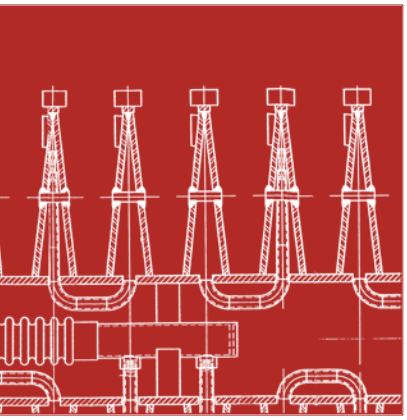
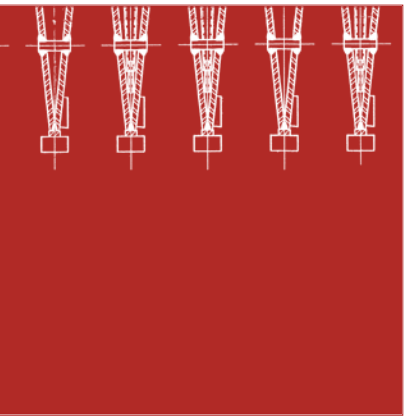
# *MultiDisc® Thermal Processors*

MultiDisc thermal processors are a cost effective, low or medium temperature processing unit that uses an innovative conduction-convection heat transfer method to indirectly dry, heat, and/or cool bulk solids, including minerals, chemicals, pigments, and food products. Indirect processing using this high product-to-surface area ratio is highly efficient with minimal off gas volumes. Our innovative design reduces surface fouling, pluggage and power consumption to effectively reduce overall operational costs.

Heyl Patterson MultiDisc thermal processors are recommended for countless drying, heating, and cooling applications. Our team of engineers can recommend the most efficient thermal processor design for your application needs.

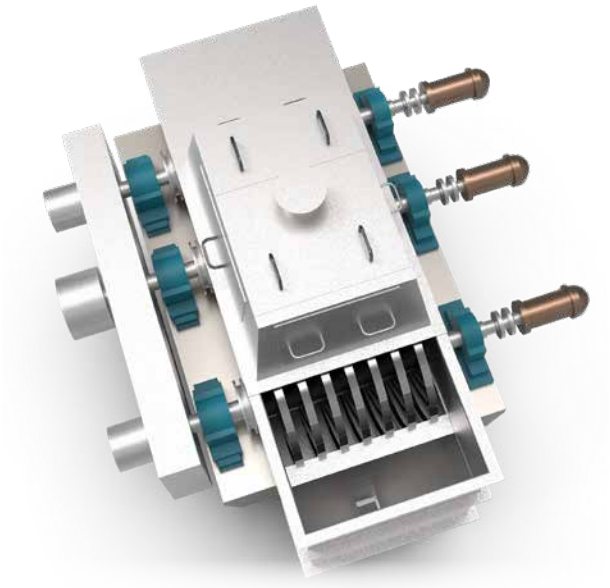




***Typical Industries & Applications:***

- Agriculture/Grains
- Ceramics
- Chemicals
- Coal
- Environmental
- Food
- Gypsum
- Metals
- Mining & Minerals
- Pigments
- Polyester
- Soda Ash

HEYL PATTERSON
THERMAL PROCESSING



## Features & Benefits:

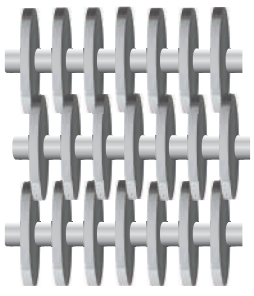
- High product-to-surface ratio improves heat transfer efficiency
- Indirect processing produces minimal exhaust gas volumes
- Versatile design allows heat transfer fluids to be circulated in series or parallel flow patterns
- Angled conveying bars eliminate sidewall by passing or short circuiting
- Compact size delivers total processing capacity in a footprint that could barely accommodate the drive train of similar thermal processors

Heyl Patterson's MultiDisc thermal processor can be configured with meshed discs, non-meshed discs or a combination of the two. The meshed design provides enhanced mixing for difficult-to-transport wet solids or those that adhere to hot surfaces and is also ideal for batch processing where uniform temperature control is required.

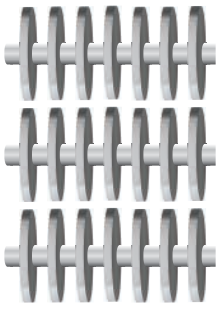
## Options:

### Disc Assemblies

A choice of disc assemblies configured in either meshing or non-meshing modes, or in combination.



**Meshed**
**For Sticky Materials**



**Non-Meshed**

### Electric Heating Element

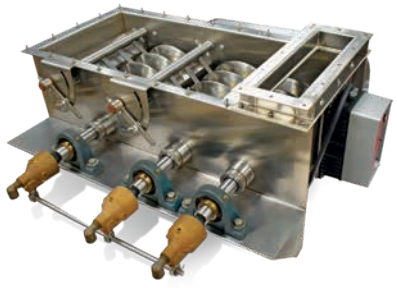
An integral electric heating element can be installed to improve heat transfer capabilities.

### Control Systems

A variety of control systems are available including PLC-based process controls.

### Power Systems

Power system designs include steam, heat transfer, fluid or electricity.



### Circulation Systems

Choose how your unit will circulate the heat transfer fluids in either a series or parallel flow patterns.

## *The Key To Delivering High Area-To-Volume Processing Ratio:*

### Hollow Disc & Shaft Assembly Design

Multiple discs are permanently attached to the shaft to create a fixed, sealed and self-contained unit. Cooling water, steam, thermal fluid or refrigerants circulate through the hollow assembly, transferring heat or cooling action to the revolving disc surfaces.

Product flows between and around the discs in the trough, and as a result, is exposed to a very large amount of disc surface area within a relatively small container. This means a very high area-to-volume processing ratio and improved efficiency.

*Heyl Patterson thermal processor discs can be fitted with agitation clips and breaker bars, an innovative design that breaks up lumps, thoroughly mixes product, and maintains a consistent flow.*

## *Advantages of Indirect Heating:*

- Higher product-to surface-area ratio for improved thermal efficiencies
- Minimal exhaust gas volumes requiring less costly air pollution control equipment or volatile recovery systems
- Inert, oxidizing, reducing, and dehumidifying process atmospheres can be maintained
- Fine materials are easily processed without excessive product entrainment in the gas stream

## *Complete Customization & Integrated Systems*

From various disc configurations and circulation systems to integral electric heating elements and other customization options, Heyl Patterson's MultiDisc delivers efficient processing in a small footprint.

Heyl Patterson can provide complete systems including material feeding equipment and air pollution and emissions control equipment such as baghouses, scrubbers, cyclones, and thermal oxidizers.

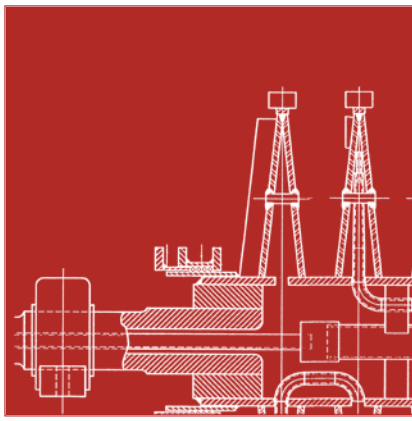
## *Engineering & Manufacturing*

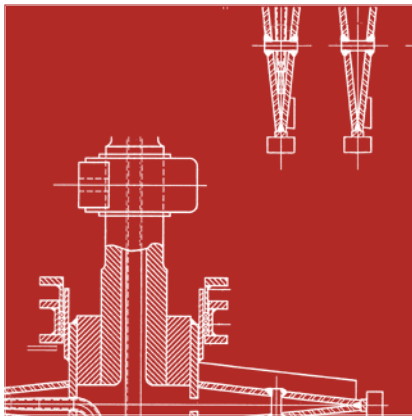
- Equipment designs are verified using Finite Element Analysis (FEA) to ensure trouble-free service and long life
- 3D equipment modeling
- State-of-the-art manufacturing facilities on 3 continents with robotic cutting and welding
- Manufacturing expertise working with mild steel, various grades of stainless steel, duplex steels and other exotic alloys for specialty applications
- Welders certified to ASME & AWS standards
- ISO 9001:2015 certified

## *Lab Testing*

Be confident that your processing equipment is efficient with CPEG's 15,000 $ft^2$ state-of-the-art test lab. With our lab, you have access to the most extensive testing capabilities in the industry. Multiple pieces of equipment can be combined for multistep and multistage testing to simulate field operation, validate new equipment designs, and provide complete process solutions. Combined with our full analysis of material characteristics and measurements of material behavior in specific processing applications, you are assured an efficient, reliable and safe solution, all backed by our process warranty.

Field testing with rental equipment is available when lab testing would not effectively simulate process operating environments.





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