

Honeywell

极冷致[®] 制冷剂

压力 - 温度表

°F	°C	13	23	503**	508B	°F	°C	13	23	503**	508B
-120	-84.4	-15.134	-13.447	20.486	17.161	35	1.7	-85.026	-66.117	-58.169	-7.2319
-110	-78.9	14.812	19.688	62.093	59.29	40	4.4	-82.742	-61.486	-52.85	3.3399
-100	-73.3	52.254	61.959	113.92	112.06	45	7.2	-80.204	-56.378	-47.022	14.814
-95	-70.6	74.144	87.019	144.15	142.94	50	10.0	-77.391	-50.758	-40.648	27.241
-90	-67.8	98.344	114.98	177.51	177.11	55	12.8	-74.281	-44.589	-33.696	40.674
-85	-65.0	125.01	146.05	214.23	214.77	60	15.6	-70.853	-37.835	-26.127	55.164
-80	-62.2	154.29	180.46	254.49	256.16	65	18.3	-67.083	-30.458	-17.905	70.768
-75	-59.4	186.35	218.45	298.54	301.5	70	21.1	-62.947	-22.417	-8.9925	87.539
-70	-56.7	221.34	260.25	346.57	351.03	75	23.9	-58.42	-13.672	0.65073	105.53
-65	-53.9	259.44	306.11	398.81	404.98	80	26.7	-53.476	-4.1811	11.065	124.81
-60	-51.1	300.81	356.27	455.5	463.61	85	29.4	-48.089	6.0986	22.29	145.43
-55	-48.3	345.62	411	516.86	527.16	90	32.2	-42.231	17.211	34.37	167.44
-50	-45.6	394.03	470.55	583.14	595.89	95	35.0	-35.873	29.202	47.346	190.92
-45	-42.8	446.23	535.19	654.56	670.07	100	37.8	-28.987	42.117	61.262	215.92
-40	-40.0	502.38	605.2	731.39	749.96	110	43.3	-13.509	70.909	92.096	270.72
-35	-37.2	562.68	680.86	813.87	835.83	120	48.9	4.4513	103.98	127.24	332.37
-30	-34.4	627.29	762.45	902.26	927.98	130	54.4	25.154	141.72	167.06	401.38
-25	-31.7	696.4	850.27	996.82	1026.7						
-20	-28.9	770.21	944.6	1097.8	1132.3						

单位: kPa_g

极冷致 [®] 产品	ASHRAE 编号	制冷剂 组分	制冷剂种类	常用润滑油*	液体密度 (kg/m ³)		沸点 °C
					-17.8°C	26.7°C	
Genetron 11**	11	单一组分	CFC	MO	1,573.0	1,472.1	23.7
Genetron 12**	12	单一组分	CFC	MO	1,451.3	1,305.5	-29.8
Genetron 13**	13	单一组分	CFC	MO	1,231.8	784.9	-81.5
Genetron 22	22	单一组分	HCFC	MO	1,339.2	1,183.8	-40.8
Genetron 23	23	单一组分	HFC	POE	1,153.3	-	-82.0
Genetron 123	123	单一组分	HCFC	AB	1,568.2	1,459.3	27.8
Genetron 134a	134a	单一组分	HFC	POE	1,352.0	1,199.8	-26.1
Genetron 422D	422D	混合物	HFC	MO	1,316.7	1,135.7	-43.2
Genetron MP39	401A	混合物	HCFC	AB	1,326.4	1,183.8	-32.9
Genetron MP66	401B	混合物	HCFC	AB	1,326.4	1,182.2	-34.6
Genetron HP80	402A	混合物	HCFC	AB	1,324.7	1,137.3	-48.9
Genetron HP81	402B	混合物	HCFC	AB	1,315.1	1,142.1	-47.0
Genetron 404A	404A	混合物	HFC	POE	1,214.2	1,036.4	-46.2
Genetron 407C	407C	混合物	HFC	POE	1,297.5	1,130.9	-43.6
Genetron LT	407F	混合物	HFC	POE	1,279.9	1,108.5	-46.1
Genetron 409A	409A	混合物	HCFC	AB	1,350.4	1,207.8	-34.4
Genetron AZ-20 [®]	410A	近共沸混合物	HFC	POE	1,236.6	1,050.8	-51.4
Genetron 500**	500	共沸物	CFC	MO	1,275.1	1,135.7	-33.6
Genetron 502**	502	共沸物	CFC	MO	1,392.0	1,207.8	-45.2
Genetron 503**	503	共沸物	CFC	MO	1,179.0	-	-87.8
Genetron AZ-50 [®]	507	共沸物	HFC	POE	1,222.2	1,039.6	-46.7
Genetron 508B	508B	共沸物	HFC/PFC	POE	1,155.0	-	-87.4

当使用新制冷剂改造现有制冷系统时，利用下列公式来确定所需制冷剂量：

$$\text{新制冷剂充注量} = \frac{\text{原有制冷剂充注量} \times \text{新制冷剂密度 (在 26.7°C 时)}}{\text{原有制冷剂密度 (在 26.7°C 时)}}$$

举例：

如果系统原来使用 100kg 的 R-502，则需要 86kg 的 AZ-50 来替代充注，即

$$\text{AZ-50 充注量} = \frac{1,000 \times 64.9}{75.5} = \frac{64,900}{75.5} = 86 \text{ kg}$$

*POE= 多元醇脂润滑油，MO= 矿物油，AB= 烷基苯润滑油

** 在美国的生产于 1995 年 12 月 31 日停止

°F	°C				MP39R-401A		MP66R-401B		409A		422D		22
		124	134a	12**	泡点	露点	泡点	露点	泡点	露点	泡点	露点	
-40	-40.0	-74.9	-50.1	-37.2	-28.3	-46.8	-22.6	-41.9	-22.8	-50.1	16.3	-7.9	3.9
-35	-37.2	-70.6	-42.2	-28.4	-18.1	-38.6	-11.7	-32.9	-12.0	-42.2	32.0	5.6	18.2
-30	-34.4	-65.8	-33.3	-18.7	-6.7	-29.3	0.5	-23.0	0.0	-33.4	49.2	20.7	34.0
-25	-31.7	-60.4	-23.4	-8.0	5.8	-19.0	13.9	-11.9	13.2	-23.6	68.2	37.4	51.3
-20	-28.9	-54.3	-12.4	3.8	19.7	-7.6	28.6	0.4	27.7	-12.8	89.0	55.9	70.4
-15	-26.1	-47.5	-0.2	16.7	34.8	5.1	44.8	14.0	43.6	-0.7	111.8	76.2	91.2
-10	-23.3	-40.0	13.3	30.8	51.5	19.0	62.5	29.0	61.0	12.6	136.5	98.4	114.0
-5	-20.6	-31.6	28.3	46.1	69.6	34.3	81.8	45.5	79.9	27.3	163.5	122.7	138.8
0	-17.8	-22.4	44.6	62.9	89.4	51.2	102.8	63.5	100.5	43.4	192.7	149.3	165.7
5	-15.0	-12.3	62.6	81.0	111.0	69.6	125.7	83.2	122.9	61.0	224.2	178.2	194.9
10	-12.2	-1.1	82.3	100.6	134.3	89.7	150.4	104.7	147.1	80.3	258.4	209.6	226.4
15	-9.4	11.1	103.7	121.8	159.6	111.6	177.2	128.1	173.3	101.2	295.2	243.6	260.5
20	-6.7	24.5	127.1	144.7	186.9	135.4	206.1	153.5	201.5	124.0	334.7	280.4	297.2
25	-3.9	39.1	152.4	169.3	216.3	161.2	237.3	181.0	231.9	148.8	377.2	320.0	336.6
30	-1.1	55.0	179.9	195.7	248.0	189.1	270.8	210.7	264.5	175.6	422.7	362.7	378.9
35	1.7	72.2	209.6	224.1	282.0	219.2	306.7	242.8	299.5	204.5	471.5	408.6	424.2
40	4.4	90.9	241.6	254.4	318.5	251.6	345.2	277.3	336.9	235.7	523.5	457.8	472.7
45	7.2	111.1	276.2	286.8	357.5	286.5	386.4	314.3	376.9	269.3	579.0	510.5	524.5
50	10.0	132.8	313.3	321.3	399.2	323.9	430.4	354.1	419.6	305.3	638.2	566.9	579.6
55	12.8	156.3	353.1	358.2	443.6	364.1	477.3	396.7	465.0	344.0	701.1	627.0	638.4
60	15.6	181.4	395.8	397.3	491.0	407.0	527.2	442.2	513.4	385.3	767.9	691.1	700.8
65	18.3	208.5	441.5	438.9	541.3	452.9	580.2	490.8	564.7	429.6	838.8	759.4	767.0
70	21.1	237.4	490.3	483.1	594.8	501.8	636.5	542.6	619.1	476.8	914.0	831.9	837.3
75	23.9	268.4	542.3	529.8	651.6	553.9	696.2	597.8	676.8	527.1	993.5	909.0	911.7
80	26.7	301.4	597.7	579.3	711.7	609.4	759.5	656.4	737.8	580.6	1,077.6	990.7	990.3
85	29.4	336.7	656.7	631.5	775.3	668.2	826.3	718.7	802.2	637.5	1,166.4	1,077.2	1,073.4
90	32.2	374.2	719.3	686.7	842.5	730.7	896.9	784.6	870.2	697.9	1,260.1	1,168.8	1,161.1
95	35.0	414.1	785.7	744.9	913.4	796.9	971.4	854.5	941.9	761.9	1,358.8	1,265.6	1,253.5
100	37.8	456.4	856.0	806.2	988.2	867.0	1,049.9	928.5	1,017.3	829.7	1,462.8	1,367.8	1,350.8
105	40.6	501.3	930.5	870.7	1,067.0	941.1	1,132.6	1,006.6	1,096.7	901.4	1,572.2	1,475.7	1,453.1
110	43.3	548.9	1,009.2	938.5	1,149.9	1,019.3	1,219.6	1,089.1	1,180.1	977.1	1,687.3	1,589.5	1,560.7
115	46.1	599.2	1,092.4	1,009.7	1,237.0	1,101.9	1,310.9	1,176.1	1,267.6	1,057.1	1,808.2	1,709.4	1,673.7
120	48.9	652.4	1,180.2	1,084.4	1,328.5	1,189.0	1,406.9	1,267.7	1,359.5	1,141.5	1,935.1	1,835.7	1,792.3
125	51.7	708.5	1,272.7	1,162.7	1,424.5	1,280.6	1,507.5	1,364.2	1,455.7	1,230.4	2,068.2	1,968.7	1,916.7
130	54.4	767.7	1,370.1	1,244.8	1,525.2	1,377.1	1,613.0	1,465.7	1,556.4	1,323.9	2,207.9	2,108.6	2,047.0
135	57.2	830.0	1,472.6	1,330.7	1,630.7	1,478.6	1,723.4	1,574.5	1,661.7	1,422.4	2,354.3	2,255.7	2,183.4
140	60.0	895.6	1,580.5	1,420.6	1,741.1	1,585.2	1,839.0	1,684.4	1,771.9	1,525.9	2,507.7	2,410.6	2,326.2
145	62.8	964.6	1,693.8	1,514.6	1,856.6	1,697.2	1,959.9	1,802.2	1,886.9	1,634.6	2,668.3	2,573.6	2,475.5
150	65.6	1,037.1	1,812.8	1,612.8	1,977.3	1,814.7	2,086.2	1,925.6	2,006.9	1,748.8	2,836.6	2,745.2	2,631.6

°F	°C	407C		LT 407F		404A		HP81402B		AZ-50®		HP80402A		AZ-20®	
		泡点	露点	泡点	露点	502**	泡点	露点	泡点	露点	507A	泡点	露点	410A	
-40	-40.0	18.9	-15.7	33.7	-1.7	26.4	34.0	29.7	38.5	25.7	37.3	51.3	39.4	73.5	
-35	-37.2	35.2	-2.9	51.8	12.9	43.0	51.7	47.1	56.6	42.7	55.5	70.7	57.9	96.7	
-30	-34.4	53.2	11.3	71.8	29.1	61.2	71.3	66.3	76.4	61.4	75.5	92.1	78.4	122.1	
-25	-31.7	73.0	27.1	93.8	47.1	81.0	92.7	87.3	98.1	81.9	97.4	115.5	100.8	150.0	
-20	-28.9	94.7	44.6	117.9	67.0	102.7	116.1	110.4	121.7	104.4	121.3	141.0	125.3	180.6	
-15	-26.1	118.5	63.9	144.2	88.8	126.4	141.6	135.5	147.5	128.9	147.4	168.8	152.0	213.9	
-10	-23.3	144.4	85.1	172.9	112.9	152.1	169.3	162.9	175.5	155.7	175.8	198.9	181.1	250.2	
-5	-20.6	172.7	108.4	204.1	139.3	179.9	199.5	192.6	205.9	184.8	206.6	231.5	212.6	289.7	
0	-17.8	203.3	134.0	238.0	168.1	209.9	232.1	224.9	238.7	216.3	240.0	266.8	246.8	332.5	
5	-15.0	236.6	161.9	274.7	199.5	242.4	267.3	259.7	274.2	250.4	276.0	304.9	283.8	378.7	
10	-12.2	272.6	192.3	314.3	233.7	277.3	305.3	297.3	312.4	287.2	314.8	345.8	323.6	428.6	
15	-9.4	311.4	225.3	357.0	270.8	314.9	346.2	337.8	353.5	326.8	356.6	389.8	366.5	482.4	
20	-6.7	353.2	261.1	403.1	310.9	355.2	390.2	381.3	397.5	369.5	401.4	437.1	412.6	540.2	
25	-3.9	398.1	299.9	452.5	354.4	398.3	437.3	428.0	444.8	415.3	449.6	487.6	462.0	602.3	
30	-1.1	446.3	341.7	505.5	401.2	444.4	487.7	478.0	495.3	464.3	501.1	541.6	514.8	668.8	
35	1.7	498.0	386.9	562.2	451.6	493.6	541.6	531.5	549.2	516.8	556.1	599.3	571.4	740.0	
40	4.4	553.2	435.4	622.9	505.8	546.1	599.2	588.7	606.7	572.8	614.8	660.7	631.7	816.0	
45	7.2	612.2	487.6	687.6	563.9	601.8	660.5	649.6	667.9	632.5	677.4	726.1	695.9	897.1	
50	10.0	675.1	543.6	756.6	626.1	661.1	725.8	714.4	733.0	696.2	744.0	795.6	764.3	983.5	
55	12.8	742.0	603.5	830.0	692.7	724.0	795.1	783.4	802.1	763.8	814.8	869.3	836.9	1,075.4	
60	15.6	813.2	667.5	907.9	763.8	790.7	868.8	856.6	875.4	835.6	889.9	947.5	914.0	1,173.0	
65	18.3	888.8	735.9	990.6	839.7	861.2	946.8	934.3	953.0	911.7	969.5	1,030.2	995.7	1,276.5	
70	21.1	968.9	808.7	1,078.3	920.5	935.8	1,029.5	1,016.6	1,035.1	992.4	1,053.9	1,117.7	1,082.2	1,386.3	
75	23.9	1,053.7	886.3	1,171.1	1,006.4	1,014.6	1,116.9	1,103.7	1,121.8	1,077.7	1,143.1	1,210.2	1,173.7	1,502.6	
80	26.7	1,143.4	968.8	1,269.2	1,097.7	1,097.7	1,209.3	1,195.7	1,213.3	1,167.9	1,237.3	1,307.7	1,270.3	1,625.5	
85	29.4	1,238.2	1,056.4	1,372.8	1,194.5	1,185.2	1,306.9	1,293.0	1,309.8	1,263.1	1,336.9	1,410.5	1,372.2	1,755.4	
90	32.2	1,338.2	1,149.4	1,482.1	1,297.2	1,277.4	1,409.8	1,395.6	1,411.4	1,363.4	1,441.8	1,518.8	1,479.7	1,892.5	
95	35.0	1,443.7	1,247.9	1,597.3	1,406.0	1,374.4	1,518.2	1,503.8	1,518.4	1,469.2	1,552.5	1,632.8	1,592.9	2,037.1	
100	37.8	1,554.7	1,352.2	1,718.6	1,521.1	1,476.4	1,632.4	1,617.8	1,630.8	1,580.5	1,669.0	1,752.6	1,712.1	2,189.6	
105	40.6	1,671.6	1,462.6	1,846.1	1,642.8	1,583.4	1,752.6	1,737.8	1,748.9	1,697.6	1,791.7	1,878.5	1,837.4	2,350.2	
110	43.3	1,794.4	1,579.2	1,980.2	1,771.4	1,695.8	1,879.0	1,864.1	1,873.0	1,820.7	1,920.7	2,010.7	1,969.2	2,519.2	
115	46.1	1,923.4	1,702.4	2,120.9	1,907.2	1,813.7	2,011.9	1,996.9	2,003.1	1,949.9	2,056.4	2,149.4	2,107.5	2,697.0	
120	48.9	2,058.7	1,832.4	2,268.6	2,050.4	1,937.2	2,151.5	2,136.5	2,139.4	2,085.6	2,199.0	2,294.9	2,252.8	2,884.0	
125	51.7	2,200.6	1,969.6	2,423.4	2,201.5	2,066.7	2,298.1	2,283.3	2,282.3	2,227.9	2,348.8	2,447.4	2,405.3	3,080.7	
130	54.4	2,349.3	2,114.3	2,585.7	2,360.8	2,202.3	2,452.1	2,437.4	2,431.9	2,377.1	2,506.2	2,607.1	2,565.2	3,287.3	
135	57.2	2,505.0	2,266.7	2,755.5	2,528.7	2,344.2	2,613.8	2,599.4	2,588.5	2,533.4	2,671.5	2,774.5	2,733.0	3,504.6	
140	60.0	2,667.9	2,427.4	2,933.2	2,705.6	2,492.8	2,783.5	2,769.7	2,752.2	2,697.3	2,845.4	2,949.8	2,909.1	3,733.0	
145	62.8	2,838.3	2,596.7	3,119.1	2,892.2	2,648.4	2,961.9	2,948.9	2,923.5	2,868.9	3,028.2	3,133.3	3,093.9	3,973.3	
150	65.6	3,016.3	2,775.1	3,313.3	3,088.9	2,811.2	3,149.5	3,137.6	3,102.6	3,048.7</					