

The New Ozone Safe R-12 Replacement!

Safe • Reliable • Affordable



Scan this QR Code to watch the Hot Shot 2 Conversion Video on your mobile device!

- Direct Replacement
 - HFC - Ozone Safe
 - EPA SNAP Listed - Stationary Equipment Only
 - FREE Training Online
- Complete Specifications on Back
Field Performance Tested

**2015 - 90% Production Cap on all HCFC Production*

HOT SHOT2™ REPLACES:



...also replaces R-134a, R-420A, R-416A, R-500, R-414A, 426A & 437A in most applications
***2015 - 90% Production Cap on all HCFC Production.**

For more information or to find a distributor near you, visit www.icorinternational.com or call 1-800-497-6805.

For Free Online Training at ICOR's Virtual Training Center, visit www.icorvtc.com.

ICOR
INTERNATIONAL
"making your life easier™"

HOT SHOT2™

System requirements

- 1 System must be designed for use with R-12, 134a or 500
- 2 System must be designed for a direct expansion metering device, i.e. TEV, cap tube, or fixed orifice
- 3 System should be operating within its design capacity.
- 4 System should be leak free
- 5 Compressor must be charged with lubricant as required by the OEM
- 6 Suction, discharge and liquid piping must be sized, trapped and insulated for systems temperature and BTU design.

Evaporator Temperature Range

-15 °F to 50 °F

Oils

MO, AB, POE, PVE and PAG

Direct Replacement for Refrigerants

12, 134a, 500, 401A/B, 409A, 414B, 416A, 420A, 426A, 437 & 414A in most applications.

Pre and Post conversion data

- System information must be recorded for warranty.

Go to www.icorinternational.com for complete warranty information.

Flooded systems

Must be approved by ICOR's Technical Support Supervisor

System charging

- 1 Initially charge 80% of R-12.
Do Not exceed 115% of OEM charge
- 2 Remove liquid only from cylinder
- 3 Charge refrigerant in the receiver or high side of the system with the compressor off.
- 4 Run system and add refrigerant if needed to design subcooling. Adjust TEV if needed. Never charge system by clearing sight glass
5. For Fixed Metering Device Systems. Charge by compressor superheat

Conversion considerations

HOT SHOT2 is compatible with mineral oil, alkyl benzene and polyolester. In most cases no change of lubricant is required. Oil return is determined by a number of operating and design conditions. Minor equipment modifications (e.g. seal replacement, TEV adjustment) may be required.

Benefits

- No TEV or cap tube replacement
- No oil change to AB or POE
- Can be topped off after leak has been repaired
- Widespread availability

Applications

- R-12 and 134a low, medium and high temp refrigeration.
 - R-12 and 500 air conditioning
- NOT FOR USE IN MOBILE APPLICATIONS**

Performance Comparison

- Same as R-12
- Higher than R-134a

EPA Hotline # 800.296.1996

www.epa.gov

Technical Information

Environmental Classification	HFC
EPA/SNAP Accepted (S=Stationary)	S
Ozone Depletion Potential	0
Global Warming Potential	1820
Oil Compatibility	All
Molar Mass lbm/lbmol	103.73
Normal Boiling Point (1 atm, °F)	-26.65
Critical Pressure (psia)	590.85
Critical Temperature (°F)	203.7
Critical Density (lbm/ft ³)	32.12
Liquid Density (70 °F, lbm/ft ³)	74.6
Vapor Density (NBP, lbm/ft ³)	0.2893
Temperature Glide (NBP)	6
Temperature Glide (100 °F)	4
Pounds Per Gallon (70 °F)	9.97
Maximum Moisture (ppm)	10
Maximum Non-Condensables (% vol)	1.5
Maximum High Boiling Impurities (% vol)	0.01
Recommended Maximum Exposure Limits in Air (ppm)	1000
R-125 (% Weight)	19.5
R-134a (% Weight)	78.8
R-600 (% Weight)	1.7

**For further and Technical Assistance, please call our
ICOR International Technical Support Team
1-800-497-6805**

Distributed By:

ICOR
INTERNATIONAL
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10640 E. 59th Street
Indianapolis, IN 46236
800-497-6805
icorinfo@icorinternational.com

Conversion Recommendations And Procedures

Change from CFC and HCFC to HFC refrigerants may cause a retraction in the o-rings and elastomers. Be sure to repair or replace after recovery of the original refrigerant. Failure to address this at this time may cause unnecessary loss of refrigerant.

ICOR recommends verification of the metering device sizing with the distributor or manufacturer of the device.

1) RECORD SYSTEM PRE-CONVERSION DATA:

Prior to converting, the system should be monitored and all system and component operating conditions recorded for future reference. (SEE FORM ON REVERSE SIDE)

2) RECOVER:

100% of the refrigerant must be recovered from system in accordance with all EPA guidelines. *Recording the weight of the refrigerant you recover will assist you in determining the amount of Hot Shot 2 necessary for the conversion.

3) PERFORM OIL ANALYSIS:

Check system oil for acidity, water and solids (metal shavings). If detected perform a complete system oil change using the OEM specified type and amount of oil.

4) INSTALL NEW FILTER DRIER AND OIL FILTER:

The oil analysis will tell you what type of filter drier you need to use. Systems with coalescent oil separators and/or compressor oil filters need to be changed, too.

5) LEAK CHECK SYSTEM:

Pressure test system with dry nitrogen. DO NOT exceed the equipment's design pressure. Hot Shot 2 can be detected with any standard form of leak detection designed to detect HFC refrigerants.

6) EVACUATE SYSTEM:

To remove non-condensables and moisture in the system, a minimum 500 micron vacuum must be achieved.

7) CHARGE SYSTEM:

Remove LIQUID ONLY from Hot Shot 2 cylinder. When initially charging system, Hot Shot 2 can be added directly into the receiver tank or high-pressure side of the system with compressor off. Charge ratios for Hot Shot 2 may vary depending on system design and application. The initial charge of Hot Shot 2 should be 80% of the original R-12 charge.

8) RUN SYSTEM:

Check pressures, subcooling, and superheat temperatures. Use Hot Shot 2 P/T chart on reverse side. If additional Hot Shot 2 needs to be added, do so in 5% increments and DO NOT exceed 115% of the original charge of R-12. If system performance is inadequate, call ICOR for support at 800-497-6805.

9) PROPERLY LABEL SYSTEM:

Avoid mixing refrigerants by properly labeling your system. For Hot Shot 2 system ID labels, call the ICOR support hotline at 800-497-6805.

10) POST CONVERSION LEAK CHECK:

After operation of system begins, do a thorough system leak check.

11) RECORD SYSTEM POST CONVERSION DATA:

Monitor and evaluate system performance and record data. This information can be compared to your preconversion data for a full conversion evaluation and can be used if further technical support is required.

REMEMBER WHEN CONVERTING OR RETROFITTING DID YOU.....?

- Adjust your low pressure control, evaporator or crankcase pressure regulator to the corresponding P/T relationship.
- Confirm the fan cycling setpoints. Unless the service conditions indicate contamination, oil change is not required and standard filter driers can be used. Remember oil loss can occur during the recovery process. Check oil level after system has stabilized. Adjust if necessary. If leaks occur, you may recharge (top-off) without effecting system performance. As with other replacements, systems directly converted from R-12 may experience shrinkage of o-rings or gaskets, which could contribute to leakage.

If there are any questions concerning the application of Hot Shot 2, contact ICOR INTERNATIONAL TECHNICAL SUPPORT AT 1-800-497-6805 OR www.icorinternational.com.

Hot Shot 2 IS ANOTHER QUALITY PRODUCT FROM THE PRODUCERS OF HOT SHOT®, NU-22B® and ONE SHOT® LEADING THE INDUSTRY IN REPLACEMENT REFRIGERANTS

CONVERSION GUIDELINES

HOT SHOT 2™

- EPA SNAP LISTED - STATIONARY EQUIPMENT ONLY
- NOT FOR USE IN MOBILE APPLICATIONS
- NON-OZONE DEPLETING
- COMPATIBLE WITH ALL STANDARD REFRIGERANT OILS
- LOWER CONVERSION COSTS
- R-12 LIKE OPERATING CHARACTERISTICS
- BROAD APPLICATION RANGE
- LOW • MEDIUM • HIGH TEMPERATURES
- BACKED BY WARRANTY

TECH 2 TECH

REFRIGERANT RELATED
DIAGNOSTIC SUPPORT
866-433-TECH (8324)

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10640 East 59th Street • Indianapolis, IN 46236
Phone: 800-497-6805 • Fax: 317-826-3214
E-mail: icorinfo@icorinternational.com
www.icorinternational.com

HOT SHOT 2™

CONVERSION GUIDELINES FOR R-12,134a and 500 DX SYSTEMS

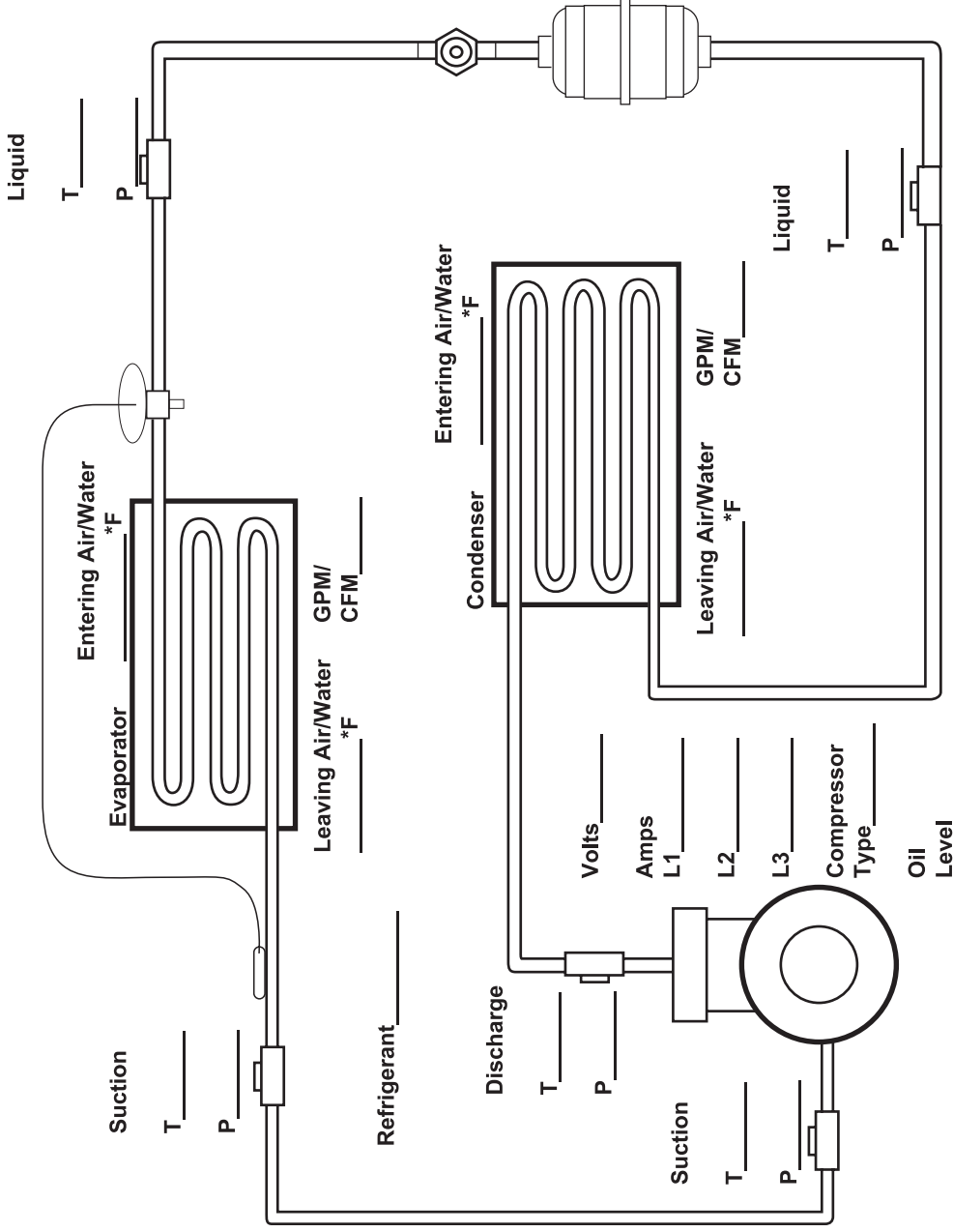
Hot Shot 2 is a non-ozone depleting blend, which can be used as a direct refrigerant replacement into existing systems that are still operating on R-12, 134a and 500. It is compatible with all standard ACR system lubricants, i.e. MO, AB, and POE oils.

SYSTEM REQUIREMENTS

- 1) System must be designed for use with R-12, 134a and 500 free of leaks, and in sound operating condition.
- 2) Hot Shot 2 is designed for use in systems utilizing direct expansion metering, i.e. TXV, orifice, cap tube. Before using Hot Shot 2 in a flooded system consult ICOR's technical staff. Hot Shot2 is not designed for use in mobile applications.
- 3) The system should be operating within its design capacity. Consult ICOR before converting any system with pre-existing capacity problems.
- 4) The system should be charged with the proper type and amount of lubricant, as required by the original equipment and component manufacturers.

NOTIFICATION TO USERS:

The information contained in this document is given in good faith based on our current knowledge. It is only an indication and should not be construed as an endorsement or guarantee of performance to any specific application and is in no way binding. We guarantee that our products comply with our sales specifications. This information is not to be used as a substitution for system analysis as to suitability. Users are responsible for compliance with local, state, and federal regulations for recovery and evacuation.



CONDENSER			
Bubble	(F)	(psig)	(F)
80	107	102	155
82	111	104	160
84	115	106	165
86	119	108	170
88	123	110	175
90	127	112	180
92	132	114	186
94	136	116	191
96	141	118	197
98	145	120	203
100	150		

EVAPORATOR			
Dew	(F)	(psig)	(F)
-20	0.2	15.7	40
-18	0.9	17.1	42
-16	1.8	18.5	44
-14	2.6	20.0	46
-12	3.5	21.5	48
-10	4.4	23.0	50
-8	5.4	24.7	52
-6	6.3	26.3	54
-4	7.4	28.1	56
-2	8.4	29.8	58
0	9.6	30	60
2	10.7	32	60
4	11.9	34	
6	13.1	36	
8	14.4	38	

Conversion Data:	PRE	POST
Suction PSIG		
Suction Temp		
Discharge PSIG		
Discharge Temp		
Evap. Superheat		
Comp. Superheat		
Subcooling		
Ambient Temp		
Weight of Refrigerant		
Comp. Oil Temp		
Comp. Oil Level		
Comp. Motor Amps		

L1 _____ L2 _____ L3 _____