Fluidized bed furnace

Introduction of Fluidized bed furnace
Combustion mode is coal fired after crushing into 10mm following particles, through the coal feeding machine put into fluidized bed furnace at a constant speed, The high pressure air blower through isobaric bellows and mang coal hoods of the air distribution plate into the furnace, All scattered wind synthesis” air cushion” hold up the coal particles to charge a fluidized combustion, coal and coal cinder at high temperature state prancing up and down, the mutual friction, collision and cracking, by the small and large until burnout. This combustion with fuel and air contact area is large, relative velocity is high, the fuel in a fluidized bed stay long time, burning fast, burning rate is high, energy saving and environmental protection features, so in the industrial furnace have been widely applied and popularized rapidly.

Application of Fluidized bed furnace
Hot gas fluidized bed combustion boiler can be used to support the rotary dryer, vertical dryer, hammer type drying machine, indirect dryer, slag vertical mill, air swept coal mill and coal mill, fertilizer drying machine, powder drying tower, waste heat power generation heating, material frying machine heating. Can be widely used for industrial raw materials and product drying, baking, such as: roasting, slag, clay, sludge, carbide slag, compound fertilizer, industrial gypsum, gypsum board, iron powder, sulfur concentrate, laterite, siderite, zinc leaching residue, pulverized coal and coal slurry etc.

Function of Fluidized bed furnace
1, fuel wide adaptability, can be used QyDW heating value is greater than 6270KJ/ kg (1500kcal/kg ) of a variety of bituminous coal, anthracite, coal, lignite, coal gangue, slag and
boiler, oil shale, coal and other;
2, furnace combustion temperature 850 ~ 1100℃, operation temperature even, heat stability;
3, high combustion efficiency, combustion rate can reach more than 99%, the furnace thermal efficiency as high as 94%;
4, ignition easy, fire pressing time is longer, intermittent pressure fire up to 16 ~ 48 hours, pressure fire furnace starting don’t need to re ignition;
5, the hot flue gas exit temperature adjustable, heat load adjustment, broad, flexible heating flue gas duct outlet position
6, ash content carbon <1%, not easy to soften or bonding, good activity, suitable for cement mixed material, comprehensive utilization;
7, clean combustion, low NOx content in the smoke gas, the furnace can use low cost sulfur desulfurization, so that the sulfur in coal is in the form of solid in slag;
8, the system realizes the integration of machinery control, thermal control of intelligent design, low labor intensity;
9, the furnace has a long service life, less wearing parts, repair costs low.

**Characteristics of Fluidized bed furnace**

1, Fuel in the fluidized bed combustion boiler in a boiling state, burning the layer normal combustion temperature is 850~1100 ℃. The pneumatic cushion layer temperature is lower, in general 200~300 ℃, but because the material layer is very thick, long time of boiling bed can smolder, regenerative energy;
2, speed increased, fireman is easier to operate, the abnormal situation especially slag processing in early;
3, due to drum into the mass flow of air, so that the furnace oxygen excess coefficient is high, forming a strong oxygen combustion, combustion and burnout condition is good;
4, Boiling layer using adjustable hood, conductivity uniform, easy combustion. The two air inlet makes the furnace unit oxygen volume; high burn-off rate;
5, Coal consumption. Vertical section at only 5% coal burning, the remaining 95% are hot slag, coal saving effect is good;
6, Design using thicker aluminum silicate fiber board insulation, can reduce the heat loss of furnace temperature of furnace body, small changes, beneficial to prolonging the service life of furnace;
7, Operating system using thermal instrumentation and control for chain monitoring. For the operator to provide management basis. In the early water material uncertainty, coal combustion value of uncertain timing can ensure the drying quality. Burnt ash can be collected for use as a high activity of cement mixed material.

The improved design of energy-saving furnace, effectively improves the ordinary fluidized bed combustion boiler thermal efficiency, the calorific value of fuel requirements of a broader. Selection for greater range, compared with other combustion is more obvious advantage.

Intelligent energy-saving explosion-proof type high temperature fluidized bed combustion boiler as dryer heat, its use results has been confirmed in applications at home and abroad.