

RS-100 (R464A) PHYSICAL PROPERTIES



		RS-100 ⁽²⁾	RS-404A ⁽²⁾	R22
Molecular Mass	kg/kgmole	88.5	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	82.6	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	1097	1044	1191
Density of saturated vapour (25 ⁰ C) ⁽¹⁾	kg/m ³	46.07	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	0.746	0.784	0.559
Cp (25 ⁰ C & 1bara)	kJ/kg.K	0.848	0.877	0.662
Cp/Cv (25 ⁰ C & 1 bara)		1.1371	1.118	1.185
Vapour Pressure (25 ⁰ C) ⁽¹⁾	bara	12.88	12.55	10.44
	psia	186.8	182.0	151.4
Vapour Viscosity (25 ⁰ C & 1 bara)	cP	0.013	0.012	0.013
Liquid Viscosity (25 ⁰ C) ⁽¹⁾	cP	0.138	0.128	0.164
Liquid Thermal Conductivity (25 ⁰ C)	W/m.K	0.809	0.064	0.083
Surface Tension (25 ⁰ C) ⁽¹⁾	N/m	0.008	0.005	0.008
Specific heat of liquid (25 ⁰ C) ⁽¹⁾	kJ/kg.K	1.541	1.542	1.257
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