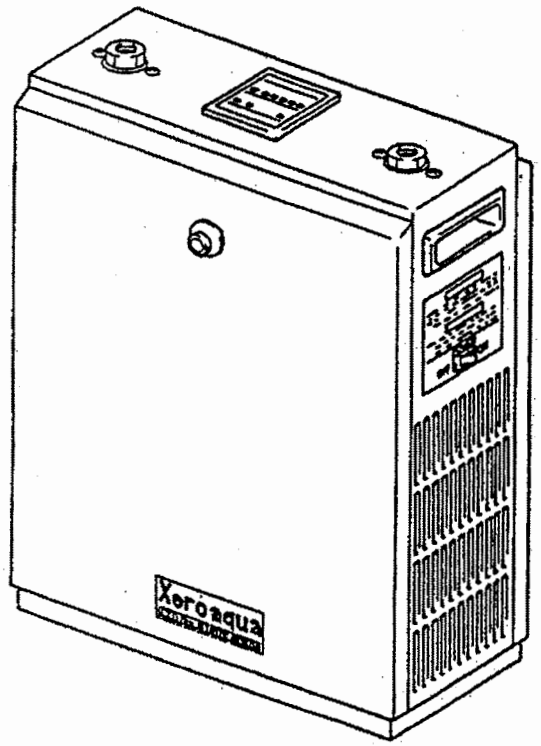
Discontinue

CKD

SM-10725-A
06-07 6th

Xeroaqua

Operation Manual



Meets to a "Specific Fleon control" Applicable models

●*RD1000(A)* ●*RDM1000(A)*
●*RD2000(A)* ●*RDM2000(A)*

series

Thank you for purchasing "**Xeroaqua**", refrigerated air dryer.

●Read this manual well before running the dryer.

●Carefully comply with suggestions provided because an erroneous operation may hinder its full function or cause some malfunction, sometimes hazards.

●The guarantee is valid within Japan only, as described on the Guarantee certificate.

I N D E X

CKD Corporation

Discontinue

CONFIRM AT FIRST

Confirm the contents on the name-plate such as model No., specificationsetc.

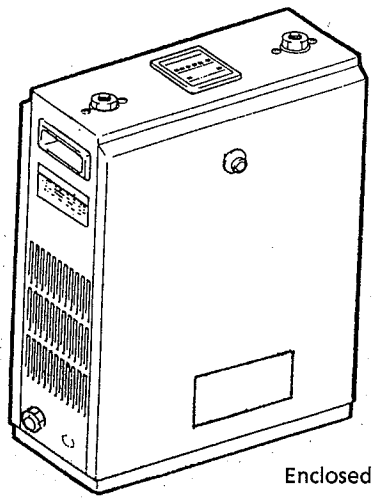
REFRIGERATED AIR DRYER	
POWER	MAX.PRESS.
MAX.AIR TEMP.	AIR.FLOW
CURRENT	MASS
REFRIGERANT	SERIAL No.

Model No.

※ Contact immediately with the supplier delivered it, should there be any questions concerning contents of description, instead of starting it.

Save this manual after copying the contents on name plate onto Page 20.

·Illustrated is Digital monitor type dryer.



Enclosed items

Guarantee Certificate··· 1

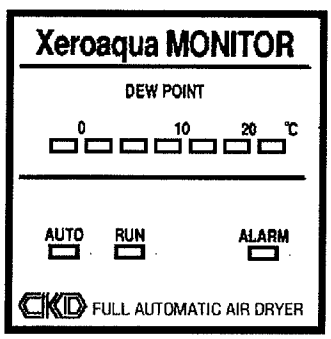
Operation Manual··· 1

RANGE OF SERVICE AND SUITABLE COMPRESSOR

Air flow, rated disposition (m³/min ,)		~0.1/0.11	0.2/0.22	0.31/0.35	0.5/0.55	0.74/0.81	1.1/1.2	1.65/1.8	2.5/2.7
Suitable compressor capacity (kW)		0.75	1.5	2.2	3.7	5.5	7.5	11	15
Working Pressure 0.2~1.0 MPa	Air inlet temp. (5~55°C)	RD2001	RD2002	RD2003	RD2004	RD2006	RD2008	RD2011	RD2015
	Air inlet temp. (5~35°C)	-	-	RD1003	RD1004	RD1006	RD1008	RD1011	RD1015
Working Pressure 0.2~1.5 MPa	Air inlet temp. (5~55°C)	RDM2001	RDM2002	RDM2003	RDM2004	RDM2006	RDM2008	RDM2011	RDM2015
	Air inlet temp. (5~35°C)	-	-	RDM1003	RDM1004	RDM1006	RDM1008	RDM1011	RDM1015

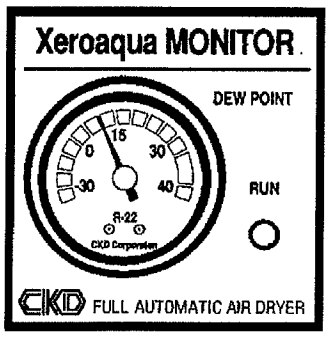
● Model codes suffixed with "A" designate dryers of Analog monitor type.

Digital monitor



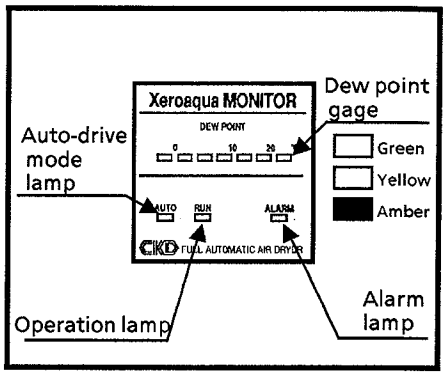
Refer to Pages 7 & 8 as for its operation.

Analog monitor

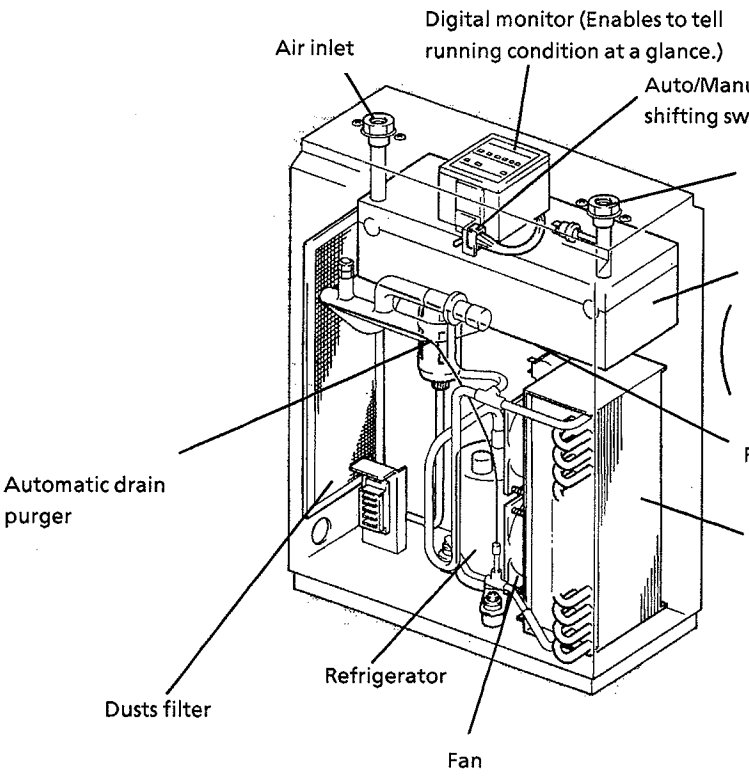


Refer to Pages 9 & 10 as for its operation.

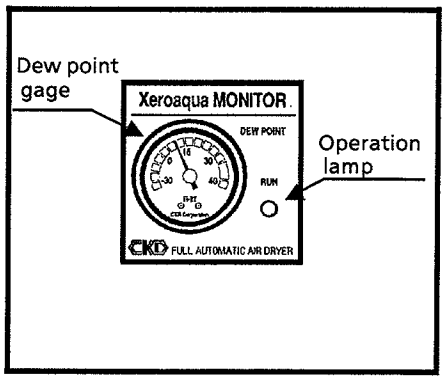
XEROAQUA, DIGITAL MONITOR TYPE



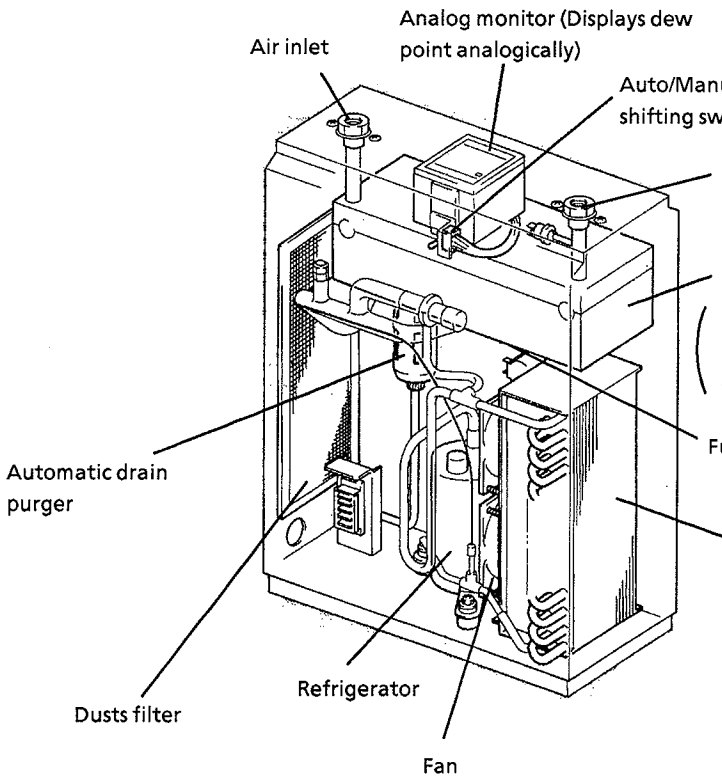
Monitor



XEROAQUA, ANALOG MONITOR TYPE



Monitor

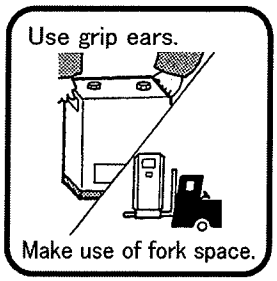


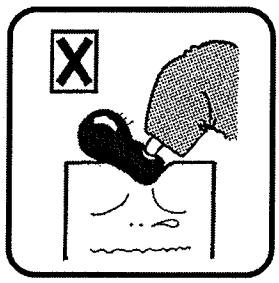
Discontinue

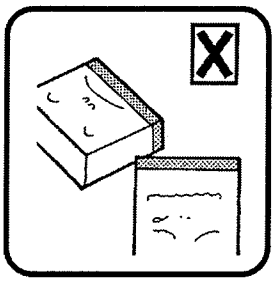
SPECIFIC CARES REQUIRED

DURING TRANSPORTATION

- To lift the dryer, use grip ears provided on both sides of frame.
  Make use of room for forks on the base to lift such large models as RD1008, 2006 or over.
- No stepping on a dryer.
- Avoid laying on its side or up side down.

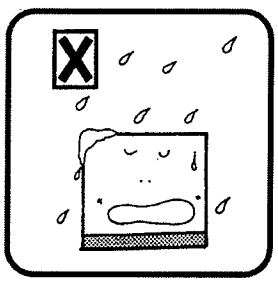


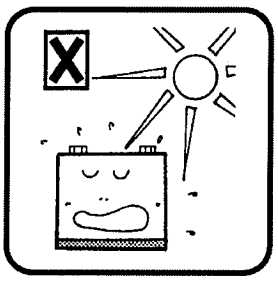


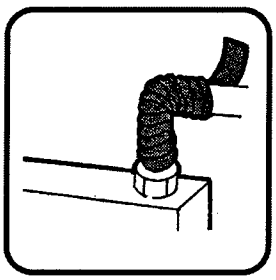


AMBIENT CONDITION

- Prevent to install it where corrosive gas exists or rain falls over it.
- Prevent to install it exposing to direct sun ray or where heat generates. Add an exhaust fan or cool air outlet where heat accumulation is foreseen, to keep ambient temperature below 40℃.
- Dewfall may take place on the secondary pipe in humid summer days. Drape insulation over pipe if it were the case.



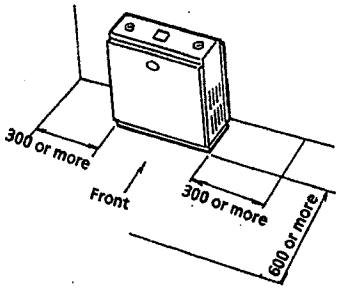




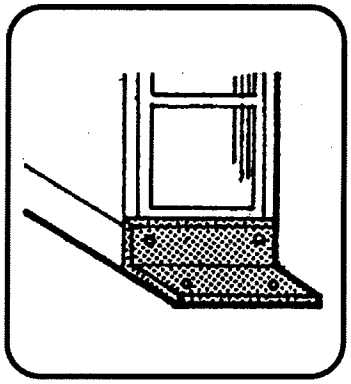
- Do not use the dryer for pneumatic caisson shield or respiratory medical equipment.
  * It could cause an accident includes injury.
- Do not use the dryer for transportation devices such as automobile, ship etc.
  * Vibration could be a cause of break down of the internal components.

INSTALLATION

- Provide enough room for ventilation as well as for maintenance service in future.
- Fix the unit with anchor metal pieces. (Refer to page 5 for detail.)

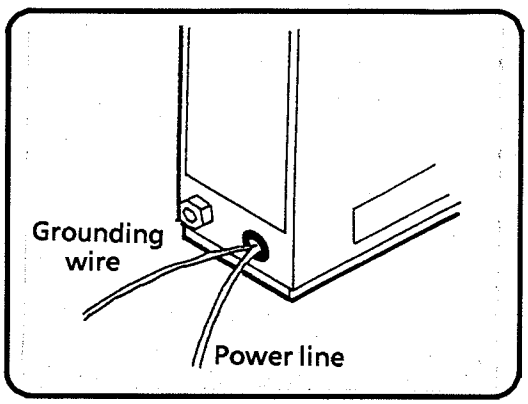


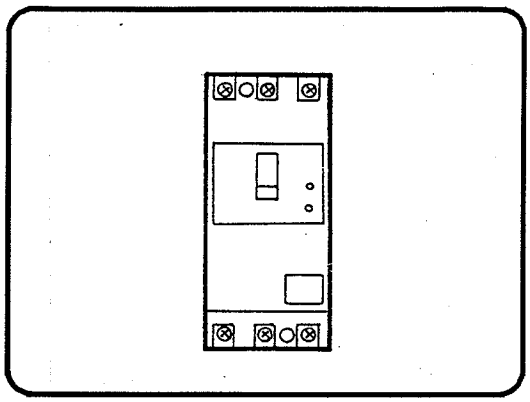
* Make every space 600mm for large models such as RD(M)1008~1015, 2006~2015.



DURING TRANSPORTATION ELECTRIC

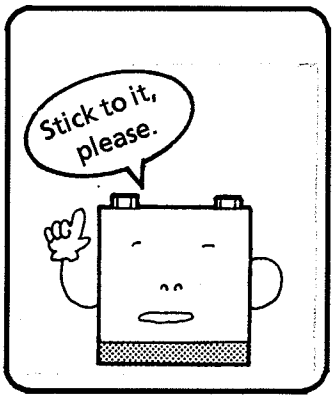
- Set a grounding wire to prevent electric shock.
- Install a circuit breaker on the main power line.

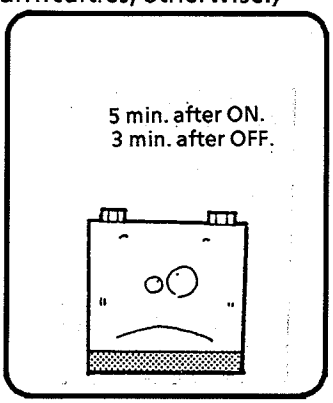


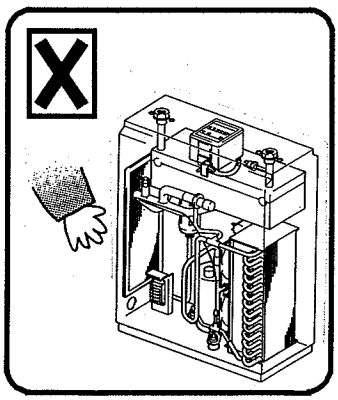


OPERATION

- Operate it within the range specified.
- Hold frequency of starting/shutting off within 6 times/hour, keep it running for at least 5 minutes before shutting it off and hold restarting it for 3 minutes or longer. (Possible mechanical difficulties, otherwise.)
- Keep hands off the unit because there are high speed fan, heat accumulated compressor and copper tubes.

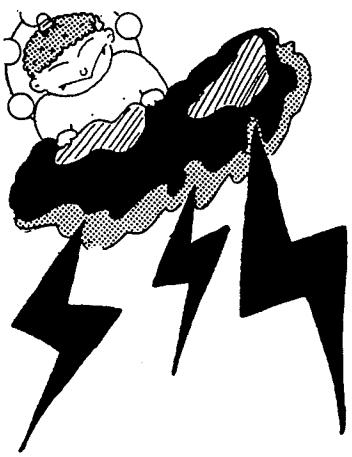


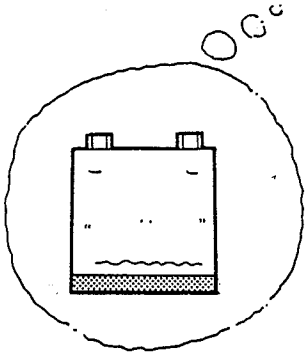




WHEN POWER FAILS

- It resumes running automatically upon recovery of power when intervalis longer than 1 minute.
  By the contrary, dryer may make an emergent stop in the event of instantaneous failure.



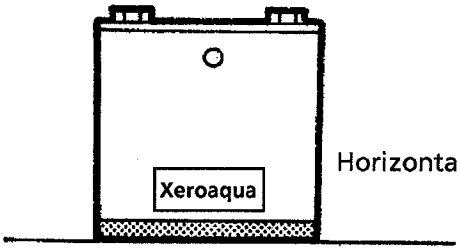


Discontinue

INSTALLATION

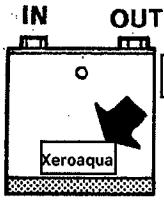
①CONFIRM THE LOCATION

● Select horizontal and rigid plane.



Horizontally!!

● Install the unit keeping its front side facing you.

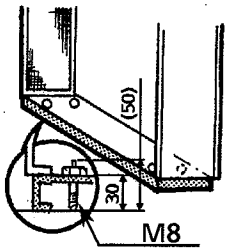


The side with name plate is front.

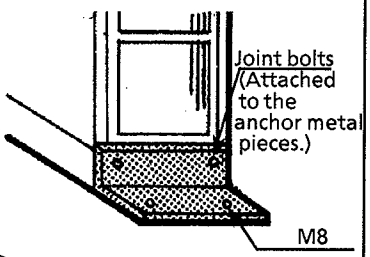
②INSTALL THE UNIT RIGIDLY

● Fix it to the floor to prevent its vibration or violent fall during operation.

Models RD(M)1003 ~ 1006(A) or 2001~ 2004

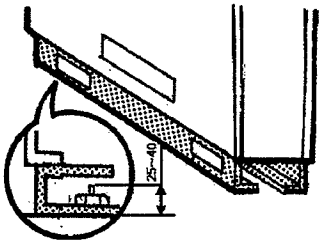


①Fix its base to floor directly.



②Fix it with exclusive anchor metal pieces. (Optional: Code No. F4-222916)

Models RD(M)1008 ~ 1015(A) or 2006~ 2015

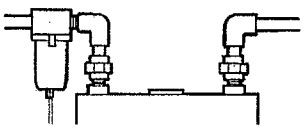


Fix its base to floor with anchor bolts.

③PLUMBING

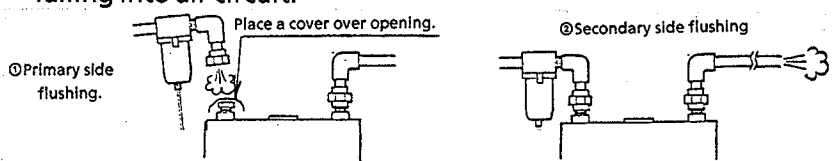
● Confirm Inlet and Outlet.
● Make sure to install an air-filter (5μ) immediately in front of dryer inlet.

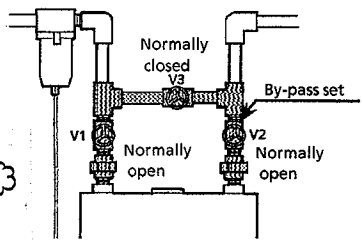
Xeroaqua	Suitable air filter (5μ)
RD2001~2004·RD1003~1004	F3000-10
RD1006,RD2006	F4000-15
RD1008~1011·RD2008~2011	F8000-20
RD1015,RD2015	F8000-25



DIRECT PLUMBING

● Make sure to use Union type joints on Inlet and Outlet.
● In the event that air supply is required during the course of maintenance, apply by-pass plumbing.
(By-pass set is optionally available.)
● Use galvanized ones, as for steel pipes.
● Make sure to give pipe system flushing before its final connection so as to prevent dusts or foreign particles from falling into air circuit.





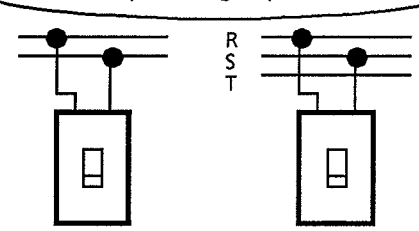
BY-PASS PLUMBING

● The drain purge outlet diameter of dryer unit is Rc1/4. Use the tube of inner diameter ϕ7 or larger (Recommended tube ; F-1510) and prevent plumbing of standing up right.

④INSTALL A CIRCUIT BREAKER

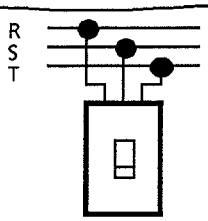
● Install it within the circuit. (Refer to the Table, on next page as for suitable models.)

Xeroaqua Single phase



Use either Ⓡ ~Ⓢ or Ⓢ ~Ⓣ combination.

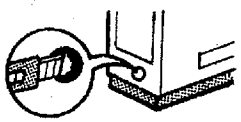
Xeroaqua Three-phase



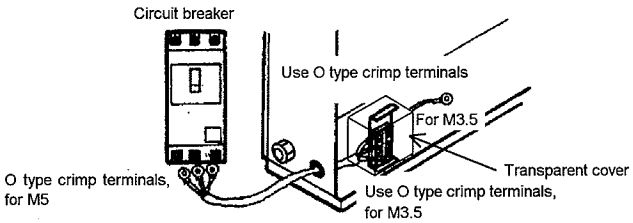
Discontinue

⑤WIRING

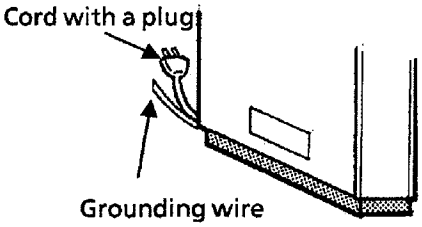
● Cut out a hole (for power line and grounding wire) to rubber busing on lower part of left side panel of unit.



● Use vinyl cabtier cord (300V, VCTF1.25mm^2 or more) to connect a circuit breaker with terminal block, inside of unit.



Applicable for AC100V, only.



●A cable cord (1.5m long) with a plug is provided to the unit. Plug into a socket via circuit breaker. (Make sure to connect grounding wire appropriately.)

INSTALLATION

● Use 2-core cable for single phase as well as 3-core cable for 3-phase power. Use the cable over VCT1.25mm^2 in the event that the power is over 300v

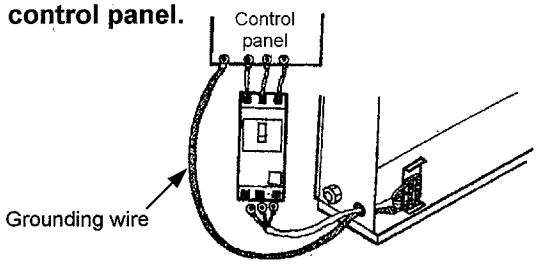
● When Xeroaqa dose not work at trial, event if you turn power on, change 2-wire among 3-wire of 3-phase. {RD(M)2011(A),RD(M)2015(A)}

● Put transparent cover on terminal block after electrical wiring.

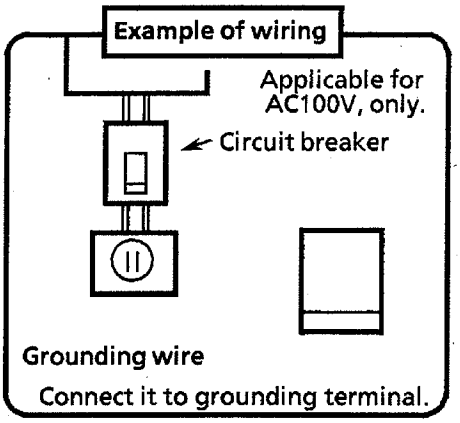
⑥GROUNDING

● Prepare a piece of grounding wire (KIV cord, over 2 5mm^2)

● Connect the grounding wire to the terminal block E in the unit as well as to the grounding terminal in a control panel.



Example of wiring



CAUTION : Never connect the grounding to neither water supply tube, gas tube nor lightening conductor.

Table of capacity circuit breaker		
MODEL No.		CAPACITY
RD1003(A)～1004(A)-AC100V RDM1003(A)～1004(A)-AC100V RD1003(A)～1008(A)-AC200V RDM1003(A)～1008(A)-AC200V	RD2001(A)～2002(A)-AC100V RDM2001(A)～2002(A)-AC100V RD2001(A)～2004(A)-AC200V RDM2001(A)～2004(A)-AC200V	5A
RD1006(A)～1015(A)-AC100V RDM1006(A)～1015(A)-AC100V RD1011(A)～1015(A)-AC200V RDM1011(A)～1015(A)-AC200V	RD2003(A)～2008(A)-AC100V RDM2003(A)～2008(A)-AC100V RD2006(A)～2008(A)-AC200V RDM2006(A)～2008(A)-AC200V	10A
RD2011(A)～2015(A)-AC200V RDM2011(A)～2015(A)-AC200V		10A
The sensing current of the earth leakage breaker is 30mA		

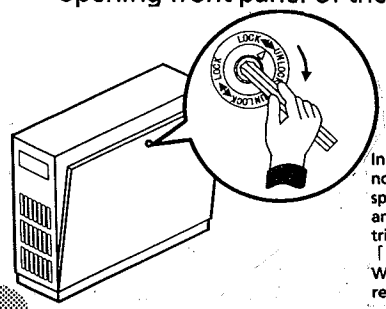
Discontinue

OPERATIONAL PROCEDURES (Degital monitor type)

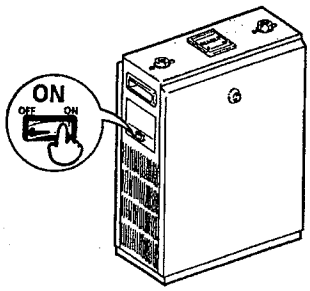
①TURN POWER ON

① Unit is set for "Automatic running" at ex-factory shipment. Confirm it by opening front panel of the unit.

② Simply slide the power switch knob on the unit to the ON marking.



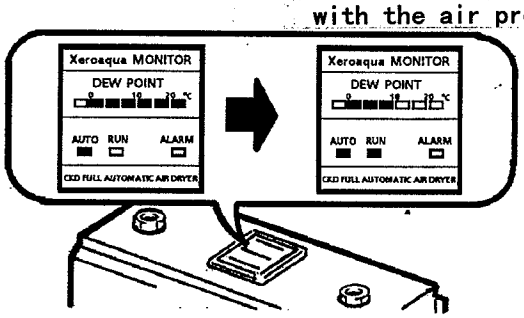
In order to open the front panel, insert nominated size 5 or 3/16 hexagonal bar spanner into hexagonal hole in the center, and turn the spanner clockwise until triangle mark moved to 「UNLOCK」from 「LOCK」.
When closing it, turn the spanner reversely to 「LOCK」position.



②CONFIRM MONITOR LAMPS

● DEW POINT AUTO LAMP is lit.
(The lamp this time indicates ambient temperature.)

● It starts running automatically when air pressure exceeds 0.17MPa and RUN LAMP is lit, then. DEW POINT LAMP moves into Green zone indicating Dew point in relation with the air pressure.



NORMAL OPERATION

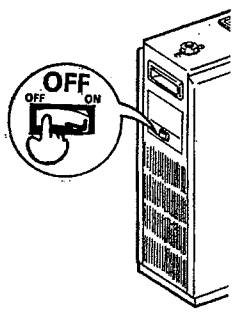
Note : Fan sometimes repeats "Run and stop" but this is normal.

<<WHEN MANUAL OPERATION IS PREFERRED>>

(Forced operation)

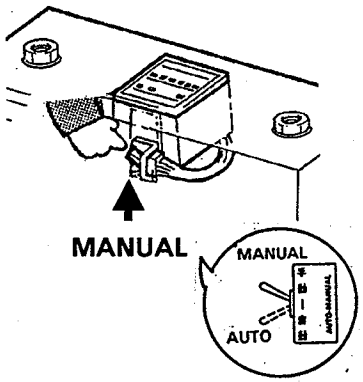
①TURN POWER SWITCH OFF.

● Be sure to shut power OFF before doing any adjustment.



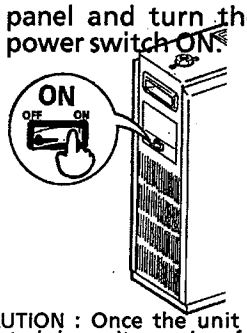
② SET THE SHIFTING SWITCH TO MANUAL SIDE.

● Open the front panel and shift the switch.



③TURN THE POWER SWITCH ON.

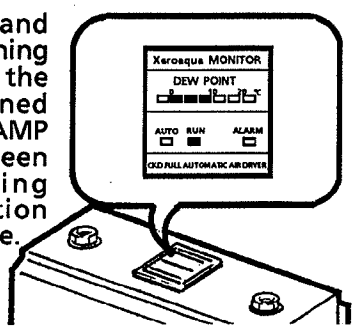
● Close the front panel and turn the power switch ON.



CAUTION : Once the unit is started, keep it running for at least 5 minutes before turning it OFF and hold restarting for 3 minutes or longer.

④CONFIRM THE MONITOR LAMP

● RUN LAMP is lit and the unit starts running immediately after the power switch turned ON, DEW POINT LAMP then steps into green zone indicating dewpoint in relation with the air pressure.

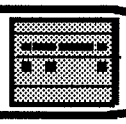


NORMAL OPERATION

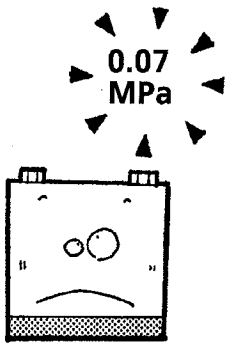
Note : Fan sometimes repeats "Run and stop" but this is normal.

Discontinue

STOPPING OPERATION

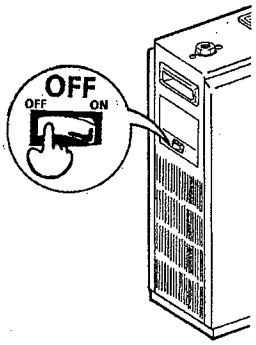


●Under "Automatic operation" mode, the unit automatically stops its running when air pressure drops below 0.07MPa.



STOP!!

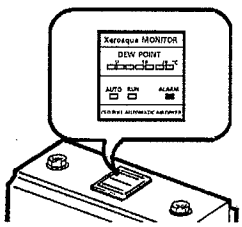
Turn the power switch in the unit or power line switch OFF when to make the unit stop regardless the air pressure.



WHEN HALTED BY SAFETY DEVICE

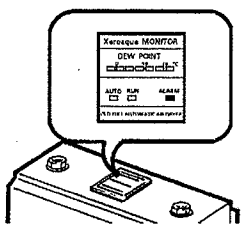
POSSIBEL CAUSES BY AN ELECTRIC CIRCUIT

● Motor protector shuts off the unit when either refrigerator is overheated or overcurrent is charged.
In this event, **MONITOR ALARM LAMP** is lit.



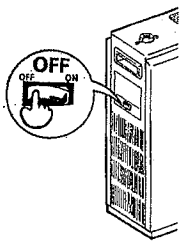
POSSIBEL CAUSES BY A REFRIGERANT CIRCUIT

● Temperature sensor shuts off the unit when it detects an abnormal rise of refrigerant temperature.
In this event, **MONITOR ALARM LAMP** is lit.

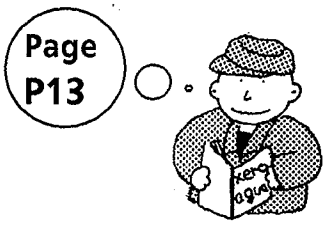


HOW TO RESET IT

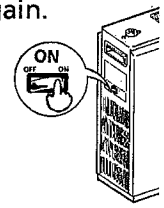
1. Turn the main power line and power switch in the unit OFF. It is, then ready to be reset.



2. Give remedy of abnormal stop. (Refer to the Table of "Trouble shooting", page 13.)



3. Turn main power line switch and unit power switch ON once again.



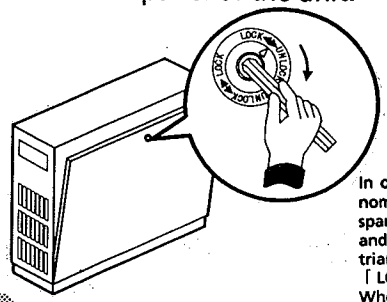
In case when motor protector functioned, it may, sometimes, not restart immediately. (ALAM LAMP is lit in this case, when power switch is turned ON.) Wait till refrigerator cools off while keeping power OFF.

Discontinue

OPERATIONAL PROCEDURES (Analog monitor type)

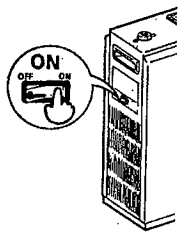
①TURN POWER ON

① Unit is set for "Automatic running" at ex-factory shipment. Confirm it by opening front panel of the unit.



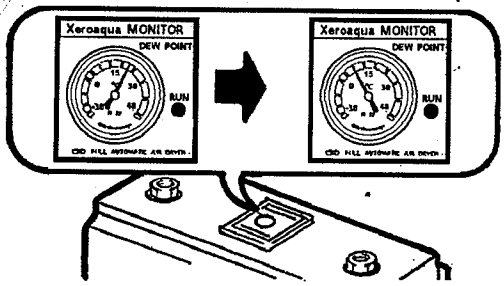
In order to open the front panel, insert nominated size 5 or 3/16 hexagonal bar spanner into hexagonal hole in the center, and turn the spanner clockwise until triangle mark moved to 「UNLOCK」from 「LOCK」.
When closing it, turn the spanner reversely to 「LOCK」position.

② Simply slide the power switch knob on the unit to the ON marking.



②CONFIRM MONITOR LAMP

- it starts running automatically when air pressure exceeds 0.17MPa and RUN LAMP is lit, then.
- Indicator needle of DEW POINT GAGE, after 3~5 minutes elapse, moves into Green zone indicating Dew point in relation with the air pressure.



NORMAL OPERATION

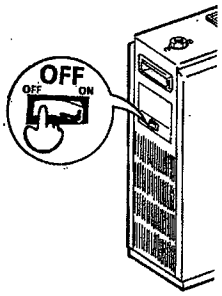
Note : Fan sometimes repeats "Run and stop" but this is normal.

<<WHEN MANUAL OPERATION IS PREFERRED>>

(Forced operation)

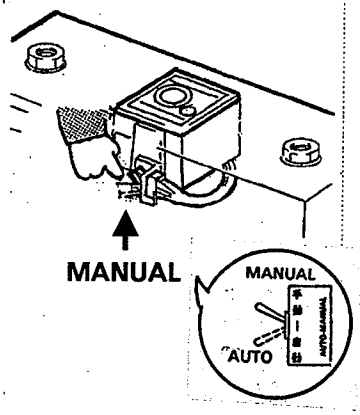
①TURN POWER SWITCH OFF.

- Be sure to shut power OFF before doing any adjustment.



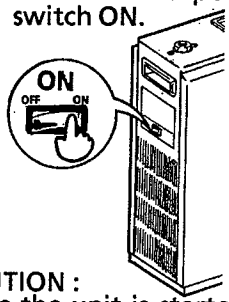
② SET THE SHIFTING SWITCH TO MANUAL SIDE.

- Open the front panel and shift the switch.



③TURN THE POWER SWITCH ON.

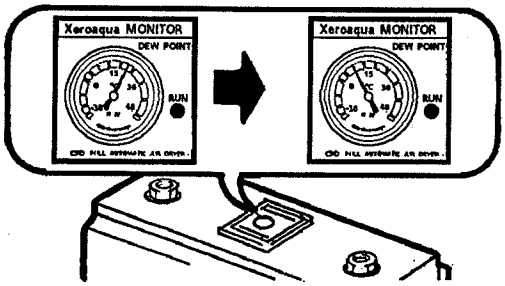
- Close the front panel and turn the power switch ON.



CAUTION :
Once the unit is started, keep it running for at least 5 minutes before turning it OFF and hold restarting for 3 minutes or longer.

④CONFIRM THE MONITOR LAMP

- RUN LAMP is lit and it starts running immediately after the power switch is turned ON.
- INDICATOR NEEDLE OF DEW POINT GAGE, after 3~5 minutes elapse, movesinto Green zone indicating Dew point in relation with the air pressure.



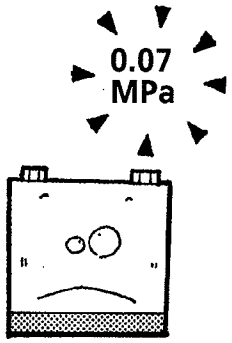
NORMAL OPERATION

Note : Fan sometimes repeats "Run and stop" but this is normal.

Discontinue

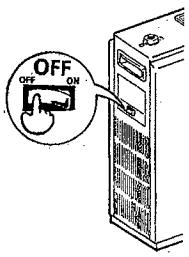
STOPPING OPERATION

●Under "Automatic operation" mode, it automatically stops its running when air pressure drops below 0.07MPa.



STOP!!

Turn the power switch on the unit or power line OFF when to stop it regardless the air pressure.



WHEN HALTED BY SAFETY DEVICE

POSSIBEL CAUSES BY AN ELECTRIC CIRCUIT

1. Motor protector shuts off the unit when either refrigerator is overheated or overcurrent is charged.

POSSIBEL CAUSES BY A REFRIGERANT CIRCUIT

2. High pressure switch shuts off the unit when it detects an abnormal rise of refrigerant pressure.

Applicable

RD1015A·RD2008A·RD2011A·RD2015A
RDM1015A·RDM2008A·RDM2011A·RDM2015A

HOW TO RESET IT

● It resumes running automatically when refrigerator cools off or overcurrent is removed after emergent stop.

● In case of emergent stop due to the cause of refrigerent circuit, push the red button of high pressure switch by opening front panel.

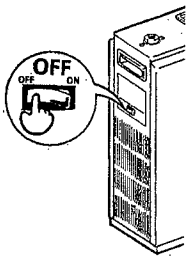
① Turn main line switch and unit power switch OFF.

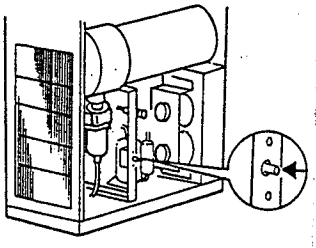
② As for the model with high pressure switch, push its red button after opening the front panel of the unit.

③ Give a remedy to the cause of emegent stop. (Refer to the Table of Trouble shooting, page 14.)

④ Turn main power line switch and unit power switch ON once again. In case when motor protector functioned, it may, sometimes, not restart immediately. Wait till refrigerator cools off. It restarts automatically then.

In case high pressure switch functioned, it starts immediately when power switch is turned ON.





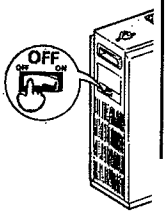
Page 14

INSPECTION AND MAINTENANCE

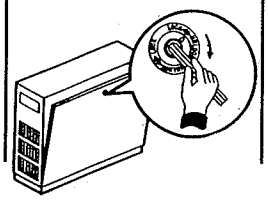
SNAP DRAIN, ITS INSPECTION AND MAINTENANCE

● Carry out a weekly inspection of drain purger (Snap drain) by opening the front panel of unit.

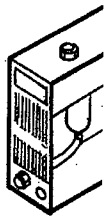
① Turn the power OFF.



② Lift the finger ring on front panel and turn it clockwise



③ Inspect purger for abnormalities.



Abnormality is such as follows.
- Float is completely covered with accumulated drain.
- Float does not come down even after purging the drain.
- Drain drips in drop.
- Air continually exhausts through drain port.

④ Close the front panel when no abnormality is disclosed.

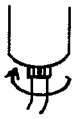
Clean the purger complying with the following procedures if there is any abnormality or replace it with new set otherwise.

● Cleaning procedures of drain purger (Snap drain)

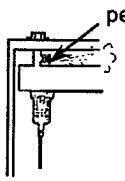
①Shut off the air supply.
(In case it is the model with by-passing set, open the by-pass valve and close both the primary as well as the secondary valve of the unit.)

②Open the front panel. Discharge accumulated air within the unit.

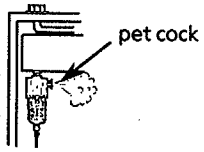
·RD1000/2000 series
Turn the drain cock of purger counterclockwise to purge drain as well as air.



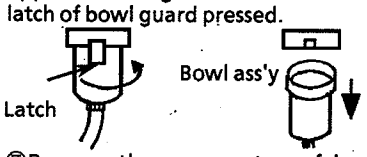
·RDM1003~1006 or 2001~2004
Discharge air by turning pet cock counterclockwise. It is located underneath of air inlet to purger.



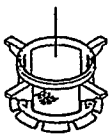
·RDM1008~1015 or 2006 ~ 2015
Discharge air by turning pet cock counterclockwise. It is located upper part of purger.



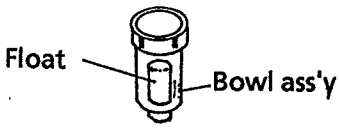
④Bowl assembly comes down when it is pulled after turning it clockwise for approx. 45 degrees while holding latch of bowl guard pressed.



⑤Remove the screen atop of bowl ass'y and clean it.



⑥Pour a little bit of water into the bowl and shake bowl well to let dirt over float come out.

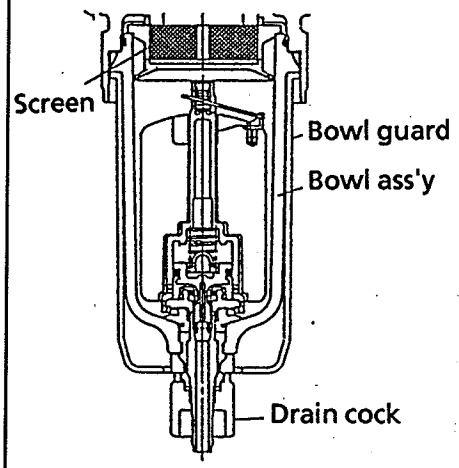


⑦Place the washed screen back to the original place and assemble purger back complying with the reversed sequences as disassembled.

⑧Close drain cock as well as pet cock.

⑨Replace the cleaned ass'y with new set if the former set, by any reasons, does not function right.

STRUCTURE OF PURGER (SNAP DRAIN)

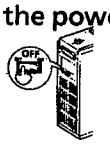


Drain water may spout out at the moment of opening pet cock if water is full in purger. Carefully prevent water from splashing over electric equipments.

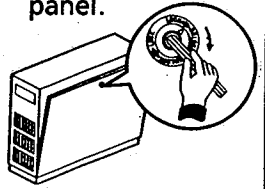
DUSTS FILTER

● Blow dusts away from screen with air gun once a month.

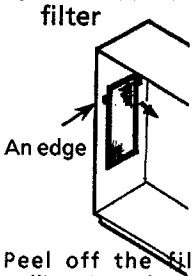
① Turn the power OFF.



② Open the front panel.

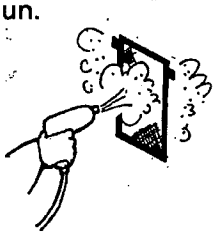


③ Take out the dust filter



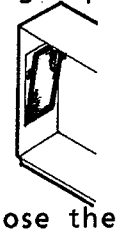
Peel off the filter by pulling its edge as it is mounted by means of a set of magic tapes.

④ Blow dusts off the screen using an air gun.



Note : Wash the screen if it is filthier or replace it with new one.

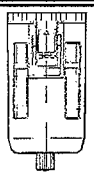
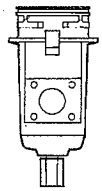
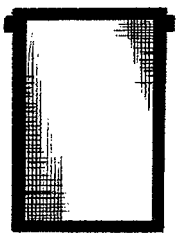
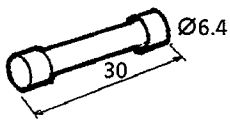
③ To mount filter back, press the reverse face of magic tape well.



④ Close the front panel.

Discontinue

EXPENDABLE PARTS LIST

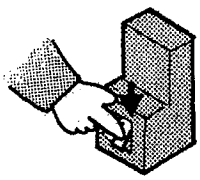
No.	Expendable parts	Model code	Drawing No. (Parts No.)	Quantity	General appearance	Remarks
1	Drain purger	RD1003(A),2001A(A)	F4-221058	1		
		RD1004(A)~1015(A) RD2002(A)~2015(A)	F4-205611	1		
		RDM1003(A),2001A(A)	F4-221060	1		
		RDM1004(A),1015(A) RDM2002(A)~2015A)	F4-218470	1		
2	Condenser filter	RD(M)1003(A),2001(A)	F3-217238	1		
		RD(M)1004(A),1006(A) RD(M)2002(A),~2004(A)	F3-217239	1		
		RD(M)1008,(A),1011(A) RD(M)2006(A)	F3-217240	1		
		RD(M)1015(A),2008(A)	F3-217241	1		
		RD(M)2011(A)	F3-217242	1		
		RD(M)2015(A)	F3-217243	1		
3	Sealed fuse in glass fuse	RD(M)1003~1015 RD(M)2001~2015 RD(M)2011A, RD(M)2015A	1ampere	1	 JIS MF-60-NR type	An equivalent is acceptable.

RD (M) ※※※※ in this table designates that it is commonly applicable to either models RD※※※※ or RDM ※※※※.(A) designates that it is commonly applicable to either Digital monitor type (without A) or Analog monitor type (with A).

STORAGE OVER AN EXTENDED TERM

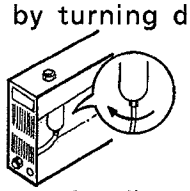
● Keep the dryer in custody complying with the following procedures when to put it away from service over an extended term.

1.Shut off the circuit breaker.



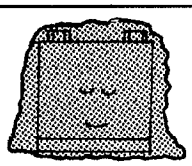
2.Purge drain.

Purge it completely by turning drain cock on purger.



Note : As for model RDM (Medium pressure type), disassemble a glass bowl to purge drain as there is no drain cock provided.

3. Carefully select an appropriate location for storage.



Keep it in custody by placing a cover sheet over it in the place where trash, dust, rain, dew, humidity or direct sun beam is expected the least.

4.When to resume its service.

Upon completion of a careful inspection to every part of dryer, resume its service complying with Installation and Operation procedures of this manual.

Discontinue

TROUBLE SHOOTING (DIGITAL MONITOR TYPE)

STATE OF MALFUNCTION			POSSIBLE CAUSES OF TROUBLES	REMEDIES
No starting when switch is turned ON	Automatic operation	Auto lamp is not lit.	· Power is not turned ON. · Abnormal voltage of power line · Bad power switch · Bad lamp · Burnt out fuse	· Turn the power ON. · Regulate the voltage to specified. · Replace the switch. · Replace the electronic monitor. · Replace the fuse.
		Dew point lamp is not lit.		
		Run lamp is not lit.	· Power is not turned ON. · Abnormal voltage of power · Bad power switch · Bad lamp · Burnt out fuse · Insufficient air pressure	· Turn the power ON. · Regulate the voltage to specified. · Replace the switch. · Replace the electronic monitor. · Replace the fuse. · Regulate it to be over 0.17MPa.
		Run lamp is not lit.	· Protective device of refrigerating circuit in function.	· Turn power switch OFF once and rese it.
	Manual operation	Run lamp is not lit.	· Power is not turned ON. · Abnormal voltage of power · Bad power switch · Bad lamp · Burnt out fuse	· Turn the power ON. · Regulate the voltage to specified. · Replace the switch. · Replace the electronic monitor. · Replace the fuse.
		Dew point lamp is not lit.	· Power is not turned ON. · Abnormal voltage of power · Bad power switch · Bad lamp · Burnt out fuse	· Turn the power ON. · Regulate the voltage to specified. · Replace the switch. · Replace the electronic monitor. · Replace the fuse.
		Alarm lamp is lit.	· Protective device of refrigerating circuit in function.	· Remove the causes of protector functioning and reset it.
Abnor-mal dew point	Amber lamp in high temperature side of Dew point lamp is lit.		· Refer to the Article (※) Water comes out, left column.	
	Amber lamp in low temperature side (below 0) of Dew point lamp is lit.		· Improper adjustment of dryer.	· Adjust the dryer.
Water comes out of the systm end during operation.	Water comes out of the system end while dew point is normal.		· Malfunction of drain purger. · Purger is fozen. Ambient temperature is below 0 °C. Improper adjustment of dryer.	· Disassemble purger to clean or replace it with a new one. · Halt the dryer and give some remedies to prevent tube from freezing.Readjust the dryer.
	(※) Water comes out of the system end while dew point lamp is either yellow or amber.		· Refrigerant gas leaked. · Ambient temperature is excessively high. · High temperature air at inlet · Excessive consumption of air flow · Clogged filter of condenser · Insufficient ventilation · Bad fan motor	· Refill the gas. · Provide a ventilation to keep ambient temperature below 40 °C. · Cool off the inlet temperature brlow specified. · Regulate to operate it within specified velocity. · Clean the condenser filter. · Improve the ventilation. · Replace the fan motor.
Stops unexpected-ly.	Run lamp is not lit while Auto lamp (auto run) is lit.		· Air pressure is low.	· Adjust the air pressure to be more than 0.17MPa.
	Alarm lamp is lit.		· Protective device of refrigerating circuit in function.	· Remove the causes of protector functioning and reset it. Refer to the Article (※) Water comes out, left column.
	All lamps are extinguished.		· Power was cut OFF. · Abnormal voltage of power · Bad power switch · Bad digital monitor · Burnt out fuse	· Turn power line ON. (Inspect for cutwire and bad conduction.) · Regulate to specified voltge. · Replace the switch. · Replace the digital monitor. · Replace the fuse.

TROUBLE SHOOTING (ANALOG MONITOR TYPE)

STATE OF MALFUNCTION			POSSIBLE CAUSES OF TROUBLES	REMEDIES
No starting when switch is turned ON	Automatic operation	Run lamp is not lit.	· Power is not turned ON. · Bad lamp · Low air pressure · Protective device of refrigerating circuit in function.	· Turn the power ON. · Replace the lamp. · Adjust the pressure to be over 0.17MPa. · Wait till the refrigerator cools off. · Reset it by pushing back the button, in case the high pressure switch button has popped out.
	Manual operation	Run lamp is not lit.	· Bad lamp · Protective device of refrigerating circuit in function.	· Replace the lamp. · Wait till the refrigerator cools off. · Reset it by pushing back the button, in case the high pressure switch button has popped out.
Water comes out of the systm end during operation.	Water comes out of the system end while dew point is normal.		· Malfunction of drain purger. · Purger is fozen. Ambient temperature is below 0°C. Improper adjustment of dryer.	· Disassemble purger to clean or replaceit with a new one. Halt the dryer and give some remedies to prevent tube from freezing. · Halt the dryer and give some remedies to prevent tube from freezing. Readjust the dryer.
	(※) Water comes out of the system end while dew point indicator needle is above green zone.		· Refrigerant gas leaked. · Ambient temperature is excessively high. · High temperature air at inlet · Excessive consumption of air flow · Clogged filter of condenser · Insufficient ventilation · Bad fan motor	· Recharge the gas. · Provide a ventilation to keep ambient temperature below 40 °C. · Cool off the inlet temperature below specified. · Regulate to operate it within specified velocity. · Clean the condenser filter. · Improve the ventilation. · Replace the fan motor.
Stops unexpected-ly.	Run lamp is extinguished.		· Power was shut off. · Abnormal power voltage · Bad power switch · Protective device of refrigerating circuit in function. · Low air presure (This is the case of automatic operation.)	· Turn power ON. (Inspect for cut wire and bad conduction.) · Regulate to specified voltge. · Replace the switch. · Remove the causes of protector functioning. Refer to the Article (※) Water comes out, left column. · Adjust the air pressure to be higher than 0.17MPa.

Discontinue

AFTER SERVICE AND GUARANTEE

GUARANTEE CERTIFICATE

● There is a guarantee certificate attached to XEROAQUA, refrigeration type air dryer, products of CKD Co., Ltd.

After confirming the entries to the certificate such as "Date of purchase, Name of supplyer, etc.", keep it in custody upon reading the extent of guarantee, well.

Should there be any difficulties, repair services will be provided in accordance with provisions on guarantee.

VALIDITY TERM IS ONE YEAR FROM THE DATE OF PURCHASE.

REPAIR SERVICE

● Contact with the supplyer concerning with repair service. Consult with CKD's business office nearby you, in the event that the supplyer is unable to provide service.
(Refer to the rear cover of this manual as for our business offices.)

● Inform the followings when requesting repair service.

- Model No.
- Serial No.
- Date of Installation
- Name of Supplyer
- General Stastes of malfunction

REPAIR SERVICE AFTER EXPIRATION OF GUARANTEE TERM

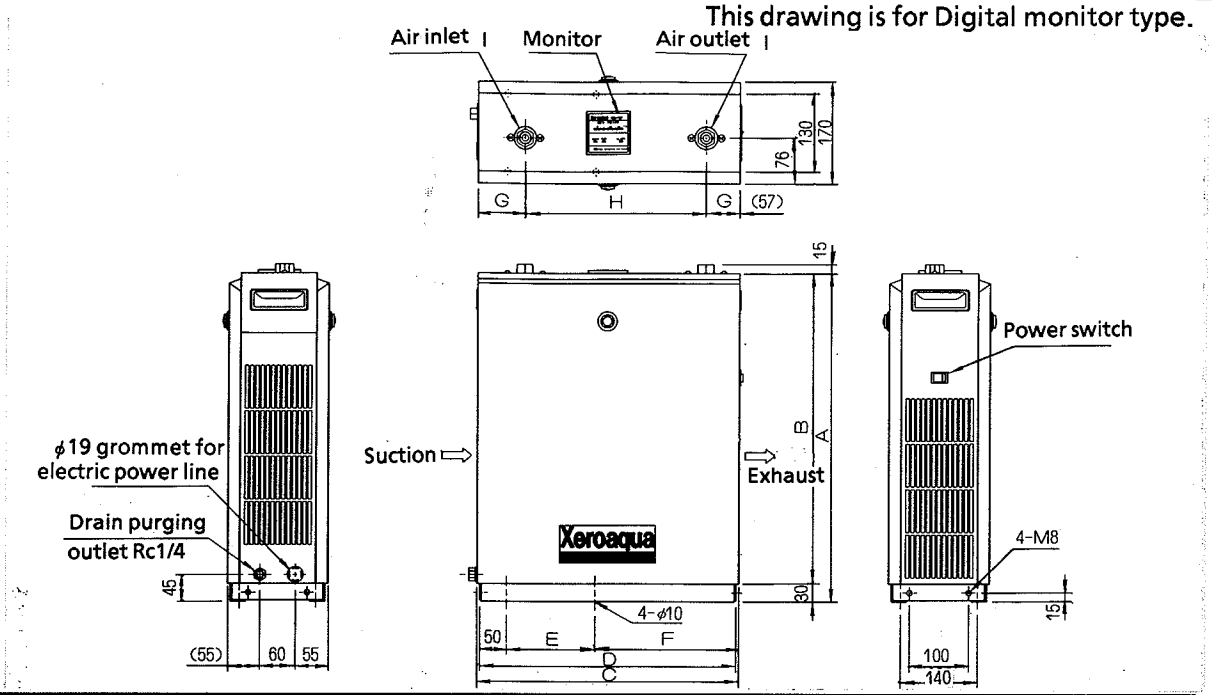
● Repair services after the term will also be carried out to your satisfaction recognizing our responsibility. Contact supplyer, please.

Repair service will be rendered with nominal charge complying upon your demand. Service parts will be availed for 5 years after discontinuation of production.

Discontinue

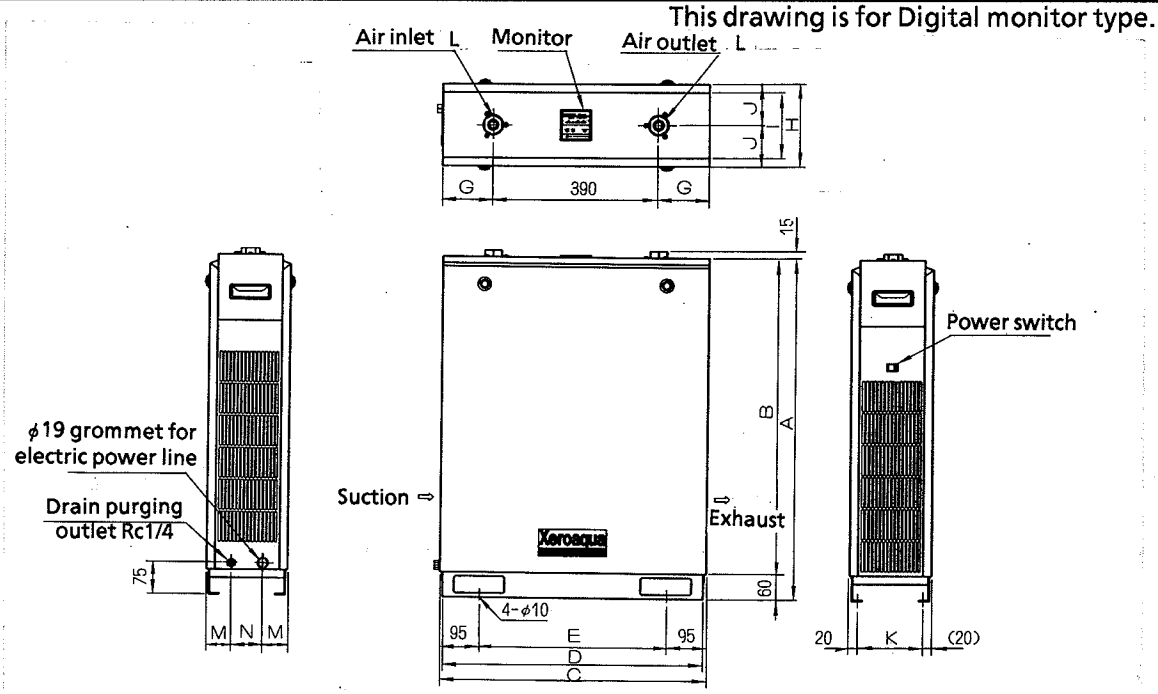
EXTERNAL DIMENSIONS

This drawing is for Digital monitor type.



Markings	A	B	C	D	E	F	G	H	I
RD2001(A)	460	430	440	430	150	240	80	303	Rc3/8
RD2002(A)	550	520	440	430	150	240	80	303	Rc3/8
RD2003(A)	550	520	440	430	150	240	80	303	Rc3/8
RD2004(A)	550	520	560	550	310	200	100	403	Rc3/8
RDM2001(A)	460	430	440	430	150	240	80	303	Rc3/8
RDM2002(A)	550	520	440	430	150	240	80	303	Rc3/8
RDM2003(A)	550	520	440	430	150	240	80	303	Rc3/8
RDM2004(A)	550	520	560	550	310	200	100	403	Rc3/8

This drawing is for Digital monitor type.

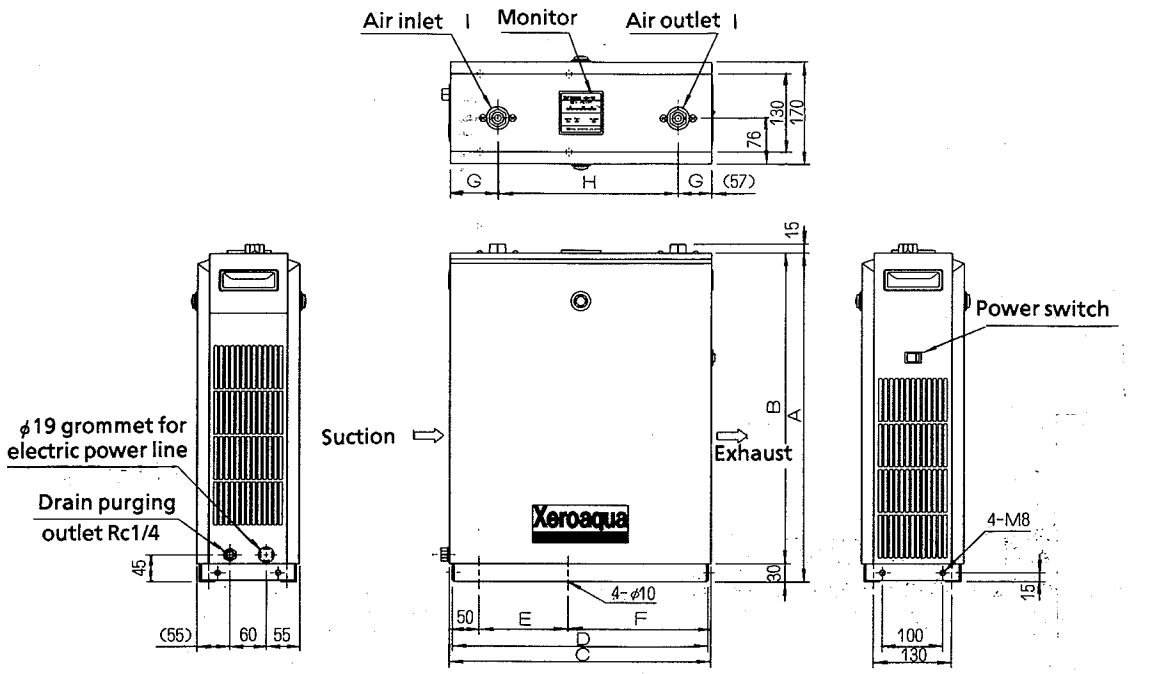


Marking	A	B	C	D	E	G	H	I	J	K	L	M	N
RD2006(A)	750	690	570	560	380	90	195	155	97.5	155	Rc1/2	60	75
RD2008(A)	810	750	630	620	440	120	195	155	97.5	155	Rc3/4	60	75
RD2011(A)	860	800	630	620	440	120	280	240	140	240	Rc3/4	80	120
RD2015(A)	980	920	630	620	440	120	280	240	140	240	Rc1	80	120
RDM2006(A)	750	690	570	560	380	90	195	155	97.5	155	Rc1/2	60	75
RDM2008(A)	810	750	630	620	440	120	195	155	97.5	155	Rc3/4	60	75
RDM2011(A)	860	800	630	620	440	120	280	240	140	240	Rc3/4	80	120
RDM2015(A)	980	920	630	620	440	120	280	240	140	240	Rc1	80	120

Discontinue

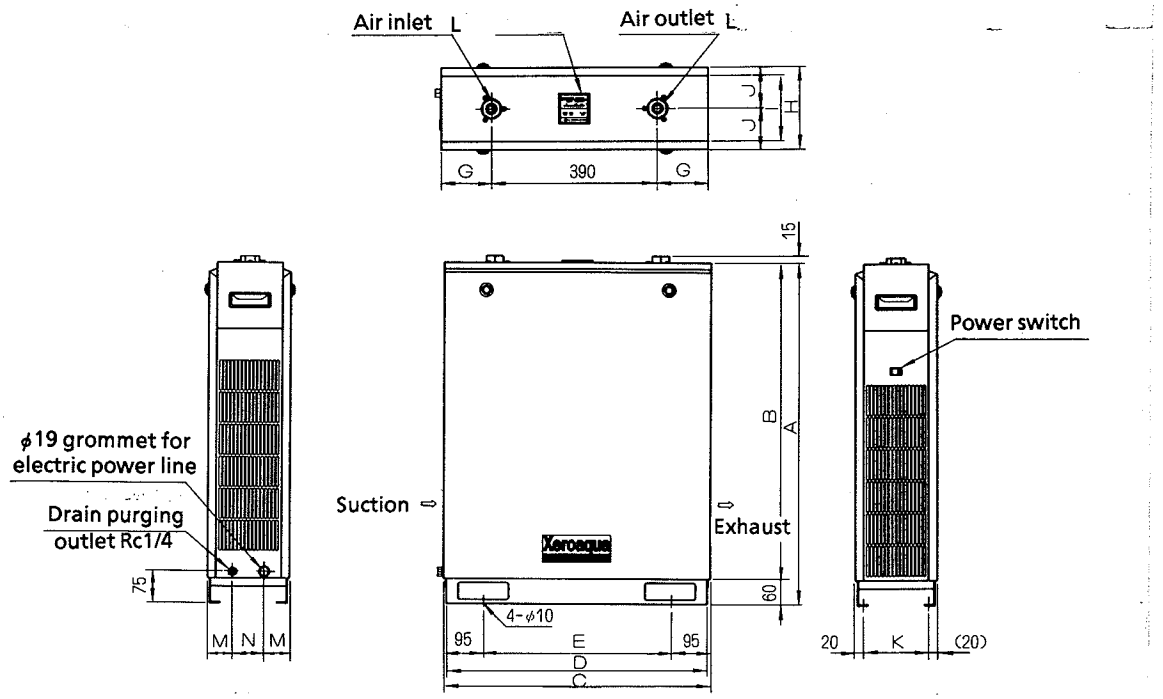
EXTERNAL DIMENSIONS

This drawing is for Digital monitor type.



Markings	A	B	C	D	E	F	G	H	I
RD1003(A)	460	430	440	430	150	240	80	303	Rc3/8
RD1004(A)	550	520	440	430	150	240	80	303	Rc3/8
RD1006(A)	550	520	440	430	150	240	80	303	Rc1/2
RDM1003(A)	460	430	440	430	150	240	80	303	Rc3/8
RDM1004(A)	550	520	440	430	150	240	80	303	Rc3/8
RDM1006(A)	550	520	440	430	150	240	80	303	Rc1/2

This drawing is for Digital monitor type.



Markings	A	B	C	D	E	G	H	I	J	K	L	M	N
RD1008(A)	750	690	570	560	380	90	195	155	97.5	155	Rc3/4	60	75
RD1011(A)	750	690	570	560	380	90	195	155	97.5	155	Rc3/4	60	75
RD1015(A)	810	750	630	620	440	120	195	155	97.5	155	Rc1	60	75
RDM1008(A)	750	690	570	560	380	90	195	155	97.5	155	Rc3/4	60	75
RDM1011(A)	750	690	570	560	380	90	195	155	97.5	155	Rc3/4	60	75
RDM1015(A)	810	750	630	620	440	120	195	155	97.5	155	Rc1	60	75

Discontinue

SPECIFICATIONS

■ RD2000 Series

Items \ Model No		RD 2001(A)	RD 2002(A)	RD 2003(A)	RD 2004(A)	RD 2006(A)	RD 2008(A)	RD 2011(A)	RD 2015(A)
Applicable air compressor (kW)		~0.75	1.5	2.2	3.7	5.5	7.5	11	15
Rating	Volume of disposed (m^3/min A.N.R)	~0.1/0.11	0.2/0.22	0.31/0.35	0.5/0.55	0.74/0.81	1.1/1.2	1.65/1.8	2.5/2.7
	Air pressure at inlet (MPa)	0.7							
	Air temperature at inlet (℃)	55							
	Ambient temperature (℃)	32							
	Air dew point at outlet (℃)	10(with pressure)							
Working range	Working media	Compressed air							
	Air temperature at inlet (℃)	5~80							
	Ambient temperature (℃)	2~40							
	Ambient humidity	40~80%RH							
	Working pressure (MPa)	0.2~10							
Electric Specs.	Main power line	100/200V single phase, 50/60Hz						200V 3-phase,50/60Hz	
	Electricity consumption (kW)	0.16/0.17	0.16/0.17	0.22/0.24	0.29/0.32	0.39/0.44	0.53/0.62	0.66/0.80	0.97/1.19
	Operating current AC100V(A)	2.0/2.1	2.0/2.1	2.6/2.8	3.4/3.6	4.6/4.8	5.8/6.4	—	—
	Operating current AC200V(A)	1.0/1.0	1.0/1.0	1.3/1.4	1.7/1.8	2.3/2.4	2.9/3.2	2.6/2.8	3.8/4.2
Details of apparatuses	Operation type	Automatic operation by sensing air pressure (0.17MPa:ON,0.07MPa:OFF)and manual operation							
	Condenser	Fin and tube type, forced air cooling method							
	Refrigerant control method	Capillary tube							
	Temperature control method	Hot gas by-pass type with capacitor valve							
	Refrigerant	R22							
Port diameter of air inlet and outlet(Rc)		3/8				1/2	3/4		1
Port diameter of drain discharging(Rc)		1/4							
Mass (kg)		16	18	18	23	45	49	58	60
Calorie of heat emmission (kW)		0.27	0.37	0.55	0.82	1.19	1.73	2.47	3.82

■ RDM2000 Series

Items \ Model No		RDM 2001(A)	RDM 2002(A)	RDM 2003(A)	RDM 2004(A)	RDM 2006(A)	RDM 2008(A)	RDM 2011(A)	RDM 2015(A)
Applicable air compressor (kW)		~0.75	1.5	2.2	3.7	5.5	7.5	11	15
Rating	Volume of disposed (m^3/min A.N.R)	~0.1/0.11	0.2/0.22	0.31/0.35	0.5/0.55	0.74/0.81	1.1/1.2	1.65/1.8	2.5/2.7
	Air pressure at inlet (MPa)	0.7							
	Air temperature at inlet (℃)	55							
	Ambient temperature (℃)	32							
	Air dew point at outlet (℃)	10(with pressure)							
Working range	Working media	Compressed air							
	Air temperature at inlet (℃)	5~80							
	Ambient temperature (℃)	2~40							
	Ambient humidity	40~80%RH							
	Working pressure (MPa)	0.2~15							
Electric Specs.	Main power line	100/200V single phase, 50/60Hz						200V 3-phase,50/60Hz	
	Electricity consumption (kW)	0.16/0.17	0.16/0.17	0.22/0.24	0.29/0.32	0.39/0.44	0.53/0.62	0.66/0.80	0.97/1.19
	Operating current AC100V(A)	2.0/2.1	2.0/2.1	2.6/2.8	3.4/3.6	4.6/4.8	5.8/6.4	—	—
	Operating current AC200V(A)	1.0/1.0	1.0/1.0	1.3/1.4	1.7/1.8	2.3/2.4	2.9/3.2	2.6/2.8	3.8/4.2
Details of apparatuses	Operation type	Automatic operation by sensing air pressure (0.17MPa:ON,0.07MPa:OFF)and manual operation							
	Condenser	Fin and tube type, forced air cooling method							
	Refrigerant control method	Capillary tube							
	Temperature control method	Hot gas by-pass type with capacitor valve							
	Refrigerant	R22							
Port diameter of air inlet and outlet(Rc)		3/8				1/2	3/4		1
Port diameter of drain discharging(Rc)		1/4							
Mass (kg)		16	18	18	23	45	49	58	60
Calorie of heat emmission (kW)		0.27	0.37	0.55	0.82	1.19	1.73	2.47	3.82

Discontinue

SPECIFICATIONS

■ RD1000 Series

Items \ Model No			RD 1003(A)	RD 1004(A)	RD 1006(A)	RD 1008(A)	RD 1011(A)	RD 1015(A)
Applicable air compressor (kW)			~2.2	3.7	5.5	7.5	11	15
Rating	Volume of disposed (m^3/min A.N.R)		~0.31/0.35	0.5/0.55	0.74/0.81	1.1/1.2	1.65/1.8	2.5/2.7
	Air pressure at inlet (MPa)		0.7					
	Air temperature at inlet (℃)		35					
	Ambient temperature (℃)		32					
	Air dew point at outlet (℃)		10(with pressure)					
Working range	Working media		Compressed air					
	Air temperature at inlet (℃)		5~50					
	Ambient temperature (℃)		2~40					
	Ambient humidity		40~80%RH					
	Working pressure (MPa)		0.2~10					
Electric Specs.	Main power line		100/200V single phase, 50/60Hz					
	Electricity consumption (kW)		0.16/0.17	0.16/0.17	0.22/0.24	0.29/0.32	0.39/0.44	0.53/0.62
	Operating current	AC100V(A)	2.0/2.1	2.0/2.1	2.6/2.8	3.4/3.6	4.6/4.8	5.8/6.4
		AC200V(A)	1.0/1.0	1.0/1.0	1.3/1.4	1.7/1.8	2.3/2.4	2.9/3.2
Details of apparatu-ses	Operation type		Automatic operation by sensing air pressure (0.17MPa:ON,0.07MPa:OFF)and manual operation					
	Condenser		Fin and tube type, forced air cooling method					
	Refrigerant control method		Capillary tube					
	Temperature control method		Hot gas by-pass type with capacitor valve					
	Refrigerant		R22					
Port diameter of air inlet and outlet(Rc)			3/8		1/2	3/4		1
Port diameter of drain discharging(Rc)			1/4					
Mass (kg)			16	18	18	45	45	49
Calorie of heat emmission (kW)			0.3	0.4	0.58	0.86	1.2	1.8

■ RDM1000 Series

Items \ Model No			RDM 1003(A)	RDM 1004(A)	RDM 1006(A)	RDM 1008(A)	RDM 1011(A)	RDM 1015(A)
Applicable air compressor (kW)			~2.2	3.7	5.5	7.5	11	15
Rating	Volume of disposed (m^3/min A.N.R)		~0.31/0.35	0.5/0.55	0.74/0.81	1.1/1.2	1.65/1.8	2.5/2.7
	Air pressure at inlet (MPa)		0.7					
	Air temperature at inlet (℃)		35					
	Ambient temperature (℃)		32					
	Air dew point at outlet (℃)		10(with pressure)					
Working range	Working media		Compressed air					
	Air temperature at inlet (℃)		5~50					
	Ambient temperature (℃)		2~40					
	Ambient humidity		40~80%RH					
	Working pressure (MPa)		0.2~15					
Electric Specs.	Main power line		100/200V single phase, 50/60Hz					
	Electricity consumption (kW)		0.16/0.17	0.16/0.17	0.22/0.24	0.29/0.32	0.39/0.44	0.53/0.62
	Operating current	AC100V(A)	2.0/2.1	2.0/2.1	2.6/2.8	3.4/3.6	4.6/4.8	5.8/6.4
		AC200V(A)	1.0/1.0	1.0/1.0	1.3/1.4	1.7/1.8	2.3/2.4	2.9/3.2
Details of apparatu-ses	Operation type		Automatic operation by sensing air pressure (0.17MPa:ON,0.07MPa:OFF)and manual operation					
	Condenser		Fin and tube type, forced air cooling method					
	Refrigerant control method		Capillary tube					
	Temperature control method		Hot gas by-pass type with capacitor valve					
	Refrigerant		R22					
Port diameter of air inlet and outlet(Rc)			3/8		1/2	3/4		1
Port diameter of drain discharging(Rc)			1/4					
Mass (kg)			16	18	18	45	45	49
Calorie of heat emmission (kW)			0.3	0.4	0.58	0.86	1.2	1.8

Note

Keep the following notes in custody upon entering conctents on the name plate of **XEROAQUA** you purchased and the name of supplyer.

REFRIGERATED AIR DRYER	
POWER	MAX.PRESS.
MAX.AIR TEMP.	AIR FLOW
CURRENT	MASS
REFRIGERANT	SERIAL No.
CKD	CKD Corporation MADE IN JAPAN

NAME OF SUPPLYER		TEL	– –
DATE OF PURCHASE			

Discontinue

Discontinue

FOR SAFETY USE

The product is intended for use solely in industrial systems and NOT intended for consumer use or application.

Do not attempt to use, apply, install and repair the product unless you are trained in the proper techniques for working on electric, fluid power and refrigeration systems.

Inappropriate or improper use, application, installation and servicing of the product may or could create a danger or hazard to personnel and/or equipment.

PRODUCT SAFETY SIGN

SIGNAL WORD : The word or words that designate a degree or level of safety alerting.

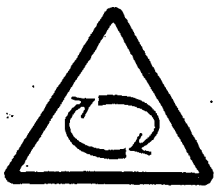
⚠ WARNING : Indicates a potentially hazardous situation, if not avoided, could result in death or serious injury.

⚠ CAUTION : Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or property damage.

⚠ WARNING

★Hazardous fan will cause severe injury.

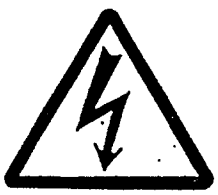
● Keep hands away from moving parts.
● Turn off power before servicing.



⚠ WARNING

★Harzrdous voltage can shock, burn or cause death.

● Turn off power before opening cover.



⚠ CAUTION

★Hot surface can cause burn.

● Turn off power and cool down before servicing.

⚠ CAUTION

★Fall points can cause severe injury.

● Do not ride on here.

Discontinue

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●北上営業所
〒024-0034 岩手県北上市諏訪町 2-4-26
TEL(0197)63-4147 FAX(0197)63-4186
●仙台営業所
〒984-0015 仙台市若林区卸町 2-2-1(パックス 2・1 階)
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●山形営業所
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●郡山営業所
〒963-8034 福島県郡山市島 1-16-9
TEL(0249)23-6348 FAX(0249)24-0862
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南関東
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