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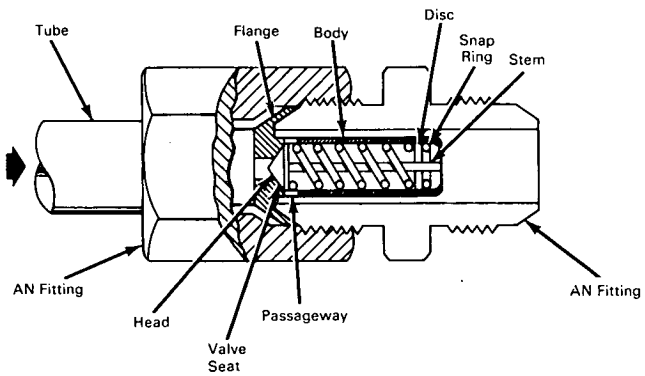
NASA TECH BRIEF

Inexpensive Check Valve Is Installed in Standard AN Fittings



The problem: To design a compact all-metal check valve that can be used in standard AN fittings.

The solution: A check valve consisting of a flanged tube body and an easily removable spring-loaded piston.

How it's done: The valve consists of a cylindrical tube flanged at one end, a spring-loaded stem with a beveled head, and a drilled disc. The disc supports and guides the stem during its movement and is held in place by a snap ring.

Under no-flow conditions, the spring forces the beveled head of the valve stem against the seat in the flanged section of the valve body, thus preventing flow in the reverse direction. Only flow pressure in the proper direction will open the valve by pushing the stem away from the seat and compressing the spring. When the valve is open, fluid flows past the seat, around the beveled head, and out through holes in the tubular body into the downstream line.

When assembled, the flange of the valve body is pressed against the tubing wall by the fittings, forming a tight leakproof seal. The device can be adapted for a wide range of pressures by using springs of different compressive force.

Note: Inquiries concerning this innovation may be directed to:

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Reference: B65-10222

Patent status: NASA encourages commercial use of this innovation. No patent action is contemplated.

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(JPL-2A)

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