

# RS-70 PHYSICAL PROPERTIES

		<b>RS-70</b>	<b>R22</b>
Molecular Mass		88.8	86.5
Boiling point (1 atm) (1)	<sup>0</sup> C	-42.2	-40.8
	<sup>0</sup> F	-44.0	-41.5
Temperature Glide (4)	K	4.2	0.0
Critical Temperature	<sup>0</sup> C	87.9	96.1
	<sup>0</sup> F	190.3	205.1
Critical Pressure	bara	45.3	49.90
	psia	656.5	724
Liquid Density (25 <sup>0</sup> C) (1)	kg/m <sup>3</sup>	1136	1191
Density of saturated vapour (25 <sup>0</sup> C) (1)	kg/m <sup>3</sup>	41.69	44.23
Latent Heat of Vaporisation at boiling point (3)	kJ/kg	243.3	233.8
Heat capacity constant volume Cv (25 <sup>0</sup> C & 1bara)	kJ/kg.K	0.7458	0.5587
Heat capacity constant pressure Cp (25 <sup>0</sup> C & 1bara)	kJ/kg.K	0.8453	0.6619
Cp/Cv (25 <sup>0</sup> C & 1 bara)		1.137	1.185
Vapour Pressure (25 <sup>0</sup> C) (1)	bara	11.22	10.439
	psia	162.7	151.4
Vapour Viscosity (25 <sup>0</sup> C & 1 bara)	cP	0.0122	0.0126
Liquid Viscosity (25 <sup>0</sup> C) (1)	cP	0.1572	0.164
Liquid Thermal Conductivity (25 <sup>0</sup> C)	W/m.K	0.0833	0.0835
Surface Tension (25 <sup>0</sup> C) (1)	N/m	0.0072	0.00808
Specific heat of liquid (25 <sup>0</sup> C) (1)	kJ/kg.K	1.5209	1.2568
Ozone Depletion Potential	ODP	0	0.06
Flammability limit in air (1 atm)	vol%	none	none
Inhalation exposure (8 hour day & 40 hour week)	ppm	1000	1000
GWP AR4		1765	1810

**Notes:**

- (1) Bubble Point
- (2) RS-70 refrigerant properties obtained from NIST's REFPROP program.
- (3) Difference between bubble point liquid enthalpy and dew point vapour enthalpy at 1 atm.
- (4) Evaporator temperature glide calculated using NIST CYCLE D in accordance with high evaporating condition specified in Standard EN 12900:2005 Section 7 Table 2 assuming 100% compressor and motor efficiencies.

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