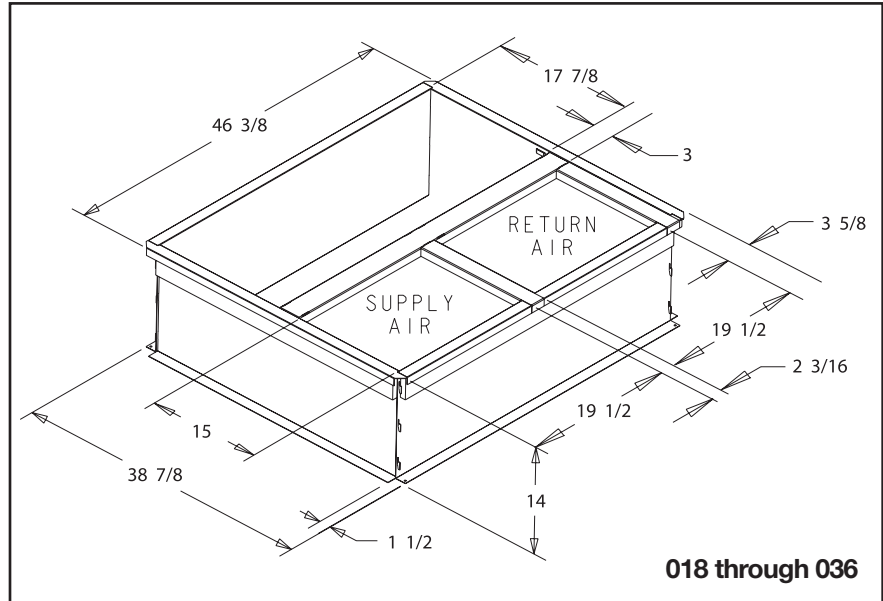


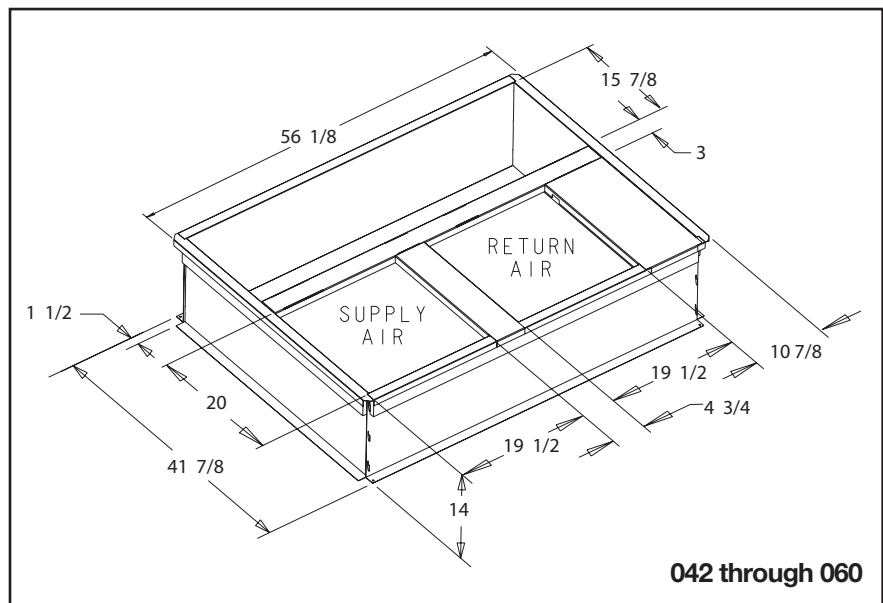
Roof Curbs

BAYCURB050A FULL PERIMETER ROOF MOUNTING CURB OUTLINE



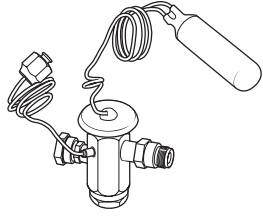
Model Number	Used With
BAYCURB050	*YC*, *WC*, *TC*, *DC**018-036
BAYCURB051	*YC*, *WC*, *DC*, *TC**042-060

BAYCURB051A FULL PERIMETER ROOF MOUNTING CURB OUTLINE





It's Hard To Stop A Trane.®



Expansion Valve TXV Cooling/Heat Pump Kit

General Information

This Thermostatic Expansion Valve Kit may be used on any indoor air handler or coil that is equipped with a current thermostatic expansion valve with an internal check valve and mechanical fittings. This kit can be used on split system heat pumps and air conditioning systems.

Thermostatic Expansion Valve Kits can be field installed to fit a variety of sizes and combinations of air handlers or coils and outdoor units to optimize performance.

This TXV kit will normally be used when a different refrigerant is going to be used in the air handler or coil than what is indicated on the unit name plate. The TXV type must always match the refrigerant type used in the outdoor unit.

Kit Identification

The first character in the kit model number indicates the type of refrigerant that the valve can be used with. Example a 2AYTXVH3D1830A is an R-22 valve.

The "3" in the eighth digit in the model number identifies the valve as a non-bleed TXV. When this TXV kit is installed with an outdoor unit that contains a reciprocating compressor, the outdoor unit must be equipped with a hard start kit if not factory installed. If the outdoor unit contains a scroll compressor, the installation of a hard start kit may be required.

Inspection

Check carefully for any shipping damage. Any such damage must be reported and claims made against the transportation company immediately. Any missing parts should be reported to your supplier at once and replaced with authorized parts only.

Thermal Expansion Valves

Table AC/IN-2-A Cooling/Heat Pump Non-Bleed TXV Kits- Dual Direction Flow-TXA/C-BC Coils

R-410 Model Number	R-22 Model Numbers	Used With 13 SEER Coils
4AYTXVH3D1831A	2AYTXVH3C1818A	2/4TXC, TXA018
4AYTXVH3D1831A	2AYTXVH3C2425A	2/4TXC, TXA024,025
4AYTXVH3D1831A	2AYTXVH3C3031A	2/4TXC, TXA031
4AYTXVH3D3343A	—	4TXC, 4TXA-032
4AYTXVH3D3343A	2AYTXVH3C3337A	2/4TXC, TXA036,037
4AYTXVH3D3343A	2AYTXVH3C4243A	2/4TXC, TXA042,043
4AYTXVH3D4863A	—	4TXC, 4TXA-044
4AYTXVH3D4863A	2AYTXVH3C4850A	2/4TXC, TXA048,049,050
4AYTXVH3D4863A	2AYTXVH3C5463A	2/4TXC, TXA060,061,064

Table AC/IN-2-B Cooling/Heat Pump Non-Bleed TXV Kits- Dual Direction Flow

R-410 Model Number	R-22 Model Numbers	Used With Horizontal Flat Coils
4AYTXVH3D1831A	2AYTXVH3C1818A	2/4TXF-018
4AYTXVH3D3343A	2AYTXVH3C3337A	2/4TXF-033
4AYTXVH3D3343A	2AYTXVH3C4243A	2/4TXF-041
4AYTXVH3D4863A	2AYTXVH3C5463A	2/4TXF-054
4AYTXVH3D4863A	2AYTXVH3C5463A	2/4TXF-063

Table AC/IN-2-C Cooling/Heat Pump Non-Bleed TXV Kits- Dual Direction Flow-TXA/C-AS Coils

R-410 Model Number	R-22 Model Numbers	Used With Aluminum Coils
4AYTXVH3B2531A	2AYTXVH3B2531A	2/4TXA, TXC-025
4AYTXVH3B2531A	2AYTXVH3B2531A	2/4TXA, TXC-031
4AYTXVH3B3654A	2AYTXVH3B3637A	2/4TXA, TXC-036
4AYTXVH3B3654A	2AYTXVH3B3637A	2/4TXA, TXC-037
4AYTXVH3B3654A	2AYTXVH3B5454A	2/4TXA, TXC-054
4AYTXVH3B6165A	2AYTXVH3B6565A	2/4TXA, TXC-065

Table AC/IN-2-D Cooling/Heat Pump Non-Bleed TXV Kits – Dual Direction Flow 4NXA/4NXC

R-22 Model Number	Used With 4NXA & 4NXC Coils
2AYTXVH3E1824AA	4NXA, NXC – 018 - 024
2AYTXVH3E2536AA	4NXA, NXC – 025 - 036
2AYTXVH3E6363AA	4NXC - 063

Table AC/IN-2-E Cooling/Heat Pump Non-Bleed TXV Kits- Dual Direction Flow-TXA/C-BC Coils

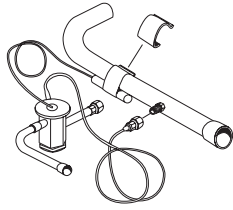
R-410 Model Number	R-22 Model Numbers	Used With Air Handlers
4AYTXVH3D1830A	2AYTXVH3D1830A	2TFB-018-030
4AYTXVH3D1831A	2AYTXVH3D1830A	2TFB-036
4AYTXVH3D1831A	2AYTXVH3D1830A	2/4TFE-025
4AYTXVH3D1831A	2AYTXVH3D1830A	2/4TEC-018-030
—	2AYTXVH3D3636A	2/4TEC-036
4AYTXVH3D3642A	—	2/4TEC-036-042
—	2AYTXVH3D4260A	2/4TEC-042-060
4AYTXVH3D4863A	—	2/4TEC-048-060
4AYTXVH3D1831A	2AYTXVH3D1830A	2/4TEH-018-030
—	2AYTXVH3D3636A	4TEH-036
4AYTXVH3D3642A	—	2TEH-036-042
—	2AYTXVH3D4260A	4TEH-042-060
4AYTXVH3D4863A	—	2TEH-048-060
4AYTXVH3D1800A	2AYTXVH3D1830A	2/4TGB-018
4AYTXVH3D1830A	2AYTXVH3D1830A	2/4TGB-025
4AYTXVH3D1831A	2AYTXVH3D1830A	2/4TGB-030
4AYTXVH3D3600A	2AYTXVH3D1830A	2/4TGB-036
4AYTXVH3D3343A	2AYTXVH3D4260A	2/4TGB-042
4AYTXVH3D4863A	2AYTXVH3D4260A	2/4TGB-048
4AYTXVH3D3642A	2AYTXVH3D4260A	2/4TEE-039
4AYTXVH3D4863A	2AYTXVH3D4260A	2/4TEE-048-064

For complete equipment / combination selections, installation instructions and warranty information, please refer to Product Data/Ratings and/or Installers Guides and Limited Warranty Handbooks.



It's Hard To Stop A Trane.®

Thermal Expansion Valves



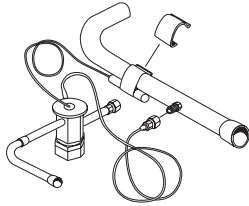
Expansion Valve TXV Cooling Kit

Table AC/IN-3-A – Cooling Bleed TXV Kits – Single Direction Flow

Model Number	Used With AC Units	Liquid Line Connection Dia. I.D. (In.)	Gas Line Connection Dia. I.D. (In.)	Shipping Weight (lbs.)	Refrigerant
TAYTXVA0B5C	1-1½ Ton	1/4	5/8	2	R-22
TAYTXVA0C5C	2-2½ Ton	5/16	3/4	2	R-22
TAYTXVA0E5C	3-3½ Ton	3/8	7/8	2	R-22
TAYTXVA0G5C	4 Ton	3/8	11/8	2	R-22
TAYTXVA0H5C	5-6 Ton	3/8	11/8	2	R-22

Table AC/IN-3-B – Cooling Non-Bleed TXV Kits – Single Direction Flow

Model Number	Used With AC Units	Liquid Line Connection Dia. I.D. (In.)	Gas Line Connection Dia. I.D. (In.)	Shipping Weight (lbs.)	Refrigerant
TAYTXVA0B3C	1-1½ Ton	1/4	5/8	2	R-22
TAYTXVA0C3C	2-2½ Ton	5/16	3/4	2	R-22
TAYTXVA0E3C	3-3½ Ton	3/8	7/8	2	R-22
TAYTXVA0G3C	4 Ton	3/8	11/8	2	R-22
TAYTXVA0H3C	5-6 Ton	3/8	11/8	2	R-22



Expansion Valve TXV Heat Pump Kit*

Table AC/IN-3-C – Heat Pump Non- Bleed TXV Kits (also for cooling) – Dual Direction Flow

Model Number	Used With AC Units	Liquid Line Connection Dia. I.D. (In.)	Gas Line Connection Dia. I.D. (In.)	Shipping Weight (lbs.)	Refrigerant
TAYTXVH0B3C	1-1½ Ton	1/4	5/8	3	R-22
TAYTXVH0C3C	2-2½ Ton	5/16	3/4	3	R-22
TAYTXVH0E3C	3-3½ Ton	3/8	7/8	3	R-22
TAYTXVH0G3C	4 Ton	3/8	11/8	3	R-22
TAYTXVH0H3C	5-6 Ton	3/8	11/8	3	R-22

Table AC/IN-3-D – Cooling/Heat Pump Non-Bleed TXV Kits - Dual Direction Flow*

Model Number	Used With AC Units	Liquid Line Connection Dia. I.D. (In.)	Gas Line Connection Dia. I.D. (In.)	Shipping Weight (lbs.)	Refrigerant
AYTXVH0D3C	2½ -3 Ton	3/8	11/8	2	R-22
TAYTXVH0G3C	4-5 Ton	3/8	11/8	2	R-22

Table AC/IN-3-E – R-410A Heat Pump Non-Bleed TXV Kits (also for cooling) - Dual direction flow

Model Number	Used With HP/AC Units	Liquid Line Connection Dia. I.D. (In.)	Gas Line Connection Dia. I.D. (In.)	Shipping Weight (lbs.)	Refrigerant
4AYTXVH3A1830A	1½-2½ Ton	5/16 ^①	3/4 ^②	2	R-410A
4AYTXVH3A3654A	3-4 Ton	3/8	7/8 ^③	2	R-410A
4AYTXVH3A6060A	5 Ton	3/8	7/8	2	R-410A

- ① 1 1/2 ton requires 1/4" liquid line; reducer fittings provided.
- ② 1 1/2 ton requires 1/2" suction line, 2 ton requires 5/8; reducer fittings provided.
- ③ 3 & 3 1/2 ton requires 3/4" suction line; reducer fitting provided.

* Used with TXH coils only where approved for use with 2 compressor systems.

Notes:

- Use in place of FCCV (Above) on air handlers and coils
- Match TXV kit size to outdoor nominal cooling capacity
- Braze field connections

For complete equipment / combination selections, installation instructions and warranty information, please refer to Product Data/Ratings and/or Installers Guides and Limited Warranty Handbooks.



It's Hard To Stop A Trane.®

Equipment Date Identification

1980 – 2025

The nine (1980 thru 2004) digit serial numbers and all current ten (2004 to present) digit serial numbers on all Trane central air conditioning and heating products are employed to identify the year and fiscal week of product manufacture.

Year of manufacture First digit..... **M124X04CF**
 Fiscal week of manufacture..... Second and third digit **M124X04CF**
 Day of week of manufacture..... Fourth digit **M124X04CF**
 Consecutive order of production Last Five digits **M124X04CF**

Exception – Accessories are an exception to the ten digit serial number assignment and may have only three digits to indicate date code. Coils which have only three digits to indicate date code are an exception to the nine digit serial number assignment.

Year	Residential, ID & OD ^① Light Commercial Products & Compressors	Ducane Oil ^① Horizontal Gas Furnaces ^②	Year	Residential, ID & OD ^① Light Commercial Products & Compressors	Ducane Oil ^① Horizontal Gas Furnaces ^②	Year	Residential, ID & OD ^① Light Commercial Products & Compressors	Ducane Oil ^① Horizontal Gas Furnaces ^②
1980	O, A	L	1997	M	97	2014	14	—
1981	T	M	1998	N	98	2015	15	—
1982	U	N	1999	P	99	2016	16	—
1983	W	9	2000	R	—	2017	17	—
1984	X	Q	2001	Z	—	2018	18	—
1985	Y	85	2002	2	—	2019	19	—
1986	S	86	2003	3	—	2020	20	—
1987	B	87	2004	4	—	2021	21	—
1988	C	88	2005	5	—	2022	22	—
1989	D	89	2006	6	—	2023	23	—
1990	E	90	2007	7	—	2024	24	—
1991	F	91	2008	8	—	2025	25	—
1992	G	92	2009	9 or 09	—			
1993	H	93	2010	10	—			
1994	J	94	2011	11	—			
1995	K	95	2012	12	—			
1996	L	96	2013	13	—			

① Beginning with 1/1/96 (L01) Ducane oil furnace production uses same date code method as gas furnace. Prior to 1/1/96 Ducane serial number used last four digits = date code, example HA1234569540 1995, 40th week.

Example: 123456-8 5 4 0

Year of manufacture _____ Fiscal week of manufacture _____

② Dedicated horizontal gas furnaces, production ceased after introduction of convertible furnaces.

Digit	Description	Current Digit Value Options
1 ST	Second to Last integer of the current calendar year	1 through 9 and blank space, Blank Space used when 0 (zero)
2 ND	Last integer of the current calendar year	0 through 9
3 RD	Fiscal Week (Tens numeral)	0 through 5
4 TH	Fiscal Week (Units numeral)	0 through 9
5 TH	Day of the Week	1 through 7
6 TH	Time Stamp	A through Z and 0 through 9, excluding I, O, Q, V, Y, and Z
7 TH	Time Stamp	A through Z and 0 through 9, excluding I, O, Q, V, Y, and Z
8 TH	Time Stamp	A through Z and 0 through 9, excluding I, O, Q, V, Y, and Z
9 TH	Assembly Line Designator	A through Z and 0 through 9, excluding I, O, Q, V, Y, and Z
10 TH	Plant Code	A, D, F, G, H, V, Y, X

Plant Codes: (starting around 1995)
A = Monterrey
D = Springhill, LA (used to be the last character of a 10 digit serial on Ft. Smith products when they were sold commercially back in the late 1980's)
F = Tyler, TX
G = Trenton, NJ
H = Ft. Smith, AR
L = Lynn Haven, FL
V = Vidalia, GA
X = Sourced products

Accessories/Information

For complete equipment / combination selections, installation instructions and warranty information, please refer to Product Data/Ratings and/or Installers Guides and Limited Warranty Handbooks.



It's Hard To Stop A Trane.®

Refrigerant Line Sets

SCAN HERE

for the Refrigerant Piping Program Application to learn more about alternative application line set sizes.



Table AC/IN-5-A — Refrigerant Line Sets

Model Number	Gas Line ^{①②} Dia. O.D.	Liquid Line Dia. O.D. Length	Shipping Weight
TAYREFLN325	7/8	3/8 25	20
TAYREFLN330	7/8	3/8 30	24
TAYREFLN340	7/8	3/8 40	30
TAYREFLN350	7/8	3/8 50	39
TAYREFLN725	3/4	3/8 25	19
TAYREFLN730	3/4	3/8 30	22
TAYREFLN740	3/4	3/8 40	28
TAYREFLN750	3/4	3/8 50	35
TAYREFLN950	5/8	3/8 50	30

① Gas line 90° bend one end.

② Gas line insulation 3/4" thickness.

Note: Contains a holding charge of Nitrogen.

Table AC/IN-5-B — Refrigerant Line Sets

Model Number	Res Old Accs Part Number	Gas Line Dia. O.D.	Liquid Line Dia.O.D.	Length	Insulation	Insulation Type	Bend	Plain Ends	Flare Fittings	Shipping Weight (per carton)
KIT17586		3/4"	3/8"	50	1/2"	Ez Pull	No	Yes	No	25
KIT16990	TAYREFLN750	3/4"	3/8"	50	1/2"	Standard	No	Yes	No	25
KIT17583		3/4"	3/8"	35	1/2"	Ez Pull	No	Yes	No	19
KIT17000	TAYREFLN730	3/4"	3/8"	30	1/2"	Standard	No	Yes	No	16
KIT16980		3/4"	3/8"	50	3/8"	Standard	No	Yes	No	24
KIT17001		3/4"	3/8"	35	3/8"	Standard	No	Yes	No	17
KIT17596		7/8"	3/8"	50	1/2"	Ez Pull	No	Yes	No	32
KIT16992	TAYREFLN350	7/8"	3/8"	50	1/2"	Standard	No	Yes	No	32
KIT17593		7/8"	3/8"	35	1/2"	Ez Pull	No	Yes	No	23
KIT17006	TAYREFLN330	7/8"	3/8"	30	1/2"	Standard	No	Yes	No	20
KIT16978		7/8"	3/8"	50	3/8"	Standard	No	Yes	No	31
KIT17002		7/8"	3/8"	35	3/8"	Standard	No	Yes	No	22
KIT17656	TAYREFLN965	5/8"	3/8"	50	1/2"	Mini Split Ez Pull	No	No	Yes	24
KIT17655	TAYREFLN960	5/8"	3/8"	25	1/2"	Mini Split Ez Pull	No	No	Yes	13
KIT17650	TAYREFLN060	3/8"	1/4"	50	1/2"	Mini Split Ez Pull	No	No	Yes	15
KIT17649	TAYREFLN050	3/8"	1/4"	25	1/2"	Mini Split Ez Pull	No	No	Yes	9
KIT17652	TAYREFLN570	1/2"	1/4"	50	1/2"	Mini Split Ez Pull	No	No	Yes	18
KIT17651	TAYREFLN560	1/2"	1/4"	25	1/2"	Mini Split Ez Pull	No	No	Yes	10
KIT17806	TAYREFLN165	5/8"	1/4"	50	1/2"	Mini Split Ez Pull	No	No	Yes	22
KIT17805	TAYREFLN155	5/8"	1/4"	25	1/2"	Mini Split Ez Pull	No	No	Yes	12
KIT17715		3/8"	NO	164	1/2"	Ez Pull	No	Yes	No	25
KIT17906		1/4"	NO	164	1/2"	Ez Pull	No	Yes	No	19
KIT17907		1/2"	NO	164	1/2"	Ez Pull	No	Yes	No	35
KIT17723		5/8"	NO	164	1/2"	Ez Pull	No	Yes	No	46

Accessories/Information

For complete equipment / combination selections, installation instructions and warranty information, please refer to Product Data/Ratings and/or Installers Guides and Limited Warranty Handbooks.

Refrigerant HFC 410A (R-410A)

Tables contain no allowances for vertical lift!

Table AC/IN-6-A – Liquid Line Selection Table for R-410A Single Speed Systems

Maximum Allowable Liquid Line Pressure Drop =

Subtract .43 PSI for each foot of Liquid Lift (if any)

Do Not Exceed this value when selecting Liquid Line.

Tube O.D.	Rated BTUH	Pressure Drop (PSI) For Total Equivalent Length											
		20'	40'	60'	80'	100'	120'	140'	160'	180'	200'	220'	240'
1/4"	15000	4.5	9.0	13.6	18.1	22.6	27.1	31.6	36.2	40.7	45.2	49.7	—
	18000	6.3	12.6	18.8	25.1	31.4	37.7	44.0	—	—	—	—	—
	24000	15.4	30.8	46.2	—	—	—	—	—	—	—	—	—
5/16"	15000	1.2	2.4	3.5	4.7	5.9	7.1	8.3	9.4	10.6	11.8	13.0	14.2
	18000	1.6	3.3	4.9	6.6	8.2	9.8	11.5	13.1	14.8	16.4	18.0	19.7
	24000	2.8	5.5	8.3	11.0	13.8	16.6	19.3	22.1	24.8	27.6	30.4	33.1
	30000	4.1	8.3	12.4	16.6	20.7	24.8	29.0	33.1	37.3	41.4	45.5	49.7
	36000	5.8	11.6	17.3	23.1	28.9	34.7	40.5	46.2	—	—	—	—
	42000	7.7	15.4	23.0	30.7	38.4	46.1	—	—	—	—	—	—
3/8"	24000	1.0	1.9	2.9	3.8	4.8	5.8	6.7	7.7	8.6	9.6	10.6	11.5
	30000	1.4	2.9	4.3	5.8	7.2	8.6	10.1	11.5	13.0	14.4	15.8	17.3
	36000	2.0	4.0	6.1	8.1	10.1	12.1	14.1	16.2	18.2	20.2	22.2	24.2
	42000	2.7	5.3	8.0	10.6	13.3	16.0	18.6	21.3	23.9	26.6	29.3	31.9
	48000	3.4	6.8	10.2	13.6	17.0	20.4	23.8	27.2	30.6	34.0	37.4	40.8
	60000	5.1	10.3	15.4	20.6	25.7	30.8	36.0	41.1	46.3	—	—	—
1/2"	60000	1.0	2.1	3.1	4.2	5.2	6.2	7.3	8.3	9.4	10.4	11.4	12.5

Note 1: A blank space indicates a pressure drop of over 50 PSI.
 Note 2: Other existing sources of pressure drop, (solenoid valves, etc.) must be considered.
 Note 3: A vertical run with a heat pump system always results in a liquid lift (heating or cooling).
 Note 4: The smallest liquid line diameter that results in a total liquid line pressure drop of 50 PSI or less results in the most reliable system (fewer pounds of R-410A).
 Note 5: It is recommended to place units where 1/2" liquid line is not required due to the increased refrigerant volume imposed by the larger liquid line.
 Note 6: At the time this manual was printed all outdoor units were rated with 3/8" liquid line.

Table AC/IN-6-B – Allowable Vapor Line Diameters and BTUH Loss (R-410A Single Speed Systems)

Nominal Tons	Tube O.D. (Inches)	Press. Drop PSI/100 Ft.	BTUH Loss For Equivalent Length										
			40'	60'	80'	100'	120'	140'	160'	180'	200'	220'	240'
1.0	1/2	5.0	70	160	250	340	430	520	610	700	790	880	970
	5/8	1.5	20	50	73	100	130	155	180	210	235	265	290
1.5	1/2	10.8	173	410	640	875	1110	1340	1575	1810	2040	2275	2510
	5/8	3.1	50	120	185	250	320	385	450	520	585	655	720
	3/4	1.2	20	45	70	95	125	150	175	200	225	255	280
2.0	5/8	5.4	115	270	430	585	740	895	1050	1205	1360	1515	1670
	3/4	2.0	45	100	160	215	275	330	390	445	505	560	620
2.5	5/8	8.2	220	515	810	1110	1400	1695	1990	2290	2585	2880	3175
	3/4	3.0	80	190	295	405	515	620	730	840	945	1055	1160
	7/8	1.3	35	80	130	175	220	270	315	365	410	455	505
3.0	5/8	11.7	380	885	1390	1895	2400	2905	3410	3915	4425	4930	—
	3/4	4.3	140	325	510	700	880	1070	1255	1440	1625	1810	2000
	7/8	1.9	60	145	225	310	390	470	555	635	720	800	880
3.5	3/4	5.8	220	510	805	1095	1390	1680	1975	2265	2560	2850	3140
	7/8	2.5	95	220	345	475	600	725	850	975	1105	1230	1355
4.0	3/4	7.4	320	745	1170	1600	2025	2450	2875	3305	3730	4155	4580
	7/8	3.2	140	325	510	690	875	1060	1245	1430	1615	1795	1980
	1-1/8 [Ⓢ]	.9	40	90	145	195	245	300	350	400	455	505	555
5.0	3/4	11.5	620	1450	2280	3105	3935	4760	5590	6415	7245	8073	8900
	7/8	4.9	265	615	970	1325	1675	2030	2380	2735	3080	3440	3795
	1-1/8	1.3	70	165	255	350	445	540	630	725	820	915	1005

Note 1: Shaded value indicates more than 10% capacity loss.
 Note 2: Blank space indicates more than 15% capacity loss.
 Note 3: Only approved for cooling units, do not use 1 1/8" vapor lines on heat pumps less than 5 ton.
 Note 4: If linear length exceeds 150 feet, add 2 ounces of approved compressor oil per every 10 feet in excess of 150 feet. (Example: if the actual line length is 170 feet, add 4 ounces of oil to the system)

This page contains limited data to fully determine if the application will work or to select required accessories. Please refer to publication SS-APG006F-EN for complete details and examples.

Refrigerant Piping Information for Two Stage Split Systems

Table AC/IN-7-A — Allowable Vapor and Liquid Line Diameters for Two Stage, Single Compressor Split Systems

Rated Line Sizes	Line Sizes		Service Valve Connection Size		Max Line & Lift Lengths	
	Vapor Line	Liquid Line	Vapor Line Connection	Liquid Line Connection	TOTAL Max Line Length (ft)	Max Lift (ft)
2 Ton HP	5/8"	3/8"	5/8"	3/8"	150'	50'
3 Ton HP	3/4"	3/8"	3/4"	3/8"	80'	25'
4 Ton HP	7/8"	3/8"	7/8"	3/8"	150'	50'
5 Ton HP	1-1/8"	3/8"	1-1/8"	3/8"	80'	25'

Alternate Line Sizes	Line Sizes		Service Valve Connection Size		Max Line & Lift Lengths	
	Vapor Line	Liquid Line	Vapor Line Connection	Liquid Line Connection	TOTAL Max Line Length (ft)	Max Lift (ft)
2 Ton HP	5/8"	3/8"	5/8"	3/8"	150'	50'
	3/4"	3/8"			80'	25'
3 Ton HP	5/8"	3/8"	3/4"	3/8"	150'	50'
	7/8"	3/8"			80'	25'
4 Ton HP	3/4"	3/8"	7/8"	3/8"	150'	50'
5 Ton HP	3/4"	3/8"	1-1/8"	3/8"	150'	50'
	7/8"	3/8"			150'	50'

Rated Line Sizes	Line Sizes		Service Valve Connection Size		Max Line & Lift Lengths	
	Vapor Line	Liquid Line	Vapor Line Connection	Liquid Line Connection	TOTAL Max Line Length (ft)	Max Lift (ft)
2 Ton AC	5/8", 3/4"	3/8"	5/8"	3/8"	150'	50'
3 Ton AC	5/8", 3/4", 7/8"	3/8"	3/4"	3/8"	150'	50'
4 Ton AC	3/4", 7/8"	3/8"	7/8"	3/8"	150'	50'
5 Ton AC	3/4", 7/8", 1-1/8"	3/8"	1-1/8"	3/8"	150'	50'

See Application Bulletin SS-APB011-EN

Table AC/IN-7-B — Equivalent Length (Ft.) of Non-Ferrous Valves and Fittings (Brazed)

O.D. Tube Size (Inches)	Globe Valve	Angle Valve	Short Radius Ell	Long Radius Ell	Tee Line Flow	Tee Branch Flow
1/2*	70	24	4.7	3.2	1.7	6.6
5/8	72	25	5.7	3.9	2.3	8.2
3/4	75	25	6.5	4.5	2.9	9.7
7/8	78	28	7.8	5.3	3.7	12.0
1-1/8	87	29	2.7	1.9	2.5	8.0
1-3/8	102	33	3.2	2.2	2.7	10.0
1-5/8	115	34	3.8	2.6	3.0	12.0

Information for this chart extracted by permission from A.R.I. Refrigerant Piping Data, page 28.

* For smaller sizes, use 1/2" values.

This page contains limited data to fully determine if the application will work or to select required accessories. Please refer to publication SS-APG006F-EN for complete details and examples.

For complete equipment / combination selections, installation instructions and warranty information, please refer to Product Data/Ratings and/or Installers Guides and Limited Warranty Handbooks.

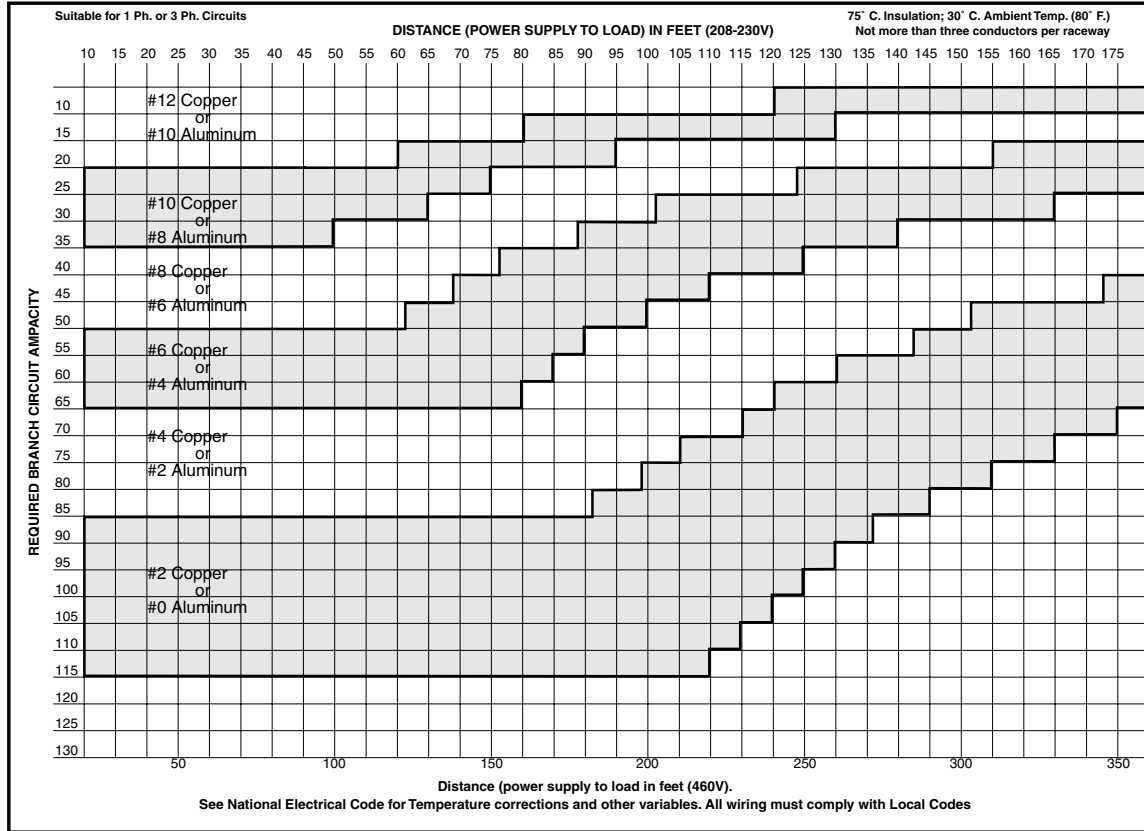
Branch Circuit Wire Sizing Table/ Heater De-Rating Chart

BRANCH CIRCUIT WIRE SIZING TABLE

(Based on 2% Voltage Drop)

Chart is based on 75° C. wire. (Types FEPW, RH, RHW, THW, THW, THWN, XHHW, USE, AND ZW.)

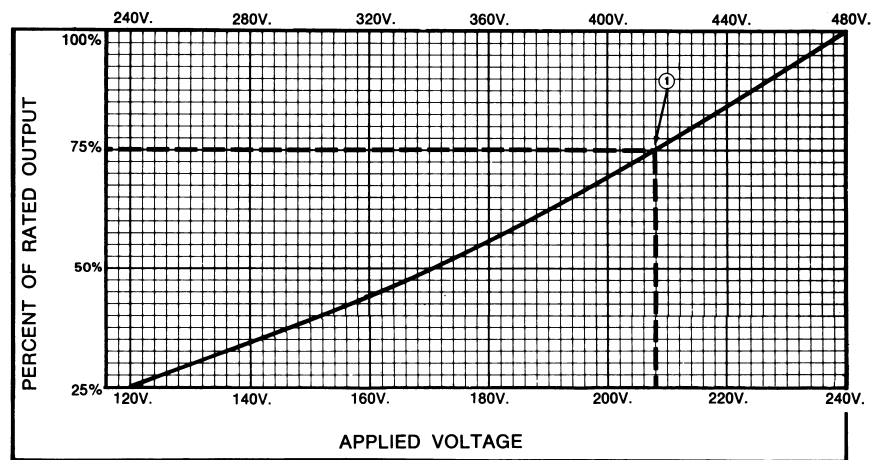
Use Chart For Wire Sizing Only. Refer To Electrical Code, (Or Product Specs.) For Fuse Sizing



Heater De-Rating Chart

The output of electric heaters, applied at voltages other than the rated 240 or 480 volts, can be easily determined with the use of this chart.

ELECTRIC HEATER DE-RATING CHART (for 240V or 480V Rated Heaters Installed on Lower Voltage Systems)



① EXAMPLE: Calculated Heat Loss — 29,200 BTUH Power Supply — 208V.
The chart indicates that any 240V heater will deliver 75% of its rated capacity at 208V.

$$\frac{29,200 \text{ BTUH}}{.75} = 39,000 \text{ BTUH} \left\{ \begin{array}{l} \text{Select a heater having AT LEAST 39,000 BTUH} \\ \text{capacity at 240V.} \end{array} \right.$$

For complete equipment / combination selections, installation instructions and warranty information, please refer to Product Data/Ratings and/or Installers Guides and Limited Warranty Handbooks.

Basic Air Conditioning Formulas

Basic Air Conditioning Formulas

TO DETERMINE	EXPRESSED AS	COOLING	HEATING and/or HUMIDIFYING
Total Airflow	CFM _T	1. $CFM_T = \frac{N_T V}{60 \text{ min./hr.}}$	1. $CFM_T = \frac{N_T V}{60 \text{ min./hr.}}$
Infiltration or Ventilation	CFM _O	2. $CFM_O = \frac{N_O V}{60 \text{ min./hr.}}$	2. $CFM_O = \frac{N_O V}{60 \text{ min./hr.}}$
Number of Air Changes Per Hour – Total	N _T	3. $N_T = \frac{CFM_T (60 \text{ min./hr.})}{V}$	3. $N_T = \frac{CFM_T (60 \text{ min./hr.})}{V}$
Number of Air Changes Per Hour – Outdoor Air	N _O	4. $N_O = \frac{CFM_O (60 \text{ min./hr.})}{V}$	4. $N_O = \frac{CFM_O (60 \text{ min./hr.})}{V}$
Total Heat (H _T)	Btuh	5. $H_T = CFM_T \times 4.5 \times (h_1 - h_2) = \text{Btuh}$	6. $H_T = CFM_T \times 4.5 \times (h_2 - h_1) = \text{Btuh}$
Sensible Heat (H _S)	Btuh	7. $H_S = CFM_T \times 1.08 \times (T_1 - T_2) = \text{Btuh}$	8. $H_S = CFM_T \times 1.08 \times (T_2 - T_1) = \text{Btuh}$
Latent Heat (H _L)	Btuh	9. $H_L = CFM_T \times .68 \times (W_1 - W_2) = \text{Btuh}$	10. $H_L = CFM_T \times .68 \times (W_2 - W_1) = \text{Btuh}$
Entering Air Temperature (T ₁) (Mixed Air)	∇F. D.B.	11. $T_1 = t_1 + \frac{CFM_O}{CFM_T} \times (t_2 - t_1) = \text{∇F.D.B. } \textcircled{1}$ $\textcircled{1}$ If duct heat gain is a factor, add to T ₁ : $\frac{\text{Duct Heat Gain (Btuh)}}{CFM_T \times 1.08}$	12. $T_1 = t_1 - \frac{CFM_O}{CFM_T} \times (t_1 - t_2) = \text{∇F.D.B. } \textcircled{2}$ $\textcircled{2}$ If duct heat loss is a factor, subtract from T ₁ : $\frac{\text{Duct Heat Loss (Btuh)}}{CFM_T \times 1.08}$
Leaving Air D.B. Temperature (T ₂)	∇F. D.B.	13. $T_2 = T_1 - \frac{H_S}{CFM_T \times 1.08} = \text{∇F.D.B.}$	14. $T_2 = T_1 + \frac{H_S}{CFM_T \times 1.08} = \text{∇F.D.B.}$
Required Airflow	CFM _T	15. $CFM_T = \frac{H_S (\text{total})}{1.08 \times (T_1 - T_2)} = \text{CFM}$ OR $CFM_T = \frac{H_S (\text{internal}) \textcircled{3}}{1.08 \times (t_1 - T_2)} = \text{CFM}$ $\textcircled{3}$ Sensible load of outside air not included	16. $CFM_T = \frac{H_S}{1.08 \times (T_2 - T_1)} = \text{CFM}$
Enthalpy – Leaving Air (h ₂)	Btu/lb. dry air	17. $h_2 = h_1 - \frac{H_T}{CFM_T \times 4.5} = \text{Btu/lb. dry air}$	18. $h_2 = h_1 + \frac{H_T}{CFM_T \times 4.5} = \text{Btu/lb. dry air}$
Leaving Air W.B. Temperature	∇F.W.B.	19. Refer to Enthalpy Table and read W.B. temperature corresponding to enthalpy of leaving air (h ₂) (see #17).	20. Refer to Enthalpy Table and read W.B. temperature corresponding to enthalpy of leaving air (h ₂) (see #18).
Heat Required to Evaporate Water Vapor Added to Ventilation Air	Btuh	21. $H_L = CFM_O \times .68 (W_3 - W_O) = \text{Btuh}$	22. $H_L = CFM_O \times .68 (W_3 - W_O) = \text{Btuh}$
Humidification Requirements	Lbs. water/hr.	23. $\left(\begin{matrix} \text{Make up} \\ \text{Moisture} \end{matrix} \right) = \frac{\text{Excess Latent Capacity of System} \times \% \text{ Run Time}}{1060 \text{ Btu/lb.}} = \text{lbs./hr.}$ (Industrial Process Work)	24. $\left(\begin{matrix} \text{Make up} \\ \text{Moisture} \end{matrix} \right) = \frac{H_L \text{ loss Btuh (see \#22)}}{1060 \text{ Btu/lb.}} = \text{lbs./hr.}$

LEGEND	DERIVATION OF AIR CONSTANTS
<p>CFM_T = Total airflow cubic feet/min. CFM_O = Outdoor air cubic feet/min. N_T = Total air changes per hour N_O = Outdoor air, air changes per hour V = Volume of space cubic feet H_T = Total heat Btuh H_S = Sensible heat Btuh H_L = Latent heat Btuh * h₁ = Enthalpy or total heat of entering air * h₂ = Enthalpy or total heat of leaving air T₁ = Temperature of entering air T₂ = Temperature of leaving air T_{adp} = Apparatus dewpoint t₁ = Indoor design temperature t₂ = Outdoor design temperature W₁ = Grains of water/lb. of dry air at entering condition W₂ = Grains of water/lb. of dry air at leaving condition W₃ = Grains of water/lb. of dry air at indoor design conditions W_O = Grains of water/lb. of dry air at outdoor design conditions</p>	<p>The air constants below apply specifically to standard air which is defined as dry air at 70°F and 14.7 P.S.I.A. (29.92 in. mercury column). They can, however, be used in most cooling calculations unless extremely precise results are desired.</p> <p>4.5 (To convert CFM to lbs./hr.)</p> <p>$4.5 = \frac{60 \text{ min./hr.}}{13.33}$ or $60 \times .075$</p> <p>Where 13.33 is the specific volume of standard air (cu.ft./lb.) and .075 is the density (lbs./cu.ft.)</p> <p>$1.08 = \frac{.24 \times 60}{13.33}$ or $.24 \times 4.5$</p> <p>.24 BTU = specific heat of standard air (BTU/LB/°F)</p> <p>$.68 = \frac{60}{13.33} \times \frac{1060}{7000}$ or $4.5 \times \frac{1060}{7000}$</p> <p>Where: 1060 = Average Latent Heat of water vapor (BTU/LB.). 7000 = Grains per lb.</p>

* See Enthalpy of air (Total Heat Content of Air) Table for exact values.



It's Hard To Stop A Trane.®

Low Ambient Cooling Operation Accessories

Table AC/IN-10-A - Split System Low Ambient Accessories

Air Conditioner Heat Pump	55° F. As Manufactured	55°F - 30°F	55°F - 30°F	55°F - 30°F	55°F - 30°F	30F - 20F or 30F - 0F see lowest approved OD ambient				
		Air Conditioner AY28X079②	Heat Pump AY28X084②	TXV-NB	CCHT	BAYLOAM107*	Start Kit③	Solenoid Valve (AC) ④	Windshield	Lowest Approved Outdoor Ambient Cooling Mode
13 SEER	X	X	X	X	X	BAYLOAM107	X	X	X	Approved to 0° F
14 SEER	X	X	X	X	X	BAYLOAM107①	X	X	X	AC Approved to 20° F HP Approved to 10° F
15 SEER	X	X	X	X	X	BAYLOAM107①	X	X	X	AC Approved to 20° F HP Approved to 10° F
16 SEER ①	X	X	X	X	X	BAYLOAM107①	X	X	X	AC Approved to 20° F HP Approved to 10° F
17 SEER ①	X	X	X	X	X	BAYLOAM107①	X	X	X	AC Approved to 20° F HP Approved to 10° F
18 SEER ①	X	X	X	X	X	BAYLOAM107①	X	X	X	AC Approved to 20° F HP Approved to 10° F
17 SEER VS	X	Not Approved				Not Approved				Approved to 55° F
18 SEER VS	X	Not Approved				Not Approved				Approved to 55° F
19 SEER VS	X	Not Approved				Not Approved				Approved to 55° F
20 SEER VS	X	Not Approved				Not Approved				Approved to 55° F

- ① DO NOT apply BAYLOAM to model tonnages with variable speed condenser fan motors. Models with VS condenser fan motors are approved to 30°F
- ② AY28X*** EDC not required when indoor unit has EEV
- ③ VS 20 SEER OD units approved to 55°F
- ④ Liquid line solenoid shall be used for isolation purposes. Also used if liquid line is 1/2" and installed before the evaporator coil. See SS-APG006F-EN Refrigeration Piping Application Guide
- ⑤ Start Kit NOT required on 230v/460v/3 phase product
- * All AC models may use BAYLOAM103 or BAYLOAM107

Trane convertible package units may be operated in the cooling mode to 55°F outdoor ambient temperature as shipped from the factory. Where required these units with the appropriate accessories may be applied to operate at outdoor temperatures below 55°F.

Table AC/IN-10-B - Package System Low Ambient Accessories

Below 55°F Use Accessories for Operation to the Lowest Approved Outdoor Ambient						
Packaged Convertible Air Conditioner, Heat Pump, Gas/Electric	55° F. As Manufactured	EDC BAYLOAM011A	CCHT	BAYLOAM105A	Start Kit①	Lowest Approved Outdoor Ambient Cooling Mode
4TC**	X	X	X	X	X	20° F
4WC**	X	X	X	X	X	10° F
4YC**	X	X	X	X	X	20° F
4DC*	X	X	X	X	X	10° F
4WHC**	45° F	X	X		X	10° F

- ① NO Start KIT on 3 phase product

Compressor Crankcase Heaters

- BAYCCHT101A for reciprocating compressors, 65 watt, 230vac
- BAYCCHT102A for 6.5" scroll compressors, 60 watt, 230vac
- BAYCCHT103A for 5.5" scroll compressors, 40 watt, 230vac
- BAYCCHT404B for 6.5" scroll compressors, 60 watt, 460vac
- BAYCCHT405A for 5.5" scroll compressors, 40 watt, 460vac
- BAYCCHT301 for 6.5" - 7.5" diameter scroll compressors 60 watt, 230vac
- BAYCCHT302 for 5.5" diameter scroll compressors 40 watt, 230vac

Start KITS

- BAYQSTK300A for 4TC & 4WC 230vac, Single Phase Only
- BAYQSTK301A for 4YC & 4DC 230vac, Single Phase Only

Please refer to publication SS-APG012B-EN for complete details and examples.

For complete equipment / combination selections, installation instructions and warranty information, please refer to Product Data/Ratings and/or Installers Guides and Limited Warranty Handbooks.