PRODUCT DATASHEET

Jacketed High-Pressure Vessel, 20 L (Alloy C-276)

Jacketed 20-litre Alloy C-276 vessel for scale-up





DETAIL – VESSEL HEAD

OVERVIEW

The Tech Inc. Jacketed High-Pressure Vessel, 20 L (model TI-HV) takes reactions proven on the bench to larger batches at up to about 200 bar (3,000 psi) and 350 °C. The 20-litre Alloy C-276 vessel has an outer jacket for heating and cooling by thermal fluid. Research institutes, pilot plants and process development groups choose it when a benchtop reactor is too small and plant equipment is too large.

MODELS AND CONFIGURATIONS

- **TI-HV** – jacketed 20-litre vessel with Alloy C-276 wetted parts.
- **Stirred or unstirred** – a magnetically coupled agitator where mixing is needed, or a plain vessel for static soak and pressure tests.
- **Jacket service** – connected to the site thermal-fluid system or supplied with its own unit, to client specification.

TYPICAL DESIGN DATA

Vessel volume	20 litres
Design pressure	Up to about 200 bar (3,000 psi), or to client specification
Design temperature	Up to 350 °C, or to client specification
Wetted materials	Alloy C-276, with jacket and frame materials to client specification
Heating and cooling	Thermal-fluid jacket, with duty to client specification
Pressure design	Designed to ASME VIII or client specification
Controls	Temperature, pressure and agitator speed control, with alarms, interlocks and data logging

APPLICATIONS

Scale-up of catalytic reactions, hydrogenation, polymerisation, speciality and fine chemicals, materials synthesis, and larger samples for product testing.

KEY ADVANTAGES

- **Scale-up at full conditions** – 20 litres within the same pressure and temperature envelope as the bench reactor
- **Jacketed temperature control** – the thermal fluid removes heat as well as adding it, which suits exothermic batches
- **Corrosion resistance** – Alloy C-276 for acids and sour media
- **Clean discharge** – the bottom outlet valve empties the vessel without opening the head
- **Safe operation** – relief valve, rupture disc and interlocks on every vessel

Designed and built by Tech Inc. · **Part of the Davey Group since 1990**

Offices: Chennai · Toronto · Tallinn · Al Khobar

mail@techincresearch.com · +1 (289) 622-1032 · www.techincresearch.com

Disclaimer: All products, designs and content are the property of Tech Inc. Tech Inc. reserves the right to change specifications and details without notice. Images are for representation only; the supplied equipment may differ in appearance. Data are typical; final design to client specification.