

L-force *Engineering*

with the Drive Solution Catalogue
and Drive Solution Designer



Simple selection and dimensioning of drive solutions



Lenze

L-force | your future is our drive

Demands are increasing all the time. In future, key challenges will lie in the areas of cost efficiency, time-saving and quality improvements. Faster project planning and commissioning, improved performance and increased flexibility in production are expected. New ideas are therefore needed for the machines of the future.

Lenze has risen to this challenge and, with L-force, we can now not only offer you an innovative family of drive and automation products, but also a new, comprehensive portfolio of solutions.

Driven by innovation – New ideas for new possibilities

Always on the lookout: Our idea of innovation is working on even better solutions for our customers, every day.

Driven by flexibility – High degree of scalability for individual solutions

Scalability is an important aspect of the **L-force** philosophy. Performance, scope of functions, software, service provisions and aftersales care – Lenze will provide you with exactly the combination you require.

Driven by usability – Simple solutions, even for complex applications

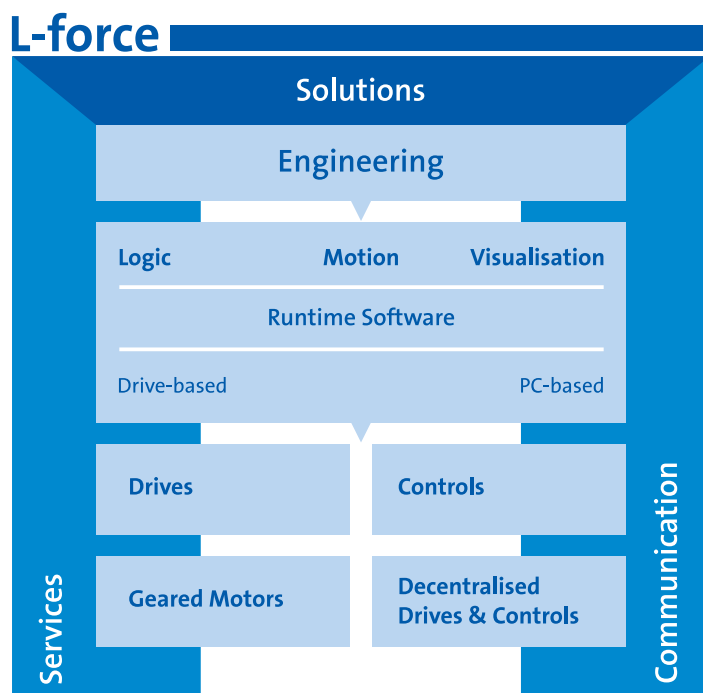
We always focus on the user. Therefore, when we developed **L-force**, we made sure that people with plenty of practical experience were involved, right from the start.

Driven by compatibility – Universal products and solutions

Don't waste any more time searching for suitable components and the right interfaces. With **L-force**, everything is compatible.

Driven by straightforward engineering

Benefit from our extensive know-how. Our engineering tools simplify your planning processes right from the start.



www.L-force.de

Drive dimensioning | competent and efficient

Lenze uses a comprehensive integrated approach to support you in the selection and dimensioning of drive solutions for your machine concept.

Whether provided by sales staff on site, by telephone or through our sophisticated software tools, Drive Solution Catalogue (DSC) and Drive Solution Designer (DSD), our know-how ensures that you'll experience a higher level of planning reliability.

Optimizing – we'll find the best drive configuration for you

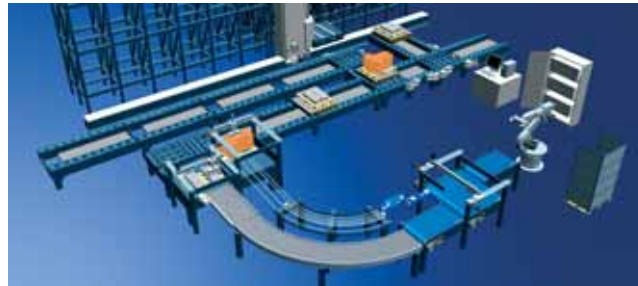
With our engineering tool, the Drive Solution Designer, a wealth of drive expertise is available around the clock. Whether you're testing physical limits of the drive or want to know more about possible versions or energy efficiency, we'll provide you with the correct answer in no time at all.

Rightsizing – the ideal combination from our scalable product range

The Drive Solution Catalogue is our electronic catalogue which allows you to select, configure and order components and complete systems that meet your requirements exactly.

Solutionizing – services tailored to your needs

Our standard training and introductory courses form just one aspect of the support we offer. You can send the results of your drive dimensioning to us – we'll check the results and show you various ways to optimise your drive.



→ You can find further information regarding drive solutions for machine concepts in the "Drive solutions" book and brochure.

Saving energy intelligently

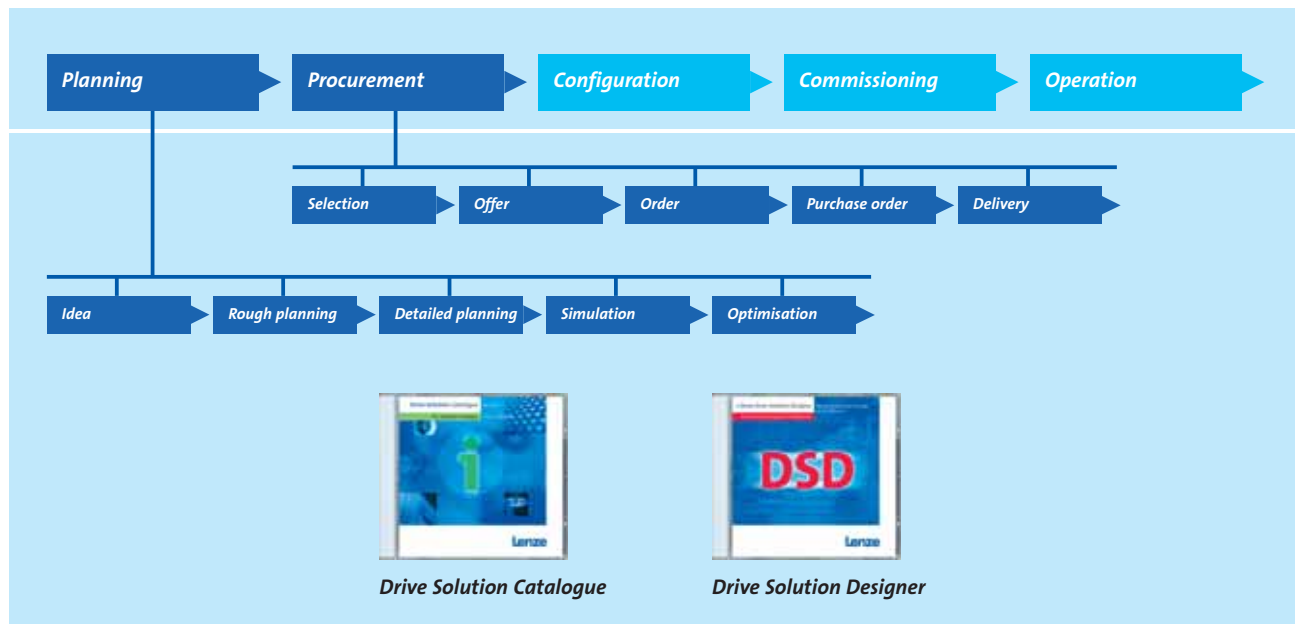
We'll be happy to show you how you can save energy when using drives. Through precise dimensioning of drive components, you too can achieve the highest level of efficiency and thereby the lowest energy input for your application. The Drive Solution Designer shows you by means of the "drive solution energy performance certificate" how much energy is being consumed by your application and drive components. It then suggests ways in which you can optimise your drive.



The drive solution energy performance certificate

→ You can find further information regarding energy efficiency in the "Energy-saving drive solutions" brochure.

Engineering | reliable planning, verification and optimisation



Engineering starts with the planning phase. During this phase, a number of decisions are made that are essential for the correct functioning of the machines.

The following tasks need to be completed during the planning phase

- ▶ Selection of suitable products
- ▶ Rough dimensioning
- ▶ Calculation of detailed dimensioning
- ▶ Test of technical feasibility
- ▶ Optimisation of a drive solution
- ▶ Reduction of the total machine cost
- ▶ Generation of CAD data
- ▶ Specification of further product features

Thanks to the DSC and DSD, you can complete these and other tasks involved in the planning process both quickly and easily.

User tests indicated time savings of up to 80% with a simultaneous improvement in quality. The technical design ensures reliability while increasing cost-effectiveness. Expensive reworks in the field are thus avoided.

Many of the results from the planning tools can be used for further engineering phases, e.g. purchase orders or commissioning, and thus lower additional costs. Our tools can also be integrated into your engineering process.

Drive Solution Catalogue | product selection

The Drive Solution Catalogue simplifies the selection of products or drive systems. Alongside our product range, a wealth of engineering information is also available here.

The electronic catalogue presents all products in a clear manner. The search function allows you to select the correct products based for example, on performance specifications or specific features. Comprehensive products such as geared motors can be configured both simply and in line with your requirements. Inverter accessories can be selected according to the product.

Selection via the shopping cart

The products selected in the DSC are added to a shopping cart. This means that with just a few mouse clicks you can request a price from Lenze and receive all the information you require in no time at all.

The DSC can be installed onto your PC using a free DVD. Alternatively, you can access it online at Lenze website where information is always up-to-date.

Product selection

- ▶ Automation
- ▶ Inverter with accessories
- ▶ Geared motors
- ▶ Three-phase AC / servo motors



Product data

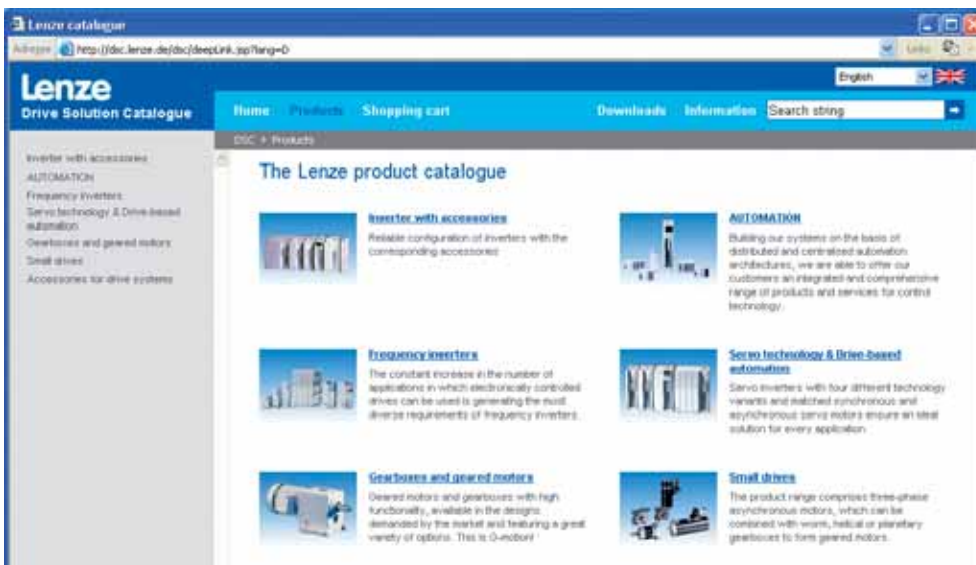
- ▶ Performance specifications or further product descriptions that are easy to download

Shopping cart function

- ▶ For submitting a price request to Lenze

Engineering and design

- ▶ Are supported by the output of CAD data, EPLAN macros and product catalogues in PDF format



Drive Solution Designer | drive dimensioning

With the Drive Solution Designer, you can dimension the drive both quickly and to a high quality.

The software contains sound and practically tested information about drive applications and electromechanical drive components. This information can be used interactively. Simple and complex applications are described by their individual process data and specific speed curves. The mechanical and electrical drive structure can be individually adapted to the requirements of the machine.

The drive components and the system are tested both in terms of the physical requirements and potential combinations.

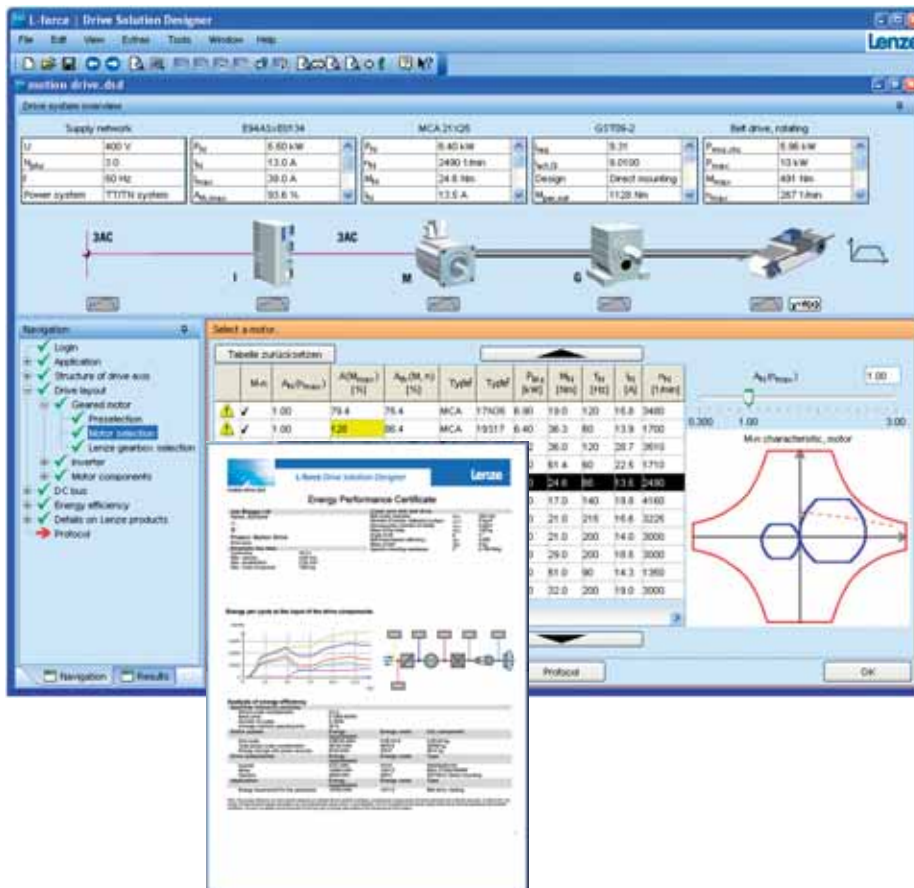
Optimum result

A detailed, technical report presents the dimensioning result in a way that is easy to understand. It is extended by an overview protocol.

To find the optimum solution, you can also develop alternatives with various solution concepts, drive technologies and products.

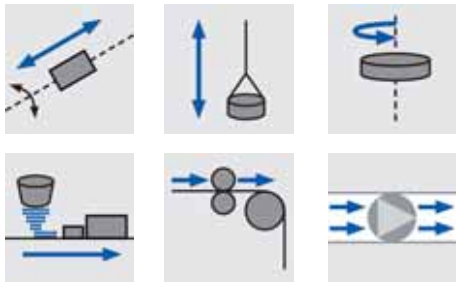
The advantages and disadvantages of the solutions can be compared in order to select the optimum solution in terms of technology and price.

DSD is a multilingual PC program, which can be used globally with standard units. Your Lenze sales office can help with availability and training.



Applications

- ▶ Comprehensive applications such as linear and rotary drives, wheel drives, hoist drives and synchronised drives, pumps, fans,



- ▶ Process parameter and editor for the motion sequence
- ▶ Operating modes and solution knowledge
- ▶ Import of the M/n load characteristic

Mains, ambients

- ▶ Mains supply types and voltages
- ▶ AC mains and DC multi-axis grouping
- ▶ Ambient conditions

Drive systems

- ▶ Motor on mains or inverter
- ▶ Mechanical accessories (brakes, encoders)
- ▶ With or without gearbox
- ▶ With or without additional drive element
- ▶ Single and multi-axis systems
- ▶ Regenerative power supply modules
- ▶ Brake choppers and resistors
- ▶ Motor characteristic and cooling type
- ▶ Modules (fieldbus, safety)
- ▶ Combinability and solution concepts
- ▶ System integration and product knowledge

Engineering, design

- ▶ Shafts, flanges, paint
- ▶ In-line and right-angle gearboxes
- ▶ Types
- ▶ Mechanical load limits
- ▶ Approvals

Tests / scenarios

- ▶ Load limits (electrical / mechanical)
- ▶ Utilisation, reserves, mains load
- ▶ M/n characteristic fields and system tests
- ▶ Combination possibilities
- ▶ Losses and energy efficiency
- ▶ Braking times and distances
- ▶ Coordinated kinematics



User groups

- ▶ Planning, configuration, service
- ▶ Various levels of know-how
- ▶ International usage

Interfaces

- ▶ For Drive Solution Catalogue
- ▶ Kinematics and simulation tools
- ▶ Commissioning and service tools e.g. L-force Engineer

Features

- ▶ Quick and easy drive dimensioning and product configuration
- ▶ High level of usability
- ▶ Examination and testing of the entire drive system
- ▶ Optional selection of product variants
- ▶ Development of alternatives with comparisons
- ▶ Energy efficiency calculations
- ▶ Diverse range of host computers and tables of values
- ▶ 12 languages
- ▶ Metric and imperial units
- ▶ Online help with operating and dimensioning tips
- ▶ Extensive range of weblinks for further sources of information