We produce satisfaction.

As easy as that.

Lenze

1

Developing ideas

Are you looking to build the best machine possible and already have some initial ideas? Then get these down on paper together with us, starting with small innovative details and stretching 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 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 principle to meet the ever more specialised customer requirements in the field of machine engineering for many years.

4

Manufacturing machines

Functional diversity in perfect harmony: as one of the few full-scope providers in the market, we can supply 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.

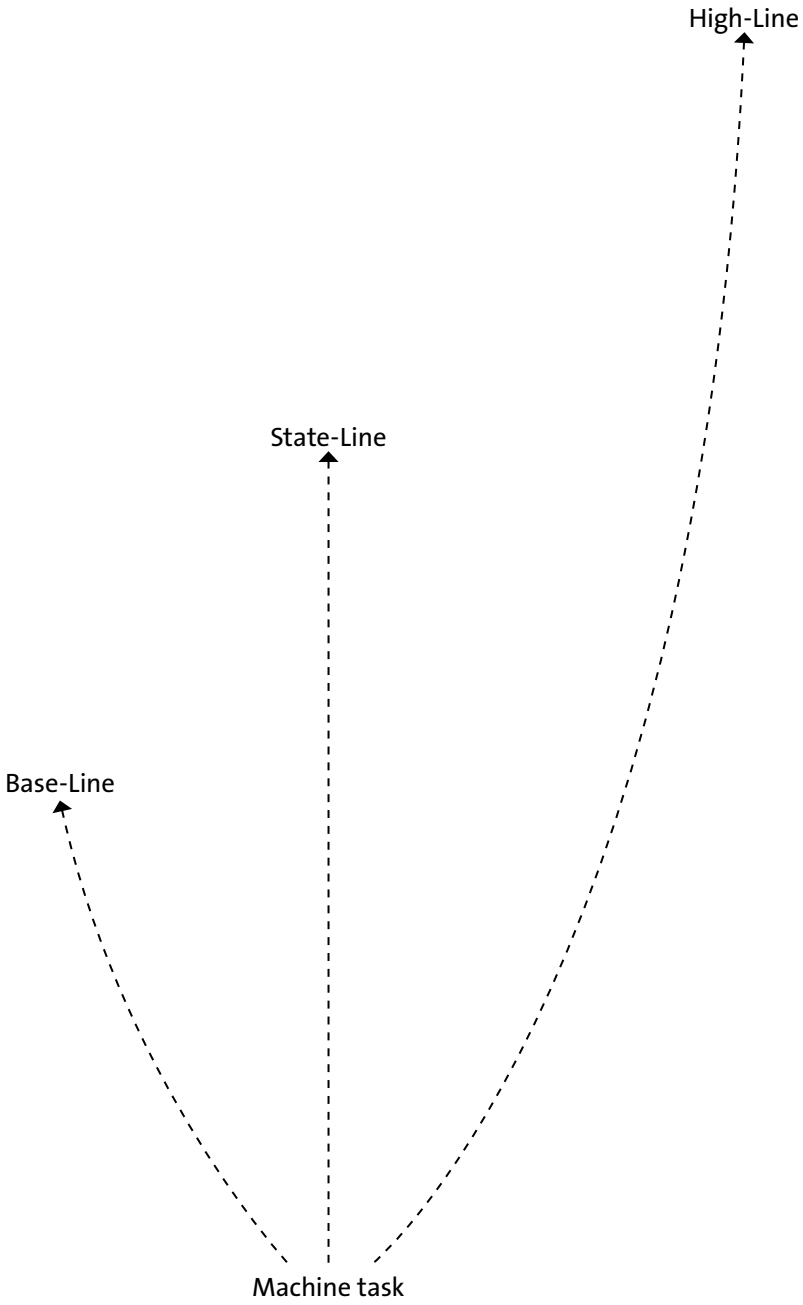
5

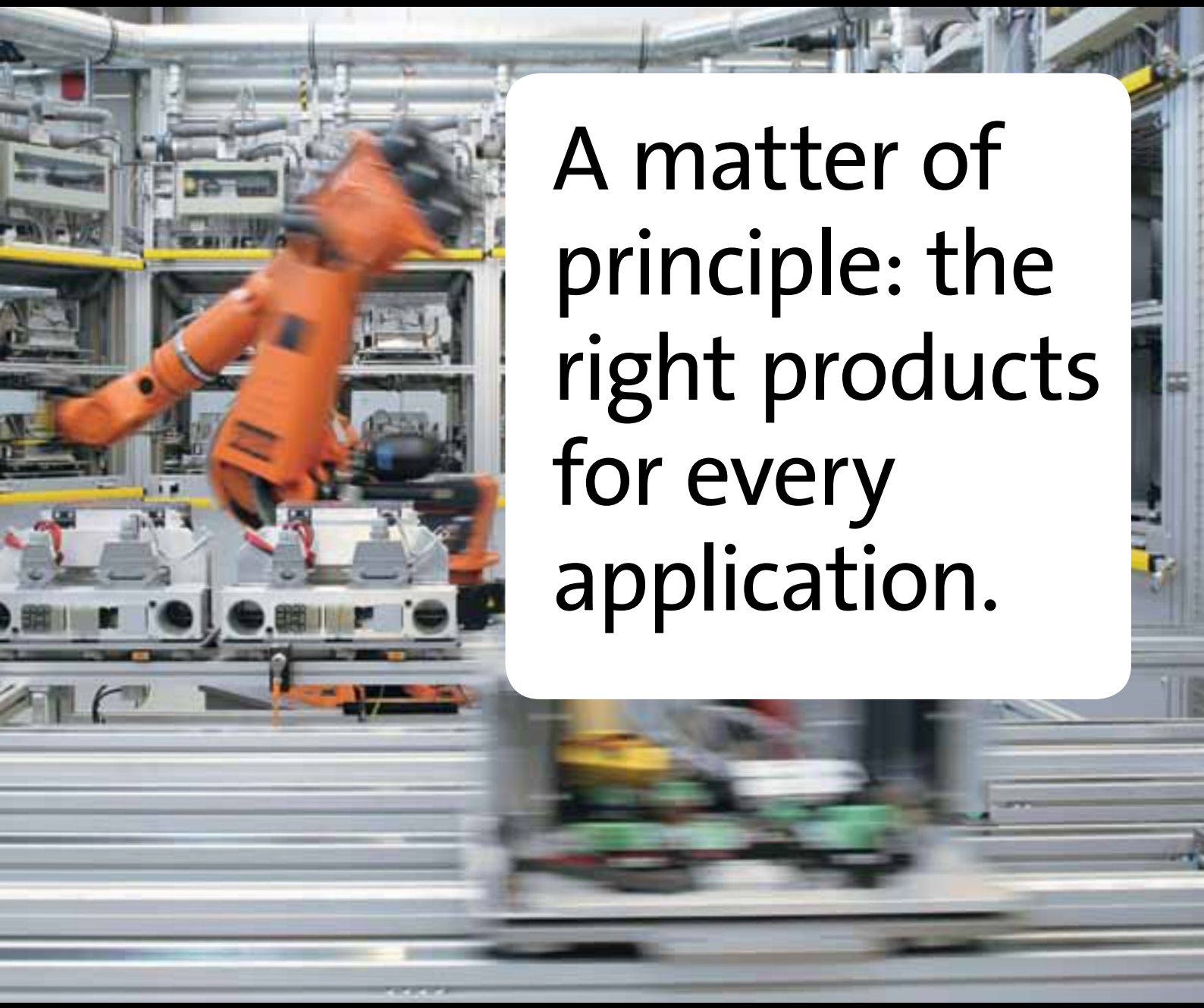
Ensuring productivity

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.

Three lines for greater freedom.

As easy as can be: you can select the right products to meet your requirements based on our three lines. Base-Line is the ideal solution for basic tasks, State-Line is perfectly suited to more comprehensive duties and High-Line is the ideal solution for complex and demanding machine tasks. This greatly simplifies your product selection process, allowing you to focus your full attention on your key tasks – while we take care of everything else. After all, we are only satisfied once we have exceeded your expectations.



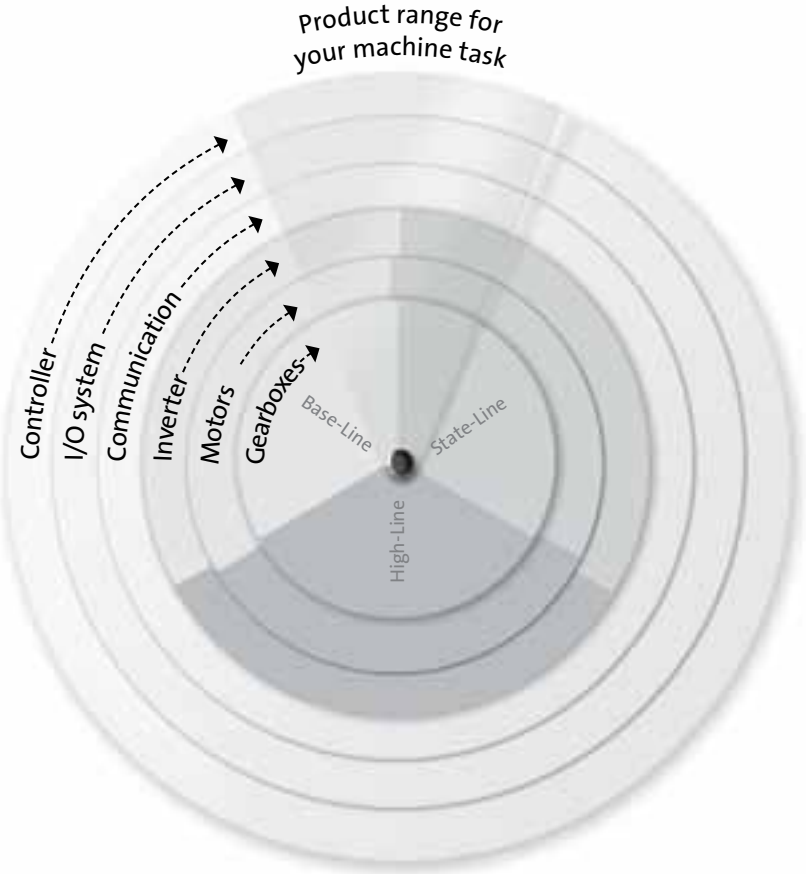


A matter of principle: the right products for every application.

Lenze's extensive L-force product portfolio follows a very simple principle. The functions of our finely scaled products are assigned to the three ranges of Base-Line, State-Line or High-Line. 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!



Controls: 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 motion controllers for use in control cabinets, through a compact decentralised I/O system, all the way up to high-performance HMIs for visualisation - you are sure to find the right solution for your application here.

Panel controller

p300:
with logic and visualisation

p500:
with motion, logic and visualisation

Cabinet controller

c300:
with motion and logic

3200 C:
with motion and logic

I/O system 1000

EL 100 human machine interface:
with VisiWinNet visualisation software

Panel Controller

	p300			p500		
						
Screen sizes						
	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						
Fanless	ARM Cortex A8 800 MHz			Intel® Atom™ 1.6 GHz		
Application Credit						
	Licence to use Lenze FAST					
Memory						
SD card	512 MB			≥128 MB		
RAM	512 MB			1 GB		
Flash memory	2 GB			2 GB		
Interfaces						
Ethernet	1			2		
EtherCAT	1*			1		
CAN	1					
USB	1			2		
Resolution	480 x 272	800 x 480	800 x 600	800 x 480	800 x 600	1024 x 768
Option	PROFIBUS Slave* PROFINET Device*			CANopen PROFIBUS Slave PROFINET Device		
Operating system						
	Windows® Embedded Compact 7			Windows® CE 6.0		
Touchscreen						
	resistive			resistive		
Large retain memory						
	128 kB			1,024 kB		
Runtime software						
	Logic			Logic		
				Motion		
	VisiWinNET® Compact CE 500 Power Tags			VisiWinNET® Compact CE 1000 Power Tags		

* in preparation

Cabinet Controller

	c300	3200 C		
				
Design				
		Base-Line	State-Line	High-Line
Processor type				
Fanless	ARM Cortex A8 800 MHz	Intel® Atom™ 1.1 GHz	Intel® Atom™ 1.6 GHz	
Application Credit				
	Licence to use Lenze FAST			
Memory				
SD card	512 MB	≥128 MB		
RAM	512 MB	1 GB		
Flash memory	2 GB	2 GB		
Interfaces				
Ethernet	1	2		
EtherCAT	1*	1		
CAN	1			
USB	1	2	3	
DVI-D			1	
ACU (external energy storage)				1
Option	PROFIBUS Slave* PROFINET Device*		CANopen PROFIBUS Slave PROFINET Device	
Operating system				
	Windows® Embedded Compact 7	Windows® CE 6.0		
Large retain memory				
	128 kB	60 kB		1,024 kB
Runtime software				
	Logic			
	Motion			
			VisiWinNET® Compact CE 500 Power Tags	

* in preparation

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 control and regulation of motors. Lenze's inverters are scalable and always offer you the right solution for Base-Line, State-Line and High-Line applications, perfectly tailored to your own specific requirements.

High-Line

Servo Inverter i700:
bring dynamics to multi-axis applications.

Servo Drives ECS:
easily make multi-axis applications highly dynamic.

Inverter Drives 8400 TopLine:
easily achieve high dynamic performance and precision.

Servo Drives 9400 HighLine:
versatile enough to handle the most sophisticated tasks.

Inverter Drives 8400 HighLine:
help you stay on top of the situation.

State-Line

Inverter Drives 8400 StateLine:
keep things moving in extensive applications.

Decentralised

Inverter Drives 8400 protec:
inject new life into horizontal and vertical materials handling applications.

Decentralised

Inverter Drives 8400 motec:
driving has never been so easy.

Decentralised

Inverter Drives SMV IP65:
offer exemplary performance even in humid environments.

Inverter Drives SMV IP31:
variable functions for extensive applications.

Base-Line

Inverter Drives smd:
make it easy to control many applications.

Inverter Drives 8400 BaseLine:
bring controlled movements to basic applications.

Control cabinet inverters

	Inverter Drives smd	Inverter Drives 8400 BaseLine	Inverter Drives SMV IP31	Inverter Drives 8400 StateLine	Inverter Drives 8400 HighLine
					
Power range					
single phase	0.25 to 2.2 kW	0.25 to 2.2 kW	0.25 to 2.2 kW	0.25 to 2.2 kW	0.25 to 2.2 kW
3-phase	0.37 to 22 kW	0.37 to 3 kW	0.37 to 45 kW	0.37 to 45 kW	0.37 to 45 kW
Rated current					
single phase	1.7 to 9.5 A	1.7 to 9.5 A	1.7 to 9.6 A	1.7 to 9.5 A	1.7 to 9.5 A
3-phase	1.3 to 46 A	1.3 to 7.3 A	1.1 to 88 A	1.3 to 89 A	1.3 to 89 A
Voltage range					
single phase	180 to 264 V	180 to 264 V	90 to 264 V	180 to 264 V	180 to 264 V
3-phase	320 to 528 V	320 to 550 V	170 to 660 V	320 to 550 V	320 to 550 V
Approvals	CE, cUL	CE, UL, GOST RoHS	CE, cUL, GOST, C-Tick, RoHs	CE, UL, cUL, GOST RoHS	CE, UL, cUL, GOST RoHS
Enclosure	IP20	IP20	IP31	IP20	IP20
Types of motor control					
V/f control	●	●	●	●	●
Vector control (encoderless)		●	●	●	●
Vector control (with encoder)				●	●
VFC eco				●	●
Inputs/outputs					
Analogue input/output	● (1/1)	● (1/0)	● (2/1)	● (1/1)	● (2/2)
Digital input/output	● (4/1)	● (5/1)	● (4/1)	● (5/1)	● (8/4)
Relay output	● (1)	●	● (1)	●	●
Speed feedback					
Encoder output	●				●
PTC and/or KTY				● (PTC)	● (PTC)
Fieldbuses					
AS-Interface					
CAN bus	▲	▲ BaseLine C	□	●	●
DeviceNet			□		
EtherCAT				□	□
ETHERNET Powerlink				□	□
Ethernet TCP/IP			□		
INTERBUS					
LECOM	□		□		
Modbus	□		● (>11 kW)		
PROFIBUS			□	□	□
PROFINET				□	□
Safety engineering					
Safe torque off (STO)				□	□
Scalable safety functions					
Ideally suited to	Conveyor drives in the field of intralogistics. Pumps and fans in the fluid handling and air-conditioning sectors.	Conveyor drives, pumps or fans.	Rotary tables in the field of intralogistics, production lines in the food industry and industrial manufacturing.	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.

● = standard □ = option ▲ = version

Decentralised inverters

Servo Inverter i700	Servo Drives ECS	Inverter Drives 8400 TopLine	Servo Drives 9400 HighLine	Inverter Drives SMV IP65	Inverter Drives 8400 motec	Inverter Drives 8400 protec
						
		0.55 to 2.2 kW		0.37 to 2.2 kW		
0.75 to 15 kW	1.1 to 13.8 kW	0.37 to 45 kW	0.37 to 370 kW	0.37 to 22 kW	0.37 to 7.5 kW	0.75 to 7.5 kW
		3.0 to 9.5 A		1.7 to 9.6 A		
2.5 to 32 A	2 to 20 A	1.3 to 89 A	1.9 to 695 A	1.3 to 47 A	1.3 to 16.5 A	2.4 to 16 A
		180 to 264 V				
230 to 480 V	180 to 528 V	320 to 550 V	180 to 550 V	170 to 660 V	320 to 550 V	320 to 550 V
CE, UL, cUL, RoHS	CE, cUL	CE, UL, cUL, GOST, RoHS	CE, cUL, RoHS	CE, cUL, RoHS	CE, UL, RoHS	CE, UL, RoHS
IP20	IP20	IP20	IP20	IP65	IP65	IP65
●		●	●	●	●	●
	●	●	●	●	●	●
●	●	●	●			
		●			●	●
	● (1/0)	● (2/2)	● (2/2)	● (2/1)	□ (1/0)	● (1/0)
● (2/0)	● (4/1)	● (8/4)	● (8/4)	● (4/1)	● (5/1)	● (4/2 or 6/0)
		●	● (1)	● (1)	□ (1)	
● (1)	● (3)	●	● (3)			
	● (1)	●	□			
●	●	●	●	●	●	● (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.	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.	Production equipment, for example used for thawing in the food industry, outdoor drives, as well as in the air-conditioning sector and water treatment.	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 therefore represent 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.

High-Line

MQA asynchronous servo motors: massive power thanks to high levels of torque and impressive dynamics.

SDSGS synchronous servo motors: perfect for sensitive environments.

MDxKS synchronous servo motors: keep a cool head, even in high torque ranges.

MCS synchronous servo motors: ensure top performance in even the tightest of spaces.

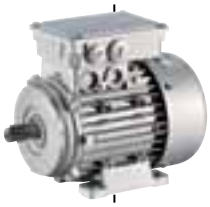
MCA asynchronous servo motors: the ideal solution for dynamic applications.

SDSGA asynchronous servo motors: provide the necessary drive in sensitive environments.

State-Line

MF three-phase AC motors: more compact and efficient drive applications.

MH three-phase AC motors: extremely efficient motors.



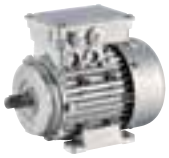
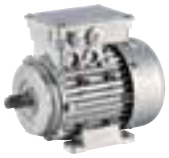
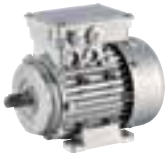
MD three-phase AC motors: standard motors with modular options.

Lenze Smart Motor m300: A single motor for many applications.

Base-Line

Basic MD/MH three-phase AC motors: optimal for basic industrial applications.

Motors

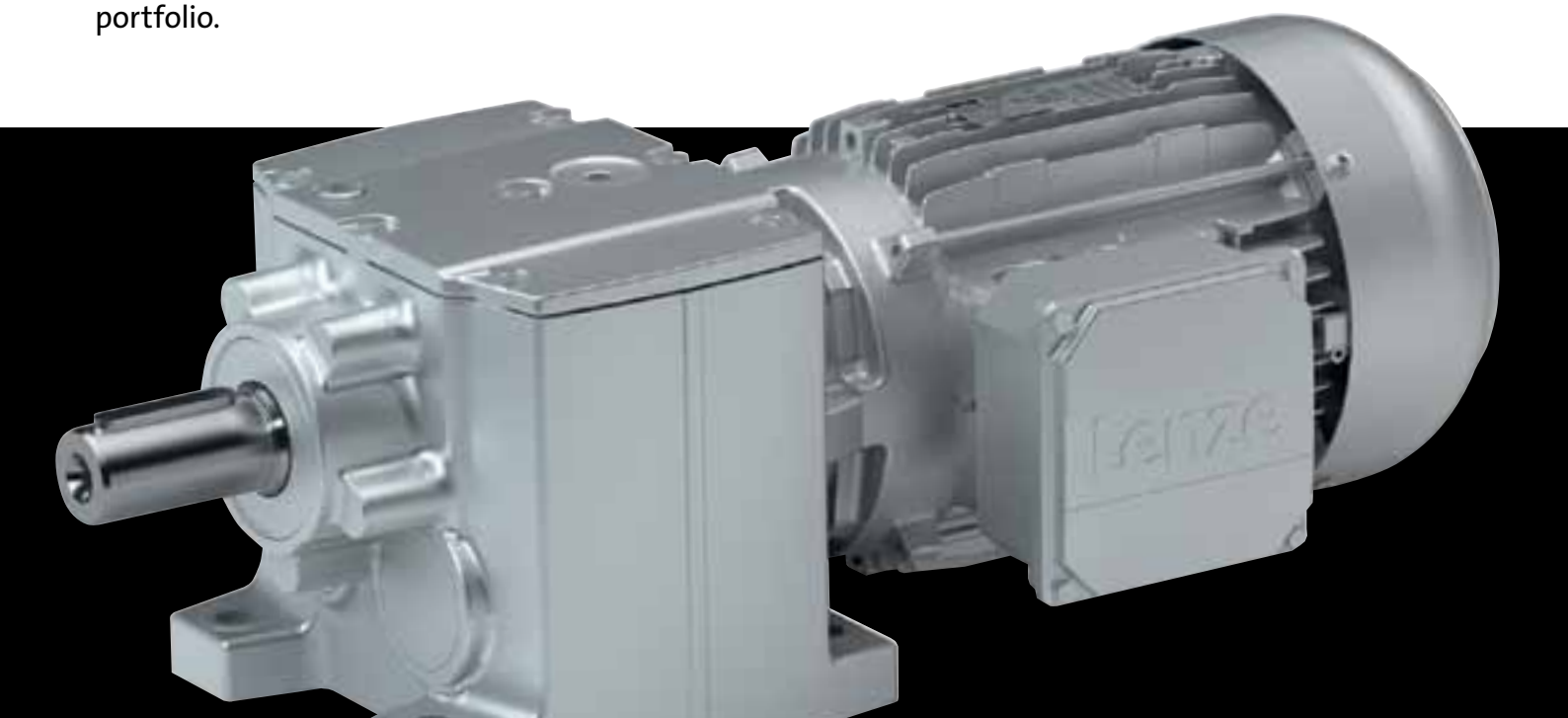
	Basic MD/MH three-phase AC motors	Lenze Smart Motor m300	MD three-phase AC motors	MH three-phase AC motors	MF three-phase AC motors
					
Power range	0.06 to 45 kW		0.12 to 22 kW	0.75 to 45 kW	0.55 to 22 kW
Rated torque	0.43 to 290 Nm	1.75 and 5.0 Nm	0.8 to 49.2 Nm	5.08 to 290 Nm	1.53 to 59.2 Nm
Setting range	Mains operation	Mains operation	1 : 17.5	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	80, 90, 100, 112, 132, 160, 180, 200, 225	63, 71, 80, 90, 100, 112, 132
Number of different frame sizes available	12	2	10	9	7
Enclosure	IP54/IP55	IP54/IP55	IP54/IP55	IP54/IP55	IP54 / IP55
Mass inertia	Medium	Medium	Medium	Medium	Medium
Overload capacity	Medium	High	Medium	Medium	Medium
Power density	Medium	Medium	Medium	Medium	High
Cooling					
Forced-ventilated			□	□	□
Naturally ventilated					
Integrated cooling	●	●	●	●	●
Feedback					
Resolver			□	□	□
Incremental encoder			□	□	□
SinCos encoder			□	□	□
Brake					
Spring-applied brake		□	□	□	□
Permanent magnetic brake					
Electronic nameplate					
Ideally suited to	Mains operation and applications that do not require typical options such as blowers or brakes.	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.	Mains and inverter operation, for universal use in the field of machine building and systems engineering.	Inverter operation, for systems that require large setting ranges in tight installation spaces.

● = standard □ = option ▲ = version

SDSGA asynchronous servo motors	**MCA asynchronous servo motors**	**MQA asynchronous servo motors**	**SDSGS synchronous servo motors**	**MDXKS synchronous servo motors**	**MCS synchronous servo motors**
					
0.075 to 0.6 kW	0.8 to 53.8 kW	9.6 to 95 kW	0.14 to 0.75 kW	1.1 to 5.9 kW	0.25 to 15.8 kW
0.27 to 1.9 Nm	2 to 75 Nm	75 to 480 Nm	0.45 to 2.2 Nm	0.6 to 16.2 Nm	0.5 to 72 Nm
Ø 75, 85, 95 mm	56, 71, 80, 90, 100, 112, 132	100, 112, 132, 160	Ø 65, 75, 85, 95 mm	56, 71, 80, 90, 100	60, 90, 120, 140, 190
3	7	4	4	5	5
IP54/IP55	IP23/IP5 /IP65	IP23	IP54/IP55	IP54/IP65	IP54 / IP65
High	Low	Very low	Low	Very low	Very low
High	Very high	Very high	Very high	Very high	Very high
Medium	High	Very high	High	Very high	Very high
	□	●		□	□
	●		●	●	●
□	□	□	□	□	□
□	□	□		□	□
	□	□	□	□	□
□		□	□		
	□			□	□
					●
Processes that must comply with hygiene requirements.	Environments which require compact units and a high degree of intrinsic operational reliability.	Applications with high motor loads.	Processes that must comply with hygiene requirements.	Applications that require the best possible dynamic performance.	Applications that require high 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 industrial gearboxes 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 our scalable product portfolio.



High-Line

g700 planetary gearboxes:
low backlash for the highest power density.

MPR/MPG planetary gearboxes:
very low backlash for the highest power density.

Shaft-mounted helical gearboxes:
space-saving and efficient.

State-Line

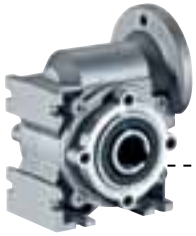
Helical-bevel gearboxes:
powerful.

Helical gearboxes:
robust design with high efficiency.

Bevel gearboxes:
for maximum efficiency.

Helical-worm gearboxes:
high power yet low noise.

Base-Line



Worm gearboxes:
quiet and powerful.

Gearboxes and geared motors

Axial gearboxes

	Helical gearboxes		Shaft-mounted helical gearboxes	
				
	g500-H	GST	**g-500-S**	GFL
Power range	0.06 to 22 (45) kW	0.06 to 45 kW	0.09 to 22 (45) kW	0.12 to 45 kW
Ratios	2.6 to 570 (435)	1.6 to 435	5.7 to 497 (856)	3.5 to 856
Rated torque	45 to 450 (8,000) Nm	45 to 5,920 Nm	190 to 660 (13,000) Nm	190 to 11.600
Torque densities	Medium	Medium	Medium	Medium
Efficiency	High	High	High	High
Backlash	Low	Low	Low	Low
Number of different frame sizes available	6 (12)	8	4 (10)	7
Shaft designs				
Solid shaft	●	●	●	●
Hollow shaft			●	●
Shrink disc			●	●
Flange shaft				
Designs				
Foot mounting	●	●	●	●
Flange mounting	●	●	●	●

● = standard □ = option ▲ = version

Right-angle gearboxes

Worm gearbox	Bevel gear and helical-worm gearboxes				Planetary gearboxes	
						
	g500-B	**GKR**	**GKS**	**GSS**	**g700**	**MPR/MPG**
0.025 to 0.240 kW	0.06 to 7.5 (45) kW	0.06 to 7.5 kW	0.12 to 45 kW	0.12 to 15 kW	0.25 to 15.8 kW	0.25 to 15.8 kW
5 to 80	5 to 361 (1.510)	3.4 to 76	5 to 1.510	5.6 to 1.847	3 to 512	3 to 100
7 to 36 Nm	45 to 450 (13,000) Nm	45 to 450 Nm	190 to 11,790 Nm	180 to 1,250 Nm	20 to 800 Nm	29 to 390 Nm
Medium	Medium	Medium	Medium	Medium	High	High
Low	High	High	High	Medium	High	High
Medium	Low	Low	Low	Medium	Very low	Extreme low
3	4 (11)	4	7	4	5	4 each
●	●	●	●	●	●	●
●	●	●	●	●		
	●	●	●	●		
						●
●	●	●	●	●		
●	●	●	●	●	●	●

We are keen to help get your ideas moving forwards! Learn more about our approach, our ways of thinking, our visions 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