syrris

atlas

automated synthesis system

pressure (Na)

200 bar, stainless steel reactor system

Atlas simply does it all

What is the Atlas Sodium (Na) Pressure System?

The Atlas Sodium Pressure System is a modular pressure reactor that can be controlled automatically or manually. Available in volumes up to 450ml, the Atlas Sodium Pressure System offers heating and/or cooling, overhead or magnetic stirring, pressure sensing and options such as pressure control, mass flow control and gas selection.

Atlas Sodium Pressure System benefits

- **High pressure:** The Atlas Sodium Pressure System has an operating pressure of up to 200 bar (contact Syrris for higher pressures).
- **Easy to use:** Dry Bath for high pressure reactor is designed to fit easily and safely on the Atlas hotplate.
- **Advanced control:** The PC software offers gas selection and automated pressure or mass flow control.
- **High performance stirring:** The Atlas Sodium Pressure System offers powerful overhead (up to 800RPM) or magnetic stirring (up to 1200RPM).
- **High operating temperature:** Will operate to temperatures up to 250°C (contact Syrris for higher temperatures).
- **Versatile:** The Atlas Sodium Pressure System offers liquid sampling at high pressures/temperatures.
- **Ideal for catalyst screening:** Quick automation and optimisation of high pressure reactions.
- **Variety of vessels:** The Atlas Sodium Pressure System can be supplied with 100, 160, 300 and 450ml reaction vessels in stainless steel 316, hastelloy, titanium, etc.
- **Safe:** Burst disc, maximum temperature cut out and complies with PED / ASME design codes.
- **Data-logging with PC:** All data such as pressure, temperature, stirrer speed, etc. is logged automatically.

Atlas Sodium Pressure System features

The Atlas Sodium Pressure System is designed for applications where elevated pressures or temperatures are required e.g. hydrogenations, carbonylations, etc.

The basic system, described opposite, allows automatic temperature and stirrer control and pressure sensing. Upgrades include the Gas Selection Module, Pressure Control Module, gas flow meters and full PC software control and automation.
For more information, please contact Syrris.

Modes of Operation

Manual Pressure Control
Use the Atlas Pressure Node and Sensor with manual valves to control pressure. Pressure, temperature and stirrer speed are displayed and logged automatically.

Automatically Maintain a Pressure
By using the Atlas Pressure Control Module and the PC software a consistent pressure to the reaction is maintained over the reaction period.

Pressure Control with Mass Flow Monitoring
Maintain a pressure and monitor mass flow. Ideal for gas uptake monitoring.

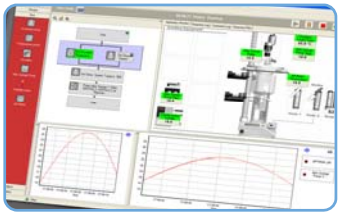
Mass Flow Control
Dose a known quantity of gas using the mass flow controller.

Off Gas Monitoring
Monitor off-gases with mass flow meters.

*Manual or Automated Gas Selection
All of the above modes of operation are available with the Atlas Gas Selection Module, allowing manual or automated selection of up to 3 gases.

Atlas Sodium Pressure System

The basic Atlas Sodium Pressure System contains a base unit and hotplate (shown right), and (as shown below), a pressure vessel (100, 160, 300 or 450ml), dry bath for high pressure reactors, scorpion overhead stirrer, support rods, stirrer, stirrer seal and guide, pressure node, pressure sensor, cooling coil and burst disc.



Left: Atlas Gas Selection Module

Above: Atlas Software control

Right: 450ml pressure vessel with valves, cooling coil, burst disc, stirrer seal and guide etc. in the dry bath

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