AGRO SOLUTION INDUSTRIES

(CREATIVE INNOVATION)

GREEN ENERGY REVOLUTION

(MAKE MONEY FROM AGRICULTURE & FOREST WASTAGE)

PRODUCT CATALOG

www.agrosolutionindustries.com

ABOUT US

Agro Solution Industries is well-acclaimed as an adept organization from India that specializes in providing top-notch lab equipment, automation products, Biomass Pellet & Briquette Making Plant and Bio Torrification Processing Unit , material handling equipment, milling machine, grain cleaning machine, food processing machine, packing machine, oil expeller machine, oil filter machine, and much more. Being a renowned manufacturer and supplier of the above-mentioned products, we are bedecked with state-of-the-art machinery and hygienic methods of production to bring about A-grade quality. We are capable of catering to the specific demands of our venerable clients with the utmost competence.

Established in the year 1973, our veteran organization has gained an immense market reputation within a short span of time under the mentorship of Mr. Brij Mohan. . We strive to meet the quality requirements of the market by sincerely complying with the norms set by the industry.

Logistic team

Our distribution network is competent to meet the requirements of geographically scattered clients. We are even capable to meet the bulk orders on an urgent basis and our logistic network always works towards the betterment of services. We are equipped with adequate commercial vehicles to suffice the divergent market requirements within the given time frame. So, get in touch with our deft sales and marketing team and place your order to grab the best deals. Our cordial staff keeps our clients satisfied with great deals and after sale follow-ups.

Why us?

- Committed quality
- Competitive product pricing
- Ethical business policies
- Complete client satisfaction
- Wide distribution network
- Adherence to industry norms

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(A) ABOUT BIOMASS PELLET

Biomass pellets are condensed, cylindrical forms of organic matter, such as agricultural and forest residues like sawdust and straw, used as a renewable, clean-burning fuel. Produced by crushing and compressing these materials under high pressure, they offer increased energy and mass density, making them easy to store and transport. Their uniform size and low moisture content enhance combustion efficiency and simplify handling compared to raw biomass. Biomass pellets serve as a sustainable alternative to fossil fuels, used for home heating, industrial boilers, and thermal power generation, contributing to reduced greenhouse gas emissions

Production Process:

1. Screening and Crushing: Raw biomass is screened and crushed into a required particle size.
2. Drying: The material's moisture content is reduced to optimal levels for pellet formation.
3. Molding: Under high pressure, the prepared biomass is forced through a mold, forming dense, cylindrical pellets.
4. Cooling: The hot pellets are then cooled.
5. Packaging: Finally, the pellets are packaged for storage and distribution.

Advantages:

1. Renewable and Sustainable: Derived from readily available organic materials
2. Increased Energy Density: The compression process significantly increases energy and mass density.
3. Improved Handling: Uniform size and density simplify storage, transportation, and feeding into equipment.
4. Reduced Emissions: Combustion produces very low sulfur and phosphorus emissions, preventing acid rain and reducing air pollution.
5. High Efficiency: Uniform size and low moisture lead to more efficient combustion.
6. Cost-Effective: Utilizing agricultural waste can provide a profitable way to manage waste streams.
7. Residential: Used for home heating in pellet stoves.
8. Industrial: Fuel for industrial boilers and thermal power plants.
9. Cooking: Can serve as a clean fuel source for cooking.

B) RAW MATERIALS

FOREST WASTE & GARDEN WASTE

- Wood Shaving
- Sawdust
- Twigs
- Wood Chips
- Wild Grasses
- TreeBark
- Veneer Waste
- PineNeedles
- BambooDust
- WoodPeelingWaste
- Shurbs AndBamboo sticks, leaves

OTHER PROCESSED WASTE

- Press Mud
- Paper Waste
- CoffeeGround Waste etc.
- Municipal Wastage
- . Cow Dung

AGRICULTURAL WASTE

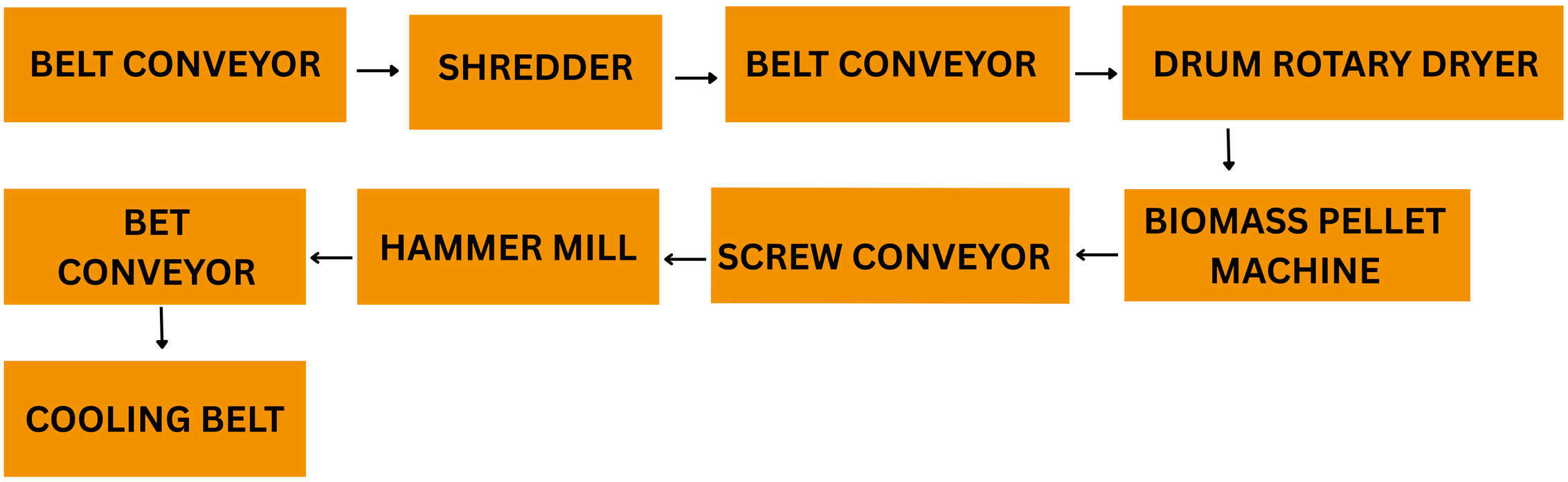
- RiceHusk /Paddy Straw
- Coffee Waste
- Groundnut Shell
- Sunflower Waste
- Coconut Shells
- Almonds Shells
- Arhar(Tur) Shell
- Cotton Stalks
- Mustard Stalk
- Suger Cane Leaves & Trash
- Coir Dust
- Bajra Cobs
- Wheat Straw
- Paddy Straw
- MaizePlant Waste
- Mentha Plant Waste
- Corn Cob Waste
- Tea Waste
- NapierGrass
- Tender Coconut
- PalmTree Andmanymore

C) CALORIFIC VALUE OF PELLET AND BRIQUETTES MADE

TYPE OF MATERIAL	ASH %	Calorific Value (Kcal /Kg.)
1. Arhar Stalk	1.98	4000
2. Babool Waste	0.99	4650
3. Bamboo Dust	8	4160
4. Barks Wood	4.4	2770
5. Castor Seed Shell	7.5	3750
6. Coffee Husk	3.2	4371
7. Coconut	3.5	5200
8. Cotton Stalk /chips	3	4250
9. Coir pitch	9.1	4146
10. Corn Dung	14.89	3240
11. Eucalyptus Bark	7.5	4100
12. Eucalyptus Wood	1.2	4300
13. Ground Shells	2.3	4600
14. Jute Waste	3	4428
15. Maize Stalk	2.1	3800
16. Mustard Shell	3.7	4300
17. Mustard Straw	8.2	4400
18. Pine Needles	1.86	4000
19. Palm Husk	4.9	3900
20. Paddy Straw	15.5	3469
21. Press Mud (Maili)	14.25	3600
22. Paper Waste	1.5	4801
23. Poplar waste	3.8	4400
24. Rice Husk	15.5	3400
25. Sawdust	0.7	4200
26. Sawdust + Cow dung	8.2	3898
27. Subabul Wood	1	4700
28. Soya bean husk	4.1	4170
29. Sunflower Stalk	1.9	4400
30. Sugarcane Bagasse	22.1	4100
31. Sugarcane leaves	7.7	4390
32. Switchgrass	3.5	4010
33. Tea Husk Waste	3.8	4237
34. Wood Chips	1.2	4785
35. Wheat Straw	6.4	4100

RAW MATERIAL	INPUT	OUTPUT	ASH CONTENT	CALAROFIC VALUE (GCV))	Moisture
COCONUT FIBER	100 KG	99.5 KG	0.1	4,200 kcal/kg.	0.0171
COCONUT LEAF	100 KG	98.5 KG (ON DRY BASIS)	0.0836	3940 kcal/kg	10-15%
TENDER COCONUT	100 KG	50 kg	Less than 5 %	3500-4200 kcal/kg.	8-12 %

D) PRODUCTION PROCESS FLOW CHART



Raw material collection and preparation

- **Sourcing: Obtain biomass feedstock like wood waste (sawdust, wood chips, logging residues), agricultural residues (straw, rice husks, corn stalks), or energy crops.**
- **Size reduction: Large biomass materials are chipped or ground using equipment like chippers and hammer mills to achieve a uniform particle size, typically less than 3-5mm, suitable for the pelletizing process.**
- **Screening and cleaning: Screen the raw material to remove impurities such as stones, metals, and large wood pieces that could damage the machinery.**

2. Drying

- **Moisture control: The moisture content of the processed biomass needs to be reduced to an optimal level (usually between 10-15%) for effective pelletizing and to prevent issues like pellet breakage or mold growth.**
- **Drying equipment: Rotarydrum dryers, flash dryers, or other drying systems are used to achieve the desired moisture content**

3. Pelletizing

- **Compression and extrusion: The dried and processed biomass is feed into a pellet mill (e.g., ring die or flat die pellet mill).**
- **Heat and pressure: Under high pressure and heat, the biomass material is compacted and extruded through a die, forming cylindrical pellets. Natural lignin within the biomass acts as a binder, and sometimes additional binders may be added for materials with low adhesive properties.**
- **Pellet formation: Ablade typically cuts the extruded material into uniform pellet lengths as it exits the die.**

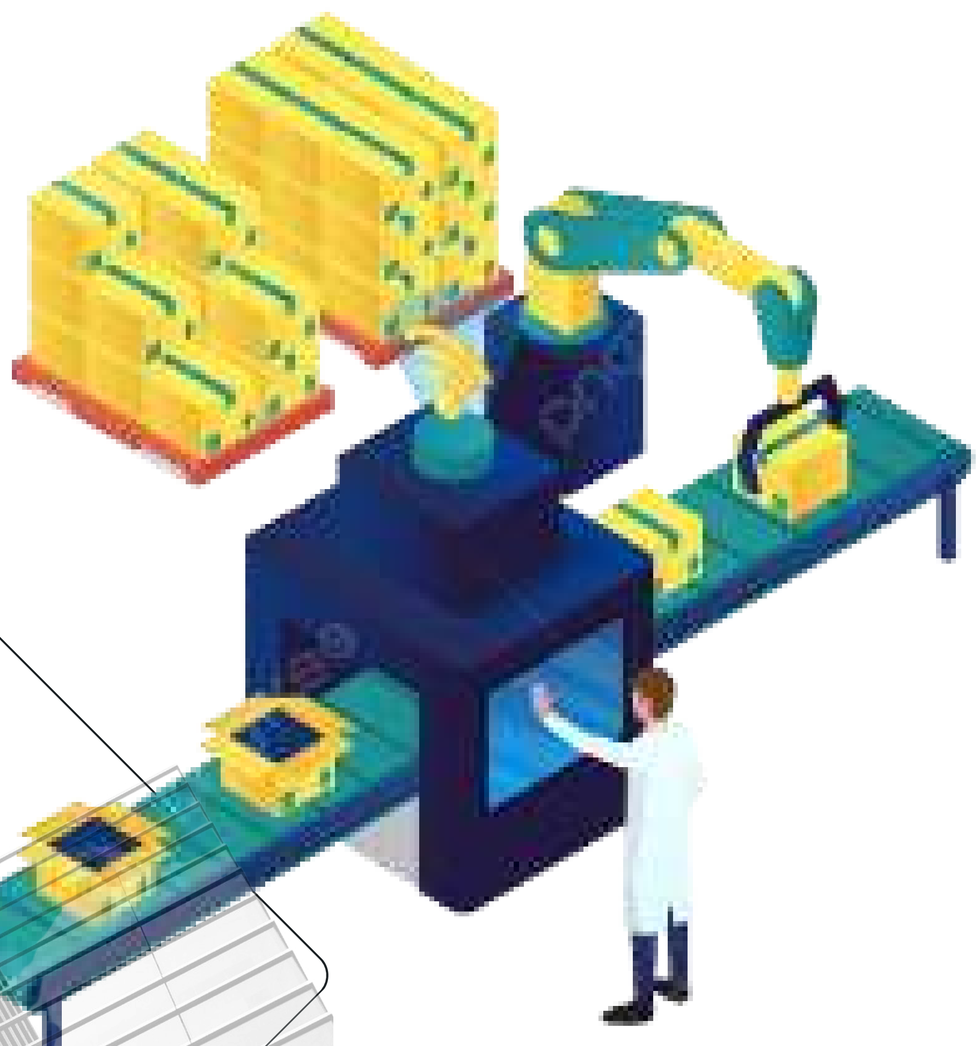
4. Cooling

- **Temperature reduction: Freshly produced pellets are hot and soft and need to be cooled to room temperature to harden and stabilize them.**
- **Cooling equipment: Pellet coolers, often employing counter-flow air systems, facilitate this cooling process, ensuring pellets retain their shape and prevent deformation.**

5. Screening and packaging

- **Separation: Ascreening process (e.g., using a vibrating screen) removes fine dust and broken pellets, ensuring a high-quality final product.**
- **Packaging and storage: The cooled and screened pellets are then packaged into bags (e.g., 15kg or 1-ton bags) or stored in silos for bulk distribution.**

This systematic process results in the creation of biomass pellets, a valuable renewable energy source used for various applications such as heating, power generation, and even as animal feed or bedding.



E) BIOMASS PELLET MAKING MACHINERIES

(a) VERTICAL RING DIE PELLET MACHINE

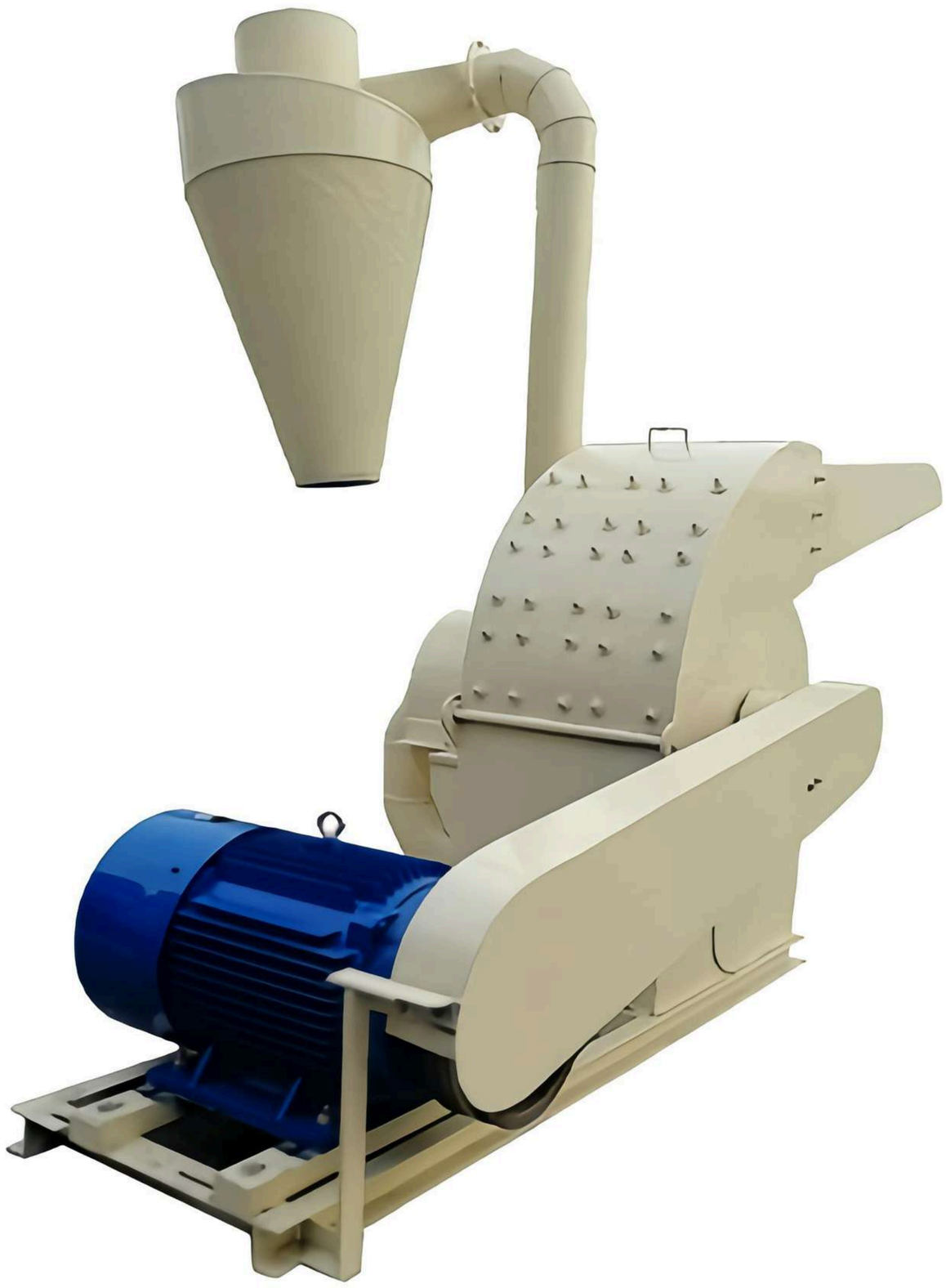
Modal no.	Power	Size (M)	Capacity(KG/H)	Weight(KG)	Pellet Size(MM)
AGH -480	55	2*0.96*1.5	0.6	1.9	4 TO 12
AGH-560	90	2.62*1.64*1.77	1 TO 1.5	5.6	4 TO 12
AGH-560A	132	2.62*1.64*1.77	1.5 TO 2	5.6	6 TO 12
AGH-700	160	2.62*1.24*2.01	2 TO 2.5	7.2	6 TO 12
AGH-860A	250	3*1.54*2.20	3 TO 4	9.5	6 TO 12
AGH-850	280	2.70*1.80*2.1	4 TO5	12	6 TO 12
AGH-850A	315	2.70*1.80*2.1	5 TO 6	13	6 TO 12

(b) FLAT DIE BIOMASS PELLET MACHINE

Model no.	Power(KW)	Size (M)	Capacity (KG/H)	Weight (KG)	Pellet Size(MM)
AGH -480	7.5	1*0.45*0.8	80-100	350	6 TO 12
AGH-560	15	1.2*0.5*1.5	150-200	550	6 TO 12
AGH-560A	22	1.2*0.6*1.1	200-250	650	6 TO 12
AGH-700	30	1.6*0.8*1.3	300-400	750	6 TO 12
AGH-860A	37	1.4*0.8*1.5	500	850	6 TO 12
AGH-850	55	1.5*0.8*1.6	600-700	950	6 TO 12

(F) HAMMER MILL

(a) SMALL SCALE HAMMER MILL



Modal no.	Power	Size (M)	Capacity(KG/H)	Weight(KG)	Dust Size(mm)
AG -7.5	7.5	1.1*0.55*0.85	100	350 kg	1 TO 5
AG-15	15	1.25*0.65*1	150	450 kg	1 TO 5
AG-22	22	1.4*0.78*1.25	150-200	750 kg	1 TO 5
AG-30	30	1.6*0.85*1.35	300-400	900kg	1 TO 5
AG-45	45	1.75*0.9*1.55	500-600	1300 kg	1 TO 5
AG-55	55	1.9*1.1*1.7	700-800	1650 kg	1 TO 5
AG-75	75	2.05*1.3*1.7	1000-1200	2000 kg	1 TO 5

(F) HAMMER MILL

(b) HEAVY DUTY HAMMER MILL

Modal no.	Power(KW)	Size (M)	Capacity(T/H)	Rotate Speed r/mim)
AGH -90	90	2.69*0.9*1.69	1.5 TO 2	1440
AGH-132	132	2.69*0.9*1.69	2 TO 3	1600
AGH-160	160	2.7*2.4*2.7	5 TO 6	1490
AGH-200	200	4.5*2.4*2.9	7 TO 8	1490
AGH-315	315	4.8*2.7*2.9	10	1490
AGH-355	355	5*2.4*2.9	15 TO 20	1490
AGH-450	450.00	5.6*2.4*2.9	20 TO 25	1,490.00

(G) WOOD CRUSHER / SAWDUST MAKING MACHINE

(a) SAWDUST MAKING MACHINE

Model no.	Power(KW)	Feed port size (mm)	Capacity (kg./hr.)	Weight (kg.)
AGH -90	11	170*170	100	300
AGH-132	15	170*180	200-300	400
AGH-160	22	200*220	300-400	500
AGH-200	30	220*240	500-600	650
AGH-315	45	270*280	700-800	700
AGH-355	55	280*290	1000-1200	1000
AGH-450	60	280*290	1500-2000	1500
AGS-90	80	280*290	2000-2500	2000

(b) WOOD CHIPPER/ WOOD CRUSHER MACHINE

Modal No.	Power (KW)	Feed port size (mm)	Capacity (kg./hr.)	Rotate Speed r/min
AGH -90	90	2.69*0.9*1.69	1.5 TO 2	1440
AGH-132	132	2.69*0.9*1.69	2 TO 3	1600
AGH-160	160	2.7*2.4*2.7	5 TO 6	1490
AGH-200	200	4.5*2.4*2.9	7 TO 8	1490
AGH-315	315	4.8*2.7*2.9	10	1490
AGH-355	355	5*2.4*2.9	15 TO 20	1490
AGH-450	450	5.6*2.4*2.9	20 TO 25	1490

(G) WOOD CRUSHER / SAWDUST MAKING MACHINE

(c) DOUBLE SHAFT SHREDDER

Model No.	Power (KW)	Feed Port Size (mm)	Capacity(T/H)
AGS -15	15*2	2*1*0.5	1 TO 1.5
AGS-18.5	18.5*2	2*1*0.5	1.5 TO 2
AGS-45	45*2	2.5*2*1	2 TO 2.5
AGS-55	55*2	2.5*2*1	4.5 TO 5
AGS-75	75*2	2.6*1.9*0.815*0.10	5 TO 6
AGS-90	90*2	2.6*1.9*0.815*0.10	6 TO 7
AGS-132	132*2	2.6*2.4*0.14	8 TO 10
AGS-160	160*2	4.2*3.3*0.14	10 TO 15

(H) DRUM ROTARY DRYER

(a) PELL BURNER / BHATTI BASE

Model No.	Power (KW)	Lenght(M)	Capacity (T/H)	Weight (Ton)
AGD -7.5	7.5+5.5+3	10	0.5	3.5
AGD-15	7.5+15+1.5	12	1 TO 1.5	7.5
AGD-18	11+18.5+2.2	15	2	9
AGD-22	15+22+3	18	3	16
AGD-30	18.5+30+3	20	4 TO 5	18
AGD-55	18.5+55+5.5*2	21	5 TO 6	21
AGD-45	22+45+4	24	6 TO 7	30

(H) DRUM ROTARY DRYER

(b) ELECTRIC DRYER

Model no. Power(KW) Size (M) Capacity (KG./HR)

Model No.	Power (KW)	Size(M)	Capacity(KG./HP)
AGR -30	30	2.8*1.1*1.45	100
AGR-40	40	2.8*1.1*1.45	200
AGR-50	50	4*1.3*1.6	500
AGR-60	60	4*1.3*1.6	700-800
AGR-100	100	7*2.3*2	1.5
AGR-215	215	9*2.3*2.4	2 TO 3 TON

(I) CONVEYOR & PACKAGING UNIT

Packaging Size : 5 kg , 10 kg ,25 kg & 50 kg

Flat rubber conveyor belts

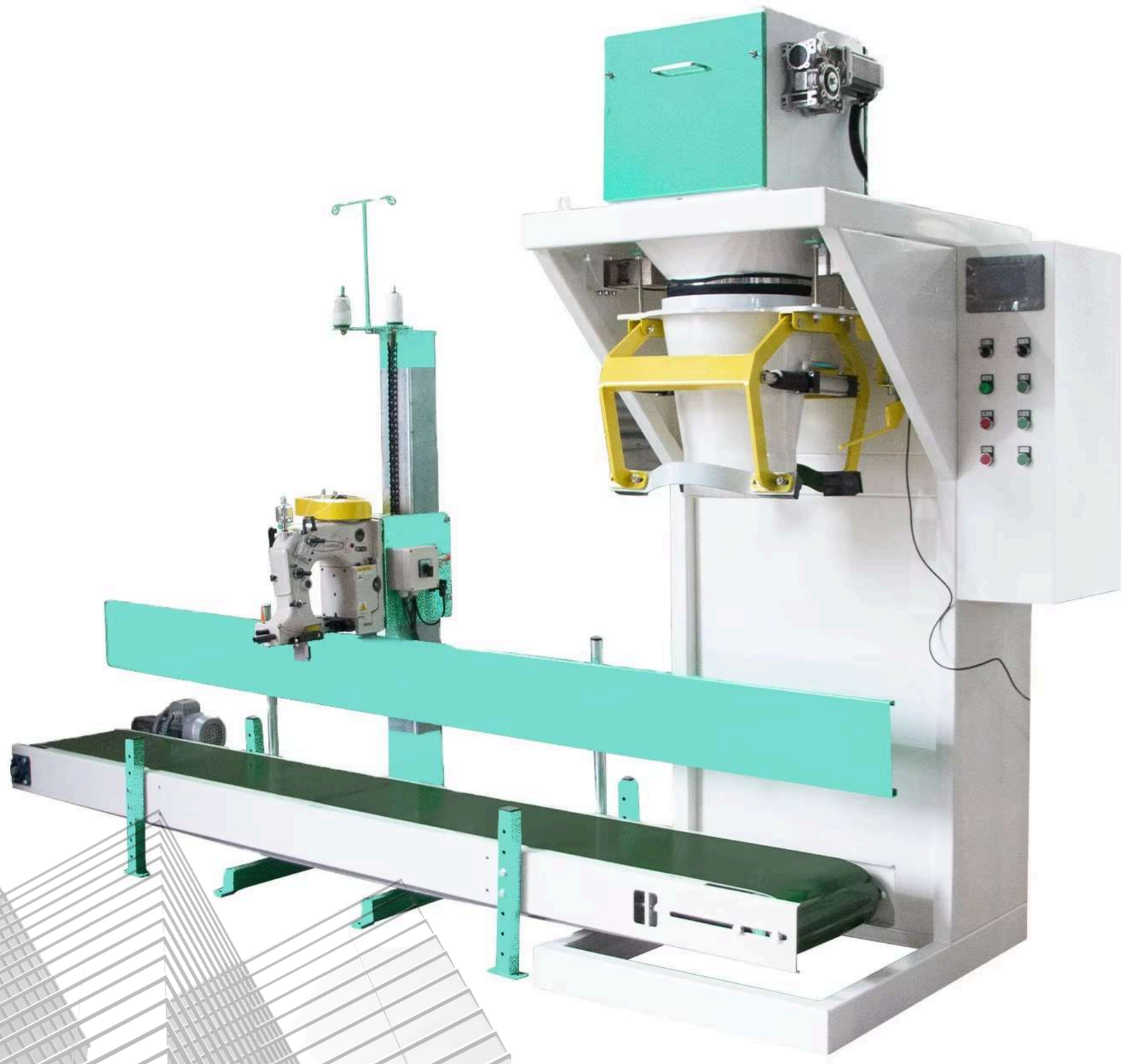
Cleated rubber conveyor belts

Chevron rubber conveyor belts

Oil-resistant rubber conveyor belts

Steel cord rubber conveyor belts

Heat-resistant rubber conveyor belts



(J) BIO(biochar) TORRIFICATION PELLET PLANT

(a) BATCH TYPE CARBON FURANCE (CHARCOAL)

(Equipped with Smoke purification system)

Model no.	Internal Size	External Size	Material	Capacity
AGCF -1000	1.5*3*12	3.3*1.8*2.4	1.5-2	1-1.5 ton./batch

(b) ELECTRIC (CONTINUOUS) BIO CHAROCAL MAKING MACHINE

Model no.	Power(KW)	Size (M)	Capacity (KG./HR.)	Weight (ton)
AGCF-L2	28	12.5*6.5*4.5	500	10
AGCF-L3	28	12.5*7*5	1000	14
AGCF-L3	32	12.5*7.5*5.5	1500	16

(K) BIOMASS BRIQUETTE / BIOMASS TABLET MAKING MACHINE

(a) Biomass Briquette / Charcoal Briquette Machine

Model No.	Power (KW)	Briquette Size	Capacity(Kg./hr)	Weight (kg)
AGH -90	22	Upto 50 mm	200	450
AGH-132	30	Upto 50 mm	300-400	450
AGH-160	45	Upto 80 mm	500-600	700
AGH-200	55	Upto 80 mm	1000-1200	1000

(b) CHARCOAL CUBE / TABLET MAKING MACHINE

MACHINE	IT'S SPECIFICATIONS
CHARCOAL CUBE MAKING MACHINE 	Power: 2.2kw+15kw+0.75kw Capacity : 600-900kg/h Hydraulic times: 4-5times/min Output: 192 pieces/min 800kg/h Dimension:3.1m*1m*2.05m Weight: 2500kg
CHARCOAL TABLET MAKING MACHINE 	Capacity: 600-700 kg./hr. Motor:15kw Roller specification: 150 * 220 Feeding particle size less than 0.5 millimeters Gearbox model: ZQHH350 : Material moisture content: 2% -5%

(L) DE-WATERING MACHINE

Model no.	Power(KW)	Capacity (Ton/hr.)
AGDW-5.5	5.5	0.5
AGDW-15	15	1
AGDW-22	22	2
AGDW-55	55	5
AGDW-110	110	10

GET IN TOUCH

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