

Movement by Perfection



The Royal League in ventilation, control and drive technology



Customized drive solutions

Internal rotor motors, ring motors and generators

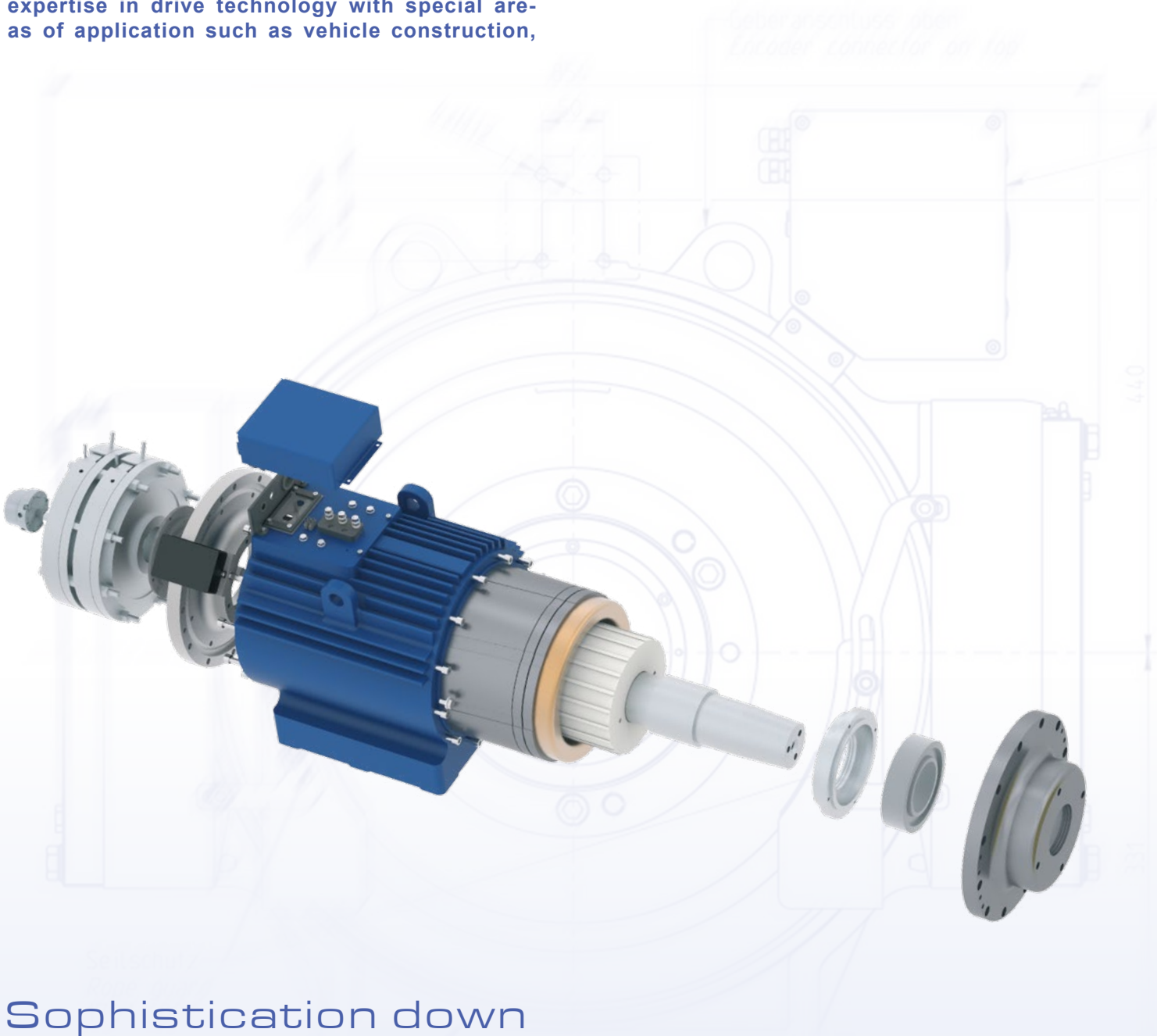
Customized drive solutions

As the world's leading system provider in the field of ventilation systems and drive technology with adapted control engineering, ZIEHL-ABEGG offers innovative solutions for many branches of business.

We are a reliable innovation partner to many companies and benefit from decades of product expertise in drive technology with special areas of application such as vehicle construction,

medical technology or mechanical engineering. Thanks to our wide product range and our 300-strong development team, we have what it takes to flexibly implement customized solutions.

Thanks to our worldwide sales and manufacturing network we are able to support you on-site.



Sophistication down to the last detail

Every drive element can give the end product crucial advantages. That is why we are not content with achieving the required speed/torque curve, but work closely and meticulously together with our customers on every detail. Regardless of whether

the encoder system, the brake or 'just' the connection technique. Achieving excellent efficiency is just as important to us as offering an economical package.



Elevator Technology

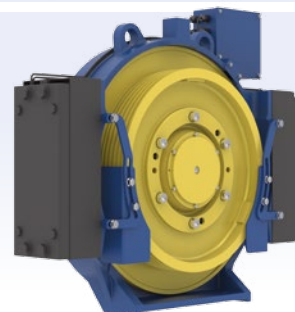


ZAtop

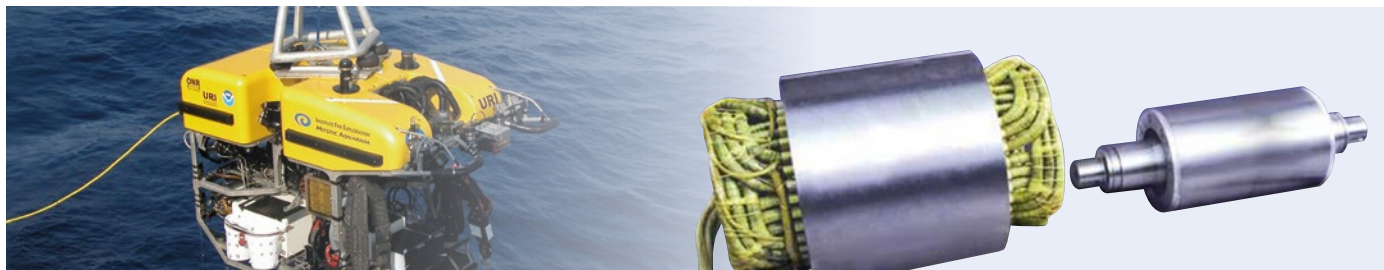
Compact internal rotor

ZAdisc

Flat disc rotor



Deep-sea engineering



HYDT

High-voltage submersible motor

Medical technology



ZAscanpro

Integrated drive

Generator technology



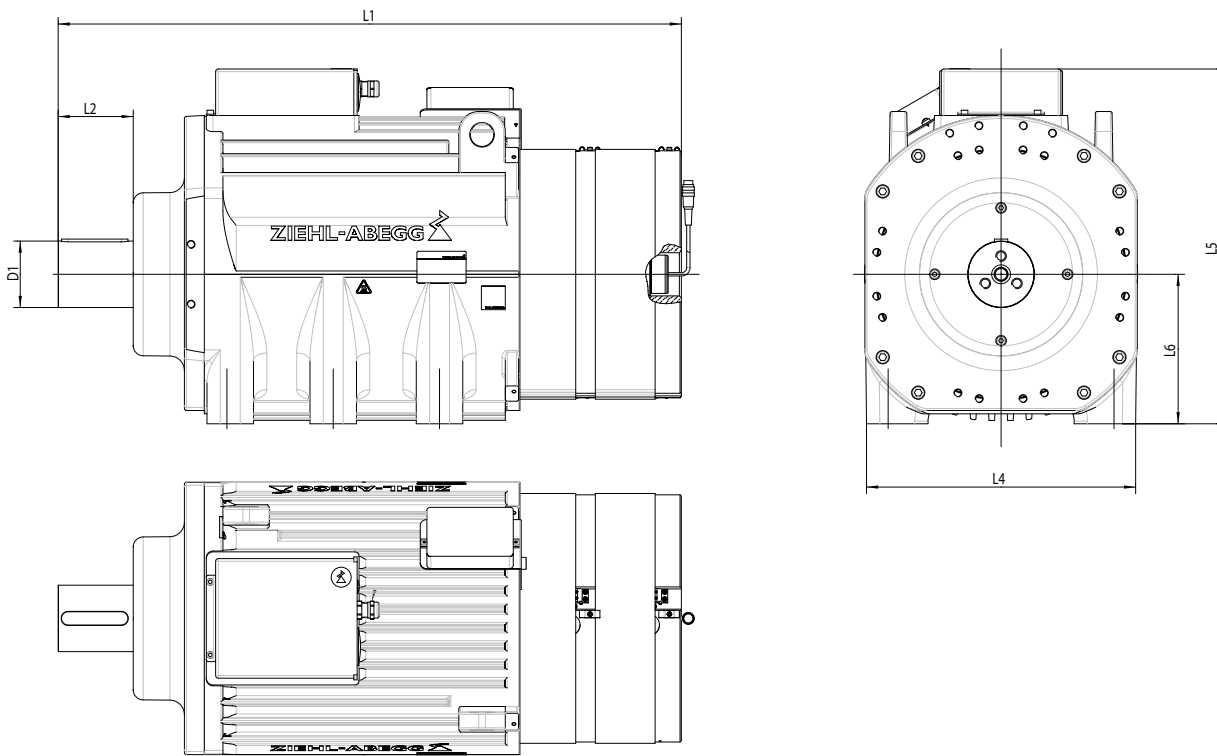
Generator

Permanent magnet excited synchronous generators

Internal rotor motors

The encoder system can be adapted to our motors according to your specification. Our standard range includes a high-quality encoder system, e.g. an absolute encoder with additional sinusoidal incremental signals.

On request, the drive can be equipped with a mechanical brake system. Single-circuit or dual-circuit systems are optionally available. We will always find you the optimal solution in accordance with your requirements.



*can be customized

Motor type	D1 [mm]	L1 [mm]	L2 [mm]	L4 [mm]	L5 [mm]	L6 [mm]	Brake
SM200.15	80	524	130	265	438	195	2x280 Nm
SM200.20	80	526	130	265	438	195	2x410 Nm
SM200.30	80	569	130	265	438	195	2x500 Nm
SM200.40	80	600	80	295	451	180	2x800 Nm
SM200.45	80	600	80	295	451	180	2x800 Nm
SM250.45	100	876	165	405	535	225	2x1200 Nm
SM250.60	100	990	165	405	535	225	2x2200 Nm
SM250.80	120	1125	165	440	637	267	2x2800 Nm
SM250.100	140	1347	200	544	729	300	2x2800 Nm

Motor type SM		200.15	200.20	200.30	200.40	200.45	250.45	250.60	250.80	250.100
Torque S1, free convection	Nm	100	140	200	280	315	500	650	850	1050
Torque S3-60% ED, free convection	Nm	129	181	258	361	407	645	839	1097	1356
Torque S3-40% ED, free convection	Nm	158	221	316	443	498	791	1028	1344	1660
Torque S1, forced ventilation	Nm	150	200	300	400	450	750	1000	1333	1666
Torque S1, water-cooled	Nm	200	280	400	560	630	1125	1500	2000	2500
Peak torque	Nm	400	560	800	1120	1260	2250	3000	4000	5000
Torque ripple	Nm	< 1	< 1,4	< 2	< 3	<3	< 5	< 7,5	< 9	< 10
Nominal torque	rpm	20-300	20-300	20-300	20-300	20-300	20-300	20-300	20-300	20-300
Lowest speed*	rpm	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Maximal DC link voltage	VDC	700	700	700	700	700	700	700	700	700
Pol number	p	20	20	20	20	20	20	20	20	20
Rotor mass inertia	kgm ²	0,12	0,16	0,24	0,31	0,35	0,9	1,2	1,66	2

* Standstill torques: 70% of specified torques
Complete motors for high radial loads possible



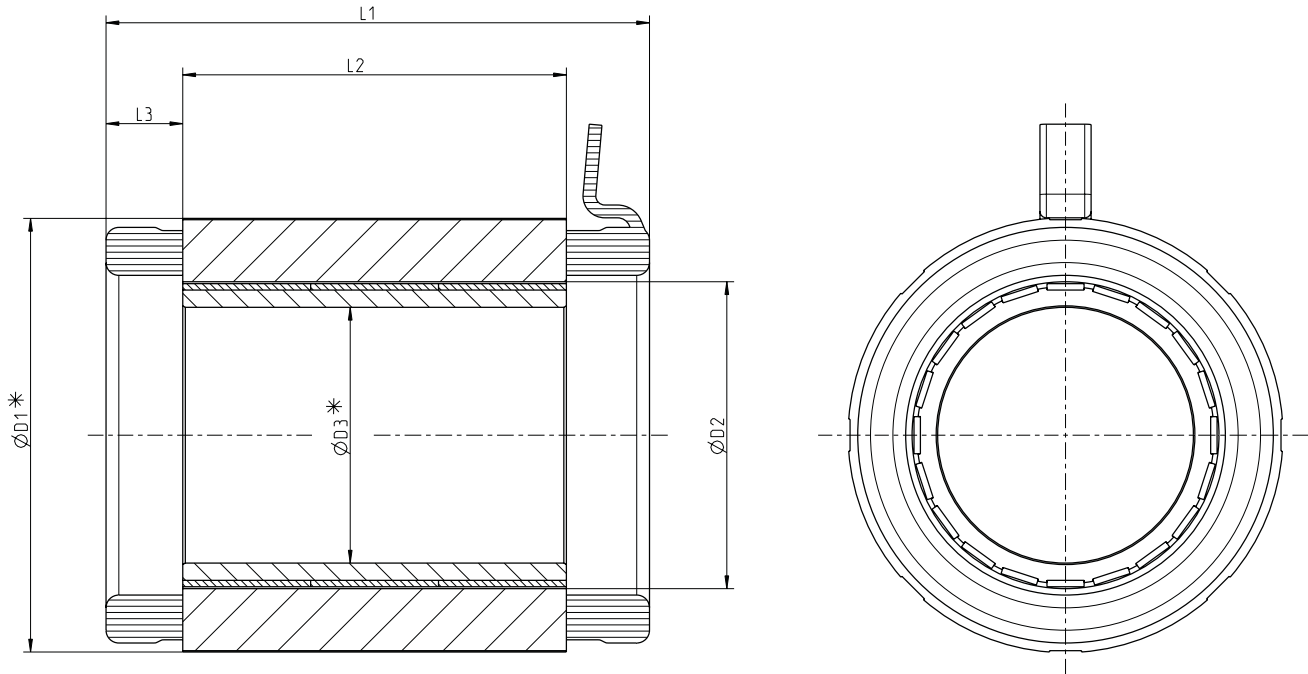
Internal rotor built-in motors

Compact gearless synchronous motor

ZIEHL-ABEGG's permanent magnet excited synchronous motors are conducted as compact internal rotors. These machines offer all the advantages of a modern drive system.

Mechanical coupling

The extensive know-how of ZIEHL-ABEGG makes it possible to develop flexible motor solutions. Our solutions always offer individual load couplings and we provide hollow, cylindrical or conical shaft ends for every machine.



*can be customized

Built-in motors offer:

- Customized diameter
- Low-noise operation
- Precise rotation
- No gear back lash
- No maintenance required
- Low heat generation

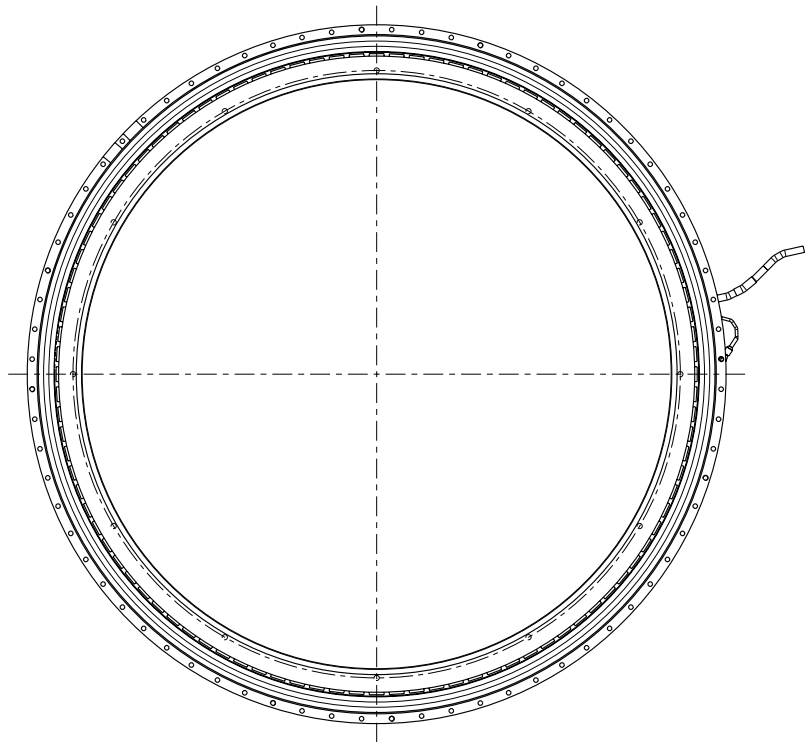
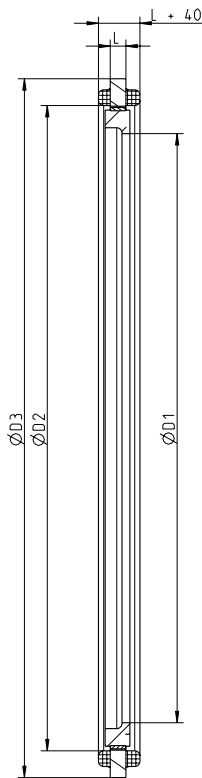
Motor type	D1 [mm]	D2 [mm]	D3 [mm]	L1 [mm]	L2 [mm]	L3 [mm]
SM200.15	300	215	175	190	75	55
SM200.20	300	215	175	215	100	55
SM200.30	300	215	175	265	150	55
SM200.40	300	215	175	315	200	55
SM200.45	300	215	175	340	225	55
SM250.45	375	270	230	360	225	60
SM250.60	375	270	230	435	300	60
SM250.80	375	270	230	535	400	60
SM250.100	375	270	230	635	500	60

Integrable ring-shaped drives

Rotative direct drives are increasingly replacing conventional transmission solutions in a lot of applications. By omitting transmission, belts and spindles we create a system free from backlash. Increased system rigidity enables high dynamic acceleration and very precise positioning leading to a reduction in cycle times.

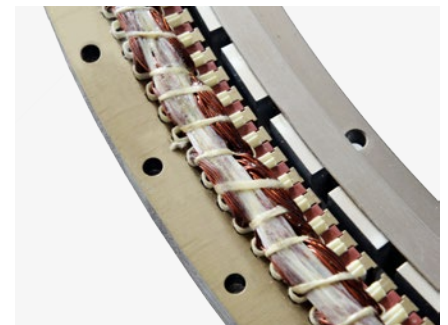
The speed of the driven machine corresponds to that of the drive. Specifically in the case of very low or high speeds, annoying transmission losses are dispensed with.

Direct drives operate quietly, wear- and maintenance-free making oil changes for drives a thing of the past - yet another benefit especially for clean-room applications.



Ring motors offer:

- Exact positioning
- Low-noise operation
- Precise rotation
- No gear backlash
- No maintenance required
- Compact, flat construction
- Low heat generation
- Free and individual internal diameter
- Integration of the drive into the system



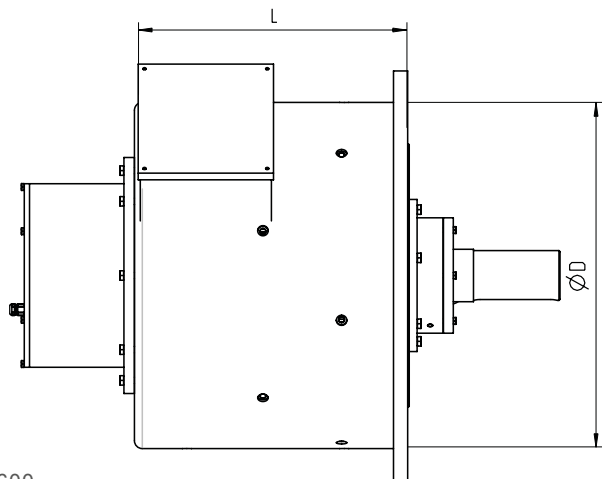
D1 [mm]	D2 [mm]	D3 [mm]	L [mm]	Mn (S1) [Nm]	Mp [Nm]	n [rpm]	Pol number [p]
460	500	565	30	100	250	20...300	32
460	500	565	50	200	540	20...300	32
945	986	1070	20	400	1000	20...300	64
945	986	1070	40	800	2000	20...300	64
1050	1095	1190	25	500	1300	20...300	64
1050	1095	1190	40	1000	2600	20...300	64
1050	1095	1190	60	1500	3900	20...300	64



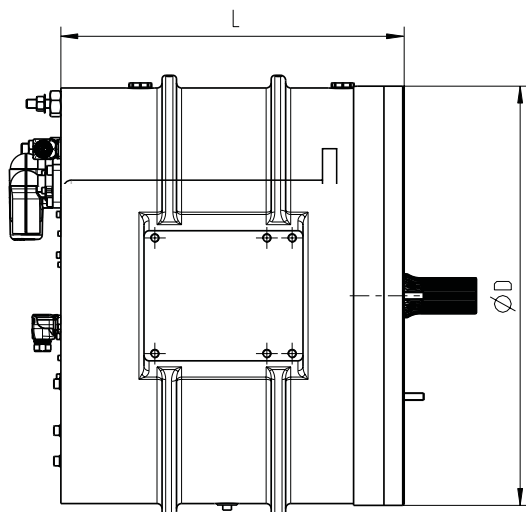
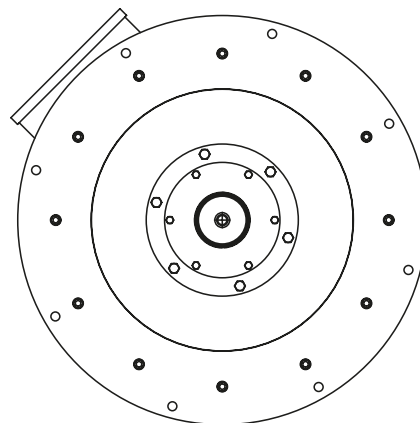
Generator solutions

Permanent magnet excited synchronous generators from ZIEHL-ABEGG offer a compact design, light weight and high output density. Based on the active material in our high efficiency elevator machines, generators with an internal and external rotor design can be created.

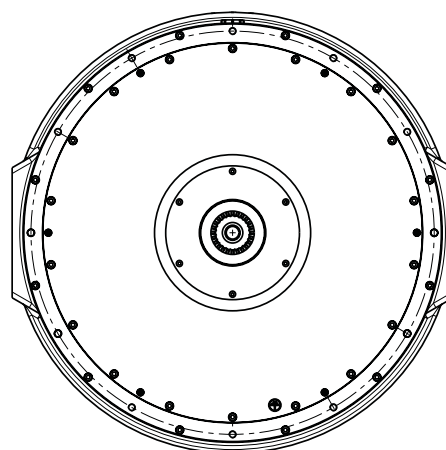
Whether we are working in the water power or vehicle engineering sectors, in conjunction with our customers we develop the perfect solutions and optimise the machines according to the relevant application and operating point.



SG600



SG500



Generators offer:

- Compact design
- Light weight
- High output density

Motor type (water-cooled)	D [mm]	L [mm]	Power [kW]	Speed [rpm]	Torque(S1) [Nm]	Pol number [p]
SG500.45	600	480	12	2100	1000	8
SG600.28	650	390	23	132	1900	30
SG600.37	650	435	30	132	2500	30
SG600.44	650	470	25	90	3000	30
SG600.44	650	470	43	160	2875	30

The Royal League

