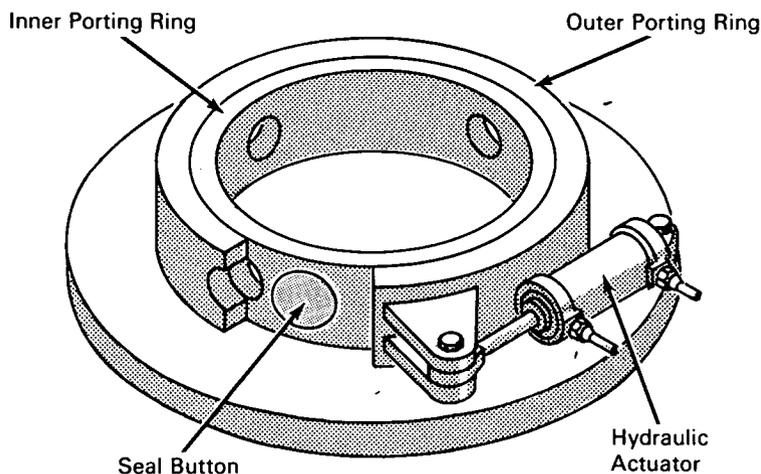


# NASA TECH BRIEF



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## Flow Ring Valve Is Simple, Quick Acting



### The problem:

To design a simple, reliable quick-acting valve for control of gases or liquids.

### The solution:

Two porting rings, one within the other, control flow by using seal buttons as the sliding valve closers. Multiporting within the rings allows close control of the gas or liquid flow by the slight rotation of the outer porting ring.

### How it's done:

The outer or actuating ring contains plastic seal buttons that are located immediately adjacent to the ports and are flush with the outside surface of the inner porting ring. The seal buttons ride against a plastic coated surface of the inner ring, and are maintained by steel spring washers and the fuel flow pressure acting from behind them.

The respective positions of the flow ports of the inner ring with the flow ports or seal buttons of the outer ring determine the amount of flow through the valve.

The outer ring is hydraulically actuated by the gas or liquid of the operating medium and is controlled by a small solenoid valve.

### Notes:

1. Under test to pressures of 1,000 psi, this valve delivered up to 371 gpm with no leakage in any position through 275 cycles.
2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer  
Marshall Space Flight Center  
Huntsville, Alabama 35812  
Reference: B66-10255

(continued overleaf)

**Patent status:**

No patent action is contemplated by NASA.

Source: J. A. Lindfors  
of North American Aviation Inc.  
under contract to  
Marshall Space Flight Center  
(M-FS-752)