Modern Rice Milling
Paddy Drying System
Parboiled Plant

RISE for better rice
Our Factory

TURNKEY CONTRACTS
ENGINEERING CONSULTANCY SERVICE

» ENGINEERING DESIGN
» SUPPLY OF EQUIPMENT
» INSTALLATION AND TEST
» OPERATION AND TRAINING

RICE MILLING PLANT: 100 - 1000 TON/DAY
PADDY DRYING PLANT: 200 - 2000 TON/DAY
MODERN PARBOILED PLANT: 100 - 500 TON/DAY

» FLUIDIZED BED DRYER
» LSU DRYER
» LSU CONDITIONER
» MODERN PARBOILED PLANT
  100 - 500 TON/DAY

Located at Patumtani Province, Thailand

THAILAND
Rice Engineering Supply Co., Ltd. Head office is located at Bangseu, Bangkok. The factory occupies 10 acres and is located at Tambol Bangkuwat Amphur Muang, Pathumthani. (1 hour from Suvarnabhum Airport) Branches and service offices are located across the country as well as abroad, with total of more than 300 qualified staffs. (Engineers 20, Technicians 50) All products are marketed under the registered “RISE” Brand.

We received The Thailand Prime Minister Export Award in 1998 and also received many other awards in modern rice machines. “RISE” products are patented and are restricted by copyright both Domestic and International
Our Products Ranges

Rice Engineering Supply Co., Ltd or “RES” is well-known by our trademark “RISE”. RES was established in the year 1982. Our objective was to operate the business as the company name implies. We have a large engineering staffs to research, design, manufacture, service and consult on all post harvested processes, particularly Paddy Rice. For example Paddy Drying utilizing Fluidised Bed Dryer, LSU Dryer and Heat Pump Dryer. Storage section : Silo, Milling : example Cleaning, Husking, Whitening, Polishing, Grading, Packing.

During the past 30 years, “RES” has placed great emphasis on research and development gaining technical expertise for modern rice machinery. We learned the know-how in drying and preservation, by using the Fluidized Bed Dryer that has high efficiency in the rapid drying of paddy within 4-5 minutes. Reducing the moisture content by 10%. Paddy dried by the Fluidized Bed Dryer has a longer in storage life no smell, no smoke, non-pollution. The dried paddy giving, higher recovery yield when milling with our modern rice machines.

We design, manufacture, install and commissioning (both Turnkey and Semi-Turnkey) all modern rice mill capacity 2-50 Ton/Hr.

Also all modern Paddy Drying System, both parboiled and non-parboiled capacity 2-20 Ton/Hr.

Modern Rice Mill 12 TPH
At Burirum, Thailand

Modern Rice Mill 20 TPH
At Lopburi, Thailand

Fluidized Bed Dryer
RICE ENGINEERING SUPPLY CO., LTD

Contents

Machines Specification

Rice Milling Section

Drying Section
Corn & Paddy

Complete Plant
(Local & Overseas)

Gallery
& Activities

Customer Success

Price List (Idea)
Complete Plant, Individual
(Attached)

The information provided in this catalogue contains descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change the result of further development of the product. An obligation to provide the respective characteristics shall only exist if express agreed in terms of contract. Availability and technical specifications are subject to change without notice.
Fluidized Bed Dryer

The most advanced paddy drying system in the world.

Fluidized Bed Dryer reduces moisture up to 6-10% in one pass.

Features

- Higher efficiency & capacity than traditional dryers by 200%.
- Compact size, can be installed in small area with vary types of dryers can operate through 24 hours/day.
- Efficient high moisture reduction, reduce moisture 8%-10% (per passage) within 4-5 minutes, complete mixed flow ensures overall contact of grain surface.
- Can be integrated with automation control (SCADA system).
- Raw material can be wet paddy or wet corn.
- More drying capacity, more yield recovery, less broken, less cost operation.

<table>
<thead>
<tr>
<th>Model</th>
<th>DR - 5F</th>
<th>DR - 10F</th>
<th>DR - 20F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (Ton / Hr.)</td>
<td>4 - 5</td>
<td>8 - 12</td>
<td>18 - 20</td>
</tr>
<tr>
<td>Drying Period Time Per Round (min.)</td>
<td>4 - 5</td>
<td>4 - 5</td>
<td>5 - 6</td>
</tr>
<tr>
<td>Moisture Content Reducing Rate (% per round)</td>
<td>6 - 10</td>
<td>6 - 10</td>
<td>6 - 10</td>
</tr>
<tr>
<td>Hot Air Temperature (°C)</td>
<td>80 - 120</td>
<td>80 - 130</td>
<td>80 - 140</td>
</tr>
<tr>
<td>Hot Air Volume (m³/min.)</td>
<td>150 - 250</td>
<td>300 - 500</td>
<td>800 - 900</td>
</tr>
<tr>
<td>Energy Required (kw)</td>
<td>300 - 400</td>
<td>500 - 800</td>
<td>1400 - 1800</td>
</tr>
<tr>
<td>Power (Hp) Motor</td>
<td>20</td>
<td>50</td>
<td>75</td>
</tr>
<tr>
<td>Installation area (w x l x h) m</td>
<td>2.0 x 5.5 x 5.0</td>
<td>2.5 x 8.0 x 5.5</td>
<td>3.0 x 11 x 8.0</td>
</tr>
</tbody>
</table>
How it works?

Hot air drying system, no need to use any heat exchanger for transfer heat in our rapid dryers. Fluidized Bed Dryer uses paddy husk furnace with double cyclonic, complete combustion to generate hot air, very clean, none smoke, none smell no pollutions.

The clean hot air will directly contact wet paddy at temperature 50-110 degree Celsius (temperature can be adjusted) only 3-4 minutes, can reduce moisture 6-10%, then paddy go out for cooling (tempering) 30-50 minutes in tempering bin, then go to 2nd. Step at same system but lower hot air temperature.....until to 3rd. Step at final M.C. 13-14%, without any damage to paddy but can give higher yield recovery than all other drying system.

In addition, Fluidized Bed Dryer can be integrated with RISE-SCADA system (automation control) which use for supervision and monitor the whole system and can adjust the temperature with a few click.

The husk consumption of husk furnace of the plant is 600-700 kg./Hr./furnace. (For capacity 17-20 ton/hr. drying, use only 2 furnaces)....

The Fluidized Bed (dryers) are used in Thailand for all of paddy more than 8-10 years already.

Product Diagram
Husk Furnace

The cyclonic husk furnace is the source of the hot air supply to the dryers. The furnace produces hot clean air environment friendly and reduces energy costs by the replacing the oil burner and gas fired furnaces.

Features

- High efficiency in combustion makes a completely combustion-release smokeless, clean hot air and friendly environment.
- The spiralling vortex of air forces ash fall to the bottom. With special cooling system 35°C temperature of touchable ash reduce no water necessary.
- Auto controlled husk feeder by a variable speed inverter with PID control ensure regular and even hot air supply minimum
- Ready to actual operation with in 15 minutes (0°C to 150°C).
- Using husk as fuel, which is free from rice milling process, no more diesel oil.
- Fully control with SCADA system (Optional)

<table>
<thead>
<tr>
<th>Model</th>
<th>HF-1000C</th>
<th>HF-2000C</th>
<th>HF-3000C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (kw.)</td>
<td>1000</td>
<td>2000</td>
<td>3000</td>
</tr>
<tr>
<td>Hot air temperature (°C)</td>
<td>70 - 300</td>
<td>70 - 300</td>
<td>70 - 300</td>
</tr>
<tr>
<td>Husk feed rate (kg/h)</td>
<td>100 - 200</td>
<td>250 - 450</td>
<td>300 - 500</td>
</tr>
<tr>
<td>Ash volume (kg/h)</td>
<td>30 - 60</td>
<td>50 - 90</td>
<td>60 - 100</td>
</tr>
<tr>
<td>Ash temperature (°C)</td>
<td>30 - 40</td>
<td>30 - 40</td>
<td>30 - 40</td>
</tr>
<tr>
<td>Power required (Hp)</td>
<td>5.5</td>
<td>7.5</td>
<td>8.5</td>
</tr>
<tr>
<td>Approx. Weight (ton)</td>
<td>5.0</td>
<td>8.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Approx. Size (w x l x h) m.</td>
<td>2.0 x 2.0 x 7.0</td>
<td>2.2 x 2.2 x 9.0</td>
<td>5.0 x 5.0 x 10.5</td>
</tr>
</tbody>
</table>
Features

- For control of each machine during operation.
- Record of the previous temperature set by auto save every minute for history record.
- Accuracy ± 3 C
- Can be setting either “Automatic” or “Manual”
- Command to ON/OFF any machine from control room, imanediately.
- Graphic display shows the results of running all the time and reports the problems.

RISE - SCADA (supervisory control and data acquisition) is a type of industrial drying control system. The control systems are computer controlled systems that monitor and control temperature for drying processes that runs in the dryers. SCADA systems can show the historically temperature and generate the report, then the owner or managers can use the data to analysis the process for future continuous improvement the plant and make customer satisfaction.

Trends of temperature for each drying machine. The accuracy ± 3C

Full control function of Fluidized Bed Dryer

SCADA shows overview and states of machines.
“For Reference only” Subject to Quotation & Final Design
Rice Mill Products

**NGS 300**

Features
- Adjustable to specific need, pre-cleaning or precise
- Ease of changing screen sizes
- 2 Vibration motors
- Adjustable of the incline angle.

Paddy Cleaner, NGS - 300, Capacity 14 - 16 TPH

**RH400V & HA400C**

Features
- Husking by auto pneumatic controlled force between rubber rolls.
- Vibration feeder (adjustable speed.)
- A simple V-belt drive system makes operation and service easy.
- An environment friendly dust tight closed circuit husk and dust aspiration system.

Paddy Husker, RH - 400V, Capacity 3TPH
Paddy Aspirator, HA - 400C, Capacity 2.5 TPH

**ST1000, ST500**

Features
- Separate collections of stones and dust particles from aspirator.
- Efficient and precise separation stone-like and heavy matters by density difference principle from paddy and grains.
- Provided with closed circuit fines aspirator.

De-Stoner ST1000, Capacity 8 - 10 TPH
De-Stoner ST500, Capacity 4 - 6 TPH
This pre-cleaning machine will eliminate various type of foreign materials from raw material, separation is carried out at each stage in regular sequence, surely and efficiently thus preventing such foreign materials from being mixed into separated raw material.

To remove by friction the husk layer from paddy rice by passing the grain between two counters - revolving rubber rolls. Husking by auto pneumatic controlled force between rubber rolls.

An environment friendly dust tight closed circuit husk and dust aspiration system minimizes air loss and drive power.

A cross flow fan is mounted at the lower part of the machine forces air through and inclined oscillating proforate tray which stratifies the material according to differences in specific gravity and separates the heavier impurities like stones, nails and iron particles (that move upward to the stone collection box while rice grains gravitate to the rice outlet).

The medium weight impurities, such as immature grains and husk are collected in the husk box, while the lighter impurities, such as coarse bran and dust are exhausted by suction fan.
Rice Mill Products

**PS600TW**

**Features**
- High sorting performance with adjustable stroke and inclination of tray.
- Separation of three distinct classifications: Paddy, Mixed and Brown Rice.
- 40 Screen increase the maximum capacity (up to 8 ton/hr).

**WT50JB**

**Features**
- Four rubber brakes surround the abrasive cone can be adjusted while operation.
- Head rice recovery yield 3% - 5% more, Rice output cool & clean.
- Special formed hardened and sharp abrasive cone gives a long operational life.
- More polishing degree with de-husking some foreign paddy grains.

**PL500JB**

**Features**
- Feeding rolls, shining rollers and screen components are hardened and surfaced with Nickel-Chromium for durability and hygiene.
- Low volumes (<30 lit/hr.) of pure water atomized by pressurized clean air.
- An upgrade of the appearance, quality and storage life of milled rice with minimum weight loss. (0.1 - 2%)
### Paddy Separator

PS series gravity paddy separator is mainly made up of 40 parts such as feeding apparatus, distributing device, separating compartment, outlet, adjusting device for supporting stands, eccentric drive mechanism, spring buffer and machine base.

<table>
<thead>
<tr>
<th>Model</th>
<th>PS-300TR</th>
<th>PS-600TW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (Ton/Hr.)</td>
<td>2 - 3</td>
<td>6 - 8</td>
</tr>
<tr>
<td>Power requirement (Hp.)</td>
<td>2.0</td>
<td>5.5</td>
</tr>
<tr>
<td>Rotating speed (rpm.)</td>
<td>238</td>
<td>9</td>
</tr>
<tr>
<td>Screen number</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Dimension w (mm.)</td>
<td>1255</td>
<td>1800</td>
</tr>
<tr>
<td>Dimension l (mm.)</td>
<td>1540</td>
<td>2600</td>
</tr>
<tr>
<td>Dimension h (mm.)</td>
<td>1600</td>
<td>2400</td>
</tr>
<tr>
<td>Net weight (kg.)</td>
<td>650</td>
<td>2030</td>
</tr>
</tbody>
</table>

### Whitener

The abrasive cone are made from silicon carbide mixture, high pressure preparation. The cone has long durable operation. The screen and rubber breaks increase the whitening degree. Each screen is installed with pieces of guide vane plates which guide rice grain to be whitened properly and keep the grain shape and tip remain as original in more percentage.

<table>
<thead>
<tr>
<th>Model</th>
<th>NWT-20RB</th>
<th>WT-50JB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (Ton/Hr.)</td>
<td>2 - 3</td>
<td>5 - 7</td>
</tr>
<tr>
<td>Power (Hp.)</td>
<td>20</td>
<td>50 - 75</td>
</tr>
<tr>
<td>Suction Air (m³/min)</td>
<td>30 - 40</td>
<td>40 - 60</td>
</tr>
<tr>
<td>(mm.H₂O)</td>
<td>70 - 100</td>
<td>100 - 140</td>
</tr>
<tr>
<td>Dimension w (mm)</td>
<td>800</td>
<td>1300</td>
</tr>
<tr>
<td>Dimension l (mm)</td>
<td>1680</td>
<td>1900</td>
</tr>
<tr>
<td>Dimension h (mm)</td>
<td>2090</td>
<td>2300</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>650</td>
<td>1200</td>
</tr>
</tbody>
</table>

### Shining, Polisher

The polishing/shining chamber composed of horizontal polishing roller and its screen which are well balance while polishing, white rice is polished by friction among their grains generated as they pass through the clearance between polishing roller and its screen.

The bran layer on the grain surface is uniformly removed by action of grains rubbing together and with spraying water and air injected through the polishing/shining chamber will not only clearly remove the bran but also help to clean and cool the grain.

<table>
<thead>
<tr>
<th>Model</th>
<th>PL-300S</th>
<th>PL-500JB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>3.0 - 4.0</td>
<td>5.0 - 6.0</td>
</tr>
<tr>
<td>Capacity (high shining degree)</td>
<td>2.5 - 3.5</td>
<td>4.0 - 5.0</td>
</tr>
<tr>
<td>Power</td>
<td>50 Hp</td>
<td>50 - 70 Hp</td>
</tr>
<tr>
<td>Revolution (polishing roller)</td>
<td>850</td>
<td>850</td>
</tr>
<tr>
<td>Air requirement (volume)</td>
<td>30 - 40</td>
<td>40 - 60</td>
</tr>
<tr>
<td>(m³/mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air requirement (Pressure)</td>
<td>180 - 200</td>
<td>180 - 200</td>
</tr>
<tr>
<td>(mm.wg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approx weight (kg.)</td>
<td>1100</td>
<td>1300</td>
</tr>
<tr>
<td>Dimension (mm)</td>
<td>850 x 220</td>
<td>915 x 2170</td>
</tr>
<tr>
<td></td>
<td>x 2040</td>
<td>x 2200</td>
</tr>
</tbody>
</table>
## Rice Mill Products

### RS600, RS400

**4-6 TPH**

Rotary Sifter, RS-600, Capacity 6 TPH

- **Rotary Sifter, RS-400, Capacity 4 TPH**

### L100

**1 TPH**

Length Graders, L-100, Capacity 1 TPH

### AW100, CW50

**3-18 TPH**

Auto Weighing, AW-100, Capacity 5-18 TPH

- Continuous Flow, CW-50, Capacity 5-20 TPH

### Features

#### RS600, RS400

- Grain or rice can be separated from 2 to 5 classes according to size.
- Sieves are easily replaced without tools.
- Self-balancing by the counter rotation of the upper and lower decks.
- RS-600 has 6 trays of different mesh sieves.

#### L100

- High accuracy sorting of head rice from the mixed, normally after sifting.
- Control of sorting accuracy by V-shape tray inclination adjustment.
- Need less space by stack installations of up to 4 machines.

#### AW100, CW50

- Digital displayed PLC controlled pneumatic system with load cell ensures accurate continuous weigh cycles.
- Stainless steel weigh hopper, robust construction and easy to maintain.
- High speed 3 steps weighing and an accurate to 2 decimal digit weight read out.
To separate grain into 2 - 5 different categories by size. Each screen is fitted a different mesh size. The driving an eccentric motion that is balanced by a counter-revolving counter - weight. The oscillation circular motion agitates the grain to effect the separation process.

<table>
<thead>
<tr>
<th>Model</th>
<th>RS-400</th>
<th>RS-600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity (Ton/Hr.)</td>
<td>3 - 4</td>
<td>4 - 6</td>
</tr>
<tr>
<td>Motor (Hp)</td>
<td>2 Hp.4p</td>
<td>2 Hp.4p</td>
</tr>
<tr>
<td>RPM.</td>
<td>146</td>
<td>146</td>
</tr>
<tr>
<td>Number of trays</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Gross weight (Kg.)</td>
<td>760</td>
<td>1195</td>
</tr>
<tr>
<td>Dimension (w) (m)</td>
<td>1650</td>
<td>1650</td>
</tr>
<tr>
<td>Dimension (l) (m)</td>
<td>1700</td>
<td>1700</td>
</tr>
<tr>
<td>Dimension (h) (m)</td>
<td>1700</td>
<td>2300</td>
</tr>
</tbody>
</table>

To grade grain by differences in length with revolving cylinders indented to suit the particular grain. The indents vary from size #4.00 - #7.00 in accordance with the grain size.

<table>
<thead>
<tr>
<th>Model</th>
<th>L100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>1 Ton/Hr</td>
</tr>
<tr>
<td>Electric power</td>
<td>0.5 Hp</td>
</tr>
<tr>
<td>Revolution</td>
<td>20 RPM</td>
</tr>
<tr>
<td>Dimension</td>
<td>600 x 2400 mm.</td>
</tr>
<tr>
<td>Approx. Weight</td>
<td>250 kg.</td>
</tr>
</tbody>
</table>

Digital displayed PLC controlled pneumatic system with load cell ensures accurate continuous weigh cycles.

Use for rice, paddy and grain which is in granular and similar properties.
Profile

Over 30 Years Experience

R.E.S. does this business since 1980 with these experiences we research & develop new technology - know how to make our customers run the business successfully.

Trusted Brand

RISE products are used by many big name companies such as JIA Meng Group (the biggest rice exporter in Thailand) and PT. Alam Makmur SE Mbada (the 3 biggest market share in rice products.) in Indonesia

Installed World Wide

We have professional Engineers and well trained technicians Stuff to install the products for customers. We installed over 100 rice mills world wide for example Malaysia, Vietnam, Indonesia, Nigeria, India.

All Product Lines

R.E.S. covers all product line from very beginning (paddy) for example.
- Parboiled Plant
- Drying Plant
- Fluidized Bed Dryer
- Rice Mill
- Accessories → Bucket Elevator → Blower → Screens
- Computer Control System (RISE SCADA)
Parboiled Plant

PARBOILED PLANT 500 TON/DAY VIETNAM

PARBOILED PLANT 150 TON/DAY THAILAND
Paddy Drying Plants

RRR RICE MILL, 500 TON PER DAY  LOPBURI, THAILAND

DRYING 20 TON/HR.  INDONESIA

EVERGREEN MALAYSIA  INDIA  VIETNAM
Successful Rice Mills

RRR RICE MILL, 500 TON PER DAY
LOPBURI, THAILAND

RICE MILL 20 TON/HR (500 TON PER DAY)
ANGIANG, VIETNAM

RICE MILL 18 T/H INDIA

RICE MILL 12 TON/HR
DONGTHAP VIETNAM
### Asia Countries
- Malaysia
- Philippines
- Indonesia
- Myanmar
- China
- Taiwan
- Lao
- India
- Cambodia
- Pakistan

### Middle East and Europe
- Dubai
- U.A.E
- Iran
- Italy
- U.K.
- Spain
- Turkey
- Etc.

### North & South America
- Mexico
- Venezuela
- Canada
- Uruguay
- Columbia
- Caribbean
- Etc.

### Africa Countries
- Mozambique
- Liberia
- Nigeria
- Senegal
- Montoria
- Burkina Faso
- South Africa
- Mali
- Guyana
- Etc.

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**MADE IN THAILAND**