

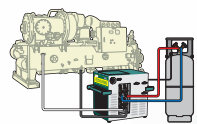
## REFRIGERANT RECOVERY MACHINES

### Recovery KIT



- ① Recover XLT .....Y95769
- ② Wagon .....XP545
- ③ Refrigerant recovery cylinder 24L .....TF057
- ④ Manifold kit for R12, R22, R502 .....Y41274

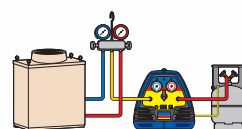
### ECOsaver R350



#### Recovery Rate

Applicable Refrigerant	R22, R12, R134a, R502, R407C, R410A
Vapor (g/min)	700
Push/Pull (g/min)	25,000

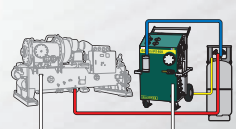
### Recover XLT



#### Recovery Rate

Applicable Refrigerant	R22	R134a	R410A
Vapor (g/min)	150	120	135
Liquid (g/min)	800	880	560
Push/Pull (g/min)	4,800	4,600	3,700

### ECOsaver R1400

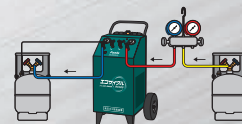


#### Recovery Rate

Applicable Refrigerant	R22, R12, R134a, R502, R407C, R410A
Vapor (g/min)	2,700
Push/Pull (g/min)	147,000

## REFRIGERANT RECOVERY & RECLAIM MACHINE

### ECOcycler RC500



#### Reclaim Rate

Applicable Refrigerant	R12, R22, R500, R502, R134a
Moisture Content (ppm)	~ 10
Acidity (ppm)	~ 0.1
High Boiling Residue (%)	~ 0.01
Non condensables (%)	~ 0.5

## SERVICE TOOLS

### Manifold kit for R12, R22, R502



Y41274

### Leak Detection Spray Rotst



R65000

### Leak detector AccuProbe II



Y69354

### Automatic charging scale CS-50B



Y68800

### Torque Wrenches

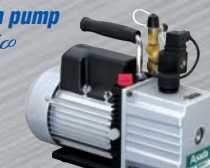
- XP747 1/2" 26mm x 55Nm
- XP713 3/8" 22mm x 42Nm
- XP711 1/4" 17mm x 18Nm

### Replacement dry filter L



ES082

### Vacuum pump 4CFM Eco



WV241

### Vacuum pump 6CFM Eco



WV261

## COPPER PIPE TOOLS

### For expanding, reducing and re-rounding



Expander

### For bending upto 90°



MAXI Bender

### For producing branches or tee



T-Drill

### For cutting



Mini Cutter

Tube Cutter

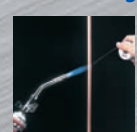
### For producing flares



Flaring Tool



### For soldering



Gas Burner



Electric Soldering Machine

### Others



Cleaning Pad

Deburrer

**Asada**  
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※ Specifications may be changed without notice.

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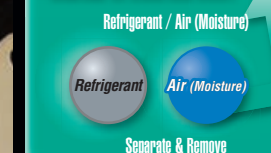
# Chiller Refrigerant Cleaners

**For increasing the performance of low pressure centrifugal chillers to save operating cost! The Unique "Asada-Redi" Purge Systems maintain the refrigeration system free of non-condensable gases such as air, moisture, acids and oil residue to increase the operating efficiency and save the operating cost.**

## AIR PURGE UNIT



- INCREASE SYSTEM EFFICIENCY
- SAVING OPERATION COST



### Install Air Purge Unit

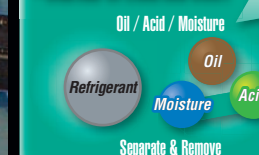
- DEGRADING SYSTEM EFFICIENCY with non condensables Air (Moisture)



## OAM PURGER

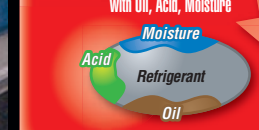


- INCREASE SYSTEM EFFICIENCY
- SAVING OPERATION COST



### Install OAM Purger

- DEGRADING SYSTEM EFFICIENCY with Oil, Acid, Moisture





# Improve the efficiency of chiller “Automatically”

## “Large Energy Saving” by minimizing energy consumption

### “Keep Stable Operation” of system preventing from shut-down by overload

The basic function of the purge system is to maintain the refrigeration system free of non-condensable gases (air) and moisture.

Accumulation of non-condensable gases within the system causes an increase in condensing pressure, which in turn results in the loss of operating efficiency.

Moisture is also a major enemy of the refrigeration system.

It causes the formation of acids that can attack the machine's internal components and ultimately lead to premature failure.

Therefore, it is critical to maintain the machine free of non-condensable gases and moisture at all times.

The OAM Purger is designed to Remove Oil, Acid and Moisture from both Low & High Pressure Centrifugal Chiller refrigerant charge and returns the Oil to the chiller's oil sump where it belongs.

The Oil build-up occurs in all centrifugal chillers invariably finds its way into the evaporator where

it mixes with refrigerant, degrading system efficiency and capacity.

This occurs when the evaporator tubes become coated with oil, heat transfer efficiency is retarded and drastically reduces the cooling effect.



**Easy Installation**

Cost less to install than comparable purge units. Utilizes existing purge connections. Less or Minimum soldering or welding required.

**Less Maintenance**

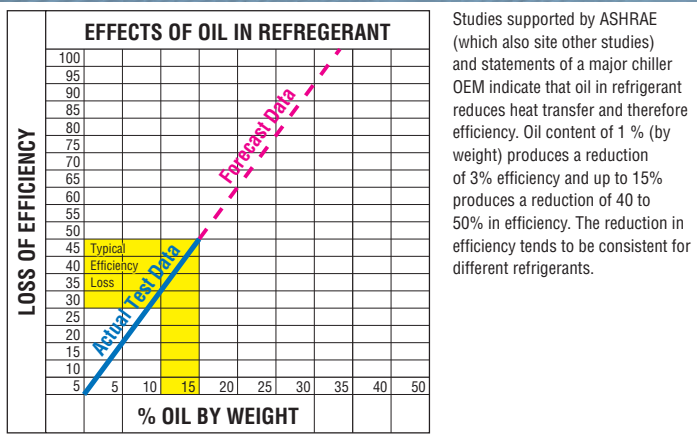
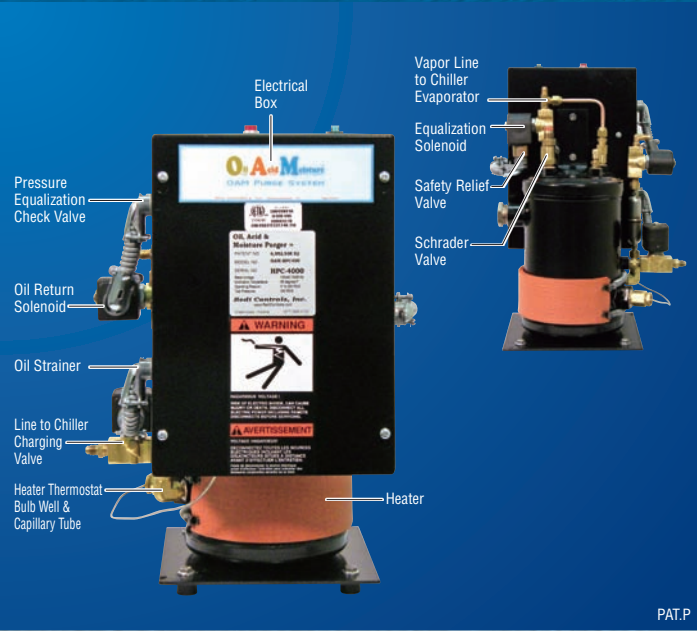
The purge tank design shall include a provision for cleaning the interior coils and surfaces from corrosion build-up.

**Fast**

Fast non condensable removal and operates independent of system (chiller) operating status. Automatic Operaion for 24 hours  
Automatic self-adjusting microprocessor.  
Controller learns system's needs operating only when necessary saving energy and wear on purge unit.

**Low Emmission**

The high efficiency purge system shall expel no more than 0.59 pounds of refrigerant for every pound of air purged (0.0049 lbs of CFC per pound of air when used with an optional activated Carbon Emissions Collection Canister.



**Energy saving design**

Power rate nearly same 250W electric light, will be become reduction of working cost. In this machine operation of oil separation and refrigerant cleaning is accomplished via a unique process utilizing the properties of gravity, heat and pressure exclusively to function, does not utilize mechanical pumps of any type.

**Recover peak operate efficiency**

Separating and Reclaim oil melt into refrigerant of centrifugal chiller Re-charge. Get rid of [Acid] and [Moisture] from refrigerant and oil, recovering capacity for the best working efficiency.  
About one week, can be fractional distillation from chiller 385~560kg refrigerant.

**Maintenance reduction**

Established type machine can reduce to take cost and time for regular maintenance, for example“refrigerant recover oil separation/ reclaiming refrigerant charging”.  
The Filter Drier can be possible to exchange while system operating.

**Working for 24 hours**

This machine can be working on the 24 hours/ 365days regardless of the chiller operation. The refrigerant is permanently maintained in a virtual oil free state.

**No need to manufacturing permission, set up at once**

It is possible to set up at once to established low pressure centrifugal chiller when purchased.

Model	R11	R113
Code No.	FCA11	FCA113
Applicable	R11, R123	R113
Electrical Requirements	99-121VAC, 50Hz , 1 Phase, 15 Amp Fused Circuit	
Operating Efficiencies		
By AIR PURGE UNIT only	Expels 270g of CFC per 450g of air removed	
With the Canister (Optional)	Expels only 2g of CFC per 450g of air removed	
Operating Environment	4~50°C	
Storage Environment	-30~60°C	
Dimensions	508 x 406 x 635 mm	
Condensing Unit	R134a, 250W, Air Cooled, Centrifugal Chiller	
Filter/Drier	Dual steamline One Pass vapor inlet filter-drier	
Filter/Drier (Optional)	84 square inch liquid line filter-drier	
Connections	Vapor Inlet 1/2" OD - Liquid Return 1/4" OD	
Weight	50kg	

Model	R11	R113	R123	HP
Code No	FCR11S	FCR113S	FCR123S	FCR12S
Electrical Requirements	1-Phase, AC120V, 50/60Hz, 15 Amp Fused Circuit			
Operating Environment	21°C ~ 40°C - 5% ~ 80%relative humidity, non-condensing			
Storage Environment	17°C ~ 48°C - 5% ~ 80%relative humidity, non-condensing			
Dimensions	445 x 305 x 280 mm			
Weight	12 kg (shipping weight - 23kg)			
Connections	Three 1/4" OD connection - (Combination Vapor/Liquid & Oil)			
Distillation Operating Temperature	68°C			
Pressures	Tested Pressure 350 psi			
Rate of Refrigerant Processed (Averatge)	477 kgs per week, 24,750 kgs per year			
Weight of Refrigerant Processed per Cycle (Average)	4.2 kgs refrigerant-oil mixture per cycle			

## MAINTENANCE ACCESSORY AND SPARE PARTS



1	2	3	4
Carbon Collection Canister	PRG-Q94104	PRG-3380	PRG-1001
Equivalent to 50lb (23L)recovery syinder Contains 9.5kg of activated carbon Size : 292ø x 495H Weight : 30 kg	Liquid Return Line Filter (Optional)	STREAM LINE VAPOR INLET FILTER DRIER, EACH	COPELAND CONDENSER/COMPRESSOR, 110V, 50-60Hz
5	6	7	8
PRG-1002-R11/123	PRG-1004-L1-R123	PRG-1004-L2-R123	PRG-1005-L3
THOMAS PUMP OUT COMPRESSOR, R11/123, 110V-50-60Hz	PUMP OUT SOLENOID VALVE (L1), FOR R123 (TOP OF PURGE TANK)	PUMP-OUT SOLENOID VALVE (L2), FOR R123 (BTM NEAR THOMAS PUMP)	LIQUID REF.DRAIN-BACK SOLENOID VALVE (L3) (BTM OF TANK/DRAIN LINE)

9	10	11	12	13	14
PRG-1006	PRG-1027	PRG-1025T	PRG-1026	PRG-TS1	PRG-TS2
SIGHT GLASS, PURGE TANK LIQUID LEVEL	VAPOR INLET LINE SIGHT GLASS (MOISTURE INDICATOR)	LIQUID LEVEL SWITCH (FLOAT) (LS1) TEFLON	CONSTANT PRESSURE EXPANSION VALVE (CPEV)	TS1 -- TEMPERATURE SENSOR (PUMPOUT)	TS2 -- TEMPERATURE SENSOR (EVAPORATOR)
15	16	17	18	19	
PRG-TS3	PRG-C3-TERM BLOCK	PRG-1031	PRG-EMI ELECTRIC	PRG-M-BRD-C3	
CHILLER CONDENSING SATURATION TEMPERATURE, SENSOR. C2/C3 PURGE OPTION	TERMINAL BLOCK FOR C3 PURGE UNIT	TRANSFORMER FOR MICROPROCESSOR BOARD	ELECTRIC LINE IF/IR FILTER	PURGE MICROPROCESSOR BOARD -A DROP-IN BOARD FOR THE C2 AND C3 PURGE UNIT-	