HOTION ELECTROMAGNETIC STIRRER

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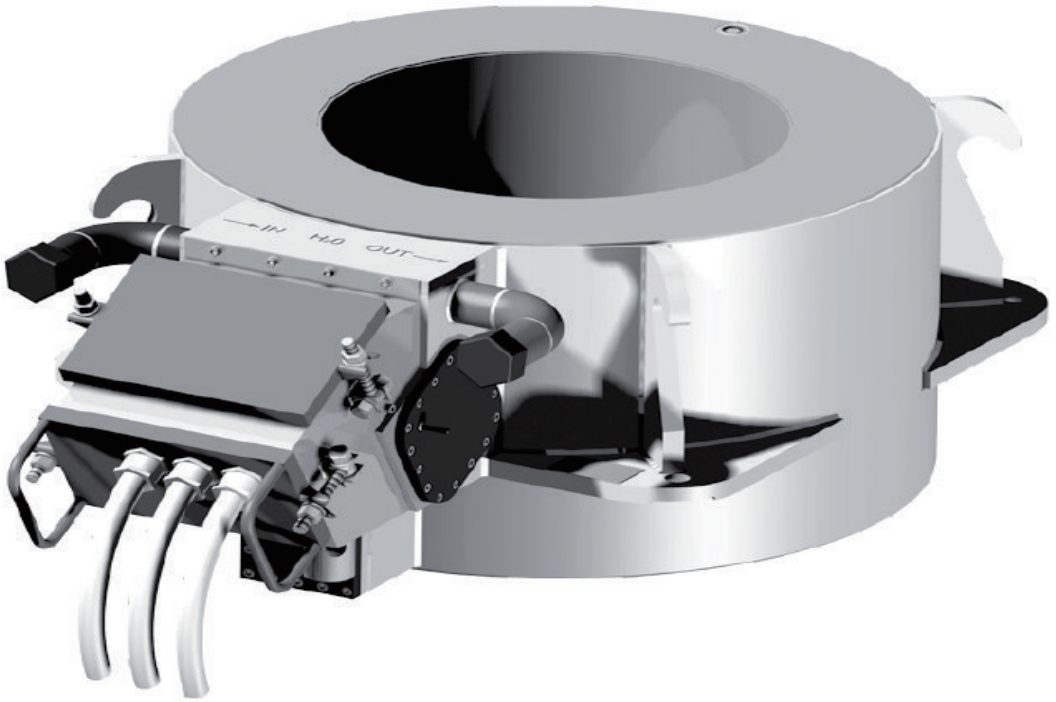
ELECTROMAGNETIC STIRRER



Continuous casting electromagnetic stirring technology is one of the most important applications in the continuous casting technology development since 1970s. With rapid development of continuous casting technology and enlargement of the steel varieties, the electromagnetic stirring technology has attracted more and more attentions in steel industry and gained good economic performance in manufacturing practice applications.

Electromagnetic stirring happens under the action of electromagnetic force which helps to strengthen the convection restrictions on movement of the molten steel in the liquid core of the casting blank, so that the flow motion, heat transferring and even alloy element distribution of the molten steel during its solidfication will be improved. The latest technology of improving casting blank internal quality will play significant role in upgrading steel material quality, realizing high speed continuous casting, enlarging continuous casting steel varieties and relaxing restrictions on continuous casting process conditions.

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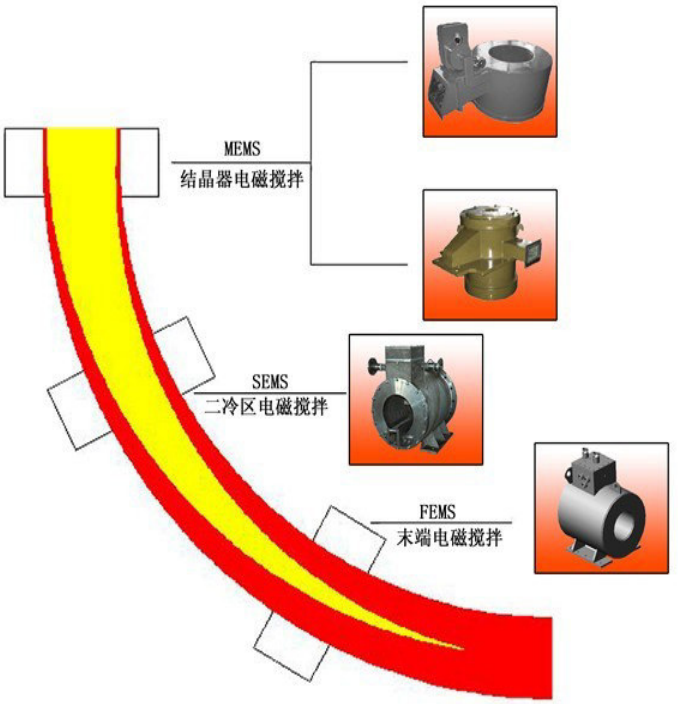
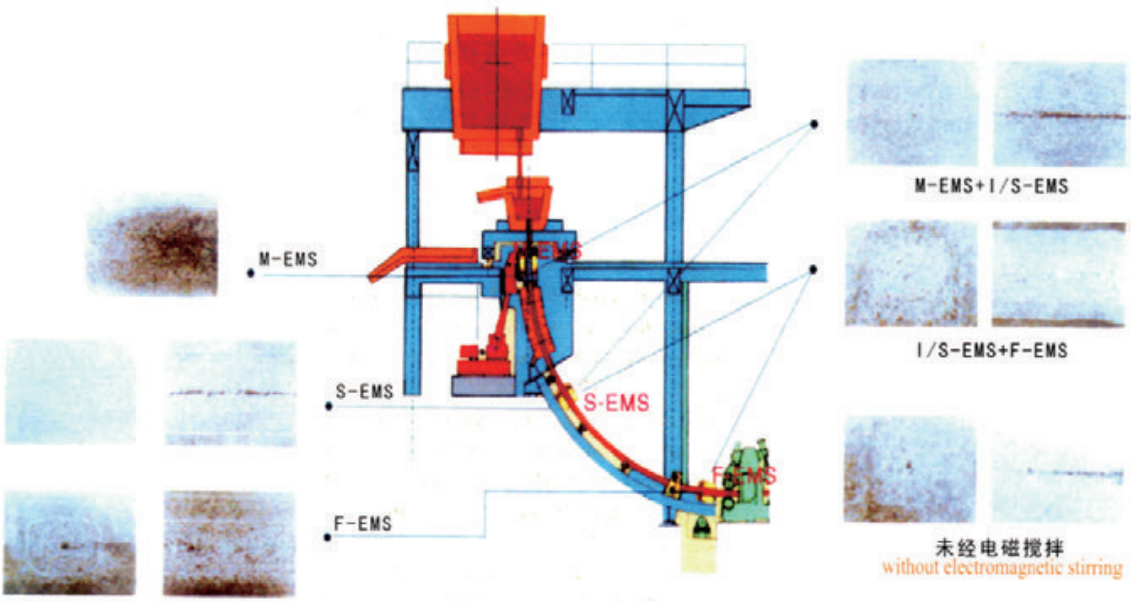


According to the installation positions, the electromagnetic stirrers have the varieties as follow:

- Mold electromagnetic stirrer(M-EMS)
- Blank mold electromagnetic brake(E-MBR)
- Mold Bottom(foot-roller bottom) electromagnetic stirrer(I-EMS)
- Strand electromagnetic stirrer(S-EMS)
- Final electromagnetic stirrer(F-EMS)

Different Effects Upon Integrated Different Electromagnetic Stirring Device



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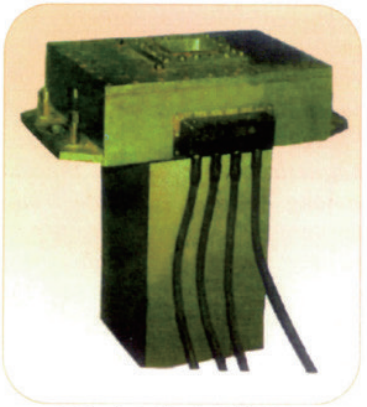
Mold Electromagnetic Stirrer(MEMS)

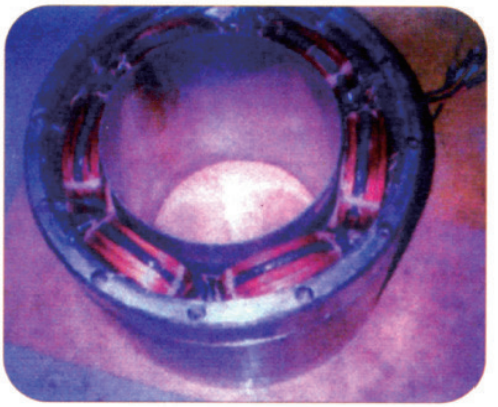
This product has outside mounted type and built-in type. Built-in type mold electromagnetic stirrer

- Electromagnetic stirrer mounted inside mould tank, powered by two or three phase low frequency current to excite the magnetic field and generate the movement of the molten steel inside the mold.
- Using direct water cooled winding, simple structure and good cooling performance
- Integrated mold water tank, compact contour
- Good coincidence with the fracture surface of the casting blank
- Concentrated magnetic field energy requiring low stirring power and less operating cost.



两相内置式电磁搅拌器
Two- phase built-in electromagnetic stirrer

三相直冷内置式结晶器电磁搅拌器
Three-phase direct cooling built-in mold electromagnetic stirrer



三相直冷内置式结晶器电磁搅拌器
Three-phase direct cooling built-in mold electromagnetic stirrer

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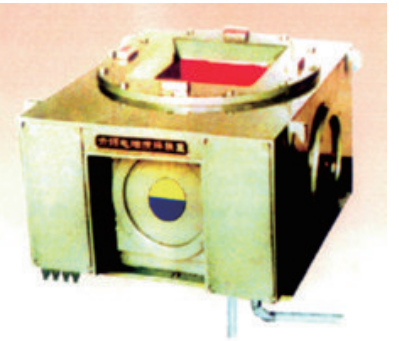
Strand Electromagnetic Stirrer (SEMS)



- Electromagnetic stirrer mounted outside the casting blank, powered by low frequency or operating frequency current to generate a rotary magnetic field which helps the molten steel inside the casting blank to rotate.

- Compact, high magnetic induction intensity and long coil service life.

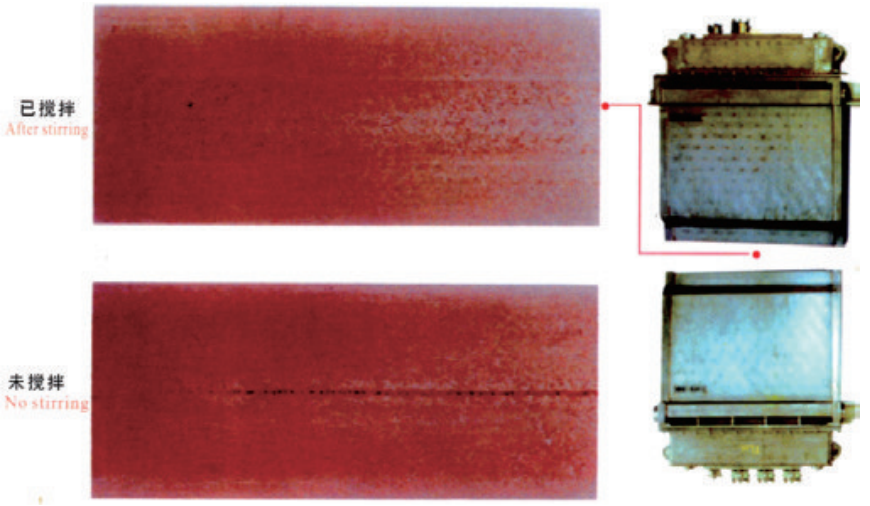
Strand Blank Electromagnetic Stirrer

Blank continuous casting strand blank electromagnetic stirrer has three patterns as follow:

1. Roll back single sided traveling wave magnetic field type.
2. Roll traveling wave magnetic field type.
3. Split traveling wave magnetic field type.

Inductor consists of iron core and coil
Cover made by heat-resistance stainless steel
Internal pure water colling coil

Strand blank electromagnetic stirrer and its operation effect



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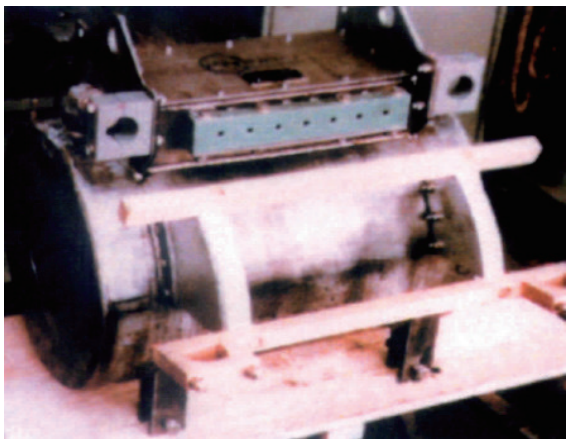
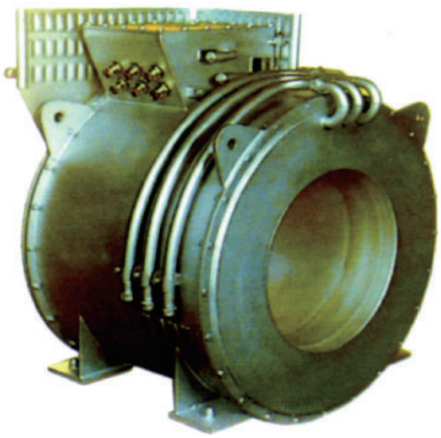
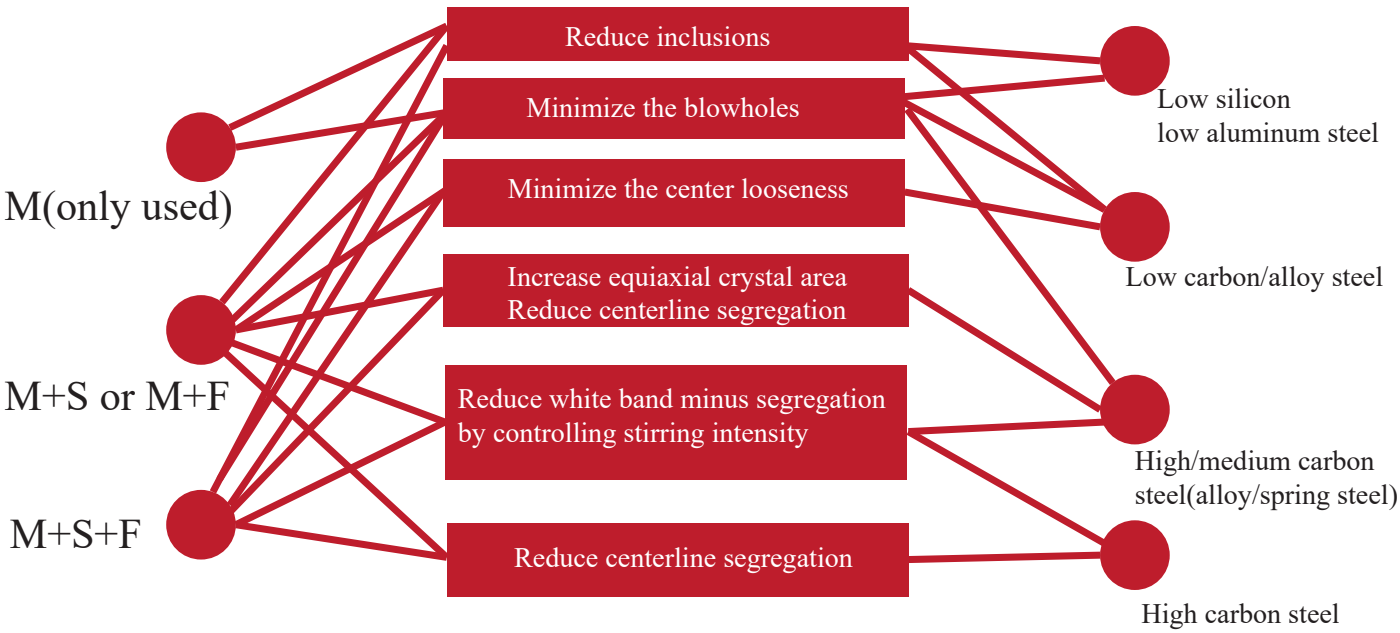
Final Electromagnetic Stirrer (FEMS)

- Electromagnetic stirrer mounted outside the casting blank, powered by low frequency or operating frequency current to generate a rotary magnetic field which helps the molten steel inside the casting blank to rotate.
- Compact, high magnetic induction intensity and long coil service life.





Electromagnetic Stirring Effect and Its Application



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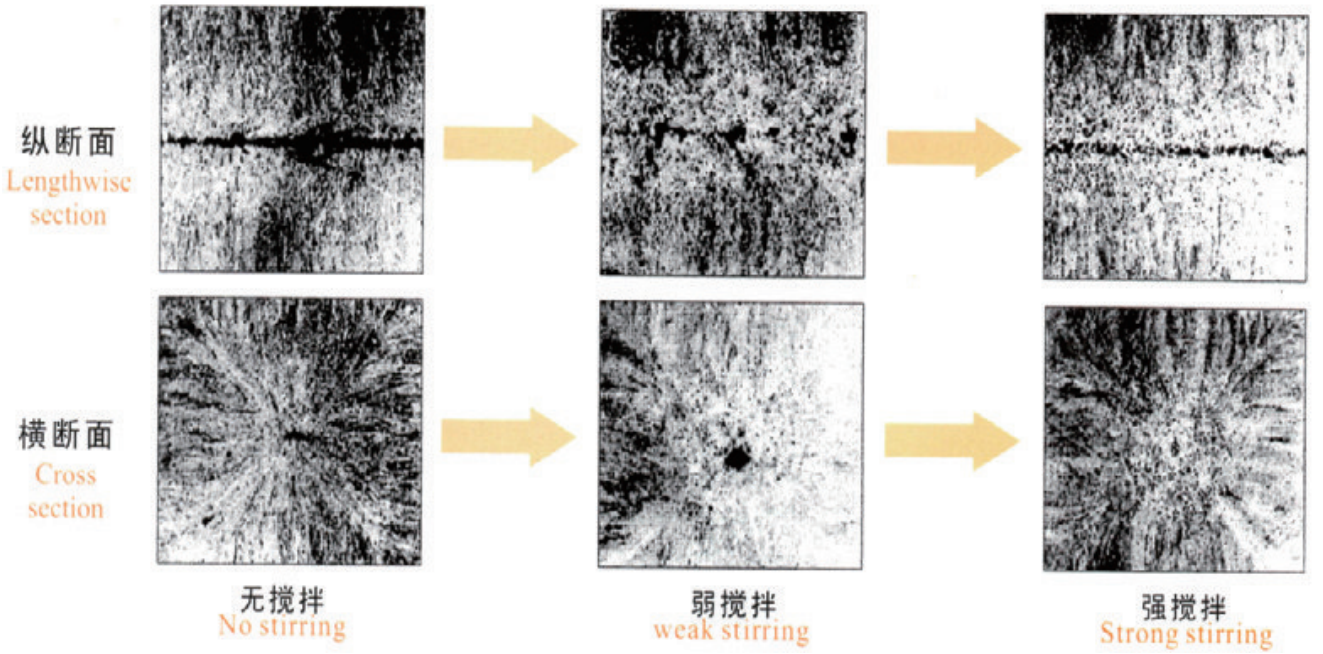
Low Power Tissue



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