



## Maintenance recommendation for Neles™ valves in anti-surge service

| Component                     | Element                | Recommended inspection on a regular basis (ie, 6 months to 1 year)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Recommended maintenance 5 years                                                                                                                                                                         |
|-------------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Valve                         | Obturator              | <p><b>Valve assembly:</b><br/>Check the performance and operation on site, test the equipment reaction</p> <p><u>External leakage</u> = Damaged seals<br/><u>Need in higher supply air pressure</u> = Damaged Actuator, Bearings<br/><u>Slow Opening, closing</u> = Damaged Seat, Actuator, Bearings, springs<br/><u>Noise</u> = Damaged shaft, bearings, springs<br/><u>Poor control</u> = Positioner, volume booster, quick exhaust problems</p> <p><b>Valve controller:</b><br/>Check positioner integrity, cover, electric conduit, linkage and mounting bracket, calibration, loop test</p> <p><b>Instrumentation components:</b><br/>Visual inspection and test of the components, check for air leaks</p> | Check*                                                                                                                                                                                                  |
| Valve                         | Shaft(s)               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Check*                                                                                                                                                                                                  |
| Valve                         | Seat(s)                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Check*/Replace (soft seat)                                                                                                                                                                              |
| Valve                         | Bearings               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Check                                                                                                                                                                                                   |
| Valve                         | Packing                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Replace                                                                                                                                                                                                 |
| Actuator                      | Diaphragm / soft parts |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Replace                                                                                                                                                                                                 |
| Actuator                      | Mechanical parts       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Check*                                                                                                                                                                                                  |
| Positioner                    | Complete device        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Download and analyse diagnostics<br>Calibrate and reset counters<br>Replace pneumatic components (Spool valve, prestage unit Neles ND9000/Pneumatic set, silencers Neles NDX)<br>Replace after 15 years |
| Booster / quick exhaust valve | Complete device        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Check*                                                                                                                                                                                                  |
| Solenoid valve                | Complete device        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Check*                                                                                                                                                                                                  |
| Limit switch                  | Complete device        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Check*                                                                                                                                                                                                  |
| Air Filter                    | Complete device        | Replace every year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Replace                                                                                                                                                                                                 |

### \* Replace if needed

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.

\* Replace if needed

Oxygen valves can be maintained only by authorized persons.

Operational benefits:



Improved plant availability



Optimized performance



Ensured quality



Improved safety