



**TRANE®**

# Upflow/Horizontal Left, Downflow/Horizontal Right Two Stage Condensing Gas-Fired Furnace

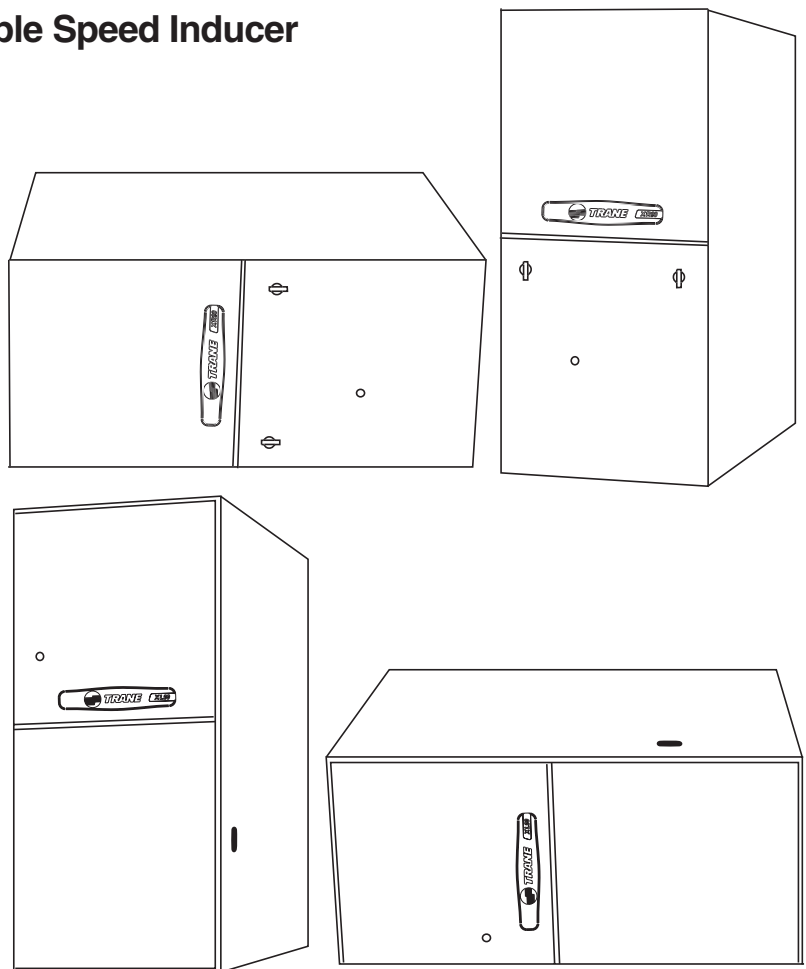
---

## **XL 90**

**TUX060, 080, 100, 120R**

**TDX060, 080, 100, 120R**

**Direct Vent with  
Variable Speed Inducer**



**PUB. NO. 22-1705-02-1202 (EN)**



# General Features

---

## 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 a positive discharge of gas fumes to the outside.

## Burners

Multiport Inshot 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. Also contains connection points for E.A.C./humidifier.

## Air Delivery

The four speed, direct drive blower motor, has sufficient airflow 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.

## 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. Built-in bottom pan and alternate bottom, left or right side return air connection provision.

## Features And General Operation

The XL90 High Efficiency Gas Furnaces employ an Adaptive Heat Up Silicon Nitride Hot Surface Ignition system, which eliminates the waste of a constant 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 pressure switch.

# Contents

---

<b>General Features</b>	<b>2</b>
<b>Features and Benefits</b>	<b>4</b>
Standard Equipment	4
Optional Equipment	5
<b>General Data</b>	<b>6</b>
TUX060R936W	6
TUX080R942W	6
TUX100R948W	6
TUX120R960W	6
TDX060R936V	7
TDX080R942V	7
TDX100R948V	7
TDX120R960V	7
<b>Performance Data</b>	<b>8</b>
Upflow	8
Downflow	9
<b>Maximum Vent Length Table</b>	<b>10</b>
<b>Electrical Data</b>	<b>11</b>
<b>Field Wiring</b>	<b>13</b>
<b>Twinning Field Wiring</b>	<b>15</b>
<b>Dimensions</b>	<b>17</b>



# Features and Benefits

---

## XL 90 Standard Equipment

- Direct Drive - 4 speed PSC Motor
- Silicon Nitride Igniter with adaptive heat up
- Variable speed induced draft blower
- Direct/Non-Direct vent option
- Fused 24 volt control circuit
- Manual reset burner safety switches
- Power supply 115/1/60
- Convertible to horizontal on left side
- 2-stage gas valve
- PVC venting - 1 or 2 pipe option
- Accessory hook-up capability
- Integrated solid state control with self-diagnostics
- Attractive color accents
- Heavy gauge aluminized steel heat exchanger
- Multi-port In-shot burners
- Single wire twinning
- Hinged blower door \*
- Perfect fit door latches\*
- Insulated blower door\*
- Gasketed blower door\*
- Internal filter rack\*
- Standard filter sizes
- Two-tone color
- Multi-port In-shot burners
- Complete front service access
- Left/right gas connection
- Adjustable fan off times
- Cleanable high velocity filters
- Optional L.P. conversion kit
- Selectable cooling fan off delay eliminates need for BAY24X045 time delay kit
- **Lifetime limited primary heat exchanger or secondary heat exchanger warranty to original owner (Residential use)**
- **5-Year limited parts warranty**

\* (Upflow only)



# Features and Benefits

## XL 90 Optional Equipment

Thermostat, 2-Stage Heat / 1-Stage Cooling .....	TAYSTAT241 [ ]
Thermostat, Electronic Programmable 2-Stage Heating .....	TAYSTAT302C [ ]
Thermostat, Mechanical Heating Only With Fan Switch .....	TAYSTAT303C [ ]
Thermostat, Heating/Cooling Single Stage (Mounts Horizontally) .....	AY28X092 [ ]
Thermostat, Heating/Cooling Single Stage (Mounts Vertically) .....	BAYSTAT305 [ ]
Thermostat, Electronic Programmable 1-Stage Heating/1-Stage Cooling .....	TAYSTAT300C [ ]
Propane Conversion Kit .....	BAYLPKT210A [ ]
Electronic Air Filter, "Perfect Fit" Super Efficiency (14-1/2" Wide Gas Furnace) .....	TFE145A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" Super Efficiency (17-1/2" Wide Gas Furnace) .....	TFE175A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" Super Efficiency (21" Wide Gas Furnace) .....	TFE210A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" Super Efficiency (24-1/2" Wide Gas Furnace) .....	TFE245A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" High Efficiency (14-1/2" Wide Gas Furnace) .....	TFM145A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" High Efficiency (17-1/2" Wide Gas Furnace) .....	TFM175A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" High Efficiency (21" Wide Gas Furnace) .....	TFM210A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" High Efficiency (24-1/2" Wide Gas Furnace) .....	TFM245A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" Standard Efficiency (14-1/2" Wide Gas Furnace) .....	TFP145A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" Standard Efficiency (17-1/2" Wide Gas Furnace) .....	TFP175A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" Standard Efficiency (21" Wide Gas Furnace) .....	TFP210A9FR0 [ ]
Electronic Air Filter, "Perfect Fit" Standard Efficiency (24-1/2" Wide Gas Furnace) .....	TFP245A9FR0 [ ]
Coil Enclosure (14-1/2" Wide Cabinets) .....	BAYCLE1400C [ ]
Coil Enclosure (17-1/2" Wide Cabinets) .....	BAYCLE1700C [ ]
Coil Enclosure (21" Wide Cabinets) .....	BAYCLE2100C [ ]
Coil Enclosure (24-1/2" Wide Cabinets) .....	BAYCLE2400C [ ]
Downflow Subbase .....	BAYBASE205 [ ]
Side Filter Rack .....	BAYFLTR200 [ ]
Filter Kit/Horizontal Conversion TUX060,080-R .....	BAYFLTR203 [ ]
Filter Kit/Horizontal Conversion TUX100-R .....	BAYFLTR204 [ ]
Filter Kit/Horizontal Conversion TUX120-R .....	BAYFLTR205 [ ]
Filter Accessory Kit .....	BAYFLTR317 [ ]
Filter Accessory Kit .....	BAYFLTR321 [ ]
Filter Accessory Kit .....	BAYFLTR324 [ ]
High Altitude Pressure Switch Kit .....	BAYHALT245① [ ]
High Altitude Pressure Switch Kit .....	BAYHALT246① [ ]
High Altitude Pressure Switch Kit .....	BAYHALT247① [ ]
Concentric Vent Kit TUX Furnaces .....	BAYVENT100A [ ]
Sidewall Vent Termination Kit All 2 Pipe Direct Vent Furnaces .....	BAYVENT200B [ ]
Manufactured/Mobile Home Kit All 2 Pipe Direct Vent Furnaces .....	BAYMFGH100A [ ]

① Optional kit allows 200 ft. max. vent length from 5,000-12,000 feet above sea level. See installer's guide.



# General Data

## TUX-R Product Specifications <sup>①</sup>

MODEL	TUX060R936W	TUX080R942W	TUX100R948W	TUX120R960W
<b>RATINGS<sup>②</sup></b>				
1st Stage Input BTUH	39000	52000	65000	78000
1st Stage Capacity BTUH (ICS) <sup>③</sup>	36000	48000	60000	72000
2nd Stage Input BTUH	60000	80000	100000	120000
2nd Stage Capacity BTUH (ICS) <sup>③</sup>	56000	73000	93000	112000
AFUE (ICS)	93.0	92.5	93.0	92.5
Temp. Rise (Min.-Max.) °F.	35 - 65	35 - 65	35 - 65	40 - 70
<b>BLOWER DRIVE</b>				
	DIRECT	DIRECT	DIRECT	DIRECT
Dia.-Width (In.)	10 x 7	10 x 8	10 x 10	11 x 10
No. Used	1	1	1	1
Speeds (No.)	4	4	4	4
CFM vs. in. w.g.	SEE FAN PERF. TABLE	SEE FAN PERF. TABLE	SEE FAN PERF. TABLE	SEE FAN PERF. TABLE
Motor HP	1/3	1/3	1/2	3/4
R.P.M.	1075	1075	1075	1100
Volts/Ph/Hz	115/1/60	115/1/60	115/1/60	115/1/60
<b>COMBUSTION FAN — TYPE</b>				
	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Drive - No. Speeds	DIRECT - 1	DIRECT - 1	DIRECT - 1	DIRECT - 1
Motor HP - RPM	1/15 - VARIABLE	1/15 - VARIABLE	1/15 - VARIABLE	1/15 - VARIABLE
Volts/Ph/Hz	115/1/60	115/1/60	115/1/60	115/1/60
FL Amps	1.1	1.1	1.1	1.1
<b>FILTER — Furnished?</b>				
	YES	YES	YES	YES
Type Recommended	HIGH VELOCITY	HIGH VELOCITY	HIGH VELOCITY	HIGH VELOCITY
Filter (No.-Size-Thk.)	1 - 17 X 25 - 1 IN	1 - 17 X 25 - 1 IN	1 - 20 X 25 - 1 IN	1 - 24 X 25 - 1 IN
<b>VENT — Size (In.)</b>				
	2 ROUND	2 ROUND	2 ROUND	3 ROUND
<b>HEAT EXCHANGER</b>				
Type -Fired	ALUMINIZED STEEL TYPE 1	ALUMINIZED STEEL TYPE 1	ALUMINIZED STEEL TYPE 1	ALUMINIZED STEEL TYPE 1
-Unfired				
Gauge (Fired)	20	20	20	20
<b>ORIFICES — Main</b>				
Nat. Gas Qty. — Drill Size	3 - 45	4 - 45	5 - 45	6 - 45
L.P. Gas Qty. — Drill Size	3 - 56	4 - 56	5 - 56	6 - 56
<b>GAS VALVE</b>				
	REDUNDANT - TWO STAGE	REDUNDANT - TWO STAGE	REDUNDANT - TWO STAGE	REDUNDANT - TWO STAGE
<b>DIRECT IGNITION DEVICE</b>				
Type	HOT SURFACE	HOT SURFACE	HOT SURFACE	HOT SURFACE
<b>BURNERS — Type</b>				
	IN-SHOT	IN-SHOT	IN-SHOT	IN-SHOT
Number	3	4	5	6
<b>POWER CONN. — V/Ph/Hz<sup>④</sup></b>				
	115/1/60	115/1/60	115/1/60	115/1/60
Ampacity (In Amps)	8.3	9.4	12.5	12.9
Max. Overcurrent Protection (Amps)	15	15	15	15
<b>PIPE CONN. SIZE (IN.)</b>				
	1/2	1/2	1/2	1/2
<b>DUCT CONN.</b>				
	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING
<b>DIMENSIONS</b>				
	H X W X D	H X W X D	H X W X D	H X W X D
Crated (In.)	41-3/4 X 19-1/2 X 30-1/2	41-3/4 X 19-1/2 X 30-1/2	41-3/4 X 23 X 30-1/2	41-3/4 X 26-1/2 X 30-1/2
Uncrated	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING
<b>WEIGHT</b>				
Shipping (Lbs.)/Net (Lbs.)	158 / 146	168 / 156	197 / 185	206 / 193

① Central Furnace heating designs are certified by AGA and CSA.

② For U.S. applications, above input ratings (BTUH) are up to 2,000 feet, derate 4% per 1,000 feet for elevations above 2,000 feet above sea level. For Canadian applications, above input ratings (BTUH) are up to 4,500 feet, derate 4% per 1,000 feet for elevations above 4,500 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.



# General Data

## TDX-R Product Specifications <sup>①</sup>

MODEL	TDX060R936V	TDX080R942V	TDX100R948V	TDX120R960V
<b>RATINGS</b> <sup>②</sup>				
1st Stage Input BTUH	39000	52000	65000	78000
1st Stage Capacity BTUH (ICS) <sup>③</sup>	36000	48000	60000	72000
2nd Stage Input BTUH	60000	80000	100000	120000
2nd Stage Capacity BTUH (ICS) <sup>③</sup>	55000	74000	93000	111000
AFUE (ICS)	92.0	92.5	93.0	92.5
Temp. Rise (Min.-Max.) °F.	35 - 65	35 - 65	45 - 75	45 - 75
<b>BLOWER DRIVE</b>				
	DIRECT	DIRECT	DIRECT	DIRECT
Dia.-Width (In.)	10 x 8	10 x 8	11 x 10	11 x 10
No. Used	1	1	1	1
Speeds (No.)	4	4	4	4
CFM vs. in. w.g.	SEE FAN PERF. TABLE	SEE FAN PERF. TABLE	SEE FAN PERF. TABLE	SEE FAN PERF. TABLE
Motor HP	1/3	1/2	1/2	3/4
R.P.M.	1075	1075	1075	1075
Volts/Ph/Hz	115/1/60	115/1/60	115/1/60	115/1/60
<b>COMBUSTION FAN — TYPE</b>				
	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Drive - No. Speeds	DIRECT - VARIABLE	DIRECT - VARIABLE	DIRECT - VARIABLE	DIRECT - VARIABLE
Motor HP - RPM	1/15 - 5000	1/15 - 5000	1/15 - 5000	1/15 - 5000
Volts/Ph/Hz	115/1/60	115/1/60	115/1/60	115/1/60
FL Amps	1.1	1.1	1.1	1.1
<b>FILTER — Furnished?</b>				
	YES	YES	YES	YES
Type Recommended	HIGH VELOCITY	HIGH VELOCITY	HIGH VELOCITY	HIGH VELOCITY
Filter (No.-Size-Thk.)	2 - 14 X 20 X 1	2 - 14 X 20 X 1	2 - 20 X 20 X 1	2 - 16 X 20 X 1
<b>VENT — Size (In.)</b>				
	2 ROUND	2 ROUND	2 ROUND	3 ROUND
<b>HEAT EXCHANGER</b>				
Type -Fired	ALUMINIZED STEEL TYPE 1	ALUMINIZED STEEL TYPE 1	ALUMINIZED STEEL TYPE 1	ALUMINIZED STEEL TYPE 1
-Unfired				
Gauge (Fired)	20	20	20	20
<b>ORIFICES — Main</b>				
Nat. Gas Qty. — Drill Size	3 - 45	4 - 45	5 - 45	6 - 45
L.P. Gas Qty. — Drill Size	3 - 56	4 - 56	5 - 56	6 - 56
<b>GAS VALVE</b>				
	REDUNDANT - TWO STAGE	REDUNDANT - TWO STAGE	REDUNDANT - TWO STAGE	REDUNDANT - TWO STAGE
<b>DIRECT IGNITION DEVICE</b>				
Type	HOT SURFACE IGNITER	HOT SURFACE IGNITER	HOT SURFACE IGNITER	HOT SURFACE IGNITER
<b>BURNERS — Type</b>				
	IN-SHOT	IN-SHOT	IN-SHOT	IN-SHOT
Number	3	4	5	6
<b>POWER CONN. — V/Ph/Hz</b> <sup>④</sup>				
	115/1/60	115/1/60	115/1/60	115/1/60
Ampacity (In Amps)	9.1	11.4	12.5	12.9
Max. Overcurrent Protection (Amps)	15	20	15	15
<b>PIPE CONN. SIZE (IN.)</b>				
	0.50	0.50	0.50	0.50
<b>DUCT CONN.</b>				
	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING
<b>DIMENSIONS</b>				
	H X W X D	H X W X D	H X W X D	H X W X D
Crated (In.)	41-3/4 X 19-1/2 X 30-1/2	41-3/4 X 19-1/2 X 30-1/2	41-3/4 X 23 X 30-1/2	41-3/4 X 26-1/2 X 30-1/2
Uncrated	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING	SEE OUTLINE DRAWING
<b>WEIGHT</b>				
Shipping (Lbs.)/Net (Lbs.)	160 / 145	168 / 158	185 / 175	206 / 196

① Central Furnace heating designs are certified by AGA and CSA.

② For U.S. applications, above input ratings (BTUH) are up to 2,000 feet, derate 4% per 1,000 feet for elevations above 2,000 feet above sea level. For Canadian applications, above input ratings (BTUH) are up to 4,500 feet, derate 4% per 1,000 feet for elevations above 4,500 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.



# Upflow Performance Data

FURNACE AIRFLOW (CFM) VS. EXTERNAL STATIC PRESSURE (in. w.c.)										
MODEL	SPEED TAP	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90
*UX060R936W	4 - HIGH - Black	1394	1359	1314	1260	1196	1122	1038	945	853
	3 - MED.-HIGH - Blue	1250	1232	1202	1160	1106	1040	962	873	771
	2 - MED.-LOW - Yellow	1102	1092	1069	1034	986	925	852	766	668
	1 - LOW - Red	957	944	922	891	853	806	750	686	614
*UX080R942W	4 - HIGH - Black	1748	1683	1615	1544	1470	1393	1314	1232	1147
	3 - MED.-HIGH - Blue	1375	1367	1347	1314	1268	1210	1139	1056	960
	2 - MED.-LOW - Yellow	1178	1167	1147	1119	1082	1036	982	919	847
	1 - LOW - Red	859	863	856	839	811	772	723	663	592
*UX100R948W	4 - HIGH - Black	2054	1980	1906	1826	1746	1649	1551	1428	1305
	3 - MED.-HIGH - Blue	1932	1875	1818	1746	1673	1577	1481	1371	1260
	2 - MED.-LOW - Yellow	1762	1720	1677	1615	1552	1463	1373	1266	1158
	1 - LOW - Red	1558	1546	1533	1477	1421	1350	1278	1175	1071
*UX120R960W	4 - HIGH - Black	2454	2406	2358	2310	2261	2184	2106	2017	1928
	3 - MED.-HIGH - Blue	2105	2092	2078	2045	2012	1950	1887	1826	1765
	2 - MED.-LOW - Yellow	1747	1742	1736	1720	1703	1677	1651	1593	1535
	1 - LOW - Red	1445	1447	1449	1440	1430	1400	1369	1325	1280

\* - First letter may be "A" or "T"

NOTE: See page 11 for factory heat & cool speed tap settings

CFM VS. TEMPERATURE RISE														
MODEL	Cubic Feet Per Minute (CFM)													
	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
*UX060R936W	56	50	45	42	39	36								
*UX080R942W			61	56	51	48	44	42						
*UX100R948W					64	60	56	52	49	46	44	42		
*UX120R960W								63	59	56	53	50	48	46

\* - First letter may be "A" or "T"





# Downflow Performance Data

FURNACE AIRFLOW (CFM) VS. EXTERNAL STATIC PRESSURE (in. w.c.)										
MODEL	SPEED TAP	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90
TDX060R936V	4 - HIGH - Black	1487	1425	1362	1286	1209	1125	1040	935	830
	3 - MED.-HIGH - Blue	1342	1291	1240	1182	1124	1047	989	869	769
	2 - MED.-LOW - Yellow	1181	1147	1113	1061	1009	943	877	779	681
	1 - LOW - Red	877	863	849	820	791	739	686	612	537
TDX080R942V	4 - HIGH - Black	1547	1498	1445	1386	1323	1254	1180	1101	1016
	3 - MED.-HIGH - Blue	1487	1436	1382	1325	1265	1202	1137	1069	998
	2 - MED.-LOW - Yellow	1388	1348	1302	1249	1191	1126	1056	979	896
	1 - LOW - Red	1263	1234	1196	1150	1095	1032	960	879	790
TDX100R948V	4 - HIGH - Black	1892	1827	1762	1688	1614	1531	1448	1354	1260
	3 - MED.-HIGH - Blue	1779	1726	1672	1605	1538	1460	1381	1291	1200
	2 - MED.-LOW - Yellow	1630	1587	1544	1485	1426	1362	1297	1208	1119
	1 - LOW - Red	1444	1416	1388	1348	1308	1246	1184	1108	1032
TDX120R960V	4 - HIGH - Black	2213	2138	2062	2001	1939	1863	1786	1706	1625
	3 - MED.-HIGH - Blue	2057	2000	1943	1883	1822	1752	1681	1595	1508
	2 - MED.-LOW - Yellow	1765	1733	1700	1652	1603	1552	1500	1424	1347
	1 - LOW - Red	1468	1452	1435	1409	1382	1336	1290	1225	1159

CFM VS. TEMPERATURE RISE																	
MODEL	Cubic Feet Per Minute (CFM)																
	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
TDX060R936V	63	56	51	46	42	39	36	34									
TDX080R942V				61	56	52	48	45	42	40	37	35					
TDX100R948V						65	60	56	53	50	47	44	42	40	38	37	35
TDX120R960V								67	63	59	56	53	51	48	46	44	42



# Maximum Vent Length Table

VENT LENGTH TABLE			
ALTITUDE	MAXIMUM TOTAL EQUIVALENT LENGTH IN FEET FOR VENT AND INLET AIR (SEE NOTES)		
0-7,000 Feet	2 INCH PIPE	2.5 INCH PIPE	3 INCH PIPE
UX/DX060R936	200	200	200
UX/DX080R942	50	120	200
UX/DX100R948	Not Allowed	60	200
UX/DX120R960	Not Allowed	Not Allowed	200
7,000-9,500 Feet	2 INCH PIPE	2.5 INCH PIPE	3 INCH PIPE
UX/DX060R936	100	100	100
UX/DX080R942	25	60	100
UX/DX100R948	Not Allowed	30	100
UX/DX120R960	Not Allowed	Not Allowed	100
9,500-12,000 Feet	2 INCH PIPE	2.5 INCH PIPE	3 INCH PIPE
UX/DX060R936	50	50	50
UX/DX080R942	Not Allowed	30	50
UX/DX100R948	Not Allowed	Not Allowed	50
UX/DX120R960	Not Allowed	Not Allowed	50

NOTES: \* - First letter may be "A" or "T"

1. Minimum vent length for all models: 3' horizontal and vertical.
2. DO NOT MIX PIPE DIAMETERS IN THE SAME LENGTH OF PIPE OUTSIDE THE FURNACE CABINET (Except adapters at the top of the furnace). If different inlet and vent pipe sizes are used, the vent pipe must adhere to the maximum length limit shown in the table above (See note 6 below for exception). The inlet pipe can be of a larger diameter, but never smaller than the vent pipe.
3. MAXIMUM PIPE LENGTHS MUST NOT BE EXCEEDED! THE LENGTH SHOWN IS NOT A COMBINED TOTAL, IT IS THE MAXIMUM LENGTH OF EACH (Vent or Inlet air pipes).
4. One SHORT radius 90° elbow is equivalent to 10' of 3" pipe and one LONG radius elbow is equivalent to 6' of 3" pipe. One 90° elbow is equivalent to 7½' of 2½" pipe or 5' of 2" pipe. Two 45° elbows equal one 90° elbow.
5. The termination tee or bend must be included in the total number of elbows. If the BAYVENT100A termination kit is used, the equivalent length of pipe is 5 feet. BAYVENT200A/B equivalent length is 0 feet.
6. Pipe adapters are field supplied (except 120).

# Electrical Data

## Schematic Diagrams For Gas Furnaces TUX060,080,100,120R

### Legend

#### LEGEND-EQUIPMENT DIAGRAM

- 24 V. } FACTORY WIRING
- - - 24 V. } FIELD WIRING
- ⊥ EARTH GROUND
- ⊥ CHASSIS GROUND
- JUNCTION
- WIRE NUT OR CONNECTOR
- ⌒ COIL
- ⌒ CAPACITOR
- ⌒ TRANSFORMER
- ⌒ TEMP. ACTUATED SWITCH
- ⌒ PRESS. ACTUATED SWITCH
- ⌒ DOOR SWITCH
- ⌒ MANUAL RESET THERMAL SWITCH
- ⌒ FUSE
- TERMINAL
- COLOR OF WIRE
- BLACK WIRE WITH BLUE MARKER
- COLOR OF MARKER
- BK BLACK OR ORANGE YL YELLOW
- BL BLUE RD RED GR GREEN
- BR BROWN WH WHITE PR PURPLE
- GV GAS VALVE
- CF FAN CAPACITOR
- GND GROUND
- LVTB LOW VOLTAGE TERMINAL BOARD
- MTR MOTOR
- N NEUTRAL
- TCO HIGH TEMPERATURE LIMIT SWITCH
- TNS TRANSFORMER
- HI HI FIRE, SECOND STAGE
- LO LOW FIRE, FIRST STAGE
- B/C COMMON
- LPS/PS1 PRES. SW. INPUT, FIRST STAGE
- HPS/PS2 PRES. SW. INPUT, SECOND STAGE
- HLI HIGH LIMIT INPUT
- HLO HIGH LIMIT OUTPUT
- FP FLAME SENSOR PROBE
- MVH GAS VALVE HIGH, SECOND STAGE
- MVL GAS VALVE LOW, FIRST STAGE
- MV GAS VALVE, COMMON
- TR 24V AC TRANS. COMMON SIDE
- TH 24V AC TRANS. HOT SIDE
- X X THERMALLY PROTECTED INTERNALLY

#### NOTES:

1. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 °C.
2. THERMOSTAT HEAT ANTICIPATOR SETTING: FIRST STAGE .38 AMPS, SECOND STAGE .13 AMPS, IF SETTING IS NOT FIRED ON THERMOSTAT, FOR SINGLE STAGE HEATING THERMOSTAT SET AT .51 AMPS.
3. THESE LEADS PROVIDE 120V POWER FOR CONNECTION OF ELECTRONIC AIR CLEANER AND HUMIDIFIER, MAX. LOAD 1.0 AMPS EACH.
4. JUMPER W1 AND W2 FOR SINGLE STAGE HEATING THERMOSTAT, SECOND STAGE WILL BE ENERGIZED 10 MINUTES AFTER A CALL FOR HEAT.
5. FOR PROPER OPERATION OF COOLING FAN SPEED, "\*" TERMINAL MUST BE CONNECTED TO ROOM THERMOSTAT.
6. POWER MUST BE OFF WHEN DIP SWITCHES ARE SET.
7. WHEN TWINNING TWO FURNACES, BOTH UNITS MUST BE CONNECTED TO THE SAME 115VAC PHASE, CONNECT THE 2 UNITS TWIN TERMINALS WITH 14 TO 22 AWG.

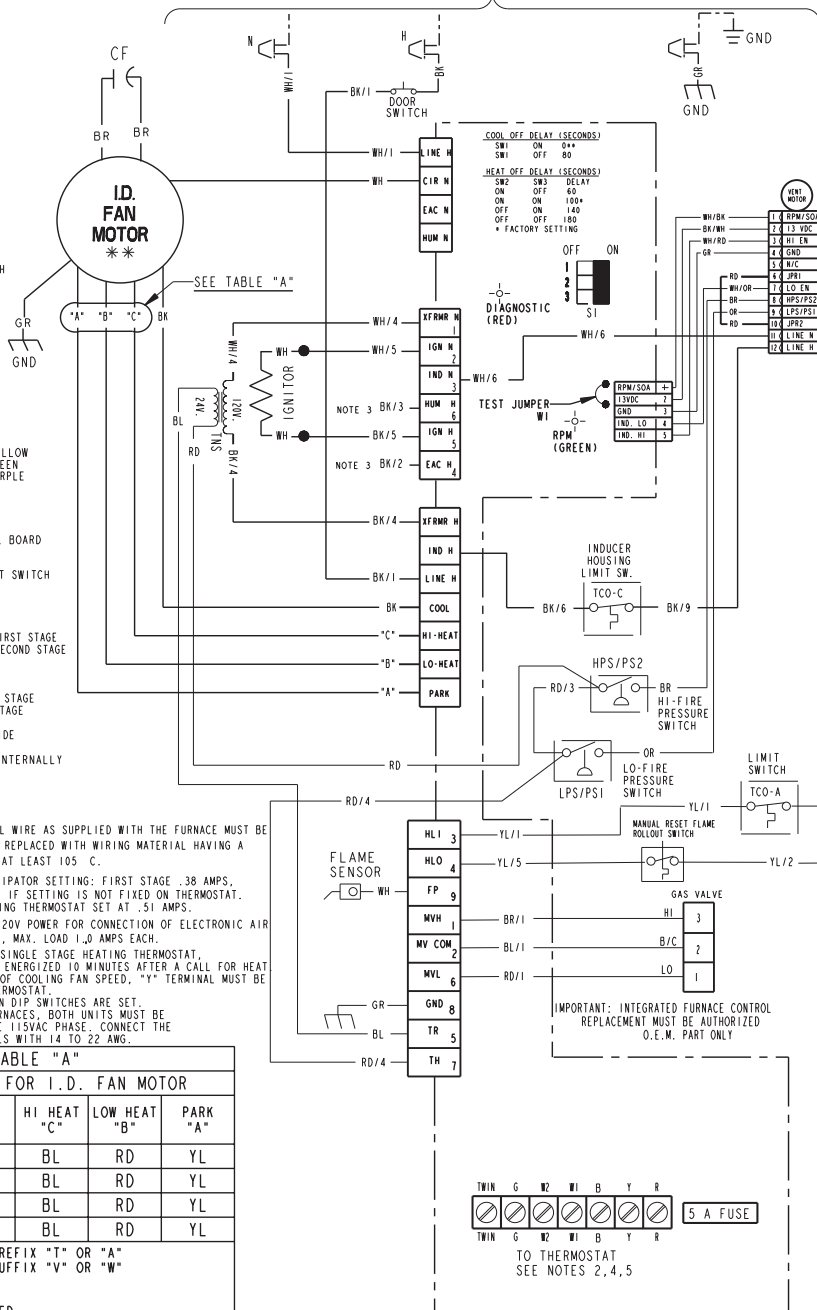
TABLE "A"			
SPEED TAPS FOR I. D. FAN MOTOR			
MODEL	HI HEAT "C"	LOW HEAT "B"	PARK "A"
#UX060R936**	BL	RD	YL
#UX080R924**	BL	RD	YL
#UX100R948**	BL	RD	YL
#UX120R960**	BL	RD	YL

\* MAY BE PREFIX "T" OR "A"  
\*\* MAY BE SUFFIX "V" OR "W"

RD = LOW SPEED  
YL = MD. LOW SPEED  
BL = MED. HIGH SPEED  
BK = HIGH SPEED



115 VOLT 60 HZ. 1PH. POWER SUPPLY  
PER LOCAL CODES



IMPORTANT: INTEGRATED CONTROL IS POLARITY SENSITIVE. HOT LEG OF 120V. POWER SUPPLY MUST BE CONNECTED TO THE BLACK POWER LEAD AS INDICATED ON WIRING DIAGRAM.



# Electrical Data

## Schematic Diagrams For Gas Furnaces TDX060,080,100,120R

### Legend

#### LEGEND-EQUIPMENT DIAGRAM

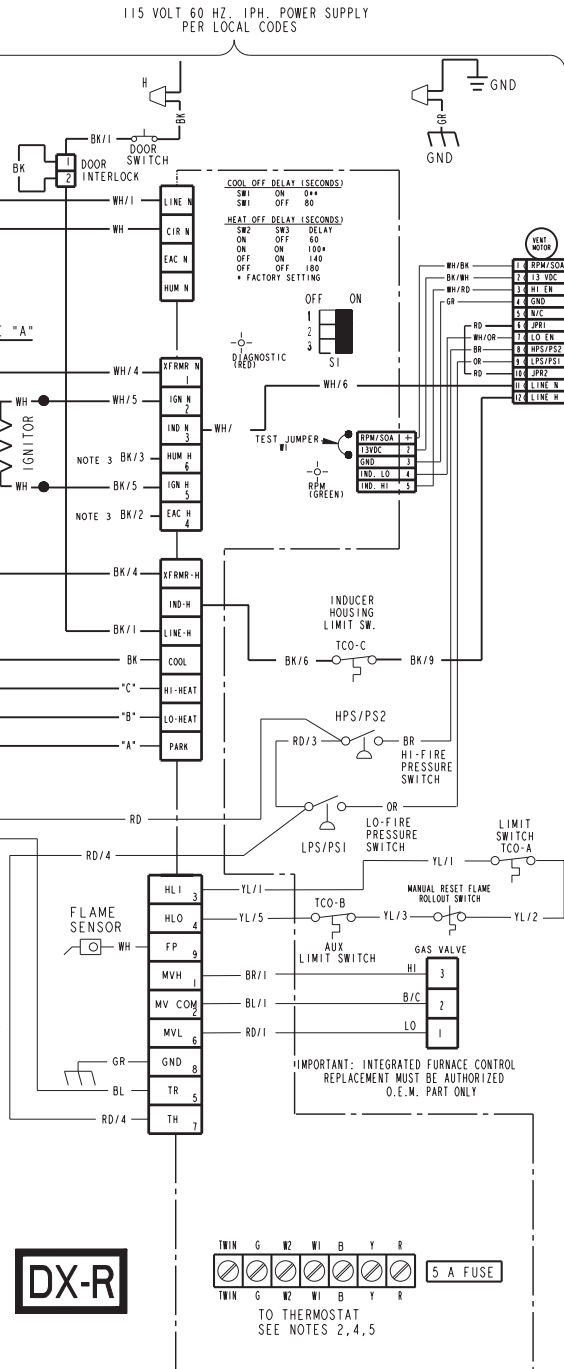
- 24 V. } FACTORY WIRING
- LINE V. }
- 24 V. } FIELD WIRING
- LINE V. }
- ⊕ EARTH GROUND
- ⊕ CHASSIS GROUND
- JUNCTION
- WIRE NUT OR CONNECTOR
- ⌒ COIL
- ⌒ CAPACITOR
- ⌒ TRANSFORMER
- ⌒ TEMP. ACTUATED SWITCH
- ⌒ PRESS. ACTUATED SWITCH
- ⌒ DOOR SWITCH
- ⌒ MANUAL RESET THERMAL SWITCH
- ⌒ FUSE
- TERMINAL
- COLOR OF WIRE
- BLACK WIRE WITH BLUE MARKER
- COLOR OF MARKER
- GV GAS VALVE
- CF FAN CAPACITOR
- GND GROUND
- L LINE
- LVTB LOW VOLTAGE TERMINAL BOARD
- MTR MOTOR
- N NEUTRAL
- TCO HIGH TEMPERATURE LIMIT SWITCH
- TNS TRANSFORMER
- HI HI FIRE, SECOND STAGE
- LO LOW FIRE, FIRST STAGE
- B/C COMMON
- LPS/PS1 PRES. SW. INPUT, FIRST STAGE
- HPS/PS2 PRES. SW. INPUT, SECOND STAGE
- HLO HIGH LIMIT INPUT
- HLO HIGH LIMIT OUTPUT
- FP FLAME SENSOR PROBE
- MVH GAS VALVE HIGH, SECOND STAGE
- MVL GAS VALVE LOW, FIRST STAGE
- MV GAS VALVE, COMMON
- TR 24V AC TRANS. COMMON SIDE
- TH 24V AC TRANS. HOT SIDE
- ⌒ THERMALLY PROTECTED INTERNALLY

#### NOTES:

1. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105 C.
2. THERMOSTAT HEAT ANTICIPATOR SETTING: FIRST STAGE .38 AMPS, SECOND STAGE .13 AMPS. IF SETTING IS NOT FIXED ON THERMOSTAT, FOR SINGLE STAGE HEATING THERMOSTAT SET AT .51 AMPS.
3. THESE LEADS PROVIDE 120V POWER FOR CONNECTION OF ELECTRONIC AIR CLEANER AND HUMIDIFIER, MAX. LOAD 1.0 AMPS EACH.
4. JUMPER W1 AND W2 FOR SINGLE STAGE HEATING THERMOSTAT, SECOND STAGE WILL BE ENERGIZED 10 MINUTES AFTER A CALL FOR HEAT.
5. FOR PROPER OPERATION OF COOLING FAN SPEED, "Y" TERMINAL MUST BE CONNECTED TO ROOM THERMOSTAT.
6. POWER MUST BE OFF WHEN DIP SWITCHES ARE SET.
7. WHEN TWINNING TWO FURNACES, BOTH UNITS MUST BE CONNECTED TO THE SAME 115VAC PHASE, CONNECT THE 2 UNITS TWIN TERMINALS WITH 14 TO 22 AWG.

TABLE "A"			
SPEED TAPS FOR I. D. FAN MOTOR			
MODEL	HI HEAT "C"	LOW HEAT "B"	PARK "A"
*DX060R936**	BL	RD	YL
*DX080R924**	BL	RD	YL
*DX100R948**	BL	RD	YL
*DX120R960**	BL	RD	YL

\* MAY BE PREFIX "T" OR "A"  
 \*\* MAY BE SUFFIX "V" OR "W"  
 RD = LOW SPEED  
 YL = MD. LOW SPEED  
 BL = MED. HIGH SPEED  
 BK = HIGH SPEED

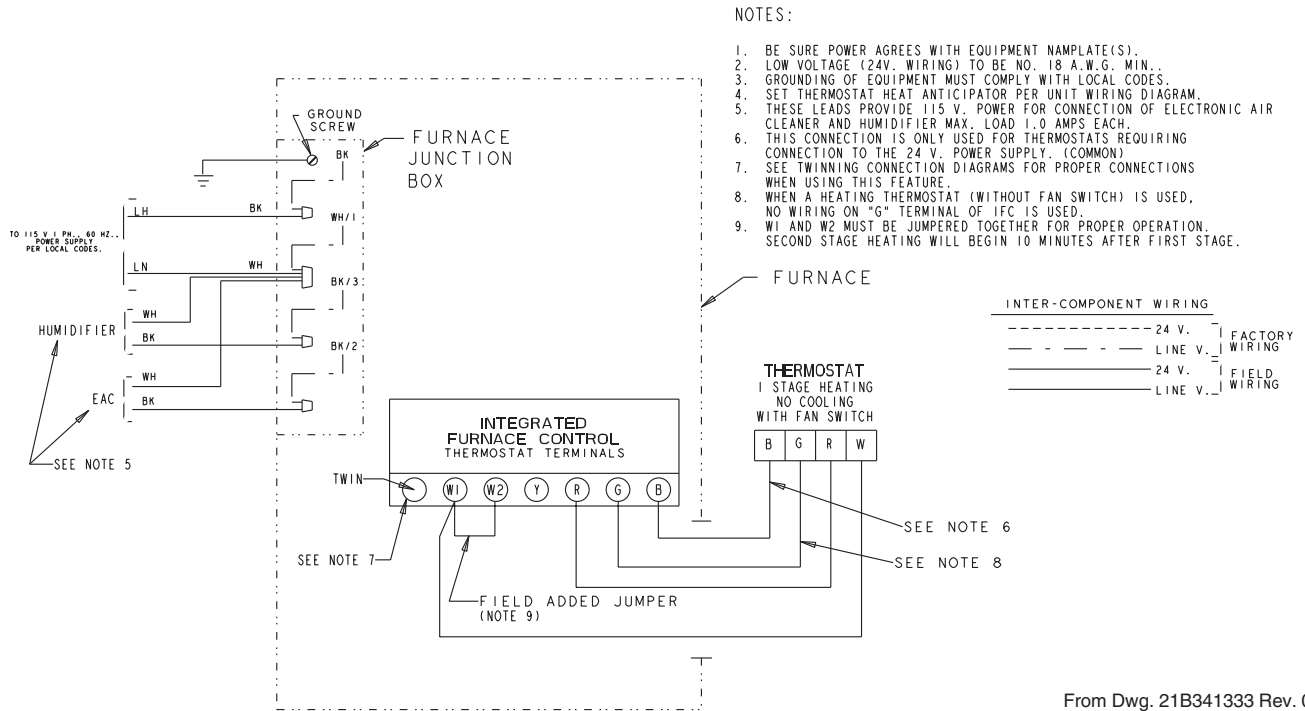


IMPORTANT: INTEGRATED CONTROL IS POLARITY SENSITIVE. HOT LEG OF 120V. POWER SUPPLY MUST BE CONNECTED TO THE BLACK POWER LEAD AS INDICATED ON WIRING DIAGRAM.

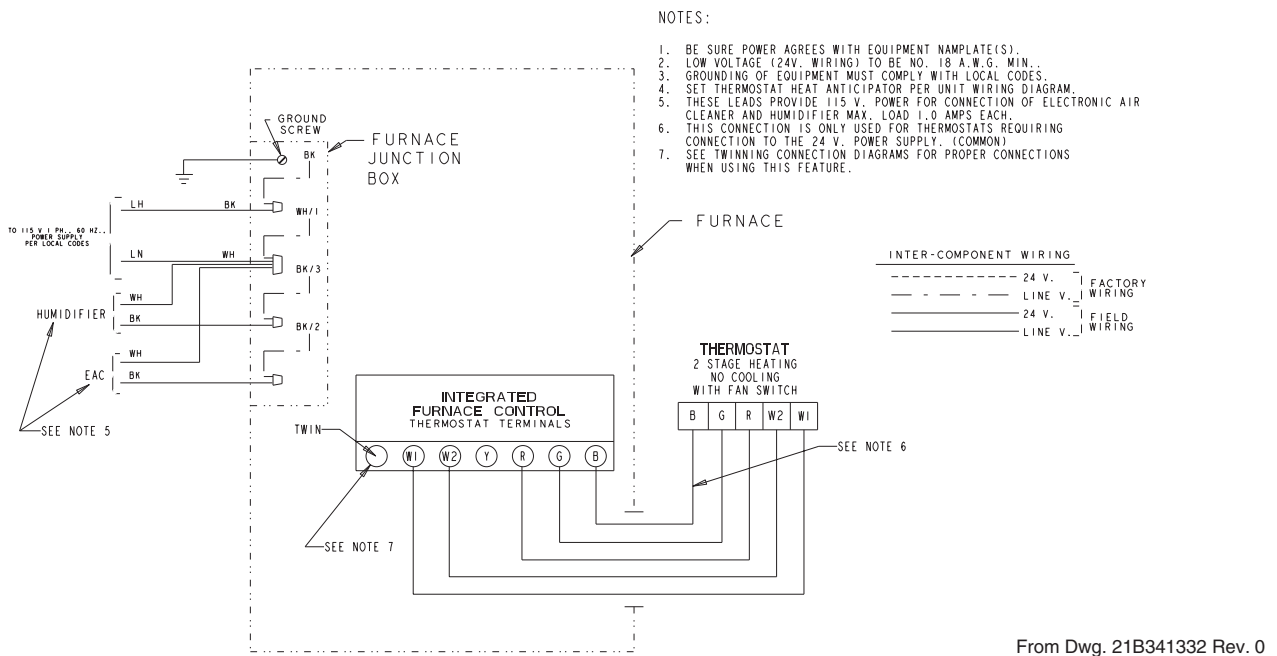
From Dwg. 21D341250 Rev. 0

# Field Wiring

## Field Wiring Diagram For Single Stage Heating Only

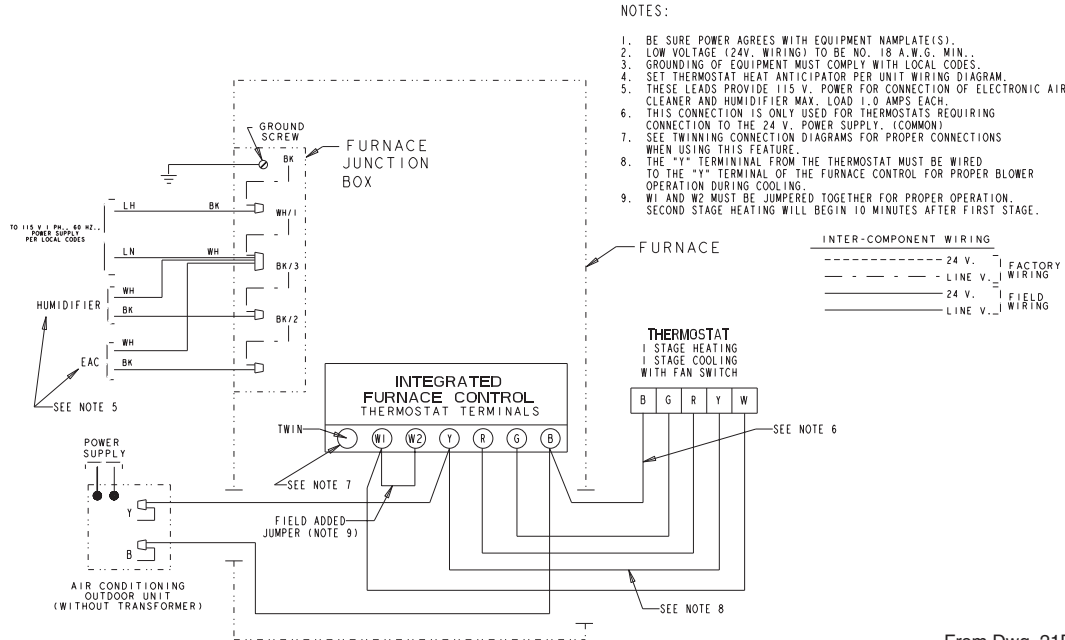


## Field Wiring Diagram For Two Stage Heating Only



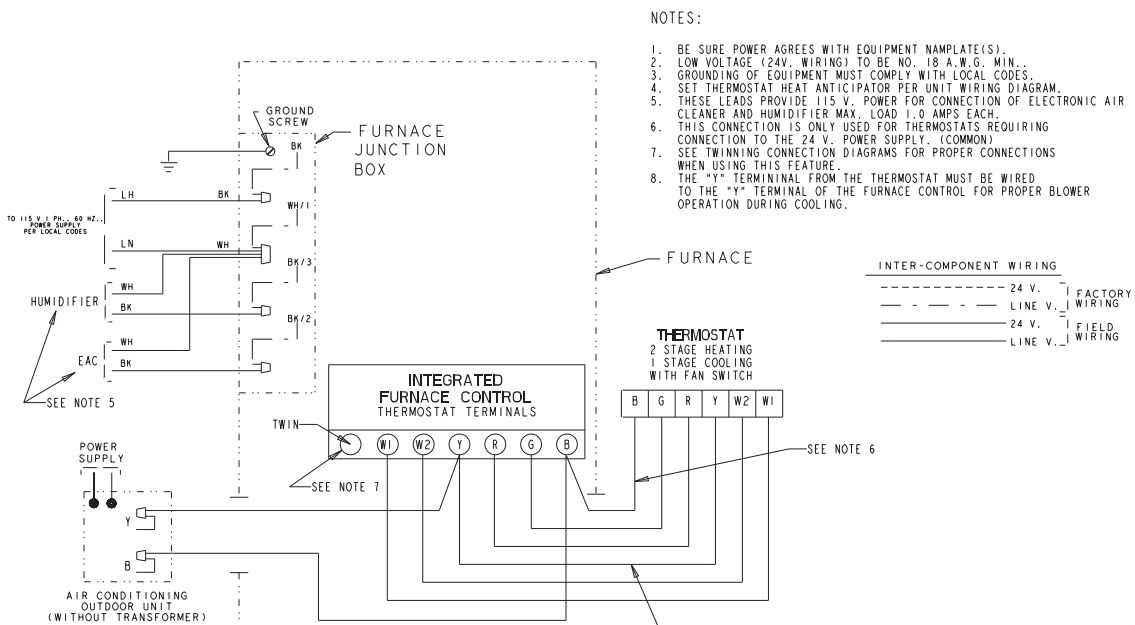
# Field Wiring

## Field Wiring Diagram For Single Stage Heating/Cooling (Outdoor Section Without Transformer)



From Dwg. 21B341335 Rev. 0

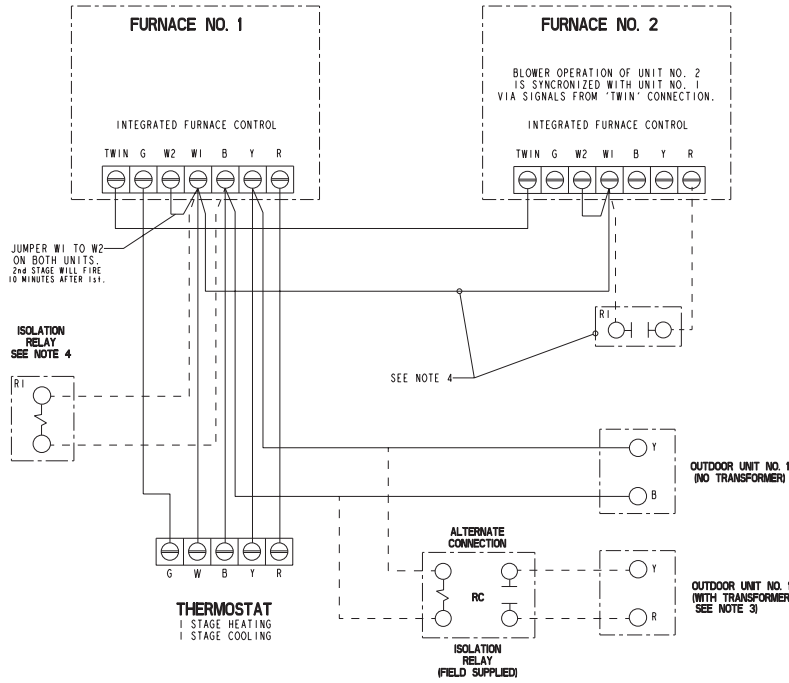
## Field Wiring Diagram For Two Stage Heating/Single Stage Cooling (Outdoor Section Without Transformer)



From Dwg. 21B341334 Rev. 0

# Twinning Field Wiring

**TWINNING CONNECTION DIAGRAM**  
FOR TWINNING UX/DX-R FURNACES  
1 STAGE HEAT / 1 STAGE COOLING THERMOSTAT



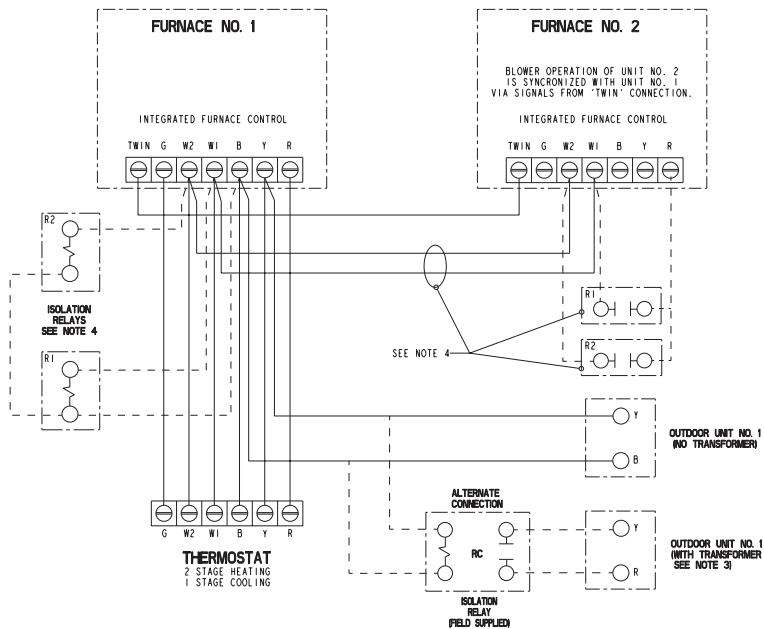
**NOTES:**

1. BOTH FURNACES MUST BE POWERED FROM THE SAME 115 V. LEG OF CIRCUIT PANEL.
2. INSURE 24 V. FURNACE TRANSFORMERS ARE IN PHASE. PRIOR TO COMPLETING CONNECTIONS, CHECK VOLTAGE BETWEEN "R" TERMINALS OF EACH FURNACE. IF VOLTAGE IS GREATER THAN 10 V., REVERSE THE BL AND RD SECONDARY LEADS ON ONE OF THE FURNACE TRANSFORMERS.
3. IF OUTDOOR UNIT HAS A 24 V. TRANSFORMER, AN ISOLATION RELAY MUST BE INSTALLED. (FIELD SUPPLIED - USE PILOT DUTY RELAY ("RC"), SUCH AS RLY0975.) SEE ALT. CONNECTION.
4. IF CURRENT EXCEEDS THERMOSTAT CURRENT RATING, USE ISOLATION RELAYS ("R1") AS SHOWN. (DO NOT CONNECT W1 TO W1). ISOLATION RELAY NOT NEEDED IF THERMOSTAT CONTACTS ARE RATED AT 1.0 A OR ABOVE.

----- ALTERNATE WIRING CONFIGURATION  
SEE NOTE 4.

From Dwg. 21B341336 Rev. 1

**TWINNING CONNECTION DIAGRAM**  
FOR TWINNING UX/DX-R FURNACES  
2 STAGE HEAT / 1 STAGE COOLING THERMOSTAT



**NOTES:**

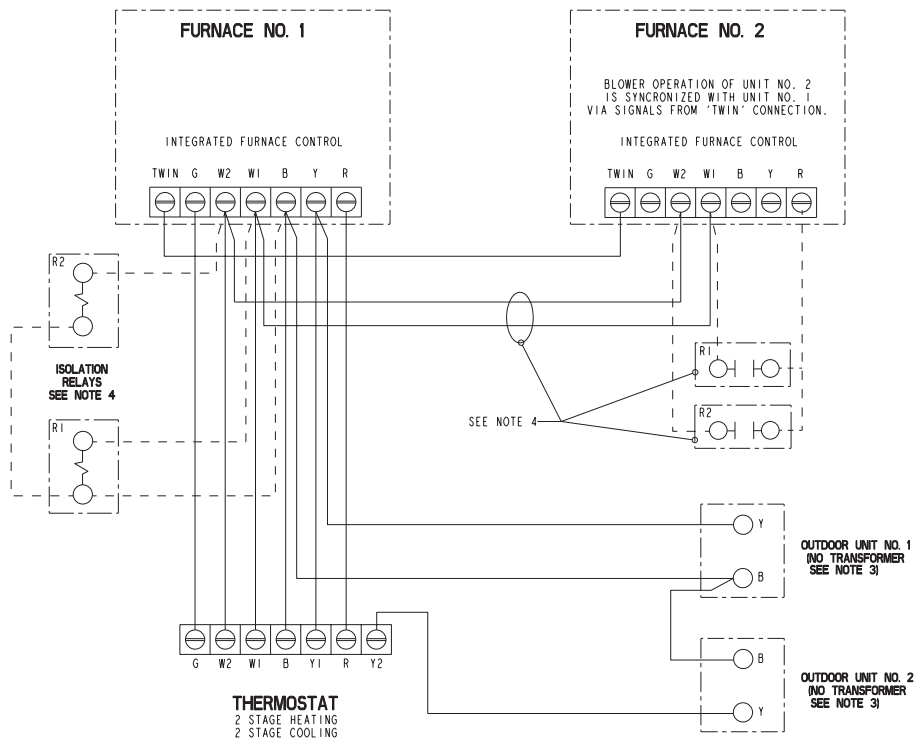
1. BOTH FURNACES MUST BE POWERED FROM THE SAME 115 V. LEG OF CIRCUIT PANEL.
2. INSURE 24 V. FURNACE TRANSFORMERS ARE IN PHASE. PRIOR TO COMPLETING CONNECTIONS, CHECK VOLTAGE BETWEEN "R" TERMINALS OF EACH FURNACE. IF VOLTAGE IS GREATER THAN 10 V., REVERSE THE BL AND RD SECONDARY LEADS ON ONE OF THE FURNACE TRANSFORMERS.
3. IF OUTDOOR UNIT HAS A 24 V. TRANSFORMER, AN ISOLATION RELAY MUST BE INSTALLED. (FIELD SUPPLIED - USE PILOT DUTY RELAY ("RC"), SUCH AS RLY0975.) SEE ALT. CONNECTION.
4. IF CURRENT EXCEEDS THERMOSTAT CURRENT RATING, USE ISOLATION RELAYS ("R1" & "R2") AS SHOWN. (DO NOT CONNECT W1 TO W1 OR W2 TO W2). ISOLATION RELAY NOT NEEDED IF THERMOSTAT CONTACTS ARE RATED AT 1.0 A OR ABOVE.

----- ALTERNATE WIRING CONFIGURATION  
SEE NOTE 4.

From Dwg. 21B341337 Rev. 1

# Twinning Field Wiring

**TWINNING CONNECTION DIAGRAM**  
FOR TWINNING UX/DX-R FURNACES  
2 STAGE HEAT / 2 STAGE COOLING THERMOSTAT



**NOTES:**

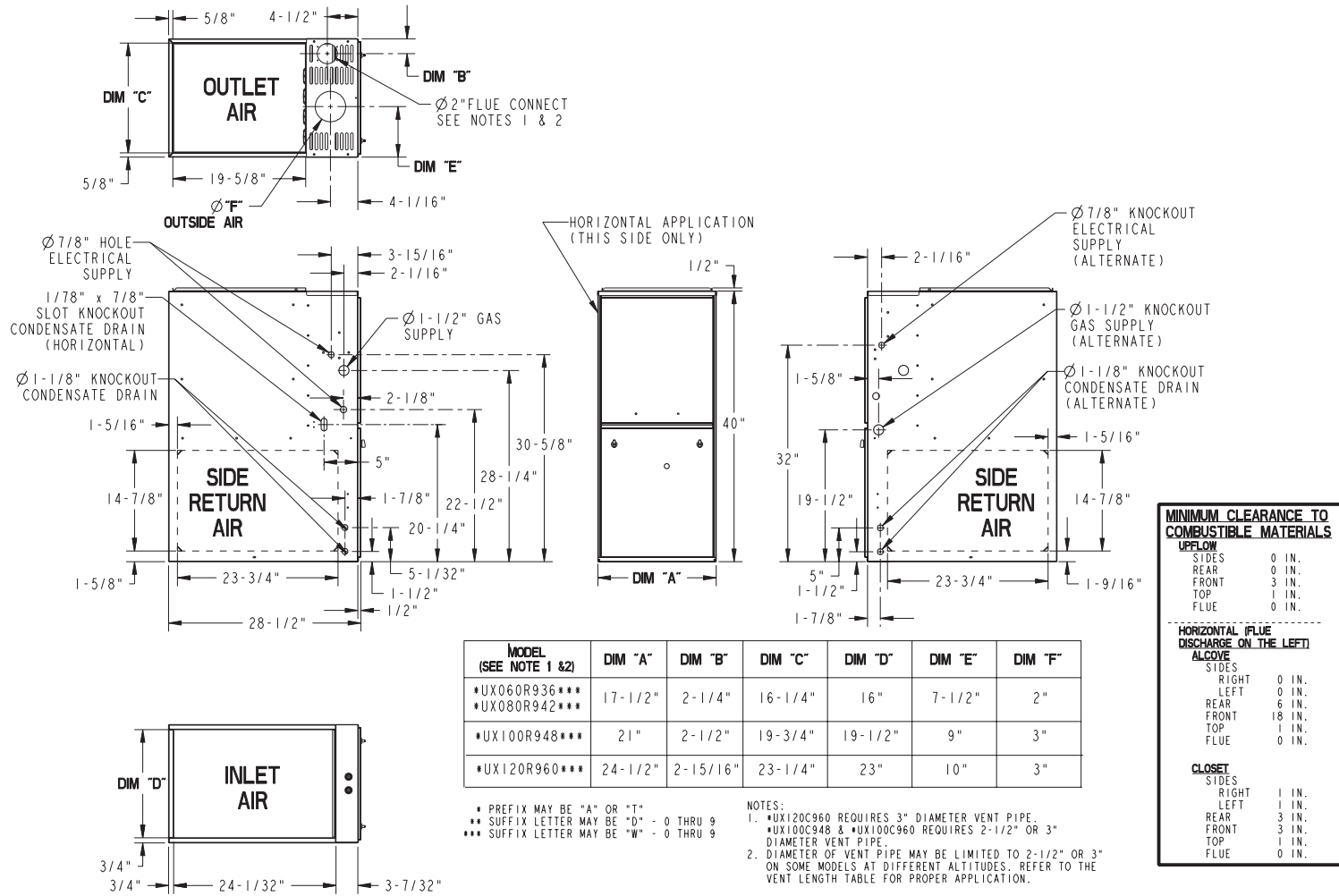
1. BOTH FURNACES MUST BE POWERED FROM THE SAME 115 V. LEG OF CIRCUIT PANEL.
2. INSURE 24 V. FURNACE TRANSFORMERS ARE IN PHASE. PRIOR TO COMPLETING CONNECTIONS, CHECK VOLTAGE BETWEEN "R" TERMINALS OF EACH FURNACE. IF VOLTAGE IS GREATER THAN 10 V., REVERSE THE BL AND R0 SECONDARY LEADS ON ONE OF THE FURNACE TRANSFORMERS.
3. IF OUTDOOR UNIT HAS A 24 V. TRANSFORMER, AN ISOLATION RELAY MUST BE INSTALLED. (FIELD SUPPLIED - USE PILOT DUTY RELAY SUCH AS RLY0975.)
4. IF CURRENT EXCEEDS THERMOSTAT CURRENT RATING, USE ISOLATION RELAYS ("R1" & "R2") AS SHOWN. (DO NOT CONNECT W1 TO W1 OR W2 TO W2). ISOLATION RELAYS NOT NEEDED IF THERMOSTAT CONTACTS ARE RATED AT 1.0 A OR ABOVE.

- - - - ALTERNATE WIRING CONFIGURATION  
SEE NOTE 4.

From Dwg. 21B341338 Rev. 1



### TUX-R-W Outline Drawing (All dimensions are in inches)



MODEL (SEE NOTE 1 & 2)	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"	DIM "F"
*UX060R936*** *UX080R942***	17-1/2"	2-1/4"	16-1/4"	16"	7-1/2"	2"
*UX100R948***	21"	2-1/2"	19-3/4"	19-1/2"	9"	3"
*UX120R960***	24-1/2"	2-15/16"	23-1/4"	23"	10"	3"

- \* PREFIX MAY BE "A" OR "T"
- \*\* SUFFIX LETTER MAY BE "D" - 0 THRU 9
- \*\*\* SUFFIX LETTER MAY BE "W" - 0 THRU 9

- NOTES:
- \*UX120C960 REQUIRES 3" DIAMETER VENT PIPE.  
\*UX100C948 & \*UX100C960 REQUIRES 2-1/2" OR 3" DIAMETER VENT PIPE.
  - DIAMETER OF VENT PIPE MAY BE LIMITED TO 2-1/2" OR 3" ON SOME MODELS AT DIFFERENT ALTITUDES. REFER TO THE VENT LENGTH TABLE FOR PROPER APPLICATION.

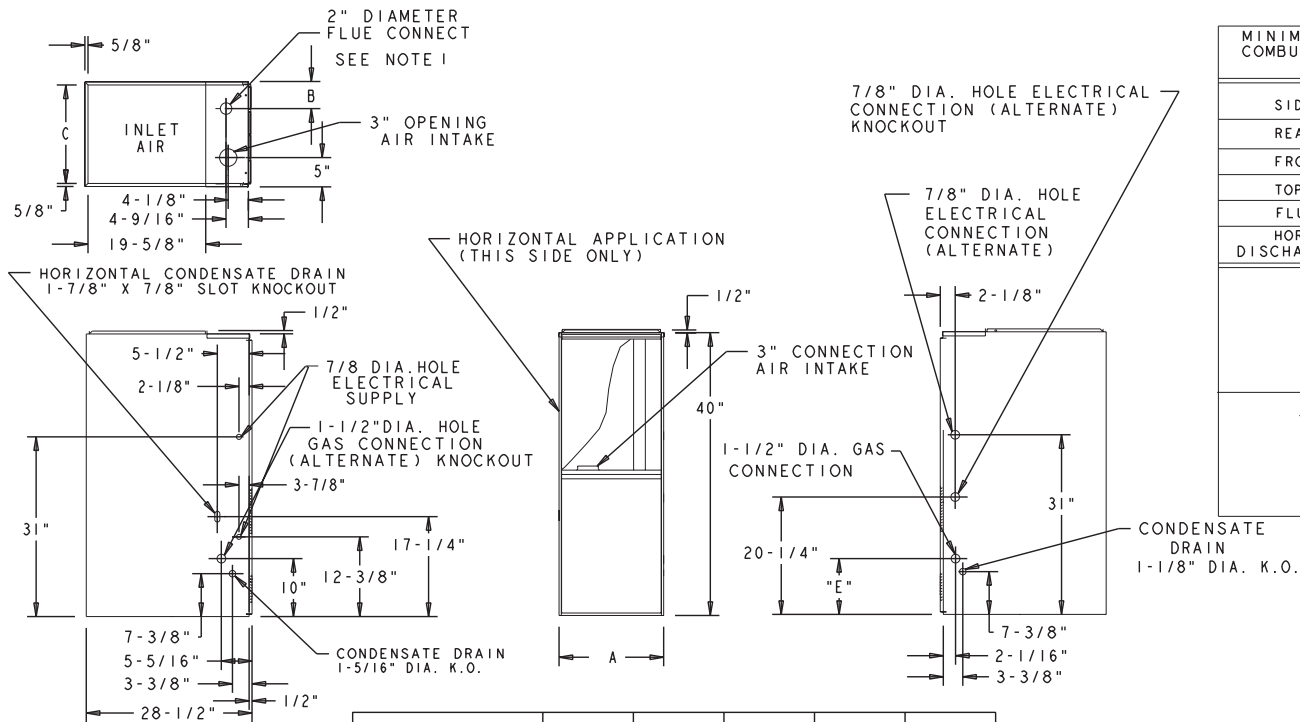
MINIMUM CLEARANCE TO COMBUSTIBLE MATERIALS	
<b>UPFLOW</b>	
SIDES	0 IN.
REAR	0 IN.
FRONT	3 IN.
TOP	1 IN.
FLUE	0 IN.
<b>HORIZONTAL (FLUE DISCHARGE ON THE LEFT)</b>	
<b>ALCOVE</b>	
SIDES	
RIGHT	0 IN.
LEFT	0 IN.
REAR	6 IN.
FRONT	18 IN.
TOP	1 IN.
FLUE	0 IN.
<b>CLOSET</b>	
SIDES	
RIGHT	1 IN.
LEFT	1 IN.
REAR	3 IN.
FRONT	3 IN.
TOP	1 IN.
FLUE	0 IN.

# Dimensions



### TDX-R Outline Drawing

(All dimensions are in inches)



MINIMUM CLEARANCE TO COMBUSTIBLE MATERIALS DOWNFLOW	
SIDES	0"
REAR	0"
FRONT	3"
TOP	1"
FLUE	0"
HORIZONTAL (FLUE DISCHARGE ON THE LEFT)	
ALCOVE	
SIDES	
RIGHT	0"
LEFT	0"
REAR	6"
FRONT	18"
TOP	1"
FLUE	0"
CLOSET	
SIDES	
RIGHT	1"
LEFT	1"
REAR	3"
FRONT	3"
TOP	1"
FLUE	0"

MODEL (SEE NOTES 1)	A	B	C	D	E
-DX060R936* -DX080R942*	17-1/2"	2-1/4"	16-1/4"	16"	9"
-DX100R948*	21"	2-1/2"	19-3/4"	19-1/2"	10"
-DX120R960*	24-1/2"	2-15/16"	23-1/4"	23"	10"

1. DIAMETER OF VENT PIPE MAY BE LIMITED TO 2 1/2" OR 3" ON SOME MODELS AT DIFFERENT ALTITUDES. REFER TO THE VENT LENGTH TABLE FOR PROPER APPLICATION.

\*SUFFIX NUMBER MAY BE "V", 0 THRU 9

# Dimensions

## Notes

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---



**TRANE**<sup>®</sup>

Trane  
A business of  
American Standard Companies  
[www.trane.com](http://www.trane.com)

---

---

---

---

P.I.

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