



COST EFFECTIVE, ENVIRONMENTALLY RESPONSIBLE
CLEANING FOR AIR CONDITIONING AND REFRIGERATION

**4th Generation Cleaning System for
Air Conditioning and Refrigeration
with the highest standard of service**

4th Generation Cleaning System for Air-Conditioning and Refrigeration

Solstice® PF-C is the new high precision and environmentally responsible solvent from Honeywell. Combining the superior performance of Honeywell's Solstice® PF-C solvent, and any of the optimised Ekoflush flushing machines, technicians can provide a higher quality, cost effective, safer and environmentally compliant flushing solution for air conditioning and refrigeration circuits.

Your benefits

Working to the highest service standard

Flushing of equipment after a compressor burnout, when retrofitting, changing refrigerant and oil or as preventive maintenance is considered essential to ensure best practice and high quality. After a compressor failure, metal particles and dirt from burned oil can remain in the equipment. In the long run, these particles and dirt may damage the new compressor, likely leading to a repeated failure or lower operating performance.

Easy Handling – Fully automatic operation

All the Ekoflush flushing machines are fully automatic: the technician simply connects the unit to the equipment and the solvent cylinder with the hoses supplied. The flushing runs automatically. On completion, it can be disconnected just as easily. The fully automatic cleaning process prevents the exposure of the service personnel to contaminated cleaning fluids.

The flushing machine is offered in two versions: a larger unit, ideal for a workshop (K-572) and an easy-to-transport portable version (K-562).

4th Generation Solvent: Environmentally Responsible

Solstice® PF-C is the result of Honeywell's latest research to provide a non-flammable, non-toxic, ultra low global warming and nearly odourless solvent. Solstice® PF-C is a special grade of a high-performing hydrofluoroolefin (HFO-1233zd) and it is 100% active. An improvement over previous cleaning fluids, such as R-141b and Genesolv® S-TZ, Solstice® PF-C offers the best set of characteristics: very strong solvent performance, minimal impact on the environment (GWP =1, the same as CO₂, zero ODP) and high safety for the operators (non flammable, very favourable toxicological profile). Solstice® PF-C is compatible with a very wide range of metals, plastics and elastomers.

Improved cleaning performance

This method combines the cleaning effectiveness of a superior solvent, Honeywell's Solstice® PF-C with the accurate cleaning process of the flushing machine. Solstice® PF-C is extremely efficient with all kinds of oils used in refrigeration and air conditioning and completely dissolves them in the circuit. The special flushing procedure of the Honeywell unit ensures that even difficult contamination is then cleaned out. A special pulsing operation applies additional abrasive degreasing action to remove soot and dirt from crevices and corners. Using high-pressure, up to 8 bar, particles and soot are forcefully flushed out. Thanks to its low boiling point, the solvent can finally easily be recovered from the pipes and leaves the circuit clean and dry.





Technical Specifications	
Composition	trans-1-chloro-3,3,3-trifluoropropene
Boiling Point (°C)	19
Liquid Density (g/cm ³ @ 25°C)	1.26
Vapour Pressure (kPa @ 25°C)	126
Flash Point	None
Vapour Flame Limits	None
OEL – Occupational Exposure Limit	800 ppm
GWP – Global Warming Potential	1
ODP – Ozone Depletion Potential	Zero

How does the cleaning solution work?

Cost-efficient:

Reuse of solvent

In the flushing process, no waste solvent is produced. The solvent is recovered within the Honeywell flushing machine and the purified solvent returned into the cylinder to be used over and over again. Oil, particles and dirt removed from the cleaned equipment need to be handled and disposed according to local legislations. Since Honeywell Solstice® PF-C is recycled and can be used over and over, the relative solvent costs are low. Only little solvent is lost if there are no major leakages in the circuits. Good service practices ensure very cost-efficient flushing and the initial investment in the unit is quickly repaid.

Minimal Waste

Waste disposal costs are kept to the very minimum because the operator will have to dispose only the oil-grease and particles.

Solstice® PF-C by Honeywell

- Excellent solvency with mineral oils
- Excellent solvency with new generation refrigerant oils and greases
- Safe, non-toxic, non-ozone depleting and non-flammable
- Quick drying thanks to its low boiling point
- Compatible with most common materials

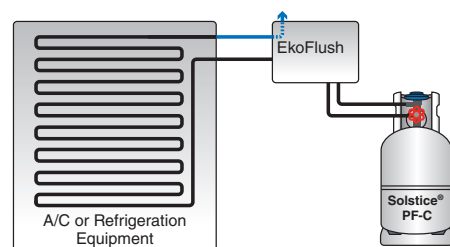
Cleaning capacity

Flushing medium	Oil		
	Mineral	POE	PAG
Nitrogen			
Genesolv® SF			
Genesolv® STZ			
HCFC-141b			
Solstice® PF-C			

■ Excellent	■ Good
■ Poor	■ Very Poor

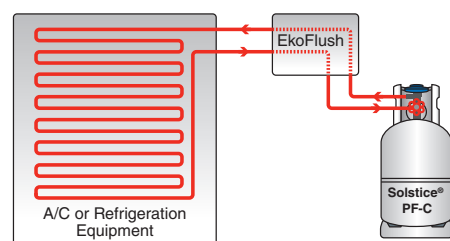
Evacuation phase

When the circuit to be cleaned is attached to the machine and the cylinder of Solstice® PF-C is safely installed, a single push button starts the operation. Firstly, EkoFlush evacuates the equipment to remove air. Once sufficient vacuum has been reached, the unit automatically begins the cleaning process.



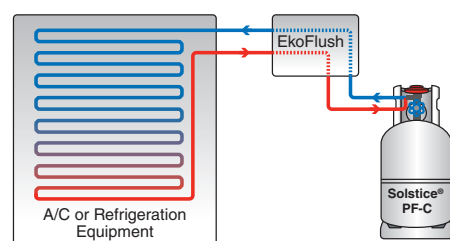
Flushing and recycling of solvent

Solstice® PF-C is pushed into the circuit thanks to nitrogen pressure (6 to 8 bar) in the solvent cylinder. This pressure and speed of operation ensure that soot and oil are removed even from difficult corners. The full volume of the circuit is filled with solvent, then the solvent is pushed from the circuit into the unit's distillation chamber, distilled and finally the purified and clean material fluid is returned into its original cylinder. The distillation continues until all the solvent is recycled.



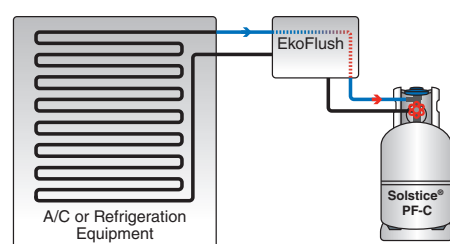
Purging

This step involves blowing nitrogen at 6 to 8 bar through the equipment to remove any remaining liquid solvent from the circuit. This is repeated several times until the equipment is clean and dry.



Cleaning

The last traces of solvent vapours are removed through evacuation back into the cylinder. The oil, particles and dirt can finally be drained from the machine for disposal. Usually, a single flushing cycle is sufficient to achieve superior cleaning quality. In case of heavy mineral oils, additional flushing cycles should be applied for optimum results.



Honeywell Ekoflush Flushing Units

K-562

- Portable unit can be easily transported, for use on rooftop or other installed equipment at the customer's premises.



Technical Specifications	
Recommended volume/size of component (dm ³)	5
Connection with the flushed device	1/4" SAE (7/16" UNF)
Power supply (V, Hz)	230/50
Maximum power input (W)	1100
Dimensions (H x W x D) (mm)	475 x 260 x 490
Weight (kg)	26

(Comes with a cart for easy transportation. Optional accessory: Universal connectors for up to 18 mm. Additional nitrogen cylinder needed to pressurise the solvent.)

K-572

- Workshop units for use in larger service and repair shops, and automotive garages



Technical Specifications	
Recommended volume/size of component (dm ³)	12
Connection with the flushed device	3/8" SAE (5/8" UNF)
Power supply (V, Hz)	230/50
Maximum power input (W)	1350
Dimensions (H x W x D) (mm)	570 x 605 x 950
Weight (kg)	54

(Optional accessory: Universal connectors for up to 18 mm. Additional nitrogen cylinder needed to pressurise the solvent.)

Model	Recommended inner volume of circuit to flush (dm ³ or litres)				
	10	20	50	100	200
K-562					
K-572					

Recommended
 Possible
 Difficult

Find out more

Contact Honeywell for a list of approved distributors, or visit the website below.



RESPONSIBLE CARE[®]
OUR COMMITMENT TO SUSTAINABILITY

RESPONSIBLE CARE

Honeywell Performance Materials and Technologies, as a member of the American Chemistry Council, has adopted Responsible Care[®] as the foundation of health, safety, and environmental (HS&E) excellence in our business. Responsible Care is the chemical industry's global voluntary initiative under which companies, through their national associations, work together to continuously improve their health, safety and environmental performance, and to communicate with stakeholders about their products and processes.

Our commitments:

The safety of our employees
The quality of our products
Being responsible stewards for the protection of the environment, the communities in which we operate and our customers.

Solstice[®] is a Registered trademark of Honeywell Inc.

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