CPM SP
Gas-fired Cascade Boiler Packages

- Outputs from 232 to 464kW at 50/30°C
- High Efficiency Condensing Technology
- Stainless Steel Heat Exchanger
- Low NOx emissions
- Integral Controls

Lochlinvar
HIGH EFFICIENCY BOILERS & WATER HEATERS
CPM SP
Gas-fired Cascade Boiler Packages

Our range of CPM SP cascade boiler packages can be provided with 2, 3 or 4 fully condensing boilers, each of which is supplied complete with flow and return header pipework, has header pipework and mounting frame.

These packages feature products from our well-established CPM gas-fired condensing boiler range, each of which incorporates a stainless steel heat exchanger. CPM SP are available for Natural Gas or LPG and provide a convenient, cost-effective solution for a range of commercial buildings.

Standard CPM SP Features
- Low NOx emissions of 45mg/kWel
- High efficiencies – up to 97% Gross CV
- A-rated shunt pump
- Stainless steel heat exchanger
- Downturn ratio 4:1 per boiler

Integral Control – Standard Features
A major feature of the CPM SP range lies in the integral controls, which provide many standard features:
- Cascade control
- Shunt pump control
- 0-10v remote flow temperature set point control
- 0-10v remote burner input control
- External DHW pump or diverter valve control
- DHW calorifier control
- Pasteurisation control for DHW calorifier
- Up to 3 programmable heating/hot water settings per day
- Direct weather compensation control (requires external sensor)

CPM SP Cascade Boiler Package Components
To assist with site access, each of the three packages are supplied ‘boxed’ with all required parts for assembly of the Boiler Cascade system, including:

- Hydraulic Pipework with low Velocity Header
  Includes the flow/return and gas headers along with all required brackets and connecting parts. A suitably sized low velocity header is also included, and this can be mounted at either side of the hydraulic group.

- Connecting Pipework and Shunt Pump
  A set of flow/return and gas connecting pipework is supplied for each boiler within the cascade. A high efficiency A-rated shunt pump is also provided.

- Mounting Frame
  Designed to be securely fastened to a wall, with boilers mounted on the frame and secured with locking plates.

CPM Boiler Control Display
<table>
<thead>
<tr>
<th>Model</th>
<th>Package</th>
<th>Output at 50/30°C</th>
<th>Output at 80/60°C</th>
<th>Cascade Downturn ratio</th>
<th>Cascade Package Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPM SP232</td>
<td>2-boiler package</td>
<td>232</td>
<td>212</td>
<td>8:1</td>
<td>Height 1948 mm, Width 1358 mm, Depth 610 mm</td>
</tr>
<tr>
<td>CPM SP348</td>
<td>3-boiler package</td>
<td>348</td>
<td>318</td>
<td>12:1</td>
<td>Height 1948 mm, Width 1914 mm, Depth 610 mm</td>
</tr>
<tr>
<td>CPM SP464</td>
<td>4-boiler package</td>
<td>464</td>
<td>424</td>
<td>16:1</td>
<td>Height 1948 mm, Width 2393 mm, Depth 610 mm</td>
</tr>
</tbody>
</table>
## Technical Specification

<table>
<thead>
<tr>
<th>Boiler model</th>
<th>CPM SP232</th>
<th>CPM SP348</th>
<th>CPM SP464</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of boilers in the Cascade</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Nominal Input (Gross) min-max kW</td>
<td>28.9-246</td>
<td>28.9-369</td>
<td>28.9-492</td>
</tr>
<tr>
<td>Nominal Input (Nett) min-max kW</td>
<td>26-222</td>
<td>26-333</td>
<td>26-444</td>
</tr>
<tr>
<td>Gas Flow Rate (G20) min-max (m³/hr)</td>
<td>2.75-23.6</td>
<td>2.75-35.4</td>
<td>2.75-47.2</td>
</tr>
<tr>
<td>Output @50/30°C min-max kW</td>
<td>27.2-232</td>
<td>27.2-348</td>
<td>27.2-464</td>
</tr>
<tr>
<td>Output @80/60°C min-max kW</td>
<td>24.7-212</td>
<td>24.7-318</td>
<td>24.7-424</td>
</tr>
<tr>
<td>Cascade turndown ratio</td>
<td>8.1</td>
<td>12.1</td>
<td>16.1</td>
</tr>
</tbody>
</table>

### Efficiency Data - Building Regulations
- **Seasonal Efficiency (Gross CV) %** | 95.4 | 95.4 | 95.4 |

### Efficiency Data - ErP and Energy Label
- **EcoDesign Energy Label rating** | n/a | n/a | n/a |
- **Seasonal space heating energy efficiency %** | 92.6 | 92.6 | 92.6 |

### NOx Emissions
- **NOx emissions (according to EN15502) mg/kWh** | 45 | 45 | 45 |
- **NOx class according to EN15502** | 6 |

### General Data
- **Dimensions Cascade Height mm** | 1948 | 1948 | 1948 |
- **Dimensions Cascade Width (with LLH) mm** | 1358 | 1914 | 2393 |
- **Dimensions Cascade Depth mm** | 610 | 610 | 610 |
- **Water Content (Per boiler) litres** | 8.3 | 8.3 | 8.3 |
- **Weight (Empty per boiler) kg** | 83 | 83 | 83 |
- **Weight (Full per boiler) kg** | 91.3 | 91.3 | 91.3 |
- **Flow Connection - Header (Inches) BSP** | 1½” | 1½” | 1½” |
- **Return Connection - Header (Inches) BSP** | 1½” | 2½” | 3” |
- **Gas Connection - Header (Inches) BSP** | 1¼” | 1½” | 2” |
- **Flue connection (Concentric) mm** | 100/150 | 100/150 | 100/150 |
- **Flue connection (Twin-pipe) mm** | 100-100 | 100-100 | 100-100 |
- **Electrical Requirements 230V /1Ph/ 50Hz** | 280 | 280 | 280 |
- **Nominal Flue Gas Temperature °C** | 85 | 85 | 85 |
- **Max Flow Temperature °C** | 90 | 90 | 90 |
- **Working Pressure Minimum bar** | 1.0 | 1.0 | 1.0 |
- **Working Pressure Maximum bar** | 4.0* | 4.0* | 4.0* |

* CPM SP models can operate at up to 6 bar working pressure (see Ancillary options)

Energy Label, Product Fiche and ErP Data Table are available at www.lochinvar.ltd.uk

### Ancillary Options
- Hydraulic Plate Separators
- Condensate neutralisation kits
- Pressurisation units
- External temperature sensor for weather compensation control
- Cascade flue assemblies
- Factory-fitted 6 bar pressure switch

### Complementary Products for the generation of Domestic hot water
- Indirect Water Heaters / Calorifiers
- Packaged Plate Heat Exchangers
- Direct gas-fired Water Heaters

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Herald Floor Standing Condensing Boilers, including ICM & User Instructions and our full Warranty Terms and Conditions, please visit our website: www.lochinvar.ltd.uk

Lochinvar Ltd reserves the right to change specifications without prior notice