

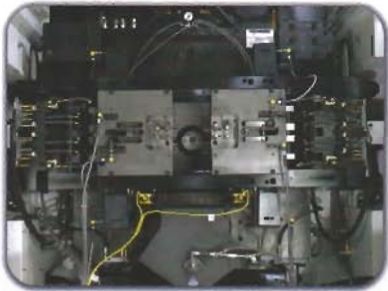


Multiple-Slide Hot Chamber Magnesium

# The MgX Series

**TECHMIRE**

We're expert engineers  
and savvy entrepreneurs  
who blend business and technology  
into smart die-casting ideas that work.



### Slide Guiding and Clamping Systems

In standard configuration, the 88 MgX is a two-slide machine. Four additional slides can be fitted. Each of the two clamping systems consists of a double acting toggle mechanism, actuated by an adjustable hydraulic cylinder, capable of a clamping force of 45 tons (40.8 metric tonnes).



### Injection System

The gooseneck body, injection sleeve and injection plunger are all precision machined forgings. The gooseneck and the nozzle adapter are electrically heated, and controlled independently.

All wear components are designed for fast and easy replacement.



### Metal Management System

The principal elements of the metal management system include an ingot pre-heater, a melt pot (furnace and crucible) and a shielding gas system.

The furnace is electrically heated for precise control of temperature. Access ports are provided in the cover of the melt pot for removal of dross, and of material that precipitates out and collects in the bottom of the crucible.



### Control System and Operator Interface

Operator access to the control and monitoring systems is via a user-friendly touch screen, mounted on a swing arm which facilitates machine set-up and permits optimum visibility during operation.

The systems incorporate a graphical user interface, featuring ease of part programming, machine set-up, program storage and retrieval, integrated access control, error messaging and context-based on-line "help". The monitoring of all auxiliary equipment, such as the ingot pre-heater and shielding gas system, is integrated with the machine control system.

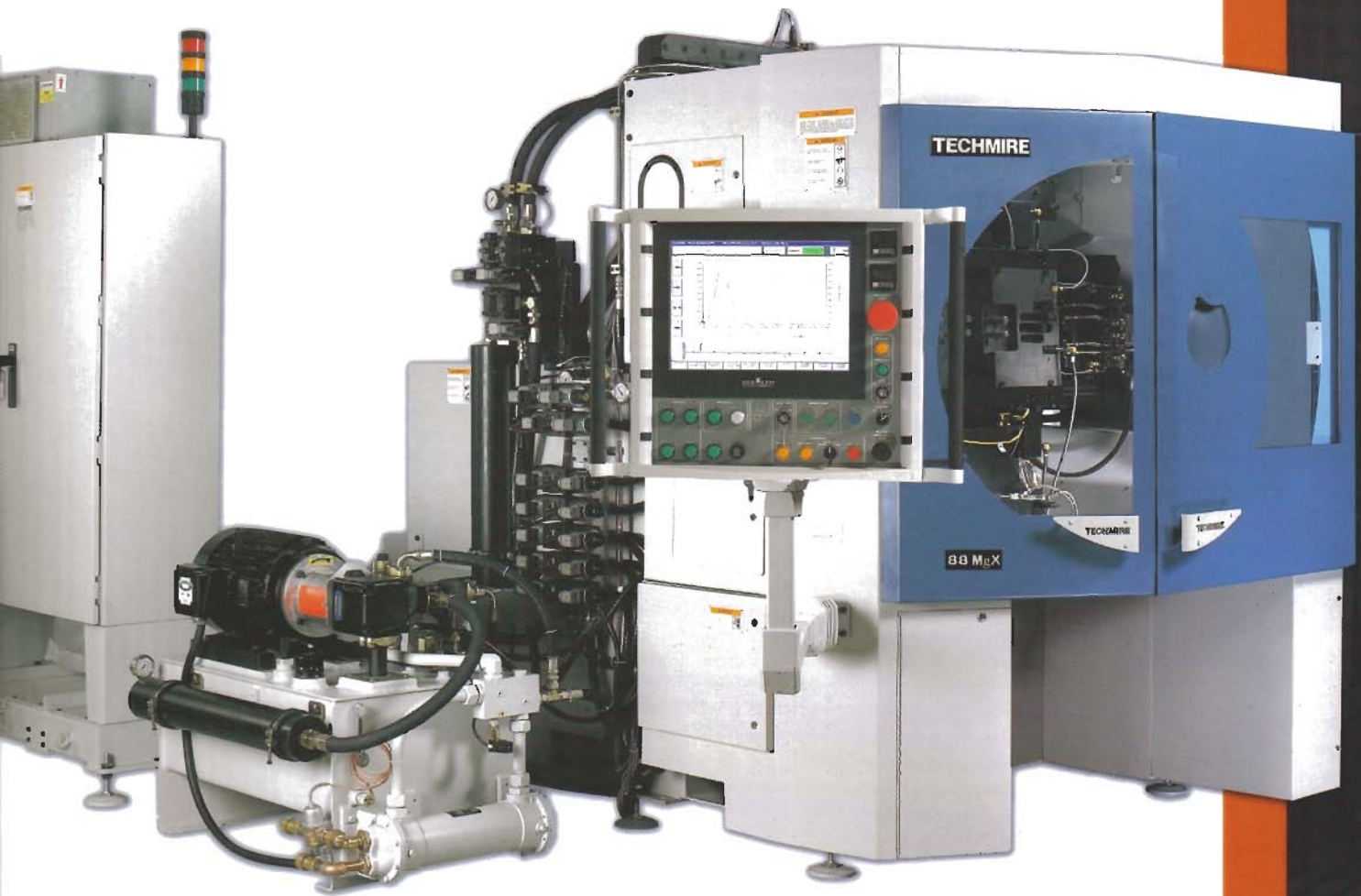
A Process Parameters and Shot Monitoring System (PPCS) permits the machine operator to set specific values for over 25 production parameters. Each parameter can be programmed with upper and lower limits.



**Techmire Ltd., headquartered in Montreal, Canada, is the world leader in the design and manufacture of multiple-slide die-casting systems for precision components in zinc, lead and magnesium alloys. Techmire has full turnkey systems capability, including design, manufacture and testing of die-casting machines and tooling, training of customers' operators and maintenance personnel, and comprehensive after-sales service.**

Techmire has leveraged its extensive knowledge base in zinc die-casting to create the world's most technologically advanced, multiple-slide, hot chamber, magnesium die-casting machines. Maintaining all of the inherent advantages of multiple-slide technology and parting line injection, the MgX Series of machines is ideal for structural as well as thin wall components such as casings for cell phones, camcorders, and other hand-held electronic devices.

Techmire systems are built for efficiency, precision and reliability so that customers can realize the greatest value from their investment. When compared with conventional die-casting systems, the MgX Series has been proven to reduce the cost of producing magnesium alloy components by up to 50%!



The MgX machines utilize Techmire's proprietary control and monitoring systems, running on an industrial PC, using a Windows® platform. From start to finish, the Closed Loop Control Injection System permits real time control of the injection process, resulting in optimum system performance and premium part quality.

An extensive array of safety features has been incorporated within the design of the MgX Series. The shielding gas, a mixture of SF<sub>6</sub>, CO<sub>2</sub> and compressed air is controlled by a proprietary unit that is monitored by the machine control system.

**At Techmire we are passionate about the future of multiple-slide technology. Our commitment to ongoing R&D delivers the edge that our customers need to compete in today's dynamic marketplace.**



# 88 MgX

		STANDARD		OPTIONAL	
		US	METRIC	US	METRIC
<b>SLIDES</b>	Number of die motions	2	2	6	6
	Die size (nominal)	8.00 x 10.00 in	205 x 255 mm		
	Stroke of each die section	3.15 in	80.00 mm	Adjustable up to 3.15 in	Adjustable up to 80.00 mm
	Ejector stroke	1.34 in	34.00 mm	3.12 in (max.)	79.25 mm (max.)
	Maximum total die opening	6.30 in	160.00 mm		
<b>INJECTION</b>	Injection plunger diameter	2.17 in	55.00 mm	1.72 in	45.00 mm
	Injection cylinder diameter	3.25 in	82.55 mm	2.50 in	63.50 mm
	Injection plunger stroke	4.72 in	120.00 mm		
	Maximum dry shot speed at 1,000 psi (70 bars) with standard injection system	55 in/sec	1.40 m/sec	85 in/sec	2.16 m/sec
	Maximum dry shot speed at 1,500 psi (105 bars) with high speed injection system (3.25" injection cylinder)			157 in/sec	4 m/sec
	Injection capacity (max. theoretical)	18.4 oz	521 g	12.3 oz	349 g
	Shot weight (max. recommended)	7.2 oz	203 g	3.1 oz	87 g
	Metal pressure (max. recommended)	4,000 psi	275.8 bars		
	Gooseneck heaters (total power)	11 kW	11 kW		
	Nozzle adapter heaters (total power)	6 kW	6 kW		
<b>HYDRAULICS</b>	Line pressure (max. recommended)	1,867 psi	128.6 bars		
	Reservoir capacity	30 gallons	113.5 litres		
	Clamping force (max.)	45 tons	40.8 tonnes		
	Dry cycle speed / hour	2,100	2,100		
	Motor power	20 HP	14.91 kW		
	Pump capacity	15.5 gpm @ 60 Hz	58.7 lpm @ 60 Hz		
		14 gpm @ 50 Hz	53 lpm @ 50 Hz		
Accumulator capacity - injection	1.5 gallons	5.7 litre	2.5 gallons*	9.5 litres*	
Accumulator capacity - functions	1.5 gallons	5.7 litre			
<b>MELT POT (electric)</b>	Heaters	62 kW	62 kW		
	Capacity of melt pot	540 lbs	245 kg		
	Melt rate	250 lbs/hr	113 kg/hr		
<b>INGOT PRE-HEATER (electric)</b>	Heaters			30 kW	30 kW
	Preheat rate (can supply 2 machines)			430 lbs/hr @ 662 deg F	195 kg/hr @ 350 deg C
<b>GAS BLENDING STATION (shielding of Mg)</b>	Gas mix			SF <sub>6</sub> /CO <sub>2</sub> /Dry air	SF <sub>6</sub> /CO <sub>2</sub> /Dry air
	Gas input pressure to blending station (max.)			50 psi	3.45 bars
<b>DIE HEATER (electric)</b>	Motor			2 HP	1.5 kW
	Pump capacity			24 gallons/min	90 litres/min
	Pressure			50 psi	3.45 bars
	Heaters			24 kW	24 kW
	Heat exchanger (surface area)			6.7 ft <sup>2</sup>	0.62 m <sup>2</sup>

TECHMIRE reserves the right to modify specifications at any time without notice.  
\*With high speed injection system

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