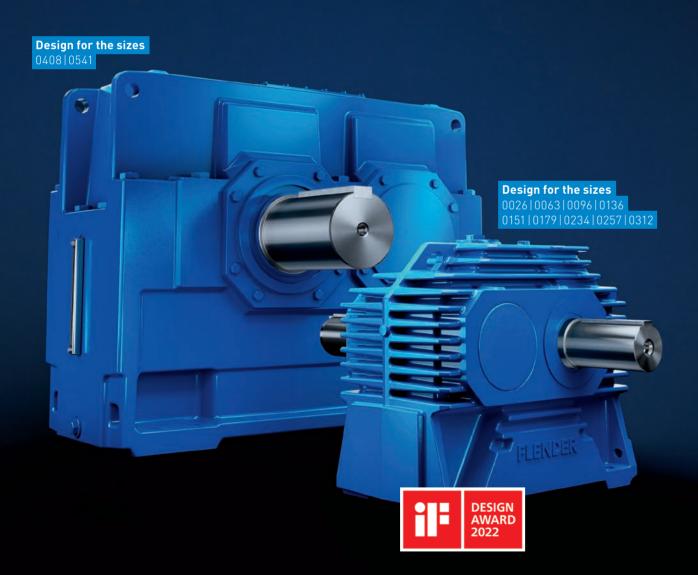
FORM FOLLOWS FUNCTION

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 power 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.



CONTACT

For more information and support regarding FLENDER ONE, scan the QR code or visit flender.com/en/one!



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t to changes and errors. The informatio given in this document only contains general 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.









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.

COOL DOWN YOUR COSTS: 6 GOOD REASONS FOR FLENDER ONE Ħ **REDUCE COOLING COSTS**















SIMPLIFY ASSEMBLY AND MAINTENANCE

03



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.

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



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.



The METAPERFORM[®] gearing with optimized performance was calculated according to state-of-theart 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[®]: our new gear unit intelligence with integrated sensor technology straight from the factory optimizes your specific process and increases the efficiency of your plant.

Power "P2": 1.000 kW Op	peratir
ation	
i ce (example)	
per year	
ings (financial)	
	ation ice (example) per year

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!

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

Conventional drive

FLENDER ONE

ng time: 24 hours a day / 7 days a week

1.751.57 kWh

91,081.54 kWh

81.97 kWh 573.76 kWh

29,835.54 kWh

0.10 €/kWh

€9,108.15

€2,983.55

€6.124.60



STREAMLINE YOUR WORKFLOW

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.

HS 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.



l = 1

Smart gear unit

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



Maximum support

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



Complete transparency Raw data provided for PLC integration enables local process control.



Condition monitoring

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

Procedure documentation

Save and track operating

hours and downtime



Oil service as necessary Reduce service-related downtime with dynamic oil service intervals.





larger housing surface



100,000+ h bearing life

10 FLENDER

Optimized to reduce oil consumption by as much as



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 energyefficient gear unit. As a result, this gear unit pays for itself in just a few years.



Reliable ventilation

exchange with a universal standard ner air filter and filling sieve

Reliable lubrication

mounting options for the pressureless oi urn for the oil circulation lubrication

he right seal

encapsulated and non-encapsulated

Simple oil level monitoring

service is easy due to quick and reliable il level reading with an optional integrated cale thermometer

Regulated thermal management

the appropriate heating and cooling solution

Well-organized electrical components

d other electrical componen

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 BFARING 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.







21 F





STREAMLINE YOUR PROJECT



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.



Editor Philipping Constraints and State

3 STEPS TO A FINISHED GEAR UNIT

Application, power, 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.

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 CO₂-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.



STREAMLINE YOUR 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.





Predecessor product

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.



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

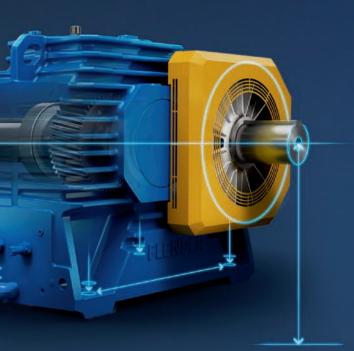


Time: Due to the gear unit intelligence and structural improvements, you save installation and maintenance



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.



FLENDER ONE

TECHNICAL INFORMATION

Nominal torque (Mtn; kNm) Main ratio line (5 intermediate ratios available between 2 main ratios)

Ratio (i)		1.0	1.12	1.25	1.4	1.6	1.8	2.0	2.24	2.5	2.8	3.15	3.55	4.0	4.5	5.0	5.6	6.3	7.1
	0026	2.6	2.8	2.9	3.1	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.0	2.8	2.5	2.2	1.9
	0063	7.3	7.8	8.3	8.8	9.3	9.4	9.6	9.6	9.6	9.6	9.6	9.6	9.6	8.5	7.9	7.0	6.1	5.2
	0096	13.7	14.6	15.5	16.4	17.5	17.6	18.0	18.0	18.0	18.0	18.0	18.0	18.0	15.9	14.7	13.1	11.5	9.8
	0136	21.8	23.2	24.7	26.2	27.9	28.0	28.7	28.7	28.7	28.7	28.7	28.7	28.7	25.3	23.5	20.9	18.3	15.7
	0151	31.5	33.6	35.7	37.8	40.3	40.5	41.5	41.5	41.5	41.5	41.5	41.5	41.5	36.6	34.0	30.2	26.4	22.7
Size	0179	43.2	46.1	49.1	52.0	55.3	55.6	57.0	57.0	57.0	57.0	57.0	57.0	57.0	50.3	46.7	41.5	36.3	31.1
	0234	58.4	62.3	66.3	70.2	74.7	75.2	77.0	77.0	77.0	77.0	77.0	77.0	77.0	67.9	63.0	56.1	49.1	42.1
	0257	78.9	84.2	89.5	94.8	100.9	101.5	104.0	104.0	104.0	104.0	104.0	104.0	104.0	91.7	85.2	75.7	66.3	56.8
	0312	105.4	112.5	119.6	126.7	134.9	135.7	139.0	139.0	139.0	139.0	139.0	139.0	139.0	122.6	113.8	101.2	88.6	75.9
	0408	140.3	149.8	159.2	168.7	179.6	180.6	185.0	185.0	185.0	185.0	185.0	185.0	185.0	163.2	151.5	134.7	117.9	101.1
	0541	185.8	198.3	210.9	223.4	237.8	239.1	245.0	245.0	245.0	245.0	245.0	245.0	245.0	216.1	200.6	178.4	156.1	133.9

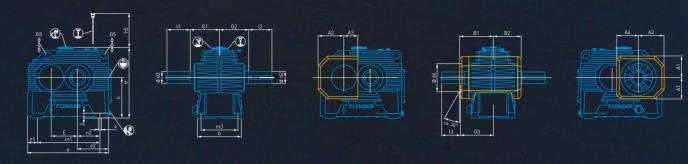
Exact ratio (i_exact) Main ratio line (5 intermediate ratios available between 2 main ratios)

Ratio (i)		1.0	1.12	1.25	1.4	1.6	1.8	2.0	2.24	2.5	2.8	3.15	3.55	4.0	4.5	5.0	5.6	6.3	7.1
	0026	1.000	1.128	1.250	1.400	1.594	1.793	2.000	2.240	2.500	2.792	3.167	3.545	4.000	4.500	5.000	5.591	6.294	7.095
	0063	1.000	1.122	1.256	1.405	1.588	1.806	2.000	2.241	2.481	2.808	3.167	3.545	4.000	4.522	5.048	5.583	6.273	7.100
	0096	1.000	1.125	1.262	1.400	1.595	1.800	2.000	2.241	2.481	2.800	3.143	3.524	4.000	4.476	5.000	5.600	6.273	7.111
	0136	1.000	1.116	1.244	1.395	1.600	1.800	2.000	2.229	2.500	2.800	3.148	3.545	4.000	4.478	5.000	5.591	6.300	7.095
	0151	1.000	1.116	1.244	1.395	1.606	1.800	2.000	2.235	2.500	2.793	3.167	3.542	4.000	4.500	5.000	5.583	6.273	7.100
Size	0179	1.000	1.114	1.239	1.395	1.606	1.794	2.000	2.241	2.483	2.815	3.160	3.545	4.000	4.500	5.000	5.571	6.286	7.105
	0234	1.000	1.114	1.250	1.400	1.595	1.810	2.000	2.242	2.500	2.806	3.154	3.538	4.000	4.500	5.000	5.583	6.273	7.063
	0257	1.000	1.119	1.244	1.405	1.595	1.806	2.000	2.243	2.500	2.806	3.154	3.538	4.000	4.478	5.000	5.615	6.333	7.095
	0312	1.000	1.119	1.256	1.405	1.585	1.805	2.000	2.229	2.500	2.813	3.138	3.556	4.000	4.500	5.000	5.577	6.286	7.095
	0408	1.000	1.119	1.250	1.400	1.594	1.810	2.000	2.235	2.500	2.788	3.167	3.533	4.000	4.481	5.000	5.577	6.273	7.095
	0541	1.000	1.125	1.245	1.400	1.595	1.794	2.000	2.250	2.512	2.789	3.135	3.548	4.000	4.500	5.000	5.600	6.304	7.105

Size		0026	0063	0096	0136	0151	0179	0234	0257	0312	0408	0541
Weight (kg; w/o oil)		110	265	470	740	1,000	1,285	1,895	2,440	2,795	3,765	5,310
Oil quantity (l/max)	Laby	5.4	18	35	56	79	96	152	149	147	234	333
on quantity (r/max)	WDR/RSS	6	20	40	62	86	108	169	163	162	265	382

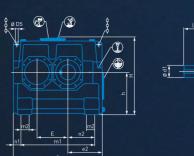
Size (0026 | 0063 | 0096 | 0136 | 0151 | 0179 | 0234 | 0257 | 0312 |

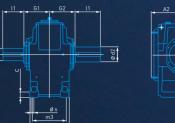
Dimensions (in mm)

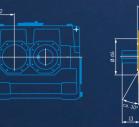


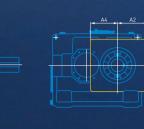
		High speed shaft Low-speed shaft Main dimension													Foot	print					Transportation													
			Witho	ut fan	Shaft-dri	iven fan						Foot area	Shaft level	Shaft center	Shaft center	Dip stick (max)																	2x shackle DIN 82101	
Size	Ratio range	Diameter d1 ⁽¹⁾	Length l1	G1	Length 13	G3	Diameter d2 ⁽¹⁾	Length l2	G2	Height H	Length a	Width b	Width b'	Distance E	Height h ⁽²⁾	Height h5	e2	m1	m2	m3	n1	n2	ØS	с	A1	A2	A3	A4	B1	B2	B3	d6	"C"	D5 (4x)
	1.0 – 2.8	60	125		105																													
0026	> 2.8 - 4.0	45	100	170	80	190	60	125	170	360	430	200	240	130	200	264	165	310		160	65	110	19	28	107	145	85	110	205	160		110	C 1.6	
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	1.0 – 2.8	85	160		130																													
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	> 5.6 - 7.1 1.0 - 2.8	40 100	100 200		165																													
000/	> 2.8 - 4.0	75	140	050	105	0.05	105		050		-	075	(00	0.05	050	101	070	510		015		105			010	0.05	100	045	010	0 (0		0.15		
0096	> 4.0 - 5.6	60	140	250	105	285	105	200	250	610	705	375	420	225	350	434	270	540		315	90	195	28	45	210	225	120	215	310	260		245	C 1.6	
	> 5.6 - 7.1	50	110		75																													
	1.0 - 2.8 > 2.8 - 4.0	110 90	200 165		165 130																													
0136	> 4.0 - 5.6	75	140	280	105	315	125	210	270	725	820	425	470	265	420	484	315	625		350	105	225	35	50	245	255	150	245	325	275		280	C 2.5	
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0179	> 4.0 - 5.6	90	170	525	135	300	130	240	520	000	//3	313	300	520	500	504	373	//0		440	110	200		00	323	520	105	313	370	515		330	64	
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0 (00	> 2.8 - 4.0	170			240			(100	4.005				100	(70					544	100													
0408	> 4.0 - 5.6	140	250	400	200	450	240	400	400	1.235	1.410	615		490	670		545	1.170	130	530	120	425	42	80	415	475		430	505		160	445		48
	> 5.6 - 7.1	120			160																													
	1.0 - 2.8	220			290																													
0541	> 2.8 - 4.0	190 160	340 300	440	290 250	490	270	450	440	1.395	1.590	690		555	760		615	1.290	150	590	150	465	48	90	475	520		475	540		195	445		55
	> 4.0 - 5.6 > 5.6 - 7.1		300 250		250 200																													

Size (0408|0541)









25 ... 100 mm tolerance m6 | > 100 mm tolerance n6 ^[2] Tolerance –0,5 mi

t ends with parallel keys and keyways acc. to DIN 6885/1 | Shaft ends with central bores form DS acc. to DIN 332/1 (exception > ø130 mm