

## Program Values for all Purposes

### ATC-5 Executive (ATC5, 887, 711)

At the time of this revision, the ATC5 Executive (ATC5) will be fully compliant with the standards set forth in the ATC5 Executive (ATC5) program. The ATC5 Executive (ATC5) will be fully compliant with the standards set forth in the ATC5 Executive (ATC5) program.

#### ATC5 Executive Value

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1.3D ± 0.25 °C (74) IE  
+5 °C (5) To ± 40 °C

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In contrast to the standard program, the components are identified with their own unique identification numbers.

### ATC-5, 10, 11 (ATC5, 887, 711)

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## Contents

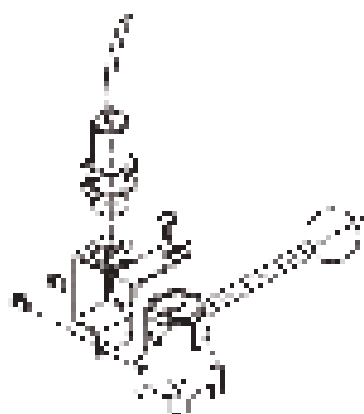
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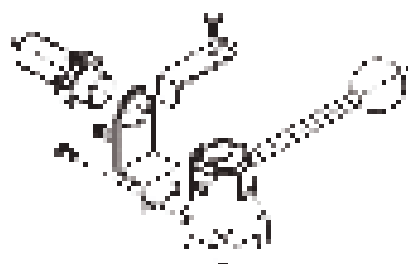
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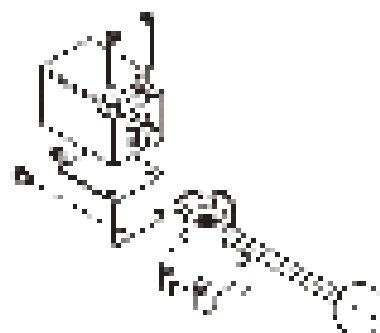
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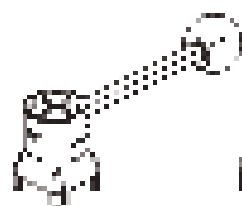
Fold handle  
30°/20° angle and offset



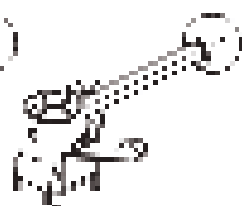
Fold handle  
45°/20° angle and offset



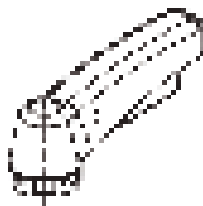
Horizontal handle



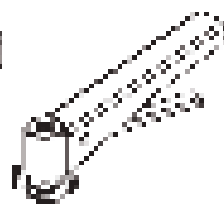
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30°



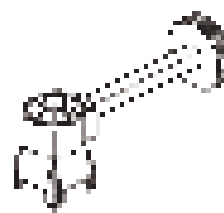
Parallel handle  
45°



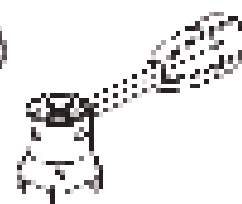
Parallel handle  
60°



Parallel handle  
75°



Parallel handle  
90°



Parallel handle  
105°



30° angle cap nut



45°

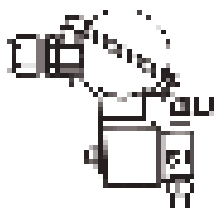


60°



90°

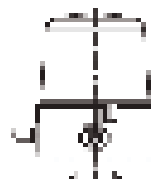
120V - Center feed



200W/250VA actuator with center feed



200W/250VA drive



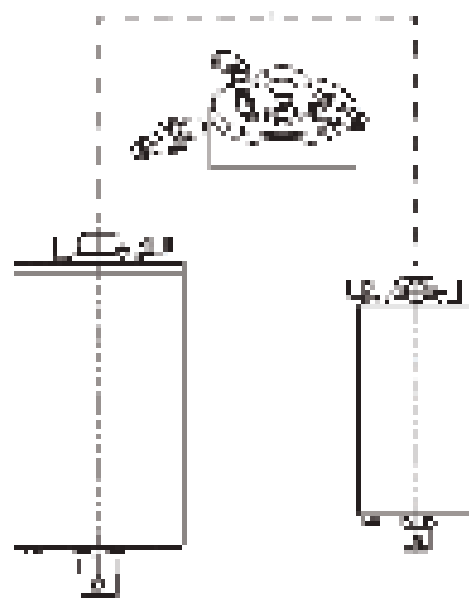
200W/250VA worm connector



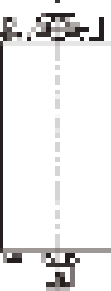
200W/250VA



200W/250VA



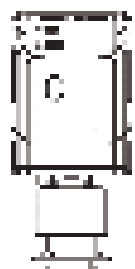
200W/250VA actuator with center feed



200W/250VA drive



100W/125VA actuator with center feed



100W/125VA actuator with center feed

240V



200W/250VA actuator with center feed



200W/250VA actuator with center feed

120V - End feed



200W/250VA actuator with end feed



200W/250VA drive with end feed



200W/250VA worm connector with end feed



200W/250VA actuator with end feed

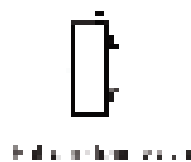
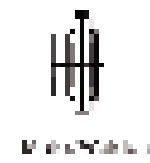
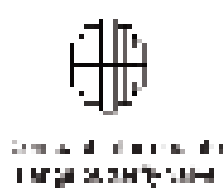
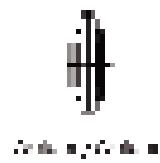


200W/250VA actuator with end feed

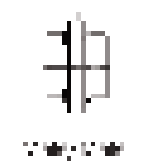


200W/250VA actuator with end feed

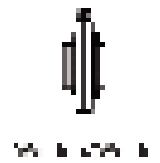
for a pipe size to DIN EN 10527 series A



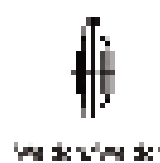
for a pipe size to DIN EN 10527

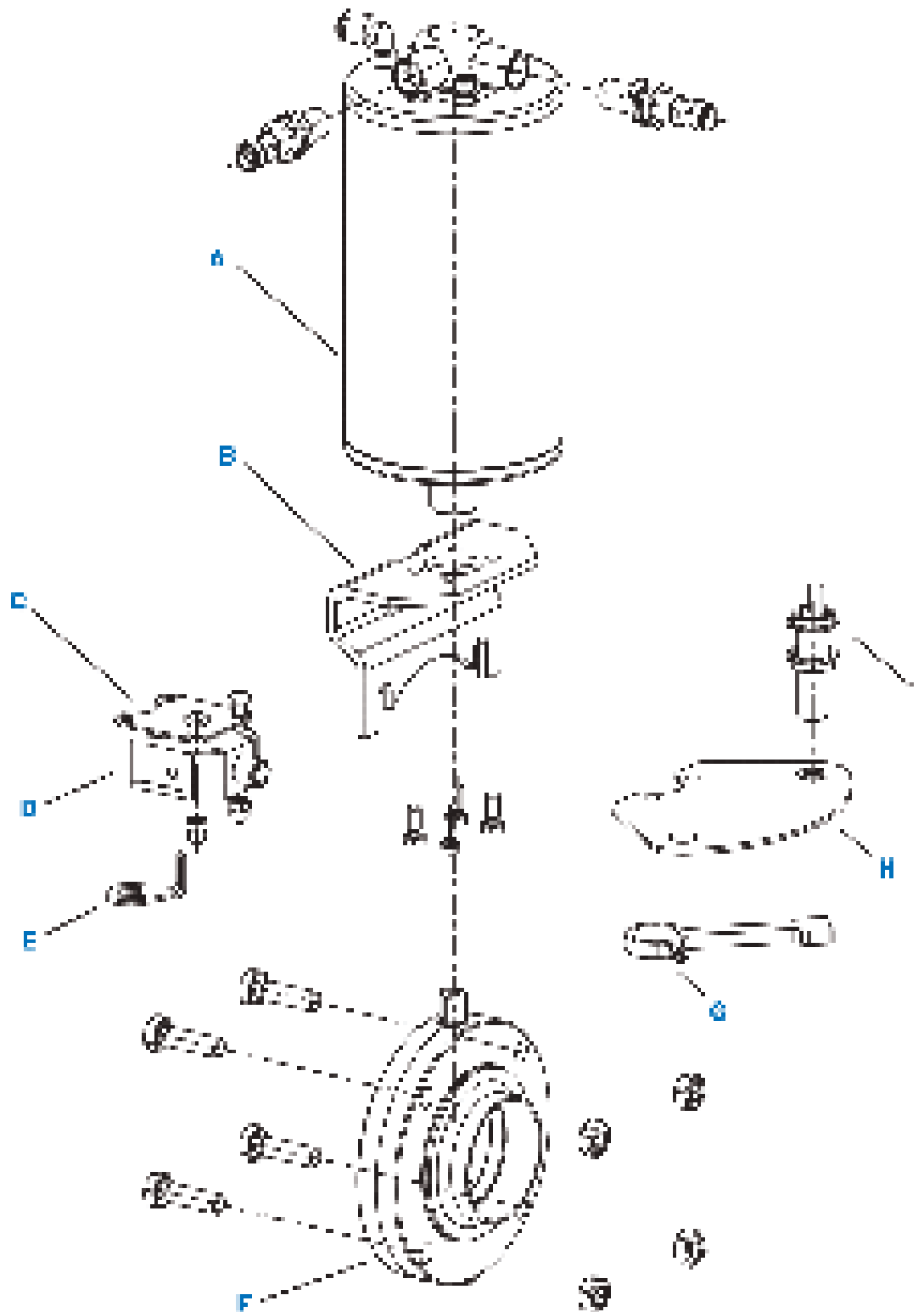


for a pipe size to DIN EN 10527 series B and C



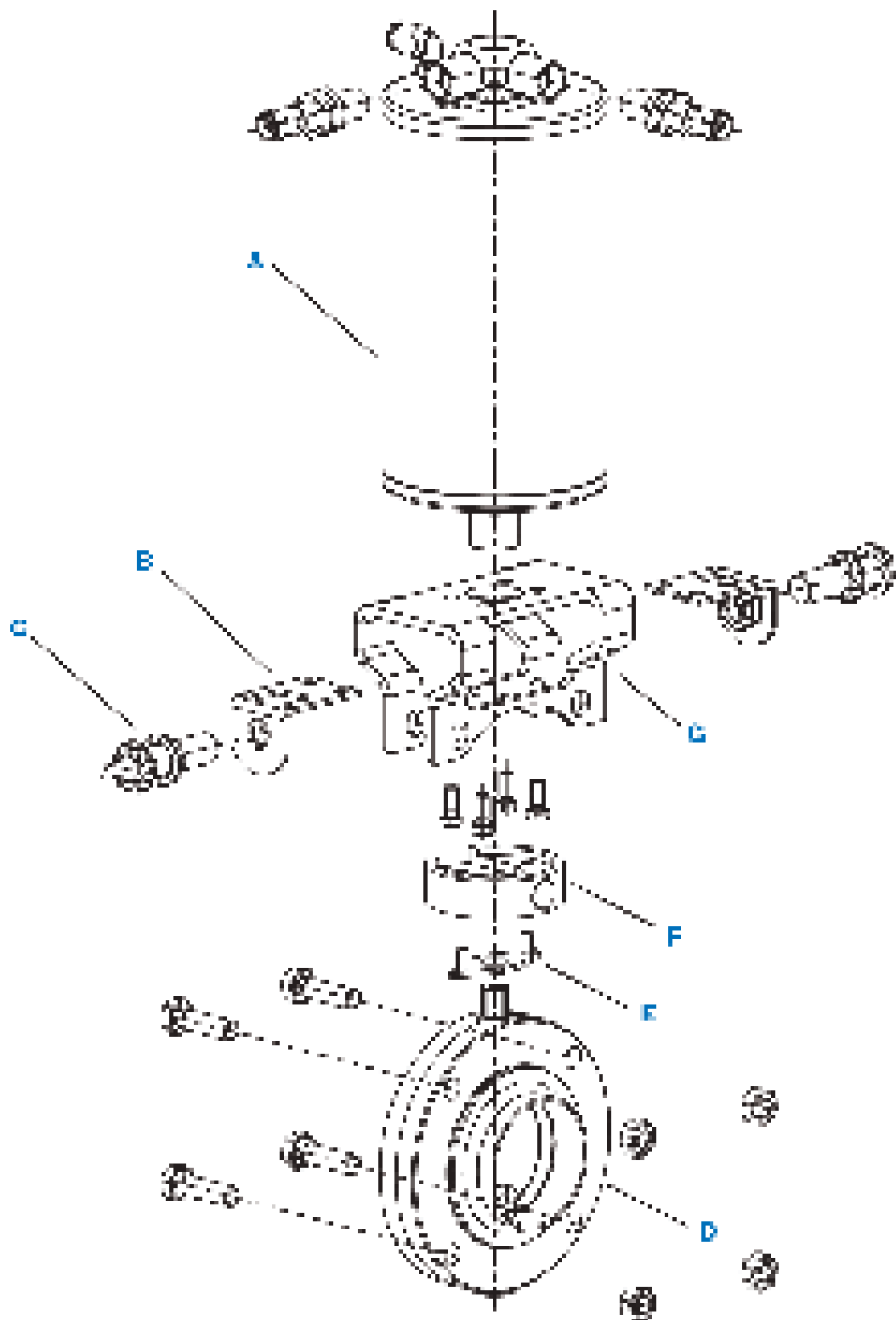
for a pipe size to DIN EN 10527 series D





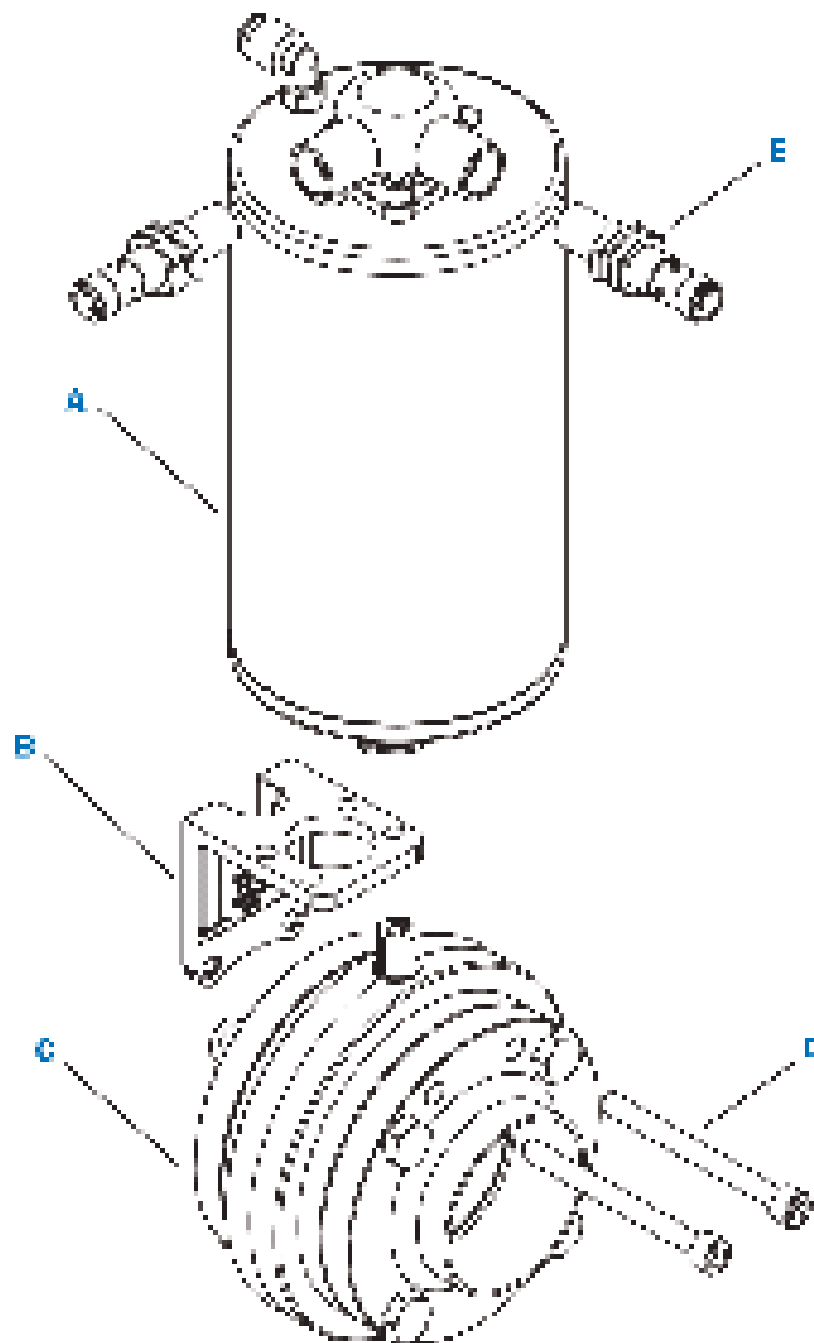
- A Pneumatic actuator with switch
- B Holding bracket
- C Holding plate for proximity switch
- D Valve assembly as for procedure
- E Switch arm

- F Butterfly valve
- G Signal control arm
- H Holding plate for proximity switch
- I Proximity switch, inductive



- A Pneumatic actuator, version M-Axio
- B Limiting plate, pressure washer, reinforced
- C Pressure washer, standard
- D Butterfly valve

- E Reinforced limiting plate, reinforced
- F Shaft cap, reinforced
- G Limiting bracket, standard



- A Pneumatic actuator with 1/2" NPT
- B Hoisting bracket for compact intermediate size Butterfly valve
- C Coupled intermediate size butterfly valve

- D Flange screws for hoisting bracket
- E Pneumatic actuator, Inductive



## Technical Data, Butterfly Valve and Pneumatic Actuators

### Technical Parameters for Butterfly Valve

<b>Modeling</b>	14271-1502 – 4307-1502, 14271-1507
<b>Surface treatment</b>	epoxy resin or zinc powder epoxy resin or zinc powder
<b>Operating temperature</b>	max. 40 °C (normal) or max. 100 °C (high pressure) or 150 °C
<b>Operating pressure</b>	max. 10 bar (normal) or max. 16 bar (high pressure) or max. 25 bar (high pressure) max. 200 kPa (normal)
<b>Leakage rate</b>	ISO 5175 class 1 (normal) or class 2 (high pressure)
<b>Dimensions and weight (approximate values)</b>	ISO 5175 class 1 (normal) or class 2 (high pressure)

### Re Values

The Re values shown in the following table are for a 150 mm diameter pipe with a flow velocity of 1.5 m/s.

DN	150	200	300	400	500	600	800	1000	1200	1500	2000	2500	3000	4000	5000	6000	8000	10000
Re	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	15.0	20.0	25.0	30.0	40.0	50.0	60.0	80.0	100.0

For Re values of 1000 and above, the flow velocity is 1.5 m/s. For Re values of 1000 and below, the flow velocity is 0.5 m/s.

### Description of Pneumatic Actuators

#### AWF 110 is a valve actuator for air and liquid

AWF 110 is a valve actuator for air and liquid. It is a compact, reliable and long-life actuator. It is suitable for use in a wide range of applications, including high-pressure and high-temperature applications.


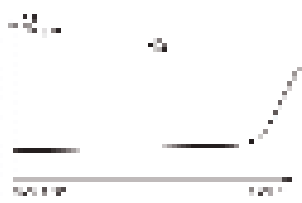


Parameter	AWF 110	AWF 110	AWF 110	AWF 110
Stroke	100 mm	100 mm	100 mm	100 mm
Operating pressure	0.5 - 1.0 bar	0.5 - 1.0 bar	0.5 - 1.0 bar	0.5 - 1.0 bar
Flow rate	100 l/min	100 l/min	100 l/min	100 l/min

The AWF 110 is a compact, reliable and long-life actuator. It is suitable for use in a wide range of applications, including high-pressure and high-temperature applications. The AWF 110 is a compact, reliable and long-life actuator. It is suitable for use in a wide range of applications, including high-pressure and high-temperature applications.

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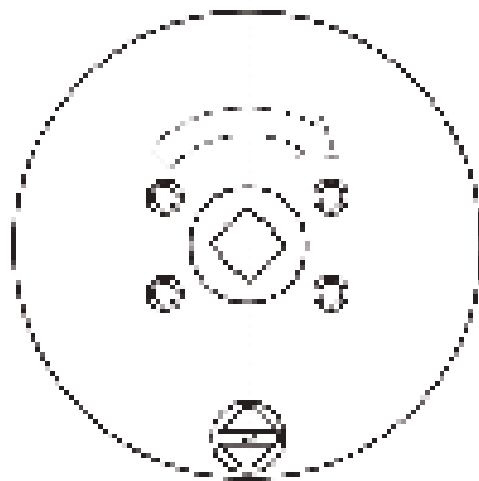
## Technical Data, Battery Valves and Pneumatic Actuators

Type	VC Battery Valve	VC Battery Valve	PCV	PCV
Function principle	Pressure dependent valve	Pressure dependent	Pressure dependent	Pressure dependent
Construction				
VC Battery Valve	A 12V/20Ah 100A	B 12V/27Ah 110A	A 24V/15Ah 100A	B 24V/24Ah 100A
Construction	<ul style="list-style-type: none"> <li>with manual operation</li> <li>partly replaceable</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> </ul>	<ul style="list-style-type: none"> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> </ul>	<ul style="list-style-type: none"> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> </ul>	<ul style="list-style-type: none"> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> <li>with manual operation</li> </ul>

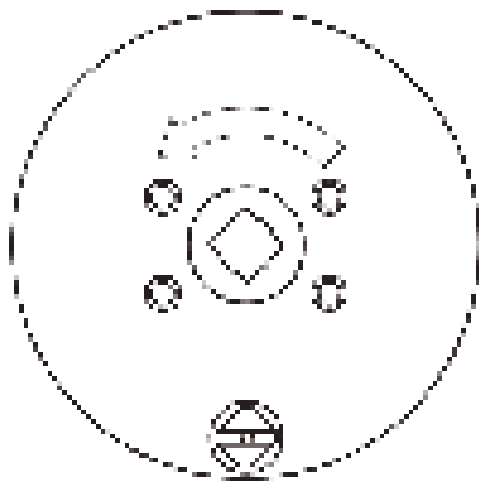
Indicators with pressure dependent valve are not suitable for monitoring of control valve location or position. Use the valve's pressure in a battery, if applicable, as a control signal.

VC Battery Valve is a safety valve for use in battery cells and battery packs. It is designed to prevent overpressure. The valve is closed at 1.0 bar and opens at 1.2 bar. The valve is closed again at 1.0 bar after overpressure is released.

Disassembly  
View of the actuator installation below



Disassembly  
View of the actuator installation below



### Notes

The cover or indicator must be in an unobstructed position. Leakage during the valve can be caused by a defective mounting or wiring.

Table 22: Actual values are not to be taken as a basis for design. The values are given for information only. The actual values may vary due to manufacturing tolerances and production flow. The design of the valve is subject to change without notice and may be modified without notice.

## Butterfly Valve

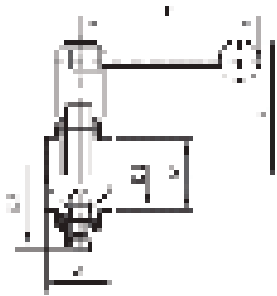


Figure 14.10.10.1.1.1  
Standard butterfly valve

Butterfly Valve/Welding/Welded DIN

DN/DN	A	B	C	D1	D2	D3	Weight (kg)
10	48	47	14	14	5	4	1.1
15	48	47	14	14	5	4	1.2
20	48	47	14	14	5	4	1.4
25	48	47	14	14	5	4	1.6
32	48	47	14	14	5	4	1.7
40	48	47	14	14	5	4	1.9
50	48	47	14	14	5	4	2.1
65	48	47	14	14	5	4	2.3
80	48	47	14	14	5	4	2.5
100	48	47	14	14	5	4	2.7
125	48	47	14	14	5	4	2.9
150	48	47	14	14	5	4	3.1
200	48	47	14	14	5	4	3.5

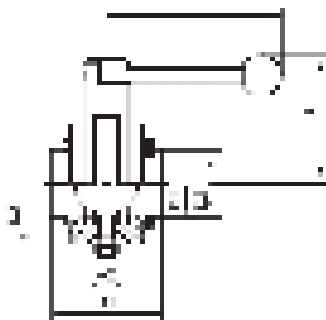


Figure 14.10.10.1.2.1  
Standard butterfly valve

Design for Intermediate Stage Butterfly Valve DIN

DN/DN	A	B	C	D1	D2	D3	D4	Weight (kg)
10	48	47	14	14	5	4	4	1.1
15	48	47	14	14	5	4	4	1.2
20	48	47	14	14	5	4	4	1.4
25	48	47	14	14	5	4	4	1.6
32	48	47	14	14	5	4	4	1.7
40	48	47	14	14	5	4	4	1.9
50	48	47	14	14	5	4	4	2.1
65	48	47	14	14	5	4	4	2.3
80	48	47	14	14	5	4	4	2.5
100	48	47	14	14	5	4	4	2.7
125	48	47	14	14	5	4	4	2.9
150	48	47	14	14	5	4	4	3.1
200	48	47	14	14	5	4	4	3.5

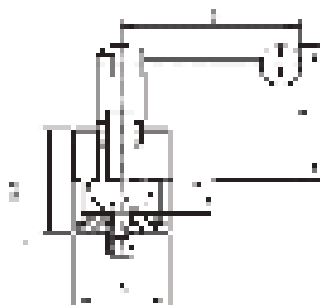


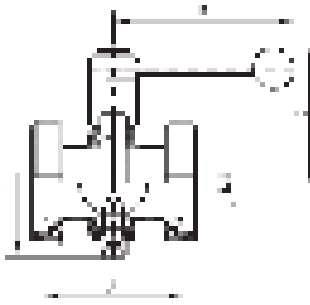
Figure 14.10.10.1.3.1  
Standard butterfly valve

Butterfly Valve/Welding/Welded DIN

DN/DN	A	B	C	D1	D2	D3	Weight (kg)
10	48	47	14	14	5	4	1.1
15	48	47	14	14	5	4	1.2
20	48	47	14	14	5	4	1.4
25	48	47	14	14	5	4	1.6
32	48	47	14	14	5	4	1.7
40	48	47	14	14	5	4	1.9
50	48	47	14	14	5	4	2.1
65	48	47	14	14	5	4	2.3
80	48	47	14	14	5	4	2.5
100	48	47	14	14	5	4	2.7
125	48	47	14	14	5	4	2.9
150	48	47	14	14	5	4	3.1
200	48	47	14	14	5	4	3.5

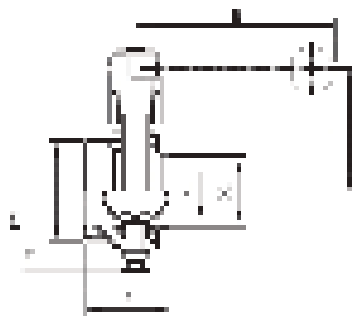


## Butterfly Valve



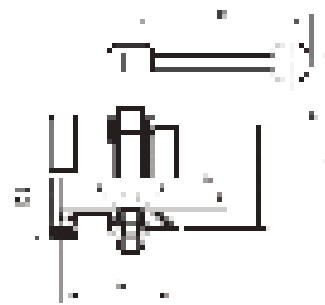
2000 Series Butterfly Valve  
Welded End, Cast Body

Butterfly Valve Cast/Welded End							Weight (kg)
DN (1)	A	B	C	D1	D2		
20	44	47	24	44	44	1.4	
25	44	47	24	44	44	1.6	
32	52	56	25	52	52	2.0	
40	61	67	26	61	61	2.6	
50	75	82	27	75	75	3.4	
65	105	112	27	105	105	5.2	
80	124	131	28	124	124	7.0	
100	154	161	28	154	154	10.0	
125	197	204	29	197	197	13.0	
150	247	254	29	247	247	18.0	
200	325	332	30	325	325	25.0	



2100 Series Butterfly Valve  
Welded End, Cast Body

Butterfly Valve Cast/Welded End							Weight (kg)
DN (1)	A	B	C	D1	D2	D3	
20	48	52	24	48	48	1.2 (2.2) 1.0	
25	48	52	24	48	48	1.4 (2.4) 1.2	
32	56	60	24	56	56	1.8 (2.8) 1.4	
40	64	68	24	64	64	2.2 (3.2) 1.6	
50	72	76	24	72	72	2.8 (3.8) 1.8	
65	87	91	24	87	87	3.8 (4.8) 2.4	
80	102	106	24	102	102	4.8 (5.8) 3.0	
100	124	128	24	124	124	6.8 (7.8) 4.0	
125	154	158	24	154	154	9.8 (10.8) 5.0	
150	197	201	24	197	197	13.8 (14.8) 6.0	
200	275	279	24	275	275	19.8 (20.8) 8.0	



2200 Series Butterfly Valve  
Welded End, Cast Body

Butterfly Valve Cast/Welded End							Weight (kg)
DN (1)	A	B	C	D1	D2	D3	
20	52	56	24	52	52	1.2 (2.2) 1.0	
25	52	56	24	52	52	1.4 (2.4) 1.2	
32	60	64	24	60	60	1.8 (2.8) 1.4	
40	68	72	24	68	68	2.2 (3.2) 1.6	
50	76	80	24	76	76	2.8 (3.8) 1.8	
65	91	95	24	91	91	3.8 (4.8) 2.4	
80	106	110	24	106	106	4.8 (5.8) 3.0	
100	128	132	24	128	128	6.8 (7.8) 4.0	
125	158	162	24	158	158	9.8 (10.8) 5.0	
150	197	201	24	197	197	13.8 (14.8) 6.0	



2300 Series Butterfly Valve  
Welded End, Cast Body

Butterfly Valve Cast/Welded End							Weight (kg)
DN (1)	A	B	C	D1	D2	D3	
20	56	60	24	56	56	1.4	
25	56	60	24	56	56	1.6	
32	64	68	24	64	64	1.8	
40	72	76	24	72	72	2.2	
50	80	84	24	80	80	2.8	
65	95	99	24	95	95	3.8	
80	110	114	24	110	110	4.8	
100	132	136	24	132	132	6.8	
125	162	166	24	162	162	9.8	
150	197	201	24	197	197	13.8	

## Butterfly Valve

### Butterfly Valve Linear/Linear DN

No. DN	max. operating pressure		max. operating temperature		Nominal diameter		DN/Class		Weight		DN/Class	
	Bar (a)	MPa (a)	°C (b)	°F (b)	mm (c)	in. (c)	mm (d)	in. (d)	kg (e)	lb (e)	mm (f)	in. (f)
10	10.0	1.0	150	300	100	4	100	4	1.2	2.6	100	4
15	10.0	1.0	150	300	150	6	150	6	2.0	4.4	150	6
20	10.0	1.0	150	300	200	8	200	8	3.0	6.6	200	8
25	10.0	1.0	150	300	250	10	250	10	4.5	9.9	250	10
30	10.0	1.0	150	300	300	12	300	12	6.0	13.2	300	12
35	10.0	1.0	150	300	350	14	350	14	7.5	16.5	350	14
40	10.0	1.0	150	300	400	16	400	16	9.0	19.8	400	16
45	10.0	1.0	150	300	450	18	450	18	10.5	23.1	450	18
50	10.0	1.0	150	300	500	20	500	20	12.0	26.4	500	20
55	10.0	1.0	150	300	550	22	550	22	13.5	29.7	550	22
60	10.0	1.0	150	300	600	24	600	24	15.0	33.0	600	24
65	10.0	1.0	150	300	650	26	650	26	16.5	36.3	650	26
70	10.0	1.0	150	300	700	28	700	28	18.0	39.6	700	28
75	10.0	1.0	150	300	750	30	750	30	19.5	42.9	750	30
80	10.0	1.0	150	300	800	32	800	32	21.0	46.2	800	32

### Butterfly Valve Wafer/Wafer DN

No. DN	max. operating pressure		max. operating temperature		Nominal diameter		DN/Class		Weight		DN/Class	
	Bar (a)	MPa (a)	°C (b)	°F (b)	mm (c)	in. (c)	mm (d)	in. (d)	kg (e)	lb (e)	mm (f)	in. (f)
10	10.0	1.0	150	300	100	4	100	4	0.5	1.1	100	4
15	10.0	1.0	150	300	150	6	150	6	0.8	1.8	150	6
20	10.0	1.0	150	300	200	8	200	8	1.2	2.6	200	8
25	10.0	1.0	150	300	250	10	250	10	1.8	3.9	250	10
30	10.0	1.0	150	300	300	12	300	12	2.4	5.3	300	12
35	10.0	1.0	150	300	350	14	350	14	3.0	6.6	350	14
40	10.0	1.0	150	300	400	16	400	16	3.6	7.9	400	16
45	10.0	1.0	150	300	450	18	450	18	4.2	9.2	450	18
50	10.0	1.0	150	300	500	20	500	20	4.8	10.5	500	20
55	10.0	1.0	150	300	550	22	550	22	5.4	11.8	550	22
60	10.0	1.0	150	300	600	24	600	24	6.0	13.2	600	24
65	10.0	1.0	150	300	650	26	650	26	6.6	14.5	650	26
70	10.0	1.0	150	300	700	28	700	28	7.2	15.8	700	28
75	10.0	1.0	150	300	750	30	750	30	7.8	17.1	750	30
80	10.0	1.0	150	300	800	32	800	32	8.4	18.4	800	32

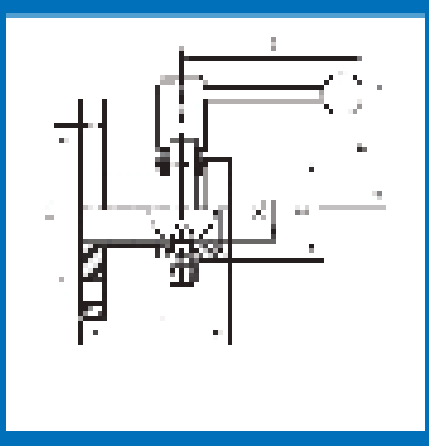
### Butterfly Valve Wafer/Linear DN

No. DN	max. operating pressure		max. operating temperature		Nominal diameter		DN/Class		Weight		DN/Class	
	Bar (a)	MPa (a)	°C (b)	°F (b)	mm (c)	in. (c)	mm (d)	in. (d)	kg (e)	lb (e)	mm (f)	in. (f)
10	10.0	1.0	150	300	100	4	100	4	0.5	1.1	100	4
15	10.0	1.0	150	300	150	6	150	6	0.8	1.8	150	6
20	10.0	1.0	150	300	200	8	200	8	1.2	2.6	200	8
25	10.0	1.0	150	300	250	10	250	10	1.8	3.9	250	10
30	10.0	1.0	150	300	300	12	300	12	2.4	5.3	300	12
35	10.0	1.0	150	300	350	14	350	14	3.0	6.6	350	14
40	10.0	1.0	150	300	400	16	400	16	3.6	7.9	400	16
45	10.0	1.0	150	300	450	18	450	18	4.2	9.2	450	18
50	10.0	1.0	150	300	500	20	500	20	4.8	10.5	500	20
55	10.0	1.0	150	300	550	22	550	22	5.4	11.8	550	22
60	10.0	1.0	150	300	600	24	600	24	6.0	13.2	600	24
65	10.0	1.0	150	300	650	26	650	26	6.6	14.5	650	26
70	10.0	1.0	150	300	700	28	700	28	7.2	15.8	700	28
75	10.0	1.0	150	300	750	30	750	30	7.8	17.1	750	30
80	10.0	1.0	150	300	800	32	800	32	8.4	18.4	800	32

### Butterfly Valve Linear/Wafer DN

No. DN	max. operating pressure		max. operating temperature		Nominal diameter		DN/Class		Weight		DN/Class	
	Bar (a)	MPa (a)	°C (b)	°F (b)	mm (c)	in. (c)	mm (d)	in. (d)	kg (e)	lb (e)	mm (f)	in. (f)
10	10.0	1.0	150	300	100	4	100	4	0.5	1.1	100	4
15	10.0	1.0	150	300	150	6	150	6	0.8	1.8	150	6
20	10.0	1.0	150	300	200	8	200	8	1.2	2.6	200	8
25	10.0	1.0	150	300	250	10	250	10	1.8	3.9	250	10
30	10.0	1.0	150	300	300	12	300	12	2.4	5.3	300	12
35	10.0	1.0	150	300	350	14	350	14	3.0	6.6	350	14
40	10.0	1.0	150	300	400	16	400	16	3.6	7.9	400	16
45	10.0	1.0	150	300	450	18	450	18	4.2	9.2	450	18
50	10.0	1.0	150	300	500	20	500	20	4.8	10.5	500	20
55	10.0	1.0	150	300	550	22	550	22	5.4	11.8	550	22
60	10.0	1.0	150	300	600	24	600	24	6.0	13.2	600	24
65	10.0	1.0	150	300	650	26	650	26	6.6	14.5	650	26
70	10.0	1.0	150	300	700	28	700	28	7.2	15.8	700	28
75	10.0	1.0	150	300	750	30	750	30	7.8	17.1	750	30
80	10.0	1.0	150	300	800	32	800	32	8.4	18.4	800	32

## Butterfly Valve



Butterfly Valve Flange/Flange-PN 10 DN

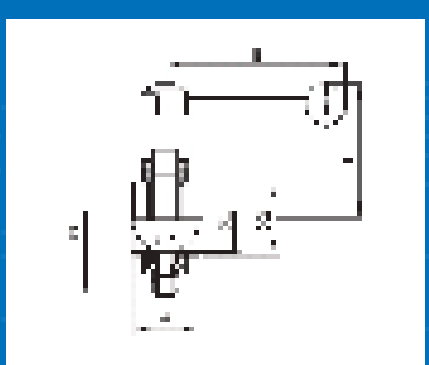
DN/D	A	B	C	CL	CL	H	Weight (kg)
10	14	17	14	5.5	17	10.2x10.2	1.1
15	17	21	17	7.0	21	15.0x15.0	1.4
20	21	27	21	9.0	27	20.0x20.0	2.0
25	25	33	25	11.0	33	25.0x25.0	2.8
32	32	41	32	14.0	41	32.0x32.0	4.0
40	40	51	40	18.0	51	40.0x40.0	5.8
50	50	63	50	23.0	63	50.0x50.0	8.5



Butterfly Valve PN10 Flange/Flange-PN 10 DN

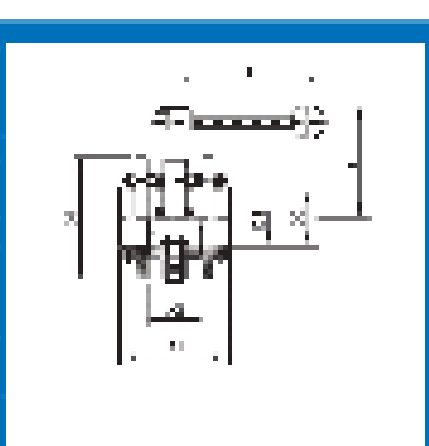
Butterfly Valve Flange/Flange DN

DN/D	A	B	C	CL	CL	H	Weight (kg)
10	14	17	14	5.5	17	10	1.1
15	17	21	17	7.0	21	15	1.4
20	21	27	21	9.0	27	20	2.0
25	25	33	25	11.0	33	25	2.8
32	32	41	32	14.0	41	32	4.0
40	40	51	40	18.0	51	40	5.8
50	50	63	50	23.0	63	50	8.5
65	65	81	65	30.0	81	65	12.5
80	80	101	80	39.0	101	80	18.5



Butterfly Valve Welded/Welded DN for ISO Pipe

DN/D	A	B	C	CL	CL	H	Weight (kg)
10	40	37	39	24.0	24.0	40	1.7
15	47	47	45	28.0	28.0	47	2.7
20	55	57	57	34.0	34.0	57	4.0
25	65	67	67	41.0	41.0	65	5.8
32	75	77	77	49.0	49.0	75	8.5
40	85	87	87	58.0	58.0	85	12.5
50	100	102	102	70.0	70.0	100	18.5



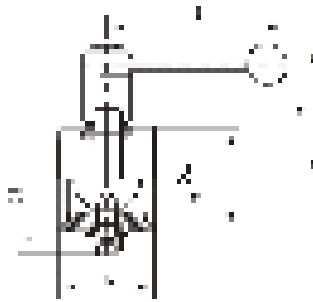
Insertable Flange Butterfly Valve DN for ISO Pipe

DN/D	A	B	C	CL	CL	H	Weight (kg)
10	40	37	39	24.0	24.0	40	1.7
15	47	47	45	28.0	28.0	47	2.7
20	55	57	57	34.0	34.0	57	4.0
25	65	67	67	41.0	41.0	65	5.8
32	75	77	77	49.0	49.0	75	8.5
40	85	87	87	58.0	58.0	85	12.5
50	100	102	102	70.0	70.0	100	18.5





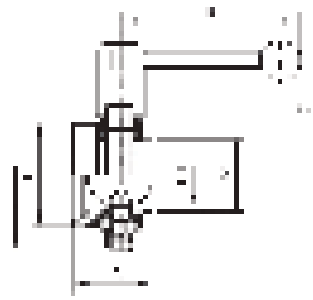
## Butterfly Valve



Assemble DN10 to DN 200  
with flange (DN 10-20)

### Butterfly Valve Male/Wale Anodic Connection DN 10-200/1

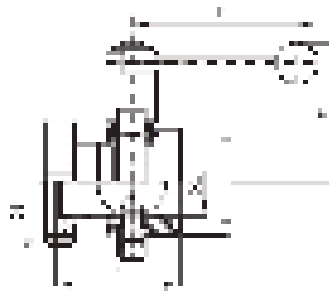
DN (1)	A	B	C	D1	D2	E	Weight (kg)
10	4	4	14	14	14	10000000	0,2
15	4	4	14	14	14	10000000	0,3
20	4	4	14	14	14	10000000	0,4
25	4	4	14	14	14	10000000	0,5
32	4	4	14	14	14	10000000	0,6
40	4	4	14	14	14	10000000	0,7
50	4	4	14	14	14	10000000	0,8
65	4	4	14	14	14	10000000	0,9
80	4	4	14	14	14	10000000	1,0
100	4	4	14	14	14	10000000	1,2
150	4	4	14	14	14	10000000	1,5
200	4	4	14	14	14	10000000	1,8



Assemble DN10 to DN 200  
with wafer (DN 10-20)

### Butterfly Valve Male/Wafer Anodic Connection DN 10-200/1

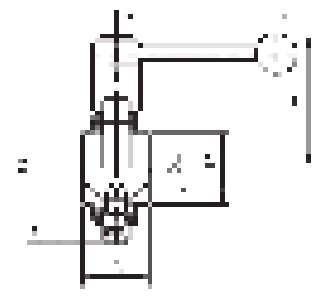
DN (1)	A	B	C	D1	D2	E	Weight (kg)
10	4	4	14	14	14	10000000	0,2
15	4	4	14	14	14	10000000	0,3
20	4	4	14	14	14	10000000	0,4
25	4	4	14	14	14	10000000	0,5
32	4	4	14	14	14	10000000	0,6
40	4	4	14	14	14	10000000	0,7
50	4	4	14	14	14	10000000	0,8
65	4	4	14	14	14	10000000	0,9
80	4	4	14	14	14	10000000	1,0
100	4	4	14	14	14	10000000	1,2
150	4	4	14	14	14	10000000	1,5
200	4	4	14	14	14	10000000	1,8



Assemble DN10 to DN 200  
with linear (DN 10-20)

### Butterfly Valve Male/Linear Anodic Connection DN 10-200/1

DN (1)	A	B	C	D1	D2	E	Weight (kg)
10	4	4	14	14	14	10000000	0,2
15	4	4	14	14	14	10000000	0,3
20	4	4	14	14	14	10000000	0,4
25	4	4	14	14	14	10000000	0,5
32	4	4	14	14	14	10000000	0,6
40	4	4	14	14	14	10000000	0,7
50	4	4	14	14	14	10000000	0,8
65	4	4	14	14	14	10000000	0,9
80	4	4	14	14	14	10000000	1,0
100	4	4	14	14	14	10000000	1,2
150	4	4	14	14	14	10000000	1,5
200	4	4	14	14	14	10000000	1,8



### Butterfly Valve/Welder/Welder Neck (series D)

DN (mm)	A	B	C	D1	D2	E	Weight (kg)
10	4	4	14	14	14	10000000	0,2
15	4	4	14	14	14	10000000	0,3
20	4	4	14	14	14	10000000	0,4
25	4	4	14	14	14	10000000	0,5
32	4	4	14	14	14	10000000	0,6
40	4	4	14	14	14	10000000	0,7
50	4	4	14	14	14	10000000	0,8
65	4	4	14	14	14	10000000	0,9
80	4	4	14	14	14	10000000	1,0
100	4	4	14	14	14	10000000	1,2
150	4	4	14	14	14	10000000	1,5
200	4	4	14	14	14	10000000	1,8

## Butterfly Valve

### Butterfly Valve Male/Weld Neck Asseptic Connection DIN 11864-1

No. 20	male connection 1.1/2" (38.1) Ø		No. 2000 1.1/2" (38.1) Ø		No. 10	
	Pressure [bar]	Volume [dm <sup>3</sup> ]	Pressure [bar]	Volume [dm <sup>3</sup> ]	Pressure [bar]	Volume [dm <sup>3</sup> ]
1	10.00	0.0000000	10.00	0.0000000		
2	10.00	0.0000000	10.00	0.0000000		
3	10.00	0.0000000	10.00	0.0000000		
21	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
31	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
40	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
11	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
25	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
35	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
45	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000

### Butterfly Valve Male/Weld Neck Asseptic Connection DIN 11864-1

No. 20	male connection 1.1/2" (38.1) Ø		No. 1000 1.1/2" (38.1) Ø		No. 10	
	Pressure [bar]	Volume [dm <sup>3</sup> ]	Pressure [bar]	Volume [dm <sup>3</sup> ]	Pressure [bar]	Volume [dm <sup>3</sup> ]
1	10.00	0.0000000	10.00	0.0000000		
2	10.00	0.0000000	10.00	0.0000000		
3	10.00	0.0000000	10.00	0.0000000		
4	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
21	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
31	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
41	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
51	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
61	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000

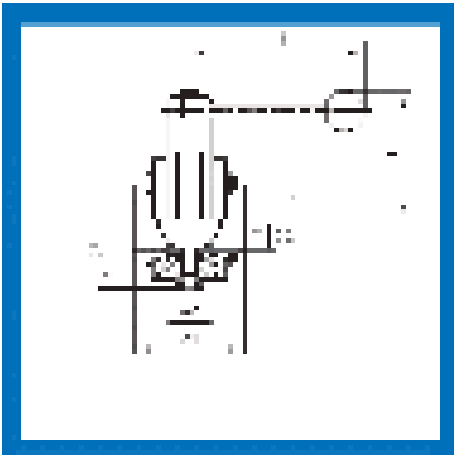
### Butterfly Valve Male/Weld Neck Asseptic Connection DIN 11864-1

No. 20	male connection 1.1/2" (38.1) Ø		No. 1000 1.1/2" (38.1) Ø		No. 10	
	Pressure [bar]	Volume [dm <sup>3</sup> ]	Pressure [bar]	Volume [dm <sup>3</sup> ]	Pressure [bar]	Volume [dm <sup>3</sup> ]
1	10.00	0.0000000	10.00	0.0000000		
2	10.00	0.0000000	10.00	0.0000000		
3	10.00	0.0000000	10.00	0.0000000		
4	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
5	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
6	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
7	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
8	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000
9	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000

### Butterfly Valve Male/Weld Neck (series B)

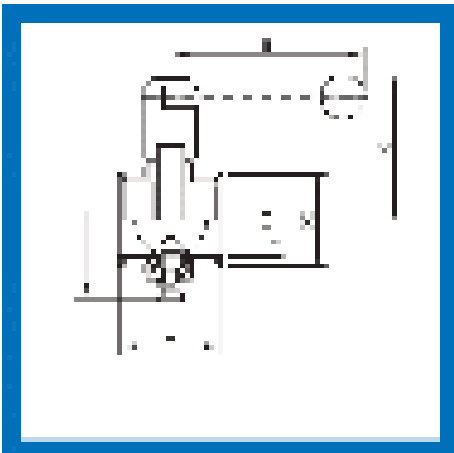
D [inch]	male connection 1.1/2" (38.1) Ø		male connection 1.1/2" (38.1) Ø		No. 1000 1.1/2" (38.1) Ø		No. 1000 1.1/2" (38.1) Ø		No. 10 1.1/2" (38.1) Ø		Material [inch]	Material [inch]
	Pressure [bar]	Volume [dm <sup>3</sup> ]	Pressure [bar]	Volume [dm <sup>3</sup> ]	Pressure [bar]	Volume [dm <sup>3</sup> ]	Pressure [bar]	Volume [dm <sup>3</sup> ]	Pressure [bar]	Volume [dm <sup>3</sup> ]		
1.1/2"	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	316L	316L
2"	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	316L	316L
2.1/2"	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	316L	316L
3"	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	316L	316L
4"	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	10.00	0.0000000	316L	316L

## Butterfly Valve



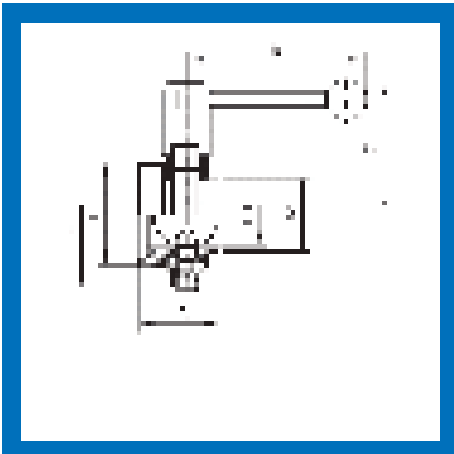
Compact Intermediate Flange Butterfly Valve Inch (series D)

Size (in)	A	B	C	D	DL	DL	DL	Weight (kg)
1	4	4	10.1	4.1	2.1	5.1	4	1.2
1 1/2	4	4	10.1	4.1	2.1	5.1	4	1.2
2	4	4	11.8	4.1	2.1	5.1	4	1.4
2 1/2	5	5	13.2	4.1	2.1	5.1	4	1.7
3	5	5	15	4.1	2.1	5.1	4	2.1
4	5	5	17.1	4.1	2.1	5.1	4	2.6



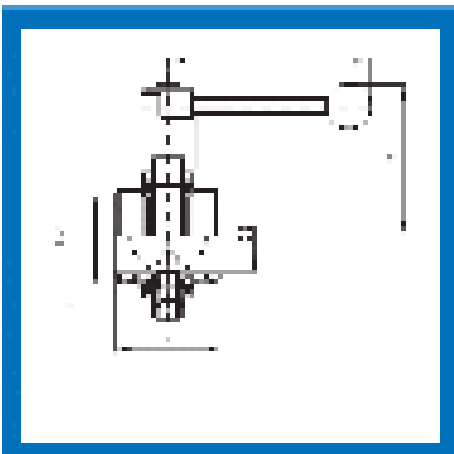
Butterfly Valve (Series D) Inch (series H)

Size (in)	A	B	C	D	DL	DL	Weight (kg)
1	4	4	10.1	4.1	2.1	5.1	1.2
1 1/2	4	4	10.1	4.1	2.1	5.1	1.2
2	4	4	11.8	4.1	2.1	5.1	1.4
2 1/2	5	5	13.2	4.1	2.1	5.1	1.7
3	5	5	15	4.1	2.1	5.1	2.1
4	5	5	17.1	4.1	2.1	5.1	2.6



Butterfly Valve Male/Female Inch (series D) (series H) (series D)

Size (in)	A	B	C	DL	DL	DL	Weight (kg)
1	4	4	10.1	4.1	2.1	5.1	1.2
1 1/2	4	4	10.1	4.1	2.1	5.1	1.2
2	4	4	11.8	4.1	2.1	5.1	1.4
2 1/2	5	5	13.2	4.1	2.1	5.1	1.7
3	5	5	15	4.1	2.1	5.1	2.1
4	5	5	17.1	4.1	2.1	5.1	2.6



Butterfly Valve IDF Male/Female (series D)

Size (in)	A	B	C	DL	DL	DL	Weight (kg)
1	4	4	10.1	4.1	2.1	5.1	1.2
1 1/2	4	4	10.1	4.1	2.1	5.1	1.2
2	4	4	11.8	4.1	2.1	5.1	1.4
2 1/2	5	5	13.2	4.1	2.1	5.1	1.7
3	5	5	15	4.1	2.1	5.1	2.1
4	5	5	17.1	4.1	2.1	5.1	2.6

## Butterfly Valve

### Compact Inverted-Flange Flange Butterfly Valve Inch (series D)

D (Inch)	Series D, 150# Flange			Series D, 300# Flange			Series D, 600# Flange			Weight (Lbs)
	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	
1/2"	150	3.00	3.00	300	3.00	3.00	600	3.00	3.00	0.50
3/4"	150	3.50	3.50	300	3.50	3.50	600	3.50	3.50	0.75
1"	150	4.00	4.00	300	4.00	4.00	600	4.00	4.00	1.00
1 1/2"	150	5.00	5.00	300	5.00	5.00	600	5.00	5.00	1.50
2"	150	6.00	6.00	300	6.00	6.00	600	6.00	6.00	2.00
3"	150	7.50	7.50	300	7.50	7.50	600	7.50	7.50	3.00
4"	150	9.00	9.00	300	9.00	9.00	600	9.00	9.00	4.00
6"	150	12.00	12.00	300	12.00	12.00	600	12.00	12.00	6.00

### Butterfly Valve Change (Series Inch) (series K)

D (Inch)	Series K, 150# Flange			Series K, 300# Flange			Series K, 600# Flange			Series K, 900# Flange	
	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)
1/2"	150	3.00	3.00	300	3.00	3.00	600	3.00	3.00	900	3.00
3/4"	150	3.50	3.50	300	3.50	3.50	600	3.50	3.50	900	3.50
1"	150	4.00	4.00	300	4.00	4.00	600	4.00	4.00	900	4.00
1 1/2"	150	5.00	5.00	300	5.00	5.00	600	5.00	5.00	900	5.00
2"	150	6.00	6.00	300	6.00	6.00	600	6.00	6.00	900	6.00
3"	150	7.50	7.50	300	7.50	7.50	600	7.50	7.50	900	7.50
4"	150	9.00	9.00	300	9.00	9.00	600	9.00	9.00	900	9.00

### Butterfly Valve Male/Weldon Inch (series D) similar DN 155L

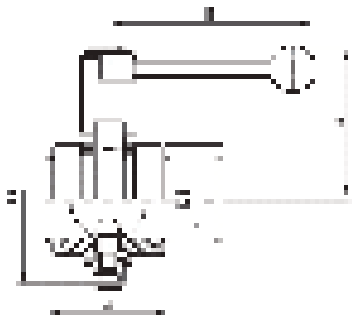
D (Inch)	Series D, 150# Flange			Series D, 300# Flange			Series D, 600# Flange			Series D, 900# Flange	
	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)
1/2"	150	3.00	3.00	300	3.00	3.00	600	3.00	3.00	900	3.00
3/4"	150	3.50	3.50	300	3.50	3.50	600	3.50	3.50	900	3.50
1"	150	4.00	4.00	300	4.00	4.00	600	4.00	4.00	900	4.00
1 1/2"	150	5.00	5.00	300	5.00	5.00	600	5.00	5.00	900	5.00
2"	150	6.00	6.00	300	6.00	6.00	600	6.00	6.00	900	6.00
3"	150	7.50	7.50	300	7.50	7.50	600	7.50	7.50	900	7.50
4"	150	9.00	9.00	300	9.00	9.00	600	9.00	9.00	900	9.00

### Butterfly Valve IDF Male/Male (series D)

D (Inch)	Series D, 150# Flange			Series D, 300# Flange			Series D, 600# Flange			Series D, 900# Flange	
	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)	Flange Dia. (Inch)	Pressure (PSI)	Outside Dia. (Inch)
1/2"	150	3.00	3.00	300	3.00	3.00	600	3.00	3.00	900	3.00
3/4"	150	3.50	3.50	300	3.50	3.50	600	3.50	3.50	900	3.50
1"	150	4.00	4.00	300	4.00	4.00	600	4.00	4.00	900	4.00
1 1/2"	150	5.00	5.00	300	5.00	5.00	600	5.00	5.00	900	5.00
2"	150	6.00	6.00	300	6.00	6.00	600	6.00	6.00	900	6.00
3"	150	7.50	7.50	300	7.50	7.50	600	7.50	7.50	900	7.50
4"	150	9.00	9.00	300	9.00	9.00	600	9.00	9.00	900	9.00

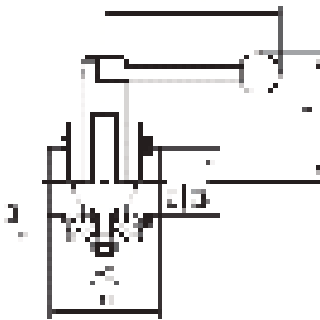
## Butterfly Valve

Butterfly Valve 2UT Male; Male (series D)



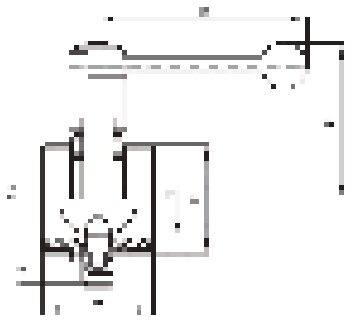
No. (a)	b	c	d	e	f	g	Wt. (kg)
1	25	100	100	100	10	10000000	1.5
2	32	125	125	125	12	10000000	2.5
3	40	150	150	150	15	10000000	3.5
21021	50	175	175	175	18	10000000	5.5
4	65	200	200	200	20	10000000	8
5	80	225	225	225	22	10000000	12

Drop-in Information for 2UT Butterfly Valve (Series D)



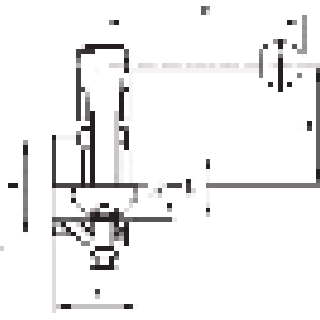
Drop-in	a	b	c	d	e	f	g	Wt. (kg)
20	25	10	100	100	100	10	10	2.5
22	32	12	125	125	125	12	12	3.2
24	40	15	150	150	150	15	15	4.5
26	50	18	175	175	175	18	18	7.5
28	65	22	200	200	200	22	22	12
29.2	80	28	225	225	225	28	28	18

Butterfly Valve 5UT Male; Male (series D)



No. (a)	b	c	d	e	f	g	Wt. (kg)
13	25	100	100	100	10	10000000	1.5
20	32	125	125	125	12	10000000	2.5
31	40	150	150	150	15	10000000	3.5
33.2	50	175	175	175	18	10000000	5.5
44	65	200	200	200	20	10000000	8
55.2	80	225	225	225	22	10000000	12

Butterfly Valve 5UT Male; Waiver (series D)



Drop-in	a	b	c	d	e	f	g	Wt. (kg)
5	25	100	100	100	100	10	10000000	1.5
7	32	125	125	125	125	12	10000000	2.5
8	40	150	150	150	150	15	10000000	3.5
13.8	50	175	175	175	175	18	10000000	5.5
23.2	65	200	200	200	200	20	10000000	8
33.2	80	225	225	225	225	22	10000000	12

## Butterfly Valve

### Butterfly Valve RJT Male/Male (Series D)

Part No.	Nominal Capacity 1.5" (38.1 mm)		Nominal Capacity 1.625" (41.275 mm)		Nominal Capacity 1.75" (44.275 mm)		Nominal Capacity 1.875" (47.625 mm)		Nominal Capacity 2.0" (50.8 mm)		Nominal Capacity 2.125" (54.125 mm)	
	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate
101	150	10000	150	10000	150	10000	150	10000	150	10000	150	10000
102	150	10000	150	10000	150	10000	150	10000	150	10000	150	10000
2101	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000
211	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000
31	150	30000	150	30000	150	30000	150	30000	150	30000	150	30000
32	150	30000	150	30000	150	30000	150	30000	150	30000	150	30000
41	150	40000	150	40000	150	40000	150	40000	150	40000	150	40000
42	150	40000	150	40000	150	40000	150	40000	150	40000	150	40000

### Compound Inlet/Outlet Flange Butterfly Valve RJT (F4) (Series K)

Part No.	Nominal Capacity 2.0" (50.8 mm)		Nominal Capacity 2.125" (54.125 mm)		Nominal Capacity 2.25" (57.125 mm)		Nominal Capacity 2.375" (60.325 mm)		Nominal Capacity 2.5" (63.5 mm)	
	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate		
50	150	20000	150	20000	150	20000	150	20000	150	20000
51	150	20000	150	20000	150	20000	150	20000	150	20000
52	150	20000	150	20000	150	20000	150	20000	150	20000
53	150	20000	150	20000	150	20000	150	20000	150	20000
54	150	20000	150	20000	150	20000	150	20000	150	20000
55	150	20000	150	20000	150	20000	150	20000	150	20000
56	150	20000	150	20000	150	20000	150	20000	150	20000

### Butterfly Valve SMS Male/Male (Series E)

Part No.	Nominal Capacity 1.5" (38.1 mm)		Nominal Capacity 1.625" (41.275 mm)		Nominal Capacity 1.75" (44.275 mm)		Nominal Capacity 1.875" (47.625 mm)		Nominal Capacity 2.0" (50.8 mm)		Nominal Capacity 2.125" (54.125 mm)	
	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate
101	150	10000	150	10000	150	10000	150	10000	150	10000	150	10000
102	150	10000	150	10000	150	10000	150	10000	150	10000	150	10000
103	150	10000	150	10000	150	10000	150	10000	150	10000	150	10000
201	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000
202	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000
301	150	30000	150	30000	150	30000	150	30000	150	30000	150	30000
302	150	30000	150	30000	150	30000	150	30000	150	30000	150	30000

### Butterfly Valve SMS Male/Welder (Series E)

Part No.	Nominal Capacity 1.5" (38.1 mm)		Nominal Capacity 1.625" (41.275 mm)		Nominal Capacity 1.75" (44.275 mm)		Nominal Capacity 1.875" (47.625 mm)		Nominal Capacity 2.0" (50.8 mm)		Nominal Capacity 2.125" (54.125 mm)	
	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate	Pressure Class	Volume Flow Rate
50	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000
51	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000
52	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000
53	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000
54	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000
55	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000
56	150	20000	150	20000	150	20000	150	20000	150	20000	150	20000

## Butterfly Valve

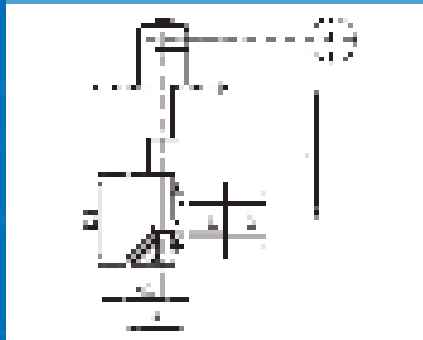


Figure 20. Butterfly valve (mm)

Bottom Drain Valve

DN (1)	Ø	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>
15	21	11	23	34	41
20	27	11	23	34	41
25	33	18	30	41	48
32	40	25	37	48	55
40	48	32	44	55	62
50	58	40	52	63	70

Bottom Drain Valve

DN (1)	Ø	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>
20	27	25	37	48	55
25	33	25	37	48	55
32	40	32	44	55	62
40	48	40	52	63	70
50	58	50	62	73	80

## Butterfly Valve

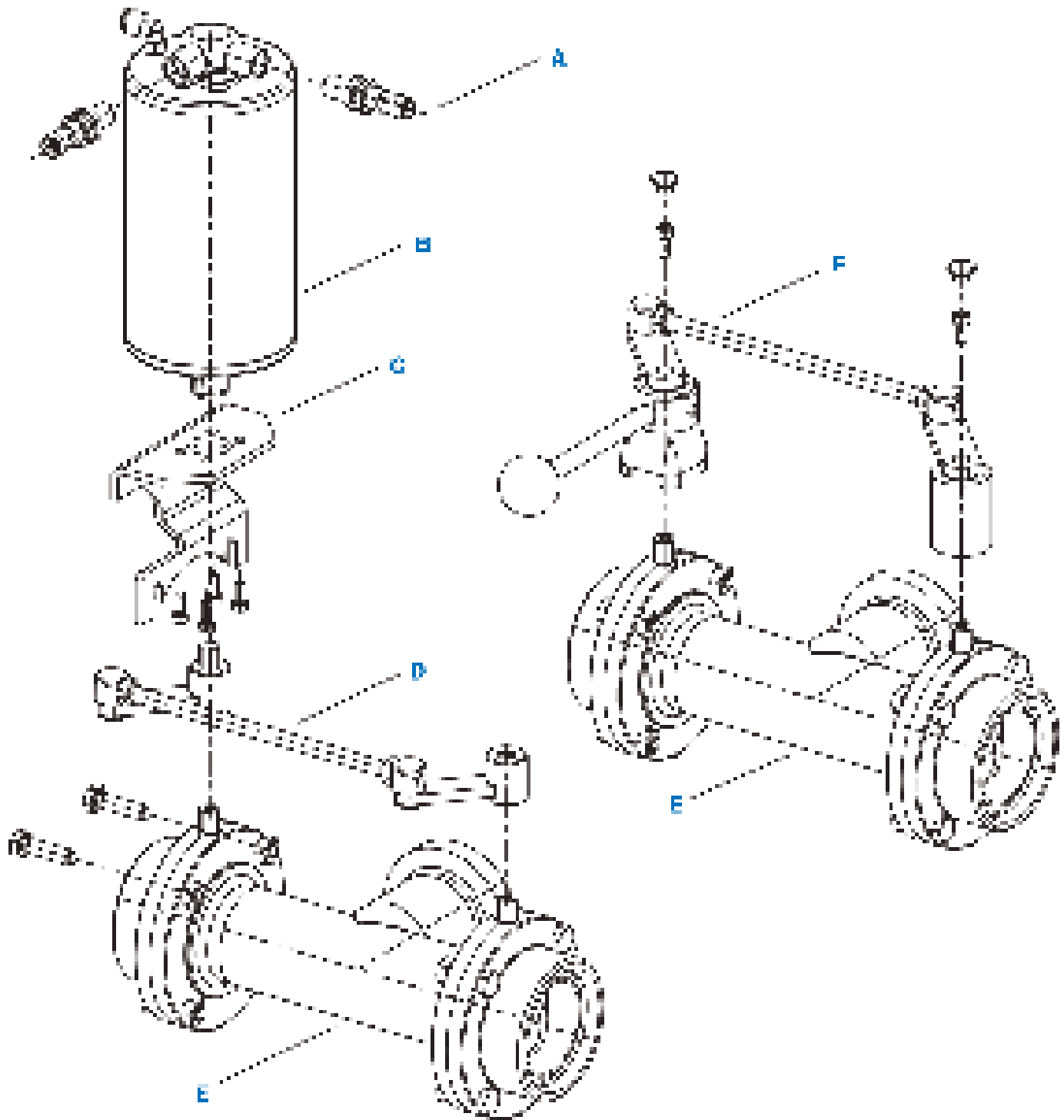
### Down Drain Valve

No. 200	main pipe diameter 1.500" (38.1mm)		main pipe diameter 1.625" (41.3mm)		main pipe diameter 1.750" (44.3mm)	
	Pressure	Volume (cu)	Pressure	Volume (cu)	Pressure	Volume (cu)
20	+	0.0000000	+	0.0000000	+	0.0000000
21	+	0.0000000	+	0.0000000	+	0.0000000
22	+	0.0000000	+	0.0000000	+	0.0000000
23	+	0.0000000	+	0.0000000	+	0.0000000
24	+	0.0000000	+	0.0000000	+	0.0000000
25	+	0.0000000	+	0.0000000	+	0.0000000
26	+	0.0000000	+	0.0000000	+	0.0000000
27	+	0.0000000	+	0.0000000	+	0.0000000
28	+	0.0000000	+	0.0000000	+	0.0000000
29	+	0.0000000	+	0.0000000	+	0.0000000
30	+	0.0000000	+	0.0000000	+	0.0000000

### Knappe Drain Valve

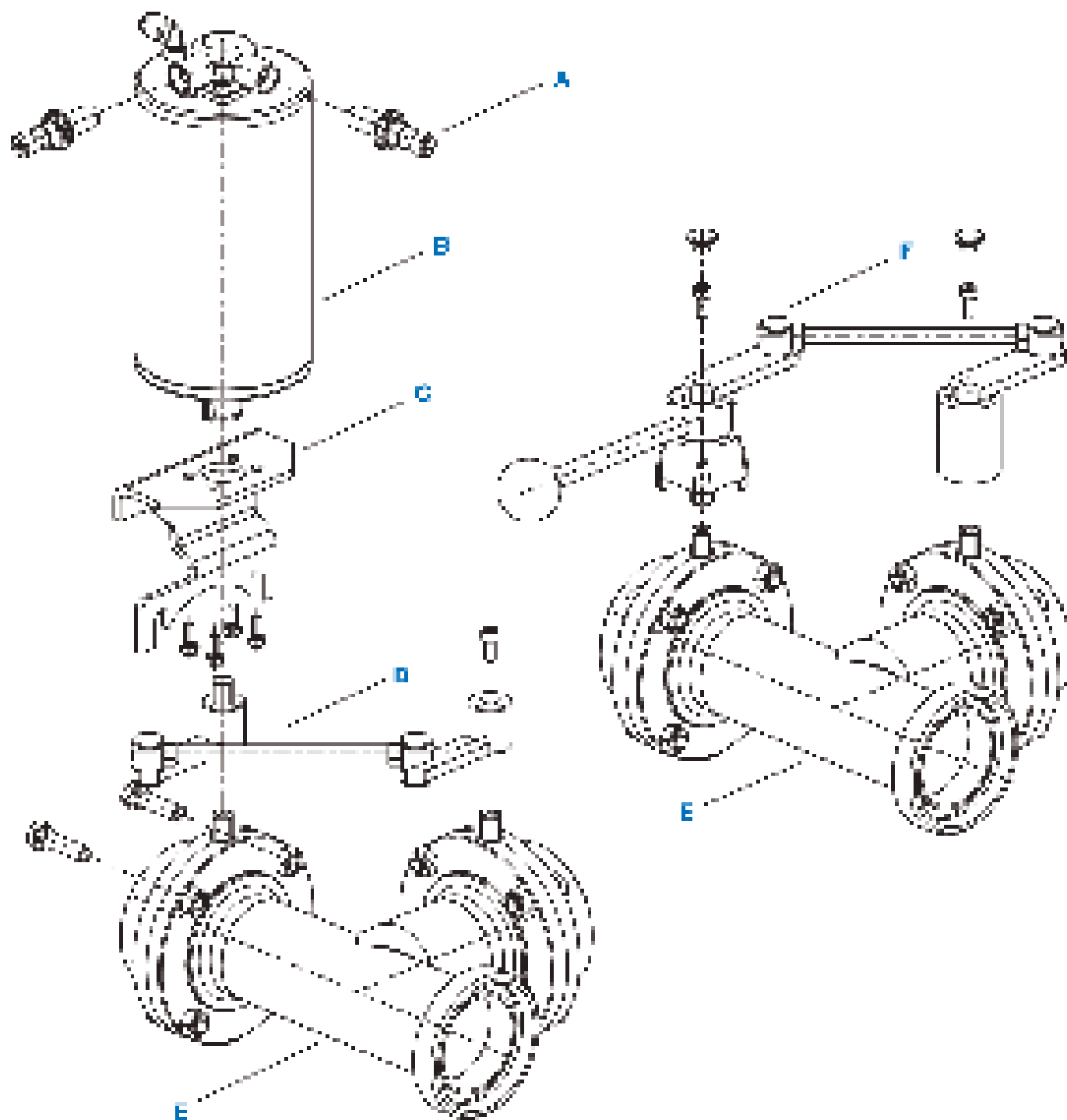
No. 200	main pipe diameter 1.500" (38.1mm)		main pipe diameter 1.625" (41.3mm)		main pipe diameter 1.750" (44.3mm)		main pipe diameter 1.875" (47.6mm)	
	Pressure	Volume (cu)	Pressure	Volume (cu)	Pressure	Volume (cu)	Pressure	Volume (cu)
20	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000
21	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000
22	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000
23	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000
24	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000
25	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000
26	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000
27	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000
28	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000
29	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000
30	+	0.0000000	+	0.0000000	+	0.0000000	+	0.0000000





- A. Primary switch indicator
- B. Actuator (manual or electric drive)
- C. Internal valves

- D. Shaft combination
- E. T-Butterfly valve
- F. Shift combination with handle



- A Pressure switch (optional)
- B Battery valve with seal O-ring
- C Holding bracket

- D Shift combiner
- E T-Battery valve
- F Shift combiner with handle

## T-Butterfly Valve and Shift Combinations

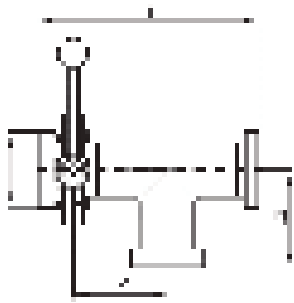


Figure 1000: 100% Open Position

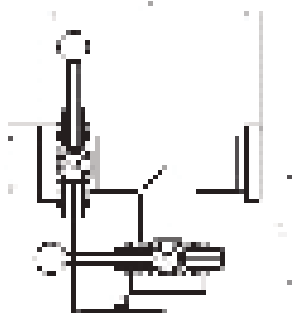


Figure 1001: 50% Open Position

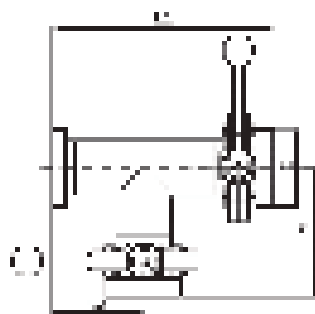


Figure 1002: 25% Open Position

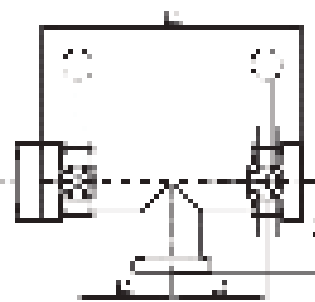


Figure 1003: 10% Open Position

T-Butterfly Valve Male/Male/Male DH Type "A"

DN (")	W	L	H	W	Wt. (kg)
150	1100 (43.3")	1100	400	150	100
200	1400 (55.1")	1400	400	200	140
250	1700 (66.9")	1700	400	250	190
300	2000 (78.7")	2000	400	300	240
350	2300 (90.5")	2300	400	350	290
400	2600 (102.4")	2600	400	400	340

T-Butterfly Valve Male/Male/Male DH Type "B"

DN (")	W	L	H	W	Wt. (kg)
150	1100 (43.3")	1100	400	150	100
200	1400 (55.1")	1400	400	200	140
250	1700 (66.9")	1700	400	250	190
300	2000 (78.7")	2000	400	300	240
350	2300 (90.5")	2300	400	350	290
400	2600 (102.4")	2600	400	400	340

T-Butterfly Valve Male/Male/Male DH Type "C"

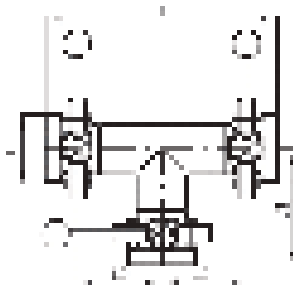
DN (")	W	L	H	W	Wt. (kg)
150	1100 (43.3")	1100	400	150	100
200	1400 (55.1")	1400	400	200	140
250	1700 (66.9")	1700	400	250	190
300	2000 (78.7")	2000	400	300	240
350	2300 (90.5")	2300	400	350	290
400	2600 (102.4")	2600	400	400	340

T-Butterfly Valve Male/Male/Male DH Type "D"

DN (")	W	L	H	W	Wt. (kg)
150	1100 (43.3")	1100	400	150	100
200	1400 (55.1")	1400	400	200	140
250	1700 (66.9")	1700	400	250	190
300	2000 (78.7")	2000	400	300	240
350	2300 (90.5")	2300	400	350	290
400	2600 (102.4")	2600	400	400	340

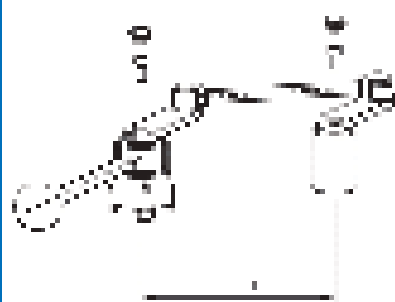


## T-Butterfly Valve and Shift Combinations



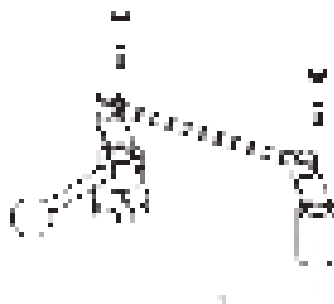
90° Straight Stem, 90° Shift on the Stem

T-Butterfly Valve Male/Male/Male DR Type $\square$					
DRG 7	Ø	L	L <sub>1</sub>	L <sub>2</sub>	No. DRG-3
1	1.50 (1.57)	1.00	1.1	1.0	1
2	1.50 (1.57)	1.25	1.5	1.0	1
3	2.00 (2.07)	1.50	2.5	1.1	2
4	2.00 (2.07)	1.75	3.0	1.1	2
5	2.50 (2.57)	2.00	3.5	1.1	3
6	2.50 (2.57)	2.25	3.5	1.1	3
10	3.00 (3.07)	2.50	4.5	1.1	4



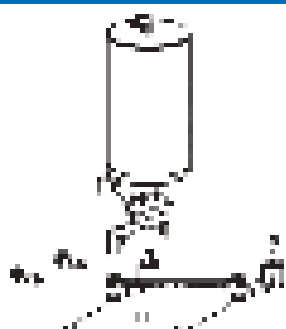
90° T-Butterfly Valve with 45° Shift

Shift Combination Angle Type for T-Butterfly Valve manually operated		
DRG 7	DRG 3	No. DRG-3
3	3	3
5	5	5
6	6	6
10	10	10
15	15	15
20	20	20
30	30	30



90° Straight Stem, 90° Shift

Shift Combination Straight Type for T-Butterfly Valve manually operated		
DRG 7	DRG 3	No. DRG-3
3	3	3
5	5	5
6	6	6
10	10	10
15	15	15
20	20	20



90° Straight Stem with 90° Shift

Shift Combination Angle Type for T-Butterfly Valve with Actuator		
DRG 7	DRG 3	No. DRG-3
3	3	3
5	5	5
6	6	6
10	10	10
15	15	15
20	20	20

## T-Butterfly Valve and Shift Combination

### T-Butterfly Valve (Male/Male/Male DN Type 90)

DN (mm)	DN 150 (6")		DN 200 (8")		DN 250 (10")		DN 300 (12")		DN 350 (14")		DN 400 (16")	
	Pressure (bar)	Volume (m³)	Pressure (bar)	Volume (m³)	Pressure (bar)	Volume (m³)	Pressure (bar)	Volume (m³)	Pressure (bar)	Volume (m³)	Pressure (bar)	Volume (m³)
50	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000
65	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000
80	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000
100	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000
125	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000
150	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000
200	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000
250	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000
300	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000
350	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000
400	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000	10.000	0.000000

### SHH Combination Straight Type for T-Butterfly Valve (manually operated)

DN 150 (6")		
DN (mm)	Pressure (bar)	Volume (m³)
50	10.000	0.000000
65	10.000	0.000000
80	10.000	0.000000
100	10.000	0.000000
125	10.000	0.000000
150	10.000	0.000000
200	10.000	0.000000
250	10.000	0.000000

### SHH Combination Straight Type for T-Butterfly Valve (manually operated)

DN 200 (8")		
DN (mm)	Pressure (bar)	Volume (m³)
50	10.000	0.000000
65	10.000	0.000000
80	10.000	0.000000
100	10.000	0.000000
125	10.000	0.000000
150	10.000	0.000000
200	10.000	0.000000

### SHH Combination Angle Type for T-Butterfly Valve with Actuators

DN (mm)	DN 150 (6")		DN 200 (8")	
	Pressure (bar)	Volume (m³)	Pressure (bar)	Volume (m³)
50	10.000	0.000000	10.000	0.000000
65	10.000	0.000000	10.000	0.000000
80	10.000	0.000000	10.000	0.000000
100	10.000	0.000000	10.000	0.000000
125	10.000	0.000000	10.000	0.000000
150	10.000	0.000000	10.000	0.000000
200	10.000	0.000000	10.000	0.000000

## T-Butterfly Valve and Shift Combinations

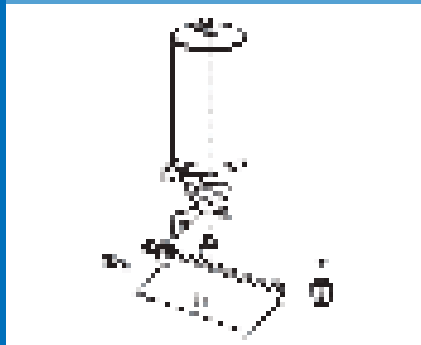


Fig. 17. Butterfly Valve with T

### Shift Combinations Straight Type for T-Butterfly Valve with Actuator

FIG 17 L

1	1A
2	1B
3	1C
4	1D
5	1E
6	1F
7	1G

## T-Butterfly Valve and Shift Combinations

**Shift Combination Straight Type for T-Butterfly Valve with Actuator**

Actuator	40-100		40-150	
	Pressure	Actuator	Pressure	Actuator
10	40-100	40-100-100	40-100	40-100-100
15	40-100	40-100-100	40-100	40-100-100
20	40-100	40-100-100	40-100	40-100-100
25	40-100	40-100-100	40-100	40-100-100
30	40-100	40-100-100	40-100	40-100-100
35	40-100	40-100-100	40-100	40-100-100
40	40-100	40-100-100	40-100	40-100-100
45	40-100	40-100-100	40-100	40-100-100
50	40-100	40-100-100	40-100	40-100-100
55	40-100	40-100-100	40-100	40-100-100
60	40-100	40-100-100	40-100	40-100-100
65	40-100	40-100-100	40-100	40-100-100
70	40-100	40-100-100	40-100	40-100-100
75	40-100	40-100-100	40-100	40-100-100
80	40-100	40-100-100	40-100	40-100-100
85	40-100	40-100-100	40-100	40-100-100
90	40-100	40-100-100	40-100	40-100-100
95	40-100	40-100-100	40-100	40-100-100
100	40-100	40-100-100	40-100	40-100-100



## Conical Valve Discs and Bushings

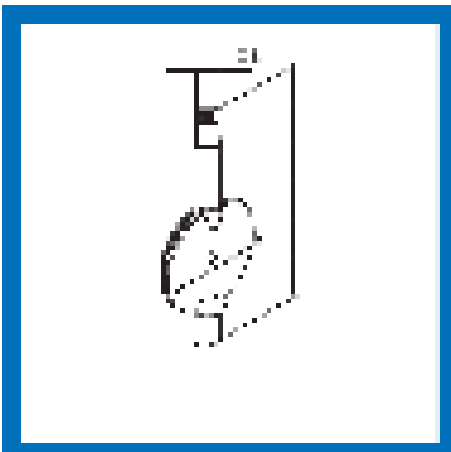
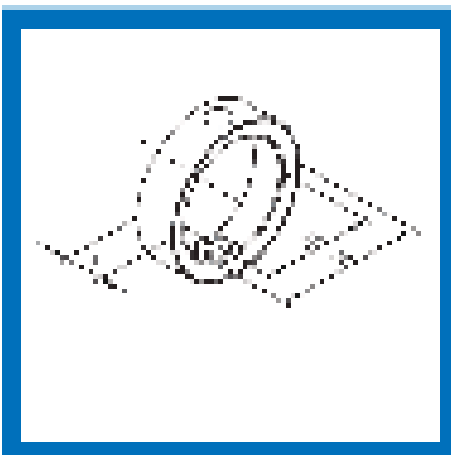
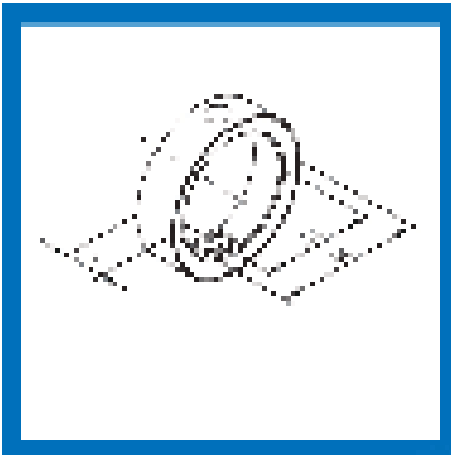


Table for Conical Valve Disc

DN (1)	DL	DB	DC	Depth (mm)
10	15	21	15	115
15	21	27	21	110
20	27	33	27	107
25	33	39	33	100
32	40	46	40	100
40	48	54	48	100
50	58	66	58	100
65	75	84	75	100
80	90	100	80	100
100	110	120	100	100
125	135	145	125	100
150	160	170	150	100
200	210	220	200	100

Table for Matted Valve Disc (per DN)

DN (mm)	DL	DB	DC	Depth (mm)
10	20	25	20	100
15	25	30	25	100
20	30	35	30	100
25	35	40	35	100
32	40	45	40	100
40	45	50	45	100
50	55	60	55	100

Table for Conical Valve Disc for Butterfly Valve

DN (mm)	DL	DB	DC	Depth (mm)
10	15	21	15	100
15	21	27	21	100
20	27	33	27	100
25	33	39	33	100
32	40	46	40	100
40	48	54	48	100
50	58	66	58	100
65	75	84	75	100
80	90	100	80	100
100	110	120	100	100
125	135	145	125	100
150	160	170	150	100
200	210	220	200	100

## Quark, Value Drive und Buchings

### Quark for Butterfly Value Drive

St. NR.	1. NR. (1.00000)			2. NR.			3. NR.			4. NR.		
	Platznr.	Abfahrtsk.	Platznr.	Abfahrtsk.	Z. (min)	Platznr.	Abfahrtsk.	Abfahrtsk.	Platznr.	Abfahrtsk.	Z. (min)	
1	1211	201100001	1211	201100001		1211	201100001	1211				
2	1211	201100001	1211	201100001		1211	201100001	1211				
3	1211	201100001	1211	201100001		1211	201100001	1211				
4	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
5	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
6	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
7	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
8	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
9	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
10	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
11	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
12	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
13	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
14	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
15	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
16	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
17	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
18	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
19	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	
20	1211	201100001	1211	201100001	1211	201100001	201100001	1211	1211	201100001	1211	

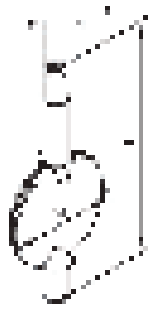
### Market for Butterfly Value Drive (part 1)

St. NR.	1. NR. (1.00000)			2. NR.			3. NR.		
	Platznr.	Abfahrtsk.	Platznr.	Abfahrtsk.	Z. (min)	Platznr.	Abfahrtsk.	Abfahrtsk.	
1	1211	201100001	1211	201100001	1211	201100001	201100001	1211	
2	1211	201100001	1211	201100001	1211	201100001	201100001	1211	
3	1211	201100001	1211	201100001	1211	201100001	201100001	1211	
4	1211	201100001	1211	201100001	1211	201100001	201100001	1211	
5	1211	201100001	1211	201100001	1211	201100001	201100001	1211	
6	1211	201100001	1211	201100001	1211	201100001	201100001	1211	
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

### Value Drive for Butterfly Value

St. NR.	1. NR. (1.00000)		2. NR.	
	Platznr.	Abfahrtsk.	Platznr.	Abfahrtsk.
1	1211	201100001	1211	201100001
2	1211	201100001	1211	201100001
3	1211	201100001	1211	201100001
4	1211	201100001	1211	201100001
5	1211	201100001	1211	201100001
6	1211	201100001	1211	201100001
7	1211	201100001	1211	201100001
8	1211	201100001	1211	201100001
9	1211	201100001	1211	201100001
10	1211	201100001	1211	201100001
11	1211	201100001	1211	201100001
12	1211	201100001	1211	201100001
13	1211	201100001	1211	201100001
14	1211	201100001	1211	201100001
15	1211	201100001	1211	201100001
16	1211	201100001	1211	201100001
17	1211	201100001	1211	201100001
18	1211	201100001	1211	201100001
19	1211	201100001	1211	201100001
20	1211	201100001	1211	201100001

## Control Valve Liner and Bushings



Valve Disk for Duraflow Valve-Inch Series D

DN (inch)	D	E	L	Wt. (lb.)
1	5.00	4.12	1.00	0.15
1 1/2	5.75	4.87	1.12	0.19
2	6.50	5.62	1.25	0.25
2 1/2	7.25	6.37	1.37	0.33
3	8.00	7.12	1.50	0.42
4	9.00	8.12	1.62	0.53

Hardness

DN (inch)	Wt. (lb.)	H	I	J
1	0.15	3	4	5
1 1/2	0.19	3	4	5
2	0.25	3	4	5
2 1/2	0.33	3	4	5
3	0.42	3	4	5
4	0.53	3	4	5

Hardness: 40-50 HRC

Bushing, conductive for ATES

DN (inch)	Wt. (lb.)	DC	DE	DF
1	0.15	5	6	8
1 1/2	0.19	5	6	8
2	0.25	5	6	8
2 1/2	0.33	5	6	8
3	0.42	5	6	8
4	0.53	5	6	8

## Gasket, Valve Discs and Bushings

### Valve Disc for Butterfly Valve Inch Series G

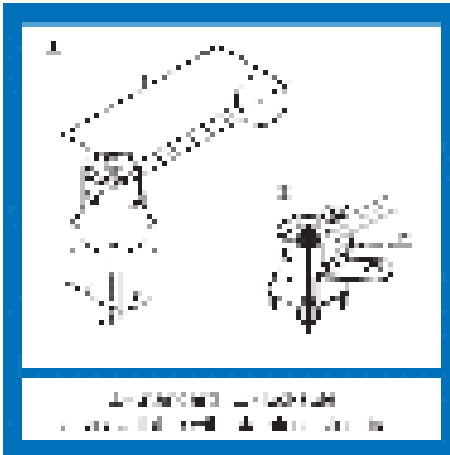
LITTONING-LEISTUNG		J. 1921 (2011)		
DN (inch)	Pressure	Material	Pressure	Material
150	150 bar	201700000	150 bar	201700000
150	150 bar	202700000	150 bar	202700000
200	200 bar	203700000	200 bar	203700000
250	250 bar	204700000	250 bar	204700000
300	300 bar	205700000	300 bar	205700000
350	350 bar	206700000	350 bar	206700000

### Housing

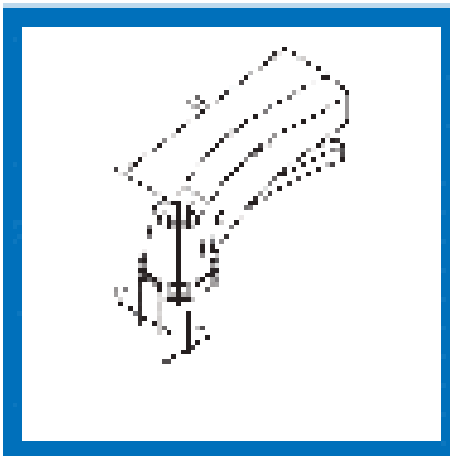
DN (inch)	DN (inch)	Material	Material
150	150	201700000	201700000
200	200	202700000	202700000
250	250	203700000	203700000
300	300	204700000	204700000
350	350	205700000	205700000
400	400	206700000	206700000

### Bushings, conductive for ATCA

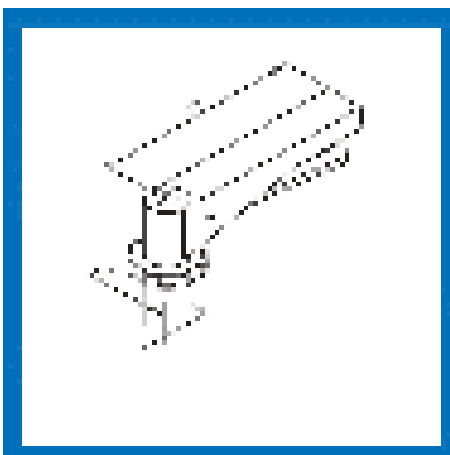
DN (inch)	DN (inch)	Material	Material	Pressure
150	150	201700000	201700000	150 bar
200	200	202700000	202700000	200 bar
250	250	203700000	203700000	250 bar
300	300	204700000	204700000	300 bar
350	350	205700000	205700000	350 bar
400	400	206700000	206700000	400 bar



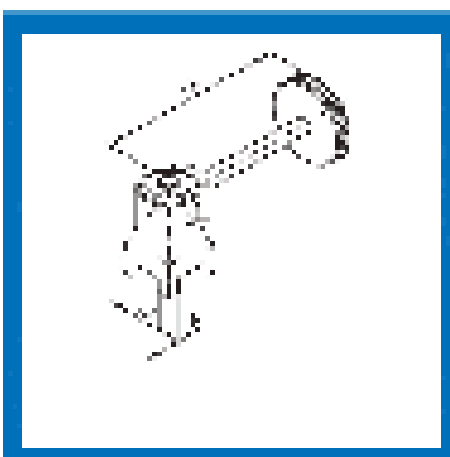
Standard Handle with Ball					
Part No.	Material	Ø	L	W	Weight (kg)
2011000	Al	16	115	18	0.40
2011001	Al	16	115	18	0.40
2011002	Al	16	140	21	0.50
2011003	Al	16	175	21	0.60
2011004	Al	16	210	21	0.70



Multi-Hole Handle					
Part No.	Material	Ø	L	W	Weight (kg)
2011005	Al	16	115	26	0.50
2011006	Al	16	140	26	0.60
2011007	Al	16	175	26	0.70



Scissor Handle					
Part No.	Material	Ø	L	W	Weight (kg)
2011008	Al	16	115	27	0.50
2011009	Al	16	140	27	0.55



Handle with Scissors					
Part No.	Material	Ø	L	W	Weight (kg)
2011010	Al	16	140	26	0.60
2011011	Al	16	175	26	0.70
2011012	Al	16	210	26	0.80

## Handlars and Accessories

### Standard Handle with Ball

		L116111241		L116111242		L116111243		
20-204	24 Inch	Aluminum	Stainless Steel	Aluminum	Stainless Steel	Aluminum	Stainless Steel	
116111241		12'	12' x 12' x 12'	12'	12' x 12' x 12'	12'	12' x 12' x 12'	
116111242	20" x 20"	12'	12' x 12' x 12'	12'	12' x 12' x 12'	12'	12' x 12' x 12'	
116111243	24" x 24"	12'	12' x 12' x 12'	12'	12' x 12' x 12'	12'	12' x 12' x 12'	
116111244		12'	12' x 12' x 12'	12'	12' x 12' x 12'	12'	12' x 12' x 12'	
116111245		12'	12' x 12' x 12'	12'	12' x 12' x 12'	12'	12' x 12' x 12'	
116111246		12'	12' x 12' x 12'	12'	12' x 12' x 12'	12'	12' x 12' x 12'	
116111247		12'	12' x 12' x 12'	12'	12' x 12' x 12'	12'	12' x 12' x 12'	
116111248		12'	12' x 12' x 12'	12'	12' x 12' x 12'	12'	12' x 12' x 12'	
116111249		12'	12' x 12' x 12'	12'	12' x 12' x 12'	12'	12' x 12' x 12'	
116111250		12'	12' x 12' x 12'	12'	12' x 12' x 12'	12'	12' x 12' x 12'	

### Pneumatic Handle

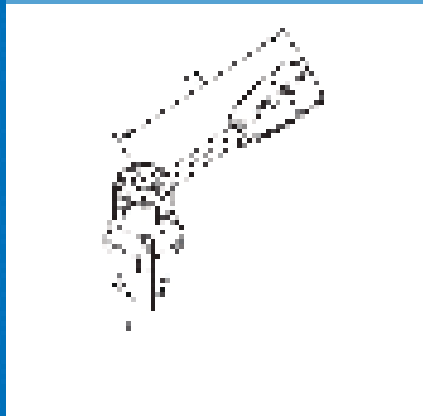
		L116111241		
20-204	24 Inch	Aluminum	Stainless Steel	
116111241	20" x 20"	12'	12' x 12' x 12'	
116111242	24" x 24"	12'	12' x 12' x 12'	
116111243	30" x 30"	12'	12' x 12' x 12'	
116111244		12'	12' x 12' x 12'	
116111245		12'	12' x 12' x 12'	
116111246		12'	12' x 12' x 12'	
116111247		12'	12' x 12' x 12'	
116111248		12'	12' x 12' x 12'	
116111249		12'	12' x 12' x 12'	
116111250		12'	12' x 12' x 12'	

### Sawtooth Handle

		L116111241		
20-204	24 Inch	Aluminum	Stainless Steel	
116111241	20" x 20"	12'	12' x 12' x 12'	
116111242	24" x 24"	12'	12' x 12' x 12'	
116111243		12'	12' x 12' x 12'	
116111244		12'	12' x 12' x 12'	
116111245		12'	12' x 12' x 12'	
116111246		12'	12' x 12' x 12'	
116111247		12'	12' x 12' x 12'	
116111248		12'	12' x 12' x 12'	
116111249		12'	12' x 12' x 12'	
116111250		12'	12' x 12' x 12'	

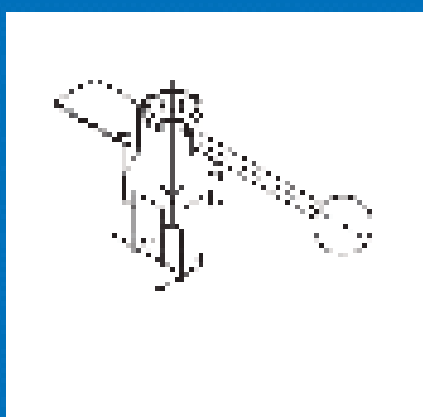
### Handle, simplex

		L116111241		
20-204	24 Inch	Aluminum	Stainless Steel	
116111241	20" x 20"	12'	12' x 12' x 12'	
116111242	24" x 24"	12'	12' x 12' x 12'	
116111243		12'	12' x 12' x 12'	
116111244		12'	12' x 12' x 12'	
116111245		12'	12' x 12' x 12'	
116111246		12'	12' x 12' x 12'	
116111247		12'	12' x 12' x 12'	
116111248		12'	12' x 12' x 12'	
116111249		12'	12' x 12' x 12'	
116111250		12'	12' x 12' x 12'	



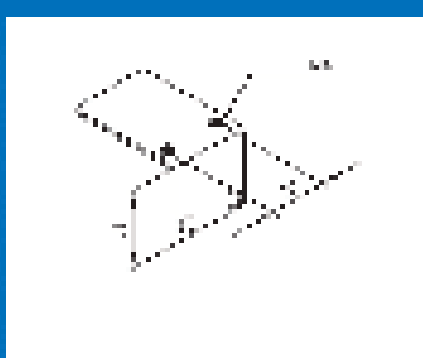
Pentagon Handle

Part No.	Shaft Dia.	D	L	Weight (Lb)
40-100	1/2"	1"	10"	1.0
40-105	3/8" (20 TPI)	1"	10"	1.0
40-106	1/2" (20 TPI)	1"	10"	1.0



Handle for mechanical Limit Switch

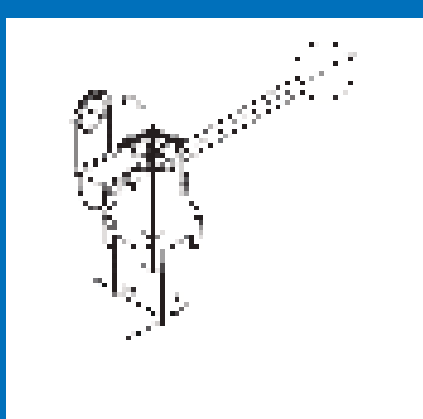
Part No.	Shaft Dia.	D	L	Weight (Lb)
30-100	1/2"	1"	10"	0.9
40-100	1/2" (20 TPI)	1"	10"	0.9
40-105	3/8" (20 TPI)	1"	10"	0.9
40-106	1/2" (20 TPI)	1"	10"	0.9



Holding Plate for mechanical Limit Switch

Part No.	Size (L x W)	Weight (Lb)
30-100	1 1/2" x 2"	0.5
40-100	2" x 2"	0.5
30-105	1 1/2" x 2"	0.5

40-100-100-0000



Handle for Proximity Switch (used when possible in hazardous areas)

Part No.	Shaft Dia.	D	L	Weight (Lb)
30-100	1/2"	1"	10"	0.9
40-100	1/2" (20 TPI)	1"	10"	0.9
40-105	3/8" (20 TPI)	1"	10"	0.9
40-106	1/2" (20 TPI)	1"	10"	0.9
40-107	1/2"	1"	10"	0.9
30-100	1/2"	1"	10"	0.9
40-100	1/2" (20 TPI)	1"	10"	0.9
40-105	3/8" (20 TPI)	1"	10"	0.9
40-106	1/2" (20 TPI)	1"	10"	0.9
40-107	1/2"	1"	10"	0.9

## Hardware and Accessories

### Purlin Hooks

L100-150			
Part No.	Part Desc.	Quantity	Part No.
20-001	1" x 10"	1000	20-001-0001
20-002	1" x 10" x 10"	1000	20-002-0001
20-003	2" x 10"	1000	20-003-0001

### Hooks for mechanical Link Bolts

L100-150		L150-200		L200-250		L250-300	
Part No.	Part Desc.	Quantity	Part No.	Quantity	Part No.	Quantity	Part No.
20-001	1" x 10"	1000	20-001-0001	1000	20-001-0001	1000	20-001-0001
20-002	1" x 10" x 10"	1000	20-002-0001	1000	20-002-0001	1000	20-002-0001
20-003	2" x 10"	1000	20-003-0001	1000	20-003-0001	1000	20-003-0001
20-004	1" x 10" x 10"	1000	20-004-0001	1000	20-004-0001	1000	20-004-0001

### Holding Plates for mechanical Link Switch

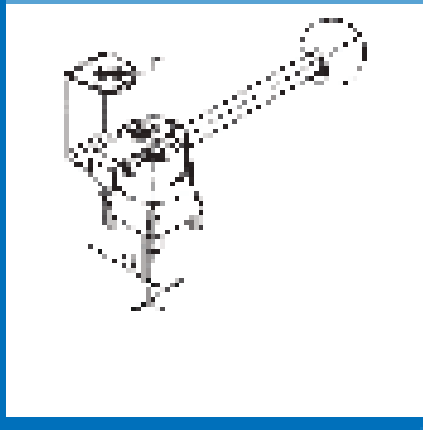
L100-150			
Part No.	Part Desc.	Quantity	Part No.
20-001	1" x 10"	1000	20-001-0001
20-002	2" x 10"	1000	20-002-0001
20-003	1" x 10"	1000	20-003-0001

### Hooks for Purlin Section (installation position horizontal)

L100-150		L150-200		L200-250		L250-300	
Part No.	Part Desc.	Quantity	Part No.	Quantity	Part No.	Quantity	Part No.
20-001	1" x 10"	1000	20-001-0001	1000	20-001-0001	1000	20-001-0001
20-002	1" x 10" x 10"	1000	20-002-0001	1000	20-002-0001	1000	20-002-0001
20-003	2" x 10"	1000	20-003-0001	1000	20-003-0001	1000	20-003-0001
20-004	1" x 10" x 10"	1000	20-004-0001	1000	20-004-0001	1000	20-004-0001

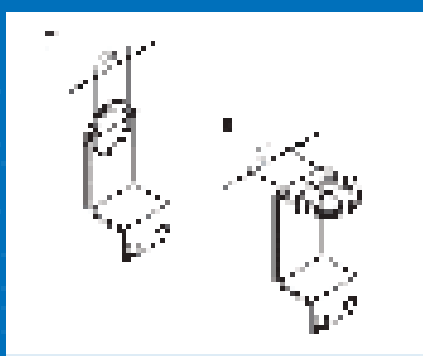


Handle for Proximity Switch (available in position vertical)



SW-SP4	SW-Inst.	CL	H	L3	Weight (kg)
20-25	1-20-1-20	40	100	4	0.1
20-25	1-20-1-20	40	100	20	0.1
20-25	1-20-1-20	40	100	30	0.1
100-120		100	110	30	0.2
120-150		100	110	30	0.4
20-25	1-20-1-20	40	100	4	0.1
20-25	1-20-1-20	40	100	20	0.1
20-25	1-20-1-20	40	100	30	0.1
100-120		100	110	30	0.2
120-150		100	110	30	0.4

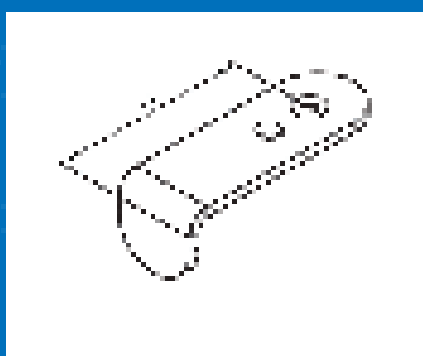
Square Head Mounting Plate for Proximity Switch



1. Mounting plate for the proximity switch

SW-SP4	SW-Inst.	CL
20-25	1-20-1-20	100
20-25	1-20-1-20	100
100-120		100
20-25	1-20-1-20	40
20-25	1-20-1-20	100
100-120		100

Contact Plate for Proximity Switch



1. Contact plate

SW-SP4	SW-Inst.	CL
20-25	1-20-1-20	100
100-120		100

## Hardware and Accessories

### Handle for Priority Switch (Installation position vertical)

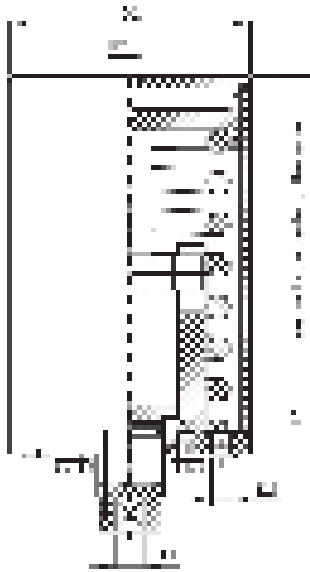
Part No.	Call No.	Country of Origin		Size		Color		
		Material	Finish	Material	Finish	Material	Finish	
20-204	24 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-205	24 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-206	27 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
100-105	27 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-207	30 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-208	36 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-209	42 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-210	48 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-211	54 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-212	60 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-213	66 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-214	72 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	

### Mount Panel (Mounting) (Place for Priority Switch)

Part No.	Call No.	Material		Finish		
		Material	Finish	Material	Finish	
20-204	24 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-205	24 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-206	27 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
100-104	27 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-207	30 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-208	36 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-209	42 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-210	48 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-211	54 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-212	60 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-213	66 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	
20-214	72 inch	Aluminum	Brushed Anodized	Aluminum	Brushed Anodized	

### Control Panel for Priority Switch

Part No.	Call No.	Material	Finish	
20-205	24 inch	Aluminum	Brushed Anodized	
100-105	27 inch	Aluminum	Brushed Anodized	

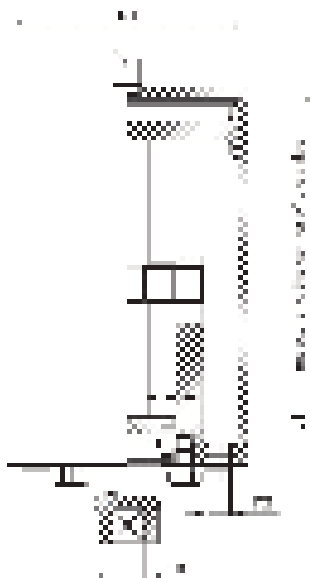


10. 10 bar / 150 PSI type

**Pneumatic Actuator Air Spring**

SP-204	SP Inch	CG	CG	H	L	Stroke	Weight (kg)
20	1"	25	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
22	1 1/8"	25	2 (1/2)	5 1/2	24	1 1/2 stroke	1.5
24	1 1/4"	25	2 (1/2)	5 1/2	24	1 1/2 stroke	1.5
26	1 1/2"	25	2 (1/2)	5 1/2	24	1 1/2 stroke	1.5
28	1 3/4"	25	2 (1/2)	5 1/2	24	1 1/2 stroke	1.5
30	2"	25	2 (1/2)	5 1/2	24	1 1/2 stroke	1.5
100	4"	100	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
105		105	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
110		110	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
115		115	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
120		120	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
20	1"	100	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
22	1 1/8"	100	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
24	1 1/4"	100	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
26	1 1/2"	100	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
28	1 3/4"	100	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
30	2"	100	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
100	4"	100	2 (1/2)	4 1/2	24	1 1/2 stroke	1.5
200	1 1/2"	200	2 (1/2)	5 1/2	24 (200 x 1.5)	1 1/2	1.5

**Pneumatic Actuator Air Spring**

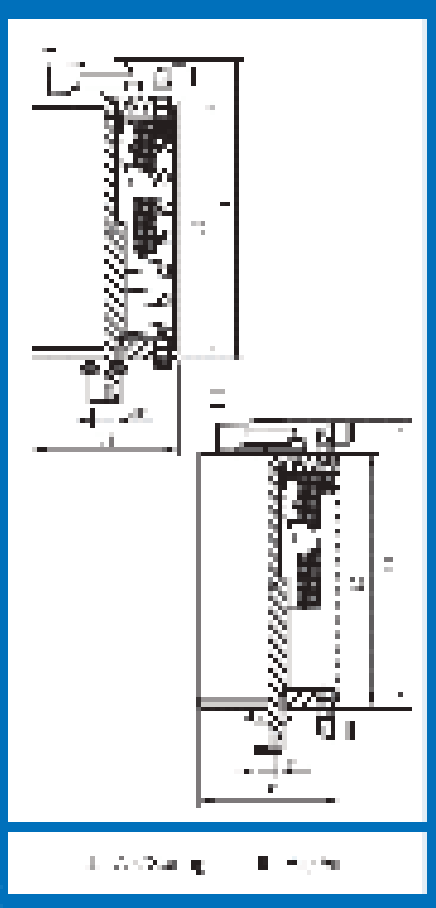


10. 10 bar / 150 PSI type

SP-204	SP Inch	CG	CG	H	L	Stroke	Weight (kg)
20		25	2 (1/2)	4 1/2	24	1 1/2	1.5
22		25	2 (1/2)	5 1/2	24	1 1/2	1.5
24	1 1/4"	25	2 (1/2)	5 1/2	24	1 1/2	1.5
26	1 1/2"	25	2 (1/2)	5 1/2	24	1 1/2	1.5
28	1 3/4"	25	2 (1/2)	5 1/2	24	1 1/2	1.5
30	2"	25	2 (1/2)	5 1/2	24	1 1/2	1.5
100	4"	100	2 (1/2)	4 1/2	24	1 1/2	1.5
105		105	2 (1/2)	4 1/2	24	1 1/2	1.5
110		110	2 (1/2)	4 1/2	24	1 1/2	1.5
115		115	2 (1/2)	4 1/2	24	1 1/2	1.5
120		120	2 (1/2)	4 1/2	24	1 1/2	1.5

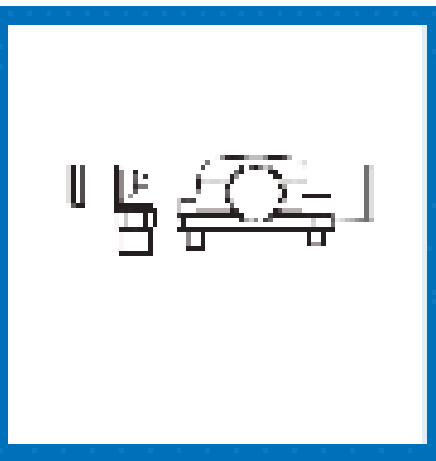


# Actuator and Accessories



## Actuator VMove

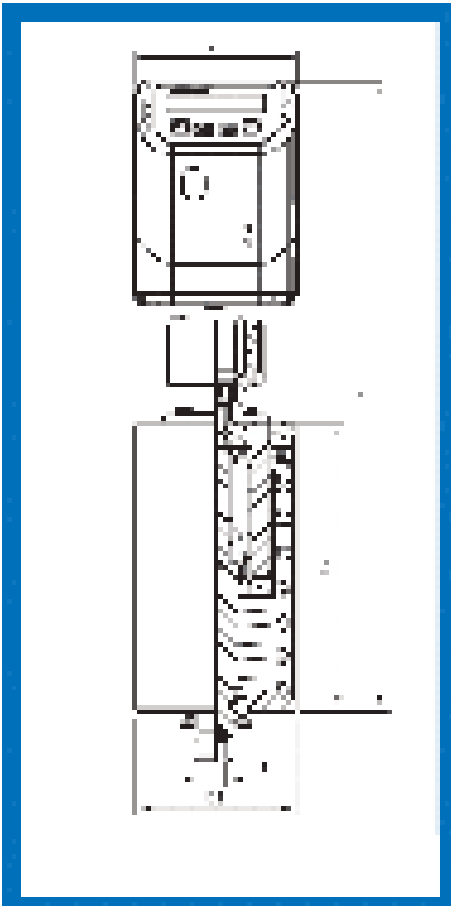
0104	St	Al	L	L	Weight [kg]
V100	300	400	100	150	1.0
V150	400	500	150	200	1.5



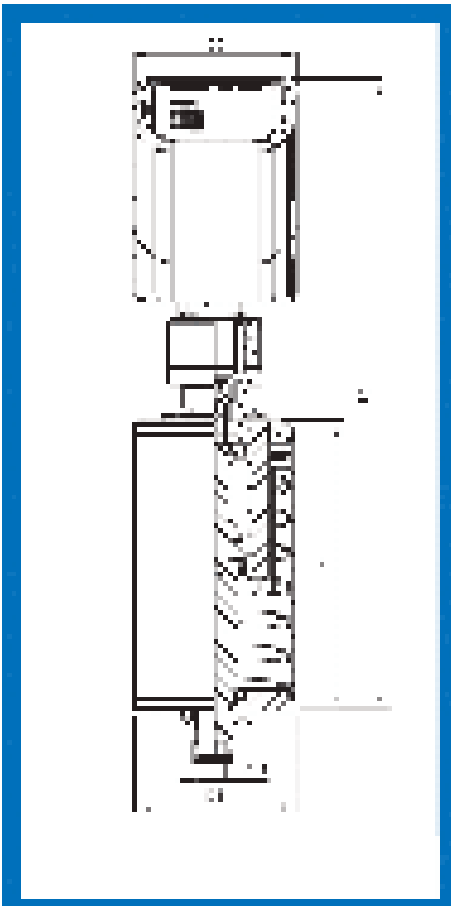
## Service Kit Position Indicator for VMove

0101	Weight [kg]
V100	0.8
V150	1.2





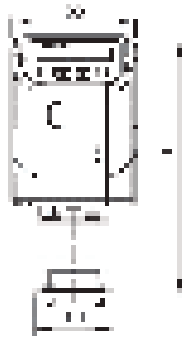
Actuator Wires with Serial J-4306Pos					
QTY	W	E	A	J	P
140	24	1	24	140	140
140	24	2	24	140	140



Actuator Wires with Serial J-4306Pos eco					
QTY	W	E	A	J	P
140	24	1	24	140	140
140	24	2	24	140	140

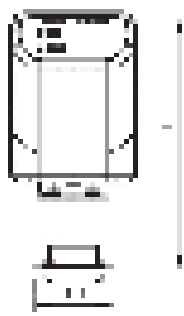






Partno: Set GDMU 1435C-Pan for 4Mars

Part No	QTY	LT	Weight (kg)
1435C	1	1.00	0.10



Partno: Set GDMU 1435B-Pan for 4Mars

Part No	QTY	LT	Weight (kg)
1435B	1	1.00	0.10



Partno: Set for subunit Setup GDMU 1435 and GDMU 1436-see for 4Mars

Part No	QTY	LT	Weight (kg)
1435A	1	1.00	0.10

## Activations and Associations

### Part 1 of Set GEN0 1-13 CoPse for VMware

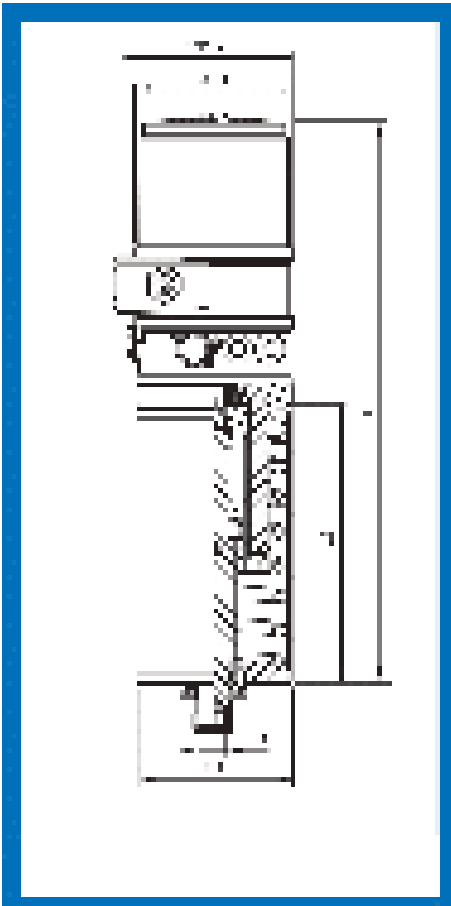
Part 1 of set table			Process and product set table		
Alt ID	Process	Attribute	Process	Attribute	Value
100000	100000	100000	100000	100000	

### Part 2 of Set GEN0 10436 Part 2 for VMware

Part 2 of set table			
Alt ID	Process	Attribute	Value
100000	100000	100000	100000

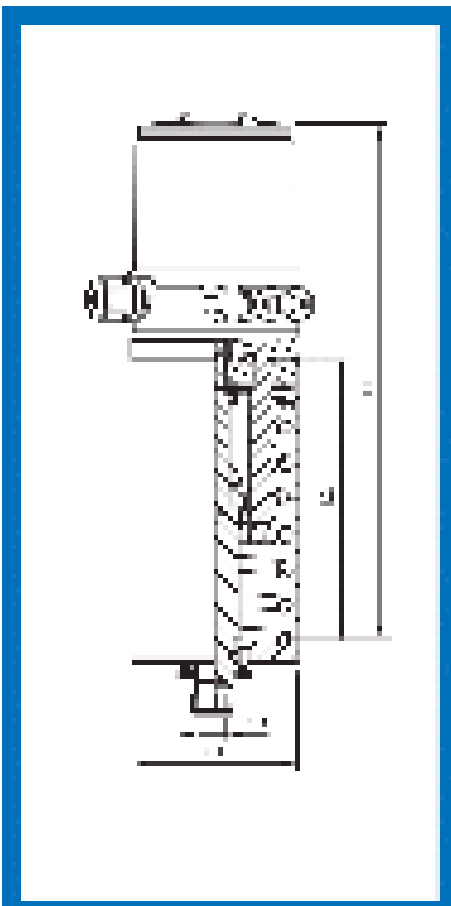
### Part 3 of Set for external Setup GEN0 1436 and GEN0 1433 for VMware

Part 3 of set table			
Alt ID	Process	Attribute	Value
100000	100000	100000	100000



Actuator 7Way with Ø34mm 5032 and Durtek 5033

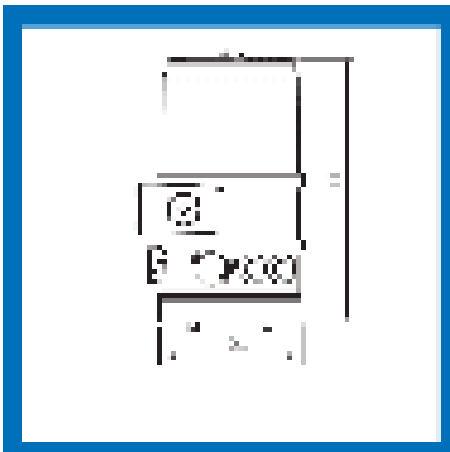
Ø106	Ø1	Ø	Δ	Δ	Stroke (mm)
5032	32	34	0.1	0.1	50
5033	32	34	0.1	0.1	50



Actuator 4Way with Ø34mm 5034

Ø106	Ø1	Ø	Δ	Δ	Stroke (mm)
5034	32	34	0.1	0.1	50
5035	32	34	0.1	0.1	50





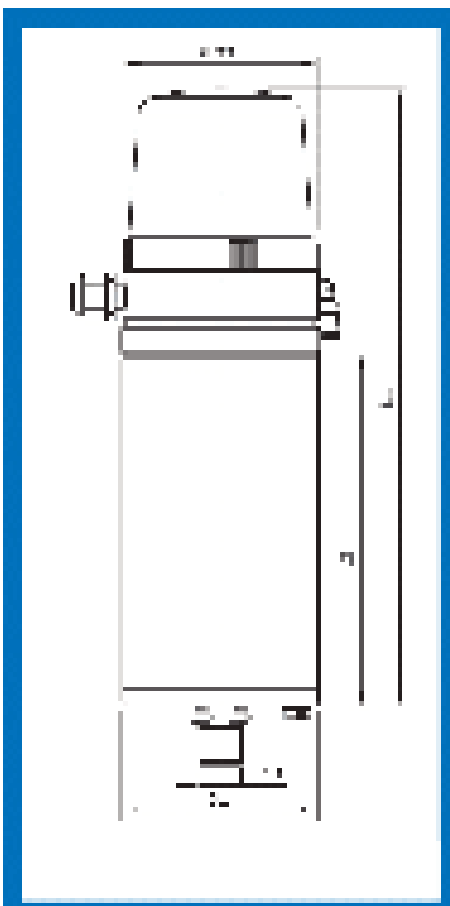
Rebrill Set 031 and 032 and Darkset 0303 for 1Wire

Code	H	L	W	Material
0301	100	110	125	ABS
0302	100	110	125	ABS
0303	100	110	125	ABS
0304	100	110	125	ABS
0305	100	110	125	ABS
0306	100	110	125	ABS
0307	100	110	125	ABS
0308	100	110	125	ABS
0309	100	110	125	ABS
0310	100	110	125	ABS
0311	100	110	125	ABS
0312	100	110	125	ABS
0313	100	110	125	ABS
0314	100	110	125	ABS
0315	100	110	125	ABS
0316	100	110	125	ABS
0317	100	110	125	ABS
0318	100	110	125	ABS
0319	100	110	125	ABS
0320	100	110	125	ABS
0321	100	110	125	ABS
0322	100	110	125	ABS
0323	100	110	125	ABS
0324	100	110	125	ABS
0325	100	110	125	ABS
0326	100	110	125	ABS
0327	100	110	125	ABS
0328	100	110	125	ABS
0329	100	110	125	ABS
0330	100	110	125	ABS



Rebrill Set 031 and 032 for 1Wire

Code	H	L	W	Material
0301	100	110	125	ABS
0302	100	110	125	ABS
0303	100	110	125	ABS
0304	100	110	125	ABS
0305	100	110	125	ABS
0306	100	110	125	ABS
0307	100	110	125	ABS
0308	100	110	125	ABS
0309	100	110	125	ABS
0310	100	110	125	ABS
0311	100	110	125	ABS
0312	100	110	125	ABS
0313	100	110	125	ABS
0314	100	110	125	ABS
0315	100	110	125	ABS
0316	100	110	125	ABS
0317	100	110	125	ABS
0318	100	110	125	ABS
0319	100	110	125	ABS
0320	100	110	125	ABS
0321	100	110	125	ABS
0322	100	110	125	ABS
0323	100	110	125	ABS
0324	100	110	125	ABS
0325	100	110	125	ABS
0326	100	110	125	ABS
0327	100	110	125	ABS
0328	100	110	125	ABS
0329	100	110	125	ABS
0330	100	110	125	ABS



1Wire Actuators with 1Wire Control Head

Code	H	L	W	Material
0329	130	110	125	ABS
0330	130	110	125	ABS
0331	130	110	125	ABS
0332	130	110	125	ABS
0333	130	110	125	ABS
0334	130	110	125	ABS
0335	130	110	125	ABS
0336	130	110	125	ABS
0337	130	110	125	ABS
0338	130	110	125	ABS
0339	130	110	125	ABS
0340	130	110	125	ABS
0341	130	110	125	ABS
0342	130	110	125	ABS
0343	130	110	125	ABS
0344	130	110	125	ABS
0345	130	110	125	ABS
0346	130	110	125	ABS
0347	130	110	125	ABS
0348	130	110	125	ABS
0349	130	110	125	ABS
0350	130	110	125	ABS
0351	130	110	125	ABS
0352	130	110	125	ABS
0353	130	110	125	ABS
0354	130	110	125	ABS
0355	130	110	125	ABS
0356	130	110	125	ABS
0357	130	110	125	ABS
0358	130	110	125	ABS
0359	130	110	125	ABS
0360	130	110	125	ABS

## Actuaries and Actuaries

**Reinhold Seib (2009) 0202 and 0203 for VAWs**

Reinhold Seib (2009) 0202			Reinhold Seib (2009) 0203		
No.	Name	Title / Role	No.	Name	Title / Role
0202	Seib	0202 0203	0203	Seib	0203 0202

**Reinhold Seib (2009) 0202 for VAWs**

Reinhold Seib (2009) 0202		
No.	Name	Title / Role
0202	Seib	0202 0202

**VAWs Actuaries with VAWs Control Model**

No.	VAWs Control Model		No.	VAWs Control Model		No.	VAWs Control Model	
	Name	Title / Role		Name	Title / Role		Name	Title / Role
0202	Seib	VAWs Control Model	0203	Seib	VAWs Control Model	0204	Seib	VAWs Control Model
0203	Seib	VAWs Control Model	0204	Seib	VAWs Control Model	0205	Seib	VAWs Control Model

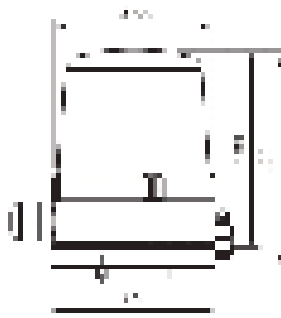


Fig. 333000 series pneumatic cylinder for 1/4" bore

## Borefit Set V/100H for 1/4" Bore

Art.	Description	Length (mm)
333000	main body (stroke length of 100mm)	115
333001	rod (rod to connect stroke length of 100mm with the cylinder end cap)	120
333002	rod cap (rod to connect stroke length of 100mm with the cylinder end cap)	120
<b>Total</b>		
Adjusted Set of 333000-020		



## Spacers Parts for 333000 Cylinder Model

Spacers Parts
<b>M12 Thread Rod</b>
<b>Spacer (rod)</b>
rod cap with an end cap (rod)
rod cap (rod)
rod cap (rod) with 1/4" diameter (rod cap) (rod cap)
<b>Total</b>
rod to connect 100
Adjusted Set of 333000-020
rod cap (rod) with an end cap (rod)



## Electrical Actuator Type EL

Part	EL	LC	Part (Set)
333000	11	11	20



## Set Electrical Actuator Type EL for DeHaerly Valve

Part	EL	LC	Part (Set)
333000	11	11	20
333001	11	11	20
333002	11	11	20
333003	11	11	20

## Actuators and Accessories

### Radial-Seat WDM for Valves

Type	317 SS, 17% Nickel, 10% Chromium, 2% Molybdenum, 0.03% Cu		316 L, 12% Nickel, 10% Chromium, 2% Molybdenum		316 SS, 12% Nickel, 10% Chromium, 2% Molybdenum	
	Pressure	Stroke (in)	Pressure	Stroke (in)	Pressure	Stroke (in)
100-100	100/100	2.000-1.000	100/100	2.000-1.000	100/100	2.000-1.000
150-150	150/150	2.000-1.000	150/150	2.000-1.000	150/150	2.000-1.000
200-200	200/200	2.000-1.000	200/200	2.000-1.000	200/200	2.000-1.000
	250	3.000-1.500				
	300	3.000-1.500				

### Single-Port, for WDM Control Head

316 L		316		317 (Nickel 17%, Chromium 10%, Molybdenum 2%)	
Pressure	Stroke (in)	Pressure	Stroke (in)	Pressure	Stroke (in)
250/250	1.000-1.000	100/100	1.000-1.000	100/100	1.000-1.000
300	1.000-1.000				
350/350	1.000-1.000	150/150	1.000-1.000		
400	1.000-1.000				
500	1.000-1.000				
600	1.000-1.000				
800	1.000-1.000				
1000	1.000-1.000				
1500	1.000-1.000				
2000	1.000-1.000				

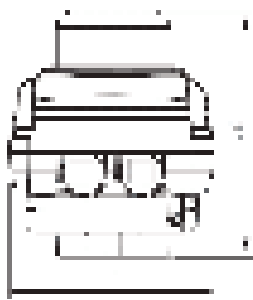
### Electrical Actuator Type E1

Type	316 L		316	
	Pressure	Stroke (in)	Pressure	Stroke (in)
200-200	200/200	1.000	200/200	1.000

### Self-Decorated Actuator Type E1 for Butterfly Valve

Type	316 L		316	
	Pressure	Stroke (in)	Pressure	Stroke (in)
50	50/50	1.000-1.000	50/50	1.000-1.000
75	75/75	1.000-1.000	75/75	1.000-1.000
100	100/100	1.000-1.000	100/100	1.000-1.000
150	150/150	1.000-1.000	150/150	1.000-1.000
200	200/200	1.000-1.000	200/200	1.000-1.000





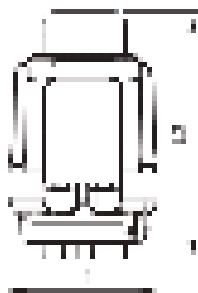
Electrical Actuator Type E2

E4	L	H	Weight (kg)
E200	150	100	1,8
E250	175	100	2,2
E300	200	100	2,7
E350	225	100	3,2
E400	250	100	3,7
E450	275	100	4,2
E500	300	100	4,7
E550	325	100	5,2
E600	350	100	5,7
E650	375	100	6,2
E700	400	100	6,7
E750	425	100	7,2
E800	450	100	7,7
E850	475	100	8,2
E900	500	100	8,7
E950	525	100	9,2
E1000	550	100	9,7



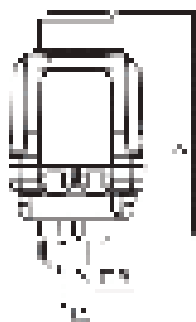
Sub Electrical Actuator Type E2 for Butterfly Valve

E4	L	H	B	Weight (kg)
E200	150	100	80	2,4
E250	175	100	80	2,9
E300	200	100	80	3,4
E350	225	100	80	3,9
E400	250	100	80	4,4
E450	275	100	80	4,9
E500	300	100	80	5,4
E550	325	100	80	5,9
E600	350	100	80	6,4
E650	375	100	80	6,9
E700	400	100	80	7,4
E750	425	100	80	7,9
E800	450	100	80	8,4
E850	475	100	80	8,9
E900	500	100	80	9,4
E950	525	100	80	9,9
E1000	550	100	80	10,4



Electrical Actuator Type E2-PCU

E4	L	H	Weight (kg)
E200	150	100	2,2
E250	175	100	2,7
E300	200	100	3,2
E350	225	100	3,7
E400	250	100	4,2
E450	275	100	4,7
E500	300	100	5,2
E550	325	100	5,7
E600	350	100	6,2
E650	375	100	6,7
E700	400	100	7,2
E750	425	100	7,7
E800	450	100	8,2
E850	475	100	8,7
E900	500	100	9,2
E950	525	100	9,7
E1000	550	100	10,2



Sub Electrical Actuator Type E2-PCU for Butterfly Valve

E4	L	H	B	Weight (kg)
E200	150	100	80	3,0
E250	175	100	80	3,5
E300	200	100	80	4,0
E350	225	100	80	4,5
E400	250	100	80	5,0
E450	275	100	80	5,5
E500	300	100	80	6,0
E550	325	100	80	6,5
E600	350	100	80	7,0
E650	375	100	80	7,5
E700	400	100	80	8,0
E750	425	100	80	8,5
E800	450	100	80	9,0
E850	475	100	80	9,5
E900	500	100	80	10,0
E950	525	100	80	10,5
E1000	550	100	80	11,0

## Actuators and Accessories

### Electrical Actuator Type ES

ES	24V		230V	
	Product	Model No.	Product	Model No.
ES100	ES100	ES100	ES100	ES100
ES150	ES150	ES150	ES150	ES150
ES200	ES200	ES200	ES200	ES200
ES250	ES250	ES250	ES250	ES250
ES300	ES300	ES300	ES300	ES300
ES350	ES350	ES350	ES350	ES350
ES400	ES400	ES400	ES400	ES400
ES450	ES450	ES450	ES450	ES450
ES500	ES500	ES500	ES500	ES500
ES550	ES550	ES550	ES550	ES550
ES600	ES600	ES600	ES600	ES600
ES650	ES650	ES650	ES650	ES650
ES700	ES700	ES700	ES700	ES700
ES750	ES750	ES750	ES750	ES750
ES800	ES800	ES800	ES800	ES800
ES850	ES850	ES850	ES850	ES850
ES900	ES900	ES900	ES900	ES900
ES950	ES950	ES950	ES950	ES950

### Self-Flushing Electrical Actuator Type ES for Raw/poly Water

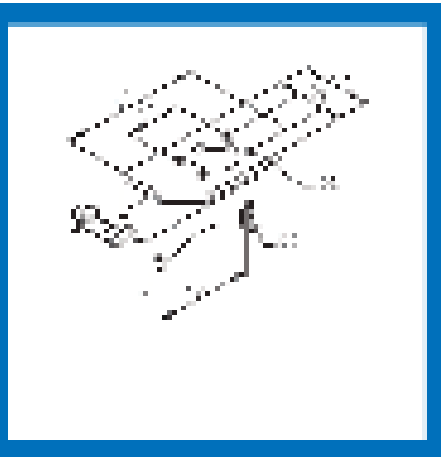
ES	24V		230V	
	Product	Model No.	Product	Model No.
ES100	ES100	ES100	ES100	ES100
ES150	ES150	ES150	ES150	ES150
ES200	ES200	ES200	ES200	ES200
ES250	ES250	ES250	ES250	ES250
ES300	ES300	ES300	ES300	ES300
ES350	ES350	ES350	ES350	ES350
ES400	ES400	ES400	ES400	ES400
ES450	ES450	ES450	ES450	ES450
ES500	ES500	ES500	ES500	ES500
ES550	ES550	ES550	ES550	ES550
ES600	ES600	ES600	ES600	ES600
ES650	ES650	ES650	ES650	ES650
ES700	ES700	ES700	ES700	ES700
ES750	ES750	ES750	ES750	ES750
ES800	ES800	ES800	ES800	ES800
ES850	ES850	ES850	ES850	ES850
ES900	ES900	ES900	ES900	ES900
ES950	ES950	ES950	ES950	ES950

### Electrical Actuator Type ES-PCU

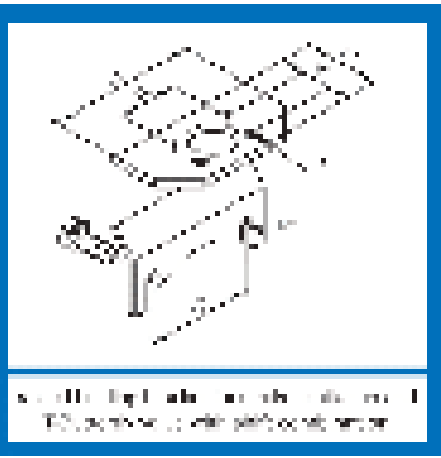
ES	24V		230V	
	Product	Model No.	Product	Model No.
ES100	ES100	ES100	ES100	ES100
ES150	ES150	ES150	ES150	ES150
ES200	ES200	ES200	ES200	ES200
ES250	ES250	ES250	ES250	ES250
ES300	ES300	ES300	ES300	ES300
ES350	ES350	ES350	ES350	ES350
ES400	ES400	ES400	ES400	ES400
ES450	ES450	ES450	ES450	ES450
ES500	ES500	ES500	ES500	ES500
ES550	ES550	ES550	ES550	ES550
ES600	ES600	ES600	ES600	ES600
ES650	ES650	ES650	ES650	ES650
ES700	ES700	ES700	ES700	ES700
ES750	ES750	ES750	ES750	ES750
ES800	ES800	ES800	ES800	ES800
ES850	ES850	ES850	ES850	ES850
ES900	ES900	ES900	ES900	ES900
ES950	ES950	ES950	ES950	ES950

### Self-Flushing Electrical Actuator Type ES-PCU for Brackish Water

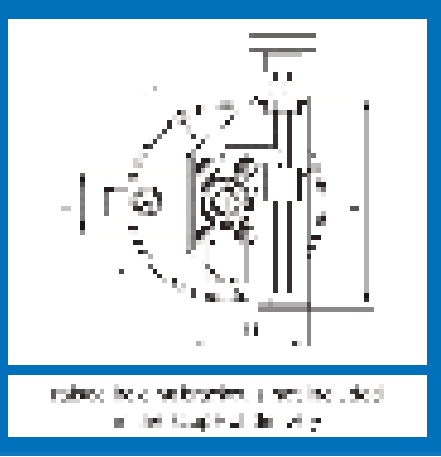
ES	24V		230V	
	Product	Model No.	Product	Model No.
ES100	ES100	ES100	ES100	ES100
ES150	ES150	ES150	ES150	ES150
ES200	ES200	ES200	ES200	ES200
ES250	ES250	ES250	ES250	ES250
ES300	ES300	ES300	ES300	ES300
ES350	ES350	ES350	ES350	ES350
ES400	ES400	ES400	ES400	ES400
ES450	ES450	ES450	ES450	ES450
ES500	ES500	ES500	ES500	ES500
ES550	ES550	ES550	ES550	ES550
ES600	ES600	ES600	ES600	ES600
ES650	ES650	ES650	ES650	ES650
ES700	ES700	ES700	ES700	ES700
ES750	ES750	ES750	ES750	ES750
ES800	ES800	ES800	ES800	ES800
ES850	ES850	ES850	ES850	ES850
ES900	ES900	ES900	ES900	ES900
ES950	ES950	ES950	ES950	ES950



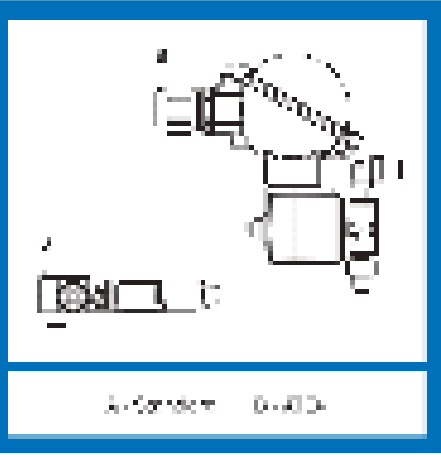
Holding Bracket									
EN 10	EN 11	A	B	BL	M	L	LS	J	Part. (No)
10 100		10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10



Holding Bracket with TCO									
EN 10	A	B	BL	M	L	LS	J	TCO	Part. (No)
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10	10



Stroke Limiter								Part. (No)
EN 10	A	B	BL	M	L	LS	J	Part. (No)
10 100	10	10	10	10	10	10	10	10
10 100	10	10	10	10	10	10	10	10



Sensor Cable	
EN 10	Part. (No)
10 100	10

A - Sensor B - Cable





20 Holding Device for Compact Intermediate Flange Diversity Valves

## Holding Device for Compact Intermediate Flange Diversity Valves

Order No.	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY
20 120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20 120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20 120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20 120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20 120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20 120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20 120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20 120	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1



## Holding Plate for mechanical Limit Switch

Order No.	QTY	QTY
20 120	1	1
20 120	1	1



## Holding Plate for Proximity Switch

Order No.	QTY	QTY
20 120	1	1
20 120	1	1
20 120	1	1
20 120	1	1

## Signal Contact Arm

Order No.	QTY	QTY	QTY
20 120	1	1	1
20 120	1	1	1

## Actuators and Accessories

### Holding Bracket for Compact Intra-Module Flange Dummy Valve

#### LWH (P1)

Order No.	Order No.	Accessories	Availability
20-204	20-204	1.000	2012.05.01
20-205	20-205	1.000	2012.05.01
20-206	20-206	1.000	2012.05.01
20-207	20-207	1.000	2012.05.01
20-208	20-208	1.000	2012.05.01
20-209	20-209	1.000	2012.05.01

### Holding Plate for non-removal Type Valve

Order No.		Accessories		Order No.		Accessories	
20-204	20-204	1.000	2012.05.01	20-205	2012.05.01	20-206	2012.05.01
20-205	20-205	1.000	2012.05.01	20-207	2012.05.01	20-208	2012.05.01

### Holding Plate for Proximity Switch

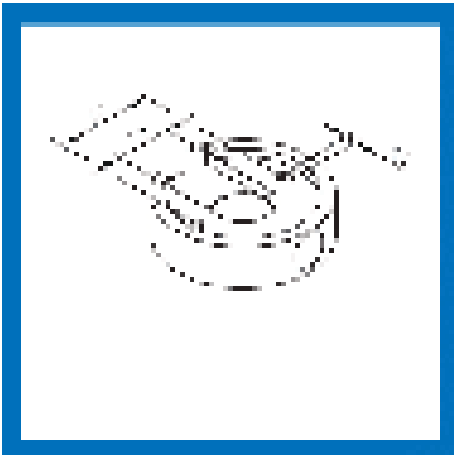
#### LWH (P1)

Order No.	Order No.	Accessories	Availability
20-204	20-204	1.000	2012.05.01
20-205	20-205	1.000	2012.05.01
20-206	20-206	1.000	2012.05.01
20-207	20-207	1.000	2012.05.01

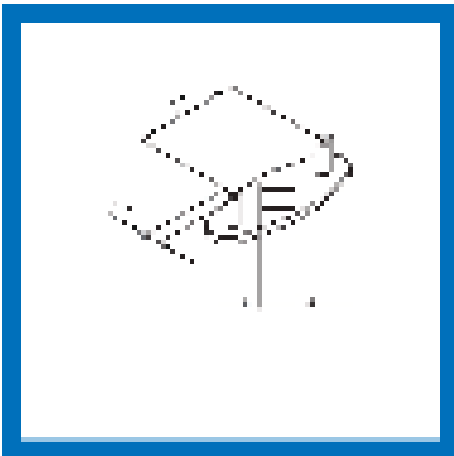
### Signal Contact Arm

#### LWH (P1)

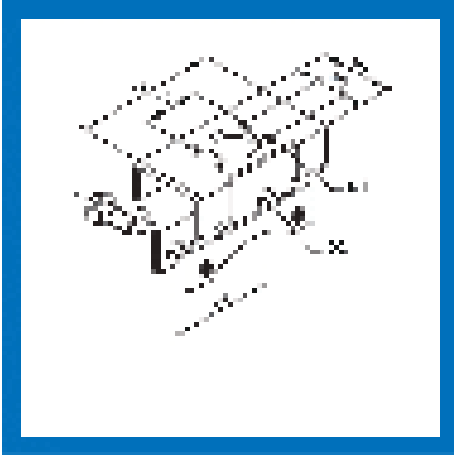
Order No.	Order No.	Accessories	Availability
20-204	20-204	1.000	2012.05.01
20-205	20-205	1.000	2012.05.01



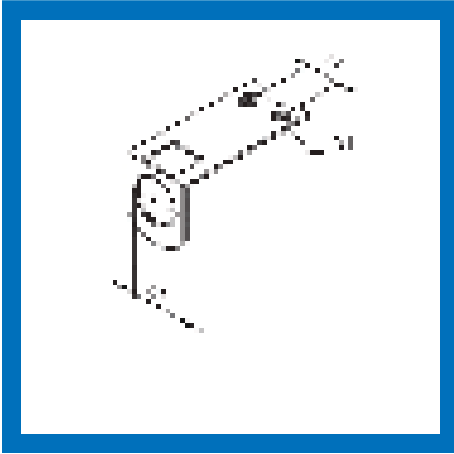
Switch Case, reinforced					
Order No.	W. mm	H. mm	Ø mm	L. mm	Weight (kg)
500 000	114.5	4	12	1	0.04
500 001	4	12	12		0.01



Holding Bracket, reinforced					
Order No.	W. mm	H. mm	L. mm	L. mm	Weight (kg)
20 020	27	4	12	20	0.02
20 020a		1	12	12	0.01



Holding Bracket, reinforced										
Order No.	W. mm	H. mm	Ø mm	L. mm	L. mm	L. mm	L. mm	L. mm	L. mm	Weight (kg)
20	27	4	5	45	25	150	40	10	10	0.05
20		4	5	45	25	40	20	10	10	0.04
40	27	4	5	45	25	40	20	10	10	0.04
50	27	4	5	45	25	20	20	10	10	0.04
60	27	4	5	45	25	10	20	10	10	0.04
70	27	4	5	45	25	10	10	10	10	0.04
80	27	4	5	45	25	10	10	10	10	0.04
100		4	12	25	100	10	10	10	10	0.04
150		4	12	10	150	10	10	10	10	0.04



Holding Plate for Proximity Switch, reinforced					
Order No.	W. mm	H. mm	Ø mm	L. mm	Weight (kg)
500 000	114.5	4	12	1	0.04
500 001	4	12	12		0.01
15 000	114.5	4	12	15	0.04
15 001		4	12	15	0.01

## Accessories and Accessories

### Switch Cap, reinforced

LWS-004			
Art. No.	Art. No.	Material	Quantity
1000000	1000000	1.00	1000000
1000000			

### Resistor (resistor, reinforced)

LWS-005			
Art. No.	Art. No.	Material	Quantity
1000000	1000000	1.00	1000000
1000000			

### Holding Bracket, reinforced

LWS-006			
Art. No.	Art. No.	Material	Quantity
1000000	1000000	1.00	1000000
1000000			

### Holding Plate for Priority Switch, reinforced

LWS-007			
Art. No.	Art. No.	Material	Quantity
1000000	1000000	1.00	1000000
1000000			





3 types of proximity switches

Proximity Switch

Code	Material	Weight	Price (Birr)
11024	IP20	100g	1.10
11024	IP67	100g	1.10

Double Proximity Switch

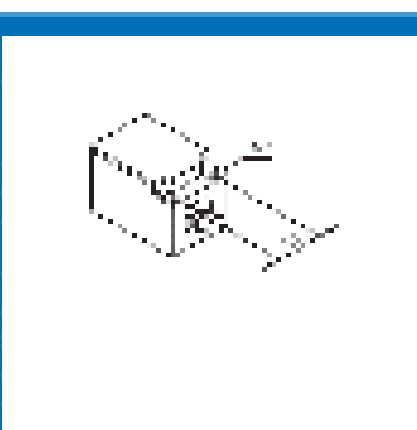
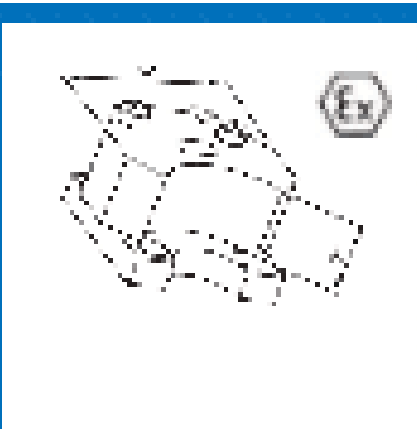
Code	Material	Weight	Price (Birr)
11025	IP20	100g	1.10
11025	IP67	100g	1.10

Capacitive Proximity Switch ATEX

Code	Material	Weight	Price (Birr)
11026	IP20	100g	1.10
11026	IP67	100g	1.10

Mechanical Limit Switch

Code	Material	Weight	Price (Birr)
11027	IP20	100g	1.10
11027	IP67	100g	1.10



## Proximity Switch and mechanical limit Switch

### Proximity Switch

with 5-wire cable		Terminal block with 4-wire cable				with plug	
Part No.	Part name	Maximum range	Adjustable range	Maximum range	Adjustable range	Maximum range	Adjustable range
20-100	20-100	1.5 m	0.1-1.4 m	1.5 m	0.1-1.4 m	1.5 m	0.1-1.4 m
20-101	20-101	1.5 m	0.1-1.4 m	1.5 m	0.1-1.4 m	1.5 m	0.1-1.4 m
						Proximity Switch	with 4-wire cable
						Terminal block	with 4-wire cable
						with plug	with plug
						Maximum range	1.5 m
						Adjustable range	0.1-1.4 m
						Maximum range	1.5 m
						Adjustable range	0.1-1.4 m
						Maximum range	1.5 m
						Adjustable range	0.1-1.4 m

### Double Proximity Switch

with 5-wire cable with plug and terminal		Terminal block with 4-wire cable	
Part No.	Part name	Adjustable range	Part No.
20-102	20-102	0.1-1.4 m	
20-103	20-103	0.1-1.4 m	
20-104	20-104	1.5 m	20-104-01

Maximum range	1.5 m
Adjustable range	0.1-1.4 m
Maximum range	1.5 m
Adjustable range	0.1-1.4 m
Maximum range	1.5 m
Adjustable range	0.1-1.4 m

### Double Proximity Switch PCCA

with 5-wire cable with plug and terminal		Terminal block with 4-wire cable	
Part No.	Part name	Adjustable range	Part No.
20-105	20-105	0.1-1.4 m	
20-106	20-106	0.1-1.4 m	
20-107	20-107	0.1-1.4 m	
20-108	20-108	1.5 m	20-108-01

Maximum range	1.5 m
Adjustable range	0.1-1.4 m
Maximum range	1.5 m
Adjustable range	0.1-1.4 m
Maximum range	1.5 m
Adjustable range	0.1-1.4 m

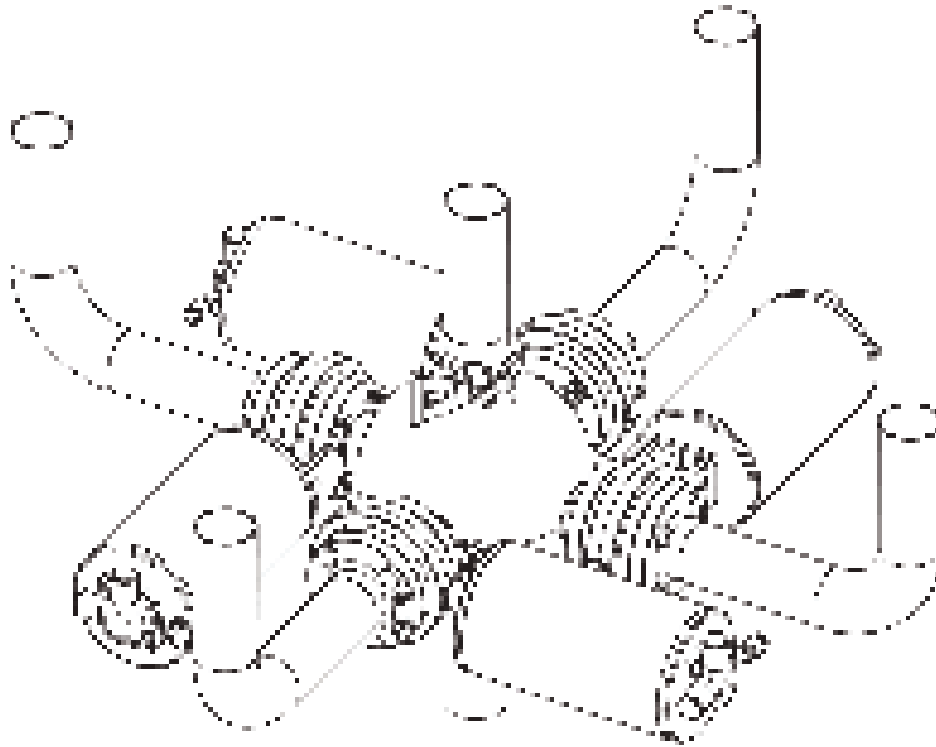
### Mechanical Limit Switch

Part No.	Part name	Maximum range	Adjustable range
20-109	20-109	1.5 m	0.1-1.4 m

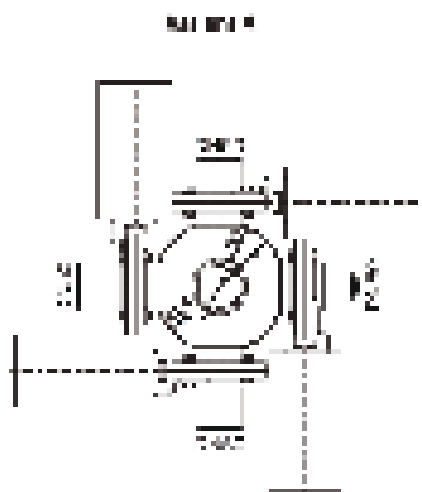
Maximum range	1.5 m
Adjustable range	0.1-1.4 m
Maximum range	1.5 m
Adjustable range	0.1-1.4 m
Maximum range	1.5 m
Adjustable range	0.1-1.4 m

## Operating and maintenance manual

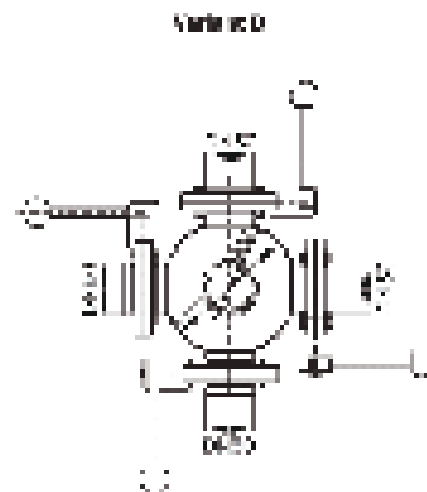
- Minimum flow rate: 100 l/min
- Maximum flow rate: 200 l/min
- Maximum pressure: 10 bar
- Maximum temperature: 60 °C
- Maximum flow rate: 100 l/min



## Customer-specific Products



Technical drawing of the Vent-IGEL valve assembly.

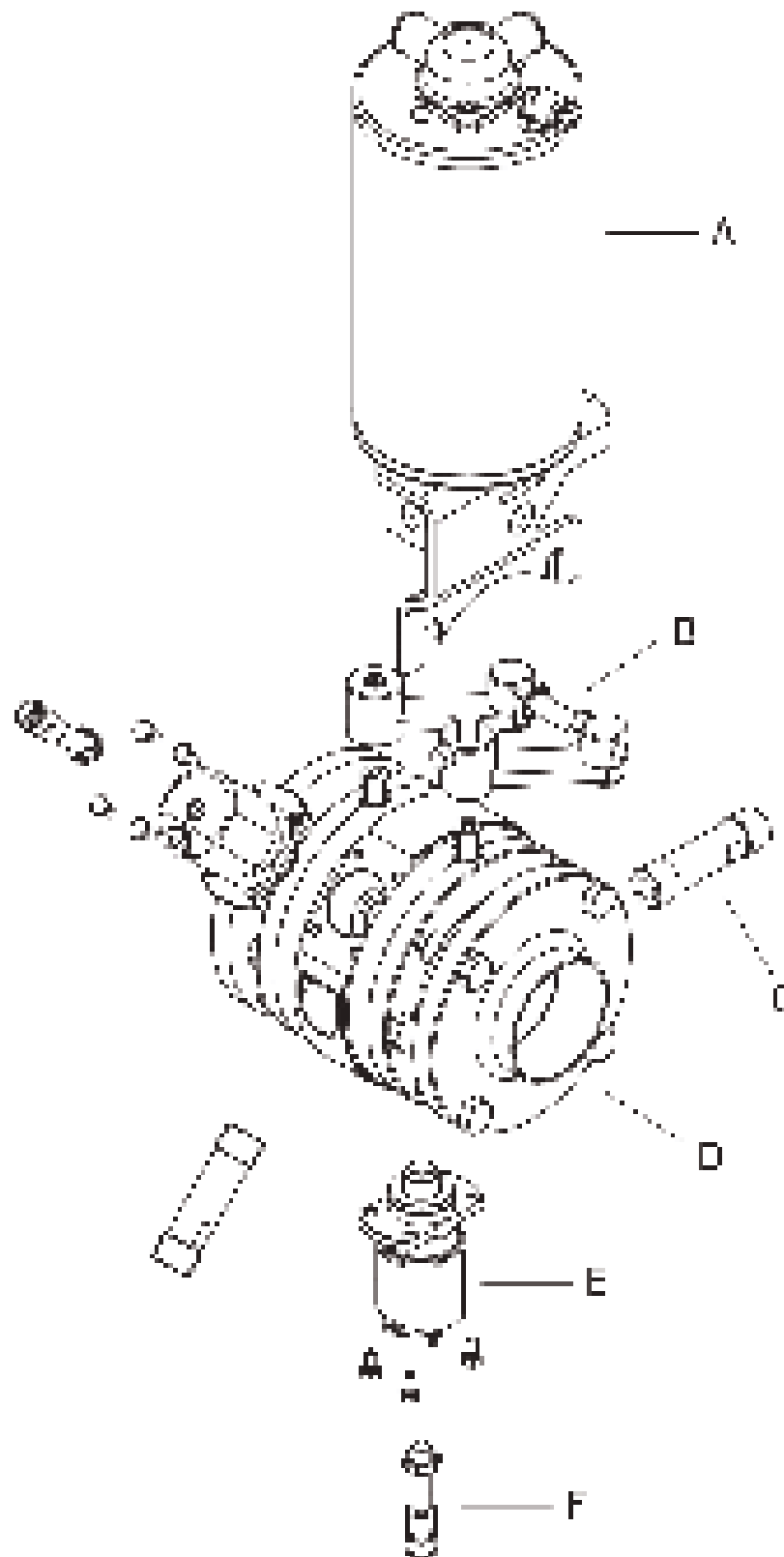


Technical drawing of the Vent-IGEL valve assembly.

The Vent-IGEL valve assembly is a custom-made product. It is not a standard product. It is a custom-made product. It is a custom-made product. It is a custom-made product.

## Exploded View Leakage Battery Valve and Accessories

Leakage Battery Valve with pressure relief feature and pressure relief specified according to battery.



- A Pressure relief feature
- B Valve head
- C Small component
- D Valve body
- E Fuel line valve
- F Service air venting wire (optional)
- G Small component
- H Small component

Intermediate Flange Leakage Butterfly Valve DB manually operated

DN/D	W	H	E	C	EL	SL	SS	Wt (kg)
50	40	40	110	40	110	40	40	2.0
65	50	50	115	45	115	50	50	2.5
80	60	60	120	50	120	60	60	3.0
100	80	80	130	60	130	80	80	4.0
125	100	100	140	70	140	100	100	5.0
150	120	120	150	80	150	120	120	6.0
200	160	160	170	100	170	160	160	8.0

Intermediate Flange Leakage Butterfly Valve DBK lock manually operated

DN/D	W	H	E	C	EL	SL	SS	Wt (kg)
50	50	40	120	50	120	50	40	2.5
65	60	50	125	55	125	60	50	3.0
80	70	60	130	60	130	70	60	3.5
100	90	80	140	70	140	90	80	4.5
125	110	100	150	80	150	110	100	5.5
150	130	120	160	90	160	130	120	6.5

Shilling Cover for Leakage Butterfly Valve manually operated

DN/D	W	H	Wt (kg)
50-200	100	40	0.5
250	120	50	0.7
300	140	60	0.9
350-400	160	70	1.2

Gasket Set for Leakage Butterfly Valve manually operated

DN/D	Wt (kg)
50	0.1
65	0.1
80	0.1
100	0.2
125	0.2
150	0.2

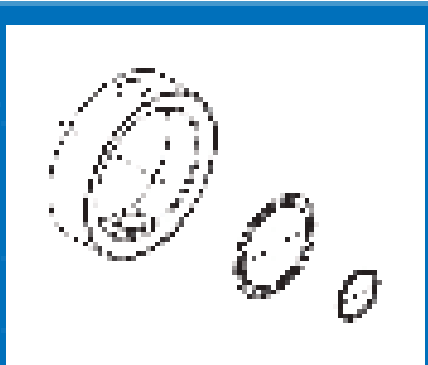
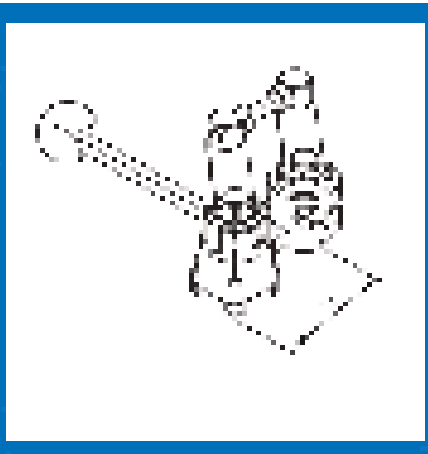
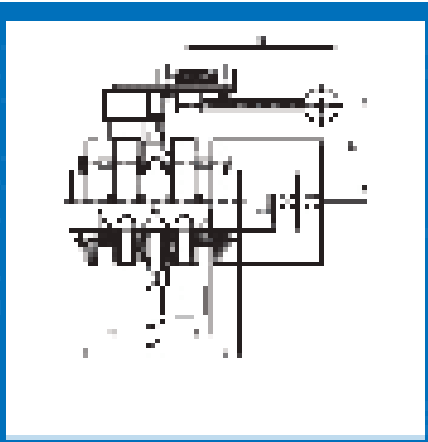
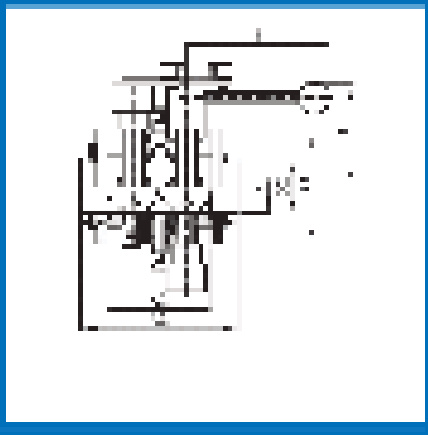


Fig. 16. Intermediate flange leakage butterfly valve DBK lock part 1 DN/D 50-200

## Leakage Butterfly Valves and Accessories

### Immediate Flange Leakage Butterfly Valve DN manually operated

L 100 100 00			
DN DN	Pressure	Weight	Accessories
50	10.000	10.000	10.000 10.000
75	10.000	10.000	10.000 10.000
100	10.000	10.000	10.000 10.000
150	10.000	10.000	10.000 10.000
200	10.000	10.000	10.000 10.000
250	10.000	10.000	10.000 10.000
300	10.000	10.000	10.000 10.000
350	10.000	10.000	10.000 10.000
400	10.000	10.000	10.000 10.000
450	10.000	10.000	10.000 10.000
500	10.000	10.000	10.000 10.000

### Immediate Flange Leakage Butterfly Valve DN manually operated

L 100 100 00			
DN DN	Pressure	Weight	Accessories
50	10.000	10.000	10.000 10.000
75	10.000	10.000	10.000 10.000
100	10.000	10.000	10.000 10.000
150	10.000	10.000	10.000 10.000
200	10.000	10.000	10.000 10.000
250	10.000	10.000	10.000 10.000
300	10.000	10.000	10.000 10.000
350	10.000	10.000	10.000 10.000
400	10.000	10.000	10.000 10.000
450	10.000	10.000	10.000 10.000
500	10.000	10.000	10.000 10.000

### SHDag Combination for Leakage Butterfly Valves manually operated

L 100 100 00			
DN DN	Pressure	Weight	Accessories
50	10.000	10.000	10.000 10.000
75	10.000	10.000	10.000 10.000
100	10.000	10.000	10.000 10.000
150	10.000	10.000	10.000 10.000
200	10.000	10.000	10.000 10.000
250	10.000	10.000	10.000 10.000
300	10.000	10.000	10.000 10.000
350	10.000	10.000	10.000 10.000
400	10.000	10.000	10.000 10.000
450	10.000	10.000	10.000 10.000
500	10.000	10.000	10.000 10.000

### Outlet Set for Leakage Butterfly Valves manually operated

L 100 100 00			
DN DN	Pressure	Weight	Accessories
50	10.000	10.000	10.000 10.000
75	10.000	10.000	10.000 10.000
100	10.000	10.000	10.000 10.000
150	10.000	10.000	10.000 10.000
200	10.000	10.000	10.000 10.000
250	10.000	10.000	10.000 10.000
300	10.000	10.000	10.000 10.000
350	10.000	10.000	10.000 10.000
400	10.000	10.000	10.000 10.000
450	10.000	10.000	10.000 10.000
500	10.000	10.000	10.000 10.000

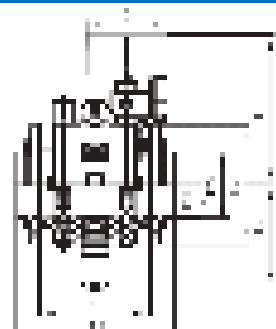
## Leakage Butterfly Valves and Accessories



2" Intermediate Flange Leakage Butterfly Valve with Pneumatic Actuator  
 (pneumatic actuator shown for reference only)

### Intermediate Flange Leakage Butterfly Valve 2M with Pneumatic Actuator

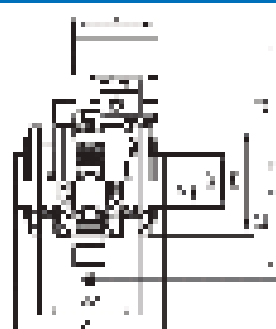
DN (in)	W1	W2	W3	W4	W5	W6	W7	W8	W9	Weight (kg)
2"	114	114	114	114	114	114	114	114	114	1.14
2.5"	140	140	140	140	140	140	140	140	1.40	1.40
3"	166	166	166	166	166	166	166	166	1.66	2.25
3.5"	192	192	192	192	192	192	192	192	1.92	2.90
4"	218	218	218	218	218	218	218	218	2.18	3.90
4.5"	244	244	244	244	244	244	244	244	2.44	4.90
5"	270	270	270	270	270	270	270	270	2.70	6.00
5.5"	296	296	296	296	296	296	296	296	2.96	7.20
6"	322	322	322	322	322	322	322	322	3.22	8.50



2.5" Intermediate Flange Leakage Butterfly Valve with Pneumatic Actuator  
 (pneumatic actuator shown for reference only)

### Intermediate Flange Leakage Butterfly Valve 2M with Pneumatic Actuator

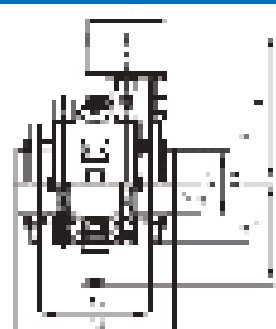
DN (in)	W1	W2	W3	W4	W5	W6	W7	W8	W9	Weight (kg)
2.5"	140	140	140	140	140	140	140	140	140	1.40
3"	166	166	166	166	166	166	166	166	1.66	1.66
3.5"	192	192	192	192	192	192	192	192	1.92	2.25
4"	218	218	218	218	218	218	218	218	2.18	2.90
4.5"	244	244	244	244	244	244	244	244	2.44	3.90
5"	270	270	270	270	270	270	270	270	2.70	4.90
5.5"	296	296	296	296	296	296	296	296	2.96	6.00
6"	322	322	322	322	322	322	322	322	3.22	7.20



3" Intermediate Flange Leakage Butterfly Valve with Pneumatic Actuator  
 (pneumatic actuator shown for reference only)

### Intermediate Flange Leakage Butterfly Valve 3M with Pneumatic Actuator

DN (in)	W1	W2	W3	W4	W5	W6	W7	W8	W9	Weight (kg)
3"	166	166	166	166	166	166	166	166	166	1.66
3.5"	192	192	192	192	192	192	192	192	192	2.25
4"	218	218	218	218	218	218	218	218	2.18	2.90
4.5"	244	244	244	244	244	244	244	244	2.44	3.90
5"	270	270	270	270	270	270	270	270	2.70	4.90
5.5"	296	296	296	296	296	296	296	296	2.96	6.00
6"	322	322	322	322	322	322	322	322	3.22	7.20



3.5" Intermediate Flange Leakage Butterfly Valve with Pneumatic Actuator  
 (pneumatic actuator shown for reference only)

### Intermediate Flange Leakage Butterfly Valve 3M with Pneumatic Actuator

DN (in)	W1	W2	W3	W4	W5	W6	W7	W8	W9	Weight (kg)
3.5"	192	192	192	192	192	192	192	192	192	1.66
4"	218	218	218	218	218	218	218	218	2.18	2.25
4.5"	244	244	244	244	244	244	244	244	2.44	2.90
5"	270	270	270	270	270	270	270	270	2.70	3.90
5.5"	296	296	296	296	296	296	296	296	2.96	4.90
6"	322	322	322	322	322	322	322	322	3.22	6.00

## Leakage Butterfly Valve and Accessories

### Intermediate Flange Leakage Butterfly Valve DN with Pneumatic Actuator

DN (mm)	JIS 10K (DN10K)		ANSI 150 (DN150)	
	Pressure	Weight	Pressure	Weight
50	0.15MPa	11.0kg	0.15MPa	11.0kg
65	0.15MPa	14.0kg	0.15MPa	14.0kg
80	0.15MPa	18.0kg	0.15MPa	18.0kg
100	0.15MPa	24.0kg	0.15MPa	24.0kg
125	0.15MPa	32.0kg	0.15MPa	32.0kg
150	0.15MPa	42.0kg	0.15MPa	42.0kg
200	0.15MPa	60.0kg	0.15MPa	60.0kg
250	0.15MPa	82.0kg	0.15MPa	82.0kg
300	0.15MPa	108.0kg	0.15MPa	108.0kg
350	0.15MPa	138.0kg	0.15MPa	138.0kg
400	0.15MPa	172.0kg	0.15MPa	172.0kg
450	0.15MPa	210.0kg	0.15MPa	210.0kg
500	0.15MPa	252.0kg	0.15MPa	252.0kg

### Intermediate Flange Leakage Butterfly Valve DN with Pneumatic Actuator

DN (mm)	ANSI 150 (DN150)		ANSI 300 (DN300)	
	Pressure	Weight	Pressure	Weight
50	0.15MPa	11.0kg	0.15MPa	11.0kg
65	0.15MPa	14.0kg	0.15MPa	14.0kg
80	0.15MPa	18.0kg	0.15MPa	18.0kg
100	0.15MPa	24.0kg	0.15MPa	24.0kg
125	0.15MPa	32.0kg	0.15MPa	32.0kg
150	0.15MPa	42.0kg	0.15MPa	42.0kg
200	0.15MPa	60.0kg	0.15MPa	60.0kg
250	0.15MPa	82.0kg	0.15MPa	82.0kg
300	0.15MPa	108.0kg	0.15MPa	108.0kg
350	0.15MPa	138.0kg	0.15MPa	138.0kg
400	0.15MPa	172.0kg	0.15MPa	172.0kg
450	0.15MPa	210.0kg	0.15MPa	210.0kg
500	0.15MPa	252.0kg	0.15MPa	252.0kg

### Intermediate Flange Leakage Butterfly Valve DN with Pneumatic Actuator

DN (mm)	ANSI 150 (DN150)		ANSI 300 (DN300)	
	Pressure	Weight	Pressure	Weight
50	0.15MPa	11.0kg	0.15MPa	11.0kg
65	0.15MPa	14.0kg	0.15MPa	14.0kg
80	0.15MPa	18.0kg	0.15MPa	18.0kg
100	0.15MPa	24.0kg	0.15MPa	24.0kg
125	0.15MPa	32.0kg	0.15MPa	32.0kg
150	0.15MPa	42.0kg	0.15MPa	42.0kg
200	0.15MPa	60.0kg	0.15MPa	60.0kg
250	0.15MPa	82.0kg	0.15MPa	82.0kg
300	0.15MPa	108.0kg	0.15MPa	108.0kg
350	0.15MPa	138.0kg	0.15MPa	138.0kg
400	0.15MPa	172.0kg	0.15MPa	172.0kg
450	0.15MPa	210.0kg	0.15MPa	210.0kg
500	0.15MPa	252.0kg	0.15MPa	252.0kg

### Intermediate Flange Leakage Butterfly Valve DN with Pneumatic Actuator

DN (mm)	ANSI 150 (DN150)		ANSI 300 (DN300)	
	Pressure	Weight	Pressure	Weight
50	0.15MPa	11.0kg	0.15MPa	11.0kg
65	0.15MPa	14.0kg	0.15MPa	14.0kg
80	0.15MPa	18.0kg	0.15MPa	18.0kg
100	0.15MPa	24.0kg	0.15MPa	24.0kg
125	0.15MPa	32.0kg	0.15MPa	32.0kg
150	0.15MPa	42.0kg	0.15MPa	42.0kg
200	0.15MPa	60.0kg	0.15MPa	60.0kg
250	0.15MPa	82.0kg	0.15MPa	82.0kg
300	0.15MPa	108.0kg	0.15MPa	108.0kg
350	0.15MPa	138.0kg	0.15MPa	138.0kg
400	0.15MPa	172.0kg	0.15MPa	172.0kg
450	0.15MPa	210.0kg	0.15MPa	210.0kg
500	0.15MPa	252.0kg	0.15MPa	252.0kg





Valve Disk for Leakage Butterfly Valve with Pneumatic Actuator

DN (D)	St. (st)	Ø	E	F	Part. (kg)
10	10	110	10	100	0.4
15	15	115	10	100	0.70
20	20	120	10	100	0.90
25	25	125	10	100	1.10

Formal Construction

DN (D)	St. (st)	H	Ø	F	F	F	Weight (kg)
20 (DN)	2 (st)	12	12	10	100	10	0.005
25 (DN)	2 (st)	7	12	10	100	10	0.015



A - Disk for valve with actuator  
B - Cover cover with actuator

Protective Cover for Leakage Butterfly Valve with Pneumatic Actuator

DN (D)	St. (st)	H	L	Ø	Part. (kg)
10	10	100	100	100	0.15
15	15	100	100	100	0.15
20	20	100	100	100	0.20
25	25	100	100	100	0.25
30	30	100	100	100	0.30
40	40	100	100	100	0.40
50	50	100	100	100	0.50
60	60	100	100	100	0.60
80	80	100	100	100	0.80
100	100	100	100	100	1.00

Pneumatic Actuator Air/Gearing for Leakage Butterfly Valve

DN (D)	St. (st)	Weight (kg)
25 (DN)	25	0.01



## Leakage Butterfly Valves and Accessories

### Valve Data for Leakage Butterfly Valves with Pneumatic Actuator

LATCH 100			
DN (DN)	DN (in)	Pressure (bar)	Capacity (m <sup>3</sup> /h)
100	4	10	1000 (1000) 1000
150	6	10	1500 (1500) 1500
200	8	10	2000 (2000) 2000
250	10	10	2500 (2500) 2500
300	12	10	3000 (3000) 3000
350	14	10	3500 (3500) 3500
400	16	10	4000 (4000) 4000
450	18	10	4500 (4500) 4500
500	20	10	5000 (5000) 5000

### Metric Dimensions

DN (DN)	Metric (in)	Dimension (mm) (in)			Dimension (mm) (in)		
		W	H	L	W	H	L
100	4 (1.57)	100	100	100	100	100	100
150	6 (2.36)	150	150	150	150	150	150
200	8 (3.15)	200	200	200	200	200	200
250	10 (3.94)	250	250	250	250	250	250
300	12 (4.72)	300	300	300	300	300	300
350	14 (5.51)	350	350	350	350	350	350
400	16 (6.30)	400	400	400	400	400	400
450	18 (7.09)	450	450	450	450	450	450
500	20 (7.87)	500	500	500	500	500	500

### Predictive Cover for Leakage Butterfly Valve with Pneumatic Actuator

LATCH 100			
DN (DN)	DN (in)	Pressure (bar)	Capacity (m <sup>3</sup> /h)
100	4	10	1000 (1000) 1000
150	6	10	1500 (1500) 1500
200	8	10	2000 (2000) 2000
250	10	10	2500 (2500) 2500
300	12	10	3000 (3000) 3000
350	14	10	3500 (3500) 3500
400	16	10	4000 (4000) 4000
450	18	10	4500 (4500) 4500
500	20	10	5000 (5000) 5000

### Pneumatic Actuator: Air Spring for Leakage Butterfly Valves

LATCH 100		
DN (DN)	Pressure (bar)	Capacity (m <sup>3</sup> /h)
100	10	1000 (1000) 1000
150	10	1500 (1500) 1500
200	10	2000 (2000) 2000
250	10	2500 (2500) 2500
300	10	3000 (3000) 3000
350	10	3500 (3500) 3500
400	10	4000 (4000) 4000
450	10	4500 (4500) 4500
500	10	5000 (5000) 5000



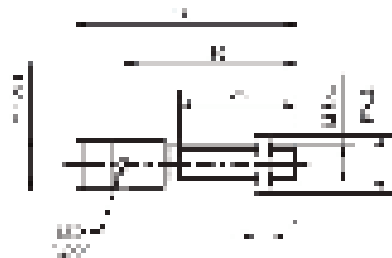
**Pneumatic Actuator Valve without Preparation for Sensor**

QTY	Part No.	Part Name	Unit
1	1000000000	Actuator Valve without Preparation for Sensor	EA



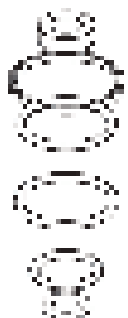
**Pneumatic Actuator Valve with Preparation for Sensor**

QTY	Part No.	Part Name	Unit
1	1000000000	Actuator Valve with Preparation for Sensor	EA



**Sensor for pneumatic Actuator Valve**

QTY	Part No.	Part Name	Unit
1	1000000000	Sensor for pneumatic Actuator Valve	EA



**Service Kit for pneumatic Actuator Valve**

QTY	Part No.	Part Name	Unit
1	1000000000	Service Kit for pneumatic Actuator Valve	EA

## Leakage Butterfly Valves and Accessories

### Pneumatic Auxiliary Valve without Preparation for Service

L1000000000				L1100000000		
ES/DR	Sh. Co.	Access.	Mount. Pos.	Access.	Mount. Pos.	
50/300	20/10	1.000	1.000/000/000/000	1.000	1.000/000/000/000	

### Pneumatic Auxiliary Valve with Preparation for Service

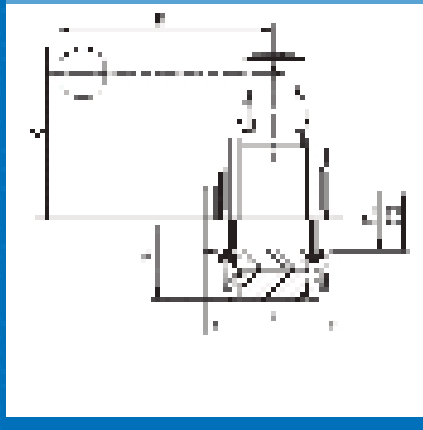
L1000000000				L1100000000		
ES/DR	Sh. Co.	Access.	Mount. Pos.	Access.	Mount. Pos.	
50/300	20/10	1.000	1.000/000/000/000	1.000	1.000/000/000/000	

### Service Kit for pneumatic Auxiliary Valve

L1100000000				
ES/DR	Sh. Co.	Access.	Mount. Pos.	
50/300	20/10	1.000	1.000/000/000/000	

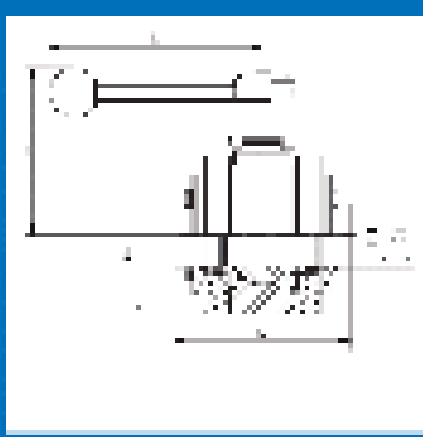
### Service Kit for pneumatic Auxiliary Valve

L1100000000				L1100000000		
ES/DR	Sh. Co.	Access.	Mount. Pos.	Access.	Mount. Pos.	
50/300	20/10	1.000	1.000/000/000/000	1.000	1.000/000/000/000	



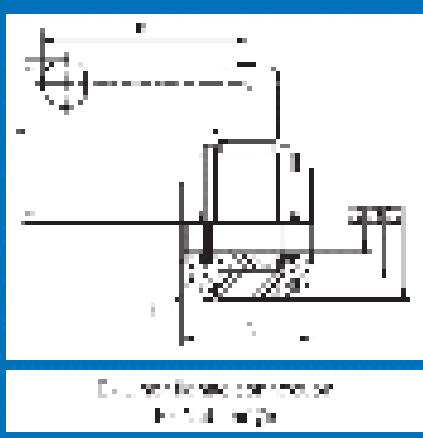
Ball Valve/Multi-Port per DIN

DN 1	A	B	C	D1	D2	D3	Weight (kg)
40	114	146.5	120	41	41	115	4.000
50	134	171	136	47	47	130	5.100
65	157	198	157	55	55	150	6.700
80	181	227	179	63	63	170	8.500
100	226	277	220	80.5	80.5	210	12.000



Industrial Size Heavy Ball Valve DIN

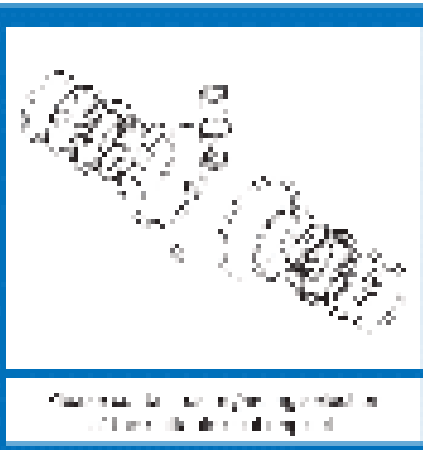
DN 1	A	B	C	D1	D2	D3	Weight (kg)
40	126	161.5	138	50	48	120	3.700
50	146	183	150	58	56	135	4.900
65	171	211	166	68	66	150	6.400
80	197	241	184	79	77	165	8.300
100	247	297	220	97.5	95	200	12.000



Ball Valve Linear/No DIN 11854-2

DN 1	A	B	C	D1	D2	D3	Weight (kg)
40	107	137.5	100	37	37	97	3.100
50	127	159	117	43	43	107	3.700
65	156	193	147	53	53	130	4.900
80	186	227	177	63	63	150	6.400
100	236	287	220	80.5	80.5	190	12.000

Linear ball valve for the use of ball valve



Seal Ring Sector DIN Ball Valves

DN 1
40
50
65
80
100

Seal ring for ball valve applied to ball valve ball valve

## Ball Valve and Accessories

### Ball Valve Weldon-Weldon DIN

DN (mm)	Metric Ball Valve Weldon-Weldon DIN		Metric Ball Valve Weldon-Weldon DIN		Metric Ball Valve Weldon-Weldon DIN	
	Pressure	Available	Pressure	Available	Pressure	Available
40	16.0 MPa	40x1.5x110.0mm (1.5")	25.0 MPa	40x1.5x110.0mm (1.5")	16.0 MPa	40x1.5x110.0mm (1.5")
50	16.0 MPa	50x2.0x130.0mm (2.0")	25.0 MPa	50x2.0x130.0mm (2.0")	16.0 MPa	50x2.0x130.0mm (2.0")
65	16.0 MPa	65x2.5x150.0mm (2.5")	25.0 MPa	65x2.5x150.0mm (2.5")	16.0 MPa	65x2.5x150.0mm (2.5")
80	16.0 MPa	80x3.0x170.0mm (3.0")	25.0 MPa	80x3.0x170.0mm (3.0")	16.0 MPa	80x3.0x170.0mm (3.0")
100	16.0 MPa	100x4.0x210.0mm (4.0")	25.0 MPa	100x4.0x210.0mm (4.0")	16.0 MPa	100x4.0x210.0mm (4.0")

Dimensions shown in this table are intended to be used as a guide only. The actual dimensions of the components may vary slightly from those shown.

### Ball Valve Plug-In Ball Valve DIN

DN (mm)	Metric Ball Valve Plug-In Ball Valve DIN		Metric Ball Valve Plug-In Ball Valve DIN		Metric Ball Valve Plug-In Ball Valve DIN	
	Pressure	Available	Pressure	Available	Pressure	Available
40	16.0 MPa	40x1.5x110.0mm (1.5")	25.0 MPa	40x1.5x110.0mm (1.5")	16.0 MPa	40x1.5x110.0mm (1.5")
50	16.0 MPa	50x2.0x130.0mm (2.0")	25.0 MPa	50x2.0x130.0mm (2.0")	16.0 MPa	50x2.0x130.0mm (2.0")
65	16.0 MPa	65x2.5x150.0mm (2.5")	25.0 MPa	65x2.5x150.0mm (2.5")	16.0 MPa	65x2.5x150.0mm (2.5")
80	16.0 MPa	80x3.0x170.0mm (3.0")	25.0 MPa	80x3.0x170.0mm (3.0")	16.0 MPa	80x3.0x170.0mm (3.0")
100	16.0 MPa	100x4.0x210.0mm (4.0")	25.0 MPa	100x4.0x210.0mm (4.0")	16.0 MPa	100x4.0x210.0mm (4.0")

Ball Valve Plug-In Ball Valve DIN is a ball valve with a plug-in ball valve. It is designed for use in applications where a ball valve is required to be installed in a system.

### Ball Valve Direct Mount DIN JJ50-2

DN (mm)	Metric Ball Valve Direct Mount DIN JJ50-2		Metric Ball Valve Direct Mount DIN JJ50-2		Metric Ball Valve Direct Mount DIN JJ50-2	
	Pressure	Available	Pressure	Available	Pressure	Available
20	16.0 MPa	20x0.8x70.0mm (0.8")	25.0 MPa	20x0.8x70.0mm (0.8")	16.0 MPa	20x0.8x70.0mm (0.8")
25	16.0 MPa	25x1.0x85.0mm (1.0")	25.0 MPa	25x1.0x85.0mm (1.0")	16.0 MPa	25x1.0x85.0mm (1.0")
32	16.0 MPa	32x1.25x100.0mm (1.25")	25.0 MPa	32x1.25x100.0mm (1.25")	16.0 MPa	32x1.25x100.0mm (1.25")
40	16.0 MPa	40x1.5x110.0mm (1.5")	25.0 MPa	40x1.5x110.0mm (1.5")	16.0 MPa	40x1.5x110.0mm (1.5")
50	16.0 MPa	50x2.0x130.0mm (2.0")	25.0 MPa	50x2.0x130.0mm (2.0")	16.0 MPa	50x2.0x130.0mm (2.0")

Ball Valve Direct Mount DIN JJ50-2 is a ball valve with a direct mount. It is designed for use in applications where a ball valve is required to be installed in a system.

### Ball Ring Set for DIN Ball Valve

DN (mm)	Metric Ball Ring Set for DIN Ball Valve		Metric Ball Ring Set for DIN Ball Valve	
	Pressure	Available	Pressure	Available
40	16.0 MPa	40x1.5x110.0mm (1.5")	25.0 MPa	40x1.5x110.0mm (1.5")
50	16.0 MPa	50x2.0x130.0mm (2.0")	25.0 MPa	50x2.0x130.0mm (2.0")
65	16.0 MPa	65x2.5x150.0mm (2.5")	25.0 MPa	65x2.5x150.0mm (2.5")
80	16.0 MPa	80x3.0x170.0mm (3.0")	25.0 MPa	80x3.0x170.0mm (3.0")
100	16.0 MPa	100x4.0x210.0mm (4.0")	25.0 MPa	100x4.0x210.0mm (4.0")

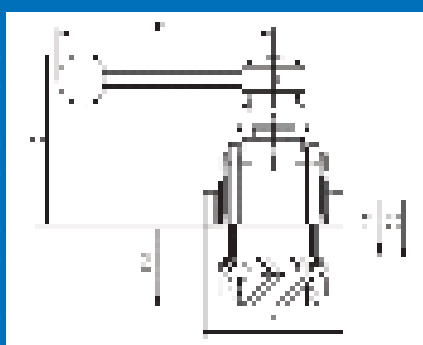


Multiport Ball Valve with 90° Stem for 1/2" Ball Valve (1000 Series)

Seal Ring Set, e.g. for abrasives and high-viscosity Medium for DM Ball Valve

DM 1

- 4
- 6
- 8
- 10
- 12



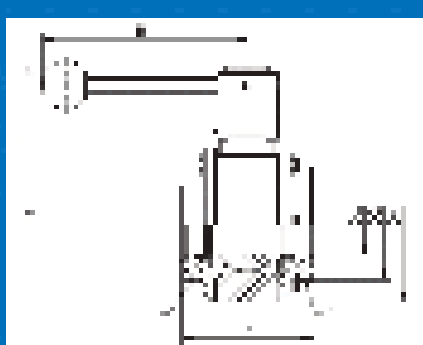
Ball Valve DM Series / Multiport Valve

DN / inch	A	B	C	D1	D2	D3	Weight / kg
1/2" / 12	140	100	100	40	40	100	4.00
3/4" / 19	150	110	110	45	45	110	4.50
1" / 25	160	120	120	50	50	120	5.00
1 1/4" / 32	180	140	140	60	60	140	6.00
1 1/2" / 38	200	160	160	70	70	160	7.00



Internal Flange Ball Valve Inch

DN / inch	A	B	C	D1	D2	D3	Weight / kg
1/2" / 12	140	100	100	40	40	100	4.00
3/4" / 19	150	110	110	45	45	110	4.50
1" / 25	160	120	120	50	50	120	5.00
1 1/4" / 32	180	140	140	60	60	140	6.00
1 1/2" / 38	200	160	160	70	70	160	7.00



Linear Actuator for Ball Valve

Ball Valve Linear/Actuator DM 1004-2 Inch

DN / inch	A	B	C	D1	D2	D3	Weight / kg
1/2" / 12	140	100	100	40	40	100	4.00
3/4" / 19	150	110	110	45	45	110	4.50
1" / 25	160	120	120	50	50	120	5.00
1 1/4" / 32	180	140	140	60	60	140	6.00
1 1/2" / 38	200	160	160	70	70	160	7.00

## Ball Valves and Accessories

### Seal Ring Set, e.g. for abrasion and high-viscosity Media for DIN Ball Valves

DIN 11851	EPDM		NBR/PVC	
	Pressure	Temperature	Pressure	Temperature
10	10 bar	-40 to +120 °C	10 bar	-40 to +120 °C
15	15 bar	-40 to +120 °C	15 bar	-40 to +120 °C
20	20 bar	-40 to +120 °C	20 bar	-40 to +120 °C
25	25 bar	-40 to +120 °C	25 bar	-40 to +120 °C
32	32 bar	-40 to +120 °C	32 bar	-40 to +120 °C

### Ball Valve Working/Welded In Line

DIN 11851	100% operation (100% Full Flow)		Working (90% Full Flow)	
	Pressure	Temperature	Pressure	Temperature
10	10 bar	-40 to +120 °C	10 bar	-40 to +120 °C
15	15 bar	-40 to +120 °C	15 bar	-40 to +120 °C
20	20 bar	-40 to +120 °C	20 bar	-40 to +120 °C
25	25 bar	-40 to +120 °C	25 bar	-40 to +120 °C
32	32 bar	-40 to +120 °C	32 bar	-40 to +120 °C

100% operation: 100% Full Flow  
 Working: 90% Full Flow  
 100% operation: 100% Full Flow  
 Working: 90% Full Flow

### Intermediate Flange-DIN Valve Inch

DIN 11851	100% operation (100% Full Flow)		Working (90% Full Flow)	
	Pressure	Temperature	Pressure	Temperature
10	10 bar	-40 to +120 °C	10 bar	-40 to +120 °C
15	15 bar	-40 to +120 °C	15 bar	-40 to +120 °C
20	20 bar	-40 to +120 °C	20 bar	-40 to +120 °C
25	25 bar	-40 to +120 °C	25 bar	-40 to +120 °C
32	32 bar	-40 to +120 °C	32 bar	-40 to +120 °C

100% operation: 100% Full Flow  
 Working: 90% Full Flow  
 100% operation: 100% Full Flow  
 Working: 90% Full Flow

### Ball Valves Linear/Multi-DIN 11851-2 Inch

DIN 11851	100% operation (100% Full Flow)		Working (90% Full Flow)	
	Pressure	Temperature	Pressure	Temperature
10	10 bar	-40 to +120 °C	10 bar	-40 to +120 °C
15	15 bar	-40 to +120 °C	15 bar	-40 to +120 °C
20	20 bar	-40 to +120 °C	20 bar	-40 to +120 °C
25	25 bar	-40 to +120 °C	25 bar	-40 to +120 °C
32	32 bar	-40 to +120 °C	32 bar	-40 to +120 °C

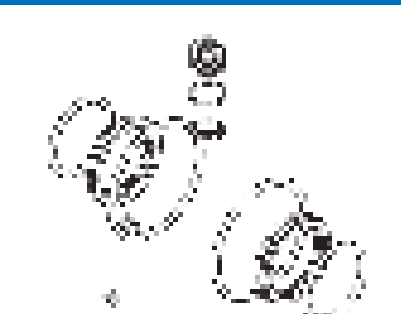




Seal Ring Set for Inch Bull Valves

### Seal Ring Set for Inch Bull Valves

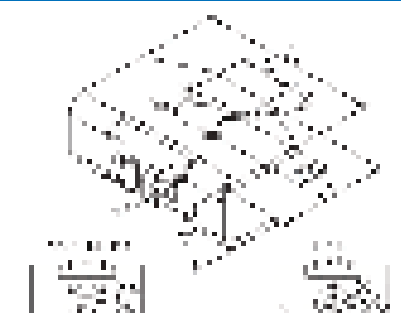
Material
Seal Ring
O-Ring
Nuts
Washers



Seal Ring Set for 24 Inch and High Visibility Valves for Inch Bull Valves

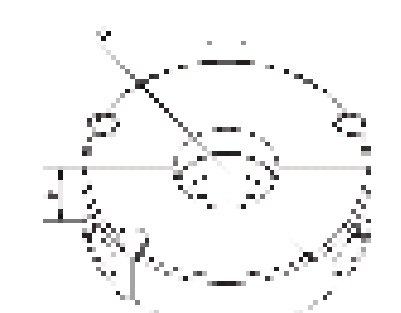
### Seal Ring Set for 24 Inch and High Visibility Valves for Inch Bull Valves

Material
Seal Ring
O-Ring
Nuts
Washers



### Latching Bracket for Bull Valves

Part No.	Material	QTY	Size	Qty	Size	Qty	Size	Qty	Size	Qty	Size	Qty	Size
40	304	1	1/2"	8"	202	3/8"	2	1/2"	4"	1/2"	4"	1/2"	4"
41	304	1	1/2"	8"	202	3/8"	2	1/2"	4"	1/2"	4"	1/2"	4"
42	304	4	1/2"	8"	202	3/8"	2	1/2"	4"	1/2"	4"	1/2"	4"
43	304	1	1/2"	8"	202	3/8"	2	1/2"	4"	1/2"	4"	1/2"	4"
44	304	4	1/2"	8"	202	3/8"	2	1/2"	4"	1/2"	4"	1/2"	4"



### SHH Cam for Bull Valves

Part No.	Material	QTY	Size	Qty	Size	Qty	Size
45	304	1	1/2"	8"	202	3/8"	2
46	304	1	1/2"	8"	202	3/8"	2
47	304	4	1/2"	8"	202	3/8"	2
48	304	1	1/2"	8"	202	3/8"	2
49	304	4	1/2"	8"	202	3/8"	2

## Ball Valves and Accessories

### Seal Ring Subfor Inch Ball Valves

F1102P-3M		F1102P-3M		
Ball Size	Pressure	Available	Pressure	Available
1/2"	150 PSI	4011200000000000	150 PSI	4011200000000000
3/4"	150 PSI	4011200000000000	150 PSI	4011200000000000
1"	150 PSI	4011200000000000	150 PSI	4011200000000000
1 1/2"	150 PSI	4011200000000000	150 PSI	4011200000000000
2"	150 PSI	4011200000000000	150 PSI	4011200000000000
3"	150 PSI	4011200000000000	150 PSI	4011200000000000
4"	150 PSI	4011200000000000	150 PSI	4011200000000000
6"	150 PSI	4011200000000000	150 PSI	4011200000000000
8"	150 PSI	4011200000000000	150 PSI	4011200000000000
10"	150 PSI	4011200000000000	150 PSI	4011200000000000

### Seal Ring Sub for 1/2" to 3" Inclusive and 1/2" to 3" Inclusive Ball Valves for Inch Ball Valves

F1102P-3M		F1102P-3M		
Ball Size	Pressure	Available	Pressure	Available
1/2"	150 PSI	4011200000000000	150 PSI	4011200000000000
3/4"	150 PSI	4011200000000000	150 PSI	4011200000000000
1"	150 PSI	4011200000000000	150 PSI	4011200000000000
1 1/2"	150 PSI	4011200000000000	150 PSI	4011200000000000
2"	150 PSI	4011200000000000	150 PSI	4011200000000000
3"	150 PSI	4011200000000000	150 PSI	4011200000000000
4"	150 PSI	4011200000000000	150 PSI	4011200000000000
6"	150 PSI	4011200000000000	150 PSI	4011200000000000
8"	150 PSI	4011200000000000	150 PSI	4011200000000000
10"	150 PSI	4011200000000000	150 PSI	4011200000000000

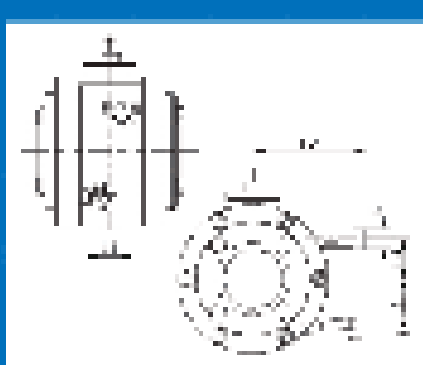
### Holding Ends for Ball Valves

#### LINE END

LINE END	Ball Size	Pressure	Available
BE	1/2"	150 PSI	4011200000000000
BE	3/4"	150 PSI	4011200000000000
BE	1"	150 PSI	4011200000000000
BE	1 1/2"	150 PSI	4011200000000000
BE	2"	150 PSI	4011200000000000
BE	3"	150 PSI	4011200000000000

### Stiff Cam for Ball Valves

F1102P-3M		F1102P-3M		
Ball Size	Pressure	Available	Pressure	Available
1/2"	150 PSI	4011200000000000	150 PSI	4011200000000000
3/4"	150 PSI	4011200000000000	150 PSI	4011200000000000
1"	150 PSI	4011200000000000	150 PSI	4011200000000000
1 1/2"	150 PSI	4011200000000000	150 PSI	4011200000000000
2"	150 PSI	4011200000000000	150 PSI	4011200000000000
3"	150 PSI	4011200000000000	150 PSI	4011200000000000
4"	150 PSI	4011200000000000	150 PSI	4011200000000000
6"	150 PSI	4011200000000000	150 PSI	4011200000000000
8"	150 PSI	4011200000000000	150 PSI	4011200000000000
10"	150 PSI	4011200000000000	150 PSI	4011200000000000



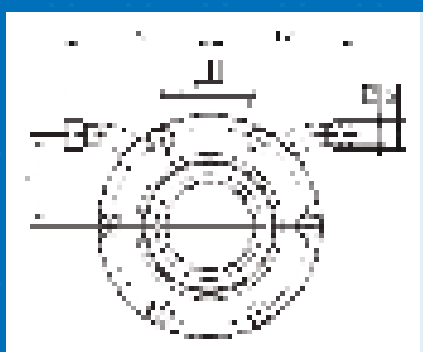
Bull Valve with Handwheel

### Surcharge of Housing with flange Connection for Bull Valve

DN/DN	DN - mm	h	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>
40	150.0	100.0	40	15	75	110
50	200.0	100.0	40	20	75	110
65	250.0	100.0	40	25	100	130
80	300.0	100.0	40	30	100	130
100	350.0	100.0	40	35	100	130

### Surcharge for Invertible Housing for Bull Valve

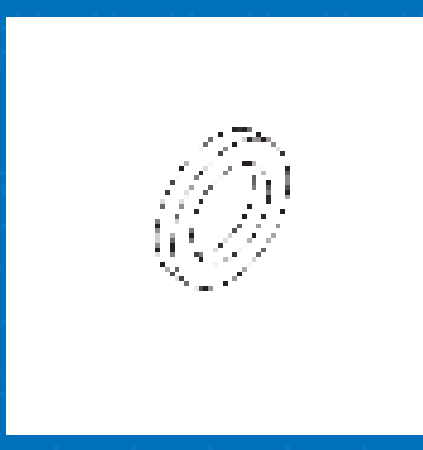
DN/DN	DN - mm	h	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>
40	150.0	100.0	15	100	75
50	200.0	100.0	15	50	60
65	250.0	100.0	15	50	60
80	300.0	100.0	15	50	60
100	350.0	100.0	15	50	60



Surcharge for Invertible Housing

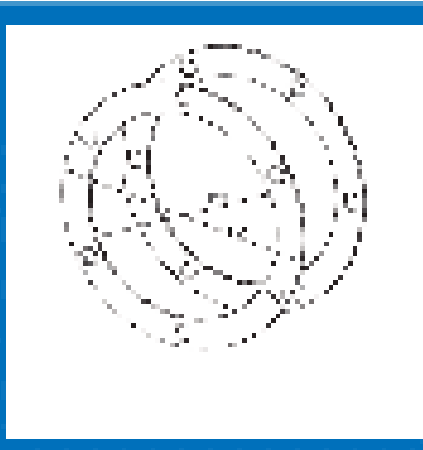
### Seal Ring Set, Invertible Housing Connection for Bull Valve

DN/DN	DN - mm	h	h <sub>1</sub>	h <sub>2</sub>	h <sub>3</sub>	h <sub>4</sub>
40	150.0	100.0	15	100	75	110
50	200.0	100.0	15	50	60	110
65	250.0	100.0	15	50	60	110
80	300.0	100.0	15	50	60	110
100	350.0	100.0	15	50	60	110



### Seal Ring Set for Bull Valves with Invertible Housing

DN/DN	DN - mm	h	h <sub>1</sub>	h <sub>2</sub>	Part No.
40	150.0	100	15	100	110
50	200	100	15	50	110
65	250	100	15	50	110
80	300	100	15	50	110
100	350	100	15	50	110



## Ball Valve and Accessories

### Surcharge of Housing with Flange Connection for Ball Valve

Unit Price (€)			
DN (mm)	DN (in)	Order No.	Weight (kg)
40	1 1/2"	100000	4
50	2"	100000	4
65	2 1/2"	100000	4
80	3"	100000	4
100	4"	100000	4

### Housing for Feasible Housing for Ball Valve

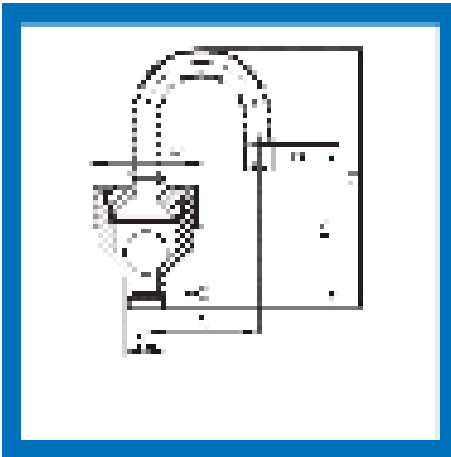
Unit Price (€)			
DN (mm)	DN (in)	Order No.	Weight (kg)
40	1 1/2"	100000	4
50	2"	100000	4
65	2 1/2"	100000	4
80	3"	100000	4
100	4"	100000	4

### Seal Ring Set, Feasible/Housing Connection for Ball Valve

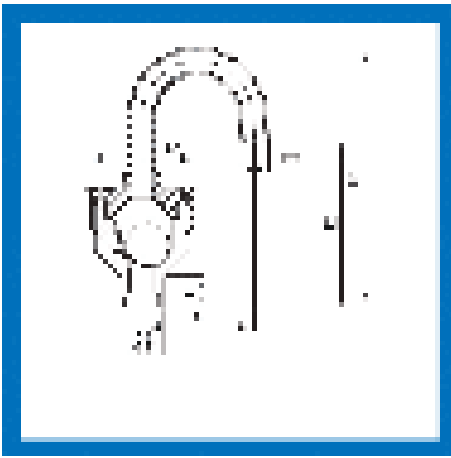
Unit Price (€) (5 pieces)				
DN (mm)	DN (in)	Order No.	Weight (kg)	Weight (kg)
40	1 1/2"	100000	0.0000	0.0000

### Seal Ring Set for Ball Valve with Feasible Housing

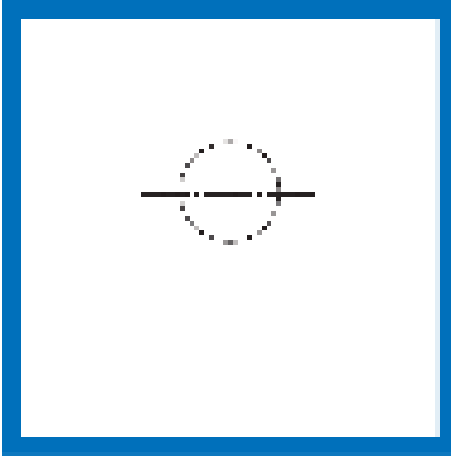
Unit Price (€)			
DN (mm)	DN (in)	Order No.	Weight (kg)
40	1 1/2"	100000	4.0000 (0.0000)
50	2"	100000	4.0000 (0.0000)
65	2 1/2"	100000	4.0000 (0.0000)
80	3"	100000	4.0000 (0.0000)
100	4"	100000	4.0000 (0.0000)



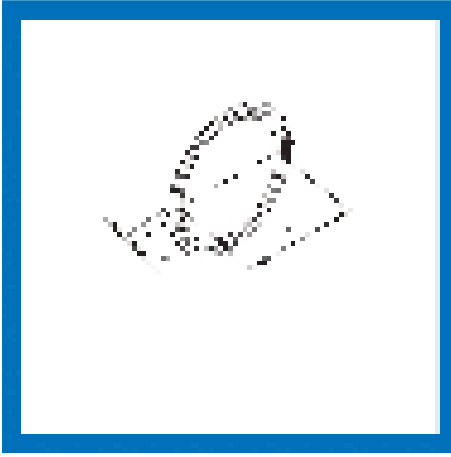
Standard Valve								
DN (D)	A	B	C	D	E	F	G	H
10	100	100	100	100	100	100	100	100
15	120	120	120	120	120	120	120	120
20	140	140	140	140	140	140	140	140
25	160	160	160	160	160	160	160	160
32	180	180	180	180	180	180	180	180
40	200	200	200	200	200	200	200	200
50	220	220	220	220	220	220	220	220
65	240	240	240	240	240	240	240	240
80	260	260	260	260	260	260	260	260
100	280	280	280	280	280	280	280	280
125	300	300	300	300	300	300	300	300
150	320	320	320	320	320	320	320	320
200	360	360	360	360	360	360	360	360
250	400	400	400	400	400	400	400	400
300	440	440	440	440	440	440	440	440
350	480	480	480	480	480	480	480	480
400	520	520	520	520	520	520	520	520
450	560	560	560	560	560	560	560	560
500	600	600	600	600	600	600	600	600
550	640	640	640	640	640	640	640	640
600	680	680	680	680	680	680	680	680
650	720	720	720	720	720	720	720	720
700	760	760	760	760	760	760	760	760
750	800	800	800	800	800	800	800	800
800	840	840	840	840	840	840	840	840
850	880	880	880	880	880	880	880	880
900	920	920	920	920	920	920	920	920
950	960	960	960	960	960	960	960	960
1000	1000	1000	1000	1000	1000	1000	1000	1000



Standard Valve								
DN (D)	A	B	C	D	E	F	G	H
10	100	100	100	100	100	100	100	100
15	120	120	120	120	120	120	120	120
20	140	140	140	140	140	140	140	140
25	160	160	160	160	160	160	160	160
32	180	180	180	180	180	180	180	180
40	200	200	200	200	200	200	200	200
50	220	220	220	220	220	220	220	220
65	240	240	240	240	240	240	240	240
80	260	260	260	260	260	260	260	260
100	280	280	280	280	280	280	280	280
125	300	300	300	300	300	300	300	300
150	320	320	320	320	320	320	320	320
200	360	360	360	360	360	360	360	360
250	400	400	400	400	400	400	400	400
300	440	440	440	440	440	440	440	440
350	480	480	480	480	480	480	480	480
400	520	520	520	520	520	520	520	520
450	560	560	560	560	560	560	560	560
500	600	600	600	600	600	600	600	600
550	640	640	640	640	640	640	640	640
600	680	680	680	680	680	680	680	680
650	720	720	720	720	720	720	720	720
700	760	760	760	760	760	760	760	760
750	800	800	800	800	800	800	800	800
800	840	840	840	840	840	840	840	840
850	880	880	880	880	880	880	880	880
900	920	920	920	920	920	920	920	920
950	960	960	960	960	960	960	960	960
1000	1000	1000	1000	1000	1000	1000	1000	1000



Ball for Vertical Closed Valve		
DN (D)	D	F
10	20	20
15	25	25
20	30	30
25	35	35
32	40	40
40	45	45
50	55	55
65	65	65
80	75	75
100	85	85
125	95	95
150	105	105
200	125	125
250	145	145
300	165	165
350	185	185
400	205	205
450	225	225
500	245	245
550	265	265
600	285	285
650	305	305
700	325	325
750	345	345
800	365	365
850	385	385
900	405	405
950	425	425
1000	445	445



Seal Ring for Vertical Closed Valve	
DN (D)	W (H)
10	10
15	15
20	20
25	25
32	30
40	35
50	45
65	55
80	65
100	75
125	85
150	95
200	115
250	135
300	155
350	175
400	195
450	215
500	235
550	255
600	275
650	295
700	315
750	335
800	355
850	375
900	395
950	415
1000	435

## Vent and Exhaust Valves and Accessories

### Exhaust Valve

#### 2" (50.8) Exhaust

ENR-5	Pressure	Material
20	100 PSI	304/316 SS

#### Material and Finish:

Exhaust valves are constructed from 304/316 stainless steel. The stainless steel is polished and passivated. The valves are designed to be supplied with or without an actuator.

Material	304/316 SS
Finish	Polished
Service Temp.	275°F (135°C)

### Vent and Exhaust Valves

#### 1" (25.4) Vent

ENR-5	Pressure	Material
20	100 PSI	304/316 SS

#### Material and Finish:

Exhaust valves are constructed from 304/316 stainless steel. The valves are polished and passivated. The valves are designed to be supplied with or without an actuator.

Material	304/316 SS
Finish	Polished
Service Temp.	275°F (135°C)

### Ball for Vent and Exhaust Valve

#### 2"

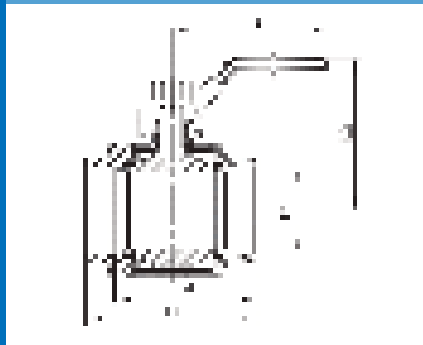
ENR-5	Pressure	Material
20	100 PSI	304/316 SS

### Steel Ring for Vent and Exhaust Valve

#### 2" (50.8)

ENR-5	Pressure	Material
20	100 PSI	304/316 SS

## Ball Cocks and Vacuum Valves



Ball Cock, 2-pc. Thread, Thread  
 Show: 11.001.072

### Ball Cock, 2-pc. Thread, Thread

DN Inch	DL	L	L1	L2	L3
1/2	150	40	20	80	0
3/4	170	45	20	80	0
1	190	50	25	110	10
1 1/2	220	60	30	130	20
2	240	70	35	140	30
2 1/2	270	80	40	150	40
3	290	90	45	160	50
3 1/2	310	100	50	170	60
4	330	110	55	180	70



Ball Cock, 2-pc. Welded, Thread  
 Show: 11.001.073

### Ball Cock, 2-pc. Thread, Thread

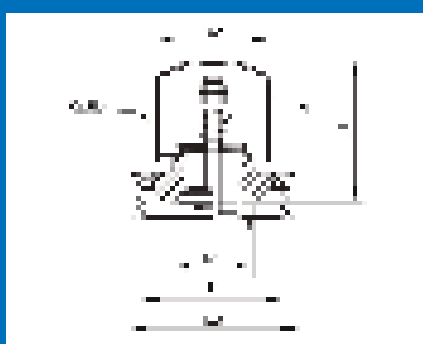
DN Inch	DL	L	L1	L2	L3
1/2	150	30	15	110	20
3/4	170	30	15	110	20
1	190	35	15	110	20
1 1/2	220	45	20	110	20
2	240	55	25	110	20
2 1/2	270	65	30	110	20
3	290	75	35	110	20
3 1/2	310	85	40	110	20
4	330	95	45	110	20



Ball Cock, 3-pc. Welded/Welded  
 Show: 11.001.074

### Ball Cock, 3-pc. Welded/Welded

DN Inch	DL	L	L1	L2	L3
1/2	150	40	20	80	10
3/4	170	40	20	80	10
1	190	50	25	110	20
1 1/2	220	60	30	130	30
2	240	70	35	140	40
2 1/2	270	80	40	150	50
3	290	90	45	160	60
3 1/2	310	100	50	170	70
4	330	110	55	180	80



### Vacuum Valve

DN Inch	DL	DL1	DL2	L	L1	N (MPa)
50	100	100	100	100	100	0.6
75	120	120	120	120	120	0.6
100	140	140	140	140	140	0.6
150	180	180	180	180	180	0.6
200	220	220	220	220	220	0.6
250	260	260	260	260	260	0.6
300	300	300	300	300	300	0.6

## Ball Cock and Vacuum Valve

### Ball Cock, 3-pc. Thread/Thread

#### J 1911

Ballcock	Pressure	J Ballcock
100	1.50	400000000
150	2.00	400000000
200	2.50	400000000
300	3.50	400000000
400	4.50	400000000
500	5.50	400000000
600	6.50	400000000
700	7.50	400000000
800	8.50	400000000
900	9.50	400000000

### Ball Cock, 3-pc. Thread/Thread

#### J 1911

Ballcock	Pressure	J Ballcock
100	1.00	400000000
150	1.50	400000000
200	2.00	400000000
300	3.00	400000000
400	4.00	400000000
500	5.00	400000000
600	6.00	400000000
700	7.00	400000000
800	8.00	400000000
900	9.00	400000000

### Ball Cock, 3-pc. Weldon/Weldon

#### J 1907

Ballcock	Pressure	J Ballcock
100	1.00	400000000
150	1.50	400000000
200	2.00	400000000
300	3.00	400000000
400	4.00	400000000
500	5.00	400000000
600	6.00	400000000
700	7.00	400000000
800	8.00	400000000
900	9.00	400000000

### Vacuum Valve

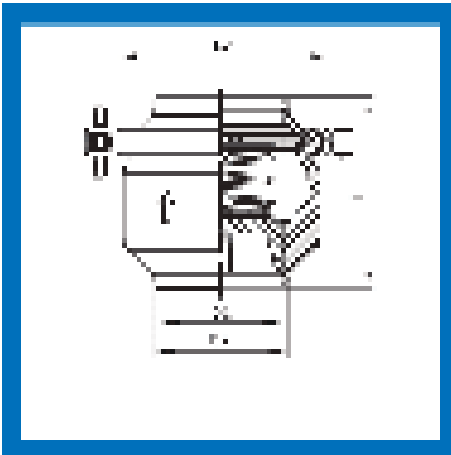
#### L1900/1900 L1900/1900

#### L1900/1900 L1900

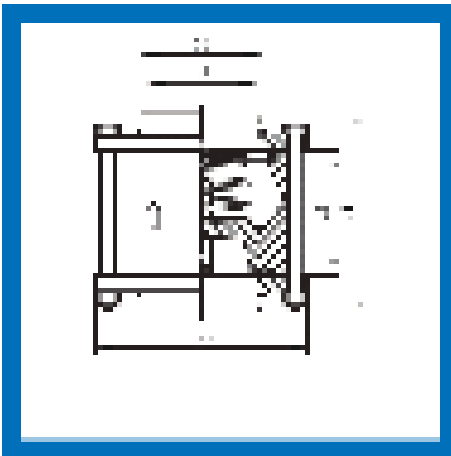
Ballcock	Pressure	J Ballcock	Pressure	J Ballcock
100	1.50	400000000	1.50	400000000
150	2.00	400000000	2.00	400000000
200	2.50	400000000	2.50	400000000
300	3.50	400000000	3.50	400000000
400	4.50	400000000	4.50	400000000
500	5.50	400000000	5.50	400000000
600	6.50	400000000	6.50	400000000
700	7.50	400000000	7.50	400000000



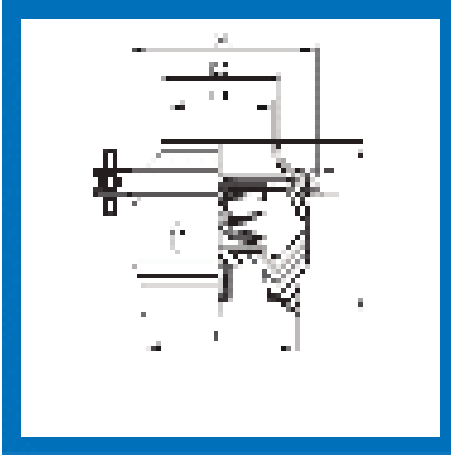
## Non-Return Valves



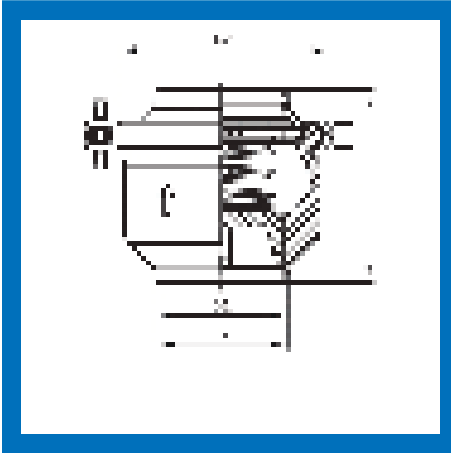
Non-Return Valve Metric/Walzen DIN					
DN (D)	A	B	C	D	Weight (kg)
15	4	21	4	12	1.0
20	5	21	4	12	1.0
25	6	21	4	12	1.0
32	8	22	12	12	1.1
40	10	22	12	12	1.1
50	12	22	12	12	1.1
65	14	22	12	12	1.1



Non-Return Valve Long Non-Return/Walzen DIN						
DN (D)	A	B	C	E	F	Weight (kg)
20	26	28	42	12	16	1.0
25	26	28	42	12	16	1.0
32	28	28	42	12	16	1.0
40	28	28	42	12	16	1.0
50	30	28	42	12	16	1.0
65	32	28	42	12	16	1.0
80	34	28	42	12	16	1.0



Non-Return Valve Metric/Walzen DIN						
DN (D)	A	B	C	E	F	Weight (kg)
15	4	4	16	16/20 (16)	17	1.0
20	5	5	16	16/20 (16)	17	1.0
25	6	6	16	16/20 (16)	17	1.0
32	8	8	16	16/20 (16)	17	1.0
40	10	10	16	16/20 (16)	17	1.0
50	12	12	16	16/20 (16)	17	1.0
65	14	14	16	16/20 (16)	17	1.0
80	16	16	16	16/20 (16)	17	1.0



Non-Return Valve Metric/Walzen Inch					
DN (inch)	A	B	C	D	Weight (kg)
1/2	50.8	50.8	25.4	12.7	1.0
3/4	50.8	50.8	25.4	12.7	1.0
1	50.8	50.8	25.4	12.7	1.0
1 1/2	76.2	76.2	38.1	19.0	1.1
2	101.6	101.6	38.1	19.0	1.1

## Run-Batum Mahra

### Non-Return Kaka Wadon/Wadon DII

LALISA	LALISA (H) (Rp)		LALISA (M) (Rp)	
	Revisi	Jumlah	Revisi	Jumlah
11	11-11	400.000.000	11-11	400.000.000
12	11-11	400.000.000	11-11	400.000.000
13	11-11	400.000.000	11-11	400.000.000
14	11-11	200.000.000	11-11	200.000.000
15	11-11	100.000.000	11-11	100.000.000
16	11-11	100.000.000	11-11	100.000.000
17	11-11	400.000.000	11-11	400.000.000

### Informasi Pengalokasian Dana Kaka DII

DII (Rp)	DII (H) (Rp)		DII (M) (Rp)	
	Revisi	Jumlah	Revisi	Jumlah
11	11-11	200.000.000	11-11	200.000.000
12	11-11	100.000.000	11-11	100.000.000
13	11-11	100.000.000	11-11	100.000.000
14	11-11	400.000.000	11-11	400.000.000
15	11-11	400.000.000	11-11	400.000.000
16	11-11	200.000.000	11-11	200.000.000
17	11-11	100.000.000	11-11	100.000.000

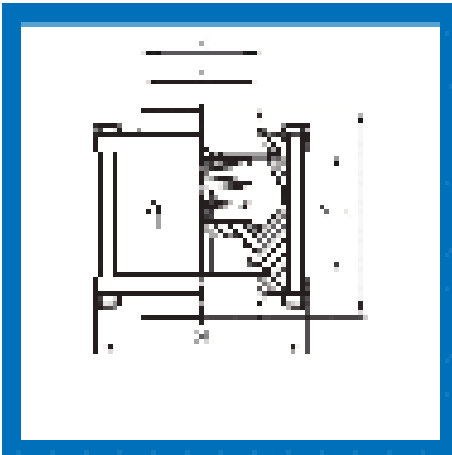
### Non-Return Kaka Male/Wadon DII

LALISA	LALISA (H) (Rp)		LALISA (M) (Rp)	
	Revisi	Jumlah	Revisi	Jumlah
11	11-11	400.000.000	11-11	400.000.000
12	11-11	200.000.000	11-11	200.000.000
13	11-11	200.000.000	11-11	200.000.000
14	11-11	400.000.000	11-11	400.000.000
15	11-11	400.000.000	11-11	400.000.000
16	11-11	400.000.000	11-11	400.000.000
17	11-11	400.000.000	11-11	400.000.000
18	11-11	200.000.000	11-11	200.000.000
19	11-11	100.000.000	11-11	100.000.000

### Non-Return Kaka Wadon/Wadon Inchi

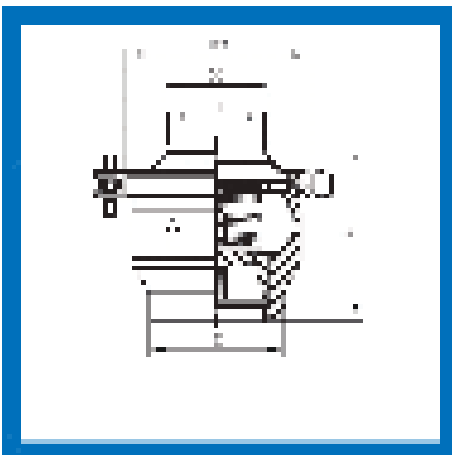
LALISA	LALISA (H) (Rp)		LALISA (M) (Rp)	
	Revisi	Jumlah	Revisi	Jumlah
11	11-11	400.000.000	11-11	400.000.000
12	11-11	400.000.000	11-11	400.000.000
13	11-11	400.000.000	11-11	400.000.000
14	11-11	200.000.000	11-11	200.000.000
15	11-11	200.000.000	11-11	200.000.000
16	11-11	100.000.000	11-11	100.000.000

## Non-Return Valves



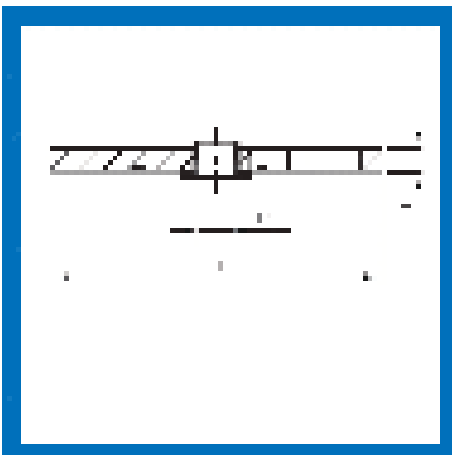
**Internal Line Flange Non-Return Valve Inch**

DN Inch	DL	DS	DD	DL	DL	Net Weight
1	5.00	11.5	4	1.1	11	1.00
1.50	7.00	15	5.5	1.1	15	1.50
2.00	7.5	20.5	7	1.5	20	2.00
3	10	26.5	11.5	1.1	27	2.50
3.50	10.5	31.5	13.5	1.5	31	3.00
4	12.5	33	15.5	1.5	33	3.50
5	15.5	38.5	17.5	1.5	38	4.00



**Non-Return Valve with 1/2" Minimum SWR**

DN Inch	DL	DS	DD	DL	DL	Net Weight
1	5.00	20.5	4.5	1/2" Min SWR	11	1.00
1.50	7.00	25.5	6	1/2" Min SWR	15	1.50
2	7.5	30.5	7.5	1/2" Min SWR	20	2.00
2.50	10.5	35.5	10	1/2" Min SWR	25	2.50
3	10.5	40.5	11.5	1/2" Min SWR	27	2.50
4	12.5	45.5	13.5	1/2" Min SWR	30	3.00
5	15.5	50.5	15.5	1/2" Min SWR	33	3.50



**Split Part Non-Return Valve lapdog holder with plate bearing**

DN Inch	DL	DS	DL	Net Weight
1.5	4.5	8	5	1.00
2.0	4.5	8	5	1.00
3.0	5.5	8	5	1.00
4.0	6.5	8	5	1.00
5.0	7.5	8	5	1.00
6.0	8.5	8	5	1.00
8.0	10.5	8	5	1.00

## Non-Return Valves

### Info macchie Flange Non-Returm Valve Inch

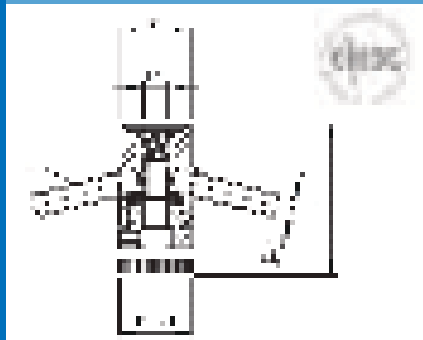
L415.4100 (p.)		L415.4100 (p.)		
Flange	Pressure	Flange Size	Pressure	Flange Size
1	15000	600 (24.000)	15000	600 (24.000)
1.500	15000	600 (24.000)	15000	600 (24.000)
1.500	15000	600 (24.000)	15000	600 (24.000)
1	15000	600 (24.000)	15000	600 (24.000)
1.500	15000	600 (24.000)	15000	600 (24.000)
1	15000	600 (24.000)	15000	600 (24.000)
1	15000	600 (24.000)	15000	600 (24.000)

### Mini-Pressure Relief Valve Working at 200

L415.4100 (p.)		L415.4100 (p.)		
Flange	Pressure	Flange Size	Pressure	Flange Size
1	15000	600 (24.000)	15000	600 (24.000)
1.500	15000	600 (24.000)	15000	600 (24.000)
1	15000	600 (24.000)	15000	600 (24.000)
1.500	15000	600 (24.000)	15000	600 (24.000)
1	15000	600 (24.000)	15000	600 (24.000)
1	15000	600 (24.000)	15000	600 (24.000)
1	15000	600 (24.000)	15000	600 (24.000)

### Spare Part Non-Return Valve (bearing holder with plain bearing)

L415.4100 (p.)		
Flange	Pressure	Flange Size
1	15000	600 (24.000)
1	15000	600 (24.000)
1	15000	600 (24.000)
1	15000	600 (24.000)
1	15000	600 (24.000)
1	15000	600 (24.000)
1	15000	600 (24.000)



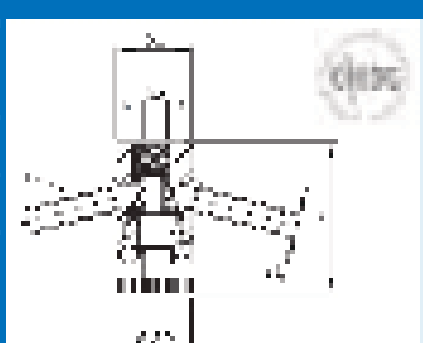
1.5-inch diameter pipe connection

Sampling Valve Pipe Connection								
CL	SL	SS	L	Pipe Size	1.5" (38.1mm)		1.5" (38.1mm) with side pipe connection	
					Pressure	Temperature	Pressure	Temperature
1.500"	1.500"	1.500"	1.500"	1.500"	1500 PSI	400°F (204°C)	1500 PSI	400°F (204°C)



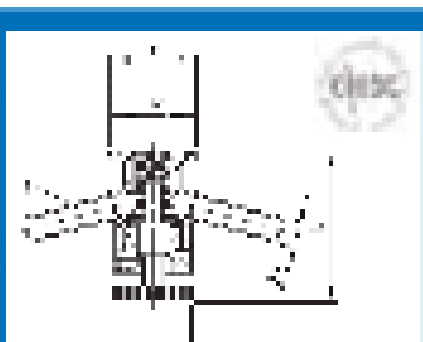
1.5-inch diameter clamp connection

Sampling Valve Thread Connection								
CL	SL	SS	L	Pipe Size	1.5" (38.1mm)		1.5" (38.1mm) with side pipe connection	
					Pressure	Temperature	Pressure	Temperature
1.500"	1.500"	1.500"	1.500"	1.500"	1500 PSI	400°F (204°C)	1500 PSI	400°F (204°C)



1.5-inch diameter tank connection

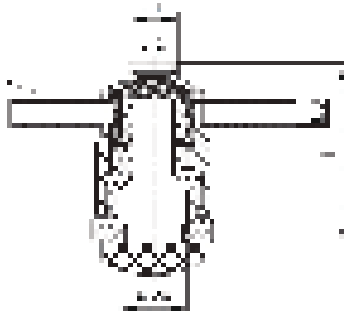
Sampling Valve Tank Connection								
CL	SL	SS	L	Pipe Size	1.5" (38.1mm)		1.5" (38.1mm) with side pipe connection	
					Pressure	Temperature	Pressure	Temperature
1.500"	1.500"	1.500"	1.500"	1.500"	1500 PSI	400°F (204°C)	1500 PSI	400°F (204°C)



1.5-inch diameter clamp connection

Sampling Valve Clamp Connection								
CL	SL	SS	L	Pipe Size	1.5" (38.1mm)		1.5" (38.1mm) with side pipe connection	
					Pressure	Temperature	Pressure	Temperature
1.500"	1.500"	1.500"	1.500"	1.500"	1500 PSI	400°F (204°C)	1500 PSI	400°F (204°C)

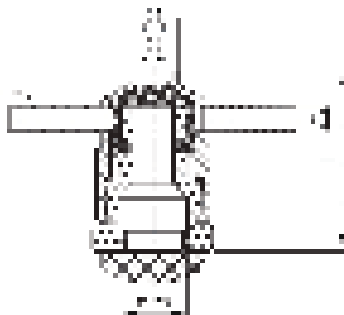
## Sampling Valves and Accessories



1/2" NPT female pipe connection

### Sampling Valve with Pipe Connection

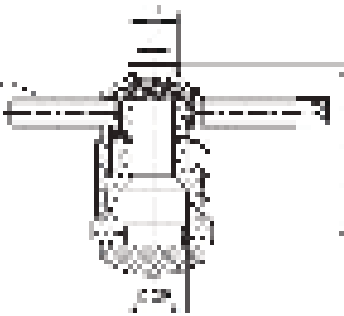
DC	CC	CF	L	Weight (kg)	L41941 (L41941-10)		L41941 (L41941-15)	
					Material	Configuration	Material	Configuration
100000	01	100000	01	0.207	Stainless Steel	1000000000	Stainless Steel	1000000000
100000	02	100000	02	0.171	Aluminum	1000000000	Aluminum	1000000000



1/2" NPT male pipe connection

### Sampling Valve with Pipe Connection

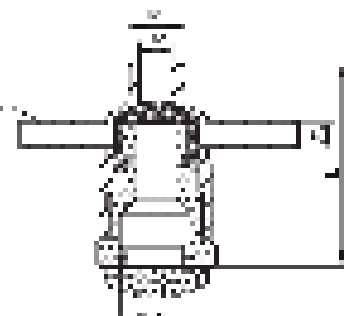
DC	CC	CF	L	Weight (kg)	L41941 (L41941-10)		L41941 (L41941-15)	
					Material	Configuration	Material	Configuration
100000	01	100000	01	0.171	Aluminum	1000000000	Aluminum	1000000000
100000	02	100000	02	0.171	Aluminum	1000000000	Aluminum	1000000000



1" NPT female pipe connection

### Sampling Valve with Pipe Connection

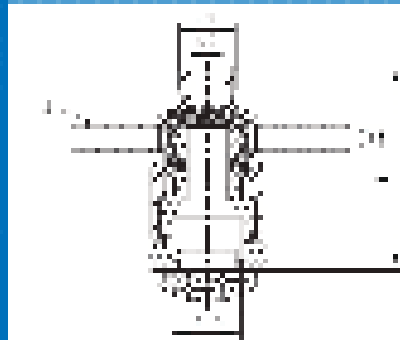
DC	CC	CF	L	Weight (kg)	L41941 (L41941-10)		L41941 (L41941-15)	
					Material	Configuration	Material	Configuration
100000	01	100000	01	0.407	Stainless Steel	1000000000	Stainless Steel	1000000000
100000	02	100000	02	0.371	Aluminum	1000000000	Aluminum	1000000000



1" NPT male pipe connection

### Sampling Valve with Thread Connection

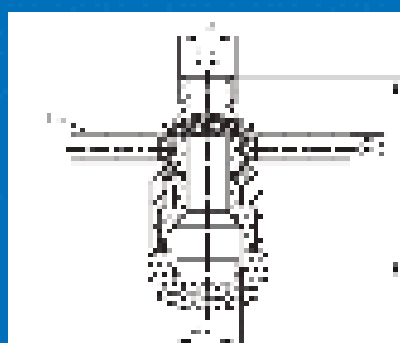
DC	CC	CF	L	Weight (kg)	L41941 (L41941-10)		L41941 (L41941-15)	
					Material	Configuration	Material	Configuration
100000	01	100000	01	0.171	Aluminum	1000000000	Aluminum	1000000000



1.5 inch diameter, 1/2 inch depth

Sampling Valve Valve Thread Connection

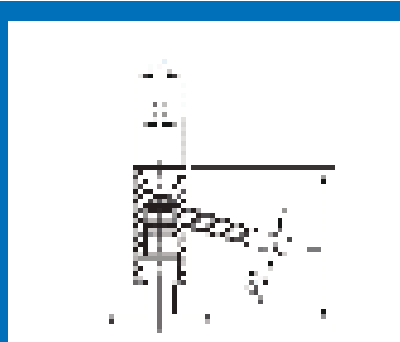
DL	SD	OD	L	Weight (kg)	L41294 (100%) BSW		L41294 (100%) BSW	
					Pressure	Material	Pressure	Material
1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	



1.5 inch diameter, 1 inch depth

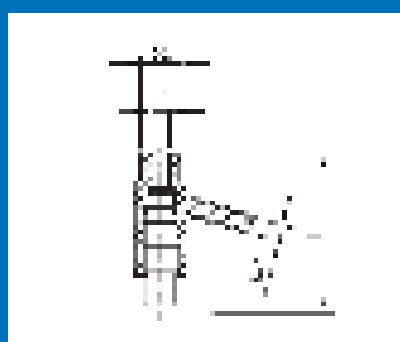
Sampling Valve Valve Thread Connection

DL	SD	OD	L	Weight (kg)	L41294 (100%) BSW		L41294 (100%) BSW	
					Pressure	Material	Pressure	Material
1.500	1.500	1.500	1.500	1.500	1.500	1.500	1.500	



BSW Sampling Valve Pipe Connection

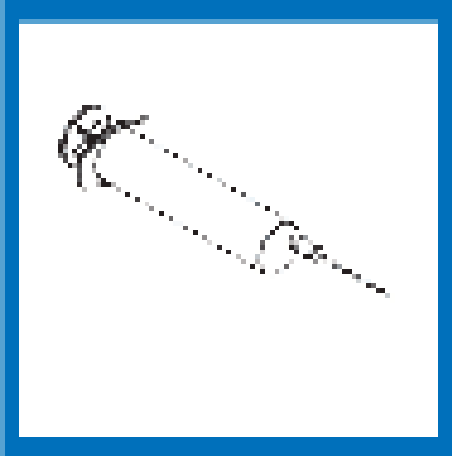
DL	SD	OD	L	Weight (kg)	L41294 (100%)	
					Pressure	Material
1.500	1.500	1.500	1.500	1.500	1.500	



BSW Sampling Valve Thread Connection

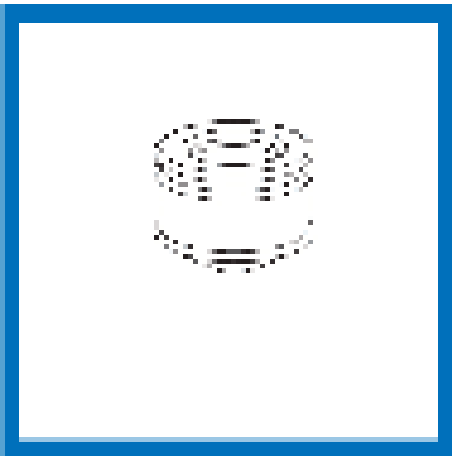
DL	SD	OD	L	Weight (kg)	L41294 (100%)	
					Pressure	Material
1.500	1.500	1.500	1.500	1.500	1.500	

## Sampling Valves and Accessories



### Disposable Syringe with Take-up Canula

QTY	Part No.	Description	
		Material	Material No.
1000	1000	1000	1000



### Method for Sampling Water

QTY	Part No.	Description	Material		Material	
			Material	Material No.	Material	Material No.
1000	1000	1000	1000	1000	1000	