Ansaldo Sistemi Industriali

Series CR/CRV

Totally enclosed air to water cooled

FOR SPECIAL APPLICATIONS A WATER ANALYSIS IS REQUIRED.

STANDARD TYPE HEAT EXCHANGER ELEMENTS ARE DESIGNED FOR WATER SERVICE PRESSURE UP TO 300 kPa (3 bar). TEST PRESSURE IS 1000 kPa (10 bar). THE PRESSURE DROP ACROSS THE COOLER IS ABOUT 40 kPa (400 mbar).

General

Series CR covers self ventilated machines with built on air to water heat exchanger. Water intake to the cooler is normally arranged on the lefthand side of the motor when facing the drive end but can also be situated on the other side upon request.
Standard type coolers are designed for a cooling water temperature at intake of 25 °C and a water temperature rise of approx. 5 K. Standard materials used for cooler components are the following:

TYPE OF WATER	MATERIALS FOR COOLER COMPONENTS				
	Tubes	Fins	End plate	Side walls	Water boxes
Non corrosive fresh water	Cu	Al	Electro galvanized steel	Painted steel	Steel with plastic protective lining
Sea water	Cu Ni 90/10 Fe	Al or Cu	Cu Zn 40	Painted steel	Cu Ni 90/10 Fe or Steel with plastic protective lining

Special materials may be used upon request.

The symbol for this cooling method, according to IEC and NEMA standards, is IC 81W. Degree of Protection is IP 44. This means that the machine is protected against solid objects greater than 1 mm and splashing water. Higher degrees of protection are available upon request.

Mounting Arrangements

Our standard for this machine is IM 1001. Other types of mounting arrangements are available upon request. Use IEC standard coding to specify desired mounting type.

Insulation system and stator winding

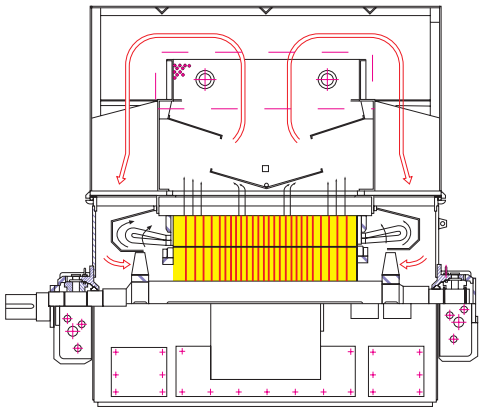
Micasystem®, our class F insulating system, is used on all form-wound stators throught the entire voltage range. For more details see the MICASYSTEM® flyer or contact our sales office.

Installation in Hazardous Areas

These machines may also be supplied for installation in Hazardous Areas. Protection conforms with Ex e type protection. Machines may also be supplied to conform with Ex p type protection. Operating environment should be stated at time of order (Class, zone, type of protection, etc...)

The Electric Motors and Generators Business Unit is certified

ISO 9001 ISO 14000



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 CR 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	$4 \times WR^2$	Mass	Bearings
size			4/4	3/4	2/4	4/4	3/4	2/4	Nm	kgm^2	kg	Type-lubr.
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	328	12700	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/water Temperature: **40/25 °C**
Altitude: **</= 1000 m above sea level**

Insulation/Temperature Class: **F/B**
Degree of Protection: **IP 44**
Mounting Arrangement: **Horizontal IM 1001**
Rotor: **Aluminium squirrel cage**
Cooling: **IC 81 W**

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

For further information contact: **Ansaldo Sistemi Industriali S.p.A. - Motors, Generators & Drives** Via Marconi 1 - 34074 Monfalcone (GO) Phone +39.0481.717.111 Fax +39.0481.717.330