



## Presión - Temperatura | Guía para Refrigeración

Nomenclatura: Verde (in de Hg) = Vacío

Regular (psig) = Vapor Saturado (calcular sobrecalentamiento)

**Negritas (psig) = Líquido Saturado (calcular subenfriamiento)**

	Freon™ R-22	Opteon™ XP40 (R-449A)	Freon™ R-134a	Opteon™ XP10 (R-513A)	Opteon™ XL10 (R-1234yf)	
SAFETY GROUP	A1	A1	A1	A1	A2L	SAFETY GROUP
°C	psig	psig	psig	psig	psig	°F
-46	6.1	7.3	18.7	16.3	16.0	-50
-43	2.7	3.8	16.9	14.2	13.9	-45
-40	0.6	0.0	14.8	11.8	11.5	-40
-37	2.6	2.1	12.5	9.1	8.9	-35
-34	4.9	4.4	9.8	6.1	6.0	-30
-32	7.4	7.0	6.9	2.8	2.8	-25
-29	10.2	9.9	3.7	0.4	0.4	-20
-28	11.4	11.1	2.3	1.2	1.1	-18
-27	12.6	12.3	0.8	2.0	1.9	-16
-26	13.9	13.7	0.4	2.8	2.7	-14
-24	15.2	15.0	1.1	3.6	3.5	-12
-23	16.5	16.4	1.9	4.5	4.4	-10
-22	17.9	17.9	2.8	5.5	5.3	-8
-21	19.4	19.4	3.6	6.4	6.2	-6
-20	20.9	21.0	4.6	7.4	7.2	-4
-19	22.4	22.6	5.5	8.4	8.2	-2
-18	24.0	24.3	6.5	9.5	9.2	0
-17	25.7	26.0	7.5	10.6	10.3	2
-16	27.4	27.8	8.5	11.8	11.4	4
-14	29.2	29.7	9.6	13.0	12.5	6
-13	31.0	31.6	10.8	14.2	13.7	8
-12	32.8	33.6	11.9	15.5	14.9	10
-11	34.8	35.6	13.1	16.8	16.2	12
-10	36.8	37.7	14.4	18.1	17.5	14
-9	38.8	39.9	15.7	19.5	18.8	16
-8	40.9	42.1	17.0	21.0	20.2	18
-7	43.1	44.5	18.4	22.4	21.6	20
-6	45.3	46.8	19.9	24.0	23.1	22
-4	47.6	49.3	21.3	25.6	24.6	24
-3	50.0	51.8	22.9	27.2	26.2	26
-2	52.4	54.5	24.5	28.9	27.8	28
-1	55.0	57.1	26.1	30.6	29.4	30
0	57.5	59.9	27.8	32.4	31.1	32
1	60.2	62.8	29.5	34.3	32.9	34
2	62.9	65.7	31.3	36.2	34.7	36
3	65.7	68.7	33.1	38.1	36.5	38
4	68.6	71.8	35.0	40.1	38.4	40
6	71.5	75.0	37.0	42.2	40.4	42
7	74.5	78.3	39.0	44.3	42.4	44
8	77.6	81.7	41.1	46.5	44.5	46
9	80.8	85.1	43.2	48.7	46.6	48
10	84.1	88.7	45.4	51.0	48.8	50
11	<b>87.4</b>	<b>110.1</b>	<b>47.7</b>	<b>53.4</b>	<b>51.0</b>	52
12	<b>90.8</b>	<b>114.2</b>	<b>50.0</b>	<b>55.9</b>	<b>53.3</b>	54
13	<b>94.4</b>	<b>118.5</b>	<b>52.4</b>	<b>58.4</b>	<b>55.7</b>	56
14	<b>98.0</b>	<b>122.8</b>	<b>54.9</b>	<b>60.9</b>	<b>58.1</b>	58
16	<b>101.6</b>	<b>127.2</b>	<b>57.4</b>	<b>63.5</b>	<b>60.6</b>	60
18	<b>111.3</b>	<b>138.8</b>	<b>64.0</b>	<b>70.4</b>	<b>67.0</b>	65
21	<b>121.4</b>	<b>151.0</b>	<b>71.1</b>	<b>77.7</b>	<b>73.9</b>	70
24	<b>132.2</b>	<b>163.9</b>	<b>78.7</b>	<b>85.5</b>	<b>81.3</b>	75
27	<b>143.6</b>	<b>177.6</b>	<b>86.7</b>	<b>93.8</b>	<b>89.0</b>	80
28	<b>148.4</b>	<b>183.3</b>	<b>90.0</b>	<b>97.3</b>	<b>92.3</b>	82
29	<b>153.2</b>	<b>189.1</b>	<b>93.5</b>	<b>100.8</b>	<b>95.6</b>	84
30	<b>158.2</b>	<b>195.0</b>	<b>97.0</b>	<b>104.4</b>	<b>98.9</b>	86
31	<b>163.2</b>	<b>201.0</b>	<b>100.6</b>	<b>108.1</b>	<b>102.4</b>	88
32	<b>168.4</b>	<b>207.2</b>	<b>104.3</b>	<b>111.9</b>	<b>105.9</b>	90
33	<b>173.7</b>	<b>213.5</b>	<b>108.1</b>	<b>115.8</b>	<b>109.6</b>	92
34	<b>179.1</b>	<b>219.9</b>	<b>112.0</b>	<b>119.7</b>	<b>113.3</b>	94
36	<b>184.6</b>	<b>226.5</b>	<b>115.9</b>	<b>123.8</b>	<b>117.0</b>	96
37	<b>190.2</b>	<b>233.2</b>	<b>120.0</b>	<b>127.9</b>	<b>120.9</b>	98
38	<b>195.9</b>	<b>240.1</b>	<b>124.2</b>	<b>132.1</b>	<b>124.9</b>	100
39	<b>201.8</b>	<b>247.0</b>	<b>128.4</b>	<b>136.4</b>	<b>128.9</b>	102
40	<b>207.7</b>	<b>254.2</b>	<b>132.8</b>	<b>140.9</b>	<b>133.0</b>	104
41	<b>213.8</b>	<b>261.4</b>	<b>137.2</b>	<b>145.4</b>	<b>137.2</b>	106
42	<b>220.0</b>	<b>268.8</b>	<b>141.7</b>	<b>150.0</b>	<b>141.5</b>	108
43	<b>226.4</b>	<b>276.4</b>	<b>146.4</b>	<b>154.7</b>	<b>145.9</b>	110
44	<b>232.8</b>	<b>284.1</b>	<b>151.1</b>	<b>159.5</b>	<b>150.4</b>	112
46	<b>239.4</b>	<b>291.9</b>	<b>156.0</b>	<b>164.4</b>	<b>155.0</b>	114
47	<b>246.1</b>	<b>299.9</b>	<b>160.9</b>	<b>169.4</b>	<b>159.6</b>	116
48	<b>253.0</b>	<b>308.0</b>	<b>166.0</b>	<b>174.5</b>	<b>164.4</b>	118
49	<b>260.0</b>	<b>316.3</b>	<b>171.2</b>	<b>179.8</b>	<b>169.2</b>	120
50	<b>267.1</b>	<b>324.8</b>	<b>176.5</b>	<b>185.1</b>	<b>174.2</b>	122
51	<b>274.3</b>	<b>333.4</b>	<b>181.8</b>	<b>190.5</b>	<b>179.3</b>	124
52	<b>281.7</b>	<b>342.2</b>	<b>187.4</b>	<b>196.1</b>	<b>184.4</b>	126
53	<b>289.2</b>	<b>351.1</b>	<b>193.0</b>	<b>201.7</b>	<b>189.7</b>	128
54	<b>296.9</b>	<b>360.2</b>	<b>198.7</b>	<b>207.5</b>	<b>195.0</b>	130
57	<b>316.7</b>	<b>383.7</b>	<b>213.6</b>	<b>222.5</b>	<b>208.9</b>	135
60	<b>337.4</b>	<b>408.3</b>	<b>229.2</b>	<b>238.2</b>	<b>223.4</b>	140
66	<b>381.7</b>	<b>460.7</b>	<b>263.0</b>	<b>271.9</b>	<b>254.7</b>	150

## NO MEZCLE REFRIGERANTES

No usar los refrigerantes Opteon™ XL para retrofit, ya que están clasificados como A2L.

Los refrigerantes A2L solo pueden ser usados en equipo nuevo.

Para soporte relacionado con nuestros refrigerantes, póngase en contacto con nuestro equipo:

[infolatam@chemours.com](mailto:infolatam@chemours.com)

800 7375 623





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	Freon™ R-404A	Freon™ R-507A	Opteon™ XP44 (R-452A)	Opteon™ XL20 (R-454C)	Opteon™ XL40 (R-454A)	
SAFETY GROUP	A1	A1	A1	A2L	A2L	SAFETY GROUP
°C	psig	psig	psig	psig	psig	°F
-46	0.1	0.9	3.3	9.5	4.6	-50
-43	2.0	3.0	0.3	6.4	0.9	-45
-40	4.3	5.4	2.4	3.0	1.6	-40
-37	6.8	8.1	4.7	0.4	3.9	-35
-34	9.6	11.0	7.3	2.4	6.4	-30
-32	12.7	14.1	10.1	4.7	9.1	-25
-29	16.0	17.6	13.2	7.2	12.1	-20
-28	17.4	19.1	14.6	8.3	13.4	-18
-27	18.9	20.6	15.9	9.4	14.8	-16
-26	20.4	22.2	17.4	10.5	16.2	-14
-24	22.0	23.8	18.9	11.7	17.6	-12
-23	23.6	25.5	20.4	13.0	19.1	-10
-22	25.3	27.2	22.0	14.3	20.6	-8
-21	27.0	29.0	23.6	15.6	22.2	-6
-20	28.8	30.9	25.3	17.0	23.9	-4
-19	30.7	32.8	27.1	18.4	25.6	-2
-18	32.6	34.8	28.9	19.9	27.3	0
-17	34.6	36.8	30.7	21.4	29.2	2
-16	36.6	38.9	32.7	23.0	31.1	4
-14	38.7	41.1	34.7	24.6	33.0	6
-13	40.9	43.4	36.7	26.3	35.0	8
-12	43.1	45.7	38.8	28.0	37.1	10
-11	45.4	48.0	41.0	29.8	39.2	12
-10	47.8	50.5	43.3	31.7	41.4	14
-9	50.2	53.0	45.6	33.6	43.7	16
-8	52.7	55.6	48.0	35.5	46.1	18
-7	55.3	58.2	50.5	37.6	48.5	20
-6	58.0	61.0	53.0	39.7	51.0	22
-4	60.7	63.8	55.6	41.8	53.6	24
-3	63.5	66.7	58.3	44.0	56.2	26
-2	66.4	69.6	61.1	46.3	58.9	28
-1	69.3	72.7	64.0	48.7	61.7	30
0	72.4	75.8	66.9	51.1	64.6	32
1	75.5	79.0	69.9	53.6	67.6	34
2	78.7	82.3	73.0	56.2	70.6	36
3	82.0	85.7	76.2	58.8	73.7	38
4	85.4	89.2	79.4	61.5	76.9	40
6	88.8	92.7	82.8	64.3	80.3	42
7	92.4	96.4	86.3	67.2	83.6	44
8	96.0	100.1	89.8	70.1	87.1	46
9	99.8	104.0	93.4	73.2	90.7	48
10	103.6	107.9	97.1	76.3	94.4	50
11	<b>109.2</b>	<b>112.0</b>	<b>114.9</b>	<b>103.5</b>	<b>118.4</b>	52
12	<b>113.3</b>	<b>116.2</b>	<b>119.1</b>	<b>107.3</b>	<b>122.8</b>	54
13	<b>117.4</b>	<b>120.4</b>	<b>123.5</b>	<b>111.2</b>	<b>127.2</b>	56
14	<b>121.7</b>	<b>124.8</b>	<b>127.9</b>	<b>115.2</b>	<b>131.7</b>	58
16	<b>126.0</b>	<b>129.2</b>	<b>132.4</b>	<b>119.3</b>	<b>136.4</b>	60
18	<b>137.3</b>	<b>140.8</b>	<b>144.3</b>	<b>129.9</b>	<b>148.4</b>	65
21	<b>149.3</b>	<b>153.0</b>	<b>156.8</b>	<b>141.2</b>	<b>161.2</b>	70
24	<b>162.0</b>	<b>165.9</b>	<b>170.0</b>	<b>153.0</b>	<b>174.7</b>	75
27	<b>175.4</b>	<b>179.6</b>	<b>183.9</b>	<b>165.6</b>	<b>188.9</b>	80
28	<b>181.0</b>	<b>185.3</b>	<b>189.7</b>	<b>170.76</b>	<b>194.8</b>	82
29	<b>186.7</b>	<b>191.1</b>	<b>195.6</b>	<b>176.06</b>	<b>200.9</b>	84
30	<b>192.5</b>	<b>197.1</b>	<b>201.7</b>	<b>181.47</b>	<b>207.0</b>	86
31	<b>198.4</b>	<b>203.1</b>	<b>207.8</b>	<b>187.0</b>	<b>213.3</b>	88
32	<b>204.5</b>	<b>209.3</b>	<b>214.1</b>	<b>192.6</b>	<b>219.8</b>	90
33	<b>210.7</b>	<b>215.6</b>	<b>220.6</b>	<b>198.4</b>	<b>226.3</b>	92
34	<b>217.0</b>	<b>222.1</b>	<b>227.1</b>	<b>204.3</b>	<b>233.0</b>	94
36	<b>223.4</b>	<b>228.7</b>	<b>233.8</b>	<b>210.2</b>	<b>239.8</b>	96
37	<b>230.0</b>	<b>235.4</b>	<b>240.6</b>	<b>216.3</b>	<b>246.8</b>	98
38	<b>236.8</b>	<b>242.3</b>	<b>247.6</b>	<b>222.5</b>	<b>253.9</b>	100
39	<b>243.6</b>	<b>249.3</b>	<b>254.7</b>	<b>228.9</b>	<b>261.1</b>	102
40	<b>250.6</b>	<b>256.5</b>	<b>261.9</b>	<b>235.3</b>	<b>268.5</b>	104
41	<b>257.8</b>	<b>263.8</b>	<b>269.3</b>	<b>241.9</b>	<b>276.0</b>	106
42	<b>265.1</b>	<b>271.2</b>	<b>276.8</b>	<b>248.6</b>	<b>283.6</b>	108
43	<b>272.5</b>	<b>278.8</b>	<b>284.5</b>	<b>255.5</b>	<b>291.4</b>	110
44	<b>280.1</b>	<b>286.6</b>	<b>292.3</b>	<b>262.4</b>	<b>299.4</b>	112
46	<b>287.9</b>	<b>294.5</b>	<b>300.3</b>	<b>269.5</b>	<b>307.5</b>	114
47	<b>295.8</b>	<b>302.6</b>	<b>308.4</b>	<b>276.7</b>	<b>315.8</b>	116
48	<b>303.8</b>	<b>310.8</b>	<b>316.6</b>	<b>284.1</b>	<b>324.2</b>	118
49	<b>312.1</b>	<b>319.2</b>	<b>325.1</b>	<b>291.6</b>	<b>332.8</b>	120
50	<b>320.4</b>	<b>327.8</b>	<b>333.7</b>	<b>299.2</b>	<b>341.5</b>	122
51	<b>329.0</b>	<b>336.5</b>	<b>342.4</b>	<b>306.9</b>	<b>350.4</b>	124
52	<b>337.7</b>	<b>345.4</b>	<b>351.3</b>	<b>314.8</b>	<b>359.4</b>	126
53	<b>346.6</b>	<b>354.5</b>	<b>360.4</b>	<b>322.8</b>	<b>368.6</b>	128
54	<b>355.7</b>	<b>363.8</b>	<b>369.6</b>	<b>331.0</b>	<b>378.0</b>	130
57	<b>379.1</b>	<b>387.8</b>	<b>393.4</b>	<b>352.0</b>	<b>402.1</b>	135
60	<b>403.7</b>	<b>413.0</b>	<b>418.3</b>	<b>373.9</b>	<b>427.4</b>	140
66	<b>456.8</b>	<b>467.4</b>	<b>471.3</b>	<b>420.6</b>	<b>481.1</b>	150



Para conocer nuestros distribuidores autorizados escanea este código QR

Para conocer más sobre nuestra oferta de refrigerantes, visite [opteon.com/es](http://opteon.com/es)

