



MODERN PLASTIC INDUSTRY L.L.C.

UPVC Valves

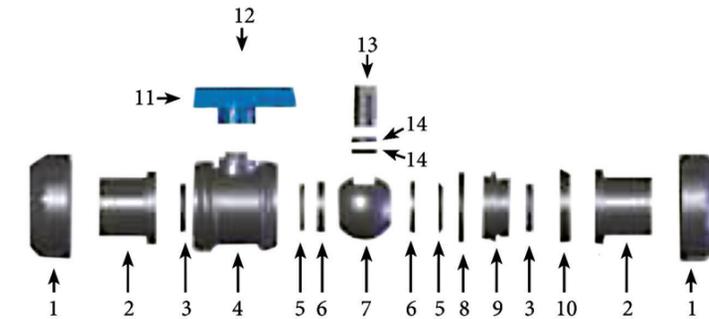


Reliability, Quality and Value

Ball Valve Specifications

- MPI -ATLAS Ball Valve is suitable for all industrial application, international compatibility is also given with all standard connection such as ISO, ANSI, BS-EN.
- For the visual open-closed control of the valve, when the valve stem is on open position it is always parallel to the flow direction. The cover on the stem enables assembly and dis-assembly of the valve without requiring any special device.
- The union nuts of the MPI -ATLAS ball valve should be hand tightened, without the use of addition tools, if other tools such as pliers, are used the material of the union nuts could be damaged. Additionally if they are tightened too strongly, it is possible to damage the threads.
- The removable handle cap shall include in its design an integrated tool for removal of the union bush. Union bushes shall have left hand threads to prevent possible unscrewing when threaded end connectors are removed from pipe.
- With the floating sphere design minimum pressure loss is assured in all flow sections. With its double sealed pin, it has a design which is leak proof & is maintenance free.
- Better surface finishing and accurate dimensional tolerances spherical ball gives the additional advantages of a reduced wear out, long service life with expected minimum maintenance operations.
- Seat shall be manufactured from PTFE, with backing ring creating self-adjusting seal and constant operating torque.
- The O-Rings below the PTFE seat joints meet automatically the expansions and tensions in the ball and valve. It enables the ball to move freely without any damage.
- For the impermeability function in the clamping pieces , while there is a double function in their competitors, in the MPI -ATLAS ball valves have a third function which is by crushing and pressing the joint from the front. Thus, impermeability is assured without applying too much torque on the valve and the ball. Thus opening and closing strengths are facilitated and wear and friction is reduced to minimum while operating the valves.
- The valve nut threads shall be buttress type to allow fast and safe radial mounting and dismounting of the valve during installation or maintenance work.
- All ball valves, with actuators mounted on the valves through the actuator adapter piece, a wide selection of functions and applications can be created. Direct connection of electric or pneumatic actuators with the adapter piece is in conformity with the ISO 5211 standards.
- Service-Maintenance; Ball valves are absolute maintenance free, under normal operating conditions and only visual Periodic inspection for any medium leakage is sufficient. We recommend a function test for ball valves which are kept permanently in the same position once /twice a year to check serviceability. For frequent control operations-valve automation or due to chemical attack on the sealing material-it may become necessary to replace parts inside the valve. For this purpose, the valve must be removed from the piping system.
- Lubricants; Using the wrong lubricants can cause damage to the material of the ball valve or seals. Never use petroleum-based grease or Vaseline (Petrolatum). All the seals must be lubricated with silicon or polyglycol based grease. All the seals (made of e.g. EPDM, FPM) are organic materials which reacts to environmental influences. They must therefore be kept in their original packaging, aging such as fissures and hardening, before mounting.
- As an alternative to the standard handle, you can install a lockable handle for the MPI -ATLAS ball valve.

Parts of Valves

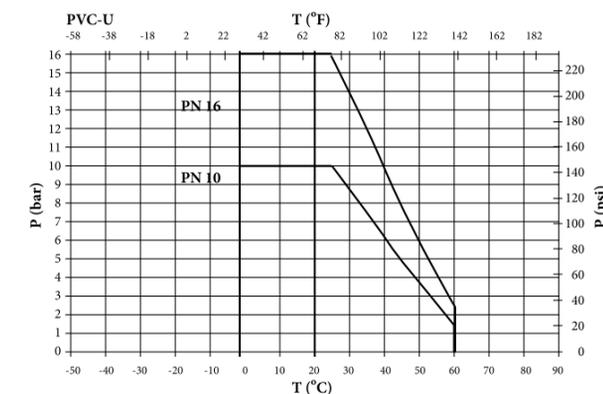


Pos	Components	Material	No.
1	NUT	PVC	2
2	STUB	PVC	2
3	BODY GASKET	EPDM	1
4	BODY	PVC	1
5	BALL SEAT O-RING	EPDM	2
6	BALL SEAT	PTFE	2
7	BALL	PVC	1
8	CLAMPING PIEACE O-RING	EPDM	1
9	BALL CLAMPING PIEACE	PVC	1
10	CLAMPING PIEACE BED	PVC	1
11	HANDLE	ABS	1
12	HANDLE LID	PVC	1
13	STEM	PVC	1
14	STEM O-RING	EPDM	2

Ball Valve:

Are used between 0-50° C. Within the system has the function of water control. Besides having the possibility to control these automatically by pneumatic or electrical operations, there is also the option to control manually.

Pressure - Temperature Charts - Max. Operation

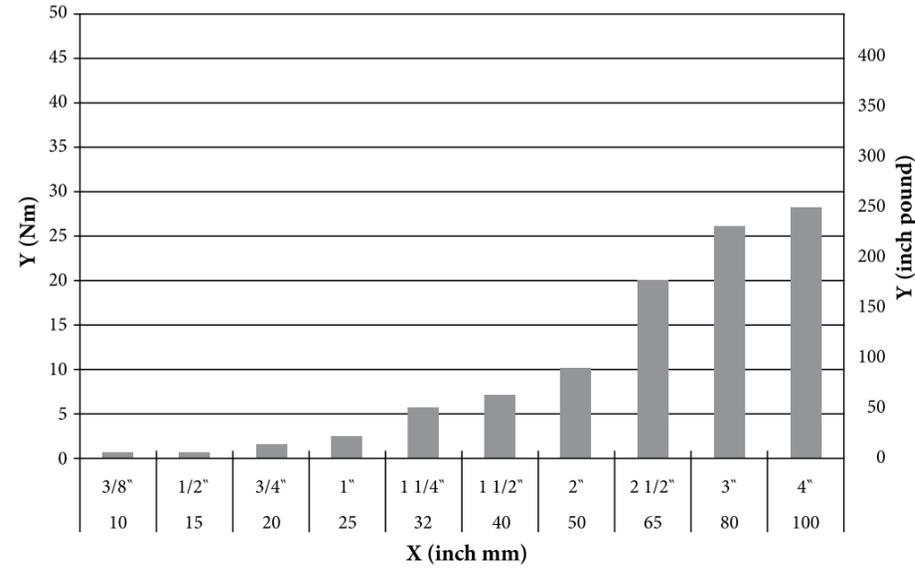


The pressure-temperature diagrams are based on a service life of 25 years and apply to water or similar media.

1. For nominal dimension of DN10-DN50, the central body of the ball valve is designed for nominal pressure PN16
2. For nominal dimension of Dn65-DN100, the central body of the ball valve is designed for nominal pressure PN10
3. Depending on the end connection, at nominal dimensions of DN10-DN50, the nominal pressure reduces to PN10

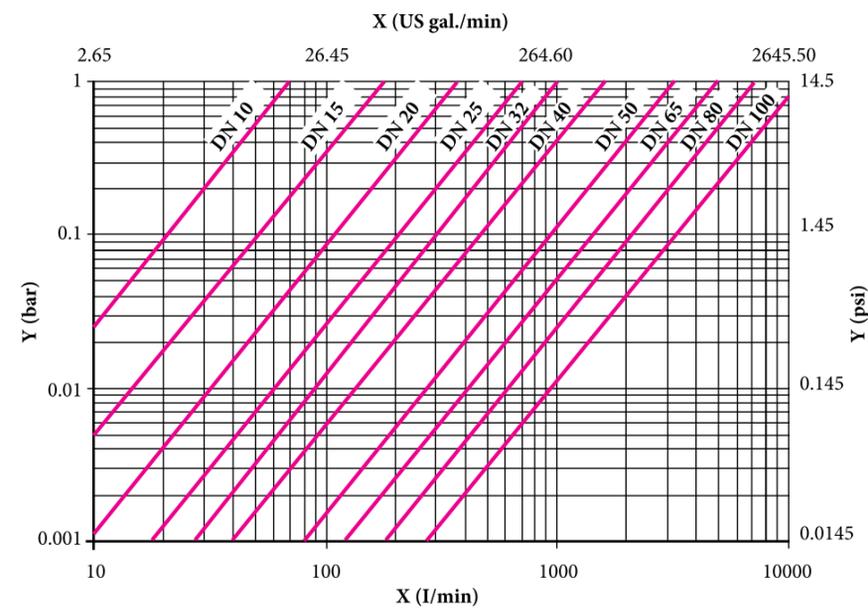
Ball Valve Operation Torque Forces

Torque operation value for ball valves is as shown in below detailed chart.

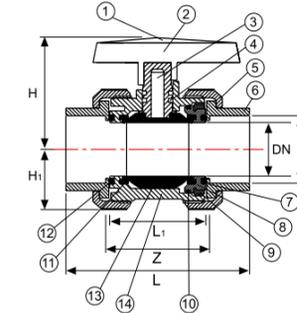


Friction Pressure Loss

The ball valve causes pressure losses of certain amounts during the passages. These pressure losses are as shown in the graph below.



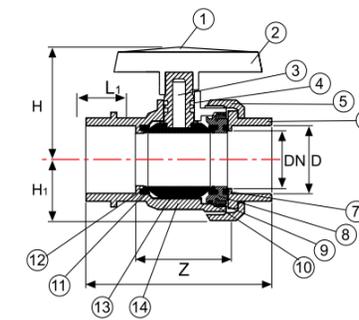
Double Union Ball Valve (Solvent Socketed)



No	Part	Material	QTY
1	Handle Cover	U-PVC	1
2	Handle	ABS	1
3	Stem	U-PVC	1
4	Stem O-Ring	EPDM	2
5	Union Nut	U-PVC	2
6	End Connector	U-PVC	2
7	Body O-Ring	EPDM	1
8	Seat Carrier	U-PVC	1
9	Union Bush	U-PVC	1
10	Carrier O-Ring	EPDM	2
11	Ball Seats	PTFE	2
12	Backing Seals	EPDM	2
13	Ball	U-PVC	1
14	Body	U-PVC	1

Dia	PN	DN	Kv	Z	L1	L	H	H1	Kg/Pcs	Box/Pcs
3/8"	16	12	70	55	48	86	47	27	195	55
1/2"	16	15	185	60	45	85	47	27	142	55
3/4"	16	20	350	58	49	95	51	31	198	75
1"	16	25	700	68	54	107	63	33	254	60
1 1/4"	16	32	1000	82	65	128	67	41	412	30
1 1/2"	16	40	1600	94	74	154	86	46	672	20
2"	16	50	3100	98	87	172	101	58	1168	12
2 1/2"	16	65	5000	119	98	196	110	65	1468	9
3"	16	80	7000	156	126	241	137	89	3544	4
4"	16	100	11000	185	150	289	150	105	5296	2

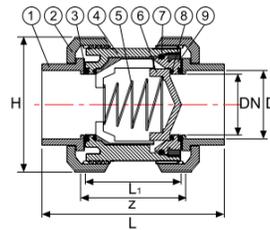
Single Union Ball Valve (Solvent Socketed)



No	Part	Material	QTY
1	Handle Cover	U-PVC	1
2	Handle	ABS	1
3	Stem	U-PVC	1
4	Stem O-Ring	EPDM	2
5	Union Nut	U-PVC	1
6	End Connector	U-PVC	1
7	Body O-Ring	EPDM	1
8	Seat Carrier	U-PVC	1
9	Union Bush	U-PVC	1
10	Carrier O-Ring	EPDM	1
11	Ball Seats	PTFE	2
12	Backing Seals	EPDM	2
13	Ball	U-PVC	1
14	Body	U-PVC	1

Dia	PN	DN	Z	L1	L	H	H1	Kg/Pcs	Box/Pcs
1/2"	16	15	38	16	78	47	27	106	55
3/4"	16	20	42	19	87	52	31	141	56
1"	16	25	50	22	100	63	33	193	60
1 1/4"	16	32	72	17	114	66	42	308	30
1 1/2"	16	40	91	19	146	89	41	508	24
2"	16	50	102	28	160	100	58	910	12
2 1/2"	16	65	119	47	195	110	65	1124	9
3"	16	80	125	60	228	137	89	-	4
4"	16	100	154	67	275	150	105	-	2

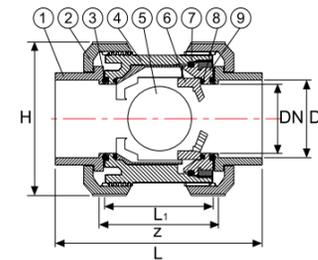
U-PVC Spring Check Valve (Solvent Socketed)



No	Part	Material	QTY
1	End Connector	U-PVC	2
2	Union Nut	U-PVC	2
3	Body O-Ring	EPDM	2
4	Body	U-PVC	1
5	Spring	S-Steel 316	1
6	Valve	U-PVC	1
7	Carrier O-Ring	EPDM	1
8	Valve O-Ring	EPDM	1
9	Carriera	U-PVC	1

Dia	DN	H	L	L1	Z	Kg/Pcs	Box/Pcs	PN
3/8"	12	54	86	48	55	123	60	16
1/2"	16	54	86	48	55	108	60	16
3/4"	20	62	96	52	60	150	75	16
1"	25	66	106	56	64	192	60	16
1 1/4"	32	84	127	70	77	356	32	16
1 1/2"	40	92	153	77	84	548	20	16
2"	50	116	172	90	98	918	13	16
2 1/2"	65	128	196	102	111	1266	9	16
3"	80	180	240	128	141	3146	4	16
4"	100	212	290	159	171	4578	2	16

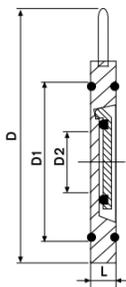
U-PVC Ball Check Valve (Solvent Socketed)



No	Part	Material	QTY
1	End Connector	U-PVC	2
2	Union Nut	U-PVC	2
3	Body O-Ring	EPDM	2
4	Body	U-PVC	1
5	Ball	U-PVC	1
6	Valve	U-PVC	1
7	Carrier O-Ring	EPDM	1
8	Valve O-Ring	EPDM	1
9	Carriera	U-PVC	1

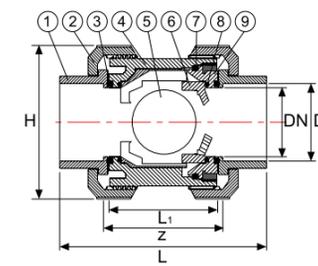
Dia	DN	H	L	L1	Z	Kg/Pcs	Box/Pcs	PN
3/8"	12	54	86	48	55	123	60	16
1/2"	16	54	86	48	55	108	60	16
3/4"	20	62	96	52	60	150	75	16
1"	25	66	106	56	64	192	60	16
1 1/4"	32	84	127	70	77	356	32	16
1 1/2"	40	92	153	77	84	548	20	16
2"	50	116	172	90	98	918	13	16

U - PVC Wafer Check Valve



Dia	DN	D	D1	D2	L	Kg/Pcs	Box/Pcs	PN
63 / 2"	50	90	75	32	40	130	40	10
75 / 2.5"	65	110	95	40	55	150	30	10
90 / 3"	80	125	115	54	16	170	25	10
110 / 4"	100	184	135	70	19	274	20	10
125 / 5"	100	213	160	92	21	400	15	10
140 / 5"	125	213	160	92	21	400	15	10
160 / 6"	150	251	175	105	23	650	15	10
200 / 8"	200	280	235	155	27	825	10	10
225 / 8"	200	280	235	155	27	1410	10	10
250 / 10"	250	330	285	330	40	3500	2	10
315 / 12"	300	380	325	380	45	5300	2	10
400 / 16"	400	575	446	380	50		1	10

U - PVC Foot Check Valve



No	Part	Material	QTY
1	End Connector	U-PVC	2
2	Union Nut	U-PVC	2
3	Body O-Ring	EPDM	2
4	Body	U-PVC	1
5	Ball	U-PVC	1
6	Valve	U-PVC	1
7	Carrier O-Ring	EPDM	1
8	Valve O-Ring	EPDM	1
9	Carriera	U-PVC	1

Dia	DN	H	L	L1	Z	Kg/Pcs	Box/Pcs	PN
3/8"	12	54	86	48	55	123	60	16
1/2"	16	54	86	48	55	108	60	16
3/4"	20	62	96	52	60	150	75	16
1"	25	66	106	56	64	192	60	16
1 1/4"	32	84	127	70	77	356	32	16
1 1/2"	40	92	153	77	84	548	20	16
2"	50	116	172	90	98	918	13	16
2 1/2"	65	128	196	102	111	1266	9	16
3"	80	180	240	128	141	3146	4	16
4"	100	212	290	159	171	4578	2	16

MPI – ATLAS BUTTERFLY VALVES

MPI – ATLAS BUTTERFLY VALVE FEATURES

1. The design of the modular part of the model is one of the most important innovations. Thus the possibility of manufacturing the pipe line system where the butterfly valve will be used and the butterfly valve from the same material has become possible. The plastic material of the pipe line can be selected as PVC-U, PVC-C, ABS, PP or PVDF according to the fluid features which shall flow through it as well as the utilization conditions. The MPI – ATLAS, butterfly valves surfaces contacting the fluid are changeable parts (modular design). Therefore, it is possible to manufacture butterfly valves from the same plastic material as the pipe line. Same possibility is not available for other valves in the market.

2. Double camshaft operation principle; Thanks to the throttle and body designed according to the double camshaft operation principle, when the throttle is in open position, the throttle is not touching the joint. Thus, wear and tear of the joint is prevented. Due to the decrease in the friction strength, the rotation strength of the throttle is decreased by 50-70%. Thus its operating conditions are facilitated; using smaller and more economic actuators become possible. Furthermore this operation principle protects the butterfly valve against decreases-increases in the fluid's pressure, in other words against pressure fluctuations. Thus butterfly valves have a longer operating lifespan and require less maintenance.

3. Ease of utilization, increased efficiency and safety; Thanks to the smooth, bright surfaces of the modular parts in the MPI – ATLAS butterfly valves, dirt mud, solid particles etc. do not stick to the valve throttle and body. The efficiency of the valves is increased; the need for maintenance is decreased. In the existing butterfly valves, when the throttle is on open or closed position, rubber joints cover 70-80% of the material's flow surface on the valve's body. As it is known, mud, dirt, solid particles.. etc. stick on the rubber materials and in time cause narrowness on the flow surface of the valve and results in the clogging of the valve. As the rubber surface of the joints does not come into contact with the fluid, it does not cause clogging.

Conformity to standard; MPI – ATLAS butterfly valves are in conformity with the international standards.

Metric system; DIN, BS-EN, ISO

- Inch system; BS, ASTM
- ISO 16136 Industrial valves made of thermoplastic material-Butterfly valves.
- ISO 9393 Thermoplastic valves-pressure test methods and specifications.
- BS-EN 558
- A standard connection plate for electric or pneumatic actuator in accordance to ISO 5211 is available
- For precision command control an arm mechanism able to open in a controlled manner with 5 degree angles has been designed. Furthermore arm locking is possible for safety and ease of command.
- Depending on the pipe material, it is possible to use different gasket materials. EPDM, FPM, or optional special gasket materials can be used. To control impermeability, double gasket system has been used.
- As plastic valves are lighter, transportation, and assembly is easier, therefore their costs are smaller. With its rich varieties, the customer is able to select the material that is the most adequate for the requirements of the projects.

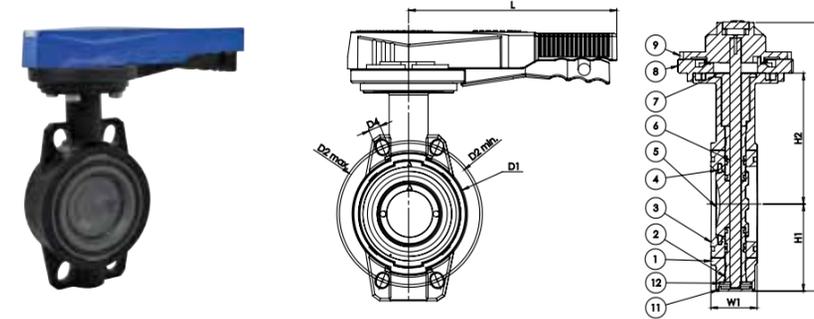
UTILIZATION AREAS OF MPI – ATLAS BUTTERFLY VALVE

- In industrial water purification installations • Potable water installations • Swimming pools installations
- Aqua parks, aquariums • Sewage, waste water purification installations • Transportation installations of chemical materials
- In electro coating installations • Energy production facilities

ADVANTAGES OF PLASTIC VALVES OVER TO METAL VALVE

- High resistance to chemical materials • High resistance to traces caused by wear and tear
- Smooth, bright surface
- As plastic valves are lighter, transportation and installation is easier, therefore their cost is lower

U-PVC Butterfly Valve



NO	Part	Material	QTY
1	Body	PP-GF	1
2	Stem	PVC-UH	2
3	Inner Body	PVC-UH	1
4	Inner Seal	EPDM/FPM	1
5	Disc	PVC-UH	1
6	Steal Shaft	Galvanized	1
7	End Stop	PP-GF	1

NO	Part	Material	QTY
8	Index Plate	PP-GF	1
9	Handle	ABS	1
10	Lever Catch	PP-GF	1
11	Cap	PP-GF	1
12	Washer	Galvanized	1
13	Lever Clip	PVC-UH	1

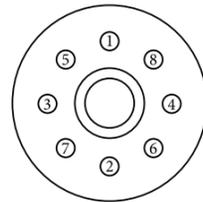
Cap	INCH	DN	D1	D2 min	D2 Max.	D3	D4	L	H	H1	H2	W1	Nøe	ISO 5211	PN	Kv-value	Q1	Q2	Kg/Pcs
Dia			mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	F 07	10	1470	37	-	1124
63	2"	50	54	120	125	115	19	207	265	77	134	45	4x19	F 07	10	220	50	40	1350
75	2 1/2"	65	57	140	145	115	19	207	265	86	129	46	4x19	F 07	10	3000	65	46	1742
90	3"	80	131	150	160	115	19	207	272	89	132	48	8x19	F 07	10	6500	85	68	2274
110	4"	100	160	175	190	115	19	258	311	103	156	56	8x19	F 07	10	11500	111	92	4228
125	4 1/2"	110	190	210	216	115	23	258	338	116	169	63	8x23	F 07	10	11500	111	92	4228
140	5"	125	190	210	216	115	23	258	338	116	169	63	8x23	F 07	10	16600	138	122	482
160	6"	150	214	241	241	115	24	258	364	129	182	66	8x24	F 07	10	39600	192	179	7642
200	8"	175	268	290	295	115	24	335	414	158	203	75	8x24	F 07	10	39600	192	179	7642
225	8"	200	268	290	295	115	24	335	414	158	203	75	8x24	F 07	10	55200	223	209	19700
250	10"	250	333	341	362	156	24	410	507	198	242	114	8x24	F 10	10	55200	223	209	19700
280	10"	250	333	341	362	156	24	410	507	198	242	114	8x24	F 10	10	80000	256	253	24350
315	12"	300	379	400	432	156	25	410	598	228	285	113	8x25	F 10					

Butterfly Valve Mounting

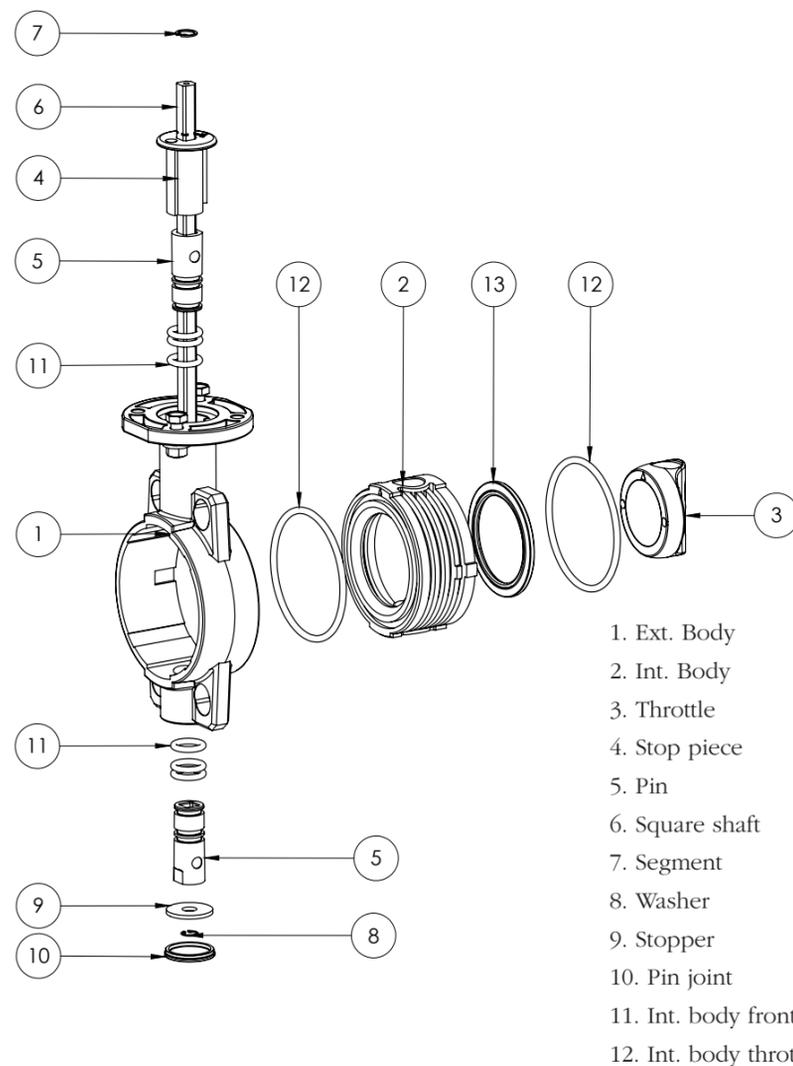
All the bolts of the flange which will be used during the butterfly valve mountings shall be screwed and shall be tightened with a suitable torque. The torque values determined for the bolts are as in the chart below. Flange mounting shall be done minimum at 3 turns by numbering the screw order.

Recommended values for PVC-U butterfly valve mountings

Nominal Dimension	Bolt Dimension	Torque Value
20-25-32	M12	8-15
40-50-63-75-90-110-125	M16	15-41
140-160-200-225-250-315	M20	46-70



Butterfly Valve Part List



VALVE MOUNTING SECTION DEFINITION

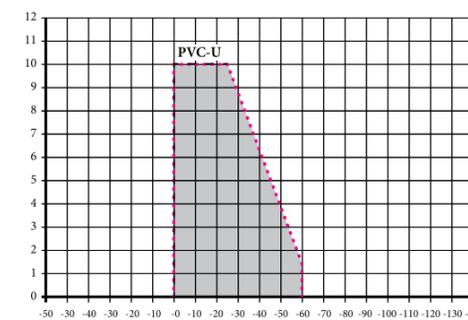
BUTTERFLY VALVES-PRESSURE

The pressure drop for valves is shown in the chart below: The open status of the valve in percentages. The flow rate of the passing water. Nominal diameter of the valves-pressure. By using the data above, can be calculated how many bars or pressure drop that may occur.

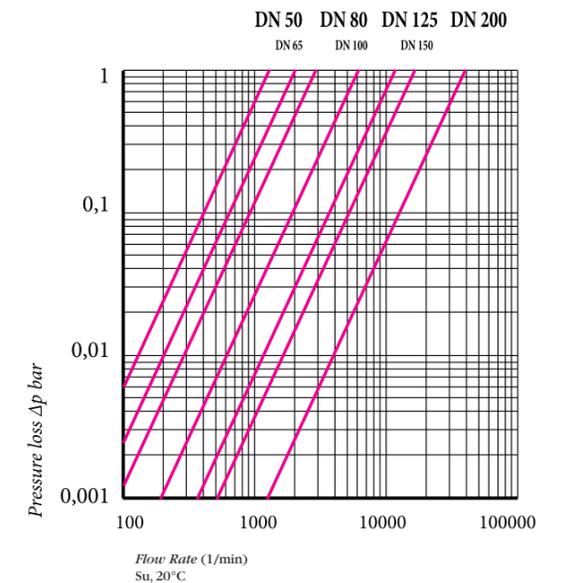
For example:

For a butterfly valve with a nominal diameter of 125mm, during water passage at 10 m³/hour and when the handle is in 50% open position, the pressure drop shall be 0,01 bar.

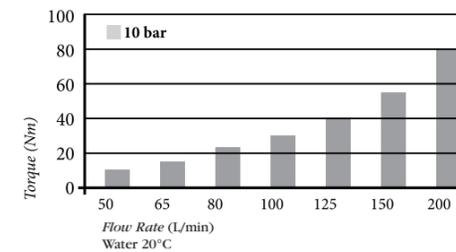
Pressure - Temperature Charts Max. Operation Pressure



Friction Pressure Loss



Flow Rate/Torque



Indexes for fastening with flange Bolts

D	Inch	Total Bolt Qtys
Ø 63	2"	4 X M16 X120
Ø 75	2 ½"	8 X M16 X 130
Ø 90	3"	8 X M 16 X 130
Ø 110	4"	8 X M 16 X 140
Ø 125	5"	8 X M 16 X 170
Ø 140	5"	8 X M 16 X 170

D	Inch	Total Bolt Qtys
Ø 160	6"	8 X M 16 X 180
Ø 200	8"	8 X M 16 X 220
Ø 225	8"	8 X M 16 X 220
Ø 250	10"	8 X M 16 X 240
Ø 280	10"	8 X M 16 X 240
Ø 315	12"	8 X M 16 X 260

For easy dismantling, the butterfly valves are mounted by using flange connections. The butterfly valves shall be taken periodically to maintenance depending on their conditions of use. During the maintenance the below mentioned points shall be necessarily cared of;

- The inner and external cleanness of the butterfly valves-pressure
- The control of butterfly valve disc and gasket and the replacement of the gasket if there is any deformation
- The control of robustness of the junction pieces.

Besides, shall be ensured that the necessary precautions are taken in order to protect the butterfly valve from external factors and corrosion.

WHY CHOOSE MODERN PLASTIC INDUSTRY LLC ?

- Proven research capability and ability to provide products to suit customer application needs.
- Pipes & fittings at a competitive price.
- Technical service and installation backup.
- One stop facility - wide range of pipes & fittings in UPVC (SWR Drainage), UPVC high pressure, CPVC & PP Compression.
- Prompt deliveries - in house manufacturing facilities for all the pipes and fittings in UAE.
- Quality and reliability - according to international standards, Quality management system (ISO 9001 & kitemark).
- Operational excellence - precision manufacturing according to the standards using state of the art machinery.
- Duty exemption in GCC countries.
- Service - 24 hours customer service.

Means customer satisfaction and operational excellence.....



صناعة البلاستيك الحديثة (ش.ذ.م.م.)

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