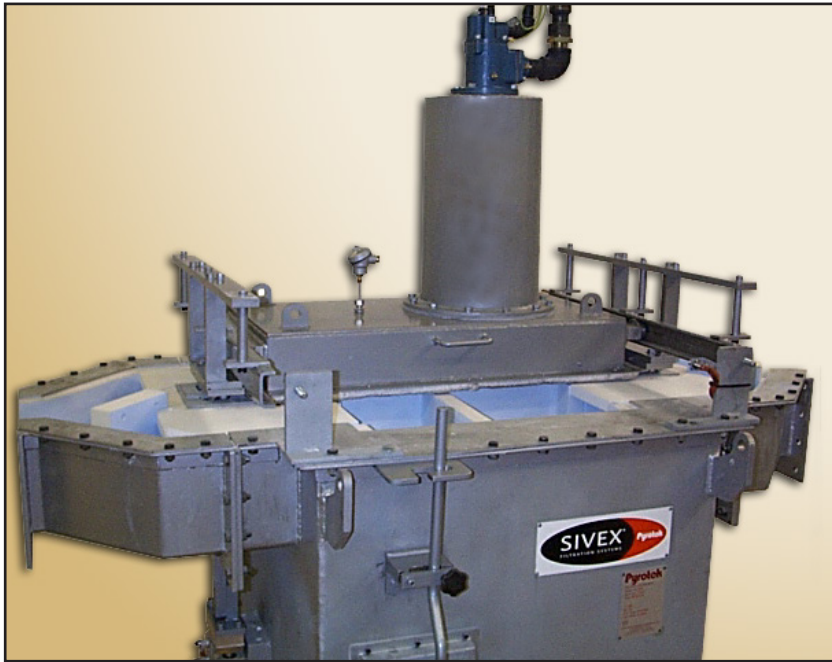


# SIVEX FILTRATION SYSTEMS

## TURNKEY SIVEX FILTER BOXES

THE COMPLETE SYSTEM DESIGNED FOR THE FILTRATION  
OF MOLTEN ALUMINIUM



### PRODUCT SPECIFICATIONS

The SIVEX Filtration System is available in a range of sizes to meet each customer's needs. The tables on page 2 illustrate the standard SIVEX Filter Box models and their specifications.

### DESCRIPTION

The complete SIVEX<sup>®</sup> Filtration System consists of two major components: the SIVEX Filter Box and the SIVEX Ceramic Foam Filter.

The system is suitable for continuous or batch casting with either single or double filter seats cast into a monolithic liner. The SIVEX Filter Box is a modular system capable of meeting all your filtration requirements. Options include a programmable logic control (PLC) which operates the pre-heat system, lid and dams. The pre-heat system ensures that the SIVEX Ceramic Foam Filters are effectively and efficiently pre-heated across the entire surface of the filter thus avoiding the common problem of hot spots. This is vital if the optimum performance of the SIVEX Ceramic Foam Filters is to be achieved. The system also has height adjustable legs to ensure that it can be accurately matched up to existing launders.

The SIVEX Ceramic Foam Filters are the other major component of the system. Extensive research and development has resulted in the precise control of the ceramic foam filter pore size. This has enabled Pyrotek to set new global standards for this type of technology. See our SIVEX Ceramic Foam Filter data sheet (555) for further details.

## SIVEX FILTRATION SYSTEMS

STANDARD MODEL NUMBER	DESCRIPTION	BATCH	CONTINUOUS	DIMENSIONS (MM) L X W X H
SIVEX FB 9S	Single 9" SIVEX Filter Box	•		1500 x 1500 x 2000
SIVEX FB 9DC	Double 9" SIVEX Filter Box		•	1850 x 2150 x 2000
SIVEX FB 12S	Single 12" SIVEX Filter Box	•		1500 x 1500 x 2000
SIVEX FB 12DC	Double 12" SIVEX Filter Box		•	2390 x 2150 x 2000
SIVEX FB 15S	Single 15" SIVEX Filter Box	•		1500 x 1750 x 2000
SIVEX FB 15DB	Double 15" SIVEX Filter Box	•		3500 x 2600 x 2000
SIVEX FB 15DC	Double 15" SIVEX Filter Box		•	3200 x 2600 x 2000
SIVEX FB 17S	Single 17" SIVEX Filter Box			1500 x 1750 x 2000
SIVEX FB 17D	Double 17" SIVEX Filter Box	•		3500 x 2600 x 2000
SIVEX FB 20S	Single 20" SIVEX Filter Box	•		1650 x 1750 x 2000
SIVEX FB 20D	Double 20" SIVEX Filter Box	•		3600 x 2800 x 2000
SIVEX FB 23S	Single 23" SIVEX Filter Box	•		1650 x 1750 x 2000
SIVEX FB 23D	Double 23" SIVEX Filter Box	•		3600 x 2800 x 2000

\* Add 500 mm to length for pneumatic dam option.

SIVEX FILTRATION SYSTEM	STANDARD SPECIFICATION	OPTIONS
Steel Box	•	
Pneumatic Lid		•
Pneumatic Dam		•
Filter Pre-heat System (gas)		•
PLC Control System – Siemens S7		•
INSURAL™180 Refractory Lining	•	
Height and Level Adjusting Mechanism	•	
Tap-Out System to enable easy drainage	•	
Inlet/Outlet Refractory and Flange (INSURAL 180 / INSURAL 140)	•	
Insulated to < 65°C External Temperature	•	
CE Marked	•	
Manufactured to ISO 9002	•	

### STEEL BOX

The steel box is constructed of mild steel fully welded.

### PNEUMATIC LID

Both the single and double filter versions of the SIVEX Filter Box are available with pneumatic lids. The lid prevents heat loss during the casting process and also supports the filter pre-heat system. The pre-heat burner and combustion chamber, which produce the convected hot air, are mounted centrally over the SIVEX Ceramic Foam Filter to ensure efficient pre-heating. Double filter boxes only require a single pre-heat system, as they utilise a manifold arrangement within the lid to direct the hot air to the filters.

### FILTER PRE-HEAT SYSTEM

The SIVEX Ceramic Foam Filters should not be exposed to direct flame impingement during the pre-heating process. Pyrotek utilizes an efficient combination of gas (gas, natural, propane) and fan circulated air to freely convect the hot air through the ceramic foam filters. This system ensures that the filters are thoroughly and evenly pre-heated before use. The benefits of this system are:

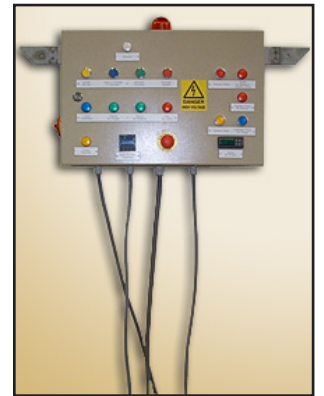
- Priming reliability
- Even filter temperature
- No thermal shock (assuming pre-heat settings are correct)
- Known pre-heat time

The system comprises of the following:

- Burner (Natural gas or propane – Pater 30 – 150kw)
- Combustion chamber
- Gas train with complete safety checking (ie. gas leakage, etc.)
- Gas isolation
- PLC control providing flexible operational parameters, continuity and safety.

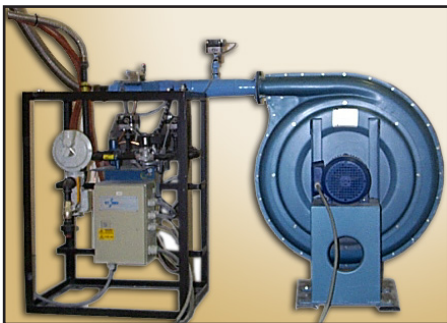
### PLC CONTROL SYSTEM

A Siemens S7 PLC Control System is programmed to ensure maximum safety. The unit controls the pneumatically operated lid, gas train, fan and over temperature system. The unit also allows for integration into up-and-down stream systems and can be programmed to meet the specific needs of a customer.



### INSURAL 180 REFRACTORY LINING

The INSURAL 180 refractory lining is a proven product in this application. Please refer to our INSURAL 180 data sheet (533) for further technical details.



### HEIGHT AND LEVEL ADJUSTING MECHANISM

The height and level adjusting mechanism ensures that the SIVEX Filter Box can be perfectly matched to any existing launder system.

### TAP-OUT SYSTEM

The SIVEX Filter Box is supplied with an easy to operate tap-out system that enables the operator to quickly and easily drain the molten aluminium from the filter box.

## SIVEX FILTRATION SYSTEMS

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### ADVANTAGES

The SIVEX Filtration System is one of the most advanced aluminium filtration systems in the world, due to its unique design features that enable the system to set new filtration performance standards within the industry. Use of the system will result in improved melt quality and efficiency.

The main benefits of the SIVEX Filtration System include:

- A complete turnkey filter box system from SIVEX
- SIVEX ceramic foam filters
- PLC controlled for precise operator use
- The most advanced pre-heat system, ensuring efficient filter pre-heating
- Variable operating height and level adjustment for easier connection to existing launder system
- Available as a single or double filter design
- Customized to the exact needs of the customer
- Manufactured from the highest quality materials
- Competitively priced

### AVAILABILITY

The SIVEX Filtration System is available worldwide from Pyrotek Inc.

All enquires should be directed to:

Pyrotek Milton Keynes, United Kingdom

Phone: +44 (0) 1908 561155

Fax: +44 (0) 1908 560473

Email: [info@pyrotek.info](mailto:info@pyrotek.info)

No minimum order quantity. Size and weight dependent upon specification. Typical lead-time, 12 weeks.

### Manufactured in the United Kingdom by

Pyrotek Engineering Materials Ltd.

Garamonde Drive, Wymbush, Milton Keynes

Bucks MK8 8LN, United Kingdom

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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.

Product Type: 124, 131

Commodity Code: 05002, 26851

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**Contact Information: [www.pyrotek.info/locations](http://www.pyrotek.info/locations)**

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