

Series N Protected Machines

Series N covers drip proof, self ventilated machines. The cooling air is drawn from the ambient through the machines by two shaft-mounted fans.

The symbol for this cooling method, according to IEC and NEMA standards, is IC 01. A splash-proof top hat efficiently protects the air intake and outlet openings. Degree of protection is IP 23 according to IEC standard. This means that the machine is protected against solid objects larger than 12 mm and spraying water (drip-proof, DP).

Series W Weather Protected Machines

Series W covers weather protected, self ventilated motors. The air, drawn in through a filter located in the top hat, enters the stator frame after three 90 degree changes in direction. In addition, an area of low air velocity prevents the moisture or dirt particles from being carried into the active parts of the motor.

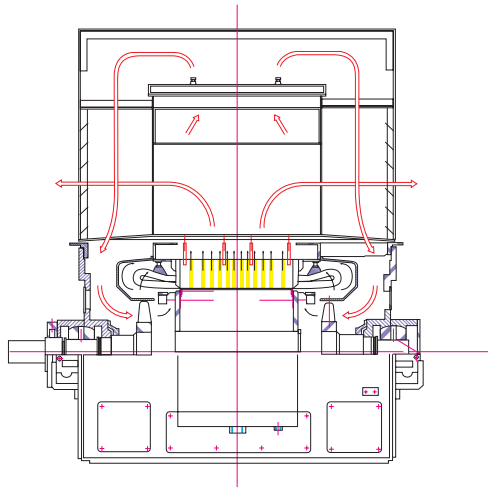
The symbol for this cooling method, according to IEC and NEMA standards, is IC 01. Degree of protection is IP W 24. This means that machines are protected against solid objects greater than 12 mm and splashing water. The design reduces the inlet of rain, snow and airborne particles, under specified conditions, to a level consistent with correct operation (weather-protected: type II, WP II).

Mounting Arrangements

All types available on both models. Use IEC standard coding to specify desired mounting type. IM 1001, IM 1005, IM 3011 are the most frequently requested mounting arrangements and are covered by standard design.

Installation in Hazardous Areas

Both models may also be supplied for installation in Hazardous Areas (Ex nA II T3/T4 and equivalent). Operating environment should be stated at time of order (class, zone, type of protection etc...).



Power rating:
150 - 25,000 kW

Voltage:
up to 15 kV

Frequency:
50 Hz, 60 Hz, and variable frequency with converter

Mass:
1,500 - 120,000 kg

Frame size:
315 mm to 1000 mm (*)

Number of poles:
2 - 36

The following table shows typical values per size range for the series N and W machines in 2 - 4 - 6 pole configurations. Details on larger machines are available from our Sales Office. (See address below)

N° OF POLES	kW	r/min	efficiency			power factor			rated torque	4 x WR ²	Mass	Bearings
			4/4	3/4	2/4	4/4	3/4	2/4				
2 POLE												
315	315	2973	95.1	95.1	94.5	0.90	0.89	0.84	1012	15	1860	RG
355	630	2974	95.8	95.8	95.4	0.90	0.89	0.86	2023	24	2680	RG
400	900	2977	96.4	96.4	95.9	0.89	0.87	0.81	2887	40	3740	RG
450	1400	2979	96.5	96.4	95.8	0.90	0.89	0.85	4488	78	5060	SN
500	2250	2979	96.8	96.7	96.3	0.90	0.89	0.85	7212	125	6630	SN
560	3150	2983	97.0	96.9	96.3	0.90	0.89	0.86	10084	232	8600	SF
630	4500	2987	97.2	96.9	96.3	0.90	0.89	0.85	14386	324	12350	SF
4 POLE												
315	280	1478	94.7	94.7	94.4	0.89	0.88	0.84	1809	19	1790	RG
355	500	1480	95.6	95.6	95.5	0.89	0.88	0.84	3226	39	2535	RG
400	800	1480	96.0	96.0	95.8	0.89	0.88	0.85	5162	72	3445	RG
450	1250	1484	96.1	96.1	95.7	0.89	0.88	0.84	8044	120	4440	RG
500	2000	1485	96.5	96.5	96.1	0.89	0.88	0.85	12861	228	5960	RG
560	3150	1487	96.9	96.9	96.5	0.89	0.88	0.87	20229	402	8080	RG
630	4500	1488	97.0	96.9	96.6	0.89	0.88	0.87	28879	708	10970	SN
710	6300	1489	97.3	97.1	96.6	0.89	0.88	0.86	40403	1305	17160	SF
800	9000	1490	97.3	97.1	96.6	0.89	0.88	0.87	57680	2260	21460	SF
6 POLE												
355	400	983	94.4	94.4	94.3	0.87	0.86	0.82	3886	52	2610	RG
400	630	983	94.7	94.7	94.5	0.87	0.86	0.81	6120	93	3470	RG
450	900	987	95.5	95.5	95.0	0.87	0.85	0.80	8708	158	4490	RG
500	1400	988	96.2	96.2	95.8	0.88	0.87	0.83	13531	294	6110	RG
560	2000	988	96.3	96.3	95.9	0.88	0.87	0.83	19331	461	7430	RG
630	2800	990	96.7	96.7	96.5	0.88	0.87	0.84	27008	860	10420	RG
710	4500	990	96.9	96.9	96.6	0.88	0.87	0.85	43406	1580	16090	RG
800	5600	993	97.2	97.0	96.5	0.88	0.87	0.85	53853	2390	18660	SN

(*) Larger sizes also available

Table applies to machines with the following characteristics:

Rated Voltage: **6 kV ± 5%**
 Frequency: **50 Hz ± 2%**
 Ambient Temperature: **40 °C**
 Altitude: **< /= 1000 m above sea level**

Insulation/Temperature Class: **F/B**
 Degree of Protection: **IP 23 for Series N; IP W24 for Series W**
 Mounting Arrangement: **Horizontal IM 1001**
 Rotor: **Aluminium squirrel cage**
 Cooling: **IC 01**

Bearings: see table
R = Rolling Bearing
S = Sleeve Bearing
N = Self Lubricated (oil)
F = Forced Lubricated (oil)
G = Grease Lubricated