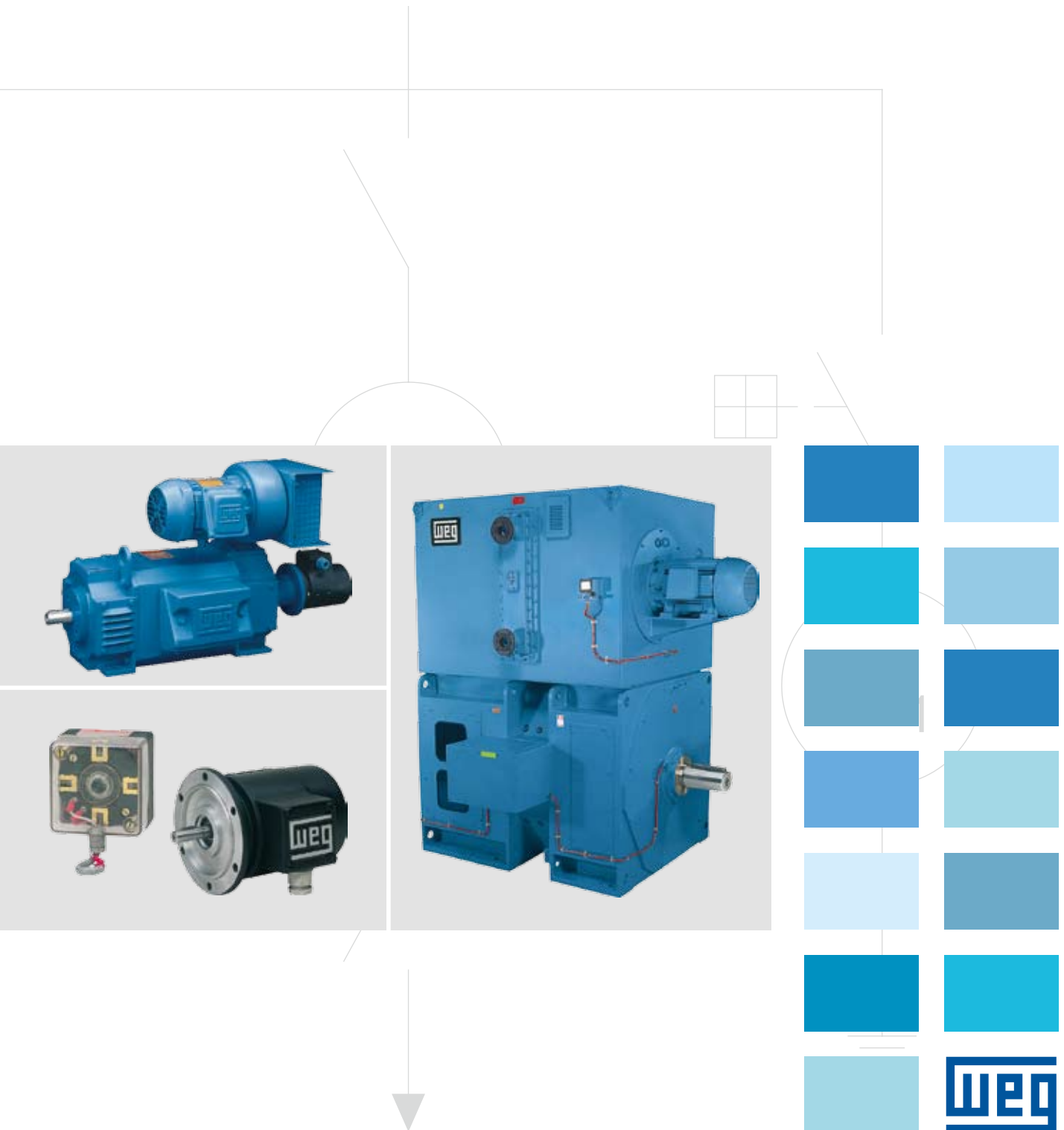


DC Motors



DC Motors

WEG DC motors are designed with the application of modern technology resulting in compact machines featuring excellent dynamic properties, meeting the most severe application in areas that include automation and process control.

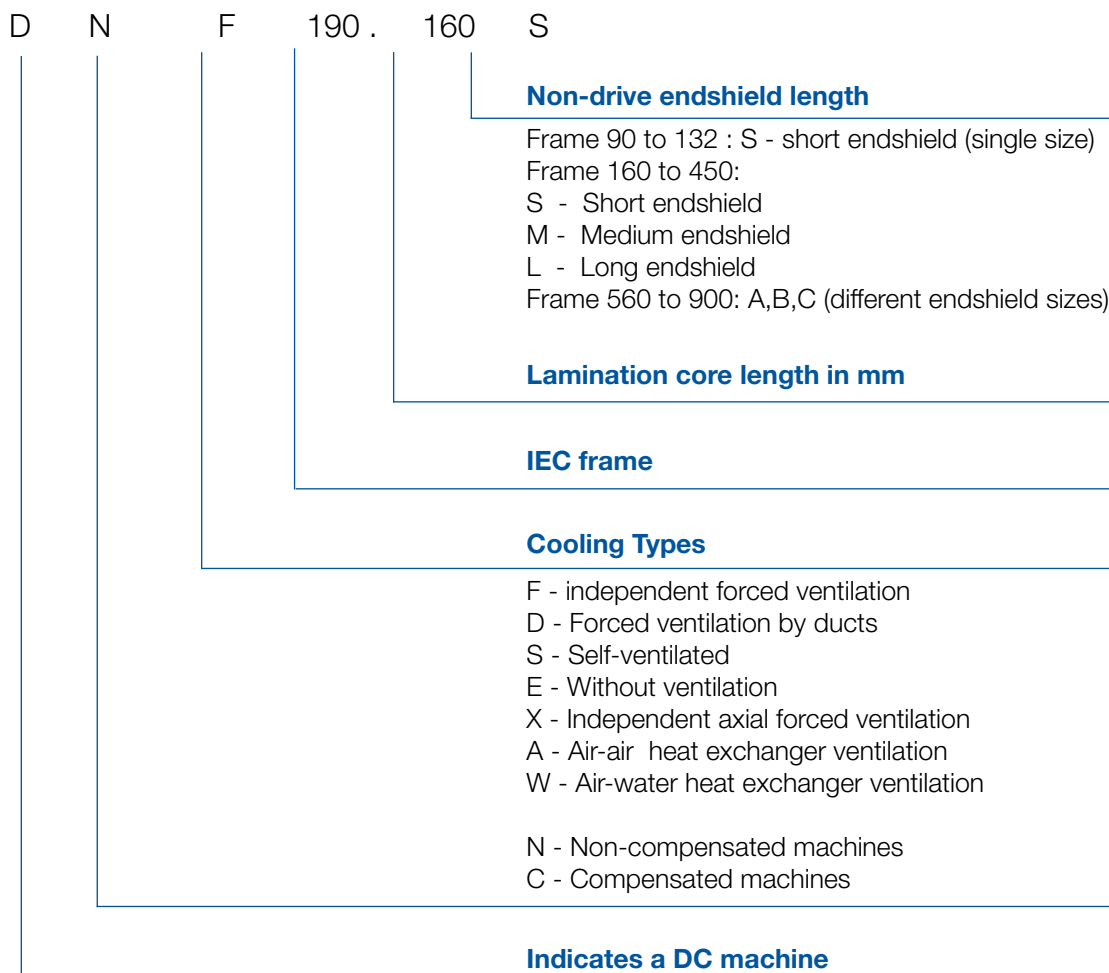
Technical Characteristics

The WEG DC motor lines are offered in outputs up to 10,000 kW, with torques ranging from 2 to 200,000Nm, and are applied in the most diverse industrial applications, including paper, plastic industries, among others.

Designed for tiristorized drive application, WEG DC motors allow a wide range of voltages from 110 to 800 V, and are manufactured in frames sizes 71 to 1800 (IEC).



Nomenclature



Constructive Characteristics

Frame

Manufactured with high quality rectangular, hexagonal or octagonal steel lamination, allowing powering through static converters under high dynamic service duties, quick torque and current variations.

Rotor and Stator Winding

These are wound with class H enamel copper wire, and impregnated with class F insulation system.

Endshields

Built in cast iron or steel fabricated, allowing coupling of WEG tacho-generators model 1R or TCW as well as other accessories and other tacho-generators and encoders, upon request.

Commutators

Manufactured with copper and high quality materials allowing perfect brush contact to ensure excellent commutation conditions.

Brush Holders

Manufactured with high technology, brush holders are built to proper dimensions, tolerances and pressures for each specific application ensuring extend life time to the mechanical system.

Brushes

Electrographite, natural graphite is the normal material used, but special brushes are offered based on the driven load operating conditions so as to provide longer brush lifetime.

Bearings

Based on the motor application, ball or roller bearing are usually applied. Oil lubricated sleeve bearings are used on specific applications.



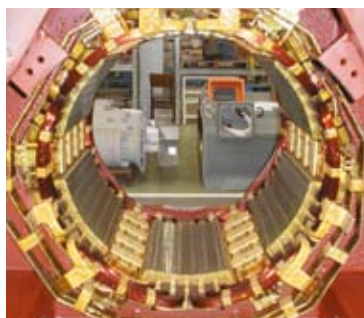
Rotors



Stator



Commutator Centrifugal



DNF or DCF

Independent forced ventilation
Degree of Protection IP23S
Cooling IC 06



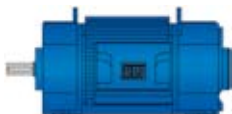
DNS

Self-ventilated
Degree of Protection IP23S
Cooling IC 01



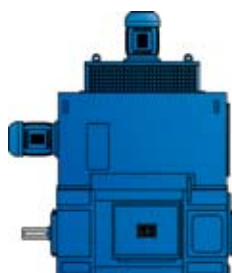
DNX

Independent axial forced ventilation
Degree of Protection IP23S
Cooling IC 06



DNE

Without ventilation
Degree of Protection IP44 to IP55(W)
Cooling IC 410



DNA or DCA

Air-air heat exchanger ventilation
Degree of Protection IP44 to IP55(W)
Cooling IC 666



DNW or DCW

Air-water heat exchanger ventilation
Degree of Protection IP44 to IP55(W)
Cooling IC 87W

Advantages

Besides offering reliability and high performance, which will guarantee long operating periods without requiring any maintenance, the WEG DC motors present relevant characteristics which include:

- Wide speed variation range
- Dimensions as per ABNT and IEC Standards
- Low weight/output ratio
- High efficiency
- Low noise level
- Low moment of inertia
- High capacity to dynamic loads
- Rugged construction
- High vibration resistance
- Excellent commutation quality

Complete Solutions

With the progress in electronics for large power circuit and control systems, the application of the converter, control and DC motor combination is a viable and economical alternative.

DC motors offer a wide range of speed variation without affecting the driven machine performance.

Consisting of AC/DC converters and motor, the DC drives feature excellent control and regulation properties which result in:

- Precise speed regulation;
- Constant and long acceleration under any load condition;
- Controlled acceleration and/or deceleration;
- Constant torque under wide speed range with armature control.



Applications

Due to its versatility, this product is suitable for a wide variety of applications on the electric motor industry, including:

- General purpose machines
- Piston pumps
- Friction torques
- Advance machines
- Lath machines
- Winding machines
- Drilling Machine
- Grinding machines
- Textile machines
- Chemical and petrochemical industry
- Furnaces, exhausters, separators and conveyor belts for cement industry and others
- Hoists and cranes
- Overhead cranes
- Traction vehicles
- Presses
- Paper machines
- Steel plants



Customer: USIMINAS

Country: Brazil
Supplies: DC motors of 325KW
Application: Tensioning roller



Customer: HEATLAND STEEL

Country: USA
Supplies: DC motors from 448 to 1119KW
Application: Cold steel laminators



Customer: UNI SYSTEMS

End user: Monte Rosa Mill
Country: Nicaragua
Supplies: DC motors of 746KW
Application: Sugar mills



Customer: MINERAÇÕES BRASILEIRAS REUNIDAS

Country: Brazil
Supplies: DC motors of 350KW
Application: Conveyor belts

Tacho-generators

WEG also offers a line of Tacho-generators intended for control of numerical control machines and textile machines as well as other applications that require continuous speed control and acceleration or deceleration of fixed programs.

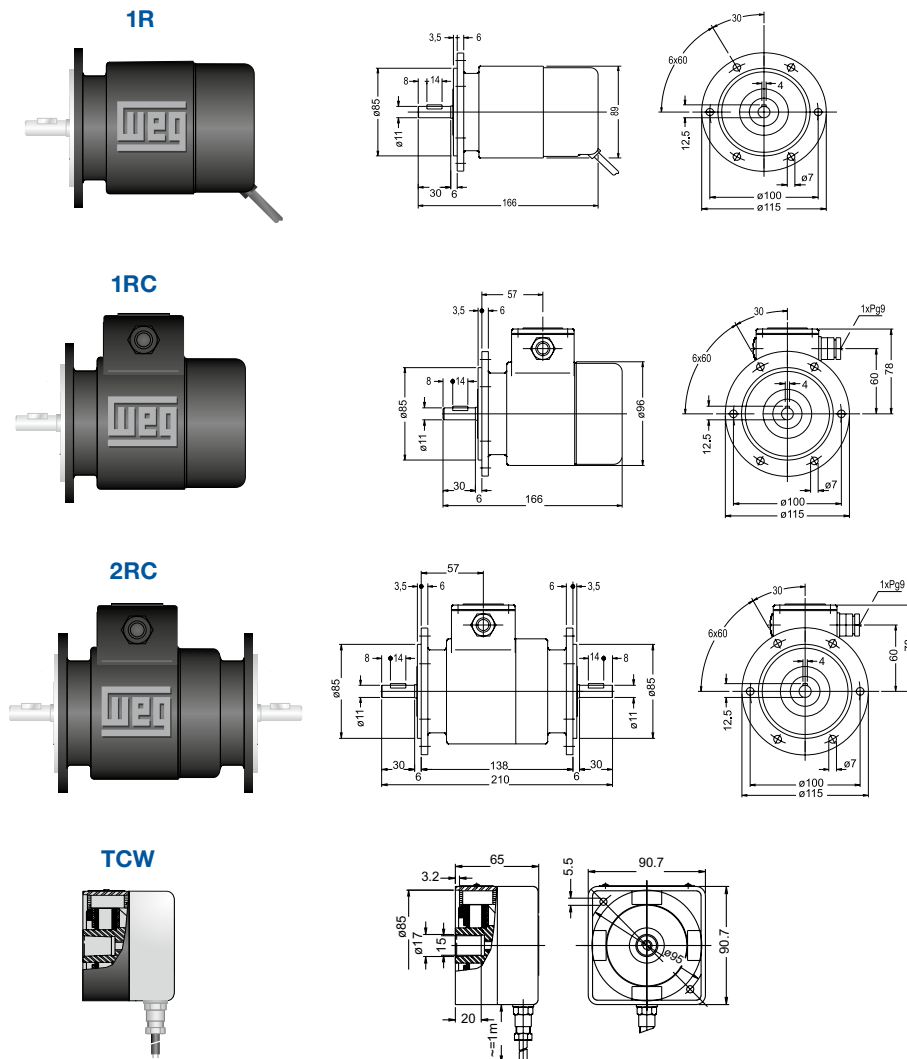
Models: 1R/20, 1R/60, 1R/100, 1RC/20, 1RC/60, 1RC/100, 1RCP/20, 1RCP/60, 1RP/100, 2RC20, 2RC/60, 2RCP/100, 3RP/20, 3RP/60, 3RP/100, TCW20, TCW40.

TCW

Flange mounting directly to the motor non-drive endshield, allowing either vertical or horizontal mounting; providing high mechanical strength.

R

Flange or foot mounting, allowing either vertical or horizontal mounting; supplied with terminal box or connection leads.



Note: Dimensions of other models under request.

Technical Characteristics

MODELS	_R_/20	_R_/60	_R_/100	TCW20_	TCW40_
Voltage at 1.000 rpm	20V*	60V*	100V*	20V*	40V*
Maximum speed	8000 rpm	8000 rpm	6000 rpm	8000 rpm	4000 rpm
Direction of rotation	Reversible	Reversible	Reversible	Reversible	Reversible
Max. Required current	550mA	250mA	160mA	30mA	20mA
Max. Required voltage	160V	480V	600V	165V	165V
Armature resistance	9 Ohm + 3%	59 Ohm + 3%	165 Ohm + 3%	60 Ohm + 3%	196 Ohm + 3%
Max. Linearity error	0,50%	0,50%	0,50%	0,50%	0,50%
Max. Reversing error	1%	1%	1%	1%	1%
Ripple	1%	1%	1%	1%	1%
Temperature Coefficient for voltage percent variation	0.01% / °	0.01% / ° C	0.01% / ° C	0.01% / ° C	0.01% / ° C
Isulation resistance at 600 Vcc and thermal duty of 120° C	2 M0hm	2 M0hm	2 M0hm	2 M0hm	2 M0hm
Dielectric strength between each terminal and frame	1700 V/60Hz for 30°	1701 V/60Hz for 30°	1702 V/60Hz for 30°	1703 V/60Hz for 30°	1704 V/60Hz for 30°
Max. Reletive ambient moisture	90%	90%	90%	90%	90%
Protection as per IEC - 34 and NBR 6146	IP44 or IP55**	IP44 or IP55**	IP44 or IP55**	IP55	IP55
Isulation class	B	B	B	B	B
Max. Radial strength	10 Kgf	10 Kgf	10 Kgf	-	-
Max. Axial strength	10 Kgf	10 Kgf	10 Kgf	-	-
Numbers of poles	2	2	2	4	4
Number of brushes	4	4	4	4	4
GD2	8450g. Cm2	8450g. Cm2	8450g. Cm2	5370g cm2	5370g cm2
Ambient Temperature	- 15 up to 60° C	- 15 up to 60° C	- 15 up to 60° C	- 15 up to 60° C	- 15 up to 60° C
Approx. Weight model without connection box	2.20 Kg	2.20 Kg	2.20 Kg	-	-
Aprox. Weight model with connection box	2.40 kg	2.40 Kg	2.40 Kg	-	-
Aprox. Weight model TCW	-	-	-	1.50 Kg	1.50 Kg

* Other voltages, on request.

** Without connection box (model R): IP44 .
With connection box (model RC): IP55.

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