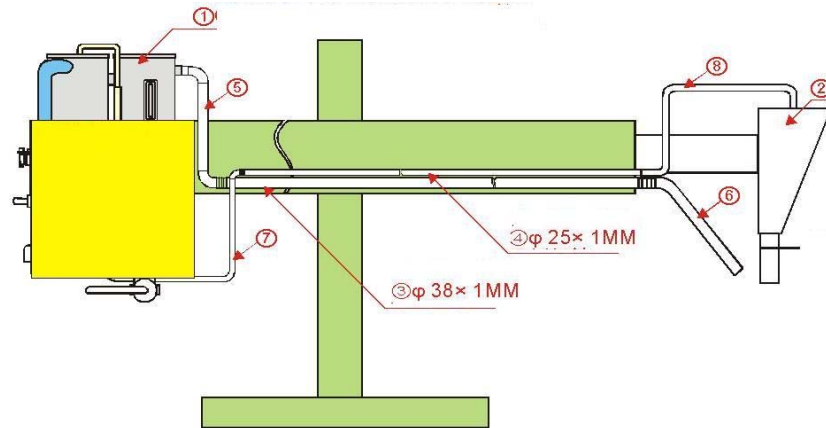


FLUX RECOVERY SYSTEM MODEL FRU - 80

OPERATION MANUAL



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Note: The information contained in this manual is intended to be accurate. However the manufacturer retain the rights to make changes in design which may not be include herein

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1. Safety Requirement

	WARNING	ARC WELDING MAY BE DANGEROUS
<p><i>PROTECT YOURSELF AND OTHERS FROM POSSIBLE SERIOUS INJURY OR DEATH, KEEP CHILDREN AWAY. PACEMAKER WEARERS SHOULD CONSULT WITH THEIR DOCTOR BEFORE OPERATING.</i></p>		
<p>Read and understand the following safety highlights, <i>BE SURE THAT ALL INSTALLATION, OPERATION, MAINTENANCE AND REPAIR PROCEDURES ARE PERFORMED ONLY BY QUALIFIED INDIVIDUALS.</i></p>		
	<p>1. <i>ELECTRIC SHOCK can kill.</i></p>	
<ul style="list-style-type: none">■ The electrode and work (or ground) circuits are electrically “hot” when the welder is on, do not touch these “hot” parts with your bare skin or wet clothing.■ Insulate yourself from work and ground using dry insulation. Make certain the insulation is large enough to cover your full area of physical contact with work and ground.■ In semiautomatic or automatic wire welding, the electrode, electrode reel, welding head, nozzle or semiautomatic welding gun are electrically “hot”.■ Always be sure the work cable makes a good electrical connection with the metal being welded, the connection should be as close possible to the area being welded.■ Ground the work or metal to be welded to a good electrical (earth) ground.■ Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition. Replace damaged insulation.■ Never dip the electrode in water for cooling.■ Never simultaneously touch electrically "hot" parts of electrode holders connected to two welders because voltage between the two can be the total of the open circuit voltage of both welders.■ When working above floor level, use a safety belt to protect yourself from a fall should you get a shock.		
	<p>2. <i>ARC RAYS can burn</i></p>	
<ul style="list-style-type: none">■ Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing open arc welding. Head shield and filter lens should conform to nation standard.■ Use suitable clothing made from durable flame-resistant material to protect your skin and that of your helpers from the arc rays.■ Protect other nearby personnel with suitable, non-flame able screening and warn them not to watch the arc nor expose themselves to the arc rays or to hot spatter or metal.		



3. *FUMES AND GASES can be dangerous.*

- Welding may produce fumes and gases hazardous to health, Avoid breathing these fumes and gases. When welding, keep your head out of the fume. Use enough ventilation and exhaust at the arc to keep fumes and gases away from the breathing zone.
- Do not weld in locations near chlorinated hydrocarbon vapors coming from degreasing, cleaning or spraying operations. The heat and rays of the arc can react with solvent vapors to form phosgene, a highly toxic gas, and other irritating products.
- Shielding gases used for arc welding can displace air and cause injury or death. Always use enough ventilation, especially in confined areas, to insure breathing air is safe.
- Read understand the manufacturer's instructions for this equipment and the consumables to be used, including the material safety data sheet and follow your employer's safety practices.



4. *WELDING SPARKS can cause fire or explosion.*

- Remove fire hazards from the welding area, if this is not possible; cover them to prevent the welding sparks from starting a fire. Remember that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas. Avoid welding near hydraulic lines.
- Where compressed gases are to be used at the job site, special precautions should be used to prevent hazardous situations.
- When not welding, make certain no part of the electrode circuit is touching the work or ground. Accidental contact can cause overheating and create a fire hazard.
- Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapors from substances inside.
- Vent hollow castings or containers before heating, cutting or welding. They may explode.
- Sparks and spatter are thrown from the welding arc. Wear oil free protective garments such as leather gloves, heavy shirt, cuff less trousers, high shoes and a cap over your hair. Wear ear plugs when welding out of position or in confined places. Always wear safety glasses with side shields when in a welding area.
- Connect the work cable to the work as close to the welding area as practical. Work cables connected to the building framework or other locations away from the welding area increase the possibility of the welding current passing through lifting chains, crane cables or other alternate circuits. This can create fire hazards or overheat lifting chains or cables until they fail



5. *CYLINDER may explode if damaged*

- Use only compressed gas cylinders containing the correct shielding gas for the process used and properly operating regulators designed for the gas and pressure used. All hoses, fittings, etc should be suitable for the application and maintained in good condition.
- Always keep cylinders in an upright position securely chained to an undercarriage or fixed support.
- Cylinders should be located away from areas where they may be struck or subjected to physical damage and a safe distance from arc welding or cutting operations and any other source of heat, sparks, or flame.
- Never allow the electrode, electrode holder or any other electrically "hot" parts to touch a cylinder.
- Keep your head and face away from the cylinder valve outlet when opening the cylinder valve.
- Valve protection caps should always be in place and hand tight except when the cylinder is use or connected for use.



6. *FOR ELECTRICALLY powered equipment (apply in to welding and cutting equipment)*

- Turn off input power using the disconnect switch at the fuse box before working on the equipment.
- Install equipment in accordance with J. IIRIZAR COMPANY LTD's recommendations (as: manual).
- Ground the equipment in accordance with the J. IRIZAR's recommendations



7. *Other*

- Keep all equipment safety guards, covers and devices in position and in good repair. Keep hands, hair, clothing and tools away from V-belt, gears, fans and all other moving parts when starting, operating or repairing or repairing equipment.
- In some cases it may be necessary to remove safety guards to perform required maintenance requiring their removal is complete. Always use the greatest care when working near moving parts.
- Do not put hands near the running fan, do not operate with panel open or guards off.



8. *ELECTRIC AND MAGNETIC FIELDS may be dangerous.*

- Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF).Welding current creates EMF fields around welding cables and welding machines.
- EMF fields may interfere with some pacemakers, and welders having a pacemaker should consult their physician before welding.
- Exposure to EMF fields in welding may have other health effects which are now not known.
- All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:
 - a. Rout the electrode and work cables together -Secure them with tape when possible.
 - b. Never coil the electrode lead around your body.
 - c. Do not place your body between the electrode and work cables.if the electrode cable is on your right side,the work cable should also be on your right side.
 - d. Connect the work cable to the workpiece as close as possible to the area being welded.
 - e. Do not work next to welding power source.

2. Product Summary

This system is composed of recovery main body, material collect cylinder, dust cylinder and conveying cylinder and together to hang on the end of boom. The recovery main body is used for producing strong suction air stream to satisfy long distance flux recovery; the conveying of flux is through flux conveying system which composed of cut-off valve, conveying cylinder and conveying valve and flux heater to feeding the recovery flux to flux bucket for recovery using.

3. Operation Instruction

This machine has compact construction, high density of integration, simple operation and reliable running. You can operation on the machine and remote control operation, operation on the machine is mainly used for check turning direction of motor, pulse testing

and conveying testing. When do on-line operation, it can connect with the welding machine through remote control outlet.

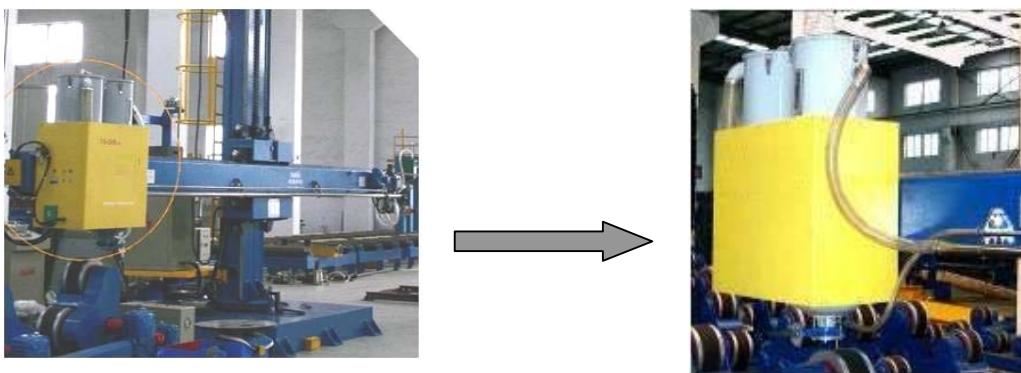
TECHNICAL DATA

MODEL	FRU-80
DESCRIPTION	
Electric input power supply	As per customer request
Motor power	2.2 kW
Working suction	≤ - 12 KPa
Recovery distance	4 - 16 m
Recovery speed	6-12 Kg/min
Flux capacity	50 kg
Air flow required	20 cfm @ 100 psi
Conveying distance	8 - 16 m
Self weight	120 kg

Note: 1 kW = 1.34 HP

4. Installation

- 4.1 Drill hole on the boom and then fix the recovery machine and stainless conveying pipe



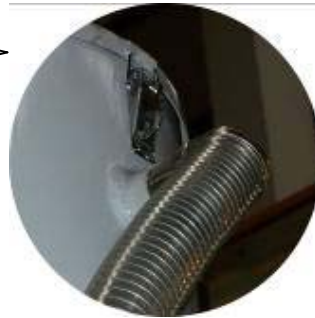
Drawing A, recovery machine install at the end of boom

- 4.2 Joint the conveying pipe with soft pipe (outlet of main machine→stainless steel pipe→flux bucket), and tight by fastener.



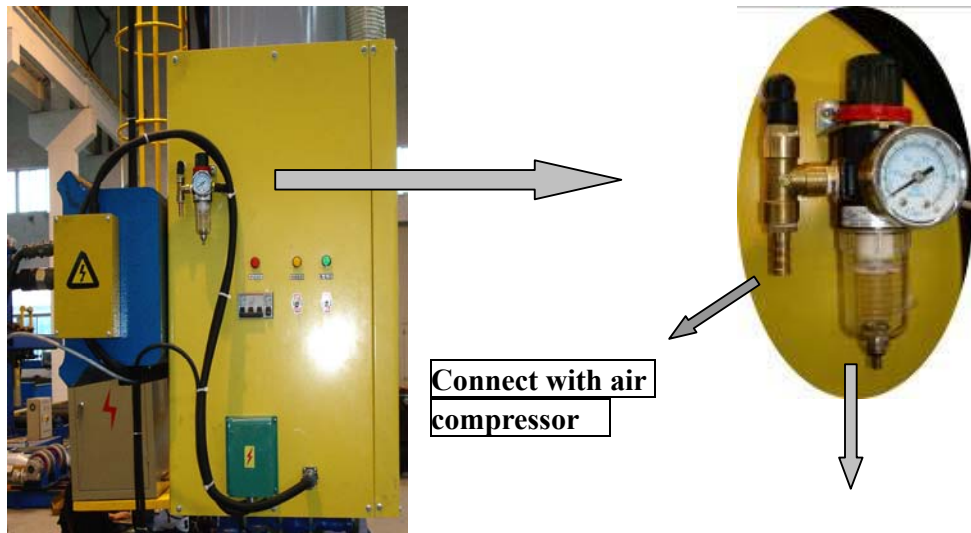
Outlet of recovery machine

- 4.3 Joint the conveying pipe with soft pipe (stainless steel soft pipe→stainless steel pipe→inlet of main machine), and tight by fastener.



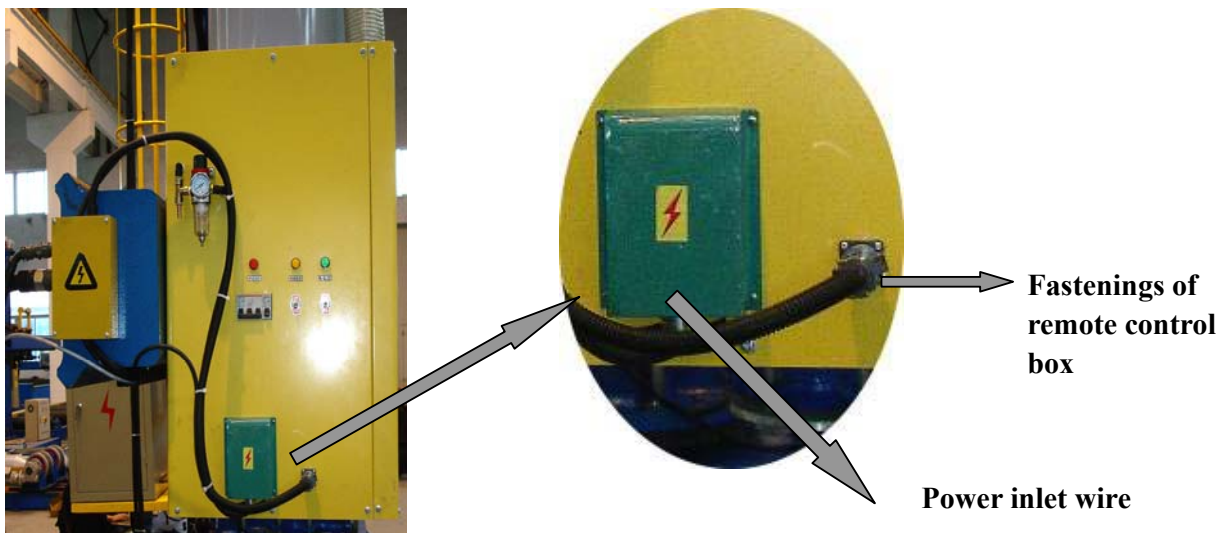
Recovery hose (inlet)

- 4.4 Joint the gas station or air compressor→ inlet of oil and water separator by oxygen pipe, and tight by fastener. (pressure adjust range 0.4~0.8Map)



Oil and water separator

- 4.5 Connect the three phase power to the inlet wire terminal of main machine (note: the power voltage, frequency should be complied with voltage and frequency on the name plate of main machine)



- 4.6 Connect the remote control box with main machine (TP3)

5. Operation (See available video clip on line)



After check the connecting wire is fasten and then push the general power button QF1, push control power button QF2, the indicator HL lighting, at this time put the switch K2 to ON and sustain, then start motor of recovery machine, when loose K2 switch, it will auto reset, but the motor will keep running, after 30 seconds stop running automatically! Please note that under this state, when need emergency stop, please close QF1 or cut off general power to avoid accident!!!). Put the switch K1 to ON and sustain, then the system will auto close the flux release valve and open conveying gas valve L1 to do conveying operation, loose L1 switch, it will auto reset, system will auto close the conveying valve L1 to stop conveying and at the same time delay 100 seconds and open L3 to do pulse dust operation through duster, after 30 seconds, open L3 again to do pulse dust operation and then auto open flux release valve to let the flux flow to flux collect bucket to wait next conveying operation. Model GHSR also have flux dry system, when need to dry the flux, only need to open the heating switch on the panel, then the heating system begin working, the user only need to set up the needed temperature, the whole heating process is controlled by REX intelligent temperature controller, the original PID is set up on 120°.

6.1 Connection of remote operation

This machine has an interface TP3 for remote operation, 1 foot is flux conveying start wire 24, 2 foot is flux conveying start wire 25; 3 foot is flux conveying start wire 23 (note: the control circuit are all AC220V), when connect as welding machine interconnected control, should adopt passive contactor separate control or connect active button box control.

6.2 Instruction of remote operation

The running process of remote operation is the same as operation on machine. Before start welding work, open recovery machine to absorb certain quantity of flux and fill the flux bucket and then can start welding operation, during running, should make all the relative switch contactor on close state, when cut off, the system auto to do relative assistant operation.

7. Points for Attention

This machine is an integral device together with machine, electricity and gas, before installation and running, please read this operation manual carefully.

The installation should be fixed fasten, the pipe connection should be tight and closed, before running, should check the top cover of flux collect cylinder is fasten and pipe connection is reliable. After stop the machine, you're not allowed to maintain, repair or clean the machine within 2 minutes; you only can do these operations when the machine stop running completely and power cut off! Before running should drain the accumulated water in oil and water separator, and after check the gas pipe is normal then can start the machine.

