

API-Cecomp Group *n'fo*

Technical & Application Note C108

Application: Monitor pressure on an autoclave
Type Of company: Aircraft Composite Parts Manufacturer
Location: Washington

Problem: The customer uses an autoclave to manufacture aircraft parts using a carbon fiber resin based compound. This is a process using a two-sided mold set that forms both surfaces of the panel. The lower side is a rigid mold. The upper side can be a rigid or flexible mold. The two sides fit together to produce a mold cavity. The distinguishing feature of resin transfer molding is that the reinforcement materials are placed into this cavity and the mold set is closed prior to the introduction of matrix material. This is commonly called vacuum assisted resin transfer molding and is performed at an elevated temperature. The accuracy and repeatability of the applied vacuum plus accurate measurement of the temperature in the autoclave is required so that there are no air bubbles remaining in the part which could cause a "part failure" when put in service. This air bubble removal is critical for parts quality and integrity. The customer uses a Honeywell data acquisition system to monitor and document process variables for parts quality but there is a requirement for a very accurate local visual indication of the applied vacuum. This local indication must be both accurate, repeatable and easy to read.

Note: for additional information on this process see http://en.wikipedia.org/wiki/Composite_material

Solution: The customer will use a DPG1000B30 inHg (vac) to monitor the vacuum applied to the part in the autoclave.



DPG1000B

Battery Powered Digital Pressure Gauge



Benefits of API's solution:

- ±0.25% Test Gauge Accuracy
- Long Battery Life (up to 2500 Hours)
- 0.5" digit height on Display for ease of reading
- Repeatability of reading


Cecomp Unique Feature



One Touch Button Front

Cecomp Battery powered Gauges have an accuracy of $\pm 0.25\%$ of full scale (± 1 least significant digit) with 2500 hours battery life using standard alkaline batteries. The front button turns gauge on, starts auto shutoff timer, and provides zero function (One Touch Zero) for gauge reference ranges. Cecomp gauges come with non-interactive zero and span controls for accurate calibra-

To find your local representative:
www.api-usa.com/api_rep_map.php

FREE FACTORY APPLICATION ASSISTANCE
Contact  Customer Service
Where People Answer The Phone
www.api-usa.com
800-942-0315



[Api List Pricing Quick Link](#)

Revised 06/2009