



# RS-100 (R464A): Q & A

1.Q: What is RS-100 (R464A)?

A: RS-100 (R464A) is a non-ozone depleting low GWP replacement for R404A and R507.

2 Q: Yes, but what does RS-100 (R464A) contain?

A: RS-100 (R464A) is a blend of R32a, R125, R1234ze & R227ea.

3 Q: What is the Global Warming Potential (GWP) of RS-100 (R464A)?

A: GWP of RS-100 (R464A) is 1321 which is the lowest GWP of any HFC/HFO blend on the market.

4 Q: Can RS-100 (R464A) be used with the same lubricant when replacing R404A and R507?

A: Yes. RS-100 (R464A) is fully compatible with synthetic lubricants such as polyol ester (POE) which are commonly used with R404A and R507.

5 Q: Is RS-100 (R464A) non-flammable and low toxicity?

A: RS-100 (R464A) is both non-flammable and low toxicity with a safety classification of A1 from the ASHRAE. RS-100 (R453A) is non-flammable under all conditions of fractionation under ASTM 681-09.

6 Q: Is RS-100 (R464A) approved by compressor manufacturers?

A: The individual components which comprise RS-100 (R464A) are widely used in compressors produced by major manufacturers.

7: How efficient is RS-100 (R464A)?

A: Tests show that RS-100 (R464A) has a higher Coefficient of Performance than R404A and R507 which provides a significant energy saving for users.

8 Does RS-100 (R464A) need to be charged in the liquid or gaseous form?

A: Because RS-100 (R464A) is a blend, the recommendation is to charge it into the system in the liquid form. However, if the entire contents of the cylinder are being charged, then vapour charging is acceptable.

9 Q: Does the RS-100 (R464A) disposable cylinder have a dip tube?

A: No. The disposable should be inverted to discharge RS-100 (R464A) in the liquid form.

10 Q: Is RS-100 (R464A) on the SNAP (Significant New Alternative Policy programme) list in the USA?

A: An application will be made for a SNAP listing to the US Environmental Protection Agency..

11 Q: Does RS-100 (R464A) have an ASHRAE number & what is its classification?

A: Yes. RS-100 (R464A) has an ASHRAE number of R464A and safety classification of A1 which is non-flammable under all conditions of fractionation.

12 Q: How does the pressure rating of RS-100 (R464A) compare with R404A and R507?

A: The discharge pressure of RS-100 (R464A) is similar to R404A and R507.

13 Q: How does the capacity of RS-100 (R464A) compare to R404A and R507?

A: The capacity of RS-100 (R464A) is similar to R404A and R507..

14 Q: How does the discharge temperature of RS-100 (R464A) compare to R404A and R507?

A: The discharge temperature of RS-100 (R464A) is similar to R404A and R507.

15 Q: What are the flammability characteristics of RS-100 (R464A)?

A: RS-100 (R464A) is non-flammable at room temperature and atmospheric pressure, and has the same safety classification as R404A & R507.

16 Q: What are the decomposition products resulting from the combustion of RS-100 (R464A)?

A: The decomposition products resulting from subjecting RS-100 (R464A) to a high temperature source are similar to those when R404A and R507 are exposed to fire.. The decomposition products in each case are irritating and toxic, and breathing apparatus should be worn where a possibility to exposure exists.

17 Q: Are there any special precautions with RS-100 (R464A)?

A: There are no specific precautions which must be taken with RS-100 (R464A). As with all refrigerants, common sense and good housekeeping is always recommended.

18 Q: Is RS-100 (R464A) compatible with refrigeration and air conditioning systems designed for R404A & R507?

A: Yes. RS-100 (R464A) is compatible with all materials commonly used in systems that were designed and charged with R404A & R507. Magnesium and zinc alloys should be avoided.

19 Q: Can RS-100 (R464A) be recovered and recycled?

A: Yes. RS-100 (R464A) can be recovered and re-used after a cleaning process.

20 Q: What technical guidance do you advise when changing from R404A or R507 to RS-100 (R464A)?

A: Use the same type of lubricant which will be polyolester, replace the filter/drier and charge 10% less quantity of RS-100 (R464A) as the original charge for R404A or R507 after fully evacuating. RS-100 (R464A) has a lower liquid flow rate than R404A and R507, so that it may be necessary to replace the expansion device with a valve approximately 40% smaller.

21 Q: In systems operating with R404A or R507, what if any adjustments need to be made to electronic expansion valves when using RS-100 (R464A)?

A: Electronic expansive valves that operate on temperature difference only will have to be adjusted to allow for the evaporator glide. The estimated glide must be added to the recommended evaporator superheat setting for the equipment and the valve adjusted accordingly. Electronic expansive valves that operate on evaporator pressure converted to temperature will have to be re-programmed for the pressure temperature relationship of RS-100 (R464A).

22 Q: How does RS-100 (R464A) compare in price with R404A and R507?

A: RS-100 (R464A) is competitive in price with R404A and R507.

23 Q: What is the main advantage of RS-100 (R464A)?

A: RS-100 (R464A) has a considerably lower GWP which is one third that of R404A and R507.

24 Q: Is RS-100 (R464A) compatible with hoses, seals, gaskets and O-rings commonly used with R404A and R507?

A: Yes, there is no necessity change any seals, hoses etc when replacing R404A and R507 with RS-100 (R464A).

25 Q: What is the specification for RS-100 (R464A)?

A: RS-100 (R464A) complies with the refrigerant specification AHI 700 for fluorocarbon refrigerants.

26 Q: What is the effect of high exposure by inhalation of RS-100 (R464A)?

A: As is the case with all CFC, HCFC and HFC based refrigerants, high exposure to RS-100 (R464A) may produce anaesthetic effects. Very high exposures may cause an abnormal heart rhythm and prove suddenly fatal as is the case with all CFC, HCFC and HFC based refrigerants.

27: What types of leak detectors should be used with RS-100 (R464A)?

A: Leak detectors used with HFCs are suitable for use with RS-100 (R464A).

28: What would be the effect of a large release of RS-100 (R464A)?

A: In common with other refrigerants of this type, the area should be immediately evacuated. The vapour may concentrate at floor level and in poorly ventilated areas may be slow to disperse. Forced ventilation should be provided before entering such areas.

29 Q: Is RS-100 (R464A) available in both returnable and disposable cylinders?

A: Yes.

30: Is RS-100 (R464A) suitable for use with new equipment?

A: RS-100 (R464A) is targeted to replace R404A and R507 in new equipment in order to take advantage of its lower global warming than R404A and R507.