

# Global Hemp Solutions

## 1500 L Ethanol Extraction

Total: \$970,000 USD



#	Machine Name	Model	Spec.	Qty.
<b>1. Cold Ethanol Unit(for Ethanol Chilling, need liquid nitrogen supply)</b>				
1-1	Fresh Ethanol Storage Tank	ZG-3m <sup>3</sup>	Effective volume 3000L, SS304 material	1set
1-2	Pre-heater	30m <sup>3</sup>	Tubular heat exchanger, SS304; to pre-cooled the fresh ethanol with cold liquid extract	1set
1-3	Deep Cooling Tank	ZG-1.5m <sup>3</sup>	Effective volume 1500L, with insulation, SS304 material; Use liquid nitrogen for cooling	2sets
1-4	Cold Ethanol Delivery Pump	6.3 m <sup>3</sup> /h	Flow 6.3 m <sup>3</sup> /h, head 22 meters, SS304	2sets
<b>2. Extractor(for extraction)</b>				
2-1	Herb Extractor	DT-1.5m <sup>3</sup>	1) Effective volume 1500L; Material contact parts SS304	1set

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			2) Consists with the main extraction tank, agitator, feed device, SS platform etc.	
2-2	Extract Delivery Pump	6.3 m <sup>3</sup> /h	Flow 6.3 m <sup>3</sup> /h, head 22 meters, SS304	2sets
2-3	Pre-heater	30m <sup>3</sup>	Tubular heat exchanger, SS304; to pre-heater the cold liquid extract with condensate ethanol	1set
2-4	Liquid Extract Storage Tank	ZG-2m <sup>3</sup>	Effective volume 2m <sup>3</sup> , SS304	1set
2-5	Centrifuge	#1000	To remove ethanol in used hemp; equip with extract 200L buffer tank	1set
<b>3. Falling Film Evaporator (for 1<sup>st</sup> stage Ethanol Recovery)</b>				
3-1	Fall Film Evaporator	SJM-1000A	Evaporation capacity 1000kg/h, material contact parts SS304	1set
3-2	Concentrate Discharge Pump	5 m <sup>3</sup> /h	Flow 5m <sup>3</sup> /h, head 22 meters, SS304	1set
3-3	Concentrate Storage Tank	ZG-0.5m <sup>3</sup>	Effective volume 0.5m <sup>3</sup> , SS304; vacuum resistance	1set
<b>4. Pressure Reduced Evaporator (for 2<sup>nd</sup> stage Ethanol Recovery)</b>				
4-1	Pressure Reduced Evaporator	ZN-500	Evaporation capacity 100kg/h Include jacket tank, agitator, vapor-liquid separator, condenser, cooler and condensate receiver etc., Material contact parts SS304	1set

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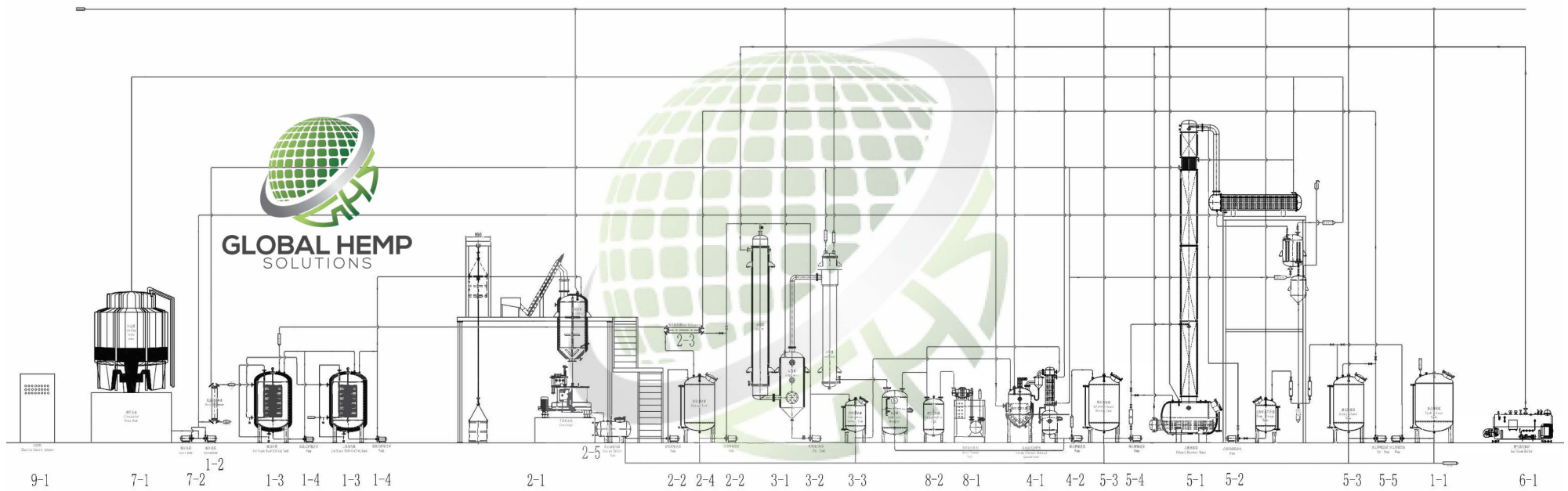
4-2	Condensate Ethanol Delivery Pump	5 m <sup>3</sup> /h	Flow 5m <sup>3</sup> /h, head 22 meters, SS304	1set
<b>5. Ethanol Recovery Tower (for Ethanol distillation to 95%)</b>				
5-1	Ethanol Recovery Tower	JH-600	Wet parts SS304, output ethanol 95% Including tower, cooler, buffer tank	1set
5-2	Reflux Pump	5 m <sup>3</sup> /h	etc. Flow 5m <sup>3</sup> /h, head 22 meters, SS304	1set
5-3	Diluted, Strong ethanol Storage Tank	ZG-2m <sup>3</sup>	SS304 material	2sets
5-4	Diluted Ethanol	2 m <sup>3</sup> /h	Flow 2m <sup>3</sup> /h, head 22 meters, SS304	1set
5-5	Delivery Pump Strong Ethanol Delivery Pump	6.3 m <sup>3</sup> /h	Flow 6.3m <sup>3</sup> /h, head 22 meters, SS304	2sets
<b>6. Heating System (for Heating Supply)</b>				
6-1	Gas Steam Boiler	1T	Steam output 1T/h, steam pressure 0.7MPa	1set
<b>7. Cooling Water System (for Cooling Water Supply)</b>				
7-1	Cooling Water Tower	100T/h	High temperature type, with water circulation pumps	1set
7-2	Water Circulation Pump	100 m <sup>3</sup> /h	Flow 100m <sup>3</sup> /h, head 20 meters, SS304	2sets

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8. Vacuum System				
8-1	Water Ring + Roots Vacuum Pump	7.5kw+ 3kw	Water ring SS304, roots combined parts	1set
8-2	Buffer Tank	500L	SS304 material, vacuum resistance -0.1MPa	1set
9. Others				
9-1	Control Box		Button Control Box, to control the pump ON/OFF	1set
9-2	Pipes, Valves, wires for inner connection		Include the inner connection for material liquid, solvent, cooling water and vacuum, such as all the pipes, fittings, valves, wires and so on	1set
Total: <b>\$970,000 USD</b>				

## Remarks:

- 1) FOB Shanghai Price;
- 2) All material contact parts SS304, or powder coating carbon steel; Material contact inner surface fine/gloss polishing, external matte treatment; All motor EX, industrial electricity 480V, 3 phase, 60Hz;
- 3) Installation & Commissioning & Training Fee: Chinese speaking engineers available for installation and/or supervision, Buyer need arrange their round ticket, board and lodging, and daily salary \$180USD per engineer;
- 4) Payment: T/T or L/C at sight;
- 5) Delivery: machines can be ready in 90days for shipping after down payment;



# **Global Hemp Solutions**

## **FAQs**

**Q: What kind of process is this system using?**

**A: Ethanol extraction at cryogenic temperatures using Liquid Nitrogen**

**Q: How much ethanol is lost?**

**A: This new design includes centrifuges to help extract ethanol from spent biomass; this allows the user to recover about 95% of the ethanol.**

**Q: Is the system fully automated?**

**A: No. However, there are systems that are fully automated that automatically feed and weigh the biomass.**

**Q: Does this system make distillate and isolate?**

**A: No. This system is specifically designed to extract for crude. Other equipment is available to process for distillate and isolate.**

**Q: How much is shipping and who handles it?**

**A: Shipping costs will vary based on the dates and destination. Shipping cost is configured by the manufacturer and will be added to your invoice.**

**Q: How much is the install?**

**A: Cost is determined by actually install time and date. Estimated rate is as follows:**

**\$180 per day per engineer x 4 engineers x 45 days = \$32,500**

**Client responsible for flights, transportation costs, hotel, and food. Manufacturer will invoice you directly. Estimated cost for using the manufacturers engineers and laborers: \$75,000.**

**Q: What happens when parts break?**

**A: Spare parts are sent to the client with the purchase of the equipment.**



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## **FAQs**

**Q: What is the footprint?**

**A: 1500sf. The evaporator has a maximum height of 28 feet and requires a 36sf area.**

**Q: How long does it take to install after all parts have arrived and the site is ready?**

**A: 30-45 days (using Chinese laborers only)**

**Q: How many laborers or specialty trades are needed for install?**

**A: It is suggested to use a pipe fitter, licensed electrician, general laborers. If using the manufacturers to install, they use 5 people.**

**Q: Will SOPs be provided?**

**A: Yes! The manufacturer will provide the SOPs (in English).**

**Q: What are my electrical requirements?**

**A: You will need a minimum of 400 Amps at 480 V, 3-phase. The system uses 61 KW**

**Q: Can I use any boiler?**

**A: If you choose to use a different boiler, we will provide you with the proper specifications.**

**Q: Does our facility need special permits?**

**A: Please check with your local jurisdictions for licensing and permits. We do offer services for GMP facilities if needed.**

**Q: Are the motors explosion proof?**

**A: Yes! We use EX motors which are explosion proof.**

**Q: How can we trust this equipment to work properly?**

**A: The manufactures have decades of experience in using and manufacturing the extraction equipment. The systems are tested prior to shipping, and again after install at your facility. Everything is fully operational and signed off on by you.**

# Global Hemp Solutions

## V. Our company

Global Hemp Solutions is your all inclusive post-harvest processing and extraction equipment provider. We have partnerships with some of the world's largest and best manufacturers. We not only provide you with the best equipment to help make you successful, we are there every step of the way even after the installation of the equipment. We value long term relationships and are truly here to serve you.



**GLOBAL HEMP**  
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All prices and shipping times subject to change. Please contact us for updated lead times and pricing.



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