NELES

Product school

Finetrol Eccentric Plug Valve

In session features

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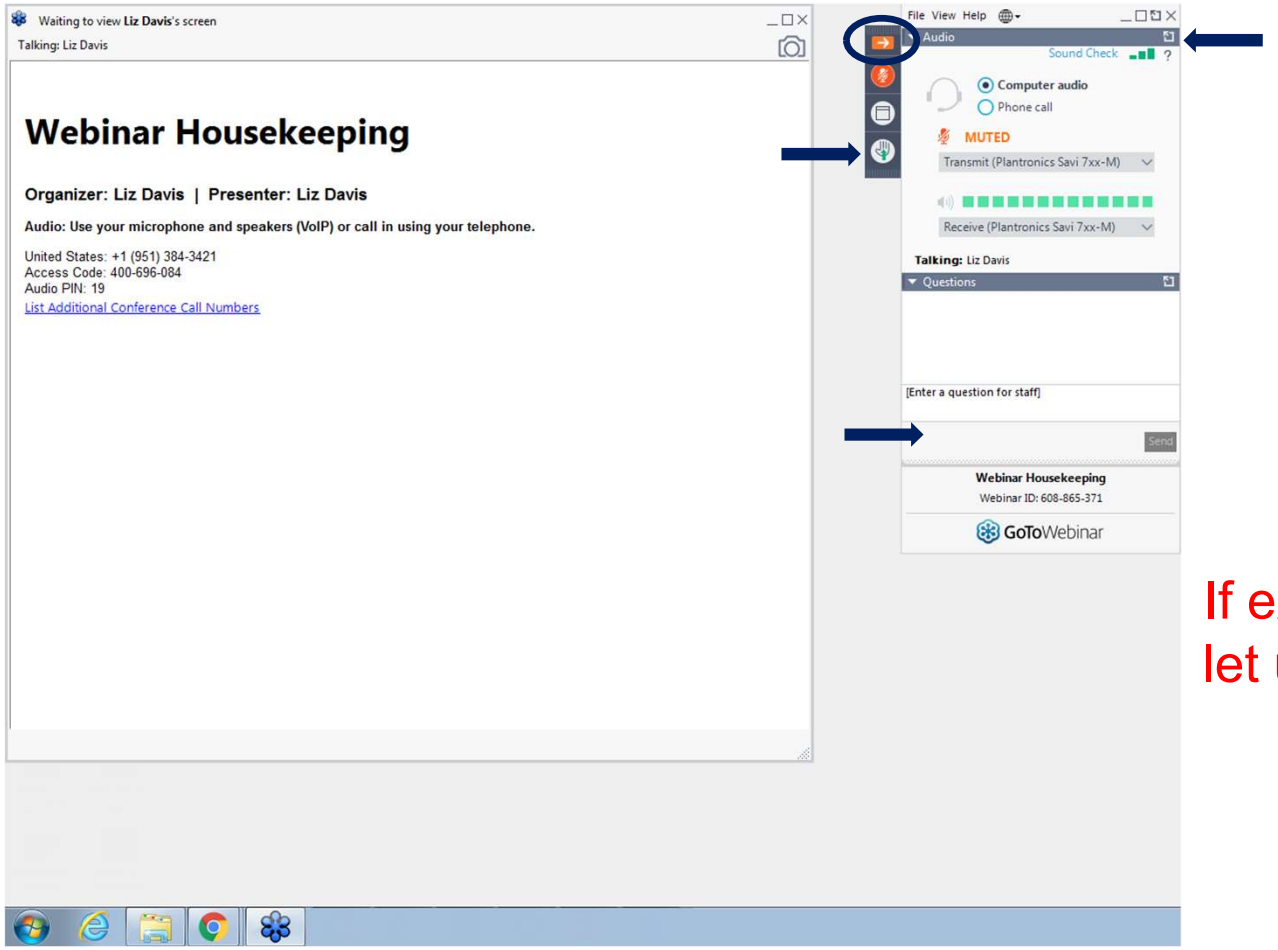

If experiencing audio issues please let us know in question field.

Introductions

Presenter / Moderator / Panelist / Guest speaker

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

NELES

Finetrol
Eccentric Plug Valve

Finetrol Eccentric Plug Valve

Valve Basics

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Finetrol Eccentric Plug Valve

General Notes

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- Medium Duty Control Valve
- Cv's In-between R-Series and Globes
- Moderate to High dP
- 150#-600# Pressure Classes
- Dirty / Erosive Capable
- Plug cams away from seat, so no contact throughout stroke
- Designed as alternates to Globe valves
  - Better emissions performance
  - Less likely to stick from process buildup

Finetrol Eccentric Plug Valve

Valve Basics

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- Typical customer’s challenges
  - Control performance
  - Safety / reliability
  - Severe service
    - Erosion
    - Cavitation
    - Noise abatement

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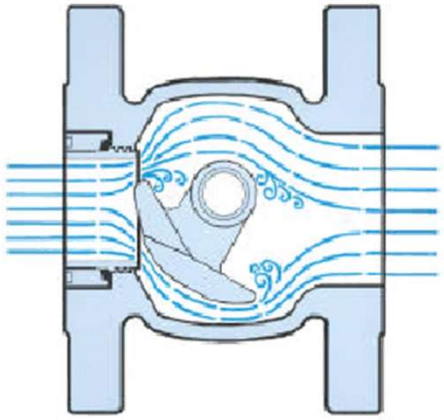
Features and Benefits

Designed For Erosive Applications

Finetrol Eccentric Plug Valve

- Constant inherent characteristic over the full 90° of plug rotation
- Dynamically balanced force distribution over plug
  - Reduces dynamic torque
  - No “slam shut” effect



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Challenge

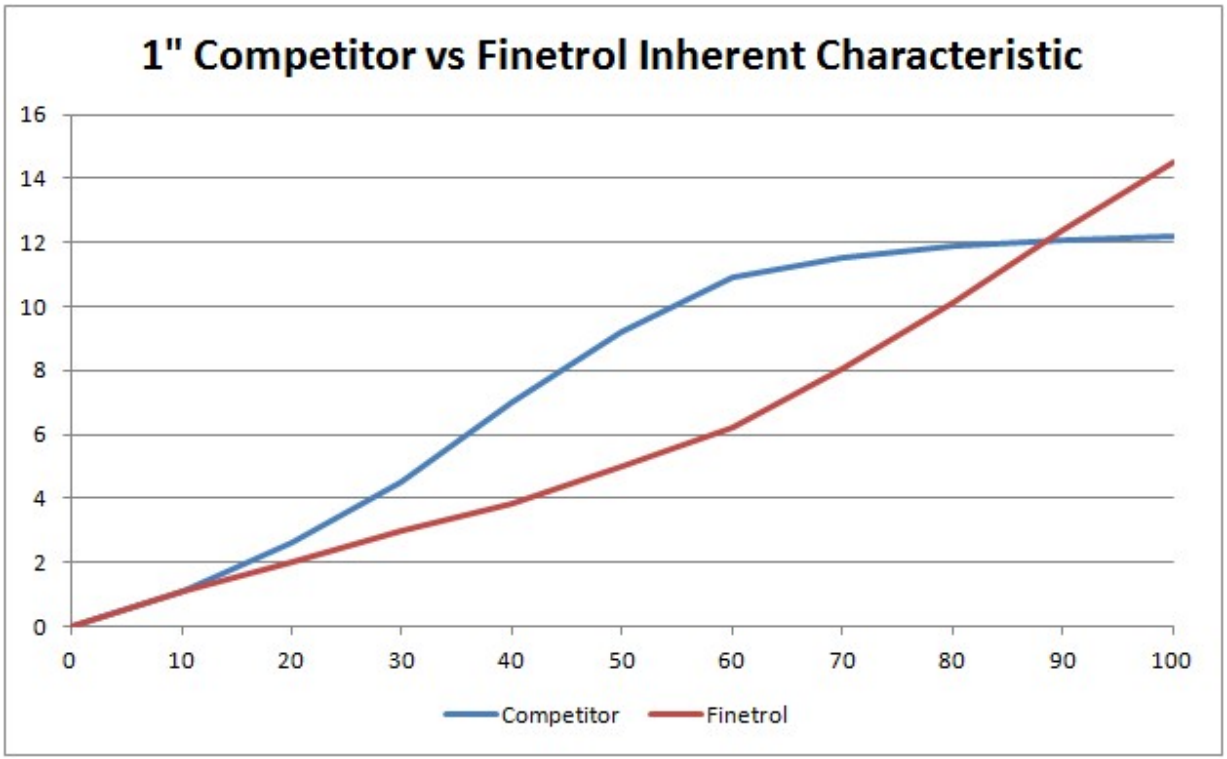
Control Performance

Solution

Finetrol Unique Plug Shape

Designed For Erosive Applications

Finetrol Eccentric Plug Valve



NELES

Challenge

Control Performance

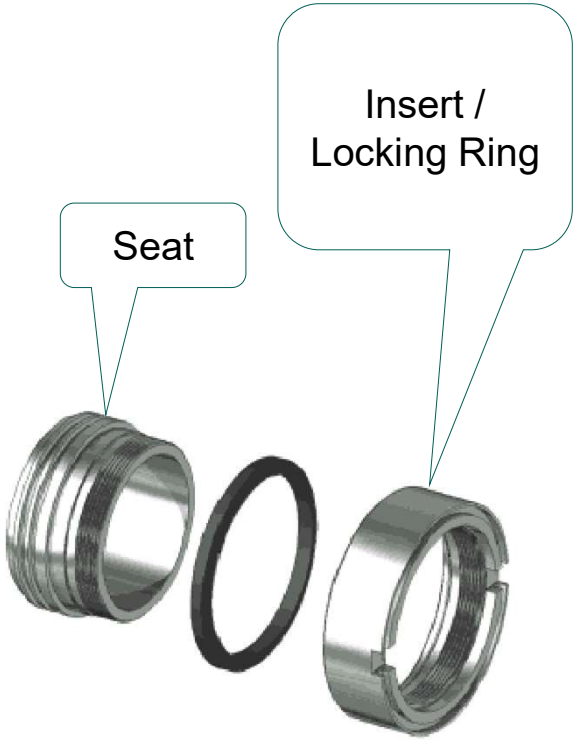
Solution

Finetrol Unique Plug Shape

Designed For Reliability

Finetrol Eccentric Plug Valve

- Heavy duty, square threads for easy seat ring removal without disassembling the valve
- No shaft pins, seat ring shims or seat ring retainer bolts



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Challenge

Reliability

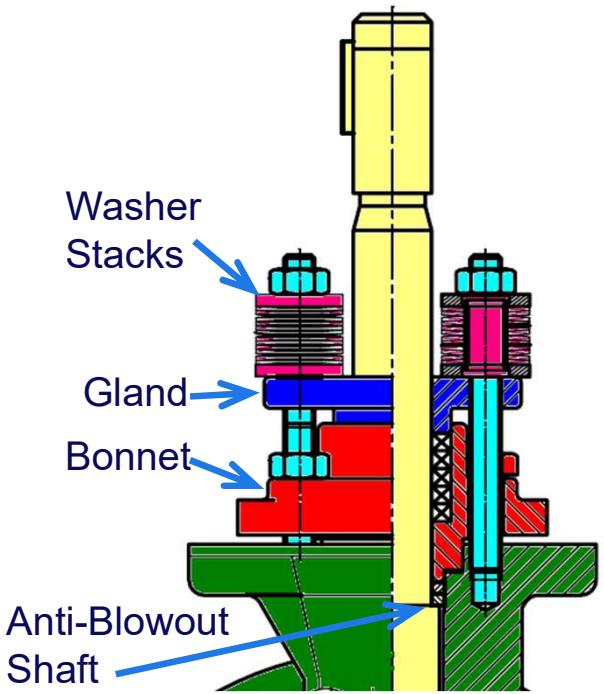
Solution

Standard Seat Design

Designed For Safety

Finetrol Eccentric Plug Valve

- Standard Features:
  - Live loaded washer stacks for long lasting emission performance
  - Anti-blowout shaft design



NELES

Challenge

Safety

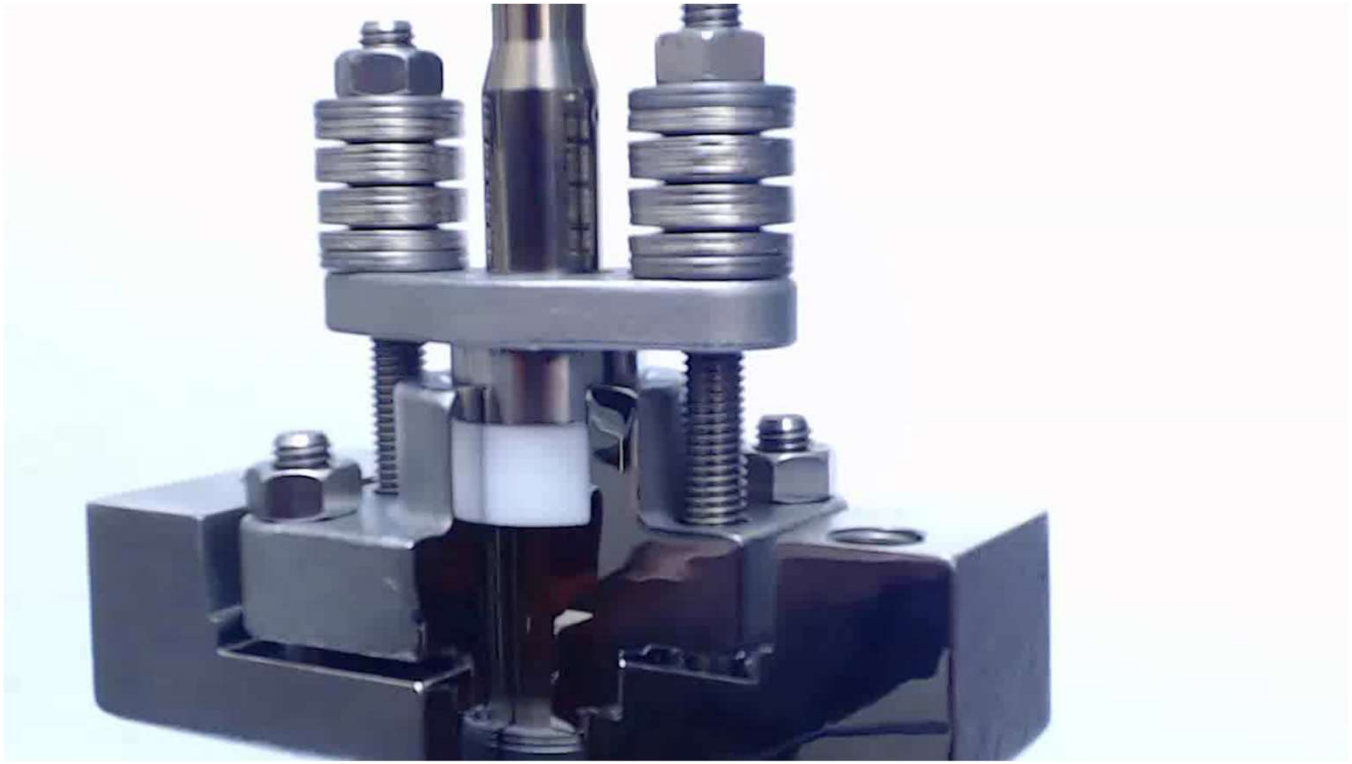
Solution

Live Loaded Packing

Anti-Blowout Shaft

Designed For Safety

Finetrol Eccentric Plug Valve



NELES

Challenge

Safety

Solution

Live Loaded Packing

Anti-Blowout Shaft

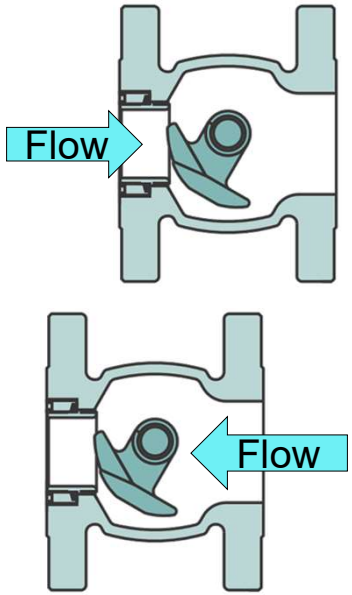
Designed For Erosive Applications

Finetrol Eccentric Plug Valve

- Valve available in “Flow to Open” (Standard flow direction) or “Flow to Close” orientations

Application/Construction	Flow to open	Flow to close
General	x	(x)
Erosive	–	x
Vacuum after valve	–	x
Noise attenuating trims	x	–
High temperature	x	(x)
Flashing	–	x

Flow direction is marked on each FINETROL valve by a flow direction arrow.
X = recommended.
(X) = optional



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Challenge

Erosion

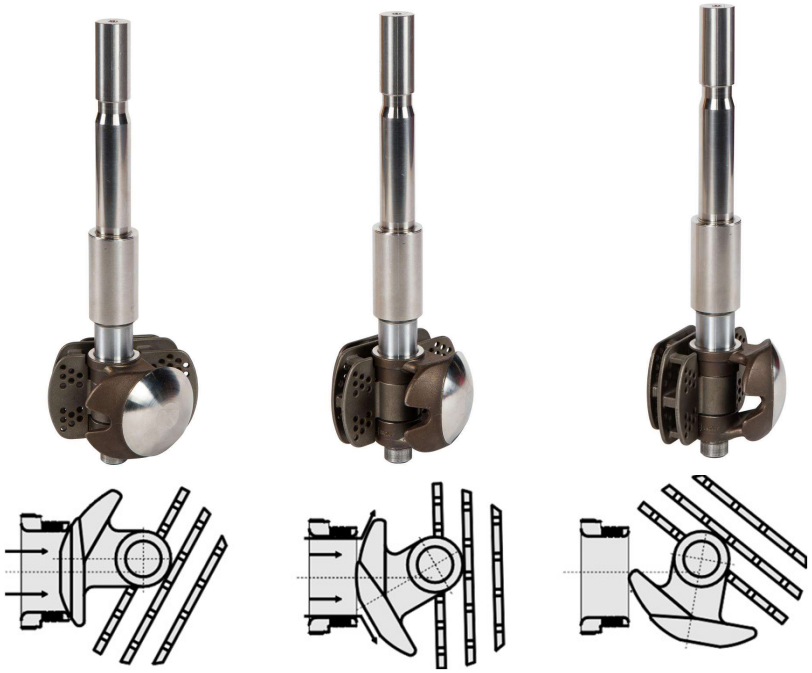
Solution

Severe Service Constructions

Designed For Severe Service

Finetrol Eccentric Plug Valve

- Q-Trim attenuator for cavitation and noise reduction
- Variable resistor is most effective at lower differential pressures



NELES

Challenge

Cavitation & Noise

Solution

Anti-Cavitation / Anti-Noise
Q-Trim Construction

Designed For Severe Service

Finetrol Eccentric Plug Valve

NELES

Challenge

Cavitation & Noise

Solution

Anti-Cavitation / Anti-Noise
Q-Trim Construction

Designed For Severe Applications

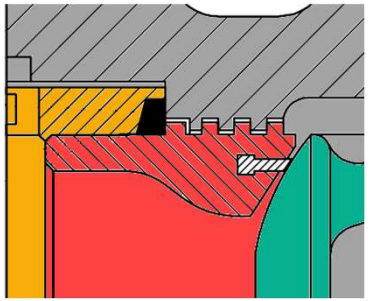
NELES

Application-Based Seat Design Options

Standard Metal Seat	**S-Seat** • Class IV Shut-Off • General Control Seat
Reduced Cv Seat	**R-Seat** • Class IV Shut-Off • 50% Reduced Cv
Soft seat	**T-Seat** • Class VI Shut-Off • -50…+260°C (-58…+500°F)

Standard Metal Seat

Reduced Cv Seat



Soft Seat

Designed For Low Cv Applications

FL-Series Low Cv Valve

- 1” Size
- 150# - 300#
- Three Cv Options available (4.2, 1.5, 0.5)

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Challenge

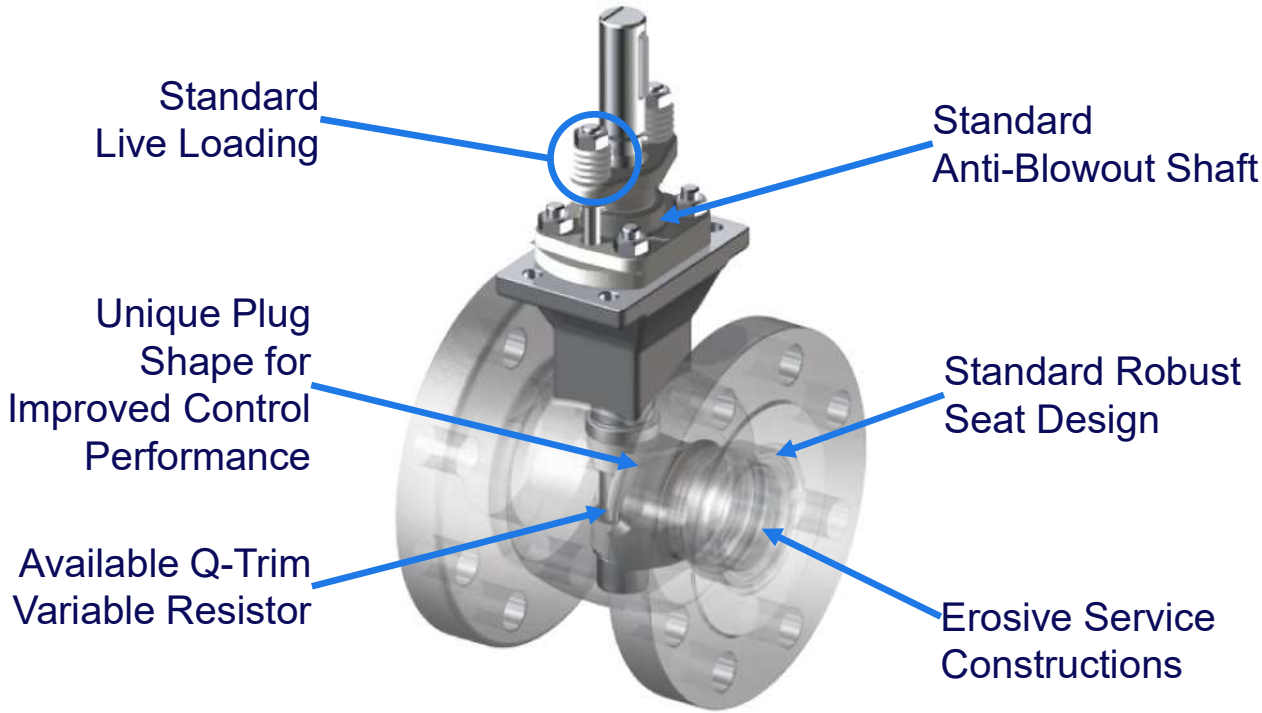
Low Flow Applications

Solution

Finetrol Low Cv Control Valve, Series FL

Valve Design Features

Finetrol Eccentric Plug Valve



Neles Rotary Control Valves

Product Scope

NELES

Sizes	ASME 1” – 10”, EN DN25-DN300 FC: 1” – 12” (12” 300# only)
Temperature	-200…+425°C (-328…+800°F)
Body types	Eccentric Rotary Plug Valve Flanged (FC)
Ratings	EN PN10-PN100; ASME 150 – 600
Face to Face	ASME/ISA 75.08.02 = IEC/EN 60534-3-2

Competition

Competitor Comparison

NELES

Competitor Offering

	Size	Temp	Body Type F=Flanged W=Wafer T=Threaded	ANSI Rating	Face to Face
Neles Finetrol	1”-12”	-328…+800°F	F: 1”-12”	150# & 600#: 1”-10” 300# 1”-12”	Control 1”-12”
Masoneilan Camflex	1”-12”	-320…+750°F	F: 1”-12” / W:1”-12” T: 1”-2”	150#-300# 1”-12” 600# 1”-8”	Control 1”-12” Globe (F) 1”-6”
Fisher V500	1”-8”	-325…+800°F	F: 1”-8”	150#-600# 1”-8”	Control 1”-8”
Fisher CV500	3”-12”	-325…+800°F	F: 3”-12”	150# & 600# 3”-8” 300#: 3”-12”	Control 3”-12”
Valtek MaxFlo 4	1”-12”	-148…+750°F	F: 1”-12” / W: 1”-8”	150#-600# Globe F-F 150#-300#	Control 1”-12” Globe 1”-12”

Competitor Comparison

Design Features

NELES

	Max Opening	2 pc Shaft	Anti-Blowout Shaft	Live Loading	1” Low CV	Variable Resistor
Neles Finetrol	90%	12” only	✓	✓	4	✓
Masoneilan Camflex	55%	No	✓	Emission Free (EF)(Optional)	5	Differential Velocity Device (DVD)
Fisher V500	55%	No		Enviro-Seal (Optional)		
Fisher CV500	65%	3”-12”		Enviro-Seal (Optional)		
Valtek MaxFlo 4	65%	Only	✓	Optional	2	Fixed plate

Competitor Comparison

NELES

Neles Control Valves Competition

Masoneilan 35002 Series Camflex II

NELES

	Neles Finetrol	Masoneilan 35002 Camflex
Sizes	1" – 12"	1" – 12"
Temperature	-200…+425°C (-328…+800°F)	-198…+400°C (-320…+750°F)
Body types	Flanged (FC)	Flanged 1"-12" Flangeless 1"-8"
Ratings	150 – 600# (12" 300# Only)	150# - 600# 1"-12"
Face to Face	ISA S75.08 Control F-F	ISA S75.08 Control F-F ISA S75.03 1"-8" 150# - 600#

Masoneilan 35002 Series Camflex II Technical Spec

Neles Control Valves Competition

Fisher V500

NELES

	Neles Finetrol	Fisher V500
Sizes	1" – 12"	1" – 8"
Temperature	-200…+425°C (-328…+800°F)	-198…+427°C (-325…+800°F)
Body types	Flanged (FC)	Flanged 1"-8"
Ratings	150 – 600# (12" 300# Only)	150# - 600#
Face to Face	ISA S75.08 Control F-F	ISA S75.08 Control F-F

Fisher V500 Technical Bulletin

Neles Control Valves Competition

Fisher CV500

NELES

	Neles Finetrol	Fisher CV500
Sizes	1" – 12"	3" – 12"
Temperature	-200…+425°C (-328…+800°F)	-198…+427°C (-325…+800°F)
Body types	Flanged (FC)	Flanged 3"-12"
Ratings	150 – 600# (12" 300# Only)	150# & 600# 3"-8" 300# 3"-12"
Face to Face	ISA S75.08 Control F-F	ISA S75.08 Control F-F

Fisher CV500 Technical Bulletin

Neles Control Valves Competition

(Flowserve) Valtek MaxFlo 4

NELES

	Neles Finetrol	Valtek MaxFlo 4
Sizes	1" – 12"	1" – 12"
Temperature	-200…+425°C (-328…+800°F)	-100…+400°C (-148…+750°F)
Body types	Flanged (FC)	Flanged 1"-12" Wafer 1"-8"
Ratings	150 – 600# (12" 300# Only)	150# - 600# Globe F-F 150#-300# only (8" and above 1 size smaller trim)
Face to Face	ISA S75.08 Control F-F	ISA S75.08 Control F-F ISA S75.08 Globe F-F

Flowserve MaxFlo 4 Technical Bulletin

Neles Rotary Control Valves

Finetrol Eccentric

NELES

- Features That Address Customer's Challenges
- Unique plug shape
  - Balanced dynamic forces
  - Consistent inherent flow characteristics
- Standard live loading & anti-blowout shaft
- Erosive Service Constructions
- Q-Trim noise abatement trim

Neles Control Valves Competition

NELES

Masoneilan 35002 Series Camflex II

	Neles Finetrol	Masoneilan 35002 Camflex
Sizes	1” – 12”	1” – 12”
Temperature	-200…+425°C (-328…+800°F)	-196…+400°C (-320…+750°F)
Body types	Flanged (FC)	Flanged 1”-12” Flangeless 1”-8”
Ratings	150 – 600# (12” 300# Only)	150# - 600# 1”-12”
Face to Face	ISA S75.08 Control F-F	ISA S75.08 Control F-F ISA S75.03 1”-6” 150# - 600#

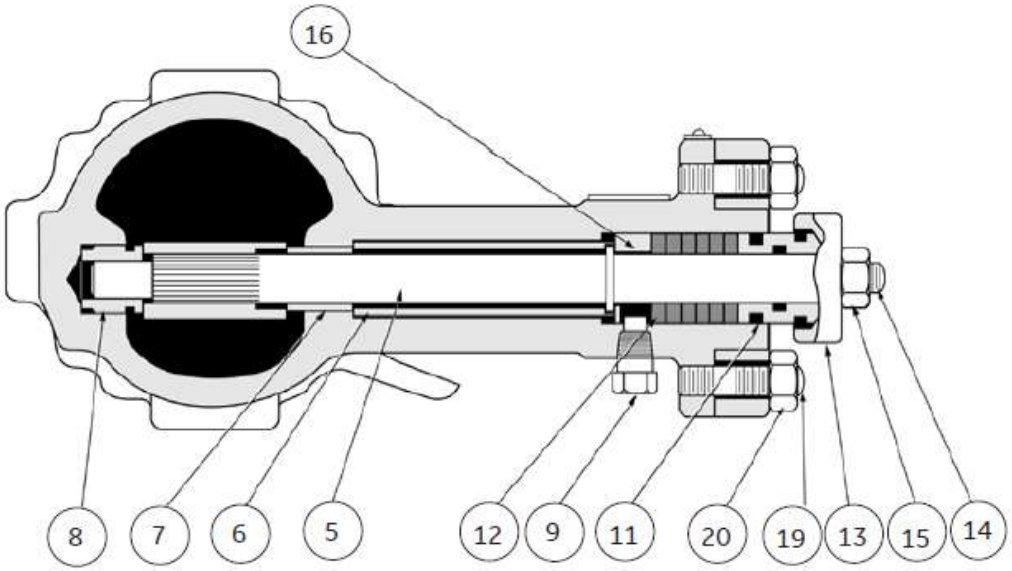
Masoneilan
35002 Series Camflex II
Technical Spec

Neles Control Valves Competition

NELES

Masoneilan 35002 Series Camflex II

- EF Seal (Emission Free) standard (items 21-22)
  - No Live Loading
- No Variable Attenuation
  - DVD - Differential Velocity Device
- Limited to 55% Opening
- 2 Reductions / Size
- 5 Reductions for 1”



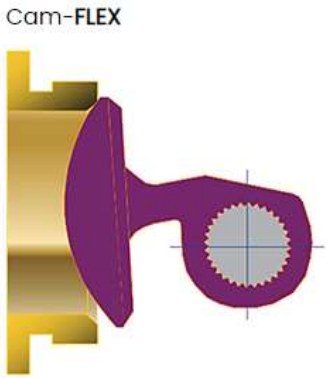
Masoneilan 35002 Series Camflex

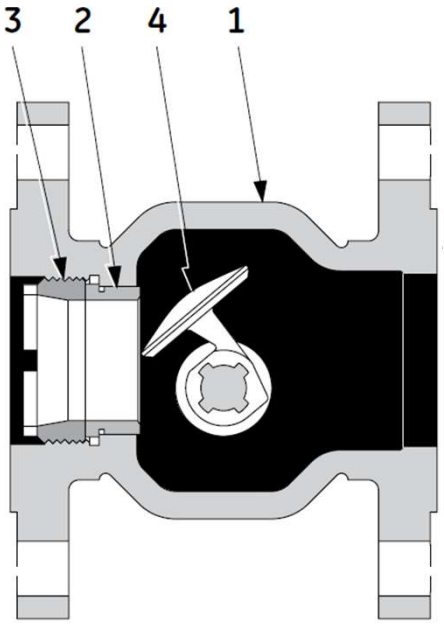
Neles Control Valves Competition

NELES

Masoneilan 35002 Series Camflex II

Metal Seat	• Class IV Shut-Off • -196…+400°C (-320…+750°F)
Soft Seat	• Class VI Shut-Off • -196…+232°C (-320…+450°F)





Camflex Seat

Neles Control Valves Competition

NELES

Masoneilan 35002 Series Camflex II

- Brochures
  - Brochure
- Product Bulletin
  - Camflex Technical Specifications
- Instruction Manual
  - Camflex Instruction Manual

Neles Control Valves Competition

Fisher V500

NELES

	Neles Finetrol	Fisher V500
Sizes	1” – 12”	1” – 8”
Temperature	-200…+425°C (-328…+800°F)	-198…+427°C (-325…+800°F)
Body types	Flanged (FC)	Flanged 1”-8”
Ratings	150 – 600# (12” 300# Only)	150# - 600#
Face to Face	ISA S75.08 Control F-F	ISA S75.08 Control F-F

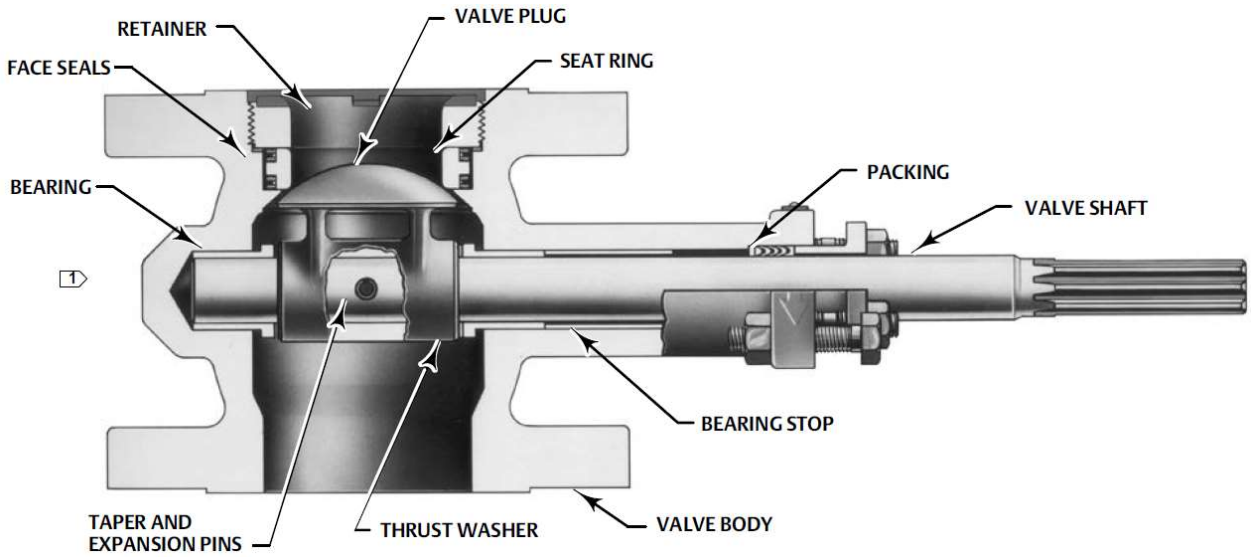
Fisher V500 Technical Bulletin

Neles Control Valves Competition

NELES

Fisher V500

- Live Loading (Enviro-Seal) is optional
- No soft seat option
- Limited to 55% opening
- Seat design prone to debris buildup
- Pinned plug to shaft connection.



Fisher V500

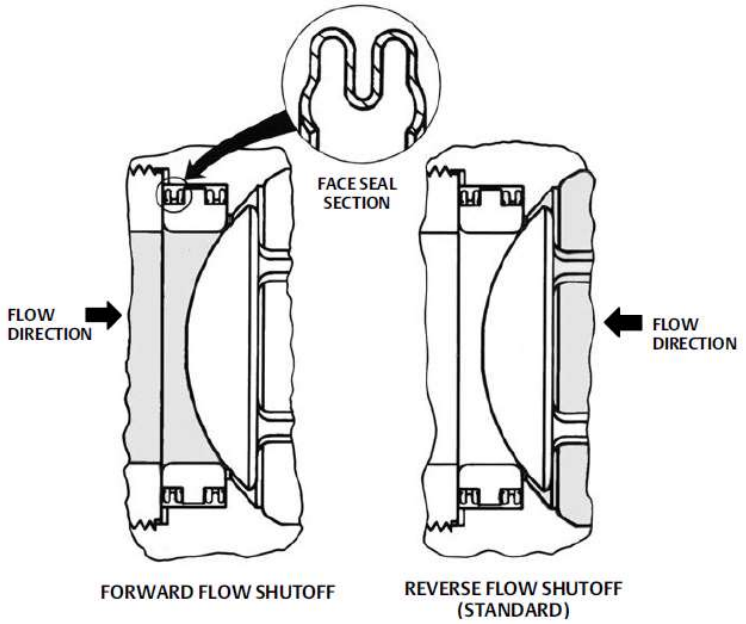
Neles Control Valves Competition

NELES

Fisher V500

Metal Seat	• Class IV Shut-Off
Soft Seat	• None

Face seals dynamically aligns with the plug while cycling, however is prone to buildup behind the seat



V500 Seat

Neles Control Valves Competition

NELES

(Emerson) Fisher V500 - Links

- Brochures
  - Catalog of Fisher Control Valves
  - Product Flyer V500
- Product Bulletin
  - V500 Product Bulletin
  - Fisher Rotary Valve Selection Guide
- Instruction Manual
  - V500 Instruction Manual

Neles Control Valves Competition

Fisher CV500

NELES

	Neles Finetrol	Fisher CV500
Sizes	1” – 12”	3” – 12”
Temperature	-200…+425°C (-328…+800°F)	-198…+427°C (-325…+800°F)
Body types	Flanged (FC)	Flanged 3”-12”
Ratings	150 – 600# (12” 300# Only)	150# & 600# 3”-8” 300# 3”-12”
Face to Face	ISA S75.08 Control F-F	ISA S75.08 Control F-F

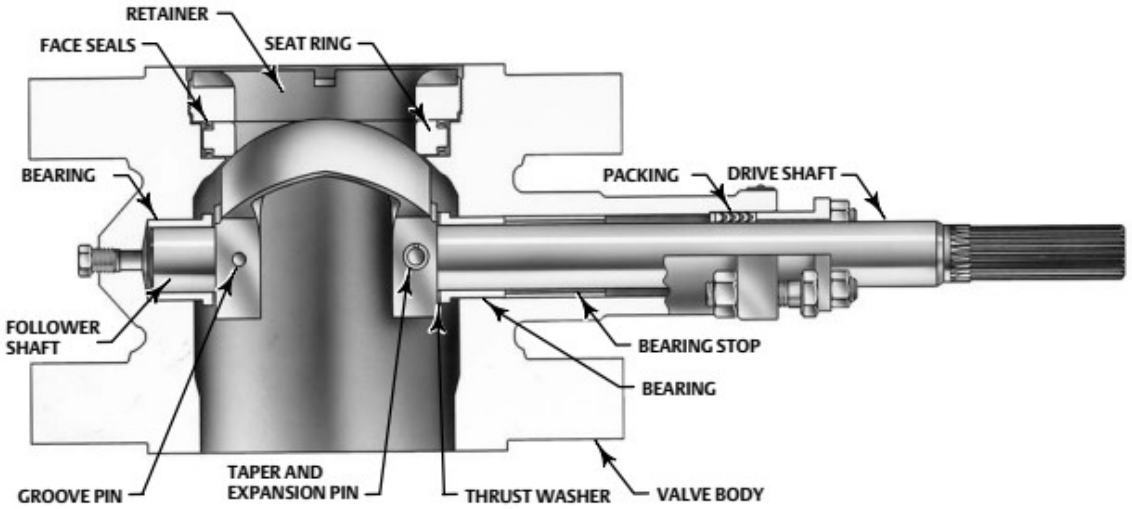
Fisher CV500 Technical Bulletin

Neles Control Valves Competition

NELES

Fisher CV500

- Live Loading (Enviro-Seal) is optional
- No soft seat option
- Limited to 65° open
- Seat design prone to debris buildup
- Pinned plug to shaft connection up to 8”. Splinned 10”-12”



Fisher CV500

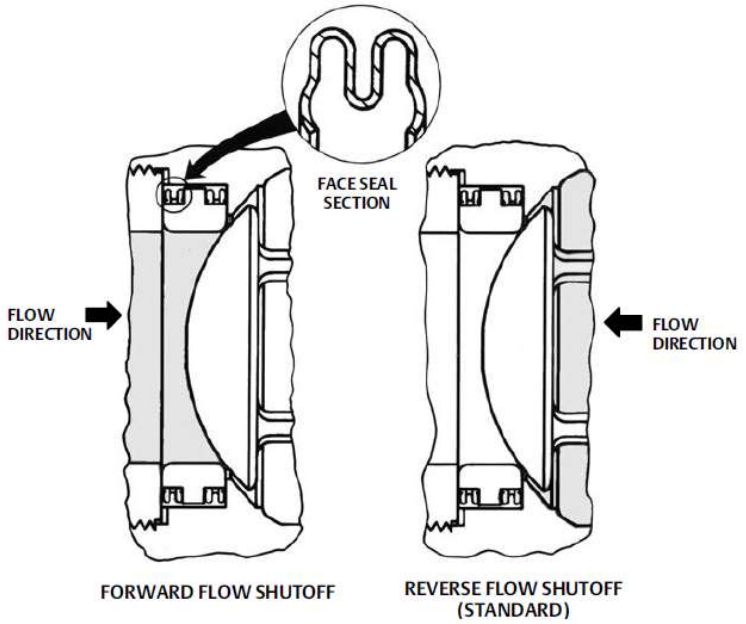
Neles Control Valves Competition

NELES

Fisher CV500

Metal Seat	• Class IV Shut-Off
Soft Seat	• None

Face seals dynamically aligns with the plug while cycling, however is prone to buildup behind the seat



CV500 Seat

Neles Control Valves Competition

NELES

(Emerson) Fisher CV500 - Links

- Brochures
  - Catalog of Fisher Control Valves
  - Product Flyer V500
- Product Bulletin
  - CV500 Product Bulletin
- Instruction Manual
  - CV500 Instruction Manual

Neles Control Valves Competition

(Flowserve) Valtek MaxFlo 4

NELES

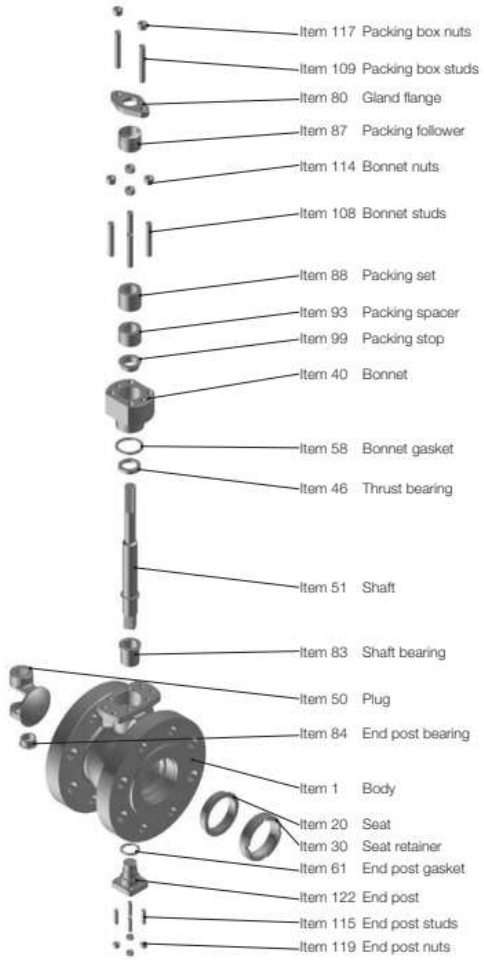
	Neles Finetrol	Valtek MaxFlo 4
Sizes	1” – 12”	1” – 12”
Temperature	-200…+425°C (-328…+800°F)	-100…+400°C (-148…+750°F)
Body types	Flanged (FC)	Flanged 1”-12” Wafer 1”-8”
Ratings	150 – 600# (12” 300# Only)	150# - 600# Globe F-F 150#-300# only (8” and above 1 size smaller trim)
Face to Face	ISA S75.08 Control F-F	ISA S75.08 Control F-F ISA S75.08 Globe F-F

Flowserve MaxFlo 4 Technical Bulletin

Neles Control Valves Competition

(Flowserve) Valtek MaxFlo 4

- Live Loading is optional
- No variable attenuator (fixed resistor only)
- Limited to 65% opening
- 2 reductions per trim size



Valtek MaxFlo 4

Neles Control Valves Competition

(Flowserve) Valtek MaxFlo 4

NELES

Metal Seat	• Class IV Shut-Off
Soft Seat	• None

Metal Seat

Neles Control Valves Competition

NELES

(Flowserve) Valtek MaxFlo 4 - Links

- Brochures
  - MaxFlo 4 Brochure
- Product Bulletin
  - MaxFlo Technical Bulletin
- Instruction Manual
  - MaxFlo Installation Operation Maintenance

Neles Rotary Control Valves

Finetrol Eccentric

NELES

- Features That Address Customer's Challenges
- Unique plug shape
  - Balanced dynamic forces
  - Consistent inherent flow characteristics
- Standard live loading & anti-blowout shaft
- Erosive Service Constructions
- Q-Trim noise abatement trim

Contact us

- Steven Hocurscak
  - Steven.Hocurscak@neles.com
- Applications Engineering
  - apps.engineering@neles.com
- Area Sales Managers map
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