Seemingly inexpensive briquetting presses from emerging economies, particularly China & India

Many competitors have copied our presses or manufactured and distributed briquetting systems of their own design. We have now successfully sold a RUF briquetting system to the Middle East, which will replace a press from China, which the client purchased 8 years ago. Due to this we had the opportunity to clearly analyse this system. The client has had many problems with this machine, which he summarised as: “It´s a headache!“

Various significant disadvantages were identified and are listed below. These support the argument against competition particularly from China and India. Permanent problems arise with these machines daily even though they are robustly built, and their low price makes these very attractive. This shows they come at a higher cost than initially expected, even in the short term.

However this view cannot be generalised, as the low-cost solution may be sufficient in some cases. The competition must be taken seriously and learns quickly. So there is no reason to dismiss such systems completely. However, the following points support our argument against these machines.

Individual points of criticism from our (new) customer regarding the “cheap“ system:

1) **Electricity:**

   A RUF 11 briquetting system runs on an 11 kW motor and at a rate of approximately 250 kg/h. In order to achieve this rate of production machines produced by our competitors require a 30 kW motor. 4000 hours of annual operation will produce an amount of 1000 to/year.

   The electricity costs can be calculated as follows: The actual power consumption of the main drive motor is 80% of the kW rating => i.e. the RUF 11 effectively uses 8,8 kWh for 250kg of briquettes, so 35,2 kWh for 1 tonne of briquettes. Therefore, to produce the annual amount of 1000 ton, a power of 35200 kWh is used.

   A calculation using the same example with a system from our competitors with a 30kW motor shows, that in order to produce the same number of briquettes, 96000 kWh of power is consumed. This shows that our RUF 11 consumes 60800 kWh less per year.

   Advantage RUF:

   At a cost of 0.1€/ kWh the total annual cost comes to 6,080, - €/ year
   At a cost of 0,2 €/kWh the total annual cost comes to 12,160, - €/ year

2) **Labour costs:**

   “Competition“ virtually manual operations: A feeding screw transports the material from a hopper directly into the pressing chamber. The press stands vertical and has no pre-charger. The material should fall directly into the chamber, but every briquette has to be helped up and the material has

to be manually pushed in. The client said: total labour cost all-inclusive is 1,000 Dollars/month, working time 12 h/d. Two workers are required as production is running constantly. This leads to labour costs of 24,000 Dollars/year. The staff cost for the newly purchased RUF-press (for operation, maintenance and material feeding), comes to only 10% of that.

Advantage RUF: Labour cost saving of 21,600 Dollar/year

3) **No complete "system":** The press for example was delivered without an oil cooler and a spray device. This leads to downtime, environmental hazards (escaping emulsion runs onto the ground) and D.I.Y. solutions.

   Advantage RUF: Reliable automatic operation without endangering the environment.

4) **Durability of wearing parts:** Our competitors suggest changing the seal "every 50,000 cycles", so every 227 hours, i.e. twice a month! RUF: 4500 hours, this means a life span of over 20 times that of the competition!

   Also: The "competition" leaves themselves a loophole, if the changing of the seals should not be carried out: "…after expiring of … 50.000 cycle, the worn out oil seals can damage the internal surface of cylinder… damage due to worn out seals shall be out of our guarantee/warranty." This clause can be used in any case to decline a customer warranty on the product, in our opinion this is close to customer deception. Damaged seals in RUF systems cannot lead to damaging the cylinders.

   General wear and tear: Our new customer states high wear and tear on the competition's machine and accordingly high associated costs. This is not comprehendible, as we are talking about aluminium-profile chips (soft wrought alloy – hardly produces any wear).

   Advantage RUF: high quality parts lead to a long and reliable service life. The customer is also correctly informed about all details on the machine.

5) **Service:** is classified as "non-existent". System sold and abandoned.

   Advantage RUF: Servicing globally.

6) **Security:** Permanent operation (see point 2) of the competitions press takes place on the open machine. The pressing piston as well as the mould are not encapsulated or secured. The operators of these machines are constantly in danger.

   Advantage RUF: We only sell safe machines, particularly with regard to health and safety at the workplace.

7) **Price:** The price of the competition's machine was 36,000 dollars in 2008, so around half the price of our most up-to-date system RUF 11/1700/150x60, which has just been sold and will be up and running from autumn 2015.

Conclusion:

There is one advantage in purchasing the "cheap" machines, which is the purchase price, but the listed disadvantages weigh heavily. The price advantage after approximately one year soon becomes an economic disadvantage.

The RUF machine runs unattended, safely and cheaper.

As one of our customers once said: "We cannot afford to buy cheap."

Or simply: "You get what you pay for".

Manual "Material feeding" on the permanently open Chinese briquetting machine, photo taken by customer in April 2015