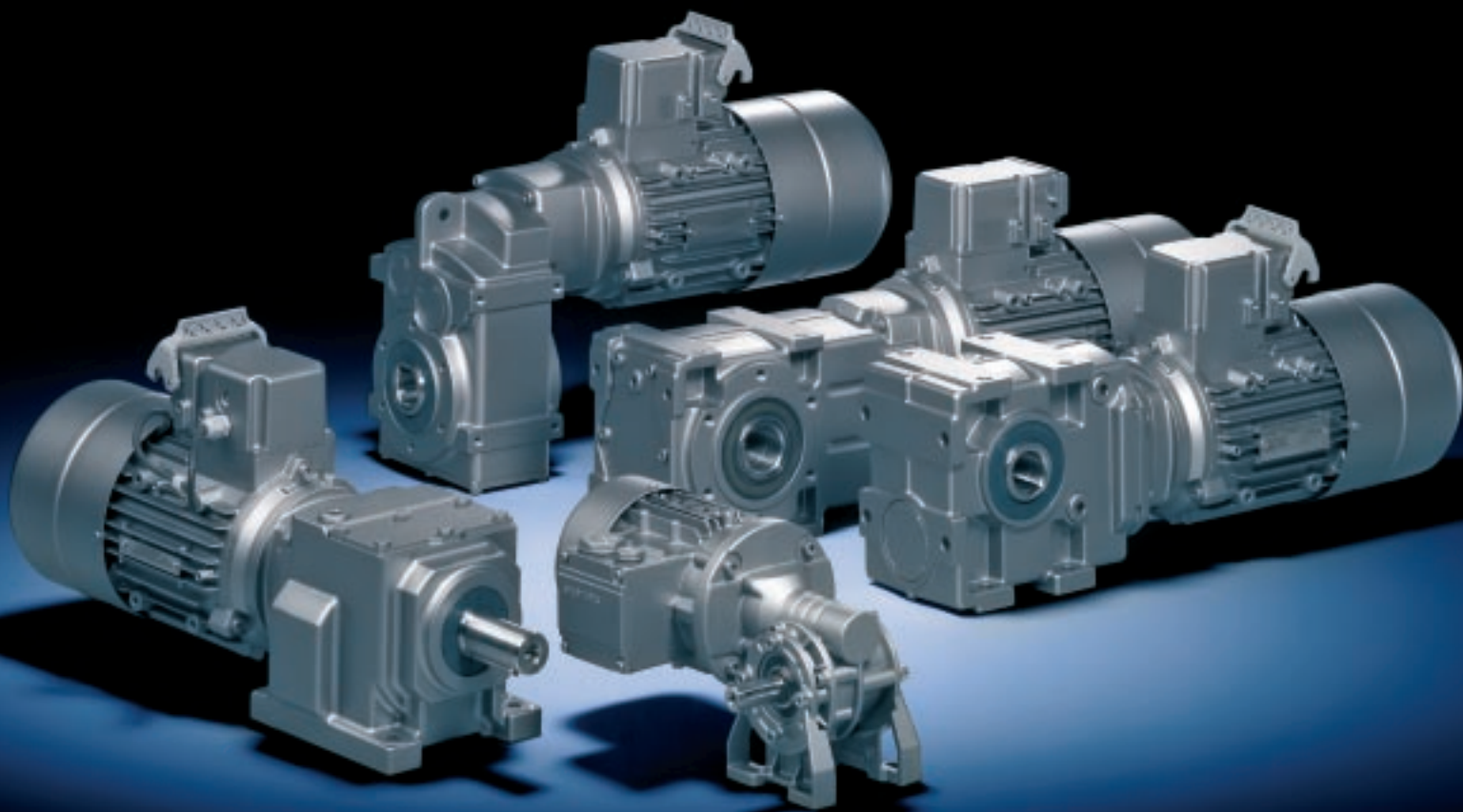


The right component for every electrical drive task –
the complete range of geared motors.



geared motors

SIEMENS

Geared motors

for every electrical drive task

We offer you the complete range of components and solutions for drive technology. Our product portfolio contains a comprehensive program of electrical drive motors. In an output range of 0.09 to 45 kW (customized to 200 kW), we cover all the usual transmission types for all possible applications – including motors with helical-gear, helical bevel, offset, helical worm, and worm geared motors.

The cost-effective solution

Many applications are operated at low speeds, typically between 15 and 300 rpm. However, depending on the number of poles and the frequency, the rotational speed of an electrically driven motor connected direct to the mains supply is between 750 and 3,600 rpm. For low rotational speed and high output torque, it pays off to use geared motors in all cases, i.e. the integration of a three-phase motor and a gearbox.

Because while frequency inverters usually reduce the rotational speed, an increase in the output torque can only be achieved economically with geared motors. Our gearboxes are also combined via special end shields with energy saving motors of efficiency class EFF2 in order to increase your economic benefit.

Wide range of applications

Geared motors from Siemens round off the range of drive tasks, especially for the manufacturing and processing industries. The main areas of application are to be found in conveyor systems, as used for example in logistics centers, high-bay warehouses, production lines in the automobile industry, transport systems at airports, packaging machinery, and also in the printing and paper industry. Thanks to their easy integration, geared motors cover a wide range of applications, and they comply with all international regulations for global use.



Tailor-made gearboxes

With our program of geared motors, we offer you all commonly available versions and installation types in a modular system. Thanks to the modular installation concept, our motors can be flexibly expanded at any time by, e.g. mounting an encoder, brake or additional fans. Our comprehensive catalog range has the right geared motor for all requirements – just a few mouse clicks away, at any time of the day.

And if you have a special drive task that is not covered by our standard program, we will, of course, implement a tailor-made solution for you.

Easy selection and configuration

So that you can find the right geared motor for your application with speed and certainty, we offer you the SGM-Designer – a user-friendly selection and configuring tool.

This program guides you step-by-step through the selection possibilities and optional versions in a self-explanatory and easily understood way.

In different selection modes, you can choose whether you want to configure your geared motor by entering technical specifications, or search for the motor using already calculated geared motor data. Having chosen a geared motor, you only have to enter the order number, and the SGM-Designer will show you immediately the technical data, dimension sheet, CAD data for further processing, and the list price information.

The SGM-Designer can also be called up on the Internet at www.siemens.com/sgmdesigner. Different file formats for 2D and 3D CAD data can be called up by e-mail and further processed in the configuration.

Part of Totally Integrated Automation

Thanks to the integration of the geared motors into Totally Integrated Automation® (TIA), low-cost integrated system solutions can be implemented using dovetailed components from a single source. Thus our geared motors are compatible, for example, with our comprehensive MICROMASTER® and SINAMICS® ranges of inverters.

Distributed drive systems

It goes without saying that our geared motors also support distributed installations. With ECOFAST® – the system for distributed connections – the motors can be integrated simply and safely into distributed installations. The integrated and standardized fast connection system guarantees that your plant is ready for operation as quickly as possible – and in degree of protection IP65, because ECOFAST dispenses with laborious connections and banishes the danger of connection errors. It also guarantees easy maintenance of the individual modules since the power supply and the communications level can be disconnected separately without bringing the entire plant to a standstill. With the ECOFAST ES software, we offer you an additional practical tool for fast and safe configuring of your plant, with all the necessary components.

You can get our geared motors ready configured as a unit with attached MICROMASTER 411 inverter – for mounting close to the motor or on the motor. So you can fully exploit all the economic benefits of distributed drive solutions.



Our complete program

The three-phase motors installed in our geared motors have been optimally matched to the gear system and your applications. The range of motors encompasses the sizes 63M to BG 225. Pole-changing versions are possible on request. If desired, we can also supply you with the motors with spring-operated disc brakes as the operating brake, implemented as double-disc brakes operated by spring energy when not energized. The torque range of each brake variable can be reduced within certain limits.



Helical Geared Motors

- Gearboxes in two-stage basic design
- Transmission ratio ranges from $i = 5$ to $i = 50$ with an efficiency of approximately 96%
- With an intermediate stage, transmission ratio range of approximately $i = 240$ is possible; efficiency level approximately 94%
- Coaxial design
- Wide range of mounting methods possible with flange or foot-mounted housing

Gearbox code	No. of stages	Transmission ratio range	Maximum output torque
E31	1-stage	1.59 – 9.33	82 Nm
E41	1-stage	1.52 – 11.30	170 Nm
E61	1-stage	1.41 – 12.40	250 Nm
E81	1-stage	1.71 – 10.33	450 Nm
E101	1-stage	1.81 – 5.46	745 Nm
E121	1-stage	1.36 – 10.14	1,000 Nm
E141	1-stage	1.64 – 13.67	1,550 Nm
H12, H13	2-stage, 3-stage	3.58 – 200.36	90 Nm
H22, H23	2-stage, 3-stage	3.33 – 241.05	140 Nm
H32, H33	2-stage, 3-stage	4.77 – 191.75	220 Nm
H42, H43	2-stage, 3-stage	4.28 – 208.77	450 Nm
H62, H63	2-stage, 3-stage	3.49 – 281.01	800 Nm
H82, H83	2-stage, 3-stage	3.11 – 270.90	1,680 Nm
H102, H103	2-stage, 3-stage	3.42 – 325.21	3,100 Nm
H122, H123	2-stage, 3-stage	3.07 – 268.16	5,100 Nm
H142, H143	2-stage, 3-stage	4.44 – 276.23	8,000 Nm
H162, H163	2-stage, 3-stage	4.46 – 341.61	14,000 Nm
H182, H183	2-stage, 3-stage	8.30 – 243.82	20,000 Nm



Bevel Helical Geared Motors

- Can also be used where installation conditions are difficult
- Facility for attaching drive flanges, foot-mounting or torque brackets
- Solid shafts and hollow shafts
- The small sizes make it possible to achieve large transmission ratios with a high level of running smoothness thanks to the angular stage resulting from a hypoid gear pair; optimal for low-end performance ranges
- Small angular gearboxes, 2-stage
- Larger gearboxes, 3-stage

Gearbox code	No. of stages	Transmission ratio range	Maximum output torque
B22	2-stage	3.57 – 57.53	130 Nm
B32	2-stage	3.09 – 65.69	250 Nm
K33	3-stage	5.65 – 179.13	250 Nm
K43	3-stage	7.22 – 169.53	450 Nm
K63	3-stage	5.36 – 243.72	820 Nm
K83	3-stage	5.54 – 302.68	1,650 Nm
K103	3-stage	7.68 – 278.10	3,000 Nm
K123	3-stage	7.10 – 295.38	4,700 Nm
K143	3-stage	4.83 – 306.08	8,000 Nm
K163	3-stage	6.61 – 287.95	13,500 Nm
K183	3-stage	12.10 – 191.34	20,000 Nm



Offset Geared Motors

- The ideal solution for space-saving tasks, thanks to compact and well-formed construction with shallow installation depth
- Individually adaptable and always low in cost thanks to the wide range of output shafts, solid or hollow shafts, and the variety of mounting methods: attached gearboxes with torque bracket, foot-mounted or flange design
- Housing designed for 2-stage and 3-stage versions
- Efficiency as on helical gearboxes

Gearbox code	No. of stages	Transmission ratio range	Maximum output torque
O22, O23	2-stage, 3-stage	3.80 – 280.00	150 Nm
O32, O33	2-stage, 3-stage	4.52 – 280.41	290 Nm
O42, O43	2-stage, 3-stage	4.33 – 268.80	540 Nm
O62, O63	2-stage, 3-stage	3.97 – 296.18	1,000 Nm
O82, O83	2-stage, 3-stage	4.77 – 404.92	1,900 Nm
O102, O103	2-stage, 3-stage	4.10 – 424.49	3,400 Nm
O122, O123	2-stage, 3-stage	3.80 – 447.96	6,100 Nm
O142, O143	2-stage, 3-stage	5.39 – 444.21	9,000 Nm
O162, O163	2-stage, 3-stage	5.28 – 369.26	14,000 Nm
O182, O183	2-stage, 3-stage	8.34 – 403.86	20,000 Nm



Helical Worm Geared Motors

- High transmission ratio ranges despite compact dimensions
- Thanks to the attached helical stage, efficiency can be significantly improved over plain worm gearboxes
- Efficiency ratings of up to 90% can be achieved, depending on transmission
- Model S offers the possibility of mounting drive flanges, foot rods or torque brackets
- Output shafts are available as solid shafts or hollow shafts in different versions and diameters

Gearbox code	No. of stages	Transmission ratio range	Maximum output torque
C22	2-stage	25.28 – 372.00	120 Nm
C32	2-stage	9.67 – 320.67	225 Nm
C42	2-stage	9.67 – 320.67	370 Nm
C62	2-stage	11.67 – 364.00	680 Nm
C82	2-stage	11.15 – 440.70	1,590 Nm



Worm Geared Motors

- The ideal solution for space-saving tasks, thanks to compact and well-formed construction with shallow installation depth
- Individually adaptable and always low in cost thanks to the wide range of output shafts, solid or hollow shafts, and the variety of mounting methods: attached gearboxes with torque bracket, foot-mounted or flange design
- Housing 1-stage
- Self-locking possible depending on transmission

Gearbox code	No. of stages	Transmission ratio range	Maximum output torque
T31	1-stage	7 – 60	50 Nm
T51	1-stage	7 – 100	90 Nm
T61	1-stage	7 – 100	185 Nm

The benefits at a glance

- Gear types for every drive task
- High torque at low speed
- Available with attached inverter head
- Space-saving thanks to compact design
- Selection and configuring tools including 3D CAD tool
- Complete and integrated automation and drives technology (Totally Integrated Automation) from one single source
- High transmission ratio range
- Flexible in use thanks to different designs, fixing methods and modular principle
- System solutions for decentralization and cost reduction



Curious?

Additional information on the Standard Drives product range is available in the Internet:

Motors

www.siemens.com/gearedmotors
www.siemens.com/motors

Frequency inverters

www.siemens.com/micromaster
www.siemens.com/sinamics-g110

Decentralized drive technology

www.siemens.com/et200s-fc
www.siemens.com/combimaster

Service and Support

www.siemens.com/automation/service&support

Your contact partners

www.siemens.com/automation/partners

You can order and download informative material here:

www.siemens.com/gearedmotors/printmaterial

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Standard Drives

www.siemens.com/gearedmotors

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