

**Series 61  
Flush Bottom Tank Valves  
For ANSI 150(PN 20)  
DIN/BS 4504 PN10**

**Series 61 Features**

**General :**

Series 61 flush bottom tank valves are designed for the convenient and fast draining of metal tanks (with or without steam jackets), Wood, glass or vitreous-lined tanks autoclaves

**Performance :**

- Fast draining
- Full way area through valve body with minimum pressure drop.
- No pocket or dead area in the body

**Design Flexibility :**

- The valve are made in stainless steel, nickel alloys, carbon steel, iron, bronze, aluminum.
- The valve can be furnished with fabricate steam jackets
- Cleaning connection and plug are option
- Quick-opening disc is standard equal percentage or linear (option)
- Fully range of bonnet and packing design to suit various temperature and fluids



Figure 1. 61 Series Flush Bottom Tank Valve.

**Design Integrity :**

- Valve size are determined by outlet flange
- The outlet in pleased at an angle approximately 45° to the center line of the valve.
- Dimension “G” and “F”, Motoyama standard for outside diameter and height to the seat sleeve will to supplied unless otherwise ordered.
- Large diameter stem

**Quality manufacturing :**

- Rigorously tested to ensure specified performance on site.
- Quality assurance system in accordance with ISO 9001.
- Optional full NACE MR-01-75 certification.

**Scope of design**

Outlet flange size 3/4” to 10”(20mm to 250mm)

Outlet flange furnished with 1/16” raised face ANSI B 16.5 (except on bronze, iron, aluminum valves )

**Body ratings :**

ANSI 150 (PN20) as standard other requirement available on request.

**Disc design option :**

metal to metal seat as standard teflon insert disc are options.

**Inherent Characteristics :**

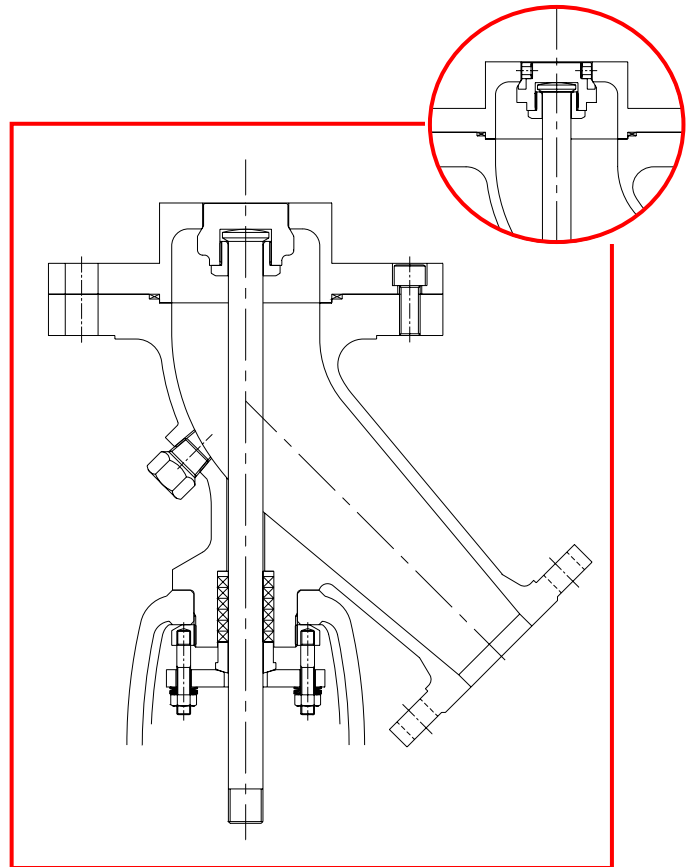
Quick open standard equal percentage and linear (option)

**Material Combinations :**

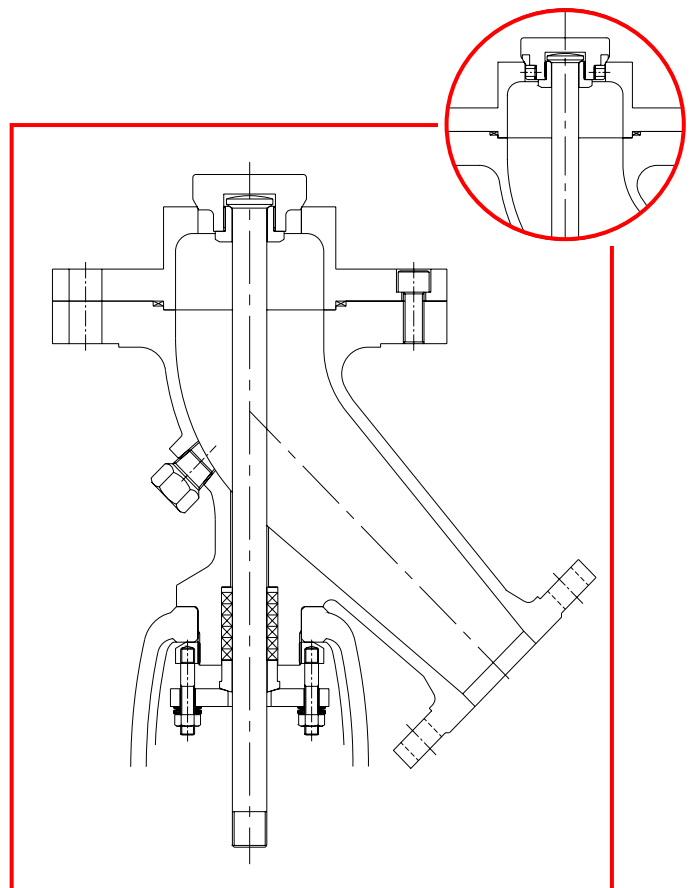
Wide ranges of body and trim materials are available.

**Bonnet Options :**

Standard, extension and cryogenic bonnet design option available.



**Figure 2. Disc Opens (Lower) Into Valve.**



**Figure 3. Disc Opens (Rises) Into Tank.**

**Actuation :**

Various type of actuation are available including :

- 5500 series spring opposed pneumatic diaphragm.
  - 1600 series spring opposed pneumatic piston
  - 1700 series double acting pneumatic piston
- in addition electric, electro-hydraulic and manually operated

**Table 1. Cv Values**

size	Quick open	Linear, Eq.%
3/4" X 1 1/2"	11	8
1" X 2"	17	14
1.1/2" X 3"	44	30
2" X 4"	69	50
2.1/2" X 4"	117	85
3" X 5"	177	120
4" X 6"	277	200
6" X 8"	624	440
8" X 10"	1100	700
10" X 12"	1730	1090

**Table 2. Maximum Leakage Rate**

Seating style	Achievable Leakage Class
Metal/metal	IV
Metal/PTEE	VI

**Pressure drop limitation**

**Table 3. Disc Opens (rises) into Tank**

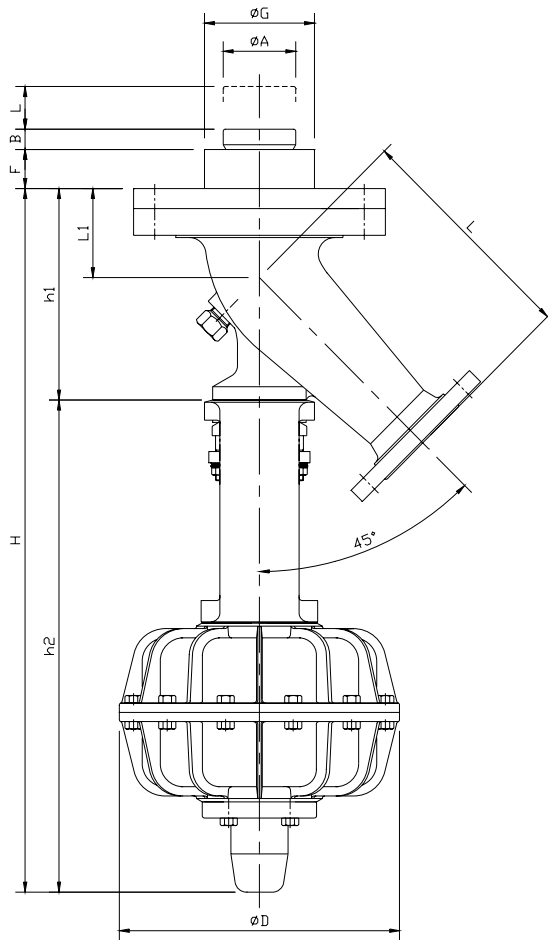
Size	Lift	T-0	T-1	T-2	T-3	T-4	T-5
3/4" x 1.1/2"	20	10 / 10					
1" x 2"	20	10 / 10					
1.1/2" x 3"	30		10 / 10				
2" x 4"	30		7.4 / 6.5	9.6 / 8.5			
2.1/2" x 4"	38			7.2 / 6.4	10 / 9.4		
3" x 5"	38				7.3 / 6.7	10 / 9.4	
4" x 6"	50					6.9 / 6.4	
6" x 8"	100					3.2 / 2.9	5.3 / 4.9
8" x 10"	100						3.1 / 2.9
10" x 12"	100						2.0 / 2.0

Metal seat / Teflon seat

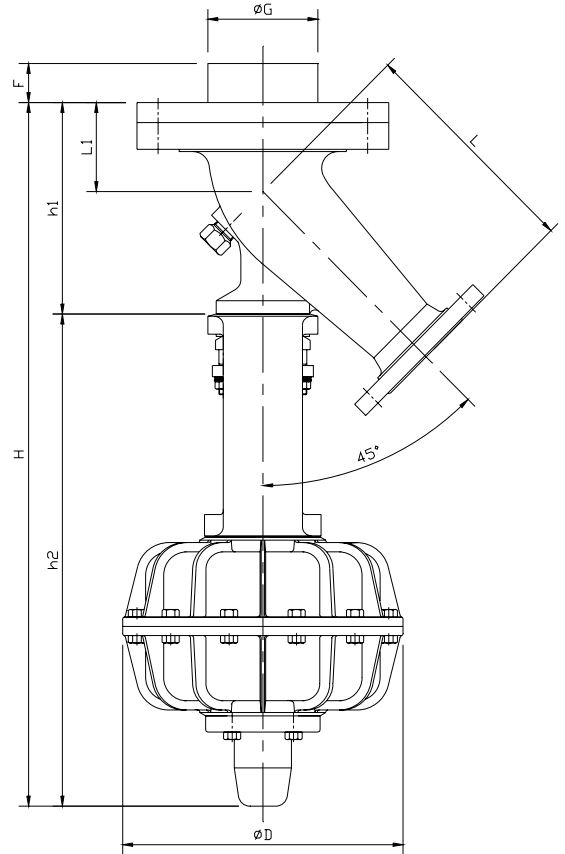
**Table 4. Disc Open (lower) into Valve**

Size	Lift	T-0	T-1	T-2	T-3	T-4	T-5
3/4" x 1.1/2"	20	10 10					
1" x 2"	20	10 10					
1.1/2" x 3"	30		10 10				
2" x 4"	30		10 7.9	8.4 6.6	10 9.8		
2.1/2" x 4"	38				8.2 6.8		
3" x 5"	38					10 9.6	
4" x 6"	50					7.3 6.5	
6" x 8"	100					3.3 3.1	5.6 5.2
8" x 10"	100						3.2 3.0
10" x 12"	100						2.1 2.0

**With Series 5500 Spring Opposed Pneumatic diaphragm Actuator.**



**Disc Opens (Rises) Into Tank**



**Disc Opens (Lower) Into Valve**

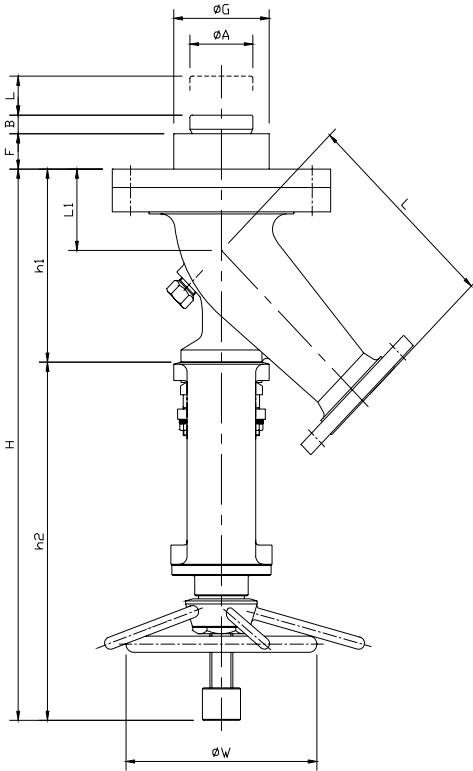
**Table 5. Dimension**

unit : mm

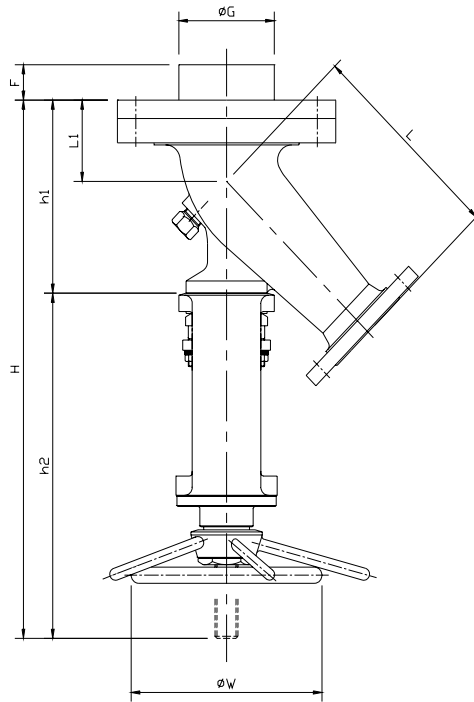
Size	Lift	L	L1	G	F	D	H	h1	h2	A	B
3/4" X 1.1/2" *(1")	20	150	50	50	35	200	477	130	347	41	15
1" X 2"	20	150	55	60	35	200	487	140	347	41	15
1.1/2" X 3"	30	180	70	76	35	245	601	165	436	51	18
2" X 4"	30	200	80	100	35	245	626	190	436	66	18
2 1/2" X 4"	38	210	80	115	35	285	647	200	447	76	18
3" X 5"	38	220	100	140	40	335	827	235	592	91	20
4" X 6"	50	260	110	165	40	400	1016	320	696	114	25
6" X 8"	100	320	120	215	40	400	1076	380	696	164	30
8" X 10"	100	360	130	275	45	500	1242	430	812	214	30
10" X 12"	100	400	170	310	45	500	1332	520	812	264	35

\*1" -Into Tank

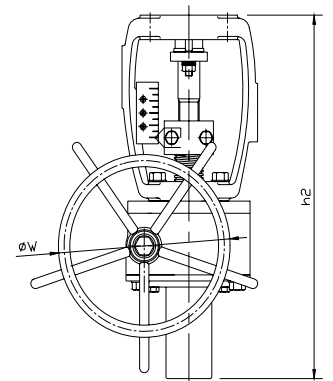
## Manual Operated Hand Wheel



**Disc Open (Rises) Into Tank**



**Disc Opens (Lower) Into Valve**



**More Than 4" Size**

**Table 6. Dimension**

unit : mm

Size	Lift	L	L1	G	F	H	h1	h2	W	A	B
3/4" X 1.1/2"	20	150	50	50	35	385	130	255	160	41	15
1" X 2"	20	150	55	60	35	395	140	255	160	41	15
1 1/2" X 3"	30	180	70	76	35	496	165	331	200	51	18
2" X 4"	30	200	80	100	35	521	190	331	200	66	18
2 1/2" X 4"	38	210	80	115	35	540	200	340	200	76	18
3" X 5"	38	220	100	140	40	587	235	352	250	91	20
4" X 6"	50	260	110	165	40	799	320	479	300	114	25
6" X 8"	100	320	120	215	40	859	380	479	300	164	30
8" X 10"	100	360	130	275	45	969	430	539	300	214	30
10" X 12"	100	400	170	310	45	1059	520	539	300	264	35