M-SERIES MOLTEN METAL PUMPS

ZINC AND ALUMINIUM TRANSFER PUMPS

M-Series pumps have a proven long, efficient and reliable operating life and are designed for use in nonferrous molten metals with working temperatures below 871°C (1600°F). These pumps can pump aluminium as high as 6 metres (20 feet) and are used for high-lift applications and filling over-the-road ladles while they remain on the transport truck. They are also used in furnace melters, holders, or other locations where molten metal is handled. When using an M-Series pump with a furnace, the furnace must have an external well large enough to accommodate the pump. The external well is often an extension of the charging well, with a bridge-wall installed to protect the pump from damage caused by charged material and fluxing salts.

M-Series pump posts are made from SST grade graphite that is coated with a Pyrotek proprietary oxidation-resistant treatment, then covered with a ceramic sleeve. The ceramic sleeves provide an additional barrier against oxygen and surface dross abrasions. The post is also coated with boron nitride to protect it against attacks by molten metal.

M-Series pumps are available with bladed birdcage style impellers, with birdcage being the standard. The M-12 is a bottom feed pump, with a 4-bladed impeller option. The M-28 is a top feed pump, but is also available as a bottom feed option. The standard shafts for M-Series pumps are ceramic-coated graphite, and moly-tungsten shafts are available for pumps used in the zinc industry.

M-Series pumps are available with either air or electric motor drive systems. Air systems are more convenient to install and operate. Electric motors require electrical panels and cooling fans, but are more energy efficient and provide more precise control. These pumps are also used in conjunction with refractory lined steel transfer piping to avoid dross formation and other energy loss.

BENEFITS

- High efficiency impellers are designed to meet project requirements
- Designed to ensure all bearings carry an equal load with minimum internal leakage
- Rigid motor mounts minimize distortion and have machined mounting surfaces to ensure perfect motor alignment
- Provides fast and easy delivery of molten metal
- Operators can view the metal operation at a safe distance
- Can deliver metal up to 25 metres (82 feet) through refractory lined pipe

Pyrotek

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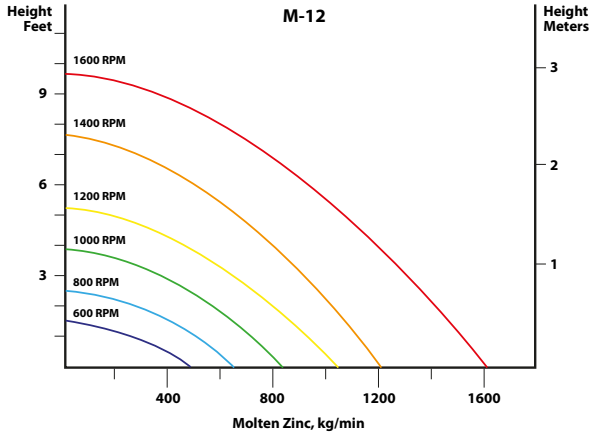
Pump Dimensions								
Pump Model	"A"	"B"	"C" Air Motor - Electric Motor	"D"	"E"	"F"	Minimum Furnace Well Size	Metal Level Min. – Max.
M-12 – mm (in)	289 (11)	295 (12)	1151 –1575 (46 – 62)	752 (30)	654 (3)	654 (30)	457 x 457 (18 x 18)	178 – 584 (7 –23)
M-28 – mm (in)	365 (14)	432 (17)	1600 – 1880 (63 – 74)	1076 (42)	140 (6)	921 (36)	610 x 610 (24 x 24)	229 – 838 (9 – 33)

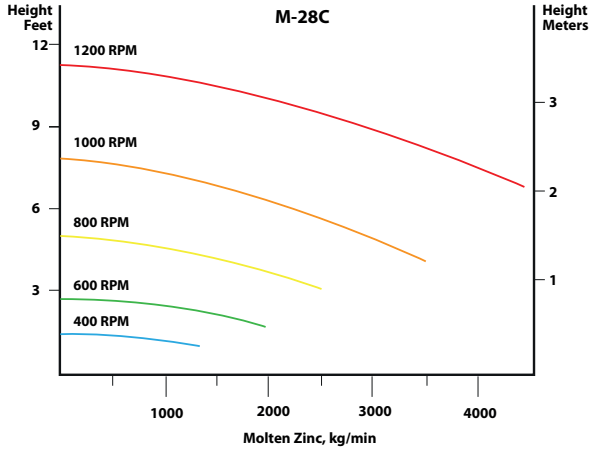
Air Motor Systems				
Pump Model	Air Required for Maximum Output – kPa (PSI) – m^3/min (SCFM)	Air Motor Type	Pump Weight – kg (lb)	Maximum RPM
M-12	620 (90) – 3.40 (120)	800	57 (125)	1800
M-28	620 (90) – 5.10 (180)	1600	79 (175)	1200

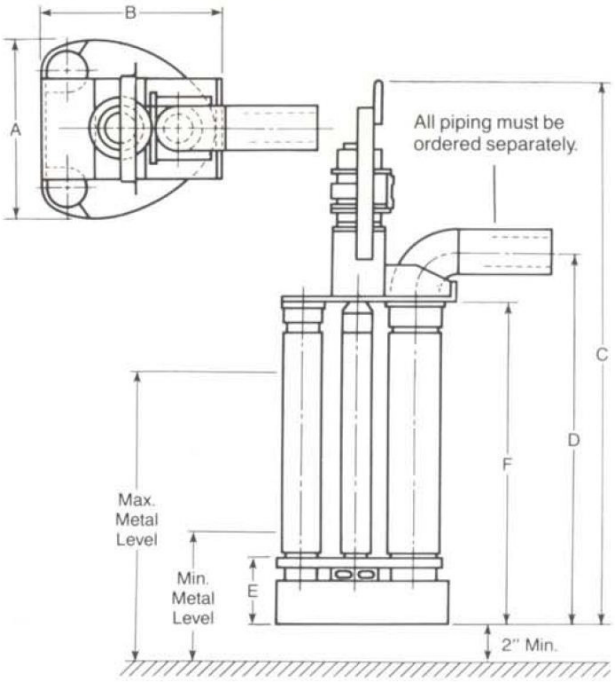
Electric Motor Systems			
Pump Model	Electrical Requirements volts – phase – amps	Pump Weight – kg (lb)	Maximum RPM
M-12	460 – 3 – 5	91 (200)	1800
M-28	460 – 3 – 11	181 (400)	1200

M-12 PERFORMANCE CHART (ZINC)



M-28 PERFORMANCE CHART (ZINC)





Note: The physical and chemical properties listed represent typical, average values obtained in accordance with accepted test methods and are subject to normal manufacturing variations. They are supplied as a technical service and are subject to change without notice.

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Product Type: 154, 200
Commodity Code: 26152