TECHNICAL BULLETIN

ENGINEERED PIPE SUPPORTS

Furnace Springs VS. Standard Springs

PIPING TECHNOLOGY & PRODUCTS, INC.

U.S. Bellows, Inc.

SWECO FAB

Pipe Shields Inc.

Anchor/Darling Enterprises, Inc.

website: **www.pipingtech.com**

email: **info@pipingtech.com**

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Standard Springs vs. Furnace Springs

Difference - The major differences between standard springs and furnace springs are in their construction and their intended use. Furnace springs operate in much the same way as other variable spring supports. They are designed to support the pipe or tubes that are subjected to vertical therrmal movement. The design changes are necessary because furnace springs are exposed to extreme temperatures.

Coatings - Furnace springs are almost always coated with red oxide primer in order to avoid any potential hazards when exposed to high temperatures. Standard springs are usually hot dipped galvanized, which, when exposed to high temperatures, tends to melt the zinc coating. The molten zinc can then cause damage to the surrounding pipe and equipment.

	FURNACE SPRINGS	STANDARD SPRINGS
COATINGS	Red oxide primer in order to avoid potential hazards when exposed to high temperatures.	Hot dipped galvanized which tends to melt the zinc coating. Molten zinc can damage surrounding pipe and equipment.
CONSTRUCTION	• Unique to its application and intended use • Welded design for housing assembly • Centers the spring coils within the housing and accommodates lug attachments	• Interchangeable • Bolted configuration for the housing
DESIGN	Spring used as a means to determine the loading of the catalyst tubes	

Custom Designed Furnace Spring Assemblies

Construction - Whereas many of the standard variable spring components are interchangeable, the furnace spring assemblies are constructed from components unique to its application and intended use. The furnace spring incorporates a welded design for the housing assembly unlike standard spring housings that use a bolted configuration. The internal components of the furnace spring are designed to center the spring coils within the spring's housing to prevent misalignment. In addition, the spring housing is modified to accommodate lug attachments on existing furnace tubing and equipment. Special fabricated casings, spring coils, and nameplates may also be used to accommodate increased travel.

Custom Designed Furnace Spring Assemblies

Design - Some furnace springs are designed in order for the spring to be used as a means to determine the loading of the catalyst tubes. In these applications, an exact spring rate is determined for each assembly. The exact spring rate (which may differ slightly from published spring rate values) can then be used to determine the weight of the tubing system in order to balance the unit.

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