



Air Conditioning & Heating

GKS9 SERIES

SINGLE-STAGE, MULTI-SPEED GAS FURNACE

UP TO 92.1% AFUE

UPFLOW/MULTI-POSITION

HEATING INPUT: 46,000–115,000 BTU/H

Standard Features

- TuffTube™ dual-diameter tubular heat exchanger
- Single-stage combination redundant gas valve
- Hot surface igniter and patented adaptive learning control for long igniter life
- Quiet, four-speed direct-drive circulator blower motor
- Furnace control board with self-diagnostics and low-voltage terminal block
- Dual-certified for sealed combustion direct vent (2-pipe) or non-direct vent (1-pipe) applications
- Quiet, single-speed induced draft blower
- All models comply with California NOx emissions standards

Cabinet Features

- Foil-faced insulation lines the heat exchanger
- Designed for upflow installation; can be converted to horizontal left or right with a pressure switch kit (sold separately)
- Easy-to-install top venting is standard
- Airtight solid bottom for side return applications and easy-cut tabs for effortless removal in bottom air inlet applications
- Coil and furnace fit flush for most installations



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* Complete warranty details available from your local dealer or at www.goodmanmfg.com. To receive the Lifetime Heat Exchanger Limited Warranty (good for as long as you own your home) and 10-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Online registration is not required in California or Québec.



NOMENCLATURE

| | G | K | S | 9 | 045 | 4 | B | X | A | |
|--------------------------|--|---|---|-----|-------|---|----|----|-------------------------------|--|
| | 1 | 2 | 3 | 4,5 | 6,7,8 | 9 | 10 | 11 | 12 | |
| Brand | Goodman® Brand or Distinctions™ | | | | | | | | Revisions | |
| | | | | | | | | | A Initial Release | |
| | | | | | | | | | B 1st Revision | |
| | | | | | | | | | C 2nd Revision | |
| Airflow Direction | C Downflow/Horizontal D Dedicated Downflow H High Airflow K Dedicated Upflow M Upflow/Horizontal | | | | | | | | NOx | |
| | | | | | | | | | N Natural Gas | |
| | | | | | | | | | X Low NOx | |
| Description/Motor | V Two-Stage/Variable-speed H Two-Stage/Multi-speed S Single-Stage/Multi-speed E Two-Stage/High-Efficiency | | | | | | | | Cabinet Width | |
| | | | | | | | | | A 14" | |
| | | | | | | | | | B 17½" | |
| | | | | | | | | | C 21" | |
| | | | | | | | | | D 24½" | |
| AFUE | 95 95% 9 93%+ 8 80% | | | | | | | | Maximum CFM @ 0.5" ESP | |
| | | | | | | | | | 3 1200 | |
| | | | | | | | | | 4 1600 | |
| | | | | | | | | | MBTU/h | |
| | | | | | | | | | 045: 45,000 | |
| | | | | | | | | | 070: 70,000 | |
| | | | | | | | | | 140: 140,000 | |
| | | | | | | | | | 090: 90,000 | |

Important EnergyStar Notice: EnergyStar ratings are dependent upon conditions beyond equipment installation. Proper sizing and installation of equipment is critical to achieve optimal performance. Split system air conditioners and heat pumps must be matched with appropriate coil components to meet EnergyStar criteria. Ask your contractor for details or visit www.energystar.gov.

SPECIFICATIONS

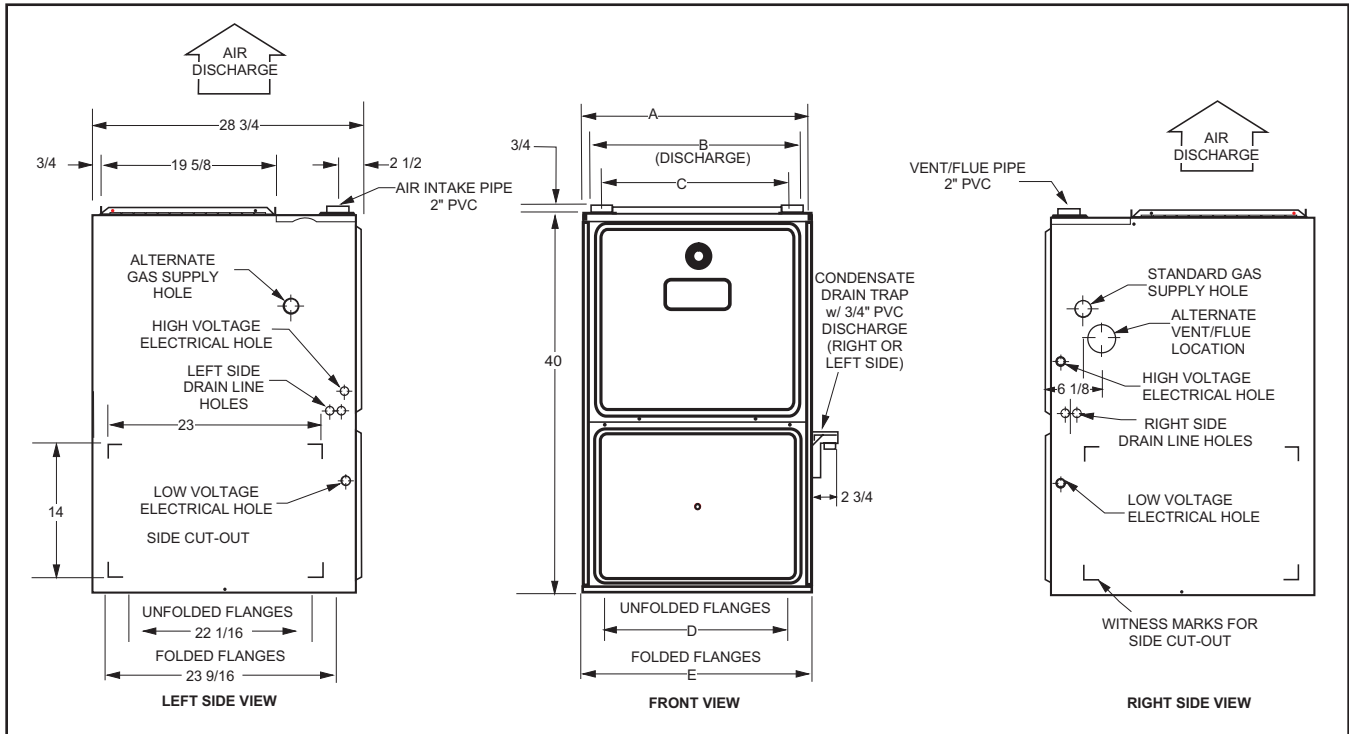
| | GKS9 0453BX* | GKS9 0703BX* | GKS9 0704CX* | GKS9 0904CX* | GKS9 0905DX* | GKS9 1155DX* |
|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| HEATING CAPACITY | | | | | | |
| Input ¹ | 46,000 | 69,000 | 69,000 | 92,000 | 92,000 | 115,000 |
| Natural Gas Output ¹ | 42,800 | 64,400 | 64,400 | 86,000 | 86,000 | 106,500 |
| LP Gas Output ¹ | 38,502 | 57,753 | 57,753 | 77,004 | 77,004 | 96,255 |
| AFUE ² | 92.1 | 92.1 | 92.1 | 92.1 | 92.1 | 92.1 |
| Available AC @ 0.5" ESP | 3 | 3 | 4 | 4 | 5 | 5 |
| Temperature Rise Range (°F) | 35 - 65 | 35 - 65 | 35 - 65 | 35 - 65 | 35 - 65 | 35 - 65 |
| CIRCULATOR BLOWER | | | | | | |
| Size (D x W) | 10" x 8" | 10" x 8" | 10" x 10" | 10" x 10" | 11" x 10" | 11" x 10" |
| Horsepower @ 1075 RPM | ⅓ | ⅓ | ½ | ½ | ¾ | ¾ |
| Speed | 4 | 4 | 4 | 4 | 4 | 4 |
| Vent Diameter ³ | 2" | 2" | 2" | 2" | 2" | 3" |
| No. of Burners | 2 | 3 | 3 | 4 | 4 | 5 |
| FILTER SIZE (IN²) | | | | | | |
| Permanent | 288 | 282 | 376 | 376 | 470 | 470 |
| Disposable | 576 | 564 | 752 | 752 | 940 | 940 |
| ELECTRICAL DATA | | | | | | |
| Min. Circuit Ampacity ⁴ | 9.4 | 9.4 | 13.8 | 13.8 | 13.2 | 13.2 |
| Max. Overcurrent Device (amps) ⁵ | 15 | 15 | 15 | 15 | 15 | 15 |
| SHIP WEIGHT (LBS) | | | | | | |
| | 132 | 135 | 153 | 158 | 170 | 175 |

¹ Natural Gas BTU/h. For altitudes above 2,000', reduce input rating 4% for each 1,000' above sea level.
² DOE AFUE based upon Isolated Combustion System (ICS)
³ Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run and installation (1 or 2 pipes). The optional Combustion Air Pipe is dependent on installation/code requirements and must be 2" or 3" diameter PVC. Vent connector diameter is 2". Refer to the installation & operation manual shipped with the furnace for applicable vent and combustion air pipe lengths.
⁴ Minimum Circuit Ampacity = (1.25 x Circulator Blower Amps) + ID Blower amps. Wire size should be determined in accordance with National Electrical Codes. Extensive wire runs will require larger wire sizes.
⁵ Maximum Overcurrent Protection Device refers to maximum recommended fuse or circuit breaker size. May use fuses or HACR-type circuit breakers of the same size as noted.

NOTES

- All furnaces are manufactured for use on 115 VAC, 60 Hz, single-phase electrical supply.
- Gas Service Connection ½" FPT
- Important: Size fuses and wires properly and make electrical connections in accordance with the National Electrical Code and/or all existing local codes.

DIMENSIONS



| MODEL | A | B | C | D | E |
|--------------|------|------|------|------|------|
| GKS90453BX* | 17½" | 16" | 13⅝" | 12⅝" | 13⅝" |
| GKS90703BX* | 17½" | 16" | 13⅝" | 12⅝" | 13⅝" |
| GKS90704CX* | 21" | 19½" | 16⅝" | 16" | 17½" |
| GKS90904CX* | 21" | 19½" | 16⅝" | 16" | 17½" |
| GKS90905DX*A | 24½" | 23" | 20⅝" | 19⅝" | 20⅝" |
| GKS91155DX* | 24½" | 23" | 20⅝" | 19⅝" | 20⅝" |

NOTES:

- Installer must supply one or two PVC pipes: one for combustion air (optional) and one for the flue outlet (required). Vent pipe must be either 2" or 3" in diameter, depending upon furnace input, number of elbows, length of run and installation (1 or 2 pipes). The optional Combustion Air Pipe is dependent on installation/code requirements and must be 2" or 3" diameter PVC.
- Line voltage wiring can enter through the right or left side of the furnace. Low voltage wiring can enter through the right or left side of furnace.
- Conversion kits for high altitude natural gas operation are available. Contact your Goodman distributor or dealer for details.
- Installer must supply following gas line fittings, according to which entrance is used:
 Left—Two 90° elbows, one close nipple, straight pipe
 Right—Straight pipe to reach gas valve
- For bottom return: Failure to unfold flanges may reduce airflow by up to 18%. This could result in performance and noise issues.

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS

| POSITION | SIDES | REAR | FRONT | BOTTOM | FLUE | TOP |
|------------|-------|------|-------|--------|------|-----|
| Upflow | 0" | 0" | 3" | C | 0" | 1" |
| Horizontal | 6" | 0" | 3" | C | 0" | 4" |

C = If placed on combustible floor, the floor MUST be wood ONLY.

NOTES:

- For servicing or cleaning, a 24" front clearance is recommended.
- Unit connections (electrical, flue and drain) may necessitate greater clearances than the minimum clearances listed below.
- In all cases, accessibility clearance must take precedence over clearances from the enclosure where accessibility clearances are greater.

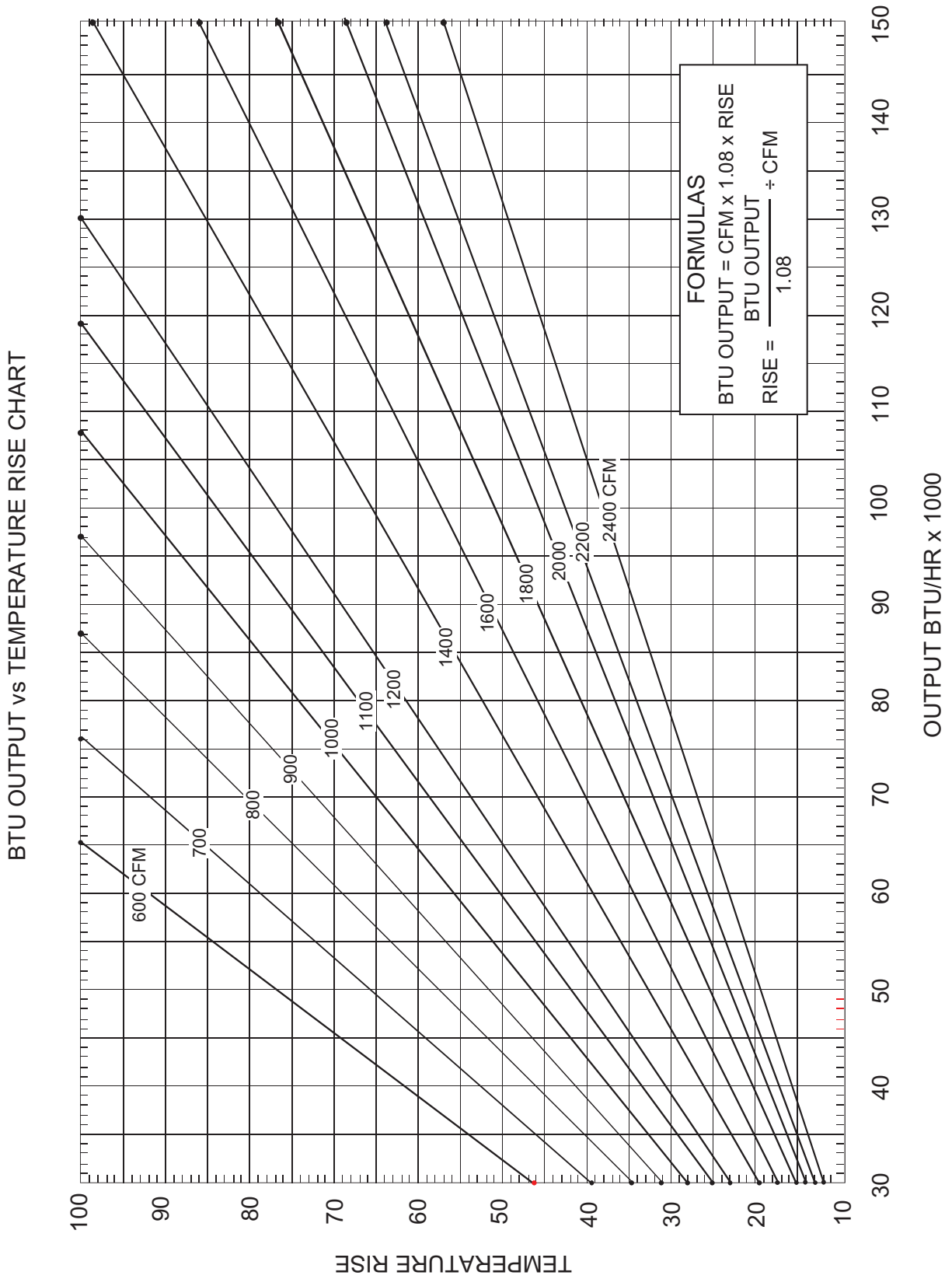
AIRFLOW SPECIFICATIONS

| (CFM & TEMPERATURE RISE VS. EXTERNAL STATIC PRESSURE) | | | | | | | | | | | | | | | |
|---|-------------|---------------------|---|------|-------|------|-------|------|-------|------|-------|------|-------|-------|-------|
| MODEL | MOTOR SPEED | TONS AC AT 0.5" ESP | EXTERNAL STATIC PRESSURE, (INCHES WATER COLUMN) | | | | | | | | | | | | |
| | | | 0.1 | | 0.2 | | 0.3 | | 0.4 | | 0.5 | | 0.6 | 0.7 | 0.8 |
| | | | CFM | RISE | CFM | RISE | CFM | RISE | CFM | RISE | CFM | RISE | CFM | CFM | CFM |
| GKS9 0453BX* | High | 3 | 1,352 | 29 | 1,318 | 30 | 1,260 | 31 | 1,202 | 33 | 1,128 | 35 | 1,044 | 955 | 853 |
| | Med | 2.5 | 1,214 | 32 | 1,172 | 34 | 1,123 | 35 | 1,064 | 37 | 1,012 | 39 | 938 | 859 | 741 |
| | Med-Lo | 2 | 997 | 40 | 994 | 40 | 960 | 41 | 923 | 43 | 884 | 45 | 817 | 741 | 611 |
| | Low | 1.5 | 757 | 52 | 753 | 52 | 734 | 54 | 704 | 56 | 674 | 59 | 620 | 524 | 438 |
| GKS9 0703BX* | High | 3 | 1,449 | 41 | 1,409 | 42 | 1,326 | 45 | 1,273 | 47 | 1,201 | 49 | 1,194 | 1,136 | 1,018 |
| | Med | 2.5 | 1,192 | 50 | 1,172 | 51 | 1,141 | 52 | 1,094 | 54 | 1,046 | 57 | 973 | 904 | 793 |
| | Med-Lo | 2 | 981 | 61 | 962 | 62 | 943 | 63 | 917 | 65 | 888 | 67 | 830 | 764 | 665 |
| | Low | 1.5 | 750 | 79 | 730 | 81 | 714 | 83 | 692 | 86 | 657 | 90 | 620 | 570 | 502 |
| GKS9 0704CX* | High | 4 | 2,069 | 29 | 1,965 | 30 | 1,871 | 32 | 1,756 | 34 | 1,661 | 36 | 1,549 | 1,415 | 1,275 |
| | Med | 3.5 | 1,752 | 34 | 1,724 | 34 | 1,667 | 36 | 1,603 | 37 | 1,488 | 40 | 1,402 | 1,290 | 1,082 |
| | Med-Lo | 3 | 1,437 | 41 | 1,437 | 41 | 1,417 | 42 | 1,369 | 43 | 1,320 | 45 | 1,256 | 1,140 | 984 |
| | Low | 2.5 | 1,184 | 50 | 1,177 | 50 | 1,161 | 51 | 1,132 | 52 | 1,095 | 54 | 1,047 | 928 | 837 |
| GKS9 0904CX* | High | 4 | 1,970 | 40 | 1,874 | 42 | 1,757 | 45 | 1,667 | 48 | 1,566 | 51 | 1,431 | 1,334 | 1,182 |
| | Med | 3.5 | 1,713 | 46 | 1,650 | 48 | 1,572 | 50 | 1,510 | 52 | 1,418 | 56 | 1,313 | 1,211 | 1,079 |
| | Med-Lo | 3 | 1,439 | 55 | 1,412 | 56 | 1,370 | 58 | 1,327 | 60 | 1,260 | 63 | 1,166 | 1,078 | 956 |
| | Low | 2.5 | 1,183 | 67 | 1,155 | 69 | 1,122 | 71 | 1,108 | 72 | 1,062 | 75 | 1,011 | 931 | 816 |
| GKS9 0905DX* | High | 5 | 2,147 | 37 | 2,114 | 37 | 2,057 | 39 | 2,030 | 39 | 1,978 | 40 | 1,889 | 1,784 | 1,713 |
| | Med | 4 | 1,675 | 47 | 1,686 | 47 | 1,640 | 48 | 1,623 | 49 | 1,557 | 51 | 1,501 | 1,455 | 1,360 |
| | Med-Lo | 3.5 | 1,489 | 53 | 1,470 | 54 | 1,436 | 55 | 1,409 | 56 | 1,361 | 58 | 1,318 | 1,243 | 1,130 |
| | Low | 3 | 1,307 | 61 | 1,265 | 63 | 1,234 | 64 | 1,203 | 66 | 1,168 | 68 | 1,096 | 1,053 | 991 |
| GKS9 1155DX* | High | 5 | 2,134 | 46 | 2,103 | 47 | 2,029 | 48 | 1,941 | 51 | 1,906 | 51 | 1,818 | 1,733 | 1,625 |
| | Med | 4 | 1,678 | 58 | 1,643 | 60 | 1,643 | 60 | 1,577 | 62 | 1,527 | 64 | 1,489 | 1,423 | 1,339 |
| | Med-Lo | 3.5 | 1,453 | 68 | 1,440 | 68 | 1,426 | 69 | 1,363 | 72 | 1,349 | 73 | 1,314 | 1,253 | 1,205 |
| | Low | 3 | 1,259 | 78 | 1,239 | 79 | 1,220 | 80 | 1,181 | 83 | 1,159 | 85 | 1,118 | 1,082 | 1,015 |

NOTES:

- CFM in chart is without filter(s). Filters do not ship with this furnace, but must be provided by the installer. If the furnace requires two return filters, this chart assumes both filters are installed.
- All furnaces ship as high-speed cooling and medium-speed heating. Installer must adjust blower cooling and heating speed as needed.
- For most jobs, about 400 CFM per ton when cooling is desirable.
- INSTALLATION IS TO BE ADJUSTED TO OBTAIN TEMPERATURE RISE WITHIN THE RANGE SPECIFIED ON THE RATING PLATE.
- The chart is for information only. For satisfactory operation, external static pressure should not exceed value shown on the rating plate.
- The above chart is for U.S. furnaces installed at 0-2000 feet. At higher altitudes, a properly de-rated unit will have approximately the same temperature rise at a particular CFM, while ESP at the CFM will be lower.

AIRFLOW SPECIFICATIONS (CONT.)



ACCESSORIES

| ITEM # | DESCRIPTION | GKS9 0453BX* | GKS9 0703BX* | GKS9 0704CX* | GKS9 0904CX* | GKS9 0905DX* | GKS9 1155DX* |
|------------|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| LPT-00A | LP Conversion Kit ¹ | √ | √ | √ | √ | √ | √ |
| LPT-03 | LP Conversion Kit ² | √ | √ | √ | √ | √ | √ |
| LPLP01 | LP Gas Low Pressure Kit | √ | √ | √ | √ | √ | √ |
| HALP10 | High-Altitude LP Gas Kit | 3 | 3 | 3 | 3 | 3 | 3 |
| HANG11 | High-Altitude Natural Gas Kit | 1 | 1 | 1 | 1 | 1 | 1 |
| HANG12 | High-Altitude Natural Gas Kit | 2 | 2 | 2 | 2 | 2 | 2 |
| 017K000005 | Flush-Mount Vent Kit | √ | √ | √ | √ | √ | √ |
| 0270K00012 | Horizontal Conversion Pressure Switch Kit | √ | √ | √ | √ | √ | √ |
| AFE18-60A | Fossil Fuel Kit | √ | √ | √ | √ | √ | √ |
| FTK-03A | Twinning Kit | √ | √ | √ | √ | √ | √ |
| GSAS | Electronic Air Cleaner | √ | √ | √ | √ | √ | √ |
| GMU | Media Air Cleaner | √ | √ | √ | √ | √ | √ |
| EFR01 | External Filter Rack | √ | √ | √ | √ | √ | √ |
| DCVK-20 | 2" Horizontal/Vertical Concentric Vent Kit | √ | √ | √ | ----- | ----- | ----- |
| DCVK-30 | 3" Horizontal/Vertical Concentric Vent Kit | ----- | ----- | ----- | √ | √ | √ |

√ Available for this model

1 7,001' to 9,000'

2 9,001' to 11,000'

3 7,001' to 11,000'

NOTES:

¹ White-Rodgers valve only

² White-Rodgers and Honeywell valves

- All installations above 7,000' require a pressure switch change. For installation in Canada, furnaces are certified only to 4,500'.

