

The Best Creativity & Quality Valves

# KNIFE GATE VALVE



METAL TO RUBBER CUSHION SEAT  
METAL TO METAL SEAT  
METAL TO ONE SIDE P.T.F.E SEAT

## FEATURE

### METAL TO METAL SEAT

#### ... USING DIRECTION

Inlet and outlet are respectively separated and sealing action is made only at unidirection. (The flow of fluid is only one direction)

#### ... USE SCOPE

It's use is for pulp and paper plant, especially suitable for fluid line of high viscosity.

#### ... SEALING

It has some leakage even when disc(blade) is closed, as it is structured as "Metal to Metal".

#### ... EXPLANATION

This type represents knife gate valve, thus having the lowest price and highest demand. However, this type is not suitable for fluid with dreg such as ash fluid, because it may occasionally bring about abrasion of seat surface and formation of sedimentation, due to the existence of "dead zone".

### METAL TO RUBBER CUSHION SEAT

#### ... USING DIRECTION

The sealing effect in this type occurs in the edge of the blade, so allowing use of bidirection.

#### ... USE SCOPE

This type is of possible use for any kind of fluid line. But, suitable selection of rubber is important, in accordance with the kind of fluid.

#### ... SEALING

This type guarantees almost perfect sealing effect.

#### ... EXPLANATION

Being covered by elasticity and cushion of rubber, this type perfectly protect seat face, thereby ensuring almost free abrasion of seat and deposition of fluid.

### METAL TO PTFE SEAT

#### ... USING DIRECTION

Inlet and outlet are respectively separated and sealing action is made only at unidirection.

#### ... USE SCOPE

This type is recommended for application under such condition of low pressure line, as in petrochemical plant.

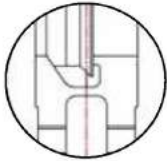
#### ... SEALING

This type is provides better sealing effect under the condition of low pressure line(0.5kg/cm<sup>2</sup>), while having the tendency of comparatively faster abrasion of seat.

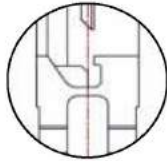
#### ... EXPLANATION

This type is of proper use under low pressure condition such as air fluid line, while not being proper for ash line, due to the properties of P.T.F.E.

## SEAT DESIGN



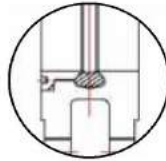
CLOSE



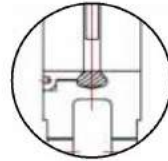
OPEN

### METAL OF METAL SEAT DESIGN

- Integral stainless seat
- Uni-directional flow
- Higher fluid pressure enhance sealing effect
- Conforming to MSS SP-81
- Full flow port area



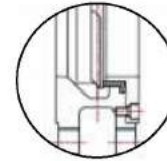
CLOSE



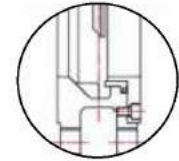
OPEN

### RUBBER RESILIENT SEAT DESIGN

- Bi-directional bubble-tight shutoff
- Rubber-encapsulated-seal with stainless wire inserted to prevent seat from being distorted and pulled out. Material of "EPDM" rubber is our standard.
- Other seat materials available upon customer's requirement.



CLOSE

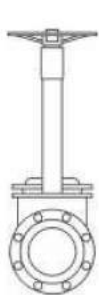


OPEN

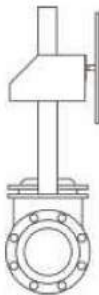
### PTFE P.T.F.E SEAT DESIGN for REPLACEMENT

- O-Ring energized P.T.F.E seat ring.
- Easily replaceable.
- Other material options available such as urethane and polyethylene or nylon .

## VALVE OPERATORS



HANDWHEEL



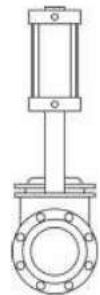
BEVEL GEAR

### HANDWHEEL

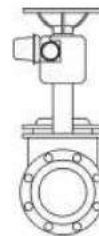
Valves are equipped with handwheels as basic for manual operation.

### BEVEL GEAR

Bevel gear operation is designed to minimize the effort to operate larger sized manual-operated valves which is out of reach.



CYLINDER



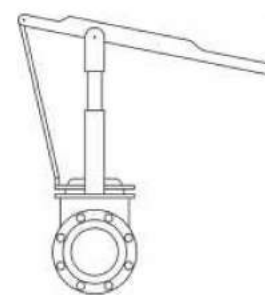
ELECTRIC  
& AIR MOTOR

### CYLINDER

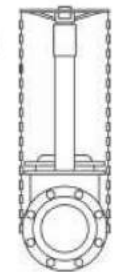
Valves can be available with air or hydraulic cylinder operator if remote operation is required.

### ELECTRIC & AIR MOTOR

Valves can be furnished with electric, pneumatic or hydraulic motor drives for remote, automatic or frequent operation.



LEVER



CHAIN WHEEL

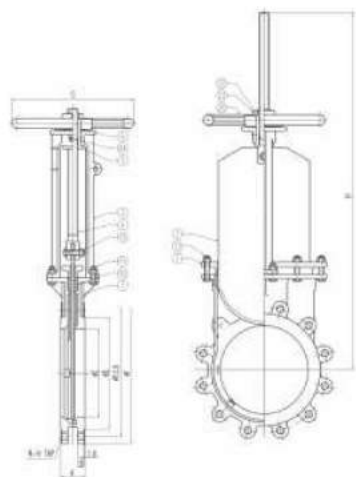
### LEVER

Where rapid valve operation is required, quick opening lever operators can be provided instead of handwheel.

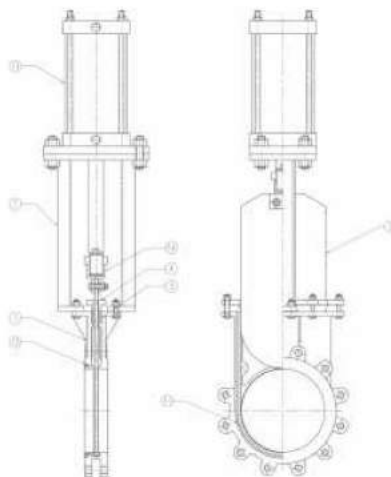
### CHAIN WHEEL

Chain wheel is an efficient means of operating the valves overhead and out-of-reach.

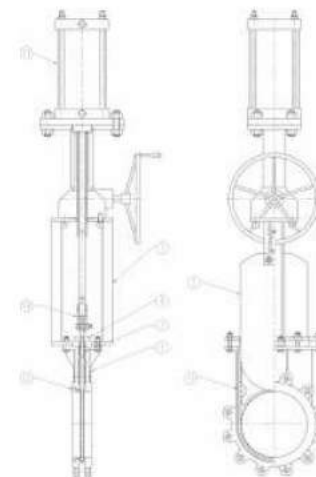
## KNIFE GATE VALVE GENERAL DRAWING



**HAND WHEEL TYPE**



**CYLINDER TYPE**



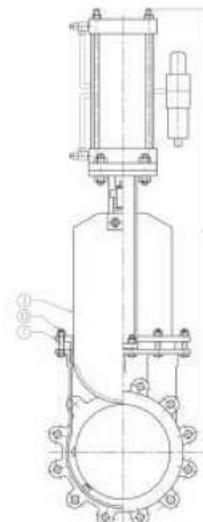
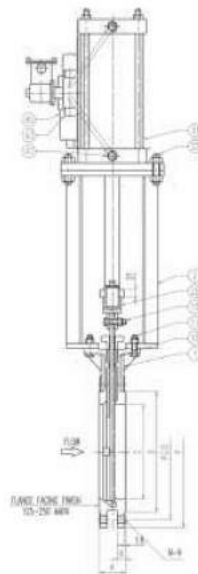
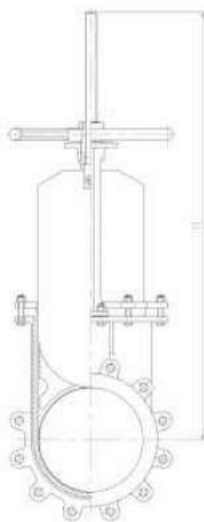
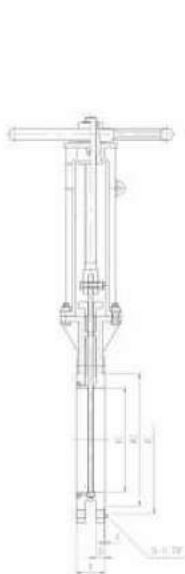
**CYLINDER WITH GEAR TYPE**

### REFERENCE STANDARD

- **BASIC DESIGN** : MSS SP-81
- **FACE TO FACE DIMENSIONS** : MSS SP-81
- **FLANGE DIMENSIONS** : MSS SP-81(ANSI B 16.5)
- **MATERIAL** : CF8(304), CF8M(316), CF3(304L), CF3M(316L), etc.
- **SIZES OVER 700MM** : According to manufacturer's standard

No	DESCRIPTION	MATERIAL	
		HAND WHEEL TYPE	CYLINDER TYPE
01	BODY	ASTM A351-CF8, CF8M, CF3M, CD4MCUN, ETC	
02	BLADE	304SS/316SS, HASTELLOY C-276, ETC	
03	PACKING	MANUFACTURE STANDARD	
04	GLAND FRANGE	304SS / 316SS ETC	
05	STEM	304SS	
06	YOKE SLEEVE	BRASS	-
07	YOKE	304SS	CARBON STEEL , 304SS
08	THRUST WASHER	BRASS	-
09	HAND WHEEL	ASTM A536	-
10	HAND WHEEL NUT	BRASS	-
11	SEAT	EPDM, VITON, NEOPRENE, PTFE	
12	INSERT	304SS / 316SS	
13	CYLINDER	-	MANUFACTURE STANDARD
14	KNUCKLE	-	304SS

## KNIFE GATE VALVE DIMENSION DATA



### HAND WHEEL TYPE

### CYLINDER TYPE

### REFERENCE STANDARD

VALVE SIZE	A	B	C	D	E	H (HAND WHEEL TYPE)	H (CYLINDER TYPE)	N-H	K
2"	47.8	12.7	50.8	91.9	120.7	347.0	490.0	4-5/8"	1.6
3"	50.8	12.7	76.2	127.0	152.4	455.0	590.0	4-5/8"	1.6
4"	50.8	12.7	101.6	157.2	190.5	526.0	686.0	8-3/4"	1.6
5"	57.2	16.0	127.0	185.7	215.9	600.0	761.0	8-3/4"	1.6
6"	57.2	16.0	152.4	215.9	241.3	670.0	830.0	8-3/4"	1.6
8"	69.9	16.0	203.2	269.7	298.5	824.0	1004.0	8-3/4"	1.6
10"	69.9	19.1	254.0	323.9	362.0	1030.0	1186.0	12-7/8"	1.6
12"	76.2	19.1	304.8	381.0	431.8	1174.0	1354.0	12-7/8"	1.6
14"	76.2	20.6	336.6	412.8	476.3	1333.0	1528.0	12-1"	1.6
16"	88.9	22.4	387.4	469.9	539.8	1537.0	1688.0	16-1"	1.6
18"	88.9	23.9	438.0	533.4	577.9	1722.9	1890.0	16-11/8"	1.6
20"	114.3	25.4	489.0	584.2	635.0	1860.0	2150.0	20-11/8"	1.6
24"	114.3	25.4	591.0	692.2	749.3	2159.0	2590.0	20-11/4"	1.6
28"	140	35.0	692.2	800.1	863.6	2458.0	2904.0	28-11/4"	1.6