



APPLICATION LEAFLET

Ramén Ball Sector Valves in burners & furnaces

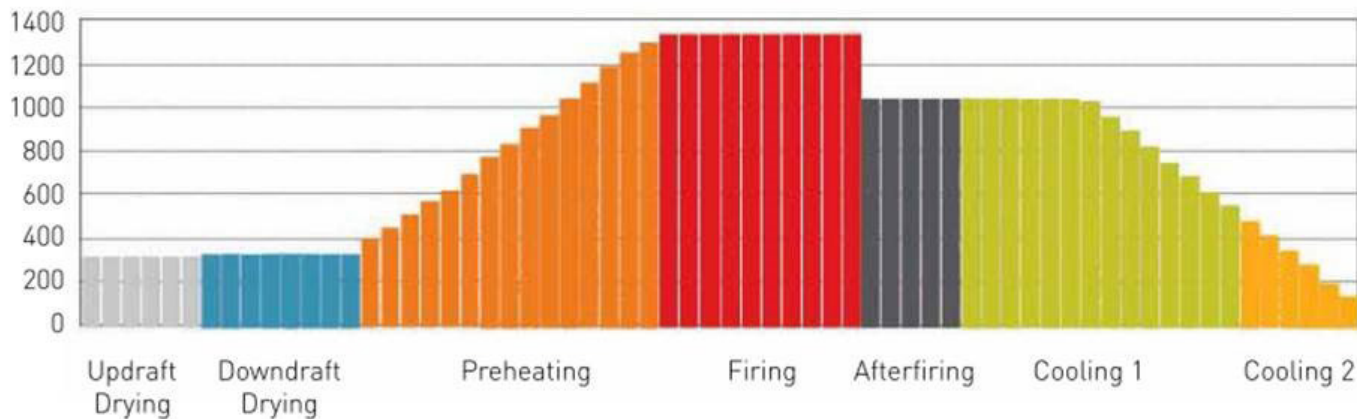
Furnaces are essential but at the same time and energy intensive part of many industrial processes in different sectors. Efficiency of process and quality of products, cost of energy, emissions and process safety are directly linked to the control of fuel in furnaces. Here, we are presenting a field proven experience where Ramén Ball Sector Control Valves play an important role in managing these applications.

Fuel control in iron ore pelletizing furnaces

After pelletizing and screening operations of Iron Ore, raw or green pellets are respectively dried, pre-heated, indurated and finally cooled, creating different zones in the indurating machine, as shown below. There can be multiple burners in some of the zones (typically between 16-40 burners 2-6 MW each) balancing the fuel flow on left and right side of the furnace to have a uniform energy input on both side allowing control of the temperature profile as the pellets travel along.

Depending on the fuel price, availability and customer's requirement, various types of fuels are used such as fuel oils, natural gas, Coke oven gas (COG) and TAR oil to name a few.

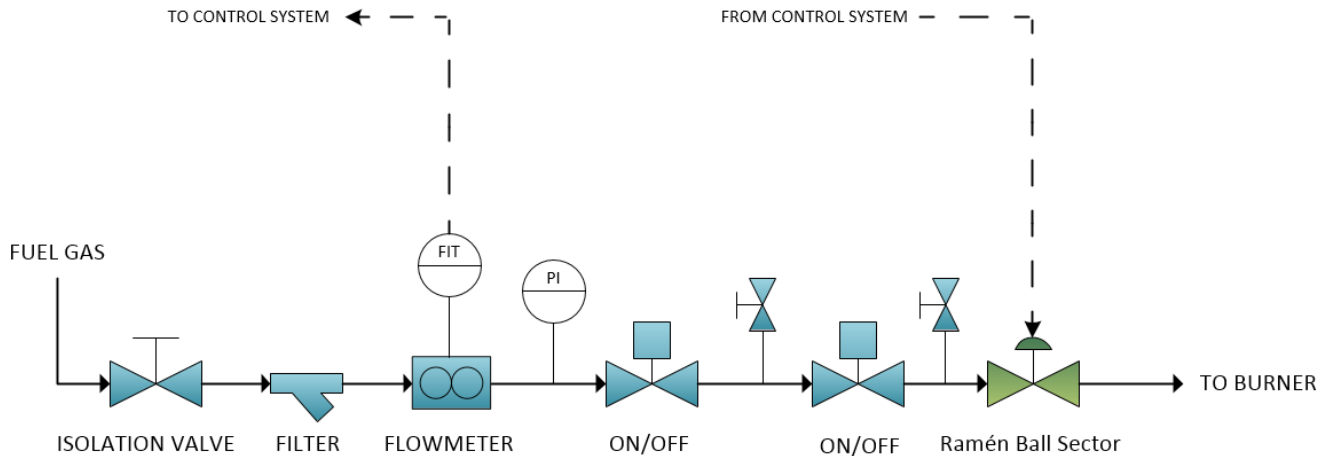
Temperature in °C



Zones in indurating furnace

Functionality of ball sector control valves in burner systems

Ball Sector Control Valves, KS type are utilized for flow control of the fuel in the burners where a precise ratio between fuel and combustion air, controls the combustion and furnace temperature. Below is a simplified flow diagram of fuel control to the burner. This can be also followed in the picture below, showing a valve station for the burner system with a Ramén ball Sector valve mounted on the upper right hand side.



With a wide control rangeability of up to 300:1, Ball Sector Valve KS series have an excellent flow control for burner systems where normally a control ratio of only 10:1 for the fuel flow is required.



Ramén ball sector control Valve on a valve station upstream burner

Key advantages of ball sector valves in burner systems, defined by one of our customers:

- Provides accurate control
- Compact and robust design
- Highly reliable solution with maximum lifetime and minimum maintenance
- Cost efficient



Ramén Valves

We know the flow

Ramén Valves AB

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