.3	97.6	84.0	-13.9
Site prep.; building complete constr.; civil engineering	87.4	93.1	95.3	94.5	97.4	101.3	97.2	95.6	-1.7

*) Activity sectors according to WZ 2008.

1.6 Foreign trade by German product classification

2023

Product classification*	Exports		Imports	
	bn EUR	share in %	bn EUR	share in %
Total trade of goods	1,590.0	100.0	1,365.8	100.0
Intermediate goods	478.5	30.1	412.3	30.2
Investment goods	650.2	40.9	386.6	28.3
Durable goods	63.5	4.0	76.8	5.6
Non-durable goods	268.1	16.9	228.4	16.7
Agricultural products	10.7	0.7	35.9	2.6
Forestry products	1.0	0.1	0.7	0.0
Fish and fishing products	0.2	0.0	0.7	0.1
Coal	0.4	0.0	6.5	0.5
Crude petroleum and natural gas	3.6	0.2	70.6	5.2
Metal ores	0.3	0.0	10.1	0.7
Stones, sand and clay, minerals, salt, other mining products	1.6	0.1	1.8	0.1
Food products and animal feed	74.4	4.7	65.5	4.8
Beverages	7.1	0.4	7.2	0.5
Tobacco products	3.0	0.2	4.9	0.4
Textiles	12.1	0.8	11.5	0.8
Wearing apparel, articles of fur	25.5	1.6	36.8	2.7
Leather and related products	13.0	0.8	16.0	1.2
Wood and products of wood, cork, straw and plaiting m.	8.8	0.6	7.1	0.5
Pulp, paper and paper products	22.4	1.4	16.1	1.2
Coke and refined petroleum products	20.7	1.3	33.0	2.4
Chemicals and chemical products	141.1	8.9	103.7	7.6
Pharmaceutical products	113.0	7.1	74.3	5.4
Rubber and plastics products	54.1	3.4	37.2	2.7
Glass, ceramics, bricks, tiles, cement, lime,	19.0	1.2	12.4	0.9
Basic metals	74.9	4.7	69.4	5.1
Fabricated metal products	51.1	3.2	38.0	2.8
Office machinery, electronical and optical products	133.8	8.4	143.2	10.5
Electrical equipment	112.8	7.1	110.8	8.1
Mechanical engineering	208.1	13.1	93.8	6.9
Motor vehicles, trailers and semi-trailers	269.5	17.0	149.5	10.9
Other transport equipment	49.6	3.1	39.0	2.9
Furniture	11.9	0.7	14.6	1.1
Electricity, gas, steam and hot water	6.0	0.4	6.7	0.5
Other goods and products	56.5	3.6	44.6	3.3

*) According to German product classification GP 2019.

1.7 Gross capital investment* in German manufacturing

Activity sector	2020		2021		2022	
	bn EUR	mach- inery in %	bn EUR	mach- inery in %	bn EUR	mach- inery in %
Manufacturing	60.0	87.1	62.2	88.2	68.1	87.0
Manufacture of food products	4.7	85.8	4.7	85.2	4.6	87.9
Manufacture of beverages	1.1	83.7	1.1	89.7	1.2	84.1
Manufacture of tobacco	0.1	97.4	0.1	96.6	0.1	95.6
Manufacture of textiles	0.3	91.3	0.3	81.7	0.3	81.5
Man. of wearing apparel; dressing; dyeing of fur	0.1	80.8	0.1	83.9	0.1	88.8
Man. of leather and leather products	0.0	70.8	0.0	89.0	0.1	86.8
Man. of wood, wood products (ex. furniture)	0.9	87.4	1.2	89.3	1.2	86.0
Man. of pulp, paper and paper products	1.9	87.2	1.6	91.0	1.5	88.1
Man. of printing, reproduction of recorded media	0.4	92.9	0.4	92.9	0.5	91.0
Man. of coke and refined petroleum products	1.3	94.0	1.3	94.8	1.6	95.2
Man. of chemicals and chemical products	6.1	88.6	6.9	87.6	6.9	86.9
Man. of pharmaceutical products	2.4	84.8	2.5	88.6	2.7	86.7
Man. of plastic and rubber products	3.1	83.5	3.3	86.7	3.4	86.8
Man. of glass, ceramics, stones, sand, other non-metallic mineral products	2.3	85.4	2.4	85.9	2.6	88.7
Manufacture of basic metals	2.3	88.7	2.5	91.6	3.0	89.8
Manufacture of fabricated metal products	3.6	86.3	4.1	89.1	4.4	87.4
Man. of computer, electronic and optical products	2.9	92.2	3.8	91.0	4.3	90.9
Manufacture of electrical equipment	3.2	87.5	2.9	89.7	4.1	88.7
Mechanical engineering ¹	6.0	81.3	6.3	82.2	6.9	83.7
Man. of motor vehicles, trailers, semi-trailers	13.7	90.5	13.5	90.9	15.1	86.1
Other transport equipment	1.1	81.5	0.9	81.3	1.1	76.3
Manufacture of furniture	0.7	77.4	0.6	81.7	0.6	85.6
Manufacture of other goods	1.3	80.3	1.2	83.7	1.3	84.5
Repair and installation of machinery and equip.	0.5	82.2	0.5	85.9	0.6	85.7

Value of capitalized gross additions to property, plant and equipment in the fiscal year, i.e., replacement and new investments (including capitalizable major repairs and capitalized low-value assets as well as self-constructed assets and assets under construction).

¹) Mechanical engineering according to WZ 2008 chapter 28 (excl. repair and installation).

1.8 Expenditure on research and development in Germany

a) intramural expenditure of companies in million EUR

Activity sector	2018	2019	2020	2021	2022
Manufacturing	61,574	64,361	59,314	62,638	67,320
Chemical industry	4,193	4,411	4,266	4,599	4,716
Pharmaceutical industry	5,226	5,434	5,248	5,527	6,089
Manufacture of basic metals, fabricated metal products	1,506	1,567	1,514	1,545	1,485
Manufacture of computer, electronic and optical products	8,281	8,721	8,657	9,034	9,628
Manufacture of electrical equipment	2,762	2,695	2,712	2,885	3,160
Mechanical engineering	7,111	7,450	6,934	7,175	7,498
Manufacture of motor vehicles, trailers and semi-trailers	29,104	30,230	26,206	27,785	30,469

b) in percent of turnover of companies with R & D

Activity sector	2013	2015	2017	2019	2021
Manufacturing	4.2	4.4	4.5	4.7	4.6
Chemical industry	2.9	3.5	4.1	4.2	4.3
Pharmaceutical industry	9.4	8.8	8.9	10.9	8.1
Manufacture of basic metals, fabricated metal products	1.1	1.2	1.2	1.2	1.1
Manufacture of computer, electronic and optical products	8.5	7.5	7.7	8.4	8.4
Manufacture of electrical equipment	4.8	4.9	4.6	4.3	5.3
Mechanical engineering	3.7	3.8	4.3	4.0	4.4
Manufacture of motor vehicles, trailers and semi-trailers	5.3	5.6	5.6	5.7	5.3

1.9 Key figures of German mechanical engineering

Subject	Unit	2018	2019	2020	2021	2022	2023
Enterprises ¹	number	6,653	6,647	6,768	6,713	6,620	6,615
Local units ²	number	4,450	4,479	4,488	4,360	4,330	4,303
Employees ^{3,4}	1'000	1,052	1,064	1,032	1,003	1,009	1,026
Short-time workers ⁵	1'000	2	11	187	75	15	14
Turnover ^{3,4}	bn EUR	232.5	228.7	203.5	221.6	244.0	262.9
Domestic turnover ^{3,4}	bn EUR	94.3	91.9	82.8	87.5	95.5	102.8
Turnover per employee ^{3,4}	1'000 EUR	218	215	197	221	242	256
Production ⁶	bn EUR	225.1	225.5	200.6	218.3	237.9	254.6
Capacity utilization ⁷	percent	91.0	86.6	76.1	88.7	89.3	88.8
Exports	bn EUR	179.7	181.7	163.4	181.3	195.3	208.1
Imports	bn EUR	76.5	77.4	70.0	81.2	93.6	93.8
Domestic market supply ⁸	bn EUR	121.9	121.2	107.2	118.2	136.1	140.3
Export shares ⁹	percent	79.8	80.6	81.5	83.1	82.1	81.8
Import shares ¹⁰	percent	62.8	63.9	65.4	68.7	68.7	66.9
Investment ¹¹	m EUR	8,505	8,009	6,275	6,546	7,265	

1) Enterprises with 20 and more employees, according to WZ 2008.

2) Data for local units with 50 and more employees according to WZ 2008.

3) Data for kind-of-activity units with 50 and more employees according to WZ 2008.

4) From 2016 on not comparable with previous years due to changes in the classification of kind-of-activity units.

5) Short-time workers in local units with 1 and more employees.

6) From 2019 on according to GP 2019.

7) July of the respective year. Recalculation of all figures due to changes in the calculation method.

8) Production minus exports plus imports.

9) Exports in percent of production.

10) Imports in percent of domestic market supply.

11) Investment of enterprises with 20 and more employees.

1.10 Incoming orders in mechanical engineering in Germany

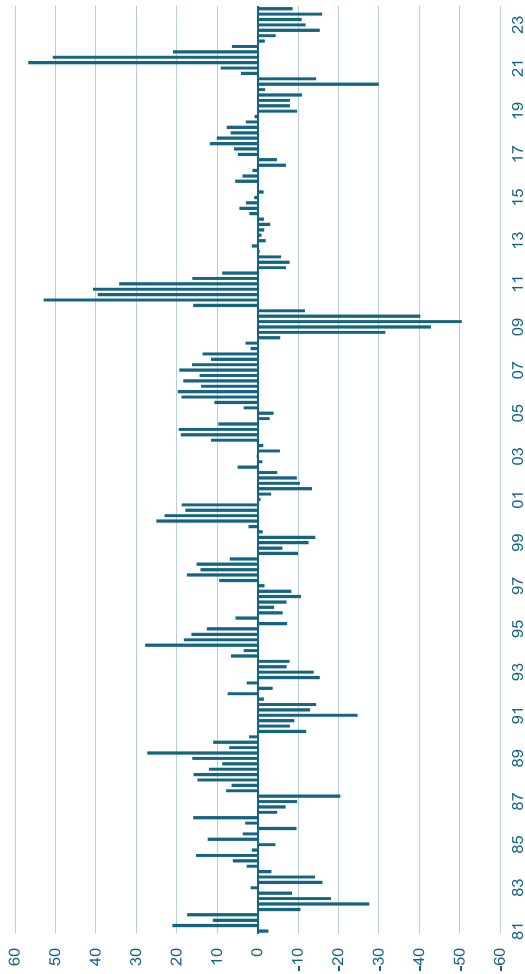
Year	Domestic	Foreign	thereof:		Total	Foreign turnover in % of total turnover	Incoming orders in % of turnover
	Real index; turnover 2021 = 100						
			EUR ¹	NEUR ²			
1994	99	61	-	-	74	-	117
1995	103	60	-	-	74	-	113
1996	93	56	-	-	68	58	102
1997	98	64	-	-	75	61	108
1998	107	61	-	-	76	60	102
1999	101	56	-	-	71	59	100
2000	110	73	-	-	86	61	115
2001	102	69	-	-	80	62	104
2002	92	70	-	-	77	63	105
2003	94	70	85	64	78	63	105
2004	98	81	84	79	86	64	112
2005	100	89	100	84	92	66	114
2006	116	103	112	100	108	67	120
2007	130	121	134	115	124	67	125
2008	122	109	116	106	113	67	109
2009	76	67	71	66	81	67	87
2010	99	94	84	97	96	68	112
2011	113	104	90	109	107	69	111
2012	104	103	87	109	103	69	103
2013	101	101	88	106	101	69	103
2014	103	103	89	108	103	69	105
2015	105	104	103	104	104	67	103
2016	102	102	99	103	102	68	101
2017	108	112	111	112	111	70	106
2018	114	116	117	116	115	69	108
2019	104	106	107	105	105	69	101
2020	97	92	96	91	94	69	101
2021	114	123	127	121	120	69	121
2022	109	119	124	116	115	70	113
2023	97	104	105	103	102	71	98

1) Orders from Euro-partner countries.

2) Orders from Non-Euro countries.

Incoming orders in mechanical engineering in Germany*

%, yoy, real



*) Up to 1991 only West Germany.

1.11 Employees, production, exports and imports by sector of mechanical engineering in Germany 2023

Sector	Employees ¹ 1'000	Production ²	Exports million EUR	Imports
Machine tools	65.2	15,368	9,641	3,644
Machinery for metallurgical plants and rolling mills	6.1	1,331	876	310
Industrial furnaces and burners	10.6	2,390	1,926	593
Foundry machinery	5.8	626	122	112
Measuring and testing technology	28.0	7,201	3,602	1,027
Woodworking machinery	11.7	4,182	2,814	694
Precision tools	63.7	9,918	6,539	3,594
Gas welding (without electrical)	2.9	224	98	42
Air-handling technology	62.4	18,403	15,813	12,299
Power systems	20.4	5,640	4,582	2,242
Pumps	32.7	5,968	6,314	3,183
Compressors, compressed air and vacuum technology	16.4	6,073	5,774	2,915
Construction equipment and building material machines	46.4	13,983	11,826	6,816
Plastics and rubber machinery	31.4	8,864	6,251	1,487
Mining equipment	12.2	3,078	1,770	455
Agricultural machinery	46.7	16,498	16,553	5,764

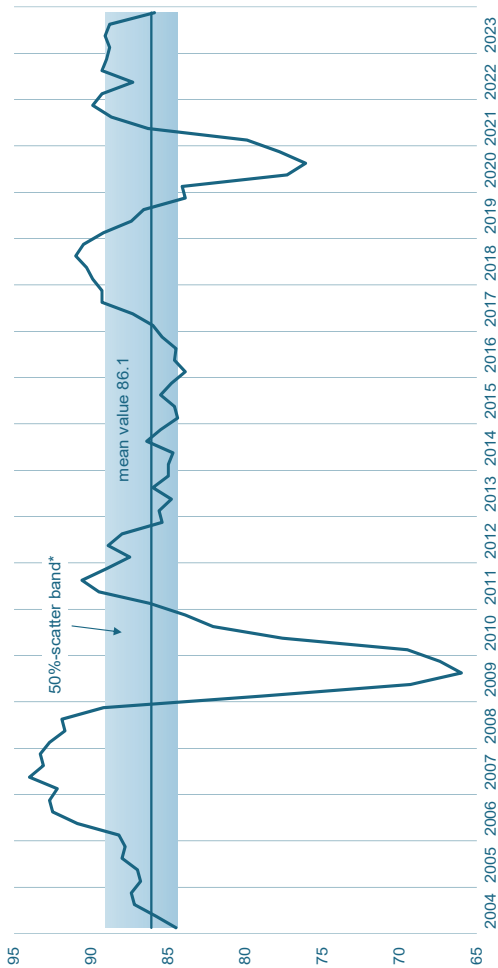
Food processing machinery and packaging machinery	63.4	16,456	9,890	2,070
Process plant and equipment	48.6	10,683	7,579	2,871
Safes and strongroom installations	0.5	47	39	80
Materials handling technology	76.7	22,238	17,170	5,765
Printing and paper equipment and supplies	18.7	6,762	4,903	1,395
Textile machinery (without dryers)	10.2	3,081	2,584	471
Textile Care, fabrics and leather technologies	6.6	598	697	343
Firefighting vehicles and equipment	3.5	892	250	134
Cleaning systems	2.0	779	399	152
Valves and fittings	42.4	10,799	10,573	5,826
Lifts and escalators	6.4	1,075	871	823
Power transmission engineering	92.3	18,667	17,949	10,205
Engines and systems	21.0	5,660	2,550	1,389
Fluid power	38.8	8,928	8,355	4,427
Assembly, handling and industrial robots ³	34.0	9,594	.	.
Semiconductor and flat panel display production equipment	5.3	1,808	3,608	1,964
Other mechanical engineering	.	16,775	25,019	10,011
Mechanical engineering	1,025.9	254,590	208,133	93,841

1) Employees in enterprises with 50 and more employees, partly estimated.

2) According to GP 2019, data partly estimated.

3) Export and import data underrecorded.

Capacity utilization in mechanical engineering in Germany in percent of full capacity level of output



*) 50 % of all observations (since 1995) are within a scatter band of 84.4 and 89.1 %.

1.12 Capacity utilization in mechanical engineering in Germany in percent*

Sector	2017	2018	2019	2020	2021	2022	2023
Machine tools	94.4	93.2	87.9	67.2	85.5	87.4	90.5
Machinery for metallurgical plants and rolling mills	88.3	89.1	91.1	75.3	70.4	85.3	91.0
Precision tools	90.4	93.4	85.3	63.9	85.0	89.8	90.2
Air-handling technology	92.7	90.2	87.8	83.8	87.5	85.1	86.3
Pumps	79.9	84.1	84.4	79.0	92.2	93.6	89.6
Construction equipment and building material machines	88.8	89.1	86.4	79.3	89.3	87.1	85.1
Plastics and rubber machinery	96.2	93.6	88.3	78.1	97.0	88.5	94.0
Agricultural machinery	82.4	89.7	84.2	90.0	92.0	90.1	92.3
Printing and paper equipment and supplies	89.1	95.2	78.5	77.1	89.3	92.9	93.4
Textile machinery	86.1	91.8	72.4	67.1	91.4	93.9	88.2
Valves and fittings	83.9	85.0	80.0	79.0	87.3	87.3	81.9
Lifts and escalators	88.6	87.4	99.3	82.5	97.5	87.1	84.4
Power transmission engineering	87.9	92.9	86.1	68.5	85.3	88.9	84.1
Fluid power equipment	87.8	88.2	82.5	77.4	90.2	89.1	87.2
Materials Handling	92.0	93.1	94.6	79.4	91.0	88.9	92.5
Food Processing and Packaging Machinery	92.0	88.1	91.5	78.3	91.6	90.4	88.3
Thermo Process Technology	86.3	84.3	86.3	69.2	80.4	91.4	88.0
Mechanical engineering	89.3	91.0	86.6	76.1	88.7	89.3	88.8

*) July. Recalculation of all figures in 2018 due to changes in the calculation method.

1.13 Investment figures of German mechanical engineering by activity sector

2022

Activity sector ¹	Investment million EUR	thereof: investments in machinery in %	Investment intensity ²	Investment ratio ³
Engines and turbines, except aircraft, vehicle and cycle engines	1,277	88	11,255	2.6
Hydraulic and pneumatic components and systems	314	85	7,016	2.6
Pumps and compressors, n.e.c.	356	89	7,387	2.8
Taps and valves, n.e.c.	357	83	7,774	2.7
Bearings, gears, gearing and driving elements	592	89	6,276	2.8
Furnaces and furnace burners	59	73	4,888	1.9
Lifting and handling equipment	362	84	4,782	1.7
Portable hand held power tools	204	67	12,645	2.9
Non-domestic cooling and ventilation equipment	280	86	4,939	1.7
Other general purpose machinery n.e.c.	823	83	6,129	2.5
Agricultural and forestry machinery	410	81	8,867	2.3
Metalworking machine tools	302	80	4,323	1.9
Other machine tools n.e.c.	158	72	5,199	2.4
Machinery for metallurgy	26	99	3,467	1.4
Machinery for mining, quarrying and construction	233	91	5,408	1.4
Machinery for food, beverage and tobacco processing	120	72	4,410	1.9
Machinery for textile, apparel and leather production	127	71	6,365	2.5
Machinery for paper and paperboard production	58	76	8,083	3.2
Machinery for plastic and rubber processing	215	94	6,753	2.5
Other special purpose machinery n.e.c.	649	78	4,872	2.2
Mechanical engineering	6,932	84	6,535	2.3

1) Activity sectors of ME according to Classification of Economic Activities WZ 2008.

2) Investment expenditure per employee in EUR.

3) Investment expenditure in % of turnover.

1.14 Concentration of enterprises in German mechanical engineering*

Characteristic/ concentration rate CR ¹	measure	2014	2015	2016	2017	2018	2019	2020	2021
Enterprises	number	5,265	5,291	5,355	5,378	5,485	5,485	5,456	5,424
Employees	1'000	1,027	1,035	1,044	1,064	1,108	1,112	1,067	1,051
Turnover	bn EUR	235	238	243	270	281	277	245	271
concentration measured by turnover									
CR6	percent	14.0	14.7	14.5	16.0	15.7	15.5	16.6	17.0
CR10	percent	17.5	18.0	18.0	19.8	18.9	18.9	19.9	20.2
CR25	percent	25.5	26.2	25.8	27.9	26.6	26.8	28.1	28.8
CR50	percent	33.3	34.2	33.9	36.1	34.8	34.7	36.1	36.7
CR100	percent	42.9	43.4	43.3	45.6	44.4	44.3	45.5	46.2
concentration measured by employees									
CR6	percent	12.6	13.5	13.4	14.4	14.4	14.5	14.5	15.1
CR10	percent	16.5	17.2	17.4	18.2	17.6	17.9	18.1	19.0
CR25	percent	23.5	23.3	23.2	25.6	24.8	25.0	26.6	26.7
CR50	percent	30.9	31.6	31.4	32.8	32.4	33.0	34.0	34.5
CR100	percent	40.4	41.3	40.8	43.3	42.1	41.9	43.5	43.8

*) Mechanical engineering according to WZ 2008 chapter 28 (excl. repair and installation).

1) CR6 means: Share of the six largest enterprises measured by turnover or employees in total. Analogues is valid for CR10, CR25, CR50 and CR100.

1.15 German machine trade with selected countries

2023

Country of destination/ country of origin	Exports			Imports		
	Total goods	thereof: machines		Total goods	thereof: machines	
	million EUR	country share in %		million EUR	country share in %	
Europe	1,087,496	118,641	57.0	881,808	66,059	70.4
EU27	874,625	92,336	44.4	719,642	53,968	57.5
EURO20	614,767	63,283	30.4	480,244	32,755	34.9
France	120,141	14,526	7.0	69,831	5,793	6.2
Netherlands	115,416	9,350	4.5	104,896	3,695	3.9
Italy	87,237	10,278	4.9	72,205	8,523	9.1
Austria	81,968	7,942	3.8	54,596	5,439	5.8
Belgium	62,402	5,204	2.5	53,235	2,010	2.1
Spain	54,526	5,803	2.8	39,222	1,462	1.6
Slovakia	18,195	1,973	0.9	20,766	2,340	2.5
Portugal	12,251	1,051	0.5	8,045	822	0.9
Finland	11,919	1,856	0.9	9,426	783	0.8
Ireland	9,964	1,090	0.5	25,566	392	0.4
Greece	8,392	716	0.3	3,213	20	0.0
Slovenia	6,999	832	0.4	7,127	839	0.9
Luxembourg	6,913	495	0.2	3,698	154	0.2
Lithuania	5,737	717	0.3	2,885	124	0.1
Croatia	5,463	599	0.3	2,467	195	0.2
Estonia	2,668	407	0.2	970	71	0.1
Latvia	2,634	320	0.2	1,139	63	0.1
Malta	1,119	52	0.0	827	28	0.0
Cyprus	825	72	0.0	131	1	0.0
Poland	91,964	9,441	4.5	81,680	5,627	6.0
Czech Republic	53,984	6,017	2.9	60,984	6,517	6.9
Hungary	32,686	3,720	1.8	37,299	3,139	3.3
Sweden	30,233	4,035	1.9	18,911	2,148	2.3
Denmark	22,731	2,582	1.2	14,966	1,507	1.6
Romania	22,191	2,421	1.2	19,508	1,819	1.9
Bulgaria	6,068	838	0.4	6,052	455	0.5
Other European countries	212,871	26,305	12.6	162,166	12,090	12.9
United Kingdom	78,461	8,736	4.2	36,668	3,279	3.5
Switzerland	66,569	6,579	3.2	51,820	5,938	6.3

German machine trade with selected countries

2023

Country of destination/ country of origin	Exports			Imports		
	Total goods	thereof: machines		Total goods	thereof: machines	
	million EUR	country share in %		million EUR	country share in %	
Türkiye	30,709	5,792	2.8	24,350	1,905	2.0
Norway	9,113	1,548	0.7	30,548	80	0.1
Russian Fed.	8,907	1,380	0.7	3,681	12	0.0
Ukraine	6,943	844	0.4	2,876	85	0.1
Serbia	4,429	684	0.3	4,386	401	0.4
Belarus	1,894	101	0.0	251	11	0.0
Form.Yug.Rep.Maced	1,359	126	0.1	3,778	163	0.2
Bosnia-Herzegovina	1,283	169	0.1	1,308	140	0.1
Iceland	769	114	0.1	814	3	0.0
Liechtenstein	735	83	0.0	911	49	0.1
Moldova (Rep.)	548	62	0.0	325	6	0.0
Albania	400	30	0.0	222	1	0.0
Kosovo	350	32	0.0	96	2	0.0
Overseas	502,457	89,492	43.0	483,991	27,782	29.6
North America	170,649	30,213	14.5	101,636	6,918	7.4
USA	157,907	27,968	13.4	94,635	6,596	7.0
Canada	12,730	2,243	1.1	6,955	322	0.3
Latin America	45,867	8,877	4.3	28,853	614	0.7
Mexico	18,957	3,571	1.7	10,127	341	0.4
Brazil	12,794	2,676	1.3	8,271	246	0.3
Chile	3,389	713	0.3	1,543	1	0.0
Argentina	2,534	520	0.2	975	5	0.0
Colombia	1,978	301	0.1	1,613	1	0.0
Peru	1,086	218	0.1	1,376	2	0.0
Cayman Isles	917	3	0.0	69	0	0.0
Panama	572	102	0.0	229	0	0.0
Ecuador	539	115	0.1	660	0	0.0
Guatemala	410	136	0.1	259	1	0.0
Dominican Rep.	373	66	0.0	297	3	0.0
Costa Rica	364	56	0.0	740	7	0.0
Uruguay	352	59	0.0	349	0	0.0

German machine trade with selected countries

2023

Country of destination/ country of origin	Exports			Imports		
	Total goods	thereof: machines		Total goods	thereof: machines	
	million EUR	country share in %		million EUR	country share in %	
Honduras	240	40	0.0	429	0	0.0
Paraguay	204	37	0.0	60	0	0.0
Cuba	174	43	0.0	53	0	0.0
El Salvador	150	31	0.0	68	1	0.0
Trinidad, Tobago	142	44	0.0	157	0	0.0
Bolivia	140	50	0.0	142	1	0.0
Venezuela	83	27	0.0	19	0	0.0
Jamaica	82	16	0.0	7	0	0.0
Africa	28,736	4,544	2.2	32,807	1,122	1.2
South Africa	9,845	1,460	0.7	12,085	1,040	1.1
Egypt	5,366	1,136	0.5	1,491	48	0.1
Morocco	3,232	260	0.1	2,777	13	0.0
Algeria	2,054	340	0.2	1,511	2	0.0
Tunisia	1,833	155	0.1	2,845	15	0.0
Liberia	1,017	4	0.0	171	0	0.0
Nigeria	859	174	0.1	1,938	2	0.0
Libya	570	147	0.1	4,919	0	0.0
Ivory Coast	399	90	0.0	954	0	0.0
Angola	282	65	0.0	320	0	0.0
Kenya	267	35	0.0	214	0	0.0
Ghana	252	45	0.0	240	0	0.0
Cameroon	192	36	0.0	340	0	0.0
Guinea	189	38	0.0	61	0	0.0
Senegal	186	45	0.0	20	0	0.0
Tanzania	184	67	0.0	181	0	0.0
Mauritius	180	19	0.0	60	0	0.0
Ethiopia	179	67	0.0	163	0	0.0
Democr. Rep. Congo	165	50	0.0	216	0	0.0
Uganda	126	19	0.0	184	0	0.0
Mali	120	22	0.0	8	0	0.0
Mozambique	116	21	0.0	156	-	-
Congo	102	10	0.0	90	0	0.0

German machine trade with selected countries

2023

Country of destination/ country of origin	Exports			Imports		
	Total goods	thereof: machines		Total goods	thereof: machines	
	million EUR	country share in %		million EUR	country share in %	
Mauritania	95	14	0.0	47	0	0.0
Botswana	84	5	0.0	9	0	0.0
Benin	83	32	0.0	3	-	-
Burkina Faso	75	20	0.0	24	0	0.0
Namibia	67	18	0.0	78	0	0.0
Togo	62	9	0.0	3	0	0.0
Zambia	62	28	0.0	57	0	0.0
Madagascar	59	15	0.0	151	0	0.0
Rwanda	54	13	0.0	17	0	0.0
Asia	238,614	42,749	20.5	313,110	19,039	20.3
China	97,312	18,567	8.9	157,101	9,664	10.3
Rep. of Korea	20,434	3,162	1.5	13,565	1,016	1.1
Japan	20,231	2,588	1.2	25,644	3,781	4.0
India	16,493	4,174	2.0	14,306	1,392	1.5
Taiwan	9,887	1,189	0.6	15,859	744	0.8
U.A.Emirates	8,604	1,433	0.7	5,552	71	0.1
Saudi Arabia	8,110	1,409	0.7	2,323	5	0.0
Singapore	7,429	1,395	0.7	6,234	314	0.3
Malaysia	6,269	904	0.4	11,502	541	0.6
Hong Kong (SVR)	6,259	573	0.3	1,228	38	0.0
Thailand	5,292	958	0.5	8,740	693	0.7
Israel	5,287	824	0.4	2,825	318	0.3
Vietnam	3,531	533	0.3	13,641	241	0.3
Indonesia	3,392	822	0.4	4,505	51	0.1
Kazakhstan	3,215	883	0.4	5,516	8	0.0
Philippines	1,918	262	0.1	4,885	96	0.1
Qatar	1,275	318	0.2	673	4	0.0
Iran	1,201	326	0.2	245	2	0.0
Iraq	1,187	323	0.2	1,571	0	0.0
Kuwait	1,123	174	0.1	695	2	0.0
Bahrain	1,056	84	0.0	229	0	0.0
Uzbekistan	1,000	321	0.2	76	0	0.0

German machine trade with selected countries

2023

Country of destination/ country of origin	Exports			Imports		
	Total goods	thereof: machines		Total goods	thereof: machines	
	million EUR		country share in %	million EUR		country share in %
Pakistan	971	276	0.1	2,334	4	0.0
Bangladesh	857	281	0.1	7,789	1	0.0
Oman	820	179	0.1	513	5	0.0
Georgia	816	89	0.0	99	1	0.0
Jordan	784	102	0.0	116	1	0.0
Kyrgyzstan	714	92	0.0	20	0	0.0
Azerbaijan	570	85	0.0	791	1	0.0
Armenia	494	73	0.0	175	1	0.0
Lebanon	455	56	0.0	56	1	0.0
Cambodia	219	58	0.0	1,920	5	0.0
Turkmenistan	198	87	0.0	5	3	0.0
Sri Lanka	187	31	0.0	863	34	0.0
Mongolia	177	19	0.0	18	0	0.0
Macao	156	5	0.0	11	0	0.0
Occup. Palest. Ter.	128	14	0.0	4	-	-
Yemen	95	12	0.0	1	0	0.0
Nepal	92	5	0.0	37	0	0.0
Tajikistan	79	10	0.0	4	0	0.0
Myanmar	73	8	0.0	1,216	1	0.0
Brunei	51	10	0.0	4	0	0.0
Australia and Oceania	13,756	2,949	1.4	6,178	90	0.1
Australia	11,670	2,539	1.2	5,119	78	0.1
New Zealand	1,591	361	0.2	685	11	0.0
Marshall Islands	360	0	0.0	107	0	0.0
New Caledonia	52	15	0.0	12	0	0.0
Not classified	4,835	161	0.1	1,406	0	0.0
All countries ¹	1,589,953	208,133	100.0	1,365,799	93,841	100.0

German machine trade with selected countries

2023

Country of destination/ country of origin	Exports			Imports		
	Total goods	thereof: machines		Total goods	thereof: machines	
	million EUR		country share in %	million EUR		country share in %
EU27	874,625	92,336	44.4	719,642	53,968	57.5
EURO20	614,767	63,283	30.4	480,244	32,755	34.9
NAFTA²	189,593	33,783	16.2	111,717	7,259	7.7
MERCOSUR³	15,884	3,292	1.6	9,655	251	0.3
ASEAN⁴	28,222	4,972	2.4	52,822	1,942	2.1
OPEC⁵	24,250	4,443	2.1	19,529	84	0.1

1) Incl. trade not classified.

2) USA, Canada, Mexico.

3) Brazil, Paraguay, Uruguay, Argentina.

4) Myanmar, Thailand, Laos, Vietnam, Cambodia, Indonesia, Malaysia, Brunei, Singapore, Philippines.

5) Venezuela, Algeria, Libya, Nigeria, Equat. Guinea, Gabon, Angola, Congo, Iraq, Iran, Saudi Arabia, Kuwait, U.A. Emirates.

1.16 German machine exports by sector and

2023

Sector	Total exports	
	million EUR	%-share of sector
Machine tools	9,641	4.6
Machinery for metallurgical plants and rolling mills	876	0.4
Industrial furnaces and burners	1,926	0.9
Foundry machinery	122	0.1
Measuring and testing technology	3,602	1.7
Woodworking machinery	2,814	1.4
Precision tools	6,539	3.1
Gas welding (without electrical)	98	0.0
Air-handling technology	15,813	7.6
Power systems	4,582	2.2
Pumps	6,314	3.0
Compressors, compressed air and vacuum technology	5,774	2.8
Construction equipment and building material machines	11,826	5.7
Plastics and rubber machinery	6,251	3.0
Mining equipment	1,770	0.9
Agricultural machinery	16,553	8.0
Food processing and packaging machinery	9,890	4.8
Process plant and equipment	7,579	3.6
Safes and strongroom installations	39	0.0
Materials handling technology	17,170	8.2
Printing and paper equipment and supplies	4,903	2.4
Textile machinery (without dryers)	2,584	1.2
Textile Care, fabric and leather technologies	697	0.3
Firefighting vehicles and equipment	250	0.1
Cleaning systems	399	0.2
Valves and fittings	10,573	5.1
Lifts and escalators	871	0.4
Power transmission engineering	17,949	8.6
Engines and systems	2,550	1.2
Fluid power equipment	8,355	4.0
Semiconductor and flat panel display production equipment	3,608	1.7
Other mechanical engineering	25,019	12.0
Mechanical engineering	208,133	100.0

1) Canada, Mexico, USA.

2) Easttimor, Myanmar, Thailand, Laos, Vietnam, Cambodia, Indonesia, Malaysia, Brunei, Singapore, Philippines.

3) Mongolia, China, DPR Korea (Northkorea), Rep. Korea (Southkorea), Japan, Taiwan, Hong Kong (SVR), Macao.

country groups

Export share by country groups in %						
	Europe	Other Europ.		Near and		
total	EU27	countries	NAFTA ¹	Middle East	South-East-Asia ²	East-Asia ³
51.9	39.9	12.0	19.2	1.0	1.4	20.9
44.9	38.4	6.5	14.0	5.6	0.7	14.2
50.1	38.1	12.1	18.1	4.5	2.8	15.1
78.8	61.5	17.3	7.9	0.7	1.2	2.7
51.4	39.5	11.9	15.6	1.7	2.9	20.5
59.4	45.1	14.3	16.5	0.5	4.0	11.7
65.5	50.6	14.9	16.7	1.1	1.3	10.1
65.0	51.5	13.6	9.8	1.7	0.6	16.0
67.7	54.4	13.2	13.0	2.0	1.9	9.1
47.2	33.4	13.8	11.0	9.0	5.0	9.5
56.9	45.5	11.4	12.5	3.7	3.0	14.6
49.4	38.3	11.0	14.2	4.3	3.1	17.3
56.9	44.9	12.0	21.4	4.2	1.0	6.4
36.3	27.9	8.4	19.9	2.3	3.4	27.4
40.6	23.9	16.8	26.5	6.2	1.5	6.7
69.9	52.8	17.1	18.3	0.6	0.2	2.4
48.0	33.7	14.2	22.5	3.3	3.9	7.5
54.8	42.2	12.6	12.3	3.3	4.2	13.4
83.8	63.8	20.1	3.8	3.5	3.1	1.9
61.3	47.6	13.7	18.9	3.4	1.6	5.9
44.8	34.6	10.2	22.4	2.4	3.0	16.0
31.2	16.1	15.1	10.6	2.0	3.9	27.3
65.7	52.5	13.2	11.7	1.5	2.0	7.6
75.3	49.8	25.5	2.3	5.3	2.5	6.9
75.2	50.7	24.5	3.6	2.8	0.9	9.9
60.2	47.5	12.7	11.8	3.6	2.6	14.3
82.2	49.5	32.8	3.7	6.2	1.3	2.3
59.4	49.4	10.0	12.7	1.9	2.1	15.4
45.1	35.6	9.6	20.8	2.1	2.8	20.8
61.7	50.8	10.9	13.5	2.0	1.9	13.1
39.4	37.0	2.4	16.0	0.8	6.6	34.7
56.7	44.0	12.6	15.8	2.6	2.9	13.9
57.0	44.4	12.6	16.2	2.6	2.4	12.5

1.17 German machine imports by sector and selected countries of origin 2023

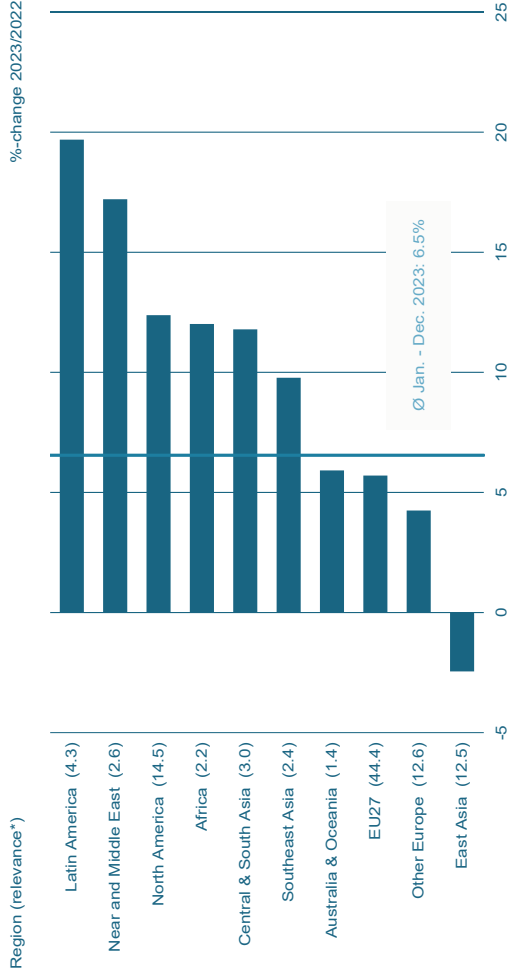
Sector	Total imports		thereof from:						
	million EUR	%-share of sector	China	Italy	USA	Czech Republic	Switzerland	France	Poland
Machine tools	3,644.4	3.9	224.5	315.5	132.4	175.9	876.5	83.6	144.3
Machinery for metallurgical plants and rolling mills	309.9	0.3	36.8	67.9	10.8	7.7	12.1	11.5	8.7
Industrial furnaces and burners	593.0	0.6	54.8	80.7	33.2	42.1	19.9	10.1	17.1
Foundry machinery	112.3	0.1	30.9	27.3	2.8	5.1	19.8	4.5	3.7
Measuring and testing technology	1,026.6	1.1	227.7	58.5	92.3	39.6	75.5	32.0	9.2
Woodworking machinery	694.4	0.7	177.9	110.3	11.7	64.2	34.3	17.7	83.3
Precision tools	3,593.7	3.8	706.6	224.1	164.6	193.8	559.5	70.0	117.0
Gas welding (excl. electrical)	42.0	0.0	5.3	3.9	0.4	6.8	0.5	1.0	0.8
Air-handling technology	12,299.5	13.1	954.1	824.5	399.8	1,600.3	282.8	651.1	1,422.7
Power systems	2,242.0	2.4	162.4	228.0	633.8	36.6	40.7	85.7	40.8
Pumps	3,183.2	3.4	325.5	345.0	334.4	254.9	157.8	259.0	123.3
Compressors, compressed air and vacuum technology	2,914.8	3.1	278.7	207.5	144.7	178.0	142.0	210.0	316.4
Construction equipment and building material machines	6,815.5	7.3	439.8	525.6	236.8	410.5	85.4	656.6	429.9

Plastics and rubber machinery	1,486.9	1.6	170.8	140.6	87.7	137.5	94.3	24.8	18.1
Mining equipment	455.0	0.5	40.1	54.0	50.2	16.9	50.1	8.4	8.1
Agricultural machinery	5,764.0	6.1	461.1	554.3	572.3	362.1	30.1	612.3	283.0
Food processing and packaging machinery	2,069.8	2.2	133.6	362.7	86.2	69.2	370.3	59.3	85.3
Process plant and equipment	2,871.2	3.1	234.6	256.7	332.2	133.7	219.5	281.2	112.5
Safes and strongroom installations	80.3	0.1	21.9	0.5	0.1	8.3	1.0	0.1	14.3
Materials handling technology	5,764.8	6.1	566.8	712.7	104.7	439.5	275.1	415.0	452.9
Printing and paper equipment and supplies	1,394.6	1.5	120.7	120.8	52.3	199.1	272.6	42.1	26.3
Textile machinery (excl. dyers)	471.1	0.5	67.6	57.0	8.5	34.2	47.7	9.8	31.1
Textile Care, fabric and leather technologies	343.1	0.4	49.6	21.4	8.2	72.9	8.2	3.7	27.7
Firefighting vehicles and equipment	134.0	0.1	6.9	15.9	15.7	3.7	1.4	2.6	33.3
Cleaning systems	151.9	0.2	61.3	64.9	0.2	0.9	0.3	0.8	1.8
Valves and fittings	5,826.2	6.2	881.1	707.0	706.5	415.3	546.8	287.9	339.9
Lifts and escalators	822.5	0.9	34.0	148.3	1.5	53.4	20.0	84.0	11.2
Power transmission engineering	10,205.4	10.9	1,366.7	1,076.5	435.9	523.5	312.9	534.2	424.6
Engines and systems	1,388.8	1.5	22.8	24.3	183.5	2.1	87.4	576.7	0.3
Fluid power equipment	4,427.4	4.7	407.5	329.1	368.5	170.5	251.1	311.9	401.5
Semicond. and flat panel display prod. equipm.	1,964.2	2.1	39.9	17.0	482.6	3.9	118.9	7.2	39.2
Other mechanical engineering	10,011.2	10.7	1,301.9	795.6	885.9	825.2	887.8	393.8	591.0
Mechanical engineering	93,840.7	100.0	9,663.9	8,523.1	6,596.3	6,516.7	5,938.4	5,792.6	5,627.3

1.18 Machine export ranking by countries of destination

Rank	Export from Germany to	2021 bn EUR %-share	Export from Germany to	2022 bn EUR %-share	Export from Germany to	2023 bn EUR %-share
1	USA	20.7 11.4	USA	24.8 12.7	USA	28.0 13.4
2	China	19.3 10.7	China	18.9 9.7	China	18.6 8.9
3	France	12.3 6.8	France	13.3 6.8	France	14.5 7.0
4	Italy	8.8 4.9	Italy	9.9 5.0	Italy	10.3 4.9
5	Netherlands	8.1 4.4	Netherlands	8.9 4.5	Poland	9.4 4.5
6	Poland	7.8 4.3	Poland	8.4 4.3	Netherlands	9.4 4.5
7	Austria	7.7 4.3	United Kingdom	8.3 4.2	United Kingdom	8.7 4.2
8	United Kingdom	7.5 4.2	Austria	8.2 4.2	Austria	7.9 3.8
9	Czech Republic	5.5 3.0	Switzerland	6.1 3.1	Switzerland	6.6 3.2
10	Russian Fed.	5.5 3.0	Czech Republic	5.9 3.0	Czech Republic	6.0 2.9
11	Switzerland	5.4 3.0	Spain	5.2 2.6	Spain	5.8 2.8
12	Spain	4.7 2.6	Belgium	4.9 2.5	Türkiye	5.8 2.8
13	Belgium	4.5 2.5	Türkiye	4.8 2.5	Belgium	5.2 2.5
14	Türkiye	4.0 2.2	Hungary	3.9 2.0	India	4.2 2.0
15	Sweden	3.8 2.1	Sweden	3.9 2.0	Sweden	4.0 1.9
16	Hungary	3.4 1.9	India	3.9 2.0	Hungary	3.7 1.8
17	India	3.0 1.7	Rep. of Korea	3.1 1.6	Mexico	3.6 1.7
18	Rep. of Korea	2.9 1.6	Mexico	2.8 1.4	Rep. of Korea	3.2 1.5
19	Denmark	2.5 1.4	Russian Fed.	2.7 1.4	Brazil	2.7 1.3
20	Mexico	2.3 1.3	Denmark	2.6 1.3	Japan	2.6 1.2
21	Japan	2.2 1.2	Japan	2.5 1.3	Denmark	2.6 1.2
22	Australia	2.1 1.2	Australia	2.4 1.2	Australia	2.5 1.2
23	Romania	2.1 1.2	Brazil	2.3 1.2	Romania	2.4 1.2
24	Brazil	2.0 1.1	Romania	2.2 1.1	Canada	2.2 1.1
25	Taiwan	1.7 1.0	Canada	2.0 1.0	Slovakia	2.0 0.9
1-25	All countries specified above	150.0 82.7	All countries specified above	161.6 82.8	All countries specified above	171.9 82.6
	Machine exports to all countries	181.3 100.0	Machine exports to all countries	195.3 100.0	Machine exports to all countries	208.1 100.0

German machine export by region



1.19 German direct investment in foreign mechanical engineering*

a) Total investment by country of investment in million EUR

country of investment	2019	2020	2021	2022
Total	46,194	44,174	49,433	56,432
United States	13,339	12,949	13,722	18,355
China	6,592	7,095	8,711	9,206
Switzerland	2,910	2,343	2,627	2,715
Italy	2,204	2,369	2,393	2,489
India	1,850	1,837	2,162	2,454
France	1,587	1,423	1,765	1,853
Poland	1,368	1,375	1,435	1,798
Brazil	1,038	1,172	1,405	1,624
Austria	1,313	1,280	1,281	1,542
United Kingdom	1,510	1,361	1,356	1,434
Spain	1,298	164	1,767	1,283
Czech Republic	922	969	1075	1176
Netherlands	918	950	494	977
Luxembourg	462	573	417	846
Korea, Republic of	874	740	755	821
Hungary	674	616	636	660
Russian Federation	777	659	648	566
Denmark	568	588	672	539
Turkey	534	536	476	524

b) Operating variables of enterprises abroad

	2019	2020	2021	2022
Enterprises abroad				
Number	1,919	1,940	1,977	2,114
Year on year in %	3.3	1.1	1.9	6.9
Employees in thousands	426	432	443	478
Year on year in %	0.7	1.4	2.5	7.9
Turnover in EUR billion	111.6	103.7	117.6	141.0
Year on year in %	5.6	-7.1	13.4	19.9

*) According to NACE rev. 2 chapter 28 (excl. repair and installation).

Stock of indirect and direct foreign direct investment, consolidated.

1.20 Foreign direct investment in German mechanical engineering*

a) Total investment by location of company headquarters in million EUR

country of investor	2019	2020	2021	2022
Total	17,147	15,910	18,441	19,550
Switzerland	3,403	3,302	3,298	4,098
United States	4,984	4,380	4,548	4,020
Japan	1,986	2,188	2,640	2,780
Luxembourg	1,023	610	1,883	2,013
China	1,123	910	1,444	1,703
Sweden	527	727	770	1,069
United Kingdom	800	907	850	1,068
Canada	507	482	454	423
Germany	609	314	353	419
Italy	330	351	310	305
Austria	323	416	358	271
Netherlands	382	168	189	163
Denmark	99	138	141	149
France	28	94	104	127
Belgium	124	107	96	97
Spain	68	27	22	26

b) Operating variables of enterprises in Germany

	2019	2020	2021	2022
Enterprises in Germany				
Number	851	852	848	858
Year on year in %	-0.7	0.1	-0.5	1.2
Employees in thousands	269	262	261	263
Year on year in %	2.7	-2.6	-0.4	0.8
Turnover in EUR billion	83.3	75.3	80.6	84.2
Year on year in %	-2.5	-9.6	7.1	4.5

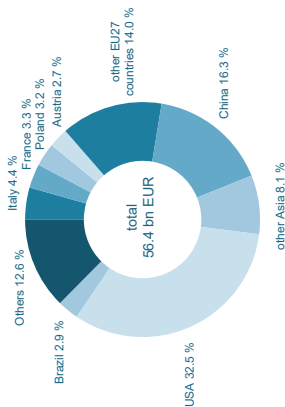
*) According to NACE rev. 2 chapter 28 (excl. repair and installation).

Stock of indirect and direct foreign direct investment, consolidated.

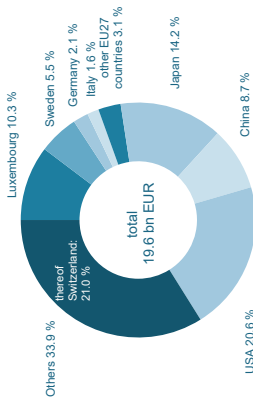
German direct investment in foreign mechanical engineering*

Foreign direct investment in German mechanical engineering*

Total investment by country
of investment in %, 2022



Total investment by location
of company headquarters in %, 2022



*) According to NACE rev. 2 chapter 28 (excl. repair and installation). Stock of indirect and direct foreign direct investment, consolidated.

1.21 Investments in tangible assets for environmental protection in Germany

2021

Investor (Activity)	Waste management	Water pollution prevention	Air pollution prevention	Climate protection			Total*
				Total	utilization of renewable energy	thereof for: increase of energy efficiency	
Production industries	2,049.2	4,052.6	1,010.5	4,154.5	2,045.0	1,628.1	11,706.3
Mining and quarrying	5.8	15.5	7.0	20.9	6.0	10.3	66.7
Manufacturing	238.0	491.9	768.8	1,488.6	252.9	1,032.8	3,250.0
Manufacture of food products and beverages	16.5	33.9	34.1	160.3	21.6	116.4	262.5
Manufacture of textile and wearing apparel	1.8	2.3	3.4	13.7	2.6	10.0	21.7
Manufacture of wood and wood products	1.2	3.9	23.1	86.4	18.8	41.9	117.1
Manufacture of pulp, paper and paper products	6.0	24.8	10.5	171.4	28.4	130.4	220.3
Man. of printing and reproduction of recorded media	2.6	2.3	5.6	11.0	2.1	8.8	22.3
Manufacture of coke and refined petroleum products	.	29.8	65.7	44.2	.	27.2	184.3
Manufacture of chemicals and chemical products	52.5	258.6	102.3	175.1	9.1	129.2	652.5
Manufacture of rubber and plastic products	17.6	11.2	32.3	111.3	25.5	77.7	179.8
Manufacture of glass, ceramics, sand, stone and other non-metallic mineral products	18.4	15.4	49.9	89.6	15.6	47.5	183.8
Manufacture of basic metals	51.4	28.6	121.2	84.2	6.5	67.6	305.9
Manufacture of fabricated metal products	11.3	14.0	50.5	109.4	28.1	75.2	198.1
Man. of computer, electronic and optical products	4.6	8.3	20.3	49.4	8.4	32.4	88.0
Manufacture of electrical equipment	6.3	3.0	16.8	54.2	21.3	24.3	84.6
Mechanical engineering	13.8	11.3	46.4	129.1	31.4	88.9	216.0
Manufacture of motor vehicles, trailers and semi-trailers	8.1	13.3	117.6	93.8	9.5	80.6	272.7
Repair and installation of machinery and equipment	0.8	1.3	7.0	8.5	2.4	3.9	18.0

Selected activities according to WZ 2008, Mechanical engineering according to chapter 28 (excl. repair and installation).

1.22 Price index for mechanical engineering

a) Producer price index in Germany, Base 2021 = 100

Product classification		2022	2023
Machinery and equipment		108.3	116.1
Machine tools, incl. parts		107.6	115.4
Metal cutting machine tools		106.9	113.7
Metal forming machine tools		106.4	112.6
Industrial or laboratory furnaces and burners, incl. parts		107.1	114.3
Burners and automatic mechanical stokers		107.4	115.8
Non-electric industrial or laboratory furnace burners, etc		104.5	107.4
Electric industrial or laboratory furnace burners, etc		105.8	114.6
Machinery for the manufacturing of basic metals		112.0	123.1
Moulding boxes for metal foundry, mould bases, moulding patterns		104.0	112.0
Mould tools for metal or metal carbides (excluding injection or compression types)		102.7	104.7
Measuring and Testing technology		105.6	113.9
Testing technology		105.5	113.9
Machines and appliances for testing the mechanical properties of material		106.2	112.9
Other machines for measuring and testing		105.4	114.0
Weighing machines		106.6	109.8
Woodworking machinery, incl. chain saws		111.4	118.0
Circular saws for processing wood, cork, bone, etc.		110.9	116.6
Machines which can carry out different types of machining operations		110.9	118.6
Precision tools		106.5	112.9
Interchangeable tools		105.2	112.7
Tool holders		104.3	111.1
Cutting tools		105.5	113.0
Air-handling technology		109.9	117.0
Refrigeration, air technology, including repair, maintenance and installation		109.3	116.9
Ventilation single apparatus and systems		108.3	114.3
Air-conditioning systems		108.8	114.1
Machinery and apparatus for filtering or purifying gases		103.2	107.6
Refrigerating and freezing equipment and furniture, heat pumps		105.8	115.3
Turbines		112.4	131.7
Liquid Pumps incl. Installation and Repair		111.1	123.2
Positive displacement reciprocating pumps		108.7	120.9
Positive displacement pumps, rotary type		113.7	125.0
Rotodynamic pumps, other liquid pumps, liquid elevators		109.9	122.2
Air and vacuum pumps, air and other gas compressors		106.3	114.3
Vacuum pumps		107.8	120.8
Construction equipment and building material machinery		107.9	115.2
Construction Equipment		107.3	115.1
Building material, ceramics and glass machinery		108.2	113.3
Machinery for working plastics and rubber		107.1	115.8
Extruders for working plastics and rubber		106.9	119.9

Price index for mechanical engineering

a) Producer price index in Germany, Base 2021 = 100

Product classification		2022	2023
Blow-moulding, thermoforming, injection-moulding machines		107.9	117.1
Continuous-action elevators and conveyors, for underground use		110.6	123.2
Agricultural machinery		111.5	120.8
Harvesting machinery		107.5	117.8
Harrows, scarifiers, cultivators, weeders and hoes		111.0	118.6
Machinery for food, beverage processing		109.7	116.3
Machines for the production of food and beverages		109.3	114.9
Industrial brewery machinery		107.5	109.9
Other machinery for packing or wrapping		109.6	117.8
Process plant and equipment		108.5	116.4
Machinery and apparatus for filtering or purifying liquids		109.2	115.1
Materials handling technology		110.5	118.7
Cranes and lifting devices		107.5	115.4
Series-built lifting devices, lifting platforms etc.		109.2	115.2
Other electric trucks with lifting device		110.5	115.9
Continuous conveyors (excluding those for underground mining)		114.1	124.9
Printing and paper equipment and supplies		107.1	114.7
Paper manufacturing and finishing machines		107.1	110.4
Paper processing machinery, incl. Book-binding machinery		110.3	118.1
Machinery for printing works		106.6	115.5
Textile machinery, incl. parts		107.4	113.4
Machinery for spinning, weaving, knitting etc.		109.0	115.5
Mesh-making machinery (Machines f knitting, mak. tulle, embroidery etc)		103.3	107.4
Machinery for textile, apparel and leather production		107.4	113.4
Firefighting equipment		114.0	128.4
Water-jet cleaning machines incorporating a motor		108.2	114.7
Valves and fittings		110.2	119.8
Sanitary taps and fittings		108.1	117.1
Valves (excl. Hydraulic/pneumatic, sanitary and radiator valves)		111.1	121.6
Control and gate valves, other valves		111.7	122.9
Lifts, skip hoists, escalators and travelling walkways		114.0	122.2
Power transmission engineering		107.5	115.3
Gears and bearings		107.9	116.8
Ball or roller bearings		103.6	109.3
Couplings, plain shaft bearings and other power transmission equip.		109.2	115.5
Marine diesel engines and diesel engines for rail traction		103.9	111.8
Fluid power equipment		107.6	115.2
Hydraulic and pneumatic cylinders		107.7	115.3
Hydraulic and pneumatic valves		109.3	117.2
Hydraulic pumps		105.4	113.5
Robotics and automation		106.7	113.1

Price index for mechanical engineering

b) Export price index in Germany, Base 2021 = 100

Product classification		2022	2023
Machinery and equipment		107.3	114.4
Machine tools, incl. parts		104.6	110.3
Laser-operated machine tools for working metals		103.4	108.1
Turning, drilling, boring, grinding, gear cutting machines		105.3	112.0
Bending, folding, straightening, shearing machines		105.3	112.2
Industrial or laboratory furnaces and burners, incl. parts		110.9	120.7
Parts for burners, industrial and laboratory furnaces		115.1	120.5
Machines for metal production		101.8	113.0
Machine tools for working wood, cork, stone, hard rubber and similar hard materials		108.2	114.9
Work holders and parts for machine tools		105.6	108.3
Commercial refrigeration and ventilation equipment		109.5	117.9
Heat exchangers, apparatus and devices for the liquefaction of air		119.6	135.6
Fans, output ≤ 125 W		107.7	115.3
Engines and turbines		105.3	112.8
Liquid pumps, liquid elevators		108.6	115.2
Air and vacuum pumps, air and other gas compressors		107.7	114.1
Continuous conveyor for underground work		104.0	112.6
Other earth moving machinery		105.9	113.0
Machinery for sorting and screening of mineral substances		105.8	112.7
Machinery for processing and working plastics and rubber		106.5	114.6
Agricultural machinery		109.6	117.5
Harvesting machinery		107.9	116.9
Agricultural and forestry tractors, other tractors		105.9	113.9
Machines for food and beverage production		106.4	114.2
Comm. and household weighing machines and oth. measuring machines		103.0	113.2
Materials handling technology		110.8	117.2
Fork-lift trucks		110.8	119.8
Continuous-action conveyors		114.0	118.7
Paper technology and paper processing machinery		105.8	111.5
Machinery for printing works and bookbinding		107.0	111.2
Machinery for textile, clothing, leather production, processing		106.0	112.0
Machinery for spinning, weaving, knitting, warp knitting		109.2	115.4
Fire extinguisher, spray guns, sand blasting machines		111.5	118.2
Valves and fittings		107.3	114.6
Power transmission engineering		107.2	114.7
Ball or roller bearings		105.6	111.1
Gears, speed variators, gearboxes and other power transmission equip.		106.6	114.0
Engines marine-type, for rail traction and industrial and other purposes		103.9	110.5
Hydraulic and pneumatic components, systems, excl. parts		107.0	113.8
Office machinery		103.3	106.7

Price index for mechanical engineering

c) Import price index in Germany, Base 2021 = 100

Product classification		2022	2023
Machinery and equipment		108.3	113.0
Machine tools, incl. parts		107.4	113.1
Laser-operated machine tools for working metals		101.7	105.3
Turning, drilling, boring, grinding, gear cutting machines		108.1	110.6
Parts of machinery for working metals		111.9	121.2
Industrial or laboratory furnaces and burners, incl. parts		103.4	105.9
Machines for metal ore production, rolling mill equipment, casting machines		107.8	122.6
Commercial refrigeration and ventilation equipment		108.4	113.6
Heat exchange units, air-conditioning systems, freezing equipment, apparatus for filtering		109.2	114.3
Air conditioning units		109.2	115.3
Refrigeration, deep-freezing and freezing units for refrigeration, heat pumps		113.6	121.8
Apparatus for filtering, purifying gases, n.e.c.		104.2	106.4
Engines and turbines		104.9	110.0
Engines for water and rail vehicles, industrial and other purposes		116.2	118.7
Parts of turbines		111.3	116.9
Liquid pumps, liquid elevators		109.0	109.7
Other pumps and compressors		107.4	111.9
Air and vacuum pumps, air and other gas compressors		105.4	110.9
Parts of pumps and compressors		107.9	116.4
Mining equipment, construction equipment and building material machinery		110.0	112.7
Parts of mining and construction equip. and buildings material machinery		109.3	116.4
Other earth moving machinery		107.4	112.7
Machinery for processing and working plastics and rubber		110.0	112.6
Agricultural machinery		113.2	120.4
Other machinery for agriculture, forestry, n.e.c.		115.7	125.6
Parts of agricultural machinery		121.7	129.1
Agricultural and forestry tractors, other tractors		104.6	113.8
Machinery for food, beverage and tobacco processing		109.1	116.9
Packaging machines		104.3	110.4
Materials handling technology		112.0	118.7
Paper technology and paper processing machinery		102.8	106.9
Machinery for textile, apparel and leather production and processing		109.8	116.5
Valves and fittings		110.1	112.9
Power transmission engineering		109.4	113.3
Ball or roller bearings		103.5	107.5
Gears, speed variators, gearboxes and other power transmission equip.		110.9	114.5
Parts of gears, gearboxes and other power transmission equipment		114.2	118.4
Hydraulic and pneumatic components and systems		107.3	111.8
Hydraulic and pneumatic components and systems, excl. parts		107.7	112.8
Multi-purpose industrial robots, centralized lubrication systems		104.0	108.6
Office machinery		103.5	109.1

1.23 Producer price index for selected industrial products in Germany

Base 2015 = 100

Description		2022	2023
Petrol (incl. aviation fuel)		124.3	118.4
Diesel oil, for road and rail vehicles		141.7	124.0
Heavy fuel oil with low sulfur content		163.7	137.8
Non-alloy steel wire rod		131.1	115.8
Hot rolled wire rod		135.3	120.5
Hot rolled concrete reinforcing bars		133.7	91.5
Hot rolled steel bars		135.3	120.5
Flat products of unalloyed steel, >=600mm		128.5	106.2
Cold-rolled sheet, ultrafine sheet and strip, >=600mm		128.5	106.2
Steel tubes and tube fittings		128.0	133.3
Non-ferrous metal products and articles thereof		119.8	115.1
Semi-finished products of aluminium		136.7	125.4
Semi-finished products of lead, zinc and tin		121.6	110.8
Semi-finished products of copper and copper alloys		114.0	114.8
Semi-finished products of nickel or nickel alloys		123.3	129.1
Casting services of iron		117.1	124.7
Casting services of spheroidal cast iron		118.0	125.2
Casting services of grey cast iron		116.4	124.4
Tubes and hollow sections, of stainless steel		124.0	132.7
Steel construction products and light metal construction products		118.8	124.1
Steel foundry products		114.3	125.7
Light metal foundry products		113.2	116.1
Casting services of other non-ferrous metals		117.1	118.1
Structural metal products		114.2	119.5
Reservoirs, tanks, vats and similar containers, of metal, > 300 l		121.8	121.3
Steam generators, nuclear reactors and parts thereof		109.4	116.2
Office machinery		106.7	113.3
Computers, other information processing and peripheral equipment		108.3	106.1
Electric motors, generators and transformers		109.7	117.2
Electricity distribution and control apparatus		108.5	116.0
Telecommunication equipment		106.8	114.0
Consumer electronics equipment		105.6	111.2
Instruments and appliances for measuring, checking, testing, navigating etc.		105.4	111.5
Medical equipment for irradiation, electrotherapy etc.		102.3	109.1
Optical instruments and photographic equipment		102.7	109.1
Passenger cars		103.2	107.1
Motor vehicles for the transport of goods		107.8	112.3
Wooden furniture of a kind used in offices		113.7	122.3
Wooden furniture for shops		109.0	113.0
Medical, dental and other surgical equipment and material		104.7	110.7
Electrical energy		188.2	163.1

1.24 Enterprises, turnover and employees in German mechanical engineering by activity sector

2023

Activity sector*	Enter- prises number	Turnover million EUR	Employees number	Turnover per employee 1'000 EUR
Engines and turbines, except aircraft, vehicle and cycle engines	90	54,108	112,925	479
Hydraulic and pneumatic components and systems	136	11,981	44,289	271
Pumps and compressors, n.e.c.	183	14,264	49,244	290
Taps and valves, n.e.c.	227	12,467	45,477	274
Bearings, gears, gearing and driving elements	321	24,819	93,683	265
Furnaces and furnace burners	1,792	84,797	302,958	280
Lifting and handling equipment	117	3,443	12,564	274
Office machinery (exc. computers and peripherals)	527	22,966	77,196	298
Portable hand held power tools	31	6,635	16,034	414
Non-domestic cooling and ventilation equipment	373	17,333	57,709	300
Other general purpose machinery n.e.c. ¹	723	33,762	136,744	247
Agricultural and forestry machinery	174	19,495	48,453	402
Metalworking machine tools	440	17,301	70,113	247
Other machine tools n.e.c. ²	218	7,441	31,607	235
Machinery for metallurgy	32	1,626	7,571	215
Machinery for mining, quarrying and construction	185	17,473	41,329	423
Machinery for food, beverage and tobacco processing	193	6,650	27,561	241
Machinery for textile, apparel / leather production	105	5,069	19,495	260
Machinery for paper and paperboard production	75	1,920	7,187	267
Machinery for plastic and rubber processing	186	9,215	32,590	283
Other special purpose machinery n.e.c. ³	1,064	31,199	137,024	228
Mechanical engineering ⁴	5,442	297,732	1,061,129	281
Repair of machinery	521	10,409	45,715	228
Installation of machinery and equipment	673	15,976	73,734	217

*) Activity sectors according to the German sub-division of the Classification of Economic Activities (WZ 2008).

Though some sectors sound similar to VDMA sectors a comparison is not possible.

1) Contains among others process plant and equipment, packaging machinery, scales.

2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to WZ 2008 chapter 28 (excl. repair and installation).

1.25 Size class structure in German mechanical engineering 2022

a) Enterprises

Enterprise size class by number of employees	Enterprises		Employees		Turnover	
	Number	percent	1'000	percent	bn EUR	percent
20 - 49	2,732	41.8	91.4	7.8	15.3	4.7
50 - 99	1,526	23.4	107.5	9.2	19.3	6.0
100 - 249	1,378	21.1	214.8	18.3	46.7	14.5
250 - 499	536	8.2	188.6	16.1	46.1	14.3
500 - 999	208	3.2	132.9 *	11.3	42.2	13.1
1,000 and more	151	2.3	407.8 *	34.7	144.5	44.9
Total	6,531	100.0	1,173.9	100.0	321.9	100.0

b) Local units

Local units size class by number of employees	Local units		Employees		Turnover	
	Number	percent	1'000	percent	bn EUR	percent
under 50	3,651	45.9	107.0	9.2	18.3	6.2
50 - 99	1,748	22.0	123.2	10.6	23.1	7.8
100 - 249	1,558	19.6	241.3	20.7	53.2	18.0
250 - 499	624	7.8	219.4	18.8	53.1	18.0
500 - 999	239	3.0	153.7 *	13.2	54.1	18.3
1,000 and more	142	1.8	291.1 *	24.9	87.7	29.7
Total	7,962	100.0	1,167.2	100.0	295.6	100.0

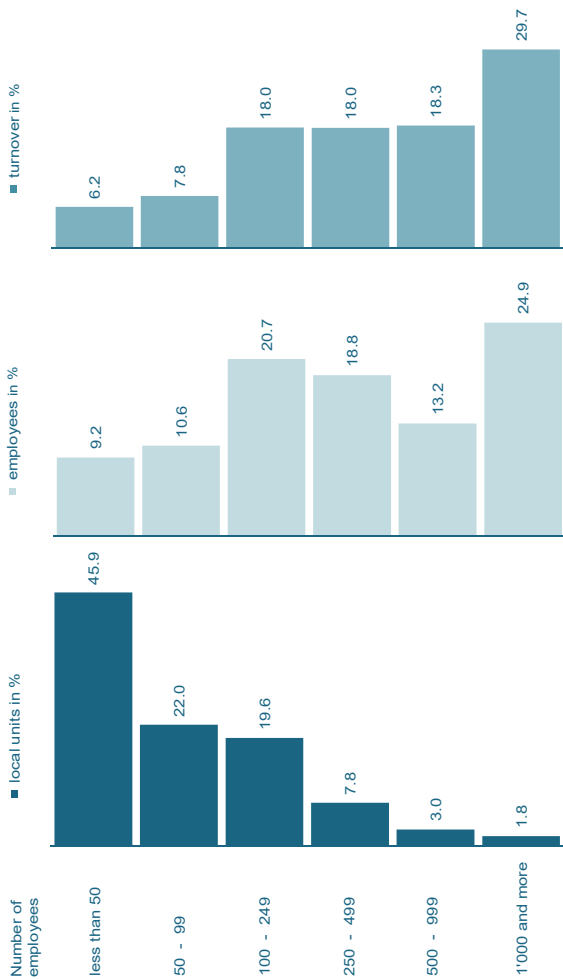
Data for enterprises and local units with 20 and more employees.

Figures for local units and employees: September of the respective year; Turnover: year 2020.

*) Exclusive enterprises from sector "Repair of machinery".

Size class structure in German mechanical engineering

2022



1.26 Balance sheet and income statement of German

a) Balance sheet

Subject	all Enterprises**		Enterprises** with turnover of ...million EUR in 2022			
	2021	2022	less than 2	2 to 9	10 to 49	50+
Assets						
	Percentage of the balance sheet total					
Intangible assets	1.1	0.9	0.7	0.9	0.8	0.9
Tangible assets	14.5	13.8	19.5	17.8	14.4	13.5
thereof: Land and Buildings	7.2	6.7	9.3	8.4	6.4	6.6
Inventories	31.9	35.8	38.9	43.1	42.6	34.5
thereof: Finished products	5.4	5.5	7.0	7.7	5.2	5.4
Cash	10.0	7.6	15.0	11.8	10.0	7.0
Debtors	29.9	30.3	22.1	22.8	27.3	31.0
Short-term	26.9	27.6	21.4	22.3	25.5	28.1
thereof:						
Trade debtors	9.0	9.3	11.4	13.5	13.4	8.5
vis-à-vis affiliates	15.6	15.9	6.2	6.1	9.6	17.3
Long-term	3.0	2.7	0.6	0.5	1.8	2.9
thereof: vis-à-vis affiliates	2.4	2.3	0.6	0.2	1.1	2.6
Investments	1.6	1.4	0.8	1.1	0.9	1.5
Participating interests	10.6	9.8	2.3	2.1	3.6	11.1
thereof: Goodwill	0.4	0.3	0.5	0.4	0.2	0.3
Capital						
Equity	35.0	32.0	32.0	33.2	32.9	31.8
Liabilities	47.0	50.7	61.6	58.7	55.9	49.6
Short-term	40.7	44.4	45.1	47.3	48.8	43.6
thereof:						
to credit institutions	2.0	2.6	6.8	7.1	4.8	2.1
Trade creditors	5.6	6.1	7.5	6.5	5.6	6.2
to affiliates	15.0	16.4	4.2	6.8	11.9	17.4
Long-term	6.3	6.3	16.5	11.4	7.1	6.0
thereof:						
to credit institutions	3.0	2.5	9.8	7.4	3.7	2.2
to affiliates	2.6	2.9	3.7	3.1	2.6	3.0
Provisions	17.8	17.1	6.3	8.1	11.1	18.4
thereof: Provisions for pension	8.1	7.9	1.6	1.8	3.4	8.8

*) Two-year-panel, shifts in the composition of the sample thus have no effect on the results.

Preliminary data.

**) All legal forms.

b) Income statement

Subject	all Enterprises**		Enterprises** with turnover of ...million EUR in 2022			
	2021	2022	less than 2	2 to 9	10 to 49	50+
Income	Percentage of gross revenue					
Turnover	99.0	96.6	90.4	94.6	95.9	96.8
Change in finished goods	1.0	3.4	9.6	5.4	4.1	3.2
Interest and similar income	0.2	0.2	0.2	0.1	0.1	0.2
Other income ¹	4.4	4.0	3.3	2.8	3.0	4.2
thereof: from long-term equity investm.	1.0	1.1	0.1	0.2	0.6	1.2
Total income ¹	104.6	104.2	103.5	102.9	103.2	104.4
Costs						
Cost of materials	54.8	56.9	42.7	47.2	51.4	58.2
Personnel expenses	25.7	24.3	34.2	32.6	29.7	23.0
Depreciation	2.7	2.5	2.8	2.8	2.4	2.5
thereof: of tangible fixed assets	2.4	2.1	2.7	2.5	2.2	2.0
Interest and similar income	1.0	0.8	0.8	0.7	0.6	0.8
Operation taxes	0.1	0.1	0.1	0.1	0.1	0.1
Other expenses ²	14.6	14.8	16.5	14.9	14.6	14.8
Total expenses before taxes on income ²	98.8	99.3	97.0	98.2	98.8	99.5
Annual result before taxes on income	5.8	4.8	6.5	4.7	4.3	4.9
Taxes on income	1.3	1.2	1.4	1.3	1.1	1.2
Annual result	4.5	3.6	5.0	3.4	3.2	4.7

c) Other characteristics

Annual result before taxes on income ³	5.8	5.0	7.1	5.0	4.5	5.1
Annual result and depreciation ³	7.2	6.4	8.7	6.6	5.9	6.5
Trade receivables ³	8.6	8.8	10.4	11.5	12.0	8.2
Turnover ⁴	104.4	105.2	109.9	117.7	111.9	103.7
Annual result and interest paid ⁴	5.7	4.8	7.1	5.1	4.5	4.9
Annual result and depreciation ⁵	13.7	11.1	18.0	14.0	11.5	11.0
Long-term equity and liabilities ⁶	165.1	165.8	216.1	211.9	208.1	159.7
Cash resources and short-term receivables	92.9	80.6	82.4	73.2	74.0	82.1
Cash resour., short-term receiv., inventor. ⁷	171.2	161.3	168.7	164.2	161.3	161.2
Trade payables ⁸	9.6	9.8	14.4	11.1	9.4	9.9
Balance sheet total in bn EUR	130.5	143.3	0.2	3.0	20.5	119.6
Turnover in bn EUR	136.2	150.7	0.3	3.5	23.0	124.0
Number of enterprises	2,295	2,295	214	619	877	585

1) Excluding profit transfer assumed and loss transfers made.

2) Excluding loss transfer assumed and profit transfers made.

3) Percentage of turnover.

4) Percentage of the balance sheet total.

5) Percentage of liabilities and provisions less cash.

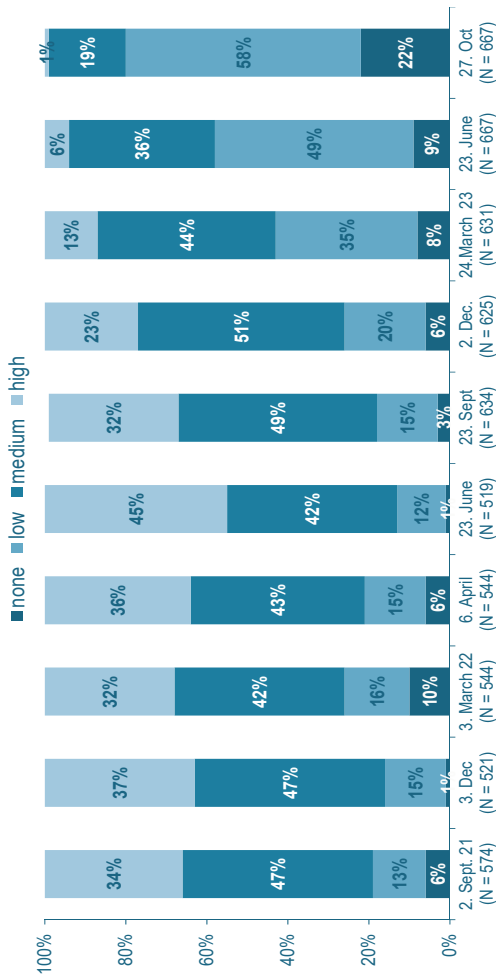
6) Percentage of fixed assets.

7) Percentage of short-term liabilities.

8) Percentage of cost of materials.

Mechanical engineering: Disruptions in the supply chains

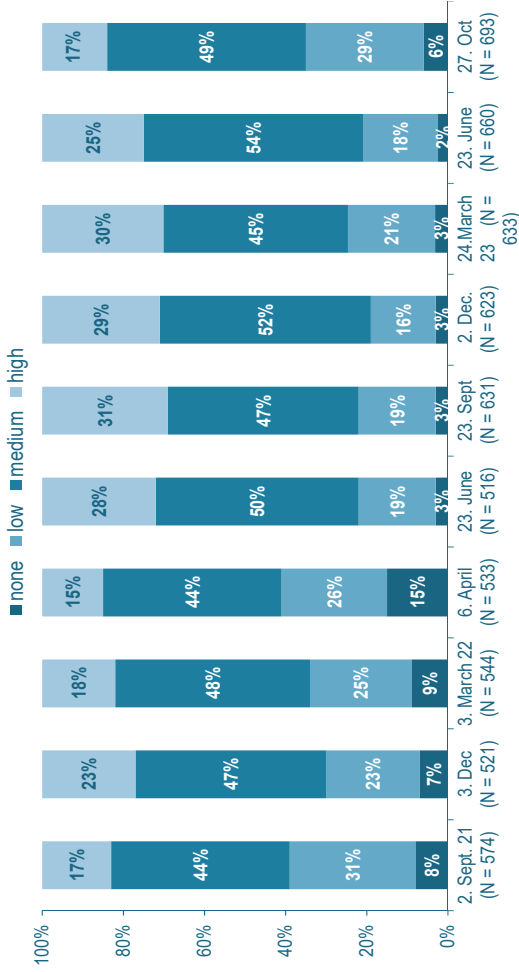
in per cent of the evaluable answers



Data from VDMA flash surveys 2021 to 2023; one response per member company

Mechanical engineering: Impairments due to shortage of skilled workers

in per cent of the evaluable answers



Data from VDMA flash surveys 2021 to 2023: one response per member company

1.28 Cost structure of German mechanical engineering

2021

Activity sector*	Engines and turbines, except aircraft, vehicle and cycle engines	Hydraulic and pneumatic components and systems	Pumps and compressors, n.e.c.	Taps and valves, n.e.c.	Bearings, gears, gearing and driving elements	Furnaces and furnace burners	Lifting and handling equipment	Portable hand held power tools	Non-domestic cooling and ventilation equipment	Other general purpose machinery n.e.c. ¹
Type of costs	Share of gross production in percent									
Raw, auxiliary and operating material	30.8	33.4	38.6	38.4	34.1	42.0	47.5	17.0	46.6	34.7
thereof: energy	0.9	1.1	0.9	1.0	1.6	0.6	0.6	0.4	0.7	0.8
Commodities	27.7	10.1	7.4	8.0	14.1	6.3	5.8	37.2	2.8	8.3
Commission processing	1.2	2.2	1.4	2.0	2.8	2.5	3.7	1.0	3.8	4.0
Material costs	59.7	45.8	47.5	48.4	51.0	50.8	57.0	55.2	53.2	47.0
Wages and salaries	19.4	25.6	22.9	20.1	23.9	22.2	20.5	14.4	21.7	24.4
Social costs	4.3	5.7	5.4	4.4	5.5	5.4	4.4	3.6	4.5	5.1
Personnel costs	23.7	31.3	28.3	24.5	29.4	27.6	24.9	18.0	26.2	29.5
Miscellaneous costs	8.8	11.3	10.3	9.4	9.5	9.2	8.1	12.5	10.4	11.7
Costs for temporary personnel	0.4	0.6	0.9	1.1	0.597	1.1	1.0	0.4	1.0	1.2
Costs for other technical services	0.8	1.9	1.8	1.5	2.6	1.0	1.4	0.5	1.3	1.9
Taxes (chargeable as expenses)	0.2	0.1	0.4	0.4	0.2	0.2	0.3	0.1	0.3	0.3
Rents and leases	0.9	1.5	1.3	1.5	1.3	1.6	1.8	1.2	1.4	1.3
Depreciation allowances	3.1	2.5	3.1	2.6	3.2	1.6	1.7	1.6	2.1	2.0
Interests	1.1	1.1	0.5	0.4	0.3	0.4	0.3	0.2	0.7	0.4
Other costs total	15.2	19.1	18.3	16.9	17.5	15.1	14.6	16.5	17.2	18.8
Gross value added in million EUR	13,642	4,232	4,659	4,681	8,181	1,052	6,086	2,248	4,747	11,936
Gross value added in % **	29.6	38.9	38.2	38.1	35.1	36.2	30.7	30.1	32.7	36.8

*) Activity sectors of ME according to Classification of Economic Activities WZ 2008.

Though some sectors are similar to VDMA sectors a comparison is not always possible.

**) Share of gross value added in gross production.

1) Contains among others process plant and equipment, packaging machinery, scales.

by activity sector

Agricultural and forestry machinery	Metalworking machine tools	Other machine tools n.e.c. ²	Machinery for metallurgy	Machinery for mining, quarrying and construction	Machinery for food, beverage and tobacco processing	Machinery for textile, apparel and leather production	Machinery for paper and paperboard production and processing	Machinery for plastics and rubber processing	Other special purpose machinery n.e.c. ³	Mechanical engineering ⁴	Repair of machinery	Installation of machinery and equipment, n.e.c.
47.6	41.3	35.3	40.2	49.1	37.5	42.4	46.3	43.0	41.1	38.4	27.8	33.6
0.6	0.9	0.9	0.9	0.5	0.6	0.9	0.8	0.7	0.8	0.9	0.8	0.6
6.2	5.7	6.8	0.2	7.4	8.5	6.0	0.9	1.6	2.5	11.0	7.2	3.1
1.2	3.0	4.1	4.3	5.2	3.0	4.1	4.7	4.4	4.5	3.0	6.4	11.6
55.0	49.9	46.1	44.8	61.7	48.9	52.5	52.0	49.0	48.2	52.4	41.4	48.4
15.1	25.8	25.0	27.1	16.1	24.1	22.2	24.5	22.8	25.1	21.8	28.4	25.6
4.0	5.4	5.3	6.7	4.0	4.9	5.1	5.3	4.6	5.3	4.8	6.1	5.8
19.1	31.2	30.3	33.8	20.1	29.0	27.3	29.8	27.4	30.4	26.6	34.5	31.4
11.7	10.0	9.4	13.7	9.1	11.7	10.2	12.0	9.6	10.0	10.0	8.9	8.9
1.2	0.5	0.7	0.6	0.9	0.8	0.9	0.9	1.2	1.0	0.8	2.1	2.5
1.1	1.3	2.0	3.8	1.9	1.1	1.4	1.6	1.4	1.3	1.5	1.8	1.6
0.2	0.2	0.4	0.3	0.4	0.5	0.3	0.2	0.4	0.4	0.3	0.3	0.3
1.2	2.2	2.1	1.4	0.8	1.9	1.1	1.9	1.8	2.0	1.4	2.6	2.0
1.7	2.4	2.1	1.5	1.8	2.2	2.4	3.0	2.4	2.2	2.4	1.4	1.0
0.4	0.9	0.6	0.3	0.3	0.6	0.5	0.6	0.5	0.5	0.6	0.7	0.2
18.2	18.9	19.1	23.4	16.0	18.7	19.5	20.6	17.8	20.0	18.3	17.6	17.9
4,819	5,349	2,486	592	3,883	2,232	1,699	444	3,109	10,383	96,660	3,464	6,043
29.8	36.1	39.7	35.6	25.6	35.6	34.0	31.6	36.9	37.3	33.8	43.1	36.6

2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to WZ 2008 chapter 28 (excl. repair and installation).

1.29 Cost structure of German mechanical engineering* by size class

2021

Type of costs	Enterprise size class by number of employees						
	Total	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1'000+
	Share of gross production in %						
Raw, auxiliary and operating material thereof: energy	38.4 0.9	39.8 1.0	40.8 1.1	42.3 0.9	42.8 0.9	42.8 0.9	34.6 0.8
Commodities	11.0	1.7	2.7	3.7	3.6	6.6	18.0
Commission processing	3.0	5.3	2.7	3.5	3.5	3.4	2.4
Material costs	52.4	46.8	46.2	49.5	49.9	52.8	55.0
Wages and salaries	21.8	26.1	26.0	24.2	23.6	20.6	20.1
Social insurance	3.9	5.1	5.0	4.6	4.4	3.8	3.4
Other social costs	0.9	0.4	0.4	0.5	0.7	0.7	1.2
Personnel costs	26.6	31.6	31.4	29.2	28.6	25.1	24.7
Costs for temporary personnel	0.8	0.9	1.0	1.0	1.1	1.1	0.6
Costs for other technical services	1.5	1.3	1.5	1.3	1.4	1.5	1.6
Taxes (chargeable as expenses)	0.3	0.4	0.5	0.4	0.3	0.3	0.2
Rents and leases	1.4	2.8	2.4	2.0	1.7	1.2	1.0
Depreciation allowances	2.4	2.4	2.3	2.2	2.3	2.2	2.5
Interests	0.6	0.4	0.4	0.5	0.6	0.4	0.7
Other costs	10.0	8.3	8.5	9.4	9.4	9.2	11.0
Other costs total	17.0	16.5	16.6	16.7	16.8	15.9	17.5

*) Mechanical engineering according to WZ 2008 chapter 28 (excl. repair and installation).

1.30 Age distribution of mechanical engineering industry's labour force

in percent

Age class from ... to below ... years						For comparison: Total German labour force	
	2018	2019	2020	2021	2022	2023	2023
15 - 20	3.1	3.4	2.9	2.7	2.6	2.7	2.6
20 - 25	7.1	7.2	7.5	7.2	6.9	6.6	7.3
25 - 35	21.1	21.3	21.4	21.5	21.1	21.3	20.5
35 - 45	20.6	21.1	20.5	21.3	22.7	22.5	21.7
45 - 55	27.1	25.4	24.7	23.2	22.5	21.0	21.5
55 - 60	12.6	12.6	13.4	14.3	13.9	14.6	13.2
60 - 65	7.0	7.6	8.1	8.1	8.5	9.3	9.5
65 and older	1.4	1.4	1.5	1.6	1.8	1.8	3.8

1.31 Qualification structure Employees in mechanical engineering in percent

Young professionals mechanical engineering		2018	2019	2020	2021	2022	2023
Apprenticeship in mechanical engineering							
Apprentices		66,153	66,871	63,563	59,491	56,064	56,430
Proportion of women		14.9	14.9	14.7	14.4	14.5	14.7
Apprenticeship quota		6.1	6.1	6.0	5.7	5.3	5.3
Training companies		6,376	6,329	6,105	5,905	5,605	5,486
Training company quota		40.8	40.9	39.6	38.5	37.0	37.0
Studies (examination year)							
Beginners mechanical/process engineering		37,923	36,438	33,468	29,172	25,875	25,547
Proportion of women		22.5	23.8	24.4	24.2	24.9	25.6
Beginners in electrical engineering/information tec		18,530	17,967	16,449	14,389	12,881	13,167
Proportion of women		16.8	17.2	17.0	15.1	16.3	17.7
Beginners computer science		56,768	58,341	58,056	54,271	51,508	52,129
Proportion of women		25.0	24.9	25.0	24.1	23.6	24.4

1.32 Job structure* in German mechanical engineering

Job areas/ main job groups	Mechanical engineering		Total economy	
	2022	2023	2023	Share in percent
Raw material extraction, production, manufacturing	794,411	795,951	7,114,607	11.2
Mechanical engineering and industrial engineering	262,914	265,409	1,312,342	20.2
Metalwork	140,936	140,392	617,626	22.7
Technical production planning and control	65,430	65,007	606,463	10.7
Technical drawing, construction, model making	61,764	57,342	221,220	25.9
Metal construction and welding technology	55,709	55,540	317,830	17.5
Power engineering	37,770	37,897	436,365	8.7
Electrical engineering	32,225	34,574	514,107	6.7
Technical research and development	31,104	32,762	308,303	10.6
Mechatronics and automation technology	29,094	30,576	124,454	24.6
Precision mechanics and tool technology	31,258	29,143	120,738	24.1
Vehicle-aerospace-, shipbuilding technology	18,119	19,029	545,305	3.5
Plastics, Rubber production, Processing	6,767	6,553	225,358	2.9
Paint and varnish technology	5,796	6,015	60,877	9.9
Metal production	5,061	4,930	94,554	5.2
Metal finishing	3,993	3,991	40,988	9.7
Technical media design	1,538	1,592	122,087	1.3
Woodworking and wood processing	1,007	1,094	228,895	0.5
Food preparation	622	660	506,899	0.1
Paper and packaging technology	500	482	66,480	0.7
Textile technology and production	403	424	38,361	1.1
Printing technology, furth. processing, bookbindin	440	399	61,483	0.6
Manufacture of natural stone, minerals and buildir	406	372	50,493	0.7
Food and beverage production	330	370	327,634	0.1
Industrial ceramics production and processing	226	327	13,173	2.5
Mining, open-cast mining and blasting technology	328	321	18,814	1.7
Textile processing	304	317	52,483	0.6
Industrial glass manufacturing and processing	205	266	35,956	0.7
Beverage production	102	107	15,070	0.7
Photo technology and photography	33	37	9,797	0.4
Leather and fur production and processing	27	23	20,452	0.1
Business Organs, Accounting, Law, Administration	185,281	188,920	7,070,156	2.7
Commercial Services, Trade, Distribution, Tourism	74,140	77,870	3,998,961	1.9
Traffic, logistics, protection and security	66,074	71,930	4,628,167	1.6
Science, Geography, Computer Science	37,117	40,946	1,553,541	2.6
Construction, Architecture, Surveying, Building tech	31,727	33,682	2,112,359	1.6
Humanities, Culture, Design	15,013	16,249	963,549	1.7
Health, social affairs, teaching and education	3,904	3,905	6,560,200	0.1
Agriculture, forestry, animal husbandry, horticulture	876	855	531,612	0.2

* As of June 30th, 2022 and 2023. Employees subject to social insurance contributions after performing KdB activities in 2010. Not comparable with employees after technical operating parts (see explanation on page 10).

2 Sectors of mechanical engineering in Germany

Alphabetical register of the specified sectors

Sector	Number	Page
Agricultural machinery	16	156
Air-handling technology	9	126
Assembly, handling and industrial robots	37	219
Cleaning systems	30	195
Compressors, compressed air and vacuum technology	12	139
Construction equipment and building material machinery	13	143
Engines and systems	35	211
Firefighting equipment	29	192
Fluid power	36	215
Food processing machinery and packaging machinery	18	162
Foundry machinery	4	105
Gas welding	8	122
Lifts and escalators	33	203
Machine tools	1	91
Machinery for metallurgical plants and rolling mills	2	97
Materials handling technology	22	175
Measuring and testing technology	5	109
Mining equipment	15	152
Plastics and rubber machinery	14	148
Power systems	10	131
Power transmission engineering	34	207
Precision tools	7	117
Printing and paper equipment and supplies	23	180
Process plant and equipment	19	167
Pumps + Systems	11	135
Safes and strongroom installations	20	172
Semiconductor and flat panel display production equipment	38	221
Textile care, fabric and leather technologies	26	188
Textile machinery	25	184
Thermo process technology	3	101
Valves and fittings	31	198
Woodworking machinery	6	113

The numbering of sectors in this part follows VDMA sector classification.

Numbers 17, 21, 24, 27, 28 and 32 are vacant. There is no data available for the sectors 40 (Automation and management of home and buildings), 41 (Electrical automation), 42 (Electronics, Micro and New Energy Production Technologies), 43 (Software and Digitalization) as well as 44 (Waste treatment and recycling).

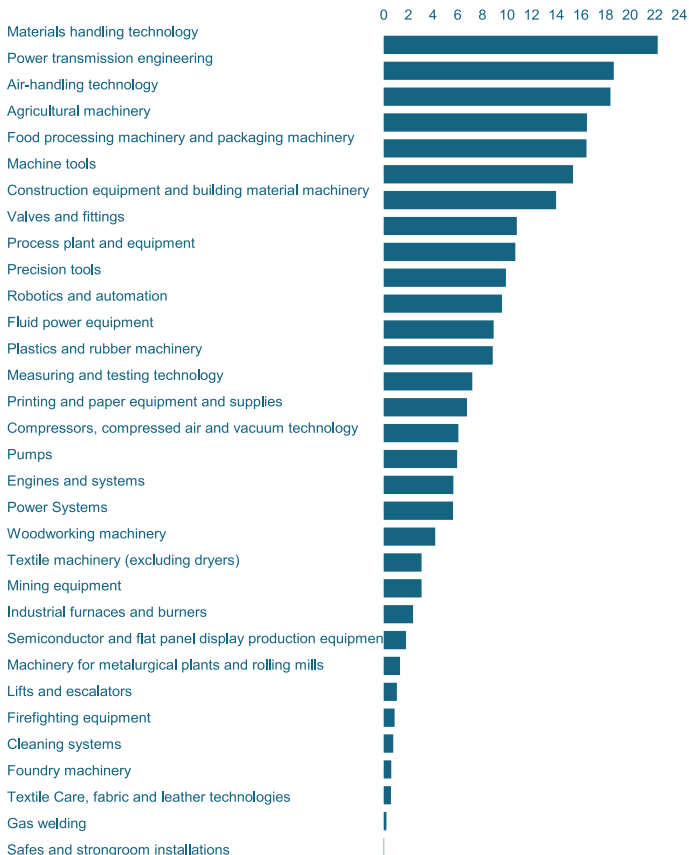
For some sectors the definition as regards content does not match the statistical classification.

For this reason sums for subgroups are sometimes denoted by names that differ from the sector name.

Machine production by sector in Germany

2023

bn EUR



Turnover development by sectors of mechanical engineering in Germany

2023/2013

Real total growth in percent



2.1 Machine tools

Production*

		2022	2023		change rate in %
GP-Number	Description	million EUR	%-share	2023/2022	
2841 11 101	Laser cutting machines	254.6	297.9	1.9	17.0
2841 11 103	Laser marking machines	55.1	52.6	0.3	-4.5
2841 11 109	Other machine-tools for working any material by removal of material, operated by laser or other light or photon beam processes	426.5	511.1	3.3	19.8
2841 11 300	Other machine-tools for working any material by removal of material, operated by ultrasonic processes (except for semiconductor products)	-	-	-	-
2841 11 500	Machine-tools for working any material by removal of material, operated by electro-discharge processes	51.3	57.0	0.4	11.1
2841 11 600	Water jet cutting machines	-	-	-	-
2841 11 700	Machine-tools for working any material by removal of material, operated by electro-chemical, electron-beam, ionic-beam or plasma arc processes	31.8	25.3	0.2	-20.5
2841 12 202	Horizontal machining centres for working metal (incl. Interlinked systems), operating range < 0,3m³	157.4	158.1	1.0	0.4
2841 12 204	Horizontal machining centres for working metal (incl. Interlinked systems), operating range 0,3 to 1,2m³	321.3	388.1	2.5	20.8
2841 12 206	Horizontal machining centres for working metal (incl. Interlinked systems), operating range > 1,2m³	847.2	874.8	5.7	3.3
2841 12 402	Vertical machining centres for working metal (incl. Interlinked systems), operating range < 0,3m³	204.9	234.1	1.5	14.2
2841 12 404	Vertical machining centres for working metal (incl. Interlinked systems), operating range >= 0,3m³	631.4	662.4	4.3	4.9
2841 12 500	Unit construction machines (single station) for working	71.6	74.1	0.5	3.5
2841 12 701	Multi-station transfer machines for working metal, circle transfer machines	52.7	75.4	0.5	43.3
2841 12 702	Multi-station transfer machines for working metal, conventional	49.6	31.6	0.2	-36.3
2841 21 230	Numerically controlled horizontal lathes, turning centres	266.4	297.9	1.9	11.9
2841 21 270	Numerically controlled horizontal lathes, automatic lathes, single or multi spindle automatic lathe	311.5	304.1	2.0	-2.4
2841 21 290	Numerically controlled horizontal lathes (excluding turning centres, automatic lathes)	165.8	179.1	1.2	8.0
2841 21 400	Non-numerically controlled horizontal lathes (excluding centre lathes, automatic lathes)	71.5	88.8	0.6	24.1
2841 21 601	Numerically controlled vertical lathes, turning centres, single spindle	36.6	48.8	0.3	33.1
2841 21 609	Other vertical lathes (excluding turning centres)	245.1	337.9	2.2	37.9
2841 22 170	Numerically controlled knee-type milling machines for working metal (excluding boring-milling machines)	-	-	-	-
2841 22 230	Numerically controlled tool-milling machines for working metal (excluding boring-milling machines, knee-type machines)	822.2	938.4	6.1	14.1
2841 22 250	Numerically controlled milling machines for working metal (including plano-milling machines) (excluding boring-milling machines, knee-type, tool-milling machines),	98.2	118.7	0.8	20.9
2841 22 330	Way-type unit heads for working metal by drilling, boring, milling, threading or tapping	2.1	-	-	-
2841 22 400	Numerically controlled boring and boring-milling machines for working metal (excluding drilling machines)	89.1	96.1	0.6	7.9
2841 22 600	Non-numerically controlled boring and boring-milling machines for working metal (excluding drilling machines)	-	-	-	-
2841 22 700	Non-numerically controlled milling machines for working metal (excluding boring-milling machines, knee-type machines)	25.7	24.8	0.2	-3.4
2841 22 800	Threading or tapping machines for working metal (excluding drilling machines)	3.0	6.1	0.0	103.3
2841 23 011	Numerically controlled flat-surface grinding machines for working metal	247.1	291.6	1.9	18.0
2841 23 022	Numerically controlled outer cylindrical surface grinding machines for working metal	62.8	110.0	0.7	75.1
2841 23 023	Numerically controlled inner cylindrical surface grinding machines for working metal	28.2	38.6	0.3	36.7
2841 23 024	Numerically controlled cylindrical surface grinding machines for working metal, for special purposes	124.2	133.3	0.9	7.3
2841 23 031	Other grinding machines, numerically controlled	31.1	33.0	0.2	5.9

*) According to GP 2019, partly confidential or estimated.

Machine tools

Production*

GP-Number	Description	2022	2023		change
		million EUR	%share		rate in %
					2023/2022
2841 23 042	Non-numerically controlled flat-surface grinding machines	10.8	7.8	0.1	-27.8
2841 23 043	Non-numerically controlled cylindrical surface grinding	.	.	.	.
2841 23 049	Other grinding machines, non numerically controlled	33.8	22.9	0.1	-32.3
2841 23 062	Numerically controlled sharpening or grinding (tool or cutter grinding) machines for working metal	167.5	150.3	1.0	-10.3
2841 23 063	Non-numerically controlled sharpening or grinding (tool or cutter grinding) machines for working metal	12.2	7.6	0.0	-37.6
2841 23 064	Honing or lapping machines for working metal	99.4	126.5	0.8	27.3
2841 23 069	Machines for deburring or polishing metal (excluding gear finishing machines)	148.0	177.3	1.2	19.8
2841 24 100	Broaching machines for working metal	17.5	31.1	0.2	77.0
2841 24 301	Numerically controlled gear hobbing and gear shaping machines for working metal	186.5	204.4	1.3	9.6
2841 24 308	Gear grinding, lapping, polishing and shaving machines and gear cutting or gear finishing machines for working	383.9	442.0	2.9	15.2
2841 24 701	Sawing machines for working metal, numerically controlled circular sawing machines	56.5	63.8	0.4	12.9
2841 24 702	Sawing machines for working metal, non-numerically controlled circular sawing machines	15.1	16.0	0.1	5.5
2841 24 704	Sawing machines for working metal, others, numerically controlled	79.4	89.8	0.6	13.1
2841 24 705	Sawing machines for working metal, others, non-numerically controlled	40.6	61.7	0.4	52.0
2841 24 707	Cutting-off machines for working metal	13.2	13.7	0.1	4.1
2841 24 910	Planing, shaping or slotting machines and other machine-tools working by removing metal or cermets, n.e.c., others	39.7	31.7	0.2	-20.2
2841 31 201	Numerically controlled bending machines	.	.	.	.
2841 31 203	Swivel bending machines, numerically controlled	60.5	55.7	0.4	-7.8
2841 31 209	Other bending, folding and straightening machines (incl. presses), for working flat products, numerically controlled	215.4	255.9	1.7	18.8
2841 31 400	Numerically controlled bending, folding, straightening or flattening machines for working metal (including presses) (excluding those for working flat metal products)	67.6	71.6	0.5	5.9
2841 31 609	Non-numerically controlled bending, folding, straightening or flattening machines for working flat metal products (including presses)	58.2	64.9	0.4	11.5
2841 31 800	Non-numerically controlled bending, folding, straightening or flattening machines for working metal (including presses) (excluding those for working flat metal products)	75.8	76.1	0.5	0.4
2841 32 400	Numerically controlled punching or notching machines for working sheet metal (including presses, combined punching and shearing machines)	400.1	346.1	2.3	-13.5
2841 32 612	Non-numerically controlled hydraulic shearing machines for working metal (including presses)	.	.	.	.
2841 32 619	Non-numerically controlled non-hydraulic shearing machines for working metal (including presses) (excluding combined punching and shearing machines)	19.1	32.2	0.2	68.1
2841 32 800	Non-numerically controlled punching or notching machines for working sheet metal (including presses, combined punching and shearing machines)	7.3	9.4	0.1	30.0
2841 33 100	Numerically controlled forging or die-stamping machines and hammers for working metal (including presses)	.	105.3	0.7	.
2841 33 200	Non-numerically controlled forging or die-stamping machines and hammers for working metal (including presses)	.	.	.	.
2841 33 503	Hydraulic drawing presses, numerically controlled	13.5	19.4	0.1	44.4
2841 33 504	Other hydraulic presses, numerically controlled	159.7	163.1	1.1	2.1
2841 33 507	Hydraulic presses, non-numerically controlled	33.4	34.0	0.2	2.0

*) According to GP 2019, partly confidential or estimated.

Machine tools

Production*

GP-Number	Description	2022	2023		change
		million EUR		%-share	rate in %
					2023/2022
2841 33 601	Non-hydraulic presses, numerically controlled	23.5	50.0	0.3	113.1
2841 33 605	Eccentric and crank presses with press capacity of 1600 kN and under, non-numerically controlled	31.8	27.1	0.2	-14.9
2841 33 606	Eccentric and crank presses with press capacity over 1600 kN, non-numerically controlled	.	57.3	0.4	.
2841 33 607	Toggle lever and crank drawing presses, non-numerically controlled	39.0	33.2	0.2	-14.8
2841 33 609	Other non-hydraulic presses, non-numerically controlled	20.7	22.0	0.1	6.6
2841 34 100	Draw-benches and machines for bars, tubes, profiles, wire or the like of metal, sintered metal carbides or cermet	85.5	137.0	0.9	60.3
2841 34 300	Thread rolling machines for working metal, sintered metal carbides or cermet	39.7	49.3	0.3	24.2
2841 34 500	Machines for working wire (excluding draw-benches, thread rolling machines)	171.5	175.1	1.1	2.1
2841 34 710	Other metal forming machine tools	255.1	230.9	1.5	-9.5
2841 40 300	Parts and accessories for metal cutting machine tools (excluding those for tools operated by ultrasonic processes, tool holders and self-opening dieheads, work holders, dividing heads and other special attachments for machine-tools)	2,243.0	2,362.1	15.4	5.3
2841 40 500	Parts and accessories for metal forming machine-tools (excluding tool holders and self-opening dieheads, work holders, dividing heads and other special attachments for machine-tools)	742.6	823.8	5.4	10.9
2849 13 100	Drilling machines, fixed, numerically controlled	.	.	.	.
2849 13 200	Drilling machines, fixed, non-numerically controlled	24.1	21.8	0.1	-9.4
2849 13 300	Machine files	.	.	.	.
2849 13 400	Numerically controlled shearing machines for working metal (including presses) (excluding combined punching and shearing machines)	.	.	.	.
2849 13 500	Shears for working flat metal products (including presses, excluding shears combined with punching machines), non-numerically controlled	7.1	7.6	0.0	7.1
2849 13 600	Riveting machines	.	41.5	0.3	.
2899 39 059	Machines for treating metal, having individual functions (excluding robots), n e c	91.3	123.7	0.8	35.5
2899 39 577	3D printer for the additive production of metal goods	243.0	287.1	1.9	18.1
3312 22 000	Maintenance and repair services of metalworking machine tools	1,250.5	1,397.1	9.1	11.7
3320 32 001	Installation services of metalworking machine tools	135.3	151.0	1.0	11.6
Machine tools		14,134.3	15,367.8	100.0	8.7

*) According to GP 2019, partly confidential or estimated.

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	69.0	70.9	73.5	73.4	69.6	64.9	64.3	65.2
Production ²	million EUR	15,041	16,039	17,140	17,042	12,212	12,881	14,134	15,368
Share of mechanical engineering	percent	7.4	7.5	7.6	7.6	6.1	5.9	6.0	6.0
Exports	million EUR	9,319	10,254	10,672	9,966	7,303	8,013	8,738	9,641
Share of mechanical engineering	percent	6.0	6.0	5.9	5.5	4.5	4.4	4.5	4.6
Imports	million EUR	3,414	3,585	4,071	3,762	2,479	2,959	3,657	3,644
Share of mechanical engineering	percent	5.2	5.1	5.3	4.9	3.5	3.6	3.9	3.9
Imports in percent of exports	percent	36.6	35.0	38.1	37.7	33.9	36.9	41.9	37.8
Turnover abroad in percent of total turnover	percent	63.4	65.8	65.9	67.4	66.8	70.5	69.0	70.7
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	87.4	94.4	93.2	87.9	67.2	85.5	87.4	90.5
Producer price index (Base 2021 = 100)	index	93.1	94.1	95.9	97.6	98.6	100.0	106.9	113.7

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Machine tools

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Total Exports	8,737,584	9,641,333	100.0	10.3
EU27	3,564,738	3,844,509	39.9	7.8
EURO20	2,322,204	2,559,662	26.5	10.2
Italy	604,239	644,978	6.7	6.7
France	344,581	432,247	4.5	25.4
Austria	405,934	413,793	4.3	1.9
Netherlands	248,674	269,613	2.8	8.4
Spain	191,666	221,422	2.3	15.5
Belgium	87,910	114,887	1.2	30.7
Slovakia	103,094	112,428	1.2	9.1
Slovenia	69,589	79,970	0.8	14.9
Finland	73,558	67,637	0.7	-8.0
Portugal	57,642	65,098	0.7	12.9
Croatia	34,096	34,879	0.4	2.3
Ireland	27,746	33,983	0.4	22.5
Poland	381,268	418,763	4.3	9.8
Czech Republic	273,856	284,258	2.9	3.8
Sweden	161,007	181,786	1.9	12.9
Hungary	224,062	164,856	1.7	-26.4
Romania	87,231	108,348	1.1	24.2
Denmark	76,141	69,807	0.7	-8.3
Bulgaria	38,969	57,029	0.6	46.3
Other Europe	1,012,710	1,154,977	12.0	14.0
Switzerland	419,476	430,984	4.5	2.7
Türkiye	241,854	341,571	3.5	41.2
United Kingdom	184,970	257,485	2.7	39.2
Norway	31,060	38,682	0.4	24.5
Ukraine	14,212	31,703	0.3	123.1
Serbia	27,708	26,168	0.3	-5.6
Africa	67,067	75,427	0.8	12.5
North America	1,287,497	1,531,315	15.9	18.9
USA	1,206,059	1,439,157	14.9	19.3
Canada	81,401	92,150	1.0	13.2
Latin-America	390,171	453,030	4.7	16.1
Mexico	254,154	323,943	3.4	27.5
Brazil	106,749	100,522	1.0	-5.8
Asia	2,360,943	2,530,745	26.2	7.2
China	1,557,392	1,646,082	17.1	5.7
India	194,779	248,371	2.6	27.5
Japan	175,302	187,046	1.9	6.7
Rep. of Korea	110,259	123,099	1.3	11.6

Machine tools

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Taiwan	48,179	49,286	0.5	2.3
Malaysia	44,914	41,836	0.4	-6.9
Israel	30,349	36,659	0.4	20.8
Thailand	38,068	35,234	0.4	-7.4
Singapore	14,240	26,285	0.3	84.6
U.A.Emirates	18,739	24,573	0.3	31.1
Australia & Oceania	54,114	51,065	0.5	-5.6
Australia	48,722	43,686	0.5	-10.3
Total Imports	3,656,867	3,644,374	100.0	-0.3
EU27	1,321,787	1,366,986	37.5	3.4
EURO20	932,890	937,111	25.7	0.5
Italy	309,326	315,497	8.7	2.0
Austria	210,839	232,960	6.4	10.5
Spain	95,502	84,912	2.3	-11.1
France	70,799	83,581	2.3	18.1
Slovakia	60,677	71,399	2.0	17.7
Czech Republic	158,140	175,855	4.8	11.2
Poland	125,084	144,261	4.0	15.3
Other Europe	1,053,476	1,062,284	29.1	0.8
Switzerland	866,099	876,493	24.1	1.2
United Kingdom	65,616	76,326	2.1	16.3
Türkiye	73,801	67,230	1.8	-8.9
Africa	775	800	0.0	3.2
North America	126,578	134,089	3.7	5.9
USA	121,110	132,362	3.6	9.3
Latin-America	19,309	56,041	1.5	190.2
Brazil	14,414	54,096	1.5	275.3
Asia	1,126,796	1,011,428	27.8	-10.2
Japan	395,345	390,765	10.7	-1.2
China	288,131	224,513	6.2	-22.1
Rep. of Korea	201,531	185,717	5.1	-7.8
Taiwan	157,753	124,945	3.4	-20.8
Australia & Oceania	8,146	12,746	0.3	56.5

2.2 Machinery for metallurgical plants and rolling mills

Production*

GP-Number	Description	2022	2023		change
		million EUR	%-share	2023/2022	rate in %
2822 18 401	Roller tables for rolling mills, tipplers, turners and manipulators for ingots, blooms, bars, plates (without forging manipulators, feeding devices, without those for	.	.	.	.
2891 11 530	Tube mills, hot, or combination hot and cold metal-rolling mills	.	.	.	.
2891 11 570	Cold metal-rolling mills	.	350.6	26.3	.
2891 12 309	Parts for converters, ladles, ingot moulds and casting machines of a kind used in metallurgy	181.8	206.8	15.5	13.7
2891 12 500	Rolls for rolling mills	53.1	57.4	4.3	8.1
2891 12 700	Parts of metal-rolling mills (excluding rolls)	225.3	270.6	20.3	20.1
3312 23 009	Repair and maintenance of machinery for metallurgy, n e c	131.5	152.2	11.4	15.7
3320 33 000	Installation of machinery for metallurgy	111.6	99.7	7.5	-10.7
Machinery for metallurgical plants and rolling mills		1,455.0	1,330.5	100.0	-8.6

*) According to GP 2019, partly confidential or estimated.

Machinery for metallurgical plants and rolling mills

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	6.3	6.4	6.3	6.2	5.8	5.9	5.8	6.1
Production ²	million EUR	1,856	1,558	1,407	1,178	1,166	1,084	1,455	1,331
Share of mechanical engineering	percent	0.8	0.7	0.6	0.5	0.6	0.5	0.6	0.5
Exports	million EUR	524	664	675	728	712	548	637	876
Share of mechanical engineering	percent	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.4
Imports	million EUR	179	214	236	237	193	197	257	310
Share of mechanical engineering	percent	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3
Imports in percent of exports	percent	34.3	32.2	34.9	32.6	27.1	35.9	40.3	35.4
Turnover abroad in percent of total turnover	percent	92.9	.	.	.	.	.	.	.
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	85.3	88.3	89.1	91.1	75.3	70.4	85.3	91.0

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Machinery for metallurgical plants and rolling mills

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	636,527	875,908	100.0	37.6
EU27	185,503	336,474	38.4	81.4
EURO20	146,455	266,794	30.5	82.2
Netherlands	13,931	97,368	11.1	598.9
Italy	30,378	42,134	4.8	38.7
Austria	20,421	38,591	4.4	89.0
Belgium	29,631	28,243	3.2	-4.7
France	13,158	23,408	2.7	77.9
Spain	16,864	16,510	1.9	-2.1
Finland	9,878	7,737	0.9	-21.7
Slovakia	5,846	6,065	0.7	3.7
Greece	548	2,048	0.2	273.7
Portugal	1,583	1,579	0.2	-0.3
Czech Republic	7,347	26,073	3.0	254.9
Poland	13,057	19,981	2.3	53.0
Sweden	8,315	7,394	0.8	-11.1
Romania	4,570	7,091	0.8	55.2
Denmark	3,108	3,640	0.4	17.1
Bulgaria	447	3,422	0.4	665.5
Hungary	2,204	2,079	0.2	-5.7
Other Europe	82,856	56,851	6.5	-31.4
Türkiye	41,232	24,361	2.8	-40.9
Switzerland	9,181	14,163	1.6	54.3
United Kingdom	9,726	9,817	1.1	0.9
Russian Fed.	17,986	2,907	0.3	-83.8
Norway	1,391	2,578	0.3	85.3
Africa	9,465	57,014	6.5	502.4
Egypt	3,824	49,276	5.6	.
South Africa	2,816	5,272	0.6	87.2
Algeria	2,064	1,749	0.2	-15.3
North America	100,836	107,781	12.3	6.9
USA	94,099	100,122	11.4	6.4
Canada	6,737	7,659	0.9	13.7
Latin-America	27,252	53,207	6.1	95.2
Brazil	6,151	29,216	3.3	375.0
Mexico	12,759	14,647	1.7	14.8
Argentina	6,213	8,126	0.9	30.8
Asia	227,359	263,365	30.1	15.8
China	111,163	98,883	11.3	-11.0
India	53,937	77,554	8.9	43.8
U.A.Emirates	1,499	27,325	3.1	.

Machinery for metallurgical plants and rolling mills

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Rep. of Korea	27,478	17,912	2.0	-34.8
Saudi Arabia	8,337	10,591	1.2	27.0
Bahrain	169	8,643	1.0	.
Taiwan	2,750	5,904	0.7	114.7
Uzbekistan	159	5,453	0.6	.
Thailand	3,585	4,122	0.5	15.0
Iran	4,677	1,879	0.2	-59.8
Australia & Oceania	3,256	1,216	0.1	-62.7
Total Imports	256,750	309,852	100.0	20.7
EU27	160,193	194,529	62.8	21.4
EURO20	135,126	166,103	53.6	22.9
Italy	49,964	67,921	21.9	35.9
Austria	18,041	30,250	9.8	67.7
Belgium	28,784	27,018	8.7	-6.1
Slovenia	11,987	16,824	5.4	40.4
France	10,008	11,458	3.7	14.5
Spain	8,798	8,026	2.6	-8.8
Sweden	9,882	10,034	3.2	1.5
Poland	6,521	8,665	2.8	32.9
Czech Republic	6,199	7,718	2.5	24.5
Other Europe	34,233	37,162	12.0	8.6
Türkiye	10,659	16,628	5.4	56.0
Switzerland	16,037	12,143	3.9	-24.3
United Kingdom	4,282	6,618	2.1	54.6
Africa	3,067	2,207	0.7	-28.0
North America	9,411	12,394	4.0	31.7
USA	7,521	10,813	3.5	43.8
Latin-America	5,872	10,809	3.5	84.1
Brazil	5,865	10,796	3.5	84.1
Asia	43,913	52,751	17.0	20.1
China	29,822	36,791	11.9	23.4
Japan	7,469	8,861	2.9	18.6
Australia & Oceania	61	-	-	-100.0

2.3 Thermo process technology

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2821 11 300	Furnace burners for liquid fuel	60.0	65.8	2.8	9.7
2821 11 501	Furnace burners for gas	166.7	153.7	6.4	-7.8
2821 11 509	Furnace burners for solid fuel (including combination burners)	70.6	88.2	3.7	24.9
2821 11 700	Mechanical stokers (including their mechanical grates, mechanical ash dischargers and similar appliances)	31.2	34.1	1.4	9.3
2821 12 300	Non-electric furnaces and ovens for the roasting, melting or other heat-treatment of ores, pyrites or of metals	126.1	124.7	5.2	-1.1
2821 12 700	Other furnaces and ovens (including for the incineration of rubbish)	192.5	187.6	7.9	-2.5
2821 13 510	Resistance heated industrial or laboratory furnaces and ovens (excluding bakery and biscuit ovens)	446.7	486.1	20.3	8.8
2821 13 530	Electrical induction industrial or laboratory furnaces and ovens	104.9	112.9	4.7	7.6
2821 13 540	Furnaces with dielectric, capacitive heating; apparatus for the heat treatment of materials by induction or dielectric, capacitive heating; infrared furnaces; other electric industrial furnaces	186.3	234.1	9.8	25.6
2821 14 300	Parts for furnace burners for liquid fuel, for pulverized solid fuel or for gas, for mechanical stokers, mechanical grates, mechanical ash discharges and similar appliances	114.7	112.9	4.7	-1.5
2821 14 500	Parts for non-electric industrial or laboratory furnaces and ovens	110.4	145.5	6.1	31.8
2821 14 700	Parts for industrial or laboratory electric, induction or dielectric furnaces and ovens or heating equipment	251.3	269.9	11.3	7.4
3312 14 000	Repair and maintenance of furnaces and furnace burners	297.0	346.5	14.5	16.7
3320 29 300	Installation of furnaces and furnace burners	27.2	28.5	1.2	4.6
Industrial furnaces and burners		2,185.7	2,390.4	100.0	9.4

*) According to GP 2019, partly confidential or estimated.

Thermo process technology

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	11.2	11.4	11.7	10.9	10.2	9.8	10.0	10.6
Production ²	million EUR	1,856	1,999	2,319	1,941	1,665	1,824	2,186	2,390
Share of mechanical engineering	percent	0.9	0.9	1.0	0.9	0.8	0.8	0.9	0.9
Exports	million EUR	1,663	1,771	1,837	1,823	1,843	1,729	1,783	1,926
Share of mechanical engineering	percent	1.1	1.0	1.0	1.0	1.1	1.0	0.9	0.9
Imports	million EUR	390	396	403	413	403	483	577	593
Share of mechanical engineering	percent	0.6	0.6	0.5	0.5	0.6	0.6	0.6	0.6
Imports in percent of exports	percent	23.4	22.4	22.0	22.6	21.9	27.9	32.4	30.8
Turnover abroad in percent of total turnover	percent	62.5	67.5	64.5	62.8	61.1	68.0	62.4	72.0
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	percent	92.4	93.4	94.6	96.1	97.0	100.0	107.1	114.3

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Thermo process technology

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	1,782,982	1,926,034	100.0	8.0
EU27	624,627	733,109	38.1	17.4
EURO20	466,790	531,935	27.6	14.0
Italy	86,372	97,574	5.1	13.0
France	76,627	81,421	4.2	6.3
Austria	82,056	71,737	3.7	-12.6
Spain	33,044	66,483	3.5	101.2
Netherlands	80,897	60,244	3.1	-25.5
Belgium	31,926	44,247	2.3	38.6
Slovakia	31,542	34,333	1.8	8.8
Greece	7,031	15,989	0.8	127.4
Finland	11,302	12,439	0.6	10.1
Slovenia	7,645	12,438	0.6	62.7
Portugal	3,682	11,100	0.6	201.5
Poland	37,471	64,626	3.4	72.5
Sweden	20,990	46,394	2.4	121.0
Czech Republic	46,200	33,964	1.8	-26.5
Hungary	18,521	18,855	1.0	1.8
Denmark	13,984	15,107	0.8	8.0
Romania	13,624	14,638	0.8	7.4
Other Europe	262,818	232,091	12.1	-11.7
Türkiye	95,719	66,027	3.4	-31.0
United Kingdom	36,503	56,361	2.9	54.4
Switzerland	48,872	55,007	2.9	12.6
Norway	6,770	20,760	1.1	206.6
Ukraine	7,733	10,247	0.5	32.5
Africa	49,940	51,420	2.7	3.0
South Africa	11,319	17,768	0.9	57.0
Egypt	14,880	10,767	0.6	-27.6
North America	231,186	304,196	15.8	31.6
USA	212,488	287,525	14.9	35.3
Canada	18,698	16,671	0.9	-10.8
Latin-America	56,444	73,502	3.8	30.2
Mexico	35,296	43,537	2.3	23.3
Brazil	10,524	16,653	0.9	58.2
Asia	547,983	514,304	26.7	-6.1
China	253,523	199,395	10.4	-21.4
India	50,578	58,551	3.0	15.8
Rep. of Korea	64,923	33,293	1.7	-48.7
Japan	20,779	29,340	1.5	41.2
Saudi Arabia	13,917	28,171	1.5	102.4

Thermo process technology

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Taiwan	16,861	24,163	1.3	43.3
U.A.Emirates	11,785	22,119	1.1	87.7
Iran	26,515	21,842	1.1	-17.6
Singapore	19,938	14,198	0.7	-28.8
Vietnam	7,030	13,676	0.7	94.5
Kazakhstan	3,556	10,920	0.6	207.1
Australia & Oceania	9,763	16,939	0.9	73.5
Australia	8,093	15,194	0.8	87.7
Total Imports	576,919	593,040	100.0	2.8
EU27	367,082	368,045	62.1	0.3
EURO20	285,273	275,462	46.4	-3.4
Italy	67,378	80,653	13.6	19.7
Austria	111,392	79,051	13.3	-29.0
Spain	28,454	36,460	6.1	28.1
Netherlands	21,793	27,620	4.7	26.7
Belgium	20,360	14,804	2.5	-27.3
France	10,345	10,116	1.7	-2.2
Czech Republic	33,871	42,056	7.1	24.2
Poland	14,092	17,073	2.9	21.2
Hungary	11,009	12,812	2.2	16.4
Denmark	13,890	11,374	1.9	-18.1
Other Europe	94,097	92,515	15.6	-1.7
Türkiye	44,389	41,618	7.0	-6.2
United Kingdom	24,059	21,593	3.6	-10.2
Switzerland	17,148	19,933	3.4	16.2
Africa	1,221	317	0.1	-74.0
North America	27,624	35,003	5.9	26.7
USA	27,084	33,247	5.6	22.8
Latin-America	3,511	12,104	2.0	244.7
Brazil	3,322	11,967	2.0	260.2
Asia	83,286	84,276	14.2	1.2
China	64,509	54,777	9.2	-15.1
Australia & Oceania	98	780	0.1	695.9

2.4 Foundry machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	%-share	2023/2022	
2573 50 130	Moulding boxes for metal foundry, mould bases, moulding patterns (excluding moulding patterns of wood)	124.9	134.0	21.4	7.3
2573 50 300	Mould tools for metal or metal carbides (excluding injection or compression types)	131.0	142.8	22.8	9.0
2891 11 300	Converters and casting machines, ingot moulds, ladles of a kind used in metallurgy or in metal foundries, and others	216.9	145.8	23.3	-32.8
2891 12 301	Parts for converters, ladles, ingot moulds and casting machines of a kind used in metal foundries	42.9	47.7	7.6	11.1
2892 40 301	Machinery for moulding material preparation (excluding moulding machinery)	23.2	24.5	3.9	5.6
2892 62 003	Parts of preparation and moulding equipment for foundry sands	37.2	53.2	8.5	42.9
2899 39 534	Preparation and moulding equipment, core-making machinery (excl 3D-printer)	27.6	40.2	6.4	45.6
3312 23 001	Repair and maintenance of foundry machinery	27.4	29.8	4.8	8.6
3312 24 003	Repair and maintenance of preparation and moulding equipment for foundry sands	.	.	.	.
3320 34 003	Installation of preparation and moulding equipment for foundry sands	.	.	.	.
Foundry machinery		634.7	625.7	100.0	-1.4

*) According to GP 2019, partly confidential or estimated.

Foundry machinery

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	6.5	5.9	6.0	6.3	6.1	6.1	6.0	5.8
Production ² Share of mechanical engineering	million EUR percent	.	1,081 0.5	927 0.4	766 0.3	566 0.3	690 0.3	635 0.3	626 0.2
Exports Share of mechanical engineering	million EUR percent	161 0.1	180 0.1	177 0.1	153 0.1	135 0.1	126 0.1	102 0.1	122 0.1
Imports Share of mechanical engineering	million EUR percent	129 0.2	115 0.2	123 0.2	124 0.2	86 0.1	85 0.1	130 0.1	112 0.1
Imports in percent of exports	percent	79.9	72.2	69.5	81.2	63.6	67.5	126.7	92.3
Turnover abroad in percent of total turnover in comparison: mechanical engineering ³	percent percent	62.3 68.4	68.9 69.8	75.6 69.0	69.1 68.9	68.9 68.6	69.1 69.3	64.9 69.8	66.8 70.9
Producer price index (Base 2021 = 100)	index	96.5	97.4	97.9	97.8	98.6	100.0	104.0	112.0

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Foundry machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Total Exports	102,259	121,711	100.0	19.0
EU27	52,155	74,849	61.5	43.5
EURO20	31,639	46,890	38.5	48.2
Slovakia	4,071	10,945	9.0	168.9
Spain	1,957	9,458	7.8	383.3
Italy	7,028	8,893	7.3	26.5
Austria	10,829	7,204	5.9	-33.5
France	5,083	5,268	4.3	3.6
Portugal	805	2,973	2.4	269.3
Finland	280	623	0.5	122.5
Slovenia	190	573	0.5	201.6
Luxembourg	71	510	0.4	618.3
Belgium	607	275	0.2	-54.7
Netherlands	382	145	0.1	-62.0
Poland	2,301	12,419	10.2	439.7
Sweden	10,189	6,819	5.6	-33.1
Hungary	4,736	4,396	3.6	-7.2
Czech Republic	2,817	2,573	2.1	-8.7
Romania	388	1,205	1.0	210.6
Bulgaria	4	337	0.3	.
Denmark	81	210	0.2	159.3
Other Europe	20,533	21,085	17.3	2.7
Türkiye	9,927	11,253	9.2	13.4
Switzerland	2,241	4,214	3.5	88.0
United Kingdom	5,217	2,960	2.4	-43.3
Bosnia-Herzegovina	2,734	1,219	1.0	-55.4
Serbia	45	649	0.5	.
Norway	7	544	0.4	.
Form.Yug.Rep.Maced	-	230	0.2	.
Africa	1,460	2,717	2.2	86.1
South Africa	773	1,831	1.5	136.9
Algeria	668	725	0.6	8.5
North America	6,062	3,838	3.2	-36.7
USA	4,940	3,321	2.7	-32.8
Canada	1,122	517	0.4	-53.9
Latin-America	6,432	7,666	6.3	19.2
Mexico	6,172	5,743	4.7	-7.0
Brazil	184	1,911	1.6	938.6
Asia	14,247	11,272	9.3	-20.9
China	2,547	3,237	2.7	27.1
India	1,994	2,876	2.4	44.2

Foundry machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Uzbekistan	12	2,133	1.8	.
Vietnam	137	1,114	0.9	713.1
Kazakhstan	10	620	0.5	.
Iran	311	416	0.3	33.8
Indonesia	-	177	0.1	.
Israel	142	168	0.1	18.3
Australia & Oceania	1,370	281	0.2	-79.5
New Zealand	233	235	0.2	0.9
Total Imports	129,581	112,301	100.0	-13.3
EU27	45,901	49,923	44.5	8.8
EURO20	34,244	40,369	35.9	17.9
Italy	20,000	27,256	24.3	36.3
France	5,801	4,452	4.0	-23.3
Spain	1,619	3,592	3.2	121.9
Slovenia	3,470	2,151	1.9	-38.0
Slovakia	696	870	0.8	25.0
Austria	862	639	0.6	-25.9
Netherlands	516	618	0.6	19.8
Portugal	1,183	549	0.5	-53.6
Czech Republic	6,558	5,125	4.6	-21.9
Poland	4,504	3,736	3.3	-17.1
Other Europe	28,543	27,686	24.7	-3.0
Switzerland	20,536	19,785	17.6	-3.7
Türkiye	6,913	4,860	4.3	-29.7
United Kingdom	524	2,400	2.1	358.0
Bosnia-Herzegovina	410	547	0.5	33.4
North America	17,346	2,862	2.5	-83.5
USA	17,003	2,776	2.5	-83.7
Latin-America	56	25	0.0	-55.4
Asia	37,735	31,805	28.3	-15.7
China	35,797	30,933	27.5	-13.6

2.5 Measuring and testing technology

Production*

GP-Number	Description	2022	2023		change
		million EUR		%-share	rate in %
					2023/2022
2651 31 000	Balances with a sensitivity ≤ 5 cg, without weights (analytical balances, precision balances), including parts	-	-	-	-
2651 33 001	Micrometers and callipers (including vernier, dial indicating or electronic callipers)	9.3	6.9	0.1	-25.8
2651 33 005	Hand held gauges with fixed measuring devices	37.2	39.0	0.5	4.8
2651 33 009	Hand held gauges with adjustable measuring devices	6.3	5.6	0.1	-11.8
2651 62 001	Electronic hardness testing machines, apparatus and devices, for metals	106.9	105.5	1.5	-1.3
2651 62 003	Other electronic material testing machines and apparatus, for metals	116.9	123.6	1.7	5.7
2651 62 004	Non-electronic material testing machines, apparatus and devices, for metals	89.6	143.0	2.0	59.6
2651 62 008	Electronic material testing machines, apparatus and devices, for non-metals	364.4	332.7	4.6	-8.7
2651 62 009	Non-electronic materials testing machines, apparatus and equipment, for non-metals	136.0	111.1	1.5	-18.3
2651 66 203	Testing systems for motor vehicles	676.7	773.1	10.7	14.3
2651 66 209	Testing systems, others	175.5	163.1	2.3	-7.1
2651 66 901	Sensors and measuring probes for detecting the presence and distance of objects	1,041.6	1,088.0	15.1	4.5
2651 66 902	Other sensors and probes for measuring or checking geometric quantities	183.3	189.0	2.6	3.1
2651 66 903	Electronic instruments, appliances and machines for measuring or checking geometrical quantities, for 3D (including comparators, coordinate measuring machines (CMMs)), n e c	512.7	530.6	7.4	3.5
2651 66 904	Electronic instruments, appliances and machines for measuring or checking other geometrical quantities (including comparators, coordinate measuring machines	814.7	806.9	11.2	-1.0
2651 66 908	Other instruments, appliances,... for measuring or checking geometrical quantities	491.5	506.6	7.0	3.1
2651 66 909	Measuring and test equipment (not electronic or optical) for non-geometric quantities, n e c	449.7	476.5	6.6	6.0
2651 85 301	Parts and accessories for balancing machines and testing systems	72.3	75.0	1.0	3.7
2651 86 002	Parts and accessories for machines and appliances for testing the mechanical properties of materials	141.7	151.3	2.1	6.8
2829 31 300	Continuous and discontinuous totalisers	64.7	-	-	-
2829 31 800	Automatic gravimetric filling machines	78.0	94.9	1.3	21.6
2829 32 000	Household scales (for private use), person scales (including baby scales)	-	-	-	-
2829 39 401	Sorting scales and automatic checkweighers for checking a predetermined weight	197.2	182.0	2.5	-7.7
2829 39 405	Truck weighbridges of a maximum weighing capacity > 5,000 kg	21.3	26.2	0.4	23.4
2829 39 409	Other scales (including single and multicomponent scales; batch-weighers; letter balances)	-	-	-	-
2829 39 790	Other measuring instruments, for use in the hand, others	-	-	-	-
2829 83 200	Parts and weights for scales (excluding for analytical and precision balances with a sensitivity ≤ 5 cg)	92.2	112.4	1.6	22.0
2899 39 700	Balancing machines	101.3	126.5	1.8	24.8
3312 19 903	Repair and maintenance of machines and apparatus for weighing	101.8	116.2	1.6	14.2
3313 11 107	Repair and maintenance of machines for testing mechanical properties of material, balancing machines and testing systems	124.1	185.3	2.6	49.3
3320 29 601	Installation of machines and apparatus for weighing (for industrial purpose)	14.8	15.8	0.2	6.7
3320 42 008	Installation of machines for testing mechanical properties of material, balancing machines and testing systems	41.1	37.2	0.5	-9.5
Measuring and testing technology		6,888.8	7,201.1	100.0	4.5

*) According to GP 2019, partly confidential or estimated.

Measuring and testing technology

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	28.8	30.1	32.3	29.6	28.0	27.4	27.9	28.0
Production ²	million EUR	6,344	7,090	7,309	6,702	5,813	6,416	6,889	7,201
Share of mechanical engineering	percent	3.1	3.3	3.2	3.0	2.9	2.9	2.9	2.8
Exports	million EUR	3,604	3,756	3,760	3,642	3,113	3,390	3,386	3,602
Share of mechanical engineering	percent	2.3	2.2	2.1	2.0	1.9	1.9	1.7	1.7
Imports	million EUR	1,059	1,017	981	952	849	1,006	1,030	1,027
Share of mechanical engineering	percent	1.6	1.4	1.3	1.2	1.2	1.2	1.1	1.1
Imports in percent of exports	percent	29.4	27.1	26.1	26.1	27.3	29.7	30.4	28.5
Turnover abroad in percent of total turnover	percent	56.0	60.6	59.1	59.6	62.5	65.7	65.6	65.6
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	index	92.8	93.9	95.2	96.6	98.6	100.0	105.6	113.9

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Measuring and testing technology

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Total Exports	3,385,984	3,601,771	100.0	6.4
EU27	1,327,481	1,422,142	39.5	7.1
EURO20	971,749	997,282	27.7	2.6
France	189,071	197,649	5.5	4.5
Italy	189,701	191,235	5.3	0.8
Netherlands	185,472	181,937	5.1	-1.9
Austria	131,416	137,319	3.8	4.5
Spain	83,755	83,198	2.3	-0.7
Belgium	59,920	65,433	1.8	9.2
Slovakia	26,045	29,555	0.8	13.5
Finland	27,863	27,954	0.8	0.3
Slovenia	17,109	17,446	0.5	2.0
Portugal	14,429	15,496	0.4	7.4
Poland	112,540	128,087	3.6	13.8
Czech Republic	79,451	86,878	2.4	9.3
Hungary	47,326	69,580	1.9	47.0
Sweden	43,903	62,126	1.7	41.5
Romania	36,337	37,814	1.0	4.1
Denmark	26,421	29,945	0.8	13.3
Other Europe	410,883	430,363	11.9	4.7
United Kingdom	120,846	128,593	3.6	6.4
Switzerland	120,587	122,897	3.4	1.9
Türkiye	83,833	102,278	2.8	22.0
Serbia	19,875	28,727	0.8	44.5
Norway	17,336	16,833	0.5	-2.9
Russian Fed.	32,291	15,075	0.4	-53.3
Africa	46,891	52,172	1.4	11.3
South Africa	17,149	23,149	0.6	35.0
North America	425,122	473,640	13.2	11.4
USA	396,900	445,889	12.4	12.3
Canada	28,221	27,748	0.8	-1.7
Latin-America	139,147	164,282	4.6	18.1
Mexico	71,434	86,559	2.4	21.2
Brazil	38,485	47,341	1.3	23.0
Asia	1,003,084	1,027,100	28.5	2.4
China	570,199	556,649	15.5	-2.4
India	81,570	102,337	2.8	25.5
Rep. of Korea	80,347	72,664	2.0	-9.6
Japan	63,423	70,792	2.0	11.6
Singapore	27,321	33,417	0.9	22.3
Thailand	29,010	31,202	0.9	7.6

Measuring and testing technology

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Taiwan	28,622	21,908	0.6	-23.5
Malaysia	23,772	19,811	0.6	-16.7
Israel	11,671	16,381	0.5	40.4
Saudi Arabia	10,060	15,158	0.4	50.7
U.A.Emirates	11,668	14,931	0.4	28.0
Hong Kong (SVR)	13,272	14,194	0.4	6.9
Australia & Oceania	33,112	31,574	0.9	-4.6
Australia	29,162	27,918	0.8	-4.3
Total Imports	1,029,980	1,026,621	100.0	-0.3
EU27	383,772	422,401	41.1	10.1
EURO20	230,079	256,479	25.0	11.5
Italy	54,459	58,481	5.7	7.4
Austria	39,664	47,064	4.6	18.7
Netherlands	44,123	39,068	3.8	-11.5
France	27,905	32,048	3.1	14.8
Spain	19,303	29,181	2.8	51.2
Portugal	14,749	23,825	2.3	61.5
Hungary	45,500	54,812	5.3	20.5
Romania	38,101	47,977	4.7	25.9
Czech Republic	42,312	39,596	3.9	-6.4
Other Europe	124,510	127,042	12.4	2.0
Switzerland	70,372	75,489	7.4	7.3
United Kingdom	37,342	35,184	3.4	-5.8
Africa	2,063	1,195	0.1	-42.1
North America	95,935	104,351	10.2	8.8
USA	82,225	92,284	9.0	12.2
Canada	13,710	12,067	1.2	-12.0
Latin-America	12,950	5,360	0.5	-58.6
Asia	409,810	364,159	35.5	-11.1
China	274,564	227,730	22.2	-17.1
Japan	72,355	69,473	6.8	-4.0
Thailand	14,872	17,066	1.7	14.8
Australia & Oceania	940	2,113	0.2	124.8

2.6 Woodworking machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	% -share		2023/2022
2849 12 200	Machines which can carry out different types of machining operations without tool change between such operations: With automatic transfer of workpiece between each operation	834.0	912.4	21.8	9.4
2849 12 400	Machine centres for machining wood, cork, bone, hard rubber and other hard materials	132.8	149.4	3.6	12.5
2849 12 873	Presses for the manufacture of particle board or fibre building board of wood or other ligneous materials	355.1	734.1	17.6	106.7
2849 12 879	Other machines with individual functions for treating wood or cork	305.4	393.8	9.4	29.0
2849 12 911	Machine tools for working wood, cork, bone, hard rubber and other hard materials, manual feeding of workpieces during each operation	111.4	112.3	2.7	0.9
2849 12 923	Circular saws for working wood, cork, bone, hard rubber, hard plastics or similar hard materials	256.1	252.0	6.0	-1.6
2849 12 929	Other sawing machines for wood, cork, bone, hard rubber and other hard materials (e.g. band saw machines)	74.8	85.7	2.0	14.6
2849 12 953	Planing machines for wood, cork, bone, hard rubber and other hard materials	17.3	19.0	0.5	9.7
2849 12 958	Milling and moulding machines for wood, cork, bone, hard rubber and other hard materials	350.0	288.7	6.9	-17.5
2849 12 963	Grinding, sanding or polishing machines for working wood, cork, bone, hard rubber, hard plastics or similar hard materials	47.1	57.2	1.4	21.5
2849 12 965	Bending or assembling machines for working wood, cork, bone, hard rubber, hard plastics or similar hard materials	79.7	95.5	2.3	19.8
2849 12 967	Drilling and mortising machines for wood, cork, bone, hard rubber and other hard materials	17.4	21.8	0.5	25.5
2849 12 975	Splitting, slicing or paring machines for working wood, cork, bone, hard rubber, hard plastics or similar hard materials	289.6	296.3	7.1	2.3
2849 12 979	Lathes and other machine-tools for working wood, cork, bone, hard rubber, hard plastics or similar hard materials , n.e.c.	17.8	20.3	0.5	13.9
2849 24 500	Parts and accessories of machine tools for working wood, cork, stone, hard rubber and similar hard materials	483.5	466.4	11.2	-3.6
2899 52 801	Parts for presses for particle board or fibre building board and other machinery for working	99.3	87.4	2.1	-12.0
3312 29 102	Maintenance and repair services of machine tools for working wood, cork, stone, hard rubber and similar hard materials	91.3	99.0	2.4	8.5
3320 29 700	Installation services of machine tools for working wood, cork, stone, hard rubber and similar hard materials	70.6	90.8	2.2	28.6
Woodworking machinery		3,633.3	4,182.3	100.0	15.1

*) According to GP 2019, partly confidential or estimated.

Woodworking machinery

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	12.3	12.1	12.2	11.5	11.8	11.4	11.7	11.7
Production ²	million EUR	2,882	3,183	3,345	3,363	2,878	3,358	3,633	4,182
Share of mechanical engineering	percent	1.4	1.5	1.5	1.5	1.4	1.5	1.5	1.6
Exports	million EUR	2,084	2,391	2,474	2,426	2,124	2,340	2,504	2,814
Share of mechanical engineering	percent	1.3	1.4	1.4	1.3	1.3	1.3	1.3	1.4
Imports	million EUR	472	534	588	580	627	733	816	694
Share of mechanical engineering	percent	0.7	0.8	0.8	0.7	0.9	0.9	0.9	0.7
Imports in percent of exports	percent	22.7	22.3	23.8	23.9	29.5	31.3	32.6	24.7
Turnover abroad in percent of total turnover	percent	84.7	84.4	82.9	82.0	79.5	81.3	79.6	82.5
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	index	90.6	91.9	92.6	95.1	97.3	100.0	111.4	118.0

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Woodworking machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	2,504,435	2,814,185	100.0	12.4
EU27	1,168,828	1,269,234	45.1	8.6
EURO20	822,697	932,110	33.1	13.3
France	159,187	196,313	7.0	23.3
Italy	124,807	143,447	5.1	14.9
Austria	166,524	120,961	4.3	-27.4
Spain	62,579	120,408	4.3	92.4
Netherlands	76,058	78,745	2.8	3.5
Belgium	66,567	62,981	2.2	-5.4
Slovakia	19,412	41,148	1.5	112.0
Lithuania	33,859	37,986	1.3	12.2
Portugal	22,140	30,080	1.1	35.9
Latvia	12,502	22,788	0.8	82.3
Croatia	13,924	16,157	0.6	16.0
Slovenia	13,228	14,874	0.5	12.4
Finland	14,498	12,465	0.4	-14.0
Estonia	16,457	12,014	0.4	-27.0
Poland	141,931	152,687	5.4	7.6
Czech Republic	69,392	51,293	1.8	-26.1
Sweden	44,868	42,166	1.5	-6.0
Romania	31,149	34,668	1.2	11.3
Hungary	30,120	24,379	0.9	-19.1
Denmark	21,245	23,303	0.8	9.7
Other Europe	393,189	402,339	14.3	2.3
Türkiye	96,252	93,449	3.3	-2.9
United Kingdom	118,640	92,376	3.3	-22.1
Switzerland	73,778	86,780	3.1	17.6
Ukraine	11,998	63,340	2.3	427.9
Norway	19,469	27,310	1.0	40.3
Russian Fed.	48,985	15,966	0.6	-67.4
Africa	16,299	39,713	1.4	143.7
South Africa	7,688	23,533	0.8	206.1
North America	354,093	441,557	15.7	24.7
USA	307,300	357,107	12.7	16.2
Canada	46,786	84,446	3.0	80.5
Latin-America	116,006	92,632	3.3	-20.1
Brazil	57,753	36,820	1.3	-36.2
Mexico	19,894	22,955	0.8	15.4
Chile	12,837	14,848	0.5	15.7
Asia	423,847	535,652	19.0	26.4
China	253,894	260,212	9.2	2.5

Woodworking machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
India	46,052	70,411	2.5	52.9
Vietnam	6,871	66,082	2.3	861.8
Japan	23,229	42,082	1.5	81.2
Thailand	23,973	25,314	0.9	5.6
Rep. of Korea	11,493	15,386	0.5	33.9
Malaysia	11,085	11,404	0.4	2.9
Australia & Oceania	32,158	33,055	1.2	2.8
Australia	22,546	23,487	0.8	4.2
Total Imports	815,504	694,365	100.0	-14.9
EU27	445,989	441,679	63.6	-1.0
EURO20	248,606	270,051	38.9	8.6
Italy	87,234	110,254	15.9	26.4
Austria	75,301	78,919	11.4	4.8
Slovenia	20,900	21,499	3.1	2.9
France	18,453	17,694	2.5	-4.1
Finland	5,345	9,838	1.4	84.1
Slovakia	7,596	7,212	1.0	-5.1
Luxembourg	6,844	6,730	1.0	-1.7
Netherlands	12,689	5,615	0.8	-55.7
Poland	87,318	83,280	12.0	-4.6
Czech Republic	77,315	64,161	9.2	-17.0
Sweden	13,091	8,682	1.3	-33.7
Other Europe	52,530	46,624	6.7	-11.2
Switzerland	40,298	34,266	4.9	-15.0
Türkiye	5,685	6,074	0.9	6.8
Africa	34	35	0.0	2.9
North America	15,836	13,124	1.9	-17.1
USA	9,754	11,719	1.7	20.1
Latin-America	568	681	0.1	19.9
Asia	299,655	191,791	27.6	-36.0
China	275,342	177,929	25.6	-35.4
Taiwan	20,355	9,136	1.3	-55.1
Australia & Oceania	892	431	0.1	-51.7

2.7 Precision tools

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2573 40 141	Tapping tools for working metal with working part of sintered metal carbide	18.3	10.5	0.1	-42.9
2573 40 149	Tapping tools for working metal, working part of material other than hard metal	321.2	378.1	3.8	17.7
2573 40 161	Thread rolling tools for working metal	49.2	47.9	0.5	-2.8
2573 40 169	Thread cutting tools for working metal	32.2	31.6	0.3	-1.7
2573 40 230	Drilling tools with working part of diamond or agglomerated diamond (excluding work and tool holders for machines or hand tools, for rock drilling)	43.7	53.9	0.5	23.4
2573 40 270	Drilling tools with working part of sintered metal carbide, for working metal excluding unmounted sintered metal carbide plates, sticks, tips and the like for tools	489.1	494.5	5.0	1.1
2573 40 310	Drilling tools with working part of high speed steel, for working metal excluding work and tool holders for machines or hand tools - for rock drilling	139.4	145.3	1.5	4.3
2573 40 330	Drilling tools with working part of materials other than diamond, agglomerated diamond or sintered metal carbide, for working metal excluding with working part of high speed steel	46.0	46.4	0.5	0.9
2573 40 370	Boring or broaching tools with working part of diamond or agglomerated diamond (excluding work and tool holders for machines or hand tools, for earth boring)	21.5	23.3	0.2	8.0
2573 40 441	Reaming and Counterboring tools for working metal with working part of sintered metal carbide	141.5	152.1	1.5	7.5
2573 40 449	Reamer and boring tools for working metal, with working part of materials other than diamond or agglomerated diamond	52.1	59.6	0.6	14.4
2573 40 480	Broaching tools for working metal, with working part of materials other than diamond or agglomerated diamond	57.1	62.9	0.6	10.2
2573 40 503	Milling tools with working part of sintered metal carbide, for working metal	25.0	26.3	0.3	5.0
2573 40 505	Milling tools for working metal with working part of sintered metal carbide	308.3	302.2	3.0	-2.0
2573 40 610	End mills for metalworking, working part not made of hard metal	169.0	183.0	1.8	8.3
2573 40 661	Hob type milling tools for working metal (excluding with working part of sintered metal carbide)	44.4	42.7	0.4	-3.7
2573 40 669	Other milling tools for metalworking, working part not of hard metal	74.6	74.5	0.8	-0.1
2573 40 710	Turning tools with working part of sintered metal carbide, for working metal excluding unmounted sintered metal carbide plates, sticks, tips and the like for tools	34.8	35.9	0.4	3.3
2573 40 741	Turning tools for working metal, with working part of diamond or agglomerated diamond	48.2	42.1	0.4	-12.6
2573 40 749	Turning tools for working metal, with working part of materials other than hard metal and cermets	70.1	71.9	0.7	2.5
2573 40 810	Tools interchangeable for hand tools, working part	135.5	146.6	1.5	8.1
2573 40 850	Gear-cutting tools with working part of materials other than diamond or agglomerated diamond (excluding work and tool holders for machines or hand tools)	21.5	23.5	0.2	9.5
2573 40 870	Interchangeable hand tools with working part of sintered metal carbide excluding unmounted sintered metal carbide plates, sticks, tips and the like for tools	194.9	195.4	2.0	0.3

*) According to GP 2019, partly confidential or estimated.

Precision tools

Production*

GP-Number	Description	2022	2023		change
		million EUR	%-share	2023/2022	
2573 40 891	Other interchangeable tools for working metal, with working part of materials other than hard metal and cermets	97.4	110.2	1.1	13.1
2573 50 200	Injection or compression type moulds for metal or metal carbides (excluding ingot moulds)	267.5	290.0	2.9	8.4
2573 50 703	Injection or compression type mould tools for rubber	61.7	99.0	1.0	60.5
2573 50 705	Injection or compression type mould tools for plastics	1,640.5	1,756.0	17.7	7.0
2573 50 800	Mould tools for rubber or plastics (excluding injection or compression types)	179.3	146.0	1.5	-18.6
2573 60 331	Pressing, stamping or punching tools for sheet metal forming, incl. parts thereof	1,130.9	1,162.2	11.7	2.8
2573 60 339	Pressing, stamping or punching tools for working metal other than sheet metal, incl. Parts	634.6	649.4	6.5	2.3
2573 60 670	Indexable inserts for tools, unmounted, of sintered metal carbides and cermets	443.9	446.2	4.5	0.5
2573 60 900	Unmounted sintered metal carbides or cermet plates, sticks, tips and the like for tools (excluding indexable inserts)	268.8	277.0	2.8	3.1
2849 21 100	Arbors, collets and sleeves for machine-tools and hand tools	180.3	192.5	1.9	6.8
2849 21 300	Tool holders for lathes (excluding arbors, collets and sleeves)	208.1	212.8	2.1	2.2
2849 21 503	Tap holders	108.2	105.5	1.1	-2.5
2849 21 505	Tool holders (excluding arbors, collets and sleeves, those for lathes)	170.8	224.2	2.3	31.2
2849 21 700	Self-opening dieheads for machine-tools and hand tools	-	-	-	-
2849 22 300	Jigs and fixtures for specific applications, and sets of standard jig and fixture components for machine-tools and hand tools	342.3	367.3	3.7	7.3
2849 22 503	Lathe chucks and faceplates	157.4	172.6	1.7	9.7
2849 22 505	Other work holders for lathes (excluding jigs and fixtures for specific applications, and sets of standard jig and fixture components)	97.5	101.9	1.0	4.5
2849 22 703	Machine vices	32.1	35.0	0.4	9.0
2849 22 705	Other work holders for machine-tools and hand tools (excluding jigs and fixtures for specific applications, and sets of standard jig and fixture components, those for lathes), n e c	183.5	202.8	2.0	10.5
2849 23 500	Dividing heads and other special attachments for machine-tools and hand tools	246.6	244.6	2.5	-0.8
3311 19 001	Maintenance and repair services of mould tools	200.1	207.6	2.1	3.7
3311 19 002	Maintenance and repair services of forming tools (e.g. pressing, stamping or punching tools, injection or compression type moulds)	50.0	49.3	0.5	-1.4
3311 19 003	Maintenance and repair services of cutting tools (e.g. re-sharpening or grinding)	206.3	207.3	2.1	0.5
3312 29 105	Maintenance and repair services of tool holders	6.9	8.4	0.1	21.9
Precision tools		9,452.2	9,917.7	100.0	4.9

*) According to GP 2019, partly confidential or estimated.

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	65.3	67.2	69.2	70.7	68.3	64.8	63.7	63.7
Production ²	million EUR	9,871	10,799	11,179	10,637	8,450	9,187	9,452	9,918
Share of mechanical engineering	percent	4.8	5.0	5.0	4.7	4.2	4.2	4.0	3.9
Exports	million EUR	5,622	6,345	6,589	6,204	5,170	6,049	6,372	6,539
Share of mechanical engineering	percent	3.6	3.7	3.7	3.4	3.2	3.3	3.3	3.1
Imports	million EUR	3,204	3,636	3,729	3,610	2,942	3,466	3,660	3,594
Share of mechanical engineering	percent	4.8	5.1	4.9	4.7	4.2	4.3	3.9	3.8
Imports in percent of exports	percent	57.0	57.3	56.6	58.2	56.9	57.3	57.4	55.0
Turnover abroad in percent of total turnover	percent	37.3	39.0	44.2	42.1	43.2	42.6	42.5	40.3
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	81.6	90.4	93.4	85.3	63.9	85.0	89.8	90.2
Producer price index (Base 2021 = 100)	index	94.9	95.6	96.9	98.1	98.9	100.0	106.5	112.9

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July: Recalculation of all figures in 2018 due to changes in the calculation method.

Precision tools

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	6,372,240	6,538,822	100.0	2.6
EU27	3,185,114	3,309,105	50.6	3.9
EURO20	2,196,673	2,231,193	34.1	1.6
Netherlands	547,698	572,077	8.7	4.5
Italy	396,954	396,896	6.1	0.0
France	325,541	353,437	5.4	8.6
Austria	345,470	310,249	4.7	-10.2
Spain	152,046	169,382	2.6	11.4
Slovakia	89,716	86,474	1.3	-3.6
Belgium	75,369	82,394	1.3	9.3
Slovenia	42,491	43,421	0.7	2.2
Luxembourg	47,887	42,604	0.7	-11.0
Portugal	49,087	41,378	0.6	-15.7
Finland	39,057	40,398	0.6	3.4
Ireland	25,205	32,911	0.5	30.6
Czech Republic	285,419	322,739	4.9	13.1
Poland	292,043	320,897	4.9	9.9
Hungary	139,934	143,619	2.2	2.6
Sweden	105,829	105,674	1.6	-0.1
Romania	88,426	104,706	1.6	18.4
Denmark	53,203	55,416	0.8	4.2
Bulgaria	23,587	24,861	0.4	5.4
Other Europe	959,058	975,870	14.9	1.8
Switzerland	420,298	454,611	7.0	8.2
United Kingdom	233,733	216,311	3.3	-7.5
Türkiye	152,177	172,550	2.6	13.4
Serbia	31,495	37,075	0.6	17.7
Russian Fed.	64,614	35,383	0.5	-45.2
Norway	19,068	17,568	0.3	-7.9
Africa	57,856	59,380	0.9	2.6
South Africa	21,135	26,272	0.4	24.3
North America	837,068	852,464	13.0	1.8
USA	812,298	822,425	12.6	1.2
Canada	24,770	30,038	0.5	21.3
Latin-America	289,615	328,678	5.0	13.5
Mexico	207,368	236,907	3.6	14.2
Brazil	48,073	56,058	0.9	16.6
Asia	1,017,107	987,258	15.1	-2.9
China	557,806	511,932	7.8	-8.2
India	114,094	135,296	2.1	18.6
Japan	68,762	63,470	1.0	-7.7

Precision tools

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Rep. of Korea	57,523	50,136	0.8	-12.8
Israel	27,770	29,175	0.4	5.1
Singapore	31,704	25,307	0.4	-20.2
Taiwan	30,093	24,127	0.4	-19.8
Kazakhstan	14,024	20,411	0.3	45.5
U.A.Emirates	11,437	18,053	0.3	57.8
Australia & Oceania	26,365	26,002	0.4	-1.4
Australia	23,003	22,968	0.4	-0.2
Total Imports	3,659,570	3,593,652	100.0	-1.8
EU27	1,528,665	1,499,738	41.7	-1.9
EURO20	1,023,300	980,143	27.3	-4.2
Italy	245,106	224,068	6.2	-8.6
Austria	219,246	207,894	5.8	-5.2
Netherlands	124,725	129,191	3.6	3.6
Belgium	101,514	104,572	2.9	3.0
France	78,983	69,963	1.9	-11.4
Portugal	67,178	57,830	1.6	-13.9
Czech Republic	200,140	193,830	5.4	-3.2
Poland	117,022	116,955	3.3	-0.1
Sweden	106,655	100,584	2.8	-5.7
Other Europe	667,376	713,660	19.9	6.9
Switzerland	513,766	559,536	15.6	8.9
Türkiye	89,891	78,788	2.2	-12.4
Africa	6,413	5,820	0.2	-9.2
North America	181,720	182,714	5.1	0.5
USA	160,715	164,648	4.6	2.4
Latin-America	13,208	15,697	0.4	18.8
Asia	1,259,687	1,172,800	32.6	-6.9
China	797,838	706,590	19.7	-11.4
Japan	189,072	187,850	5.2	-0.6
India	82,868	87,859	2.4	6.0
Rep. of Korea	83,111	75,766	2.1	-8.8
Australia & Oceania	2,501	3,223	0.1	28.9

2.8 Gas welding

Production*

GP-Number	Description	2022	2023		change
		million EUR	%-share		rate in %
					2023/2022
2814 11 401	Pressure-reducing valves for thermal metal working (excluding those made of cast iron or steel, those combined with filters or lubricators)	.	1.3	0.6	.
2829 70 201	Hand-held blow pipes	1.6	1.8	0.8	16.0
2829 70 209	Other hand-held apparatus for soldering, brazing or welding (excluding electric, laser, other light or photon beam, ultrasonic, electron beam, magnetic pulse or plasma arc)	.	12.9	5.8	.
2829 70 900	Machinery and apparatus for soldering, brazing, welding or surface tempering, non-electric	73.7	102.8	45.9	39.5
2829 86 000	Parts of non-electrical machines, apparatus and equipment for soldering, welding or flame cutting and for thermal surface hardening	102.9	105.0	46.9	2.0
Gas welding ¹		216.4	223.8	100.0	3.4

*) According to GP 2019, partly confidential or estimated.

1) Excl. electrical welding machines.

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	3.3	3.4	3.5	3.5	2.8	2.8	2.8	2.9
Production ²									
Share of mechanical engineering	million EUR percent	186 0.1	202 0.1	223 0.1	.	160 0.1	206 0.1	216 0.1	224 0.1
Exports									
Share of mechanical engineering	million EUR percent	114 0.1	104 0.1	105 0.1	101 0.1	74 0.0	78 0.0	98 0.0	98 0.0
Imports									
Share of mechanical engineering	million EUR percent	41 0.1	45 0.1	50 0.1	43 0.1	46 0.1	51 0.1	48 0.1	42 0.0
Imports in percent of exports	percent	36.0	42.9	47.5	42.7	62.3	65.2	49.5	42.7

*) Excl. electrical welding machines.

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

Gas welding

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	97,639	98,338	100.0	0.7
EU27	49,965	50,633	51.5	1.3
EURO20	38,434	36,328	36.9	-5.5
Austria	8,515	7,927	8.1	-6.9
Italy	7,704	5,478	5.6	-28.9
France	5,926	4,788	4.9	-19.2
Netherlands	3,552	4,219	4.3	18.8
Slovakia	1,823	3,946	4.0	116.5
Belgium	3,112	3,037	3.1	-2.4
Spain	1,626	2,960	3.0	82.0
Finland	1,656	1,366	1.4	-17.5
Slovenia	1,042	918	0.9	-11.9
Croatia	1,273	381	0.4	-70.1
Portugal	444	283	0.3	-36.3
Luxembourg	452	280	0.3	-38.1
Estonia	290	253	0.3	-12.8
Poland	2,838	6,038	6.1	112.8
Czech Republic	1,120	2,451	2.5	118.8
Sweden	2,347	2,208	2.2	-5.9
Denmark	989	1,373	1.4	38.8
Romania	1,901	1,316	1.3	-30.8
Hungary	2,234	826	0.8	-63.0
Other Europe	9,051	13,329	13.6	47.3
Türkiye	3,013	6,566	6.7	117.9
United Kingdom	1,815	2,750	2.8	51.5
Switzerland	1,772	1,924	2.0	8.6
Norway	969	1,108	1.1	14.3
Serbia	240	360	0.4	50.0
Africa	1,185	861	0.9	-27.3
South Africa	637	516	0.5	-19.0
North America	19,108	8,608	8.8	-55.0
USA	18,706	8,407	8.5	-55.1
Latin-America	4,191	2,823	2.9	-32.6
Brazil	633	1,224	1.2	93.4
Mexico	2,019	1,060	1.1	-47.5
Argentina	1,242	273	0.3	-78.0
Asia	13,718	21,587	22.0	57.4
Rep. of Korea	1,024	11,591	11.8	.
China	4,645	3,094	3.1	-33.4
India	3,079	2,874	2.9	-6.7
Iran	947	561	0.6	-40.8

Gas welding

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Japan	319	554	0.6	73.7
Kazakhstan	1,311	461	0.5	-64.8
Saudi Arabia	480	442	0.4	-7.9
Taiwan	374	327	0.3	-12.6
U.A.Emirates	239	292	0.3	22.2
Hong Kong (SVR)	159	208	0.2	30.8
Australia & Oceania	388	462	0.5	19.1
Australia	278	333	0.3	19.8
Total Imports	48,299	41,988	100.0	-13.1
EU27	35,715	31,226	74.4	-12.6
EURO20	27,995	22,158	52.8	-20.9
Austria	8,264	8,452	20.1	2.3
Italy	6,268	3,911	9.3	-37.6
Estonia	4,218	3,757	8.9	-10.9
Slovenia	2,497	2,073	4.9	-17.0
Spain	2,304	1,240	3.0	-46.2
France	1,099	1,042	2.5	-5.2
Netherlands	1,471	871	2.1	-40.8
Czech Republic	5,555	6,847	16.3	23.3
Poland	936	789	1.9	-15.7
Romania	578	733	1.7	26.8
Other Europe	1,818	1,973	4.7	8.5
United Kingdom	659	843	2.0	27.9
Switzerland	800	482	1.1	-39.8
Africa	31	73	0.2	135.5
North America	871	453	1.1	-48.0
Latin-America	92	79	0.2	-14.1
Asia	9,772	8,172	19.5	-16.4
China	7,450	5,324	12.7	-28.5
Japan	818	1,153	2.7	41.0
Taiwan	1,077	837	2.0	-22.3
Rep. of Korea	162	455	1.1	180.9
Australia & Oceania	-	12	0.0	.

2.9 Air-handling technology

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	% share		2023/2022
2752 13 000	Air heaters/hot air distributors	111.8	115.5	0.6	3.3
2813 23 000	Compressors of a kind used for refrigerating equipment	908.4	996.0	5.4	9.7
2813 32 002	Parts of fans	152.3	153.1	0.8	0.6
2813 32 005	Parts of air and gas compressors	45.7	39.2	0.2	-14.2
2825 11 302	Heat exchange units for ventilation systems	541.8	573.7	3.1	5.9
2825 11 500	Machinery for liquefying air or other gases	-	1,896.0	10.3	-
2825 12 201	Window or wall air conditioning systems, self-contained	147.0	194.7	1.1	32.5
2825 12 203	Air conditioning systems, split-systems	61.9	69.2	0.4	11.8
2825 12 500	Air conditioning machines with refrigeration unit	344.7	406.9	2.2	18.1
2825 12 700	Air conditioning machines not containing a refrigeration unit; central station air handling units; vav boxes and terminals, constant volume units and fan coil units	661.8	785.6	4.3	18.7
2825 13 330	Refrigerated show-cases and counters incorporating a refrigerating unit or evaporator for frozen food storage	-	56.3	0.3	-
2825 13 350	Refrigerated show-cases and counters incorporating a refrigerating unit or evaporator (excluding for frozen food storage)	155.5	125.8	0.7	-19.1
2825 13 601	Deep-freezing refrigerating furniture (excluding chest freezers of a capacity ≤ 800 litres, upright freezers of a capacity ≤ 900 litres)	67.1	73.3	0.4	9.2
2825 13 609	Refrigerating furniture (excluding for deep-freezing, show-cases and counters incorporating a refrigerating unit or evaporator)	214.6	166.3	0.9	-22.5
2825 13 801	Heat pumps with up to 15 kW connected load, excluding air conditioning machines	733.5	974.4	5.3	32.8
2825 13 809	Heat pumps with more than 15 kW connected load, excluding air conditioning machines	151.0	213.6	1.2	41.5
2825 13 903	Compression type units whose condensers are heat exchangers, heat pumps	270.7	349.8	1.9	29.3
2825 13 909	Other refrigerating or freezing equipment	498.3	543.0	3.0	9.0
2825 14 102	Machinery and apparatus for filtering or purifying air, fine filters	250.2	303.1	1.6	21.1
2825 14 104	Other machinery and apparatus for filtering or purifying air (excluding intake filters for internal combustion engines)	870.8	841.3	4.6	-3.4
2825 14 301	Machinery and apparatus for filtering or purifying gases by a liquid process	87.5	79.8	0.4	-8.9
2825 14 302	Machinery and apparatus for filtering/purifying gases including for filtering dust from gases excluding air filters for internal combustion engines, using electrostatic	25.1	27.4	0.1	9.3
2825 14 305	Machinery and apparatus for filtering/purifying gases including for filtering dust from gases excluding air filters for internal combustion engines, using thermal process	190.5	113.8	0.6	-40.2
2825 14 309	Apparatus for filtering or purifying gases, by other means (other than catalytic), n e c	228.0	269.3	1.5	18.1
2825 14 500	Gas filtering and purifying apparatus, with stainless steel casing and with bores for inlet and outlet pipes of internal diameters not exceeding 1,3 cm (excluding air intake filters for internal combustion piston engines)	29.5	18.2	0.1	-38.4
2825 20 100	Fans for cooling microprocessors, telecommunications equipment, automatic data-processing machines or units of automatic data-processing machines	-	-	-	-
2825 20 350	Axial fans (excluding table, floor, wall, window, ceiling or roof fans with a self-contained electric motor of an output ≤ 125 W)	739.0	800.3	4.3	8.3
2825 20 550	Centrifugal fans (excluding table, floor, wall, window, ceiling or roof fans with a self-contained electric motor of an output ≤ 125 W)	973.7	957.2	5.2	-1.7
2825 20 750	Fans (excluding table, floor, wall, ceiling or roof fans with a self-contained electric motor of an output ≤ 125 W, axial fans, centrifugal fans)	493.4	528.7	2.9	7.1
2825 30 100	Parts of air conditioning machines (including condensers, absorbers, evaporators and generators)	535.0	574.3	3.1	7.3
2825 30 300	Furniture designed to receive refrigerating or freezing equipment (including evaporators, complete refrigerating units)	-	-	-	-
2825 30 500	Parts of non-domestic refrigerating equipment (including evaporators and condensers)	45.8	47.0	0.3	2.6

*) According to GP 2019, partly confidential or estimated.

Air-handling technology

Production*

GP-Number	Description	2022	2023		change
		million EUR	% -share		rate in %
					2023/2022
2825 30 703	Parts for other refrigerating furniture (excluding those for domestic refrigerators and combinations with separate exterior doors)	57.8	.	.	.
2825 30 708	Parts for heat-pumps and other refrigerating equipment	224.0	239.6	1.3	7.0
2825 30 802	Parts of heat exchange units for ventilation apparatus and systems and for air and gas liquefaction, n.e.c.	531.0	732.7	4.0	38.0
2825 30 807	Parts of machinery, plant and laboratory equipment, whether or not electrically heated, for the treatment of materials by a process involving a change of temperature, and of non-electric instantaneous and storage water heaters, n.e.c. (excluding dryers for textiles)	25.4	16.5	0.1	-35.1
2829 22 203	Spray guns and similar hand-held appliances for lacquer, paint and glue	55.3	54.3	0.3	-1.7
2829 22 403	Automatic spraying systems and similar automatic appliances for lacquer, paint, glue	98.2	102.8	0.6	4.6
2829 22 405	Other spray guns for lacquer, paint and glue	.	360.4	2.0	.
2829 60 500	Vacuum-vapour plant for the deposition of metal	157.1	199.1	1.1	26.7
2829 82 503	Parts of filtering and purifying machinery and apparatus, for gases (excluding for centrifuges and centrifugal dryers)	469.1	385.9	2.1	-17.7
2893 16 000	Dryers for the treatment of agricultural products by a process involving a change in temperature	22.5	24.4	0.1	8.6
2894 22 701	Drying machines, of a dry linen capacity > 10 kg, for the textile industry	.	24.2	0.1	.
2894 22 703	Drying machines, of a dry linen capacity > 10 kg, for laundry and dry-cleaning	74.2	95.2	0.5	28.3
2894 52 208	Parts for textile dryers and other apparatus for cleaning, ironing etc.	175.3	173.0	0.9	-1.3
2899 31 303	Dryers for wood	16.7	14.6	0.1	-12.5
2899 31 305	Dryers for paper pulp, paper or paperboard	9.3	14.8	0.1	59.5
2899 31 503	Non-domestic dryers for food products	.	40.9	0.2	.
2899 31 505	Non-domestic dryers for chemical products and for plastic and rubber products	172.6	130.5	0.7	-24.4
2899 31 507	Non-domestic dryers for coated products	.	141.1	0.8	.
2899 31 509	Non-domestic dryers (excluding those for agricultural products, those for wood, paper pulp, paper or paperboard), n.e.c.	82.9	69.6	0.4	-16.1
2899 39 053	Machines for pre-treating surfaces of metal, (excluding robots)	178.0	187.6	1.0	5.4
2899 39 055	Machines for surface treating and finishing metal, n.e.c.	588.6	589.8	3.2	0.2
2899 52 808	Parts of machinery for coating, surface treatment and finishing of metal	282.7	245.8	1.3	-13.1
3312 18 009	Repair and maintenance of non-domestic cooling and ventilation equipment	612.8	766.6	4.2	25.1
3312 19 904	Repair and maintenance of machines and apparatus for surface treatment (coating with paint, lacquer, glue or for vacuum deposition of metals)	52.0	61.6	0.3	18.6
3312 29 902	Repair and maintenance of dryers and machinery for surface treating metals	44.1	50.6	0.3	14.7
3320 29 502	Installation of non-domestic cooling and ventilation equipment	896.8	963.9	5.2	7.5
3320 29 603	Installation of machines and apparatus for surface	.	.	.	.
3320 39 006	Installation of dryers and machinery for surface treating metals	5.0	4.5	0.0	-9.1
Air-handling technology		17,304.6	18,402.9	100.0	6.3

*) According to GP 2019, partly confidential or estimated.

Air-handling technology

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	64.4	63.1	64.8	64.0	62.4	61.3	62.0	62.4
Production ²	million EUR	14,235	14,920	14,638	14,443	14,843	14,219	17,305	18,403
Share of mechanical engineering	percent	7.0	6.9	6.5	6.4	7.4	6.5	7.3	7.2
Exports	million EUR	10,437	10,760	11,373	12,142	11,710	13,413	15,082	15,813
Share of mechanical engineering	percent	6.7	6.3	6.3	6.7	7.2	7.4	7.7	7.6
Imports	million EUR	7,505	7,522	7,987	8,989	9,000	10,829	11,969	12,299
Share of mechanical engineering	percent	11.4	10.6	10.4	11.6	12.8	13.3	12.8	13.1
Imports in percent of exports	percent	71.9	69.9	70.2	74.0	76.9	80.7	79.4	77.8
Turnover abroad in percent of total turnover	percent	50.6	49.6	50.9	51.6	50.1	50.4	50.2	49.6
In comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	86.3	92.7	90.2	87.8	83.8	87.5	85.1	86.3
Producer price index (Base 2021 = 100)	index	93.8	94.2	95.2	96.2	97.3	100.0	109.9	117.0

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Air-handling technology

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	15,081,668	15,813,005	100.0	4.8
EU27	8,319,504	8,604,536	54.4	3.4
EURO20	5,393,135	5,667,716	35.8	5.1
France	1,011,543	1,126,360	7.1	11.4
Italy	908,019	914,367	5.8	0.7
Spain	662,992	757,238	4.8	14.2
Austria	720,328	704,796	4.5	-2.2
Netherlands	634,008	699,220	4.4	10.3
Belgium	659,059	663,991	4.2	0.7
Slovakia	179,831	214,786	1.4	19.4
Portugal	104,771	130,993	0.8	25.0
Finland	148,300	125,619	0.8	-15.3
Ireland	65,225	69,403	0.4	6.4
Slovenia	61,996	53,179	0.3	-14.2
Luxembourg	45,783	48,157	0.3	5.2
Poland	992,422	1,068,799	6.8	7.7
Czech Republic	904,536	864,396	5.5	-4.4
Sweden	363,073	402,037	2.5	10.7
Hungary	317,029	256,257	1.6	-19.2
Denmark	192,907	174,796	1.1	-9.4
Romania	105,523	109,669	0.7	3.9
Bulgaria	50,879	60,866	0.4	19.6
Other Europe	1,978,866	2,094,289	13.2	5.8
Switzerland	542,106	669,462	4.2	23.5
United Kingdom	677,784	668,938	4.2	-1.3
Türkiye	527,413	533,168	3.4	1.1
Norway	69,908	98,466	0.6	40.9
Africa	243,279	315,158	2.0	29.5
South Africa	156,438	193,896	1.2	23.9
North America	1,791,765	1,825,207	11.5	1.9
USA	1,667,749	1,668,985	10.6	0.1
Canada	124,001	156,191	1.0	26.0
Latin-America	432,008	509,478	3.2	17.9
Mexico	203,622	231,646	1.5	13.8
Brazil	110,065	142,755	0.9	29.7
Argentina	54,250	66,115	0.4	21.9
Asia	2,222,229	2,353,857	14.9	5.9
China	922,652	972,200	6.1	5.4
India	164,712	203,226	1.3	23.4
Rep. of Korea	175,394	173,230	1.1	-1.2
Japan	157,503	171,466	1.1	8.9

Air-handling technology

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
U.A.Emirates	94,459	125,359	0.8	32.7
Taiwan	150,390	99,869	0.6	-33.6
Malaysia	63,351	75,428	0.5	19.1
Thailand	67,442	72,774	0.5	7.9
Singapore	75,423	70,047	0.4	-7.1
Saudi Arabia	46,607	69,737	0.4	49.6
Australia & Oceania	90,139	105,212	0.7	16.7
Australia	71,985	89,126	0.6	23.8
Total Imports	11,968,619	12,299,458	100.0	2.8
EU27	6,846,897	7,703,446	62.6	12.5
EURO20	2,991,458	3,394,658	27.6	13.5
Italy	769,825	824,522	6.7	7.1
France	491,338	651,114	5.3	32.5
Netherlands	270,174	371,828	3.0	37.6
Austria	326,526	354,752	2.9	8.6
Slovakia	213,417	298,360	2.4	39.8
Czech Republic	1,427,538	1,600,302	13.0	12.1
Poland	1,322,648	1,422,710	11.6	7.6
Hungary	430,232	483,553	3.9	12.4
Sweden	265,245	346,833	2.8	30.8
Other Europe	877,369	984,416	8.0	12.2
United Kingdom	288,510	317,667	2.6	10.1
Switzerland	206,817	282,814	2.3	36.7
Africa	1,165,861	929,255	7.6	-20.3
South Africa	1,161,520	923,030	7.5	-20.5
North America	431,882	438,419	3.6	1.5
USA	386,836	399,782	3.3	3.3
Latin-America	120,031	107,416	0.9	-10.5
Asia	2,525,526	2,135,400	17.4	-15.4
China	1,210,677	954,097	7.8	-21.2
Japan	456,250	413,197	3.4	-9.4
Thailand	301,832	351,262	2.9	16.4
Australia & Oceania	1,050	1,106	0.0	5.3

2.10 Power systems

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2811 21 603	Steam turbines (excluding those for electricity generation)	.	.	.	.
2811 21 605	Steam turbines for electricity generation	263.9	.	.	.
2811 22 000	Hydro turbines and water wheels	106.7	43.0	0.8	-59.7
2811 23 000	Gas turbines (excluding turbojets and turboprops)	.	.	.	.
2811 24 000	Sail-powered generating sets	2,518.7	2,619.6	46.4	4.0
2811 31 000	Parts for steam turbines	264.1	347.3	6.2	31.5
2811 32 000	Parts for hydro turbines and water wheels (including regulators)	34.0	27.0	0.5	-20.3
2811 33 000	Parts for gas turbines (excluding those for turbo-jets and turbo-propellers)	333.7	406.1	7.2	21.7
3312 11 002	Repair and maintenance of turbines	1,198.8	1,372.3	24.3	14.5
3320 29 102	Installation of turbines and sail-powered generating sets	.	176.8	3.1	.
Power systems		5,174.1	5,640.4	100.0	9.0

*) According to GP 2019, partly confidential or estimated.

Power systems

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ^{1,2}	1'000	27.5	29.0	27.3	28.5	22.7	21.6	21.0	20.4
Production ³									
Share of mechanical engineering	million EUR percent	7,537 3.7	5,879 2.7	.	5,014 2.2	5,369 2.7	5,185 2.4	5,174 2.2	5,640 2.2
Export									
Share of mechanical engineering	million EUR percent	5,391 3.5	4,381 2.6	4,787 2.7	4,972 2.7	4,829 3.0	4,337 2.4	4,074 2.1	4,582 2.2
Import									
Share of mechanical engineering	million EUR percent	1,758 2.7	1,653 2.3	2,135 2.8	1,680 2.2	1,576 2.2	1,447 1.8	1,796 1.9	2,242 2.4
Imports in percent of exports	percent	32.6	37.7	44.6	33.8	32.6	33.4	44.1	48.9
Turnover abroad in percent of total turnover	percent	73.1	90.8	79.2	74.8	76.3	77.9	75.7	84.7
in comparison: mechanical engineering ⁴	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	index	92.9	92.9	95.7	98.0	98.9	100.0	112.4	131.7

1) Estimated.

2) From 2016 on not comparable with previous years due to changes in the classification of kind-of-activity units.

2) According to GP 2019, partly confidential or estimated.

4) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Power systems

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	4,074,333	4,582,409	100.0	12.5
EU27	1,520,255	1,530,284	33.4	0.7
EURO20	1,003,465	1,100,309	24.0	9.7
Netherlands	194,303	216,609	4.7	11.5
France	198,513	176,889	3.9	-10.9
Italy	113,172	139,124	3.0	22.9
Spain	69,565	122,008	2.7	75.4
Finland	115,180	117,019	2.6	1.6
Belgium	40,767	68,739	1.5	68.6
Greece	6,287	61,120	1.3	872.2
Ireland	64,869	46,796	1.0	-27.9
Croatia	4,534	45,453	1.0	902.5
Austria	97,105	38,685	0.8	-60.2
Lithuania	49,598	36,989	0.8	-25.4
Hungary	145,236	162,973	3.6	12.2
Poland	56,753	151,063	3.3	166.2
Sweden	265,770	76,138	1.7	-71.4
Other Europe	638,731	632,162	13.8	-1.0
Türkiye	145,665	297,454	6.5	104.2
United Kingdom	371,015	245,991	5.4	-33.7
Switzerland	44,160	47,199	1.0	6.9
Africa	313,597	419,880	9.2	33.9
Egypt	87,600	331,659	7.2	278.6
Libya	85,454	44,107	1.0	-48.4
South Africa	10,149	29,974	0.7	195.3
North America	399,827	432,983	9.4	8.3
USA	277,900	366,199	8.0	31.8
Canada	121,926	66,778	1.5	-45.2
Latin-America	108,350	397,490	8.7	266.9
Chile	63,454	159,871	3.5	151.9
Brazil	6,874	134,963	2.9	.
Mexico	3,457	70,790	1.5	.
Asia	1,070,369	1,133,798	24.7	5.9
China	189,207	160,914	3.5	-15.0
U.A.Emirates	77,883	126,471	2.8	62.4
Japan	26,411	108,076	2.4	309.2
Rep. of Korea	109,374	91,680	2.0	-16.2
Qatar	69,827	89,048	1.9	27.5
Singapore	21,008	77,623	1.7	269.5
Taiwan	94,092	63,329	1.4	-32.7
Iraq	20,901	59,974	1.3	186.9

Power systems

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Malaysia	69,086	52,482	1.1	-24.0
Thailand	26,361	46,262	1.0	75.5
Oman	2,525	44,668	1.0	.
Saudi Arabia	19,344	28,650	0.6	48.1
Vietnam	6,271	27,725	0.6	342.1
Israel	63,766	27,182	0.6	-57.4
India	47,382	22,854	0.5	-51.8
Australia & Oceania	13,642	23,324	0.5	71.0
Total Imports	1,796,161	2,242,015	100.0	24.8
EU27	727,972	927,606	41.4	27.4
EURO20	313,336	439,490	19.6	40.3
Italy	161,116	228,021	10.2	41.5
France	54,110	85,692	3.8	58.4
Austria	47,047	53,743	2.4	14.2
Hungary	200,385	211,076	9.4	5.3
Denmark	97,304	176,478	7.9	81.4
Poland	41,672	40,780	1.8	-2.1
Czech Republic	29,870	36,637	1.6	22.7
Other Europe	250,232	255,092	11.4	1.9
United Kingdom	150,151	140,997	6.3	-6.1
Serbia	56,758	62,343	2.8	9.8
Switzerland	30,644	40,712	1.8	32.9
Africa	209	35,545	1.6	.
Egypt	20	33,504	1.5	.
North America	574,636	690,443	30.8	20.2
USA	511,584	633,758	28.3	23.9
Canada	63,052	56,685	2.5	-10.1
Latin-America	8,664	16,799	0.7	93.9
Asia	234,382	313,932	14.0	33.9
China	157,587	162,443	7.2	3.1
Japan	44,611	31,220	1.4	-30.0
U.A.Emirates	1,755	31,057	1.4	.
Australia & Oceania	66	2,598	0.1	.

2.11 Pumps + Systems

Production*

GP-Number	Description	2022	2023		change
		million EUR	%-share	2023/2022	
2813 11 250	Pumps for dispensing liquids, fitted or designed to be fitted with a measuring device (excluding for fuel or lubricants)	-	-	-	-
2813 11 450	Positive displacement pumps, hand pumps	40.4	34.0	0.6	-15.8
2813 12 200	Positive displacement reciprocating pumps, dosing and proportioning	208.8	233.3	3.9	11.7
2813 12 500	Piston pumps (excluding hydraulic pumps and concrete pumps)	138.6	129.1	2.2	-6.9
2813 12 800	Positive displacement reciprocating pumps, diaphragm	206.5	185.0	3.1	-10.4
2813 13 200	Positive displacement gear pumps (excluding hydraulic pumps)	163.9	166.6	2.8	1.6
2813 13 400	Positive displacement pumps, rotary, vane	-	-	-	-
2813 13 600	Positive displacement pumps, rotary, screw	122.7	148.3	2.5	20.9
2813 13 803	Positive displacement pumps, rotary, helical rotor pumps	174.7	175.1	2.9	0.2
2813 13 809	Positive displacement pumps, rotary, other	160.8	172.8	2.9	7.5
2813 14 130	Submersible motor, single-stage rotodynamic drainage and sewage pumps	77.0	83.4	1.4	8.3
2813 14 150	Submersible motor, multi-stage rotodynamic pumps	162.5	180.3	3.0	11.0
2813 14 170	Glandless impeller pumps for heating systems and warm water supply	700.2	608.8	10.2	-13.1
2813 14 200	Rotodynamic pumps ≤ 15mm discharge	33.3	36.2	0.6	8.5
2813 14 300	Centrifugal pumps with a discharge outlet diameter > 15 mm, channel impeller pumps, side channel pumps, peripheral pumps and regenerative pumps	136.1	148.8	2.5	9.4
2813 14 510	Centrifugal pumps with a discharge outlet diameter > 15 mm, single-stage with a single entry impeller, close	193.0	224.8	3.8	16.5
2813 14 530	Centrifugal pumps with a discharge outlet diameter > 15 mm, single stage with a single entry impeller, long coupled	399.0	440.5	7.4	10.4
2813 14 550	Centrifugal pumps with a discharge outlet diameter > 15 mm, single-stage with double entry impeller	-	-	-	-
2813 14 600	Centrifugal pumps with a discharge outlet diameter > 15 mm, multi-stage (including self-priming)	174.2	159.7	2.7	-8.3
2813 14 710	Rotodynamic single-stage mixed flow or axial pumps	151.6	167.8	2.8	10.7
2813 14 750	Rotodynamic multi-stage mixed flow or axial pumps	242.5	194.9	3.3	-19.6
2813 14 800	Other liquid pumps, liquid elevators	272.4	298.4	5.0	9.5
2813 31 002	Parts of positive displacement pumps, rotary type (excluding for hydraulic pumps)	420.8	412.0	6.9	-2.1
2813 31 003	Parts of positive displacement reciprocating pumps (excluding for hydraulic pumps)	233.4	256.3	4.3	9.8
2813 31 005	Parts of rotodynamic pumps	247.3	300.1	5.0	21.4
2813 31 008	Parts of other pumps for liquids and for liquid elevators	382.7	434.3	7.3	13.5
2899 39 400	Central greasing systems	383.0	385.0	6.5	0.5
3312 12 103	Repair and maintenance of other pumps (excluding hydraulic pumps)	286.9	317.8	5.3	10.8
3320 29 205	Installation of other pumps (excluding hydraulic pumps)	53.5	60.8	1.0	13.6
Pumps + Systems		5,775.9	5,968.3	100.0	3.3

* According to GP 2019, partly confidential or estimated.

Pumps + Systems

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	32.1	31.3	31.6	32.0	33.5	33.8	33.9	32.7
Production ²	million EUR	4,498	4,644	4,944	5,227	5,043	5,453	5,776	5,968
Share of mechanical engineering	percent	2.2	2.2	2.2	2.3	2.7	2.5	2.4	2.3
Exports	million EUR	5,040	5,461	5,750	6,003	5,534	5,932	6,109	6,314
Share of mechanical engineering	percent	3.2	3.2	3.2	3.3	3.4	3.3	3.1	3.0
Imports	million EUR	2,431	2,662	2,859	2,908	2,545	2,851	3,255	3,183
Share of mechanical engineering	percent	3.7	3.8	3.7	3.8	3.6	3.5	3.5	3.4
Imports in percent of exports	percent	48.2	48.7	49.7	48.4	46.0	48.1	53.3	50.4
Turnover abroad in percent of total turnover	percent	60.8	60.4	62.1	62.6	61.1	62.8	62.8	62.6
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	77.7	79.9	84.1	84.4	79.0	92.2	93.6	89.6
Producer price index (Base 2021 = 100)	index	90.3	92.0	93.6	95.8	97.6	100.0	111.1	123.2

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Pumps + Systems

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	6,109,171	6,313,518	100.0	3.3
EU27	2,748,406	2,873,859	45.5	4.6
EURO20	1,713,422	1,767,989	28.0	3.2
France	374,305	388,369	6.2	3.8
Netherlands	388,569	382,898	6.1	-1.5
Italy	251,609	272,693	4.3	8.4
Austria	216,562	217,890	3.5	0.6
Belgium	147,257	146,478	2.3	-0.5
Spain	127,683	135,061	2.1	5.8
Finland	46,090	49,449	0.8	7.3
Ireland	23,764	26,544	0.4	11.7
Slovakia	25,937	25,878	0.4	-0.2
Czech Republic	384,591	441,060	7.0	14.7
Poland	204,710	212,994	3.4	4.0
Sweden	120,857	128,844	2.0	6.6
Romania	104,362	111,183	1.8	6.5
Hungary	96,960	95,366	1.5	-1.6
Denmark	85,272	84,244	1.3	-1.2
Bulgaria	38,232	32,179	0.5	-15.8
Other Europe	776,423	719,347	11.4	-7.4
United Kingdom	191,221	205,778	3.3	7.6
Türkiye	178,726	199,771	3.2	11.8
Switzerland	183,695	190,005	3.0	3.4
Norway	50,843	58,913	0.9	15.9
Africa	128,980	171,260	2.7	32.8
Egypt	36,130	64,873	1.0	79.6
South Africa	32,924	34,081	0.5	3.5
North America	688,002	724,243	11.5	5.3
USA	644,250	682,640	10.8	6.0
Canada	43,746	41,548	0.7	-5.0
Latin-America	179,293	205,064	3.2	14.4
Brazil	64,403	69,150	1.1	7.4
Mexico	44,212	62,243	1.0	40.8
Asia	1,523,560	1,548,269	24.5	1.6
China	721,664	653,393	10.3	-9.5
Rep. of Korea	112,727	129,363	2.0	14.8
India	88,829	110,689	1.8	24.6
Japan	78,269	82,268	1.3	5.1
Singapore	73,914	71,295	1.1	-3.5
U.A.Emirates	51,491	64,825	1.0	25.9
Saudi Arabia	50,185	57,033	0.9	13.6

Pumps + Systems

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Kazakhstan	38,495	56,484	0.9	46.7
Indonesia	26,661	32,885	0.5	23.3
Taiwan	34,054	31,284	0.5	-8.1
Thailand	28,026	31,147	0.5	11.1
Iraq	25,598	30,810	0.5	20.4
Malaysia	22,286	26,922	0.4	20.8
Australia & Oceania	52,396	56,137	0.9	7.1
Australia	45,446	49,341	0.8	8.6
Total Imports	3,255,494	3,183,230	100.0	-2.2
EU27	1,944,076	1,913,496	60.1	-1.6
EURO20	1,130,248	1,121,079	35.2	-0.8
Italy	366,187	344,979	10.8	-5.8
France	283,070	258,973	8.1	-8.5
Netherlands	141,926	146,999	4.6	3.6
Austria	101,811	119,675	3.8	17.5
Slovakia	74,127	75,393	2.4	1.7
Czech Republic	257,667	254,905	8.0	-1.1
Hungary	149,381	165,590	5.2	10.9
Denmark	131,886	138,520	4.4	5.0
Poland	122,992	123,303	3.9	0.3
Romania	85,583	84,525	2.7	-1.2
Other Europe	367,265	367,786	11.6	0.1
Switzerland	155,514	157,818	5.0	1.5
Türkiye	100,844	108,139	3.4	7.2
Africa	3,945	3,780	0.1	-4.2
North America	280,261	340,205	10.7	21.4
USA	275,389	334,376	10.5	21.4
Latin-America	33,452	25,008	0.8	-25.2
Asia	625,315	532,085	16.7	-14.9
China	402,794	325,520	10.2	-19.2
India	82,611	75,975	2.4	-8.0
Japan	81,280	72,552	2.3	-10.7
Australia & Oceania	1,164	828	0.0	-28.9

2.12 Compressors, compressed air and vacuum technology

Production*

GP-Number	Description	2022	2023		change
		million EUR	%-share	2023/2022	
2813 21 700	Vacuum pumps, rotary pistons pumps, sliding vane rotary pumps, molecular drag pumps and roots pumps; diffusion pumps, cryopumps and adsorption pumps	516.5	592.8	9.8	14.8
2813 21 900	Liquid ring	498.3	536.4	8.8	7.6
2813 24 000	Air compressors mounted on a wheeled chassis for towing	.	.	.	.
2813 25 300	Turbo-compressors, single stage	863.8	938.5	15.5	8.7
2813 25 500	Turbo-compressors, multistage	478.7	568.0	9.4	18.7
2813 26 300	Reciprocating displacement compressors having a gauge pressure capacity ≤ 15 bar, giving a flow ≤ 60 m ³ /hour	63.1	60.8	1.0	-3.7
2813 26 500	Reciprocating displacement compressors having a gauge pressure capacity ≤ 15 bar, giving a flow per hour > 60 m ³	14.8	17.9	0.3	20.7
2813 26 700	Reciprocating displacement compressors having a gauge pressure capacity > 15 bar, giving a flow per hour ≤ 120 m ³	88.8	116.5	1.9	31.2
2813 26 900	Reciprocating displacement compressors having a gauge pressure capacity > 15 bar, giving a flow per hour > 120 m ³	78.6	115.9	1.9	47.5
2813 27 300	Rotary displacement compressors, single-shaft	.	224.5	3.7	.
2813 27 530	Multi-shaft screw compressors	815.8	953.2	15.7	16.8
2813 27 550	Multi-shaft compressors (excluding screw compressors)	261.6	.	.	.
2813 28 000	Air/gas compressors excluding air/vacuum pumps used in refrigeration, air compressors mounted on wheeled chassis, turbo compressors, reciprocating and rotary displacement compressors	155.8	174.5	2.9	12.0
2813 32 009	Parts of air and vacuum pumps, of air and gas compressors (excluding those for compressors used in refrigerating equipment)	723.5	845.2	13.9	16.8
3312 12 102	Repair and maintenance of vacuum pumps and compressors	214.8	283.2	4.7	31.9
3320 29 204	Installation of vacuum pumps and compressors	196.9	173.2	2.9	-12.1
Compressors, compressed air and vacuum technology		5,241.4	6,072.9	100.0	15.9

*) According to GP 2019, partly confidential or estimated.

Compressors, compressed air and vacuum technology

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	14.7	14.8	14.7	15.3	15.0	15.2	15.2	16.4
Production ²	million EUR	4,717	4,839	4,940	4,859	4,416	4,887	5,241	6,073
Share of mechanical engineering	percent	2.3	2.3	2.2	2.2	2.2	2.2	2.2	2.4
Exports	million EUR	4,968	5,123	5,481	5,105	4,619	4,912	5,484	5,774
Share of mechanical engineering	percent	3.2	3.0	3.1	2.8	2.8	2.7	2.8	2.8
Imports	million EUR	2,237	2,369	2,567	2,613	2,378	2,652	2,890	2,915
Share of mechanical engineering	percent	3.4	3.3	3.4	3.4	3.4	3.3	3.1	3.1
Imports in percent of exports	percent	45.0	46.2	46.8	51.2	51.5	54.0	52.7	50.5
Turnover abroad in percent of total turnover	percent	79.4	75.7	73.5	72.2	74.6	74.7	76.0	72.7
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	index	92.6	93.4	94.5	97.3	98.5	100.0	106.3	114.3

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Compressors, compressed air and vacuum technology

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	5,484,045	5,773,842	100.0	5.3
EU27	2,083,470	2,213,885	38.3	6.3
EURO20	1,468,574	1,530,364	26.5	4.2
France	309,531	301,382	5.2	-2.6
Italy	283,710	288,379	5.0	1.6
Netherlands	193,240	227,395	3.9	17.7
Austria	187,730	200,384	3.5	6.7
Belgium	148,560	151,510	2.6	2.0
Spain	133,709	129,545	2.2	-3.1
Slovakia	60,016	70,210	1.2	17.0
Finland	34,606	34,561	0.6	-0.1
Ireland	24,161	28,418	0.5	17.6
Portugal	22,548	23,587	0.4	4.6
Poland	153,743	185,308	3.2	20.5
Hungary	133,670	151,640	2.6	13.4
Sweden	137,166	147,688	2.6	7.7
Czech Republic	94,782	101,683	1.8	7.3
Romania	36,659	43,249	0.7	18.0
Denmark	46,237	43,051	0.7	-6.9
Other Europe	614,548	635,823	11.0	3.5
United Kingdom	220,359	233,635	4.0	6.0
Switzerland	166,666	189,315	3.3	13.6
Türkiye	111,576	110,336	1.9	-1.1
Norway	38,420	47,854	0.8	24.6
Africa	136,563	128,201	2.2	-6.1
South Africa	57,650	59,953	1.0	4.0
North America	705,060	704,965	12.2	0.0
USA	657,330	651,771	11.3	-0.8
Canada	47,727	53,078	0.9	11.2
Latin-America	261,027	305,695	5.3	17.1
Mexico	89,321	115,831	2.0	29.7
Brazil	71,491	95,441	1.7	33.5
Asia	1,622,094	1,701,564	29.5	4.9
China	806,478	675,549	11.7	-16.2
India	159,782	215,830	3.7	35.1
Rep. of Korea	128,009	198,392	3.4	55.0
Singapore	73,269	81,227	1.4	10.9
Japan	62,456	70,584	1.2	13.0
Qatar	7,784	60,307	1.0	674.8
Iran	33,240	54,317	0.9	63.4
U.A.Emirates	33,286	46,146	0.8	38.6

Compressors, compressed air and vacuum technology

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Saudi Arabia	82,934	42,669	0.7	-48.6
Taiwan	36,840	38,806	0.7	5.3
Indonesia	34,481	31,332	0.5	-9.1
Malaysia	29,033	30,347	0.5	4.5
Kazakhstan	13,657	29,790	0.5	118.1
Australia & Oceania	44,704	44,782	0.8	0.2
Australia	38,675	40,955	0.7	5.9
Stores,Prov.	16,554	38,886	0.7	134.9
Total Imports	2,889,561	2,914,761	100.0	0.9
EU27	1,716,555	1,723,652	59.1	0.4
EURO20	1,016,010	988,448	33.9	-2.7
France	181,374	209,952	7.2	15.8
Italy	204,066	207,490	7.1	1.7
Netherlands	295,431	191,675	6.6	-35.1
Belgium	140,107	175,218	6.0	25.1
Austria	70,488	82,581	2.8	17.2
Poland	286,030	316,362	10.9	10.6
Czech Republic	146,842	178,018	6.1	21.2
Romania	154,524	149,129	5.1	-3.5
Hungary	64,158	54,958	1.9	-14.3
Other Europe	336,857	417,218	14.3	23.9
Switzerland	160,085	141,994	4.9	-11.3
Serbia	23,789	138,484	4.8	482.1
United Kingdom	105,558	90,509	3.1	-14.3
Africa	2,245	1,112	0.0	-50.5
North America	158,925	150,089	5.1	-5.6
USA	157,257	144,740	5.0	-8.0
Latin-America	54,521	53,169	1.8	-2.5
Asia	619,724	567,568	19.5	-8.4
China	329,172	278,705	9.6	-15.3
Japan	127,105	123,543	4.2	-2.8
India	82,523	94,254	3.2	14.2
Australia & Oceania	734	1,950	0.1	165.7

2.13 Construction equipment and building material machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	% share		2023/2022
2573 50 500	Mould tools for glass	27.4	19.9	0.1	-27.6
2573 50 600	Mould tools for mineral materials	82.8	76.4	0.5	-7.7
2813 11 850	Concrete pumps	.	.	.	.
2822 16 303	Electrically operated builders' hoists	143.2	157.8	1.1	10.2
2829 22 209	Spray guns and similar appliances (excluding those for paint and glue)	9.2	8.6	0.1	-7.0
2849 11 300	Sawing machines for working stone, ceramics, concrete, asbestos-cement or like mineral materials or for cold working glass	195.8	167.2	1.2	-14.6
2849 11 500	Grinding or polishing machines for working stone, ceramics, concrete, asbestos-cement or like mineral materials or for cold working glass	39.1	53.2	0.4	36.1
2849 11 700	Machine-tools for working stone, ceramics, concrete, asbestos-cement or like mineral materials or for cold working glass (excluding sawing machines, grinding or polishing machines)	298.8	285.0	2.0	-4.6
2849 24 300	Parts and accessories of machine tools for working stone, concrete and similar mineral materials and for cold working glass	170.7	130.2	0.9	-23.7
2892 21 300	Crawler dozers (excluding wheeled)	.	.	.	.
2892 21 500	Wheeled dozers (excluding track-laying)	.	.	.	.
2892 22 100	Self-propelled motor graders, levellers and scrapers	.	77.3	0.6	.
2892 23 100	Ride-on compaction equipment and the like, self-propelled	939.0	1,081.2	7.7	15.1
2892 24 500	Self-propelled front scoop loader (except underground)	1,123.0	1,449.3	10.4	29.1
2892 25 001	Hydraulic mini-bulldozers, with a service weight 6t or less	.	.	.	.
2892 25 003	Hydraulic crawler cranes, with a service weight of more than 6t	386.0	427.6	3.1	10.8
2892 25 009	Hydraulic bulldozers on wheels, cable-operated excavator and other excavators with a 360° revolving superstructure, n.e.c.	1,510.2	1,845.9	13.2	22.2
2892 26 300	Other self-propelled bulldozers, excavators without a 360° revolving superstructure, n.e.c.	94.8	110.4	0.8	16.5
2892 26 500	Self-propelled earth moving, excavating machinery, n.e.c.	152.9	175.3	1.3	14.7
2892 27 000	Blades for all types of construction equipment (bulldozer or angledozer)	.	.	.	.
2892 28 100	Dumpers for off-highway use	228.3	279.0	2.0	22.2
2892 30 100	Pile-drivers and pile-extractors	243.7	270.0	1.9	10.8
2892 30 300	Snow-ploughs and snow-blowers	30.2	40.4	0.3	33.8
2892 30 500	(Towed and hand held compaction equipment) Tamping or compacting machinery (excluding self-propelled)	353.9	374.3	2.7	5.8
2892 30 700	Scrapers, earth moving, excavating, extracting machinery, not self-propelled	.	.	.	.

*) According to GP 2019, partly confidential or estimated.

Construction equipment and building material machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2892 30 900	Machinery for public works, building and the like, having individual functions, n e c	1,520.8	1,546.2	11.1	1.7
2892 40 303	Machinery for the treatment/processing of building materials (Sorting, screening, separating, washing machines; crushing, grinding, mixing, kneading machines excluding concrete/mortar mixers, machines for mixing mineral substances with bitumen)	259.7	291.8	2.1	12.4
2892 40 307	Machinery for the treatment/processing of other mineral substances (Sorting, screening, separating, washing machines; crushing, grinding, mixing, kneading machines excluding concrete/mortar mixers, machines for mixing mineral substances with bitumen)	377.3	312.1	2.2	-17.3
2892 40 500	Concrete or mortar mixers	207.9	216.3	1.5	4.0
2892 40 700	Machines for mixing mineral substances with bitumen	.	.	.	.
2892 50 000	Track-laying tractors (Crawler tractors)	.	.	.	.
2892 61 503	Parts for loaders	359.8	348.0	2.5	-3.3
2892 61 508	Parts of tower cranes, earthmoving equipt., n e c	746.0	779.3	5.6	4.5
2892 62 009	Parts of machinery for processing mineral substances (excluding for foundry sands)	647.1	629.6	4.5	-2.7
2899 39 200	Machines for assembling electric or electronic lamps, tubes, valves or flashbulbs, in glass envelopes	-	-	-	-
2899 39 300	Machines for manufacturing or hot working glass or glassware	132.0	175.8	1.3	33.2
2899 39 532	3D-printer for additive manufacturing of products from mineral substances	.	.	.	.
2899 39 536	Other machinery for pressing and forming building materials (excl 3D-printers)	179.0	215.2	1.5	20.2
2899 39 538	Other machinery for pressing and forming other mineral substances (excl 3D-printers), n e c	17.0	32.2	0.2	89.4
2899 52 300	Parts for machines for assembling electric/electronic lamps, tubes/valves/flashbulbs, in glass envelopes, for manufacturing/ hot working glass/glassware excluding moulds for glass making	299.8	327.8	2.3	9.3
2899 52 803	Parts of machinery an equipment for road construction, civil engineering etc, n e c	473.7	487.5	3.5	2.9
2910 59 500	Concrete-mixer lorries	.	.	.	.
3312 15 002	Repair and maintenance of lifting and handling equipment for the building industry	26.1	26.4	0.2	0.9
3312 24 005	Repair and maintenance of machinery for construction and building material machines	324.3	343.4	2.5	5.9
3312 29 101	Repair and maintenance of machine tools for working stone and mineral materials and for cold working glass	12.1	13.0	0.1	7.3
3320 32 003	Installation services of machine tools for working stone and mineral materials and for cold working glass	13.3	15.1	0.1	13.3
3320 34 005	Installation services of machinery for construction and building material machines	140.6	214.9	1.5	52.9
3320 39 003	Installation services of machinery for hot working glass or glass products	4.2	4.3	0.0	2.5
Construction equipment and building material machinery		12,662.4	13,983.0	100.0	10.4

*) According to GP 2019, partly confidential or estimated.

Construction equipment and building material machinery

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	40.0	41.2	43.6	43.7	42.5	43.0	43.6	46.4
Production ²	million EUR	9,370	10,531	11,541	11,839	9,918	11,458	12,662	13,983
Share of mechanical engineering	percent	4.6	4.9	5.1	5.2	5.0	5.2	5.3	5.5
Export	million EUR	7,947	9,350	9,972	9,824	8,690	10,450	11,123	11,826
Share of mechanical engineering	percent	5.1	5.5	5.5	5.4	5.3	5.8	5.7	5.7
Import	million EUR	4,157	4,580	5,089	5,554	4,851	5,701	6,677	6,816
Share of mechanical engineering	percent	6.3	6.5	6.6	7.2	6.6	7.0	7.1	7.3
Imports in percent of exports	percent	52.3	49.0	51.0	56.5	53.5	54.6	60.0	57.6
Turnover abroad in percent of total turnover	percent	77.3	74.4	74.7	74.0	71.4	72.8	73.4	75.0
In comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	78.6	88.8	89.1	86.4	79.3	89.3	87.1	85.1
Producer price index (Base 2021 = 100)	index	92.3	93.3	94.3	96.2	98.2	100.0	107.9	115.2

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Construction equipment and building material machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	11,122,812	11,826,412	100.0	6.3
EU27	5,209,684	5,304,771	44.9	1.8
EURO20	3,582,024	3,710,836	31.4	3.6
France	921,281	964,021	8.2	4.6
Netherlands	679,629	770,653	6.5	13.4
Austria	507,853	478,308	4.0	-5.8
Italy	348,817	363,983	3.1	4.3
Belgium	288,044	270,854	2.3	-6.0
Spain	189,497	191,619	1.6	1.1
Finland	148,431	135,884	1.1	-8.5
Slovakia	115,907	84,983	0.7	-26.7
Ireland	59,397	68,979	0.6	16.1
Slovenia	49,509	53,381	0.5	7.8
Luxembourg	45,349	52,869	0.4	16.6
Croatia	40,776	52,446	0.4	28.6
Portugal	44,377	49,767	0.4	12.1
Poland	478,963	523,288	4.4	9.3
Sweden	350,920	356,802	3.0	1.7
Czech Republic	356,520	266,691	2.3	-25.2
Denmark	168,475	156,310	1.3	-7.2
Romania	122,348	156,009	1.3	27.5
Hungary	112,702	80,794	0.7	-28.3
Bulgaria	37,732	54,041	0.5	43.2
Other Europe	1,460,148	1,419,751	12.0	-2.8
United Kingdom	502,343	569,535	4.8	13.4
Switzerland	332,191	344,998	2.9	3.9
Türkiye	140,047	189,442	1.6	35.3
Norway	170,817	143,685	1.2	-15.9
Africa	277,994	320,322	2.7	15.2
South Africa	65,815	70,190	0.6	6.6
Egypt	90,866	54,277	0.5	-40.3
North America	1,982,105	2,431,969	20.6	22.7
USA	1,739,270	2,238,257	18.9	28.7
Canada	242,804	193,190	1.6	-20.4
Latin-America	373,595	449,452	3.8	20.3
Brazil	103,277	143,105	1.2	38.6
Mexico	100,011	101,069	0.9	1.1
Asia	1,554,152	1,628,708	13.8	4.8
China	386,319	433,036	3.7	12.1
Saudi Arabia	106,339	165,649	1.4	55.8
Rep. of Korea	260,943	160,557	1.4	-38.5

Construction equipment and building material machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
India	179,404	156,994	1.3	-12.5
U.A.Emirates	62,024	148,283	1.3	139.1
Kazakhstan	38,610	68,621	0.6	77.7
Taiwan	94,951	66,579	0.6	-29.9
Japan	73,865	53,364	0.5	-27.8
Israel	71,880	49,525	0.4	-31.1
Australia & Oceania	260,841	269,711	2.3	3.4
Australia	226,723	233,463	2.0	3.0
Total Imports	6,677,311	6,815,535	100.0	2.1
EU27	4,621,088	4,878,665	71.6	5.6
EURO20	3,130,634	3,237,882	47.5	3.4
France	614,798	656,611	9.6	6.8
Austria	499,275	606,781	8.9	21.5
Italy	524,463	525,617	7.7	0.2
Netherlands	522,906	477,942	7.0	-8.6
Belgium	384,441	437,752	6.4	13.9
Slovakia	164,698	145,261	2.1	-11.8
Slovenia	125,829	142,959	2.1	13.6
Poland	407,761	429,937	6.3	5.4
Sweden	346,092	411,329	6.0	18.8
Czech Republic	399,817	410,452	6.0	2.7
Hungary	175,021	211,237	3.1	20.7
Other Europe	628,932	696,089	10.2	10.7
United Kingdom	305,886	356,902	5.2	16.7
Türkiye	179,998	194,927	2.9	8.3
Africa	73,654	86,552	1.3	17.5
North America	210,371	241,500	3.5	14.8
USA	207,330	236,805	3.5	14.2
Latin-America	11,012	17,992	0.3	63.4
Asia	1,129,368	892,122	13.1	-21.0
China	662,679	439,839	6.5	-33.6
Japan	229,743	202,997	3.0	-11.6
Australia & Oceania	2,886	2,615	0.0	-9.4

2.14 Plastics and rubber machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	% -share		2023/2022
2790 31 913	Machines and apparatus for welding of plastics (excluding resistance welding)	106.8	122.0	1.4	14.2
2829 60 908	Machinery, plant or laboratory equipment for the treatment of materials by a process involving a change of temperature, for the rubber and plastics industry	34.6	35.5	0.4	2.6
2896 10 100	Injection moulding machines for plastics or rubber	1,269.0	1,214.4	13.7	-4.3
2896 10 300	Extruders for plastics or rubber	1,284.1	1,549.6	17.5	20.7
2896 10 400	Blow-moulding machines for plastics	306.1	435.0	4.9	42.1
2896 10 500	Vacuum-moulding machines and other thermoforming machines for plastics	203.7	201.1	2.3	-1.3
2896 10 600	Machinery for moulding or retreading pneumatic tyres	.	.	.	.
2896 10 730	Presses for moulding or forming rubber or plastics etc.	154.7	157.0	1.8	1.5
2896 10 750	Other machinery for moulding or forming rubber or plastics, n.e.c.	58.9	45.9	0.5	-22.1
2896 10 820	Machines for processing reactive resins for the manufacture of foam products and foam rubber	.	.	.	.
2896 10 840	Other machines for the manufacture of foam products and foam rubber	532.2	386.4	4.4	-27.4
2896 10 910	Size reduction equipment for working rubber or plastics	173.0	238.9	2.7	38.1
2896 10 930	Mixers, kneaders and agitators, for pre-processing rubber or plastics	111.5	117.6	1.3	5.4
2896 10 950	Cutting, splitting and peeling machines for plastics or rubber or plastics	196.6	191.6	2.2	-2.5
2896 10 971	Follow-on equipment for extruders and calendering machines, n.e.c.	341.3	292.8	3.3	-14.2
2896 10 977	3D-printer for additive manufacturing of products from plastics and rubber	27.8	32.3	0.4	16.3
2896 10 979	Other machinery for plastics or rubber, n.e.c.	1,421.4	1,495.6	16.9	5.2
2896 20 001	Screws	80.7	74.3	0.8	-7.9
2896 20 003	Barrels	36.6	32.2	0.4	-12.0
2896 20 009	Other parts for machinery for plastics or rubber (excluding moulding tools)	1,717.9	1,740.2	19.6	1.3
3312 28 000	Repair and maintenance of machinery for working plastics or rubber or for manufacturing rubber or plastic products	315.7	321.1	3.6	1.7
3320 38 000	Installation of machinery for manufacturing and working plastics and rubber and products thereof	102.1	114.4	1.3	12.0
Plastics and rubber machinery		8,574.0	8,864.0	100.0	3.4

*) According to GP 2019, partly confidential or estimated.

Plastics and rubber machinery

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	29.5	31.1	32.5	32.7	31.3	30.5	31.1	31.4
Production ²	million EUR	7,432	7,738	7,900	7,824	7,018	7,557	8,574	8,864
Share of mechanical engineering	percent	3.6	3.6	3.5	3.5	3.5	3.5	3.6	3.5
Exports	million EUR	4,963	5,386	5,461	5,175	4,765	5,236	5,753	6,251
Share of mechanical engineering	percent	3.2	3.2	3.0	2.8	2.9	2.9	2.9	3.0
Imports	million EUR	1,201	1,344	1,382	1,273	1,100	1,329	1,467	1,487
Share of mechanical engineering	percent	1.8	1.9	1.8	1.6	1.6	1.6	1.6	1.6
Imports in percent of exports	percent	24.2	25.0	25.3	24.6	23.1	25.4	25.5	23.8
Turnover abroad in percent of total turnover	percent	79.4	77.7	77.5	78.8	79.8	82.2	81.1	83.3
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	89.6	96.2	93.6	88.3	78.1	97.0	88.5	94.0
Producer price index (Base 2021 = 100)	index	91.5	92.7	94.1	95.8	97.6	100.0	107.1	115.8

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method

Plastics and rubber machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	5,753,245	6,251,292	100.0	8.7
EU27	1,676,194	1,741,967	27.9	3.9
EURO20	1,112,341	1,149,630	18.4	3.4
Italy	292,444	283,856	4.5	-2.9
France	160,329	188,250	3.0	17.4
Austria	129,035	118,504	1.9	-8.2
Spain	110,080	117,914	1.9	7.1
Netherlands	94,148	105,258	1.7	11.8
Belgium	72,082	94,542	1.5	31.2
Slovakia	73,084	69,002	1.1	-5.6
Portugal	60,811	53,941	0.9	-11.3
Slovenia	18,751	23,787	0.4	26.9
Poland	195,520	231,068	3.7	18.2
Czech Republic	126,006	120,425	1.9	-4.4
Hungary	78,627	100,568	1.6	27.9
Romania	77,176	58,065	0.9	-24.8
Sweden	37,185	47,706	0.8	28.3
Denmark	39,244	26,709	0.4	-31.9
Other Europe	594,271	527,250	8.4	-11.3
Türkiye	156,806	185,249	3.0	18.1
Switzerland	144,342	118,951	1.9	-17.6
United Kingdom	129,251	96,778	1.5	-25.1
Russian Fed.	79,544	57,887	0.9	-27.2
Serbia	53,164	27,525	0.4	-48.2
Africa	131,285	155,289	2.5	18.3
Egypt	48,092	61,008	1.0	26.9
South Africa	21,015	27,622	0.4	31.4
Algeria	10,595	21,617	0.3	104.0
North America	903,418	1,000,564	16.0	10.8
USA	848,979	961,526	15.4	13.3
Canada	54,439	39,036	0.6	-28.3
Latin-America	308,106	421,748	6.7	36.9
Mexico	159,763	241,107	3.9	50.9
Brazil	67,053	85,326	1.4	27.3
Asia	2,110,461	2,365,621	37.8	12.1
China	1,275,566	1,503,839	24.1	17.9
India	263,933	166,601	2.7	-36.9
Rep. of Korea	56,497	100,722	1.6	78.3
Pakistan	11,030	96,081	1.5	771.1
Saudi Arabia	49,937	74,850	1.2	49.9
Thailand	74,312	72,027	1.2	-3.1

Plastics and rubber machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Japan	52,430	66,824	1.1	27.5
Malaysia	40,982	42,552	0.7	3.8
Vietnam	40,147	38,526	0.6	-4.0
Indonesia	51,121	36,955	0.6	-27.7
Taiwan	45,401	34,973	0.6	-23.0
U.A.Emirates	18,009	30,292	0.5	68.2
Australia & Oceania	29,507	38,843	0.6	31.6
Australia	20,027	32,184	0.5	60.7
Total Imports	1,466,736	1,486,945	100.0	1.4
EU27	930,320	1,004,608	67.6	8.0
EURO20	754,357	800,615	53.8	6.1
Austria	290,636	308,522	20.7	6.2
Slovakia	216,938	231,490	15.6	6.7
Italy	128,664	140,607	9.5	9.3
Netherlands	34,084	34,574	2.3	1.4
France	23,006	24,770	1.7	7.7
Spain	13,994	13,175	0.9	-5.9
Czech Republic	113,454	137,489	9.2	21.2
Hungary	27,253	20,113	1.4	-26.2
Poland	10,673	18,050	1.2	69.1
Romania	10,994	14,375	1.0	30.8
Other Europe	121,545	123,939	8.3	2.0
Switzerland	85,452	94,334	6.3	10.4
United Kingdom	19,335	15,536	1.0	-19.6
Africa	3,282	853	0.1	-74.0
North America	108,196	93,248	6.3	-13.8
USA	103,682	87,692	5.9	-15.4
Latin-America	3,231	1,430	0.1	-55.7
Asia	297,007	259,896	17.5	-12.5
China	217,490	170,847	11.5	-21.4
Japan	23,088	30,895	2.1	33.8
Singapore	12,346	18,160	1.2	47.1
Australia & Oceania	3,155	2,971	0.2	-5.8

2.15 Mining equipment

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2511 23 104	Longwall and roadway support (pit punches, roadway arches, without walking hydraulic pit support) and accessories	45.2	48.1	1.6	6.5
2822 17 701	Belt type continuous-action elevators and conveyors for bulk goods or materials, for surface mining	111.2	125.7	4.1	13.0
2822 19 308	Parts for other machinery for underground use	149.4	129.6	4.2	-13.3
2822 19 503	Parts of hoisting cages	.	6.8	0.2	.
2892 11 000	Continuous-action elevators and conveyors, for underground use	41.8	40.8	1.3	-2.4
2892 12 330	Self-propelled coal or rock cutters and tunnelling	.	.	.	.
2892 12 350	Coal or rock cutters and tunnelling machinery (excluding self-propelled)	.	.	.	.
2892 12 530	Self-propelled boring or sinking machinery	333.3	297.1	9.7	-10.8
2892 12 550	Boring or sinking machinery (including fixed platforms used for oil or natural gas exploration) (excluding self-	36.3	64.7	2.1	78.4
2892 24 300	Loaders specially designed for underground use	.	.	.	.
2892 40 305	Sorting, screening, separating, washing machines for mineral substances	134.4	157.7	5.1	17.4
2892 40 306	Crushing, grinding, mixing, kneading machines for mineral substances	74.8	83.7	2.7	11.9
2892 61 303	Parts for boring machinery	32.9	36.1	1.2	9.8
2892 61 305	Parts for sinking machinery	476.3	565.0	18.4	18.6
2892 61 505	Parts for special cranes for surface mining	73.7	69.7	2.3	-5.5
2892 61 507	Parts for coal or rock cutters and tunneling machinery and for boring/sinking machinery	124.1	149.3	4.9	20.3
2899 39 250	Mobile hydraulic powered mine roof supports	.	.	.	.
3312 15 001	Repair and maintenance of lifting and handling equipment for mining	67.7	48.4	1.6	-28.5
3312 24 009	Repair and maintenance of machinery for mining, quarrying and construction	87.2	94.7	3.1	8.6
3320 34 009	Installation of machinery for mining, quarrying and construction	0.6	0.9	0.0	48.7
Mining equipment		2,716.7	3,078.2	100.0	13.3

*) According to GP 2019, partly confidential or estimated.

Mining equipment

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	'000	11.7	11.6	12.2	12.4	12.0	11.5	11.6	12.2
Production ²	million EUR	2,901	2,722	3,189	3,382	2,563	2,372	2,717	3,078
Share of mechanical engineering	percent	1.4	1.3	1.4	1.5	1.3	1.1	1.1	1.2
Export	million EUR	1,578	1,568	1,571	1,978	1,662	1,671	1,875	1,770
Share of mechanical engineering	percent	1.0	0.9	0.9	1.1	1.0	0.9	1.0	0.9
Import	million EUR	370	390	414	474	398	487	534	455
Share of mechanical engineering	percent	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.5
Imports in percent of exports	percent	23.4	24.9	26.4	24.0	24.0	29.1	28.5	25.7
Turnover abroad in percent of total turnover	percent	94.8	95.4	96.3	96.5	96.0	94.8	94.6	94.7
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	index	88.1	89.3	92.9	94.8	98.2	100.0	110.6	123.2

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Mining equipment

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	1,874,784	1,769,670	100.0	-5.6
EU27	479,330	422,151	23.9	-11.9
EURO20	353,248	308,777	17.4	-12.6
France	56,970	65,655	3.7	15.2
Austria	68,662	48,368	2.7	-29.6
Netherlands	47,282	44,710	2.5	-5.4
Italy	47,469	43,276	2.4	-8.8
Belgium	28,595	28,977	1.6	1.3
Spain	16,582	23,355	1.3	40.8
Croatia	12,174	10,960	0.6	-10.0
Greece	7,125	9,320	0.5	30.8
Poland	41,319	36,019	2.0	-12.8
Romania	17,089	17,749	1.0	3.9
Czech Republic	17,088	17,097	1.0	0.1
Denmark	18,665	14,726	0.8	-21.1
Sweden	13,222	13,117	0.7	-0.8
Hungary	17,234	9,189	0.5	-46.7
Other Europe	344,048	296,927	16.8	-13.7
United Kingdom	118,683	132,428	7.5	11.6
Switzerland	71,811	52,550	3.0	-26.8
Norway	48,644	48,575	2.7	-0.1
Türkiye	28,321	39,823	2.3	40.6
Ukraine	1,231	13,755	0.8	.
Africa	117,073	72,187	4.1	-38.3
Egypt	57,266	21,910	1.2	-61.7
South Africa	12,890	10,923	0.6	-15.3
North America	451,808	444,010	25.1	-1.7
USA	400,312	380,882	21.5	-4.9
Canada	51,489	63,041	3.6	22.4
Latin-America	47,613	112,122	6.3	135.5
Panama	538	43,629	2.5	.
Mexico	11,323	25,540	1.4	125.6
Brazil	8,760	13,510	0.8	54.2
Chile	5,926	10,945	0.6	84.7
Asia	376,830	356,857	20.2	-5.3
China	87,583	72,698	4.1	-17.0
India	111,304	41,346	2.3	-62.9
U.A.Emirates	20,777	36,869	2.1	77.5
Uzbekistan	474	31,270	1.8	.
Japan	27,022	26,811	1.5	-0.8
Saudi Arabia	14,978	23,344	1.3	55.9

Mining equipment

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Kazakhstan	21,047	19,445	1.1	-7.6
Iran	344	13,903	0.8	.
Hong Kong (SVR)	8,275	11,506	0.7	39.0
Israel	25,521	11,397	0.6	-55.3
Pakistan	7,857	8,737	0.5	11.2
Singapore	8,552	8,047	0.5	-5.9
Australia & Oceania	56,602	64,998	3.7	14.8
Australia	52,171	61,803	3.5	18.5
Total Imports	533,938	455,039	100.0	-14.8
EU27	293,694	226,075	49.7	-23.0
EURO20	220,996	171,477	37.7	-22.4
Austria	77,324	59,848	13.2	-22.6
Italy	62,826	54,023	11.9	-14.0
Netherlands	18,320	11,035	2.4	-39.8
Portugal	75	9,060	2.0	.
France	20,141	8,416	1.8	-58.2
Slovenia	7,838	6,284	1.4	-19.8
Ireland	5,952	4,597	1.0	-22.8
Czech Republic	19,029	16,862	3.7	-11.4
Romania	12,952	13,845	3.0	6.9
Sweden	17,103	11,586	2.5	-32.3
Poland	16,330	8,087	1.8	-50.5
Other Europe	105,658	111,148	24.4	5.2
United Kingdom	57,718	53,848	11.8	-6.7
Switzerland	39,759	50,115	11.0	26.0
Africa	1,784	2,476	0.5	38.8
North America	70,081	52,492	11.5	-25.1
USA	67,379	50,239	11.0	-25.4
Latin-America	992	646	0.1	-34.9
Asia	60,936	59,591	13.1	-2.2
China	37,436	40,117	8.8	7.2
India	10,115	7,645	1.7	-24.4
Australia & Oceania	793	2,611	0.6	229.3

2.16 Agricultural machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	%-share	2023/2022	
2822 18 500	Loading machinery specially designed for agricultural use	277.5	289.4	1.8	4.3
2829 83 401	Parts for mechanical appliances for projecting, dispersing or spraying liquids/powders for agricultural and horticultural use	12.7	13.1	0.1	2.8
2830 10 000	Pedestrian-controlled tractors	8.2	9.5	0.1	15.7
2830 21 100	New agricultural and forestry tractors, wheeled, of an engine power ≤ 37 kW (excluding pedestrian-controlled tractors)	-	-	-	-
2830 22 100	New agricultural and forestry tractors, wheeled, of an engine power > 37 kW but ≤ 59 kW (excluding pedestrian-controlled tractors)	-	-	-	-
2830 23 003	New agricultural and forestry tractors, wheeled, of an engine power > 59 kW but ≤ 75 kW (excluding pedestrian-controlled tractors)	171.6	152.6	0.9	-11.1
2830 23 005	New agricultural and forestry tractors, wheeled, of an engine power > 75 kW but ≤ 90 kW (excluding pedestrian-controlled tractors)	-	-	-	-
2830 23 007	New agricultural and forestry tractors, wheeled, of an engine power > 90 kW (excluding pedestrian-controlled tractors)	2946.5	3668.4	22.2	24.5
2830 31 400	Ploughs (including mouldboard ploughs)	-	-	-	-
2830 32 100	Scarifiers and cultivators	389.3	443.9	2.7	14.0
2830 32 200	Disc harrows	65.5	81.1	0.5	23.8
2830 32 300	Other harrows	101.2	98.8	0.6	-2.4
2830 32 500	Rotovators	-	-	-	-
2830 32 700	Weeders and hoes	123.3	130.0	0.8	5.4
2830 33 001	Precision seed drills for agricultural or horticultural use	260.2	337.9	2.0	29.8
2830 33 005	Other seed drills for agricultural or horticultural use (excluding precision seed drills), incl planters and	399.1	488.6	3.0	22.4
2830 34 300	Fertiliser Distributors for mineral fertilizer	215.2	243.5	1.5	13.2
2830 34 500	Manure spreaders and fertilizer distributors (excluding for mineral or chemical fertilizer)	6.9	3.3	0.0	-52.0
2830 39 000	Agricultural and forestry machinery n.e.c.; lawn or sports-ground rollers	276.8	248.1	1.5	-10.4
2830 40 100	Electric mowers for lawns, parks, golf courses or sports grounds	-	-	-	-
2830 40 300	Powered mowers with the cutting device rotating in a horizontal plane, for lawns, parks, golf courses/sports grounds (petrol hover/rotary) (including electric mowers, self-	64.7	69.9	0.4	8.1
2830 40 500	Motorized mowers, for lawns, parks, golf courses or sports grounds (excluding with the cutting device rotating in a horizontal plane, electric mowers)	-	-	-	-
2830 51 300	Motor mowers (excluding for lawns, parks, golf courses or sports grounds)	-	7.4	0.0	-
2830 51 503	Mowers designed to be hauled or carried by a tractor, with cutting device rotating in a horizontal plane (excluding those with a motor, for lawns, parks, golf courses or sports	301.6	357.2	2.2	18.4
2830 51 505	Mowers designed to be carried or hauled by a tractor (excluding those with a motor, for lawns, parks, golf courses/sports grounds, with cutting device rotating in a horizontal plane)	28.8	29.0	0.2	0.8

*) According to GP 2019, partly confidential or estimated.

Agricultural machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	% -share		2023/2022
2830 51 700	Mowers (excluding those with motors, for lawns, parks, golf courses or sports grounds, those designed to be hauled or carried by a tractor)	20.8	.	.	.
2830 52 000	Haymaking machinery (including turners, side delivery rakes, and tedders, grass or hay mowers)	210.2	280.5	1.7	33.5
2830 53 403	Balers (conventional, big square, round)	.	.	.	.
2830 53 405	Other straw or fodder balers (excluding pick-up balers)	.	.	.	.
2830 54 200	Potato-diggers and potato harvesters	.	.	.	.
2830 54 500	Beet-topping machines and beet harvesters	204.4	187.0	1.1	-8.5
2830 54 800	Root or tuber harvesting machines (excluding potato-diggers and potato harvesters, beet-topping machines and beet harvesters)	.	631.4	3.8	.
2830 59 150	Combine harvesters	.	.	.	.
2830 59 300	Agricultural threshing machinery (excluding combine harvester-threshers)	.	.	.	.
2830 59 450	Forage harvesters (mounted, excluding self-propelled)	.	.	.	.
2830 59 600	Forage harvesters, self propelled	.	.	.	.
2830 59 700	Harvesting machines (including combine harvester threshers, root or tuber harvesting machines, forage harvesters, grape harvesters)	415.6	442.7	2.7	6.5
2830 60 100	Agricultural or horticultural watering appliances	52.6	59.6	0.4	13.2
2830 60 500	Sprayers and powder distributors designed to be mounted on or drawn by agricultural tractors (excluding watering appliances)	377.8	425.1	2.6	12.5
2830 60 900	Other appliances, agricultural or horticultural	173.5	200.5	1.2	15.5
2830 70 403	Manure spreaders for barns	53.3	60.6	0.4	13.6
2830 70 405	Self-loading or self-unloading trailers for agricultural	635.0	731.0	4.4	15.1
2830 81 000	Machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, except seed, grain or dried leguminous vegetables	13.8	15.3	0.1	11.3
2830 82 000	Milking machines	.	.	.	.
2830 83 003	Malt and other mills for corn, legume etc.; other machinery for preparing animal feedstuffs	19.7	18.0	0.1	-8.6
2830 83 005	Machinery for preparing animal feedstuffs, n e c	184.0	219.1	1.3	19.1
2830 85 000	Poultry-keeping machinery (excluding poultry incubators and brooders)	34.5	21.0	0.1	-39.0
2830 86 300	Forestry machinery	28.8	105.8	0.6	267.2
2830 86 601	Other machinery for feeding and watering	63.9	61.9	0.4	-3.1
2830 86 602	Other machinery for animal husbandry (excluding poultry incubators and brooders), n e c	104.4	116.0	0.7	11.1
2830 86 609	Other machinery for agricultural and horticultural use	238.7	242.8	1.5	1.7
2830 91 001	Parts of combine harvester-threshers and maize harvesters	676.5	732.7	4.4	8.3

*) According to GP 2019, partly confidential or estimated.

Agricultural machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2830 91 005	Parts of mowers	9.4	6.5	0.0	-31.2
2830 91 008	Parts of other harvesting and threshing machinery	402.6	382.8	2.3	-4.9
2830 92 001	Ploughshares and other steel and iron cast parts of agricultural, horticultural or forestry machinery for soil preparation or cultivation	.	.	.	.
2830 92 009	Parts of agricultural, horticultural or forestry machinery for soil preparation or cultivation, n e c	503.7	493.3	3.0	-2.1
2830 93 300	Parts of poultry-keeping machinery or poultry incubators and brooders	45.1	17.1	0.1	-62.1
2830 93 803	Parts of forestry machinery	110.6	116.4	0.7	5.3
2830 93 805	Parts of other machinery for agricultural and horticultural use, n e c	722.3	699.6	4.2	-3.1
2830 94 000	Parts for milking machines and dairy machinery	129.3	118.6	0.7	-8.3
2893 14 000	Presses, crushers and similar machinery used in the manufacture of wines, cider, fruit juices or similar beverages	51.9	43.2	0.3	-16.7
2893 31 000	Parts for presses, crushers and similar machinery used in the manufacture of wine, cider, fruit juices or similar beverages	5.6	5.5	0.0	-1.6
3312 21 100	Maintenance and repair services of agricultural tractors	61.5	96.1	0.6	56.3
3312 21 200	Maintenance and repair services of agricultural and forestry machinery	100.7	113.1	0.7	12.3
3320 31 000	Installation of agricultural and forestry machinery	13.5	14.4	0.1	6.4
Agricultural machinery		14,621.7	16,497.5	100.0	12.8

*) According to GP 2019, partly confidential or estimated.

Agricultural machinery

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	32.0	35.7	37.7	38.7	39.5	40.8	43.8	46.7
Production ²	million EUR	8,697	9,815	10,555	10,356	10,709	12,851	14,622	16,498
Share of mechanical engineering	percent	4.3	4.6	4.7	4.6	5.3	5.9	6.2	6.5
Exports	million EUR	8,077	9,276	9,790	9,927	10,205	12,755	14,931	16,553
Share of mechanical engineering	percent	5.2	5.5	5.4	5.5	6.2	7.0	7.6	8.0
Imports	million EUR	3,351	3,598	3,997	4,111	4,089	4,668	5,662	5,764
Share of mechanical engineering	percent	5.1	5.1	5.2	5.3	5.8	5.7	6.1	6.1
Imports in percent of exports	percent	41.5	38.8	40.8	41.4	40.1	36.6	37.9	34.8
Turnover abroad in percent of total turnover	percent	71.9	72.9	72.1	73.5	73.0	75.6	75.2	76.6
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	69.7	82.4	89.7	84.2	90.0	92.0	90.1	92.3
Producer price index (Base 2021 = 100)	index	89.1	91.0	93.3	95.3	96.6	100.0	111.5	120.8

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Agricultural machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	14,931,045	16,552,711	100.0	10.9
EU27	8,167,376	8,738,153	52.8	7.0
EURO20	5,531,452	6,081,130	36.7	9.9
France	2,237,624	2,587,927	15.6	15.7
Austria	591,352	614,731	3.7	4.0
Italy	616,970	559,077	3.4	-9.4
Netherlands	526,281	549,370	3.3	4.4
Spain	410,864	463,631	2.8	12.8
Belgium	285,914	322,973	2.0	13.0
Lithuania	171,531	186,770	1.1	8.9
Ireland	151,057	156,671	0.9	3.7
Estonia	80,092	106,707	0.6	33.2
Finland	88,548	94,276	0.6	6.5
Slovakia	71,499	93,821	0.6	31.2
Latvia	70,930	69,954	0.4	-1.4
Slovenia	66,003	68,543	0.4	3.8
Greece	42,549	68,007	0.4	59.8
Luxembourg	54,362	55,526	0.3	2.1
Poland	828,357	906,401	5.5	9.4
Hungary	502,727	385,240	2.3	-23.4
Denmark	318,053	351,974	2.1	10.7
Czech Republic	346,848	346,260	2.1	-0.2
Bulgaria	243,869	230,663	1.4	-5.4
Romania	205,886	228,950	1.4	11.2
Sweden	190,184	207,535	1.3	9.1
Other Europe	2,400,997	2,838,076	17.1	18.2
United Kingdom	880,623	974,974	5.9	10.7
Russian Fed.	537,944	614,484	3.7	14.2
Switzerland	324,581	364,940	2.2	12.4
Türkiye	105,203	285,946	1.7	171.8
Ukraine	248,662	246,665	1.5	-0.8
Norway	149,787	177,237	1.1	18.3
Belarus	48,203	74,450	0.4	54.5
Serbia	50,792	58,952	0.4	16.1
Africa	191,751	250,830	1.5	30.8
South Africa	136,589	203,982	1.2	49.3
North America	2,485,923	2,988,687	18.1	20.2
USA	2,320,187	2,780,269	16.8	19.8
Canada	165,665	208,418	1.3	25.8
Latin-America	275,811	302,014	1.8	9.5
Brazil	148,126	156,825	0.9	5.9

Agricultural machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Asia	744,149	810,725	4.9	8.9
Kazakhstan	148,649	222,173	1.3	49.5
China	164,374	211,680	1.3	28.8
Japan	133,903	111,579	0.7	-16.7
Rep. of Korea	28,325	57,143	0.3	101.7
Australia & Oceania	665,036	624,197	3.8	-6.1
Australia	497,581	488,378	3.0	-1.8
New Zealand	167,173	135,431	0.8	-19.0
Total Imports	5,662,212	5,764,035	100.0	1.8
EU27	3,779,023	3,949,987	68.5	4.5
EURO20	2,571,748	2,716,382	47.1	5.6
France	574,342	612,316	10.6	6.6
Italy	577,388	554,272	9.6	-4.0
Austria	488,437	548,898	9.5	12.4
Netherlands	359,914	445,584	7.7	23.8
Finland	216,861	255,286	4.4	17.7
Belgium	167,963	117,993	2.0	-29.8
Czech Republic	316,684	362,072	6.3	14.3
Poland	308,437	282,996	4.9	-8.2
Hungary	245,959	236,080	4.1	-4.0
Sweden	199,224	214,911	3.7	7.9
Denmark	102,677	101,258	1.8	-1.4
Other Europe	364,134	494,885	8.6	35.9
United Kingdom	242,797	361,943	6.3	49.1
Africa	2,558	2,899	0.1	13.3
North America	549,529	583,788	10.1	6.2
USA	534,078	572,330	9.9	7.2
Latin-America	16,625	15,143	0.3	-8.9
Asia	946,172	714,868	12.4	-24.4
China	672,039	461,109	8.0	-31.4
Japan	74,174	98,021	1.7	32.2
India	108,770	96,537	1.7	-11.2
Australia & Oceania	4,171	2,465	0.0	-40.9

2.18 Food processing machinery and packaging machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	%-share	2023/2022	
2821 13 300	Electric bakery and biscuit ovens	241.3	226.7	1.4	-6.1
2825 11 305	Heat exchanger for food and beverage processing	25.7	24.7	0.2	-4.0
2825 30 805	Parts of machinery, plant and laboratory equipment for the treatment of materials by a process involving a change of temperature for food and beverage processing				
2829 12 500	Machinery and apparatus for filtering and purifying beverages (excluding water)	55.8	63.9	0.4	14.7
2829 21 203	Machinery for cleaning or drying bottles, beverage cans or kegs	55.9	70.8	0.4	26.8
2829 21 209	Machinery for cleaning, drying or sterilizing packaging or packing materials (excluding those for beverages)	109.1			
2829 21 501	Machinery for filling bottles, cans or kegs (including machinery for closing)	443.2	545.0	3.3	23.0
2829 21 502	Machinery for filling liquid or soft bulk materials in stable packages (including machinery for closing)	909.8	959.2	5.8	5.4
2829 21 503	Machinery for filling free-flowing bulk materials in stable packages (including machinery for closing)	91.2	86.8	0.5	-4.8
2829 21 504	Machinery for filling flexible packages (including machinery for closing)	442.4	473.1	2.9	6.9
2829 21 505	Machinery for closing for stable or flexible packages	43.0	44.4	0.3	3.3
2829 21 506	Thermoforming deep drawing filling and closing	787.3	741.0	4.5	-5.9
2829 21 507	Other machinery for filling, closing, sealing, capsuling or labelling bottles, cans, boxes, bags or other containers	413.8	420.4	2.6	1.6
2829 21 509	Machinery for sealing, capsuling or labelling bottles, cans etc.; machinery for aerating beverages	418.9	466.9	2.8	11.5
2829 21 801	Machinery for packing or wrapping (excluding multipacks or pallet stabilising)	77.5	141.7	0.9	82.8
2829 21 803	Cartoner	120.8	132.1	0.8	9.4
2829 21 805	Multipack machinery for bottles, cans, kegs etc	372.7	470.3	2.9	26.2
2829 21 806	Other multipack machinery (excluding those for beverages)	256.5	276.0	1.7	7.6
2829 21 808	Machinery for strapping or tying up	101.9	113.4	0.7	11.3
2829 21 809	Other machinery for packing or wrapping, n e c	425.1	446.6	2.7	5.0
2829 41 003	Centrifuges for food and beverage processing				
2829 50 000	Non-domestic dish-washing machines	502.1	447.7	2.7	-10.8
2829 60 904	Machinery for the treatment of materials by a process involving a change of temperature, for processing fruit and vegetable	100.2			
2829 60 905	Machinery for the treatment of materials by a process involving a change of temperature, for processing candies or confectionery	89.5	72.8	0.4	-18.7
2829 60 906	Machinery for the treatment of materials by a process involving a change of temperature, for other branches of food and beverage processing	187.7	191.7	1.2	2.1
2829 85 100	Parts of non-domestic dish washing machines	36.1	57.1	0.3	58.2
2829 85 207	Parts of packing and wrapping machines for beverages	1,075.8	1,245.3	7.6	15.8
2829 85 208	Parts of packing and wrapping machines	1,089.5	1,227.4	7.5	12.7
2841 31 603	Non-numerically controlled bending, folding, straightening or flattening machines for working flat metal packages or packing materials	103.8	100.8	0.6	-3.0
2893 11 000	Centrifugal cream separators				
2893 12 000	Dairy machinery (including homogenizers, irradiators, butter-making machines, cheese-making machines)	70.6	74.4	0.5	5.4
2893 13 000	Machinery used in the milling industry or for the working of cereals or dried leguminous vegetables (excluding farm-type machinery)	79.2	70.7	0.4	-10.8
2893 15 300	Non-electric industrial bakery ovens (including biscuit	68.9	66.1	0.4	-4.0

*) According to GP 2019, partly confidential or estimated.

Food processing machinery and packaging machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	%-share	2023/2022	
2893 15 600	Non-domestic percolators and other appliances for making coffee and other hot drinks				
2893 17 130	Industrial bakery machinery (excluding non-electric	239.4	252.8	1.5	5.6
2893 17 150	Industrial machinery for the manufacture or preparation of macaroni, spaghetti or similar products	33.7	34.4	0.2	2.1
2893 17 200	Industrial machinery for the manufacture or preparation of confectionery, cocoa or chocolate	185.7	221.3	1.3	19.2
2893 17 300	Industrial machinery for the manufacture or preparation of sugar				
2893 17 400	Industrial brewery machinery	432.1	436.7	2.7	1.1
2893 17 503	Industrial machinery for the preparation of meat or poultry (excluding machinery for slaughterhouses)	984.0	995.8	6.1	1.2
2893 17 509	Machinery for slaughterhouses, n e c	14.3	12.3	0.1	-14.4
2893 17 600	Industrial machinery for the preparation of fruits, nuts or vegetables (excluding for use in milling or for working dried leguminous vegetables)	30.9			
2893 17 701	Machinery for the preparation or manufacture of tea and coffee, n.e.c.				
2893 17 703	Machinery for the preparation or manufacture of food or drink, n.e.c.	41.4	50.3	0.3	21.6
2893 17 705	Machinery for canteen kitchens	23.5	24.8	0.2	5.7
2893 17 709	Machinery for the preparation or manufacture of food or drink, n.e.c.	226.0	233.6	1.4	3.4
2893 17 800	Machinery for the extraction or preparation of animal or fixed vegetable fats or oils	26.9	20.8	0.1	-22.5
2893 18 000	Machinery for the preparation or making up of tobacco	334.9	298.9	1.8	-10.8
2893 20 000	Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables	104.3	134.4	0.8	28.8
2893 32 001	Parts of bakery machinery and machinery for the manufacture of macaroni, spaghetti or similar products (excluding bakery ovens), nec	103.2	108.1	0.7	4.8
2893 32 003	Parts of industrial machinery for the manufacture or preparation of confectionery, cocoa or chocolate	100.9	133.0	0.8	31.8
2893 32 006	Parts of industrial machinery for the preparation of meat or poultry	305.9	300.5	1.8	-1.8
2893 32 007	Parts of machinery for the preparation or manufacture of drinks	95.5	77.3	0.5	-19.0
289332008	Parts of other machinery for the food and beverages industry	288.1	303.2	1.8	5.3
2893 33 000	Parts of machinery for tobacco processing	7.3	7.4	0.0	1.9
289334000	Parts of machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables	44.2	51.0	0.3	15.4
2899 39 151	Machines and mechanical appliances, having individual functions, for mixing, kneading, crushing, grinding, screening, sifting, homogenizing, emulsifying or stirring for the pharmaceutical industry	267.8	264.7	1.6	-1.1
3312 19 902	Repair and maintenance of machinery for food and beverage processing (including machinery for packing and wrapping)	256.0	228.2	1.4	-10.9
3312 25 000	Repair and maintenance of machinery for food, beverage and tobacco processing	267.3	280.6	1.7	5.0
3320 29 501	Installation services of heat exchanger (excluding non-domestic ventilation equipment)	204.3	142.2	0.9	-30.4
3320 29 602	Installation of machinery for packing or wrapping	484.3	430.4	2.6	-11.1
3320 29 607	Installation of machinery for the treatment of materials by a process involving a change of temperature for food and beverage industry				
3320 35 000	Installation of machinery for food, beverage and tobacco processing	274.0	336.5	2.0	22.8
Food processing machinery and packaging machinery		15,739.9	16,456.4	100.0	4.6

*) According to GP 2019, partly confidential or estimated.

Food processing machinery and packaging machinery

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	57.0	58.3	60.9	64.5	63.0	61.6	62.2	63.4
Production ²									
Share of mechanical engineering	million EUR percent	13,357 6.5	14,026 6.5	15,166 6.7	15,269 6.8	13,862 6.9	14,800 6.8	15,740 6.6	16,456 6.5
Exports									
Share of mechanical engineering	million EUR percent	8,360 5.4	8,533 5.0	9,057 5.0	9,230 5.1	8,635 5.3	9,076 5.0	9,070 4.6	9,890 4.8
Imports									
Share of mechanical engineering	million EUR percent	1,923 2.9	1,957 2.8	2,080 2.7	2,049 2.6	1,958 2.8	2,097 2.6	2,117 2.3	2,070 2.2
Imports in percent of exports	percent	23.0	22.9	23.0	22.2	22.7	23.1	23.3	20.9
Turnover abroad in percent of total turnover	percent								
in comparison: mechanical engineering ³	percent	84.1 68.4	85.8 69.8	87.3 69.0	84.1 68.9	83.2 68.6	86.3 69.3	86.0 69.8	86.0 70.9

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Food processing machinery and packaging machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	9,070,008	9,890,251	100.0	9.0
EU27	3,234,776	3,334,752	33.7	3.1
EURO20	2,302,852	2,355,317	23.8	2.3
France	535,533	520,374	5.3	-2.8
Netherlands	314,805	299,168	3.0	-5.0
Italy	260,684	282,024	2.9	8.2
Belgium	234,286	271,505	2.7	15.9
Austria	306,970	266,262	2.7	-13.3
Spain	215,263	229,489	2.3	6.6
Ireland	106,042	140,730	1.4	32.7
Finland	57,356	68,621	0.7	19.6
Greece	76,826	59,221	0.6	-22.9
Slovakia	34,810	53,135	0.5	52.6
Poland	322,732	389,157	3.9	20.6
Hungary	141,257	141,440	1.4	0.1
Czech Republic	146,891	112,518	1.1	-23.4
Romania	101,048	109,159	1.1	8.0
Denmark	104,674	104,985	1.1	0.3
Sweden	86,509	92,199	0.9	6.6
Other Europe	1,302,915	1,407,627	14.2	8.0
United Kingdom	435,480	429,705	4.3	-1.3
Switzerland	339,696	380,968	3.9	12.1
Russian Fed.	206,679	231,009	2.3	11.8
Türkiye	124,680	153,741	1.6	23.3
Norway	79,975	74,868	0.8	-6.4
Africa	446,223	405,474	4.1	-9.1
South Africa	72,068	84,522	0.9	17.3
North America	1,560,101	1,885,389	19.1	20.9
USA	1,412,866	1,676,731	17.0	18.7
Canada	147,228	208,650	2.1	41.7
Latin-America	625,019	769,559	7.8	23.1
Mexico	294,145	344,691	3.5	17.2
Brazil	117,167	145,687	1.5	24.3
Chile	57,685	55,762	0.6	-3.3
Colombia	41,664	52,299	0.5	25.5
Asia	1,752,562	1,883,935	19.0	7.5
China	604,846	447,555	4.5	-26.0
India	174,300	285,901	2.9	64.0
Japan	141,567	136,763	1.4	-3.4
Rep. of Korea	106,344	115,859	1.2	8.9
Thailand	80,507	102,918	1.0	27.8

Food processing machinery and packaging machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Saudi Arabia	61,464	91,031	0.9	48.1
Indonesia	53,867	79,828	0.8	48.2
Israel	35,008	62,801	0.6	79.4
Bangladesh	22,818	47,962	0.5	110.2
Kazakhstan	34,318	46,896	0.5	36.7
Iraq	24,872	46,125	0.5	85.4
Australia & Oceania	143,485	199,247	2.0	38.9
Australia	126,566	170,494	1.7	34.7
Total Imports	2,117,403	2,069,835	100.0	-2.2
EU27	1,279,835	1,235,226	59.7	-3.5
EURO20	970,146	909,290	43.9	-6.3
Italy	368,192	362,666	17.5	-1.5
Netherlands	182,784	189,875	9.2	3.9
Austria	163,179	148,969	7.2	-8.7
France	79,220	59,341	2.9	-25.1
Spain	45,339	36,481	1.8	-19.5
Slovakia	28,589	26,523	1.3	-7.2
Poland	88,710	85,324	4.1	-3.8
Czech Republic	63,187	69,191	3.3	9.5
Hungary	48,838	68,422	3.3	40.1
Denmark	62,978	54,176	2.6	-14.0
Other Europe	461,216	477,167	23.1	3.5
Switzerland	356,456	370,298	17.9	3.9
United Kingdom	40,362	39,808	1.9	-1.4
Africa	6,156	638	0.0	-89.6
North America	89,173	94,577	4.6	6.1
USA	82,058	86,151	4.2	5.0
Latin-America	4,949	3,938	0.2	-20.4
Asia	271,732	252,725	12.2	-7.0
China	147,155	133,567	6.5	-9.2
Japan	40,049	39,382	1.9	-1.7
Israel	41,681	34,588	1.7	-17.0
Australia & Oceania	4,342	5,564	0.3	28.1

2.19 Process plant and equipment

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2529 11 207	Iron or steel reservoirs, tanks, vats and similar containers lined or heat-insulated, for chemical liquids, of a capacity > 300 litres (excluding fitted with mechanical or thermal equipment)	122.7	146.5	1.4	19.4
2813 11 050	Petrol and oil dispensing pumps, unit	.	.	.	.
2825 11 303	Heat exchanger for the chemical and allied industries	220.0	206.4	1.9	-6.2
2825 11 307	Heat exchanger, n e c	522.6	564.6	5.3	8.0
2825 30 806	Parts of heat exchanger units and other machinery for the treatment of materials by a process involving a change of temperature for the chemical and allied industries	74.4	58.5	0.5	-21.4
2825 30 808	Parts of machinery, plant and laboratory equipment for other treatment of materials by a process involving a change of temperature, n e c	311.9	257.9	2.4	-17.3
2829 11 003	Producer gas or water gas generators, acetylene and similar water process gas generators	.	.	.	.
2829 11 008	Distilling or rectifying plant	88.1	86.0	0.8	-2.3
2829 12 302	Machinery and apparatus for filtering or purifying potable water or process water, by means of chemistry	92.0	115.2	1.1	25.3
2829 12 304	Machinery and apparatus for filtering or purifying effluents, by means of chemistry	136.5	164.7	1.5	20.6
2829 12 307	Machinery and apparatus for filtering or purifying potable water or process water, by other means (not chemistry)	645.8	579.0	5.4	-10.3
2829 12 309	Machinery and apparatus for filtering or purifying effluents, by other means (not chemistry)	600.7	618.6	5.8	3.0
2829 12 703	Machinery and apparatus for solid-liquid separation/ purification excluding for water and beverages for the chemical industry	202.4	186.1	1.7	-8.1
2829 12 705	Machinery and apparatus for solid-liquid separation/ purification excluding for water and beverages, n e c	1,215.4	1,099.5	10.3	-9.5
2829 41 002	Centrifuges (excluding those used in laboratories) for the chemical industry	189.9	161.0	1.5	-15.2
2829 41 009	Centrifuges (excluding cream separators, clothes dryers, those used in laboratories, for chemical industry)	36.0	49.3	0.5	37.1
2829 60 300	Cooling towers and similar plant for direct cooling by means of recirculated water	132.3	170.9	1.6	29.1
2829 60 901	Machinery, plant or laboratory equipment, whether or not electrically heated, for the treatment of materials by a process involving a change of temperature, for the chemical industry	630.1	738.3	6.9	17.2
2829 81 000	Parts for producer gas or water generators, acetylene gas generators and similar water process gas generators	6.9	.	.	.
2829 82 200	Parts for centrifuges and centrifugal dryers	248.6	262.2	2.5	5.5

*) According to GP 2019, partly confidential or estimated.

Process plant and equipment

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2829 82 505	Parts for filtering and purifying machinery and apparatus, for liquids (excluding for centrifuges and centrifugal dryers)	901.8	965.1	9.0	7.0
2899 39 153	Machines and mechanical appliances, having individual functions, for mixing, kneading, crushing, grinding, screening, sifting, homogenizing, emulsifying or stirring for the chemical industry	391.0	391.2	3.7	0.1
2899 39 159	Machines and mechanical appliances, having individual functions, for mixing, kneading, crushing, grinding, screening, sifting, homogenizing, emulsifying or stirring, for other industries, n e c	482.6	570.1	5.3	18.1
2899 39 571	Other machines and mechanical appliances for inorganic chemistry, n e c	.	333.8	3.1	.
2899 39 573	Other machines and mechanical appliances for organic chemistry, n e c	.	.	.	.
2899 39 575	Other machines and mechanical appliances for general chemical purpose, n e c	438.5	682.9	6.4	55.7
2899 52 805	Parts of machinery for the chemical industry, n e c	288.8	346.6	3.2	20.0
2920 10 509	Bodies for tank vehicles without chassis	67.0	68.3	0.6	2.0
3312 18 001	Repair and maintenance of heat exchanging units (excluding those for ventilation equipment)	34.0	34.1	0.3	0.3
3312 19 901	Repair and maintenance of machinery for the chemical and allied industries, for water treatment and gas	403.4	438.9	4.1	8.8
3312 29 905	Repair and maintenance of machinery for the chemical industry, n e c	390.8	837.9	7.8	114.4
3320 29 604	Installation of machinery for the chemical and allied industries, for water treatment and gas generating	92.3	114.4	1.1	23.9
3320 39 007	Installation of machinery for the chemical industry, n e c	20.5	27.1	0.3	32.2
Process plant and equipment		9,557.1	10,683.2	100.0	11.8

*) According to GP 2019, partly confidential or estimated.

Process plant and equipment

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	44.8	45.4	46.4	48.1	47.1	46.0	46.7	48.6
Production ²	million EUR	7,099	7,392	7,674	8,288	8,228	9,015	9,557	10,683
Share of mechanical engineering	percent	3.5	3.4	3.4	3.7	4.1	4.1	4.0	4.2
Exports	million EUR	5,550	5,661	6,116	6,608	6,205	6,535	7,579	7,579
Share of mechanical engineering	percent	3.6	3.3	3.4	3.6	3.8	3.6	3.9	3.6
Imports	million EUR	1,795	1,821	2,010	2,196	2,175	2,476	2,909	2,871
Share of mechanical engineering	percent	2.7	2.6	2.6	2.8	3.1	3.0	3.1	3.1
Imports in percent of exports	percent	32.3	32.2	32.9	33.2	35.1	37.9	38.4	37.9
Turnover abroad in percent of total turnover	percent	74.0	86.1	75.6	78.9	85.1	77.4	83.8	81.3
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	index	90.4	91.9	93.7	95.4	97.5	100.0	108.5	116.4

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Process plant and equipment

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	7,578,801	7,578,615	100.0	0.0
EU27	3,181,003	3,196,884	42.2	0.5
EURO20	2,316,932	2,341,027	30.9	1.0
France	471,842	454,948	6.0	-3.6
Italy	323,223	356,757	4.7	10.4
Belgium	344,226	335,524	4.4	-2.5
Netherlands	331,569	315,745	4.2	-4.8
Spain	227,193	255,241	3.4	12.3
Austria	251,930	249,969	3.3	-0.8
Ireland	89,622	68,400	0.9	-23.7
Finland	64,649	56,764	0.7	-12.2
Slovakia	41,349	49,467	0.7	19.6
Greece	35,912	46,120	0.6	28.4
Portugal	35,188	40,112	0.5	14.0
Poland	302,283	336,504	4.4	11.3
Sweden	119,436	127,762	1.7	7.0
Czech Republic	113,343	111,719	1.5	-1.4
Denmark	115,756	108,909	1.4	-5.9
Hungary	146,097	104,394	1.4	-28.5
Romania	49,863	50,084	0.7	0.4
Other Europe	1,025,719	955,145	12.6	-6.9
Switzerland	270,833	291,366	3.8	7.6
United Kingdom	274,643	264,603	3.5	-3.7
Türkiye	143,983	184,976	2.4	28.5
Russian Fed.	214,396	75,793	1.0	-64.6
Norway	62,389	67,022	0.9	7.4
Africa	267,353	268,829	3.5	0.6
Egypt	82,599	85,506	1.1	3.5
South Africa	38,647	40,915	0.5	5.9
North America	851,957	867,723	11.4	1.9
USA	795,458	813,533	10.7	2.3
Canada	56,481	54,133	0.7	-4.2
Latin-America	266,540	310,796	4.1	16.6
Brazil	86,853	80,550	1.1	-7.3
Mexico	55,555	66,534	0.9	19.8
Chile	27,785	47,148	0.6	69.7
Asia	1,885,769	1,880,603	24.8	-0.3
China	718,935	645,460	8.5	-10.2
India	193,414	220,727	2.9	14.1
Rep. of Korea	164,111	179,262	2.4	9.2
Singapore	72,973	104,841	1.4	43.7

Process plant and equipment

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Japan	121,423	94,099	1.2	-22.5
Saudi Arabia	62,278	72,318	1.0	16.1
Indonesia	65,286	71,235	0.9	9.1
Taiwan	86,019	61,185	0.8	-28.9
Thailand	35,508	56,815	0.7	60.0
Malaysia	31,459	40,600	0.5	29.1
Australia & Oceania	92,403	93,785	1.2	1.5
Australia	82,750	81,878	1.1	-1.1
Total Imports	2,909,115	2,871,188	100.0	-1.3
EU27	1,640,762	1,578,192	55.0	-3.8
EURO20	1,038,206	1,024,830	35.7	-1.3
France	264,364	281,241	9.8	6.4
Italy	235,266	256,651	8.9	9.1
Austria	132,411	126,731	4.4	-4.3
Netherlands	127,067	104,055	3.6	-18.1
Slovakia	74,824	75,925	2.6	1.5
Belgium	96,964	73,091	2.5	-24.6
Czech Republic	119,861	133,725	4.7	11.6
Poland	114,093	112,540	3.9	-1.4
Hungary	107,939	111,827	3.9	3.6
Sweden	105,299	103,304	3.6	-1.9
Denmark	134,293	69,702	2.4	-48.1
Other Europe	400,261	445,160	15.5	11.2
Switzerland	190,043	219,506	7.6	15.5
United Kingdom	134,024	153,503	5.3	14.5
Africa	7,774	8,715	0.3	12.1
North America	351,013	347,298	12.1	-1.1
USA	339,567	332,216	11.6	-2.2
Latin-America	21,491	26,424	0.9	23.0
Asia	486,429	464,000	16.2	-4.6
China	270,601	234,552	8.2	-13.3
Japan	88,940	93,344	3.3	5.0
Australia & Oceania	1,374	1,399	0.0	1.8

2.20 Safes and strongroom installations

Production und Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	0.6	0.6	0.6	0.4	0.5	0.5	0.5	0.5
Production ²									
Share of mechanical engineering	million EUR percent	52 0.00	54 0.00	56 0.02	41 0.02	43 0.02	46 0.02	52 0.02	47 0.02
Exports									
Share of mechanical engineering	million EUR percent	38 0.02	43 0.03	44 0.02	33 0.02	31 0.02	39 0.02	41 0.02	39 0.02
Imports									
Share of mechanical engineering	million EUR percent	73 0.1	76 0.1	75 0.1	75 0.1	76 0.1	90 0.1	98 0.1	80 0.1
Imports in percent of exports	percent	193.0	177.7	170.2	229.3	245.0	233.1	239.9	207.3

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

Safes and strongroom installations

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	40,881	38,735	100.0	-5.2
EU27	30,227	24,700	63.8	-18.3
EURO20	25,291	21,546	55.6	-14.8
France	6,917	6,822	17.6	-1.4
Netherlands	6,527	4,685	12.1	-28.2
Italy	3,548	3,208	8.3	-9.6
Austria	3,725	3,012	7.8	-19.1
Spain	910	872	2.3	-4.2
Belgium	757	738	1.9	-2.5
Luxembourg	640	482	1.2	-24.7
Greece	137	291	0.8	112.4
Slovakia	394	233	0.6	-40.9
Croatia	246	222	0.6	-9.8
Slovenia	252	212	0.5	-15.9
Cyprus	48	166	0.4	245.8
Portugal	503	157	0.4	-68.8
Finland	131	145	0.4	10.7
Sweden	1,763	958	2.5	-45.7
Poland	1,159	691	1.8	-40.4
Denmark	790	626	1.6	-20.8
Czech Republic	371	288	0.7	-22.4
Romania	350	241	0.6	-31.1
Hungary	417	197	0.5	-52.8
Bulgaria	86	153	0.4	77.9
Other Europe	6,744	7,774	20.1	15.3
Switzerland	5,176	5,491	14.2	6.1
United Kingdom	1,073	1,044	2.7	-2.7
Türkiye	199	831	2.1	317.6
Serbia	38	133	0.3	250.0
Africa	269	531	1.4	97.4
Ghana	-	248	0.6	.
Libya	-	174	0.4	.
North America	688	1,489	3.8	116.4
USA	585	1,449	3.7	147.7
Latin-America	82	25	0.1	-69.5
Asia	2,801	3,926	10.1	40.2
U.A.Emirates	464	541	1.4	16.6
Singapore	228	453	1.2	98.7
China	90	360	0.9	300.0
Kazakhstan	7	359	0.9	.
Vietnam	94	337	0.9	258.5

Safes and strongroom installations

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Kuwait	83	250	0.6	201.2
Saudi Arabia	1	223	0.6	.
Qatar	33	204	0.5	518.2
Malaysia	8	204	0.5	.
Rep. of Korea	81	161	0.4	98.8
India	481	133	0.3	-72.3
Australia & Oceania	67	269	0.7	301.5
Australia	67	226	0.6	237.3
Total Imports	98,056	80,314	100.0	-18.1
EU27	65,047	56,079	69.8	-13.8
EURO20	21,555	20,223	25.2	-6.2
Portugal	18,042	16,359	20.4	-9.3
Slovenia	1,714	1,221	1.5	-28.8
Netherlands	632	1,204	1.5	90.5
Italy	91	474	0.6	420.9
Lithuania	435	419	0.5	-3.7
Belgium	19	190	0.2	900.0
Poland	17,307	14,312	17.8	-17.3
Romania	11,163	9,616	12.0	-13.9
Czech Republic	11,498	8,338	10.4	-27.5
Hungary	2,156	2,677	3.3	24.2
Bulgaria	1,255	720	0.9	-42.6
Other Europe	615	1,430	1.8	132.5
Switzerland	439	1,034	1.3	135.5
Ukraine	64	262	0.3	309.4
North America	75	63	0.1	-16.0
Latin-America	4	34	0.0	750.0
Asia	32,315	22,705	28.3	-29.7
China	31,908	21,864	27.2	-31.5
Vietnam	100	338	0.4	238.0
Hong Kong (SVR)	-	302	0.4	.
Australia & Oceania	-	3	0.0	.

2.22 Materials handling technology

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	%-share	2023/2022	
2822 11 300	Pulley tackle and hoists powered by an electric motor (excluding of the kind used for raising vehicles)	221.1	275.3	1.2	24.5
2822 11 700	Pulley tackle and hoists (excluding of a kind used for raising vehicles, those powered by an electric motor)	53.9	59.1	0.3	9.6
2822 12 001	Winches and capstans powered by an electric motor (excluding those for raising vehicles)	76.8	75.4	0.3	-1.8
2822 12 003	Winches and capstans powered by internal combustion piston engines (excluding those for raising vehicles)	.	.	.	.
2822 12 009	Winches and capstans (excluding those for raising vehicles, those specially designed for use underground, powered by an electric motor, powered by an internal combustion piston engine)	28.4	41.0	0.2	44.3
2822 13 300	Built-in vehicle lifts	116.1	128.3	0.6	10.5
2822 13 501	Hydraulic work platforms	181.5	225.9	1.0	24.5
2822 13 509	Other hydraulic hoists	99.3	148.2	0.7	49.3
2822 13 700	Jacks and hoists of a kind used for raising vehicles (excluding built-in jacking systems of a kind used in garages, hydraulic jacks and hoists)	122.1	148.9	0.7	21.9
2822 14 200	Overhead travelling cranes on fixed support	212.6	273.5	1.2	28.7
2822 14 330	Mobile lifting frames on tyres and straddle carriers	169.1	217.8	1.0	28.8
2822 14 350	Transporter cranes, gantry cranes and bridge cranes	149.5	143.9	0.6	-3.8
2822 14 400	Tower cranes and portal or pedestal jib cranes	668.1	690.1	3.1	3.3
2822 14 500	Self-propelled lifting equipment, of a kind mounted to run on rails in servicing building sites, quarries and the like	.	.	.	.
2822 14 600	Lifting equipment designed for mounting on road vehicles	221.1	247.0	1.1	11.7
2822 14 700	Lifting equipment excluding overhead travelling cranes, tower, transporter, gantry, portal, bridge or pedestal jib cranes, mobile lifting frames or straddle carriers, self-propelled machinery	544.3	705.8	3.2	29.7
2822 15 130	Self-propelled fork-lift trucks powered by an electric motor, with a lifting height ≥1m	2,742.2	3,467.4	15.6	26.4
2822 15 150	Self-propelled fork-lift trucks powered by an electric motor, with a lifting height <1m	461.8	551.3	2.5	19.4
2822 15 300	Self-propelled fork-lift trucks, rough terrain and other trucks, non-electric powered	.	.	.	.
2822 15 500	Fork-lift trucks and other works trucks fitted with lifting or handling equipment (excluding self-propelled trucks)	15.5	16.5	0.1	6.7
2822 15 700	Self-propelled works trucks, for short distance transport of goods; tractors used on railway platforms excluding fitted with lifting/handling equipment	44.2	66.3	0.3	49.9
2822 17 403	Pneumatic conveyors for bulk materials (excluding those specially designed for agricultural use)	230.8	243.6	1.1	5.6
2822 17 409	Other pneumatic conveyors (e.g. pneumatic delivery)	42.4	44.9	0.2	6.0
2822 17 500	Bucket type continuous-action conveyors for unit loads (excluding those especially designed for minig use)	96.2	68.6	0.3	-28.7
2822 17 705	Belt type continuous conveyors for bulk materials (excluding those especially designed for minig use)	253.6	253.1	1.1	-0.2
2822 17 708	Other belt type or band type continuous conveyors for unit load (excluding those especially designed for minig use)	536.5	430.2	1.9	-19.8
2822 17 930	Roller and apron conveyors for unit loads	449.9	340.8	1.5	-24.2
2822 17 950	Other continuous conveyors for unit loads	1,783.8	1,755.9	7.9	-1.6
2822 18 200	Aerial cable ways, chair-lifts, draglines and traction mechanism for funiculars	.	.	.	.

*) According to GP 2019, partly confidential or estimated.

Materials handling technology

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2822 18 402	Lifting tables, dock levellers, tail lifts	236.7	255.5	1.1	7.9
2822 18 404	Shuttle vehicles for warehouses	11.6	28.5	0.1	145.4
2822 18 405	Storage and retrieval machines	372.2	340.0	1.5	-8.6
2822 18 408	Other lifting, handling, loading or unloading machinery,	1,185.9	1,347.8	6.1	13.7
2822 19 301	Parts of fork-lift trucks	1,128.7	1,179.2	5.3	4.5
2822 19 305	Parts of continuous conveyors	637.2	579.0	2.6	-9.1
2822 19 309	Parts of other machinery for lifting, handling, loading or unloading (excluding those designed for cranes, elevators or escalators)	923.1	1,003.4	4.5	8.7
2822 19 700	Parts of vehicles for short distance transport of goods	13.2	10.2	0.0	-22.8
2822 20 000	Buckets, shovels, grabs and grips for ships' derricks, cranes, mobile lifting frames, works trucks fitted with crane, bulldozers, levellers, excavators, shovel loaders etc, for snow ploughs	265.0	247.8	1.1	-6.5
2892 61 506	Parts for cranes (excluding those for tower cranes)	438.2	488.7	2.2	11.5
2910 51 000	Crane lorries	2,771.5	3,373.7	15.2	21.7
3312 15 009	Repair and maintenance of lifting and handling equipment (excluding those for mining use, civil works, lifts and escalators)	1,300.8	1,465.8	6.6	12.7
3320 29 400	Installation of lifting and handling equipment (excluding those for mining use)	248.8	273.9	1.2	10.1
Materials handling technology		19,813.0	22,237.8	100.0	12.2

*) According to GP 2019, partly confidential or estimated.

Materials handling technology

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	69.5	70.7	74.1	75.1	74.7	74.3	75.3	76.7
Production ²	million EUR	16,638	.	.	19,361	16,953	18,474	19,813	22,238
Share of mechanical engineering	percent	8.2	.	.	8.6	8.4	8.5	8.3	8.7
Exports	million EUR	11,383	12,469	13,270	14,109	11,988	13,519	15,050	17,170
Share of mechanical engineering	percent	7.3	7.3	7.4	7.8	7.3	7.5	7.7	8.2
Imports	million EUR	3,549	4,046	4,289	4,461	4,024	4,774	5,631	5,765
Share of mechanical engineering	percent	5.4	5.7	5.6	5.8	5.7	5.9	6.0	6.1
Imports in percent of exports	percent	31.2	32.4	32.3	31.6	33.6	35.3	37.4	33.6
Turnover abroad in percent of total turnover	percent	67.0	65.7	65.9	65.0	63.5	65.5	64.8	68.2
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	index	91.9	92.9	94.5	96.7	97.7	100.0	110.5	118.7

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Materials handling technology

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	%-share	2023/2022	
Total Exports	15,050,125	17,170,361	100.0	14.1
EU27	7,494,141	8,167,415	47.6	9.0
EURO20	5,500,317	6,044,784	35.2	9.9
France	1,170,449	1,414,892	8.2	20.9
Italy	973,348	1,041,745	6.1	7.0
Netherlands	965,052	954,488	5.6	-1.1
Austria	690,372	684,968	4.0	-0.8
Spain	535,665	605,704	3.5	13.1
Belgium	504,749	567,287	3.3	12.4
Finland	109,910	131,934	0.8	20.0
Slovakia	84,755	119,027	0.7	40.4
Portugal	97,023	105,283	0.6	8.5
Ireland	79,591	98,251	0.6	23.4
Lithuania	51,779	73,069	0.4	41.1
Poland	668,867	709,470	4.1	6.1
Czech Republic	375,430	382,045	2.2	1.8
Sweden	364,424	355,371	2.1	-2.5
Denmark	235,753	296,450	1.7	25.7
Hungary	195,015	173,661	1.0	-10.9
Romania	127,734	167,761	1.0	31.3
Other Europe	2,130,494	2,349,487	13.7	10.3
United Kingdom	846,591	1,003,166	5.8	18.5
Switzerland	414,917	477,136	2.8	15.0
Türkiye	367,622	450,340	2.6	22.5
Norway	169,802	239,349	1.4	41.0
Serbia	54,213	53,755	0.3	-0.8
Africa	251,437	289,756	1.7	15.2
South Africa	65,265	72,855	0.4	11.6
North America	2,306,272	2,998,789	17.5	30.0
USA	2,143,817	2,743,914	16.0	28.0
Canada	162,334	254,811	1.5	57.0
Latin-America	564,849	719,780	4.2	27.4
Mexico	140,813	242,960	1.4	72.5
Brazil	196,130	211,193	1.2	7.7
Chile	93,378	86,377	0.5	-7.5
Asia	1,813,051	2,120,804	12.4	17.0
China	496,302	531,671	3.1	7.1
Japan	208,255	204,906	1.2	-1.6
Saudi Arabia	119,201	193,921	1.1	62.7
Rep. of Korea	138,358	187,128	1.1	35.2
India	98,495	152,853	0.9	55.2

Materials handling technology

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
U.A.Emirates	115,899	108,970	0.6	-6.0
Israel	104,308	99,206	0.6	-4.9
Indonesia	34,439	72,166	0.4	109.5
Singapore	62,575	67,242	0.4	7.5
Taiwan	66,579	60,525	0.4	-9.1
Qatar	29,012	55,305	0.3	90.6
Australia & Oceania	488,186	523,315	3.0	7.2
Australia	430,706	476,138	2.8	10.5
Total Imports	5,630,936	5,764,829	100.0	2.4
EU27	3,845,190	4,161,291	72.2	8.2
EURO20	2,428,918	2,629,704	45.6	8.3
Italy	629,844	712,701	12.4	13.2
Austria	461,703	486,763	8.4	5.4
France	338,419	414,978	7.2	22.6
Netherlands	422,946	385,513	6.7	-8.9
Belgium	152,108	181,096	3.1	19.1
Finland	107,053	106,057	1.8	-0.9
Poland	414,462	452,897	7.9	9.3
Czech Republic	397,195	439,482	7.6	10.6
Sweden	212,757	210,580	3.7	-1.0
Hungary	177,312	206,186	3.6	16.3
Denmark	131,212	124,817	2.2	-4.9
Other Europe	437,855	565,116	9.8	29.1
Switzerland	247,541	275,140	4.8	11.1
United Kingdom	95,632	185,361	3.2	93.8
Africa	2,314	3,737	0.1	61.5
North America	158,734	128,503	2.2	-19.0
USA	130,188	104,727	1.8	-19.6
Latin-America	4,595	16,932	0.3	268.5
Asia	1,179,602	887,364	15.4	-24.8
China	748,914	566,844	9.8	-24.3
Japan	251,715	153,243	2.7	-39.1
Australia & Oceania	2,456	1,886	0.0	-23.2

2.23 Printing and paper equipment and supplies

Production*

		2022	2023		change rate in %
GP-Number	Description	million EUR	%-share	2023/2022	
2895 11 130	Machinery for making pulp of fibrous cellulosic material	2.3	3.7	0.1	62.8
2895 11 150	Machinery for making paper or paperboard	262.2	.	.	.
2895 11 170	Machinery for finishing paper or paperboard	.	.	.	.
2895 11 330	Combined reel slitting and re-reeling cutting machines for paper and paperboard (excluding film cutting machines and apparatus)	38.8	41.8	0.6	7.9
2895 11 350	Slitting and cross cutting machines for paper or paperboard (excluding film cutting machines and apparatus, combined reel slitting and re-reeling machines)	.	63.8	0.9	.
2895 11 370	Guillotines for paper or paperboard (excluding film cutting machines and apparatus, combined reel slitting and re-reeling machines, slitting and cross cutting machines)	.	.	.	.
2895 11 400	Other cutting machines for paper or paperboard, n e c	12.3	17.1	0.3	39.5
2895 11 500	Machines for making bags, sacks or envelopes of paper or paperboard	141.9	146.3	2.2	3.1
2895 11 600	Machines for making cartons, boxes, cases, tubes, drums, or similar containers of paper or paperboard (excluding machines for moulding articles)	119.7	102.0	1.5	-14.8
2895 11 700	Machines for moulding articles in paper pulp, paper or paperboard (including packing for eggs, plates or dishes for confectionery or camping, toys)	.	36.7	0.5	.
2895 11 900	Machinery for making up paper pulp, paper or paperboard, n.e.c.	311.8	474.2	7.0	52.1
2895 12 300	Parts of machinery for making pulp of fibrous cellulosic material	1.4	3.1	0.0	116.9
2895 12 503	Parts of machinery for making paper or paperboard	491.2	592.6	8.8	20.6
2895 12 505	Parts of machinery for finishing paper or paperboard	.	13.2	0.2	.
2895 12 701	Parts for cutting machines for paper, -pulp, -board	50.1	54.4	0.8	8.6
2895 12 709	Parts for machines for making bags, sacks/ envelopes, making cartons, boxes, cases, tubes, drums/similar containers, for moulding articles in paper, -pulp, -board (excluding cutting machines)	145.4	144.1	2.1	-0.9
2899 11 100	Folding machines for books	92.9	96.0	1.4	3.3
2899 11 300	Collating machines and gathering machines for books	3.6	.	.	.
2899 11 500	Sewing, wire stitching and stapling machines for books including for manufacturing of cardboard boxes or like excluding stapling machines for office use, for cardboard box manufacture	6.8	4.4	0.1	-35.3
2899 11 700	Unsewn (perfect) binding machines for books	.	.	.	.
2899 11 900	Other book-binding machines	89.5	91.7	1.4	2.4
2899 12 000	Machinery, apparatus and equipment, for type-setting, for preparing or making printing blocks, plates	26.0	23.9	0.4	-7.8
2899 13 300	Reel fed offset printing machinery	.	.	.	.
2899 13 901	Offset printing machinery, sheet fed, ≤ 62x87cm (excluding office type)	.	.	.	.
2899 13 903	Offset printing machinery, sheet fed, > 62x87 cm but < 80x110 cm	826.4	780.3	11.5	-5.6
2899 13 905	Offset printing machinery, sheet fed, ≥ 80x110 cm	.	.	.	.
2899 14 100	Reel fed letterpress printing machinery (excluding flexographic printing)	.	.	.	.
2899 14 300	Flexographic printing machinery	527.2	614.9	9.1	16.6
2899 14 500	Gravure printing machinery	.	.	.	.
2899 14 900	Other printing apparatus, ink jet printing machines, n e c	248.0	263.0	3.9	6.0
2899 40 001	Auxiliary machinery for printing machines	171.1	181.1	2.7	5.9
2899 40 002	Parts for book-binding machinery and book-sewing machines (excluding needles for sewing machines)	69.4	71.7	1.1	3.2
2899 40 003	Parts of machinery for type-setting, for preparing or making printing blocks, plates and of other printing machines and auxiliary machinery for printing machines	1,033.8	1,068.2	15.8	3.3
3312 27 000	Repair and maintenance of machinery for paper and paperboard production	216.5	236.6	3.5	9.3
3312 29 901	Repair and maintenance of printing machinery	60.4	60.4	0.9	-0.1
3320 37 000	Installation of machinery for paper and paperboard production	39.9	38.6	0.6	-3.3
3320 39 001	Installation of printing machinery	85.3	81.3	1.2	-4.8
Printing and paper equipment and supplies		6,217.0	6,762.5	100.0	8.8

*) According to GP 2019, partly confidential or estimated.

Printing and paper equipment and supplies

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	17.7	18.2	19.0	19.2	18.9	18.4	18.8	18.7
Production ²	million EUR	5,892	5,967	6,005	5,959	5,166	5,284	6,217	6,762
Share of mechanical engineering	percent	2.9	2.8	2.7	2.6	2.6	2.4	2.6	2.7
Exports	million EUR	4,349	4,601	4,625	4,508	3,938	4,321	4,767	4,903
Share of mechanical engineering	percent	2.8	2.7	2.6	2.5	2.4	2.4	2.4	2.4
Imports	million EUR	1,027	1,084	1,144	1,150	1,085	1,109	1,377	1,395
Share of mechanical engineering	percent	1.6	1.5	1.5	1.5	1.5	1.4	1.5	1.5
Imports in percent of exports	percent	23.6	23.6	24.7	25.5	27.6	25.7	28.9	28.4
Turnover abroad in percent of total turnover	percent	81.6	79.8	81.4	81.5	74.6	85.0	87.8	85.9
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	87.1	89.1	95.2	78.5	77.1	89.3	92.9	93.4
Producer price index (Base 2021 = 100)	index	-	-	-	-	-	100.0	107.1	114.7

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Printing and paper equipment and supplies

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Total Exports	4,767,167	4,903,153	100.0	2.9
EU27	1,721,954	1,694,918	34.6	-1.6
EURO20	1,228,661	1,127,528	23.0	-8.2
Italy	315,040	277,416	5.7	-11.9
France	217,569	227,560	4.6	4.6
Spain	124,837	138,784	2.8	11.2
Austria	196,305	126,195	2.6	-35.7
Netherlands	123,223	106,816	2.2	-13.3
Belgium	75,778	72,947	1.5	-3.7
Finland	52,245	37,048	0.8	-29.1
Slovakia	26,717	32,087	0.7	20.1
Greece	14,235	27,838	0.6	95.6
Portugal	16,719	19,500	0.4	16.6
Poland	240,409	333,441	6.8	38.7
Czech Republic	94,117	70,281	1.4	-25.3
Sweden	50,430	48,230	1.0	-4.4
Hungary	41,772	39,585	0.8	-5.2
Romania	23,467	33,521	0.7	42.8
Denmark	26,920	28,424	0.6	5.6
Other Europe	519,969	499,616	10.2	-3.9
United Kingdom	155,125	178,117	3.6	14.8
Türkiye	180,029	158,363	3.2	-12.0
Switzerland	93,193	95,525	1.9	2.5
Russian Fed.	59,245	30,390	0.6	-48.7
Serbia	15,991	19,047	0.4	19.1
Africa	99,785	116,333	2.4	16.6
South Africa	26,159	39,671	0.8	51.7
Egypt	19,116	26,784	0.5	40.1
North America	760,215	973,769	19.9	28.1
USA	700,645	891,582	18.2	27.3
Canada	59,570	82,187	1.7	38.0
Latin-America	376,689	339,522	6.9	-9.9
Mexico	185,532	125,770	2.6	-32.2
Brazil	84,276	123,420	2.5	46.4
Asia	1,237,721	1,198,999	24.5	-3.1
China	676,215	616,394	12.6	-8.8
India	74,133	85,480	1.7	15.3
Japan	86,128	79,602	1.6	-7.6
Rep. of Korea	65,898	63,986	1.3	-2.9
Indonesia	35,077	50,294	1.0	43.4
Saudi Arabia	24,455	36,353	0.7	48.7

Printing and paper equipment and supplies

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Thailand	28,121	29,357	0.6	4.4
Vietnam	30,704	28,587	0.6	-6.9
U.A.Emirates	33,882	25,916	0.5	-23.5
Israel	29,968	22,479	0.5	-25.0
Pakistan	25,985	21,749	0.4	-16.3
Bangladesh	13,294	19,041	0.4	43.2
Australia & Oceania	50,821	79,986	1.6	57.4
Australia	48,575	68,116	1.4	40.2
Total Imports	1,377,440	1,394,600	100.0	1.2
EU27	799,864	812,114	58.2	1.5
EURO20	537,499	523,975	37.6	-2.5
Italy	126,407	120,834	8.7	-4.4
Austria	93,081	111,596	8.0	19.9
Finland	112,463	90,119	6.5	-19.9
Netherlands	53,429	58,437	4.2	9.4
France	48,944	42,105	3.0	-14.0
Slovakia	34,347	34,948	2.5	1.7
Spain	26,731	24,337	1.7	-9.0
Belgium	10,598	14,617	1.0	37.9
Czech Republic	180,542	199,136	14.3	10.3
Sweden	23,242	32,964	2.4	41.8
Poland	28,733	26,281	1.9	-8.5
Other Europe	320,097	328,934	23.6	2.8
Switzerland	250,236	272,624	19.5	8.9
United Kingdom	40,435	35,942	2.6	-11.1
Africa	1,984	2,862	0.2	44.3
North America	57,789	55,558	4.0	-3.9
USA	54,913	52,310	3.8	-4.7
Latin-America	2,273	2,132	0.2	-6.2
Asia	194,234	192,283	13.8	-1.0
China	123,137	120,735	8.7	-2.0
Japan	31,081	22,698	1.6	-27.0
Australia & Oceania	1,199	717	0.1	-40.2

2.25 Textile machinery

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2894 11 000	Machines for preparing textile fibres (excluding carding machines, combing machines, drawing or roving	960.7	922.8	30.0	-3.9
2894 12 000	Textile spinning machines; textile doubling, twisting, winding or reeling machines	425.3	508.6	16.5	19.6
2894 13 000	Weaving machines	48.6	.	.	.
2894 14 300	Circular knitting machines	147.1	119.8	3.9	-18.5
2894 14 500	Flat knitting machines, stitch-bonding machines and warp knitting machines	.	.	.	.
2894 14 700	Machines for making gimped yarn, tulle, lace, embroidery, trimmings, braid or net, and machines for tufting	.	.	.	.
2894 15 100	Auxiliary machinery for machines for spinning, weaving, knitting incl. doobies and jacquards; card reducing, copying machines	.	.	.	.
2894 15 300	Printing machinery for textile articles	.	.	.	.
2894 21 100	Machinery for the manufacture or finishing of felt or nonwovens in the piece or in shapes (including machinery for making felt hats, blocks for making hats)	94.5	71.0	2.3	-24.8
2894 21 503	Washing and bleaching machines (including wringers and mangles, shaker-tumblers; excluding household or laundry-type washing machines)	41.3	41.6	1.4	0.7
2894 21 505	Dyeing machines (including wringers and mangles, shaker-tumblers; excluding household or laundry-type washing machines)	126.8	111.5	3.6	-12.1
2894 21 701	Machines for reeling, folding, cutting or pinking textile	16.6	11.0	0.4	-33.4
2894 51 103	Parts and accessories of machines for extruding, drawing etc of man-made textile materials	236.7	206.9	6.7	-12.6
2894 51 109	Parts and accessories of other textile spinning machines	106.5	118.4	3.8	11.2
2894 51 300	Spindles and spindle flyers, spinning ring and ring	52.0	47.6	1.5	-8.5
2894 51 503	Shuttles, weaving reels, healds and heald frames	7.9	6.7	0.2	-14.6
2894 51 509	Other parts and accessories for weaving machines (looms) or for their auxiliary machinery (excluding shuttles, reels for looms, healds and heald frames), n e c	95.2	79.2	2.6	-16.9
2894 51 700	Parts and accessories of mesh-making and related machines	369.9	350.9	11.4	-5.1
2894 52 205	Other parts of machinery for textile finishing (excluding calendaring and printing machinery)	116.9	112.7	3.7	-3.6
3312 26 003	Repair and maintenance of machinery for textile	42.6	43.9	1.4	3.2
3320 36 001	Installation of machinery for spinning, weaving and knitting	11.8	32.3	1.0	173.0
3320 36 008	Installation of other machinery for textile, apparel and leather production	29.6	39.1	1.3	32.2
Textile machinery		3,160.3	3,080.8	100.0	-2.5

*) According to GP 2019, partly confidential or estimated.

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	11.5	11.8	12.3	12.2	11.0	10.7	10.6	10.2
Production ²	million EUR	3,045	3,514	3,549	3,008	2,493	2,972	3,160	3,081
Share of mechanical engineering	percent	1.5	1.6	1.6	1.3	1.2	1.4	1.3	1.2
Exports	million EUR	2,314	2,778	2,774	2,386	2,030	2,632	2,700	2,584
Share of mechanical engineering	percent	1.5	1.6	1.5	1.3	1.2	1.5	1.4	1.2
Imports	million EUR	485	510	484	427	374	476	561	471
Share of mechanical engineering	percent	0.7	0.7	0.6	0.6	0.5	0.6	0.6	0.5
Imports in percent of exports	percent	21.0	18.3	17.4	17.9	18.4	18.1	20.8	18.2
Turnover abroad in percent of total turnover	percent	93.1	92.3	91.8	91.8	90.6	90.8	91.7	92.0
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	85.2	86.1	91.8	72.4	67.1	91.4	93.9	88.2
Producer price index (Base 2021 = 100)	index	94.1	95.3	96.3	97.5	98.0	100.0	107.4	113.4

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Textile machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	2,699,741	2,583,562	100.0	-4.3
EU27	391,652	416,121	16.1	6.2
EURO20	252,027	273,551	10.6	8.5
Italy	76,662	80,008	3.1	4.4
France	40,734	42,768	1.7	5.0
Austria	19,770	35,359	1.4	78.9
Netherlands	26,636	28,412	1.1	6.7
Belgium	26,343	22,716	0.9	-13.8
Spain	16,532	22,064	0.9	33.5
Portugal	15,799	17,330	0.7	9.7
Slovakia	5,752	8,286	0.3	44.1
Czech Republic	77,725	73,108	2.8	-5.9
Poland	31,705	36,197	1.4	14.2
Romania	13,386	14,457	0.6	8.0
Sweden	5,090	5,983	0.2	17.5
Other Europe	391,456	389,689	15.1	-0.5
Türkiye	325,903	333,136	12.9	2.2
Switzerland	27,326	24,211	0.9	-11.4
United Kingdom	20,029	20,567	0.8	2.7
Africa	112,507	127,471	4.9	13.3
Algeria	207	45,451	1.8	.
Egypt	70,409	43,427	1.7	-38.3
Benin	-	18,337	0.7	.
South Africa	32,130	7,320	0.3	-77.2
North America	260,982	238,868	9.2	-8.5
USA	254,485	233,586	9.0	-8.2
Latin-America	103,264	122,330	4.7	18.5
Brazil	27,242	44,816	1.7	64.5
Mexico	33,532	35,408	1.4	5.6
Argentina	13,500	16,770	0.6	24.2
Honduras	12,361	8,934	0.3	-27.7
Asia	1,432,476	1,284,639	49.7	-10.3
China	701,089	628,117	24.3	-10.4
India	340,469	259,573	10.0	-23.8
Uzbekistan	84,614	78,599	3.0	-7.1
Bangladesh	78,981	46,056	1.8	-41.7
Indonesia	12,947	38,852	1.5	200.1
Pakistan	74,079	34,302	1.3	-53.7
Rep. of Korea	11,672	32,327	1.3	177.0
Vietnam	17,756	24,027	0.9	35.3
Japan	16,800	21,732	0.8	29.4

Textile machinery

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Thailand	15,715	18,766	0.7	19.4
Iran	13,235	17,224	0.7	30.1
U.A.Emirates	14,388	13,625	0.5	-5.3
Taiwan	15,270	12,146	0.5	-20.5
Israel	1,816	11,855	0.5	552.8
Hong Kong (SVR)	4,407	11,634	0.5	164.0
Singapore	10,404	11,341	0.4	9.0
Australia & Oceania	7,375	4,415	0.2	-40.1
Total Imports	561,005	471,074	100.0	-16.0
EU27	262,806	247,147	52.5	-6.0
EURO20	177,847	157,062	33.3	-11.7
Italy	70,353	56,989	12.1	-19.0
Portugal	23,242	27,117	5.8	16.7
Belgium	21,566	22,436	4.8	4.0
Netherlands	12,931	20,105	4.3	55.5
Austria	18,396	11,386	2.4	-38.1
France	21,231	9,800	2.1	-53.8
Czech Republic	34,871	34,185	7.3	-2.0
Poland	29,834	31,086	6.6	4.2
Denmark	12,087	14,090	3.0	16.6
Other Europe	61,293	56,818	12.1	-7.3
Switzerland	53,051	47,678	10.1	-10.1
Africa	79	213	0.0	169.6
North America	9,282	8,645	1.8	-6.9
USA	9,259	8,535	1.8	-7.8
Latin-America	15,945	15,193	3.2	-4.7
Brazil	15,599	15,159	3.2	-2.8
Asia	210,781	142,433	30.2	-32.4
China	117,049	67,618	14.4	-42.2
India	44,921	39,919	8.5	-11.1
Taiwan	14,308	9,065	1.9	-36.6
Japan	9,224	7,449	1.6	-19.2
Australia & Oceania	819	625	0.1	-23.7

2.26 Textile Care, fabric and leather technologies

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2894 21 300	Ironing machines and presses (including fusing presses; excluding calendering machines)	46.7	47.3	7.9	1.3
2894 21 707	Machines for unreeling, plaiting, cutting textile fabrics for the apparel production	40.7	32.9	5.5	-19.3
2894 21 800	Machinery for making linoleum or other floor coverings, for dressing or finishing and for mangling, steaming, moulding, draining a n g	101.0	168.1	28.1	66.5
2894 22 300	Household or laundry-type washing machines of a dry linen capacity > 10 kg (including machines that both wash and dry)	135.5	169.8	28.4	25.3
2894 22 500	Dry-cleaning machines	.	.	.	.
2894 24 300	Industrial automatic sewing machines	35.5	34.1	5.7	-3.9
2894 24 503	Lockstitch sewing machines	5.3	4.8	0.8	-8.8
2894 24 505	Line seam sewing machines (also zig-zag sewing machines), top cover seam sewing machines, overedge sewing machines and safety sewing machines	1.8	2.5	0.4	35.8
2894 24 508	Other sewing machines and apparatus, ang (excluding domestic sewing machines)	21.1	19.6	3.3	-7.1
2894 30 300	Machinery for preparing, tanning or working hides, skins or leather	.	.	.	.
2894 30 500	Machinery for making/repairing footwear including skiving or pairing machines, machines for cutting leather into shapes, perforating and pricking machines excluding sewing machines	.	.	.	.
2894 30 700	Machinery for making/repairing articles of hides, skins or leather, n.e.c.	.	.	.	.
2894 40 000	Domestic sewing machines (excluding furniture, bases and covers)	.	.	.	.
2894 52 109	Parts for household or laundry-type washing machines of a dry linen capacity >10 kg(including for those that both wash and dry)	12.7	15.1	2.5	18.1
2894 52 300	Sewing machine needles	.	.	.	.
2894 52 600	Parts of industrial sewing machines (e g furniture, bases and covers and parts thereof)	18.4	19.0	3.2	3.7
2894 52 800	Parts of machinery for preparing, tanning or working hides, skins or leather, or for making or repairing footwear or other articles of hides, skins or leather (excluding sewing machines)	17.0	16.6	2.8	-2.1
3312 26 001	Repair and maintenance of machinery for apparel and leather production	.	33.0	5.5	.
Textile Care, fabric and leather technologies		504.2	598.1	100.0	18.6

*) According to GP 2019, partly confidential or estimated.

Textile Care, fabric and leather technologies

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	6.4	6.4	6.6	6.7	5.9	5.7	5.7	6.6
Production ²	million EUR	601	669	713	639	516	523	504	598
Share of mechanical engineering	percent	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Exports	million EUR	810	886	766	665	598	657	688	697
Share of mechanical engineering	percent	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.3
Imports	million EUR	424	430	385	353	404	421	399	343
Share of mechanical engineering	percent	0.6	0.6	0.5	0.5	0.6	0.5	0.4	0.4
Imports in percent of exports	percent	52.3	48.5	50.2	53.1	67.5	64.1	58.0	49.2
Turnover abroad in percent of total turnover	percent	68.4	73.2	76.7	73.0	70.6	73.0	75.9	79.7
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	percent	94.1	95.3	96.3	97.5	98.0	100.0	107.4	113.4

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Textile Care, fabric and leather technologies

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	687,725	697,294	100.0	1.4
EU27	379,805	365,930	52.5	-3.7
EURO20	227,601	237,257	34.0	4.2
France	61,099	63,926	9.2	4.6
Italy	56,797	61,061	8.8	7.5
Netherlands	24,802	23,180	3.3	-6.5
Spain	20,701	22,059	3.2	6.6
Austria	16,167	19,215	2.8	18.9
Belgium	15,793	18,310	2.6	15.9
Portugal	8,776	7,081	1.0	-19.3
Slovakia	6,139	5,131	0.7	-16.4
Finland	4,584	4,993	0.7	8.9
Greece	3,287	3,330	0.5	1.3
Poland	105,373	85,054	12.2	-19.3
Czech Republic	17,049	13,468	1.9	-21.0
Sweden	8,069	8,561	1.2	6.1
Hungary	6,169	6,994	1.0	13.4
Denmark	5,532	6,496	0.9	17.4
Romania	8,908	6,264	0.9	-29.7
Other Europe	86,304	91,858	13.2	6.4
Türkiye	30,381	32,287	4.6	6.3
Switzerland	20,410	18,462	2.6	-9.5
United Kingdom	16,042	17,850	2.6	11.3
Russian Fed.	8,048	7,386	1.1	-8.2
Serbia	3,464	3,789	0.5	9.4
Form.Yug.Rep.Maced	1,544	3,534	0.5	128.9
Ukraine	1,889	2,958	0.4	56.6
Africa	14,499	22,003	3.2	51.8
Tunisia	4,550	6,467	0.9	42.1
Morocco	2,813	6,052	0.9	115.1
South Africa	4,506	2,970	0.4	-34.1
Benin	7	2,664	0.4	.
North America	66,933	64,266	9.2	-4.0
USA	64,306	60,440	8.7	-6.0
Canada	2,621	3,820	0.5	45.7
Latin-America	22,051	26,815	3.8	21.6
Mexico	14,147	17,210	2.5	21.7
Argentina	974	2,635	0.4	170.5
Asia	109,749	115,645	16.6	5.4
China	36,312	44,233	6.3	21.8
India	20,278	19,626	2.8	-3.2

Textile Care, fabric and leather technologies

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Vietnam	6,244	7,409	1.1	18.7
Pakistan	4,637	7,202	1.0	55.3
Bangladesh	9,472	6,266	0.9	-33.8
Uzbekistan	5,407	3,801	0.5	-29.7
Iraq	417	3,090	0.4	641.0
Japan	3,249	2,712	0.4	-16.5
Australia & Oceania	8,295	10,598	1.5	27.8
Australia	7,818	7,952	1.1	1.7
Total Imports	398,756	343,057	100.0	-14.0
EU27	176,458	171,412	50.0	-2.9
EURO20	70,936	45,306	13.2	-36.1
Italy	38,791	21,447	6.3	-44.7
Netherlands	16,329	11,664	3.4	-28.6
France	5,168	3,683	1.1	-28.7
Czech Republic	58,752	72,860	21.2	24.0
Poland	32,417	27,652	8.1	-14.7
Romania	3,328	14,115	4.1	324.1
Hungary	5,408	5,596	1.6	3.5
Denmark	3,052	4,240	1.2	38.9
Other Europe	27,074	20,114	5.9	-25.7
Türkiye	10,332	9,695	2.8	-6.2
Switzerland	15,133	8,211	2.4	-45.7
Africa	30	105	0.0	250.0
North America	6,665	8,183	2.4	22.8
USA	6,632	8,182	2.4	23.4
Latin-America	258	312	0.1	20.9
Asia	188,233	142,911	41.7	-24.1
Vietnam	59,296	52,624	15.3	-11.3
China	73,742	49,595	14.5	-32.7
Taiwan	22,737	15,126	4.4	-33.5
Japan	15,716	12,020	3.5	-23.5
Thailand	12,896	10,882	3.2	-15.6
Australia & Oceania	38	20	0.0	-47.4

2.29 Firefighting equipment

Production and Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	3.6	3.5	3.6	3.6	3.5	3.4	3.5	3.5
Production ²	million EUR	735	748	711	783	826	750	797	892
Share of mechanical engineering	percent	0.4	0.3	0.3	0.3	0.4	0.3	0.3	0.4
Exports	million EUR	349	333	336	317	248	257	275	250
Share of mechanical engineering	percent	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
Imports	million EUR	152	149	128	142	134	121	122	134
Share of mechanical engineering	percent	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
Imports in percent of exports	percent	43.4	44.6	38.2	45.0	54.1	46.9	44.3	53.6
Producer price index (Base 2021 = 100)	index	98.3	101.2	102.0	101.4	99.2	100.0	114.0	128.4

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

Firefighting equipment

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Export	274,692	250,175	100.0	-8.9
EU27	131,075	124,621	49.8	-4.9
EURO20	106,294	78,102	31.2	-26.5
Netherlands	20,549	31,695	12.7	54.2
Austria	30,236	15,017	6.0	-50.3
France	13,807	11,002	4.4	-20.3
Italy	20,510	3,930	1.6	-80.8
Belgium	5,269	3,449	1.4	-34.5
Luxembourg	2,088	2,549	1.0	22.1
Spain	5,981	2,315	0.9	-61.3
Lithuania	1,925	2,286	0.9	18.8
Greece	1,317	1,510	0.6	14.7
Portugal	1,618	1,265	0.5	-21.8
Croatia	538	898	0.4	66.9
Slovenia	770	851	0.3	10.5
Czech Republic	5,525	14,009	5.6	153.6
Poland	6,710	11,818	4.7	76.1
Sweden	5,114	11,481	4.6	124.5
Romania	1,036	5,266	2.1	408.3
Hungary	2,669	2,626	1.0	-1.6
Denmark	3,681	1,246	0.5	-66.2
Other Europe	44,133	63,816	25.5	44.6
Ukraine	7,562	26,589	10.6	251.6
Switzerland	15,080	18,914	7.6	25.4
Türkiye	13,428	9,677	3.9	-27.9
United Kingdom	4,535	5,698	2.3	25.6
Norway	2,326	2,098	0.8	-9.8
Africa	7,764	6,032	2.4	-22.3
Egypt	3,999	1,522	0.6	-61.9
Nigeria	2,515	1,382	0.6	-45.0
Tanzania	38	1,379	0.6	.
North America	5,468	5,367	2.1	-1.8
USA	4,829	4,738	1.9	-1.9
Latin-America	13,841	9,903	4.0	-28.5
Chile	4,810	4,252	1.7	-11.6
Brazil	3,893	2,812	1.1	-27.8
Argentina	459	1,197	0.5	160.8
Asia	70,085	39,638	15.8	-43.4
China	5,337	9,715	3.9	82.0
Azerbaijan	7,818	6,230	2.5	-20.3
Japan	1,896	4,216	1.7	122.4

Firefighting equipment

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Taiwan	1,424	3,136	1.3	120.2
Vietnam	4,609	3,099	1.2	-32.8
Saudi Arabia	58	2,992	1.2	.
U.A.Emirates	2,774	2,735	1.1	-1.4
India	4,547	2,177	0.9	-52.1
Indonesia	253	1,036	0.4	309.5
Thailand	1,653	915	0.4	-44.6
Australia & Oceania	1,603	705	0.3	-56.0
Total Imports	121,664	134,028	100.0	10.2
EU27	88,995	104,447	77.9	17.4
EURO20	56,820	65,403	48.8	15.1
Netherlands	15,118	17,869	13.3	18.2
Austria	11,634	15,940	11.9	37.0
Italy	22,027	15,888	11.9	-27.9
Croatia	2,069	6,326	4.7	205.8
Finland	996	4,962	3.7	398.2
France	1,105	2,555	1.9	131.2
Spain	973	625	0.5	-35.8
Poland	28,105	33,313	24.9	18.5
Czech Republic	1,874	3,720	2.8	98.5
Denmark	1,441	1,648	1.2	14.4
Other Europe	7,233	4,825	3.6	-33.3
United Kingdom	2,370	3,082	2.3	30.0
Switzerland	1,870	1,360	1.0	-27.3
Africa	541	636	0.5	17.6
Egypt	509	636	0.5	25.0
North America	15,196	16,160	12.1	6.3
USA	14,943	15,735	11.7	5.3
Latin-America	99	7	0.0	-92.9
Asia	9,554	7,936	5.9	-16.9
China	9,455	6,872	5.1	-27.3
Singapore	3	931	0.7	.
Australia & Oceania	40	10	0.0	-75.0

2.30 Cleaning systems

Production and Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	'000	2.1	2.3	2.2	2.1	2.3	2.3	2.3	2.0
Production ²	million EUR	692	699	685	707	636	742	835	779
Share of mechanical engineering	percent	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3
Exports	million EUR	402	421	445	416	398	472	470	399
Share of mechanical engineering	percent	0.3	0.2	0.2	0.2	0.2	0.3	0.2	0.2
Imports	million EUR	131	128	161	136	138	178	178	152
Share of mechanical engineering	percent	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Imports in percent of exports	percent	32.6	30.4	36.2	32.7	34.6	37.7	37.8	38.1
Producer price index (Base 2021 = 100)	index	91.4	91.9	91.9	93.2	95.7	100.0	109.4	115.8

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

Cleaning systems

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
Total Exports	470,417	398,703	100.0	-15.2
EU27	276,310	202,181	50.7	-26.8
EURO20	230,204	161,052	40.4	-30.0
France	43,844	39,505	9.9	-9.9
Netherlands	40,923	25,435	6.4	-37.8
Slovakia	17,824	16,666	4.2	-6.5
Belgium	17,538	16,162	4.1	-7.8
Spain	45,152	15,233	3.8	-66.3
Italy	13,634	12,587	3.2	-7.7
Austria	25,066	10,510	2.6	-58.1
Portugal	7,041	7,044	1.8	0.0
Finland	5,544	5,154	1.3	-7.0
Greece	3,591	4,716	1.2	31.3
Croatia	808	2,215	0.6	174.1
Slovenia	1,620	1,882	0.5	16.2
Ireland	1,065	1,125	0.3	5.6
Poland	26,293	20,554	5.2	-21.8
Sweden	10,764	9,657	2.4	-10.3
Romania	1,255	3,933	1.0	213.4
Czech Republic	3,478	3,382	0.8	-2.8
Hungary	2,689	2,104	0.5	-21.8
Other Europe	92,419	97,564	24.5	5.6
United Kingdom	32,800	39,547	9.9	20.6
Russian Fed.	24,399	24,290	6.1	-0.4
Switzerland	17,045	16,217	4.1	-4.9
Türkiye	10,109	8,633	2.2	-14.6
Ukraine	2,782	4,628	1.2	66.4
Serbia	1,054	1,061	0.3	0.7
Norway	1,495	1,060	0.3	-29.1
Moldova (Rep.)	852	1,043	0.3	22.4
Africa	8,972	6,772	1.7	-24.5
South Africa	2,503	1,877	0.5	-25.0
North America	9,024	7,311	1.8	-19.0
USA	7,320	5,830	1.5	-20.4
Canada	1,704	1,477	0.4	-13.3
Latin-America	18,110	15,227	3.8	-15.9
Mexico	7,181	7,208	1.8	0.4
Asia	56,763	61,834	15.5	8.9
China	18,581	25,329	6.4	36.3
Rep. of Korea	5,085	6,295	1.6	23.8
Japan	7,708	6,239	1.6	-19.1

Cleaning systems

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Kazakhstan	3,163	3,783	0.9	19.6
U.A.Emirates	4,994	3,666	0.9	-26.6
Saudi Arabia	3,012	2,805	0.7	-6.9
India	2,053	1,942	0.5	-5.4
Israel	2,408	1,539	0.4	-36.1
Australia & Oceania	8,677	7,626	1.9	-12.1
Australia	6,504	6,636	1.7	2.0
New Zealand	2,125	982	0.2	-53.8
Total Imports	177,987	151,918	100.0	-14.6
EU27	102,117	85,596	56.3	-16.2
EURO20	88,460	72,397	47.7	-18.2
Italy	72,630	64,920	42.7	-10.6
Netherlands	6,837	4,312	2.8	-36.9
Greece	-	1,200	0.8	.
France	979	831	0.5	-15.1
Austria	5,746	534	0.4	-90.7
Spain	262	276	0.2	5.3
Hungary	5,938	6,550	4.3	10.3
Bulgaria	2,883	3,544	2.3	22.9
Poland	1,997	1,771	1.2	-11.3
Czech Republic	2,038	863	0.6	-57.7
Sweden	478	271	0.2	-43.3
Other Europe	4,173	4,061	2.7	-2.7
United Kingdom	3,209	2,468	1.6	-23.1
Türkiye	677	771	0.5	13.9
Switzerland	274	322	0.2	17.5
North America	268	193	0.1	-28.0
Latin-America	189	72	0.0	-61.9
Asia	71,222	61,993	40.8	-13.0
China	70,146	61,297	40.3	-12.6
Rep. of Korea	490	312	0.2	-36.3
Australia & Oceania	18	3	0.0	-83.3

2.31 Valves and fittings

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	%-share	2023/2022	
2651 52 590	Non-electronic instruments and apparatus for measuring or checking the level of liquids	161.2	159.4	1.5	-1.1
2814 11 200	Pressure-reducing valves of cast iron or steel, for pipes, boiler shells, tanks, vats and the like (excluding those combined with lubricators or filters)	52.6	49.9	0.5	-5.2
2814 11 409	Pressure-reducing valves for pipes, boiler shells, tanks, vats and the like (excluding of cast iron or steel, those combined with filters or lubricators)	112.9	114.9	1.1	1.8
2814 11 603	Check valves for pipes, boiler shells, tanks, vats and the like, of cast iron or steel	182.3	214.0	2.0	17.4
2814 11 609	Check valves for pipes, boiler shells, tanks, vats and the like (excluding of cast iron or steel)	27.2	34.7	0.3	27.4
2814 11 804	Safety or relief valves for pipes, boiler shells, tanks, vats and the like, of cast iron or steel	245.9	265.8	2.5	8.1
2814 11 808	Safety or relief valves for pipes, boiler shells, tanks, vats and the like (excluding of cast iron or steel)	127.9	138.5	1.3	8.3
2814 12 331	Single lever tap	591.9	502.6	4.7	-15.1
2814 12 333	Two-handle mixer	142.7	118.1	1.1	-17.2
2814 12 335	Thermostat valve for sinks, wash basins, bidets, water cisterns bath and similar fixtures	268.4	206.7	1.9	-23.0
2814 12 352	Self-closing pillar tap, electrical controlled	70.5	60.5	0.6	-14.2
2814 12 353	Hand showers and accessory	822.0	610.0	5.6	-25.8
2814 12 355	Angle valves	62.3	53.7	0.5	-13.8
2814 12 356	Flushing valves	15.1	13.7	0.1	-9.0
2814 12 357	Stop valves for washing machines supplies	.	25.5	0.2	.
2814 12 359	Other taps, cocks and valves for sinks, wash basins, bidets, water cisterns etc (incl. pillar taps and faucets), excluding valves for pressure-reducing/oleohydraulic transmissions, check, safety, relief and mixing valves	1,940.2	1,965.2	18.2	1.3
2814 12 530	Central heating radiator thermostatic valves	.	.	.	.
2814 12 550	Central heating radiator valves, other	230.5	218.5	2.0	-5.2
2814 13 130	Other process control valves, temperature regulators	26.6	19.7	0.2	-25.9
2814 13 151	Process control valves	284.3	281.3	2.6	-1.1
2814 13 152	Adjusting plug valves	44.3	52.0	0.5	17.5
2814 13 154	Adjusting butterfly valves	221.4	220.1	2.0	-0.6
2814 13 157	Rotary plug valves	118.9	.	.	.
2814 13 159	Other process control valves for pipes, boiler shells, tanks etc excluding valves for pressure-reducing or oleohydraulic/pneumatic power transmissions, check, safety/relief valves, temp. regulators	439.7	459.6	4.3	4.5
2814 13 330	Other gate valves, of cast iron	71.7	63.3	0.6	-11.6
2814 13 350	Other gate valves, of steel	76.8	83.7	0.8	8.9
2814 13 370	Other gate valves, other	12.7	13.0	0.1	1.7
2814 13 530	Globe valves, of cast iron	116.7	106.0	1.0	-9.2
2814 13 550	Globe valves, of steel	642.1	632.6	5.9	-1.5
2814 13 570	Other globe valves	807.9	799.4	7.4	-1.1

*) According to GP 2019, partly confidential or estimated.

Valves and fittings

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2814 13 733	Ball and plug valves of cast iron	61.7	66.0	0.6	7.1
2814 13 735	Ball and plug valves of steel	348.6	382.7	3.5	9.8
2814 13 739	Ball and plug valves (excluding of cast iron or steel)	95.6	94.7	0.9	-0.9
2814 13 753	Butterfly valves of cast iron	91.3	77.5	0.7	-15.2
2814 13 755	Butterfly valves of steel	97.7	120.3	1.1	23.2
2814 13 759	Butterfly valves (excluding of cast iron or steel)	24.5	23.5	0.2	-4.4
2814 13 770	Diaphragm valves	.	.	.	.
2814 13 801	Other safety valves, n e c	257.0	273.3	2.5	6.4
2814 13 802	Other shut-off valves (excluding plug and butterfly valves),	196.4	183.7	1.7	-6.5
2814 13 803	Other shut-off valves (excluding plug and butterfly valves),	136.7	146.8	1.4	7.4
2814 13 804	Other shut-off valves (excluding of cast iron or steel), n e c	169.4	162.5	1.5	-4.1
2814 13 805	Other control valves	164.5	153.8	1.4	-6.5
2814 13 806	Traps, separators, drain and vent valves for pipes, tubes or the like	70.3	71.3	0.7	1.3
2814 20 009	Parts for taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats and the like (including for pressure reducing-valves and thermostatically controlled valves)	866.3	807.4	7.5	-6.8
3312 12 209	Repair and maintenance of taps and valves	257.7	248.7	2.3	-3.5
3320 29 606	Installation taps, cocks, valves and similar appliances for pipes, boiler shells, tanks, vats and the like (including for pressure reducing-valves and thermostatically controlled valves)	58.5	89.9	0.8	53.7
Valves and fittings		11,138.0	10,799.2	100.0	-3.0

*) According to GP 2019, partly confidential or estimated.

Valves and fittings

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	39.8	38.9	40.5	41.9	42.6	42.1	42.5	42.4
Production ²	million EUR	9,130	9,133	9,617	9,627	9,478	10,513	11,138	10,799
Share of mechanical engineering	percent	4.5	4.2	4.3	4.3	4.7	4.8	4.7	4.2
Exports	million EUR	7,937	8,697	9,189	9,658	8,742	9,784	10,510	10,573
Share of mechanical engineering	percent	5.1	5.1	5.1	5.3	5.3	5.4	5.4	5.1
Imports	million EUR	4,160	4,587	4,850	5,033	4,614	5,363	6,230	5,826
Share of mechanical engineering	percent	6.3	6.5	6.3	6.5	6.6	6.6	6.7	6.2
Imports in percent of exports	percent	52.4	52.7	52.8	52.1	52.8	54.8	59.3	55.1
Turnover abroad in percent of total turnover	percent	50.0	48.8	49.1	47.5	46.6	45.6	47.3	47.9
In comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	81.5	83.9	85.0	80.0	79.0	87.3	87.3	81.9
Producer price index (Base 2021 = 100)	index	88.7	90.6	92.4	94.1	96.2	100.0	110.2	119.8

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July: Recalculation of all figures in 2018 due to changes in the calculation method.

Valves and fittings

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	10,510,399	10,573,023	100.0	0.6
EU27	4,976,733	5,016,940	47.5	0.8
EURO20	3,422,267	3,433,111	32.5	0.3
France	794,279	827,169	7.8	4.1
Netherlands	537,670	531,865	5.0	-1.1
Austria	521,920	504,727	4.8	-3.3
Italy	494,811	500,360	4.7	1.1
Belgium	283,751	284,195	2.7	0.2
Spain	248,236	256,290	2.4	3.2
Finland	107,905	97,799	0.9	-9.4
Portugal	89,793	82,625	0.8	-8.0
Slovakia	76,055	77,780	0.7	2.3
Slovenia	49,092	50,500	0.5	2.9
Luxembourg	43,129	41,276	0.4	-4.3
Poland	484,430	504,275	4.8	4.1
Czech Republic	337,461	367,195	3.5	8.8
Hungary	247,001	243,131	2.3	-1.6
Sweden	179,778	178,668	1.7	-0.6
Denmark	160,672	147,469	1.4	-8.2
Romania	100,187	101,214	1.0	1.0
Bulgaria	44,937	41,877	0.4	-6.8
Other Europe	1,324,132	1,347,719	12.7	1.8
United Kingdom	423,900	482,972	4.6	13.9
Switzerland	396,884	407,283	3.9	2.6
Türkiye	229,072	267,167	2.5	16.6
Norway	95,570	73,778	0.7	-22.8
Africa	207,983	196,717	1.9	-5.4
South Africa	100,150	100,294	0.9	0.1
North America	1,056,923	1,108,379	10.5	4.9
USA	991,370	1,053,906	10.0	6.3
Canada	65,537	54,455	0.5	-16.9
Latin-America	334,982	344,160	3.3	2.7
Mexico	125,623	137,017	1.3	9.1
Brazil	129,029	125,524	1.2	-2.7
Asia	2,519,893	2,466,954	23.3	-2.1
China	1,207,300	1,100,713	10.4	-8.8
India	209,166	212,981	2.0	1.8
Rep. of Korea	157,746	156,503	1.5	-0.8
U.A.Emirates	103,151	121,620	1.2	17.9
Japan	105,385	115,178	1.1	9.3
Singapore	104,786	113,807	1.1	8.6

Valves and fittings

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Saudi Arabia	111,345	106,751	1.0	-4.1
Taiwan	81,376	72,658	0.7	-10.7
Hong Kong (SVR)	69,980	60,642	0.6	-13.3
Thailand	64,136	52,521	0.5	-18.1
Israel	43,299	45,928	0.4	6.1
Kazakhstan	32,389	44,207	0.4	36.5
Australia & Oceania	82,644	81,199	0.8	-1.7
Australia	68,872	70,158	0.7	1.9
Total Imports	6,230,272	5,826,213	100.0	-6.5
EU27	3,024,401	2,947,246	50.6	-2.6
EURO20	1,879,131	1,746,890	30.0	-7.0
Italy	764,103	707,006	12.1	-7.5
France	253,482	287,867	4.9	13.6
Portugal	241,973	177,905	3.1	-26.5
Austria	162,578	145,101	2.5	-10.7
Netherlands	124,707	109,776	1.9	-12.0
Spain	103,043	96,601	1.7	-6.3
Czech Republic	372,839	415,320	7.1	11.4
Poland	331,067	339,944	5.8	2.7
Hungary	193,186	212,137	3.6	9.8
Other Europe	743,551	787,023	13.5	5.8
Switzerland	512,502	546,770	9.4	6.7
United Kingdom	137,046	137,126	2.4	0.1
Türkiye	81,159	86,416	1.5	6.5
Africa	4,508	4,372	0.1	-3.0
North America	673,024	716,225	12.3	6.4
USA	664,358	706,514	12.1	6.3
Latin-America	27,375	28,377	0.5	3.7
Asia	1,754,205	1,340,436	23.0	-23.6
China	1,206,808	881,129	15.1	-27.0
India	129,620	127,525	2.2	-1.6
Thailand	124,974	92,418	1.6	-26.1
Australia & Oceania	3,208	2,534	0.0	-21.0

2.33 Lifts and escalators

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2822 16 301	Electrically operated lifts, with a velocity of less than 1,6 m/s	241.6	227.2	21.1	-5.9
2822 16 302	Electrically operated lifts, with a velocity of 1,6 m/s or more	.	.	.	.
2822 16 306	Electrically operated skip hoists, with a lifting capacity <= 2500 kg	20.8	18.6	1.7	-10.5
2822 16 309	Other electrically operated lifts and skip hoists, n e c (excluding builders' hoists)	15.2	14.3	1.3	-6.0
2822 16 501	Lifts (excluding electrically operated), with a lifting capacity <= 630 kg	8.3	8.2	0.8	-1.3
2822 16 502	Lifts (excluding electrically operated), with a lifting capacity > 630 kg	10.2	7.2	0.7	-29.2
2822 16 504	Skip hoists (excluding electrically operated), with a lifting capacity <= 2500 kg	7.1	7.4	0.7	4.6
2822 16 508	Other lifts and skip hoists (excluding electrically operated and builders' hoists)	257.4	269.7	25.1	4.8
2822 16 700	Escalators and moving walkways	.	.	.	.
2822 19 509	Parts of lifts and skip hoists and escalators	434.7	448.9	41.8	3.2
Lifts and escalators		1,092.5	1,074.7	100.0	-1.6

*) According to GP 2019, partly confidential or estimated.

Lifts and escalators

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	'000	7.3	7.3	7.3	7.8	7.1	7.0	7.1	6.4
Production ²	million EUR	992	1,058	1,019	1,043	1,048	1,016	1,092	1,075
Share of mechanical engineering	percent	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
Exports	million EUR	819	851	954	914	841	832	846	871
Share of mechanical engineering	percent	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4
Imports	million EUR	511	571	644	677	756	776	832	823
Share of mechanical engineering	percent	0.8	0.8	0.8	0.9	1.1	1.0	0.9	0.9
Imports in percent of exports	percent	62.4	67.1	67.5	74.1	89.9	93.2	98.3	94.4
Turnover abroad in percent of total turnover	percent	12.3	11.0	10.4	8.2	11.3	8.5	9.9	11.9
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	89.6	88.6	87.4	99.3	96.4	97.5	87.1	84.4
Producer price index (Base 2021 = 100)	Index	90.3	91.4	93.1	94.6	96.6	100.0	114.0	122.2

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Lifts and escalators

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	846,118	871,068	100.0	2.9
EU27	401,082	430,774	49.5	7.4
EURO20	315,513	342,829	39.4	8.7
France	132,387	149,241	17.1	12.7
Netherlands	50,955	48,584	5.6	-4.7
Spain	36,596	40,255	4.6	10.0
Austria	23,926	28,083	3.2	17.4
Belgium	24,533	25,150	2.9	2.5
Italy	13,534	16,210	1.9	19.8
Ireland	5,224	10,757	1.2	105.9
Slovakia	11,159	8,427	1.0	-24.5
Finland	4,257	4,246	0.5	-0.3
Portugal	3,090	3,604	0.4	16.6
Greece	2,825	2,437	0.3	-13.7
Luxembourg	3,971	2,333	0.3	-41.2
Czech Republic	18,811	19,595	2.2	4.2
Sweden	17,586	18,223	2.1	3.6
Denmark	14,080	17,615	2.0	25.1
Poland	17,700	15,710	1.8	-11.2
Hungary	12,282	12,008	1.4	-2.2
Romania	4,475	4,114	0.5	-8.1
Other Europe	301,183	285,604	32.8	-5.2
Switzerland	135,644	148,848	17.1	9.7
United Kingdom	111,027	99,929	11.5	-10.0
Türkiye	18,330	16,514	1.9	-9.9
Norway	9,686	12,842	1.5	32.6
Russian Fed.	22,076	2,439	0.3	-89.0
Iceland	1,796	1,924	0.2	7.1
Serbia	1,596	1,555	0.2	-2.6
Africa	24,535	10,236	1.2	-58.3
Egypt	13,229	7,624	0.9	-42.4
North America	21,557	29,525	3.4	37.0
USA	20,466	28,162	3.2	37.6
Latin-America	3,294	5,314	0.6	61.3
Mexico	1,605	2,935	0.3	82.9
Asia	82,033	98,629	11.3	20.2
Saudi Arabia	13,709	21,664	2.5	58.0
Israel	5,524	16,392	1.9	196.7
China	13,321	12,304	1.4	-7.6
Singapore	5,541	6,931	0.8	25.1
Bangladesh	2,913	6,361	0.7	118.4

Lifts and escalators

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
U.A.Emirates	4,283	5,974	0.7	39.5
Hong Kong (SVR)	2,660	5,117	0.6	92.4
India	2,267	3,349	0.4	47.7
Kazakhstan	7,552	3,120	0.4	-58.7
Iraq	2,155	3,012	0.3	39.8
Azerbaijan	127	2,948	0.3	.
Australia & Oceania	12,287	10,713	1.2	-12.8
Australia	11,966	9,907	1.1	-17.2
Total Imports	831,830	822,547	100.0	-1.1
EU27	727,625	722,842	87.9	-0.7
EURO20	599,120	604,724	73.5	0.9
Slovakia	168,744	154,705	18.8	-8.3
Italy	112,593	148,266	18.0	31.7
Spain	81,664	86,103	10.5	5.4
France	87,429	84,005	10.2	-3.9
Netherlands	61,771	60,279	7.3	-2.4
Austria	34,622	28,753	3.5	-17.0
Finland	21,986	15,811	1.9	-28.1
Greece	9,328	8,625	1.0	-7.5
Czech Republic	50,803	53,360	6.5	5.0
Hungary	35,187	27,855	3.4	-20.8
Sweden	18,521	20,557	2.5	11.0
Poland	14,361	11,153	1.4	-22.3
Other Europe	61,148	62,588	7.6	2.4
United Kingdom	29,443	30,574	3.7	3.8
Switzerland	14,862	19,960	2.4	34.3
Türkiye	6,895	8,377	1.0	21.5
Africa	3	5	0.0	66.7
North America	2,162	1,678	0.2	-22.4
Latin-America	83	116	0.0	39.8
Asia	40,760	35,301	4.3	-13.4
China	38,193	33,953	4.1	-11.1
Australia & Oceania	49	17	0.0	-65.3

2.34 Power transmission engineering

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR		%-share	2023/2022
2790 45 500	Electro-magnetic couplings, clutches and brakes (excluding mechanical hydraulic or pneumatic brakes controlled by electro-magnetic devices)	393.4	366.4	2.0	-6.9
2815 10 300	Ball bearings	866.7	899.0	4.8	3.7
2815 10 530	Tapered roller bearings (including cone and tapered roller assemblies)	.	.	.	.
2815 10 550	Spherical roller bearings	.	.	.	.
2815 10 570	Cylindrical roller bearings (excluding roller bearings, needle roller bearings)	726.9	778.9	4.2	7.2
2815 10 700	Needle roller bearings	251.8	269.2	1.4	6.9
2815 10 900	Roller bearings (including combined ball/roller bearings) (excluding tapered roller bearings, spherical roller bearings, needle roller bearings)	450.6	433.6	2.3	-3.8
2815 21 300	Iron or steel roller chain of a kind used for cycles and motor cycles	.	.	.	.
2815 21 500	Iron or steel roller chain (excluding of a kind used for cycles or motor-cycles)	193.2	186.1	1.0	-3.7
2815 21 700	Iron or steel articulated link chain (excluding roller chain)	153.1	159.3	0.9	4.1
2815 22 500	Cardan shafts	506.3	516.2	2.8	1.9
2815 22 700	Other shafts (excluding crankshafts and cardan shafts)	338.5	660.1	3.5	92.1
2815 23 300	Bearing housings incorporating ball or roller bearings	94.7	92.0	0.5	-2.9
2815 23 501	Bearing housings not incorporating ball or roller bearings	80.0	84.7	0.5	5.9
2815 23 505	Plain shaft bearings	846.0	917.0	4.9	8.4
2815 24 320	Gear boxes for stationary equipment, spur and helical gear boxes	1,650.5	1,634.3	8.8	-1.0
2815 24 330	Gear boxes for stationary equipment, bevel and bevel/spur and helical gear boxes	590.3	592.1	3.2	0.3
2815 24 340	Gear boxes for stationary equipment, worm gear boxes	262.4	277.4	1.5	5.7
2815 24 401	Gear boxes for stationary equipment, planetary gear boxes	2,418.1	2,389.0	12.8	-1.2
2815 24 403	Other gear boxes for stationary equipment	303.1	326.4	1.7	7.7
2815 24 409	Gear boxes for water vehicles	144.9	199.8	1.1	37.9
2815 24 504	Gearbox for self-propelled machines	1,068.6	1,083.9	5.8	1.4
2815 24 507	Mechanical, hydrostatic and hydrodynamic speed variators	552.5	656.0	3.5	18.7
2815 24 730	Ball or roller screws	217.4	199.8	1.1	-8.1
2815 24 750	Other transmission elements (excluding gears and gearing, ball or roller screws, gearboxes and other speed changers)	162.0	163.5	0.9	0.9
2815 25 000	Flywheels and pulleys (including pulley blocks)	144.2	162.5	0.9	12.7
2815 26 001	Elastic and torsionally stiff clutches and shaft couplings	619.3	638.5	3.4	3.1
2815 26 003	Hydraulic clutches and shaft couplings	71.7	81.7	0.4	14.0
2815 26 005	Friction clutches and brakes	166.5	165.1	0.9	-0.8
2815 26 007	Free-wheel clutches (including backstop)	60.3	47.3	0.3	-21.6
2815 26 009	Other clutches and shaft couplings (including universal joints)	86.5	99.0	0.5	14.4
2815 31 300	Balls, needles and rollers for ball or roller bearings	325.1	271.0	1.5	-16.6
2815 31 500	Parts of ball or roller bearings (excluding balls, needles and rollers)	250.7	222.6	1.2	-11.2
2815 32 000	Iron or steel parts of articulated link chain	.	.	.	.
2815 39 300	Parts of bearing housings	121.0	103.5	0.6	-14.5
2815 39 501	Chain wheels	222.8	219.3	1.2	-1.6
2815 39 502	Spur gears	474.5	508.6	2.7	7.2
2815 39 503	Bevel gear	44.1	50.7	0.3	14.9
2815 39 504	Worm gears and wheels	55.3	58.3	0.3	5.5
2815 39 505	Other gear wheels and racks	186.9	184.2	1.0	-1.5
2815 39 506	Parts of gearboxes, n e c	756.3	849.2	4.5	12.3
2815 39 507	Parts of clutches and shaft couplings	135.0	150.6	0.8	11.6
2815 39 509	Other parts of transmission, cam and crankshafts, cranks, plain shaft bearings, gears, ball/roller screws, gearboxes, torque converters, flywheels, pulleys, clutches, shaft couplings, universal joints, n e c	978.4	1,084.5	5.8	10.8
3312 13 000	Installation, repair and maintenance of bearings, gears, gearing and driving elements	244.4	274.9	1.5	12.5
Power transmission engineering		17,905.1	18,666.7	100.0	4.3

*) According to GP 2019, partly confidential or estimated.

Power transmission engineering

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	88.7	89.3	92.1	94.1	92.3	90.3	91.7	92.3
Production ²	million EUR	15,942	16,776	17,494	17,347	15,361	17,059	17,905	18,667
Share of mechanical engineering	percent	7.8	7.8	7.8	7.7	7.7	7.8	7.5	7.3
Exports	million EUR	13,779	15,145	16,130	16,070	14,623	16,290	17,310	17,949
Share of mechanical engineering	percent	8.8	8.9	9.0	8.8	8.9	9.0	8.9	8.6
Imports	million EUR	8,040	8,625	9,238	8,862	7,494	8,820	10,245	10,205
Share of mechanical engineering	percent	12.2	12.2	12.1	11.5	10.7	10.9	11.0	10.9
Imports in percent of exports	percent	58.4	57.0	57.3	55.1	51.2	54.1	59.2	56.9
Turnover abroad in percent of total turnover	percent	60.3	63.1	63.0	62.3	63.6	63.6	62.5	65.4
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	80.8	87.9	92.9	86.1	68.5	85.3	88.9	84.1
Producer price index (Base 2021 = 100)	index	94.3	94.8	96.0	97.7	98.3	100.0	107.5	115.3

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Power transmission engineering

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	17,309,739	17,948,799	100.0	3.7
EU27	8,376,228	8,861,206	49.4	5.8
EURO20	5,187,074	5,401,855	30.1	4.1
France	970,453	1,033,803	5.8	6.5
Italy	975,240	982,294	5.5	0.7
Austria	875,013	886,809	4.9	1.3
Netherlands	571,404	590,250	3.3	3.3
Spain	481,894	517,596	2.9	7.4
Belgium	513,703	507,250	2.8	-1.3
Slovakia	327,390	355,586	2.0	8.6
Finland	186,727	222,512	1.2	19.2
Slovenia	69,679	71,564	0.4	2.7
Poland	810,221	923,140	5.1	13.9
Czech Republic	647,443	718,745	4.0	11.0
Hungary	593,854	622,108	3.5	4.8
Sweden	351,226	402,285	2.2	14.5
Denmark	377,335	370,596	2.1	-1.8
Romania	353,032	362,139	2.0	2.6
Bulgaria	56,043	60,338	0.3	7.7
Other Europe	1,765,352	1,802,394	10.0	2.1
United Kingdom	587,781	632,352	3.5	7.6
Türkiye	400,550	471,451	2.6	17.7
Switzerland	387,530	385,770	2.1	-0.5
Serbia	63,321	82,577	0.5	30.4
Ukraine	58,916	75,686	0.4	28.5
Norway	63,244	70,431	0.4	11.4
Africa	253,117	289,951	1.6	14.6
South Africa	121,575	132,890	0.7	9.3
North America	1,929,424	1,977,999	11.0	2.5
USA	1,785,982	1,803,859	10.1	1.0
Canada	143,437	174,065	1.0	21.4
Latin-America	744,918	761,695	4.2	2.3
Mexico	269,200	301,715	1.7	12.1
Brazil	286,586	269,880	1.5	-5.8
Asia	4,082,307	4,062,530	22.6	-0.5
China	2,185,256	2,060,083	11.5	-5.7
India	463,779	458,072	2.6	-1.2
Rep. of Korea	341,838	360,402	2.0	5.4
Japan	211,439	204,293	1.1	-3.4
Singapore	135,250	136,808	0.8	1.2
U.A.Emirates	63,345	109,309	0.6	72.6

Power transmission engineering

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Saudi Arabia	76,143	94,551	0.5	24.2
Thailand	67,315	73,244	0.4	8.8
Hong Kong (SVR)	78,990	72,916	0.4	-7.7
Kazakhstan	47,259	72,066	0.4	52.5
Malaysia	60,921	66,225	0.4	8.7
Taiwan	70,375	61,868	0.3	-12.1
Australia & Oceania	140,982	168,147	0.9	19.3
Australia	127,979	154,975	0.9	21.1
Total Imports	10,244,983	10,205,397	100.0	-0.4
EU27	5,694,442	6,034,314	59.1	6.0
EURO20	3,765,095	3,863,174	37.9	2.6
Italy	1,003,020	1,076,540	10.5	7.3
Austria	786,151	775,649	7.6	-1.3
Slovakia	671,289	666,869	6.5	-0.7
France	510,983	534,191	5.2	4.5
Spain	278,281	290,331	2.8	4.3
Belgium	197,800	226,513	2.2	14.5
Romania	595,117	696,183	6.8	17.0
Czech Republic	462,803	523,489	5.1	13.1
Poland	404,447	424,601	4.2	5.0
Hungary	279,231	311,140	3.0	11.4
Other Europe	833,469	943,814	9.2	13.2
United Kingdom	214,197	315,256	3.1	47.2
Switzerland	311,218	312,887	3.1	0.5
Africa	6,133	6,149	0.1	0.3
North America	463,599	483,177	4.7	4.2
USA	419,217	435,878	4.3	4.0
Latin-America	52,686	73,300	0.7	39.1
Asia	3,189,571	2,659,375	26.1	-16.6
China	1,682,795	1,366,693	13.4	-18.8
Japan	521,313	453,314	4.4	-13.0
India	400,652	390,770	3.8	-2.5
Australia & Oceania	5,083	5,268	0.1	3.6

2.35 Engines and systems

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	% share		2023/2022
2811 11 000	Marine spark ignition propulsion outboard engines	0.0	0.0	0.0	0.0
2811 12 000	Other spark ignition propulsion engines (excluding reciprocating engines for tractors, for aircrafts and onroad vehicles)	-	-	-	-
2811 13 100	Diesel engines for agricultural tractors	-	-	-	-
2811 13 110	Marine propulsion compression-ignition engines (diesel) of a power ≤ 200 kW	-	-	-	-
2811 13 150	Marine propulsion compression-ignition engines (diesel) of a power >200 - ≤ 1000 kW	67.6	76.7	1.4	13.4
2811 13 190	Marine propulsion compression-ignition engines (diesel) of a power >1000 kW	678.4	811.0	14.3	19.5
2811 13 200	Rail traction compression-ignition engines (diesel)	125.6	93.6	1.7	-25.5
2811 13 310	Industrial compression-ignition engines (diesel) of a power ≤ 15 kW	-	-	-	-
2811 13 330	Industrial compression-ignition engines (diesel) of a power >15 - ≤ 30 kW	-	-	-	-
2811 13 350	Industrial compression-ignition engines (diesel) of a power >30 - ≤ 50 kW	-	-	-	-
2811 13 370	Industrial compression-ignition engines (diesel) of a power >50 - ≤ 100 kW	-	-	-	-
2811 13 530	Industrial compression-ignition engines (diesel) of a power >100 - ≤ 200 kW	-	386.3	6.8	-
2811 13 550	Industrial compression-ignition engines (diesel) of a power >200 - ≤ 300 kW	106.0	107.4	1.9	1.3
2811 13 570	Industrial compression-ignition engines (diesel) of a power >300 - ≤ 500 kW	170.4	183.1	3.2	7.5
2811 13 730	Industrial compression-ignition engines (diesel) of a power >500 - ≤ 1000 kW	78.7	85.7	1.5	8.9
2811 13 750	Industrial compression-ignition engines (diesel) of a power >1000 kW	505.6	693.4	12.3	37.2
2811 42 007	Other fuel injection systems for compression-ignition engines	620.0	736.5	13.0	18.8
3312 11 001	Repair and maintenance of combustion engines (excluding engines for agricultural tractors, aircrafts and onroad vehicles)	821.8	897.3	15.9	9.2
3320 29 101	Installation of combustion engines (excluding engines for agricultural tractors, aircrafts and onroad vehicles)	30.6	46.8	0.8	52.7
Engines and systems		5,079.1	5,660.0	100.0	11.4

*) According to GP 2019, partly confidential or estimated.

Engines and systems

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ^{1,2}	1'000	25.0	24.9	25.4	25.8	22.8	21.7	21.0	21.0
Production ³	million EUR	4,021	4,460	5,079	5,374	4,298	4,684	5,079	5,660
Share of mechanical engineering	percent	2.0	2.1	2.3	2.4	2.1	2.1	2.1	2.2
Exports	million EUR	1,950	2,317	2,398	2,417	1,787	2,101	2,428	2,550
Share of mechanical engineering	percent	1.3	1.4	1.3	1.3	1.1	1.2	1.2	1.2
Imports	million EUR	654	767	918	894	750	1,009	1,226	1,389
Share of mechanical engineering	percent	1.0	1.1	1.2	1.2	1.1	1.2	1.3	1.5
Imports in percent of exports	percent	33.6	33.1	38.3	37.0	42.0	48.0	50.5	54.5
Turnover abroad in percent of total turnover	percent	76.2	75.9	74.8	79.2	77.6	77.1	75.7	77.4
in comparison: mechanical engineering ⁴	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	index	-	-	-	-	-	100.0	103.9	111.8

1) Estimated. Due to statistical imprecisions differences to the employment numbers of the association are possible.

2) From 2016 on not comparable with previous years due to changes in the classification of kind-of-activity units.

3) According to GP 2019, partly confidential or estimated.

Engines and systems

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	2,427,819	2,550,073	100.0	5.0
EU27	867,725	907,291	35.6	4.6
EURO20	657,963	697,438	27.3	6.0
Italy	281,444	314,299	12.3	11.7
France	129,384	153,998	6.0	19.0
Spain	33,497	53,077	2.1	58.5
Netherlands	74,090	52,990	2.1	-28.5
Austria	38,991	36,072	1.4	-7.5
Finland	44,470	28,799	1.1	-35.2
Belgium	23,004	20,560	0.8	-10.6
Slovenia	3,230	10,345	0.4	220.3
Ireland	5,149	7,563	0.3	46.9
Croatia	6,495	7,081	0.3	9.0
Sweden	74,478	68,205	2.7	-8.4
Poland	54,588	59,892	2.3	9.7
Czech Republic	58,422	56,778	2.2	-2.8
Denmark	10,881	9,607	0.4	-11.7
Romania	2,847	8,937	0.4	213.9
Other Europe	307,039	243,780	9.6	-20.6
United Kingdom	165,819	108,933	4.3	-34.3
Türkiye	84,712	93,222	3.7	10.0
Norway	26,899	22,711	0.9	-15.6
Switzerland	14,463	12,986	0.5	-10.2
Africa	31,613	49,366	1.9	56.2
South Africa	11,546	21,389	0.8	85.3
Algeria	6,719	12,305	0.5	83.1
North America	439,507	489,287	19.2	11.3
USA	408,142	475,606	18.7	16.5
Canada	29,095	13,681	0.5	-53.0
Latin-America	96,595	105,509	4.1	9.2
Mexico	1,398	40,190	1.6	.
Brazil	55,316	39,647	1.6	-28.3
Cuba	14,068	10,414	0.4	-26.0
Asia	647,599	714,399	28.0	10.3
China	244,152	310,390	12.2	27.1
Japan	65,318	80,427	3.2	23.1
Rep. of Korea	106,433	79,852	3.1	-25.0
India	42,154	42,978	1.7	2.0
Singapore	26,934	34,571	1.4	28.4
Hong Kong (SVR)	32,746	33,972	1.3	3.7
Indonesia	10,186	29,056	1.1	185.3

Engines and systems

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Taiwan	58,499	25,409	1.0	-56.6
Israel	14,590	16,035	0.6	9.9
U.A.Emirates	14,234	15,629	0.6	9.8
Lebanon	4,090	8,839	0.3	116.1
Kazakhstan	5,443	7,425	0.3	36.4
Pakistan	101	6,631	0.3	.
Australia & Oceania	37,494	39,781	1.6	6.1
Australia	33,486	38,291	1.5	14.3
Total Imports	1,226,391	1,388,825	100.0	13.2
EU27	561,745	735,691	53.0	31.0
EURO20	535,405	680,411	49.0	27.1
France	455,379	576,665	41.5	26.6
Netherlands	21,264	33,615	2.4	58.1
Italy	23,780	24,256	1.7	2.0
Austria	11,563	18,856	1.4	63.1
Finland	4,457	12,390	0.9	178.0
Belgium	17,991	11,532	0.8	-35.9
Sweden	24,046	52,305	3.8	117.5
Other Europe	269,284	244,949	17.6	-9.0
United Kingdom	168,054	155,441	11.2	-7.5
Switzerland	98,172	87,424	6.3	-10.9
Africa	130	52	0.0	-60.0
North America	167,377	184,396	13.3	10.2
USA	166,588	183,539	13.2	10.2
Latin-America	1,256	2,592	0.2	106.4
Brazil	808	2,232	0.2	176.2
Asia	226,523	220,809	15.9	-2.5
Japan	146,330	139,718	10.1	-4.5
India	20,864	28,650	2.1	37.3
China	25,702	22,780	1.6	-11.4
Thailand	13,353	14,913	1.1	11.7
Rep. of Korea	19,440	13,867	1.0	-28.7
Australia & Oceania	76	336	0.0	342.1

2.36 Fluid power

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	%-share	2023/2022	
2812 11 300	Hydraulic cylinders	979.2	1,067.3	12.0	9.0
2812 11 800	Pneumatic cylinders	575.8	587.1	6.6	2.0
2812 12 000	Rotating hydraulic and pneumatic motors; other power engines and motors	605.5	589.3	6.6	-2.7
2812 13 203	Hydraulic piston pumps (axial piston pumps)	1,092.3	1,127.4	12.6	3.2
2812 13 208	Other hydraulic piston pumps (i.e. radial piston pumps)	38.2	34.8	0.4	-8.9
2812 13 500	Hydraulic gear pumps	248.5	252.3	2.8	1.5
2812 13 800	Hydraulic vane pumps	209.3	206.7	2.3	-1.2
2812 14 200	FRL's (Filters, Regulators, Lubricators)	178.9	201.6	2.3	12.7
2812 14 500	Hydraulic valves	1,740.8	1,708.9	19.1	-1.8
2812 14 800	Pneumatic valves	921.3	887.6	9.9	-3.7
2812 15 300	Hydraulic assemblies (with reciprocating pumps)	63.8	76.8	0.9	20.4
2812 15 800	Hydraulic assemblies (with rotary pumps)	88.0	96.0	1.1	9.0
2812 16 300	Hydraulic systems (with hydraulic cylinders)	161.1	133.3	1.5	-17.3
2812 16 800	Hydraulic systems (with hydraulic motors)	130.0	133.6	1.5	2.8
2812 20 003	Parts of pneumatic equipment (motors and cylinders)	1,211.4	1,155.7	12.9	-4.6
2812 20 007	Parts for hydraulic equipment (motors and cylinders)	321.1	330.5	3.7	2.9
2813 31 001	Parts of hydraulic pumps	56.4	50.4	0.6	-10.6
2814 20 001	Parts of hydraulic valves	111.9	110.7	1.2	-1.1
2814 20 002	Parts of pneumatic valves	59.3	60.5	0.7	1.9
3312 12 101	Repair and maintenance of pneumatic motors and cylinders, hydraulic pumps, motors and cylinders, hydraulic systems etc	85.4	98.9	1.1	15.8
3312 12 205	Repair and maintenance of hydraulic and pneumatic valves as well as FRL's	17.6	13.8	0.2	-21.3
3320 29 203	Installation of pneumatic motors and cylinders, hydraulic pumps, motors and cylinders, hydraulic systems etc	4.0	4.9	0.1	23.9
Fluid power		8,899.9	8,928.0	100.0	0.3

*) According to GP 2019, partly confidential or estimated.

Fluid power

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	40.2	40.5	41.6	42.3	39.8	38.8	39.0	38.8
Production ²	million EUR	7,578	7,738	8,250	7,960	6,694	8,052	8,900	8,928
Share of mechanical engineering	percent	3.7	3.6	3.7	3.5	3.3	3.7	3.7	3.5
Exports	million EUR	5,964	6,767	7,660	7,825	6,581	7,471	7,940	8,355
Share of mechanical engineering	percent	3.8	4.0	4.3	4.3	4.0	4.1	4.1	4.0
Imports	million EUR	2,917	3,096	3,536	3,512	3,081	3,600	4,410	4,427
Share of mechanical engineering	percent	4.4	4.4	4.6	4.5	4.4	4.4	4.7	4.7
Imports in percent of exports	percent	48.9	45.7	46.2	44.9	46.8	48.2	55.5	53.0
Turnover abroad in percent of total turnover	percent	54.1	55.7	56.5	57.8	59.7	61.2	61.6	60.5
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Capacity utilization ⁴	percent	82.7	87.8	88.2	82.5	77.4	90.2	89.1	87.2
Producer price index (Base 2021 = 100)	index	93.4	94.1	95.1	97.1	98.1	100.0	107.6	115.2

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

4) July. Recalculation of all figures in 2018 due to changes in the calculation method.

Fluid power

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	%-share	2023/2022	
Total Exports	7,939,964	8,355,058	100.0	5.2
EU27	3,932,024	4,240,578	50.8	7.8
EURO20	2,808,436	2,975,884	35.6	6.0
Italy	632,804	654,823	7.8	3.5
France	583,788	637,281	7.6	9.2
Austria	399,361	413,027	4.9	3.4
Netherlands	320,597	354,622	4.2	10.6
Belgium	292,830	316,385	3.8	8.0
Spain	190,871	207,952	2.5	8.9
Finland	160,893	152,371	1.8	-5.3
Slovakia	73,043	68,388	0.8	-6.4
Portugal	26,148	28,538	0.3	9.1
Ireland	25,741	26,739	0.3	3.9
Slovenia	23,541	24,024	0.3	2.1
Sweden	298,316	338,022	4.0	13.3
Poland	290,578	326,103	3.9	12.2
Czech Republic	202,232	234,907	2.8	16.2
Hungary	140,837	151,193	1.8	7.4
Denmark	108,261	110,988	1.3	2.5
Romania	66,104	78,827	0.9	19.2
Bulgaria	17,260	24,654	0.3	42.8
Other Europe	847,411	910,362	10.9	7.4
United Kingdom	330,394	368,359	4.4	11.5
Türkiye	217,795	275,084	3.3	26.3
Switzerland	157,983	159,410	1.9	0.9
Norway	46,844	52,705	0.6	12.5
Africa	107,096	107,824	1.3	0.7
South Africa	50,758	49,590	0.6	-2.3
North America	1,037,397	1,055,042	12.6	1.7
USA	939,449	962,058	11.5	2.4
Canada	97,936	92,786	1.1	-5.3
Latin-America	277,913	306,028	3.7	10.1
Brazil	154,696	161,730	1.9	4.5
Mexico	55,432	73,570	0.9	32.7
Chile	23,953	25,459	0.3	6.3
Asia	1,660,074	1,647,845	19.7	-0.7
China	775,586	729,655	8.7	-5.9
Rep. of Korea	174,689	180,422	2.2	3.3
India	154,570	178,725	2.1	15.6
Japan	132,858	123,946	1.5	-6.7
Singapore	69,318	60,528	0.7	-12.7

Fluid power

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR	% -share		2023/2022
U.A.Emirates	45,495	58,871	0.7	29.4
Saudi Arabia	33,766	46,889	0.6	38.9
Hong Kong (SVR)	67,887	37,003	0.4	-45.5
Indonesia	35,918	35,966	0.4	0.1
Kazakhstan	18,580	28,714	0.3	54.5
Thailand	21,768	25,244	0.3	16.0
Australia & Oceania	75,385	83,582	1.0	10.9
Australia	68,627	76,906	0.9	12.1
Total Imports	4,410,202	4,427,384	100.0	0.4
EU27	2,430,653	2,493,055	56.3	2.6
EURO20	1,098,939	1,220,169	27.6	11.0
Italy	312,417	329,093	7.4	5.3
France	280,385	311,939	7.0	11.3
Spain	144,827	134,852	3.0	-6.9
Belgium	71,574	93,148	2.1	30.1
Austria	87,289	92,466	2.1	5.9
Poland	404,359	401,468	9.1	-0.7
Hungary	264,811	264,352	6.0	-0.2
Denmark	318,930	249,178	5.6	-21.9
Czech Republic	147,110	170,459	3.9	15.9
Other Europe	807,371	846,829	19.1	4.9
Türkiye	358,649	413,492	9.3	15.3
Switzerland	245,427	251,076	5.7	2.3
United Kingdom	171,145	175,938	4.0	2.8
Africa	5,111	5,712	0.1	11.8
North America	397,861	375,984	8.5	-5.5
USA	388,959	368,510	8.3	-5.3
Latin-America	37,668	23,441	0.5	-37.8
Asia	730,686	680,733	15.4	-6.8
China	494,493	407,537	9.2	-17.6
India	65,533	114,825	2.6	75.2
Japan	117,485	88,128	2.0	-25.0
Australia & Oceania	851	1,630	0.0	91.5

2.37 Assembly, handling and industrial robots

Production*

GP-Number	Description	2022	2023		change rate in %
		million EUR	% share		2023/2022
2899 39 350	Industrial robots for multiple uses (excluding robots designed to perform a specific function (e.g. lifting, handling, loading or unloading))	1,140.9	1,183.1	12.3	3.7
2899 39 552	Assembly stations, semiautomatic (partly manually fedded)	1,122.2	1,324.4	13.8	18.0
2899 39 553	Assembly stations, automatic	1,129.5	1,332.6	13.9	18.0
2899 39 554	Assembly stations, modular (mechanical and/or automatic assembly units, robotized units)	2,103.2	2,619.7	27.3	24.6
2899 39 555	Basic construction elements for assembly technology; equipment for marking	64.4	69.9	0.7	8.6
2899 39 557	Part feeders, workpiece transport and tool change devices for assembly stations	559.7	620.5	6.5	10.9
2899 39 558	Manipulators for automatic handling (manually motion controlled units or remote controlled manipulators)	219.6	235.6	2.5	7.3
2899 39 559	Grippers, modules and clamping devices	392.9	405.6	4.2	3.2
2899 52 807	Equipment for assembly and handling technology and industrial robots	1,289.1	1,287.2	13.4	-0.1
3312 29 904	Repair and maintenance of assembly stations and machinery for automatic handling	164.7	175.8	1.8	6.8
3320 39 005	Installation of assembly stations and machinery for automatic handling	293.9	339.8	3.5	15.6
Assembly, handling and industrial robots		8,480.1	9,594.2	100.0	13.1

*) According to GP 2019, partly confidential or estimated.

Assembly, handling and industrial robots

Key data

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	'000	28.5	29.8	31.4	33.3	32.6	31.5	32.0	34.0
Production ²	million EUR	7,286	8,430	8,884	9,008	7,442	7,968	8,480	9,594
Share of mechanical engineering	percent	3.6	3.9	3.9	4.0	3.7	3.7	3.6	3.8
Turnover abroad in percent of total turnover	percent	44.3	53.0	51.2	51.7	47.7	49.8	54.1	54.3
in comparison: mechanical engineering ³	percent	68.4	69.8	69.0	68.9	68.6	69.3	69.8	70.9
Producer price index (Base 2021 = 100)	index	95.8	96.5	97.0	98.3	99.3	100.0	106.7	113.1

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

3) Is not comparable with exports in percent of production (see 1.9 Key figures of German mechanical engineering).

Import and export figures for Robotics + Automation are underrecorded and cannot be displayed.

2.38 Semiconductor and flat panel display production equipment

Production*

GP-Number	Description	2022	2023		change
		million EUR		%-share	rate in % 2023/2022
2899 20 200	Machines and apparatus used solely or principally for the manufacture of semiconductor boules or wafers	215.7	331.7	18.3	53.8
2899 20 450	Machines and apparatus for the manufacture of semiconductor devices or of electronic integrated circuits (excluding machine tools for working any material by removal of material operated by ultrasonic processes)	184.0	217.0	12.0	17.9
2899 20 600	Machines and apparatus used solely or principally for the manufacture of flat panel displays	.	.	.	.
2899 39 450	Machines and apparatus used solely or principally for a) the manufacture or repair of masks and reticles, b) assembling semiconductor devices or electronic integrated circuits, and c) lifting, handling, loading or unloading of boules, wafers, semiconductor devices, electronic integrated circuits and flat panel displays	37.2	65.0	3.6	74.8
2899 51 000	Parts and accessories of machines and apparatus used solely or principally for a) the manufacture of semiconductor boules or wafers, semiconductor devices, electronic integrated circuits or flat panel displays, b) the manufacture or repair of masks and reticles, c) assembling semiconductor devices or electronic integrated circuits, and d) lifting, handling, loading or unloading of boules, wafers, semiconductor devices, electronic integrated circuits and flat panel displays (excluding tool holders, self-opening dieheads, workholders and parts and accessories for machine-tools operated by ultrasonic processes)	630.8	692.5	38.3	9.8
3312 29 903	Repair and maintenance of machines and apparatus for the manufacture of semiconductor devices or flat panel displays	550.3	435.0	24.1	-20.9
3320 39 004	Installation of machines and apparatus for the manufacture of semiconductor devices or flat panel displays	31.0	43.9	2.4	41.9
Semiconductor and flat panel display production equip.		1,648.9	1808.0	100.0	9.6

*) According to GP 2019, partly confidential or estimated.

2.38 Semiconductor and flat panel display production equipment

Key figures

Subject	Unit	2016	2017	2018	2019	2020	2021	2022	2023
Employees ¹	1'000	4.5	4.5	4.7	5.0	5.2	5.0	5.1	5.3
Production ²									
Share of mechanical engineering	million EUR percent	869 0.4	1,077 0.5	1,119 0.5	.	1,270 0.6	1,489 0.7	1,649 0.7	1,808 0.7
Exports									
Share of mechanical engineering	million EUR percent	1,573 1.0	1,932 1.1	1,944 1.1	2,190 1.2	2,033 1.2	2,476 1.4	2,991 1.5	3,608 1.7
Imports									
Share of mechanical engineering	million EUR percent	853 1.3	1,225 1.7	1,092 1.4	1,047 1.4	1,121 1.6	1,733 2.1	2,074 2.2	1,964 2.1
Imports in percent of exports	percent	54.2	63.4	56.2	47.8	55.2	70.0	69.3	54.4

1) Estimated.

2) According to GP 2019, partly confidential or estimated.

Semiconductor and flat panel display production equipment

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
Total Exports	2,990,904	3,607,526	100.0	20.6
EU27	994,442	1,336,445	37.0	34.4
EURO20	951,646	1,208,416	33.5	27.0
Netherlands	642,761	723,322	20.1	12.5
Austria	90,895	160,425	4.4	76.5
Italy	60,225	140,385	3.9	133.1
France	106,975	118,888	3.3	11.1
Ireland	28,349	21,556	0.6	-24.0
Belgium	4,358	17,054	0.5	291.3
Finland	7,904	9,225	0.3	16.7
Slovakia	2,882	7,678	0.2	166.4
Spain	3,898	4,855	0.1	24.6
Malta	3,093	3,357	0.1	8.5
Portugal	214	1,116	0.0	421.5
Czech Republic	4,409	92,674	2.6	.
Hungary	9,515	10,529	0.3	10.7
Sweden	5,065	9,895	0.3	95.4
Poland	20,052	8,475	0.2	-57.7
Romania	490	4,168	0.1	750.6
Denmark	2,774	1,550	0.0	-44.1
Other Europe	84,188	86,028	2.4	2.2
Switzerland	52,827	52,677	1.5	-0.3
United Kingdom	27,818	27,743	0.8	-0.3
Türkiye	1,616	2,187	0.1	35.3
Norway	309	1,151	0.0	272.5
Serbia	73	1,149	0.0	.
Liechtenstein	1,289	879	0.0	-31.8
Africa	1,058	329	0.0	-68.9
North America	435,980	574,066	15.9	31.7
USA	427,668	570,228	15.8	33.3
Canada	8,312	3,838	0.1	-53.8
Latin-America	1,508	8,816	0.2	484.6
Mexico	108	4,849	0.1	.
Brazil	1,149	3,700	0.1	222.0
Asia	1,472,212	1,598,355	44.3	8.6
China	645,541	790,682	21.9	22.5
Taiwan	308,760	207,467	5.8	-32.8
Rep. of Korea	160,763	150,642	4.2	-6.3
Singapore	32,863	113,104	3.1	244.2
Malaysia	108,177	106,807	3.0	-1.3
Japan	42,669	89,153	2.5	108.9

Semiconductor and flat panel display production equipment

Exports and Imports

Country of destination/ country of origin	2022	2023		change rate in %
	1'000 EUR		%-share	2023/2022
India	67,855	81,448	2.3	20.0
Israel	48,938	26,632	0.7	-45.6
Hong Kong (SVR)	34,688	14,276	0.4	-58.8
Thailand	9,821	11,744	0.3	19.6
Philippines	5,716	3,275	0.1	-42.7
Vietnam	777	1,593	0.0	105.0
Australia & Oceania	1,515	3,482	0.1	129.8
Australia	1,482	3,482	0.1	135.0
Total Imports	2,074,079	1,964,172	100.0	-5.3
EU27	461,856	382,954	19.5	-17.1
EURO20	428,167	328,175	16.7	-23.4
Netherlands	343,627	215,951	11.0	-37.2
Austria	41,781	46,856	2.4	12.1
Slovakia	6,354	27,659	1.4	335.3
Italy	16,400	16,973	0.9	3.5
Poland	19,527	39,210	2.0	100.8
Other Europe	163,824	216,503	11.0	32.2
Switzerland	83,416	118,910	6.1	42.6
United Kingdom	79,456	95,088	4.8	19.7
Africa	151	12	0.0	-92.1
North America	487,314	484,716	24.7	-0.5
USA	486,200	482,609	24.6	-0.7
Latin-America	6,886	7,447	0.4	8.1
Asia	953,936	872,193	44.4	-8.6
Japan	553,755	501,100	25.5	-9.5
Singapore	155,214	161,473	8.2	4.0
Taiwan	98,656	70,248	3.6	-28.8
China	46,723	39,888	2.0	-14.6
Rep. of Korea	33,976	37,028	1.9	9.0
Malaysia	28,018	26,810	1.4	-4.3
Israel	20,774	21,112	1.1	1.6
Vietnam	13,033	10,724	0.5	-17.7
Australia & Oceania	112	347	0.0	209.8

3 International tables

3.1 EURO - average exchange rates of selected currencies

Country	Currency	One unit of domestic currency is equivalent to ... EUR							change rate in % 2023/2022
		2017	2018	2019	2020	2021	2022	2023	
Brazil	BRL	0.277362	0.232099	0.226583	0.169655	0.156791	0.183827	0.185151	0.7
Canada	CAD	0.682734	0.653851	0.673174	0.653595	0.674491	0.730194	0.685166	-6.2
China	CNY	0.131079	0.128072	0.129274	0.126989	0.131093	0.141267	0.130548	-7.6
Czech Republic	CZK	0.037985	0.038991	0.038956	0.037800	0.039002	0.040707	0.041660	2.3
Denmark	DKK	0.134434	0.134171	0.133939	0.134153	0.134463	0.134416	0.134212	-0.2
Hong Kong (SVR)	HKD	0.113578	0.108039	0.114006	0.112883	0.108776	0.121284	0.118133	-2.6
Hungary	HUF	0.003234	0.003136	0.003074	0.002847	0.002789	0.002556	0.002619	2.5
Japan	JPY	0.007892	0.007669	0.008196	0.008207	0.007699	0.007245	0.006579	-9.2
Norway	NOK	0.107216	0.104194	0.101512	0.093259	0.098393	0.098984	0.087529	-11.6
Poland	PLZ	0.234907	0.234659	0.232688	0.225073	0.219048	0.213397	0.220167	3.2
Rep. of Korea	KRW	0.000783	0.000770	0.000766	0.000743	0.000739	0.000736	0.000708	-3.9
Russian Fed.*	RUB	0.015166	0.013506	0.013802	0.012088	0.011474	0.013788	0.010841	-21.4
Singapore	SGD	0.641519	0.627904	0.654750	0.635243	0.629287	0.689085	0.688563	-0.1
Sweden	SEK	0.103787	0.097482	0.094437	0.095376	0.098556	0.094077	0.087117	-7.4
Switzerland	CHF	0.899523	0.865801	0.898957	0.934143	0.924984	0.995322	1.029018	3.4
Taiwan	TWD	0.029129	0.028074	0.028899	0.029640	0.030201	0.031897	0.029636	-7.1
Turkey	TRY	0.242683	0.175202	0.157287	0.124151	0.095126	0.057442	0.038820	-32.4
United Kingdom	GBP	1.140680	1.130314	1.139251	1.123974	1.163332	1.172663	1.149703	-2.0
USA	USD	0.885191	0.846740	0.893256	0.875503	0.845523	0.949668	0.924813	-2.6

*) Average 2022/2023 of daily FX spot rates reported by the Central Bank of Russia

3.2 Producer price index for mechanical engineering* in selected countries

Base 2021 = 100

Country	2016	2017	2018	2019	2020	2022	2023	change rate in % 2023/2022
China	96.7	97.3	98.7	99.2	99.1	100.9	100.6	-0.3
Germany	93.5	94.5	95.7	97.2	98.2	107.7	115.1	6.9
EU27	93.9	94.8	96.1	97.5	98.4	108.0	114.6	6.1
Finland	93.8	95.0	96.1	97.5	98.2	108.0	117.3	8.6
France	94.4	94.8	95.9	97.2	97.8	108.3	114.4	5.6
India	91.1	91.6	93.5	95.3	95.8	105.5	108.5	2.8
Italy	95.1	95.9	96.8	97.8	98.2	109.6	114.9	4.8
Japan	96.8	96.6	97.3	98.8	99.9	104.2	108.7	4.3
Netherlands	93.2	93.8	96.3	97.9	98.9	105.5	110.3	4.5
Poland	100.0	98.7	98.8	98.9	99.5	104.8	105.8	1.0
Austria	94.1	95.0	96.6	97.9	98.7	104.7	112.5	7.4
Sweden	89.5	91.7	94.8	98.7	99.2	111.8	124.6	11.4
Spain	95.8	96.2	97.0	97.9	98.6	107.1	112.0	4.6
Rep. of Korea	97.6	98.0	98.2	98.8	98.8	105.1	107.5	2.3
Czech Republic	93.6	92.9	93.5	95.7	99.2	106.9	112.2	5.0
USA	88.9	89.6	91.5	94.1	95.5	112.1	119.8	6.9
United Kingdom	89.7	91.2	92.1	93.3	93.6	111.9	116.7	4.3

*) EU countries and United Kingdom according to NACE rev. 2 chapter 28 (excl. repair and installation).

3.3 Production index for mechanical engineering* in selected countries

Base 2021 = 100

Country	2017	2018	2019	2020	2021	2022	2023	change rate in % 2023/2022
China**	73.3	79.8	84.1	88.9	100.0	100.9	103.6	2.7
Denmark	93.2	96.5	101.6	93.3	99.8	95.9	93.6	-2.4
Germany***	107.8	110.2	107.0	92.7	99.3	100.2	99.3	-0.9
EU27	98.4	102.2	101.8	89.6	100.0	105.3	106.2	0.9
Finland	88.4	94.2	96.8	94.0	99.7	106.8	109.5	2.5
France	103.1	103.0	101.9	88.4	100.0	98.1	100.5	2.4
India	113.1	120.6	108.0	86.0	100.0	105.8	114.9	8.6
Italy	99.7	103.3	101.1	86.4	100.0	103.8	104.7	0.9
Japan	99.5	104.9	97.2	85.5	100.0	107.3	99.7	-7.1
Poland	86.4	93.8	97.3	84.8	100.0	122.1	129.0	5.7
Portugal	98.5	102.3	104.5	95.4	100.0	102.5	105.3	2.7
Sweden	90.1	97.3	100.4	90.3	99.1	104.3	108.2	3.7
Spain	93.2	96.6	98.2	85.7	100.0	106.8	106.9	0.1
Rep. of Korea	95.6	92.6	86.4	89.3	100.0	100.8	93.3	-7.4
Czech Republic	104.0	105.8	104.9	91.7	99.5	104.4	102.9	-1.4
Hungary	103.9	95.8	97.4	90.2	100.0	114.9	110.7	-3.7
USA	102.5	107.2	104.0	92.9	100.0	105.4	103.4	-1.9
United Kingdom	113.7	109.4	102.1	143.0	100.0	96.4	87.2	-9.5

*) EU countries and United Kingdom according to NACE rev. 2 chapter 28 (excl. repair and installation).

**) Index based on the change in added value in mechanical engineering. Own estimates.

***) It is not comparable with page 39 due to another international statistical classification.

3.4 Turnover in mechanical engineering* in selected countries in million EUR

Country	2016	2017	2018	2019	2020	2021	2022	2023
Belgium ^{1,2}	11,762	12,108	11,929	12,288	11,207	13,042	(15,100)	(16,400)
China	749,756	789,299	841,633	891,081	920,325	1,083,749	1,162,462	1,094,221
Denmark ^{1,2}	22,832	23,169	24,282	28,188	27,119	26,506	(26,300)	(27,200)
Germany ^{1,2}	270,469	288,826	316,651	326,368	292,592	320,699	(354,600)	(383,200)
Finland ^{1,2}	15,427	16,584	17,633	18,796	18,394	19,178	(21,800)	(23,700)
France ^{1,2}	48,203	58,196	60,882	58,975	52,273	56,489	(61,900)	(65,800)
Italy ^{1,2}	114,278	123,035	124,169	124,064	109,252	133,921	(154,200)	(161,300)
Japan	258,628	268,372	279,084	284,614	269,958	285,833	(296,000)	(261,000)
Canada	26,774	28,336	28,883	31,266	27,179	31,461	39,941	(42,700)
Netherlands ¹	26,699	30,409	33,456	37,220	36,793	43,489	(49,100)	(50,500)
Norway ^{1,2}	5,831	5,054	5,463	6,291	5,081	4,773	5,355	(5,700)
Austria ^{1,2}	22,315	23,065	26,700	28,277	25,653	29,812	(33,400)	(36,200)
Sweden ^{1,2}	22,731	25,616	28,624	27,320	27,781	32,679	(36,800)	(39,200)
Switzerland	24,593	25,611	26,003	26,444	23,412	26,395	30,120	(31,600)
Spain ^{1,2}	18,538	20,400	21,719	22,563	20,652	23,389	(25,100)	(26,600)
Rep. of Korea	81,679	97,929	98,640	95,363	91,993	(103,300)	(108,200)	(100,000)
USA	316,735	321,169	335,017	354,864	313,316	335,693	(418,400)	(418,800)
United Kingdom ^{1,2}	55,382	57,755	64,325	(62,300)	(49,300)	(58,900)	(66,100)	(71,900)

*) All enterprises, figures in () are estimated by VDMA.

2) Time series break due to changes in company reporting, limited comparison with previous year (Finland, France, Italy: 2017; United Kingdom: 2016); Austria, Belgium, Denmark, Germany, Norway, Sweden, Spain: 2018)

1) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.5 Mechanical engineering industry in China

2017

Activity sector*	Enterprises number	Turnover m EUR
Metal cutting machine tools	737	19,091
Metal forming machine tools	564	12,607
Other metal working machinery (incl. parts)	705	14,941
Machinery for metallurgical plants and rolling mills	465	15,926
Furnaces and burners	225	3,265
Foundry machinery	622	12,557
Testing technology	96	2,478
Scales	141	2,676
Woodworking machinery	149	2,583
Precision tools	3,083	57,587
Filter and purifying systems	476	10,749
Refrigeration and air conditioning technology	1,008	35,796
Fans	485	11,902
Turbines and other power systems	248	13,185
Liquid pumps	1,277	29,000
Compressors	525	24,658
Construction Equipment	875	60,454
Building material machinery	739	20,357
Rubber machinery	140	2,559
Plastics machinery	402	8,791
Mining equipment	2,612	82,707
Agricultural machinery without tractors	1,464	31,880
Tractors	174	8,594
Food processing machinery	787	15,300
Packaging machinery	288	4,964
Process plant and equipment	619	14,727
Materials handling technology	1,504	54,946
Printing machines	309	5,313
Paper making machines	191	5,204
Textile machinery	692	15,304
Garment and leather technology	271	4,943
Valves and fittings	1,714	32,590
Lifts and escalators	726	32,691
Bearings, gearboxes, other power transmission equipm.	1,175	31,462
Ball or roller bearings	1,570	34,313
Diesel engines	622	32,307
Oilhydraulics and pneumatics	1,194	27,903
Offshore Subcontracting	72	5,646
Other mechanical engineering	4,725	108,270
Mechanical engineering	33,671	910,225¹
General and special equipment repair	64	1,172

* Chinese division of industry groups, all state-owned and non-state-owned industrial enterprises with an annual sales of over RMB 20 m (2.62 m EUR).

Since 2013, figures concerning production and employees are no longer published.

¹ Does not correspond to the revenue value on page 229 due to changes in corporate reporting.

3.6 Mechanical engineering industry in the USA

2021

Activity sector*	Employees	Turnover ¹	Value added ²
	number	million EUR	
Machine Tools	25,201	7,069	4,107
Rolling Mills and Other Metalworking Machinery	10,871	3,028	1,728
Industrial Process Furnaces and Ovens	9,662	2,165	1,165
Scales and Balances	2,621	961	410
Sawmill, Woodworking, and Paper Machinery	11,255	3,167	1,776
Precision tools	92,380	17,369	11,168
Welding and Soldering Equipment	14,329	5,279	2,627
Cooling and ventilation equipment	127,621	36,770	19,534
Turbines and Turbine Generator Set Units	28,307	7,809	4,172
Other Engine Equipment	33,743	20,851	7,540
Liquid pumps	32,439	14,169	8,249
Air and Gas Compressors	18,829	6,158	2,821
Construction Machinery	58,629	29,981	13,017
Mining equipment	41,975	13,028	5,016
Agricultural machinery	73,397	38,328	17,465
Food Product Machinery	17,853	5,016	2,938
Packaging Machinery	22,044	7,417	3,687
Materials handling technology	87,179	26,959	11,453
Printing Machinery and Equipment	5,223	1,435	817
Valves and fittings (incl. those for fluid power equipment)	80,497	27,509	15,923
Elevators and Moving Stairways	9,170	2,919	1,123
Ball and Roller Bearings	16,696	4,550	2,841
Speed Changers, Industrial High-Speed Drives and Gears	10,484	2,769	1,527
Other power transmission equipment	14,570	3,617	2,197
Oil hydraulics and pneumatics (excl. valves)	28,278	9,370	4,603
Semiconductor machinery	21,481	9,634	4,502
Other mechanical engineering	106,536	28,366	16,139
Mechanical engineering	1,001,270	335,693	168,545

*) Based on the North American industry classification system (NAICS United States), all local units.

1) Incl. turnover from trading goods, commission processing, installation.

2) Net production.

3.7 Mechanical engineering industry in Japan

2021

Activity sector*	Local units	Employees ¹	Turnover ²	Value added ³
	number		million EUR	
Metal cutting machine tools	709	45,460	11,140	4,774
Other metal working machine tools	387	17,991	4,496	1,551
Parts/accessories for metal working machine tools	4,619	59,093	7,339	3,543
Industrial furnaces	154	2,587	628	211
Testing technology	210	4,316	878	371
Woodworking machinery	188	3,226	548	222
Precision tools	6,258	128,154	22,437	9,835
Refrigerating units, air-conditioning technology	357	31,167	11,807	3,644
Steam engines, turbines	143	16,086	4,865	1,340
Internal combustion engines	108	13,124	5,890	1,432
Prime movers for ships	599	19,773	5,885	2,073
Liquid pumps	319	15,808	4,941	1,979
Compressors, vacuum pumps, blowers	500	19,467	5,425	2,023
Construction equipment and building materials machinery, mining equipment	1,507	77,295	34,257	9,037
Plastics machinery (incl. parts)	469	17,069	5,851	2,146
Agricultural machinery	800	31,470	9,276	3,454
Food processing machinery	1,102	16,807	3,288	1,481
Packaging machinery	492	17,331	4,074	1,791
Apparatus engineering	1,004	28,645	7,198	2,740
Safes	18	946	154	72
Scales	88	4,065	1,115	444
Lifts and escalators	261	10,484	2,243	667
Other lifting devices and conveyors	1,087	28,274	8,280	3,035
Paper making machines	124	2,082	379	146
Paper processing mach. and mach. f printing works	452	11,152	2,406	934
Spinning machinery	24	1,665	1,123	558
Weaving and knitting machinery	38	3,560	662	257
Washing, bleaching, dyeing, finishing machinery	39	693	113	44
Parts and accessories for textile machinery	215	3,577	480	211
Sewing machines	107	3,113	452	195
Firefighting equipment	74	1,984	519	151
Valves and fittings	456	19,998	4,783	1,735
Gearboxes and power transmission equipment	672	31,027	7,136	2,805
Ball or roller bearings	381	43,918	12,234	4,325
Oil hydraulics and pneumatics	816	37,704	12,144	4,829
Robots	477	28,051	10,896	4,198
Productronics	1,893	104,847	37,402	13,499
Other mechanical engineering	4,492	143,714	33,071	12,498
Mechanical engineering	31,639	1,045,723	285,817	104,251

* Based on the Japanese division of industry groups, local units with 4 or more employees.

1) At the end of the year.

2) Turnover with finished products.

3) Net value added, in local units with less than 30 employees gross value added.

3.8 Mechanical engineering industry in Italy

2021

Activity sector*	Enterprises	Employees	Turnover	Gross value added
	number		million EUR	
Engines and turbines, except aircraft, vehicle and cycle engines	193	10,209	5,516	1,207
Hydraulic and pneumatic components and systems	344	19,214	4,866	1,710
Pumps and compressors, n.e.c.	367	14,261	4,576	1,420
Taps and valves, n.e.c.	791	30,496	9,615	3,056
Bearings, gears, gearing and driving elements	454	27,454	7,296	2,329
Furnaces and furnace burners	426	11,295	3,923	1,084
Lifting and handling equipment	1,101	32,664	10,796	2,712
Office machinery (except computers and peripherals)	177	907	176	61
Portable hand held power tools	29	363	143	40
Non-domestic cooling and ventilation equipment	1,014	36,545	9,864	2,754
Other general purpose machinery n.e.c. ¹	4,466	92,427	23,157	8,049
Agricultural and forestry machinery	1,340	30,027	11,800	2,770
Metalworking machine tools	577	15,893	4,297	1,351
Other machine tools n.e.c. ²	1,192	22,067	5,486	1,842
Machinery for metallurgy	618	13,737	4,252	1,038
Machinery for mining, quarrying and construction	521	14,051	4,380	1,126
Machinery for food, beverage and tobacco processing	1,536	30,020	7,962	2,606
Machinery for textile, apparel and leather production	817	12,152	3,144	926
Machinery for paper and paperboard production	279	6,607	2,060	631
Machinery for plastic and rubber processing	556	10,562	3,006	961
Other special purpose machinery n.e.c. ³	1,512	26,596	7,604	2,319
Mechanical engineering ⁴	18,310	457,547	133,921	39,993
Repair of machinery	16,774	44,484	7,309	2,995
Installation of machinery and equipment	5,693	39,038	7,393	2,620

*) EU industry classification (NACE rev. 2), all enterprises.

Though some activity sectors sound similar to VDMA sectors a comparison is not possible.

1) Contains among others process plant and equipment, packaging machinery, scales.

2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.9 Mechanical engineering industry in the Republic of Korea

2020

Subgroup*	Local units	Turnover	Value added
	number	m EUR	
Machine tools	429	3,659	1,350
Industrial furnaces and burners	125	709	298
Foundry machinery, machinery for metallurgical plants and rolling mills	63	284	132
Measuring and testing technology	514	4,271	1,925
Woodworking machinery	224	818	356
Precision tools	1,651	8,502	3,897
Air-handling technology	1,007	9,597	3,294
Power Systems	30	177	83
Pumps	173	1,241	515
Compressors, compressed air and vacuum technology	143	2,514	913
Construction equipment and building material machinery	330	6,876	2,203
Plastics and rubber machinery	139	969	379
Mining equipment	62	246	110
Agricultural machinery	284	2,182	647
Food and tobacco processing machinery	115	450	192
Packaging machinery	133	766	339
Process plant and equipment	484	4,465	1,660
Materials handling technology	456	3,895	1,396
Printing and paper equipment and supplies	121	445	241
Textile machinery	27	95	41
Garment and leather technology	52	179	81
Valves and fittings	534	3,694	1,515
Lifts and escalators	258	3,040	1,337
Power transmission engineering	355	3,404	1,362
Engines and systems	244	3,602	1,172
Fluid power equipment	343	2,322	896
Robotics and automation	171	1,394	502
Productronics	1,115	17,037	6,885
Other mechanical engineering products	908	5,159	2,223
Mechanical engineering	10,490	91,993	35,944

* According to VDMA sector system, local units with over 10 employees.

3.10 Mechanical engineering industry in United Kingdom

2018

Activity sector*	Enterprises	Employees	Turnover	Gross value added
	number		million EUR	
Engines and turbines, except aircraft, vehicle and cycle engines	282	28,193	11,358	2,880
Hydraulic and pneumatic components and systems	172	6,268	1,127	588
Pumps and compressors, n.e.c.	278	11,307	2,727	1,314
Taps and valves, n.e.c.	164	8,801	1,744	810
Bearings, gears, gearing and driving elements	191	7,836	2,661	640
Furnaces and furnace burners	154	2,130	352	160
Lifting and handling equipment	871	17,453	3,876	1,244
Office machinery (except computers and peripherals)	103	3,866	937	299
Portable hand held power tools	11	544	158	21
Non-domestic cooling and ventilation equipment	801	26,974	18,089	2,370
Other general purpose machinery n.e.c. ¹	1,320	21,660	5,345	2,338
Agricultural and forestry machinery	546	7,791	2,902	604
Metalworking machine tools	421	5,079	1,170	529
Other machine tools n.e.c. ²	394	3,880	581	267
Machinery for metallurgy	11	541	111	.
Machinery for mining, quarrying and construction	272	19,692	7,581	2,254
Machinery for food, beverage and tobacco processing	448	5,474	923	417
Machinery for textile, apparel and leather production	122	1,072	160	.
Machinery for paper and paperboard production	38	1,266	175	75
Machinery for plastic and rubber processing	450	2,647	347	155
Other special purpose machinery n.e.c. ³	544	10,604	2,004	941
Mechanical engineering ⁴	7,593	193,077	64,325	18,057
Repair of machinery	4,619	34,727	5,389	2,596
Installation of machinery and equipment	2,168	21,323	3,244	1,485

*) EU industry classification (NACE rev. 2), all enterprises.

Though some sectors sound similar to VDMA sectors a comparison is not possible.

1) Contains among others process plant and equipment, packaging machinery, scales.

2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.11 Mechanical engineering industry in France

2021

Activity sector*	Enterprises	Employees	Turnover	Gross value added
	number		million EUR	
Engines and turbines, except aircraft, vehicle and cycle engines	64	14,362	6,416	1,113
Hydraulic and pneumatic components and systems	247	5,085	1,080	413
Pumps and compressors, n.e.c.	106	13,469	3,919	1,340
Taps and valves, n.e.c.	93	9,391	2,326	852
Bearings, gears, gearing and driving elements	92	8,796	2,147	664
Furnaces and furnace burners	61	.	.	.
Lifting and handling equipment	410	26,834	7,788	2,107
Office machinery (except computers and peripherals)	18	.	.	.
Portable hand held power tools	8	257	65	23
Non-domestic cooling and ventilation equipment	592	21,286	5,421	1,627
Other general purpose machinery n.e.c. ¹	591	18,753	5,800	1,857
Agricultural and forestry machinery	477	20,295	8,038	1,600
Metalworking machine tools	154	3,754	893	272
Other machine tools n.e.c. ²	103	1,435	254	95
Machinery for metallurgy	17	81	23	9
Machinery for mining, quarrying and construction	87	10,027	3,388	1,019
Machinery for food, beverage and tobacco processing	317	8,223	1,694	615
Machinery for textile, apparel and leather production	49	4,093	1,554	491
Machinery for paper and paperboard production	28	1,671	.	.
Machinery for plastic and rubber processing	44	3,413	.	.
Other special purpose machinery n.e.c. ³	663	7,686	1,469	544
Mechanical engineering ⁴	4,221	186,012	56,489	15,555
Repair of machinery	8,478	39,905	8,230	2,889
Installation of machinery and equipment	8,981	58,058	11,741	4,097

* EU industry classification (NACE rev. 2), all enterprises.

Though some activity sectors sound similar to VDMA sectors a comparison is not possible.

1) Contains among others process plant and equipment, packaging machinery, scales.

2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.12 Mechanical engineering industry in Brazil

2022

Activity sector*	Local units	Employees	Turnover	Gross value added
	number		million EUR	
Machine tools	140	18,648	2,180	795
Machinery for metallurgical plants and rolling mills, foundry machinery	36	2,485	150	76
Machinery and apparatus for the installation of heating equipment	48	4,395	391	176
Cooling and ventilation equipment	121	14,711	1,488	526
Air conditioning units	28	7,240	1,804	365
Internal combustion engines and turbines	16	2,031	452	129
Compressors	31	12,849	1,733	517
Tractors not for agricultural purpose	6	726	54	18
Construction machinery	35	17,199	6,287	1,818
Plastics machinery	31	1,998	162	59
Machinery and equipment for exploration and production of crude oil	15	7,125	1,285	608
Other machinery and equipment for the extraction processing of mineral raw materials	67	10,360	1,225	478
Agricultural tractors	32	17,115	6,256	1,334
Agricultural irrigation systems	31	3,785	898	339
Others agricultural machinery	305	63,067	12,284	4,369
Machinery for food, beverage and tobacco processing	145	16,413	1,393	570
Process technology machinery	33	6,194	489	201
Materials handling technology	182	30,874	3,580	1,043
Paper machinery	23	3,943	694	200
Textile machinery	11	1,096	111	47
Machinery for the garment and leather industry	19	1,665	96	48
Valves and fittings	134	17,067	1,214	575
Power transmission equipment	74	12,699	1,376	397
Fluid power technology	106	15,518	2,007	855
Other mechanical engineering	472	48,364	5,241	2,043
Mechanical engineering	2,141	337,567	52,849	17,586
Maintenance and repair of machinery	579	82,342	3,230	2,091
Machinery installing	223	21,623	448	344

*) Based on the Brazilian division of industry groups, local units with 30 and more employees.

3.13 Mechanical engineering industry in Canada

2022

Activity sector*	Local units ¹	Turnover	Gross value added
	number	million EUR	
Metalworking machinery	1,555	4,240	2,135
Ventilation, heating, air-conditioning and commercial refrigeration equipment	783	4,681	2,059
Engine, turbine and power transmission equipment	207	1,384	614
Pumps and compressors	179	1,989	689
Construction machinery	493	2,478	910
Mining and oil and gas field machinery	478	3,018	1,263
Agricultural implement manufacturing	516	4,352	2,048
Material handling equipment	456	3,975	1,476
Valves and fittings (incl. for fluid power)	153	1,121	506
Commercial and service industry machinery	636	3,683	1,990
Industrial machinery	1,106	5,676	2,752
All other general-purpose machinery	1,194	3,342	1,565
Mechanical engineering	7,756	39,941	18,005

*) Based on the North American industry classification system (NAICS Canada), all local units.

1) December 2022.

3.14 Mechanical engineering industry in Sweden

2021

Activity sector*	Enterprises	Employees	Turnover	Gross value added
	number		million EUR	
Engines and turbines, except aircraft, vehicle and cycle engines	59	.	.	.
Hydraulic and pneumatic components and systems	67	4,668	1,407	455
Pumps and compressors, n.e.c.	60	3,212	779	251
Taps and valves, n.e.c.	25	.	.	.
Bearings, gears, gearing and driving elements	49	3,977	1,684	548
Furnaces and furnace burners	53	471	112	43
Lifting and handling equipment	220	10,701	3,645	982
Office machinery (except computers and peripherals)	15	147	35	15
Portable hand held power tools	17	.	.	.
Non-domestic cooling and ventilation equipment	152	11,084	3,447	1,313
Other general purpose machinery n.e.c. ¹	310	.	.	.
Agricultural and forestry machinery	166	3,838	1,786	442
Metalworking machine tools	134	1,934	494	192
Other machine tools n.e.c. ²	140	861	225	90
Machinery for metallurgy	13	.	.	.
Machinery for mining, quarrying and construction	123	11,439	8,151	2,501
Machinery for food, beverage and tobacco processing	91	643	166	46
Machinery for textile, apparel and leather production	22	.	.	.
Machinery for paper and paperboard production	28	2,244	1,105	274
Machinery for plastic and rubber processing	32	1,103	282	116
Other special purpose machinery n.e.c. ³	481	4,568	1,368	453
Mechanical engineering ⁴	2,257	80,364	32,679	10,535
Repair of machinery	4,134	9,182	1,637	654
Installation of machinery and equipment	597	1,842	364	150

* EU industry classification (NACE rev. 2), all enterprises.

Though some sectors sound similar to VDMA sectors a comparison is not possible.

1) Contains among others process plant and equipment, packaging machinery, scales.

2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

* Industrierzweigsystematik der EU (NACE rev. 2), alle Unternehmen, 2018 Zeitreihenbruch, Vorjahresvergleich eingeschränkt.

3.15 Mechanical engineering industry in Austria

2021

Activity sector*	Enterprises	Employees	Turnover	Gross value added
	number		million EUR	
Engines and turbines, except aircraft, vehicle and cycle engines	28	1,794	518	133
Hydraulic and pneumatic components and systems	47	2,039	504	185
Pumps and compressors, n.e.c.	21	4,411	1,217	418
Taps and valves, n.e.c.	20	1,457	435	140
Bearings, gears, gearing and driving elements	38	4,471	1,242	432
Furnaces and furnace burners	67	2,533	744	286
Lifting and handling equipment	131	18,371	6,485	1,914
Office machinery (except computers and peripherals)	3	.	.	.
Portable hand held power tools	12	.	.	.
Non-domestic cooling and ventilation equipment	116	6,189	2,032	508
Other general purpose machinery n.e.c. ¹	147	5,637	1,466	498
Agricultural and forestry machinery	125	6,861	3,366	776
Metalworking machine tools	107	5,538	1,471	483
Other machine tools n.e.c. ²	67	3,157	753	244
Machinery for metallurgy	25	1,983	954	269
Machinery for mining, quarrying and construction	49	3,784	1,342	438
Machinery for food, beverage and tobacco processing	63	1,856	443	160
Machinery for textile, apparel and leather production	23	564	114	47
Machinery for paper and paperboard production	8	2,988	1,094	329
Machinery for plastic and rubber processing	44	7,360	2,170	750
Other special purpose machinery n.e.c. ³	282	13,218	3,382	1,287
Mechanical engineering ⁴	1,423	94,858	29,812	9,355
Repair of machinery	1,334	5,083	1,172	434
Installation of machinery and equipment	658	11,504	2,929	1,047

*) EU industry classification (NACE rev. 2), all enterprises.

Though some activity sectors sound similar to VDMA sectors a comparison is not possible.

1) Contains among others process plant and equipment, packaging machinery, scales.

2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.15 Mechanical engineering industry in Denmark

2021

Activity sector*	Enterprises number	Employees	Turnover million EUR	Gross value added
Engines and turbines, except aircraft, vehicle and cycle engines	122	12,133	.	.
Hydraulic and pneumatic components and systems	46	2,180	727	275
Pumps and compressors, n.e.c.	35	5,005	.	.
Taps and valves, n.e.c.	31	4,642	2,184	776
Bearings, gears, gearing and driving elements	22	729	169	66
Furnaces and furnace burners	60	612	169	58
Lifting and handling equipment	153	5,227	1,299	461
Office machinery (except computers and peripherals)	4	.	.	.
Portable hand held power tools	6	.	.	.
Non-domestic cooling and ventilation equipment	305	6,096	1,669	559
Other general purpose machinery n.e.c. ¹	170	4,397	1,690	512
Agricultural and forestry machinery	151	3,064	725	248
Metalworking machine tools	42	551	192	90
Other machine tools n.e.c. ²	43	504	112	48
Machinery for metallurgy	7	12	1	0
Machinery for mining, quarrying and construction	64	890	251	78
Machinery for food, beverage and tobacco processing	144	4,936	1,400	518
Machinery for textile, apparel and leather production	6	373	.	.
Machinery for paper and paperboard production	5	173	.	.
Machinery for plastic and rubber processing	18	200	39	13
Other special purpose machinery n.e.c. ³	335	4,905	1,471	502
Mechanical engineering ⁴	1,769	56,700	26,506	6,385
Repair of machinery	1,004	3,280	874	284
Installation of machinery and equipment	337	1,813	453	161

*) EU industry classification (NACE rev. 2), all enterprises.

Though some activity sectors sound similar to VDMA sectors a comparison is not possible.

1) Contains among others process plant and equipment, packaging machinery, scales.

2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.17 Mechanical engineering industry in Spain

2021

Activity sector*	Enterprises	Employees	Turnover	Gross value added
	number		million EUR	
Engines and turbines, except aircraft, vehicle and cycle engines	85	4,464	1,813	212
Hydraulic and pneumatic components and systems	114	2,629	602	196
Pumps and compressors, n.e.c.	128	3,644	849	271
Taps and valves, n.e.c.	87	2,877	775	215
Bearings, gears, gearing and driving elements	167	4,034	898	273
Furnaces and furnace burners	76	1,023	196	64
Lifting and handling equipment	391	21,398	4,152	1,458
Office machinery (except computers and peripherals)	29	85	10	3
Portable hand held power tools	33	229	44	14
Non-domestic cooling and ventilation equipment	315	11,636	2,124	624
Other general purpose machinery n.e.c. ¹	922	13,145	2,156	775
Agricultural and forestry machinery	683	9,264	2,059	583
Metalworking machine tools	272	6,662	1,362	432
Other machine tools n.e.c. ²	215	2,323	437	165
Machinery for metallurgy	245	3,084	582	191
Machinery for mining, quarrying and construction	235	2,883	601	159
Machinery for food, beverage and tobacco processing	607	11,401	2,020	717
Machinery for textile, apparel and leather production	179	1,995	355	135
Machinery for paper and paperboard production	82	1,804	388	136
Machinery for plastic and rubber processing	156	1,820	209	101
Other special purpose machinery n.e.c. ³	759	10,791	1,757	639
Mechanical engineering ⁴	5,780	117,192	23,389	7,364
Repair of machinery	9,441	41,570	4,662	2,098
Installation of machinery and equipment	1,015	16,948	1,884	854

*) EU industry classification (NACE rev. 2), all enterprises.

Though some sectors sound similar to VDMA sectors a comparison is not possible.

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2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.18 Mechanical engineering industry in Finland

2021

Activity sector*	Enterprises	Employees	Turnover	Gross value added
	number		million EUR	
Engines and turbines, except aircraft, vehicle and cycle engines	28	.	.	.
Hydraulic and pneumatic components and systems	34	.	.	.
Pumps and compressors, n.e.c.	22	884	278	99
Taps and valves, n.e.c.	22	1,823	565	148
Bearings, gears, gearing and driving elements	40	1,493	329	98
Furnaces and furnace burners	38	677	175	42
Lifting and handling equipment	128	7,795	4,160	622
Office machinery (except computers and peripherals)	3	17	2	1
Portable hand held power tools	12	128	38	12
Non-domestic cooling and ventilation equipment	106	3,366	776	238
Other general purpose machinery n.e.c. ¹	271	1,645	422	145
Agricultural and forestry machinery	156	4,302	1,540	453
Metalworking machine tools	39	854	218	60
Other machine tools n.e.c. ²	45	983	258	78
Machinery for metallurgy	12	41	15	5
Machinery for mining, quarrying and construction	100	7,074	3,913	1,041
Machinery for food, beverage and tobacco processing	69	502	102	36
Machinery for textile, apparel and leather production	18	37	4	2
Machinery for paper and paperboard production	37	7,289	2,783	752
Machinery for plastic and rubber processing	8	25	4	1
Other special purpose machinery n.e.c. ³	385	4,713	1,419	447
Mechanical engineering ⁴	1,573	49,014	19,178	4,701
Repair of machinery	1,936	6,364	1,298	486
Installation of machinery and equipment	756	4,571	697	338

*) EU industry classification (NACE rev. 2), all enterprises.

Though some activity sectors sound similar to VDMA sectors a comparison is not possible.

1) Contains among others process plant and equipment, packaging machinery, scales.

2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.19 Mechanical engineering industry in the Czech Republic

2021

Activity sector*	Enterprises	Employees	Turnover	Gross value added
	number		million EUR	
Engines and turbines, except aircraft, vehicle and cycle engines	90	4,085	539	164
Hydraulic and pneumatic components and systems	54	4,482	538	155
Pumps and compressors, n.e.c.	205	7,752	1,117	250
Taps and valves, n.e.c.	58	8,198	1,005	285
Bearings, gears, gearing and driving elements	90	5,296	519	181
Furnaces and furnace burners	50	1,213	128	51
Lifting and handling equipment	1,116	11,003	1,206	354
Office machinery (except computers and peripherals)	55	391	34	10
Portable hand held power tools	22	1,958	161	57
Non-domestic cooling and ventilation equipment	601	16,195	2,729	579
Other general purpose machinery n.e.c. ¹	1,138	10,386	1,430	389
Agricultural and forestry machinery	204	8,781	1,340	310
Metalworking machine tools	141	6,813	660	204
Other machine tools n.e.c. ²	69	2,504	200	66
Machinery for metallurgy	14	1,967	154	54
Machinery for mining, quarrying and construction	84	7,596	1,556	283
Machinery for food, beverage and tobacco processing	101	2,316	239	76
Machinery for textile, apparel and leather production	64	5,286	614	176
Machinery for paper and paperboard production	14	1,020	133	41
Machinery for plastic and rubber processing	21	1,507	223	52
Other special purpose machinery n.e.c. ³	513	8,772	1,048	296
Mechanical engineering ⁴	4,704	117,522	15,574	4,034
Repair of machinery	5,851	14,422	2,045	648
Installation of machinery and equipment	3,986	13,882	1,934	546

* EU industry classification (NACE rev. 2), all enterprises.

Though some activity sectors sound similar to VDMA sectors a comparison is not possible.

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2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.20 Mechanical engineering industry in Poland

2021

Activity sector*	Enterprises	Employees	Turnover	Gross value added
	number		million EUR	
Engines and turbines, except aircraft, vehicle and cycle engines	95	10,681	1,356	399
Hydraulic and pneumatic components and systems	345	5,227	555	176
Pumps and compressors, n.e.c.	101	3,545	349	125
Taps and valves, n.e.c.	84	4,413	436	147
Bearings, gears, gearing and driving elements	127	10,733	1,078	339
Furnaces and furnace burners	241	3,345	403	112
Lifting and handling equipment	566	7,751	658	206
Office machinery (except computers and peripherals)	38	.	.	.
Portable hand held power tools	59	.	.	.
Non-domestic cooling and ventilation equipment	743	12,586	1,323	391
Other general purpose machinery n.e.c. ¹	919	10,712	1,101	346
Agricultural and forestry machinery	699	20,121	2,766	740
Metalworking machine tools	196	3,825	424	127
Other machine tools n.e.c. ²	123	2,780	237	91
Machinery for metallurgy	27	151	11	4
Machinery for mining, quarrying and construction	246	8,844	910	360
Machinery for food, beverage and tobacco processing	429	8,109	820	281
Machinery for textile, apparel and leather production	59	676	49	17
Machinery for paper and paperboard production	41	1,082	113	48
Machinery for plastic and rubber processing	131	1,609	124	48
Other special purpose machinery n.e.c. ³	890	12,338	1,237	423
Mechanical engineering ⁴	6,159	129,443	14,040	4,416
Repair of machinery	16,304	35,276	3,666	1,061
Installation of machinery and equipment	6,473	23,816	3,897	1,072

* EU industry classification (NACE rev. 2), all enterprises.

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2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.21 Mechanical engineering industry in Mexico

2022

Activity sector*	Local units	Employees	Turnover ¹	Gross value added
	number		million EUR	
Metalworking machinery	23	6,262	801	414
Welding technology	20	4,026	509	234
Climate and heating systems	32	26,468	2,216	1,356
Cooling systems	17	15,060	1,094	430
Internal combustion engines, turbines and power transmission technology	16	20,128	1,391	1,146
Pumps and Pump systems	27	7,981	645	373
Construction machinery	15	7,082	545	267
Agricultural machinery	18	11,706	395	376
Food processing machinery	24	3,453	171	134
Materials handling technology	32	9,666	427	305
Valves and fittings (incl. those for oil hydraulics and pneumatics)	34	22,542	635	660
Ball or roller bearings	12	5,172	414	266
Other mechanical engineering	97	23,014	965	795
Mechanical engineering	367	162,560	10,210	6,755

*) Based on the North American industry classification system (SCIAN Mexico), all local units.

1) Turnover of own products.

3.22 Mechanical engineering industry in Hungary

2021

Activity sector*	Enterprises	Employees	Turnover	Gross value added
	number		million EUR	
Engines and turbines, except aircraft, vehicle and cycle engines	40	5,665	465	145
Hydraulic and pneumatic components and systems	74	2,594	328	91
Pumps and compressors, n.e.c.	78	6,198	607	177
Taps and valves, n.e.c.	28	2,373	253	100
Bearings, gears, gearing and driving elements	53	3,148	261	89
Furnaces and furnace burners	52	180	14	4
Lifting and handling equipment	237	3,882	401	114
Office machinery (except computers and peripherals)	15	190	15	4
Portable hand held power tools	17	3,969	965	125
Non-domestic cooling and ventilation equipment	206	5,937	700	158
Other general purpose machinery n.e.c. ¹	447	5,086	621	191
Agricultural and forestry machinery	165	5,355	637	167
Metalworking machine tools	93	735	61	22
Other machine tools n.e.c. ²	94	426	32	14
Machinery for metallurgy	5	26	1	0
Machinery for mining, quarrying and construction	54	1,495	121	45
Machinery for food, beverage and tobacco processing	195	2,736	230	71
Machinery for textile, apparel and leather production	21	392	39	10
Machinery for paper and paperboard production	13	184	21	7
Machinery for plastic and rubber processing	18	453	48	14
Other special purpose machinery n.e.c. ³	383	5,305	609	175
Mechanical engineering ⁴	2,288	56,329	6,429	1,724
Repair of machinery	3,849	7,276	632	219
Installation of machinery and equipment	1,862	4,938	807	224

*) EU industry classification (NACE rev. 2), all enterprises.

Though some activity sectors sound similar to VDMA sectors a comparison is not possible.

1) Contains among others process plant and equipment, packaging machinery, scales.

2) Contains woodworking machinery and tool holders.

3) Contains among others printing machines, assembly and handling technology, industrial robots and dryers.

4) According to NACE rev. 2 chapter 28 (excl. repair and installation).

3.2.3 Shares in world trade of top machinery supplier countries

Year	Machine exports of top machinery supplier countries bn EUR	thereof exports from:							
		China		Germany		USA		Japan	
		bn EUR	share in %	bn EUR	share in %	bn EUR	share in %	bn EUR	share in %
2009	605.2	52.9	8.7	110.9	18.3	71.2	11.8	54.5	9.0
2010	752.2	71.4	9.5	124.8	16.6	88.7	11.8	89.8	11.9
2011 ¹	876.3	86.8	9.9	145.4	16.6	97.7	11.1	101.7	11.6
2012	943.1	102.6	10.9	150.5	16.0	112.3	11.9	102.0	10.8
2013	913.4	106.0	11.6	149.0	16.3	104.1	11.4	81.6	8.9
2014	940.1	115.6	12.3	150.8	16.0	105.1	11.2	81.6	8.7
2015	1,001.2	133.9	13.4	155.0	15.5	115.3	11.5	86.2	8.6
2016	988.9	131.9	13.3	155.8	15.8	100.9	10.2	91.7	9.3
2017	1,066.4	140.0	13.1	170.1	16.0	106.5	10.0	101.3	9.5
2018 ²	1,119.0	150.6	13.5	179.7	16.1	107.6	9.6	104.9	9.4
2019	1,154.7	165.6	14.3	181.7	15.7	108.3	9.4	102.3	8.9
2020	1,059.5	166.5	15.7	163.4	15.4	95.5	9.0	90.1	8.5
2021	1,232.9	210.1	17.0	181.3	14.7	105.8	8.6	107.7	8.7
2022	1,425.8	260.7	18.3	195.3	13.7	128.6	9.0	118.2	8.3

1) Starting from 2011 the group of the most important machine exporting countries was extended again. The newly added are: Argentina, Indonesia, Serbia, South Africa, Ukraine.

2) Starting from 2018, the group of major machinery supplier countries was expanded to include Vietnam.

Shares in world trade of top machinery supplier countries

Shares* in percent



*) In 2018 shares have decreased due to the integration of further countries.

3.24 Machine exports of top machinery supplier

Sector	Total*		China	Germany	USA	Japan	Italy
	million EUR	share of total exports in %					
Machine tools	52,639	3.7	7,054	8,738	2,972	7,951	3,897
country share in %	100.0		13.4	16.6	5.6	15.1	7.4
Machinery for metallurgical plants and rolling mills	5,905	0.4	1,858	637	342	292	853
country share in %	100.0		31.5	10.8	5.8	4.9	14.5
Industrial furnaces and burners	10,763	0.8	2,679	1,783	873	323	1,456
country share in %	100.0		24.9	16.6	8.1	3.0	13.5
Foundry machinery	2,175	0.2	611	102	100	239	290
country share in %	100.0		28.1	4.7	4.6	11.0	13.3
Measuring and Testing Technology	13,003	0.9	2,434	3,386	1,133	533	792
country share in %	100.0		18.7	26.0	8.7	4.1	6.1
Woodworking machinery	11,614	0.8	2,789	2,504	261	174	1,644
country share in %	100.0		24.0	21.6	2.2	1.5	14.2
Precision tools	42,100	3.0	10,043	6,372	1,988	3,507	1,847
country share in %	100.0		23.9	15.1	4.7	8.3	4.4
Gas welding (without electrical)	965	0.1	326	98	63	26	36
country share in %	100.0		33.8	10.1	6.5	2.6	3.7
Air-handling technology	154,377	10.8	41,224	15,082	9,977	5,204	7,953
country share in %	100.0		26.7	9.8	6.5	3.4	5.2
Power systems	33,738	2.4	2,135	4,074	6,292	2,411	2,024
country share in %	100.0		6.3	12.1	18.7	7.1	6.0
Pumps	43,843	3.1	9,150	6,109	3,825	1,757	3,364
country share in %	100.0		20.9	13.9	8.7	4.0	7.7
Compressors, vacuum technology	40,351	2.8	7,613	5,484	2,653	2,239	2,290
country share in %	100.0		18.9	13.6	6.6	5.5	5.7
Construction equipm., building material machinery	125,178	8.8	28,601	11,123	10,618	15,894	5,709
country share in %	100.0		22.8	8.9	8.5	12.7	4.6
Plastics and rubber machinery	26,347	1.8	6,615	5,753	945	2,104	2,191
country share in %	100.0		25.1	21.8	3.6	8.0	8.3
Mining equipment	21,432	1.5	4,253	1,875	2,848	275	949
country share in %	100.0		19.8	8.7	13.3	1.3	4.4
Agricultural machinery	77,181	5.4	7,074	14,931	8,544	2,482	5,562
country share in %	100.0		9.2	19.3	11.1	3.2	7.2
Food processing machinery and packaging machinery	48,640	3.4	5,429	9,070	3,158	1,282	9,239
country share in %	100.0		11.2	18.6	6.5	2.6	19.0

countries by sector in 2022

Netherlands	Rep. of Korea	Singapore	United Kingdom	France	Mexico	Canada	Belgium	Austria	Switzerland	Taiwan	India	Czech Republic
1,377	2,622	561	890	765	117	477	1,332	1,059	2,929	3,596	270	648
2.6	5.0	1.1	1.7	1.5	0.2	0.9	2.5	2.0	5.6	6.8	0.5	1.2
17	295	6	91	101	1	149	57	186	50	49	219	59
0.3	5.0	0.1	1.5	1.7	0.0	2.5	1.0	3.1	0.8	0.8	3.7	1.0
202	225	88	289	269	73	141	159	219	82	99	184	149
1.9	2.1	0.8	2.7	2.5	0.7	1.3	1.5	2.0	0.8	0.9	1.7	1.4
9	80	49	34	25	3	27	5	25	60	101	34	36
0.4	3.7	2.2	1.6	1.2	0.1	1.2	0.2	1.2	2.7	4.6	1.5	1.7
642	115	146	658	345	119	105	112	315	344	106	125	165
4.9	0.9	1.1	5.1	2.7	0.9	0.8	0.9	2.4	2.6	0.8	1.0	1.3
126	47	36	64	86	31	413	113	649	153	743	61	166
1.1	0.4	0.3	0.6	0.7	0.3	3.6	1.0	5.6	1.3	6.4	0.5	1.4
2,000	2,689	774	386	473	328	1,473	675	767	1,458	964	525	536
4.8	6.4	1.8	0.9	1.1	0.8	3.5	1.6	1.8	3.5	2.3	1.2	1.3
32	30	9	39	16	32	14	7	60	3	29	29	21
3.3	3.1	0.9	4.0	1.7	3.3	1.5	0.7	6.2	0.4	3.0	3.0	2.2
3,599	5,434	1,532	2,602	3,324	11,449	2,399	2,682	1,846	1,029	1,095	979	4,370
2.3	3.5	1.0	1.7	2.2	7.4	1.6	1.7	1.2	0.7	0.7	0.6	2.8
921	248	2,004	2,497	996	1,009	1,190	117	266	1,158	8	910	314
2.7	0.7	5.9	7.4	3.0	3.0	3.5	0.3	0.8	3.4	0.0	2.7	0.9
1,804	753	591	1,399	1,704	1,055	760	471	492	745	625	928	796
4.1	1.7	1.3	3.2	3.9	2.4	1.7	1.1	1.1	1.7	1.4	2.1	1.8
977	1,581	442	1,295	1,207	1,747	531	1,910	382	1,150	402	1,039	673
2.4	3.9	1.1	3.2	3.0	4.3	1.3	4.7	0.9	2.8	1.0	2.6	1.7
4,894	6,080	2,381	4,485	2,969	1,162	1,785	3,998	2,265	311	130	3,135	1,682
3.9	4.9	1.9	3.6	2.4	0.9	1.4	3.2	1.8	0.2	0.1	2.5	1.3
538	621	133	295	696	68	822	123	838	514	951	340	437
2.0	2.4	0.5	1.1	2.6	0.3	3.1	0.5	3.2	2.0	3.6	1.3	1.7
900	288	1,180	1,523	387	137	798	238	648	104	51	464	158
4.2	1.3	5.5	7.1	1.8	0.6	3.7	1.1	3.0	0.5	0.2	2.2	0.7
3,904	1,286	81	2,397	3,983	722	2,750	2,602	2,396	115	167	1,759	1,228
5.1	1.7	0.1	3.1	5.2	0.9	3.6	3.4	3.1	0.1	0.2	2.3	1.6
3,397	479	239	881	1,353	90	1,232	679	646	2,005	528	645	435
7.0	1.0	0.5	1.8	2.8	0.2	2.5	1.4	1.3	4.1	1.1	1.3	0.9

Machine exports of top machinery supplier

Sector	Total*		China	Germany	USA	Japan	Italy
	million EUR	share of total exports in %					
Process plant and equipment	52,535	3.7	7,023	7,579	7,391	2,171	2,944
country share in %	100.0		13.4	14.4	14.1	4.1	5.6
Safes and strongroom installations	1,225	0.1	597	41	29	3	54
country share in %	100.0		48.7	3.3	2.4	0.2	4.4
Materials handling technology	90,326	6.3	19,941	15,050	4,754	3,295	6,468
country share in %	100.0		22.1	16.7	5.3	3.6	7.2
Printing and paper equipment	21,559	1.5	3,428	4,767	1,141	924	2,048
country share in %	100.0		15.9	22.1	5.3	4.3	9.5
Textile machinery (without dryers)	18,219	1.3	5,162	2,700	392	2,132	1,923
country share in %	100.0		28.3	14.8	2.2	11.7	10.6
Textile Care, Fabric and Leather Techr	12,335	0.9	4,982	688	474	393	862
country share in %	100.0		40.4	5.6	3.8	3.2	7.0
Firefighting vehicles and -equipment	2,509	0.2	609	275	360	17	94
country share in %	100.0		24.3	10.9	14.3	0.7	3.8
Cleaning systems	1,934	0.1	-	470	244	33	282
country share in %	100.0		-	24.3	12.6	1.7	14.6
Valves and fittings	82,339	5.8	20,952	10,510	8,008	3,440	6,935
country share in %	100.0		25.4	12.8	9.7	4.2	8.4
Lifts and escalators	11,635	0.8	3,272	846	316	168	1,012
country share in %	100.0		28.1	7.3	2.7	1.4	8.7
Power transmission engineering	89,991	6.3	16,693	17,310	7,226	8,181	5,480
country share in %	100.0		18.5	19.2	8.0	9.1	6.1
Engines and systems	30,657	2.2	3,529	2,428	3,208	6,898	1,185
country share in %	100.0		11.5	7.9	10.5	22.5	3.9
Fluid power	39,055	2.7	4,660	7,940	5,281	2,852	2,347
country share in %	100.0		11.9	20.3	13.5	7.3	6.0
Semiconductor and Flat Panel							
Display Production Equipment	117,046	8.2	4,163	2,991	22,036	29,452	172
country share in %	100.0		3.6	2.6	18.8	25.2	0.1
Other mechanical engineering	135,864	9.5	25,283	23,382	10,844	9,050	7,616
country share in %	100.0		18.6	17.2	8.0	6.7	5.6
Mechanical engineering	1,425,789	100.0	260,681	195,342	128,569	118,187	89,889
country share in %	100.0		18.3	13.7	9.0	8.3	6.3

*) Machine exports of 52 countries of origin. The displayed 18 countries have a share of 85.2 % in total exports.

countries by sector in 2022

	Netherlands	Rep. of Korea	Singapore	United Kingdom	France	Mexico	Canada	Belgium	Austria	Switzerland	Taiwan	India	Czech Republic
1,456	2,797	814	1,724	2,339	1,265	1,318	1,408	629	1,054	484	1,050	486	
2.8	5.3	1.5	3.3	4.5	2.4	2.5	2.7	1.2	2.0	0.9	2.0	0.9	
61	47	1	4	11	99	4	4	8	5	7	12	26	
4.9	3.9	0.1	0.3	0.9	8.1	0.3	0.3	0.7	0.4	0.6	1.0	2.1	
4,085	2,733	554	2,964	3,461	1,670	3,204	1,876	2,831	689	749	672	1,411	
4.5	3.0	0.6	3.3	3.8	1.8	3.5	2.1	3.1	0.8	0.8	0.7	1.6	
774	234	258	505	730	22	290	222	333	830	400	221	278	
3.6	1.1	1.2	2.3	3.4	0.1	1.3	1.0	1.5	3.9	1.9	1.0	1.3	
124	369	323	101	650	20	23	545	166	583	500	735	399	
0.7	2.0	1.8	0.6	3.6	0.1	0.1	3.0	0.9	3.2	2.7	4.0	2.2	
136	850	366	32	96	192	24	43	23	40	378	103	192	
1.1	6.9	3.0	0.3	0.8	1.6	0.2	0.3	0.2	0.3	3.1	0.8	1.6	
56	64	29	69	55	134	17	36	122	8	1	14	32	
2.2	2.6	1.1	2.8	2.2	5.4	0.7	1.4	4.9	0.3	0.0	0.6	1.3	
78	17	8	34	26	38	62	86	16	8	40	3	20	
4.0	0.9	0.4	1.8	1.3	2.0	3.2	4.4	0.8	0.4	2.1	0.2	1.1	
1,310	1,751	1,338	2,619	2,182	2,340	1,007	949	809	1,802	1,507	1,639	1,514	
1.6	2.1	1.6	3.2	2.6	2.8	1.2	1.2	1.0	2.2	1.8	2.0	1.8	
590	143	14	265	310	113	255	87	200	58	61	122	265	
5.1	1.2	0.1	2.3	2.7	1.0	2.2	0.7	1.7	0.5	0.5	1.1	2.3	
1,922	1,919	1,140	1,886	3,279	1,032	1,187	1,670	1,511	1,011	2,331	2,154	992	
2.1	2.1	1.3	2.1	3.6	1.1	1.3	1.9	1.7	1.1	2.6	2.4	1.1	
224	1,080	170	2,319	1,239	1,366	201	605	116	263	1	1,360	7	
0.7	3.5	0.6	7.6	4.0	4.5	0.7	2.0	0.4	0.9	0.0	4.4	0.0	
728	760	390	1,665	962	950	1,005	633	451	470	213	597	548	
1.9	1.9	1.0	4.3	2.5	2.4	2.6	1.6	1.2	1.2	0.5	1.5	1.4	
20,193	7,705	20,167	778	369	194	86	56	1,433	468	2,752	37	149	
17.3	6.6	17.2	0.7	0.3	0.2	0.1	0.0	1.2	0.4	2.4	0.0	0.1	
4,110	6,454	4,302	3,583	3,119	2,953	2,484	2,381	2,364	2,722	3,106	1,683	2,094	
3.0	4.8	3.2	2.6	2.3	2.2	1.8	1.8	1.7	2.0	2.3	1.2	1.5	
61,484	49,992	40,228	38,566	37,852	30,606	26,399	25,991	24,244	22,380	22,303	22,058	20,333	
4.3	3.5	2.8	2.7	2.7	2.1	1.9	1.8	1.7	1.6	1.6	1.5	1.4	

3.25 Machine exports of top machinery supplier countries

Country of destination	Country of origin	Total*	%-share of country of destination	China	Germany	USA	Japan	Italy	Netherlands
Total		1,425,789	100.0	260,681	195,342	128,569	118,187	89,889	61,484
Europe		546,962	38.4	63,868	112,585	24,864	16,290	51,745	30,274
EU27		431,904	30.3	40,817	87,353	19,571	13,259	40,401	25,421
Germany		95,450	6.7	9,374	-	4,744	2,895	9,613	8,604
France		53,047	3.7	3,660	13,297	2,689	1,408	7,462	3,414
Italy		38,118	2.7	5,382	9,853	1,669	1,153	-	2,128
Netherlands		36,648	2.6	3,668	8,878	2,972	2,512	1,980	-
Poland		27,387	1.9	3,352	8,355	668	526	2,922	1,173
Belgium		26,644	1.9	2,860	4,918	2,025	1,150	1,928	3,005
***) Spain		23,222	1.6	2,719	5,158	551	257	3,709	1,234
Austria		18,961	1.3	639	8,156	322	420	1,879	647
Czech Republic		15,412	1.1	949	5,858	629	308	1,283	626
Sweden		15,208	1.1	1,207	3,910	520	192	1,192	833
Hungary		12,871	0.9	877	3,913	640	194	1,043	518
Romania		9,685	0.7	1,027	2,186	122	68	1,311	358
Denmark		9,069	0.6	790	2,568	229	81	728	642
Ireland		8,035	0.6	296	1,011	982	1,263	423	436
Finland		7,498	0.5	616	1,917	165	78	556	380
Slovakia		6,926	0.5	577	1,795	42	32	568	148
Portugal		5,492	0.4	395	958	70	61	798	314
Greece		3,574	0.3	679	583	87	53	784	181
Bulgaria		3,555	0.2	351	765	76	40	467	125
Slovenia		3,291	0.2	394	797	32	31	569	87
Lithuania		2,731	0.2	183	695	76	23	230	152
Croatia		2,552	0.2	262	533	21	14	442	84
Luxembourg		2,191	0.2	53	459	166	475	94	117
Estonia		1,632	0.1	132	373	35	6	114	93
Latvia		1,537	0.1	95	294	21	4	115	64
Cyprus		595	0.0	100	55	12	3	81	32
Malta		573	0.0	181	69	6	12	112	26
Other European countries		115,057	8.1	23,051	25,233	5,293	3,031	11,344	4,853
United Kingdom		37,037	2.6	4,269	8,259	3,554	1,204	3,547	2,512
Russian Fed.		24,966	1.8	11,668	2,729	316	734	1,696	310
Türkiye		21,526	1.5	4,655	4,822	533	799	2,715	523
Switzerland		13,554	1.0	412	6,074	340	151	1,719	547
Norway		7,629	0.5	240	1,414	329	95	556	580
Serbia		3,092	0.2	629	594	32	-	350	119
Ukraine		2,850	0.2	473	637	150	6	264	65
Belarus		1,122	0.1	460	129	4	12	53	16
Bosnia-Herzegovina		765	0.1	49	137	5	1	101	27
Iceland		505	0.0	6	94	17	1	24	108
Form.Yug.Rep.Maced		444	0.0	38	84	2	0	70	10
Moldova (Rep.)		439	0.0	30	79	1	2	59	6
Albania		406	0.0	103	28	2	1	131	6

by country of destination in 2022 million EUR

Rep. of Korea	Singapore	United Kingdom	France	Mexico	Canada	Belgium	Austria	Switzerland	Taiwan	India	Czech Republic
49,992	40,228	38,566	37,852	30,606	26,399	25,991	24,244	22,380	22,303	22,058	20,333
8,905	3,609	18,361	25,620	233	1,934	19,459	17,070	12,731	3,224	5,467	17,463
6,659	3,219	16,266	21,063	225	1,506	17,366	14,339	11,375	2,195	3,971	15,528
848	501	3,080	5,749	107	380	3,459	6,191	4,916	544	1,091	6,890
368	278	2,230	-	37	155	4,409	1,277	1,140	137	489	984
415	189	1,189	2,987	16	166	1,797	998	1,111	335	539	894
814	648	2,005	1,446	36	204	2,182	512	727	417	437	542
758	19	788	1,288	0	183	869	811	403	102	289	964
979	833	1,467	2,124	3	54	-	320	394	126	235	573
111	24	793	2,194	22	45	803	457	326	118	244	470
56	54	281	541	0	16	549	-	742	46	60	1,032
228	12	446	508	1	11	341	747	252	41	52	-
78	19	606	638	0	53	555	389	208	57	102	478
1,208	13	263	397	2	16	265	641	192	29	62	443
47	10	171	541	2	23	181	379	147	21	66	240
26	29	420	390	0	17	338	174	174	39	72	149
65	367	1,577	419	-	33	190	85	112	29	24	76
25	11	252	250	-	25	255	148	129	26	44	151
335	4	71	315	-	5	102	323	88	9	23	1,149
61	3	121	363	-	10	210	71	64	21	35	91
29	4	89	140	-	4	129	70	39	11	16	36
14	1	104	176	-	4	182	153	41	19	11	92
126	2	44	119	-	4	77	234	46	31	26	59
5	1	81	129	-	55	92	81	20	10	9	78
34	2	28	70	-	8	63	177	39	11	13	41
6	176	24	139	-	23	188	34	22	2	1	31
4	0	58	46	-	2	57	24	22	7	6	27
5	1	25	73	-	10	55	28	15	6	20	29
2	1	35	9	-	0	14	5	1	1	2	5
11	16	18	14	-	1	5	10	6	2	1	2
2,246	390	2,095	4,557	7	428	2,093	2,731	1,356	1,029	1,496	1,935
442	196	-	2,068	6	291	953	718	752	256	635	683
993	26	166	296	0	30	95	350	153	240	219	321
702	91	692	834	-	34	508	264	278	413	520	377
45	14	355	871	1	26	234	845	-	88	51	290
21	63	664	202	0	30	155	136	84	16	28	110
22	0	53	132	-	2	55	110	37	3	16	37
14	1	81	80	-	7	39	75	13	8	5	68
4	0	2	7	-	0	2	16	2	2	2	18
0	0	4	10	-	1	10	48	14	0	4	9
0	0	33	16	-	5	21	11	4	0	1	4
1	0	4	8	-	0	10	14	8	0	2	4
0	0	12	15	-	0	5	12	2	0	2	7
0	0	9	4	-	1	4	10	1	2	3	2

Machine exports of top machinery supplier countries

Country of destination	Country of origin	Total*	%-share of country of destination	China	Germany	USA	Japan	Italy	Netherlands
Africa		46,576	3.3	14,775	4,056	2,679	917	3,656	1,086
North Africa		14,904	1.0	3,653	1,776	691	287	2,178	281
Egypt		6,226	0.4	1,709	909	350	226	844	138
Morocco		3,169	0.2	540	337	171	29	354	75
Algeria		2,888	0.2	851	189	129	15	469	24
Tunisia		1,200	0.1	156	148	25	9	309	20
Libya		943	0.1	229	170	14	7	162	16
Sudan		477	0.0	168	22	0	1	42	7
West Africa		10,129	0.7	4,237	586	496	96	489	329
Nigeria		3,497	0.2	1,673	259	193	27	219	106
Ghana		1,712	0.1	686	66	129	23	59	81
Ivory Coast		1,143	0.1	328	62	26	8	79	24
Senegal		759	0.1	210	33	26	6	56	19
Liberia		676	0.0	523	10	11	18	5	2
Guinea		490	0.0	266	39	10	1	13	5
Other African countries		21,544	1.5	6,885	1,695	1,492	534	989	475
South Africa		8,569	0.6	2,038	1,246	973	382	468	224
Democr. Rep. Congo		2,023	0.1	1,300	33	18	9	10	29
Angola		1,532	0.1	355	60	133	38	124	30
Tanzania		1,298	0.1	546	66	36	18	41	48
Kenya		1,169	0.1	499	52	25	15	57	21
Zambia		862	0.1	216	11	27	1	21	21
Zimbabwe		816	0.1	265	21	9	1	17	2
Mozambique		670	0.0	228	7	8	21	19	10
Ethiopia		588	0.0	247	26	39	9	52	11
Cameroon		557	0.0	247	39	21	4	45	12
Namibia		551	0.0	72	13	25	5	6	7
Uganda		397	0.0	172	23	7	11	27	6
Asia		447,651	31.4	111,849	41,502	43,387	67,538	15,149	22,053
Near and Middle East		46,751	3.3	14,362	4,696	4,040	1,934	4,600	1,066
U.A.Emirates		12,749	0.9	4,011	1,095	1,112	785	929	300
Saudi Arabia		11,622	0.8	3,461	1,135	1,379	534	1,224	299
Israel		5,582	0.4	1,137	886	603	174	623	177
Iraq		3,679	0.3	1,669	289	167	27	345	81
Iran		2,949	0.2	1,525	284	0	4	242	10
Qatar		2,487	0.2	422	258	269	108	469	56
Oman		1,622	0.1	479	137	118	78	154	38
Kuwait		1,422	0.1	370	155	173	68	141	26
Azerbaijan		966	0.1	167	88	47	4	78	19
Jordan		938	0.1	328	115	55	26	107	16
Georgia		702	0.0	168	57	16	3	63	7
Bahrain		642	0.0	149	42	66	66	61	15

by country of destination in 2022 million EUR

	Rep. of Korea	Singapore	United Kingdom	France	Mexico	Canada	Belgium	Austria	Switzerland	Taiwan	India	Czech Republic
	628	320	1,349	2,399	0	269	1,186	253	416	227	2,503	140
	340	87	284	1,176	0	67	327	103	231	60	380	63
	183	47	144	121	0	46	121	37	46	32	178	27
	44	25	39	441	-	6	66	26	52	9	52	19
	56	9	47	376	-	8	97	22	20	9	57	5
	12	2	20	222	-	2	17	11	29	5	21	11
	19	3	25	9	-	3	20	1	81	1	13	0
	26	0	7	7	-	2	6	7	3	3	59	1
	88	83	325	585	0	60	442	39	68	58	722	15
	27	42	126	61	-	9	76	20	40	18	316	9
	13	9	78	44	-	16	49	9	7	7	169	2
	35	6	40	170	-	6	60	5	10	16	44	1
	4	13	24	98	-	3	33	1	3	5	47	2
	0	0	2	2	-	4	19	0	0	1	11	1
	5	1	4	27	-	2	25	1	0	2	34	0
	199	150	739	639	0	142	416	111	116	110	1,401	61
	108	85	341	247	0	70	128	77	76	67	433	38
	1	0	5	30	-	2	76	1	1	5	30	1
	15	16	175	43	-	2	30	9	3	2	44	1
	6	2	21	10	-	11	11	5	8	6	235	5
	13	8	25	11	-	2	26	5	3	12	253	4
	1	0	7	15	-	7	21	0	1	1	52	0
	0	0	5	11	-	1	1	0	2	1	24	1
	20	3	7	8	-	1	5	2	1	0	50	0
	10	1	60	8	-	3	6	4	0	2	36	2
	1	4	5	55	-	2	27	1	4	1	46	0
	0	1	9	1	-	1	0	1	2	1	4	0
	2	4	7	3	-	3	5	1	3	1	58	1
	25,642	30,428	7,722	4,604	373	1,478	2,338	3,340	5,172	12,694	7,541	1,383
	1,500	1,157	2,032	774	5	292	596	378	427	311	1,900	187
	371	424	692	212	3	76	125	65	92	107	803	43
	622	290	457	179	2	87	123	69	76	69	516	39
	185	156	208	145	0	33	112	61	118	66	62	43
	91	23	63	30	-	16	37	18	21	7	80	14
	44	1	13	20	-	0	103	70	10	16	30	9
	44	130	168	43	-	18	26	29	16	6	79	10
	45	36	105	25	-	22	14	9	8	5	111	3
	24	57	53	28	-	16	14	8	10	7	77	3
	14	11	77	22	-	1	3	14	8	2	9	4
	14	6	53	14	-	2	14	4	10	15	20	1
	13	3	22	12	-	7	4	8	2	1	22	6
	25	18	33	14	-	11	5	6	19	4	42	2

Machine exports of top machinery supplier countries

Country of destination	Country of origin	Total*	%-share of country of destination	China	Germany	USA	Japan	Italy	Netherlands
Lebanon		489	0.0	140	44	26	8	69	7
Armenia		393	0.0	91	71	4	26	44	11
Yemen		348	0.0	171	26	3	21	27	2
Central and South Asia		49,882	3.5	21,363	5,518	2,129	2,966	2,939	455
India		29,779	2.1	12,083	3,873	1,566	2,099	1,718	242
Bangladesh		5,475	0.4	2,465	299	127	299	413	45
Kazakhstan		4,140	0.3	1,506	601	241	86	313	78
Pakistan		3,868	0.3	2,245	295	126	222	238	36
Uzbekistan		3,297	0.2	1,592	267	20	170	166	26
Sri Lanka		784	0.1	337	52	15	39	36	10
Kyrgyzstan		718	0.1	483	27	9	6	10	8
East and Southeast Asia		351,018	24.6	76,123	31,288	37,218	62,639	7,610	20,532
China		104,941	7.4	-	18,922	10,904	27,140	3,687	3,421
Rep. of Korea		43,298	3.0	8,352	3,092	7,105	9,153	848	5,734
Taiwan		42,056	2.9	4,805	1,537	6,515	10,251	239	8,865
Japan		33,790	2.4	12,819	2,481	4,442	-	599	1,074
Singapore		24,629	1.7	4,907	1,271	4,390	2,658	325	753
Indonesia		23,558	1.7	10,828	719	696	2,834	375	113
Vietnam		21,230	1.5	11,189	496	262	2,093	374	129
Thailand		19,158	1.3	7,332	896	775	4,179	457	127
Malaysia		16,970	1.2	6,065	910	1,255	1,960	294	153
Hong Kong (SVR)		9,115	0.6	3,889	706	463	997	218	72
Philippines		7,693	0.5	3,215	208	355	1,175	146	62
Cambodia		1,686	0.1	997	14	13	85	22	3
Myanmar		1,201	0.1	818	3	5	34	10	3
Lao People's Dem Rep		689	0.0	386	7	2	16	1	1
America		353,156	24.8	63,168	34,300	52,010	31,470	17,724	6,837
North America		261,752	18.4	41,050	26,884	25,754	28,222	12,175	5,606
USA		220,180	15.4	35,665	24,842	-	27,121	10,720	5,158
Canada		41,482	2.9	5,385	2,039	25,753	1,100	1,454	447
Greenland		86	0.0	0	3	0	-	0	1
Middle America		45,063	3.2	9,317	3,234	18,092	1,888	2,445	381
Mexico		36,224	2.5	6,914	2,824	15,632	1,427	1,964	195
Panama		2,048	0.1	1,035	44	257	291	31	15
Dominican Rep.		1,429	0.1	338	69	473	22	97	28
Guatemala		1,076	0.1	259	69	256	18	93	11
Costa Rica		1,003	0.1	128	51	341	44	53	18
Honduras		734	0.1	147	47	210	33	68	11
Trinidad,Tobago		417	0.0	54	23	219	5	33	10
El Salvador		416	0.0	113	23	102	11	34	4
Cuba		326	0.0	54	38	0	1	34	24
Jamaica		287	0.0	86	8	99	5	9	6

by country of destination in 2022 million EUR

	Rep. of Korea	Singapore	United Kingdom	France	Mexico	Canada	Belgium	Austria	Switzerland	Taiwan	India	Czech Republic
	3	1	67	16	-	1	8	3	2	2	25	1
	3	0	13	6	-	1	3	10	16	0	3	5
	1	0	7	4	-	1	4	1	19	3	18	4
	2,159	1,081	945	672	18	171	409	373	512	698	1,360	402
	1,677	704	708	451	18	116	237	251	390	484	-	297
	159	249	53	44	-	4	52	7	41	137	642	15
	66	4	85	69	-	37	52	22	13	8	27	32
	58	51	40	45	-	7	20	16	36	47	3	26
	151	0	18	27	-	1	37	53	24	4	34	22
	11	39	17	12	-	3	3	1	5	17	106	2
	15	0	11	11	-	2	2	1	0	1	1	4
	21,983	28,190	4,745	3,158	349	1,015	1,333	2,589	4,233	11,685	4,281	794
	10,084	7,834	1,806	1,435	183	402	639	1,303	2,240	6,364	850	445
	-	3,507	445	557	35	76	163	243	436	552	232	86
	1,630	5,590	220	117	6	32	51	456	282	-	53	17
	2,745	2,068	632	336	59	165	128	228	438	1,254	259	91
	1,462	-	612	210	49	130	96	108	350	1,081	639	21
	906	2,863	140	137	0	60	78	45	66	353	562	19
	2,859	626	60	57	0	18	28	44	68	752	291	12
	679	953	145	102	9	53	59	40	80	509	1,013	60
	966	2,939	217	79	8	29	40	60	150	436	199	16
	176	1,124	373	80	1	28	18	41	90	160	23	20
	380	475	58	26	-	12	25	11	31	185	113	3
	16	42	18	8	-	1	1	1	2	22	13	0
	33	56	1	4	-	1	1	2	0	16	25	2
	9	2	0	0	-	0	0	4	0	1	1	0
	14,239	5,163	9,844	4,384	29,994	22,087	2,717	3,259	3,885	5,875	6,213	1,256
	11,278	4,373	8,686	3,337	29,423	21,101	1,807	2,643	3,240	5,188	4,841	961
	10,707	4,213	8,019	2,956	29,126	21,083	1,627	2,322	3,072	4,940	4,610	905
	571	160	666	379	297	-	179	321	168	249	232	56
	-	-	1	0	-	17	1	0	-	-	-	0
	2,078	339	326	426	200	467	241	298	287	377	540	159
	1,917	164	212	314	-	334	203	257	243	305	429	139
	42	27	18	17	20	21	3	3	2	10	14	2
	29	1	11	50	21	32	12	13	13	12	12	1
	31	1	7	8	67	8	3	8	7	11	30	4
	13	139	16	5	26	12	5	3	3	11	4	2
	13	2	2	4	22	4	3	4	4	8	27	6
	3	3	17	4	2	7	1	1	2	3	3	0
	6	1	2	3	19	3	1	3	3	12	6	2
	2	0	2	9	2	23	4	1	2	1	3	1
	2	0	10	1	0	7	2	0	1	1	2	0

Machine exports of top machinery supplier countries

Country of destination	Country of origin	Total*	% share of country of destination	China	Germany	USA	Japan	Italy	Netherlands
Bahamas		239	0.0	49	9	145	10	1	4
Nicaragua		234	0.0	48	8	62	6	9	3
Barbados		75	0.0	11	4	32	1	2	3
Cayman Isles		68	0.0	9	2	50	1	0	0
South America		46,340	3.3	12,801	4,183	8,165	1,360	3,105	851
Brazil		19,934	1.4	5,956	2,290	3,147	776	1,334	375
Argentina		6,697	0.5	1,935	495	839	132	483	87
Chile		6,571	0.5	1,341	617	1,729	190	458	145
Colombia		3,996	0.3	1,116	295	874	101	320	48
Peru		3,355	0.2	918	192	736	81	248	68
Ecuador		1,583	0.1	580	96	232	41	96	25
Uruguay		1,035	0.1	236	60	90	8	55	22
Paraguay		997	0.1	183	36	50	5	24	8
Bolivia		754	0.1	151	63	54	13	47	15
Guyana		723	0.1	105	8	255	4	12	16
Venezuela		460	0.0	242	18	74	6	24	3
Australia-Oceania		30,203	2.1	7,001	2,784	5,629	1,973	1,583	660
Australia		24,755	1.7	5,817	2,350	5,136	1,619	1,318	536
New Zealand		3,829	0.3	643	407	439	287	236	106
Papua New Guinea		625	0.0	114	4	22	15	6	2
Marshall Islands		332	0.0	290	0	3	17	1	0
Other countries		1,242	0.1	19	114	0	0	33	575
Country groups									
EU27 ¹		431,904	30.3	40,817	87,353	19,571	13,259	40,401	25,421
EURO20 ²		336,165	23.6	32,004	59,266	16,665	11,835	31,014	21,062
NAFTA ³		297,886	20.9	47,964	29,705	41,385	29,648	14,138	5,799
MERCOSUR ⁴		28,664	2.0	8,310	2,882	4,126	920	1,897	492
ASEAN ⁵		117,070	8.2	45,785	4,529	7,766	15,052	2,009	1,352
OPEC ⁶		42,482	3.0	14,578	3,690	3,449	1,518	3,919	910

*) Machine exports of 52 countries of origin. The displayed 18 countries have a share of 85.2 % in total exports.

**) Spain incl. Canary Islands, Ceuta and Melilla.

- 1) France, Belgium-Luxembourg, Netherlands, Germany, Italy, Ireland, Denmark, Greece, Portugal, Spain, Sweden, Finland, Austria, Malta, Estonia, Latvia, Lithuania, Poland, Czech Republic, Slovakia, Hungary, Romania, Bulgaria, Slovenia, Croatia, Cyprus.
- 2) France, Belgium-Luxembourg, Netherlands, Germany, Italy, Ireland, Greece, Portugal, Spain, Finland, Austria, Malta, Estonia, Latvia, Lithuania, Slovenia, Slovakia, Croatia, Cyprus.
- 3) USA, Canada, Mexico.

by country of destination in 2022 million EUR

Rep. of Korea	Singapore	United Kingdom	France	Mexico	Canada	Belgium	Austria	Switzerland	Taiwan	India	Czech Republic
3	0	1	1	0	3	0	0	0	0	0	0
8	0	2	2	18	2	1	0	1	2	5	0
1	0	8	1	0	1	0	0	0	0	1	0
0	-	2	0	-	1	0	0	0	-	0	0
882	451	832	621	371	518	669	318	359	310	831	136
429	313	475	328	170	175	396	150	210	138	535	70
79	10	88	81	26	45	61	35	64	43	77	19
103	8	112	82	25	111	81	66	29	32	60	18
113	19	40	50	87	58	43	15	23	33	49	8
73	6	33	33	35	66	50	20	14	32	39	11
35	14	9	12	22	12	9	16	9	21	14	5
11	1	19	19	0	22	10	9	3	2	16	2
6	1	2	3	0	6	3	4	2	2	11	1
6	2	3	4	5	9	7	2	1	1	5	2
17	75	41	1	-	5	2	0	1	1	18	0
8	0	1	3	1	3	2	1	3	3	5	1
578	708	1,108	823	7	631	287	322	176	281	333	90
410	583	909	610	7	514	240	242	157	236	281	76
125	67	184	89	0	104	42	78	17	37	35	12
5	45	3	0	-	1	0	1	0	1	5	0
0	0	1	0	-	-	0	0	0	0	0	0
0	0	182	23	0	0	4	0	0	1	1	2
6,659	3,219	16,266	21,063	225	1,506	17,366	14,339	11,375	2,195	3,971	15,528
4,266	3,115	13,440	17,055	220	1,191	14,574	10,870	9,919	1,876	3,304	13,120
13,195	4,537	8,897	3,649	29,423	21,417	2,009	2,900	3,482	5,493	5,270	1,100
525	326	583	432	197	248	470	197	279	185	639	91
7,312	8,050	1,260	625	65	305	328	315	747	3,353	2,861	134
1,280	882	1,686	1,079	6	247	670	285	358	241	1,975	126

4) Brazil, Paraguay, Uruguay, Argentina.

5) Myanmar, Thailand, Laos, Vietnam, Cambodia, Indonesia, Malaysia, Brunei, Singapore, Philippines.

6) Algeria, Libya, Nigeria, Equat.Guinea, Gabon, Congo, Angola, Venezuela, Iraq, Iran, Saudi Arabia, Kuwait, U.A.Emirates.

3.26 Export ranking of top machinery supplier countries by sector

Sector	Year	Exports of all countries million EUR	Rank 1 Country %- share	Rank 2 Country %- share	Rank 3 Country %- share	Rank 4 Country %- share	Rank 5 Country %- share
Machine tools	2019	50,076	DE 19.9	JP 16.1	CN 9.1	IT 8.4	TW 6.4
	2020	38,147	DE 19.1	JP 15.3	CN 10.7	IT 8.6	TW 6.2
	2021	45,648	DE 17.6	JP 15.5	CN 11.6	IT 8.1	TW 6.7
	2022	52,639	DE 16.6	JP 15.1	CN 13.4	IT 7.4	TW 6.8
Machinery for metallurgical plants and rolling mills	2019	5,933	CN 24.3	IT 17.7	DE 12.3	JP 7.0	US 5.7
	2020	5,025	CN 22.6	IT 15.1	DE 14.2	JP 6.8	US 5.2
	2021	4,834	CN 25.6	IT 16.4	DE 11.3	JP 6.0	KR 5.5
	2022	5,905	CN 31.5	IT 14.5	DE 10.8	US 5.8	KR 5.0
Industrial furnaces and burners	2019	9,650	CN 19.1	DE 18.9	IT 12.8	US 8.8	JP 5.0
	2020	8,492	DE 21.7	CN 17.4	IT 12.7	US 7.4	JP 5.1
	2021	9,014	CN 20.9	DE 19.2	IT 13.4	US 7.3	JP 4.3
	2022	10,763	CN 24.9	DE 16.6	IT 13.5	US 8.1	JP 3.0
Foundry machinery	2019	2,403	CN 17.8	IT 16.7	JP 16.0	DE 6.4	KR 5.9
	2020	1,798	CN 19.8	IT 14.7	JP 14.2	DE 7.5	TW 5.2
	2021	1,855	CN 22.5	IT 13.6	JP 13.4	DE 6.8	KR 5.2
	2022	2,175	CN 28.1	IT 13.3	JP 11.0	DE 4.7	TW 4.6
Measuring a. testing technology	2019	12,179	DE 29.9	CN 14.5	US 8.5	IT 5.9	NL 5.1
	2020	11,007	DE 28.3	CN 19.2	US 7.9	IT 5.9	NL 4.8
	2021	12,689	DE 26.7	CN 20.1	US 7.7	IT 6.2	GB 5.0
	2022	13,003	DE 26.0	CN 18.7	US 8.7	IT 6.1	GB 5.1
Woodworking machinery	2019	9,625	DE 25.2	CN 19.7	IT 15.4	TW 6.2	AT 5.6
	2020	8,923	DE 23.8	CN 22.2	IT 14.3	TW 7.9	AT 5.5
	2021	10,791	CN 24.6	DE 21.7	IT 14.6	TW 8.0	AT 5.5
	2022	11,614	CN 24.0	DE 21.6	IT 14.2	TW 6.4	AT 5.6

Precision tools	2019	40,182	CN	19.1	DE	15.4	JP	10.3	KR	8.0	NL	4.9
	2020	35,234	CN	21.1	DE	14.7	JP	9.6	KR	8.8	NL	4.6
	2021	39,448	CN	22.4	DE	15.3	JP	9.3	KR	6.7	NL	4.5
	2022	42,100	CN	23.9	DE	15.1	JP	8.3	KR	6.4	NL	4.8
Gas welding (without electrical)	2019	892	CN	21.4	DE	11.3	US	8.9	AT	6.3	NL	5.0
	2020	739	CN	28.9	DE	10.0	US	7.1	AT	5.8	IT	4.4
	2021	842	CN	30.6	DE	9.2	US	7.4	AT	6.5	NL	4.0
	2022	965	CN	33.8	DE	10.1	US	6.5	AT	6.2	GB	4.0
Air-handling technology	2019	115,232	CN	24.0	DE	10.5	US	8.6	MX	6.8	IT	5.3
	2020	112,172	CN	25.8	DE	10.4	US	7.5	MX	6.8	TH	5.3
	2021	132,501	CN	26.6	DE	10.1	US	6.6	MX	6.5	TH	5.4
	2022	154,377	CN	26.7	DE	9.8	MX	7.4	US	6.5	TH	5.6
Power systems	2019	36,567	US	17.5	DE	13.6	DK	7.1	GB	6.8	JP	6.6
	2020	33,498	US	16.5	DE	14.4	JP	7.6	GB	6.2	CN	5.9
	2021	32,348	US	16.8	DE	13.4	CN	7.2	GB	7.2	JP	7.1
	2022	33,738	US	18.7	DE	12.1	GB	7.4	JP	7.1	CN	6.3
Liquid pumps	2019	37,377	CN	16.3	DE	16.1	US	9.4	IT	7.4	JP	4.6
	2020	35,017	CN	18.8	DE	15.8	US	8.5	IT	7.6	JP	4.4
	2021	39,182	CN	19.9	DE	15.1	US	7.9	IT	7.8	JP	4.3
	2022	43,843	CN	20.9	DE	13.9	US	8.7	IT	7.7	NL	4.1
Compressors, compressed air and vacuum technology	2019	33,517	DE	15.2	CN	10.0	US	7.8	IT	6.6	JP	6.5
	2020	31,553	CN	14.8	DE	14.6	US	7.2	JP	6.8	IT	6.2
	2021	35,552	CN	18.2	DE	13.8	IT	6.5	US	6.2	JP	5.9
	2022	40,351	CN	18.9	DE	13.6	US	6.6	IT	5.7	JP	5.5
Construction equipment and building material machinery	2019	91,326	CN	14.9	JP	13.2	DE	10.8	US	10.2	IT	5.6
	2020	76,822	CN	15.5	JP	12.1	DE	11.3	US	10.7	IT	5.4
	2021	101,783	CN	18.4	JP	13.1	DE	10.3	US	9.3	KR	5.1
	2022	125,178	CN	22.8	JP	12.7	DE	8.9	US	8.5	KR	4.9
Plastics and rubber machinery	2019	23,017	DE	22.5	CN	19.5	JP	10.1	IT	9.0	US	4.8
	2020	20,982	DE	22.7	CN	21.1	JP	9.6	IT	8.8	US	4.4
	2021	23,794	CN	23.8	DE	22.0	JP	9.1	IT	8.6	US	4.5
	2022	26,347	CN	25.1	DE	21.8	IT	8.3	JP	8.0	TW	3.6

Export ranking of top machinery supplier countries by sector

Sector	Year	Exports of all countries million EUR	Rank 1 Country share %	Rank 2 Country share %	Rank 3 Country share %	Rank 4 Country share %	Rank 5 Country share %
Mining equipment	2019	21,534	US 22.0	CN 15.7	DE 9.2	SG 6.1	GB 5.7
	2020	16,297	US 14.9	CN 14.3	DE 10.2	SG 7.1	GB 6.5
	2021	17,417	CN 14.8	US 12.9	DE 9.6	GB 7.3	SE 5.8
	2022	21,432	CN 19.8	US 13.3	DE 8.7	GB 7.1	SG 5.5
Agricultural machinery	2019	52,596	DE 18.9	US 11.1	CN 7.8	IT 7.4	NL 5.9
	2020	52,414	DE 19.5	US 9.4	CN 9.2	IT 7.9	NL 5.6
	2021	63,763	DE 20.0	US 9.8	US 9.4	IT 7.8	FR 5.4
	2022	77,181	DE 19.3	US 11.1	CN 9.2	IT 7.2	FR 5.2
Food processing machinery and packaging machinery	2019	44,423	DE 20.8	IT 20.1	CN 7.7	NL 7.5	US 6.3
	2020	41,303	DE 20.9	IT 19.9	CN 8.5	NL 7.4	US 5.8
	2021	44,653	DE 20.3	IT 20.1	CN 9.6	NL 7.1	US 5.7
	2022	48,640	IT 19.0	DE 18.6	CN 11.2	NL 7.0	US 6.5
Process plant and equipment	2019	42,523	DE 15.5	US 12.7	CN 9.9	KR 9.8	IT 5.5
	2020	40,909	DE 15.2	US 12.1	CN 10.9	KR 8.6	IT 5.9
	2021	43,373	DE 15.1	US 12.4	CN 12.3	IT 6.1	KR 5.3
	2022	52,535	DE 14.4	US 14.1	CN 13.4	IT 5.6	KR 5.3
Safes and strongroom installations	2019	937	CN 39.3	MX 11.4	NL 6.4	IT 5.4	KR 4.9
	2020	941	CN 45.9	MX 11.9	IT 5.3	NL 5.2	KR 4.1
	2021	1,091	CN 48.1	MX 10.8	IT 4.6	NL 4.2	KR 4.0
	2022	1,225	CN 48.7	MX 8.1	NL 4.9	IT 4.4	KR 3.9
Materials handling technology	2019	74,377	DE 19.0	CN 15.6	IT 7.1	US 6.8	JP 4.9
	2020	62,845	DE 19.1	CN 16.5	IT 7.3	US 5.6	NL 4.9
	2021	74,025	CN 19.1	DE 18.3	IT 7.3	US 5.2	NL 4.8
	2022	90,326	CN 22.1	DE 16.7	IT 7.2	US 5.3	NL 4.5

Printing and paper equipment and supplies	2019	19,930	DE	22.6	CN	13.1	IT	9.6	US	5.9	JP	4.9
	2020	17,469	DE	22.5	CN	13.8	IT	9.0	FI	5.7	US	5.3
	2021	19,465	DE	22.2	CN	14.6	IT	9.5	FI	4.8	US	4.8
	2022	21,559	DE	22.1	CN	15.9	IT	9.5	US	5.3	JP	4.3
Textile machinery (without dryers)	2019	14,053	CN	23.5	DE	17.0	JP	12.7	IT	10.2	FR	3.7
	2020	13,086	CN	29.9	DE	15.5	JP	11.1	IT	8.7	FR	3.4
	2021	15,809	CN	25.2	DE	16.6	JP	11.4	IT	10.5	FR	4.5
	2022	18,219	CN	28.3	DE	14.8	JP	11.7	IT	10.6	IN	4.0
Textile Care, Fabric and Leather Technologies	2019	10,272	CN	31.9	VN	9.1	IT	8.8	DE	6.5	KR	6.2
	2020	9,450	CN	34.9	VN	10.4	IT	7.5	DE	6.3	KR	6.1
	2021	11,313	CN	37.8	VN	8.4	KR	8.1	IT	7.1	DE	5.8
	2022	12,335	CN	40.4	VN	7.9	IT	7.0	KR	6.9	DE	5.6
Firefighting equipment	2019	2,593	CN	19.6	US	14.8	DE	12.2	AT	10.8	MX	4.8
	2020	2,252	CN	18.4	US	15.1	DE	11.0	AT	9.4	IT	5.2
	2021	2,396	CN	20.6	US	13.8	DE	10.7	AT	7.3	MX	5.4
	2022	2,509	CN	24.3	US	14.3	DE	10.9	MX	5.4	AT	4.9
Cleaning systems	2019	1,450	DE	28.7	US	16.0	IT	15.9	CA	3.8	JP	3.1
	2020	1,559	DE	25.5	IT	16.6	US	13.5	VN	8.4	NL	3.8
	2021	1,966	DE	24.0	VN	15.8	IT	15.3	US	10.6	BE	3.9
	2022	1,934	DE	24.3	IT	14.6	US	12.6	VN	10.6	BE	4.4
Valves and fittings	2019	68,447	CN	20.9	DE	14.1	US	10.7	IT	9.2	JP	4.4
	2020	63,565	CN	21.8	DE	13.8	US	10.0	IT	9.0	JP	4.4
	2021	71,763	CN	24.1	DE	13.6	US	9.1	IT	9.1	JP	4.4
	2022	82,339	CN	25.4	DE	12.8	US	9.7	IT	8.4	JP	4.2
Lifts and escalators	2019	10,393	CN	26.8	ES	9.7	DE	8.8	IT	8.8	NL	5.3
	2020	9,468	CN	24.9	IT	10.1	ES	9.3	DE	8.9	SK	6.0
	2021	9,859	CN	27.1	IT	9.5	ES	9.2	DE	8.4	SK	5.8
	2022	11,635	CN	28.1	ES	9.4	IT	8.7	DE	7.3	SK	6.6
Power transmission engineering	2019	75,514	DE	21.3	CN	14.8	JP	10.2	US	8.0	IT	5.8
	2020	66,369	DE	22.0	CN	15.5	JP	9.4	US	7.7	IT	5.8
	2021	78,983	DE	20.6	CN	17.7	JP	10.0	US	7.1	IT	6.0
	2022	89,991	DE	19.2	CN	18.5	JP	9.1	US	8.0	IT	6.1

Export ranking of top machinery supplier countries by sector

Sector	Year	Exports of all countries million EUR	Rank 1 Country %- share	Rank 2 Country %- share	Rank 3 Country %- share	Rank 4 Country %- share	Rank 5 Country %- share
Engines and systems	2019	26,281	JP 24.1	US 11.0	DE 9.2	CN 8.2	GB 8.2
	2020	22,094	JP 23.4	US 12.1	CN 10.0	DE 8.1	GB 6.4
	2021	25,981	JP 24.0	CN 11.0	US 9.9	DE 8.1	TH 6.9
	2022	30,657	JP 22.5	CN 11.5	US 10.5	DE 7.9	GB 7.6
Fluid power	2019	33,824	DE 23.1	US 12.5	CN 9.5	JP 7.5	DK 5.5
	2020	29,438	DE 22.4	US 11.8	CN 10.6	JP 8.5	IT 5.6
	2021	34,427	DE 21.7	US 11.5	CN 11.5	JP 8.6	IT 5.9
	2022	39,055	DE 20.3	US 13.5	CN 11.9	JP 7.3	IT 6.0
Semiconductor and flat panel display production equipment	2019	68,928	JP 29.3	US 18.3	NL 17.7	SG 11.1	KR 10.2
	2020	76,910	JP 26.9	US 20.5	NL 17.1	SG 12.8	KR 9.6
	2021	99,257	JP 26.0	US 20.3	NL 17.1	SG 15.1	KR 7.9
	2022	117,046	JP 25.2	US 18.8	NL 17.3	SG 17.2	KR 6.6
Mechanical engineering	2019	1,154,699	DE 15.7	CN 14.3	US 9.4	JP 8.9	IT 6.9
	2020	1,059,501	CN 15.7	DE 15.4	US 9.0	JP 8.5	IT 6.7
	2021	1,232,877	CN 17.0	DE 14.7	JP 8.7	US 8.6	IT 6.6
	2022	1,425,789	CN 18.3	DE 13.7	US 9.0	JP 8.3	IT 6.3
Country indicator:	AT Austria	DK Denmark	IN India	NL Netherlands	TW Taiwan		
	BE Belgium	ES Spain	IT Italy	SE Sweden	US USA		
	CA Canada	FI Finland	JP Japan	SG Singapore	VN Vietnam		
	CN China	FR France	KR Rep. of Korea	SK Slovakia			
	DE Germany	GB United Kingdom	MX Mexico	TH Thailand			

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