

**Wölfer technology
moves your
containers**



1 Who Are We?



- **1945:** Founded by engineer Franz Wölfer
- **1955:** Production Slipring Motors for lifting applications
- **1960:** First Squirrel-Cage Motors
- **1985:** Motors for inverter operation
- **2008:** New test field up to 2.100 kW
- **2016:** First water jacketed cooled Motors
- **2022** production launch of IP 67 water proofed motors
- **2023:** Wölfer becomes part of Wichmann -> Wölfer by Wichmann E

Lifting applications are our core business - since **79 years!**

Business Areas

Lifting Applications

Marine Applications

General Machinery

Container Cranes

Goliath Cranes

Tower Cranes

STS Cranes

RTG Cranes

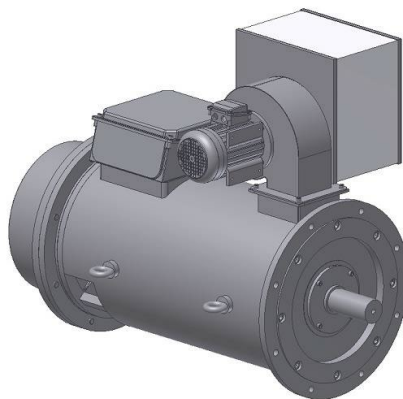
RMG Cranes

Straddle Carrier

Construction types – IEC classification and different protection classes

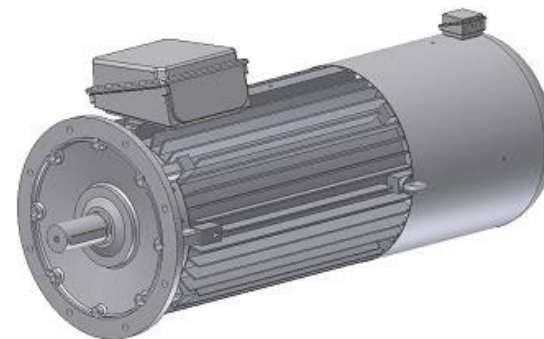
IP 23

Inner Cooled
Steel welded housing



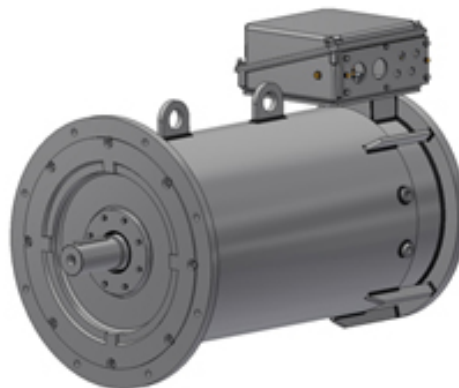
IP 54 - 56

Outer Cooled
Grey cast Iron housing



IP 67

Water Cooled
Steel welded housing



Windings

- insulation system developed for inverter operation
- Special wires resistant against partial discharges



Rotor

- lowest moments of inertia
- high pull-out torques
- shortest acceleration times
- low currents during start and operation



Wide variety of additional equipment!



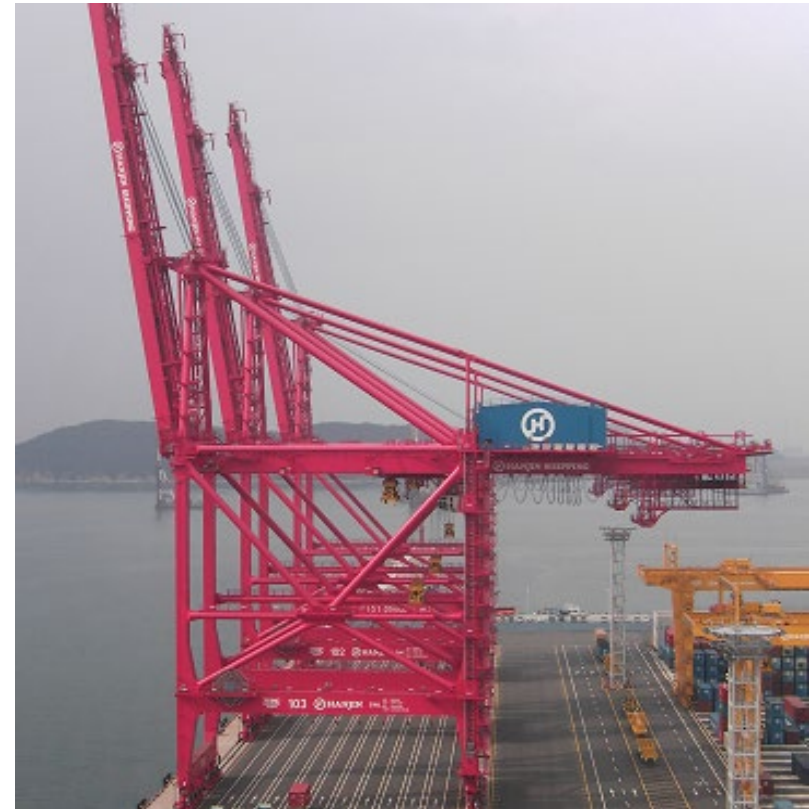
- Brake
- Encoder (specified by customer)
- Two shaft ends
- Anti-condensation heater
- All kind of winding protection
- Preparation for bearing monitoring and vibration monitoring
- Insulated bearings,
standard \geq frame size 315

3 References

DP World
Super Post Panamax STS cranes



Newport Terminal Busan – Korea
Electrical OEM – ABB



RTG-Crane in Ningbo – China, Kone (former Noell)



Hoist:

Motor type: DRKF 315 L-6bbbT

Power: 1 x 210 kW

Trolley:

Motor type: DRKO 180 M-4bSFB10HT

Power: 2 x 15 kW

Gantry:

Motor type: DRKO 200 L-4bSFB25HT

Power: 4 x 30 kW

3 References

AGV – Kone (former Gottwald)– CTA – Hamburg, Germany



3 References Marine Applications

SPLEIPNIR with 2 x 10.000 t cranes by Huisman / Netherlands
195 Wölfer motors installed



Summary

- 79 years of expertise in custom designed motors
- Lower moment of inertia
- Lower starting current
- Shorter acceleration time
- Robust design, smaller weight and frame size
- Energy savings
- Lifting more containers per hour
- Possibility to use smaller cables and inverters due to lower current



Appreciate you listening