

CATACEL_{JM} HEP



Johnson Matthey
Process Technologies

Heat exchange platform for heat recuperation and reaction support

The **CATACEL_{JM}**TM range of heat exchanger platforms is a compact, lightweight, high-temperature heat exchanger that can operate as a high performance heat recuperator or can be easily configured to work as a reactor. Provided by Johnson Matthey as **CATACEL_{JM} HEPTM**, it is made of high-temperature materials throughout, enabling it to endure temperatures up to 900° C.

CATACEL_{JM} HEP offers unprecedented size, weight and cost advantages in comparison with today's heat exchanger and reactor designs. Our modules are configured for a variety of uses, currently including fuel cell systems, medical and aerospace applications.

Sheets with a variety of corrugation geometries can be inserted into the **CATACEL_{JM} HEP** modules to tailor the heat transfer characteristics. Special catalytic or sorbent coatings can be applied to the inserts.

Key benefits

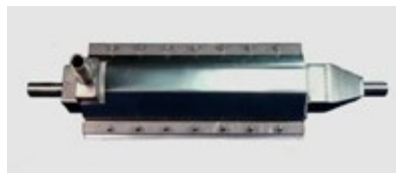
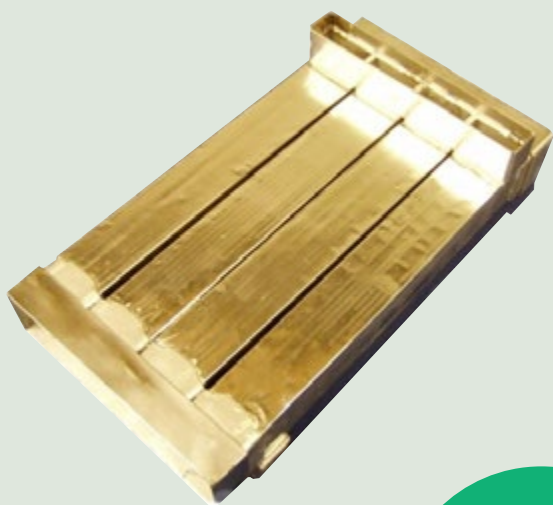
- Compact and lightweight
- Heat transfer up to 2.5 kW per module
- Easily bundled for greater heat exchange
- Readily customized through foil inserts
- Easily becomes a reactor by depositing catalysts

Catacel_{JM}



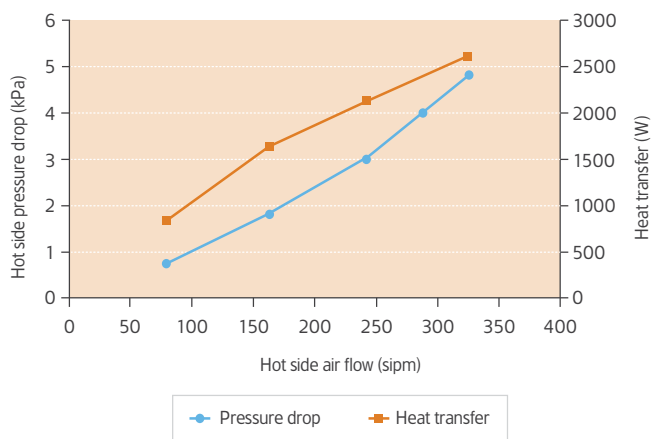
Larger heat exchangers can be constructed from several modules, (as shown) by utilizing the building blocks of the well-understood equipment.

There are numerous possible combinations of inserts, coatings and fittings as well as a wide range of heat exchange or reaction functions. Such custom combinations significantly reduce engineering costs.



Various connections can be attached to the **CATACEL_{JM} HEP**. Examples of stock fittings include sanitary flanges and Swagelok™ tubes.

The modules have been extensively characterized on a **CATACEL_{JM}** evaluation test bench. Pressure drop and heat transfer for numerous insert geometries have been evaluated, providing a database that allows performance to be predicted for a wide variety of applications.



Pressure drop and heat transfer for a single **CATACEL_{JM} HEP** with straight-cell uncoated inserts, tested in counter-flow with 700°C inlet air.

For more details on the **CATACEL_{JM} HEP** visit www.catacel.com

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1458JM/0215/O/PT

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