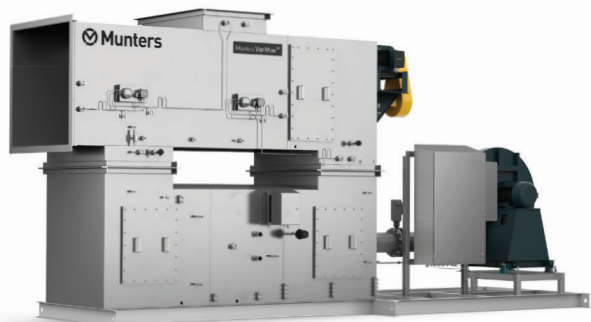
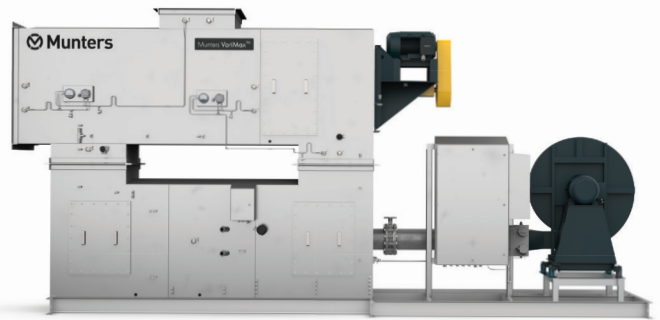


# Munters VariMax IFRG

## Indirect-fired recirculating gas heater

### Features

- All stainless steel process contact surfaces for use in food applications
- Air recirculation maximizes energy efficiency (95%+ can be achieved) and reduces CO<sub>2</sub> emissions
- Minimal footprint thanks to air recirculation and plate-type construction
- Robust design with low combustion temperature results in high reliability and long service life
- Integral expansion joints to handle equipment growth
- Available in 7 standard sizes or engineered to order
- Manufactured in accordance with USDA guidelines (optional)



Air heating is an essential step in the spray drying process, and Munters VariMax IFRG (Indirect-fired Recirculating Gas Heater) is the ideal technology since it delivers contaminant-free process air with very high efficiency.

VariMax IFRG indirectly transfers heat to a process air stream. Products of combustion recirculate in the system with only combustion air exhausted. Traditional systems lose a tremendous amount of energy since the exhaust gases leave the heat exchanger after only one pass. The VariMax IFRG heater takes advantage of this energy by keeping it in the system, offering efficiency levels of more than 90%. With the addition of a combustion air preheater, efficiencies of 95%+ can be achieved. This energy savings results in quick ROI, with savings year after year.

VariMax IFRG's smaller footprint and lower weight provide convenience and simple installation. Its rugged, heavy-duty construction ensures a reliable, long-lasting heat source. The VariMax IFRG is 100% customizable to meet your requirements.

# Munters VariMax IFRG

## Indirect-fired recirculating gas heater

### VariMax IFRG in detail

- 90%+ efficiencies
- Turndown: 25:1 (typical)
- Fuel: natural gas, propane, dual fuel
- Other fuels such as oil, hydrogen, fuel blends available with custom design
- 30ppm NO<sub>x</sub> (standard), lower emission burners available with custom design
- USDA compliance is available
- Manufactured in accordance with USDA guidelines (optional)

### Heat exchanger

- Transfers heat from combustion chamber to process stream indirectly
- Munters Thermo-Z plate type (standard). Munters Thermo-T tubular type available with custom design
- Integral expansion joints with internal insulation
- Various flow configurations with custom design
- Access doors for inspection and cleaning

### Controls/Flame safety

- Honeywell Slate (communications via Modbus/TCP, BACnet, or web services)
- 10" LCD Display
- First out annunciation
- Honeywell UV scanner (self-checking)
- Dwyer pressure switches/gauges
- Other flame safety controls available with custom design (Siemens, Fireye, etc.)
- Single point non-fused disconnect
- Soft starters for motors larger than 15 kW (20 hp)
- Customer to provide 4–20 mA signal to control burner firing rate

Process outlet

Process inlet

### Combustion chamber

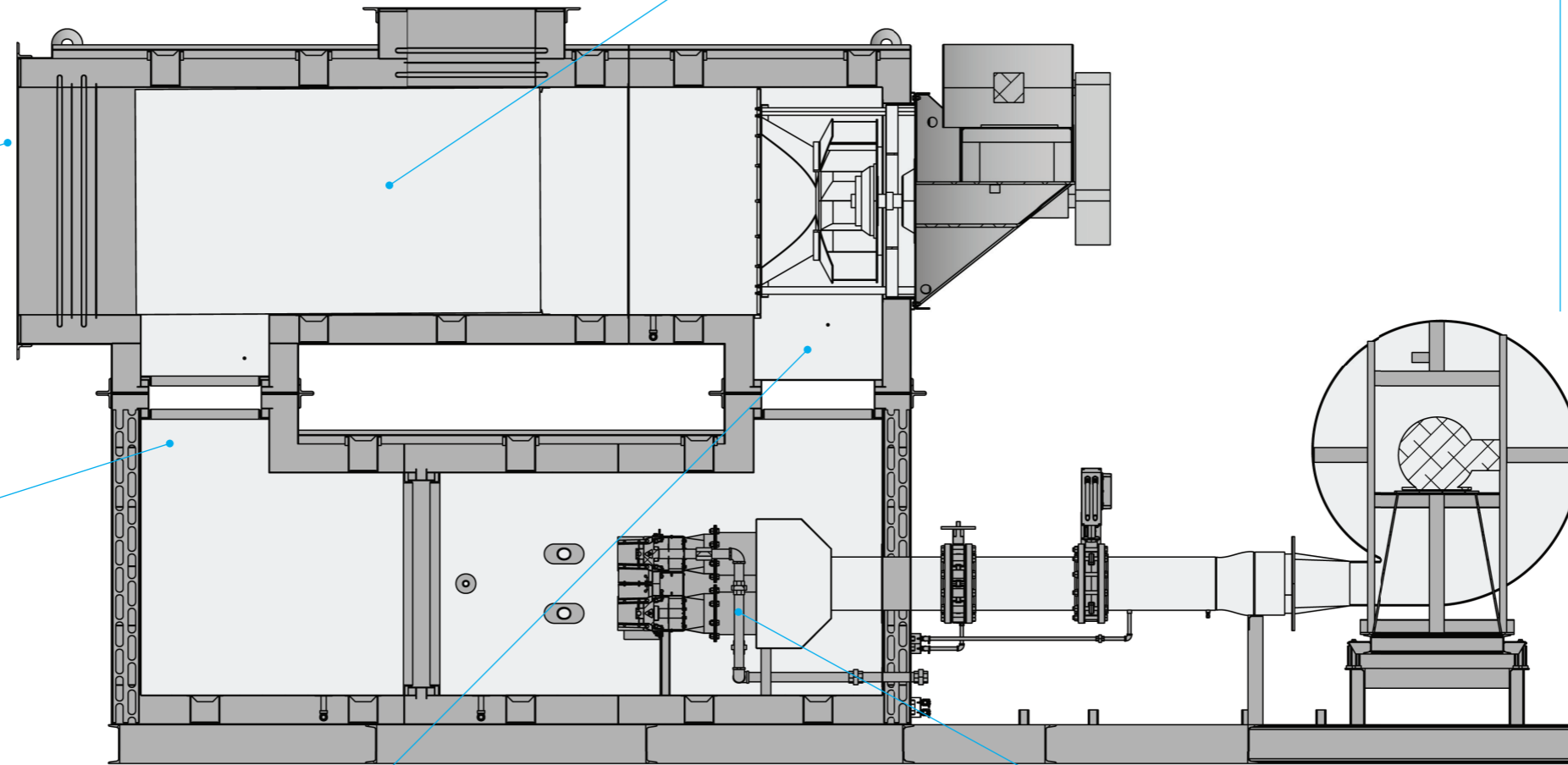
- Heats recirculation air with burner
- Skid mounted
- Internal insulation
- Sight ports to provide flame visibility
- Access doors for chamber inspection
- Drain(s) for any condensate/water removal

### Recirculation section

- Plug fan(s) pull hot gases through heat exchanger back to combustion chamber
- Access doors for inspection of fan(s)
- Drain(s) for any condensate/water removal
- Internal insulation

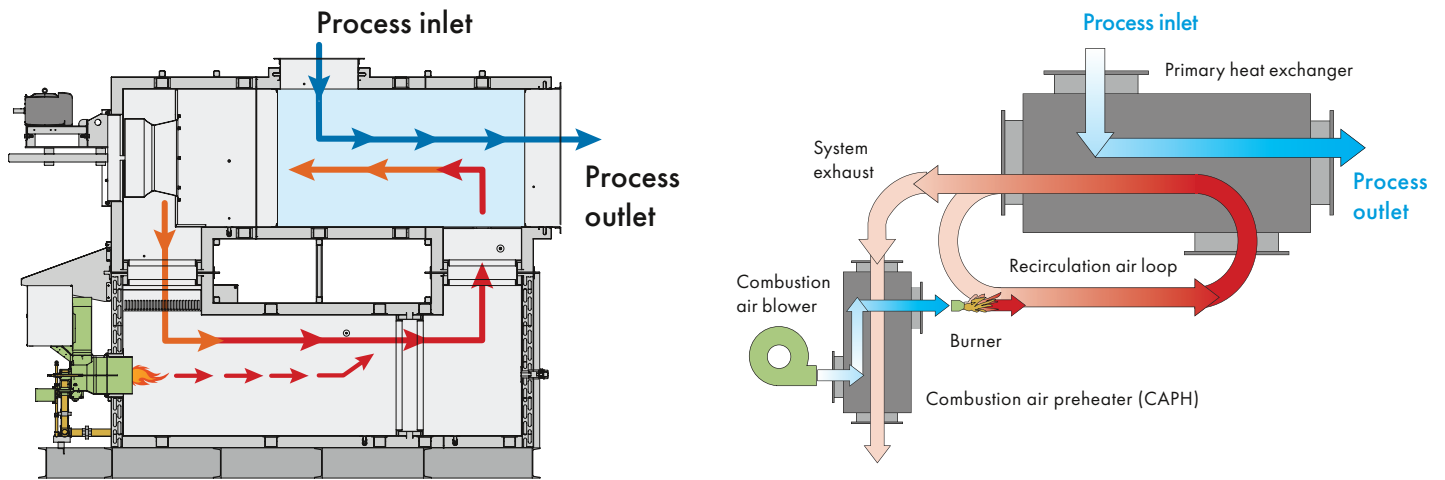
### Burner and gas train

- Line style Maxon Cross Fire burner (standard) for even temperature distribution
- Other burners available with custom design
- Separate pilot gas train (if required)
- Manufactured with all CE certified components and electrical and gas train according to CE (optional)
- Manufactured with all UL certified electrical components according to UL508A and gas train according to FM or XL Gap 4.2 (optional).



# Munters VariMax IFRG

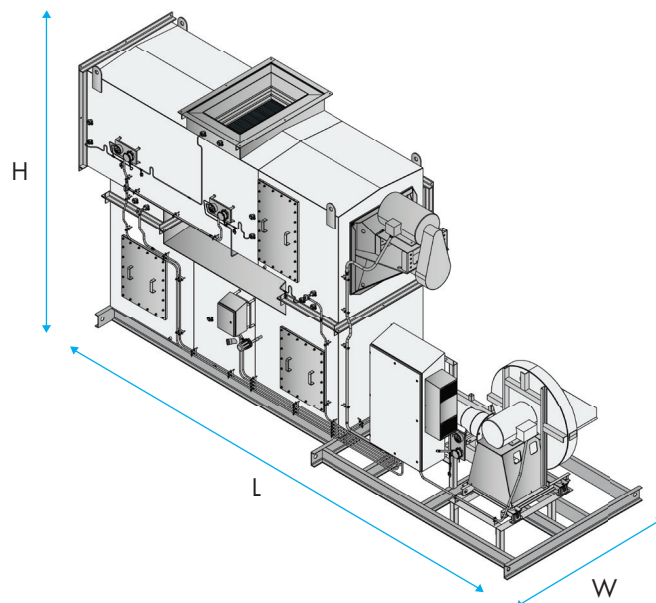
Indirect-fired recirculating gas heater



## Specifications

Unit	Max capacity		Length (L)		Height (H)		Width (W)		Weight	
	kW	[MMBH]	mm	[inch]	mm	[inch]	mm	[inch]	kg	[lb]
VMF-1	919	[2.69]	7188	[283]	3251	[128]	2083	[82]	8165	[18000]
VMF-2	1229	[3.60]	7290	[287]	3708	[146]	2235	[88]	9752	[21500]
VMF-3	2483	[7.27]	7290	[287]	3861	[152]	2362	[93]	10433	[23000]
VMF-4	3726	[10.91]	7341	[289]	3861	[152]	2540	[100]	12134	[26750]
VMF-5	4979	[14.58]	7341	[289]	3886	[153]	3124	[123]	15195	[33500]
VMF-6	7472	[21.88]	8992	[354]	3912	[154]	3785	[149]	20638	[45500]
VMF-7	8726	[25.55]	9982	[393]	3708	[146]	4191	[165]	25855	[57000]

\* Dimensions may vary with USDA construction (optional) and do not include CAPH (optional)



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