

ROD FEEDER SYSTEMS

Designed to maximise
the benefits of using
LSM grain refining rod

www.lsm.co.uk



The LSM Rod Feeder Systems

LSM Rod Feeder Systems are specially designed for the continuous grain refinement and alloying of aluminium casthouse melts using Aluminium Master Alloys in rod form. LSM is a world leader in the technology and manufacture of TiBAl grain refining rod and the LSM Rod Feeder Systems are designed to maximise the benefits of using LSM grain refining rod.

LSM Rod Feeding Systems all comprise a controller and a rod feeding machine. Three basic decisions need to be made when deciding which system to install:

- 1. Which controller?**
 - 2. Which rod feeding machine?**
 - 3. What range of rod speeds is required?**
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Which controller?

- * Three levels of controller are now available,
 - the **ERF Controller**,
 - the **MRF Controller**,
 - and the fully programmable, touch screen display, **XRF Controller**.



ERF Controller

Features:

- * Speed setting AC inverter and potentiometer,
- * analogue speed display,
- * start, stop and reverse push buttons,
- * isolating switch,
- * built in alarm system with a proximity switch operated from the free running rod machine roller,
- * dimensions; width 30cm, height 40cm, depth 18cm.



MRF Controller

Features:

- * Speed setting AC inverter and potentiometer,
- * digital speed display,
- * start, stop and reverse push buttons,
- * isolating switch,
- * built in alarm system with channel selector switches,
- * shaft encoder for more accurate speed monitoring,
- * external control to provide start and stop alarm conditions using volt free contacts and external speed control using 4-20mA and actual speed by 4-20mA output,
- * plug and socket connections,
- * dimensions; width 40cm, height 40cm, depth 24cm.



XRF Controller

Features:

- * Touch screen control incorporating speed control and speed display alarm conditions for rod monitoring,
 - * start, stop and reverse push buttons,
 - * external volt free control or ethernet controls with built in hub,
 - * isolating switch,
 - * industry standard Allen Bradley PLC, HMI and control gear,
 - * shaft encoder speed monitoring,
 - * real time alarm history,
 - * dimensions; width 40cm, height 60cm, depth 24cm.
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Which Rod Feeding Machine?

- * Two Rod Feeding Machines are available,
- **Single Rod Feeding Machine (1),**
 - **Dual Rod Feeding Machine (2).**

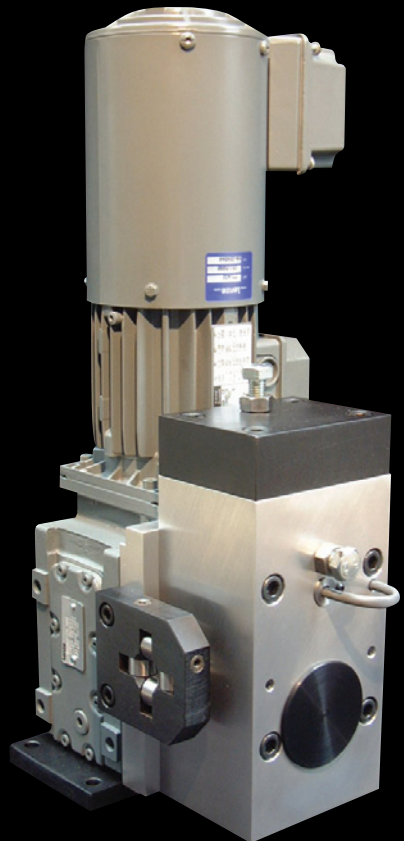
Single Rod Feeding Machine

The Single Rod Feeding Machine feeds a single rod with a nominal diameter of 9.5mm-9.7mm, at a wide range of speeds into molten aluminium for continuous grain refinement. The compact design (length 20cm, width 23cm, height 47cm) incorporates many components which have been specified in units supplied to the aluminium industry over four decades.

The unit's helical worm reduction gearbox, with splined shaft, is flange mounted to the feed box. Hardened rolls can be tensioned against the rod with a pre-tensioned spring. The feeder's needle bearings are sealed for life. Guide roll bearings on the feed-box inlet ensure smooth operation. Low friction guides direct the rod.

Drive is supplied from an enclosed forced cooled motor with an internal circuit breaker for both the inverter and fan terminal connections to the fan and drive motor.

An isolator is fitted for incoming power. Mains output is from 200-240 volts AC power and transformers are available for other voltage requirements.

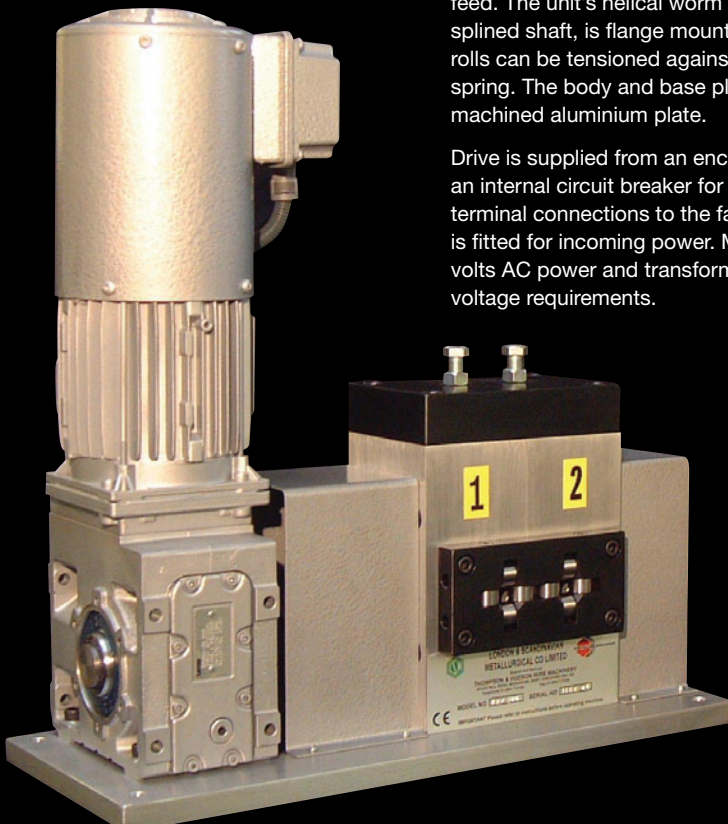


Dual Rod Feeding Machine

The Dual Rod Feeding Machine is capable of feeding one or two rods, with a nominal diameter of 9.5mm-9.7mm, into the molten aluminium stream for continuous grain refinement. The design (length 52cm, width 21cm and height 55cm) incorporates many components which have seen worldwide service in units supplied to the aluminium industry over almost four decades.

The Dual Rod Feeder's reliable single motor design reduces cost and simplifies maintenance. Precision self-aligning bearings are sealed and lubricated for life. The motor and gearbox are fitted at right angles to the output shaft to reduce the footprint of the machine. Rod is guided in and out of the unit by antifriction guides for positive non-slip feed. The unit's helical worm reduction gearbox, with splined shaft, is flange mounted to the feed-box. Hardened rolls can be tensioned against the rod with a pre-tensioned spring. The body and base plate are made from durable machined aluminium plate.

Drive is supplied from an enclosed, force-cool motor with an internal circuit breaker for both the inverter and fan terminal connections to the fan and drive motor. An isolator is fitted for incoming power. Mains input is from 200-240 volts AC power and transformers are available for other voltage requirements.



What range of rod speeds is required?

- * Rod Feeding Machines can be supplied with the following rod speed ranges,
- 5-100cm/min,
 - 15-300cm/min,
 - 30-600cm/min.

Choosing a Rod Feeding System

1. First, choose which level of control is required i.e. ERF, MRF or XRF.
2. Secondly, decide whether Single or Dual Rod Feed is required.
3. Thirdly, decide from the flow rate of molten aluminium to be treated, which rod speed range is best suited to add the required amount of rod for the range of aluminium alloys being produced.

To specify the system chosen:

For instance to specify a system with the most advanced XRF Controller, with a Single Rod Feeding Machine and a maximum rod speed of 300cm/min the system specification is XRF/1/300.

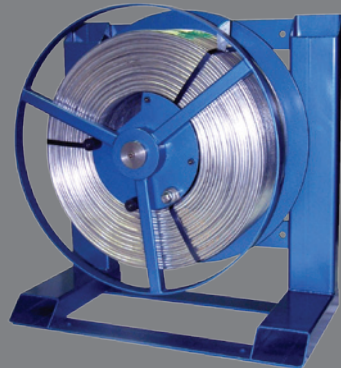
For a system with the level entry controller ERF, a Dual Rod Feeding Machine and a maximum speed of 600cm/min the system specification is ERF/2/600.

Customising Systems

Should the standard features detailed above, for the Rod Feeding Systems on offer, not fully meet your needs the LSM Rod Feeding Systems can usually be customised to meet your specific requirements.

Decoiling Spools

Dual-axis decoilers are available for use with either Single Rod Feeding Machines or Dual Rod Feeding Machines. They can be used for rod pay off in either the horizontal or vertical axis. They can stand on the floor or be lifted to position on a fixed frame. Dual-axis coilers can accommodate up to 450kg coils.



Quality

The LSM Rod Feeding Systems are all CE, UL and Cul approved.

Thompson and Hudson has manufactured wire and rod handling equipment since 1911 and has produced rod feeding equipment in a supplier partnership with LSM for four decades.

Parts and Service

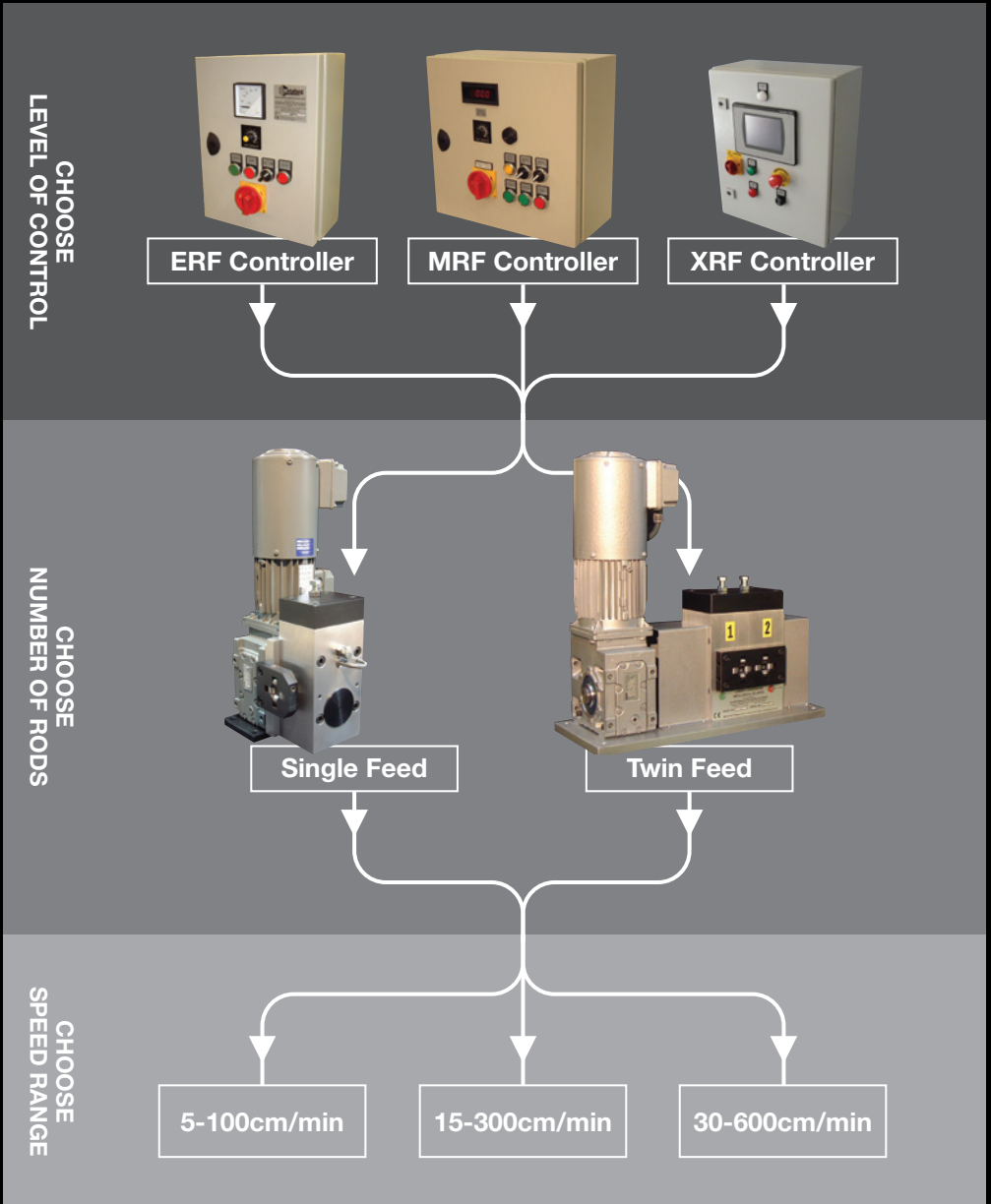
Parts and service for LSM Rod Feeding Machines are available directly from Thompson and Hudson Wire Machinery, Atlas Mill Road, Brighouse, West Yorkshire, England HD6 1ES.

Tel: +44 (0)1484 715129

**Email: sales@thompsonandhudson.co.uk
www.thompsonandhudson.co.uk**

Range of Aluminium Rod Feeders

* Choose level of control, number of rods and speed range to determine the model designation.





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