YORK®

TECHNICAL GUIDE

LX SERIES
SPLIT SYSTEM
AIR CONDITIONERS
13 SEER – R-410A – 3 PHASE
2.5 THRU 5 NOMINAL TONS
MODELS: TCD30 THRU 60

ISO 9001
Certified Quality
Management System

Due to continuous product improvement, specifications are subject to change without notice.

Visit us on the web at
www.upgnet.com and www.york.com

Additional rating information can be found at
www.ahridirectory.org

WARRANTY SUMMARY*

Standard 1-Year limited parts warranty.

Standard 5-Years limited compressor warranty.

*Does not apply to R-22 models or internet sales.

See Limited Warranty certificate in User's Information Manual for details.

DESCRIPTION

The TCD models are the latest iteration in our successful LX Series split system air conditioner lineup. Optimized for the 3 phase 13 SEER National Minimum Efficiency, these outdoor units are specifically designed to be matched with York indoor coils, furnaces, and air handlers to provide a complete system solution.

FEATURES

- **Small Footprint -** Minimum footprint for easier handling, transportation, and installation.
- **Easier Installation -** Independent panels provide quick access for unit setup. Installation time is reduced by easy power and control wiring access. Options are provided for indoor piston or TXV. The factory installed filter-drier and factory charge for a 15-Ft lineset means less time spent brazing and charging the system. The small base dimension and reduced unit clearances make for easier retrofits.
- **Accessible Information -** QR code on unit provides quick access to technical documents and warranty information.
- **Durable Finish -** The coated steel wire fan guard, coated external fasteners, and pre-treated G90-equivalent galvanized steel chassis components resist corrosion and rust creep. Champagne colored powdercoat paint further protects external panels.
- **Quality Coils -** The high efficiency microchannel aluminum coil is manufactured using an improved material system providing reliable performance and small unit size.
- **Rugged Coil Protection -** Coils are protected from mechanical damage by a proven stamped steel coil guard design.
- **Protected Compressor -** Compressors are protected internally by a high pressure relief valve and a temperature sensor, and externally by the system high pressure switch. The liquid line filter-drier is factory installed to protect the compressor against moisture and debris.
- **Reliable Operation -** Ball bearing fan motors provide superior performance in extreme temperatures.
- **Environmentally Friendly -** CFC-free R-410A refrigerant delivers environmentally friendly performance with zero ozone depletion.
- **Top Discharge -** Warm air is blown up, away from the structure and any landscaping and allows compact location on multi-unit applications.
- **Low Operating Sound Levels -** Developed using CFD and FEA tools, the sturdy cabinet and top design provides sound performance of 77 dBA or lower. Compatible accessories for further sound reduction are also available.
- **Better Service Access -** Diagonal base valves with open access for low-loss fittings, single panel access to the electrical controls, swing out control box for full corner access, and removable fan guard allow easy access for unit maintenance.
- **Agency Listed -** Safety certified by CSA to UL 1995 / CSA 22.2. Performance certified to ANSI/AHRI Standard 210/240 in accordance with the Unitary Small Equipment certification program.

LIST OF SECTIONS

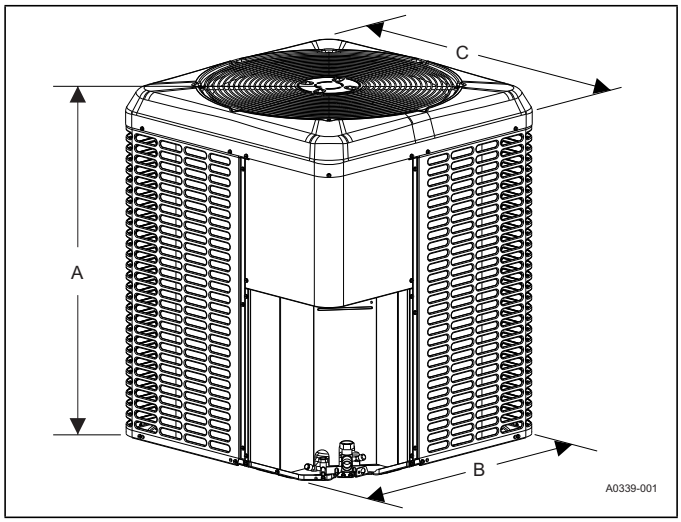
NOMENCLATURE

BRAND	**T**	**T** = Factory Branded
PRODUCT TYPE	**C**	**C** = Air Conditioner
NOMINAL SERIES EFFICIENCY AND STAGING	**D**	**D** = 13 SEER / 1-Stage (US Northern Region)
NOMINAL UNIT CAPACITY (MBH)	**36**	**30** = 2.5 Ton **48** = 4 Ton **36** = 3 Ton **60** = 5 Ton **42** = 3.5 Ton
REFRIGERANT	**B**	**B** = R-410A
VOLTAGE (Voltage-Phase-Hertz)	**3**	**3** = 208/230-3-60 **4** = 460-3-60 **5** = 575-3-60
GENERATION (MAJOR REVISION)	**1**	**1** = 1st Gen **2** = 2nd Gen **etc**
FACTORY OPTION	**S**	**S** = Standard (No Options)
STYLE LETTER (MINOR REVISION) NOT USED FOR ORDERING	**A**	**A** = Style A **B** = Style B **etc**

PHYSICAL AND ELECTRICAL DATA

MODEL		TCD30 B31S	TCD36 B31S	TCD42 B31S	TCD48 B31S	TCD60 B31S	TCD30 B41S	TCD36 B41S	TCD42 B41S	TCD48 B41S	TCD60 B41S	TCD36 B51S	TCD48 B51S	TCD60 B51S
Unit Supply Voltage		208-230V, 3ϕ, 60Hz					460V, 3ϕ, 60Hz					575V, 3ϕ, 60Hz		
Normal Voltage Range [1]		187 to 252					432 to 504					540 to 630		
Minimum Circuit Ampacity		11.5	12.1	16.1	18.4	21.2	5.8	6.3	7.1	8.4	10.3	5.4	6.6	7.7
Max. Overcurrent Device Amps [2]		20	20	25	30	35	15	15	15	15	15	15	15	15
Min. Overcurrent Device Amps [3]		15	15	20	20	25	15	15	15	15	15	15	15	15
Compressor	Type	Recip	Recip	Recip	Scroll	Scroll	Recip	Recip	Recip	Scroll	Scroll	Recip	Scroll	Scroll
	Rated Load	8.6	8.6	11.8	13.7	15.9	4.3	4.5	5.2	6.2	7.7	3.8	4.8	5.7
	Locked Rotor	63.0	68.0	88.0	83.1	110.0	30.0	34.0	44.0	41.0	52.0	28.0	33.0	38.9
Crankcase Heater		No	No	No	No	No	No	No	No	No	No	No	No	No
Factory External Discharge Muffler		No	No	Yes	No	No	No	No	Yes	No	No	No	No	No
Fan Diameter Inches		22	22	24	24	26	22	22	24	24	26	22	24	26
Fan Motor	Rated HP	1/8	1/4	1/4	1/4	1/4	1/8	1/4	1/4	1/4	1/4	1/4	1/4	1/4
	Rated Load Amps	0.80	1.30	1.30	1.30	1.30	0.40	0.65	0.65	0.65	0.65	0.58	0.58	0.58
	Nominal RPM	1075	850	850	850	850	1075	850	850	850	850	850	850	850
	Nominal CFM	2950	3275	3500	3500	4300	2850	3200	3650	3650	4075	3300	3550	4125
Coil	Face Area Sq. Ft.	13.83	17.37	18.74	18.74	23.40	13.83	17.37	18.74	18.74	23.40	17.37	18.74	23.40
	Rows Deep	1	1	1	1	1	1	1	1	1	1	1	1	1
	Fins / Inch	23	23	23	23	23	23	23	23	23	23	23	23	23
Liquid Line Set OD (Field Installed)		3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Vapor Line Set OD (Field Installed)[4]		3/4	3/4	7/8	7/8	1-1/8‡	3/4	3/4	7/8	7/8	1-1/8‡	3/4	7/8	1-1/8‡
Unit Charge (Lbs. - Oz.) [5]		4 - 3	4 - 14	5 - 2	4 - 15	5 - 12	4 - 3	4 - 14	5 - 2	4 - 15	5 - 12	4 - 14	4 - 15	5 - 12
Charge Per Foot, Oz.		0.62	0.62	0.67	0.67	0.75	0.62	0.62	0.67	0.67	0.75	0.62	0.67	0.75
Operating Weight Lbs.		155	180	215	200	205	155	180	215	200	205	180	200	205

1. Rated in accordance with AHRI Standard 110-2012, utilization range “A”.
2. Dual element fuses or HACR circuit breaker. Maximum allowable overcurrent protection.
3. Dual element fuses or HACR circuit breaker. Minimum recommended overcurrent protection.
4. For applications with non-standard vapor line sizes, see the “Applications & Accessories” section of this Technical Guide.
5. The Unit Charge is correct for the outdoor unit, smallest matched indoor unit, and 15 feet of refrigerant tubing. For tubing lengths other than 15 feet, add or subtract the amount of refrigerant, using the difference in actual lineset length (not the equivalent length) multiplied by the per foot value.



DIMENSIONS

Unit Model	Dimensions (Inches)			Refrigerant Connection Service Valve Size	
	A	B	C	Liquid	Vapor
TCD30B(3,4)1S	30	29-1/4	29-1/4	3/8	3/4
TCD36B(3,4,5)1S	36-1/4	29-1/4	29-1/4		
TCD42B(3,4)1S	33-1/4	35-1/4	31-3/4		7/8
TCD48B(3,4,5)1S	33-1/4	35-1/4	31-3/4		
TCD60B(3,4,5)1S	36-1/4	38	34-1/4		7/8‡

‡ Adapter fitting must be field installed for the required 1-1/8” line set.
All dimensions are in inches and are subject to change without notice.
Overall height is from bottom of base pan to top of fan guard.
Overall length and width include screw heads.

PERFORMANCE DATA - 5 TON 230 Volt

CONDENSER-ONLY DATA (OUTDOOR UNIT)																		
MODEL	SATURATED SUCTION @ COMPRESSOR		Outdoor Ambient Temperature															
			55 °F		65 °F		75 °F		85 °F		95 °F		105 °F		115 °F		125 °F	
	T (°F)	P (PSIG)	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW	MBH	KW
TCD60B31S	35	107	54.6	3.04	51.8	3.36	49.1	3.72	46.3	4.13	43.4	4.61	40.4	5.16	37.2	5.77	33.7	6.48
	40	118	60.1	3.07	57.1	3.38	54.1	3.74	51.1	4.14	48.0	4.61	44.7	5.16	41.2	5.78	37.5	6.48
	45	130	65.9	3.11	62.7	3.41	59.5	3.75	56.3	4.16	52.9	4.61	49.3	5.16	45.6	5.78	41.6	6.47
	50	142	72.2	3.15	68.7	3.44	65.3	3.78	61.8	4.17	58.1	4.62	54.3	5.16	50.2	5.79	45.9	6.47
	55	156	78.7	3.21	75.1	3.49	71.4	3.82	67.6	4.19	63.7	4.64	59.5	5.17	55.1	5.80	50.6	6.46

Notes:

1. For Outdoor Unit (Condenser) performance only. Data does not include the effects of air handler power or heat.
2. Performance based on 15°F subcooling and 15°F superheat at the Outdoor Unit base valves.
   a. Increase capacity by 1% for each 2°F increase in subcooling.
   b. Decrease capacity by 1% for each 2°F decrease in subcooling.
3. Maximum recommended condensing temperature is 140°F.

COOLING PERFORMANCE DATA																
OUTDOOR UNIT MODEL NO.		TCD60B31S														
INDOOR COIL MODEL NO.		CF60CXA1														
AIR TEMP. ENTERING OUTDOOR UNIT (°F)	ID CFM	1535					1735					1935				
	ID DB (°F)	80	80	75	80	80	80	80	75	80	80	80	80	75	80	80
	ID WB (°F)	57	62	62	67	72	57	62	62	67	72	57	62	62	67	72
55	T.C.	55.3	58.7	59.6	63.7	66.8	57.5	59.6	60.2	64.3	67.1	59.7	60.5	60.7	65.0	67.5
	S.C.	55.3	49.6	44.3	43.0	33.6	57.5	52.4	46.2	44.3	34.5	59.7	55.2	48.1	45.7	35.4
	KW	3.10	3.14	3.13	3.15	3.17	3.19	3.22	3.21	3.24	3.25	3.27	3.30	3.29	3.32	3.33
65	T.C.	54.1	57.2	57.2	62.0	65.7	56.1	58.2	58.0	62.9	66.4	58.0	59.1	58.9	63.8	67.1
	S.C.	54.1	49.2	42.6	41.9	33.0	56.1	52.1	44.9	43.7	34.1	58.0	54.9	47.2	45.5	35.1
	KW	3.43	3.46	3.45	3.47	3.48	3.51	3.54	3.53	3.55	3.56	3.59	3.62	3.61	3.63	3.64
75	T.C.	52.9	55.6	54.7	60.3	64.7	54.6	56.7	55.9	61.5	65.7	56.4	57.8	57.1	62.6	66.8
	S.C.	52.9	48.9	40.9	40.9	32.5	54.6	51.7	43.6	43.2	33.7	56.4	54.6	46.3	45.4	34.8
	KW	3.76	3.78	3.77	3.78	3.78	3.84	3.86	3.85	3.86	3.86	3.91	3.93	3.92	3.94	3.94
85	T.C.	50.4	53.2	52.1	57.9	62.4	52.1	54.2	53.4	58.7	63.3	53.7	55.1	54.7	59.6	64.1
	S.C.	50.4	47.4	39.6	39.9	31.5	52.1	50.2	42.3	42.1	32.6	53.7	52.9	45.0	44.2	33.8
	KW	4.22	4.25	4.25	4.24	4.23	4.30	4.32	4.31	4.31	4.30	4.37	4.39	4.38	4.39	4.38
95	T.C.	47.9	50.8	49.6	55.4	60.2	49.5	51.6	50.9	56.0	60.8	51.1	52.5	52.3	56.6	61.4
	S.C.	47.9	46.0	38.3	38.9	30.5	49.5	48.6	41.0	41.0	31.6	51.1	51.2	43.7	43.1	32.7
	KW	4.69	4.71	4.72	4.70	4.67	4.75	4.78	4.78	4.77	4.75	4.82	4.84	4.84	4.83	4.82
105	T.C.	46.0	47.7	46.1	52.4	57.0	47.5	48.6	47.5	53.0	57.4	49.0	49.6	48.8	53.6	57.8
	S.C.	46.0	44.5	36.4	37.6	29.1	47.5	46.9	39.0	39.7	30.2	49.0	49.3	41.7	41.8	31.4
	KW	5.49	5.51	5.51	5.47	5.41	5.52	5.56	5.57	5.53	5.48	5.56	5.61	5.63	5.58	5.56
115	T.C.	44.1	44.7	42.8	49.5	53.8	45.5	45.7	44.1	50.1	54.0	46.9	46.7	45.4	50.7	54.2
	S.C.	44.1	43.0	34.6	36.3	27.7	45.5	45.3	37.1	38.4	28.9	46.9	46.7	39.7	40.5	30.0
	KW	6.26	6.29	6.28	6.22	6.13	6.27	6.32	6.34	6.26	6.20	6.28	6.36	6.39	6.31	6.28
125	T.C.	42.3	41.8	39.4	46.5	50.7	43.6	42.8	40.7	47.2	50.7	44.9	43.9	42.0	47.8	50.7
	S.C.	42.3	41.6	32.7	35.0	26.4	43.6	42.8	35.2	37.1	27.5	44.9	43.9	37.8	39.3	28.7
	KW	7.03	7.07	7.05	6.96	6.84	7.02	7.08	7.10	7.00	6.92	7.00	7.10	7.15	7.04	7.00
ALL CAPACITIES INCLUDE INDOOR FAN HEAT. KW VALUES ARE FOR THE SYSTEM (OUTDOOR + INDOOR).																
Green shaded cells are ACCA (TVA) conditions.																
Blue shaded cells are AHRI conditions.																

Multipliers for determining the performance with other indoor sections.

NOTE: For dry bulb temperatures different than those listed (between 73-87 °F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree below the listed temperature.