

Refrigerant - R414b

ENVIRO Refrigerants

R414b

R414b utilizes 4 refrigerant components which when blended together, result in low and high pressure readings similar to pressure, normally seen in a R12 system. R414b is a drop-in replacement not requiring system adjustments, oil changes, or retrofit procedures. Just complete your repair and replace the R12 with R414b (adjusting the amount of charge). It's that simple.



R414b

Features

- The Environment Friendly R-12 Drop-In Replacement.
- ASHRAE Designated.
- No Expensive Retrofits.
- ASHRAE Rated A1.
- Non Toxic - Non Flammable.
- Cooler - Safer - More Efficient At All Temperature Ranges.
- Completely Compatible with Most System's Components.

Performance Specs:

Normal boiling point	-33°C (-28°F)
Critical temperature	131°C (268°F)
Density, liquid at 24°C (75°F).	72.42lb/ 3'

Quality Specs:

Max. moisture, ppm (wt)	10
Max. non-absorbable gasses (vol)	1.5%
Max. high boiling impurities (vol)	0.01%

Safety Specs:

Recommended maximum exposure limits in air	1000 ppm
Flammability: Non-flammable as formulated, & in worst case fractionation.	

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Part #	Description	Weight
57-R414B	R12 drop-in replacement.	21.8kg (48lb)

R12 Drop-in Replacement

Advantages

- **Compatible with Mineral, Alkylbenzene and Polyol Ester oils, therefore no oil change required.**
- Works in low, medium, and high temperature systems, therefore the service truck carries One Tank to replace all R12 applications.
- R414b increases capacity of:
 - R12 system by 8%.
 - R134a system up to 15 to 20%.
 - R500 system - no capacity change.
- Operating systems will have pressures and temperature very similar to R12 pressures and temperatures ± 1 to 5%.
- Reduce ozone depletion to 0.034 or 97% less than R12.
- ASHRAE listed - R414b.
- ASHRAE listed A1 completely Non Toxic/Non Flammable.
- CSA recognized.
- Charging systems is easier than ever. Refrigerant must leave the container as a liquid. If charging by weigh scales, reduce the amount to 80% of name plate. If charging by charging cylinder, use the R12 scale and charge as if it was R12 (same volume). That volume will weigh 20% less. R414b should not be mixed with other refrigerants.
- TXV systems charged with R414b may require a super heat adjustment after system stabilizes. If charging by sight glass, a clear sight glass will probably be over charged, a trace bubble is normal.
- Recovery/ recycling procedure is the same as any other blended refrigerant. Do not mix in your cylinders.

Temperature/ Pressures Chart

Temperature		PSIG R12	Mean Average	Bubble Point PSIG Sat Liquid	Dew Point PSIG Sat Vapour
°F	°C				
-40	-40	-11.0	-11.5	-7.7	-15.3
-35	-37	-8.4	-8.9	-4.7	-13.2
-30	-34	-5.5	-6.0	-1.4	-10.7
-25	-32	-2.3	-3.5	1.1	-8.1
-20	-29	0.6	-1.0	3.1	-5.1
-15	-26	2.5	1.4	4.9	-2.0
-10	-23	4.5	4.2	7.6	0.8
-5	-20	6.8	6.4	10.2	2.7
0	-18	9.2	8.9	13.0	4.9
5	-15	11.8	11.7	16.1	7.3
10	-12	14.6	14.7	19.5	9.9
15	-9	17.7	17.9	23.1	12.7
20	-7	21.0	21.3	26.9	15.8
25	-4	24.6	25.1	31.1	19.1
30	-1	28.5	29.3	35.6	23.1
35	2	32.6	33.6	40.6	26.7
40	4	37.0	38.2	45.6	30.9
45	7	41.7	43.3	51.2	35.5
50	10	46.7	48.6	57.0	40.3
55	13	52.0	54.4	63.3	45.6
60	16	57.0	60.6	70.0	51.2
65	18	63.8	67.5	77.8	57.2
70	21	70.2	74.1	84.6	63.6
75	24	77.0	81.6	92.7	70.5
80	27	84.2	89.4	101.1	77.8
85	29	91.8	97.8	110.0	85.6
90	32	99.8	106.6	119.5	93.8
95	35	108.3	115.9	129.4	102.5
100	38	117.2	125.8	139.9	111.8
105	40	126.6	136.2	150.9	121.6
110	43	136.4	147.2	162.5	132.0
115	46	146.8	158.7	174.6	142.9
120	49	157.7	170.9	187.4	154.5
125	52	169.1	183.7	200.7	166.7
130	54	181.0	197.1	214.7	179.5
135	57	193.5	211.1	229.3	193.0
140	60	206.6	225.9	244.6	207.2