

Hot Spin Forming

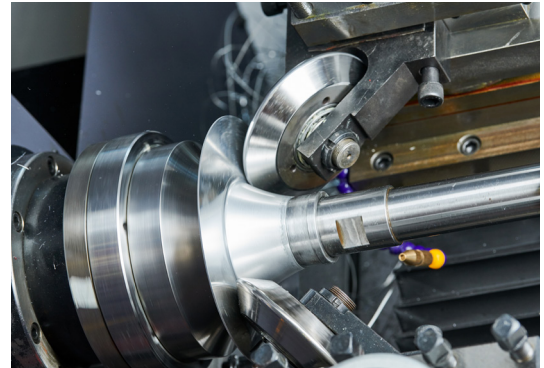
Application Overview

Hot Spin Forming has become a crucial part of the global manufacturing sector. This is especially true in industries that demand light-weight high-strength components with complex geometries, precise thicknesses, & advanced heat tolerances.

In Hot Spin Forming, a metal workpiece is heated with a torch to the desired deformation temperature. Overheating the workpiece can compromise mechanical properties & indicates unnecessary energy consumption. Underheating the workpiece causes incomplete deformation, cracking, & puts more stress on the machinery, ultimately shortening its longevity. Continuous real-time temperature feedback is a critical process & quality control metric.

Hot Spin Forming can be used for a variety of metals that present their own unique temperature measurement challenges including emissivity variations, scale, surface oxidation, & optical interferences.

Williamson Pyrometers use carefully selected narrowband wavelength sets & ESP filtering to overcome temperature measurement challenges associated with Hot Spin Forming. These features enable Williamson Pyrometers to provide unequalled accuracy & reliability across materials & operating conditions.



Williamson Wavelength Advantage

Pyrometer Benefits

- Provides continuous real-time temperature feedback
- Enables precise process control & as needed heat adjustments
- Ensures optimal formability, consistent product quality, & desired mechanical properties

Wavelength Technology

Short-Wavelength **SW**

- Maximizes temperature sensitivity while minimizing sensitivity to emissivity variation
- 16 & 2A wavelengths are configured to view clearly through flames without interference

Dual-Wavelength **DW**

- 20x less sensitive to surface oxidation & scale compared to SW & TC pyrometers
- Carefully selected wavelengths compensate for scale, misalignment, & other common optical obstructions associated w/ steel & titanium respectively

Multi-Wavelength **MW**

- Uses Application-Specific ESP Algorithms to automatically adjust for non-greybody emissivity variation
- MW-20 utilizes carefully selected narrowband wavelength sets to compensate for changing surface characteristics associated w/ aluminum & copper

Pro-Series

Traditional Style



Recommended Model

Flame Interference or Flame Refelections	Aluminum	SW-2A-30
	Steel Titanium Copper	SW-16-30
No Flame Interference or Flame Reflections	Aluminum	MW-20-20
	Steel Titanium	DW-08-50
	Copper	MW-20-34