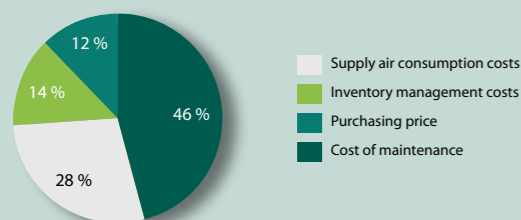


Cost savings  
by valve  
modernizations



## COST SAVINGS BY VALVE MODERNIZATION

One of the most efficient ways in saving production costs is to guarantee good control performance during the whole life cycle of a valve product. Valve modernization is a cost-effective way to enhance the performance, reliability and safety of an outdated control or on/off valve.



Analysis shows that maintenance costs cover almost half of the total cost of ownership of a valve product. This means that increasing maintenance efficiency brings significant savings over the life cycle of a valve.

The Metso control and on/off valve modernization service includes mounting of a new valve controller, standardizing of the actuator mounting phase and maintenance of the valve and the actuator. Depending on the application, a suitable smart valve controller is selected: Neles ND9000 for control valves, Neles SwitchGuard for on/off valves or Neles ValvGuard for safety valves.

### Switching to predictive maintenance



After the valve modernization you are able to monitor your valve performance and use predictive maintenance tools, such as Neles FieldCare or other maintenance tools integrated in DCS-systems.

### SERVICE BENEFITS

#### Efficient way to save production costs

- Improves the performance of your control and on/off valves
- Improves the reliability – device failures can be predicted
- Improves the maintenance efficiency - maintenance actions are planned and based on the actual condition of the field devices and fitting in your production schedule
- Ensures the availability of the field devices

#### Common benefits of the Neles SmartSolutions product family:

- Maximizes the availability of valves
- Provides open and fully integrated solution
- diagnostics information is available from device – no separate software needed
- Valve performance is analyzed during the plant run-time
- Enables predictive maintenance for automated valves

### SERVICE FEATURES

- Actuator mounting face is standardized; cover changed according to VDI/VDE-3845
- Analog positioner is changed to Neles smart valve controller
- Metso maintenance for the valve assembly
  - maintenance services are carried out following ISO 9001 procedures
  - warranty for serviced product is the same as for a new product
  - original spare parts are used
  - testing and reporting after repair, according to the original procedures



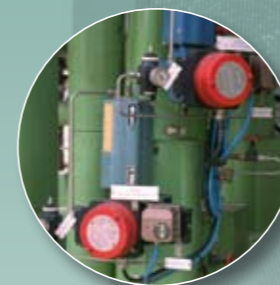
#### Control valves/Neles ND9000

- Enables raw material savings and improved production quality, thanks to superior control performance
- Market leading accuracy and speed of response
- Provides life cycle trends and traditional valve tests



#### On-Off valves/Neles SwitchGuard

- Intelligent solenoid valve brings diagnostics to all on/off valves
- Lower installation costs due to an integrated solution: solenoid valve, limits switches and speed control valve integrated
- Less damaged field devices – minimized pressure impacts with smooth open/close profiles



#### Safety valves/Neles ValvGuard

- Increased safety
- Neles ValvGuard safety valve certified to SIL3
- Testing of all safety elements (valve controller, actuator, valve) with real time alarm
- Increased cost efficiency
- Automatic partial stroke test lowers operating costs
- Simple installation lowers capital costs (no need for solenoid valve)



#### On-off valves / CINTAC

- Network enabled, integrated automation package
- Predictive maintenance capability with both local and remote diagnostics for fault alarms
- Enhanced device management on real time basis
- Reduced cost for automating rotary on-off valves by eliminating the need for individual components
- Lower capital costs due to fewer individual components in the inventory

### Valve modernization is a profitable investment

Several factors, such as the valve type and the nominal size together with the equipment condition affect on the valve modernization investment. The modernization projects, which Metso has carried out together with the customers show that the payback time for this type of investment is short. The investment payback time can be estimated quite accurately in advance.

#### Our Customers say:

“Better process performance”  
 “Due to Neles FieldCare, the maintenance personnel can plan their work better instead of waiting for initiative from the production”  
 “Instrumentation personnel find the problems before the production”  
 “We have been able to avoid several problems, which would have stopped the process”  
 “In certain processes, we have been able to increase the capacity due to better performing control valves”

An example received from a Customer tells that after installing a Neles ND9000, it was detected that the opening angle of a critical control valve was 5 – 10% of full opening, meaning that the accuracy of the current control valve in this application was not sufficient. When the control valve was resized to a smaller size, the savings according to the customer were 0,43 tons less chemical per day. This resulted to savings of **48 000 USD** per year!

Another example is from a global oil and gas company. As a direct result of using Neles ValvGuard the company has reduced its hazard rate from one failure every 1 500 years to one failure every 13 000 years. Without the aid of Neles ValvGuard, they would not have reached their safety goals. The savings will be **£ 96 000** in operations costs per one safety valve over the life cycle of the plant by using Neles ValvGuard.

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