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Ames Research Center

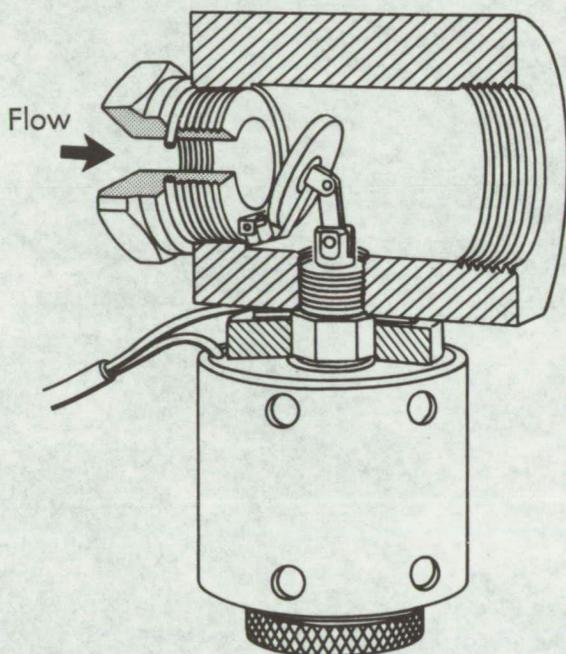


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Solenoid-Operated Swing-Check Valve

The problem:

To provide a low-vacuum swing-check valve which can be operated remotely.



The solution:

Modify a spring-loaded swing-check valve for solenoid operation.

How it's done:

The valve housing of a commercially available swing-check valve (Republic Mfg. Co., 583-3/4D1)

is replaced by a larger aluminum housing to utilize an electromagnet. The spring in the swing-check assembly is replaced by a steel armature which is free to move up and down within a hollow aluminum stem that is threaded into the valve housing and sealed. The armature housing serves as a core for the electromagnet; when the coil is energized, the armature is pulled up into the core of the magnet and the valve is opened.

Notes:

1. The valve operates only when the armature is in a vertical position above the swing-check assembly. For freedom of orientation, the valve would have to be spring-loaded to offset the weight of the armature and the electrical input to the coil would have to be sufficient to overcome the spring pressure.
2. No additional documentation is available. Specific questions, however, may be directed to:

Technology Utilization Officer
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Moffett Field, California 94035
Reference: TSP72-10037

Patent status:

No patent action is contemplated by NASA.

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Category 06