

**FLOW-TEK VALVES
& CONTROLS INC.**



AN ISO 9001 : 2008 CERTIFIED COMPANY

MANUFACTURER & EXPORTER OF

Flow-age

MAKE SPECIALISED INDUSTRIAL VALVES

**KNIFE EDGE
GATE VALVE**



Flow-age

“ All Types of Valve for whole Project”

www.flowagevalves.com

KNIFE EDGE GATE VALVE

GENERAL INTRODUCTION:

"Flow age" Knife Edge Gate Valve are designed for Isolation, On-Off and Throttling services in Paper and Pulp Industries, Power Plants, Steel Plants, Cement Plants, Sugar Industries, Chemical and Textile Processing Industries, Mining, Food & Beverages, Bulk Handling, Water and sewage Plants to handle Slurries, Slag, Pulp and Fibrous Materials, Fly Ash, Powders, Clean or Corrosive gases.

"Flow age" product Knife Edge Gate Valves can be operated by Hand wheel (rising & non-rising stem), Lever also available automated with Bevel Gear, Electric or Pneumatic Actuator for remote operation, Chain Wheels or Floor Stands can be used for inaccessible areas. When needed, Lock-Out Devices can be provided to prevent accidental opening or closing of the valve. All automated valves can be also provided accessories like Mechanical Stop Switches, Proximity Switches, Manual Override, Positioners, Extended Stem and Solenoid Valves.

TECHNICAL INFORMATION:

DESIGN & TESTING:

"Flow age" can offer MSS SP-81 applies to bonnet less metal seated Knife Edge Gate Valves, 2" To 24" size, 150 psi CWP, Sizes above 24" are not covered under this standard. Additionally, resilient seated Knife Edge Gate Valves and Slide Knife Edge Gate Valves are also not covered under MSS SP-81. These products are subject to the individual manufacturer's internal testing & design standard.

Type – "Flow age" Knife Edge Gate valves available designs are in Uni-Directional, Bi-Directional, "V" Notch Type & Square / Rectangular Type designs.

Body – MSSP SP-81 requires the valve body (pressure vessel and related structure) to be designed for and hydrostatically pressure tested to 1.5 times the rated working pressure.

- Valve rated pressure – 150 psi
- Body test pressure – 225 psi

Gate – MSSP SP-81 requires the gate to be designed for and hydrostatically pressure tested to 1.1 times the rated working pressure.

- Valve rated pressure – 150 psi
- Gate test pressure – 225 psi

Seat – MSSP SP-81 has an allowable leakage rate (for metal to metal seated valves) of 40 cc per inch of diameter, per minute at 40 psi pressure. On a 12" valve this would be equal to 40 times 12, or 480 cc per minute at 40 psi.

- Maximum allowable leakage of 06 GPM when tested with water at 40 psi applied in the normal flow direction.
- No visible leakage when tested with water at 40 psi (for soft seated valves only.)

Face To Face – MSSP SP-81 has specified Face to Face dimensions and tolerances for each valve size to assure ease of installation for the consumer, regardless of the valve manufacturer.

| TEMPERATURE CHART | | | | | |
|---|-----------------|--|---|-----------------|------|
| SEAT / SEALS | | | PACKING | | |
| Material | Max. Temp. (°C) | Applications | Material | Max. Temp. (°C) | pH |
| Metal/Metal | >250 | High temp. Low tightness. | Dry cotton (AS) | 50 | 6-8 |
| EPDM (E) | 120 | Acids and non mineral oils. | PTFE impregn. synth. fibre (ST) | 240 | 2-13 |
| Nitrile (N) | 120 | Resistance to petroleum products. | Braided PTFE (TH) | 260 | 0-14 |
| Viton (V) | 200 | General chemical service. High temperature. | Graphited (GR) | 600 | 0-14 |
| Silicone (S) | 250 | Food service. / High temperature. | Ceramic fibre (FC) | 1200 | — |
| PTFE (T) | 250 | Corrosion resistance. | NOTE: all types include an elastomere O-ring (same material as TH, GR and FC. seal), excluding | | |
| More details and other materials under request. | | | | | |

Sizes: DN 50 to DN 1200 (larger diameter on request)

MAXIMUM WORKING PRESSURE:

| | | |
|-------------------|---|---------|
| 50 mm to 250 mm | = | 140 psi |
| 300 mm to 400 mm | = | 85 psi |
| 450 mm | = | 70 psi |
| 500 mm to 600 mm | = | 50 psi |
| 700 mm to 1200 mm | = | 30 psi |

| TEMPERATURE CHARTS PACKING | | |
|-----------------------------------|-----------------|--------|
| MATERIAL | MAX. TEMP. (°F) | pH |
| PTFE Impregnate, Synthetic, Fiber | 464 | 2 – 13 |
| Braided PTFE | 500 | 0 – 14 |
| Graphited Asbestos | 1112 | 0 – 14 |

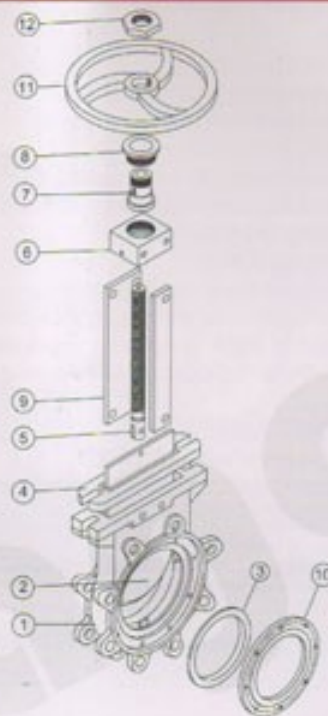
NOMENCLATURE

| NO. | PART NAME | MATERIAL |
|-----|---------------|---|
| 1 | BODY | WCB/S.S. 304/316 |
| 2 | GATE | AISI 304/316 |
| 3 | SEAT RING | P.T.F.E. (Soft-Seat), AISI-304/316 (M to M) |
| 4 | GLAND | WCB/S.S. 304/316 |
| 5 | SPINDLE | M.S. 304/316 |
| 6 | BLOCK | M.S. 304/316 |
| 7 | SPINDLE NUT | M.S. 304/316 |
| 8 | BLOCK NUT | M.S. 304/316 |
| 9 | BONNET | M.S./S.S. 304/316 |
| 10 | CLIMPING RING | M.S./AISI - 304/316 |
| 11 | WHEEL | SG IRON/CAST IRON |
| 12 | WHEEL NUT | M.S. |

TEMPERATURE CHARTS FOR SEAT / SEALS & PACKING:

| TEMPERATURE CHARTS | | |
|--------------------|-----------------|--|
| SEAT / SEALS | | |
| MATERIAL | MAX. TEMP. (°F) | APPLICATIONS |
| Metal / Metal | >482 | High Temp. Low Tightness |
| EPDM (E) | 248 | Acids and non mineral oils |
| Nitrile (N) | 248 | Resistance to petroleum products |
| Viton (V) | 392 | General chemical service, High Temperature |
| Silicon (S) | 482 | Food Service / High Temperature |
| PTFE (T) | 482 | Corrosion Resistance |

Note: More details and other materials under request



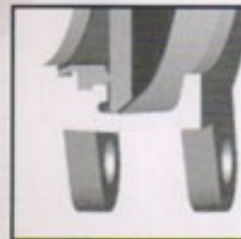
SEAT TYPES



METAL / METAL

For applications with:

- High temperature
- High density media application
- When full tightness is not required



RESILIENT, TYPE "A"

- Standard resilient seat.
- Temperature limitations according to seat material selected. Consult the above chart or our technical department for more information.
- Replaceable seat retainer ring.



TYPE "B" SEAT (metal/metal)

For applications with:

- High temperature
- High density media application
- When full tightness is not required
- Replaceable design without dismantling the valve



TYPE "B" SEAT (resilient)

- Temperature limitations according to seat material selected. Consult the above chart or our technical department for more information.
- Replaceable and reinforced seat ring available in different materials such as: stainless steel, CA15, Ni Hard,...



DEFLECTION CONE "C"

- Deflects the media away from any internal exposed parts of the valve such as gate guides, seat, etc.
- Different types of material available such as AISI 316 stainless, CA15, Ni-Hard, etc.

Face to face dimension increase:

DN 50 to DN 250 X = 9mm

DN 300 to DN 600 X = 12 mm

Larger diameters on request.

SPECIAL FEATURES:

- Full Port Bi-Directional Shutoff
- Hardened Beveled gate and hardened seat for shearing and sealing
- Close tolerance machining between bodies
- Precision ground gate chrome plated
- Removable insert ring for ease of repair
- Two piece cavity free body eliminates jamming
- Four post stainless steel stanchions
- Live loaded Teflon packing
- Adjustable stainless steel packing gland
- High Performance cylinder with safety lock-out system and limit switch brackets
- Sizes range from 2" To 24" (inquire for larger sizes)
- Typical applications: OCC recycle, lime mud, liquors, plastics, polymers, cement powder and other slurry and abrasive services
- Full port confirms to MSSP SP-81
- Face To Face confirms to MSSP SP-81
- Flange ends meet Standard Flange connection: DIN PN 10 and ANSI B 16.5 (Class 150)

Note: other flange connections are available on request such as:

DIN PN 6 DIN PN 16 DIN PN 25
BS 10 Table "D" and "E" ANSI 125

- Full flange drilled and tapped to DIN PN 10 and ANSI B 16.5 (Class 150)

Note: other flange connections are available on request such as:

DIN PN 6 DIN PN 16 DIN PN 25
BS 10 Table "D" and "E" ANSI 125

ACTUATOR TYPES

| | | | |
|---|-------------------|--------------------------|-----------------|
| All actuators supplied by Flow age are interchangeable. | | | |
| Manual : | Automatic: | Accessories: | |
| Handwheel (rising & non-rising stem) | Electric | Mechanical Stops | Locking device |
| Chainwheel | Pneumatic | Actuator manual override | Solenoid valves |
| Lever Hydraulic | | Positioners | Limit Switches |
| Bevel Gear | | Proximity Switches | Floor stands |
| Other (square nut...) | | Stem extensions | |



* Please contact us for any type of customized automation in Knife Edge Gate valves for typical applications.

OTHER MFG. RANGE: Pressure Reducing Valve, Safety Relief Valve, Globe Valve, Ball Valve, Gate Valve, Butterfly Valve, Plug Valve, Non Return Valve, Automatic Control Valve, Pneumatic Control Valve, Motorised Control Valve, Diaphragm Valve, Flush Bottom Valve, Strainer, Filter, Pressure Reducing Station, Gas Skid & All type of manual / actuator / cylinder operated valves with any type of automation.

* Please note this a condensed catalogue for a complete version please contact Flow-Tek directly.



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