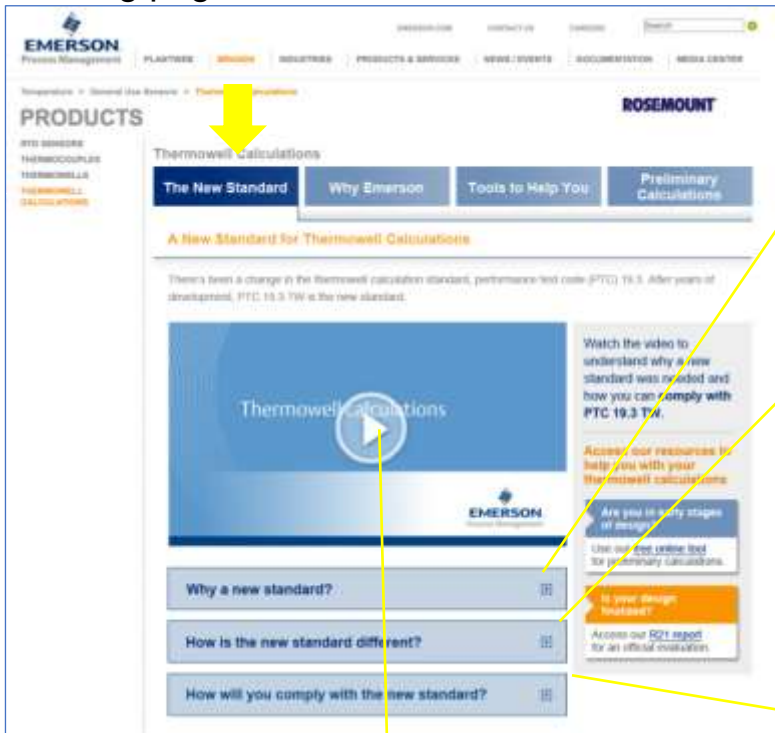


Services Provided: Microsite strategy, plan, project management, schedule, research, VOC, competitive comparison, messaging audit & comparison, writing, editing, wireframe & design mockup
Stakeholders: Sales, Business Development, Product Management, Marketing, Communications, Research & Development
Collaborators: IT, Web Designer
Outcome: Exceeded projections - number of users by 22%; requested RFPs by 42%

Key: The microsite at www.rosemount.com/ThermowellCalcis no longer live. The yellow arrows have been added to help the reviewer follow intended navigation and not appear on the website

Landing page



Why a new standard?

The old standard—PTC 19.3—was limited in scope and overly simplistic. As a result, there were significant variances in thermowell calculations. In addition, more advanced methods such as finite element analysis and experimental results caused many in the industry to move away from a strict reading of PTC 19.3.

How is the new standard different?

The new standard—PTC 19.3 TW—features a number of enhancements:

- Inclusion of stem profiles**
- More accurate natural frequency equations** that reflect real-world effects resulting from installation
- Ideal (or theoretical) natural frequency is corrected** for adding a sensor and the mounting style **Why is this IMPORTANT?**
- The Strouhal number**—used to calculate the vortex shedding rate—was set at 0.22 in PTC 19.3 and now is calculated **Why is this IMPORTANT?**
- Perpendicular and in-line oscillation are considered** **Why is this IMPORTANT?**

How will you comply with the new standard?

Emerson Process Management can help you comply.

- LEARN MORE**
Read a [white paper](#) on PTC 19.3 TW.
- IN EARLY STAGES OF DESIGN**
Use our [free online tool](#) for your preliminary calculations.
- YOUR DESIGN IS FINALIZED**
Look to our expert calculation team and our [R21 report](#) for an official evaluation of a thermowell to determine if it is acceptable for process conditions.



EMERSON Process Management

PRODUCTS

Thermowell Calculations

The New Standard | **Why Emerson** | Tools to Help You | Preliminary Calculations

A Leader in Thermowell Calculations

For over 20 years, Emerson Process Management has been a leader in accurate thermowell calculating. In 2010, along with other vendors, users, agencies and academia, we helped the American Society for Mechanical Engineers (ASME) update the thermowell calculation standard from PTC 19.3 to PTC 19.3 TW.

We understand all aspects of the thermowell calculation standard and are adept at helping businesses comply with this new calculation. In fact, our expert calculation team performs over 35,000 thermowell calculations each year!

When you partner with Emerson Process Management for thermowell calculation, you can count on:

- Knowledge**—We perform a calculation with the requested thermowell geometry, material and process conditions. If the design doesn't meet ASME requirements, we'll make recommendations for achieving an acceptable outcome.
- Traceability**—Emerson Process Management keeps on file every calculation report and background information. If you lose the report in the days, weeks or years to come, we can provide a new one.
- Consistency**—We use industry-standard ASME material properties in every calculation so you are assured of consistent and correct results. In addition, all Rosemount thermowells are manufactured with these properties, so you are guaranteed the report will match your thermowell.
- Capacity**—Emerson Process Management performs over 35,000 calculations per year and can handle even the largest projects with quality and consistency.
- Quality reports**—Our reports include all customer information, process data, thermowell information and the outputs of the ASME standard calculation. This includes a clear identification of whether or not the thermowell is acceptable for the process conditions and the exact reasons why.

Access our resources to help you with your thermowell calculations

Are you in early stages of design? Use our **free online tool** for preliminary calculations.

Is your design finalized? Access our **R21 report** for an official evaluation.

EMERSON Process Management

PRODUCTS

Thermowell Calculations

The New Standard | Why Emerson | **Tools to Help You** | Preliminary Calculations

Tools to Help You to Comply with the New Standard

It's important that you have confidence in your thermowell calculations. Making sure you are in compliance with the new PTC 19.3 TW standard is an important first step to accurate calculations.

Emerson Process Management can help you in a variety of ways:

- Watch the video** to better understand PTC 19.3 TW and see how it covers all geometry and more.
- Read the white paper** for an in-depth explanation of thermowell calculating.
- Gather a preliminary calculation** using our free online tool. Simply complete the required information and hit the "submit" button. You'll receive an immediate pass/fail score.
- R21** Let us help you with an official calculation using our R21 report. Send it to your salesperson when ordering your thermowells. Find your salesperson [here](#).

Looking for other information?

Velocity Collars—If you are considering a velocity collar, think again. [Let us tell you why](#).

ASME and the New Standard—Check out what ASME has to say about 19.3 TW.

EMERSON Process Management

PRODUCTS

Thermowell Calculations

The New Standard | Why Emerson | Tools to Help You | **Preliminary Calculations**

Preliminary Calculations Tool

EMERSON Process Management

THERMOWELL CALCULATIONS ROSEMOUNT

Thermowell Calculations

Thermowell Geometry: **Collar** **Make my own geometry** **Copy my geometry**

Fluid Properties

Fluid Name: **Fluid Density (g/cc)** **Fluid Viscosity (cP)**

Process Fluid Temperature (°F) **Design Fluid Temp. (°F)**

Operating Pressure (PSI)

Flow Information

Process Flow: **Flow Direction:**

Process Flow Rate (GPM) **Flow Velocity (ft/min)**

Process Pipe Diameter (in)

Thermowell Data

Thermowell Size: **Thermowell Material:**

Thermowell Length (in) **Thermowell Tip Diameter (in)**

Thermowell Tip Length (in) **Thermowell Tip Diameter (in)**

Thermowell Tip Diameter (in)

Thermowell Tip Length (in)

Checklist

- ASME B31.3
- ASME Y14.5
- ASME Y14.7
- ASME Y14.13
- ASME Y14.18
- ASME Y14.19
- ASME Y14.20
- ASME Y14.21
- ASME Y14.22
- ASME Y14.23
- ASME Y14.24
- ASME Y14.25
- ASME Y14.26
- ASME Y14.27
- ASME Y14.28
- ASME Y14.29
- ASME Y14.30
- ASME Y14.31
- ASME Y14.32
- ASME Y14.33
- ASME Y14.34
- ASME Y14.35
- ASME Y14.36
- ASME Y14.37
- ASME Y14.38
- ASME Y14.39
- ASME Y14.40
- ASME Y14.41
- ASME Y14.42
- ASME Y14.43
- ASME Y14.44
- ASME Y14.45
- ASME Y14.46
- ASME Y14.47
- ASME Y14.48
- ASME Y14.49
- ASME Y14.50

Would You Like To Order An Official Calculation?