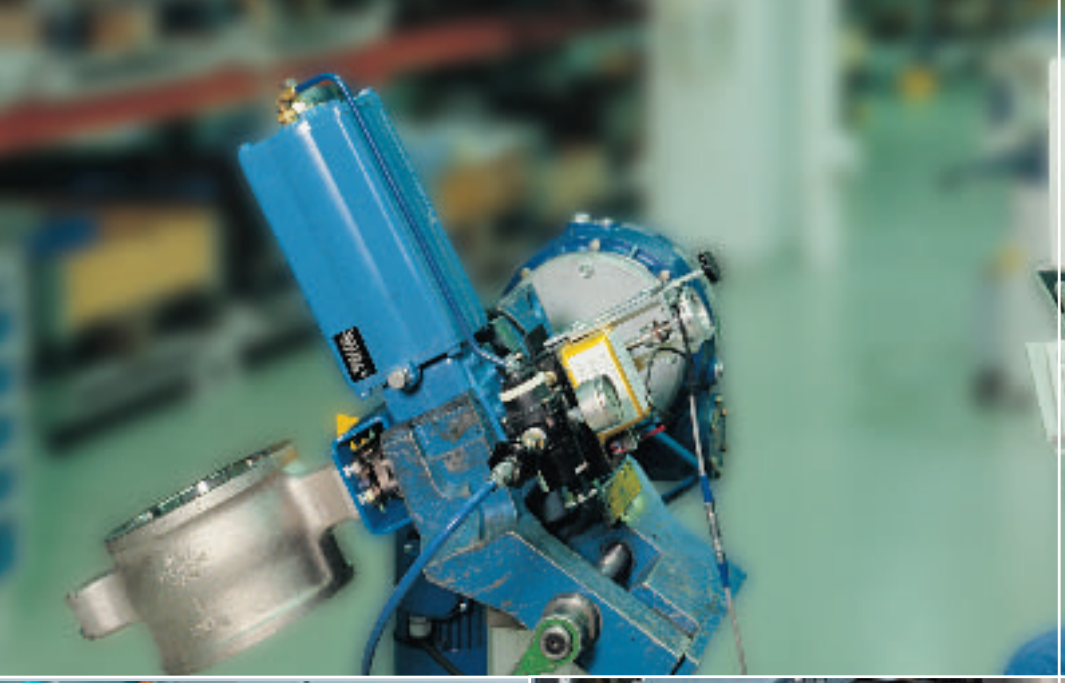
neles

Neles Flow Control Solutions

metso
automation

linking innovations™



Simplifying Service Solutions

Metso Automation is committed to helping energy and hydrocarbon, and pulp and paper customers improve process performance and reduce operating costs. Our leading edge technologies and customer support staff get the job done with a goal of making your work life easier.

We know it takes more than highly reliable products to keep your process running smoothly; it also takes reliable service and technical support. Our services encompass the entire product life cycle, from the time of installation all the way through to planned replacement. At every step, our goal is to reduce your cost of doing business and enhancing your overall profitability.

Metso Automation applies a vast amount of industry, process, application and product knowledge to every customer relationship. Using the most sophisticated tools, our technicians work with you in partnership to develop programs and provide services that meet your specific requirements.

Testing capabilities

Metso Automation has an extensive quality assurance program covering all manufacturing activities. All components or valve units are tested before delivery. For modulating control valves the testing includes control performance for verification every delivered valve unit. Basic testing includes hydrostatic, seat leakage and functional testing. Advanced computer based test rigs have been provided for these valve testing activities. A special feature in Metso Automation test facilities is our high pressure gas test and top-of-range industrial cryogenic laboratory.

TO HELP YOU OPTIMIZE your process performance and reliability, Metso Automation approaches each process and application as a specific challenge. Neles control, on-off and ESD valves, accessories, intelligent devices and software products are engineered to meet these challenges. They provide innovative, fundamentally simple construction, operation and maintenance features to optimize process performance at the lowest cost.

Systems and software

Neles ValvGuard™ Safety System

Metso Automation's Neles ValvGuard System is a new generation safety management system that helps ensure your valves will always perform properly when needed. Emergency shutdown (ESD) and venting (ESV) valves are the process industry's front line defense against the threat to personnel and equipment posed by fires and explosions. Because many of these valves spend the majority of their time idle, traditional safety systems may not recognize a potential valve failure until it's too late. Now you can easily monitor and test valve performance for maximum availability while reducing overall operating costs.

Bulletin reference: 9 VG 20 & 9 VG/B 20.

Neles FieldBrowser™ System

This tool allows you to collect information from field devices in the field automatically. The system polls each of the installed valves and notes any unusual activity. The report information can be accessed as an email via the Intranet/ Internet, mobile phone, pager, or our service centers will monitor the information and contact you incase of a problem.

Bulletin reference: 9 FB 20.

Valve Manager®

Metso Automation Valve Manager windows-based PC-software helps you take control of your valves. It provides expert tools to configure, diagnose, and optimize performance of control valves mounted with ND800 Valve Controllers or safety valves with Neles ValvGuard System. Valve Manager provides a historical database of process data, diagnostic information, operational tests and changes made in valve configuration throughout the life of the unit. Use the database to implement accurate predictive maintenance schedules and maximize run times without risking unscheduled maintenance. As an option, you can build a HART multiplexer network to communicate with thousands of valves from a single remote location, and apply Neles FieldBrowser.

Bulletin reference: 9 VM 20.

Nelprof®

Nelprof control valve sizing and selection software allows you to select the right Metso Automation control valve. Nelprof has an inbuilt expert system that gives notes, warnings, and guides you through the selection process. You can analyze and compare valve performance before installation and choose the right valve size and type to reduce process variability.

Control Valves

nelesCVSegment

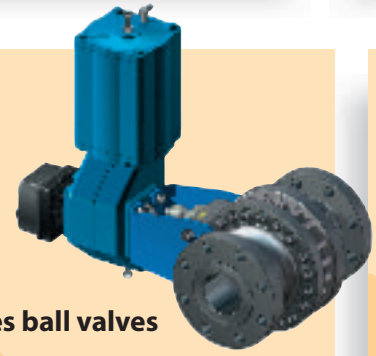
Series	**RA, RB, RE**
Design	**Wafer, flanged**
Size range	**DN 25 - 500 / 1" - 20"**
Pressure classes	**PN 10 - 40 / ASME 150 - 300**
Temperature range	**-40 to +250 °C / -40 to +480 °F**
Standard body materials *)	**CF8M, WCB, CG8M Titanium, Hastelloy C**
Leakage rate	**1/100 of Class IV**
Cv-range	**0.5 - 13015**
Service	**General**
Options**)	**Reduced Cv trims, Q-Trims**
Bulletin reference	**3R21, 6E20, 7ND21**

nelesCVFinetrol

Series	**FC, FR, FG**
Design	**Wafer, flanged**
Size range	**DN 25 - 150 (DIN), 1" - 10" (ASME)**
Pressure classes	**PN 10 - 100 / ASME 150 - 600**
Temperature range	**-200 to +400 °C / -320 to +750 °F**
Standard body materials *)	**CF8M, WCC**
Leakage rate	**Class IV**
Cv-range	**0.5 - 1540**
Service	**General, severe**
Options**)	**Reduced Cv trims, Q-Trims, Cryogenic**
Bulletin reference	**5FT20, 6E20, 7ND21**

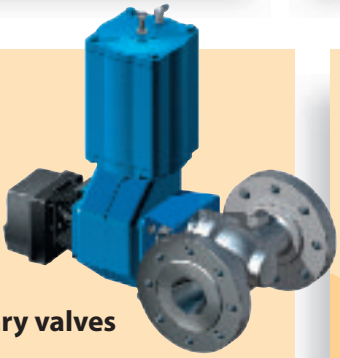
nelesCVNeldisc

Series	**L12, L6, LW & LG**
Design	**Wafer, lugged, double flanged**
Size range	**DN 80 - 1600 / 3" - 64"**
Pressure classes	**ASME 150 - 300, DIN PN 25, 40**
Temperature range	**-200 to +600 °C / -320 to +1500 °F**
Standard body materials *)	**CF8M, WCB, CG8M**
Leakage rate	**Class V - VI**
Cv-range	**110 - 139000**
Service	**General, severe**
Options**)	**S-Disc, Cryogenic**
Bulletin reference	**2L121, 2L1220, 2LW20, 2LW21, 2L621, 6B20, 6E20, 7ND21**



D series ball valves

Series	**D2C, D2D, D1F**
Design	**Full or reduced port Stemball construction**
Size range	**D1F DN 50 - 600 / 2" - 24" D2 DN 100 - 900 / 4" - 36"**
Pressure classes	**PN 10 - 100 / ASME 150 - 600**
Temperature range	**-196 to +600 °C / -320 to +1100 °F**
Standard body materials *)	**CF8M, WCB, LCC**
Leakage rate	**Class V - VI**
Cv-range	**4800 - 192000**
Service	**Heavy duty**
Options**)	**Q-Trims, Cryogenic**
Bulletin reference	**1D20, 6E20, 6B20, 7ND21**



Top 5 rotary valves

Series	**T5, T25**
Design	**Reduced or full port flanged, weldends**
Size range	**DN 25 - 400 / 1" - 16"**
Pressure classes	**PN 10 - 100 / ASME 150 - 600**
Temperature range	**-200 to +600 °C / -320 to +1100 °F**
Standard body materials *)	**CF8M, WCB**
Leakage rate	**Class V - VI**
Cv-range	**0.5 - 15200**
Service	**Heavy duty**
Options**)	**Q-Trim, V-port ball, Cryogenic**
Bulletin reference	**1T520, 6E20, 6B20, 7ND21**

E series ceramic valves

Series	**E2 & E6**
Design	**Reduced port wafer, lugged**
Size range	**DN 25 - 150 / 1" - 6"**
Pressure classes	**PN 10 - 40 / ASME 150 - 300**
Temperature range	**-40 to +600 °C / -40 to +1110 °F**
Standard body materials *)	**Stainless steel/ Magnesia Partially stabilized Zirconia (Mg-PS2)**
Leakage rate	**Class V - VI**
Cv-range	**5 - 1530**
Service	**Erosive applications**
Options**)	
Bulletin reference	**1E220, 6E20, 6B20, 7ND21**

On-off Valves

X series ball valves

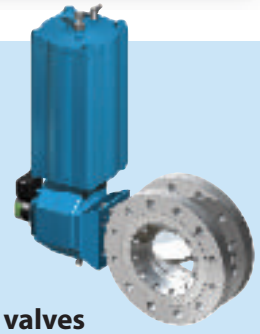
Series	**XA, XB, XC, XT - seat supported XG, XM, XU - trunnion mounted**
Design	**Full or reduced bore Metal seats**
Size range	**DN 25 - 400 / 1" - 16"**
Pressure classes	**PN 10 - 100 / ASME 150 - 600**
Temperature range	**-200 to +600 °C / -330 to +1110 °F**
Standard body materials *)	**CF8M, WCB, C5**
Leakage rate	**Class V (VI)**
Cv-range	**105 - 9300**
Service	**General**
Options**)	**Steam jacket Cryogenic & high temperature Catalyst handling**
Bulletin reference	**1X20, 1X21, 1X22, 6E20, 6B20, 7ECL20, 7SOL20**

M series ball valves

Series	**M1, M2 - seat supported M1, M2 - trunnion mounted**
Design	**Full bore Metal and soft seats**
Size range	**DN 25 - 400 / 1" - 16"**
Pressure classes	**PN 10 - 40 / ASME 150 - 300**
Temperature range	**-50 to +250°C / -60 to +480 °F**
Standard body materials *)	**CF8M, CG8M**
Leakage rate	**ISO rate D metal seats Bubble tight with soft seats**
Cv-range	**105 - 22400**
Service	**General in P&P industry**
Options**)	
Bulletin reference	**1M120, 1M220, 6E20, 6B20, 7ECL20, 7SOL20**

D series ball valves

Series	**D2C, D2D, D1F**
Design	**Full or reduced port Stemball construction**
Size range	**D1F DN 50 - 600 / 2" - 24" D2 DN 100 - 900 / 4" - 36"**
Pressure classes	**PN 10 - 100 / ASME 150 - 600**
Temperature range	**-200 to +600 °C / -320 to +1100 °F**
Standard body materials *)	**CF8M, WCB, LCC**
Leakage rate	**Class V - VI**
Cv-range	**4800 - 192000**
Service	**Demanding applications**
Options**)	**Steam jacket Cryogenic & high temperature Catalyst handling TA-Luft gland packing**
Bulletin reference	**1D20, 6E20, 6B20, 7ECL20, 7SOL20**



Neldisc butterfly valves

Series	**L12, L6, LW & LG**
Design	**Wafer, lugged, double flanged**
Size range	**DN 80 - 1600 / 3" - 64"**
Pressure classes	**ASME 150 - 300, DIN PN 25, 40**
Temperature range	**-200 to +600 °C / -320 to +1500 °F**
Standard body materials *)	**CF8M, WCB, CG8M**
Leakage rate	**Class V - VI**
Cv-range	**110 - 104000**
Service	**General, moderate**
Options**)	**ZeroLeak Erosion resistant version Cryogenic & high temperature High cycling**
Bulletin reference	**2L1220, 2LW20, 2LW21, 2L621, 6E20, 6B20, 2L121, 7ECL20, 7SOL20**

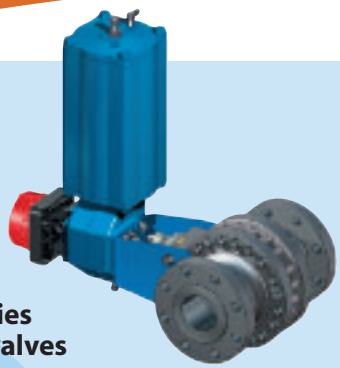
*) Other materials or performance criteria upon request, please see the bulletin reference

**) Other options available, please see the bulletin reference

ESD Valves

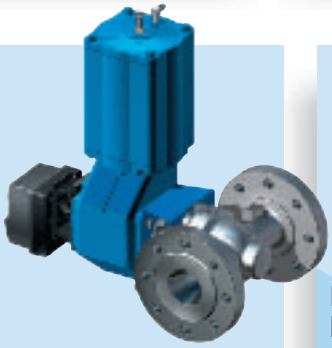
X series ball valves

Series	XA, XB, XC, XT - seat supported XG, XM, XU - trunnion mounted
Design	Full or reduced bore Metal seats
Size range	DN 25 - 400 / 1" - 16"
Pressure classes	PN 10 - 100 / ASME 150 - 600
Temperature range	-200 to +600 °C / -330 to +1110 °F
Standard body materials *)	CF8M, WCB, C5
Leakage rate	Class V - VI
Cv-range	105 - 9300
Service	High MTFB
Options**)	Cryogenic, high temperature
Bulletin reference	1X20, 1X21, 1X22, 10ESD20



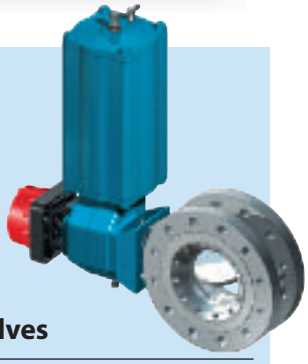
D series ball valves

Series	D2C, D2D, D1F
Design	Full or reduced port Stemball construction
Size range	D1F DN 50 - 600 / 2" - 24" D2 DN 100 - 900 / 4" - 36"
Pressure classes	PN 10 - 100 / ASME 150 - 600
Temperature range	-196 to +600 °C / -320 to +1100 °F
Standard body materials *)	CF8M, WCB, LCC
Leakage rate	Class V - VI
Cv-range	480 - 192000
Service	High MTFB
Options**)	Cryogenic, high temperature
Bulletin reference	1D20, 10ESD20



Top entry ball valves

Series	T5, T25
Design	Reduced or full port flanged, weldends
Size range	DN 25 - 400 / 1" - 16"
Pressure classes	PN 10 - 40 / ASME 150 - 600
Temperature range	-200 to +600 °C / -320 to +1100 °F
Standard body materials *)	CF8M, WCB
Leakage rate	Class V - VI
Cv-range	0.5 - 15200
Service	Emergency shut-down (ESD), and venting (ESV)
Options**)	Cryogenic, high temperature
Bulletin reference	1T520, 10ESD20



Neldisc butterfly valves

Series	L6, LW & LG
Design	Wafer, lugged, double flanged
Size range	DN 80 - 1600 / 3" - 64"
Pressure classes	ASME 150 - 300, DIN PN 25, 40
Temperature range	-200 to +600 °C / -320 to +1500 °F
Standard body materials *)	CF8M, WCB
Leakage rate	Class V - VI
Cv-range	110 - 104000
Service	High (MTBF)
Options**)	ZeroLeak, Cryogenic, high temp.
Bulletin reference	2LW20, 2LW21, 2L621, 10ESD20, 2L121

*) Other materials upon request, please see the bulletin reference

**) Other options available, please see the bulletin reference

Application based products

Capping valve

Series	**PZ**
Design	**Capping valve**
Size range	**DN 500 -750 / 20" - 30"**
Pressure classes	**PN 16 & ASME 150**
Temperature range	**upto +200 °C / +390 °F**

Body materials	**CF8M**
Service	**For digester chip fill**
Options	**Pressure switches for safety interlocks Water flushing for ball surface**
Bulletin reference	**8PZ20**

nelesACE basis weight control valve

Design	**Segment valve together with high resolution stepping motor**
Size range	**DN 50–400 / 2"–16"**
Pressure classes	**PN 25/40, ASME 150/300**
Temperature range	**-40 to +250 °C / -40 to +480 °F**

Body materials	**CF8M**
Service	**Basis weight control unit**
Options	
Bulletin reference	**8ACE21**

Pocket feeder

Series	**MBV**
Design	**Pocket feeder construction**
Size range	**DN 50 - 200 / 2" - 8"**
Pressure classes	**PN 10 - 40**
Temperature range	**-50 to +250 °C / -60 to -480 °F**

Body materials	**CF8M, AISI 329, XM-19**
Service	**For separator service**
Options	
Bulletin reference	**8PF20**

Actuators

E series

Series	**EC & EJ**
Type	**Pneumatic double-diaphragm actuator**
Action	**EC - double action EJ - spring return**
Pressure input	**3 - 8 bar / 47 - 115 psi**

Torque input	**15 - 1460 Nm 11 - 1077 ft-lbs**
Temperature range	**-40 to +120 °C / -40 to +250 °F**
Options	**Manual overdrives, lockout devices**
Bulletin reference	**6E20**

B series

Series	**B1C & B1J**
Type	**Pneumatic rotary cylinder actuator**
Action	**B1C - double action B1J - spring return**
Pressure input	**2.8 - 10 bar / 40 - 140 psi**

Torque input	**40 - 100000 Nm 30 - 73800 ft-lbs**
Temperature range	**-40 to +120 °C / -40 to +250 °F**
Options	**Manual and hydraulic overdrives, lockout devices**
Bulletin reference	**6B20, 6B21**

Quadra-Powr II

Series	**Quadra-Powr**
Type	**Spring-diaphragm rotary actuator**
Action	**Spring return**
Pressure input	**1.3 - 7 bar / 20 - 100 psi**

Torque input	**6 - 5169 Nm 4 - 3810 ft-lbs**
Temperature range	**-20 to +150 °C / -44 to +300 °F**
Bulletin reference	**6QP20**

Analog positioners

Pneumatic positioner

Series	**NP 700**	Ambient temperature	**-40 to +90 °C / -40 to +200 °F**
Type	**Pneumatic positioner**	Vibration effect	**< 1%**
Input	**0.2 - 1 bar, 20 - 200 kPa, 3 - 15 psi**	Bulletin reference	**7NENP20**
Split range	**0.2 - 0.6 bar, 0.6 bar - 1 bar 3 - 9 psig, 9 - 15 psig**		

Electropneumatic positioner

Series	**NE 700**	Ambient temperature	**-25 to +85 °C / -15 to +185 °F**
Type	**Electropneumatic positioner**	Vibration effect	**< 1%**
Input	**4 - 20 mA, 0 - 20 mA**	Bulletin reference	**7NENP20**
Split range	**4 - 12 mA, 12 - 20 mA**		

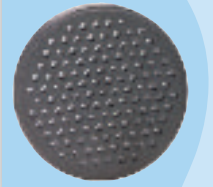
Valve options

Q-Ball

Type	**Low noise and anti-cavitation trim for ball, segment and eccentric plug valves**	Materials	**CF8M, WCB**
Size range	**DN 50… 1000 / 2"…40"**	Options	**Diffusor**
Pressure classes	**ASME 150 - 1500 PN 10 - 100**	Bulletin reference	**8Q20**

S-Disc

Type	**Flow balancing trim for butterfly valves**	Materials	**CF8M, WCB**
Size range	**DN 80… 1500 / 3" … 60"**	Bulletin reference	**2S-L120**
Pressure classes	**ASME 150 and 300**		
Cv-range	**150 - 43800**		



A-plate

Type	**Noise attenuator plate for ball valves**	Materials	**CF8M, WCB**
Size range	**DN 25 - 600 / 1" - 24"**	Options	**Option 1 threaded directly into a Finetrol ® or T5 valve body. Option 2 wafer style. Can be mounted between flanges.**
Pressure classes	**ASME 150, 300, 600 PN 10 ... 100**		
Cv-range	**7 - 4480**	Bulletin reference	**8ATT20**

Smart products

ND800

Series	**ND800 - intrinsically safe ND800/B - explosion proof**
Type	**Smart digital positioner**
Input	**4 - 20 mA**
Supply Power	**Taken from the 4...20 mA control signal**
Split range	**4 - 12 mA, 12 - 20 mA**
Vibration effect	**< 1%**
Communication	**HART, Profibus PA, Foundation FieldBus**
Bulletin reference	**7ND21, 7ND/B20**

Nelflow

Series	**NDQ800**
Type	**Valve controller with flow measurement including position transmitter**
Input	**4-20 mA**
Supply Power	**Taken from the 4...20 mA control signal**
Vibration effect	**< 1%, 2g, 5-100 Hz**
Temperature range	**-40 to + 85 °C / -40 to +185°F**
Bulletin reference	**8NDQ20**

Neles ValvGuard

Series	**VG800 - intrinsically safe VG800/B - explosion proof**
Type	**Neles ValvGuard testing system for emergency shutdown valves, including the smart on/off valve controller and the Remote Communication Interface (RCI) module.**
Input	**0/24 VDC (0 - 60 VDC)**
Supply Power	**3.5 - 7 bar / 50 - 100 psi**
Vibration effect	**< 1%, 2g, 5-100 Hz**
Temperature range	**-40 to + 85 °C / -40 to +185°F**
Options	**Leakage detection, limit switches**
Communication	**HART**
Bulletin reference	**9VG20, 9VG/B20**