

# Compact Performance Series 437, Series 459



**LESER**

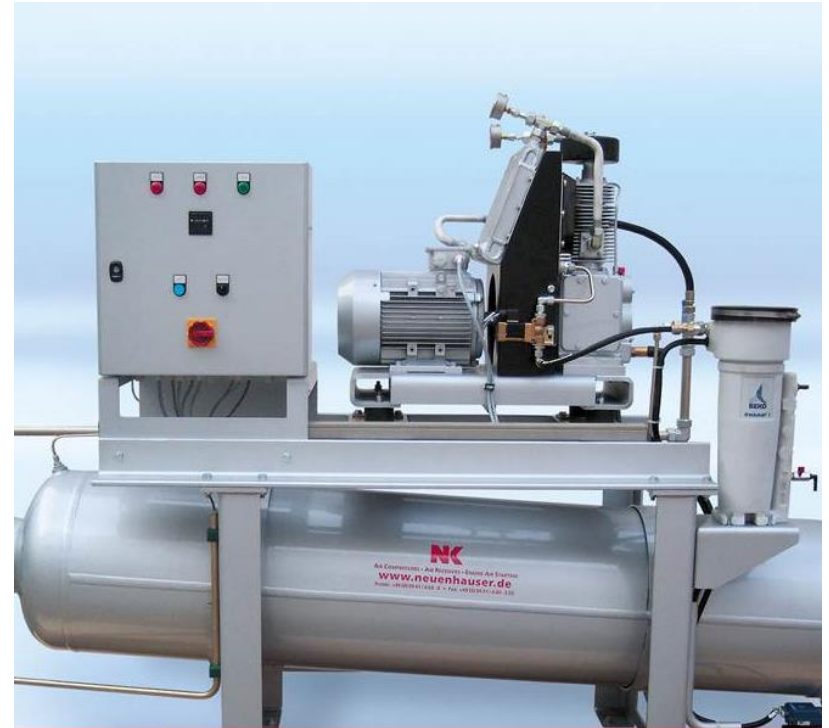
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# Objectives of this Presentation. Knowledge to learn.

1. [Objectives](#) | 2. [Single Trim](#) | 3. [Shielded Bellows](#) | 4. [Spindle Guiding](#) | 5. [Body Design](#) | 6. [Disc](#) | 7. [Disc and Nozzle Materials](#)

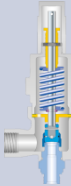
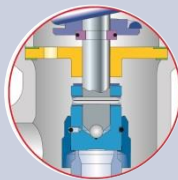
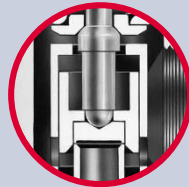

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The aim is to point out the **advantages of the LESER Compact Performance Series** against the competition.



# Single Trim.

1. Objectives | 2. **Single Trim** | 3. Shielded Bellows | 4. Spindle Guiding | 5. Body Design | 6. Disc | 7. Disc and Nozzle Materials

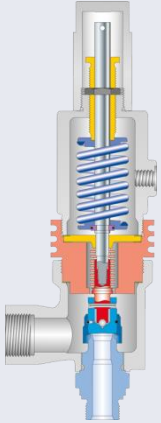
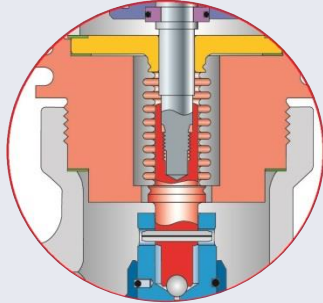
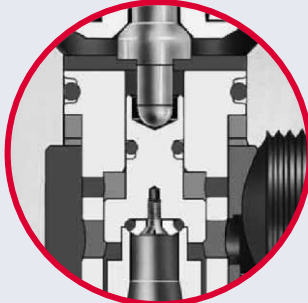
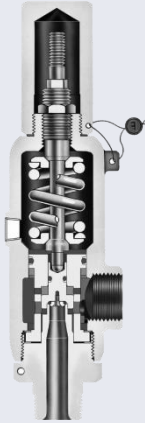
	LESER	Competitor	LESERs Benefit
<b>Trim</b>	<ul style="list-style-type: none"> <li>■ <b>Single trim</b> and design for all services (steam/gas and liquid) and options (e.g. bellows, O-ring disc)</li> <li>■ Same setting for all services (steam/gas and liquid)</li> </ul>	<ul style="list-style-type: none"> <li>■ Different parts and springs for different options and services</li> </ul>	<ul style="list-style-type: none"> <li>■ Same parts for all services for easier maintenance</li> <li>■ No changes for ASME, PED or Chinese AQSIQ approval</li> <li>■ Less parts reduce spare part stock</li> </ul>
<b>Spring</b>	<ul style="list-style-type: none"> <li>■ Low number of springs for a fixed set pressure range</li> </ul>	<ul style="list-style-type: none"> <li>■ Multiplicity of springs</li> </ul>	<ul style="list-style-type: none"> <li>■ LESER needs only 18 springs for 1.5 bar to 420 bar/ 22 psig to 6,090 psig</li> <li>■ Reduced spring stock for a better spring availability</li> </ul>
			

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# Shielded Bellows.

1. Objectives | 2. Single Trim | 3. **Shielded Bellows** | 4. Spindle Guiding | 5. Body Design | 6. Disc | 7. Disc and Nozzle Materials

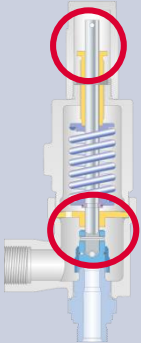
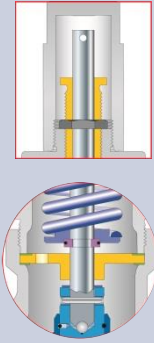
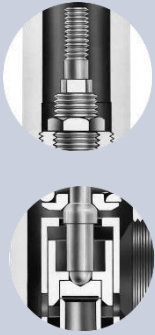

	LESER	Competitor	LESERs Benefit
<b>Balanced design</b>	<ul style="list-style-type: none"><li>■ Balanced bellows are <b>shielded</b> by the bonnet spacer</li><li>■ Designed for 10,000 bellows cycles</li></ul>	<ul style="list-style-type: none"><li>■ Balanced design is realized by piston (by isolating the upper valve chamber).</li></ul>	<ul style="list-style-type: none"><li>■ Less friction</li><li>■ Less risk of blocking</li></ul>
			

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# Spindle Guiding.

1. Objectives | 2. Single Trim | 3. Shielded Bellows | 4. **Spindle Guiding** | 5. Body Design | 6. Disc | 7. Disc and Nozzle Materials

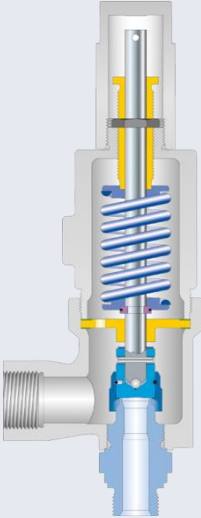
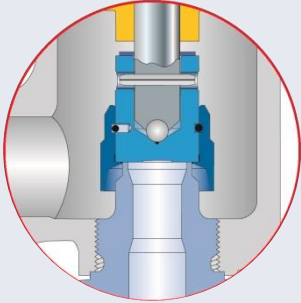
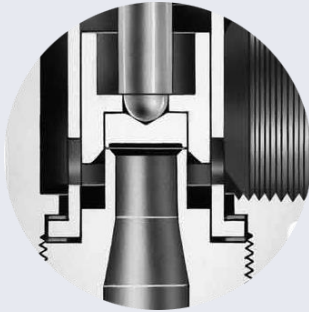
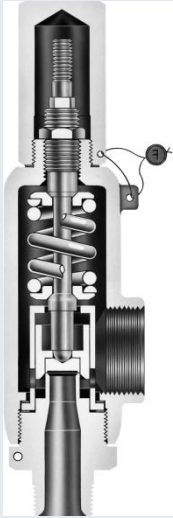
	LESER	Competitor	LESERs Benefit
<b>Bushing</b>	<ul style="list-style-type: none"> <li>The adjusting screw is equipped with a PTFE bush</li> </ul>	<ul style="list-style-type: none"> <li>Metal spindle is directly in contact with the adjusting screw</li> </ul>	<ul style="list-style-type: none"> <li>Less friction during operation</li> <li>Less abrasion of the spindle</li> </ul>
<b>Spindle Guiding</b>	<ul style="list-style-type: none"> <li>Widely spaced top and bottom guide</li> <li>Short guiding length (max. 1,5 x spindle diameter)</li> </ul>	<ul style="list-style-type: none"> <li>Spindle is guided in adjusting screw only</li> <li>Lower end rests in top of disc</li> </ul>	<ul style="list-style-type: none"> <li>Better alignment</li> <li>Easier assembly for maintenance</li> </ul>
			

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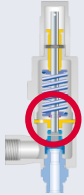
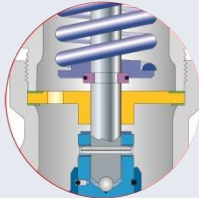
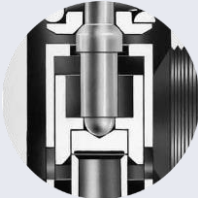

# Body Design.

1. Objectives | 2. Single Trim | 3. Shielded Bellows | 4. Spindle Guiding | 5. **Body Design** | 6. Disc | 7. Disc and Nozzle Materials

	LESER	Competitor	LESERs Benefit
<b>Body</b>	<ul style="list-style-type: none"><li>■ Flat bottom outlet body</li><li>■ Self draining design</li></ul>	<ul style="list-style-type: none"><li>■ Outlet body with sump</li></ul>	<ul style="list-style-type: none"><li>■ No dirt deposition</li><li>■ Less corrosion</li></ul>
			

# Disc.

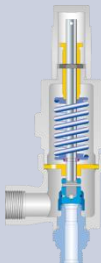






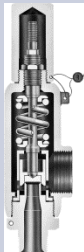
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	LESER	Competitor	LESERs Benefit
<b>Disc fixing</b>	<ul style="list-style-type: none"> <li>Disc is fixed at the spindle</li> </ul>	<ul style="list-style-type: none"> <li>Spindle is not fixed in the top of the disc</li> </ul>	<ul style="list-style-type: none"> <li>Valve can be lifted even in vacuum service or during plant shut-down</li> </ul>
<b>Disc mounting</b>	<ul style="list-style-type: none"> <li>Disc is located free in the outlet chamber</li> </ul>	<ul style="list-style-type: none"> <li>Disc is guided in a cage</li> </ul>	<ul style="list-style-type: none"> <li>No risk that disk gets stuck in open position, can appear especially in brine and water application.</li> </ul>
<b>Capacity</b>	<ul style="list-style-type: none"> <li>Full flow area</li> <li>Higher capacity (LESERs ¾" x 1" size has E orifice capacity)</li> </ul>	<ul style="list-style-type: none"> <li>Limited flow area</li> <li>Lower capacity (Competitor's ¾" x 1" size has D orifice capacity only)</li> </ul>	<ul style="list-style-type: none"> <li>Capacity is not limited by holes in the guide (cage).</li> </ul>
			

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# Disc and Nozzle Materials.

	LESER	Competitor	LESERs Benefit
<b>Disc and Nozzle</b>	<ul style="list-style-type: none"> <li>Type 4592, 4373: hardened disc</li> <li>&gt; 250 bar: stellited disc and nozzle</li> </ul>	<ul style="list-style-type: none"> <li>disc and nozzle only made of 316L</li> </ul>	<ul style="list-style-type: none"> <li>Longer lifetime due to harder surface</li> </ul>
<b>Soft sealing</b>	<p>Available as</p> <ul style="list-style-type: none"> <li>O-Ring</li> <li>Vulcanized soft seal</li> <li>Sealing plate</li> </ul>	<ul style="list-style-type: none"> <li>Soft sealing is only available as O-ring design.</li> </ul>	<ul style="list-style-type: none"> <li>Wider range of soft sealings available</li> <li>Not limited to O-ring materials</li> <li>For each pressure the right solution</li> </ul>
	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;">  <p>Metal to Metal</p> </div> <div style="text-align: center;">  <p>O-Ring</p> </div> <div style="text-align: center;">  <p>Vulcanized soft seal</p> </div> <div style="text-align: center;">  <p>Sealing plate</p> </div> </div>	<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;">  <p>Metal to Metal</p> </div> <div style="text-align: center;">  <p>O-Ring</p> </div> </div>	



**Compact Performance**  
Thank you for your attention.



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