

## Regarding mixed refrigerants theoretical cycle performance

Refrigerant	Conditions				Refrigeration capacity	
	Condensing temperature	Vapor temperature	Supercooling degrees	Superheating degrees		
	°C	°C	°C	°C	kJ/m <sup>3</sup>	R22=1
R-22	45	0	0	5	3,150	1
	45	-30	0	40	1,004	1
R-502	45	0	0	5	3,031	0.96
	45	-30	0	40	1,024	1.02
R-134a	45	0	0	5	1,957	0.62
	45	-30	0	40	554	0.55
R-410A	45	0	0	5	4,461	1.42
	45	-30	0	40	1,467	1.46
R-407C	45	0	0	5	3,094	0.98
	45	-30	0	40	919	0.91
R-507A	45	0	0	5	3,085	0.98
	45	-30	0	40	1,048	1.04
R-404A	45	0	0	5	3,048	0.97
	45	-30	0	40	1,023	1.02
R-22	10	-40	5	0	888	1
	30	-15	5	0	2,179	1
	45	5	5	0	3,899	1
R-502	10	-40	5	0	952	1.07
	30	-15	5	0	2,215	1.02
	45	5	5	0	3,819	0.98
R-134a	10	-40	5	0	463	0.52
	30	-15	5	0	1,285	0.59
	45	5	5	0	2,486	0.64
R-410A	10	-40	5	0	1,383	1.56
	30	-15	5	0	3,252	1.49
	45	5	5	0	5,622	1.44
R-407C	10	-40	5	0	838	0.94
	30	-15	5	0	2,142	0.98
	45	5	5	0	3,927	1.01
R-507A	10	-40	5	0	1,009	1.14
	30	-15	5	0	2,328	1.07
	45	5	5	0	3,965	1.02
R-404A	10	-40	5	0	979	1.1
	30	-15	5	0	2,280	1.05
	45	5	5	0	3,909	1

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Refrigerant	Performance coefficient		Compression ratio	Compressor discharge temperature	Compressor discharge pressure	Temperature glide
	-	R-22=1				
R-22	4.76	1	3.47	69.9	1,729	0
	2.23	1	10.54	128.5	1,729	0
R-502	4.38	0.92	3.33	56.5	1,889	0
	2.12	0.95	9.64	97.3	1,889	0
R-134a	4.73	0.99	3.96	54.5	1,160	0
	2.27	1.02	13.81	96.6	1,160	0
R-410A	4.35	0.91	3.41	69.2	2,721	0.11
	2.05	0.92	10.08	123.8	2,721	0.11
R-407C	4.55	0.96	3.74	64.8	1,859	4.75
	2.15	0.96	12.31	113.1	1,859	4.75
R-507A	4.1	0.86	3.35	54.2	2,108	0.04
	2	0.9	9.76	90.2	2,108	0.04
R-404A	4.15	0.87	3.38	54.7	2,055	0.32
	2.02	0.91	9.98	91.3	2,055	0.32
R-22	3.94	1	6.49	44	681	0
	4.85	1	4.03	52.9	1,192	0
	5.83	1	2.96	62.3	1,729	0
R-502	3.83	0.97	6	22.3	768	0.03
	4.64	0.96	3.82	37.6	1,317	0.01
	5.49	0.94	2.85	51.3	1,889	0
R-134a	3.93	1	8.14	23.1	415	0
	4.83	1	4.7	36.6	770	0
	5.83	1	3.31	49.2	1,160	0
R-410A	3.83	0.97	6.16	39.7	1,084	0.1
	4.63	0.95	3.91	51	1,880	0.12
	5.44	0.93	2.92	61.9	2,721	0.11
R-407C	3.86	0.98	7.17	36.1	710	5.93
	4.73	0.98	4.35	47.9	1,265	5.32
	5.65	0.97	3.15	59.2	1,859	4.75
R-507A	3.75	0.95	6.04	18.2	851	0.03
	4.48	0.92	3.85	35	1,465	0.04
	5.23	0.9	2.87	49.7	2,108	0.04
R-404A	3.76	0.95	6.12	19.2	826	0.49
	4.5	0.93	3.89	35.6	1,426	0.4
	5.27	0.9	2.89	50.1	2,055	0.32