

AL-EMS at Officine Fonderie Cervati gives 100% reliable air-cooled technology



The installation of ABB's electromagnetic stirrer, AL-EMS, to a BOTTA furnace at Officine Fonderie Certvati S.p.A. in Italy, is an investment by the Italian foundry to satisfy customer demands for high quality products. By adding ABB's air-cooled AL-EMS, the company has achieved improved process control.



The six ton tower furnace at Fonderie Cervati with ABB's air-cooled AL-EMS.

ABB's Scope of Supply

ABB supplied an air-cooled electromagnetic stirrer, ORZ120, which is installed underneath the holding chamber of the company's tower furnace. The system includes:

- Stirrer type ORZ120
- ACS800 variable frequency drive
- Isolation transformer
- Fan for air cooling.

ABB's Solutions

ABB supplies low cost, low power and reliable air-cooled electromagnetic stirrers for small furnaces and other vessels. Currently, Foundrie Cervati is running a six ton small furnace. ABB installed an ORZ120 stirrer underneath the holding chamber of the tower furnace, using air-cooled technology to achieve a homogeneous bath temperature and thereby improve process control.

Customer Benefits

ABB's air-cooled stirrer has been in operation at Fonderie Cervati since 2009. By adding ABB Air Cooled AL-EMS the company has improved the process control due by enabling a homogeneous bath temperature. Since the installation of the ABB air-cooled stirrer, Fonderie Cervati has been able to achieve the following results:

- Dross in the furnace reduced by 20%
- Reliability of air-cooled technology is 100%
- Furnace cleanliness is greatly improved.

After nearly two years of continuous operation the only maintenance required is the change of air filters.

Some of the products manufactured by Fonderie Cervati.



Cooperation

Having a good customer relationship with Fonderie Cervati has enabled ABB to confirm the safe and reliable operation of its air-cooled electromagnetic stirring technology, and quantitatively track results such as dross reduction.

“We are grateful that Fonderie Cervati has given ABB the opportunity to do this pilot installation of our air-cooled technology”, says Olof Sjöden, Manager of Global Sales for Metallurgy Products within ABB Business Unit Metals.

ABB Air Cooled AL-EMS

ABB's air-cooled electromagnetic stirrers are 3-phase coils specially developed for use with small furnaces, ladles or other vessels ranging up to approximately 20 metric tons, depending on refractory thickness. Technical data for the air-cooled AL-EMS units (standard model ORZ110, 120 and 150) are:



Main components
of ABB Air Cooled AL-EMS.

Technical data	ORZ110	ORZ120	ORZ150
Rated current (A)	85	85	85
Rated voltage (V)	400	600	600
Active power (kW)	3	15	25
Operating frequency (Hz)	1.5	1.5	1.0
Weight (kg)	850	1,500	2,500
Distance – furnace/ladle (mm)	10	10	10
Non-magnetic window minimum (mm)	1,700 x 1,250	1,700 x 1,250	2,500 x 1,300
Air flow (m ³ /hr)	1,200	4,000	6,500
Blower power (kW)	0.5	1.5	2.5

Facts about Officine Fonderie Cervati

Founded in 1953 in Brescia, northern Italy, Officine Fonderie Cervati S.p.A. began by specializing in the production of shell-mould casting components in bronze and brass. In the 1960s the company extended its production by introducing aluminum die-casting, which has become more and more important.

Today, the high flexibility and constant technological development has enabled the company to become an ideal partner in the supply of high, quality, finished products in a variety of different sectors. The company's product portfolio includes pneumatic, hydraulic, industrial vehicle components, railway car components, earthmoving machines, lighting, furniture, building material equipment, engine components, as well as components for textile machines.

The company is ISO 9001:2000 certified.

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