

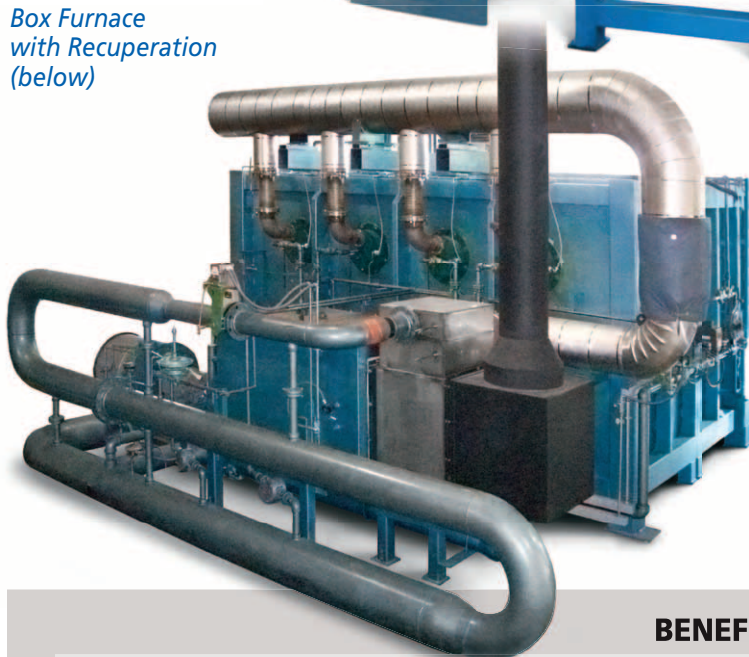
Recuperative Heat Recovery Systems

Armil /CFS designs and manufactures recuperative heat recovery systems for new and existing investment casting furnaces. Our industrial furnace expertise applies science and engineering to your process improvement goals.



*Pusher Furnace with
Recuperation (right)*

*Box Furnace
with Recuperation
(below)*



Armil/CFS can determine fuel savings for new or existing equipment. Computer programs accurately measure total savings of a recuperative combustion system over a cold-air system based upon:

- Hours of operation per day, per week and per year
- Operating temperatures or temperature profiles
- Input (BTU) rating of the equipment
- Flue gas excess oxygen or excess oxygen profile in the furnace chamber
- Weight of wax/plastic to be consumed per mold, per hour (proper burnout must be achieved)
- Fuel usage per month and per year
- Customer's average annual fuel price

BENEFITS:

- **Recuperation** incorporates easily and economically into either new or existing equipment with a measurable return on investment.
- **Recuperation** provides reduced emissions.
- **Tax Credits and other incentives available for utilizing recuperation.**
- **Recuperation** lowers fuel usage:
 - A preheat furnace operating at 2000°F at 6% oxygen will **save 38% in fuel.**
 - A burnout furnace operating at 1600°F at 12% oxygen will **save 57% in fuel.**

RECUPERATIVE FURNACES

For Investment Casting

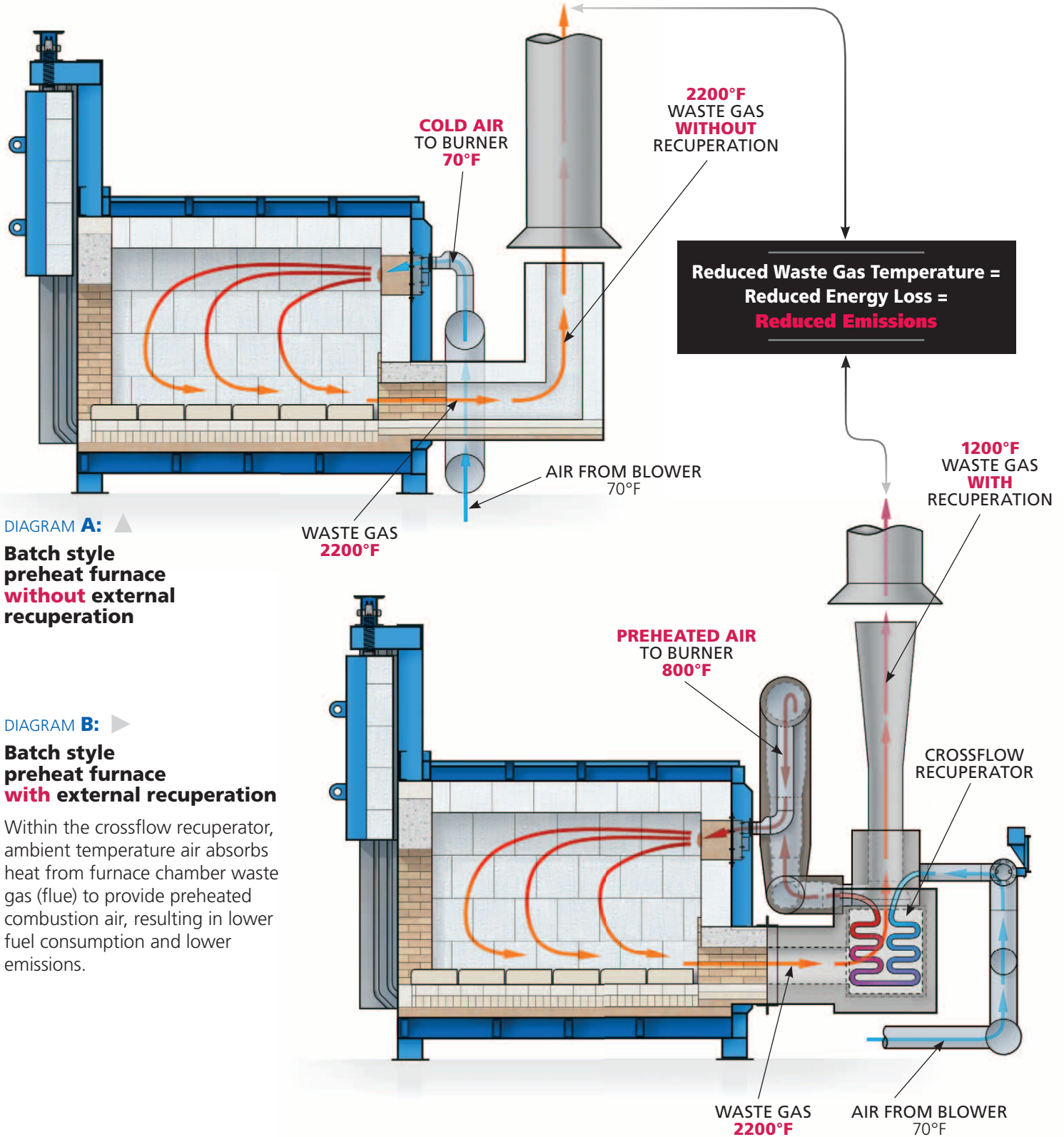


DIAGRAM A: ▲
Batch style preheat furnace without external recuperation

DIAGRAM B: ►
Batch style preheat furnace with external recuperation

Within the crossflow recuperator, ambient temperature air absorbs heat from furnace chamber waste gas (flue) to provide preheated combustion air, resulting in lower fuel consumption and lower emissions.



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