



APPLICATION DETAILS

Pulp and paper mills consist of processing units for wood chip mechanical preparation, pulp manufacturing (digesting), pulp washing and screening, chemical recovery, bleaching, pulp stock preparation, and papermaking.

The pulp manufacturing process has several configurations but generally use chemicals to digest the lignin in wood chips. The most widely used is the Kraft process which injects caustic chemicals for digestion. Some pulp and paper mills use a sulfite process with acidic chemicals.

Triple offset valves are used in a number of pulp and paper control and on/off applications. Some of these include: black liquor feed lines, black liquor nozzle station, white liquor make up, green liquor dissolving tank, black liquor header tank, black liquor concentrated flash tank, black liquor evaporator, red liquor evaporator, black liquor heater lines, lime mud, coatings and additives, and steam.

APPLICATION CONSIDERATIONS

HIGH CYCLE	Frequently switching valve cycles is required for reliable operation. Discharge valves used in the White Liquor Pressure Filter Switching process are operated every 5 to 10 minutes.
EROSION	Erosion occurs in several processes due to moving solids such as pulp, sand, and lime mud.
TIGHT SHUTOFF	Tight shutoff is required for processes such as those found in chemical recovery and steam applications to run efficiently. Valves must be able to maintain tight shutoff at low pressures.
FUGITIVE EMISSIONS	Low emissions required for safety, environmental, and health considerations.
CORROSION	Corrosion is common in paper mills due to acidic and caustic chemical use.
LIMITED MAINTENANCE	Typically valves in this service are required to perform flawlessly for a minimum of 5 years between maintenance cycles. The process cannot endure costly valve failures.
SCALING	Scaling binds valve internals and occurs in white liquor, black liquor, green liquor, and lime mud lines.
SPACE AND WEIGHT LIMITATIONS	Pulp and paper mills may be limited in the amount of space available and may require low weight valves.

TRICENTRIC® TRIPLE OFFSET

The TRICENTRIC® triple offset butterfly valve's non-rubbing, metal to metal, torque seated design and material selection combine to provide a custom, economical, and compact solution to meet the extreme requirements of pulp and paper applications while delivering high efficiency, reduced downtime, and capital expenditure.

TRICENTRIC® TRIPLE OFFSET PULP AND PAPER CONFIGURATION

The TRICENTRIC® triple offset butterfly valve can be customized to suit any pulp and paper application. The below description is an example of a typical configuration.

FEATURES

- › Design considerations for material selection, dimensional clearances and tolerances are selected to meet the application temperature range and thermal transients
- › Outboard bearing design option available for dirty service conditions
- › Compact valve design is great for installations with space and weight restrictions
- › ANSI FCI 70.2 Class V shutoff standard. Tighter shutoff options available upon request
- › Optimized seat and seal design to minimize likelihood of jamming
- › Optional full body ID with HVOF Stellite® or Tungsten Carbide
- › Low emission options including compliance to ISO 15848-01
- › Live-loaded packing option readily available from inventory
- › Torque-seated shutoff provides a shear assist for removing buildup around sealing area.
- › Graphite or 316SS hard surfaced bearings. Stellite® 6 bearings and thrust bearing upgrades available
- › Inherently Fire Safe design
- › Standard materials of construction include A351 CF8M body, A351 CF8M disc, Stellite® 21 seat overlay, Solid Duplex 2205 seal ring, 17-4 PH DH1150 shaft, 316 SS trim components



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