

RENK high-speed gear units. Parallel offset and coaxial concepts.

High-speed gear units

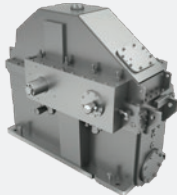
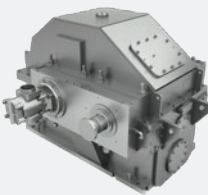
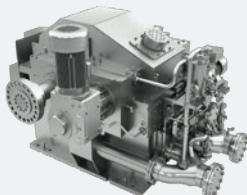


EMPOWERING FORCES.




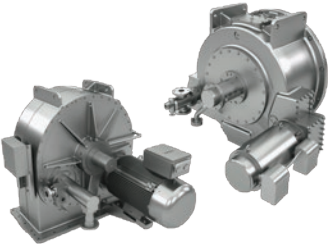


RENK high-speed gear units.

PARALLEL OFFSET CONCEPTS

Type	Helical gear units		Vacuum gear units
	TA...I	TA...XI	etaX®
	Pre-engineered high-speed gear	Power/load gear	High-efficiency load gear
			
Power	up to 20 MW	1 MW to 150 MW	30 MW to 200 MW
Low speed shaft rpm	< 2 000 rpm	< 10 000 rpm	< 10 000 rpm
High speed shaft rpm	< 15 000 rpm	< 20 000 rpm	< 15 000 rpm
Ratio from to	4 – 9.5	1 – 11	1.2 – 9
Number of planets	–	–	–
Center distance	500 – 900 mm	200 – 1200 mm	450 – 1200 mm
Efficiency max. (min. 1.5% less)	98.5%	99.0%	99.5%
Gearing stage 1/stage 2	Double helical	Single or double helical	Double helical
etaX VACUTECH option	–	–	✓
Axial bearing on l.s.s.	Tilting pad	Tilting pad	No axial bearing, tilting pad optional
Bearing temperature monitoring	8 probes	12 probes	12 probes
Shaft vibration monitoring	✓	✓	✓
Casing vibration monitoring	✓	✓	✓
Pre-Engineered standard available	✓	–	✓
Application	Compressor, pump	Generator, compressor, pump	Generator, compressor
Special features	<ul style="list-style-type: none"> – All wiring on lower case – API 613 – Worldwide acceptance – Short delivery 	<ul style="list-style-type: none"> – All wiring on lower case – API 613 – Also for difficult dynamics – Worldwide acceptance 	<ul style="list-style-type: none"> – All wiring on lower case – API 613 – Highest available efficiency – Highest reliability and oil life cycle

COAXIAL CONCEPTS

Variable-speed drive system	Planetary gear units		
RECOVER®-E*	TPV	PTG	COPAZ®/CPG
Variable-speed drive system	Torque split gear	High-ratio epicyclic gear	Epicyclic gear
			
3 MW to 150 MW (20 MW)*	3 MW to 300 MW	0.5 MW to 15 MW	2 MW to 35 MW
< 1 800 rpm	< 15 000 rpm	< 3 600 rpm	< 3 600 rpm
4 000 – 25 000 rpm	< 50 000 rpm	< 50 000 rpm	< 20 000 rpm
3 to 15	1.2 – 8	8 – 22	3 – 11
3 to 4 (3)*	3 to 4	3	3 to 5
–	–	–	–
97.8% (system efficiency)	98.0%	98.0%	99.0%
Spur/double helical	Spur/double helical	Spur	Spur
–	✓	–	–
Shoulder bearing	Shoulder bearing	Shoulder bearing	Shoulder bearing CPG: no l.s.s. bearing
All bearings incl. planet bearings	10 probes	10 probes	10 probes
All shafts excl. planet shafts	✓	All shafts excl. planet shafts	All shafts excl. planet shafts
✓	✓	✓	✓
✓	–	✓	✓
Compressor, boiler feed pump, test stand	Generator, test stand, compressor	Generator, compressor, test stand	Generator, compressor, test stand
<ul style="list-style-type: none"> – Electrically superimposed planetary drive incl. transformer and converter – Highest efficiency of all variable speed drives – Low harmonic distortion – Unique maintenance concept – L.s. coupling included 	<ul style="list-style-type: none"> – Low weight – Couplings included – Can compensate shaft thermal growth – Ultimate powers & speeds feasible 	<ul style="list-style-type: none"> – Very low weight – Minimum footprint – L.s. coupling included – Can compensate shaft thermal growth 	<ul style="list-style-type: none"> – Very low weight – Minimum footprint – Couplings included – GT/G standard drives – Can compensate shaft thermal growth

* Standard edition

Follow the QR code and learn more about RENK products.



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