

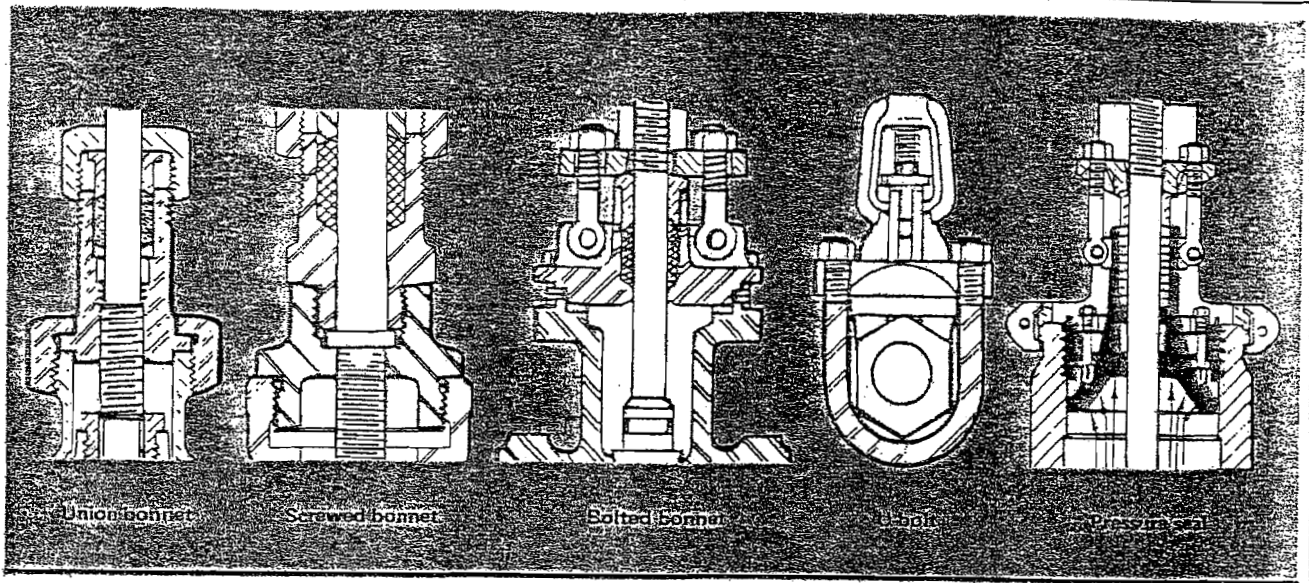


Valves

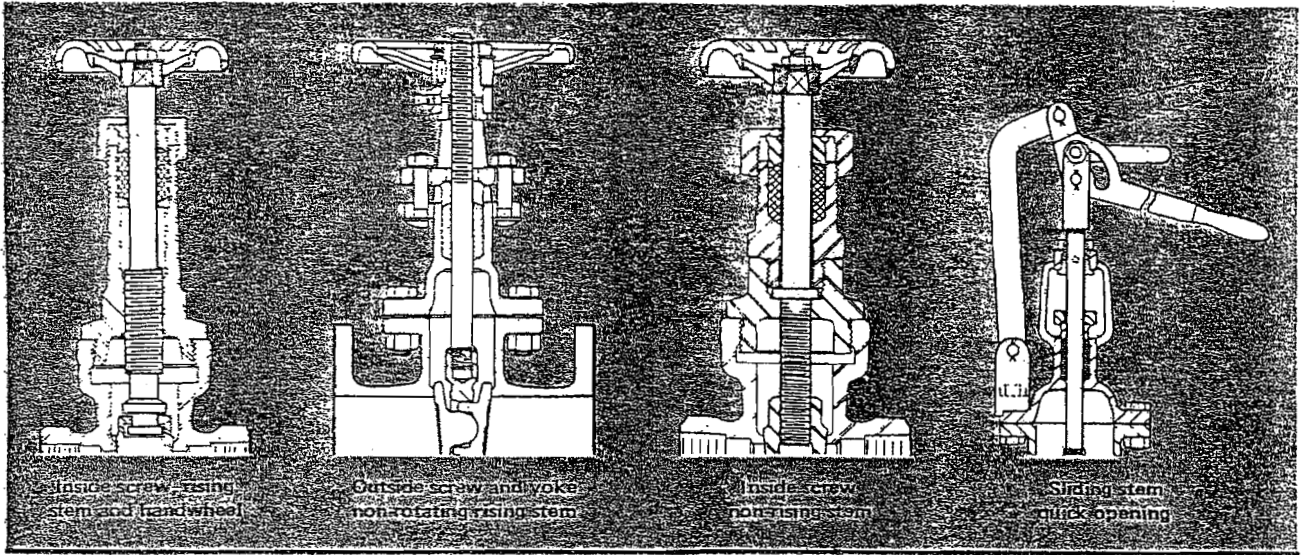
Sample Diagrams of Valves and Components



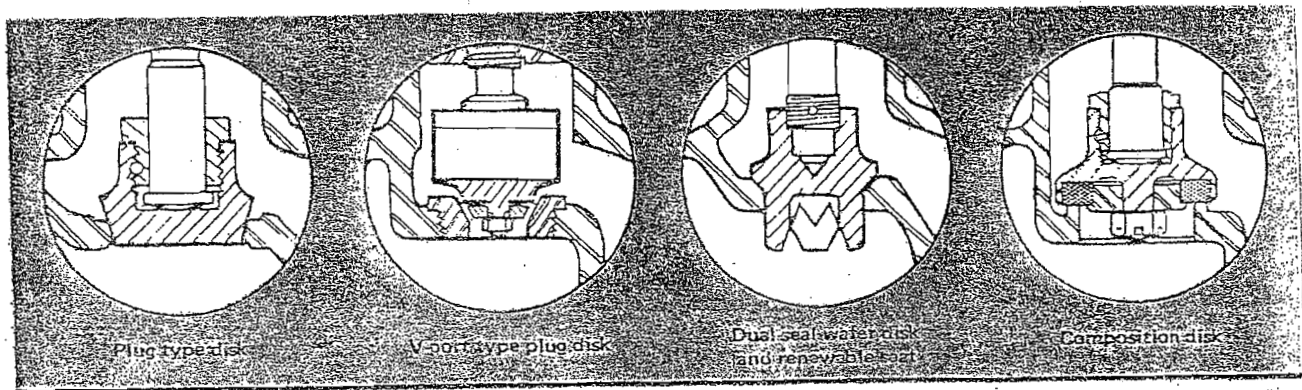
By Ed Hardin, P.E.



Bonnet variations in various gate-valve types

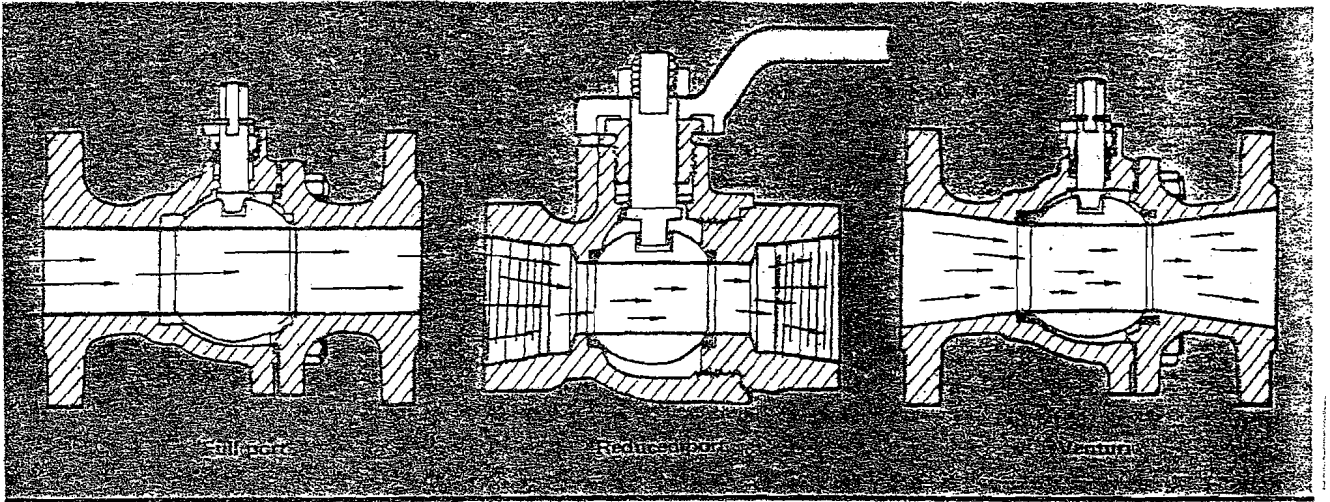


Variations in gate-valve stem mechanisms

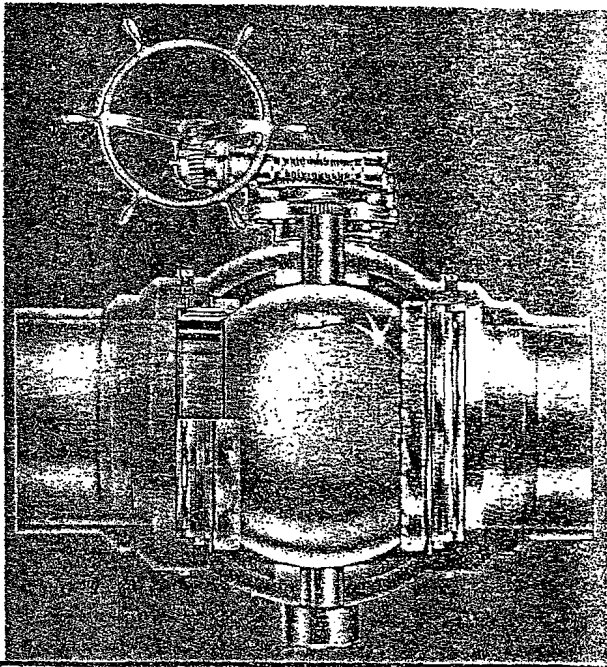


Globe-valve disks of various designs

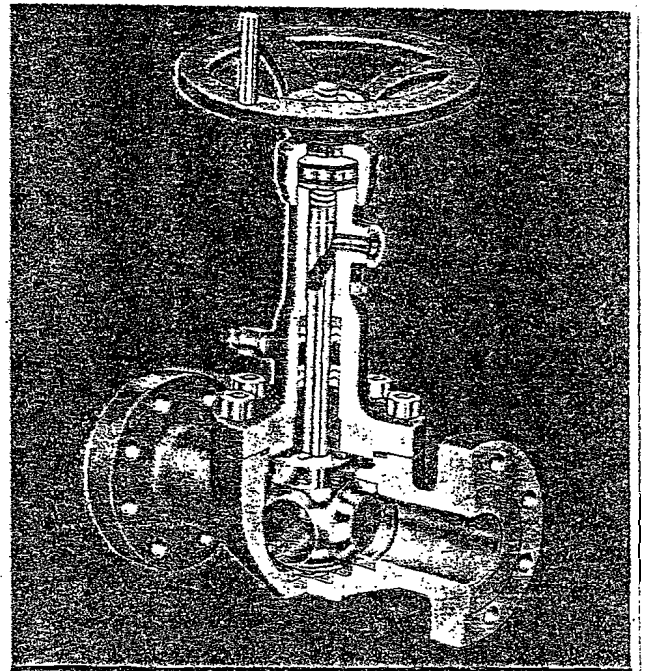
COMPONENTS OF GATE GLOBE VALVES



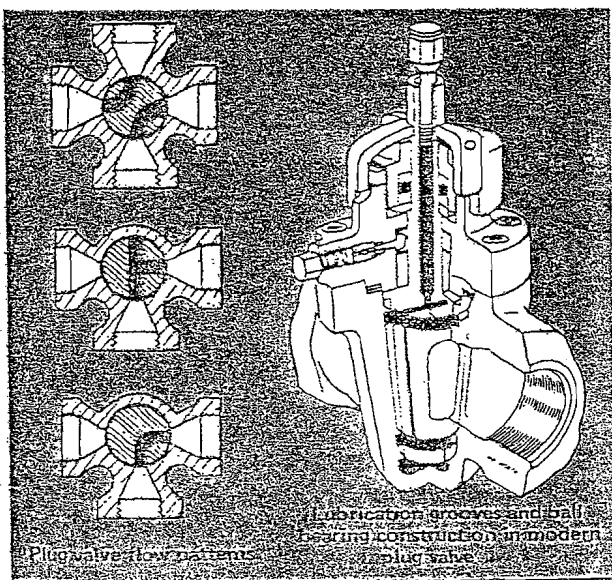
Ball valves: full and, reduced port and venturi types



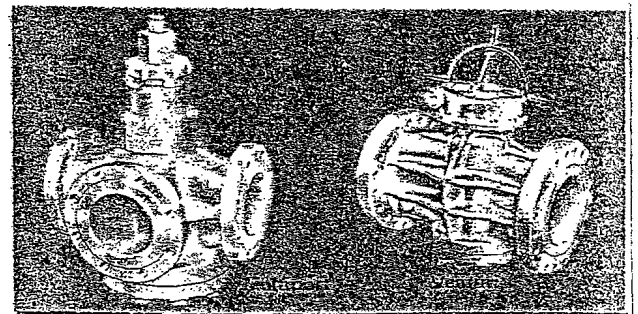
Trunnion-mounted ball valve with rotating seats



"Rising stem" ball valve has unique actuator

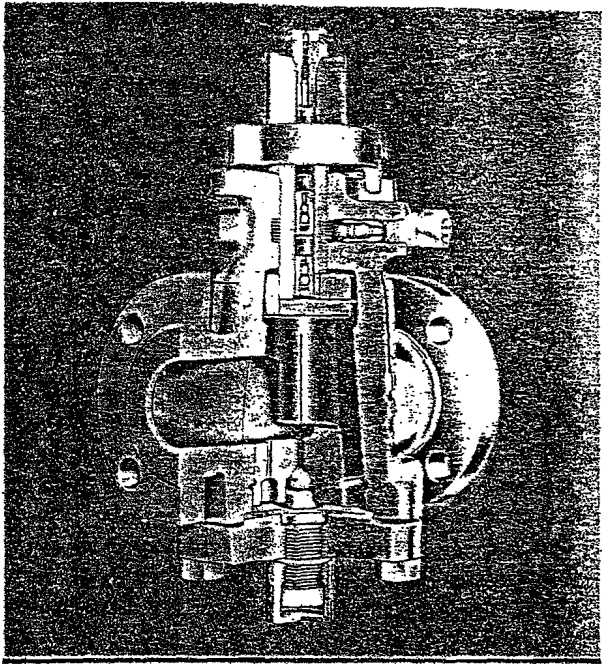


Flow patterns in multiport plug valves

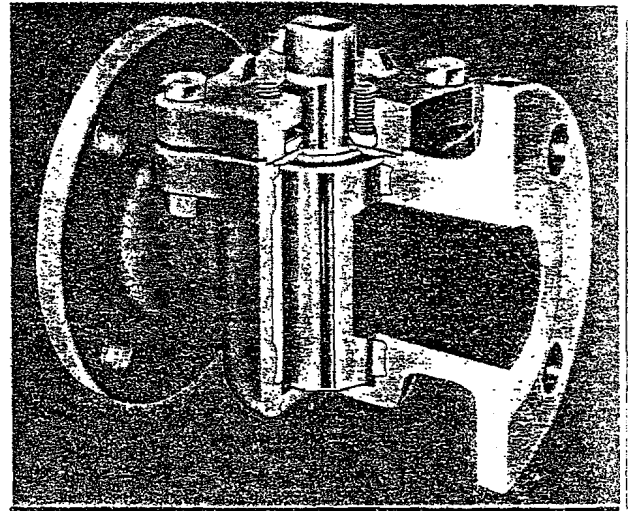


Multiport and venturi varieties of plug valves

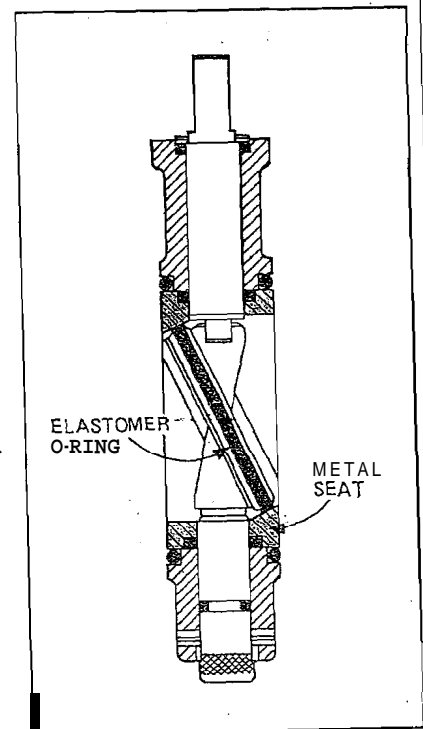
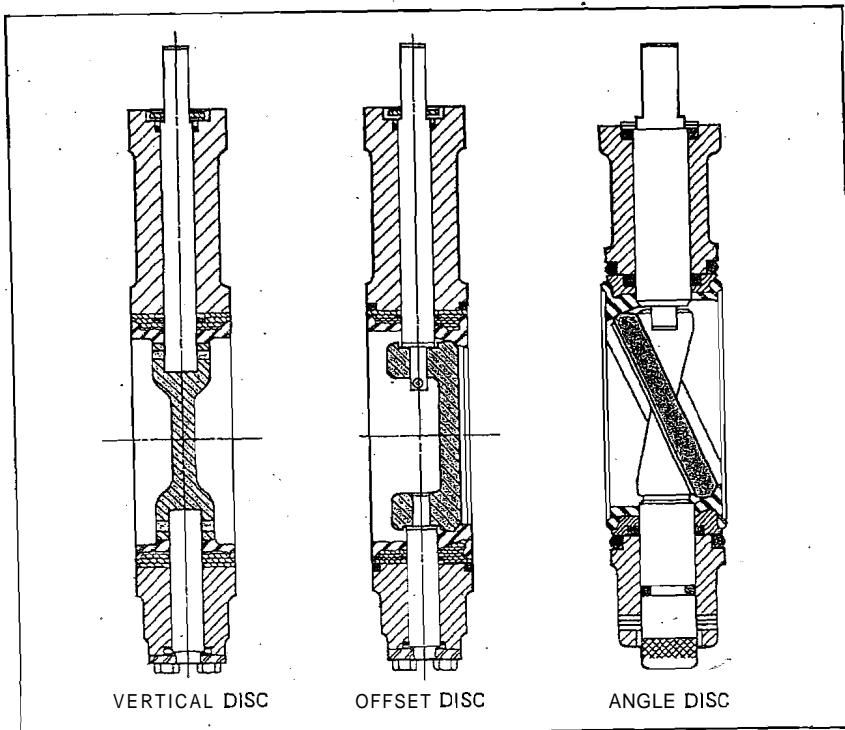
BALL & PLUG VALVES



Lubricated plug valve (bolted bottom cover type)

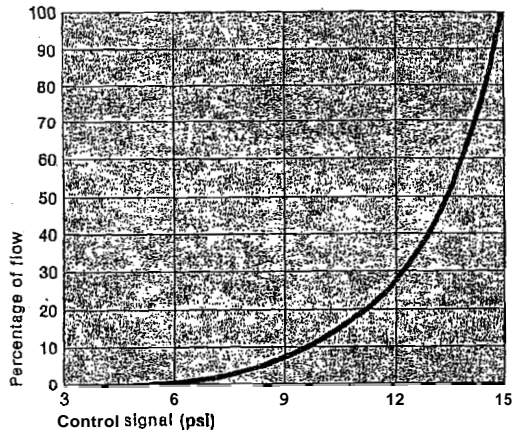
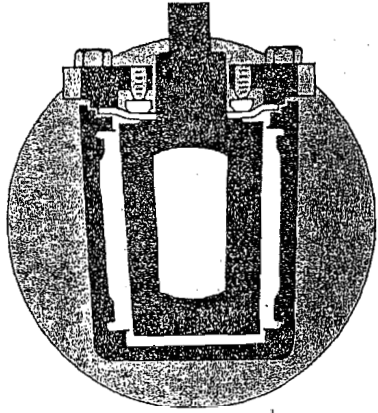


Sleeve-lined nonlubricated plug valve

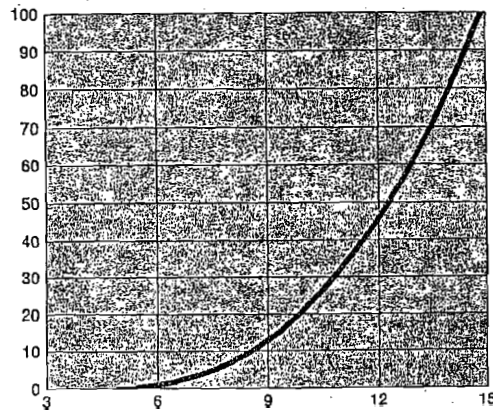
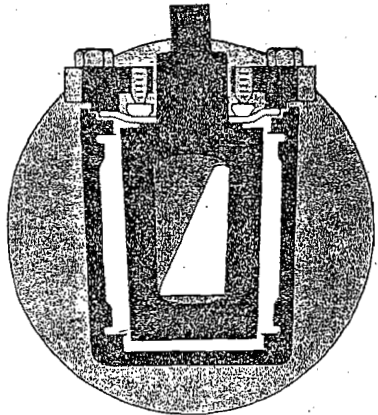


PLUG & BUTTERFLY VALVES

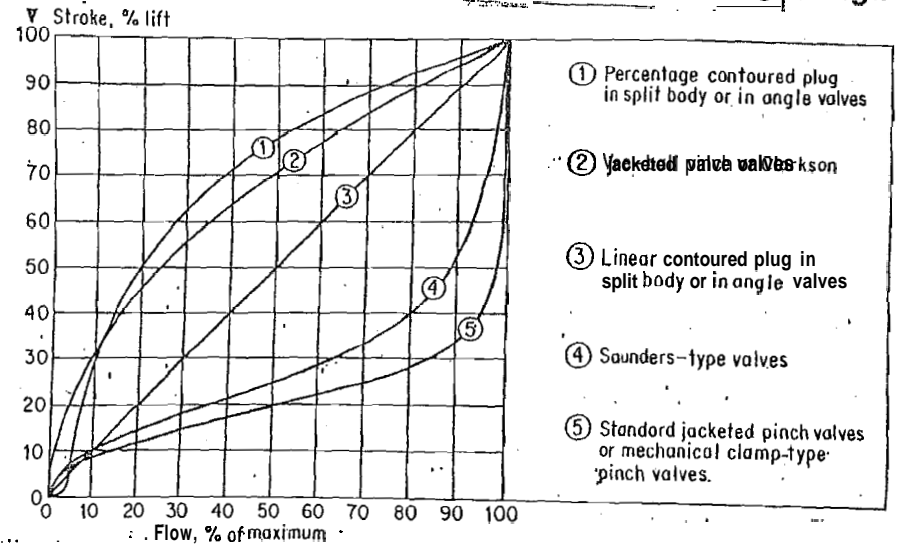
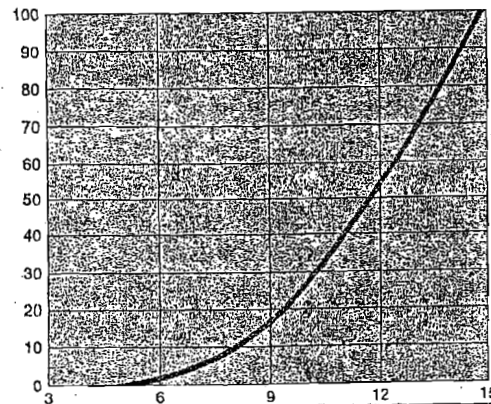
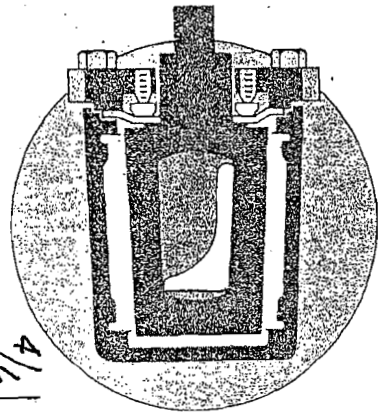
Flow curve : equal percentage



Flow curve : semi-parabolic



Flow curve : modified linear

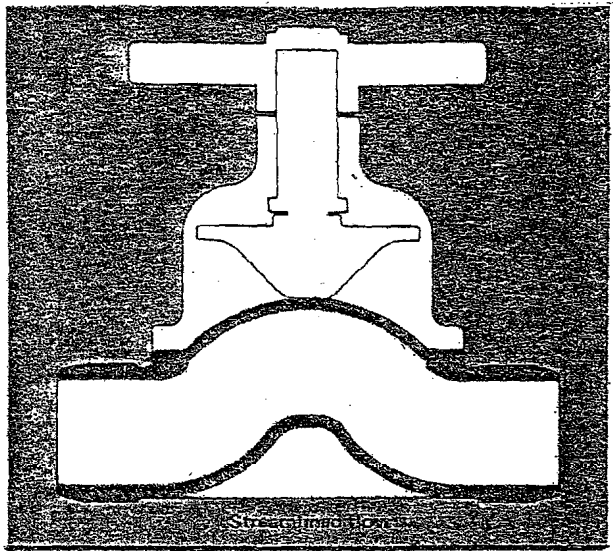


- ① Percentage contoured plug in split body or in angle valves
- ② Jacketed pinch valves
- ③ Linear contoured plug in split body or in angle valves
- ④ Saunders-type valves
- ⑤ Standard jacketed pinch valves or mechanical clamp-type pinch valves.

Standard flow characteristics

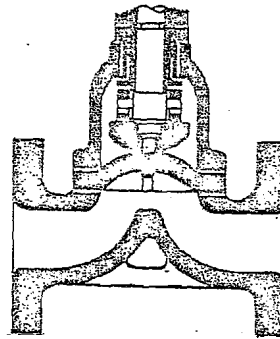
Other flow characteristics and CV's are available in both the cage and plate designs.

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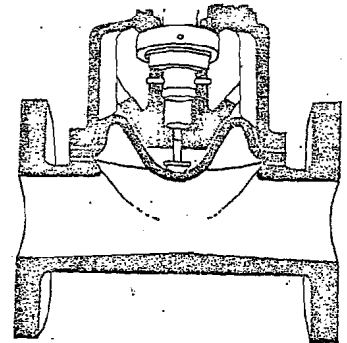


Weir-style (Saunders patent) diaphragm valve

DIAPHRAGM (Saunders-Type)



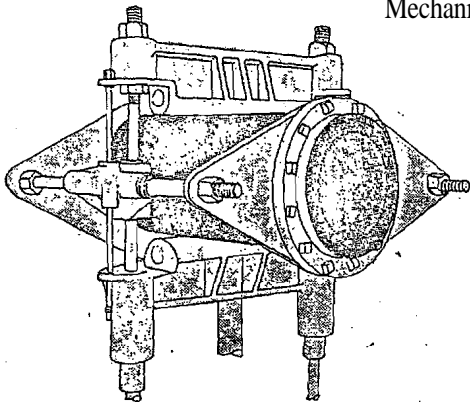
Weir pattern



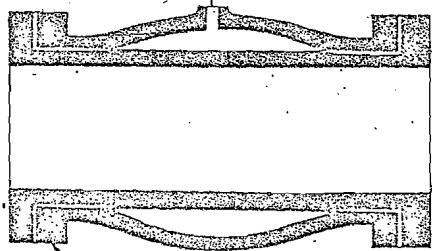
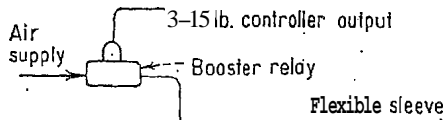
Straightway pattern

PINCH

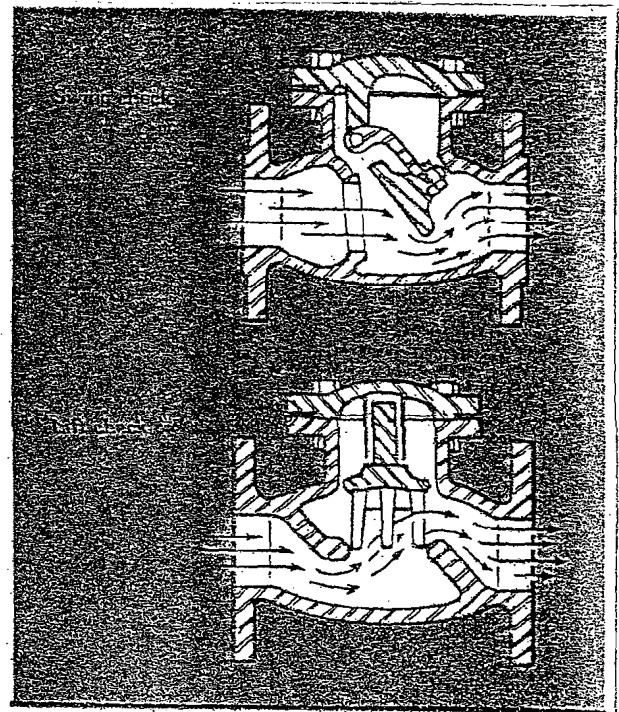
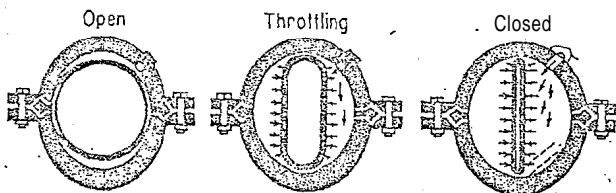
Mechanical operator



Fluid-force operator



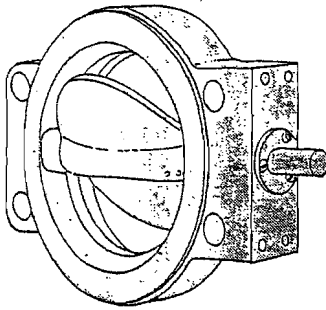
Metallic jacket



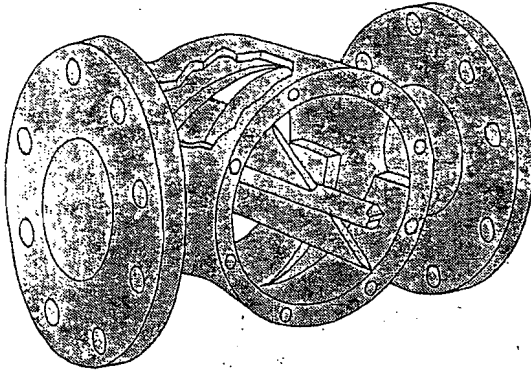
Check valves of swingcheck and lift-check types

SPECIAL VALVES

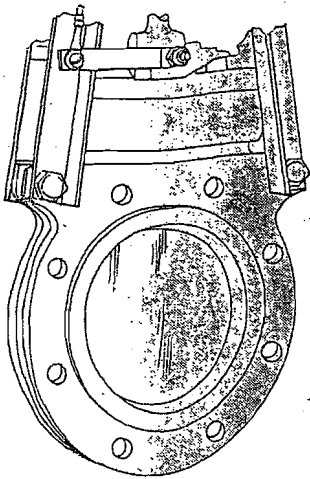
MISCELLANEOUS



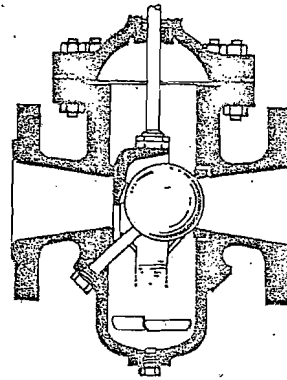
Standard butterfly



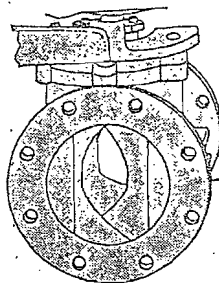
"V"-port butterfly



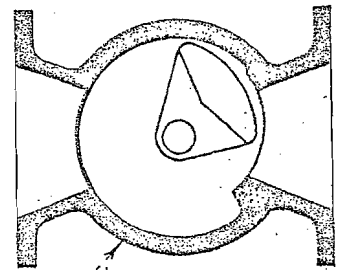
Standard slide gate



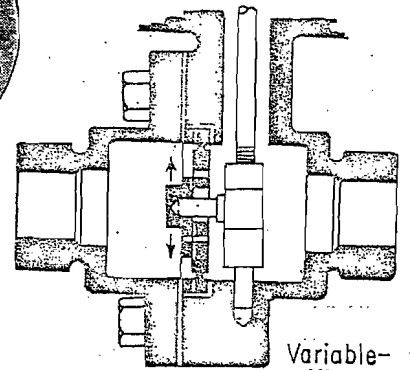
Ball valve with cage holder



"V"-port plug valves

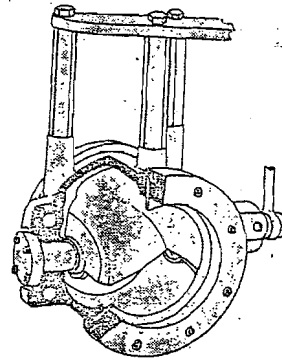


Variable-orifice slide gate



"V"-orifice slide gate

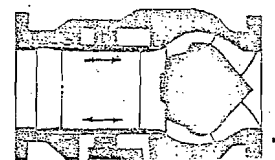
VEE-BALL



SPECIAL VALVES

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Annular-sleeve slide valve



ANGLE

