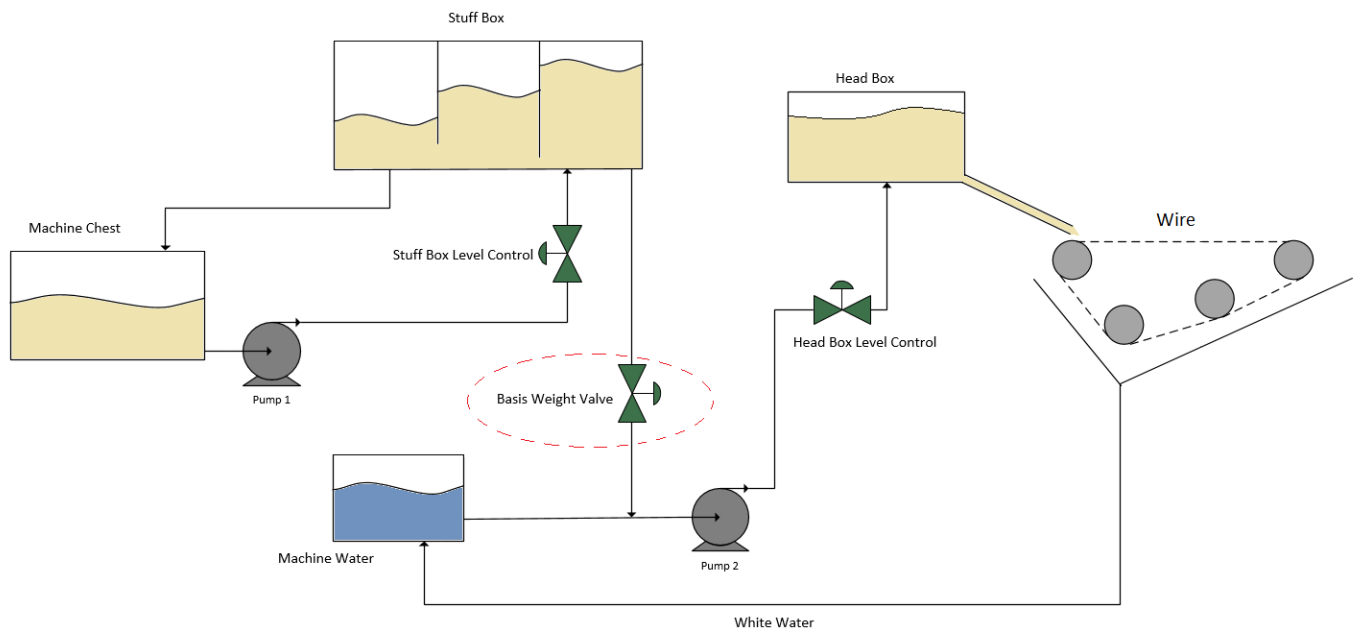


## Control Valve Solution For Basis Weight Control Using Ramón Ball Sector Valve

Basis weight control is a critical part in paper machine operation. The basis weight valve, installed in the stock preparation department in front of the paper machine, as shown below, controls the consistency of the pulp into the Head Box, dictating the paper weight and quality at the end of the process. The valve is controlled by a control signal showing the difference between the measured basis weight of the sheet on the reel at the end of the paper machine and the set-point. Too high measured basis weight causes the valve to close to lower the consistency in the system while too low weight makes the valve open to higher the consistency before the head box. Improper control adversely affect the downstream process sections such as drying and calendar section resulting in even more deviation from the requirements.

Hence, a quick and highly accurate control solution is essential to meet customers' specifications



Ramén offers the KS type valve which is a ball sector valve with a particular ball-shaft connection design to avoid backlash, customized for the basis weight application. The high resolution controllability is obtained by Oden backlash free actuator with stepper motor controlled by a microprocessor.

**Valve features and benefits:**

- Compact, low weight and robust design
- High control rangeability (300:1)
- Enhanced control accuracy with minimum backlash
- Equal percentage control characteristic
- Easy operation, erosion resistant and low maintenance
- Self-drained with no hidden cavities leading to no dewatering
- No clogging and increased lifetime

**Actuator features:**

- Backlash free with control precision of 5.000 steps in 90° valve travel
- Adjustable running time and acceleration
- Compact design with hand wheel or key for manual operation
- Positioning feedback loop with built in high resolution REED switches on the main shaft
- Duty cycle 100%
- No additional control box or cabinet is needed
- Programmable with Oden Valve Program (OVP)

### **Valve technical specifications:**

- **Size range:** DN 50 – DN 300
- **Pressure Class:** PN 16 - 40
- **Temperature range:** -40°C to +250°C
- **Capacity: Kvs:** 94 -3840/ **Cv:** 110-4500
- **Material:** Stainless steel EN 1.4409, AISI 316L
- **Seat ring:** PTFE for low torque and tight shut off

### **Actuator technical specification:**

- **Power supply:** 24/48 VDC
- **Control signal:** 4-20 mA or 0-10V galvanically isolated control and feedback signals, Modbus 485, Digital 24 VDC 3-point control.
- **Speed range:** 0,1 to 285 °/sec
- **Enclosure protection class:** IP67