

# CHOIQUE

COLOR SORTING MACHINES



ISM3000

## Series 3000/6000 Technical Description

### ✓ *Electronic System*

The electronic control system feature state-of-the art electronic systems, such as the industrial grade and format rugged PC control system, the custom made Digital Signal Processor (DSP) system, and the advanced high-speed digital imaging processing system to name a few. All these systems have been entirely re-developed and fully tested to ensure long lasting operations under strict 24-hour runs. Proper functioning under adverse ambient and electrical situations and more importantly, stable sorting quality.



The operator Interface is another area that has been greatly improved for this new generation of color sorters, with the use of extended temperature and enhanced contrast graphic displays. The control system features a dynamic menu that can be easily understood by any operator, it can

display the control commands and alarm messages (from the various systems within the machine) in three-languages, English, Spanish and Chinese. We are currently working to include more languages in the near future. A functional memory system makes product changeover very fast and ensuring same quality results.

### ✓ *Feeding / Ejection System*

Our greatly versatile feeding system offers different forms of product-aligning channels. High production channels (water fall type of alignment done by a flat channel) offer the highest production rate. High performance resort channels (grain-by-grain alignment done by “V” channels), on the other hand, offer unmatched accepted/rejected ratio. This second type of channel is widely used to perform resorts to recover good grain or to process highly damaged rice. Our next generation of ISM sorters will include both high performance and high production feeding systems within a single sorting module.



The above-mentioned features along with a very stable, electronically monitored vibration system makes the feeding process perform very efficiently.

Twenty years of development have been poured into the ejector valve we manufacture today. High speed, serviceability, long lasting, very rugged construction and extreme “shooting” precision are only a few of the features encountered with this new generation of ejector valves.

## ✓ High Speed, Precise Optical Inspection System



Digital Imaging systems and optical inspection systems are, perhaps, the fastest growing and developed areas in the electro-optical industry today. Our company stays focused and is permanently improving optical resolutions and processing speeds by means of embedded developments. The ISM3000 (one sorting module) and 6000 (up to three sorting modules) series feature high-resolution CCD (charged coupled devices) imaging devices that along with a custom-built efficient DSP digital processing, and image processing algorithms, makes these machines sensitive enough to perform under the most difficult-to-sort white, parboiled or brown rice ensuring consistent quality grades.

Lighter and darker sorting can be performed simultaneously within the visible and invisible range. Solid-state cooling devices are also available to protect the optical system from temperature instability, (Optional) thus keeping the system efficiently sorting in non-stop bases. Hermetically sealed optical chambers and a very simple yet efficient automatic cleaning system keep the machine in top optical working conditions.



## ✓ Power System

Digitally controlled, industrial grade rugged power supplies are used in this machine, this power system can withstand most electrical line problems and high temperatures. An effective cooling system helps power systems to keep running under most adverse conditions.

## ✓ Serviceability

Our color sorters series 3000 and 6000 have been designed with the operator in mind. Only minimum operator skills are required not only to operate but also to SERVICE these machines. Modular design makes servicing a snap. Wearable parts are easily accessible and electronic systems are easily replaced. We deliver color sorters with a complete set of spare parts; we train the operators' in-plant and provide very complete documentation and manuals. Should you need assistance or spare parts we are available 24 hours a day.

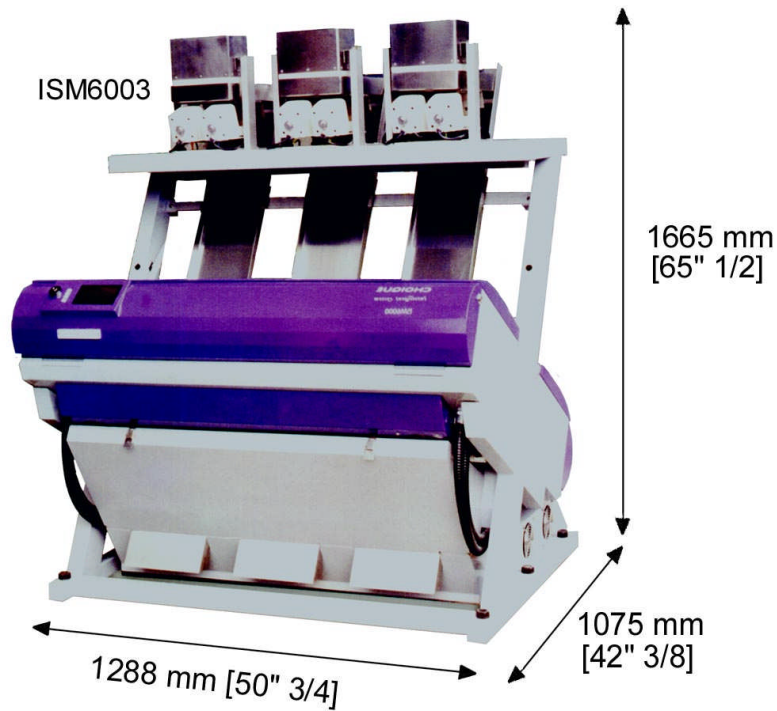
## Summary

Feeding device:	Dually arranged electric units.
Lighting system:	Special colors 20W/40W fluorescent lamps, driven at high frequency.
Operator Interface:	Graphical, high contrast LCD and dynamically arranged soft touch keypad. Chinese, Spanish and English interface is offered at this time.
External Hook-up alarm relay:	YES
PLC or Plant automation input:	YES
CCD resolution:	512 pixels per camera. Scanning rate higher than 4000 images per second. Can distinguish color defects smaller than 0.3 mm
Ejectors per sorting module:	32
Self-testing ejector system:	Yes
Number of inspection sides:	2 (front and rear)
Information backup system:	Yes
Statistical Control:	Yes, Built-in micro thermal printers (optional)

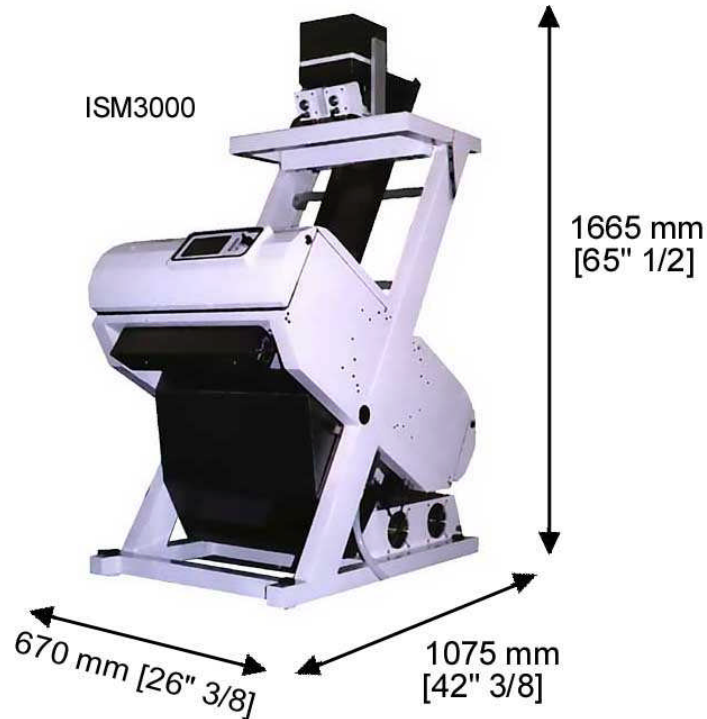
## Models Description

MODEL	High Production Channels	RESORT Channels	EJECTORS	White Rice Production (Up To Metric tones / Hr)
ISM3000	1		32	2.5
ISM3000C		1	32	1.5
ISM6001	1		32	2.5
ISM6002	2		64	5.0
ISM6003	3		96	7.5
ISM600R	2	1	96	6.5

## Overall Dimensions



## Overall Dimensions (continued)



## Electrical Requirements

MODEL	Line Voltage	Frequency	Power Consumption
ISM3000	110 to 250 VAC *	50/60 Hz	700 W
ISM3000C			800 W
ISM6001			1.1 KW
ISM6002			1.3 KW
ISM6003			
ISM600R			

\* Note: Depending on your power line quality a voltage stabilizer may be required.

## Pneumatic Requirements

MODEL	Pressure	Qty.
ISM3000	1.5 to 3.5 bars [20 to 50 PSI]	6 Liters/Second [12.7 CFM]
ISM3000C		
ISM6001		
ISM6002		12 Liters/Second [25.4 CFM]
ISM6003		18 Liters/Second [38.1 CFM]
ISM600R		

\*Note: Customer MUST provide clean, oil and water free air. Filter on the machine is only used as a precautionary device.

---

[www.inelcoargentina.com](http://www.inelcoargentina.com)

---



F. E. INELCO  
 Ruta Nac. N° 9. Km 690  
 Ferreyra – Cordoba (5020)  
 Republica Argentina.  
 Ph/Fx: +54.351.4976090  
[sales@inelcoargentina.com](mailto:sales@inelcoargentina.com)



EPSEL RICE CORP.  
 PO BOX 771724  
 Houston TEXAS 77215  
 United States of America  
 Ph: +1.281.3315214 Fax: +1.281.331.3889  
[sales@epselrice.com](mailto:sales@epselrice.com)

---

[www.epselrice.com](http://www.epselrice.com)

---