

Neles™ Q-Disc™ flow balancing trim for Neldisc™ butterfly valves

- Next generation flow balancing for high performance butterfly valves
- Minimizes dynamic torque load in superior manner
- Enhanced noise reduction capability
- Excellent control performance and high capacity
- Modular add-on for LW, LG, L6 Model D valves (technical bulletin 2LBF20)

Superior stability and performance

New, patent pending Q-Disc design features extreme flow balancing for control service. Dynamic torque effect from the flow has been significantly reduced allowing high pressure drop service. Design also provides market leading noise reduction even up to 12 dB.

Q-Disc is welded-on addition to standard L series (figure 1). Simple but effective design enables balanced flow without affecting valve performance. Design is suitable for all available body types and face-to-face lengths and with wide temperature range (up to +600 °C) which makes Q-Disc the most versatile flow balancer on the market.

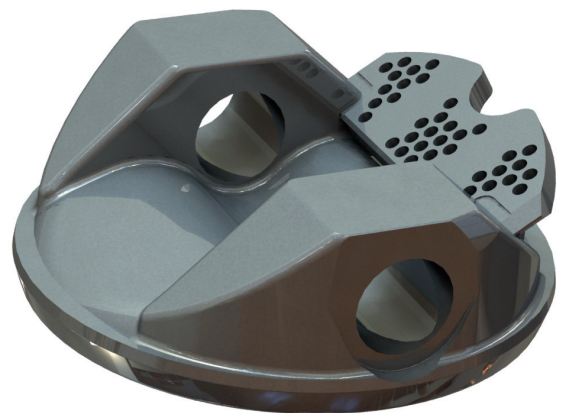


Fig. 1 Q-Disc design

Q-Disc is designed to balance the torque effect caused by the flow. In standard offset designs, flow causes dynamic torque effect caused by uneven pressure across the disc surface (Fig 2). With Q-Disc, the pressure is distributed more evenly resulting in lower torque requirement and more effective control of flow (Fig 3).

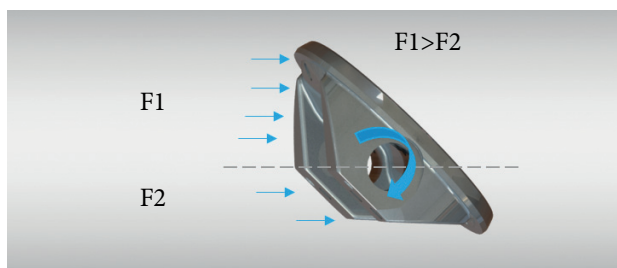


Fig. 2 Normal eccentric disc design

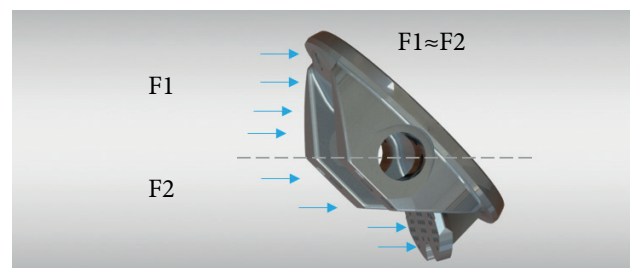


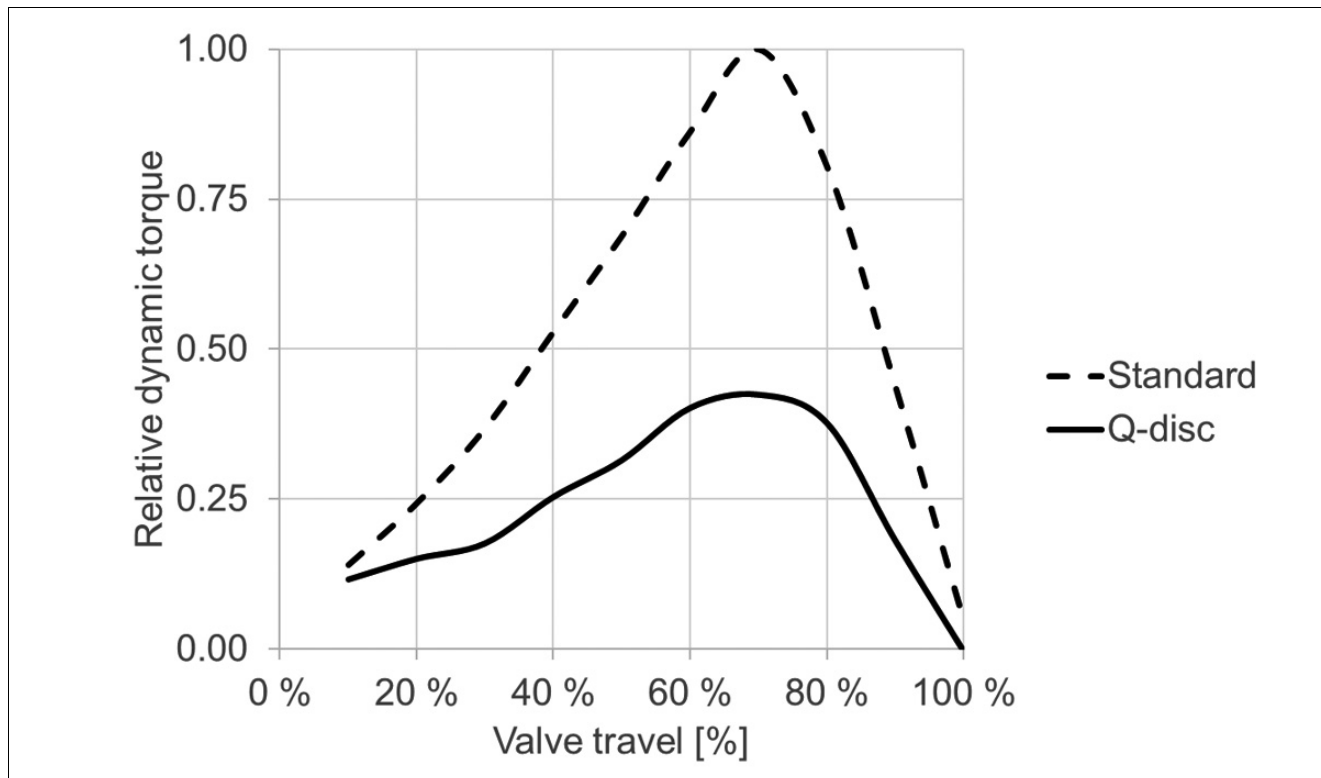
Fig. 3 Q-Disc flow balancing trim

Flow data

The tables below provide flow coefficients for L-Series butterfly valves covered in this bulletin. The Cv values represent the number of gallons per minute of +60°F water that flows through a fully open valve at a pressure drop of 1 psi.

The metric equivalent Kv is the flow of water at 16°C through the valve in cubic meters per hour at a pressure drop of 1kg/cm². To convert Cv to Kv multiply by 0.8569. Note that shaft design style does not affect on the Cv.

Inch	DN	Design style	ASME 150 PN10-16	ASME 300 PN25-40
3	80	Through shaft Drive shaft + trunnion	196	196
4	100		330	330
6	150		1100	920
8	200		2020	1470
10	250		3660	2830
12	300		5720	3860



Sizing

Sizing of the Q-Disc control valve is based on ANDI/ISA S-75.01 standard. Valmet recommends Nelprof™ for valve sizing and selection.

Subject to change without prior notice.

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