



Oil-Fired Warm Air Furnaces



*Made with Quality and Pride
in Boyertown, Pennsylvania*



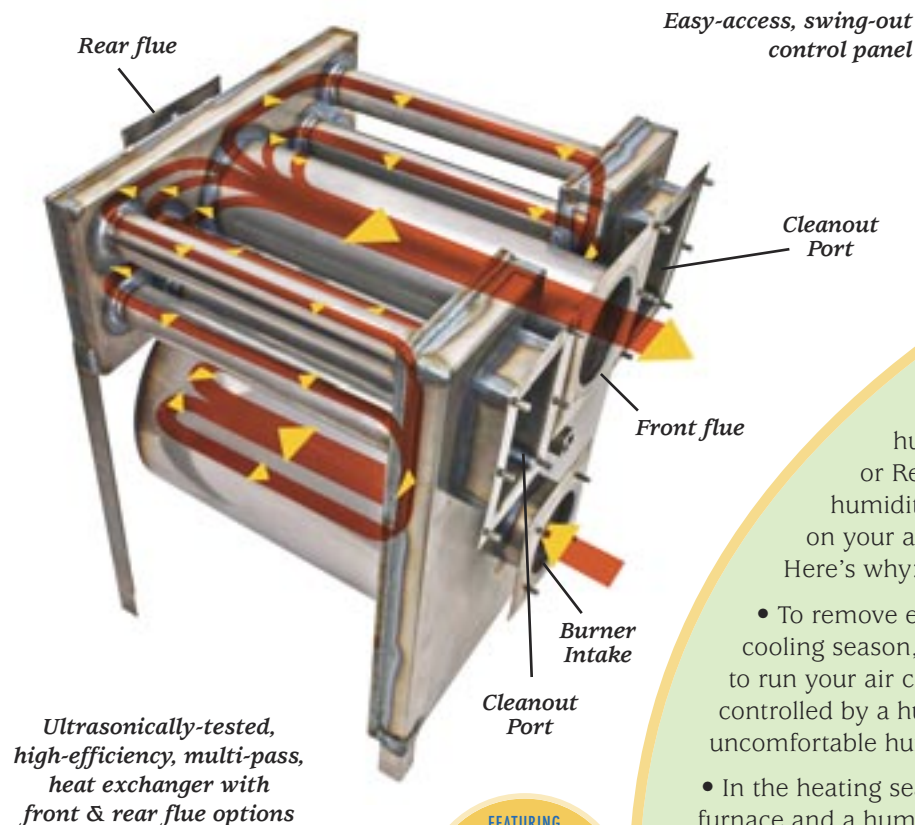
Oil-Fired Warm Air Furnaces ...hand-crafted in Boyertown, PA

Regal Star Series

Designed for the low-profile needs of today's homes, Regal Star furnaces feature a 3-pass design (far right) with fuel efficiency of 86.2% (that may qualify for certain energy rebates)! Our signature front or rear flue design is ideal for today's retrofit oil furnace market.

Regal Star furnaces can be installed with a Beckett, Riello, or Carlin burner, and also as a direct-vent furnace with the Riello BF3.

- Available blower motors: 3-speed Direct Drive PSC or Variable Speed ECM (See details on back page)
- Heating capacity: 60,000 BTUH's to 154,000 BTUH's with multiple firing rates
- Available with our exclusive nrgMax 9103i control.
- Cooling capacity: 1-1/2 tons to 5 tons
- Easy-access cleanout ports
- Install as a low-profile Highboy (left) or as a Horizontal with a left or right discharge (right).
- Chimney-vent or direct-vent capabilities
- Packed and delivered in rugged wooden crates
- Limited Lifetime Warranty, 5-Year Parts Warranty



"Hybrid Synergy" ECM Blower Motors

Automatic Humidity Control

By installing an ECM Blower Motor, a humidifier, and a humidistat on your Regal Star or Regal Furnace, you can automatically control the humidity levels in your home ... and save up to 5% on your annual cooling bill! (See details on back page.) Here's why:

- To remove excess humidity from your home during the cooling season, you probably turn down your thermostat to run your air conditioner more. An ECM-powered furnace, controlled by a humidistat, will automatically extract that uncomfortable humidity as your house is being cooled.
- In the heating season, the combination of an ECM-controlled furnace and a humidifier allows you to keep the thermostat set lower, because humidified air feels warmer.



2-Stage Cooling ... 2-Stage Heat Pump Backup

Because warm air furnaces are usually sized for your 10 hottest and coldest days of the year, your ECM Blower, when installed with 2-stage cooling or 2-stage heat pump backup, will probably run on low speed 90% of the time and operate in 2nd stage only on those days when really needed. It's like having two units in one!

Improved Indoor Air Quality for Less

Because indoor air quality is an increasingly-important factor in home heating buying decisions (and constant air flow is needed for these measures to be effective) it is comforting to know that the Regal Star and Regal ECM Hybrid Synergy Systems consume much less energy in "Constant Fan Mode" than a PSC system.



Regal Series

Regal Series furnaces are built around a 10-gauge primary heat exchanger and a 14-gauge secondary heat exchanger and are lined with specialty-grade 18SR Stainless Steel for extra protection against premature failure. These reliable furnaces are also equipped with ceramic fiber combustion chambers that are completely removable for servicing.

- Available blower motors: 4-speed Direct Drive PSC or Variable Speed ECM (See details on back page)
- Enclosed vestibule
- Multiple firing rates
- Accessible cleanout ports
- Highboy and Lowboy models
- Your choice of burner: Beckett, Riello, or Carlin, plus Carlin EZ-H2L 2-Stage
- Packed and delivered in rugged wooden crates
- Limited Lifetime Warranty, 5-Year Parts Warranty



Ultrasonically-tested heavy-gauge Primary and Secondary Heat Exchangers

2-Stage Oil Heating

Our answer to the gas industry! The Regal REH-750 and REL-750 front and rear flue is available with the Carlin EZ-H2L Burner, so you have the capacity of 2-stage oil heating, 2-stage heat pump, and 2-stage air conditioning³. The Carlin EZ-H2L gives you a 50% turndown ability. This burner must be installed with the Regal ECM blower option (See back page).



Carlin EZ-H2L burner

³ This furnace must be installed with an ECM blower assembly and the proper heat pump and air conditioning equipment to achieve 2-stage oil heating, 2-stage heat pump, and 2-stage air conditioning.



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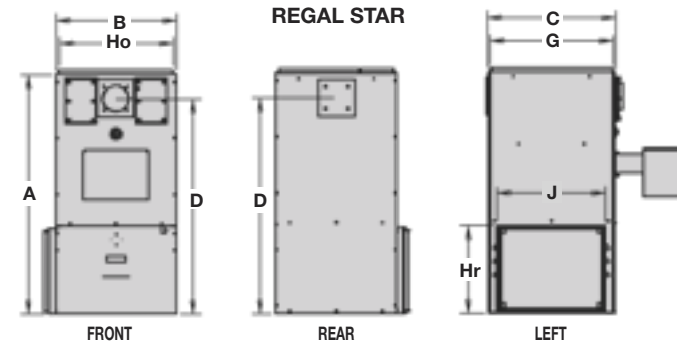
Designed for the low-profile needs of today's homes, Regal Star furnaces feature a 3-pass design (far right) with fuel efficiency of 86.2% (that may qualify for certain energy rebates)! Our signature front or rear flue design is ideal for today's retrofit oil furnace market.

Regal Star furnaces can be installed with a Beckett, Riello, or Carlin burner, and also as a direct-vent furnace with the Riello BF3.

- Available blower motors: 3-speed Direct Drive PSC or Variable Speed ECM (See details on back page)
- Heating capacity: 60,000 BTUH's to 154,000 BTUH's with multiple firing rates
- Available with our exclusive nrgMax 9103i control.
- Cooling capacity: 1-1/2 tons to 5 tons
- Easy-access cleanout ports
- Install as a low-profile Highboy (left) or as a Horizontal with a left or right discharge (right).
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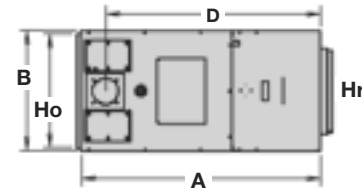


Dimensions and Specifications



The Regal Star can be installed as a low-profile highboy or as a horizontal with a left or right discharge (below).

The return air connection on the Regal Star can be installed on either the left side or right side of the furnace.



| Model | Cabinet Height (A) | Cabinet Width (B) | Cabinet Depth (C) | Centerline-Flue to Floor (D) Front | Centerline-Flue to Floor (D) Rear | Warm Air Supply Depth (G) | Warm Air Supply Width (Ho) | Return Air Supply Width (Hr) | Return Air Supply Depth (J) | Flue Size | Blower Size | Shipping Weight | B.T.U.H. Input | B.T.U.H. Output | Beckett AFG Nozzle ¹ | Riello 40 Nozzle ¹ | Carlin EZ-1 Nozzle ¹ | AFUE Seasonal Efficiency | |
|---------------------------|--------------------|-------------------|-------------------|------------------------------------|-----------------------------------|---------------------------|----------------------------|------------------------------|-----------------------------|-----------|-------------|-----------------|----------------|-----------------|---------------------------------|-------------------------------|---------------------------------|--------------------------|----------------------|
| REGAL STAR | | | | | | | | | | | | | | | | | | | |
| RSM-600 and ECM RSM-600 | 44-1/2" | 22-1/4" | 23-3/8" | 40" | 40" | 22-3/8" | 21-1/16" | 15-1/16" | 18-7/8" | 16" x 20" | 5" | 100-10T | 215 lbs. | 70,000* | 60,000 | .40 x 60° W ¹ | .40 x 80° A ² | N/A | 86.5%** |
| | | | | | | | | | | | | | | 84,000 | 72,000 | .50 x 60° W ² | .50 x 80° A ² | .50 x 60° A ³ | 86.2%** |
| | | | | | | | | | | | | | | 105,000 | 89,000 | .60 x 60° B ³ | .60 x 80° A ³ | .60 x 60° A ³ | 85.1%** |
| RSM-1005 and ECM RSM-1005 | 50-5/8" | 22-5/16" | 28-5/16" | 46-7/8" | 45" | 21-1/16" | 27-5/16" | 14-1/2" | 23-5/8" | 16" x 25" | 5" | 110-9R | 255 lbs. | 119,000 | 102,000 | .65 x 60° B ¹ | .65 x 60° W ¹ | .65 x 60° A ¹ | 86.7%** ^R |
| | | | | | | | | | | | | | | 140,000 | 118,000 | .75 x 60° B ¹ | .75 x 60° W ¹ | .75 x 60° A ¹ | 86.0%** ^R |
| | | | | | | | | | | | | | | 154,000 | 130,000 | .85 x 60° B ¹ | .85 x 60° W ¹ | .85 x 60° A ¹ | 85.3%** ^R |

All RSM-600 burners are shipped with 72,000 BTU output nozzles. All RSM-1005 Burners are shipped with 118,000 BTU output nozzles.

^R These AFUEs are achieved using the Riello burner with electronic air shutter.



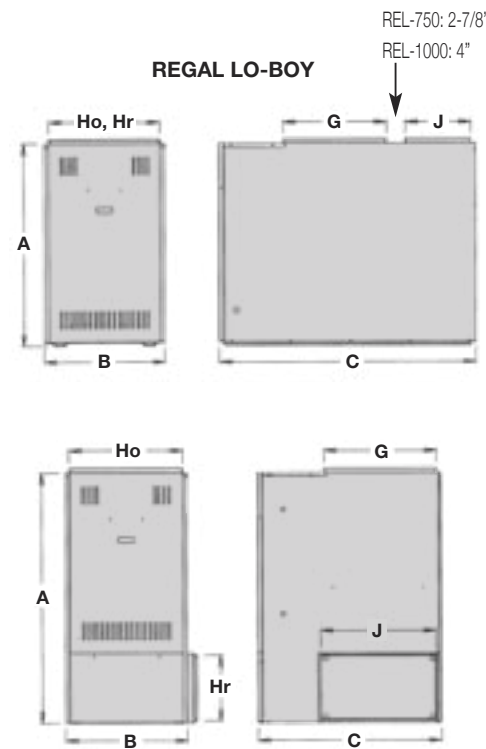
Regal Series

Regal Series furnaces are built around a 10-gauge primary heat exchanger and a 14-gauge secondary heat exchanger and are lined with specialty-grade 18SR Stainless Steel for extra protection against premature failure. These reliable furnaces are also equipped with ceramic fiber combustion chambers that are completely removable for servicing.

- Available blower motors: 4-speed Direct Drive PSC or Variable Speed ECM (See details on back page)
- Enclosed vestibule
- Multiple firing rates
- Accessible cleanout ports
- Highboy and Lowboy models
- Your choice of burner: Beckett, Riello, or Carlin, plus Carlin EZ-H2L 2-Stage
- Packed and delivered in rugged wooden crates
- Limited Lifetime Warranty, 5-Year Parts Warranty



Ultrasonically-tested heavy-gauge Primary and Secondary Heat Exchangers



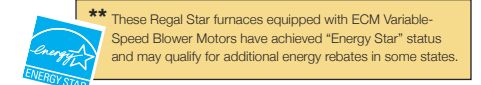
The return air connection on the Regal Hi-Boy can be installed on either the left side or right side of the furnace.

| REGAL | | | | | | | | | | | | | | | | | | | |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------------|----|---------|----------|---------|---------|---------------------------|---------------------------|----------------------------|-------|
| Lo-Boy [*] REL-750 | 40" | 20-1/4" | 47-1/2" | 31-1/4" | 10-1/8" | 17-1/2" | 18-1/4" | 18-1/4" | 14" | 16" x 20" (2) | 6" | 100-10T | 323 lbs. | 84,000 | 71,000 | .60 x 80° A ⁴ | .50 x 60° A ² | .60 x 70° A ⁴ | 85.9% |
| | | | | | | | | | | | | | | 105,000 | 88,000 | .75 x 80° B ⁴ | .60 x 60° A ² | .75 x 70° A ⁴ | 85.4% |
| | | | | | | | | | | | | | | 119,000 | 99,000 | .85 x 80° B ⁴ | .65 x 60° A ² | .85 x 70° A ⁴ | 85.0% |
| Lo-Boy [*] REL-1000 | 46" | 25-1/8" | 53-5/8" | 38-1/2" | 12-1/2" | 21-1/2" | 22-7/8" | 22-7/8" | 13-5/8" | 16" x 20" (2) | 6" | 100-10T | 362 lbs. | 140,000 | 116,000 | 1.00 x 80° B ⁴ | .85 x 80° B ² | 1.00 x 60° SS ⁴ | 85.0% |
| | | | | | | | | | | | | | | 175,000 | 143,000 | 1.25 x 80° B ⁴ | 1.00 x 80° B ² | 1.25 x 60° SS ⁴ | 83.2% |
| Hi-Boy REH-750 | 53-5/8" | 22-1/4" | 33-1/8" | 49-1/8" | 11-1/8" | 19-3/4" | 20-1/2" | 15" | 23-5/8" | 16" x 25" | 6" | 100-10T | 298 lbs. | 84,000 | 71,000 | .60 x 80° A ⁴ | .50 x 60° A ² | .60 x 70° A ⁴ | 85.9% |
| | | | | | | | | | | | | | | 105,000 | 88,000 | .75 x 80° B ⁴ | .60 x 60° A ² | .75 x 70° A ⁴ | 85.4% |
| | | | | | | | | | | | | | | 119,000 | 99,000 | .85 x 80° B ⁴ | .65 x 60° A ² | .85 x 70° A ⁴ | 85.0% |
| Hi-Boy REH-1000 | 56-1/2" | 25-1/2" | 38" | 52-5/8" | 12-3/4" | 23-3/8" | 23-3/4" | 15" | 23-5/8" | 16" x 25" | 6" | 100-10T | 347 lbs. | 140,000 | 116,000 | 1.00 x 80° B ⁴ | .85 x 80° B ² | 1.00 x 60° SS ⁴ | 85.0% |
| | | | | | | | | | | | | | | 175,000 | 143,000 | 1.25 x 80° B ⁴ | 1.00 x 80° B ² | 1.25 x 60° SS ⁴ | 83.2% |

^{*} Specify front or rear flue on Lo-Boy models. 400 CFM = 1 ton. Additional specifications available on request.

All REL-750 and REH-750 burners are shipped with 88,000 BTU output nozzles. All REL-1000 and REH-1000 burners are shipped with 116,000 BTU output nozzles.

¹ Pump pressure: 175 psi
² Pump pressure: 150 psi
³ Pump pressure: 165 psi
⁴ Pump pressure: 100 psi



** These Regal Star furnaces equipped with ECM Variable-Speed Blower Motors have achieved "Energy Star" status and may qualify for additional energy rebates in some states.

Due to ongoing engineering, specifications are subject to change.



ECM or PSC Blower Motor?

Airflow control is one of the most important factors in maintaining your home's comfort level and managing energy consumption. By eliminating those sudden bursts of air when your furnace turns on, the ECM blower assembly gives you more balanced heating and cooling and allows you to easily and efficiently operate your furnace in "Constant Fan Mode," which typically uses only 50-75 watts of power.

It is always important to discuss your up-front vs. long-term costs with your HVAC expert to decide which blower technology will work best for you:

| ECM BLOWER MOTOR | Furnace Series | Model | Blower Type | B.T.U.H. Input | B.T.U.H. Output | Heating CFM | Cooling CFM @ Tons | | | | |
|------------------|---------------------|-----------------------|-------------|----------------|-----------------|-------------|--------------------|------|------|------|-----|
| | | | | | | | 2.0 | 2.5 | 3.0 | 4.0 | 5.0 |
| Regal | LO-BOY REL-750 ECM | 3/4 HP Variable Speed | 84,000 | 71,000 | 950 | 800 | 1000 | 1200 | 1600 | N/A | |
| | | | 105,000 | 88,000 | 1175 | 800 | 1000 | 1200 | 1600 | N/A | |
| | | | 119,000 | 99,000 | 1325 | 800 | 1000 | 1200 | 1600 | N/A | |
| | LO-BOY REL-1000 ECM | 3/4 HP Variable Speed | 140,000 | 116,000 | 1575 | N/A | 1000 | 1200 | 1600 | 2000 | |
| | | | 175,000 | 143,000 | 1925 | N/A | 1000 | 1200 | 1600 | 2000 | |
| | | | 84,000 | 71,000 | 950 | 800 | 1000 | 1200 | 1600 | N/A | |
| | HI-BOY REH-750 ECM | 3/4 HP Variable Speed | 105,000 | 88,000 | 1175 | 800 | 1000 | 1200 | 1600 | N/A | |
| | | | 119,000 | 99,000 | 1325 | 800 | 1000 | 1200 | 1600 | N/A | |
| | | | 140,000 | 116,000 | 1575 | N/A | 1000 | 1200 | 1600 | 2000 | |
| | HI-BOY REH-1000 ECM | 3/4 HP Variable Speed | 175,000 | 143,000 | 1925 | N/A | 1000 | 1200 | 1600 | 2000 | |
| | | | 70,000 | 60,000 | 850 | 800 | 1000 | 1200 | 1600 | N/A | |
| | | | 84,000 | 70,000 | 1100 | 800 | 1000 | 1200 | 1600 | N/A | |
| Regal Star | ECM RSM-600 | 3/4 HP Variable Speed | 105,000 | 89,000 | 1325 | 800 | 1000 | 1200 | 1600 | N/A | |
| | | | 119,000 | 102,000 | 1525 | N/A | 1000 | 1200 | 1600 | 2000 | |
| | | | 140,000 | 118,000 | 1775 | N/A | 1000 | 1200 | 1600 | 2000 | |
| | ECM RSM-1005 | 1 HP Variable Speed | 154,000 | 130,000 | 1950 | N/A | 1000 | 1200 | 1600 | 2000 | |
| | | | | | | | | | | | |

| PSC BLOWER MOTOR | Furnace Series | Model | Blower Type | B.T.U.H. Input | B.T.U.H. Output | Static Pressure (W.C.) | Cooling Speed (CFM) | | | | |
|------------------|---------------------|----------------|-------------|----------------|-----------------|------------------------|---------------------|-------------|------------|-----|------|
| | | | | | | | High | Medium High | Medium Low | Low | |
| Regal | LO-BOY REL-750 PSC | 3/4 HP 4-Speed | 84,000 | 71,000 | 0.2 | 1903 | 1711 | 1547 | 1399 | | |
| | | | | | 0.5 | 1661 | 1485 | 1355 | 1227 | | |
| | | | | | 0.2 | 1903 | 1711 | 1547 | 1399 | | |
| | | | 105,000 | 88,000 | 0.5 | 1661 | 1485 | 1355 | 1227 | | |
| | | | | | 0.2 | 1903 | 1711 | 1547 | 1399 | | |
| | | | | | 0.5 | 1661 | 1485 | 1355 | N/A | | |
| | | | 119,000 | 99,000 | 0.2 | 2466 | 2150 | 1839 | 1600 | | |
| | | | | | 0.5 | 2072 | 1859 | 1610 | N/A | | |
| | | | | | 0.2 | 2466 | 2150 | 1839 | N/A | | |
| | | | 175,000 | 143,000 | 0.5 | 2072 | 1859 | N/A | N/A | | |
| | | | | | 0.2 | 1745 | 1550 | 1376 | 1250 | | |
| | | | | | 0.5 | 1480 | 1343 | 1175 | 1043 | | |
| | HI-BOY REH-750 PSC | 3/4 HP 4-Speed | 84,000 | 71,000 | 0.2 | 1745 | 1550 | 1376 | 1250 | | |
| | | | | | 0.5 | 1480 | 1343 | 1175 | 1043 | | |
| | | | 105,000 | 88,000 | 0.2 | 1745 | 1550 | 1376 | 1250 | | |
| | | | | | 0.5 | 1480 | 1343 | 1175 | N/A | | |
| | | | 119,000 | 99,000 | 0.2 | 1745 | 1550 | 1376 | 1250 | | |
| | | | | | 0.5 | 1480 | 1343 | N/A | N/A | | |
| | HI-BOY REH-1000 PSC | 3/4 HP 4-Speed | 140,000 | 116,000 | 0.2 | 2283 | 2130 | 1901 | 1717 | | |
| | | | | | 0.5 | 2007 | 1832 | 1644 | 1501 | | |
| | | | 175,000 | 143,000 | 0.2 | 2283 | 2130 | 1901 | N/A | | |
| | | | | | 0.5 | 2007 | 1832 | N/A | N/A | | |
| | | | RSM-600 | 3/4 HP 4-Speed | 70,000 | 60,000 | 0.2 | 1616 | 1425 | N/A | 1193 |
| | | | | | | | 0.5 | 1470 | 1256 | N/A | 1125 |
| 84,000 | 70,000 | 0.7 | | | 1309 | 1118 | N/A | 1053 | | | |
| | | 0.2 | | | 1616 | 1425 | N/A | 1193 | | | |
| 105,000 | 89,000 | 0.5 | 1470 | 1256 | N/A | 1125 | | | | | |
| | | 0.7 | 1309 | 1118 | N/A | 1053 | | | | | |
| | | 0.2 | 2103 | 1761 | 1390 | 1235 | | | | | |
| | | 0.5 | 1970 | 1680 | 1360 | 1220 | | | | | |
| RSM-1005 | 3/4 HP 4-Speed | 119,000 | 102,000 | 0.7 | 1825 | 1614 | 1344 | 1210 | | | |
| | | | | 0.2 | 2103 | 1761 | 1390 | 1235 | | | |
| | | 140,000 | 118,000 | 0.5 | 1970 | 1680 | 1360 | 1220 | | | |
| | | | | 0.7 | 1825 | 1614 | 1344 | 1210 | | | |
| | | 154,000 | 130,000 | 0.2 | 2103 | 1761 | 1390 | 1235 | | | |
| | | | | 0.5 | 1970 | 1680 | 1360 | 1220 | | | |
| | | | | 0.7 | 1825 | 1614 | 1344 | 1210 | | | |
| | | | | 0.2 | 2103 | 1761 | 1390 | 1235 | | | |



BOYERTOWN
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