



TERMOFRIGER, S.L.

ASISTENCIA TECNICA Y VENTA DE MAQUINAS

C/ Pagesia, 4
(Políg. Indus. Vilanoveta)
08810 Sant pere de Ribes
BARCELONA (España)
Tel. 93 811 58 60
Fax 93 811 58 61
<http://www.termofrigger.com>
termofrigger@termofrigger.com

GAS R-22 REPLACEMENT

On 1st of January 2010 came into force the prohibition of use of gases HCFC virgin (R-22 as most important, but also the R-408A{FX-10} y R-409A {FX-56}).

Since then, only the use of R-22 regenerated (very rare) is admitted.

TERMOFRIGER supply all the information, equipment and materials and cooling for the successful replacement.

For more information, please contact our Technical Department Tel 938115860, which will answer any questions about.

"TERMOFRIGER POSITIONING"

Considering the current situation, TERMOFRIGER looks for the best solution for the whole market, based on the needs of the equipments owners.

TERMOFRIGER is definitely in favor of the conversion to R-404A - R507 because this is the best possible solutions. This solution can be complementary to the use of regenerated gas, since it allow to program the conversion to R-404A - R507 or to extend the life of the machine until its replacement by a new one.

We understand that the "direct" substitutes will be an emergency solution in case it is not possible to schedule a reconversion for R-404A - R507, or that the gas R-22 is not available for charging in regenerated plants of medium size or large.



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ANALYSIS OF SOLUTIONS FOR R-22 REPLACEMENT

R-22 REPLACEMENT FOR R-404A / R507 / R407C	
<i>ADVANTAGES</i>	<i>DISADVANTAGES</i>
<ol style="list-style-type: none"> 1. Easy maintenance: no problem in case of leaks and recharges. 2. Extensive experience with these refrigerants. 3. Easy improvement of energy control systems using condensation. 4. This solution leaves the facility prepared for a possible change in the compression machine (either unit or central), since oil line is external and liquid line and must be adequate. 	<ol style="list-style-type: none"> 1. Need 2-3 oil changes. 2. Need to expand the liquid line. 3. Need to change to suit boiler and pressure regulation.

"DIRECT" SUBSTITUTES FOR R-22: R-422A, R-422D, R417A, R-427A.	
<i>ADVANTAGES</i>	<i>DISADVANTAGES</i>
<ol style="list-style-type: none"> 1. Easy reconversion. 2. Low cost of conversion. 3. Not a single oil change is required 	<ol style="list-style-type: none"> 1. Difficulty of maintenance: high slip that in case of leakage would force the total recharge of the installation. 2. Must be defined <i>a priori</i> who is responsible for any leakage that requires total recharge of the system (installer or property). 3. High losses of the power consumption of the installation. 4. High price of refrigerant. 5. Practical ignorance of the behavior of these refrigerants. 6. Need to change boiler unless it complies with PED.

<u>USING REGENERATED GAS R-22</u>	
<i>ADVANTAGES</i>	<i>DISADVANTAGES</i>
<ol style="list-style-type: none"> 1. Allows to postpone reconversion over time. We are aware that it wouldn't be possible, for time and investment, making the conversion of all facilities now operate with R-22. 2. It maintains the same facility with the same efficiency and prolonging the lifetime of the equipment. 3. Avoid leaving a facility out of service for a leak or because reconversion it is not scheduled. 4. Minimizes costs when a facility must be recharged after a small leak (example: an installation of 500 kg, which lacks 100 Kgs) 5. Avoid the inconvenience that may arise in a very old installation if it is converted. 	<ol style="list-style-type: none"> 1. The regenerated gas has an expiration date in January 2015. 2. Low availability of regenerated R-22 nationally for the few conversions carried out so far. 3. R-22 Shortage of regenerated at European level is the only one who can legally enter our country. 4. High price of this product.