CLEAVER-BROOKS™
BURNER RETROFIT

PREFERRED
UTILITIES MFG CORPORATION
# CLEAVER-BROOKS™ BURNER RETROFIT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Applications:</th>
<th>Single burner: firetube, Cleaver-Brooks™ package boiler</th>
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<tbody>
<tr>
<td>Fuel:</td>
<td>No. 2 through No. 6 fuel oil, and/or natural gas (consult factory for Bio Residual Oil (BRO), Renewable Fuel Oil (RFO), or waste fuels).</td>
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| **NO\textsubscript{X} Emissions:** | Natural gas: less than 30 ppmc.  
No. 2 fuel oil: less than 90 ppmc (maximum 0.01% FBN) without FGR.  
No. 6 fuel oil: less than 250 ppmc (maximum 0.30% FBN) without FGR.  
BRO & RFO: consult factory |
| Burner Efficiency: | Any fuel: 1.5 - 2.5% excess oxygen 50 - 100% firing rate (exclusive of “tramp” air) VFD motor control for maximum electrical efficiency of combustion air. |
| Turndown: | 10:1 on gas firing; 8:1 on oil firing. |
| **Burner Control & Monitoring:** | Firing Rate Control: BurnerMate Universal Parallel Positioning/Fully metered controller.  
Oxygen sensor: Model “ZP” In-Situ sensor, reliable zirconium oxide detector  
Monitoring: SCADA/Flex remote monitoring and control system.  
Instruments: UV & IR Flame Scanner |
| Additional Options: | Draft control, drum level control, low fire fuel changeover, dual/redundant flame scanning, smoke opacity monitoring and alarm, atomizer post purge capability, flue gas temperature indication alarm, emergency boiler shutdown. |

**Note:** Furnace geometry and heat release rate affect NO\textsubscript{X} performance. Lower NO\textsubscript{X} emissions are attainable with more FGR.
UPGRADE FOR A FRACTION OF THE COST

Upgrading your burner to our Cleaver-Brooks™ Retrofit will not require the removal of the front or rear doors, but acts as a direct replacement insert for the existing burner. Preferred Utilities will reuse the existing combustion fan, making no cuts or modifications in the original front door. This specialized API-Ranger burner and controls upgrade will give you the ability to burn RFO, BRO, natural gas, or #2 oil.

"A direct replacement insert for the existing CB™ Burner."