

*UD100R9V5K FURNACE HEATING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER									
	AIRFLOW SETTING	DIP SWITCH SETTING			EXTERNAL STATIC PRESSURE				
		SW 7	SW 8		0.1	0.3	0.5	0.7	0.9
HEATING 1ST STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	900 53 100	890 54 130	870 55 175	850 57 220	835 58 270
	MEDIUM **	ON	OFF	CFM TEMP. RISE WATTS	1125 43 150	1090 44 200	1060 46 235	1070 45 300	1070 45 340
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1300 37 220	1300 37 290	1320 36 365	1350 36 430	1340 36 490
HEATING 2ND STAGE	LOW	ON	ON	CFM TEMP. RISE WATTS	1270 59 200	1290 58 260	1290 58 335	1290 58 400	1280 58 460
	MEDIUM **	ON	OFF	CFM TEMP. RISE WATTS	1575 47 355	1600 46 445	1610 46 520	1600 46 575	1580 47 650
	HIGH	OFF	OFF	CFM TEMP. RISE WATTS	1870 40 560	1890 39 665	1860 40 710	1870 40 830	1730 43 760

*UD100R9V5K FURNACE COOLING AIRFLOW (CFM) AND POWER (WATTS) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
3.0	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM WATTS	1075 135	1055 185	1015 220	1000 265	990 325
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM WATTS	1220 185	1200 240	1210 295	1210 350	1210 410
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	1390 245	1390 320	1410 391	1410 470	1400 510
3.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM WATTS	1214 185	1210 240	1215 295	1210 350	1210 415
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM WATTS	1430 310	1460 355	1470 430	1460 500	1440 555
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM WATTS	1640 370	1665 460	1650 540	1640 615	1610 660
4.0	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM WATTS	1405 270	1430 310	1440 375	1440 480	1420 550
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM WATTS	1670 395	1675 490	1670 550	1655 630	1630 700
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM WATTS	1870 540	1880 635	1880 730	1845 800	1670 640
5.0 **	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM WATTS	1775 480	1800 580	1820 680	1800 750	1680 740
	NORMAL ** (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM WATTS	2065 755	2020 840	1945 900	1805 880	1623 800
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM WATTS	2310 1000	2100 1000	2100 950	1965 890	1800 825

NOTES:

- ** Factory setting
- Continuous Fan Setting: Heating or Cooling airflow is approximately 50% of selected Cooling value.
- For Variable Speed: low speed airflows are approximately 30% of listed values.
- LOW 350 cfm/ton is recommended for Variable Speed application for COMFORT & HUMID CLIMATE setting; NORMAL is 400 cfm/ton; HIGH 450 cfm/ton is for DRY CLIMATE setting

INDOOR BLOWER TIMING

Heating: The ECM Fan Control controls the variable speed indoor blower. The blower "on" time is fixed at 45 seconds after ignition. The FAN-OFF period is field selectable by dip switches #2 and #3 on the Integrated Furnace Control at 60, 100, 140, or 180 seconds. The factory setting is 100 seconds, (See unit wiring diagram).

Cooling: The fan delay-off period is set by dip switches on the ECM Fan Control board connected to the Integrated Furnace Control. The options for cooling delay off is field selectable by dip switches #5 and #6. However, dip switch #1 on the Integrated Furnace Control must be set to "ON" for cooling mode to function properly.

The following table and graph explain the delay-off settings:

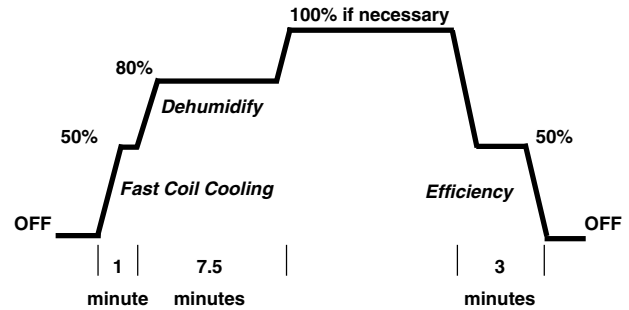
** - This selection provides a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. The graph below shows the ramping process.

COOLING OFF - DELAY OPTIONS

SWITCH SETTINGS		SELECTION	NOMINAL AIRFLOW
5 - OFF	6 - OFF	NONE	SAME
5 - ON	6 - OFF	1.5 MINUTES	100% *
5 - OFF	6 - ON	3 MINUTES	50%
5 - ON	6 - ON	**	50 - 100%

* - This setting is equivalent to BAY24X045 relay benefit

** - This selection provides **ENHANCED MODE**, which is a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. See Wiring Diagram notes on the unit or in the Service Facts for complete wiring setup for **ENHANCED MODE**. The graph which follows, shows the ramping process.



General Data ①

TYPE	Upflow / Horizontal
RATINGS 2	
1st Stage Input BTUH	65,000
1st Stage Capacity BTUH (ICS) 3	52,000
2nd Stage Input BTUH	100,000
2nd Stage Capacity BTUH (ICS) 3	79,000
Temp. rise (Min.-Max.) °F.	35 - 65
BLOWER DRIVE	
Diameter-Width (In.)	DIRECT 10 x 10
No. Used	1
Speeds (No.)	VARIABLE SPEED
CFM vs. in. w.g.	See Fan Performance
Motor HP	1
R.P.M.	VARIABLE
Volts/Ph/Hz	115/1/60
COMBUSTION FAN - Type	
Drive - No. Speeds	Centrifugal Direct - 2
Motor HP - RPM	1/75 - 2708 / 1868
Volts/Ph/Hz	115/1/60
F.L. Amps	.87 / 0.49
FILTER — Furnished?	
Type Recommended	Yes High Velocity
Hi Vel. (No.-Size-Thk.) Shipped	1 - 20 x 25 - 1in.

VENT COLLAR — Size (in.)	4 Round
HEAT EXCHANGER	
Type-Fired	Alum. Steel
-Unfired	
Gauge (Fired)	20
ORIFICES — Main	
Nat. Gas. Qty. — Drill Size	5 — 45
L.P. Gas Qty. — Drill Size	5 — 56
GAS VALVE	Redundant - Two Stage
PILOT SAFETY DEVICE	
Type	Hot Surface Ignition
BURNERS — Type	
Number	Multiport Inshot 5
POWER CONN. — V/Ph/Hz ④	115/1/60
Ampacity (In Amps)	14.9
Max. Overcurrent Protection (amps)	20
PIPE CONN. SIZE (IN.)	1/2
DIMENSIONS	
Crated (In.)	H x W x D 41- 3/4 x 23 x 30-1/2
Uncrated (In.)	40 x 21 x 28-1/2
WEIGHT	
Shipping (Lbs.) / Net (Lbs)	166 / 155

① Central Furnace heating designs are certified by the American Gas Association Inc. Laboratories.

② Ratings shown are for elevations up to 2000 feet. For elevations above 2000 feet; Ratings should be reduced at the rate of 4% for each 1000 feet above sea level.

③ Based on U.S. Government Standard Tests.

④ The above wiring specifications are in accordance with National Electrical Code; however, installations must comply with local codes.

Mechanical Specifications

NATURAL GAS MODELS — Central heating furnace designs are certified by the American Gas Association for both natural and L.P. gas. Limit setting and rating data were established and approved under standard rating conditions using American National Standards Institute standards.

SAFE OPERATION — The Integrated System Control has solid state devices, which continuously monitor for presence of flame, when the system is in the heating mode of operation. Dual solenoid combination gas valve and regulator provide extra safety.

QUICK HEATING— Durable, cycle tested, heavy gauge **aluminized steel heat exchanger** quickly transfers heat to provide warm conditioned air to the structure. **Low energy power vent blower**, to increase efficiency and provide discharge of gas fumes to the outside, allows common venting with hot water heater.

BURNERS — Multi-port, in-shot burners will give years of quiet and efficient service. All models can be converted to **L.P. gas** without changing burners.

INTEGRATED SYSTEM CONTROL— Exclusively designed operational program provides total control of furnace limit sensors, blowers, gas valve, flame control and includes self diagnostics for ease of service.

AIR DELIVERY — The variable speed, direct-drive blower motor, with sufficient airflow range for most heating and cooling requirements, will switch from heating to cooling speeds on demand from room thermostat. The blower door safety switch will prevent or terminate furnace operation when the blower door is removed. (Fan relay and 35VA control transformer is standard).

STYLING— **Heavy gauge steel and "wrap-around" cabinet construction** is used in the cabinet with baked-on enamel finish for strength and beauty. The heat exchanger section of the cabinet is completely lined with foil-faced fiberglass insulation. This results in quiet and efficient operation due to the excellent acoustical and insulating qualities of fiberglass.

FEATURES AND GENERAL OPERATION — These High Efficiency Gas Furnaces employ a Hot Surface Ignition system, which eliminates the waste of a constantly burning pilot. The integrated system control lights the main burners upon a demand for heat from the room thermostat. Complete front service access.

- a. Low energy power venter.
- b. Vent proving differential switch.

Since Trane has a policy of continuous product and product data improvement, it reserves the right to change specifications and design without notice.

Technical Literature - Printed in U.S.A.

Trane
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Tyler, TX 75707
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Library	-
Product Section	Furnaces
Product	Furnace
Model	TUD-R9V
Literature Type	Submittal
Sequence	-
Date	02/08
File No.	TUD100R9V-SUB-1B
Supersedes	TUD100R-SUB-1A