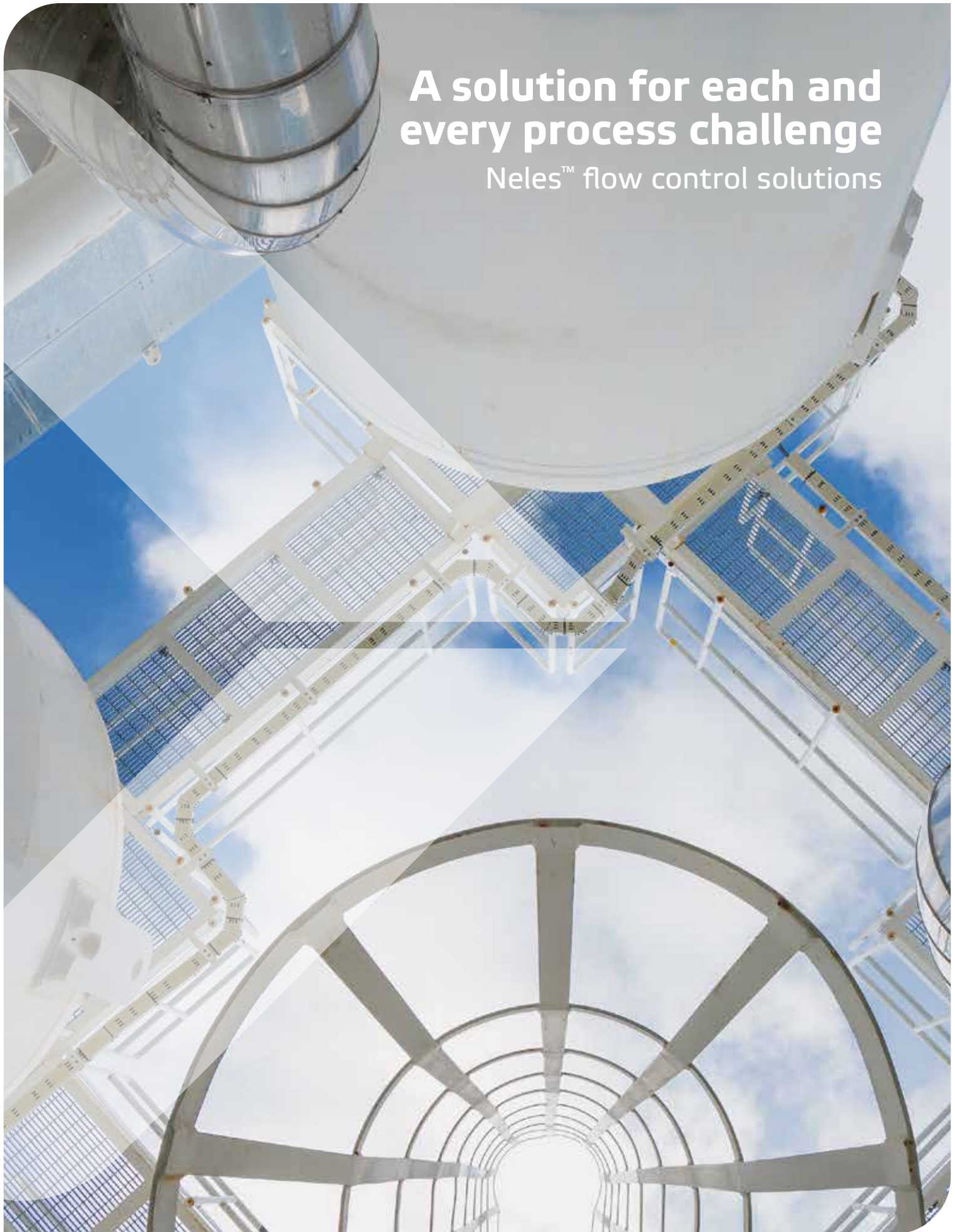


**A solution for each and
every process challenge**

Neles™ flow control solutions





Designed to perform

To help you optimize your process performance and reliability, Valmet approaches each process and application as a specific challenge. Our control, on-off and ESD valves, accessories, intelligent devices and software products are engineered to meet these challenges.



The selection of the right valves and accessories in demanding and often critical applications in oil and gas, pulp and paper or energy industry applications is often a matter of both business performance and the efficiency, safety and reliability of process itself.

Our valves and all related products and services are always created with the customer's process and business in mind. We design and deliver solutions that enhance performance

and ensure process safety and reliability. They provide innovative, fundamentally simple construction, operation and maintenance features to optimize process performance at the lowest cost.

Each Valmet device and solution is based on our extensive industry experience and knowhow. Our dedicated people, from sales to services, are committed to delivering the results our customers expect from us, and more.

Nelprof™

Valve sizing and selection software

- Digital tool for control, on/off and safety valve sizing and selection
- Allows you to select the right valve and valve actuator for your application
- With inbuilt expert system that guides you through the selection process with notes and warnings
- Enables analysis and comparison of control valve performance before installation
- Helps to choose the right valve size and type with optimal actuator to reduce process variability and ensure the best process performance
- On/off module that enables the selection of all intelligent metal and soft-seated on/off and emergency valve assemblies
- The SIL module is the first safety integrity level tool on the market, enabling safety integrity level evaluation for the whole valve assembly, including valve, actuator, positioner and pneumatic components when needed



Ensuring reliable performance

Reliable performance requires more than just high-quality valves. All valve solutions delivered by Valmet are thoroughly tested and supported by dedicated services designed to ensure optimal life cycle performance.



Testing capabilities

We have 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 the verification of 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 our test facilities is high-pressure gas test and top-of-range industrial cryogenic laboratory.



Ensuring process safety and reliability

In addition to our robust and reliable valves, we offer a range of products and services designed to ensure the desired performance of critical valves across their entire life cycle. For instance,

the Neles™ ValvGuard™ intelligent safety solenoid and PST system helps monitor and ensure the full functionality of critical, yet often idle, emergency shutdown (ESD) and venting valves.

Simplifying service solutions

We are committed to helping energy and hydrocarbon, and pulp and paper customers improve process performance and reduce operating costs. Our leading edge technological solutions and skilled customer support personnel get the job done with a goal of making your work life easier.

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.

We apply a vast amount of industry, process, application and product knowledge into every customer relationship. Our technicians work in partnership with you to develop programs and provide services that meet your specific requirements.

Valve controls

We offer a unique range of reliable and easy-to-use solutions to control your valves.

With the help of our products you can fulfill end user requirements for control, emergency shutdown and on/off valve applications. Our products will ensure the best possible valve performance and compliance with environmental regulations.

Our offering ranges from limit switches to high performance intelligent valve controllers such as the Neles™ NDX™ and Neles™ ND9000™, with third generation diagnostics. Our competitive valve control solutions allow you to get the best possible performance from your valves.



Control valves

Control valves						
Product	Series	Design	Specifications		Service	Bulletin
Neles V-port segment valves 	RA, RE-series	Wafer, flanged Options: Reduced Cv trims, Q-Trims	Size: DN 25 – 800 / 1" – 32" Pressure: ASME 150 – 600, PN10 – 100 Temperature: -52 to +425 °C / -60 to +797 °F Body: CF8M, WCB, CG8M Titanium, Hastelloy C, SMO Tightness: Class IV ~ VI 10xISO Rate D, Rate D		General, Demanding/ Erosive, Severe, Fire safe, Low emission	3R21, 3R24
Neles™ Finetrol™ eccentric plug valves 	FC, FG & FL-series	Flanged, eccentric rotary plug valve Options: Reduced Cv trims, Q-Trims, cryogenic	Size: DN 25 – 300 / 1" – 12" Pressure: PN 10 – 100 / ASME 150 – 600 Temperature: -200 to +450 °C / -320 to +842 °F Body: CF8M, WCC Tightness: Class IV ~ VI		General, Severe, SIL, Fire safe, Low emission	5FT20, 5FT22
Neles high performance triple eccentric disc valves 	L12, L6, LW & LG, L1 & L2-series	Wafer, lugged, double flanged Options: Heat traced, flow balancing trim, cryogenic, high flow capacity, great controllability range	Size: DN80 – 2200 (3" – 88") Pressure: ASME 150 – 600 / PN10 – 100 Temperature: -200 to +650 °C / -320 to +1200 °F Body: CF8M, WCB, LCC, 5A, Monel See other body materials from bulletin Tightness: Up to ISO Rate A, API 598 & Class VI		General, Moderate SIL, Fire safe, Low emission	2L121, 2L1220, 2LW20, 2L621
Neles™ RotaryGlobe™ 	ZX-series	Flanged, rotary globe control valve Options: Balanced anti-cavitation and low noise, different CV and LIN/EQ% trims	Size: ½" – 4" / DN 15" – 100" Pressure: ASME 150 – 1500 / PN 10 – 100 Temperature: -80 to +425 °C / -110 to +797 °F Body: CF8M, WCC Tightness: Class III ~ IV		General, severe, Fire safe, Low emission	1RG20
Neles top entry rotary valves 	T5-series	Reduced port, flanged, weldends Options: Q-Trim, Q2-Trim, different Cv-trims, cryogenic	Size: DN 25 – 800 / 1" – 32" Pressure: PN 10 – 100 / ASME 150 – 600 Temperature: -200 to +600 °C / -320 to +1110 °F Body: CF8M, WCB Tightness: Class V ~ VI		Heavy duty	1T520
Neles E-series ceramic valves 	E2 & E6-series	Reduced port, wafer, lugged Options: Different Cv-trims	Size: DN 25 – 200 / 1" – 8" Pressure: PN 10 – 40 / ASME 150 – 300 Temperature: -40 to +425 °C / -40 to +800 °F Body: Stainless steel / Magnesia, partially stabilized Zirconia (Mg – PS2) Metal Matrix Composite (MMC) Tightness: ISO rate D, Class V		Erosive applications	1E220

Globe control valves

Globe control valves				
Product	Series	Design	Specifications	Bulletin
Neles GU-series globe control valves 	GU-series	Globe unbalanced, top guided type Single seated, flanged, butt & socket weld	Size: DN15 – 150 (½" – 6") Pressure: ASME 150 – 2500 / PN10 – 320 / JIS 10K – 20K Temperature: -200 to +593 °C / -320 to +1053 °F Body: WCB, CF8M Tightness: ANSI Class IV ~ VI Trim: SS410, SS420, SS316, SS316 + Alloy 6, etc.	4GV21
Neles GB-series globe control valves 	GB-series	Globe balanced, single seated, cage-guided High capacity and heavy duty balanced, flanged, butt & socket weld	Size: DN50 – 600 (2" – 24") Pressure: ASME 150 – 2500 / PN10 – 320 / JIS 10K – 20K Temperature: -200 to +593 °C / -320 to +1053 °F Body: WCB, CF8M Tightness: ANSI Class IV ~ V Trim: SS410, SS420, SS316, SS316 + Alloy 6, etc.	4GV25
Neles GM-series globe control valves 	GM-series	Globe Omega trim, multi-stage type Flanged, butt & socket weld	Size: DN50 – 600 (2" – 24") Pressure: ASME 150 – 2500 / PN10 – 320 / JIS 10K – 20K Temperature: -200 to +593 °C / -320 to +1053 °F Body: WCB, CF8M Tightness: ANSI Class IV ~ VI Trim: SS420, SS316 + Alloy 6, etc.	4GV20
Neles A-series globe control valves 	AU, AB, AM-series	Angle pattern valves Angle, top-guided, cage-guided, Tendril™, Omega™ trim, flanged, butt & socket weld	Size: DN15 – 1200 (½" – 48") Pressure: ASME 150 – 2500 / PN10 – 320 Temperature: -200 to +593 °C / -320 to +1053 °F Body: WCB, CF8M Tightness: ANSI Class IV ~ VI Trim: SS410, SS420, SS316, SS316 + Alloy 6, etc.	4GV23
Neles GW-series globe control valves 	GW-series	Globe 3-Way, diverting/mixing type Flanged, butt & socket weld	Size: DN25 – 250 (1" – 10") Pressure: ASME 150 – 600 / PN10 – 100 Temperature: -29 to +425 °C / -20 to +797 °F Body: WCB, CF8M Tightness: ANSI Class II ~ IV Trim: SS410, SS316, SS316 + Alloy 6, etc.	4GV24

On-off valves

On-off valves						
Product	Series	Design	Specifications		Service	Bulletin
Neles X-series ball valves 	XA, XB, XC, XU, XT-series Seat supported	Full or reduced port, metal and soft seats Options: Steam jacket, Cryogenic and high temperature, Catalyst handling, Coal gasification, Polymer service, Oxygen service, Q-Trim, Q2-Trim	Size:	DN25 – 600 (1" – 24") For larger sizes, see bulletin	General	1X22, 1X23, 1X26, 1X27, 1XH20
	XG, XM, XH-series Trunnion mounted		Pressure: Temperature: Body: Tightness:	ASME 150 – 900 / PN 10 – 160 -200 to +600 °C / -320 to +1110 °F CF8M, WCB See other body materials from bulletin ANSI Class IV ~ VI		
Neles M-series ball valves 	M1, M2-series Seat supported and trunnion mounted	Full bore, Metal and soft seats Options: Black and green liquor applications	Size: Pressure: Temperature: Body: Tightness:	DN 25 – 600 1" – 24" PN 10 – 40 / ASME 150 – 300 -50 to +250 °C / -60 to + 480 °F CF8M, CG8M ISO rate D metal seats, Bubble tight with soft seats	General in P&P industry	1M120, 1M220
Neles D-series ball valve 	D2C, D2D, D1F-series	Full or reduced port, Stemball construction Options: Steam jacket, Cryogenic and high temperature, Catalyst handling, Q-Trim, Q2-Trim	Size: Pressure: Temperature: Body: Tightness:	D1F: DN50 – 600 2" – 28" D2: DN700 – 900 (28" – 36") PN 10 – 100 / ASME 150 – 600 -200 to +600 °C / -320 to +1110 °F CF8M, WCB See other body materials from bulletin Class V ~ VI	Demanding application	1D21
Neles high performance triple eccentric disc valves 	L12, L6, LW & LG, L1 & L2-series	Wafer, lugged, double flanged Options: High tightness, Erosion resistant version, Cryogenic and high temperature, High cycling	Size: Pressure: Temperature: Body: Tightness:	DN80 – 2200 (3" – 88") ASME 150 – 600 / PN10 – 100 -200 to +650 °C / -320 to +1200 °F CF8M, WCB, LCC, 5A, Monel See other body materials from bulletin Up to ISO Rate A, API 598 & Class VI	General, Moderate SIL, Fire safe, Low emission	2L121, 2L1220, 2LW20, 2L621, 2LBF20
V-port segmented ball valves 	RE-series	Flanged	Size: Pressure: Temperature: Body: Tightness:	DN 300 - 800 / 12" - 32" DN 10 - 40 / ASME 150 - 300 -52...+315 °C / -60...+599 °F CF8M, WCB, CG8M, Titanium, Hastelloy C, SMO ISO 5208 Rate D with metal seat. Rate C with soft seat.	General	3R27

ESD valves

ESD valves						
Product	Series	Design	Specifications		Service	Bulletin
Neles X-series ball valves 	XA, XB, XC, XU, XT -series Seat supported,	Full or reduced bore, Metal seats Options: Cryogenic, high temp.	Size: DN25 – 600 (1" – 24") For larger sizes, see bulletin Pressure: PN10 – 160 /ASME150 – 900 Temperature: -200 to +600 °C / -330 to +1110 °F Body: CF8M, WCB See other body materials from bulletin Tightness: Class IV ~ VI		High MTBF, SIL 3 certified	1X22, 1X23, 1X26, 1X27, 1XH20, 9VG921, CB058
	XG, XM, XH -series Trunnion mounted					
Neles D-series ball valves 	D2C, D2D, D1F -series	Full or reduced port, Stemball construction Options: Cryogenic, high temp.	Size: D1F: DN50 – 700 /2" – 28" D2: DN700 – 900 (28" – 36") Pressure: PN 10 – 100 / ASME 150 – 600 Temperature: -200 to +600 °C / -330 to +1110 °F Body: CF8M, WCB, LCC Tightness: Class V ~ VI		High MTBF, SIL 3 certified	1D21, 9VG921, CB058
Neles top entry rotary valves 	T5-series	Reduced or full port, flanged, weldends Options: Cryogenic, high temp.	Size: DN 25 – 400 / 1" – 16") Pressure: PN 10 – 40 / ASME 150 – 600 Temperature: -200 to +600 °C / -320 to +1110 °F Body: CF8M, WCB See other body materials from bulletin Tightness: Class IV ~ VI		High MTBF, SIL 3 certified	1T520, 9VG921, CB058
Neles high performance triple eccentric disc valves 	L6, LW & LG, L1 & L2 -series	Wafer, lugged, double flanged Options: High tightness, cryogenic, high temp.	Size: DN80 – 2200 (3" – 88") Pressure: ASME 150 – 2500, PN 10 – 400 Temperature: -200 to +650 °C / -320 to +1200 °F Body: CF8M, WCB, LCC, 5A, Monel See other body materials from bulletin Tightness: Up to ISO Rate A, API 598 & Class VI		High MTBF SIL 3 certified	CB058, 2LBF20

Engineered valve solutions

Engineered valve solutions					
Product	Series	Specifications		Service	Bulletin
Neles lever valves 	BH-series	Pressure: Body: Temperature:	NPS 8 – NPS 64 / ASME 150 – 300 / (PN10 – 40) Carbon steel -29 to +280 °C / -20 to +536 °F	Valve opens at precise pressure differential without use of separate monitoring. Air separation, chemical plants, cement and steel, industry, safety valve	2BH20
Neles cryogenic butterfly valves 	BWX-series	Pressure: Body: Temperature:	NPS 4 – NPS 24 / DN 100 – DN 600 / ASME 600 / PN63 Stainless steel special material -200 to +470 °C / -320 to +880 °F	Cryogenic and high temperature LNG applications, air separation, nitrogen, helium and hydrogen	2BWX20

Valve controllers

Valve controllers					
Product	Series	Design	Specifications		Bulletin
Neles NDX Intelligent valve controllers 	NDX1510-series	Compact	Power: Taken from the 4 to 20 mA, control signal Pressure: 1.4 – 8.0 bar / 20 – 115 psi Temperature: -40 to +85 °C / -40 to +185 °F Communication: HART		7NDX22, 7NDX23, CB058
	NDX1511/NDX2511-series	Standard			
	NDX1512/NDX2512-series	Explosion proof			
Neles ND9000 Intelligent valve controllers 	ND9100-series	Standard	Power: Taken from the 4 to 20 mA, control signal or fieldbus powered Pressure: 1.4 – 8 bar / 20 – 115 psi Temperature: -53 to + 85 °C / -63 to +185 °F Communication: HART, Profibus PA, Foundation Fieldbus		7ND9021, CB058
	ND9200-series	Explosion proof			
	ND9300-series	Stainless steel enclosure intrinsically safe and explosion proof			
	ND9400-series	Stainless steel intrinsically safe			

Valve controllers

Valve controllers					
Product	Series	Design	Specifications		Bulletin
Neles ValvGuard VG9000 intelligent safety solenoids 	VG9200 -series	Standard epoxy coated anodised aluminium alloy enclosure, intrinsically safe and explosion proof	Input:	Foundation Fieldbus + 0/24 VDC, 4/20 mA, 0/24 VDC with RCI9H2	9VG921, CB058
	VG9300 -series	Full 316 stainless steel enclosure, intrinsically safe and explosion proof	Pressure: Temperature: Communication: Safety:	3.0 – 7.5 bar / 44 – 109 psi -40 to +85 °C / -40 to +185 °F Foundation Fieldbus, HART TÜV SIL 3 approved partial stroke testing system for emergency shutdown valves	
Neles ValvGuard VG9PST partial stroke testing device used with external solenoid valve 	VG9200 -series	Standard epoxy coated anodised aluminium alloy enclosure, intrinsically safe and explosion proof	Input: Pressure: Temperature: Communication:	8-20 mA 3.0 – 7.5 bar / 44 – 109 psi -40 to +85 °C / -40 to +185 °F HART	9VG921, CB058
	VG9300 -series	Full 316 stainless steel enclosure, intrinsically safe and explosion proof			
Neles™ SwitchGuard™ intelligent on/off valve controller 	VG9200 -series	Standard anodised aluminium alloy enclosure, intrinsically safe and explosion proof	Input: Pressure: Temperature: Communication:	0/24 VDC with converter or 4 – 20 mA 3.0 – 8.0 bar / 44 – 115 psi -40 to +85 °C / -40 to +185 °F HART	7SG20, CB058
	VG9300 -series	Stainless steel enclosure, intrinsically safe and explosion proof			

Pneumatic actuators

Pneumatic actuators					
Product	Series	Design	Specifications		Bulletin
Neles B1-series 	B1C & B1J -series	Pneumatic rotary cylinder actuator Options: Manual and hydraulic overdrives, lockout devices, high-cycle, fire protection	Pressure input: Pressure output: Temperature: Action:	2.8 – 10 bar / 40 – 140 psi Torque: 28 – 100000 Nm / 21 – 73800 ft-lb -55 to 120 °C / -67 to +250 °F B1C-double acting, B1J-spring return	6B20, CB058
Neles N1-series scotch yoke actuators 	N1-series	Pneumatic or hydraulic rotary cylinder actuator, scotch yoke type Options: Manual and hydraulic overdrives, fire protection	Pressure input: Pressure output: Temperature: Action:	Design pressure: 12 barg (pressure retaining parts) Torque: 25 Nm- 218765 Nm @ 4 bar, 18 ft-lb- 161353 ft-lb @ 58 psi max up to 516293 Nm / 380798 ft-lb -20 to +80 °C normal, -20 to +125 °C high Double acting, spring return	6N120, CB058
Neles VD-series linear diaphragm actuators 	VD-series	Pneumatic diaphragm actuator for linear valves Options: Handwheel for manual operation, volume tank	Pressure input: Pressure output: Temperature: Action:	3.0 – 4.2 bar / 44 – 60 psi Thrust: 1890 – 22800 N / 424 – 5125 ft-lb -55 to +85 °C / -67 to +185 °F Spring return	6VD20, CB058
Neles VB-series linear cylinder actuators 	VBC & VBD/R -series	Pneumatic cylinder actuator for linear valves Options: Handwheel for manual operation, Volume tank or built-in volume chamber	Pressure input: Pressure output: Temperature: Action:	2.8 – 10 bar / 40 – 140 psi Thrust: 16823 – 78160 N / 3781 – 17571 ft-lb -55 to +120 °C / -67 to +250 °F VBC-double acting, VBD/R-spring return	6VB20, CB058
Neles VC-series linear cylinder actuators 	VC-series	Pneumatic cylinder actuator for linear valves Options: Handwheel for manual operation, volume tank or built-in volume chamber	Pressure input: Pressure output: Temperature: Action:	2.0 – 10 bar / 29- 145 psi Thrust: 27480 – 264860 N / 6177 – 59542 ft-lb -30 to +85 °C / -22 to +185 °F Double acting	6CA20, CB058

Analog positioners

Analog positioners					
Product	Series	Design	Specifications		Bulletin
Neles pneumatic positioner 	NP700-series	Pneumatic positioner	Input: 0.2 – 1 bar, 20 – 200 kPa, 3 – 15 psi 3.0 – 7.5 bar / 44 – 109 psi Split: 0.2 – 0.6 bar, 0.6 bar – 1 bar, 3 – 9 psig, 9 – 15 psig Temperature: -40 to +90 °C / -40 to +200 °F Vibration: < 1%		9VG921, CB058
Neles electro-pneumatic positioner 	NE700-series	Electropneumatic positioner	Input: 4 – 20 mA, 0 – 20 mA Split: 4 – 12 mA, 12 – 20 mA Temperature: -25 to +120 °C / -15 to +248 °F Vibration: < 1%		7NENP20, CB058

Application specific products

Application specific products					
Product	Series	Design	Specifications		Service Bulletin
Neles capping valves 	PZ-series	Capping valve Options: Pressure switches for safety interlocks, water flushing for ball surface	Size: DN 500 – 750 / 20" – 30" Pressure: PN 16 & ASME 150 Temperature: Max. +200 °C / +390 °F Body: CF8M	For digester chip fill	8PZ20
NelesACE™ basis weight control valves 	NelesACE	V-port segment valve together with high resolution stepping motor	Size: DN 50 – 500 / 2" – 20" Pressure: PN 25/40, ASME 150/300 Temperature: -40 to +250 °C / -40 to +480 °F Body: CF8M	Basis weight control unit	8ACE21
Neles M-series pocket feeder 	M1, M2-series	Pocket feeder construction	Size: DN 150 – 200 / 6" – 8" Pressure: PN 10 – 40 ASME150, 300 Temperature: -50 to +250 °C / -60 to +480 °F Body: CF8M	For separator service	8PF20

Valve options

Valve options			
Product	Design	Specifications	Bulletin
Q-Ball™ 	Low noise and anti-cavitation trim for ball, segment and eccentric plug valves Options: Q2 trim for extended aerodynamic noise attenuation for gas service diffuser	Size: DN 50 to 900 / 2" to 36" Pressure: ASME 150 – 1500, PN 10 – 100 Body: CF8M, WCB	8Q20, 8Q220
S-Disc™ 	Flow balancing trim for triple eccentric disc valves	Size: DN 80 to 1500 / 3" to 60" Pressure: ASME 150 – 600 PN10 – 100 Cv-range: 150 – 43800 Materials: CF8M, WCB, CG8M, LCC, 254SMO, 5A	2SL120
A-plate 	Noise attenuator plate for noise reduction. Option 1: threaded directly into a Finetrol™ or T5 valve body. Option 2: wafer style. Can be mounted between flanges.	Size: DN 25 – 1000 / 1" – 40" Pressure: ASME 150, 300, 600, PN 10 to 100 Cv-range: 7 – 4480 Materials: CF8M, WCB	8ATT20
Q2-plate 	2 stage noise attenuation plate for gas applications Options: Wafer style. Mounted between flanges.	Size: DN 50 – 600 2" – 24" Pressure: ASME 150, 300, 600, PN 10 to 100 Cv-range: 22 – 13108 Materials: Stainless steel	8Q220



Valmet's professionals around the world work close to our customers and are committed to moving our customers' performance forward – every day.

Valmet Flow Control Oy

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