

NELES

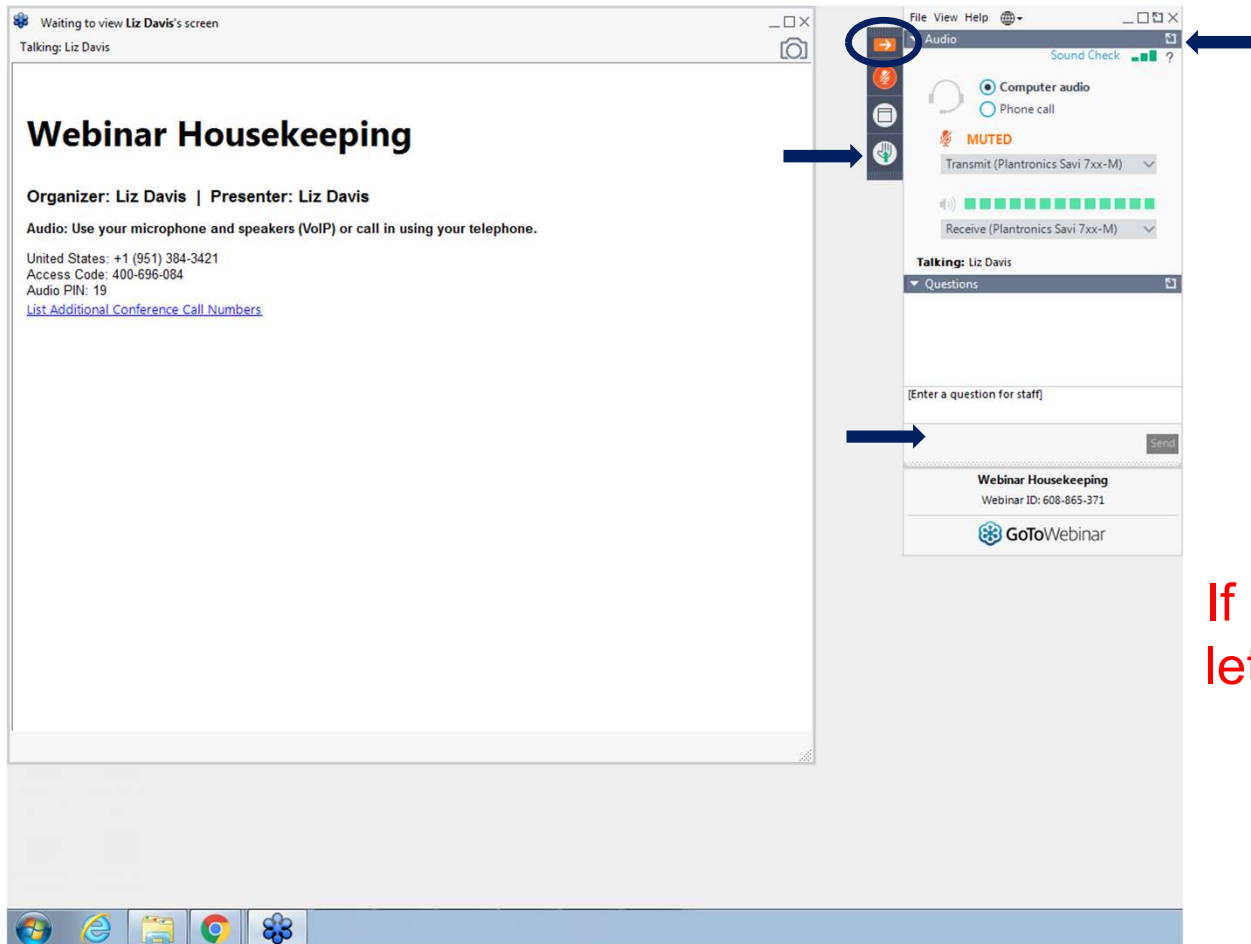
Product school

Rotary Globe Valve
Neles Globe Valve & Series VD Linear Actuator

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In session features

NELES



If experiencing audio issues please let us know in question field.

Introductions

Presenter / Moderator / Panelist / Guest speaker

- Steven Hocurscak
- Control Valve Product Manager
- With the company for 15 years, predominately involved with control valves.



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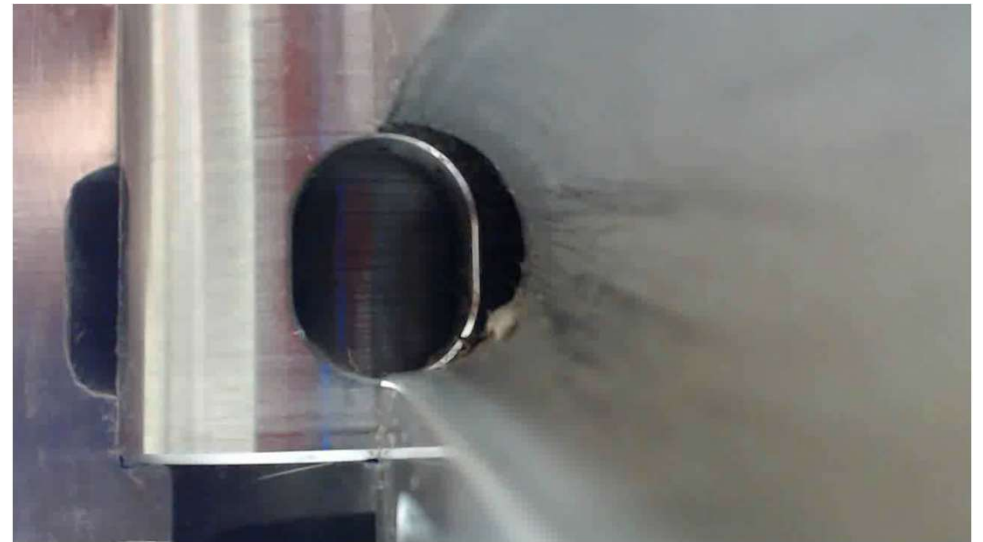
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Rotary Globe Valve

Rotary Globe Control Valves

General Notes

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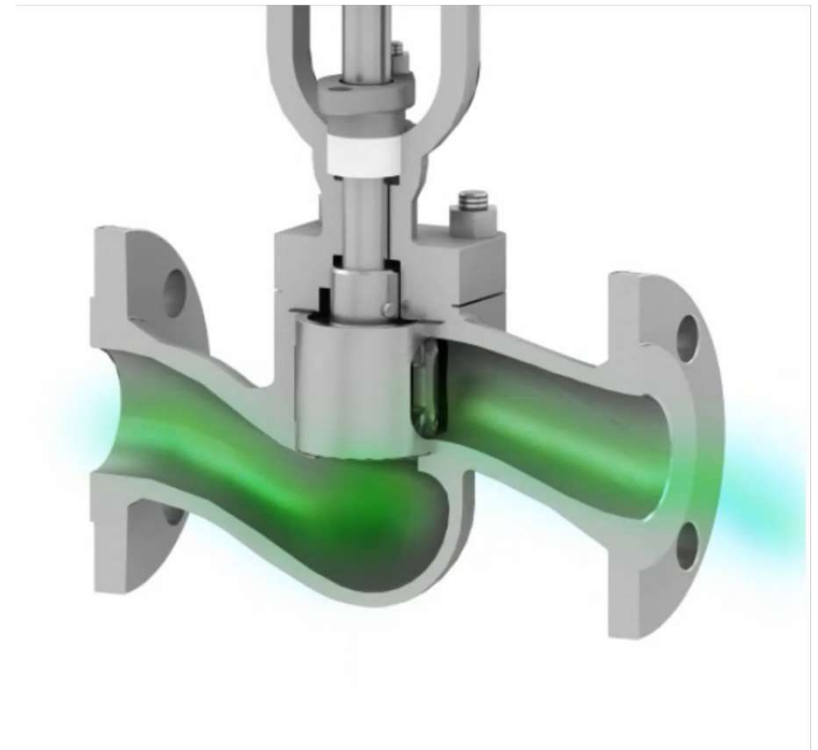


Rotary Globe Control Valves

General Notes

- Globe valves can be used for general or demanding service
- Have less Cv than rotary valves, so better on lower flow applications
- Rising stem valves can typically be repaired while still in line
- Extreme noise and cavitation

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Rotary Globe Control Valves

Typical Customer's Challenges

- Control Performance
- Safety / Reliability
- Installation / Maintenance
- Severe Service
 - Cavitation
 - Noise Abatement
 - Erosion

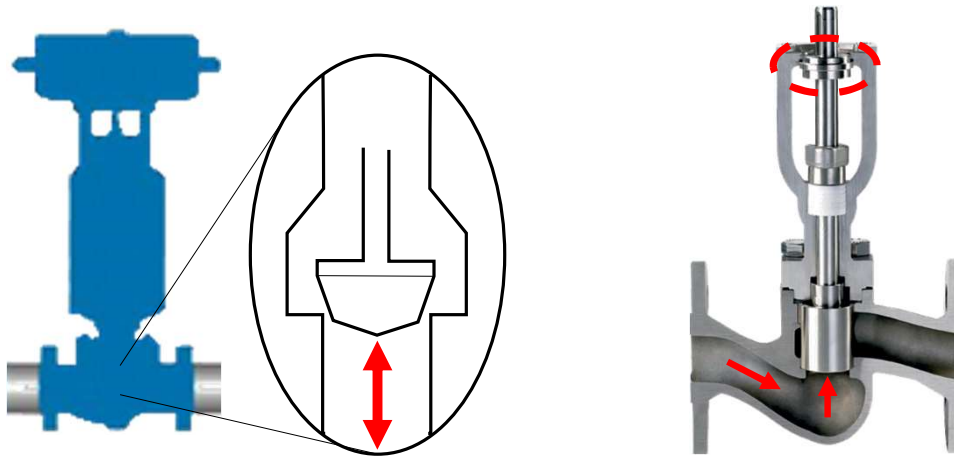


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Designed For Control Performance

Rotary Globe Valve

- Flow forces push a linear valve's unbalanced plug affecting controllability
- Rotary Globe valve is immune to these flow forces since they are absorbed by the thrust bearing



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Challenge

Control Performance

Solution

Rotary Globe Trim Design

Designed For Safety

Rotary Globe Valve

- Rising stem valves drag media through the packing, creating leak paths over time
- Rotary stems simply rotate 90° increasing the longevity of packing performance and not creating leak paths



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Challenge

Safety

Solution

Rotary Emissions
Performance

Designed For Installation & Maintenance

Rotary Globe Valve

- Rising stem perform best when mounted vertically
- Rotary Globe is designed with an integral bracket, which can be mounted in any orientation.
- Assembly is 30% smaller and lighter than similar linear valve assemblies
- No special tools are required to repair the Rotary Globe valves



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Challenge

Mounting Orientations

Repairability

Solution

Unlimited Mounting Positions

Simple Valve Design

Designed For Severe Service

Rotary Globe Valve

- Two-stage trims with multiple C_v values
- Suitable for all liquids, gases and vapors
- Recommended for high-pressure drops, cavitation abatement & noise control
- Reduced noise up to 15dB



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Challenge

Noise / Cavitation

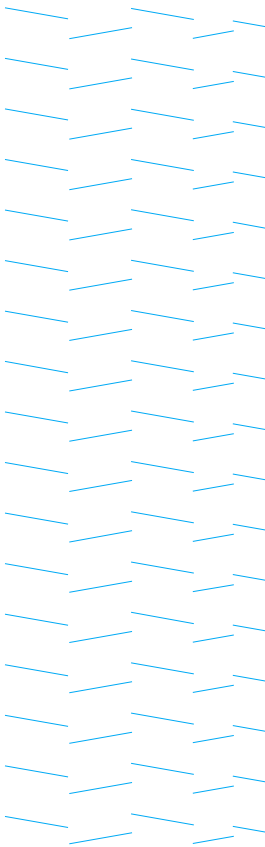
Solution

Anti-Noise / Anti-Cavitation
Trim

Designed For Severe Service

Rotary Globe Valve

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Designed For Severe Service

Rotary Globe Valve

- On Rising stem valves it's recommended to use an angle body, hardened trim materials, and flow to close flow direction
- Rotary Globe valve's standard construction is used for flashing applications



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Challenge

Flashing

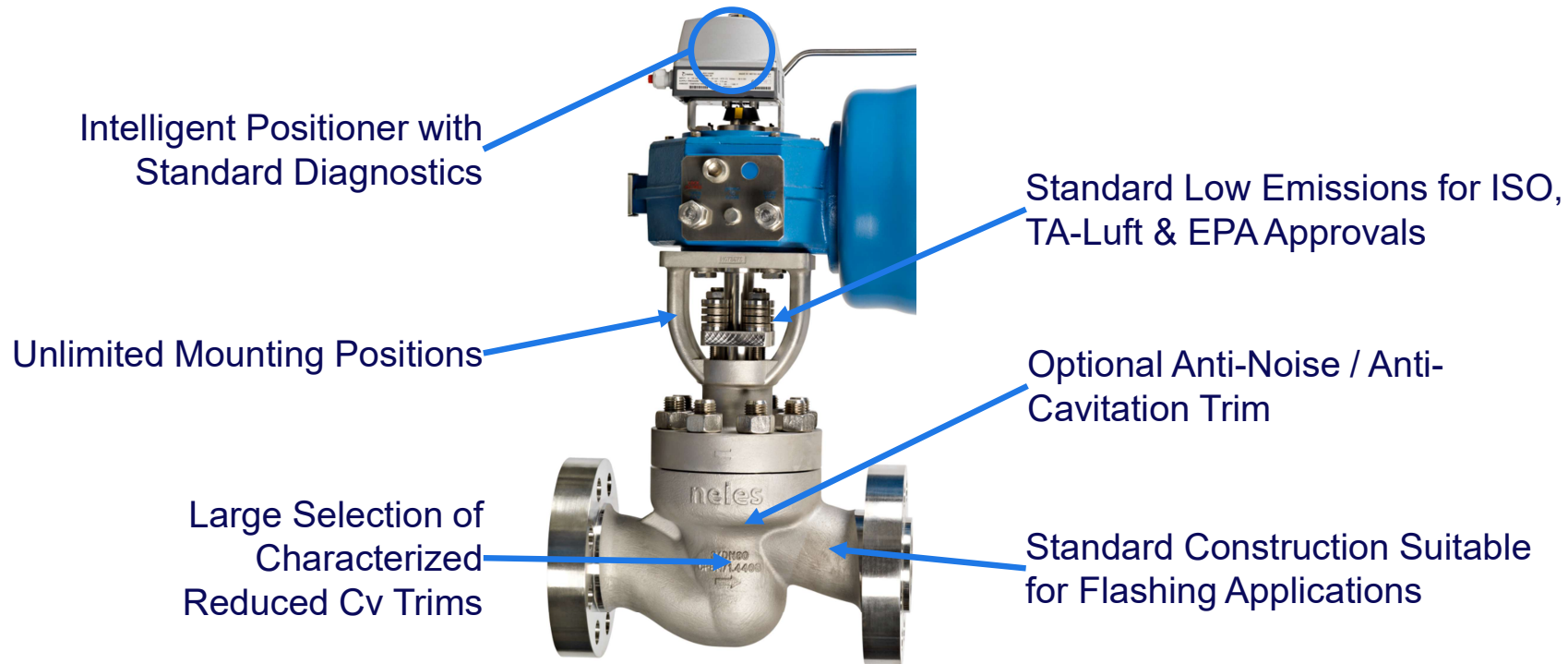
Solution

Standard Valve
Construction

Valve Design Features

Rotary Globe Valve

NELES



Rotary Globe Product Scope

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Sizes	ASME ½" – 4"
Temperature	-80...+425°C (-112...+800°F)
Body types	Straight Body Globe Valves (ZX)
Ratings	EN PN10-PN100 ASME 150# – 1500#
Face to Face	ASME/ISA S75.03



Rotary Globe Control Valves

Features That Address Customer's Challenges

- Emissions Performance of a Rotary Valve
- Unlimited Mounting Positions
- Suitable for Flashing Applications
- Overall Compact Design vs Linear Valve
- Anti-Noise / Anti-Cavitation Design
- The Neles Package

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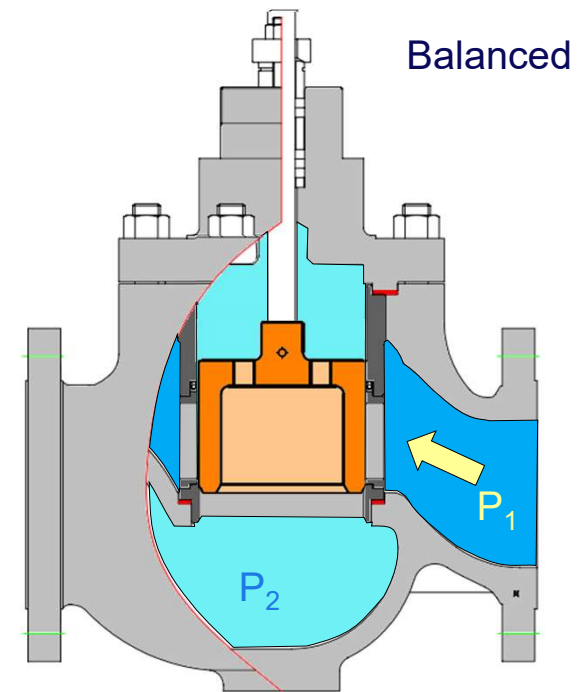
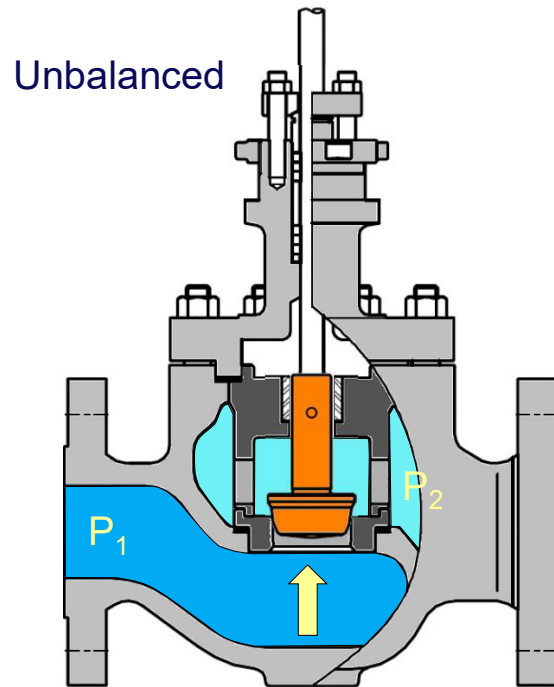
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Neles Globe Valve

Neles Globe Control Valves

Unbalanced vs Balanced Valves

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Neles linear control valves and actuators

Reliable construction, operation and maintenance

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GU/GB – Top guided/Cage guided globe valves

Reliable control performance



AU/AB – Top guided/Cage guided angle globe valves

Reliable control performance in severe application



VD - Diaphragm actuators

Accurate control performance



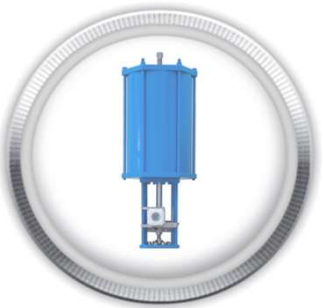
GM/AM – Omega anti-noise/cavitation globe valves

Demanding applications



GW – Mixing/diverting 3-way globe valves

High performance for combining or diverting flow



VB&VC - Piston actuators

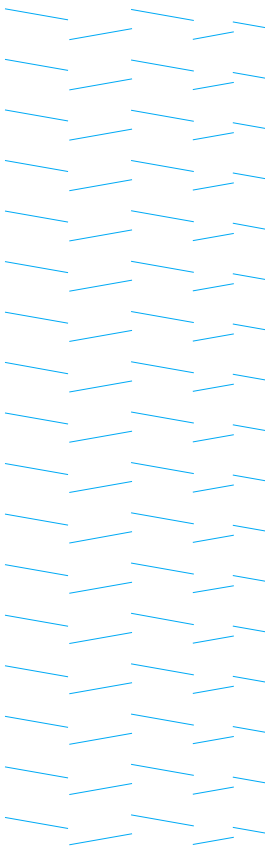
Heavy duty wide applications

Sizes: GU: ½" to 6"
GB: 2" to 24"
GM: 1" to 24"
GW: 1" to 10"
A-series: 1/2" to 48"

Pressure ratings:
ASME CL 150# – 2500#
EN PN 10 – 320
JIS 10K - 20K

Temperatures:
-196 ... +593°C

Applications: General service, severe service, anti-surge and steam



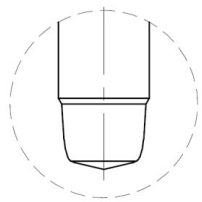
Unbalanced Valves

Series GU / AU

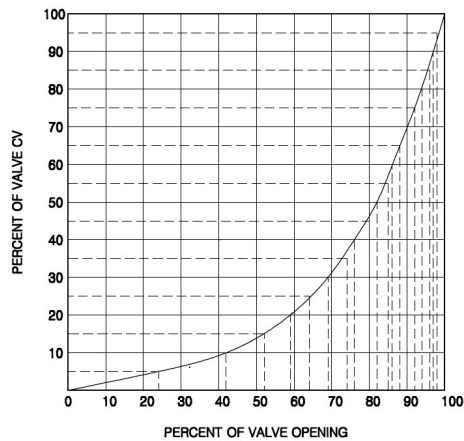
Features

NELES

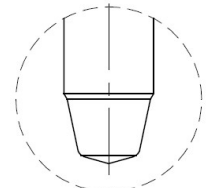
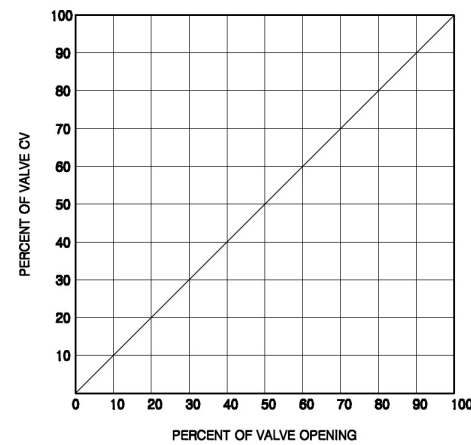
- Inherent characteristics are defined by the shape of the plug



EQ%



Equal % Linear

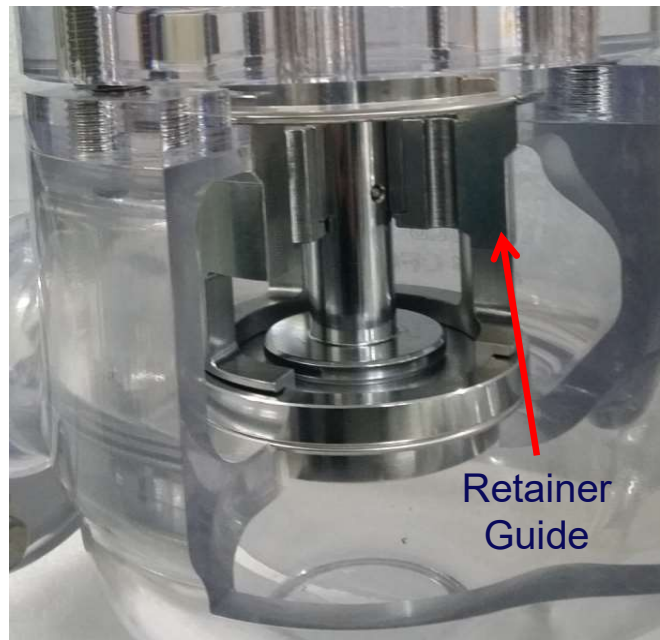


LINEAR

Designed For Easy Maintenance

Neles Globe Valves

- Standard construction
- Holds seat in place without special tools
- Easy to remove “Quick Change” seat during maintenance



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Challenge

Maintenance / Repairability

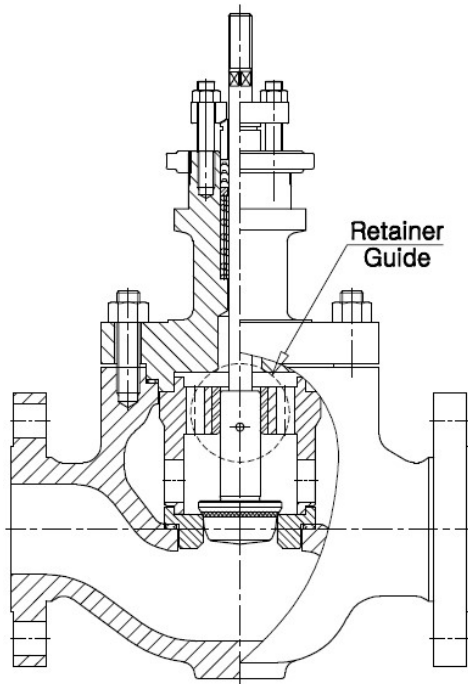
Solution

Retainer Guide

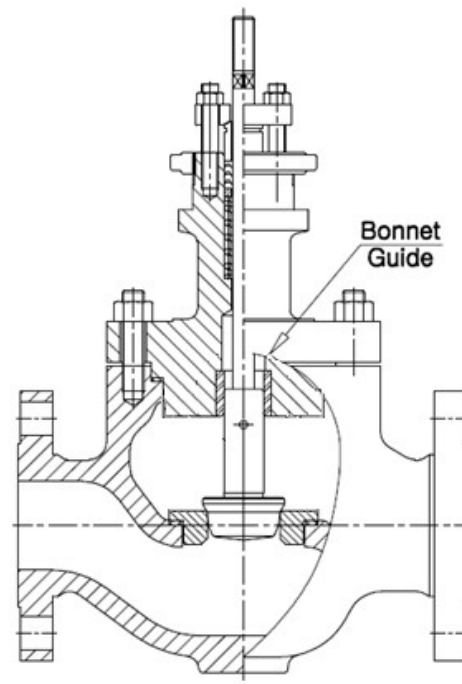
Series GU – Guide Type

NELES

- Retainer Guide



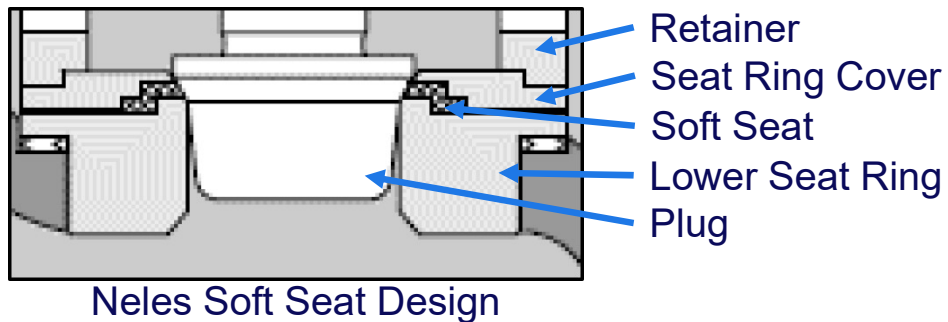
- Bonnet Guide



Designed For Reliability

Neles Globe Valves

- Our seat design is robust and easily repairable



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Challenge

Total Cost of Ownership –
Soft Seat

Solution

Retainer Guide

Balanced Valves

Series GB / AB Features & Benefit

Multiple Trim Options – Inherent Characteristics

- Inherent characteristics of the valve defined by the cage shape



Designed For Reliability

Neles Globe Valves

- Plug seal locked in place between cage and cage guide allowing for a solid seal to be used
- Plug now rides on seal, means plug takes the wear instead of cage



NELES

Challenge

Total Cost of Ownership

Solution

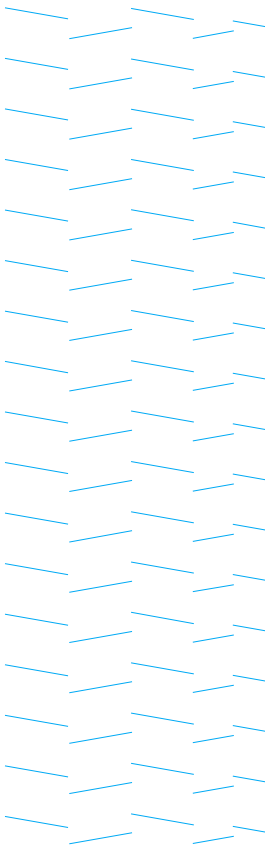
Two Piece Cage

Designed For Reliability

Neles Globe Valve



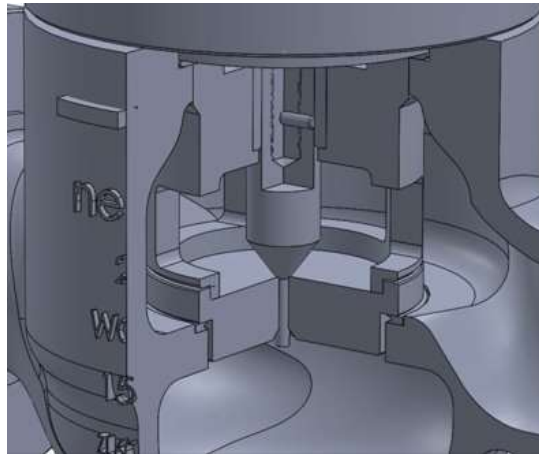
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Designed For Control Performance

Neles Globe Valves

- 100% open Cv's ranging from 0.1 to 0.003



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Challenge

Controlling Extremely Low Flow Rates

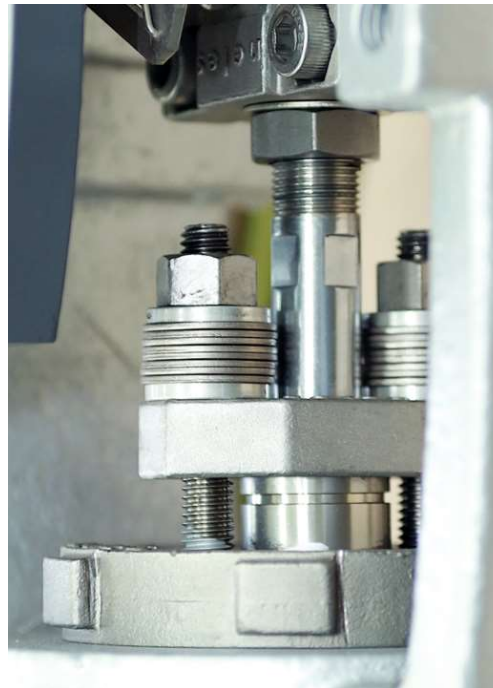
Solution

Micro Trim

Designed For Emissions Performance

Neles Globe Valves

- Environmental responsibility via low emissions capability
- Adjustable live-loaded (spring-loaded) packing for high cycle life and low environmental impact
- ISO-15848 & API-624 design for low overall emission



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Challenge

Maintaining Low Emissions

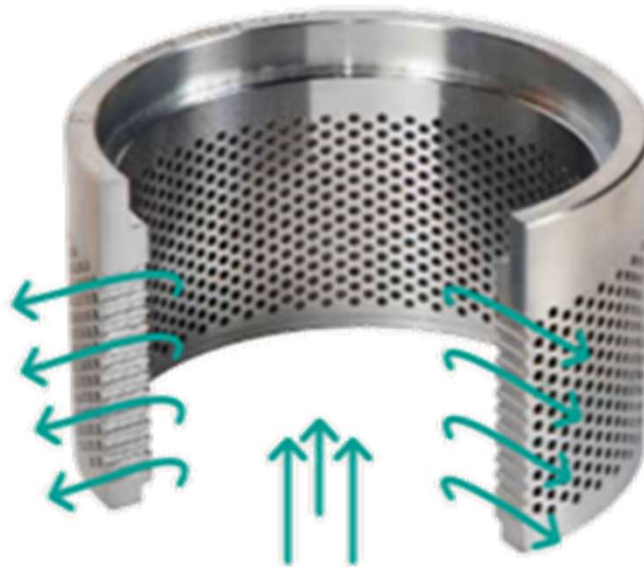
Solution

ISO 15848 & API 624
Constructions

Designed For Severe Service

Neles Globe Valves

- Available in balanced and unbalanced valves
- Used in liquid, gas, and vapor phases
- Available in multiple Cv reductions



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Challenge

Noise / Cavitation

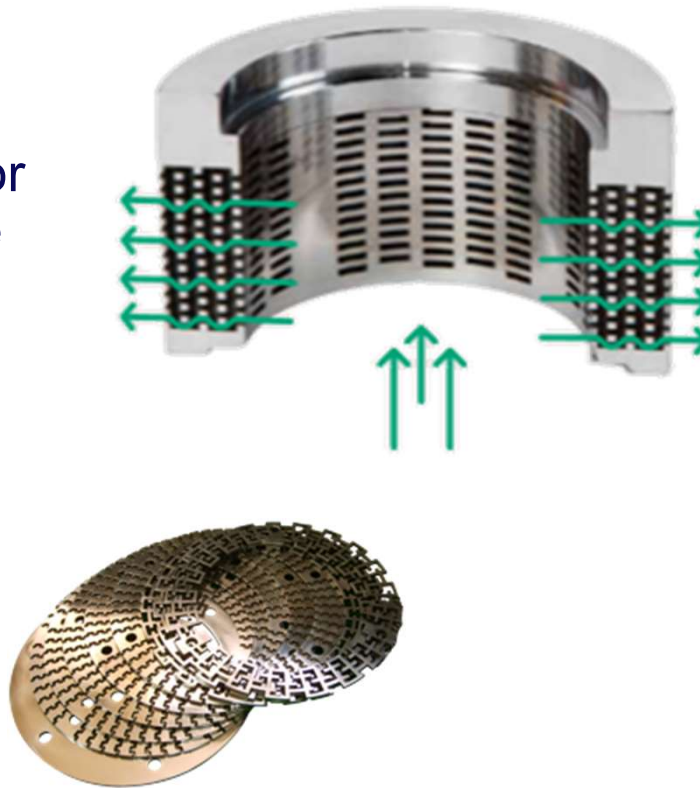
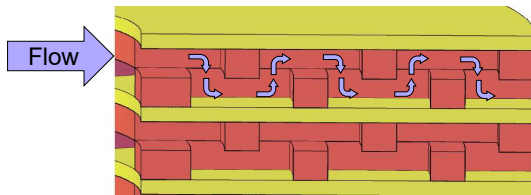
Solution

Tendril Trim

Designed For Severe Service

Neles Globe Valves

- Multi-turn labyrinth trim for extreme pressure drops
- Controls exit velocity via 2 or 3 dimensional flow passage
- Stacked disc trim set



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Challenge

Noise / Cavitation

Solution

Omega Trim

Designed For Severe Applications

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Application-Based Seat Design Options

Metal to Metal

- Class IV Shut-Off
- General Control Seat

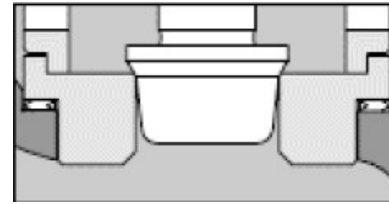
Soft Seat

- Class VI Shut-Off

Erosion seat

- Available in Soft or Metal Seat
- Cobalt Based Hard Facing

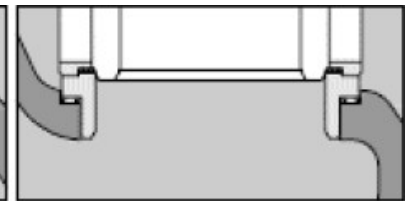
Unbalanced



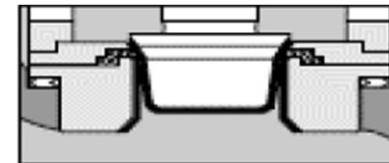
Balanced



Metal Seat



Soft Seat

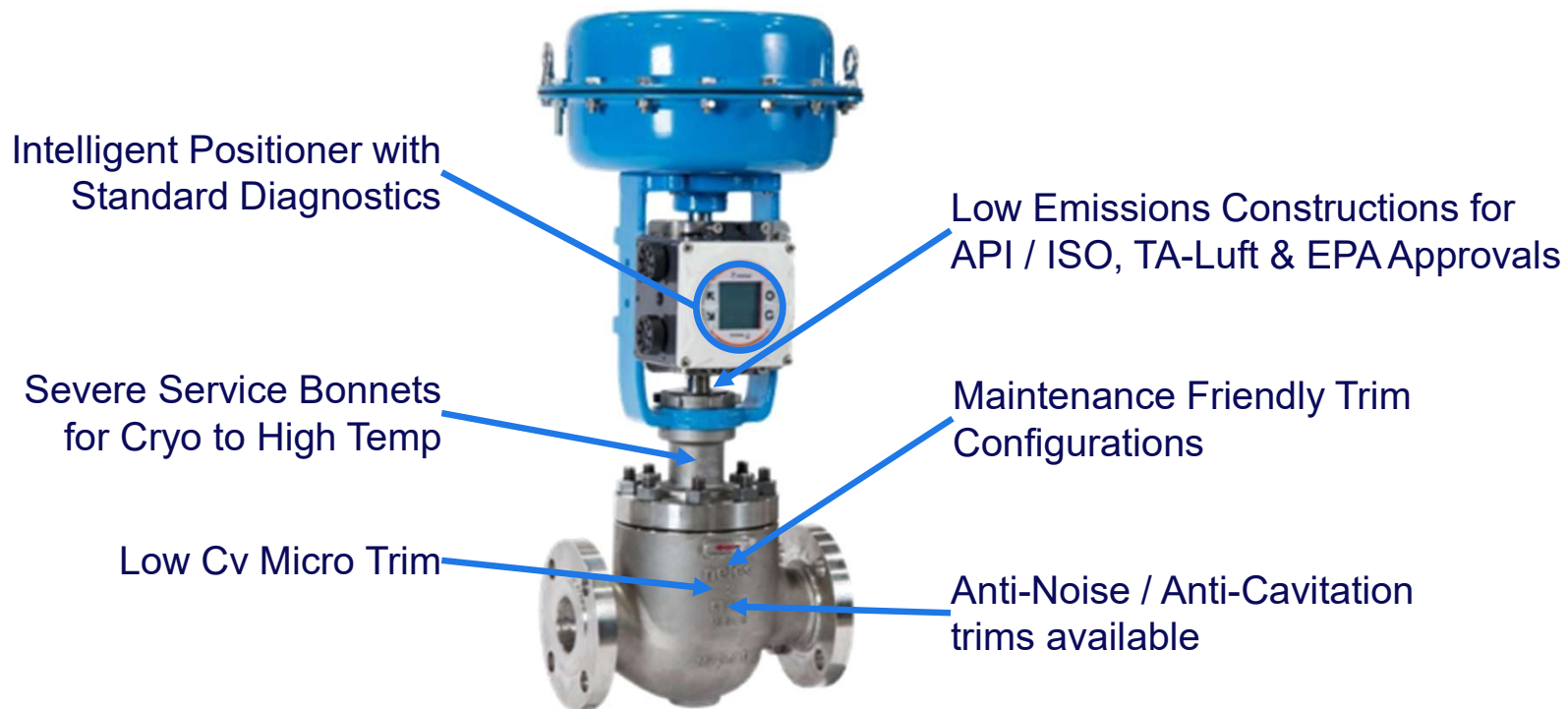


Erosion Seat

Valve Design Features

Neles Globe Valve

NELES



Neles Linear Control Valves

Product Scope

NELES

Sizes	ASME ½" – 6" (Unbalanced) 2" - 24" (Balanced)
Temperature	-200...+600°C (-320...+1100°F)
Body types	Straight Body Globe Valves (GU, GB, GM) Angle Body Globe Valves (AU, AB, AM)
Ratings	EN PN10-PN320 ASME 150# – 2500# JIS 10K-20K Raised Face, Socket Weld, Butt Weld, RTJ Flanges
Face to Face	ASME/ISA S75.03



Series VD Actuators

Linear Actuators

NELES



Desc	VB	VB	VC
Type	Pneumatic Diaphragm	Pneumatic Piston	Pneumatic Piston
Action	Single Acting	VBD/R: Single Acting VBC: Double Acting	Double Acting
Stroke	Up to 80mm	Up to 280mm	Up to 280mm
Certs	ATEX II 2 c, SIL3, TR CU032	ATEX II 2 c, SIL3, TR CU032	ATEX II 2 c, SIL3, TR CU032
Supply Pressure	3.2 – 4.2 barG / 46 – 60 psig	VBD/R: 2.5 – 8.5 barG / 36 – 123 psig VBC: 2.5 – 10 barG / 36 – 145 psig	2 – 10 barG / 29 – 145 psig
Temperature Range	Std: -20...+85°C / -4...+185°F Low: -40...+70°C / -40...+158°F Arc: -55...+70°C / -67...+158°F	Std: -20...+70°C / -4...+158°F High: -20...+120°C / -4...+248°F Low: -40...+70°C / -40...+158°F Arc: -55...+70°C / -67...+158°F	Std: -20...+85°C / -4...+185°F Low: -30...+70°C / -22...+158°F
Springs	Std: 0.8 - 2.6 bar / 11 - 37 psi Strong: 1.5 - 3.4 bar / 21 - 48 psi	Std: 1.8 - 2.4 bar / 26 - 35 psi Strong: 2.3 – 2.9 bar / 33 – 41 psi Light: 1.3-1.8 bar / 19-25 psi	No Spring
Thrust Rng	1,890 – 22,800 N / 424 – 5,125 lbf	16,823-78,160 N / 3,781 – 17,571 lbf	27,480 - 264,860 N / 6,177 – 59,542 lbf
Sizes	25, 29, 37, 48, 55	32, 40, 50, 60	30, 40, 50, 60, 70, 80

Neles Globe - Series VD FR

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VDD - Direct Acting
Spring to Open / Air to Close



VDR - Reverse Acting
Spring to Close / Air to Open

Series VDD/VDR – Diaphragm actuator options

NELES

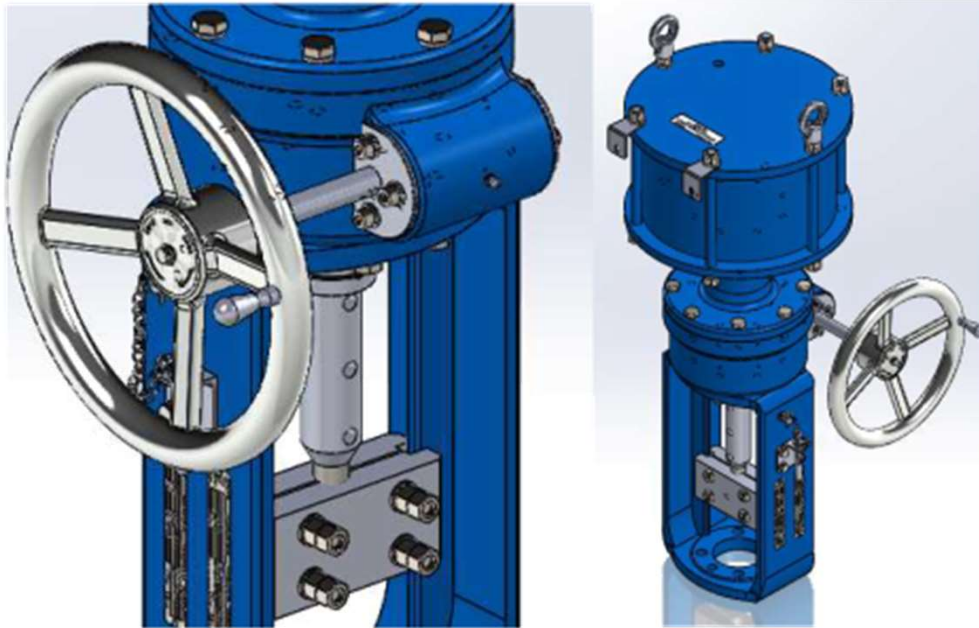
- Current Handwheel Orientation
 - Side (#25, #29, #37)
 - Top side mounted(#48, #55)



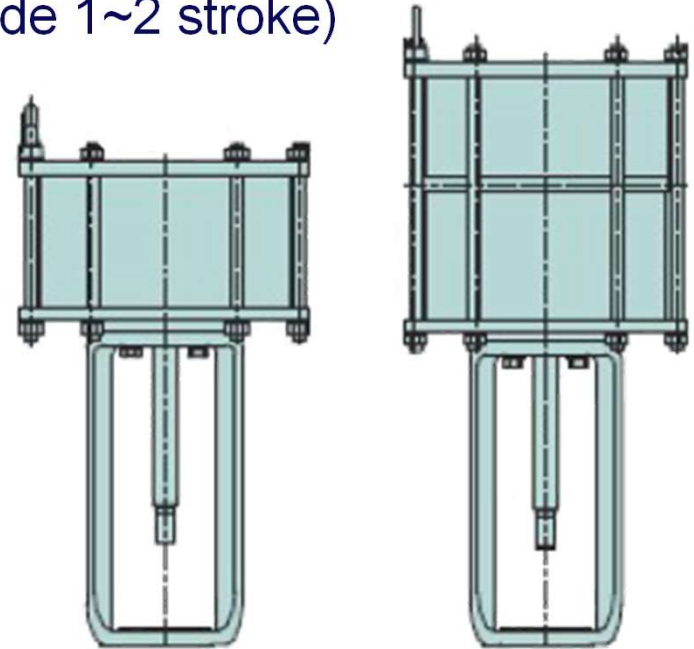
Series VC – Linear cylinder actuator options

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- Handwheel always side mounted for VC actuator



- Volume chamber for fail safe action (Provide 1~2 stroke)



Not applicable

Volume chamber

Competition

Competition Summary

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Neles Control Valves Competition

Emerson / Fisher

NELES

	Neles GU	Fisher EZ	Fisher GX
Size	1/2" - 6"	1" - 12"	1/2" - 6"
Temp Range	-320 ... +1000°F (-196 ... +538°C)	-55 ... +800°F (-48 ... +427°C)	-50 ... 700°F (-45 ... 371°C)
Pressure Class	150, 300, 600, 900, 1500, 2500	150, 300, 600	150, 300
Seat Type	Quick change Metal, Soft	Quick Change Metal, Soft	Threaded Metal, Soft
Noise Attenuation	Tendril, Omega, G2-Pole	Whisper Trim, Whisper Flo, Cavited	
Notes	Live Loaded Packing Bellows Bonnet Micro Trim	Enviro-Seal Enviro-Seal Bellows Micro-Flow / Micro-Flyte	



Fisher GX
EZ Bulletin
GX Bulletin

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Neles Control Valves Competition

Samson

NELES

	Neles GU / GB	Samson 3241	Samson 3251
Size	1/2" - 24"	1/2" - 12"	1/2" - 20"
Temp Range	-320 ... +1000°F (-196 ... +538°C)	-325 ... +842°F (-198 ... +450°C)	-320 ... +1022°F (-196 ... +550°C)
Pressure Class	150W - 2500W	125W - 300W	150W - 2500W
Seat Type	Quick change Metal, Soft	Threaded Metal, Soft	Threaded Metal, Soft
Noise Attenuation	Tendril Omega	Flow Divider AG-1, AG-2	



Samson 3241
3241 Data Sheet
3251 Data Sheet

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Neles Control Valves Competition

Masonelan

NELES

	Neles GU / GB	Masonelan 21000	Masonelan 41005
Size	1/2" - 24"	1/2" - 8"	2" - 20"
Temp Range	-320 ... +1000°F (-196 ... +538°C)	-320 ... +800°F (-196 ... +427°C)	-320 ... +1000°F (-196 ... +538°C)
Pressure Class	150W - 2500W	150W - 2500W	150W - 2500W
Seat Type	Quick change Metal, Soft	Threaded Quick Change Metal Soft	Threaded Metal, Soft
Noise Attenuation	Tendril Omega	Lo-8B Anti-Cavitation	
Notes	Live Loaded Packing Micro Trim	LE Packing Low Flow Trim	



Masonelan 21000
21000 Bulletin
41005 Bulletin

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Neles Control Valves Competition

Valtek

NELES

	Neles GU / GB	Valtek Mark One
Size	1/2" - 24"	1/2" - 36"
Temp Range	-320 ... +1000°F (-196 ... +538°C)	-320 ... +1000°F (-196 ... +538°C)
Pressure Class	150W - 2500W	150W - 2500W
Seat Type	Quick change Metal, Soft	Clamped, Quick Change Metal Soft
Noise Attenuation	Tendril Omega	Cavitation: ChannelStream CarControl CarStream DiamondBack Silencer Noise: Skull Type Tooth MegaStream
Notes	Live Loaded Packing Micro Trim	SmallFlow



Valtek Mark One
Mark One Bulletin
41005 Bulletin

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Neles Control Valves

Features That Address Customer's Challenges

NELES

- Quick Change Trim Standard
- Two Piece Cage for Balanced Valves
- Tendril & Omega Anti-Noise / Anti-Cavitation Trims
- Micro Trim for Extremely Low Flow
- The Neles Package



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Neles Control Valves Competition

Emerson / Fisher

NELES

	Neles GU	Fisher EZ	Fisher GX
Size	½" – 6"	1" – 12"	½" – 6"
Temp Range	-320...+1099°F (-196...+593°C)	-55...+800°F -48...+427°C	-50...700°F -46...371°C
Pressure Class	150, 300, 600, 900, 1500, 2500	150, 300, 600	150, 300
Seat Type	Quick change Metal, Soft	Quick Change Metal, Soft	Threaded Metal, Soft
Noise Attenuation	Tendril, Omega, Q2-Plate	Whisper Trim, Whisper Flo, Cavitrol	
Notes	Live Loaded Packing Bellows Bonnet Micro Trim	Enviro-Seal Enviro-Seal Bellows Micro-Flow / Micro-Flute	



Fisher GX
[EZ Bulletin](#)
[GX Bulletin](#)

Neles Control Valves Competition

Emerson / Fisher

NELES

	Neles GB	Fisher ET	Fisher HP
Size	2" – 24"	1"-30"	1" – 20"
Temp Range	-320...+1099°F (-196...+593°C)	-320...+800°F -196...+427°C	-325...1100°F -198...59.°C
Pressure Class	150, 300, 600, 900, 1500, 2500	150, 300, 600	900, 1500, 2500, 3200
Noise Attenuation	Tendril, Omega, Q2-Plate	Whisper Trim, Cavitrol, Whisper Flo	
Notes	Live Loaded Packing Bellows Bonnet	Enviro-Seal Enviro-Seal Bellows	



Fisher HP
[ET Bulletin](#)
[HP Bulletin](#)

Competition Comparison

Fisher

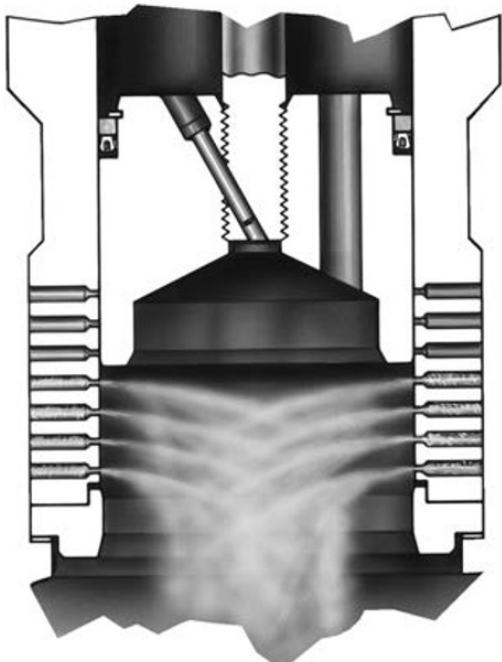


Whisper Trim I

Whisper Trim III



Whisper Flo



Cavitrol III One Stage Trim

NELES

Neles Control Valves Competition

Samson

NELES

	Neles GU / GB	Samson 3241	Samson 3251
Size	½" – 24"	½" – 12"	½" – 20"
Temp Range	-320...+1099°F (-196...+593°C)	-325...+842°F (-196...+450°C)	-320...+1022°F (-196...+550°C)
Pressure Class	150# - 2500#	125# - 300#	150# - 2500#
Seat Type	Quick change Metal, Soft	Threaded Metal, Soft	Threaded Metal, Soft
Noise Attenuation	Tendril Omega	Flow Divider AC-1, AC-2	

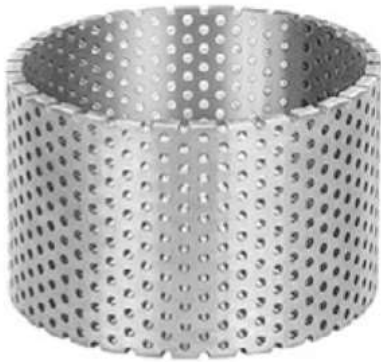


Samson 3241
[3241 Data Sheet](#)
[3251 Data Sheet](#)

Competition Comparison

Samson

NELES



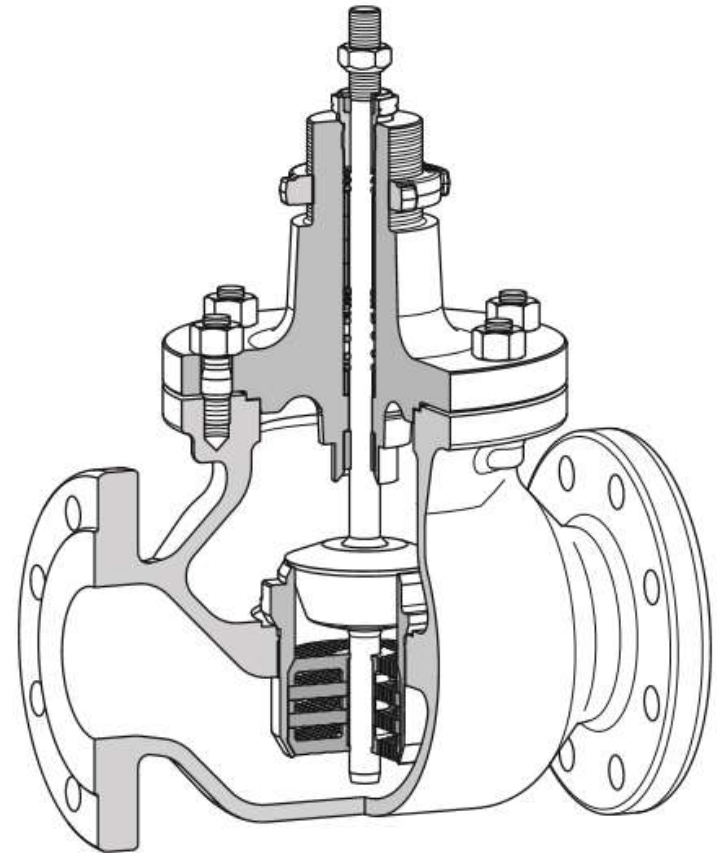
Flow Divider
Stage 1



Flow Divider
Stage 2



Flow Divider
Stage 3



3251 Valve with AC2 Trim and 4 Attenuation Plates

Neles Control Valves Competition

Masoneilan

NELES

	Neles GU / GB	Masoneilan 21000	Masoneilan 41005
Size	1/2" – 24"	3/4" – 8"	2" – 20"
Temp Range	-320...+1099°F (-196...+593°C)	-320...+800°F (-196...+427°C)	-320...+1050°F (-196...+566°C)
Pressure Class	150# - 2500#	150# - 2500#	150# - 2500#
Seat Type	Quick change Metal, Soft	Threaded, Quick Change Metal Soft	Threaded Metal, Soft
Noise Attenuation	Tendril Omega	Lo-dB Anti-Cavitation	
Notes	Live Loaded Packing Micro Trim	LE Packing Low Flow Trim	



Masoneilan 21000
[21000 Bulletin](#)
[41005 Bulletin](#)

Competition Comparison

Masoneilan

NELES



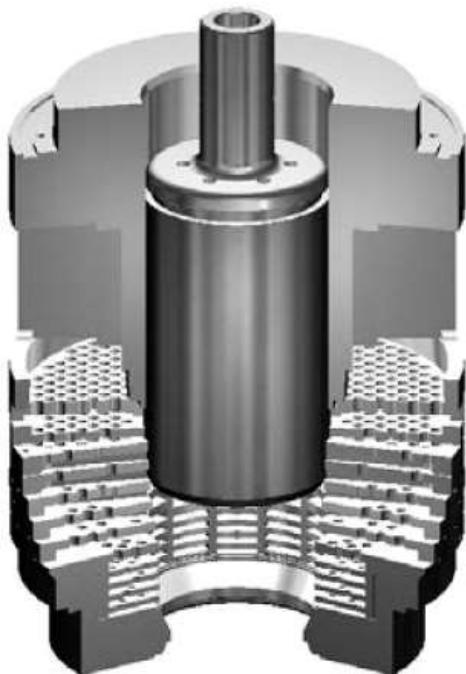
Lo-dB
Single Stage



Lo-dB
Double Stage



Anti-Cavitation Trim



High Pressure
Anti-Cavitation Trim VRT

Neles Control Valves Competition

Valtek

NELES

	Neles GU / GB	Valtek Mark One	
Size	½" – 24"	½" – 36"	
Temp Range	-320...+1099°F (-196...+593°C)	-320...+1500°F (-196...+815°C)	
Pressure Class	150# - 2500#	150# - 2500#	
Seat Type	Quick change Metal, Soft	Clamped, Quick Change Metal Soft	
Noise Attenuation	Tendril Omega	Cavitation: ChannelStream CavControl CavStream Diamond Back Sidewinder	Noise: Stealth TigerTooth MegaStream
Notes	Live Loaded Packing Micro Trim	SmallFlow	



Valtek Mark One
[Mark One Bulletin](#)
[41005 Bulletin](#)

Competition Comparison

Flowserve



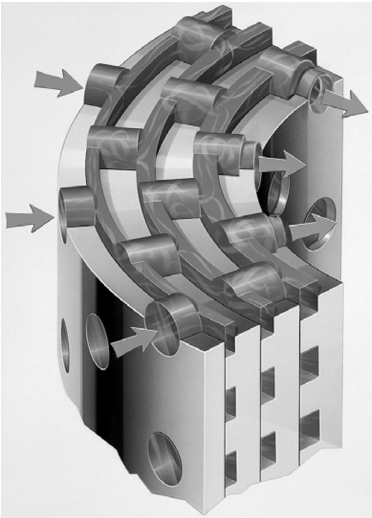
MegaStream



Stealth



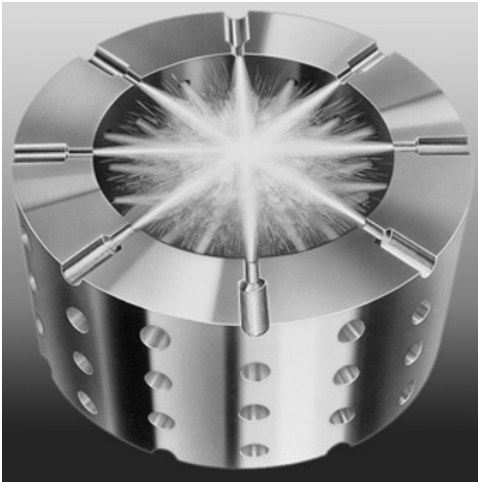
Diamondback



ChannelStream



Sidewinder



CavControl

Neles Control Valves

Features That Address Customer's Challenges

- Quick Change Trim Standard
- Two Piece Cage for Balanced Valves
- Tendril & Omega Anti-Noise / Anti-Cavitation Trims
- Micro Trim for Extremely Low Flow
- The Neles Package



Contact us

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 - Link to [map](#)



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