

HP-250,HD-500

Dry ice pelletizer

Instructions Translated version

WARNING: Please read carefully before proceeding

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Preface

We thank you for purchasing this machine. This manual covers the safety, installation, operation and maintenance of the machine and other information. This manual should be available to the operator for reference. The operator should read this manual carefully before operating to ensure safe and stable operation of the machine. If the machine has any improper operation or maintenance, will not apply to the following commitments. When you buy this machine, **check** the model, all the parts listed on the packing list and check if there are any transport process damaged parts. If any parts are missing or found damaged, please immediately contact the dealer or machine manufacturer. Once again, we thank you for your purchase.

Promise

If any parts within one year from the date of purchase found to be defective, the manufacturer or distributor of this part shall be repaired or replaced, the premise is this part immediately returned. If these components are due to operator carelessness, misuse or lack of lubrication, cleaning is not complete, incorrect operating environment and other causes of failure, the manufacturer or dealer is not responsible for repair or replacement.

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Chapter 1 Safety Instructions

1.1 Safety Rules



1.1.1 General Safety Rules

(1) Know Your Machine

For your personal safety, read the manual. Familiar with the machine's applications and limitations, as well as the potential danger associated with the machine.

(2) Keep working area clean

Messy area can cause accidents.

(3) Do not use in hazardous environments

Do not place in wet or rainy use, or expose it to rain. Maintain a good work area.

(4) Non-professionals do not close

All visitors in the work area must be kept a safe distance.

- (5) Do not operate the machine forcibly
- (6) Under the implementation of the speed of the machine to its design safety.
- (7) Do not use the right tools to perform the work force so that the machine or attachment.
- (8) Wear appropriate clothing

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Wear gloves, earplugs, wear non-slip shoes.

(9) Do maintenance machine in working condition

The machine should be properly maintained, such as lubrication, adjustment.

(10) Before servicing, replacement parts, or assembly and re-assembly of the motor must be disconnected from the power supply at the machine.

(1) Recommendations of the parts, accessories, on recommendation of the inspection manual.

(12) Do not let the machine run unattended under.

1.1.2 Additional safety rules of dry ice pelletizer

(1) Do not understand the machine structure, performance and operational procedures, and is not allowed to start the machine.

(2) Dry ice pelletizer in the work process is prohibited overhaul.

(3) When dry ice pelletizer abnormal (such as action is not reliable,

powerful vibration, etc.), must be shut down relief overhaul is not allowed to work sick.

(4) When the machine is working, is strictly prohibited hand, head of the effective area extends into the work area.

(5) Prohibited when working with high-pressure dry ice pelletizer head pipe and tighten the nut.

(6) Regularly check the limit switch, safety devices, in order to ensure

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reliable operation.

(7)When replacing parts or repair, not the boot, to avoid causing accidents.

1.2 Warning signs

There is shown below the warning sign on the machine to ensure proper and safe operation.

Sign of the machine used to point out there is a particular danger to the operator position and examples.

Do not remove the machine safety signs.

Electric shock

Caution

Dangerous area

Do not enter the clearance





Noise pressure level — Based on ISO7960

	Standby Status	Operating Status
A-weight sound power level: LpA,dB		
The power level of A-weight sound power in position of operator, LpAd , dB re 20 μPa		
The measured value is based on experiment rules of ISO	3746.	

1. 4Machine nameplate



HD-750



HD-1500

Chapter 2 Description of the basic properties of the

machine

2.1 The main technical parameter



MODEL	CURREN	VOLTSAG	HYDRAULI	FRE	POWE	SIZE	WOR	WEIGH
	Т	Е	С	Q	R	m	K	Т
	А	V	PRESSURE	Hz	KW		SPEE	KG
			KG/cm2				D	
							LB/H	
HD-750	37	380	200	50	18.5	1.5x1.35x2.	1500	1700
						1		
HD-150	37	380	200	50	18.5	1.5x1.35x2.	1500	2000
0						1		

Note: The size and design characteristics shown in this table, to

change without notice!

2.2 Machine features

HD series is mainly used for the production of dry ice granulator granulated dry ice (3mm / 16mm particles), for industrial cleaning, refrigeration and other insurance purposes.

Features:

1. This machine is the overall frame structure, steel is strong, beautiful, stable and reliable.

2. With independent power sector and electrical systems, PLC centralized control, with manual and automatic modes of operation, easy to operate.

Chapter 3 Installation and commissioning

3.1 Lifting machinery safety regulations

1. When lifting, pay attention to the balance of the machine.

- 2. Use enough tonnage to the crane lifting machine.
- 3. Another assistant conductor needs to assistance when lifting machine.
- 4. Crane lifting hand must extend into the bottom of the machine.
- 5. The crane must be operated by the skilled person.
- 6. Contact with the part of the rope should be lifted when the liner.

3.2 Select a location

	The ambient	$5^{\circ} \sim 40^{\circ}$ (Not freeze)
	temperature	5 C 40 C (Not liceze)
	The ambient	00% PH Palow (Non condensing)
	humidity	90% KIT Below (Non-condensing)
Environment	Storage	20° C \sim $\pm 65^\circ$ C
	Temperature	-20 C $+ 03$ C
	Environment	Indoors (no corrosive gas, flammable gas, oil
	Environment	mist, etc.)
	Altitude	1000m altitude Below

3.3 Lifting machine

This machine can be used to transport cranes

Crane's hand movements must into the bottom of the machine

When handling, attention to the balance of the machine

Weight of the machine in Table 2.1 the machine parameters

3.4 Installation and commissioning of the machine

1. By appearance Fig. Hydraulic diagram connected lines.

2. By electrical schematics connect the power lines.

3. Before commissioning the operator needs to learn more about hydraulic, electrical works, understand the whole machine works.

4. By injecting fuel tank air filter inlet fluid clarification to gauge 2/3,

totaling about 120 liters of oil.

5. Strict checks various parts of the machine, requires the installation of correct, reliable connection, electrical grounding and reliable.

6. Power on, start the motor, attention turned to whether the motor is consistent with the arrow on the pump, such as inconsistent with the changes in the motor phase.

7. First installed the machine should make the pump idle for 20 minutes.

8. Check the action according to process requirements.

9. Check whether the brightest joints and seals the oil spill in the test, and if the oil spill and abnormal situation should immediately stop checks.

10. Proofing each operation dry ice pelletizer work again.

Chapter 4 Operation

4.1 Safety instructions

WARNING: Please read the instructions carefully before operating

1. The machine is sub-manual, automatic two ways.

2. Work processes to fully automated, for example:

1 and 2 cylinder power-reset phase-1 and 2 cylinder cleaning phase-1 and 2cylinder cooling stage-1 and 2 cylinder production stage-Shutdown Reset.

4.2 Controlling

1. The power station by the pump motor valve. Tank piping and other components. Allocation for delivering liquid to achieve desired action work.

2. fuel tank to the rack chassis, the effective capacity of 120 liters, the rear side of the tank there unloading port, remove the plug on the oil tank can be replaced periodically. Tank equipped with grease filters, oil suction pump to get the filter.

3. The main pump for CY14-1B type axial piston pump, driven by YSJ180M-4 three-phase asynchronous motors.

The electrical control box and stationary operation box: The main

electrical components installed in the control box.

4.3 Control Panel

4.3.1 Control Panel shown



Control Panel physical map

电源 Power: Power indicator light, green light on behalf of the power is turned

- 运行 | Run: Running lights
- 启动 | Start: Start button
- 急停 | Emergency: Instantly stops all the machine actions

- Pressure gauge 1: Hydraulic Indicators
- Pressure gauge 2: Liquid CO2 Indicators
- Pressure gauge 3: Gaseous CO2 Indicators
- Pressure gauge 4: 1 cylinder cavity pressure Indicators
- Pressure gauge 5: 2 cylinder cavity pressure Indicators

4.3.2 Mode Selection

The machine is divided into two kinds of manual and automatic mode, manual mode of operation when used for the maintenance of equipment.

4.3.3 Emergency Stop

In the course of their work, such as the occurrence of any failure, press this button to stop all action.

After stopping the machine, please give priority to exclude emergency.



4.3.4 preparation before operation

Before operating the machine, please wear gloves and ear plugs, and placed in dry ice at the outlet of the refrigerator.

4.3.5 Operation

This operation only fully automatic mode of operation, for example,

manually operated only for maintenance equipment.

1. Clockwise rotation of the main power switch knob.



2. Press the Start button to start working pump, oil pump complete star-delta conversion to make the following steps.

3. Touch screen control panel operation:

Each interface diagram of the following indicate internal operations are required to operate under the guidance of the relevant staff.



Main operation interface diagram (automatic mode) Start operation: touch screen panel on a cylinder press the "Start" button, a cylinder executing work orders; 2-cylinder press the "Start" button, two cylinder implementation instructions. When the two cylinders simultaneously activated, the system will automatically coordinate their work. Upon completion of the work, press the corresponding "off" button, which allows the device to stop working. Specific content on the touch screen as well as operational processes by the relevant staff guidance, can only operate.

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Reset the alarm	Alarm Indicator Dangerous Working Moto pressure Overtime stop	Action indicator Manual mode Extend Retracted Ice spray Ice spray Jet Cut ice valve 2 valve 1 Valve skates	中文/CN Mode switch
1 Cylin der			Automatic mode
2 Cylin der			Manual mode
System Settings	Status Indicator Later Former Man limit limit mo	Manual mode Manual mode Cual Extending Retracting Ice spray Ice spray Jet Cut ice but buttons button valve 2 valve 1 Valve skates	Action Display
1 Cylin der		art Ex- tend cted ce open ce open Open cut Skat	Indicator indicates
2 Cylin der		art Ex- tend cted spray ce open ce open Open e turn	Fault records
Exhau ves d	st val Drain ppen Ve o	n val ipen O Gaseous CO2 open O Liquid CO2 open O	2014/12/08 15:24:32

Manual mode operation interface diagram



Action diagram Display Interface

Name	Address	Explanation	Lights	Address	Explanation	Lights	Address	Explanation	Lights
	YO	Extend	O	Y17	Jet Valve	O	X4	Setting pressure	O
1 Cyli	¥1	Retracted	O	Y15	cutting Skate running	O	X5	Dangerous pressure	O
nder	Y5	ice spray valve 2	O	XO	Former limit	O	X11	cutting skate stopped	Ø
	Y6	lce spray valve 1	O	X1	Later limit	O			
	¥2	Extend	O	Y20	Jet Valve	0	X6	Setting pressure	Ø
2 Cyli	Y3	Retracted	C	Y16	cutting Skate running	C	X7	Dangerous pressure	0
nder	Y10	ice spray valve 2	C	X2	Former limit	Q	X12	cutting skate stopped	O
	Y11	ice spray valve 1	O	X3	Later limit	O			
	Y13	Liquid CO2	O	Y21	Gaseous drain valve	0			
Other	Y14	Gaseous CO2	O	Y22	Liquid drain valve	O		returr	1
	Y12	Running lights	O	X15	Working signal	O			

Interface Figure



Fault recording interface map



1 cylinder parameter setting interface Figure



2 cylinder parameter setting interface Figure



About Us interface diagram

Chapter 5 repair and maintenance

Proper use of dry ice pelletizer, earnestly implement the maintenance and compliance with safety procedures, failure to reduce ice granulator, granulator extend the life of dry ice to ensure the necessary conditions for safe production. So dry ice pelletizer operator and maintenance personnel must understand the structure of ice granulator, performance, maintenance and operating procedures.

🕂 WARNING

Note: Before any repair work must be turned off the main power switch and lock to prevent unintentional start-up.

5.1 Repair and maintenance

Warning: once a month on the the machine's proper maintenance every six months a proper overhaul.

- Dry ice pelletizer oil used to be rigorously filtered before injection of the fuel tank. Use 46 # hydraulic oils.
- 2. When the oil temperature inside the tank between 10-60 degrees Celsius.
- 3. The fluid must be kept clean and replaced once every other year, if oil is not bad, after a fine filter can continue to use. Filter inside the tank should be cleaned regularly.
- 4. Check the daily high-pressure line, if the oil spill should be immediately removed, if they are not normally work should stop and check for repairs.
- 5. Regularly check whether the pumps, valves, gauges, filters and other work.

Numbers	Symptom	Cause	Remedy
1	Extrusion cycle is too long	 electrical fault Pump Reverse The oil level in the tank over the bottom Electromagnetic relief valve stuck 	 Examination to exclude Correct motor rotation Refueling Washable, check the electrical Adjust pressure appropriately (20-22Mpa)
2	Oil spill	 Ring damage inside the fuel tank Tubing connector loose 	 Replace Tightened
3	Cut ice motor stops	 Electrical fault Motor cut frozen ice 	 Examination to exclude Check and replace
4	No dry ice output in production phase	This failure by the operator to operate the program failed to lead to rapid response actions	Resume operation after shutdown, the need for each step of the operation time 0.5s pause

5.2 Common Faults and exclusion

5.3 Wearing parts list

Warning: Please use the recommendations of accessories

Numbers	Name	Specification	Quantity	Note
1.	UPE sealing ring	146.4*155	2	Piston rings
2.				
3.				
4.	Rubber O-ring	132*3.55	4	Pistons ring



5. 4 Hydraulic schematic diagram

Hydraulic schematic diagram

Nama	Madal	Qua	Pressure	Elem (L/min)	
Name	ntity		(Mpa)	Flow (L / min)	
Piston Pump	63YCY14-1 В	1	31.5	63	
Electric motor	YSJ180M-4	1	18.5		
	B35	T	(KW)		
	4WEH16E/4				
Electro-hydraulic valve	WE6	2	28-35	200	
	J61B/CW22			300	
	0-50N9Z5U				
Electromagnetic spill	DBW20B-2	1	35	500	
valve	00"200 2	I	00	500	
Oil filter	SP-10*10	1		200	
	TF-250*80	1		050	
Suction Filter	F-Y	1		250	
	WHE2030-2	1			
Air cooler	4VDC	1			

5.5 Hydraulic Components Table



5.6 Product Structure Dimensions

HD-750



HD-1500

Chapter 6 Electrical System

6.1 Electric control system safety rules

1. Only through formal training and have professional knowledge of the available electrical maintenance and troubleshooting.

2. Do not modify or omit protective interlocks.

3. Before you start, read and pay attention to warning signs in detail.

4. When troubleshooting to determine, you must cut off the power supply, the main switch must be locked.

5. Note humid areas, in order to prevent electrical shock.

6. Before any of the power to the equipment, personnel must headroom.

7. Do not open the electrical box, unless required inspection of electrical equipment.

8. Do not modify the circuit, unless authorized by a qualified manufacturer.

9. When replacing electrical components, you must first determine whether they meet the specifications, including color-coded wires.

10. When operating electrical equipment. Do not wear metallic glasses, necklaces and so on. Also do not wear rings, watches, bracelets.

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6.2 Circuit diagrams

















6.3 Electrical Components Table

Warning: Please use the recommendations of the components, if as a result of damage to their own replacement parts and machinery of accidents, the consequences borne by themselves.

Code	Name	Model	Model Size	
GS	Power	SE-600-24	AC220V/DC24V	CE
PLC	Programma ble Controllers	DVP-60ES00R2		CE
SQ	Proximity Switch	NJ2-PD-US-2.06 2-V93	20-300VDC/ 20-300VAC	CE
HL1	Lights	XB2-BVM3LC	AC220V	CE
HL2	Lights	XB2-BVM4LC	AC220V	CE
SB1	button	XB4-BA3311(ZB)	5A	CE
SB2	Emergency stop switch	XB2-BS542C	5A	CE
KA1-KA21	Relay	RXM2LB2BD	5A	CE
KM1-KM3	Contactor	LC1-E65M5N	690V/80A	CCC
KM4-KM6	Contactor	LC1-E1210M5N	690V/25A	CCC
FR1	Thermal relay	LRE361N	55-70A	CCC
FR2-FR4	Thermal relay	LRE16N	9-13A	CCC
QF	Breaker	NSX100F TM100D 3P3D	800V/100A	CE
KT	Delay switch	LADT4	690V/10A	CE

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MU	Filter	Art No.10415	300V/10A	CE
DOP	Delta touchscreen	DOP-B10S411	20V/270mA	CE