We produce satisfaction.

As easy as that.

Lenze

1

Developing ideas

You want to build the best machine possible and already have some initial ideas? Then get these down on paper together with us, starting with small, yet detailed innovative steps and going all the way to completely new machines. Working together, we will develop an intelligent and sustainable concept that is perfectly aligned with your specific requirements.

2

Drafting concepts

We see welcome challenges in your machine tasks, supporting you with our comprehensive expertise and providing valuable impetus for your innovations. We take a holistic view of the individual motion and control functions here and draw up consistent, end-to-end drive and automation solutions for you - keeping everything as easy as possible and as extensive as necessary.

Lenze makes many things easy for you.

With our motivated and committed approach, we work together with you to create the best possible solution and set your ideas in motion - whether you are looking to optimise an existing machine or develop a new one. We always strive to make things easy and seek perfection therein. This is anchored in our thinking, in our services and in every detail of our products. It's as easy as that!

3

Implementing solutions

Our easy formula for satisfied customers is to establish an active partnership with fast decision-making processes and an individually tailored offer. We have been using this simple principle to meet the ever more specialised customer requirements in the field of mechanical engineering for many years.

4

Manufacturing machines

Functional diversity in perfect harmony: as one of the few full-range providers in the market, we can provide you with precisely those products that you actually need for any machine task – no more and no less. Our L-force product portfolio, a consistent platform for implementing drive and automation tasks, is invaluable in this regard.

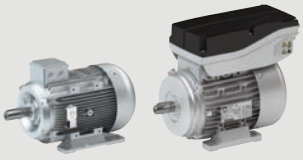
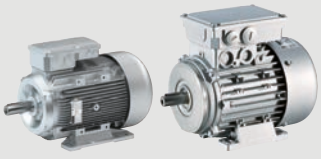
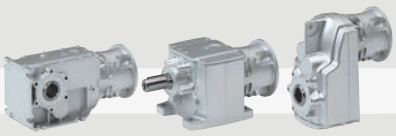
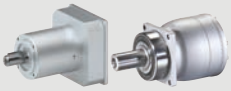
5

Ensuring productivity

Productivity, reliability and new performance peaks on a daily basis – these are our key success factors for your machine. After delivery, we offer you cleverly devised service concepts to ensure continued safe operation. The primary focus here is on technical support, based on the excellent application expertise of our highly skilled and knowledgeable aftersales team.

A matter of principle: the right products for every application.

Controlling and visualising events	Automating and visualising machine modules	Automating and visualising machines
Logic control	**Machine module-control**	**Machine control**
Visualisation		
Controllers 		

Time and event-controlled motion	Speed and torque-controlled motion	Position-controlled single-axis and multi-axis motion
Mains operation	**Inverter operation**	**Servo inverter operation**
Inverter		
Motors 		
Gearbox		

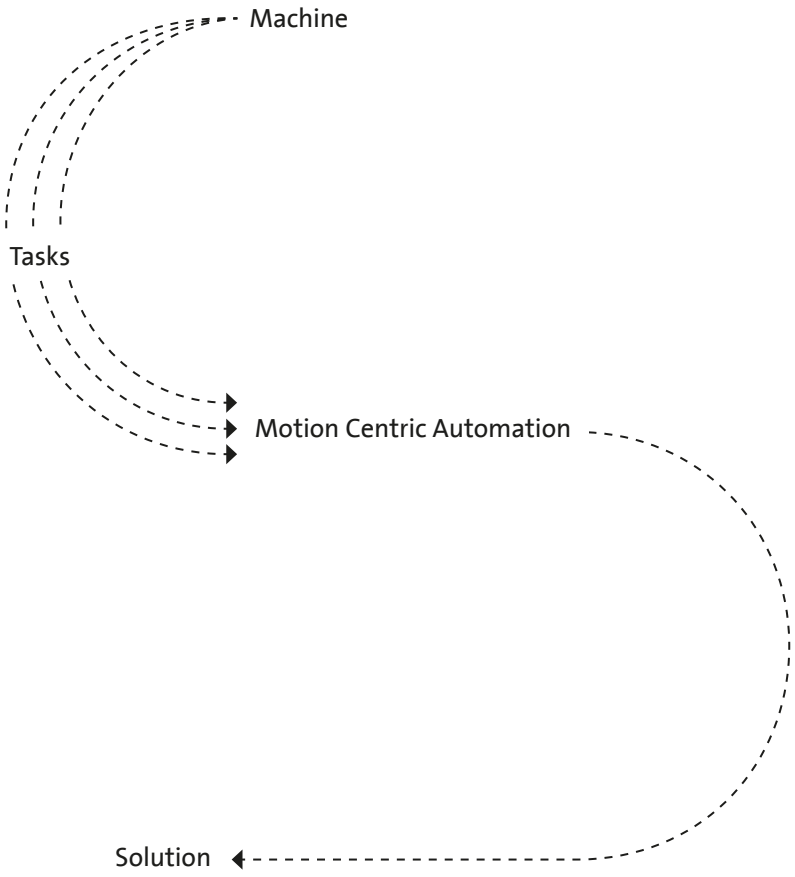
Controlling made easy in any situation.

From event-controlled controlling to full machine automation, our portfolio of visualisation and controlling components offers all the right products for modern system solutions.

Perfectly adapted to downstream drive solutions, they are the embodiment of Lenze's extensive machine know-how and its benefits.

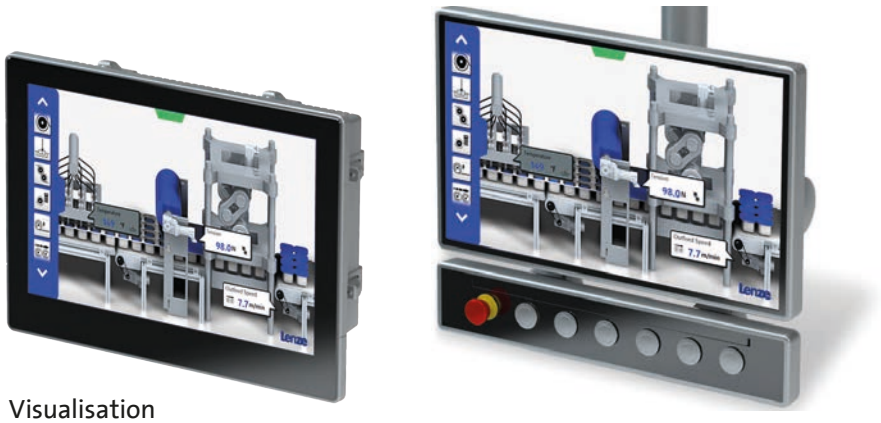
But what does this mean for you? It allows you to quickly recognise which products represent the best solution for your own specific requirements.

The results are clear:
- Coordinated interfaces
- Optimised runtimes
- Compact engineering



Faster switching, better response.

The full benefit of the Lenze L-force product portfolio can be exploited using our controls, providing you with powerful automation products. From modern visualisation with panel PCs or monitors through to powerful panels and cabinet controllers – you are sure to find the right solution for your application here.



Visualisation

Panel and Cabinet Controllers

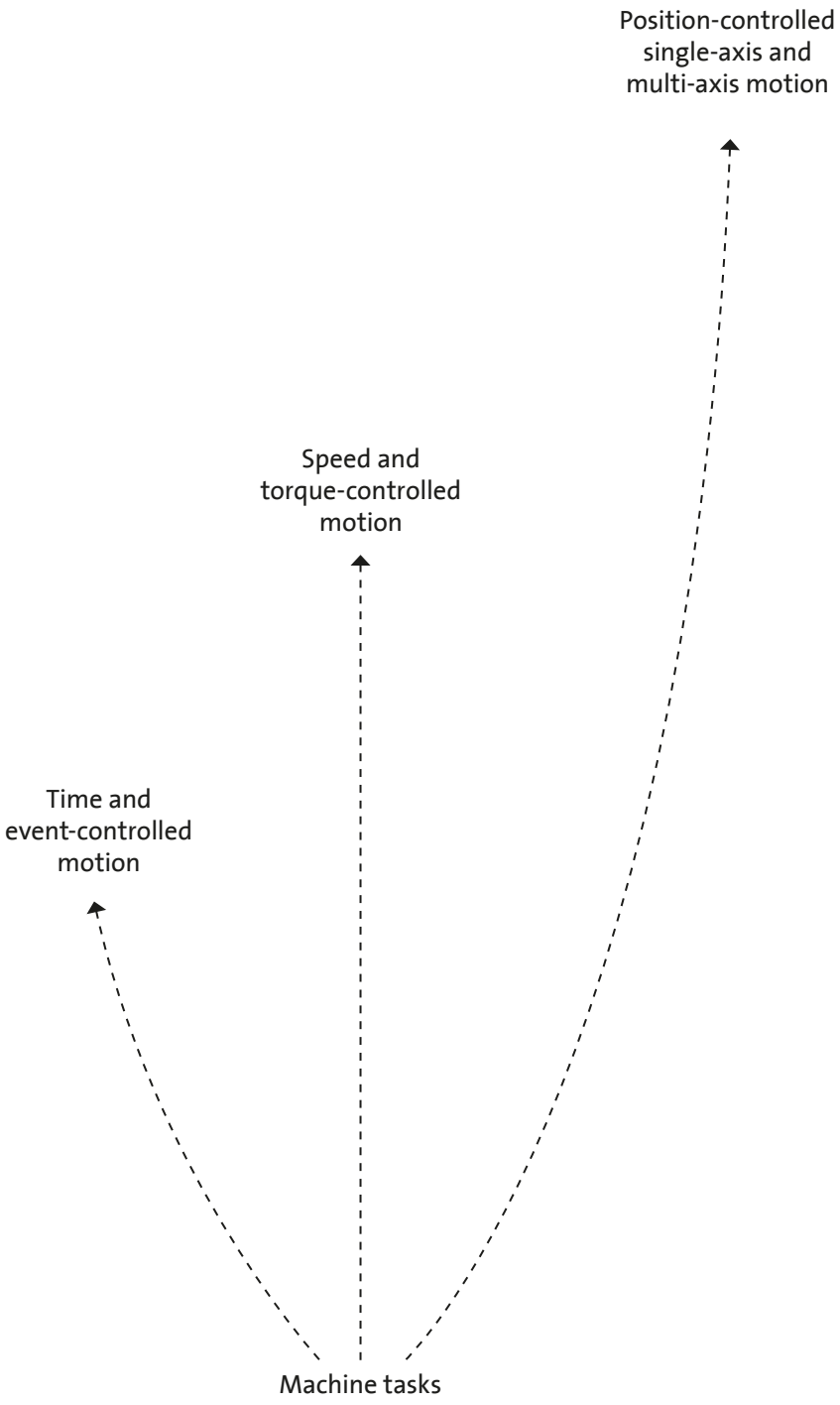
Visualisation

	v200-P		v800-C			v800-P	
							
Screen diagonal							
	43.9 cm (17.3")	61 cm (24")	33.8 cm (13.3")	39.1 cm (15.4")	54.6 cm (21.5")	43,9 cm (17,3“)	61 cm (24“)
Resolution							
Pixels	1920 x 1080		1280 x 800	1280 x 800	1920 x 1080	1920 x 1080	
Touch							
	Capacitive glass surface, multitouch						
Processor type							
	Intel® Celeron 1.5 GHz or IntelR Core i5 2.7 GHz						
Graphics processor							
	Intel® HD Graphics or IntelR HD Graphics 4600						
Interfaces							
COM (RS232)			1				
USB 3.0 / 2.0	-/3		2/2 on rear			2/1	
Ethernet (10/100/1000 Mbit/s)			3			2	
HDMI / Display port	1/1						
Enclosure							
front/rear			IP65/IP20				
On all sides	IP65					IP65	

Panel and Cabinet Controllers

	c300	p300			3200 C		p500		
									
Screen diagonal		10.9 cm (4.3")	17.8 cm (7")	26.4 cm (10.4")			17.8 cm (7")	26.4 cm (10.4")	38.1 cm (15")
Processor type									
No cooling fan	ARM Cortex A8 800 MHz	ARM Cortex A8 800 MHz			Intel® Atom™ 1.46 GHz Intel® Atom™ 1.75 GHz Intel® Atom™ 1.91 GHz		Intel® Atom™ 1.75 GHz		
Application Credit	Licence to use Lenze FAST								
Memory									
SD card	512 MB	512 MB			≥512 MB		≥512 MB		
RAM	512 MB	512 MB			2 GB		2 GB		
Flash memory	2 GB	2 GB			4 GB		4 GB		
Interfaces									
Ethernet	1	1			2		2		
EtherCAT	1	1			1		1		
CAN	1	1							
USB	1	1			3		2		
Resolution (pixels)		480 x 272	800 x 480	800 x 600			800 x 480	800 x 600	1024 x 768
Option	PROFINET Device	PROFINET Device			CANopen PROFIBUS Slave PROFINET Device EtherNet/IP-Adapter RS232/RS485		CANopen EtherNet/IP-Adapter PROFIBUS Slave PROFINET Device RS232/RS485		
Touch		Resistive					Resistive		
Retain memory size	128 kB	128 kB			60 kB	1,024 kB	1,024 kB		

Three lines for greater freedom.



Quite simply: You can use our three lines to help you select suitable products based on your requirements. BaseLine is for time and event-controlled movements, State-Line is for speed and torque-controlled movements and HighLine is for position-controlled single and multi-axis movements. This makes it easier for you to select the products you need. This leaves you free to concentrate fully on your core tasks – we'll take care of everything else.

But what does this mean for you? It allows you to quickly recognise which products represent the best solution for your own specific requirements.

Powerful products with a major impact:
- easy handling
- high quality and durability
- reliable technologies in tune with the latest developments

Lenze products are subjected to strict and thorough tests in our dedicated test laboratory. This allows us to guarantee you consistent quality and a long service life. In addition to this, our five logistics centres ensure global availability and fast delivery of the Lenze products you select. It's that easy!

Inverters: simply indispensable.

In many applications, modern inverters are the key component of a cleverly designed solution. They are true masters when it comes to open and closed-loop control of motors. Lenze's inverters are scalable and always offer you the right solution for speed and torque-controlled motion and for position-controlled single axis and multi-axis motion, perfectly tailored to your own specific requirements.

Decentralised inverters

Cabinet inverters

Cabinet servo inverters

Cabinet inverters

Cabinet servo inverters

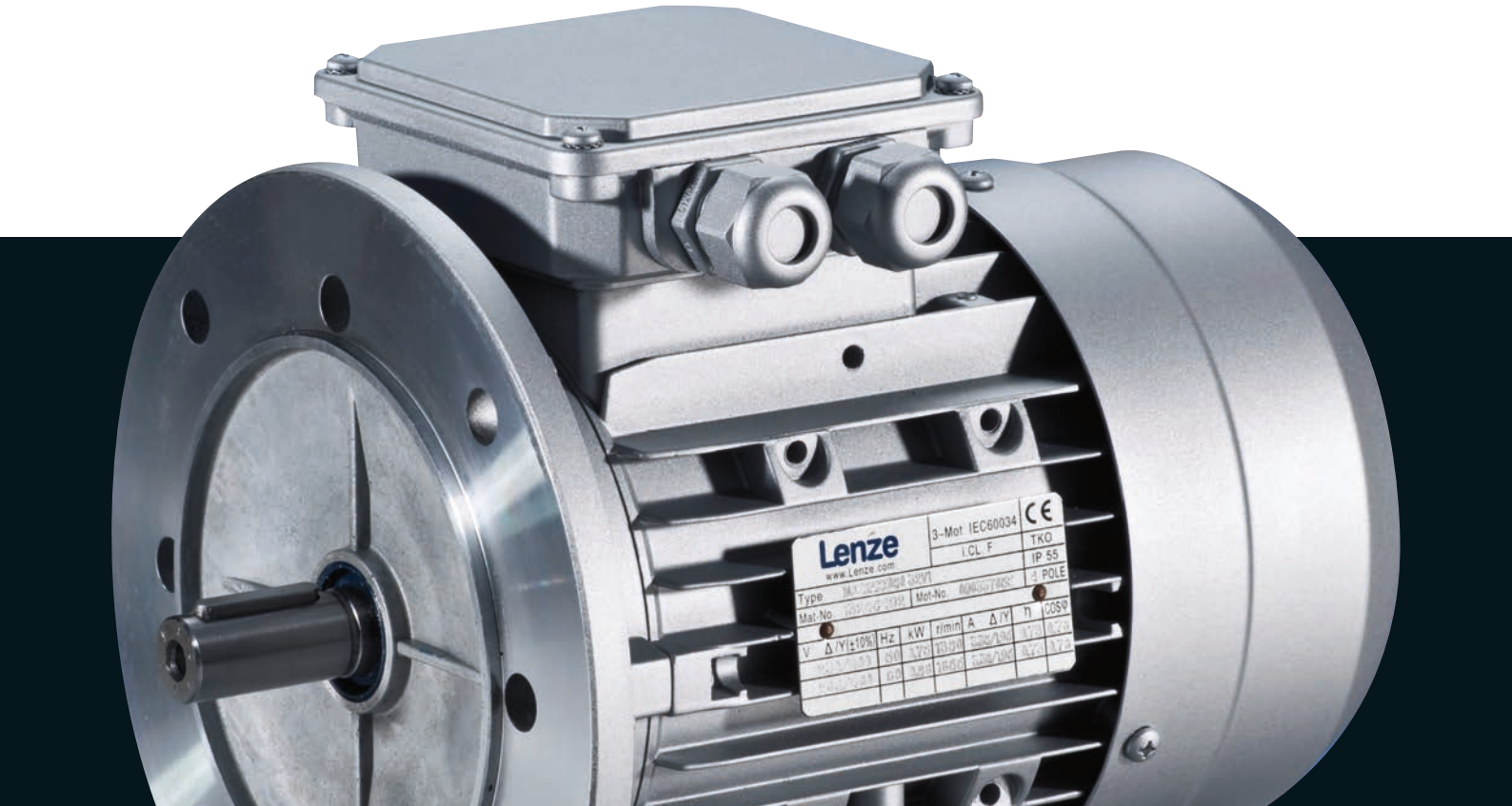
	i500 inverters	Inverter Drives 8400 HighLine	i700 servo inverters
			
Power range			
Single phase	0.25 to 2.2 kW	0.25 to 2.2 kW	
3-phase	0.37 to 132 kW	0.37 to 45 kW	0.75 to 15 kW
Output current			
Single phase	1.7 to 9.5 A	1.7 to 9.5 A	
3-phase	1.3 to 254 A	1.3 to 89 A	2.5 to 32 A
Voltage range			
Single phase	170 to 264 V	180 to 264 V	
3-phase	340 to 528 V	320 to 550 V	230 to 480 V
Approvals	CE, UL, CSA, EAC, RoHS, IE2 in accordance with EN50598-2	CE, UL, CSA, EAC, RoHS	CE, UL, cUL, RoHS
Enclosure	IP20	IP20	IP20
Types of motor control			
V/f control	●	●	●
Vector control (encoderless)	●	●	
Vector control (with encoder)	●	●	●
VFC eco	●	●	
Inputs/outputs			
Analogue input/output	● (2/1)	● (2/2)	
Digital input/output	● (5/1)	● (3)	● (2/0)
Relay output	●	●	
Speed feedback		● (HTL)	● (1)
Encoder output	●	●	
PTC and/or KTY	● (PTC)	● (PTC)	●
Fieldbuses			
AS-Interface			
CAN bus	□	●	
DeviceNet			
EtherCAT	□	□	●
Ethernet Powerlink		□	
Ethernet TCP/IP	□	□	
INTERBUS		□	
LECOM			
Modbus (RTU/RS485)	□		
PROFIBUS	□	□	
PROFINET	□	□	
Safety engineering			
Safe torque off (STO)	□	□	●
Scalable safety functions			▲ (in preparation)
Ideally suited to	Transverse loaders or palletizers in the field of intralogistics, extruders in the plastics industry, filling systems in the packaging industry.	Rotary indexing tables or warehouse systems in the field of intralogistics, bag form, fill, and seal machines in the packaging sector, rolling and sliding door drives.	Coordinated multi-axis applications such as loading drives or gantry systems in the field of robotics, filling systems in the packaging industry.

●= standard □= option ▲= version

Decentralised inverters

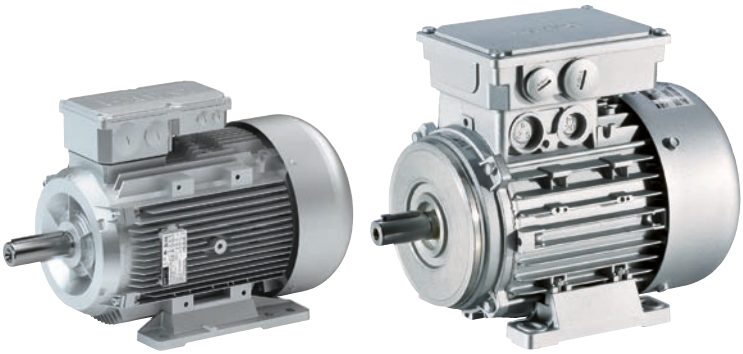
i900 servo inverters	Inverter Drives 8400 TopLine	Servo Drives 9400 HighLine	Inverter Drives 8400 motec	Inverter Drives 8400 protec
				
	0.55 to 2.2 kW			
0.55 to 110 kW	0.37 to 45 kW	0.37 to 240 kW	0.37 to 7.5 kW	0.75 to 7.5 kW
	3.0 to 9.5 A			
1.8 to 212 A	1.3 to 89 A	1.9 to 460 A	1.3 to 16.5 A	2.4 to 16 A
	180 to 264 V			
340 to 528 V	320 to 550 V	180 to 550 V	320 to 528 V	320 to 550 V
CE, UL, cUL, RoHS	CE, UL, cUL, GOST, RoHS	CE, cUL, RoHS	CE, EAC, UR, cUR, ROHS	CE, EAC, UL, cUL, ROHS
IP20	IP20	IP20	IP65	IP65
●	●	●	●	●
	●	●	●	●
●	●	●		
	●		●	●
● (1/0)	● (2/2)	● (2/2)	□ (1/0)	● (1/0)
● (4/1)	● (8/4)	● (8/4)	● (6/1)	● (4/2 or 6/0)
	●	● (1)	□ (1)	
● (1)	●	● (3)	● (HTL)	● (HTL)
	●	□		
●	●	●	● (PTC)	● (PTC)
			□	
	●	●	□	▲
		□		
▲ (in preparation)	□	□	□	
	□	□		
		□	□	□
	□	□	□	▲
●	□	□	□	▲
●	□		□	
●		□		□
Coordinated multi-axis applications such as loading drives or gantry systems in the field of robotics, filling systems in the packaging industry.	Flying saws and cam discs in the packaging sector, synchronised drives in the printing sector.	Processing continuous material in the packaging industry, perforating paper webs in the printing industry, winding in the textile industry, warehouse technology in the field of intralogistics.	Travelling drives in the field of intralogistics, fan drives in the air-conditioning sector, pumps in the field of sewage technology.	Scissor-type lift tables in the field of intralogistics and in the automotive industry.

Motors: the heart of your machine.

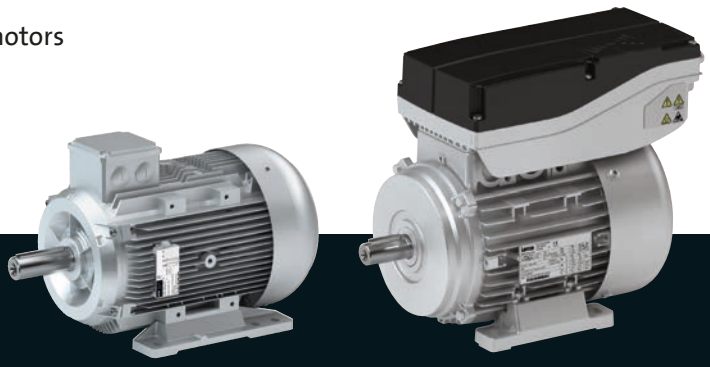


One thing is certain: you need to be able to rely on your motors. They convert electrical energy into mechanical energy and are therefore the central drive component in your machine. Since they play such an important part, we offer you motors with optimum drive behaviour and application-oriented options. A fast and reliable solution.

Servo motors



Inverter-operated three-phase AC motors



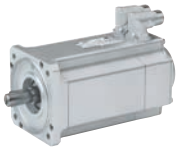
Mains-operated three-phase AC motors

Three-phase AC motors

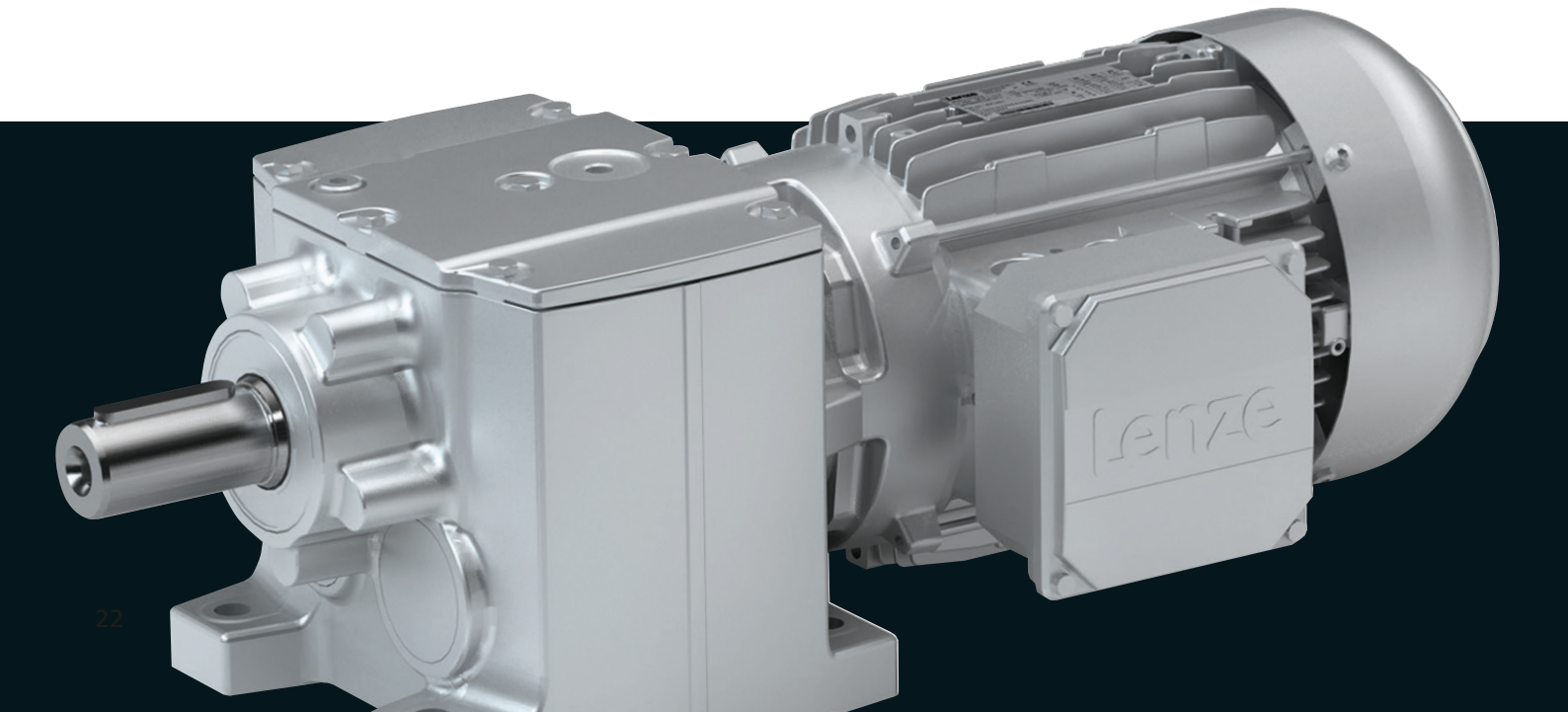
	Mains-operated three-phase AC motors	Lenze Smart Motor m300	Inverter-operated three-phase AC motors	MF three-phase AC motors
				
Power range	0.06 to 45 kW		0.12 to 45 kW	0.55 to 22 kW
Rated torque	0.43 to 290 Nm	1.75 and 5.0 Nm	0.8 to 290 Nm	1.53 to 59.2 Nm
Efficiency class	IE1,2,3		IE1,2,3	
Setting range	Mains operation	Mains operation	1 : 17.5	1 : 24
Axis height	56, 63, 71, 80, 90, 100, 112, 132, 160, 180, 200, 225	63, 80	63, 71, 80, 90, 100, 112, 132, 160, 180, 200, 225	63, 71, 80, 90, 100, 112, 132
Number of different frame sizes available	12	2	11	7
Enclosure	IP54/IP55 and IP65/IP66	IP54 / IP55	IP54/IP55 and IP65/IP66	IP54/IP55 and IP65/IP66
Mass inertia	Medium	Medium	Medium	Medium
Overload capability	Medium	High	Medium	Medium
Power density	Medium	Medium	Medium	High
Cooling				
Forced-ventilated			□	□
Naturally ventilated				
Integrated cooling	●	●	●	●
Feedback				
Resolver			□	□
Incremental encoder			□	□
SinCos encoder			□	□
Brake				
Spring-applied brake	□	□	□	□
Permanent magnet brake				
Electronic nameplate				
Ideally suited to	Applications with a constant speed in mains-operated mode.	Applications in the field of horizontal materials handling that are operated at constant speed but require high starting torque. Selecting the speed directly allows the number of different versions to be reduced.	Mains and inverter operation, for universal use in the field of machine building and systems engineering.	Applications which require moderate dynamic performance and a wide setting range despite limited assembly space.

●= standard □= option ▲= version

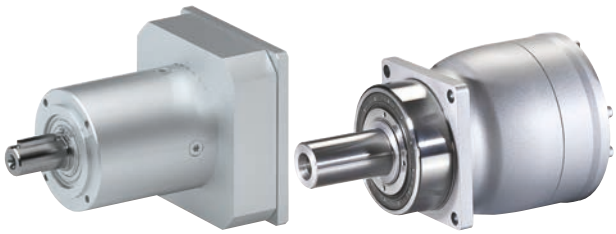
Servo motors

MCA asynchronous servo motors	**MQA asynchronous servo motors**	**MCM synchronous servo motors**	**m850 synchronous servo motors**	**MCS synchronous servo motors**
				
0.8 to 53.8 kW	10.6 to 60.2 kW	0.19 to 2.5 kW	2.0 to 9.2 kW	0.25 to 15.8 kW
2 to 280 Nm	66 to 257 Nm	0.6 to 8 Nm	4.8 to 200 Nm	0.5 to 72 Nm
100, 130, 140, 170, 190, 210, 200, 220, 260	200, 220, 260	60, 90, 120	120, 140, 190	60, 90, 120, 140, 190
9	3	3	3	5
IP23 / IP54 / IP65	IP23	IP54	IP54	IP54 / IP65
Low	Very low	Very low	Very low	Very low
Very high	Very high	High	High	Very high
High	Very high	High	High	Very high
▲ (200, 220, 260)	●			□
●		●	●	●
□	□	□	●	□
▲ (200, 220, 260)	□			□
□	□	□	●	□
	□	□	●	
□				□
				●
Environments which require compact units and a high degree of intrinsic operational reliability.	Applications with high motor loads.	Applications that require high dynamic performance, precision and compact dimensions.	Applications that require high dynamic performance, precision and compact dimensions.	Applications which require the highest degree of dynamic performance, precision and compact dimensions.

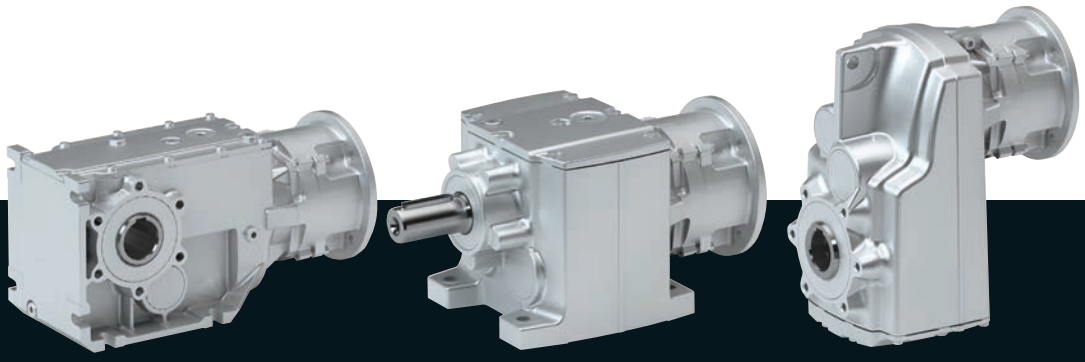
Gearboxes: robust power packages.



One single motor alone is not a universal solution to all applications. After all, many applications require low speed and high torque, and your machine may need a right-angle drive. The robust, efficient gearboxes and geared motors from Lenze can handle even the toughest of machine tasks here. And if you require couplings, locking bushes or other drive elements for your machine, you are sure to find precisely the right products for your requirements in the scalable product portfolio from Lenze Selection.

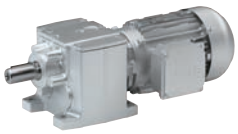


Planetary gearboxes



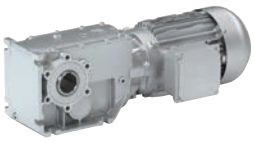
Shaft-mounted helical gearboxes,
helical gearboxes and bevel gearboxes

Helical gearboxes, shaft-mounted helical gearboxes and bevel gearboxes

	Helical gearbox	Shaft-mounted helical gearbox
		
	g500-H	**g-500-S**
Output range with assigned three-phase AC motors	0.06 to 55 kW	0.09 to 55 kW
Translations	3 to 370	3 to 500
Rated torque	45 to 14,000 Nm	130 to 19,000 Nm
Torque densities	Medium	Medium
Efficiency	High	High
Backlash	Low	Low
Number of different frame sizes available	13	11
Shaft designs		
Solid shaft	●	●
Hollow shaft		●
Shrink disc		●
Flange shaft		
Designs		
Foot mounting	●	●
Flange mounting	●	●

●= standard □= option ▲= version

Planetary gearboxes

Bevel gearboxes	Planetary gearboxes	
		
g500-B	**g700**	**MPR/MPG**
0.06 to 55 kW	0.25 to 15.8 kW	0.25 to 15.8 kW
5 to 360	3 to 512	3 to 100
45 to 20,000 Nm	20 to 800 Nm	29 to 390 Nm
Medium	High	High
High	High	High
Low	Very low	Extremely low
12	5	4 each
•	•	•
•		
•		
		•
•		
•	•	•

We are keen to help get your ideas moving forward! Learn more about our approach, our ways of thinking, our vision and how we can make things easier for you in future. Please feel free to contact us directly or visit us at:

www.Lenze.com