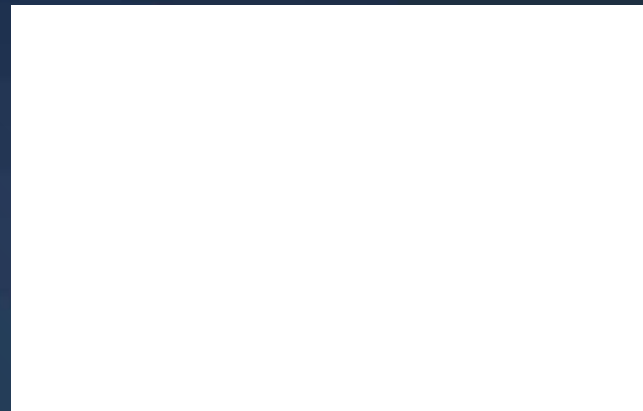


# CONTACT



For more information and support regarding FLENDER ONE, scan the QR code or visit [flender.com/en/one/](https://flender.com/en/one/)!



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Article no.: FLEX-B10148-00-7600  
Printed in Germany  
Dispo 27904 | WÜ BR 06221.0

Subject to changes and errors. The information given in this document only contains general descriptions and/or performance features which may not always specifically reflect those described, or which may undergo modification in the course of further development of the products. The requested performance features are binding only when they are expressly agreed upon in the concluded contract.

# STREAMLINE YOUR BUSINESS.

Greater efficiency from the idea all the way to operation – FLENDER ONE® is redefining high-performance gear units.



# FLENDER



# FLENDER

POWER GEAR UNITS  
AT A NEW LEVEL

The single-stage helical gear unit by Flender has long been setting benchmarks in paper production, in centrifugal pumps and in other industrial applications. Now, the time has come to take this industrial classic to the next level. We're pleased to present FLENDER ONE!

Imagine a gear unit that meets your project requirements precisely. That offers quick amortization due to its extraordinary thermal capacity and high efficiency. With minimum downtime due to its quality and digital intelligence. With simple, quick and smart configuration options. And last but not least, without wasting time and resources. Don't just imagine it. We have it.

OPEX

CAPEX

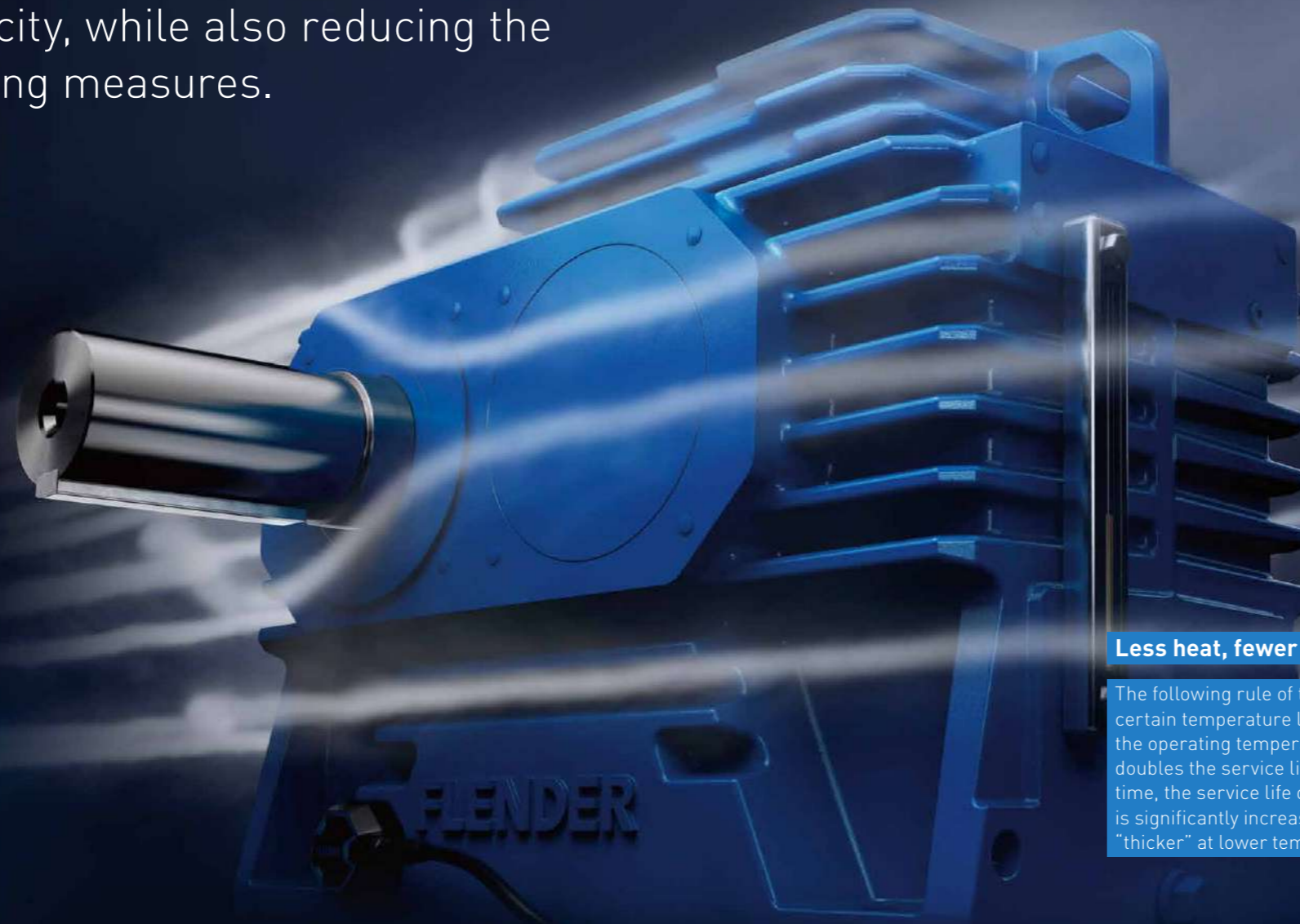
COOL DOWN YOUR COSTS:  
6 GOOD REASONS FOR FLENDER ONE

- #1 REDUCE COOLING COSTS
- #2 BOOST EFFICIENCY
- #3 MINIMIZE DOWNTIME
- #4 SPEED UP PROJECTS
- #5 PREVENT WASTE
- #6 SIMPLIFY ASSEMBLY AND MAINTENANCE

# #1

## REDUCE COOLING COSTS

With the same footprint as the previous series, both the surface area and the thermal capacity of FLENDER ONE have been increased significantly compared to the predecessor product. This eliminates the need for overdimensioning to increase the gear unit's own cooling capacity, while also reducing the need for additional cooling measures.



### NO NEED FOR COOLING. OR DO IT LATER.

This is made possible by the groundbreaking ribbed design of the housing, which improves the airflow around it. Of course, even FLENDER ONE gets hot. Just much later. This means that delaying additional cooling measures becomes a significant cost factor. And this is precisely what leads to great savings potential.



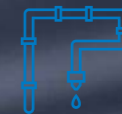
**Fan:** The shaft-mounted fan is installed on the drive side between the motor and the gear unit and is the most reliable of all cooling options. A thermostat-controlled electric motor fan, mounted on the end, only generates costs when it is used, and because its application is dynamic, it is very efficient.



**Cooling coil:** A cooling coil provides reliable and very effective cooling. In this process, cooling water absorbs the heat via pipes in the gear unit's oil sump and leads it away from the gear unit.



**Fan and cooling coil:** The next possible solution is a fan application together with a cooling coil.



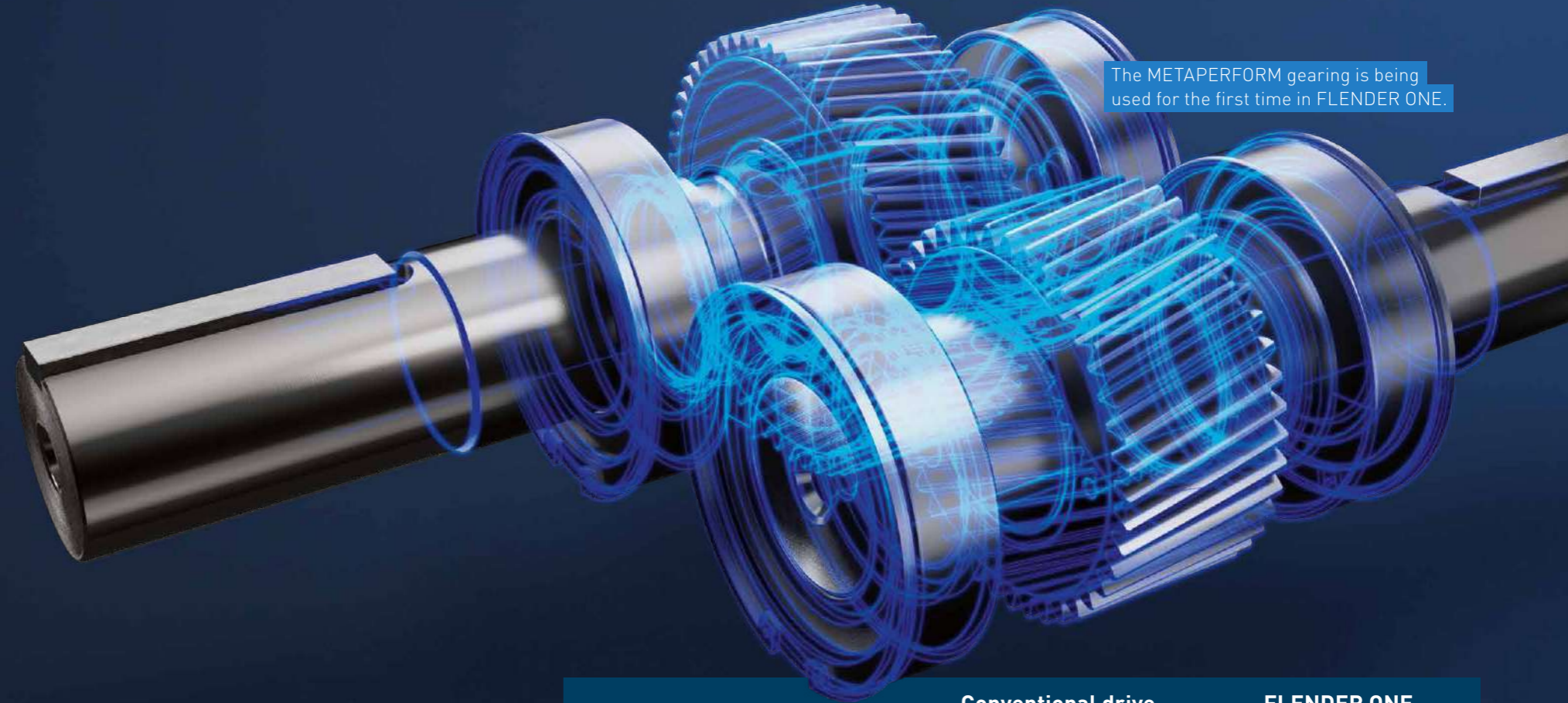
**External additional cooling:** If this still doesn't provide enough cooling, additional cooling equipment is needed – such as an external coolant lubricant system or a central lubrication system. For those who have had to include a cooling unit in their planning before, now a water pipeline might be enough.

### Less heat, fewer oil changes

The following rule of thumb applies for certain temperature limits: Decreasing the operating temperature by about 10 °C doubles the service life of oil. At the same time, the service life of moving parts is significantly increased because oil is "thicker" at lower temperatures.

# #2

## BOOST EFFICIENCY



The METAPERFORM gearing is being used for the first time in FLENDER ONE.

The METAPERFORM<sup>®</sup> gearing with optimized performance was calculated according to state-of-the-art methods and represents an important step in the development of industrial gear units. Thanks to its improved roll-off characteristics and even more uniform path of contact, the power dissipation of the gear unit has been reduced by 50 percent in comparison with the previous model. Moreover, you benefit from AIQ<sup>®</sup>: our new gear unit intelligence with integrated sensor technology straight from the factory optimizes your specific process and increases the efficiency of your plant.

	Conventional drive	FLENDER ONE
<b>System data</b> Power "P2": 1.000 kW   Operating time: 24 hours a day / 7 days a week		
<b>Energy consumption</b>		
Per day	250.22 kWh	81.97 kWh
Per week	1,751.57 kWh	573.76 kWh
Per year	91,081.54 kWh	29,835.54 kWh
<b>Energy costs</b>		
Electricity price (example)	0.10 €/kWh	
Energy costs per year	€9,108.15	€2,983.55
<b>Annual savings (financial)</b>	<b>€6,124.60</b>	

**Gear unit costs of approx. €10,000 are amortized in less than 2 years.**

**This is how fast FLENDER ONE pays for itself:**

our example calculation gives you an initial impression of the savings potential that FLENDER ONE offers you. Would you like to know the specific time frame in which this installation pays off in your project? Then use the example calculator on our website!



**Bearings that are made to last**

Rolling bearings that supply more than 100,000 hours of operation provide you with significant process reliability.

**Integrated sensor technology**

The AIQ gear unit intelligence optimizes your processes and ensures minimum downtime for your plant.

# #3

## MINIMIZE DOWNTIME

An idle plant results in high opportunity costs that exceed process costs by far. Downtime can never be completely avoided – but it can be reduced to a minimum. FLENDER ONE achieves this with the highest quality standards in development, production and service. The AIQ gear unit intelligence plays an especially important role here with its integrated sensor technology and innovative analysis functionality.

### PLANT AVAILABILITY WITH AIQ

FLENDER ONE offers you gear unit intelligence straight from the factory. With AIQ you benefit from reliability, predictability and ease at the highest level. Reduce gear unit wear without sacrificing plant performance. Keep an eye on your gear unit and the process. Prevent damage and increase your plant availability with AIQ.



**Smart gear unit**

Access all gear unit and fleet information digitally anywhere in the world with the AIQ Portal.



**Procedure documentation**

Save and track operating hours and downtime.



**Maximum support**

Get notifications when limit values are exceeded to provide support during maintenance.



**Condition monitoring**

Get notifications when limit values are exceeded to provide support during maintenance.



**Complete transparency**

Raw data provided for PLC integration enables local process control.



**Oil service as necessary**

Reduce service-related downtime with dynamic oil service intervals.

# 50%

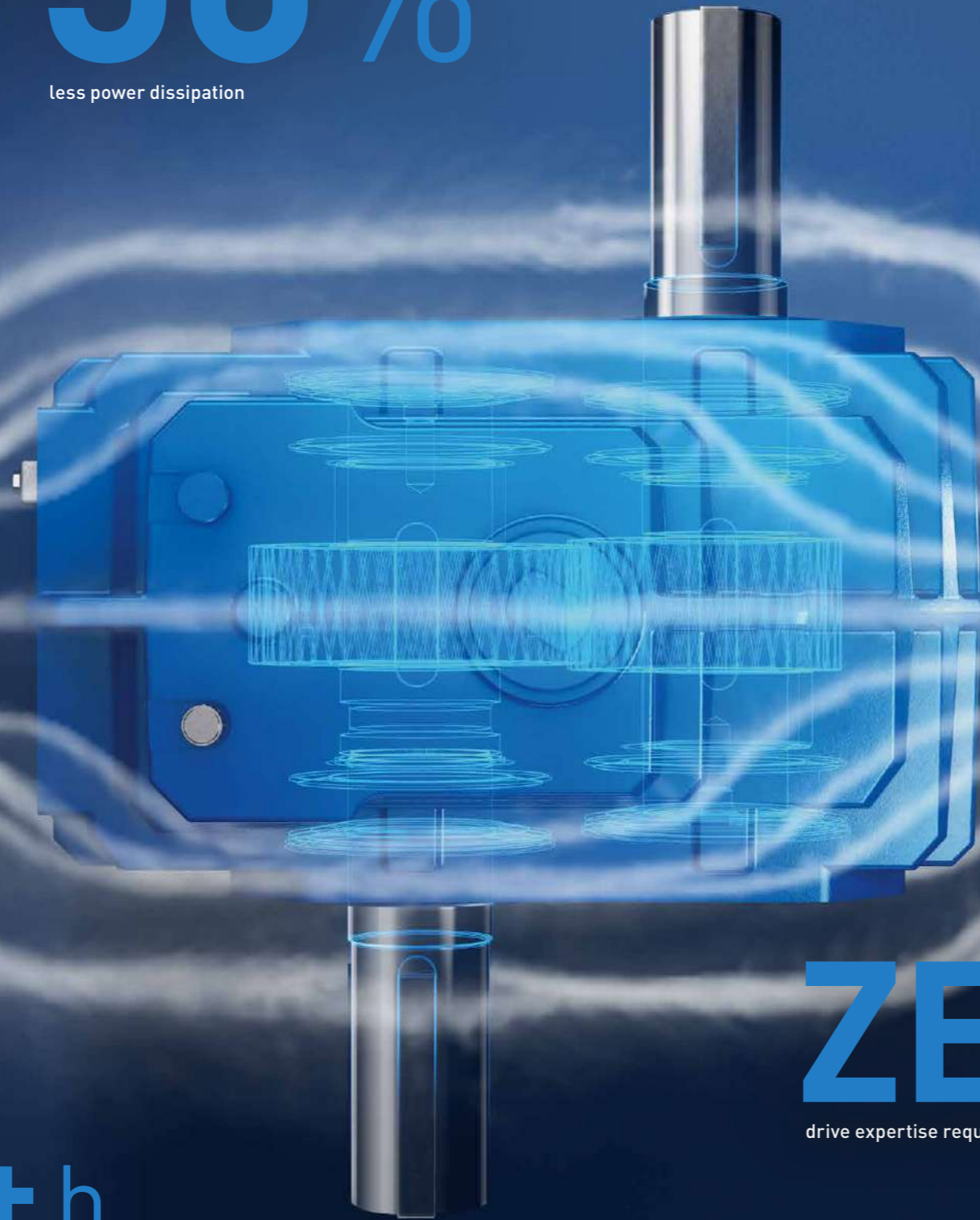
less power dissipation

# > 35%

larger housing surface

Optimized to reduce oil consumption by as much as

# 20%



# ZERO

drive expertise required

# 100,000+ h

bearing life

# > 98.5%

rotation speed precision

# WE THOUGHT OF EVERYTHING – TO MEET YOUR SPECIFIC REQUIREMENTS.



**AS EFFICIENT AS POSSIBLE, AS MUCH POWER AS NECESSARY.**

Our new motor fan, mounted on the end, only runs when it is needed. That saves energy costs and makes this cooling option extremely efficient. This results in very effective airflow around the new housing.



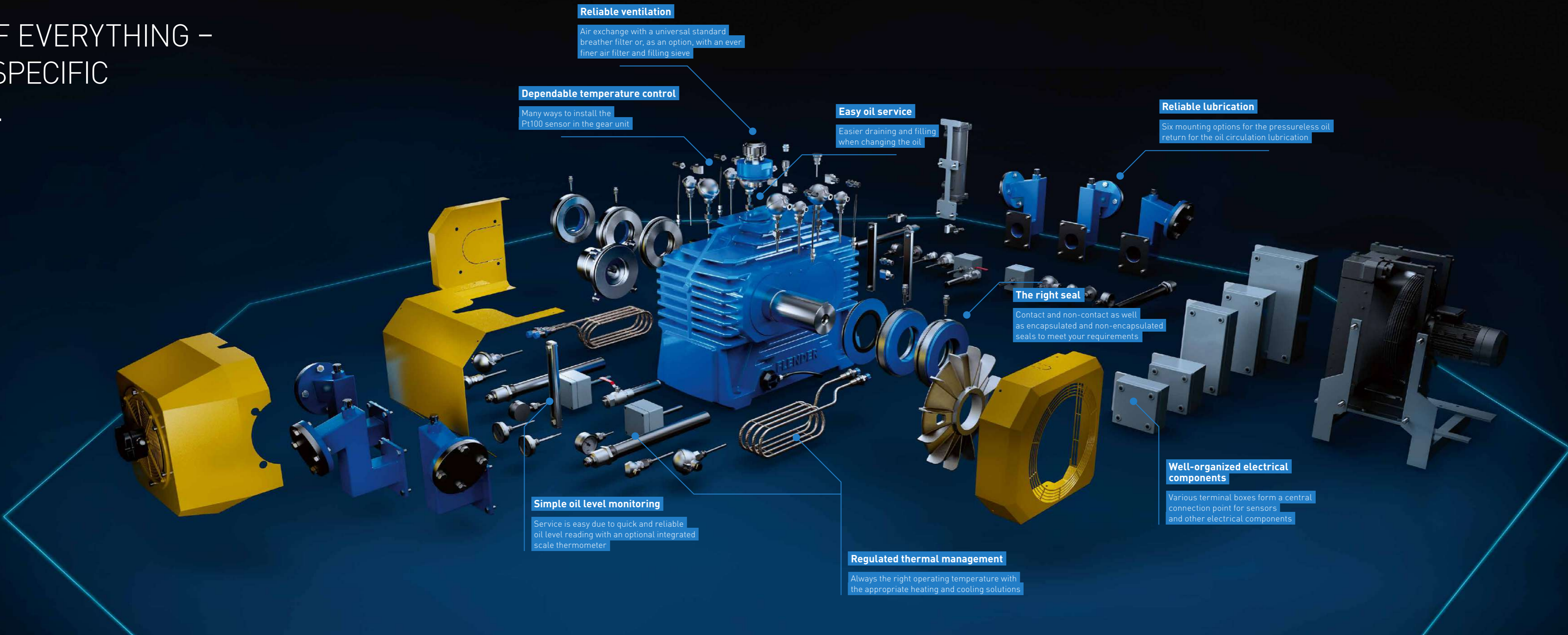
**THE LARGEST POSSIBLE SURFACE AREA.**

FLENDER ONE is not just lighter. Its surface area has been enlarged by 35 percent. This enables its extraordinary thermal performance.



**KEEN TO BARE ITS TEETH AND TAKE ON ELECTRICITY CONSUMPTION.**

The new METAPERFORM gearing makes FLENDER ONE an extremely energy-efficient gear unit. As a result, this gear unit pays for itself in just a few years.



**POWER GEAR UNITS PROMISE PRECISE SPEED.**

FLENDER ONE offers you the densest range of transmission stages in the world. No rotation speed requirement falls through the cracks here. The exact speed fit is especially advantageous in pump applications.



**LONG OIL AND BEARING SERVICE LIFE.**

FLENDER ONE enables a bearing life of 100,000 hours and up. At the same time, the extraordinary thermal capacity increases the oil service life.



**GEAR UNIT INTELLIGENCE STRAIGHT FROM THE FACTORY IS WORTH IT.**

AIQ, a new sensor technology, is fully integrated into the gear unit. For you, this primarily means three things: gear unit transparency, maintenance predictability and process efficiency.



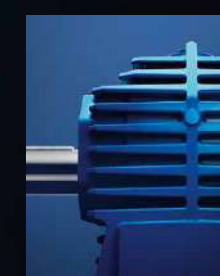
**RELIABLE FANS FOR PERMANENT COOLING.**

Our shaft-mounted fan supplies particularly reliable cooling and the new cover concept ensures very even and therefore effective airflow around the components.



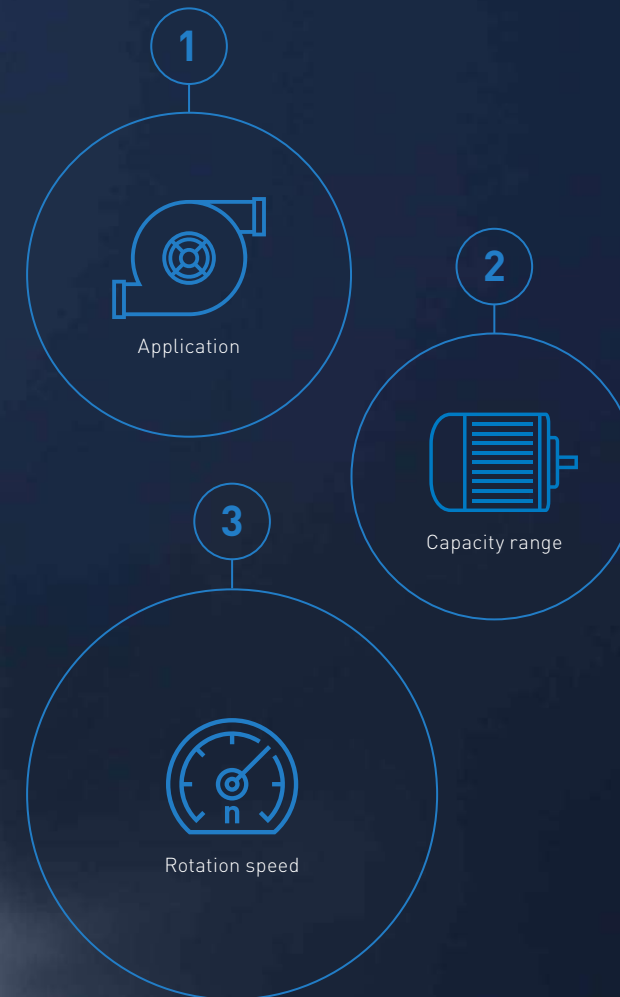
**THE BEST CASTING QUALITY SAVES WEIGHT.**

FLENDER ONE provides guaranteed quality and reliability. For example, during casting: the new, lighter design with its larger surface area is only possible due to its high quality.



# #4 SPEED UP PROJECTS

Concentrate only on your design and save valuable time. The FLENDER ONE configurator speaks your language, making it easy for you to satisfy your requirements for your finished product – even without gear unit expertise. You also have all the information – including 3-D data – at all times.



## 3 STEPS TO A FINISHED GEAR UNIT

Application, capacity range, rotation speed: in principle, with just these three specifications, you can preconfigure your own, specific FLENDER ONE. But even more detailed requirements can be entered in the configuration tool by using additional parameters – for example, if your gear unit is supposed to be protected from water. We speak your language, we are familiar with your application and we support you with a smart configuration that results in just the right gear unit solution for you.

A gear unit configuration with FLENDER ONE does not depend on any certain point in time, on regional conditions or on differences in how individual operators use it. If the same information is entered, the same result is returned – any time and anywhere in the world. That means precise reproducibility. This way, you always get the same, correct product response to your request.

# #5 PREVENT WASTE

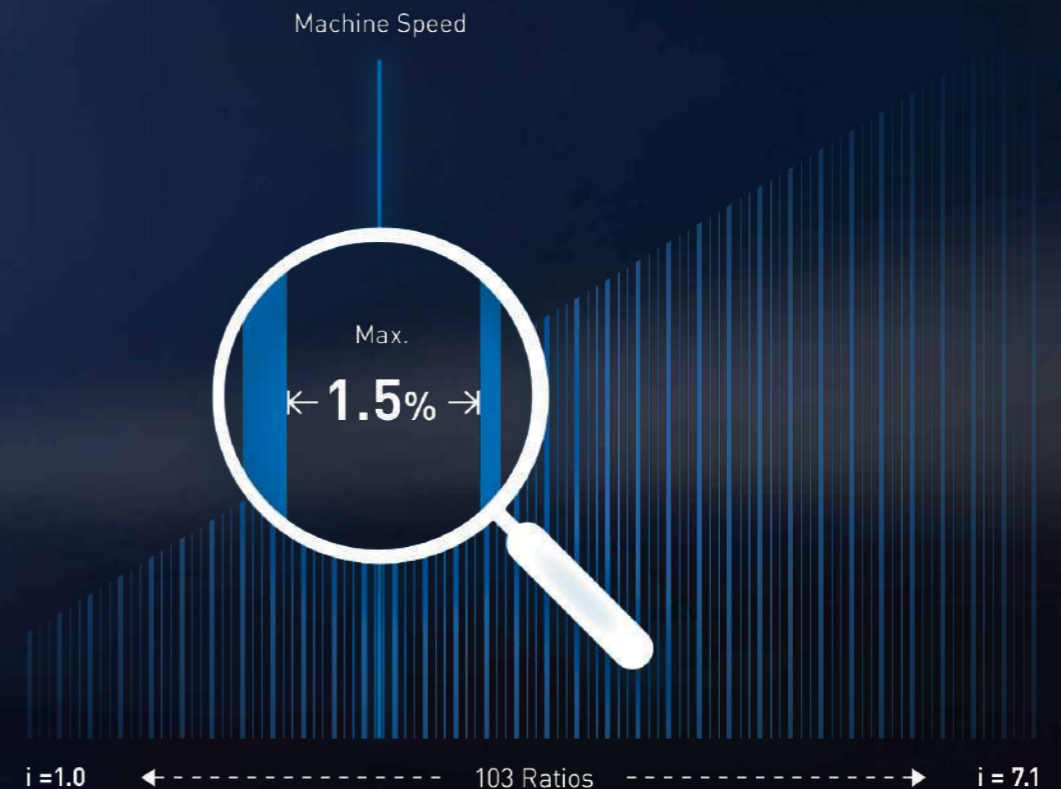
## SAVE COSTS OVER THE LONG RUN

Advanced industrial applications must be both economical and sustainable. That applies to the actual production process along with everything that precedes it in the value chain. With FLENDER ONE you score points twice: Practically all of the increases in efficiency with regard to application fit and resource conservation benefit not only your energy balance, but also our environment. And our own CO<sub>2</sub>-neutral production meets internationally recognized environmental standards in the highest categories. Naturally we guarantee this for our entire supply chain as well.



Adapting the solutions perfectly to meet your requirements eliminates all unnecessary costs while lessening stress on our environment. There is no need for any complicated development process. There are no big gaps in our consistent torque range, and because you can choose from the densest range of transmission stages in the world, with 103 transmission ratios between  $i = 1.0$  and  $7.1$  per size, you can match the rotation speed that your machine requires for maximum efficiency with nearly perfect precision. This means you achieve a speed fit greater than 98.5 percent.

### FLENDER ONE speed fit



# #6

## SIMPLIFY ASSEMBLY AND MAINTENANCE

Shorter processes. Lower weight with the same footprint. Less oil. Simplified assembly due to particularly large base mounts. Optimized covers. And much more: a broad range of optimizations ensures that your time and costs for assembly and maintenance remain especially low for FLENDER ONE.



**Oil:** Because less oil is used under better conditions you save costs for purchasing and disposing of it.



**Time:** Due to the gear unit intelligence and structural improvements, you save installation and maintenance time.



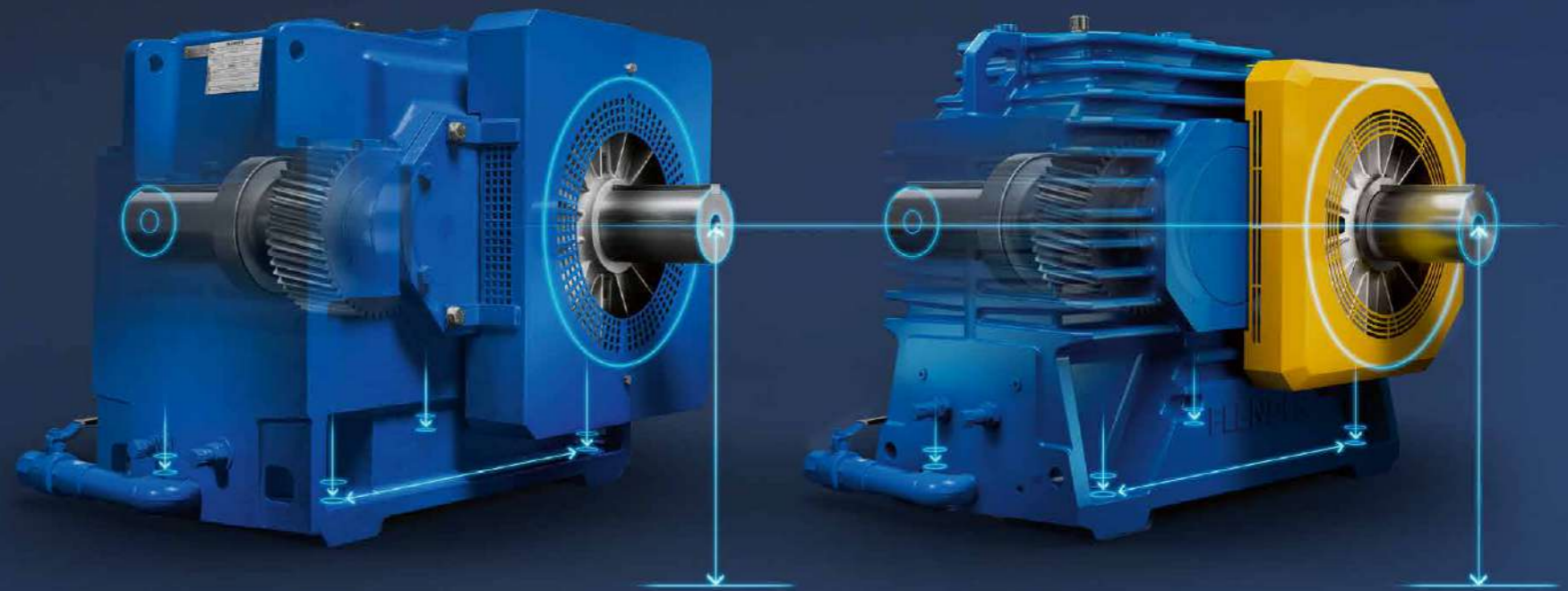
**Installation space:** The gear unit takes up relatively little space; additional cooling that requires extra space may not be necessary.



**Weight:** Though it has greater capacity and the same footprint, FLENDER ONE is lighter than its predecessor.

### The same footprint

The connection and assembly dimensions of FLENDER ONE are the same as those of the previous model – that makes exchanging the gear unit especially easy.



Predecessor product

FLENDER ONE

## FORM FOLLOWS FUNCTION

Even if the ribbed design of FLENDER ONE is a real eye-catcher: it serves a clearly technical purpose and is not simply an end in itself. For this reason, we did not redesign the two largest housings. Because this would not have made sense from the economic or sustainability perspectives. In the high capacity ranges there are also cooling systems with greater differences in performance. The effects that could be achieved with an enlarged surface area would hardly be "noticeable" here in comparison with smaller gear units.

**Design for the sizes**  
0408 | 0541



**Design for the sizes**  
0026 | 0063 | 0096 | 0136  
0151 | 0179 | 0234 | 0257 | 0312

