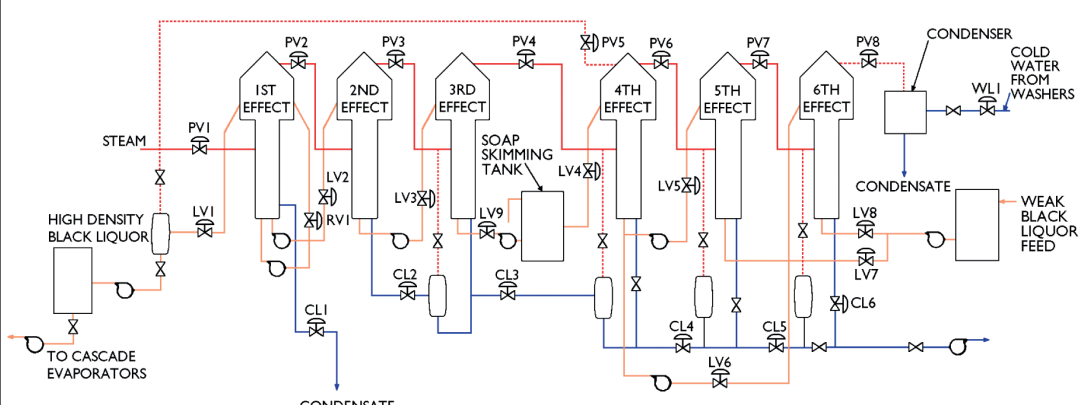


Maintenance recommendation for Neles™ valves in black liquor evaporation process Including recovery boiler burner valves

Valves	Maintenance scope		
	Inspection	Minor maintenance	Major maintenance
Maintenance intervals	Every 2 years	Every 4 years	Every 6 years
Effects 1, 2 and recovery boiler burner valves			
Effects 3 - 6 valves	Every 4 years	Every 8 years	Every 12 years
Maintenance scope with required spare parts	Workshop inspection + spare part set	Workshop inspection + spare part set + seat & bearings	Workshop inspection + spare part set + seat & bearings + trim parts
Typical 7-stage black liquor evaporating plant			

During maintenance Valmet technicians check parts that are not mentioned here and replace damaged parts if possible. Valmet technicians also make recommendations for future inspection and maintenance. Device condition monitoring helps determine whether a particular valve needs attention.

Wearing out of devices:



Neldisc triple eccentric disc valve



V-port segment valve, series RA



M-series ball valve

Operational benefits:



Improved plant availability



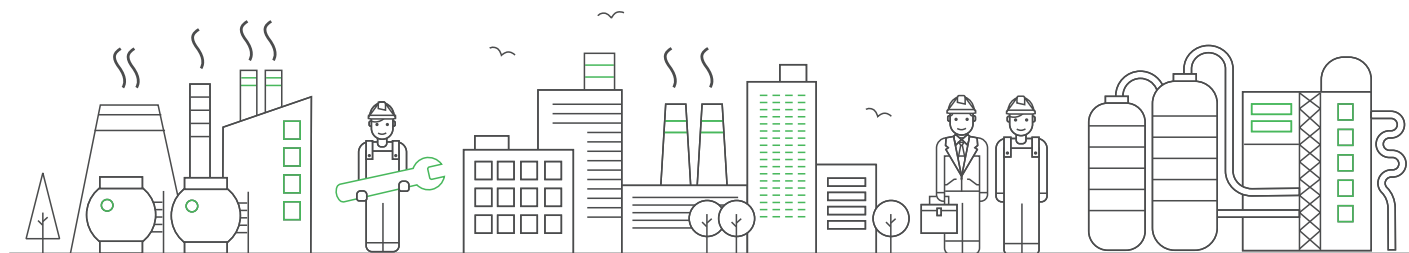
Optimized performance



Ensured quality



Improved safety



Maintenance recommendation for Neles rotary actuators and ND9000™ / NDX™ series valve controllers in black liquor evaporation process Including recovery boiler burner valves

Neles rotary actuators	Maintenance scope	
	Inspection	Maintenance
Maintenance intervals	Every 5 years	Every 10 years
Maintenance scope with required spare parts	Workshop inspection + spare part set	Workshop inspection + spare part set + linkage assembly & cylinder

ND9000 / NDX valve controllers	Maintenance scope	
	Inspection	Maintenance
Maintenance intervals	Every 5 years	Every 10 years
Maintenance scope with required spare parts	Workshop inspection	Workshop inspection
NDX	Download and analyse diagnostics Calibrate, reset counters + prestage bottom filter and silencers	Download and analyse diagnostics Calibrate, reset counters + pneumatic set + silencers
ND9000	Download and analyse diagnostics Calibrate, reset counters	Download and analyse diagnostics Calibrate, reset counters + prestage unit + spool valve assy

During maintenance Valmet technicians check parts that are not mentioned here and replace damaged parts if possible. Valmet technicians also make recommendations for future inspection and maintenance. Device condition monitoring helps determine whether a particular valve needs attention.

Wearing out of devices:



Lever arm,
diaphragm and
sealing elements



Valve controller
components



Valve controller
components

Operational
benefits:



Improved
plant availability



Optimized
performance



Ensured
quality



Improved
safety