



Design Update Bulletin

Combustion Systems

November 2002

No. 111.2

Spinner vane diffuser for “square to round” oil warm-up compartments improves oil-firing performance on tangential fired units...

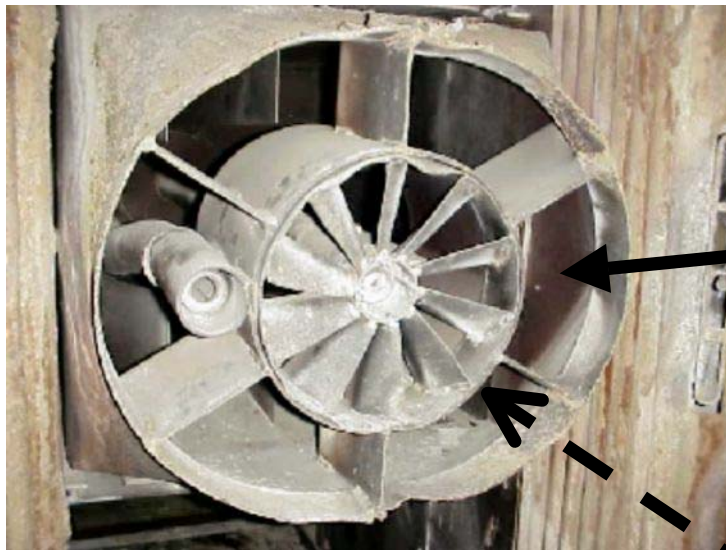
“High Efficiency Oil Diffuser”



FWEC offers a spinner vane oil diffuser upgrade for “square to round” oil compartments on tangential-fired power boilers that promotes oil / air mixing. This improves oil firing performance throughout the firing capacity of the oil guns.

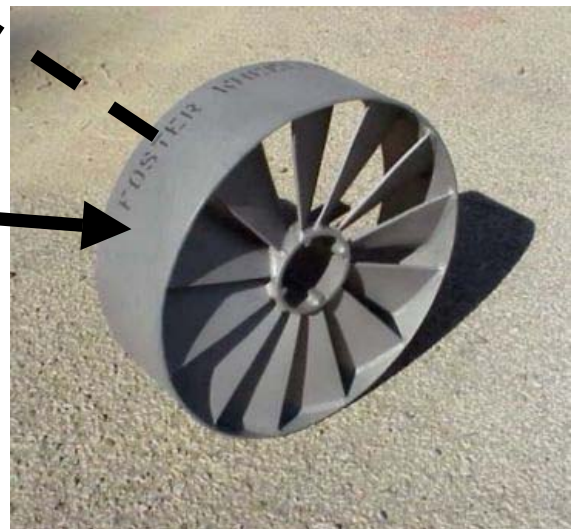
- Applicable for all square to round oil compartments and oil gun capacities.
- Improves oil firing performance for mechanical and steam atomized oil guns.
- Direct replacement for existing diffusers.
- High temperature, corrosion-resistant stainless steel alloys

Many tangential fired boilers designed after 1969 were equipped with special square to round oil warm-up compartments. The diffusers provided with these tilting nozzle tips produced a very low swirl, causing poor fuel-air mixing. This design has a history of producing poor flame stability and high opacity excursions. The latter is especially true during cold unit startups.



Typical "square to round" oil compartment with "low" swirl oil diffuser.

New FWEC "high" efficiency oil diffuser



In response to this common problem, FWEC offers a higher efficiency vaned swirler diffuser design that greatly improves air-oil mixing. The results are better, more stable oil flames across the load range of the oil guns. This improvement reduces oil carry-over and related stack opacity compared to the low swirl diffuser design. All diffusers are compatible with existing equipment and are available in range of high temperature corrosion resistant materials to suit your specific fuels.

The information presented above is continually updated. Please contact your local Foster Wheeler Power Group office for specific details.

Foster Wheeler Power Group – U.S./International Service Centers

Hdqtrs. Clinton, New Jersey
Perryville Corporate Park
Clinton, NJ 08809-4000
(908) 713-2260
Fax: (908) 713-2285
parts@fwc.com

Chicago Illinois
1401 Branding Lane Suite 315
Downers Grove, IL 60515
(630) 241-2050
Fax: (630) 241-2050

Atlanta, Georgia
1000 Johnson Ferry Road
Marietta, GA 30068
(770) 509-0337
Fax: (770) 509-0797

International Office
9645 Scranton Road Suite 230
San Diego, CA 92121-1761
(858) 458-3187
Fax: (858) 558-3406