

RS-100 R464A) PHYSICAL PROPERTIES



		RS-100 ⁽²⁾	RS-404A ⁽²⁾	R22
Molecular Mass	kg/kgmole	88.3	97.6	86.5
Boiling point (1 atm) ⁽¹⁾	⁰ C	-46.5	-46.2	-40.8
	⁰ F	-51.7	-51.2	-41.5
Temperature Glide	K	4 ⁽⁴⁾	0.5	0.0
Critical Temperature	⁰ C	88.6	72.1	96.1
	⁰ F	180.7	161.7	205.1
Critical Pressure	bara	45.0	37.29	49.90
	psia	653	541	724
Liquid Density (25 ⁰ C) ⁽¹⁾	kg/m ³	1095	1044	1191
Density of saturated vapour (25 ⁰ C) ⁽¹⁾	kg/m ³	53.231	65.27	44.23
Latent Heat of Vaporisation at boiling point ⁽³⁾	kJ/kg	256.97	199.6	233.8
Cv (25 ⁰ C & 1bara)	kJ/kg.K	0.74684	0.7844	0.5587
Cp (25 ⁰ C & 1bara)	kJ/kg.K	0.8492	0.8771	0.6619
Cp/Cv (25 ⁰ C & 1 bara)		1.1371	1.118	1.185
Vapour Pressure (25 ⁰ C) ⁽¹⁾	bara	12.88	12.55	10.439
	psia	186.8	182.0	151.4
Vapour Viscosity (25 ⁰ C & 1 bara)	cP	0.0131	0.0120	0.0126
Liquid Viscosity (25 ⁰ C) ⁽¹⁾	cP	0.138	0.128	0.164
Liquid Thermal Conductivity (25 ⁰ C)	W/m.K	0.809	0.0636	0.0835
Surface Tension (25 ⁰ C) ⁽¹⁾	N/m	0.00791	0.00455	0.00808
Specific heat of liquid (25 ⁰ C) ⁽¹⁾	kJ/kg.K	1.541	1.542	1.2568
Ozone Depletion Potential	ODP	0	0	0.06
Flammability limit in air (1 atm)	vol%	none	none	none
Inhalation exposure (8 hour day & 40 hour week)	ppm	1000	1000	1000
Global Warming Potential	GWP	1321	3922	1810

Notes

(1) Bubble Point

(2) RS-100 and R404A refrigerant properties obtained from NIST's REFPROP program.

(3) Difference between bubble point liquid enthalpy and dew point vapour enthalpy at the same pressure

(4) Pressure drop of 0.12 psia in evaporator