

TwinBed® II

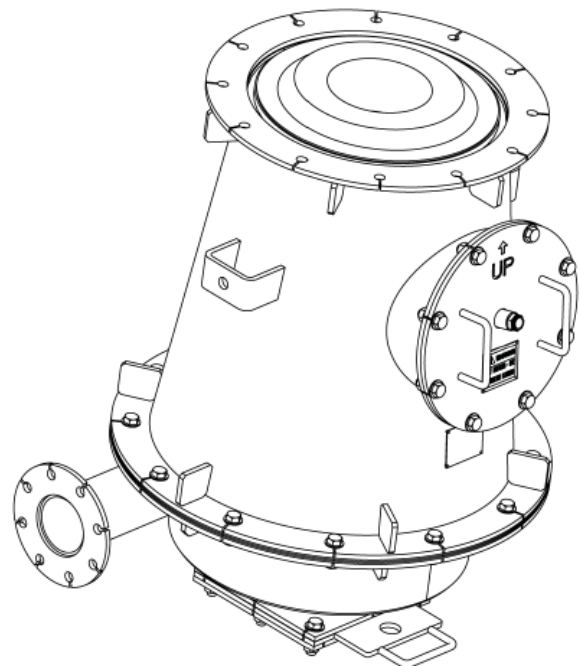
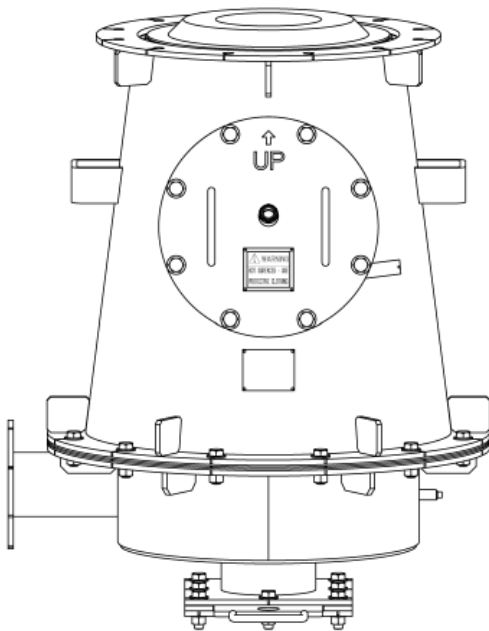
CRG - Compact Regenerator

For a general overview of Fives North American Combustion, Inc. TwinBed II Regenerative burners, please refer to Bulletin 4343. Bulletin 4343A has been published to highlight the many advantages of the new Compact Regenerator TwinBed II design developed by Fives North American Combustion.

The new compact regenerator is designed to conserve space and simplify the removal of the ceramic heat transfer media for cleaning and/or replacement. The regenerator is placed directly below the burner head. Simple removal of the alumina balls is by opening a slide gate at the bottom of the air/exhaust plenum.

The modular system includes a separate burner head and regenerator. Each of these major modular units includes convenient means for attaching lifting devices such as a chain hoist or fork lift.

The media material fill port is easily accessible, light weight and conveniently located at the back of the regenerator. The conical shape of the regenerator provides a self-leveling feature as the media material is added. It is also easy to determine when the correct fill level has been established to ensure efficient operation and control pressure drops.



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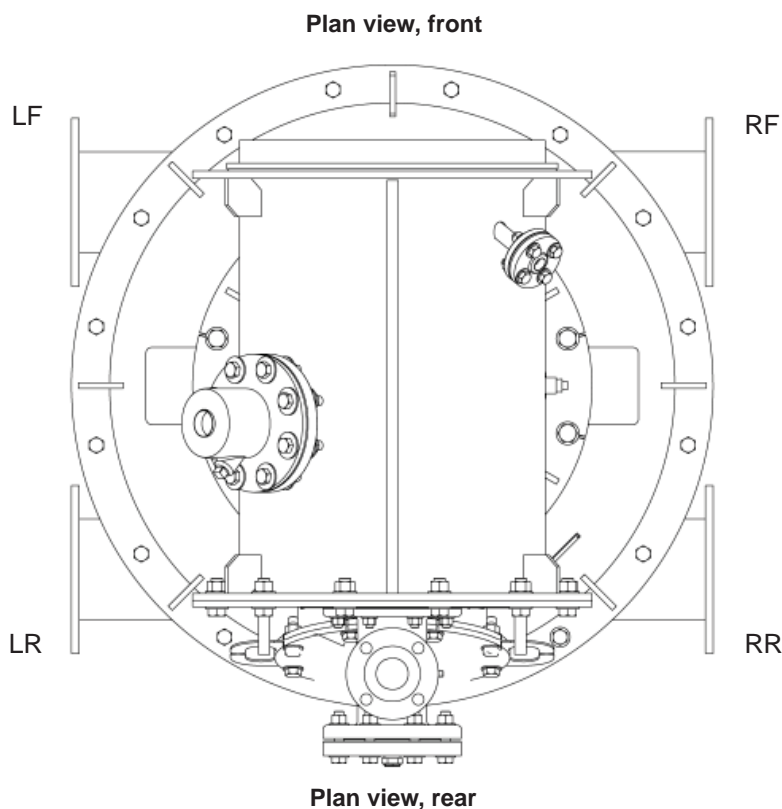
Regenerator Arrangements

The TwinBed II compact regenerator has been designed for perpendicular mounting of the burner head to the furnace wall. However, a maximum down-firing angle of five degrees can be achieved with a special burner mounting box.

Available Capacities

Burner Size	Maximum Capacity
4343-7-A	2.0 MM Btu/hr
4343-7-B	4.3 MM Btu/hr
4343-8-A	5.0 MM Btu/hr
4343-8-B	7.3 MM Btu/hr
4343-9	11.3 MM Btu/hr

The bottom plenum is provided with one of the four standard air/exhaust flange locations shown below.



The desired air/exhaust flange location is specified at the time of placing an order by selecting the appropriate regenerator part number. For example, 4343-7-A/CRG/LF would select the Left Front location per above. However, for convenience in selecting alternative field piping arrangements, the plenum can be removed from the bottom of the regenerator housing and rotated (90 degree increments are recommended) to suit. This needs to be done prior to adding the heat transfer media to the regenerator.

WARNING: Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and insurance Underwriters recommendations, and care in operation.

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Bed Media Replacement

Removal of existing bed material should be done as part of a regular maintenance program. However, bed material can be replaced with the furnace in operation. Typical control systems permit one burner to be shut down while the other burner fires in conventional, non-cycling mode.

WARNING: Personnel should wear appropriate personal protective equipment when changing media.

WARNING: Bed material must be cooled to safe temperature before opening burner.

For regenerator bed maintenance and cleaning, see Sheet 4343-4.

To remove the bed material from the non-firing burner, the slide gate located at the bottom of the air/exhaust plenum must be pulled toward the rear of the burner, away from the furnace. To free the slide gate, seven bolts which secure the bottom slide gate flange to the plenum housing must be loosened. In addition, another bolt which passes through the slide gate must be completely removed. Retracting the slide gate permits the bed material to drop vertically downward into a suitable collection vessel.

Drainage of the regenerator is facilitated by a perforated cone located inside the plenum.

Fives North American provides a video of this procedure if required for additional guidance.

Before replacing the bed material, the slide gate must be pushed back in place and secured by reversing the above procedure. To add the cleaned or new bed material, the media access cover must be first removed by removing eight nuts and bolts.

To facilitate installation of the bed material, a fabricated chute (see Parts List) can be inserted through the refractory-lined opening in the regenerator. The 3/8" diameter alumina balls (see Parts List) can be poured into the chute directly from 55 lb. bags or in smaller quantities from 200 lb. drums. A fill label is attached to the regenerator housing indicating the proper volume of bed material.

Supporting Documentation

Dimension Information - Sheet 4343-20

Parts List - Sheet 4343-19

