

Polytec Press Release

Date: 25.09.03

Reference: LSV6000-250903-HSt-e

New Polytec Velocimeter Controller - Non-contact length measurement for continuous caster installations

In the new Velocimeter Controller LSV 6200 Polytec utilizes state-of-the-art DSP-processor technology. The LSV-6200 quickly and reliably derives precise velocity and length data from the measurement signals of the non-contact Laser Surface Velocimeter sensor. In continuous caster installations the LSV replaces the measurement rolls commonly used for the measurement of casting length and casting speed.

Due to the principle of non-contact measurement typical problems of measuring wheels like slippage, scale deposits and bearing failure are not existent and therefore do not have any influence on the measurement result.

The LSV operates according to the Laser-Doppler-principle. Laser light is back scattered from a moving surface and the frequency shift of the scattered light is evaluated electronically. A Bragg cell is used in the setup to establish an artificial frequency shift corresponding to a velocity offset. Using these technology even very small velocities and standstill situations lead to measurable Doppler frequencies and it is possible to detect the direction of motion.

If the LSV is used in a continuous caster installation for the control of flame cutters, which divide the strand into slabs or billets of the desired final dimensions, cut tolerances of better than $\pm 0.1\%$ can be achieved reliably.

The LSV series 6000 does not only apply in continuous caster installations. Further typical applications in the steel industry are length measurement of hot and cold tubes and sections, the control of flying shears and saws and the speed measurement for the mass flow control or elongation control in cold-rolling mills.

Contact for further inquiries:
Dr. Heinrich Steger
Tel. +49(0)7243-604-170

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Polytec Laser Surface Velocimeter LSV Series 6000 replaces measuring wheel in continuous caster installation.



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