PHARMACEUTICAL R&D | CASE STUDY

Static Mixer: Integrated Heat Transfer & Mixing Solution

Exergy engineered a compact, sanitary static mixer to meet the dual demands of precise thermal regulation and effective fluid mixing within a pharmaceutical R&D laboratory — where conventional heat exchangers fell short.

1

Objective

Reliable mixing during heat transfer in a confined lab environment requiring sanitary, high-performance design.

2

Challenge

Standard exchangers could not simultaneously deliver mixing, high pressure/temperature ratings, material certification, and maintenance-free operation.

3

Solution

A custom static mixer exchanger providing simultaneous mixing and thermal control — compact, fully certified, and maintenance-free.

4

Results

Improved experimental consistency, eliminated maintenance, met all material certifications, and delivered high operational reliability.

Key Performance Benefits

Simultaneous Dual Function

Heat transfer and fluid mixing achieved within a single compact unit — eliminating the need for separate equipment.

Sanitary & Certified Design

Full material certification compliance with pharmaceutical-grade standards; sanitary construction throughout.

Maintenance-Free Operation

No moving parts within the static mixer design ensures continuous, uninterrupted lab operation with zero scheduled maintenance.

Why Exergy

Exergy's static mixer solution demonstrates the capability to tailor heat exchanger designs for pharmaceutical R&D applications demanding **multifunctional performance** in constrained spaces.

High pressure and temperature ratings were maintained alongside strict material certifications — delivering a solution standard exchangers simply could not provide.

ISO 9001:2015 Certified Quality Management System