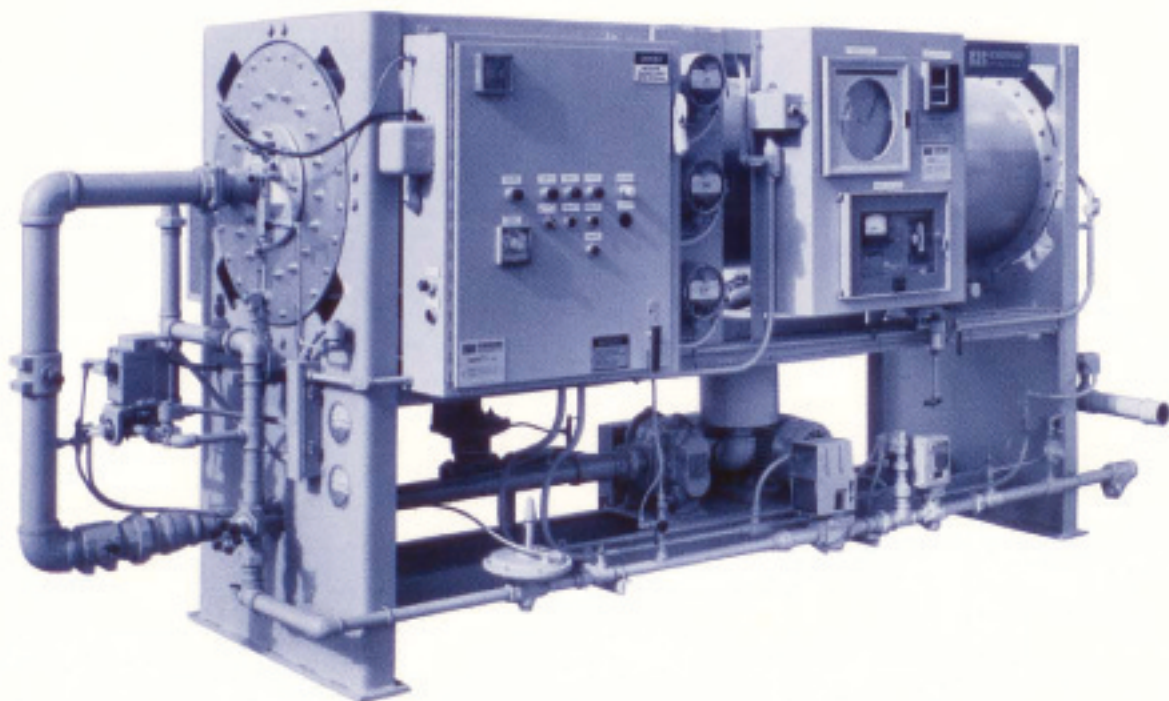


Annealing Atmosphere Generators

Rich Exothermic Model XL



Gas Atmospheres Model XL annealing atmosphere generators have been proven in use in many applications where metal heat treating processes require a rich exothermic atmosphere.

They are designed to produce combustibles ranging from 11% to 22%, from a variety of gaseous hydrocarbon fuels.

Typical applications include:

- Bright annealing of low carbon steel
- Clean annealing of silicone steels
- Annealing of tin plate
- Brazing of dissimilar metals onto low carbon steels
- Reduction of surface oxides on metals

These **Gas Atmospheres** annealing atmosphere generators are completely piped, wired and assembled in a "packaged" unit, providing ease of installation and maintenance.

The standard design employs a shell and tube heat exchanger to reduce the product gas temperature to approximately 15°F above the available cooling water temperature.

A nozzle-mix burner system is supplied, with ceramic fiber refractory lining. The thermal shock of frequent start-ups and shutdowns will not shorten the life of this lining.

The generator can be producing a full reducing atmosphere in less than 10 minutes. This shortened start-up not only increases production operating time, but also saves utility costs for fuel, power and water.

The **Gas Atmospheres** unique burner design also provides desired gas analysis without the use of expensive catalyst.

Safety controls are provided for automatic shutdown in the event of utility failure.

Detailed specifications for standard models are available on request. In addition to standard units, **Gas Atmospheres** will design and engineer equipment to suit specific applications.

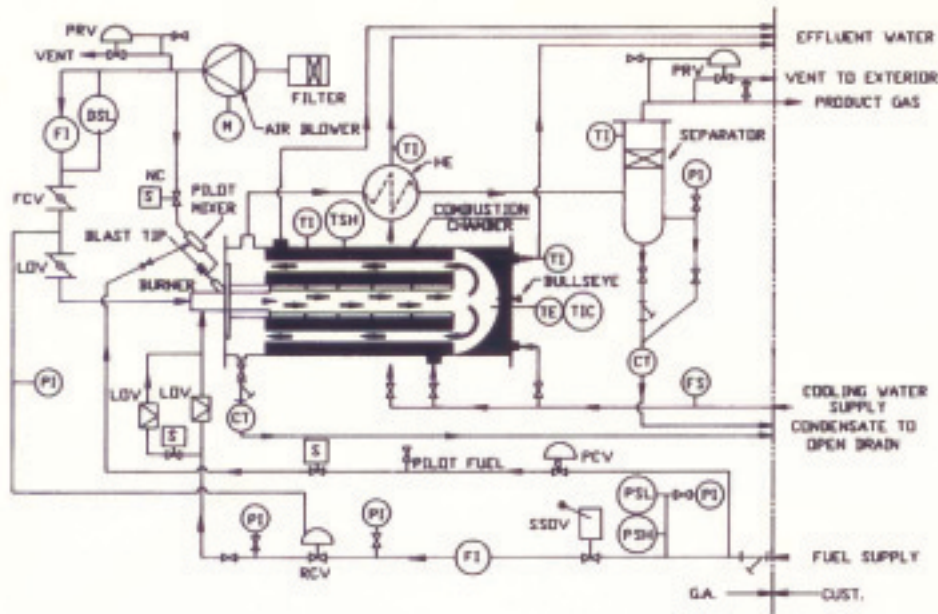
Standard features include:

- Ceramic fiber lined
- Automatic switchover to low ratio operation when chamber reaches proper operating temperature.
- Thermocouple interlocked with flame scanner to prevent low ratio operation if chamber is not at operating temperature.
- Timed purge prior to ignition with "SAFE START" indicator.
- Product gas relief regulator.
- Ultraviolet flame scanner.
- Low air flow switch.
- Low, High and Fuel Pressure switches.
- Water flow switch.
- Fused interlocking door disconnect.
- NEMA-12 electrical enclosure with NEMA-1 components.
- Unit is piped and wired as a package.

Auxiliary equipment includes:

- Oxygen and combustibles analyzers
- Refrigerant and Dessicant gas dryers

SCHEMATIC FLOW



FS	FLOW SENSOR
CT	CONDENSATE TRAP
PSL	PRESSURE SWITCH LOW
PSH	PRESSURE SWITCH HIGH
PI	PRESSURE INDICATOR
FI	FLOW INDICATOR
H	MOTOR
TSH	TEMP. SWITCH HIGH
BSL	DIFFERENTIAL SWITCH LOW
TI	TEMPERATURE INDICATOR
TIC	TEMPERATURE ELEMENT CONTROLLER
TE	TEMPERATURE ELEMENT
HE	HEAT EXCHANGER
RCV	RATIO CONTROL VALVE
SSDV	SAFETY SHUT OFF VALVE
PCV	PRESSURE CONTROL VALVE
PRV	PRESSURE RELIEF VALVE
LDV	LIMITING ORIFICE VALVE
FCV	FLOW CONTROL VALVE
S	SOLENOID VALVE

STANDARD SIZES

MODEL	UTILITIES				DIMENSIONS			
	CAPACITY SCFH	POWER KWH	WATER GPM*	NATURAL GAS	LENGTH	WIDTH	HEIGHT	WEIGHT
XL-50	500	.6	4	80	4'-11"	2'- 6"	5'- 5"	2,400#
XL-100	1,000	.6	8	160	7'- 8"	3'- 6"	5'- 2"	3,100#
XL-200	2,000	1.1	16	320	8'- 7"	3'-10"	5'- 9"	3,850#
XL-300	3,000	1.1	24	480	10'- 6"	4'- 2"	5'-11"	4,480#
XL-400	4,000	1.5	32	640	10'-10"	4'- 1"	6'-11"	5,150#
XL-600	6,000	2.3	48	960	11'- 0"	5'- 5"	7'- 0"	6,160#
XL-800	8,000	2.3	64	1,280	11'- 6"	5'- 6"	7'- 0"	8,650#
XL-1000	10,000	3.7	80	1,600	12'-11"	6'- 0"	7'- 8"	10,160#
XL-1500	15,000	5.6	120	2,400	17'- 0"	6'- 0"	7'- 4"	12,800#
XL-2000	20,000	5.6	160	3,200	20'- 9"	8'- 6"	8'- 7"	16,800#

* USAGE based on 85°F maximum inlet temp. with 30°F maximum rise.

Gas Analysis

GAS	VOLUME PERCENTAGE
Oxygen	Less than 50 PPM
Methane	0.01% to 0.1%
Carbon Dioxide	8.5% to 5.2%
Carbon Monoxide	5.0% to 10.0%
Hydrogen	6.0% to 12.0%
Nitrogen	Balance
Delivered Pressure	14" WC
Dewpoint	Approx. 100°F (based on 85°F max. water temp.)

ANALYSIS depends on fuel used with optional equipment available to improve gas purity.

gas ATMOSPHERES
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