



Gate valve



Component	Component
Body	AISI 4130 ASTM A350 LF2 Duplex & Super Duplex ASTM A182
Bonnet	As above
Seats	AISI 410, F51, Inconel, all with Tungsten Carbide Overlay
Gate	AISI 410, F51, Inconel, all with Tungsten Carbide Overlay
Stem	17-4PH, Inconel 718
Seals	PTFE, Viton, Graphite
Body to bonnet seal	AISI 316
Other materials available upon request	

General Description

Today's O&G applications mean process control needs and safety system to limit any wild parameter and danger; the use of high reliable and well designed solutions to generate high efficiency and guarantee process efficacy is nowadays paramount.

Gate valves are a type of slide valve that uses a flat or curved disc perpendicular to the process flow; the disc slides into the flow stream to provide tight shut-off. The fluid pressure acting on the disc is sufficient to produce a satisfactory seal between metal-to-metal seatings.

Typical Applications

HydroPneumatic gate valves are typically the perfect solution for:

- Wellheads
- Blowdown
- Production
- Heater Bypass
- Pipeline
- SSV (Surface Safety)
- LPO (Line Pressure Operated)
- HIPPS

Features

- API 6A and API 6D/ASME design
- Slab and expanding gate through Conduit design
- Pressure rating up to ANSI 2500, API 15k PSI
- Flanged from 1 13/16" up to 11" API (other ends connection available upon request)
- Flanged from 1" up to 16" ANSI (other ends connection available upon request)
- Customized end to end dimensions
- PSL 1-4
- PR1-2
- API material classes from AA through HH
- API temperature classes from P/L through U
- Extensive Range of Body/Trim Materials
- Material for H₂S and CO₂ service in accordance with NACE MR01-75 latest edition
- Forged bodies for maximum safety and reliability
- Tungsten Carbide coated wear resistant Trim
- Actuation: Manual, Pneumatic and/or Hydraulic single & double acting, Electric and Electro-hydraulic

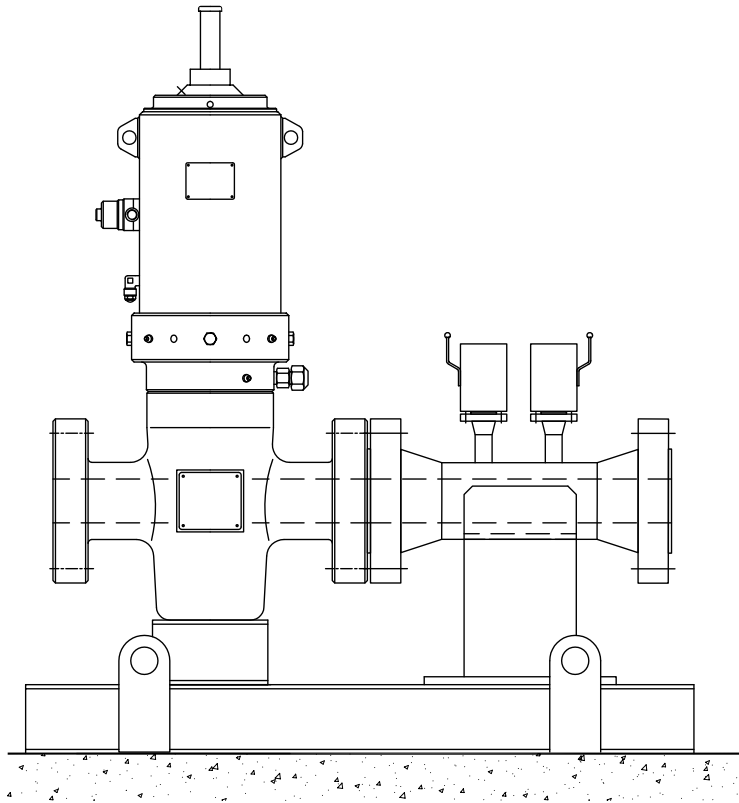
Benefits

- One single piece body and integral flanges for long service life – no welding
- Heavy duty design to withstand service life with high thickness wall
- Suitable for contaminated and corrosive fluids and high sand content
- Resistant against high pressure drops
- High seat tightness
- Selective stem Backseat to allow stem packing replacement when under pressure
- Bidirectional seats spring loaded and pressure energized for continuous contact gate/seat for low pressure sealing
- Threaded packing retainer to allow bearings or stem pin maintenance when under pressure
- Wiper ring to prevent material entrance and to provide stem alignment
- Fugitive emission design
- Multi purpose fitting port to allow lubrication and vent
- Integral actuation system to reduce overall dimensions
- Fire resistance
- Easy maintenance design
- Low life cycle costs

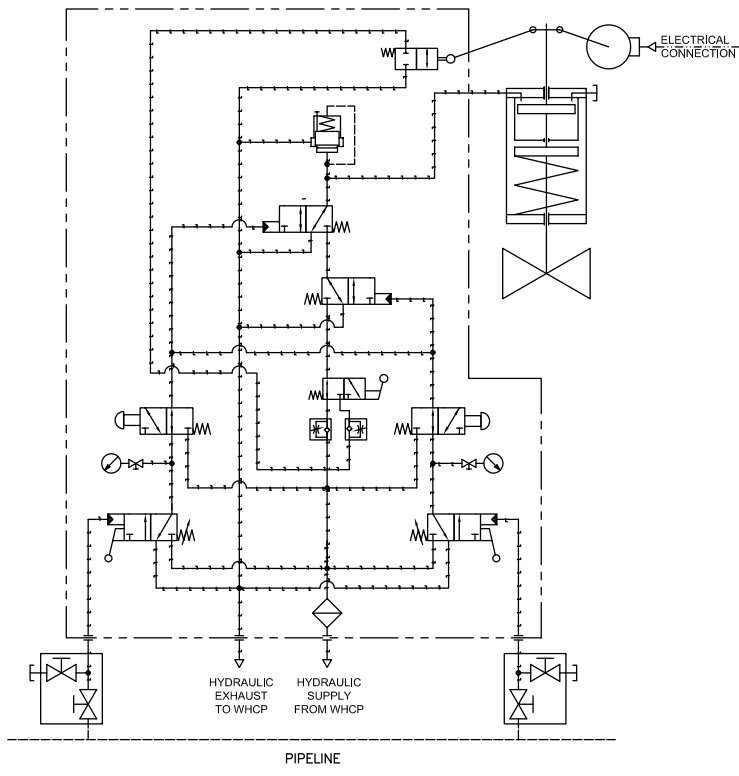




Skid Mounted HIPPS



Operating Diagram Example












The Mechanical HIPPS

Initiators: The initiators are electro-mechanic pressure switches which control the process variables (Pressure) to sense an event. The system receives the signals from the initiators, performing the required logic (voting – partial stroke and diagnostic test routing can be in case performed) and engaging the final elements.

Final elements: The final elements are the physical units whose duty is to isolate the exposure, and are typically fail gate valves, open or closed using spring loaded, hydraulic or pneumatic actuators and solenoids. The final configuration is prescribed by, to achieve the desired fail safe level. HP design might utilize a single or a dual system devices in a 1oo2 (one out of two) configuration (two valves in series) to meet the required Safety Integrity Level (SIL).

Features

-  API 6A and ASME design
-  Positive, Needle, Disk & Cage design
-  Pressure rating from ANSI 150 through API 15k Psi
-  Flanged from 1" through 16" ANSI (other ends connection available upon request)
-  Flanged from 1" 13/16 through 11" API (other ends connection available upon request)
-  Customized end to end dimensions
-  Extensive Range of Body/Trim Materials
-  Tungsten Carbide wear resistant Trim
-  Actuation: Manual, single & double acting Pneumatic and Hydraulic, Stepping, Electric and Electro-hydraulic actuator

Advantage of HydroPneumatic HIPPS solution

HydroPneumatic has the knowledge and experience of safety applications, designing the architecture of the loops, using own components as well as from external suppliers, with the ability to provide "pipe to pipe" solution and skid packages, becoming the single point of sourcing and accountability for the system; SIL assessment Certificate will be validated by a recognized third party.

The product advantage extends beyond the valve size and design to include the technology embodied in other options.

Operating Diagram Example

