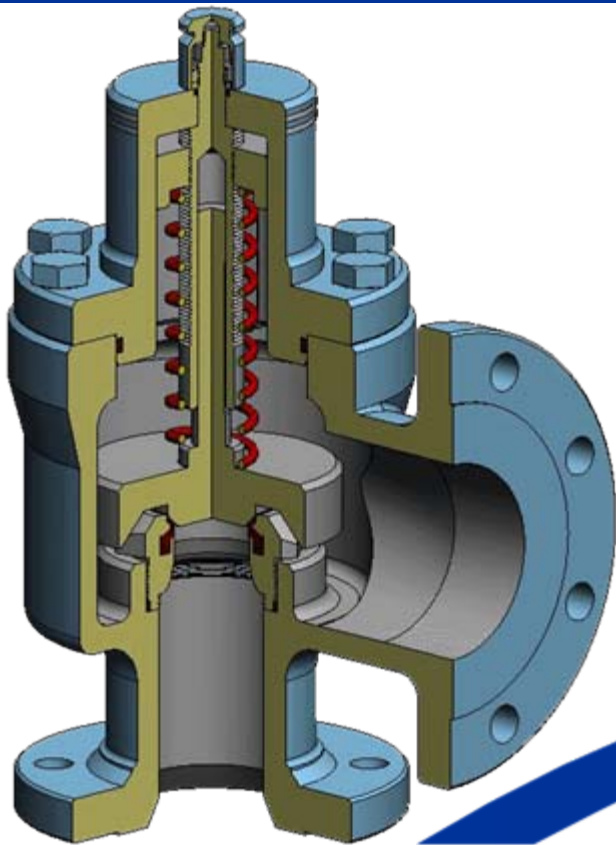




Auto Seat Technology[®]



Pressure Relief Valves

- Each Pressure Relief design have operational characteristics
- Some of the characteristics are ideal in relief valve action
- Most designs can meet some ideal characteristics but not all

Characteristics of an Ideal Pressure Relief Valve

- Crisp Opening
- Crisp Closing
- High Flow Rate
- Ease of Set Pressure Adjustment
- Ease of Repair
- Reliability
- Durability

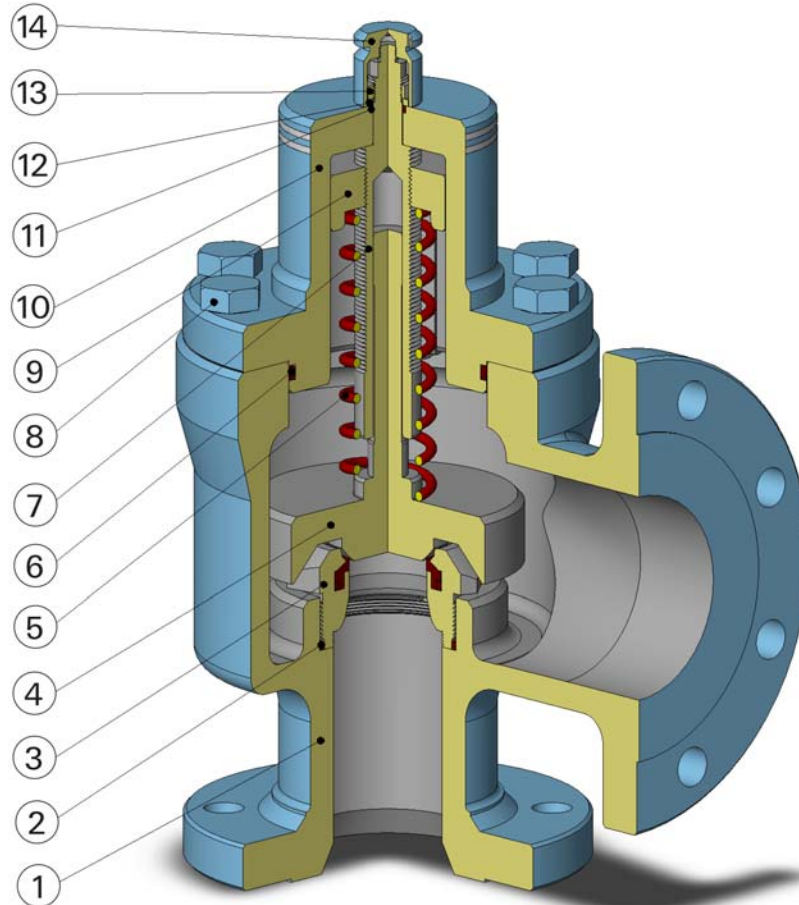
Auto Seat Technology®

- Auto Seat Technology® was developed to incorporate these ideal characteristics of a pressure relief valve.
- This is achieved by combining some all ready used concepts in pressure relief valves and some new concepts to the pressure relief valve industry.
- Auto Seat Technology® is a soft seat design

Auto Seat Technology[®]

- Developed by Wesley Taylor
- First introduced in the 8100 Series of Mercer Valve Co., Inc.
- All Mercer Valve Series incorporate Auto Seat Technology[®]

PARTS



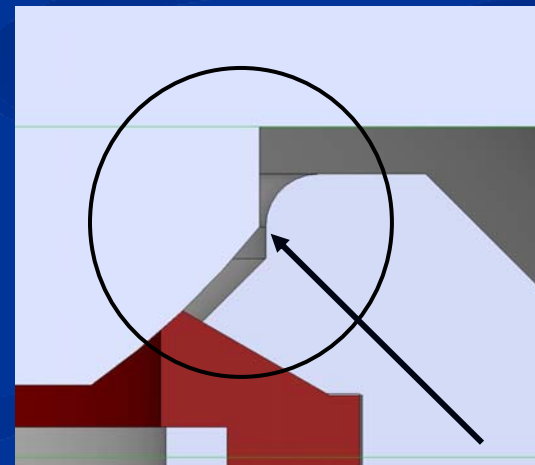
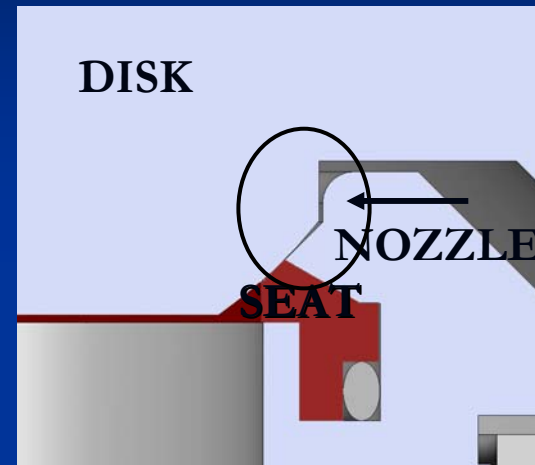
ITEM NO	PART NAME	ITEM NO	PART NAME
1	BODY	8	BONNET BOLTS
2	NOZZLE O-RING	9	ADJUSTMENT BUSHING
3	NOZZLE SUBASSEMBLY	10	BONNET SUBASSEMBLY
4	DISK SUBASSEMBLY	11	ADJUSTMENT SCREW O-RING
5	SET SPRING	12	WASHER
6	BONNET O-RING	13	LOCKNUT
7	ADJUSTMENT SCREW	14	CLOSED CAP

Auto Seat Technology[®]

How are the ideal characteristics of a relief valve achieved?

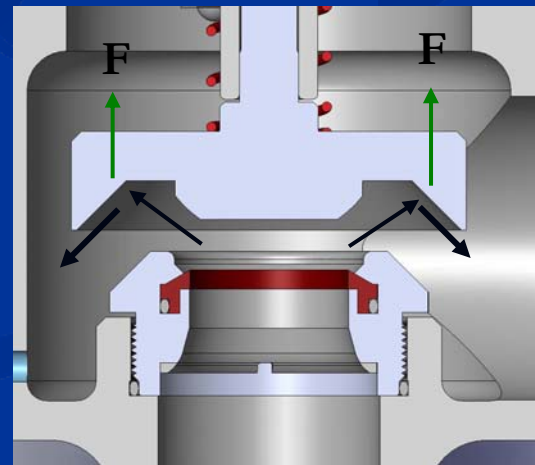
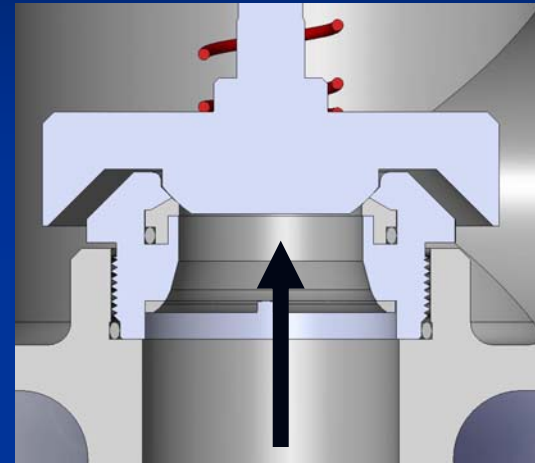
Crisp Opening

- Huddling Chamber
 - Creates Second Area that is larger. Increases Opening force



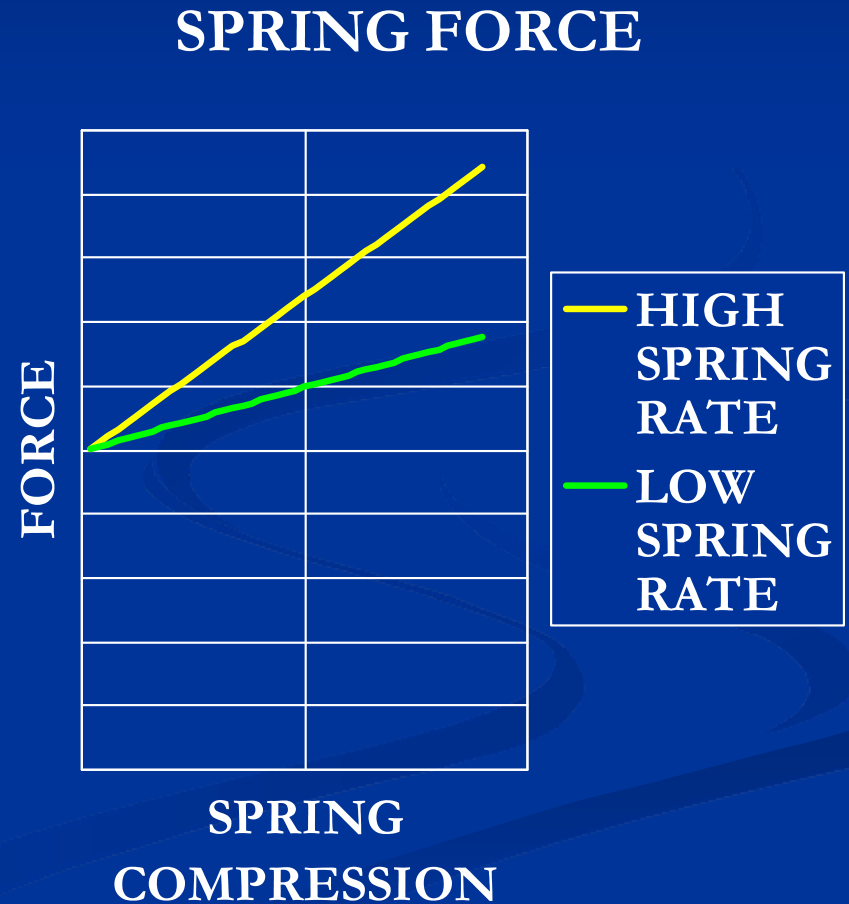
Crisp Opening

- Huddling Chamber
- Disk Design
 - Redirects Flow

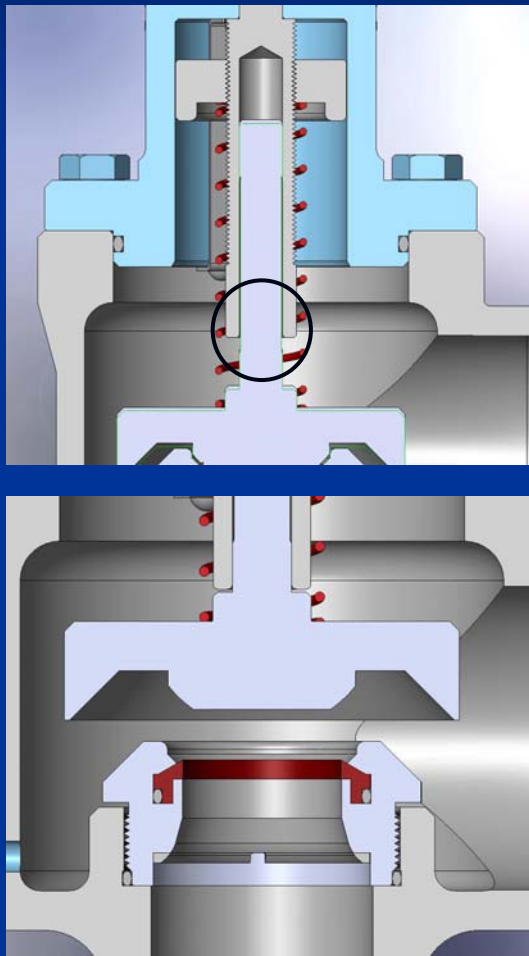


Crisp Opening

- Huddling Chamber
- Disk Design
- Low Rated Spring
 - Not as much Force hold disk down as spring is compressed

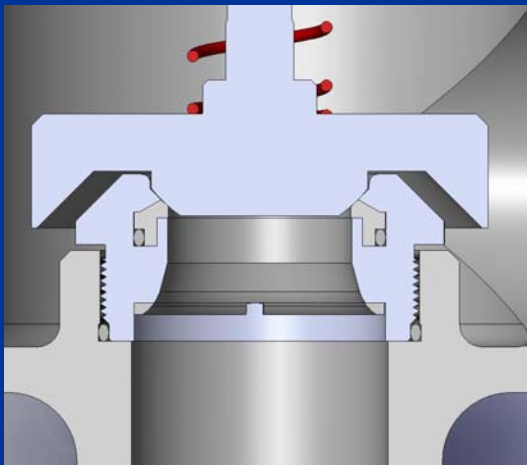
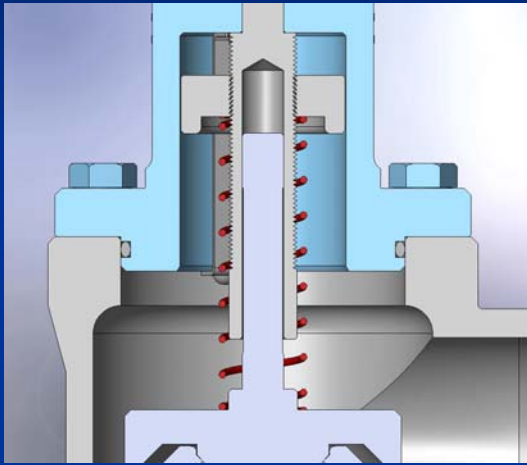


Crisp Closing



- Limited Lift
 - Keeps disk in stationary position until it has enough force to fully reclose

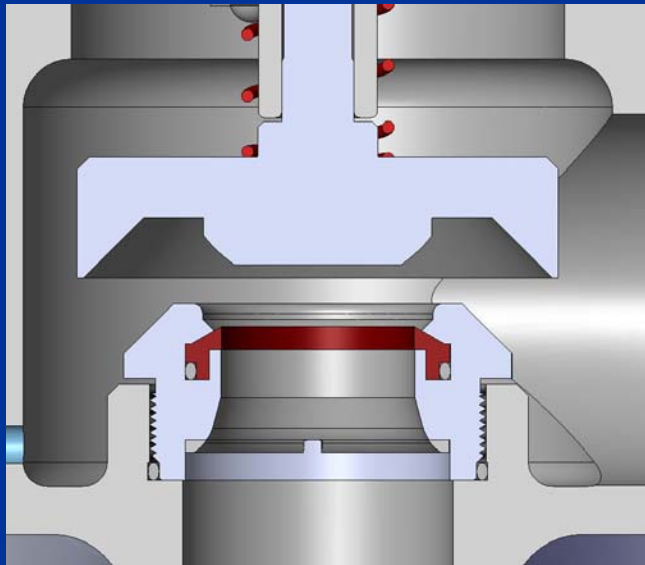
Crisp Closing



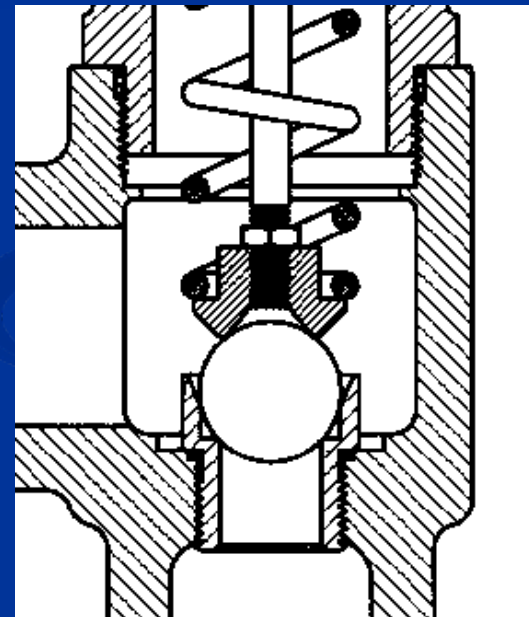
- Limited Lift
- Disk Guiding
 - Keeps parts from moving with flow
 - Aligns disk to easily reclose

High Flow Rate

- Disk Design
 - Flow path is open



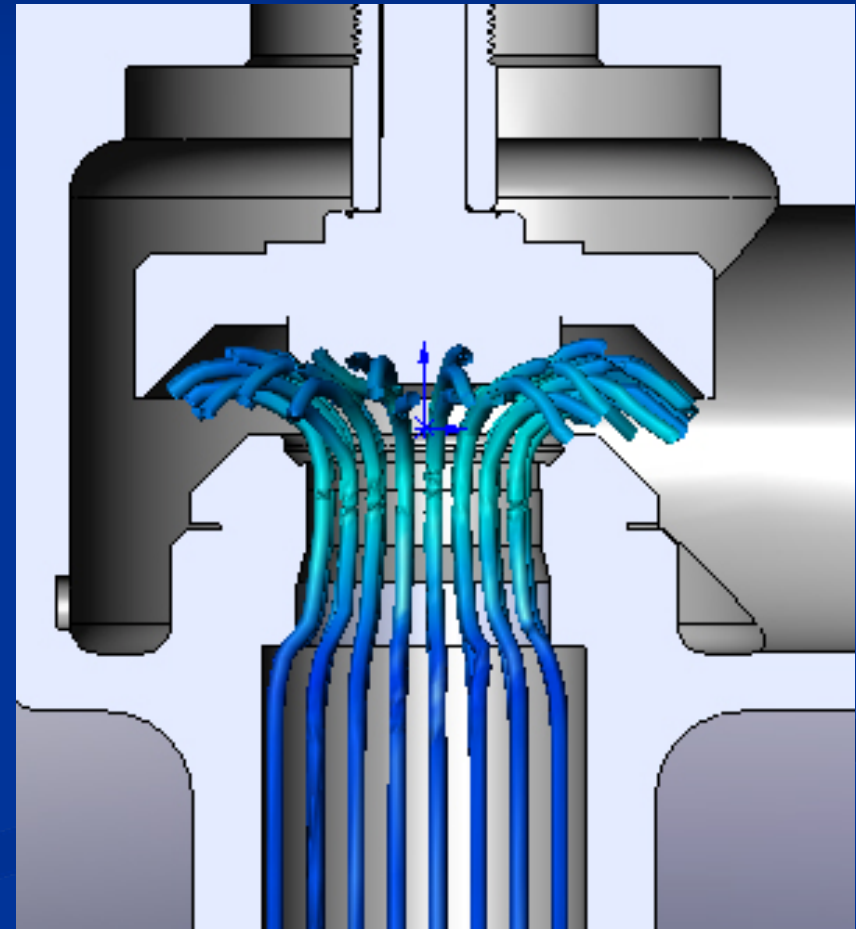
OPEN FLOW PATH



CLOSED FLOW PATH

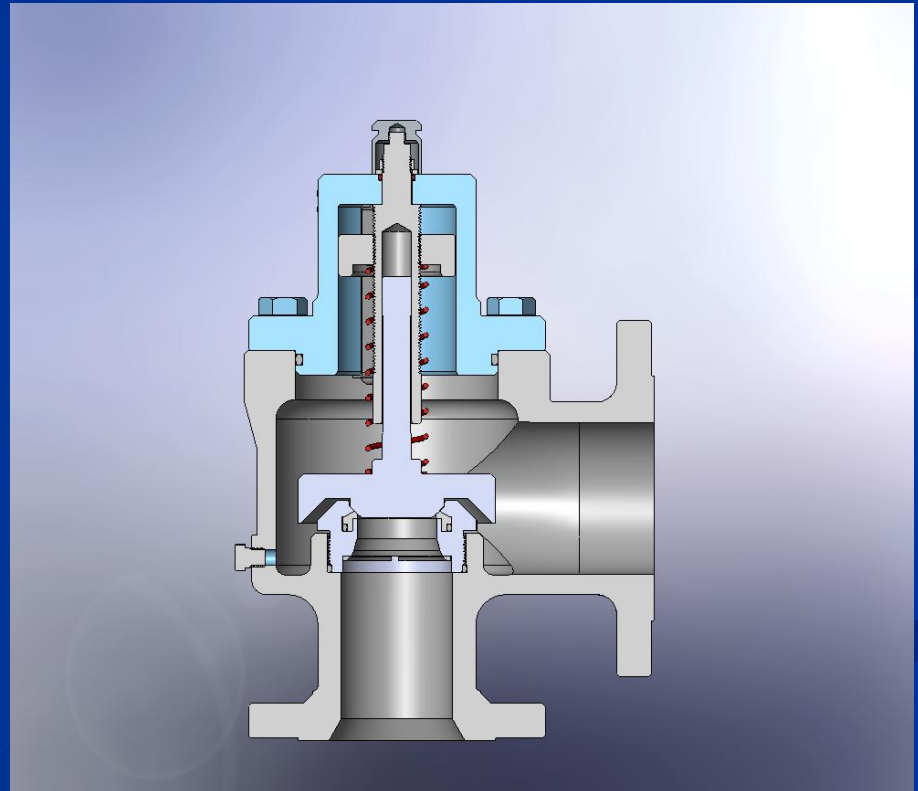
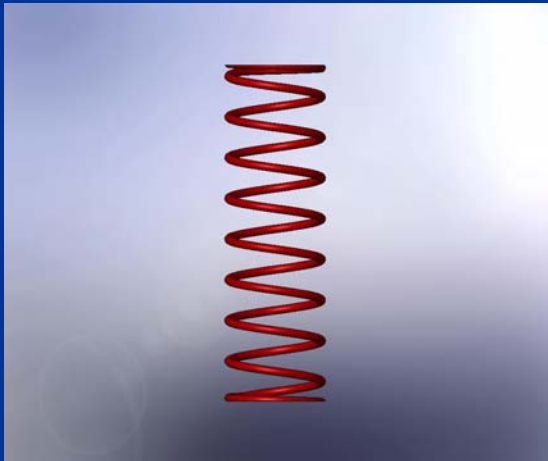
High Flow Rate

- Disk Design
- Nozzle Design
 - Gradual transitions allow for laminar flow



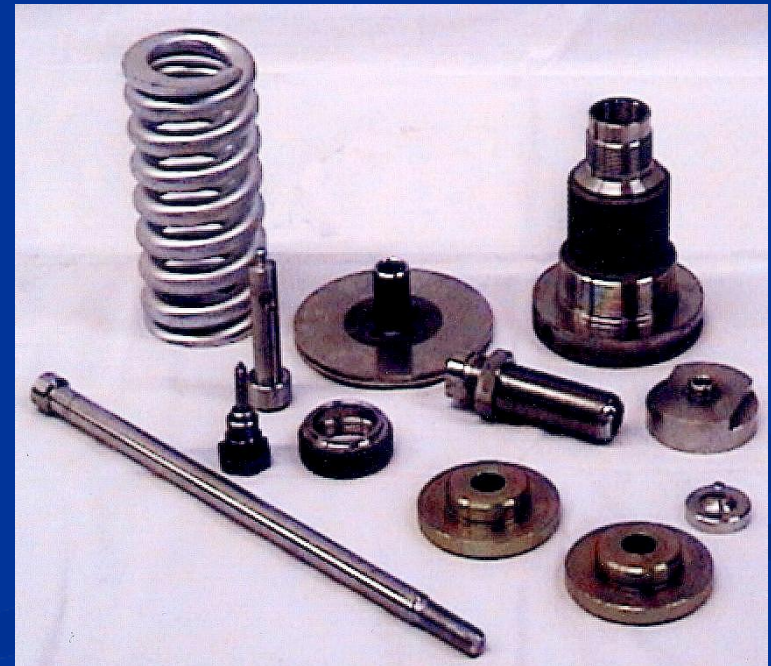
Ease of Set Pressure Adjustment

- Low Rate Spring
 - Each turn is less of an increase/decrease in spring tension.



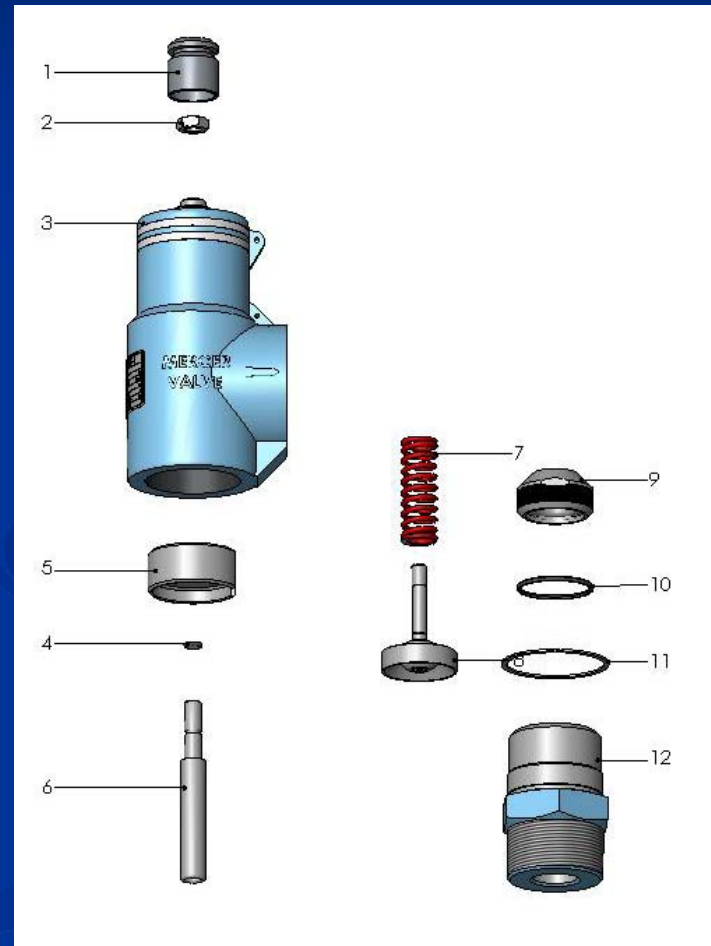
Ease of Repair

- Low Number of Parts
 - Fewer parts to be damaged/replaced



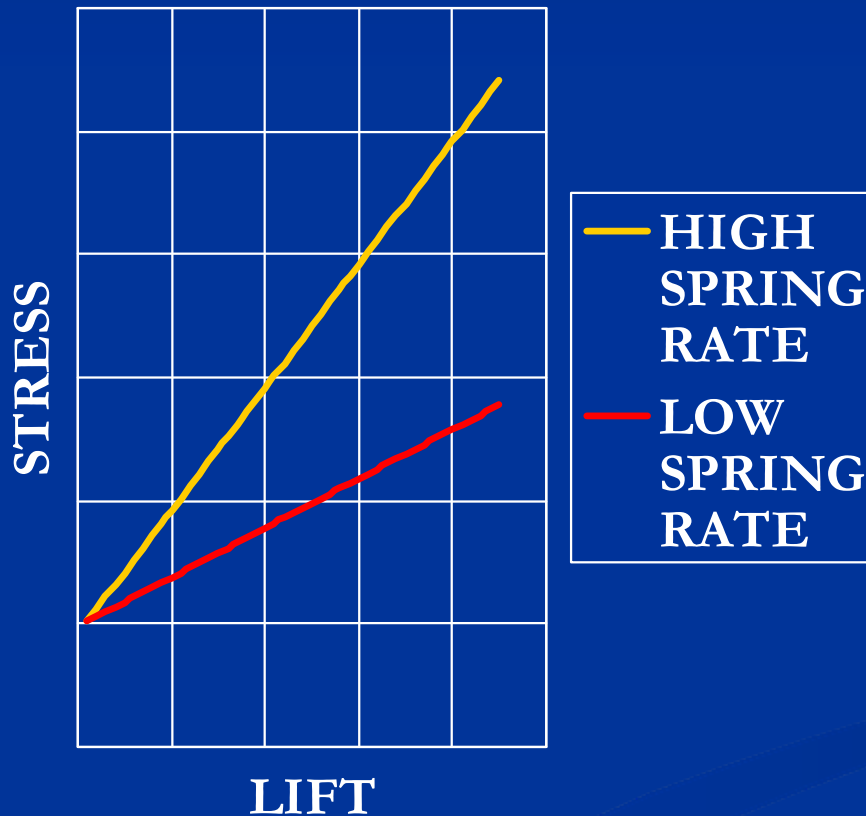
Ease of Repair

- Low Number of Parts
- No required Machining
 - Parts are ready to be installed
 - Repair kit includes major wear point parts



Reliability

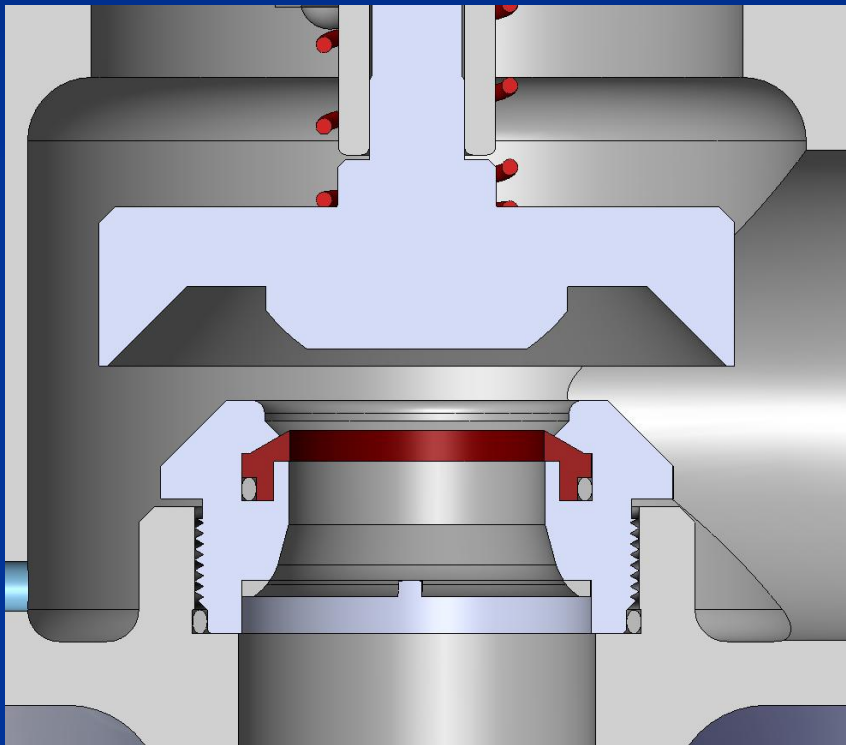
SPRING STRESSES



■ Low Spring Rates

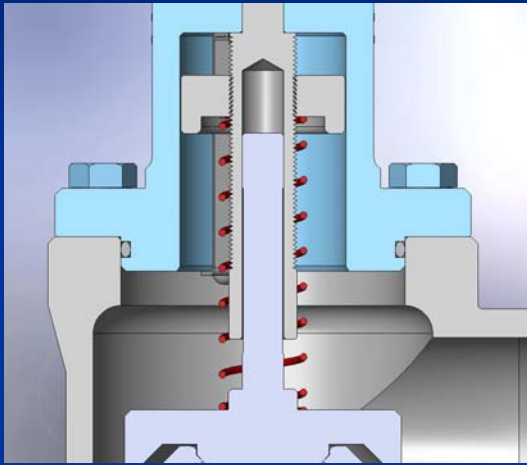
- Lower Stress in spring
- Spring Characteristics don't change
- Set Pressure is consistent

Reliability

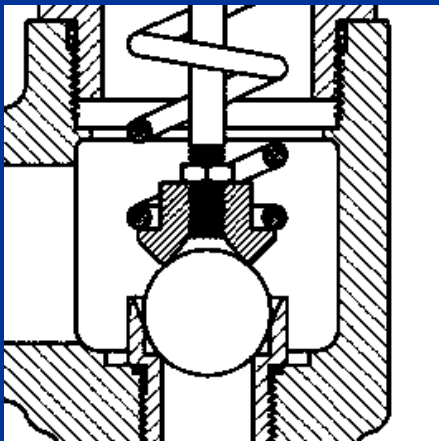


- Low Spring Rates
- Limit Lift
 - Stops over compressing spring
 - Keeps accuracy of set pressure

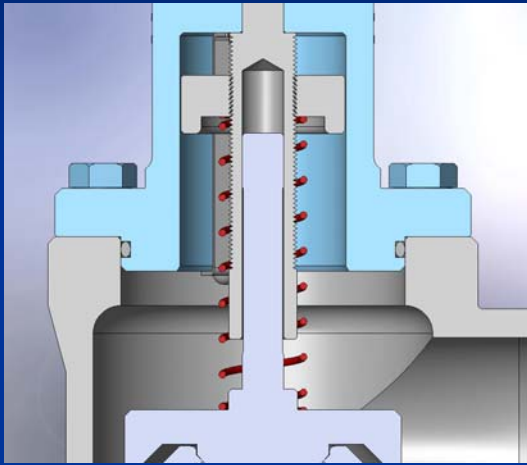
Reliability



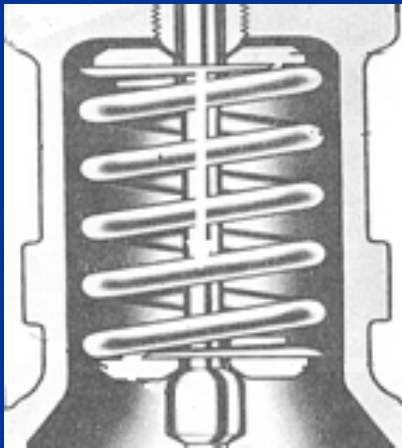
- Low Spring Rates
- Limit Lift
- Guiding
 - Keeps Disk aligned to reseal continuously



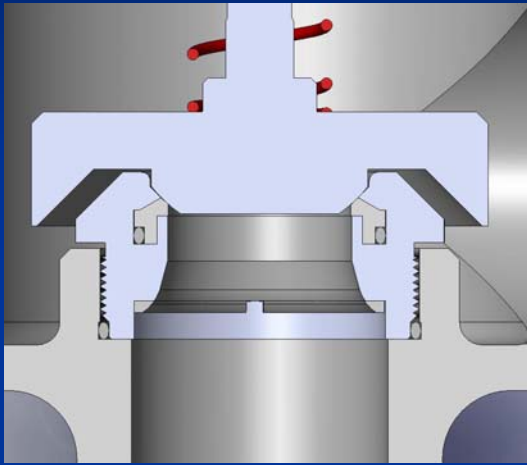
Reliability



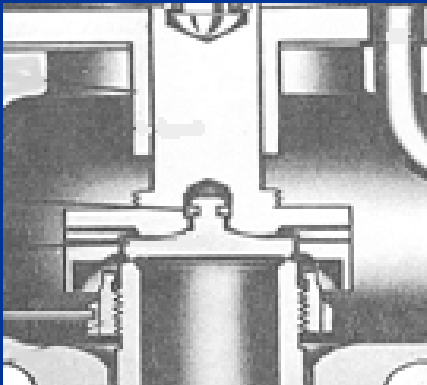
- Low Spring Rates
- Limit Lift
- Guiding
 - Keeps Disk aligned to reseal continuously
 - Stops spring from bowing



Reliability

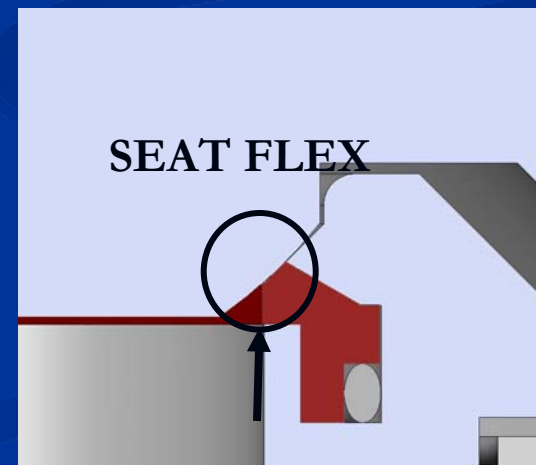
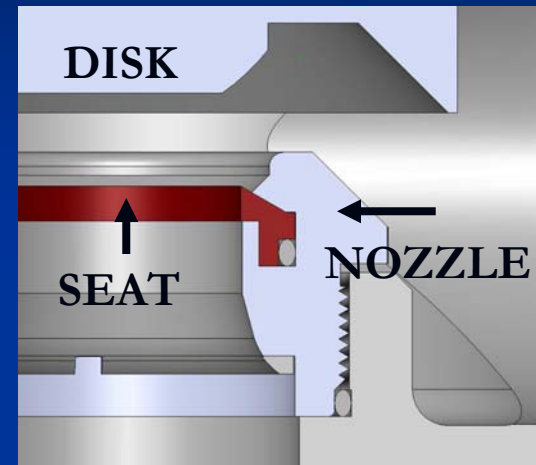


- Low Spring Rates
- Limit Lift
- Guiding
- Spherical Disk Surface
 - Realigns disk into nozzle on reclose



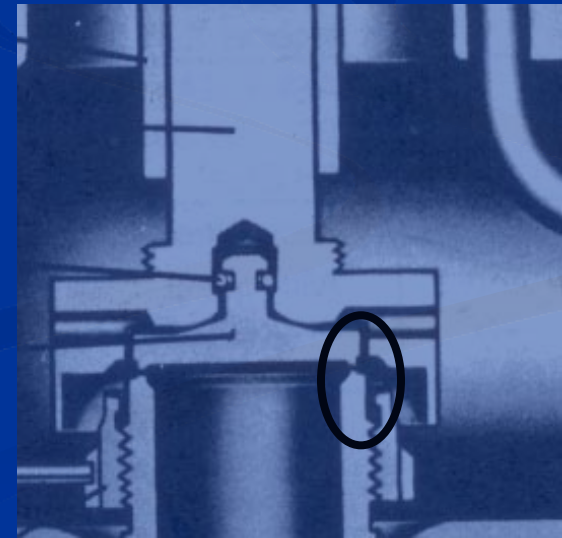
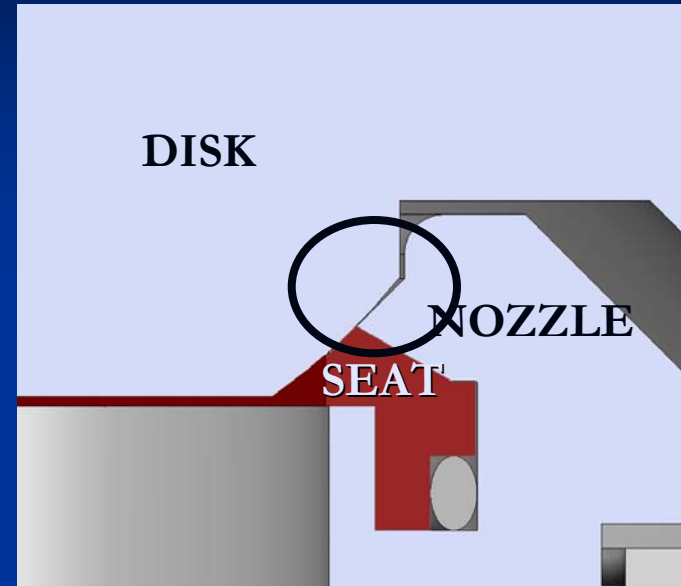
Durability

- Lip Seal Seat
 - Seat Flexes
 - Pushed against disk coming up to set pressure
 - Moves away from brute impact of the disk reclosing



Durability

- Lip Seal Seat
- Disk and Nozzle Design
 - Brute impact of reclose applied against nozzle. Still allows soft seat to seal.



Using Auto Seat Technology[®]

- Allows for a tighter seal and less product loss.
- Reduces the need for valve repair.
- Helps keep an accurate set pressure.

AUTO SEAT TECHNOLOGY®



Thank you for your time.

Please visit us at **Booth 29** for additional information or specific inquiries.



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