



**We Keep  
the World  
in Motion.**

Generators for the wind market  
[www.elinmotoren.at](http://www.elinmotoren.at)

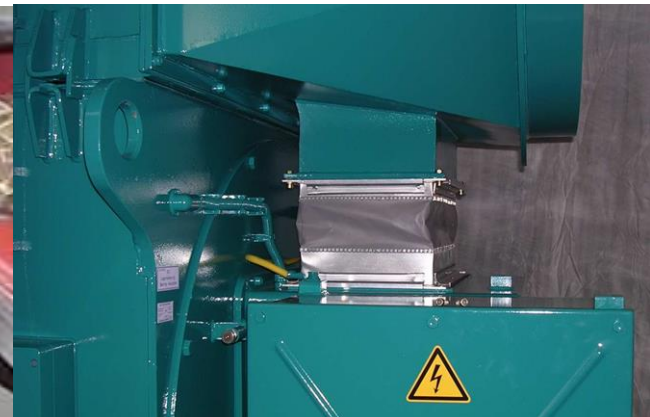
**Asynchronous type – squirrel cage vs. double fed**  
**Synchronous type – conventional vs. permanent magnet**

- **Rotor design:**  
one speed, two speeds, slip rings,  
full pole vs. salient poles vs. permanent magnet
- **Voltage:**  
600 V up to 10 kV on request
- **Insulation class F or H**
- **50, 60 Hz or “All in One”**
- **On-shore and Off-shore designs**

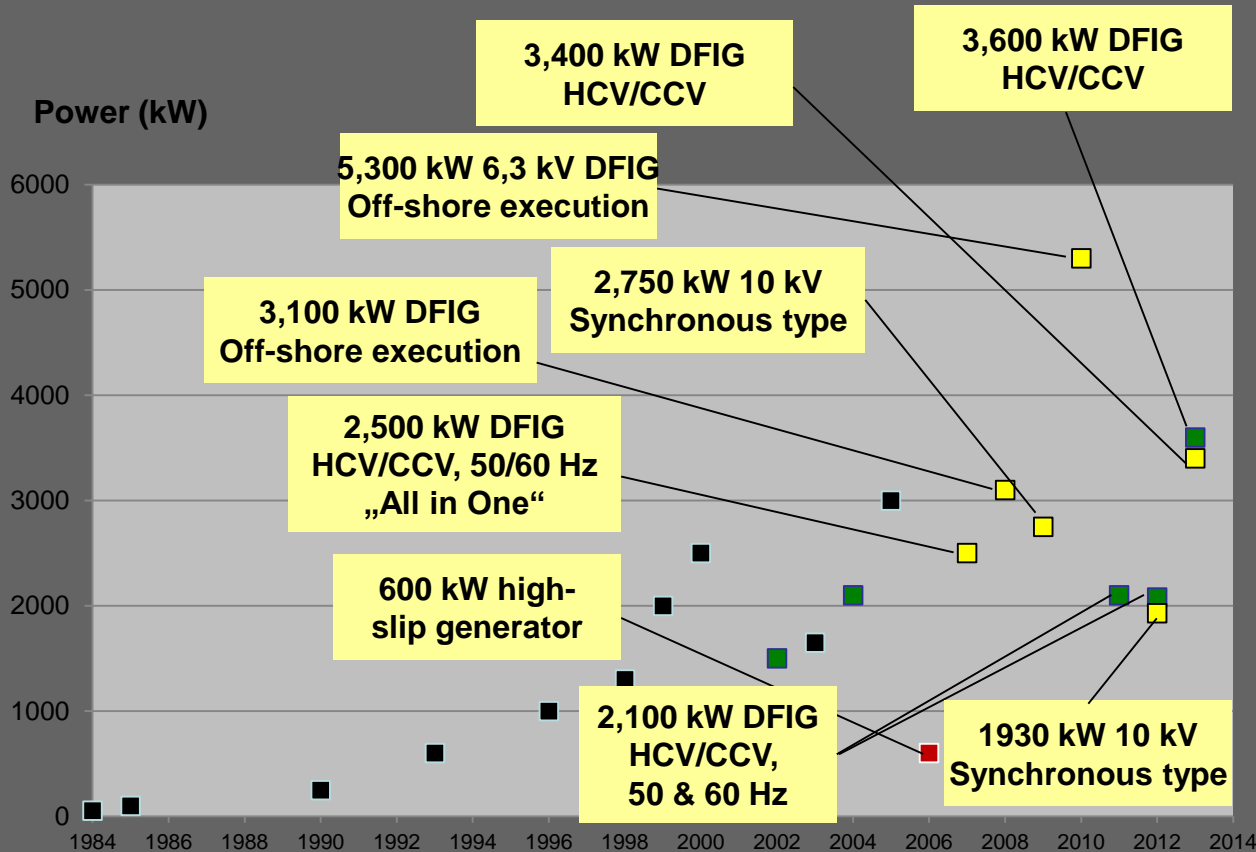


## Cooling technology

- Closed inner air circulation cooled by means of air/air or air/water heat exchanger
- Stator liquid jacket cooling combined with rotor air cooling
- Others on request



# Technology Development



## Power in kW (selection)

600 / 750 / 800 / 900 / 1.000  
 1.300 / 1.500 / 1.650 / 1.930  
 2.000 / 2.080 / 2.100 / 2.500  
 2.750 / 3.000 / 3.100 / 3.400  
 3.600 / 5.300 kW

- Liquid jacket cooling
- Air/air heat exchanger
- Surface cooling
- Air/water heat exchanger

DFIG.... Doubly Fed Ind. Gen.



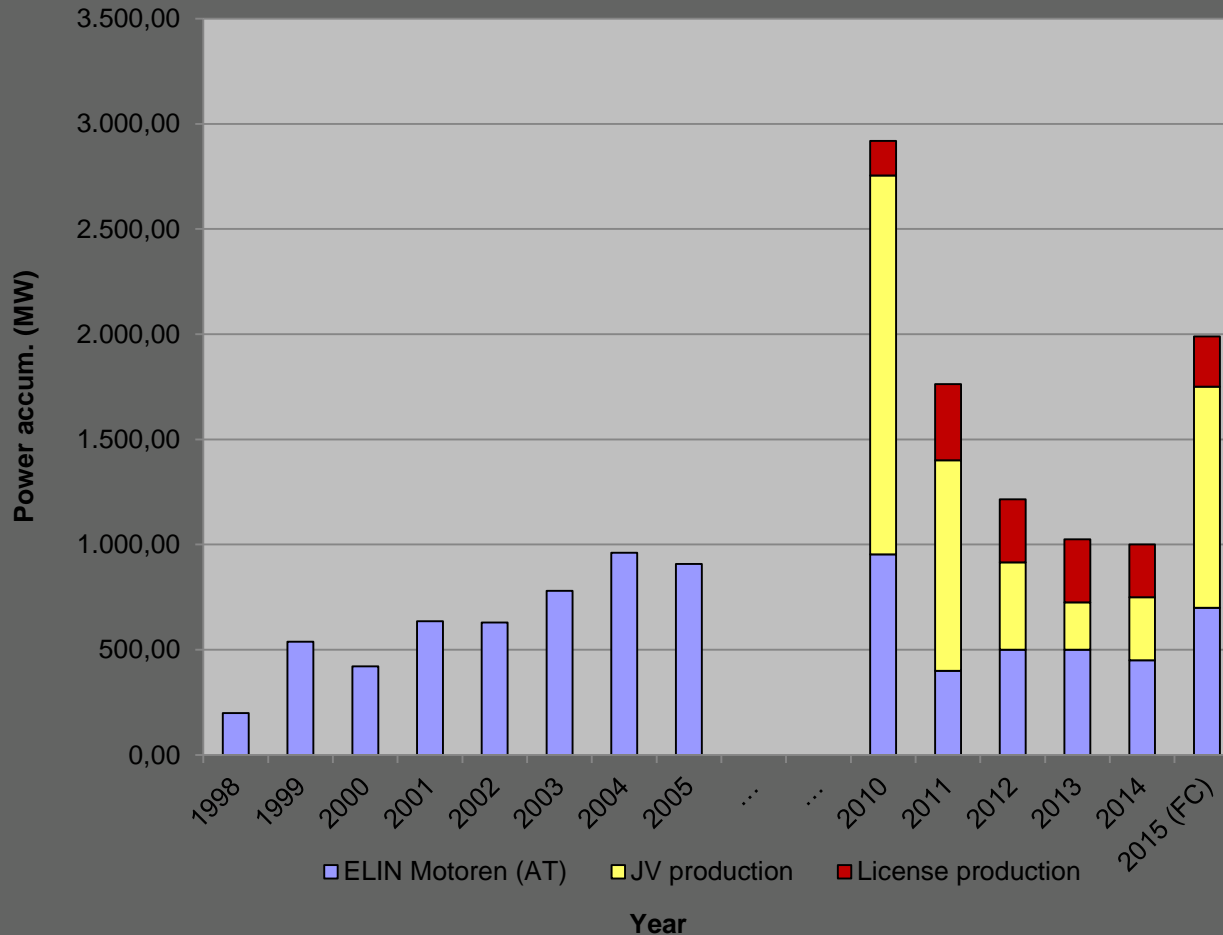
# 6 MW Test Centre



- Testing of synchronous, asynchronous and direct current machines
- Feed voltage:  
AC: 400 V up to 15 kV  
DC: up to 600 V
- Power:  
up to 6 MW direct coupling
- 2.1 / 2.25 / 2.5 / 3.1 / 3.4  
and 3.6 MW system tests  
(DFIG plus converter)  
already done
- Full load test for 5.3 MW  
DFIG's already done

# Production Output Facility Weiz

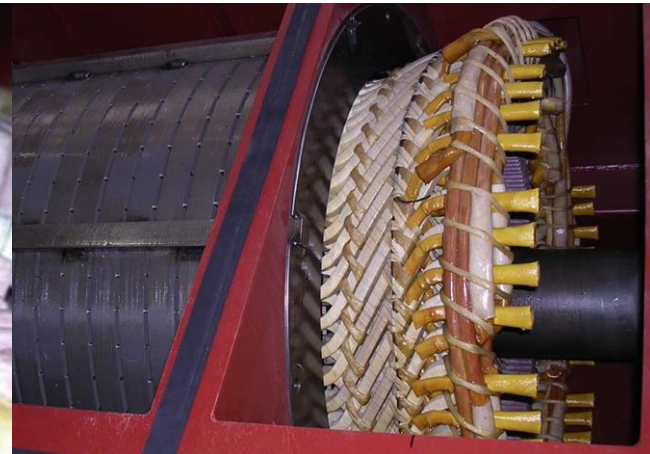
Accumulated power (MW)



- Average power size 2014 approx. 2.6 MW
- Accumulated power trend per year is going along with the global market situation

## Benefits for our customers

- With our present power range starting from 600 kW up to 5,300 kW we are prepared to meet your demand.
- Our experience with Hot Climate, Cold Climate, On-shore and Off-shore applications ensures ELIN Motoren is THE partner for high quality and state of the art designs.



## Benefits for our customers

- By concentrating Know-how and competences at our Weiz location we are able to professionally support our global customers.
- Together with certified service partners all over the world and the strategy to support also localisation of series production in the main markets ELIN Motoren is in the position to cooperate with you in a close and efficient manner globally.
- Annual output of 500 – 2,000 MW wind power (excluding Joint Venture – and license products) and experience of around 25 years in the wind power business.





## Portfolio Overview (Selection)

Power	Voltage [V]	Freq. [Hz]	Speed [rpm]	Cooling	Type
<b>600 kW</b> 4 poles	690	50	1,538	Air cooled (surface)	Squirrel cage
<b>750 kW</b> 6/4 poles	690	50 *1)	1,006/1,510	Liquid cooling	Squirrel cage
<b>900 kW</b> 6/4 poles	690	50 *1)	1,007/1,510	Liquid cooling	Squirrel cage
<b>1,000 kW</b> 6/4 poles	690	50	1,011/1,515	Liquid cooling	Squirrel cage

\*1) ... also available as 60 Hz design

## Portfolio Overview (Selection)

Power	Voltage [V]	Freq. [Hz]	Speed [rpm]	Cooling	Type
<b>1,300 kW</b> 6/4 poles	690	50 (60)	1,010/1,514 (1,212/1,817)	Liquid cooling	Squirrel cage
<b>1,300 kW</b> 6/4 poles	690	50	1,012/1,518	Liquid cooling	Squirrel cage
<b>1,500 kW</b> 6/4 poles	690	50	1,008/1,518	Liquid cooling	Squirrel cage
<b>1,500 kW</b> 4 poles	690	50	1,511	Air / air heat exchanger	Slip rings
<b>1,520 kW</b> 4 poles	690	50 *1)	1,507	Liquid cooling	Slip rings, DFIG

\*1) ... also available as 60 Hz design

## Portfolio Overview (Selection)

Power	Voltage [V]	Freq. [Hz]	Speed [rpm]	Cooling	Type
<b>1,650 kW</b> 6 poles	690	50 *1)	1,012	Liquid cooling	Squirrel cage
<b>1,929 kW (2.143 kVA)</b> 4 poles	10,000	50	1,500	Air / water heat exchanger	Synchronous, brushless exc.
<b>2,080 kW</b> 4 poles	690	50 *1)	1,514	Air / air heat exchanger	Slip rings, DFIG
<b>2,100 kW</b> 4 poles	690	50 *1)	1,511	Air / air heat exchanger	Slip rings
<b>2,500 kW</b> 6 poles	660	50 *1)	1,010	Air / water heat exchanger	Slip rings, DFIG
<b>2,750 kW (3.060 kVA)</b> 4 poles	10,000	50	1,500	Air / water heat exchanger	Synchronous, brushless exc.

\*1) ... also available as 60 Hz design

## Portfolio Overview (Selection)

Power	Voltage [V]	Freq. [Hz]	Speed [rpm]	Cooling	Type
<b>3,100 kW</b> 6 poles	690	50 *1)	1,010	Air / water heat exchanger	Slip rings, DFIG Offshore design
<b>3,400 kW</b> 6 poles	660	50 *1)	1,008	Air / water heat exchanger	Slip rings, DFIG
<b>3,600 kW</b> 6 poles	950	50	1,007	Air / air heat exchanger	Slip rings, DFIG
<b>5,300 kW</b> 6 poles	6,300	50	1,010	Air / water heat exchanger	Slip rings, DFIG Offshore design

\*1) ... also available as 60 Hz design



Project: **Windpark „Merdelou“**

Location: France

Year: 2002



- Type: MCS-545 M21
- Power: 250 / 1,300 kW
- Voltage: 690 V
- Speed: 1,000 / 1,500 rpm
- Cooling: Liquid jacket cooling
- Application: Nordex N60

Project: **Windpark „Te Apiti“**

Location: New Zealand

Year: 2004



- Type: MCS-556 M06
- Power: 1,650 kW
- Voltage: 690 V
- Speed: 1,000 rpm
- Cooling: Liquid jacket cooling
- Application: Vestas V82

Project: **Windpark „Sanganesi“**

Location: India

Year: 2004



- Type: MRL-063 E04
- Power: 2,100 kW
- Voltage: 690 V
- Speed: 1,511 rpm
- Cooling: Air / air
- Application: Suzlon S88



Project: **Windpark „Jakoba Rippolder“**

Location: Netherlands

Year: 2007



- Type: MRM-063 Z06
- Power: 2,500 kW
- Voltage: 660 V
- Speed: 1,010 rpm
- Cooling: Air / water
- Application: Nordex N80/N90/  
N100/N117



Project: **Windpark „North Longyuan Huitengxile“**

Location: Inner Mongolia

Year: 2007



- Type: MCR-545 Z04
- Power: 1,520 kW
- Voltage: 690 V
- Speed: 1,507 rpm
- Cooling: Liquid jacket cooling
- Application: Sinoval SL1500

Project: **Windpark „Donghai bridge“ (Off-shore)**

Location: China

Year: 2009



- Type: MRM-063 Z06
- Power: 3,100 kW
- Voltage: 690 V
- Speed: 1,010 rpm
- Cooling: Air / water
- Application: Sinovel SL 3000

Project: **Windpark „Donghai bridge“ (Off-shore)**

Location: China

Year: 2011



- Type: HRM-171 Z06
- Power: 5,300 kW
- Voltage: 6.3 kV
- Speed: 1,006 rpm
- Cooling: Air / water
- Application: Sinoval SL 5000

Project: **Windpark „Dürnkrut“**

Location: Austria

Year: 2011



- Type: MRL-050 Z04
- Power: 2,080 kW
- Voltage: 690 V
- Speed: 1,514 rpm
- Cooling: Air / air
- Application: Servion MM92



Project: **Windpark „Janneby“**

Location: Germany

Year: 2013



- Type: MRM-063 Z06
- Power: 3,100 / 3,400 kW
- Voltage: 660 V
- Speed: 1,010 rpm
- Cooling: Air / water
- Application: Nordex N100 / N117 / N131 turbines

Project: **SET „electro-mechanical differential drive“**

Location: Austria

Year: 2010



- Type: HTM-163 Z04
- Power: 3,060 kVA
- Voltage: 10 kV
- Speed: 1,500 rpm
- Cooling: Air / water
- Application: SET-Prototype



**Stefan SCHAFFERHOFER**

**Director Business Unit Wind Energy**

Phone: +43 3172 90 606 - 3142

Fax: +43 3172 90 606 - 1504

Mobile: +43 664 80 838 3142

[stefan.schafferhofer@elinmotoren.at](mailto:stefan.schafferhofer@elinmotoren.at)



**Johann BIERBAUER**

**Wind Energy - Sales**

Phone: +43 3172 90 606 - 3395

Fax: +43 3172 90 606 - 1504

Mobile: +43 664 80 838 3395

[johann.bierbauer@elinmotoren.at](mailto:johann.bierbauer@elinmotoren.at)



**Reinhold HECHTL**

**Wind Energy  
After Sales Service & Claims**

Phone: +43 3172 90 606 - 2747  
Fax: +43 3172 90 606 - 1504  
Mobile: +43 664 80 838 2747  
[reinhold.hechtl@elinmotoren.at](mailto:reinhold.hechtl@elinmotoren.at)



**Norbert BRUNNER**

**Wind Energy  
Quality Engineer**

Phone: +43 3172 90 606 - 3143  
Fax: +43 3172 90 606 - 1504  
[norbert.brunner@elinmotoren.at](mailto:norbert.brunner@elinmotoren.at)



**Mario REITBAUER**

**Wind Energy  
After Sales Service & Claims**

Phone: +43 3172 90 606 - 2392  
Fax: +43 3172 90 606 - 1504  
Mobile: +43 664 80 838 2392  
[mario.reitbauer@elinmotoren.at](mailto:mario.reitbauer@elinmotoren.at)