

# Bluon TdX 20 (R-458A) Conversion Procedure



*Bluon TdX 20 is the only complete R-22 replacement solution. It saves up to 25% energy, while preserving virtually identical capacity compared to R-22. Bluon TdX 20 requires no oil change and is ASHRAE and EPA approved. TdX 20 is the only R-22 replacement specifically designed to solve problems faced by contractors, suppliers, and end users alike.*

## \*SUBCOOL:

Bubble temperature minus actual liquid line temperature

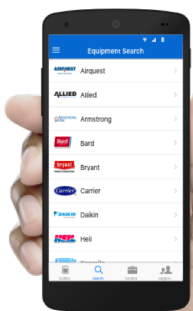
## \*\*SUPERHEAT:

Actual suction line temperature minus dew temperature

Must be **BLUON ACCREDITED** for warranty, technician support, and mobile app.

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- 1. RECORD DATA.** Check system operation and record baseline data.
- 2. RECOVERY.** Recover 100% of the current refrigerant in accordance with EPA guidelines. Weigh and record the amount of refrigerant recovered from each circuit. This information will be used for the initial TdX 20 charge.
  - When possible, choose a cool time of day to perform recovery to increase speed.
  - Evacuation equipment and process can significantly impact recovery time.
- 3. REPLACE FILTER DRIER.** Replace filter with manufacturer's recommended filter optimized for use with HFC refrigerants. Check and replace any seals, if necessary.
- 4. PLACE SYSTEM UNDER VACUUM.** Evacuate to 500 microns. Check for leaks using normal service practices.
- 5. CHARGE THE SYSTEM.** Invert the TdX 20 cylinder several times and charge with the cylinder inverted as indicated by the arrows on the cylinder box and charge liquid only. (Do not attempt to charge the system to match recovered refrigerant's operating pressures).

**Initially charge to 80%** of either the refrigerant recovered, per circuit, or 80% of the nameplate charge, whichever is less.

### ADJUSTABLE METERING DEVICE / TXV EQUIPPED SYSTEMS:

- Slowly increase **charge using desired Subcooling\* as your guide.**
  - Determine liquid line pressure. Reference liquid (bubble point) column on TdX 20 PT chart to equivalent bubble temperature.
  - Obtain actual liquid line temperature.
- Adjust TXV to **desired Superheat\*\*.** TXV will likely need to be closed 1-4+ full turns.
  - Obtain the actual suction line temperature.
  - Determine vapor pressure from suction line. Reference vapor (dew point) column on the TdX 20 PT chart to determine equivalent temperature.

### FIXED METERING DEVICE EQUIPPED SYSTEMS:

- Slowly increase **charge using desired Superheat\*\* as your guide.** The system should respond quickly with each increase in charge.
  - Obtain the actual suction line temperature.
  - Determine vapor pressure from the suction line. Reference vapor (dew point) column on TdX 20 PT to determine equivalent temperature.

- 6. FINE TUNE FOR MAXIMUM PERFORMANCE.**
  - Performance will be enhanced when Superheat is acceptable within the full range of operating conditions, i.e. single compressor, multiple compressors, etc.
  - Confirm all pressure controls are set to new operating pressures.
  - In larger systems, check your superheat *multiple* times for the first hour after installation as it may shift while reaching its equilibrium pressure and temperature.
- 7. LABEL COMPRESSOR.** Label the compressor and outside unit to designate it has been charged with Bluon TdX 20.



Bluon TdX 20 is the perfect R-22 replacement solution with all the support you need.

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# Bluon TdX 20 (R-458A) PT Chart

TEMP. (F)	LIQUID (Psig) <i>Bubble Subcool</i>	VAPOR (Psig) <i>Dew Superheat</i>
0	22.6	13.5
1	23.4	14.1
2	24.2	14.8
3	25.1	15.5
4	25.9	16.1
5	26.8	16.9
6	27.6	17.6
7	28.5	18.3
8	29.4	19.0
9	30.3	19.8
10	31.2	20.6
11	32.2	21.3
12	33.1	22.1
13	34.1	22.9
14	35.1	23.8
15	36.1	24.6
16	37.1	25.5
17	38.1	26.3
18	39.2	27.2
19	40.2	28.1
20	41.3	29.0
21	42.4	29.9
22	43.5	30.9
23	44.6	31.8
24	45.8	32.8
25	46.9	33.8
26	48.1	34.8
27	49.3	35.8
28	50.5	36.8
29	51.7	37.8
30	53.0	38.9
31	54.2	40.0
32	55.5	41.1
33	56.8	42.2
34	58.1	43.3
35	59.5	44.5
36	60.8	45.6
37	62.2	46.8
38	63.6	48.0
39	65.0	49.2
40	66.4	50.5
41	67.8	51.7
42	69.3	53.0
43	70.8	54.3
44	72.3	55.6
45	73.8	56.9
46	75.4	58.3
47	76.9	59.6
48	78.5	61.0
49	80.1	62.4
50	81.7	63.8

TEMP. (F)	LIQUID (Psig) <i>Bubble Subcool</i>	VAPOR (Psig) <i>Dew Superheat</i>
51	83.4	65.3
52	85.0	66.7
53	86.7	68.2
54	88.4	69.7
55	90.2	71.3
56	91.9	72.8
57	93.7	74.4
58	95.5	76.0
59	97.3	77.6
60	99.2	79.2
61	101.0	80.9
62	102.9	82.5
63	104.8	84.2
64	106.8	86.0
65	108.7	87.7
66	110.7	89.5
67	112.7	91.3
68	114.7	93.1
69	116.8	94.9
70	118.8	96.8
71	120.9	98.6
72	123.1	100.6
73	125.2	102.5
74	127.4	104.4
75	129.6	106.4
76	131.8	108.4
77	134.1	110.5
78	136.3	112.5
79	138.6	114.6
80	141.0	116.7
81	143.3	118.9
82	145.7	121.0
83	148.1	123.2
84	150.5	125.4
85	153	127.7
86	155.5	129.9
87	158.0	132.2
88	160.5	134.5
89	163.1	136.9
90	165.7	139.3
91	168.3	141.7
92	170.9	144.1
93	173.6	146.6
94	176.3	149.1
95	179.1	151.6
96	181.8	154.1
97	184.6	156.7
98	187.5	159.3
99	190.3	162.0
100	193.2	164.7

TEMP. (F)	LIQUID (Psig) <i>Bubble Subcool</i>	VAPOR (Psig) <i>Dew Superheat</i>
101	196.1	167.4
102	199	170.1
103	202	172.9
104	205	175.6
105	208.1	178.5
106	211.1	181.3
107	214.2	184.2
108	217.3	187.2
109	220.5	190.1
110	223.7	193.1
111	226.9	196.1
112	230.2	199.2
113	233.4	202.3
114	236.8	205.4
115	240.1	208.6
116	243.5	211.7
117	246.9	215.0
118	250.4	218.2
119	253.8	221.5
120	257.4	224.9
121	260.9	228.2
122	264.5	231.7
123	268.1	235.1
124	271.8	238.6
125	275.5	242.1
126	279.2	245.7
127	282.9	249.2
128	286.7	252.9
129	290.6	256.6
130	294.4	260.3
131	298.3	264.0
132	302.3	267.8
133	306.2	271.6
134	310.3	275.5
135	314.3	279.4
136	318.4	283.4
137	322.5	287.4
138	326.7	291.4
139	330.9	295.5
140	335.1	299.6
141	339.4	303.8
142	343.7	308.0
143	348	312.2
144	352.4	316.5
145	356.9	320.8
146	361.3	325.2
147	365.8	329.7
148	370.4	334.1
149	375	338.7
150	379.6	343.2