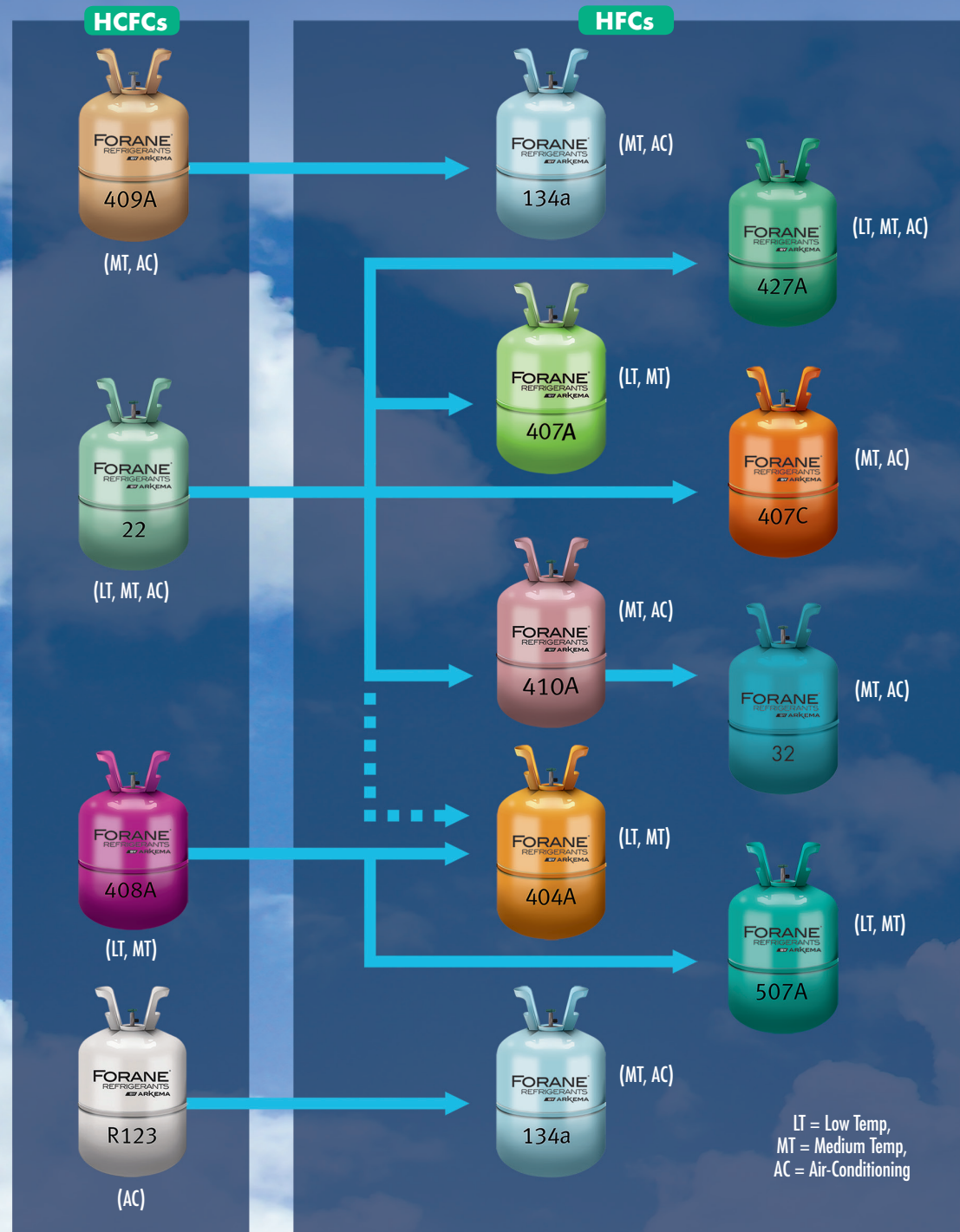


# PROGRESSION TOWARD SUSTAINABLE REFRIGERATION PRODUCTS

**FORANE**<sup>®</sup>  
REFRIGERANTS  
BY ARKEMA

## QUICK REFERENCE GUIDE

- |             |              |
|-------------|--------------|
| <b>HFCs</b> | <b>HCFCs</b> |
| R-32        | R-22         |
| R-134a      | R-408A       |
| R-404A      | R-409A       |
| R-407A      |              |
| R-407C      |              |
| R-410A      |              |
| R-427A      |              |
| R-507A      |              |



LT = Low Temp,  
MT = Medium Temp,  
AC = Air-Conditioning

**Customer Service**  
800.245.5858

**Technical Support**  
800.738.7695

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## APPLICATION REFERENCE GUIDE

ASHRAE #	TRADE NAME	REPLACES	TYPE	COMPOSITION (WT%)	GWP (100 YR) AR5	RECOMMENDED LUBRICANT	APPLICATIONS
R-22	Forane® 22		HCFC Single component fluid	R-22 - 100%	1,760	MO AB	Used in AC, MT, and LT systems. Scheduled for phase-out.
R-32	Forane® 32	R-410A	HFC Single component fluid	R-32 - 100%	677	POE	Recommended for R-410A in new residential and commercial air conditioning systems, heat pumps, dehumidifiers, and small chillers.
R-134a	Forane® 134a	R-12	HFC Single component fluid	R-134a - 100%	1,300	POE PAG (auto)	Replacement/retrofit for R-12 and R-500 systems. Recommended retrofit for R-12 automotive AC systems.
R-404A	Forane® 404A	R-502 R-22 R-402A R-408A	HFC Near-azeotropic blend	R-125 - 44% R-143a - 52% R-134a - 4%	3,943	POE	Replacement/retrofit for R-502 and R-22. Used in MT and LT refrigeration systems.
R-407A	Forane® 407A	R-22	HFC Zeotropic blend	R-32 - 20% R-125 - 40% R-134a - 40%	1,923	POE	Replacement/retrofit for R-22 in DX systems. Used in MT and LT refrigeration.
R-407C	Forane® 407C	R-22	HFC Zeotropic blend	R-32 - 23% R-125 - 25% R-134a - 52%	1,624	POE	Replacement/retrofit for R-22 systems. Used in AC and some refrigeration applications.
R-408A	Forane® 408A	R-502	HCFC Near-azeotropic blend	R-125 - 7% R-143a - 46% R-22 - 47%	3,257	MO AB POE	Recommended retrofit for R-502 systems. Used in MT and LT refrigeration systems.
R-410A	Forane® 410A	R-22	HFC Near-azeotropic blend	R-32 - 50% R-125 - 50%	1,924	POE	Replacement for R-22 in smaller size chillers, and residential and light commercial AC systems. Never use as a retrofit for R-22 equipment.
R-427A	Forane® 427A THE EASY RETROFIT™	R-22	HFC Zeotropic blend	R-32 - 15% R-125 - 25% R-143a - 10% R-134a - 50%	2,024	MO* AB* POE	Recommended retrofit for R-22 systems. Used in AC, MT and LT.
R-507A	Forane® 507A	R-502 R-22 R-402A R-408A	HFC Azeotropic blend	R-125 - 50% R-143a - 50%	3,985	POE	Replacement/retrofit for R-502 and R-22. Used in MT and LT refrigeration systems.

\*A lubricant change may not be required but POE is always recommended for optimal performance.

Global warming potential (GWP) values are relative to carbon dioxide on a 100-year basis and were obtained for the Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC).

## PRESSURE TEMPERATURE CHART

Saturated Temp (°F)	R-22	R-32	R-134a	R-404A Liquid Pressure	R-407A Liquid Pressure	R-407A Vapor Pressure	R-407C Liquid Pressure	R-407C Vapor Pressure	R-408A Liquid Pressure	R-409A Liquid Pressure	R-409A Vapor Pressure	R-410A Liquid Pressure	R-427A Liquid Pressure	R-427A Vapor Pressure	R-507A	Saturated Temp (°C)
-50	<b>6.1</b>	5.2	<b>18.7</b>	0.5	<b>0.8</b>	<b>9.0</b>	<b>2.7</b>	<b>11.0</b>	<b>1.4</b>	<b>12.2</b>	<b>18.7</b>	5.0	<b>3.5</b>	<b>11.4</b>	0.9	-45.6
-45	<b>2.7</b>	8.0	<b>16.9</b>	2.6	1.7	<b>5.7</b>	0.6	<b>8.0</b>	1.3	<b>9.6</b>	<b>16.9</b>	7.7	0.1	<b>8.4</b>	3.0	-42.8
-40	0.6	11.0	<b>14.8</b>	4.9	3.9	<b>2.0</b>	2.7	<b>4.6</b>	3.5	<b>6.7</b>	<b>14.8</b>	10.8	2.2	<b>5.1</b>	5.4	-40.0
-35	2.6	14.4	<b>12.5</b>	7.5	6.4	1.0	5.1	<b>0.9</b>	5.8	<b>3.5</b>	<b>12.5</b>	14.1	4.5	<b>1.5</b>	8.1	-37.2
-30	4.9	18.2	<b>9.8</b>	10.3	9.2	3.3	7.7	1.6	8.5	0.0	<b>9.9</b>	17.8	7.0	1.3	11.0	-34.4
-25	7.4	22.3	<b>6.9</b>	13.4	12.2	5.8	10.6	3.9	11.3	1.9	<b>7.0</b>	21.9	9.7	3.5	14.1	-31.7
-20	10.2	26.8	<b>3.7</b>	16.8	15.6	8.5	13.7	6.5	14.5	4.0	<b>3.8</b>	26.3	12.8	6.0	17.6	-28.9
-15	13.2	31.7	0.0	20.5	19.2	11.5	17.2	9.3	17.9	6.3	<b>0.2</b>	31.2	16.1	8.7	21.4	-26.1
-10	16.5	37.1	1.9	24.6	23.2	14.9	20.9	12.3	21.7	8.8	1.8	36.5	19.7	11.7	25.5	-23.3
-5	20.1	42.9	4.1	28.9	27.5	18.5	25.0	15.7	25.7	11.6	4.0	42.2	23.6	15.0	30.0	-20.6
0	24.0	49.3	6.5	33.7	32.2	22.5	29.5	19.4	30.1	14.6	6.3	48.4	27.9	18.7	34.8	-17.8
5	28.3	56.1	9.1	38.8	37.3	26.9	34.3	23.5	34.9	17.8	8.8	55.2	32.6	22.6	40.1	-15.0
10	32.8	63.5	11.9	44.3	42.8	31.6	39.5	27.9	40.0	21.3	11.6	62.4	37.6	26.9	45.7	-12.2
15	37.8	71.4	15.0	50.2	48.7	36.7	45.2	32.7	45.5	25.1	14.7	70.3	43.0	31.5	51.8	-9.4
20	43.1	80.0	18.4	56.6	55.1	42.3	51.2	37.9	51.5	29.2	18.0	78.7	48.8	36.6	58.3	-6.7
25	48.8	89.2	22.1	63.4	62.0	48.3	57.7	43.5	57.8	33.6	21.6	87.7	55.0	42.1	65.3	-3.9
30	55.0	99.1	26.1	70.7	69.3	54.8	64.7	49.6	64.6	38.4	25.5	97.4	61.7	48.0	72.7	-1.1
35	61.5	109.7	30.4	78.6	77.2	61.8	72.2	56.1	71.9	43.4	29.7	107.7	68.9	54.3	80.7	1.7
40	68.6	121.0	35.0	86.9	85.6	69.4	80.2	63.2	79.7	48.9	34.2	118.8	76.6	61.2	89.2	4.4
45	76.1	133.0	40.1	95.8	94.6	77.4	88.8	70.7	88.0	54.7	39.1	130.6	84.8	68.5	98.3	7.2
50	84.1	145.9	45.4	105.3	104.2	86.1	97.9	78.8	96.8	60.9	44.3	143.2	93.6	76.4	108.0	10.0
55	92.6	159.5	51.2	115.3	114.4	95.3	107.6	87.5	106.2	67.4	49.9	156.5	102.9	84.8	118.3	12.8
60	101.6	174.1	57.4	126.0	125.2	105.2	118.0	96.8	116.1	74.5	55.9	170.7	112.8	93.8	129.2	15.6
65	111.3	189.5	64.0	137.3	136.7	115.8	128.9	106.7	126.7	81.9	62.3	185.8	123.3	103.4	140.8	18.3
70	121.4	205.8	71.1	149.3	148.8	127.0	140.5	117.3	137.8	89.8	69.1	201.8	134.4	113.7	153.0	21.1
75	132.2	223.2	78.7	162.0	161.7	138.9	152.8	128.6	149.6	98.2	76.4	218.7	146.2	124.6	165.9	23.9
80	143.6	241.5	86.7	175.4	175.3	151.6	165.8	140.5	162.1	107.0	84.2	236.5	158.6	136.1	179.6	26.7
85	155.7	260.9	95.2	189.5	189.7	165.1	179.6	153.2	175.3	116.4	92.5	255.4	171.8	148.4	194.1	29.4
90	168.4	281.3	104.3	204.5	204.8	179.3	194.1	166.7	189.2	126.2	101.2	275.4	185.7	161.5	209.3	32.2
95	181.8	302.9	114.0	220.2	220.8	194.5	209.4	181.0	203.8	136.6	110.5	296.4	200.3	175.3	225.4	35.0
100	195.9	325.7	124.2	236.8	237.7	210.4	225.5	196.1	219.2	147.6	120.3	318.6	215.8	189.9	242.3	37.8
105	210.8	349.7	135.0	254.2	255.3	227.4	242.4	212.1	235.3	159.1	130.7	341.9	232.0	205.4	260.1	40.6
110	226.4	374.9	146.4	272.5	273.9	245.2	260.3	229.0	252.3	171.2	141.7	366.4	249.1	221.7	278.8	43.3
115	242.8	401.4	158.4	291.8	293.5	264.1	279.0	246.9	270.2	183.9	153.3	392.3	267.0	238.9	298.5	46.1
120	260.0	429.3	171.2	312.1	314.0	284.0	298.6	265.8	288.9	197.2	165.6	419.4	285.8	257.1	319.2	48.9
125	278.0	458.7	184.6	333.3	335.4	305.0	319.2	285.7	308.6	211.1	178.5	447.9	305.5	276.3	340.9	51.7
130	296.9	489.5	198.7	355.7	357.9	327.1	340.7	306.7	329.2	225.7	192.0	477.9	326.2	296.5	363.8	54.4
135	316.7	521.8	213.6	379.1	381.5	350.5	363.3	328.8	350.7	241.0	206.3	509.4	347.8	317.8	387.8	57.2
140	337.4	555.8	229.2	403.7	406.2	375.1	387.0	352.1	373.3	257.0	221.3	542.5	370.5	340.3	413.0	60.0
145	359.0	591.4	245.7	429.6	431.9	401.0	411.7	376.6	397.0	273.7	237.1	577.3	394.1	363.9	439.5	62.8
150	381.7	628.8	262.9	456.8	458.9	428.3	437.5	402.5	421.7	291.1	253.6	613.9	418.9	388.8	467.4	65.6

Red Numerals (in bold and italics) - Inches Hg Below 1 ATM