



# Notes from *NICHOLSON*

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## Nicholson SLR Seat

The SLR (Steam Lock Release) is a method of allowing a steam trap to continuously bleed steam by avoiding tight shut off of the trap at very low condensate loads.

The SLR is used with several applications such as: rotating equipment, including paper machines, corrugators, grain dryers and equipment with rotary type joints and siphon effect fittings where continuous drainage is needed to keep condensate flowing. If a pocket of steam occurs, and the steam trap closes, the siphon can be lost and the equipment will flood.

For installations where the trap can not be installed at a low point where condensate collects, the trap must be installed higher than the equipment it has to drain. This can cause a coil or heat exchanger to flood. To prevent flooding, a proper siphon leg should be installed and the SLR used to promote continuous flow.

There are other applications where a thermostatic trap may be desirable; yet, it is important for the steam trap to run hotter than the normal trap discharge temperature. In this case, for operation on sensitive processes, the SLR option promotes a better response of the bellows. \*

The SLR varies with different styles of steam traps. In the majority of Nicholson traps, it is the precision machining of the valve seat that provides a controlled flow. A groove is machined across the face of the seat so that a portion of the circumference has a notch where the valve would normally seal (see Figure 1).

The trap will nominally pass 50 pounds per hour of condensate at a 50 psi differential, within 2° Fahrenheit of saturated steam temperature. In other traps there is an orifice machined in the plug or an orifice drilled in the air vent outlet.



Figure 1 Top View of Seat with SLR

\*Another seat which is designed for hotter discharge is the sterilizer seat however, this is not available in as wide a range of traps.

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