

台灣第一品牌

UPVC & CPVC

Sch40/Sch80 PIPE/ FITTING/VALVE 2019

UPVC and CPVC Sch40 / Sch80

PIPE / FITTING / VALVE

PRODUCTS ARE GOOD AT CORRASION/
CHEMICAL RESISTANCE.

HI-TECH'S





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THE HI-TECH'S, HI-QUALITY'S PRODUCTS RANGE

DURA FLOW

SHIE. YU



Chairman TSAI TIEN-SHOU

Operation Philosophy

Dura Flow(DFP), a subsidiary of Shie Yu Machine, specializes in the production of valves, fitings, and pipes. Founded in 1972, Shie Yu has been devoting to chemical industry, electronic industry as well as public construction. Our production technology meets the international standard. Dura Flow currently has two manufacturing factories containing a total of 246 employees. To provide high quality of products to customers, all of our factories are certified by ISO(International Standard Organization) 9001, NSF(National Sanitation Foundation), and CNS (Chinese National Standards). In addition, Dura Flow is dedicated to being a global green service provider, so our factories are certified with the Green Mark.

With the principles of providing superior quality products and innovative technology as well as to satisfying the demands of our customers, Dura Flow provides perfect after-sales service and a variety of products in valves, fittings, and pipes to the customers in all of the world. Based on the professional knowledges on the pipes, fittings and valves to enhance the comprehensive chose to the customers.



Because of the sincere attitude and service, many famous engineering companies are willing to establish a long-term business relationship and also build the OEM cooperation with many world-brands to have the massive production supply. Our aim is to have +DFP+ become internationally well-known brand on the plastic pipes, fittings and vales. Dura Flow resolves to develop a superior service brand (DFP). We believe our products will be satisfied to customers and be gained a foothold in the market.

Innovation and R&D

The Dura Flow people based on the desire to provide better products, we continue to improve our existing products, and do R&D work on materials, innovation of product structure to meet the requirements for a wide variety of applications. We have our own in-house tooling department employing staff of experienced and skilled tool and die makers, and equipped with sophisticated and precise CAD/CAM machines for today's ever-changing market. In addition, we are dedicated to workforce performance and R&D work on related fittings to keep up with innovation.





Dura Flow Oprational Headruarters.

Four main product features

At the same time, we are continually adding to our existing comprehensive product line, actively taking advantage of advanced technique to improve process.We have made a breakthrough in production of large sized thermoplastic valves, check valves, and pipes, fittings, making us the most complete product line for the industry demands. Our products own the 4 distinctive features:

The first feature : The complete production materials. Offering UPVC,HIW-PVC,CPVC, (HT-PVC), HD-PE, PP-H, ABS, PVDF severalmaterial products. The only company in the world which run the 7 different materials in one production site.

The second feature : The complete production sizes and the largest production size: The available productionsize : UPVC 1/2"-24", HIW-PVC: 1/2"-24",CPVC(HT-PVC) :1/2"-24", HD-PE : ϕ12 ~ϕ1200 mm,PPH : ϕ12~ ϕ1200mm,ABS, PVDF : ϕ12 ~ ϕ800mm.The production dimension standards : JIS(Japanese), ANSI SCH80, SCH40(American),DIN PN2.5~PN30(European),BS(British), and customer appointedspecial dimension is also available.

The third feature : One stop manufacturing supplier- Pipe, fittings and valves in manufacturer. We are providing the full customer demands.

The forth feature : Our product has the following special characters:

1. The world largest thermoplastic butterfly by one-piece molded for the sizes:28", 32", 36", 40", 48" and owned patent in Taiwan, and under applying China, Japan, America, and Korea patent.
2. The largest UPVC, CPVC SCH80 14", 16",18" 90D elbow, 45D elbow, Tee are in one-piece molded. Enhance our all around techniques, upgrade the thermoplastic valve pressure resistant rates. Some products have been up from 10kgf/cm^2 to 15kgf/cm^2. This is the pioneering task.We provide our customers with the best products by integration of knowledge in today's marketplace, our business experience, innovation and precise production techniques.





Technical Connection

The SHIE YU Group's principles - Full Completed Products, Full Completed Materials, the full completed dimension & standards, QualityFirst, Technique leading, we are from the professional valve manufacture then to the fittings and pipes the whole system materials as the No. 1appointed brand by the engineering design companies and the supplier for the whole-plant materials, technical teaching and operations. Building the engineering installation company input the installation techniques and service to the business goals. We are taking care on the products and advance the engineers techniques, Introduce new techniques and professional opinions in order to reach the reasonable product cost , high standard installation techniques, strict quality management and responsible working attitude.

Our engineering works is covering of Chemical industries, Semi-conductor industries,public constructions, electricity constructions, digging constructions, and potable water industry , environmental protection engineering, waster water treatment, and steel acid-washing and etc special engineering. The most completed products and the top No.1 brand in the industry.







ADVANCED EQUIPMENT

Advanced Production Equipment
Sophisticated Experimental Instruments

Excellent products derive from precision machinery equipment and raw materials. For this purpose, we have introduced the Fully-automated Extrusion Machine production line from Austria's CICINNATI and advanced machinery equipment from German's BATTENFIELD. Further, we also possess the world's largest computer-based Automatic Injection Machine, which can yield 126kg of CPVC material in one molding process. The materials selected by us are superior in quality, and are analyzed and tested to ensure they meet specification standards before putting into production. Our laboratory has a complete set of testing / inspection equipments to test,inspect and judge the product properties in comprehensive manner so that they may be used as the basis of selection. We control quality before delivery and ensure quality after, to guarantee superior products are delivered.



1200ø HD-PE Pipe Auto-extrusion Production Line



The International New Product Technique Discussion Meeting

Product Certification

Listed below are certifications honored for our products:

- All our factories have been honored with ISO 9001 Certification.
- One factory qualified for NSF certification.
- One factory honored with the environmental.
- Protection badge by the Environmental Protection Administration of the Executive Yuen.
- Listed below are 9 authentic marks certified by CNS:

CNS General Number	Category Number	Product Name
4053-1	K3033-1	Tap Water Hardened PVC Pipe
1298	K3004	Hardened PVC Pipe
1302	K3006	Conductive Wire Hardened PVC Pipe
14345	K3114	Impact-resistant Hardened PVC Pipe
14664	K3121	CPVC Pipe
2456-2	K3012-2	Tap Water PE Pipe
2456-2	K3013-2	General Purpose HDPE Pipe
12835	K3097	Natural Gas PE Pipe
13158	K3102	Tap Water ABS Pipe









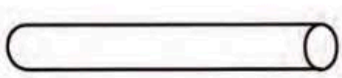


UPVC & CPVC INDEX

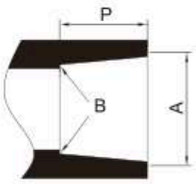
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ASTM STANDARDS

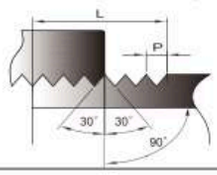
ASTM D 1785
SCHEDULE 80 PIPE DIMENSIONS



ASTM D 2467, F 439
SCHEDULE 80 SOCKET DIMENSIONS



ANSI B1.20.1,ASTM F1498
AMERICAN NATIONAL STANDARD
TAPER PIPE THREADS (NPT)



Unit : inch

Nominal Pipe Size in.	Mean Outside Diameter in.	O.D. Tolerance in.	Minimum Wall Thickness in.
1/8	0.405	±0.004	0.095
1/4	0.540	±0.004	0.119
3/8	0.675	±0.004	0.126
1/2	0.840	±0.004	0.147
3/4	1.050	±0.004	0.154
1	1.315	±0.005	0.179
1-1/4	1.660	±0.005	0.191
1-1/2	1.900	±0.006	0.200
2	2.375	±0.006	0.218
2-1/2	2.875	±0.007	0.276
3	3.500	±0.008	0.300
4	4.500	±0.009	0.337
5	5.563	±0.010	0.375
6	6.625	±0.011	0.432
8	8.625	±0.015	0.500
10	10.750	±0.015	0.593
12	12.750	±0.015	0.687
14	14.000	±0.015	0.750
16	16.000	±0.019	0.843
18	18.000	±0.019	0.937
20	20.000	±0.023	1.031
24	24.000	±0.031	1.218

Nominal Size in.	Diameter			Socket Length minimum P
	Entrance A	Bottom B	Tolerance in.	
1/8	0.417	0.401	±0.004	0.500
1/4	0.552	0.536	±0.004	0.625
3/8	0.687	0.671	±0.004	0.750
1/2	0.848	0.836	±0.004	0.875
3/4	1.058	1.045	±0.004	1.000
1	1.325	1.310	±0.005	1.125
1-1/4	1.670	1.655	±0.005	1.250
1-1/2	1.912	1.894	±0.006	1.375
2	2.387	2.369	±0.006	1.500
2-1/2	2.889	2.868	±0.007	1.750
3	3.516	3.492	±0.008	1.875
4	4.518	4.491	±0.009	2.250
5	5.583	5.553	±0.010	2.625
6	6.647	6.614	±0.011	3.000
8	8.665	8.655	±0.015	4.000
10	10.780	10.735	±0.015	5.000
12	12.780	12.735	±0.015	6.000
14	14.039	13.984	±0.015	7.000
16	16.039	15.982	±0.019	8.000
18	18.038	17.980	±0.019	9.000
20	20.038	19.980	±0.023	10.042
24	24.077	23.973	±0.031	12.2

Nominal Pipe Size in.	Threads Per in.	Effective Thread Length L	Pitch of Thread P
1/8	27.0	0.2639	0.03704
1/4	18.0	0.4018	0.05556
3/8	18.0	0.4075	0.05556
1/2	14.0	0.5337	0.07143
3/4	14.0	0.5457	0.07143
1	11.5	0.6828	0.08696
1-1/4	11.5	0.7068	0.08696
1-1/2	11.5	0.7235	0.08696
2	11.5	0.7565	0.08696
2-1/2	8.0	1.1375	0.12500
3	8.0	1.2000	0.12500
4	8.0	1.3000	0.12500
5	8.0	1.4063	0.12500
6	8.0	1.5125	0.12500
8	8.0	1.7125	0.12500

STANDARDS COMPARISONS

IPS-to-Metric transion chart are listed by nominal size. The chart below compares nominal and actual pipe O.D. for each size according to the designated standard.

Unit : inch

JIS K6741 (mm)		DIN 8062 (mm)		ASTMD1785 (in)		NPT-ANSIB 1.2 0.1** Tapered Thread		BSP ISO 7/1 ** Parallel Thread	
Nominal	Actual *	O.D.	Actual *	Nominal	Actual *	Designation	Threads in	Designation	Threads 25.4mm
16	22	20	20	1/2	0.840	1/2	14.0	1/2	14
20	26	25	25	3/4	1.050	3/4	14.0	3/4	14
25	32	32	32	1	1.315	1	11.5	1	11
30	38	40	40	1-1/4	1.660	1-1/4	11.5	1-1/4	11
40	748	50	50	1-1/2	1.900	1-1/2	11.5	1-1/2	11
50	60	63	63	2	2.375	2	11.5	2	11
75	89	90	90	3	3.500	3	8.00	3	11
100	114	110	110	4	4.500	4	8.00	4	11

Specified dimension, certain tolerances apply
** NPT and BSP have different thread angles and are not compatible

Rigid Poly Vinyl Chlorides (UPVC) and Chlorinated Poly Vinyl Chlorides (CPVC)

Compounds:

UPVC, CPVC MATERIAL PROPERITIES

Property and Unit	Test Method	UPVC	CPVC
Impact Resistance(Izod) J/m of notch ft*lb/in. of notch	ASTM D256	<34.7 <0.65	<80.1 <1.5
Tensile strength (min.) MPa psi	ASTM D638	<34.5 <5000	<48.3 <7000
Modulus of elasticity in tension(min) MPa psi	ASTM D638	<1930 <280 000	<2482 <360 000
DeflectionTemperature under load, min. 1.82MPa(264pis) °C °F	ASTM D648	<70 <158	<100 <212
Flmmebility Average Extent of Bjrning(mm)	ASTM D635	<10	<10

Note: * -All compounds covered by this specification when tested in accordance with Test Method D635.

UPVC schedule 40 pipe

Scope :This specification covers requirements for schedule 40 UPVC pressure pipe as described in ASTM D-1785.
Material : UPVC used is Type I, Grade I compound, cell classification 12454-B per ASTM D-1784.
Dimensions : Dimensions and tolerances shall be as shown in the following tables when measured according to Method D-2122. Tolerances for out-of-roundness shall apply only to pipe prior to shipment.
Marking: Indicates manufacturer's name, material designation code, nominal pipe size, schedule size with pressure rating in PSI for water at 73°F, ASTM designation number D-1785.

Schedule 40 Dimensions

Unit: inch

Nom Pipe Size(in).	O.D.	Average I.D.	Min. Wall	Nom. Wt./Ft.	Max W.P. PSI	code
1/8	0.405	0.249	0.068	0.051	810	11-PIO-04-0003
1/4	0.540	0.344	0.088	0.086	780	11-PIO-04-0008
3/8	0.675	0.473	0.091	0.115	620	11-PIO-04-0010
1/2	0.840	0.602	0.109	0.170	600	11-PIO-04-0015
3/4	1.050	0.804	0.113	0.226	480	11-PIO-04-0020
1	1.315	1.029	0.133	0.333	450	11-PIO-04-0025
1-1/4	1.660	1.360	0.140	0.450	370	11-PIO-04-0032
1-1/2	1.900	1.590	0.145	0.537	330	11-PIO-04-0040
2	2.375	2.047	0.154	0.720	280	11-PIO-04-0050
2-1/2	2.875	2.445	0.203	1.136	300	11-PIO-04-0065
3	3.500	3.042	0.216	1.488	260	11-PIO-04-0080
3-1/2	4.000	3.521	0.226	1.789	240	11-PIO-04-0090
4	4.500	3.998	0.237	2.118	220	11-PIO-04-0100
5	5.563	5.016	0.258	2.874	190	11-PIO-04-0125
6	6.625	6.031	0.280	3.733	180	11-PIO-04-0150
8	8.625	7.942	0.322	5.619	160	11-PIO-04-0200
10	10.750	9.975	0.365	7.966	140	11-PIO-04-0250
12	12.750	11.889	0.406	10.534	130	11-PIO-04-0300
14	14.000	13.073	0.437	12.462	130	11-PIO-04-0350
16	16.000	14.940	0.500	16.286	130	11-PIO-04-0400
18	18.000	16.809	0.562	20.587	130	11-PIO-04-0450
20	20.000	18.743	0.593	24.183	120	11-PIO-04-0500
24	24.000	22.544	0.687	33.652	120	11-PIO-04-0600

UPVC schedule 80 pipe

Scope :This specification covers requirements for schedule 80 UPVC pressure pipe as described in ASTM D-1785.
Material : UPVC used is Type I, Grade I compound, cell classification 12454-B per ASTM D-1784.
Dimensions : Dimensions and tolerances shall be as shown in the following tables when measured according to Method D-2122. Tolerances for out-of-roundness shall apply only to pipe prior to shipment.
Marking: Indicates manufacturer's name, material designation code, nominal pipe size, schedule size with pressure rating in PSI for water at 73°F, ASTM designation number D-1785.

Schedule 80 Dimensions

Unit: inch

Nom Pipe Size(in).	O.D.	Average I.D.	Min. Wall	Nom. Wt./Ft.	Max W.P. PSI	code
1/8	0.405	0.195	0.095	0.063	1230	11-PIO-08-0003
1/4	0.540	0.282	0.119	0.105	1130	11-PIO-08-0008
3/8	0.675	0.403	0.126	0.146	920	11-PIO-08-0010
1/2	0.840	0.526	0.147	0.213	850	11-PIO-08-0015
3/4	1.050	0.722	0.154	0.289	690	11-PIO-08-0020
1	1.315	0.936	0.179	0.424	630	11-PIO-08-0025
1-1/4	1.660	1.255	0.191	0.586	520	11-PIO-08-0032
1-1/2	1.900	1.476	0.200	0.711	470	11-PIO-08-0040
2	2.375	1.913	0.218	0.984	400	11-PIO-08-0050
2-1/2	2.875	2.290	0.276	1.500	420	11-PIO-08-0065
3	3.500	2.864	0.300	2.010	370	11-PIO-08-0080
3-1/2	4.000	3.326	0.318	2.452	350	11-PIO-08-0090
4	4.500	3.786	0.337	2.983	320	11-PIO-08-0100
5	5.563	4.768	0.375	4.078	290	11-PIO-08-0125
6	6.625	5.709	0.432	5.610	280	11-PIO-08-0150
8	8.625	7.565	0.500	8.522	250	11-PIO-08-0200
10	10.750	9.493	0.593	12.635	230	11-PIO-08-0250
12	12.750	11.294	0.687	17.384	230	11-PIO-08-0300
14	14.000	12.410	0.750	20.852	220	11-PIO-08-0350
16	16.000	14.231	0.843	26.810	220	11-PIO-08-0400
18	18.000	16.014	0.937	33.544	220	11-PIO-08-0450
20	20.000	17.814	1.031	41.047	220	11-PIO-08-0500
24	24.000	21.418	1.218	58.233	210	11-PIO-08-0600

CPVC schedule 40 pipe

Scope :This specification covers requirements for schedule 40 CPVC pressure pipe as described in ASTM F-441.
Material : CPVC used is Type IV, Grade I compound, cell classification 23447-B per ASTM D-1784.
Dimensions : Dimensions and tolerances shall be as shown in the following tables when measured according to Method D-2122. Tolerances for out-of-roundness shall apply only to pipe prior to shipment.
Marking: Indicates manufacturer's name, material designation code, nominal pipe size, schedule size with pressure rating in PSI for water at 73°F, ASTM designation number F-441.

Schedule 40 Dimensions

Unit : inch

Nom Pipe Size(in).	O.D.	Average I.D.	Min. Wall	Nom. Wt./Ft.	Max W.P. PSI	code
1/4	0.540	0.344	0.088	0.096	780	41-PIO-04-0008
3/8	0.675	0.473	0.091	0.128	620	41-PIO-04-0010
1/2	0.840	0.602	0.109	0.190	600	41-PIO-04-0015
3/4	1.050	0.804	0.113	0.253	480	41-PIO-04-0020
1	1.315	1.029	0.133	0.371	450	41-PIO-04-0025
1-1/4	1.660	1.360	0.140	0.502	370	41-PIO-04-0032
1-1/2	1.900	1.590	0.145	0.599	330	41-PIO-04-0040
2	2.375	2.047	0.154	0.803	280	41-PIO-04-0050
2-1/2	2.875	2.445	0.203	1.267	300	41-PIO-04-0065
3	3.500	3.042	0.216	1.660	260	41-PIO-04-0080
3-1/2	4.000	3.521	0.226	1.996	240	41-PIO-04-0090
4	4.500	3.998	0.237	2.363	220	41-PIO-04-0100
5	5.563	5.016	0.258	2.874	190	41-PIO-04-0125
6	6.625	6.031	0.280	4.164	180	41-PIO-04-0150
8	8.625	7.942	0.322	6.286	160	41-PIO-04-0200
10	10.750	9.975	0.365	8.886	140	41-PIO-04-0250
12	12.750	11.889	0.406	11.751	130	41-PIO-04-0300
14	14.000	13.073	0.437	13.916	130	41-PIO-04-0350
16	16.000	14.940	0.500	18.167	130	41-PIO-04-0400
18	18.000	16.809	0.562	22.965	130	41-PIO-04-0450
20	20.000	18.743	0.593	29.976	120	41-PIO-04-0500
24	24.000	22.544	0.687	37.539	120	41-PIO-04-0600

CPVC schedule 80 pipe

Scope :This specification covers requirements for schedule 80 CPVC pressure pipe as described in ASTM F-441.
Material : CPVC used is Type IV, Grade I compound, cell classification 23447-B per ASTM D-1784.
Dimensions : Dimensions and tolerances shall be as shown in the following tables when measured according to Method D-2122. Tolerances for out-of-roundness shall apply only to pipe prior to shipment.
Marking: Indicates manufacturer's name, material designation code, nominal pipe size, schedule size with pressure rating in PSI for water at 73°F, ASTM designation number F-441.

Schedule 80 Dimensions

Unit: inch

Nom Pipe Size(in).	O.D.	Average I.D.	Min. Wall	Nom. Wt./Ft.	Max W.P. PSI	code
1/4	0.540	0.282	0.119	0.117	1130	41-PIO-08-0008
3/8	0.675	0.403	0.126	0.162	920	41-PIO-08-0010
1/2	0.840	0.526	0.147	0.238	850	41-PIO-08-0015
3/4	1.050	0.722	0.154	0.322	690	41-PIO-08-0020
1	1.315	0.936	0.179	0.473	630	41-PIO-08-0025
1-1/4	1.660	1.255	0.191	0.654	520	41-PIO-08-0032
1-1/2	1.900	1.476	0.200	0.793	470	41-PIO-08-0040
2	2.375	1.913	0.218	1.097	400	41-PIO-08-0050
2-1/2	2.875	2.290	0.276	1.674	420	41-PIO-08-0065
3	3.500	2.864	0.300	2.242	370	41-PIO-08-0080
3-1/2	4.000	3.326	0.318	2.735	350	41-PIO-08-0090
4	4.500	3.786	0.337	3.277	320	41-PIO-08-0100
5	5.563	4.768	0.375	4.078	290	41-PIO-08-0125
6	6.625	5.709	0.432	6.258	280	41-PIO-08-0150
8	8.625	7.565	0.500	9.506	250	41-PIO-08-0200
10	10.750	9.493	0.593	14.095	230	41-PIO-08-0250
12	12.750	11.294	0.687	19.392	230	41-PIO-08-0300
14	14.000	12.410	0.750	23.261	220	41-PIO-08-0350
16	16.000	14.213	0.843	29.891	220	41-PIO-08-0400
18	18.000	16.014	0.937	35.419	220	41-PIO-08-0450
20	20.000	17.814	1.031	45.879	220	41-PIO-08-0500
24	24.000	21.418	1.281	64.959	210	41-PIO-08-0600

CLEAR PVC SCH40 PIPE



Dimensions and Pressure Ratings

Unit: inch

Nominal Pipe Size Size(in.)	O.D.	Average I.D.	Schedule 40		code
			Minimum Wall	Nominal Weight Lbs./ft	
1/2	0.840	0.608	0.109	0.161	12-PIO-04-0015
3/4	1.050	0.810	0.113	0.214	12-PIO-04-0020
1	1.315	1.033	0.133	0.315	12-PIO-04-0025
1-1/4	1.660	1.364	0.140	0.426	12-PIO-04-0032
1-1/2	1.900	1.592	0.145	0.509	12-PIO-04-0040
2	2.375	2.049	0.154	0.682	12-PIO-04-0050
2-1/2	2.875	2.445	0.203	1.076	12-PIO-04-0065
3	3.500	3.042	0.216	1.409	12-PIO-04-0080
4	4.500	3.998	0.237	2.006	12-PIO-04-0100
6	6.625	6.031	0.280	3.535	12-PIO-04-0150
8	8.625	7.943	0.322	5.305	12-PIO-04-0200
10	10.750	9.975	0.365	7.966	12-PIO-04-0250
12	12.750	11.889	0.406	10.534	12-PIO-04-0300

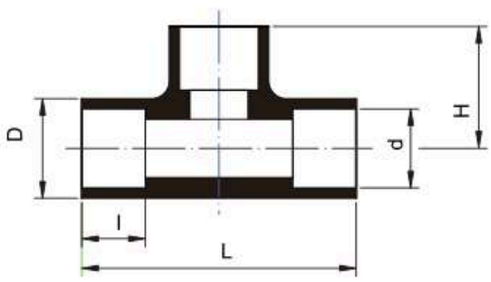
UPVC ECO CLEAR PIPE

	(Thinwall)				code
	DIMENSION				
INCH	OD		Thickness		
		tolerance	min	tolerance	
1/2"	0.840	± 0.004	0.0826	+0.0197	12-PIO-DA-0015
3/4"	1.050	± 0.004	0.0826	+0.0197	12-PIO-DA-0020
1"	1.315	± 0.005	0.0980	+0.0197	12-PIO-DA-0025
1-1/4"	1.660	± 0.005	0.1102	+0.0197	12-PIO-DA-0032
1-1/2"	1.900	± 0.006	0.1181	+0.0197	12-PIO-DA-0040
2"	2.375	± 0.006	0.1378	+0.0197	12-PIO-DA-0050
2-1/2"	2.875	± 0.007	0.1654	+0.0236	12-PIO-DA-0065
3"	3.500	± 0.008	0.1850	+0.0236	12-PIO-DA-0080
4"	4.500	± 0.009	0.1969	+0.0276	12-PIO-DA-0100
6"	6.625	± 0.110	0.2283	+0.0394	12-PIO-DA-0150
8"	8.625	± 0.015	0.2677	+0.0394	12-PIO-DA-0200
10"	10.750	± 0.015	0.3150	+0.0591	12-PIO-DA-0250
12"	12.750	± 0.015	0.3150	+0.0591	12-PIO-DA-0300

* NOT CONFORM TO ASTM STANDARD
* NOT FOR USE WITH COMPERSSED AIR OR GAS

TEE

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(ANSI SCH80)





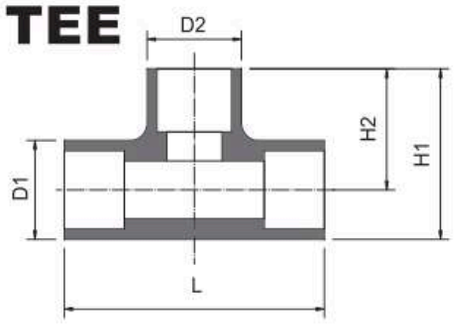
Unit : inch

Size	D	d	H	l	L	UPVC code no.	CPVC code no.
1/2	1-11/64	27/32	1-15/32	7/8	2-61/64	11-TT5-08-0015	41-TT5-08-0015
3/4	1-27/64	1-1/16	1-45/64	31/32	3-27/64	11-TT5-08-0020	41-TT5-08-0020
1	1-11/16	1-5/16	2	1-1/8	4-1/64	11-TT5-08-0025	41-TT5-08-0025
1-1/4	2-3/32	1-21/32	2-1/8	1-1/4	4-9/32	11-TT5-08-0032	41-TT5-08-0032
1-1/2	2-5/16	1-29/32	2-9/16	1-13/32	5-9/64	11-TT5-08-0040	41-TT5-08-0040
2	2-7/8	2-13/32	2-53/64	1-17/32	5-45/64	11-TT5-08-0050	41-TT5-08-0050
2-1/2	3-15/32	2-29/32	3-1/2	1-3/4	7-1/32	11-TT5-08-0065	41-TT5-08-0065
3	4-5/32	3-17/32	3-31/32	1-29/32	7-61/64	11-TT5-08-0080	41-TT5-08-0080
4	5-15/64	4-1/2	4-23/32	2-1/4	9-31/64	11-TT5-08-0100	41-TT5-08-0100
5	6-3/8	5-1/4	5-41/64	2-31/32	11-1/4	11-TT5-08-0125	41-TT5-08-0125
6	7-33/64	6-21/32	6-3/4	2-31/32	13-1/2	11-TT5-08-0150	41-TT5-08-0150
8	9-41/64	8-21/32	8-13/16	3-31/32	17-41/64	11-TT5-08-0200	41-TT5-08-0200
10	12-15/32	10-7/8	11-17/32	5-17/32	22-29/32	11-TT5-08-0250	41-TT5-08-0250
12	14-9/16	12-13/16	13-9/32	6-5/16	26-27/64	11-TT5-08-0300	41-TT5-08-0300
14	15-39/64	14-1/32	14-9/16	7	29-3/64	11-TT5-08-0350	41-TT5-08-0350
16	17-11/16	16-1/32	17-3/64	8-1/32	34-3/32	11-TT5-08-0400	41-TT5-08-0400
18	19-7/8	18-1/32	19-9/32	8-31/32	38-37/64	11-TT5-08-0450	41-TT5-08-0450
* 20	22-11/64	20-1/16	22-41/64	10	45-9/32	11-TT5-08-0500	41-TT5-08-0500
* 24	26-41/64	24-5/64	41-63/64	12	57-21/64	11-TT5-08-0600	41-TT5-08-0600

* Fabricated

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(ANSI SCH80)





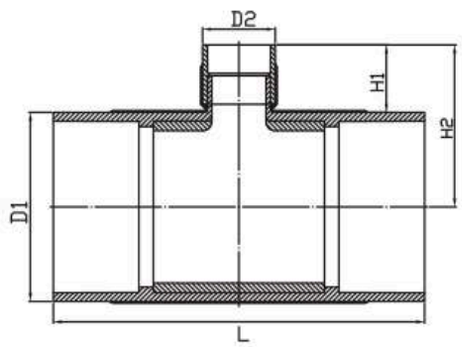
Unit: inch

Size	D1	D2	H1	H2	L	UPVC code no.	CPVC code no.
3/4x3/4x1/2	1-1/2	1-13/64	2-1/16	1-5/16	3-5/16	11-TR4-08-020015	41-TR4-08-020015
1x1x1/2	1-11/16	1-13/64	2-19/32	1-23/32	3-7/16	11-TR4-08-025015	41-TR4-08-025015
1x1x3/4	1-49/64	1-3/8	2-3/4	1-29/32	3-11/16	11-TR4-08-025020	41-TR4-08-025020
1-1/4x1-1/4x3/4	2-3/32	1-3/8	3-1/8	2-3/32	3-13/16	11-TR4-08-032020	41-TR4-08-032020
1-1/4x1-1/4x1	2-3/32	1-47/64	3-1/8	2-2/32	4-41/64	11-TR4-08-032025	41-TR4-08-032025
1-1/2x1-1/2x3/4	2-5/16	1-3/8	3-13/16	2-1/32	4-1/8	11-TR4-08-040020	41-TR4-08-040020
1-1/2x1-1/2x1	2-3/8	1-3/4	3-15/32	2-15/16	4-1/2	11-TR4-08-040025	41-TR4-08-040025
1-1/2x1-1/2x1-1/4	2-23/64	2-3/32	3-1/2	2-11/32	5-1/8	11-TR4-08-040032	41-TR4-08-040032
2x2x1/2	3	1-5/16	3-3/4	2-5/16	4-5/16	11-TR4-08-050015	41-TR4-08-050015
2x2x3/4	3	1-1/2	3-7/8	2-7/16	4-1/2	11-TR4-08-050020	41-TR4-08-050020
2x2x1	2-7/8	1-3/4	4-1/32	2-5/8	4-3/4	11-TR4-08-050025	41-TR4-08-050025
2x2x1-1/2	2-7/8	2-3/8	4-1/4	2-27/32	5-3/8	11-TR4-08-050040	41-TR4-08-050040
2-1/2x2-1/2x2	3-29/64	2-57/64	4-5/8	2-29/32	7	11-TR4-08-065050	41-TR4-08-065050
3x3x2	4-3/16	2-7/8	5-11/32	3-9/32	6-5/8	11-TR4-08-080050	41-TR4-08-080050
4x4x2	5-3/16	2-7/8	6-7/16	3-7/8	7-3/8	11-TR4-08-100050	41-TR4-08-100050
4x4x3	5-1/4	4-3/16	6-27/32	4-7/32	8-11/16	11-TR4-08-100080	41-TR4-08-100080
6x6x2	7-19/32	2-7/8	8-31/32	4-31/32	11-7/32	11-TR4-08-150050	41-TR4-08-150050
6x6x3	7-19/32	4-5/32	9-1/8	5-3/8	11-7/32	11-TR4-08-150080	41-TR4-08-150080
6x6x4	7-19/32	5-1/4	9-13/32	5-19/32	11-7/32	11-TR4-08-150100	41-TR4-08-150100
8x8x6	9-41/64	7-9/16	13-9/16	8-3/4	15-35/64	11-TR4-08-200150	41-TR4-08-200150
10x10x4	12-1/16	5-3/16	14-3/32	8-1/16	22-1/16	11-TR4-08-250100	41-TR4-08-250100
10x10x6	12-1/16	7-1/2	14-7/8	8-27/32	22-1/16	11-TR4-08-250150	41-TR4-08-250150
10x10x8	12-1/16	9-11/16	15-7/8	9-27/32	22-1/16	11-TR4-08-250200	41-TR4-08-250200
12x12x6	14-1/4	7-1/2	17-5/32	10-1/32	25-31/32	11-TR4-08-300150	41-TR4-08-300150
12x12x8	14-1/4	9-11/16	18-5/32	11-1/32	25-31/32	11-TR4-08-300200	41-TR4-08-300200
12x12x10	14-1/4	12-1/16	18-27/32	11-23/32	25-31/32	11-TR4-08-300250	41-TR4-08-300250
△ 14x14x12	15-39/64	14-9/16	25-17/32	17-3/4	36-1/2	11-TR4-08-350300	41-TR4-08-350300
△ 16x16x14	17-11/16	17-19/32	28-5/16	19-1/2	34-3/32	11-TR4-08-400350	41-TR4-08-400350
△ 18x18x16	19-7/8	19-49/64	27-15/16	18	38-37/64	11-TR4-08-450400	41-TR4-08-450400
* 20x20x14	22-1/8	15-17/32	29-31/32	18-57/64	40	11-TR4-08-500350	41-TR4-08-500350
* 20x20x16	22-1/8	17-23/32	31-9/64	20-3/16	42	11-TR4-08-500400	41-TR4-08-500400
* 20x20x18	22-1/8	19-29/33	35-19/32	24-1/2	45-55/64	11-TR4-08-500450	41-TR4-08-500450
* 24x24x16	26-41/64	17-47/64	35-3/8	22-3/64	48-47/64	11-TR4-08-500400	41-TR4-08-500400
* 24x24x18	26-41/64	19-59/64	36-5/32	22-27/32	48-3/4	11-TR4-08-600450	41-TR4-08-600450
* 24x20x20	26-41/64	22-1/8	37-47/64	24-27/64	50-3/4	11-TR4-08-600500	41-TR4-08-600500

△ Transition
* Fabricated

REDUCING TEE

(Soc*Soc*Soc)
(ANSI SCH80)
(Fabricated Socket Type)

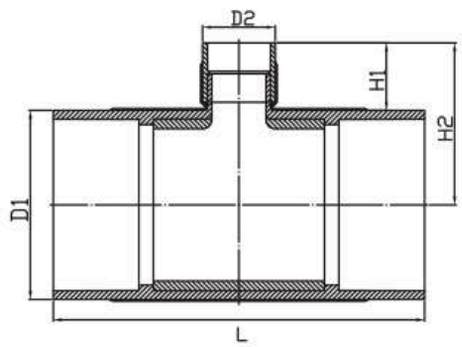


Unit : inch

Size	D1	D2	H1	H2	L	UPVC code.no	CPVC code.no
10x10x2	12-3/64	2-61/64	5-61/64	11-29/32	21-5/64	11-TR5-08-250050	41-TR5-08-250050
10x10x3	12-3/64	4-1/4	5-61/64	11-29/32	21-5/64	11-TR5-08-250080	41-TR5-08-250080
10x10x4	12-3/64	5-9/32	5-61/64	11-29/32	21-5/64	11-TR5-08-250100	41-TR5-08-250100
10x10x6	12-3/64	7-41/64	10-57/64	16-57/64	21-5/64	11-TR5-08-250150	41-TR5-08-250150
10x10x8	12-3/64	9-47/64	10-57/64	16-57/64	21-5/64	11-TR5-08-250200	41-TR5-08-250200
12x12x2	14-3/8	2-61/64	5-61/64	13-5/32	26-37/64	11-TR5-08-300050	41-TR5-08-300050
12x12x3	14-3/8	4-1/4	5-61/64	13-5/32	26-37/64	11-TR5-08-300080	41-TR5-08-300080
12x12x4	14-3/8	5-9/32	5-61/64	13-5/32	26-37/64	11-TR5-08-300100	41-TR5-08-300100
12x12x6	14-3/8	7-41/64	12-57/64	20-1/8	26-37/64	11-TR5-08-300150	41-TR5-08-300150
12x12x8	14-3/8	9-47/64	12-57/64	20-1/8	26-37/64	11-TR5-08-300200	41-TR5-08-300200
12x12x10	14-3/8	12-3/64	12-57/64	20-1/8	26-37/64	11-TR5-08-300250	41-TR5-08-300250
14x14x2	15-1/2	2-61/64	5-61/64	13-45/64	28-49/64	11-TR5-08-350050	41-TR5-08-350050
14x14x3	15-1/2	4-1/4	5-61/64	13-45/64	28-49/64	11-TR5-08-350080	41-TR5-08-350080
14x14x4	15-1/2	5-9/32	5-61/64	13-45/64	28-49/64	11-TR5-08-350100	41-TR5-08-350100
14x14x6	15-1/2	7-41/64	12-57/64	20-21/32	28-49/64	11-TR5-08-350150	41-TR5-08-350150
14x14x8	15-1/2	9-47/64	12-57/64	20-21/32	28-49/64	11-TR5-08-350200	41-TR5-08-350200
14x14x10	15-1/2	12-3/64	12-57/64	20-21/32	28-49/64	11-TR5-08-350250	41-TR5-08-350250
14x14x12	15-1/2	14-3/8	15-9/16	23-5/16	28-49/64	11-TR5-08-350300	41-TR5-08-350300
16x16x2	17-57/64	2-61/64	5-61/64	14-59/64	34-21/32	11-TR5-08-400050	41-TR5-08-400050
16x16x3	17-57/64	4-1/4	5-61/64	14-59/64	34-21/32	11-TR5-08-400080	41-TR5-08-400080
16x16x4	17-57/64	5-9/32	5-61/64	14-59/64	34-21/32	11-TR5-08-400100	41-TR5-08-400100
16x16x6	17-57/64	7-41/64	12-57/64	21-27/32	34-21/32	11-TR5-08-400150	41-TR5-08-400150
16x16x8	17-57/64	9-47/64	12-57/64	21-27/32	34-21/32	11-TR5-08-400200	41-TR5-08-400200
16x16x10	17-57/64	12-3/64	12-57/64	21-27/32	34-21/32	11-TR5-08-400250	41-TR5-08-400250
16x16x12	17-57/64	14-3/8	17-33/64	26-15/32	34-21/32	11-TR5-08-400300	41-TR5-08-400300
16x16x14	17-57/64	15-1/2	17-33/64	26-15/32	34-21/32	11-TR5-08-400450	41-TR5-08-400450

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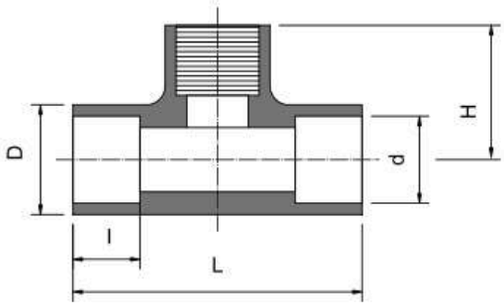
(Soc*Soc*Soc)
(ANSI SCH80)
(Fabricated Socket Type)



Unit : inch

Size	D1	D2	H1	H2	L	UPVC code.no	CPVC code.no
18x18x2	19-7/8	2-61/64	5-61/64	15-29/32	39-3/64	11-TR5-08-450050	41-TR5-08-250050
18x18x3	19-7/8	4-1/4	5-61/64	15-29/32	39-3/64	11-TR5-08-450080	41-TR5-08-450080
18x18x4	19-7/8	5-9/32	5-61/64	15-29/32	39-3/64	11-TR5-08-450100	41-TR5-08-450100
18x18x6	19-7/8	7-41/64	12-57/64	22-27/32	39-3/64	11-TR5-08-450150	41-TR5-08-450150
18x18x8	19-7/8	9-47/64	12-57/64	22-27/32	39-3/64	11-TR5-08-450200	41-TR5-08-450200
18x18x10	19-7/8	12-3/64	12-57/64	22-27/32	39-3/64	11-TR5-08-450250	41-TR5-08-450250
18x18x12	19-7/8	14-3/8	21-13/32	31-11/32	39-3/64	11-TR5-08-450300	41-TR5-08-450300
18x18x14	19-7/8	15-1/2	21-13/32	31-11/32	39-3/64	11-TR5-08-450350	41-TR5-08-450350
18x18x16	19-7/8	17-57/64	21-13/32	31-11/32	39-3/64	11-TR5-08-450400	41-TR5-08-450400
20x20x2	22-15/64	2-61/64	5-61/64	17-1/64	43-1/32	11-TR5-08-500050	41-TR5-08-500050
20x20x3	22-15/64	4-1/4	5-61/64	17-1/64	43-1/32	11-TR5-08-500080	41-TR5-08-500080
20x20x4	22-15/64	5-9/32	5-61/64	17-1/64	43-1/32	11-TR5-08-500100	41-TR5-08-500100
20x20x6	22-15/64	7-41/64	12-57/64	23-31/32	43-1/32	11-TR5-08-500150	41-TR5-08-500150
20x20x8	22-15/64	9-47/64	12-57/64	23-31/32	43-1/32	11-TR5-08-500200	41-TR5-08-500200
20x20x10	22-15/64	12-3/64	12-57/64	23-31/32	43-1/32	11-TR5-08-500250	41-TR5-08-500250
20x20x12	22-15/64	14-3/8	22-11/16	33-23/32	43-1/32	11-TR5-08-500300	41-TR5-08-500300
20x20x14	22-15/64	15-1/2	22-11/16	33-23/32	43-1/32	11-TR5-08-500350	41-TR5-08-500350
20x20x16	22-15/64	17/57/64	22-11/16	33-23/32	43-1/32	11-TR5-08-500400	41-TR5-08-500400
20x20x18	22-15/64	19-7/8	22-11/16	33-23/32	43-1/32	11-TR5-08-500450	41-TR5-08-500450

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(Soc*Soc*Fipt)
(ANSI SCH80)

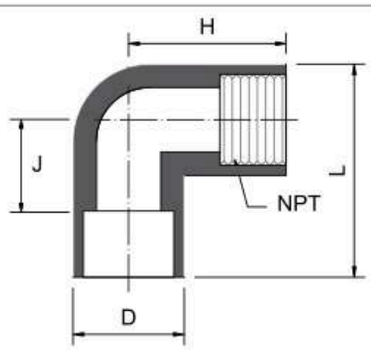




Unit: inch

Size	D	d	H	I	L	UPVC code no.	CPVC code no.
1/2	1-1/4	27/32	1-13/32	7/8	2-51/64	11-TT6-08-0015	41-TT6-08-0015
3/4	1-1/2	1-1/16	1-9/16	31/32	3-7/64	11-TT6-08-0020	41-TT6-08-0020
1	1-13/16	1-21/64	1-55/64	1-1/8	3-23/32	11-TT6-08-0025	41-TT6-08-0025
1-1/4	2-1/16	1-21/32	3-5/32	1-1/4	4-1/4	11-TT6-08-0032	41-TT6-08-0032
1-1/2	2-11/32	1-29/32	3-3/4	1-13/32	5-5/32	11-TT6-08-0040	41-TT6-08-0040
2	2-7/8	2-13/32	4-9/32	1-17/32	5-11/16	11-TT6-08-0050	41-TT6-08-0050

90° ELL
(SocxFipt)
(ANSI SCH80)



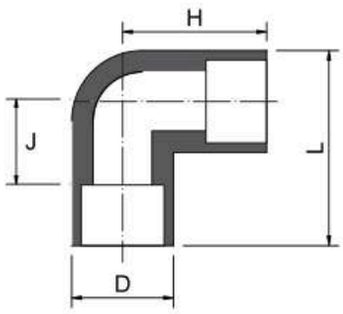


Unit: inch

Size	D	J	H	L	UPVC code no.	CPVC code no.
1/2	1-5/32	19/32	15/16	2-1/64	11-L98-08-0015	41-L98-08-0015
3/4	1-27/64	5/8	1-39/64	2-21/64	11-L98-08-0020	41-L98-08-0020
1	1-45/64	25/32	1-29/32	2-3/4	11-L98-08-0025	41-L98-08-0025
1-1/4	2-3/32	1	2-17/64	3-5/16	11-L98-08-0032	41-L98-08-0032
1-1/2	2-23/64	1-5/32	2-17/32	3-23/32	11-L98-08-0040	41-L98-08-0040
2	2-7/8	1-23/64	2-55/64	4-19/64	11-L98-08-0050	41-L98-08-0050

90° ELL

(Soc*Soc)
(ANSI SCH80)



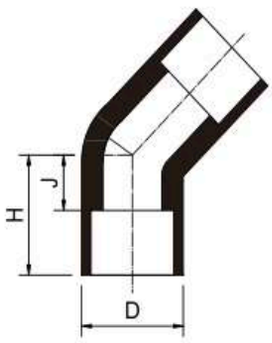


Unit: inch

Size	D	J	H	L	UPVC code no.	CPVC code no.
1/2	1-3/16	19/32	1-15/32	2-1/64	11-L95-08-0015	41-L95-08-0015
3/4	1-27/64	21/32	1-21/32	2-23/64	11-L95-08-0020	41-L95-08-0020
1	1-21/32	27/32	1-31/32	2-3/4	11-L95-08-0025	41-L95-08-0025
1-1/4	2-3/32	1-3/32	2-11/32	3-5/16	11-L95-08-0032	41-L95-08-0032
1-1/2	2-23/64	1-9/32	2-21/32	3-23/32	11-L95-08-0040	41-L95-08-0040
2	2-7/8	1-17/32	3-1/32	4-17/64	11-L95-08-0050	41-L95-08-0050
2-1/2	3-15/32	1-3/4	3-1/2	5-5/64	11-L95-08-0065	41-L95-08-0065
3	4-9/64	2-1/8	3-31/32	6-1/16	11-L95-08-0080	41-L95-08-0080
4	5-1/4	2-19/32	4-27/32	7-31/64	11-L95-08-0100	41-L95-08-0100
5	6-3/8	4-1/16	6-11/16	8-13/16	11-L95-08-0125	41-L95-08-0125
6	7-9/16	3-3/4	6-11/16	10-37/64	11-L95-08-0150	41-L95-08-0150
8	9-41/64	4-27/32	8-25/32	13-37/64	11-L95-08-0200	41-L95-08-0200
10	12-7/16	5-25/32	11-11/32	17-31/64	11-L95-08-0250	41-L95-08-0250
12	14-3/16	7-3/32	13-13/32	20-11/16	11-L95-08-0300	41-L95-08-0300
14	15-39/64	7-15/32	14-17/32	22-21/64	11-L95-08-0350	41-L95-08-0350
16	17-45/64	9-11/32	17-1/16	22-57/64	11-L95-08-0400	41-L95-08-0400
18	19-7/8	10-5/16	19-5/16	29-15/64	11-L95-08-0450	41-L95-08-0450
* 20	22-1/8	16-35/64	26-37/64	38-55/64	11-L95-08-0500	41-L95-08-0500
* 24	26-41/64	21-15/32	33-43/64	46-63/64	11-L95-08-0600	41-L95-08-0600

* Fabricated

45° ELL
(Soc*Soc)
(ANSI SCH80)





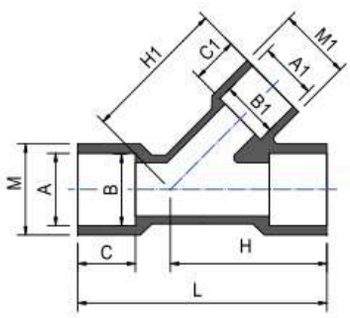
Unit : inch

Size	D	H	J	UPVC code no.	CPVC code no.
1/2	1-13/64	27/32	5/16	11-L48-08-0015	41-L48-08-0015
3/4	1-25/64	1-3/8	7/16	11-L48-08-0020	41-L48-08-0020
1	1-49/64	1-5/32	13/32	11-L48-08-0025	41-L48-08-0025
1-1/4	2-3/32	1-7/16	7/16	11-L48-08-0032	41-L48-08-0032
1-1/2	2-13/32	1-43/64	9/16	11-L48-08-0040	41-L48-08-0040
2	2-7/8	2-3/64	23/32	11-L48-08-0050	41-L48-08-0050
2-1/2	3-15/32	2-13/32	3/4	11-L48-08-0065	41-L48-08-0065
3	4-11/64	2-57/64	1-1/32	11-L48-08-0080	41-L48-08-0080
4	5-9/32	3-27/64	1-3/16	11-L48-08-0100	41-L48-08-0100
6	7-39/64	4-23/32	1-17/32	11-L48-08-0150	41-L48-08-0150
8	9-41/64	6-1/16	2-1/16	11-L48-08-0200	41-L48-08-0200
10	12-23/64	8-1/8	2-19/32	11-L48-08-0250	41-L48-08-0250
12	14-17/32	10-13/16	4-11/32	11-L48-08-0300	41-L48-08-0300
14	15-39/64	11-49/64	4-25/32	11-L48-08-0350	41-L48-08-0350
16	17-11/16	13-1/2	5-17/32	11-L48-08-0400	41-L48-08-0400
18	19-7/8	15	6	11-L48-08-0450	41-L48-08-0450
* 20	22-17/64	17-9/32	9-3/16	11-L48-08-0500	41-L48-08-0500
* 24	26-41/64	22-29/64	10-1/4	11-L48-08-0600	41-L48-08-0600

*Fabricated

WYE

(Soc*Soc*Soc)
(ANSI SCH80)





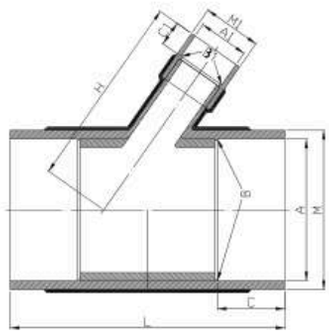
Unit: inch

Size	A	B	A1	B1	C	C1	H	H1	M	M1	L	UPVC code no.	CPVC code no.
1/2	27/32	27/32	27/32	27/32	7/8	7/8	2	2-5/64	1-7/32	1-7/32	3-15/64	11-TY3-08-0015	41-TY3-08-0015
3/4	1-3/16	1-1/16	1-3/16	1-1/16	1	1	2-19/64	2-3/8	1-29/64	1-29/64	3-45/64	11-TY3-08-0020	41-TY3-08-0020
1	1-21/64	1-5/16	1-21/64	1-5/16	1-1/8	1-1/8	2-5/64	2-7/8	1-25/32	1-25/32	4-11/32	11-TY3-08-0025	41-TY3-08-0025
1-1/4	1-43/64	1-21/32	1-43/64	1-21/32	1-1/4	1-1/4	3-23/64	3-7/16	2-5/32	2-5/32	5-3/64	11-TY3-08-0032	41-TY3-08-0032
1-1/2	1-29/32	1-29/32	1-29/32	1-29/32	1-3/8	1-3/8	3-15/16	3-15/16	2-15/32	2-15/32	5-3/4	11-TY3-08-0040	41-TY3-08-0040
2	2-25/64	2-3/8	2-25/64	2-3/8	1-1/2	1-1/2	4-3/4	4-41/64	3-1/32	3-1/32	6-57/64	11-TY3-08-0050	41-TY3-08-0050
2-1/2	2-57/64	2-7/8	2-57/64	2-7/8	1-3/4	1-3/4	5-25/32	5-25/32	3-1/2	3-1/2	8-1/4	11-TY3-08-0065	41-TY3-08-0065
3	3-33/64	3-1/2	3-33/64	3-1/2	1-7/8	1-7/8	6-13/16	6-13/16	4-19/64	4-19/64	9-5/8	11-TY3-08-0080	41-TY3-08-0080
4	4-33/64	4-1/2	4-33/64	4-1/2	2-1/4	2-1/4	8-1/4	8-1/4	5-23/64	5-23/64	11-11/16	11-TY3-08-0100	41-TY3-08-0100
4x4x2	4-33/64	4-1/2	2-25/64	2-3/8	2-1/4	1-1/2	8-1/4	8-1/4	5-23/64	3-1/32	11-11/16	11-TY3-08-100050	41-TY3-08-100050
4x4x3	4-33/64	4-1/2	3-33/64	3-1/2	2-1/4	1-7/8	8-3/64	7-7/8	5-23/64	4-19/64	10-19/64	11-TY3-08-100080	41-TY3-08-100080
6	6-41/64	6-5/8	6-41/64	6-5/8	3	3	11-3/64	11-25/32	7-23/32	7-23/32	15-7/8	11-TY3-08-0150	41-TY3-08-0150
△ 6x6x2	6-41/64	6-5/8	2-25/64	2-3/8	3	1-1/2	11-3/64	11-25/32	7-23/32	3-1/32	13-5/16	11-TY3-08-150050	41-TY3-08-150050
△ 6x6x3	6-41/64	6-5/8	3-33/64	3-1/2	3	1-7/8	11-3/64	11-25/32	7-23/32	4-19/64	13-5/16	11-TY3-08-150080	41-TY3-08-150080
6x6x4	6-41/64	6-5/8	4-33/64	4-1/2	3	2-1/4	10-5/16	10-5/16	7-23/32	5-23/64	13-5/16	11-TY3-08-150100	41-TY3-08-150100
8	8-21/32	8-5/8	8-21/32	8-5/8	4	4	17-1/8	17-11/64	10-5/32	10-5/32	23-5/8	11-TY3-08-0200	41-TY3-08-0200
△ 8x8x2	8-21/32	8-5/8	2-25/64	2-3/8	4-11/32	1-1/2	17-1/8	17-11/64	10-5/32	3-1/32	23-5/8	11-TY3-08-200050	41-TY3-08-200050
△ 8x8x3	8-21/32	8-5/8	3-33/64	3-1/2	4-11/32	1-7/8	17-1/8	17-11/64	10-5/32	4-19/64	23-5/8	11-TY3-08-200080	41-TY3-08-200080
△ 8x8x4	8-21/32	8-5/8	4-33/64	4-1/2	4-11/32	2-1/4	17-1/8	17-11/64	10-5/32	5-23/64	23-5/8	11-TY3-08-200100	41-TY3-08-200100
△ 8x8x6	8-21/32	8-5/8	6-41/64	6-5/8	4-11/32	3	17-1/8	17-11/64	10-5/32	7-23/32	23-5/8	11-TY3-08-200150	41-TY3-08-200150
* 10	10-25/32	10-3/4	10-25/32	10-3/4	5-33/64	5-33/64	22	23-1/2	12-3/64	12-3/64	33	11-TY3-08-0250	41-TY3-08-0250
* 10x10x3	10-25/32	10-3/4	3-33/64	3-1/2	5	7	14-21/64	18-1/2	12-3/64	4-19/64	21-5/64	11-TY3-08-250080	41-TY3-08-250080
* 10x10x4	10-25/32	10-3/4	4-33/64	4-1/2	5	2-1/4	14-21/64	18-1/2	12-3/64	5-23/64	21-5/64	11-TY3-08-250100	41-TY3-08-250100
* 10x10x6	10-25/32	10-3/4	6-41/64	6-5/8	5	3	14-21/64	18-1/2	12-3/64	7-41/64	21-5/64	11-TY3-08-250150	41-TY3-08-250150
* 10x10x8	10-25/32	10-3/4	8-21/32	8-5/8	5	4	16-7/64	21-17/32	12-3/64	10-5/32	25	11-TY3-08-250200	41-TY3-08-250200
* 12	12-25/32	12-3/4	12-25/32	12-25/32	5-63/64	5-63/64	25-25/32	26-31/32	14-7/32	14-7/32	38	11-TY3-08-0300	41-TY3-08-0300
* 12x12x2	12-25/32	12-3/4	2-25/64	2-3/8	6-7/64	1-1/2	16-11/32	17-19/32	14-7/32	3-1/32	24-51/64	11-TY3-08-300050	41-TY3-08-300050
* 12x12x3	12-25/32	12-3/4	3-33/64	3-1/2	6-7/64	1-7/8	16-11/32	17-19/32	14-7/32	4-19/64	24-51/64	11-TY3-08-300080	41-TY3-08-300080
* 12x12x4	12-25/32	12-3/4	4-33/64	4-1/2	6-7/64	2-1/4	16-11/32	17-19/32	14-7/32	5-23/64	24-51/64	11-TY3-08-300100	41-TY3-08-300100
* 12x12x6	12-25/32	12-3/4	6-21/32	6-5/8	6-7/64	3	17-11/32	26-3/8	14-7/32	7-23/32	26-49/64	11-TY3-08-300150	41-TY3-08-300150
* 12x12x8	12-25/32	12-3/4	8-21/32	8-5/8	6-7/64	4	16-23/64	23-57/64	14-7/32	10-5/32	24-51/64	11-TY3-08-300200	41-TY3-08-300200
* 12x12x10	12-25/32	12-3/4	10-25/32	10-3/4	6-7/64	5	18-21/64	26-25/32	14-7/32	12-3/64	28-47/64	11-TY3-08-300250	41-TY3-08-300250
* 14	14-1/32	13-29/32	14-1/32	13-29/32	7	7	30-1/2	30-1/2	15-1/2	15-1/2	47	11-TY3-08-0350	41-TY3-08-0350
* 16	16-2/32	15-29/32	16-2/32	15-29/32	8	8	33-3/8	33-3/8	17-3/4	17-3/4	50-3/4	11-TY3-08-0400	41-TY3-08-0400
* 18	18-2/32	17-29/32	18-2/32	17-29/32	9	9	37	37	19-7/8	19-7/8	56	11-TY3-08-0450	41-TY3-08-0450
* 20	20-2/32	19-29/32	20-3/32	19-29/32	10	10	41-5/8	41-5/8	22-1/8	22-1/8	63-1/4	11-TY3-08-0500	41-TY3-08-0500
* 24	24-1/8	23-15/16	24-1/8	23-15/16	12	12	50-1/2	50-1/2	26-1/2	26-1/2	76-1/2	11-TY3-08-0600	41-TY3-08-0600

△ Transition * Fabricated

WYE

(Soc*Soc*Soc)
(ANSI SCH80)
(Fabricated Socket Type)

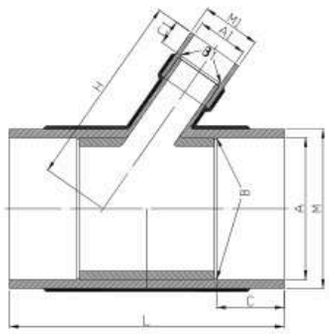


Unit: inch

Size	C	C1	A	A1	M	M1	B	B1	H	L	UPVC code no.	CPVC code no.
10x10x10	5	5	10-23/32	10-23/32	12-3/64	12-3/64	10-47/64	10-47/64	23-13/16	27-27/32	11-TY5-08-250250	41-TY5-08-250250
10x10x2	5	1-1/2	10-23/32	2-13/32	12-3/64	2-61/64	10-47/64	2-3/8	18-33/64	21-1/16	11-TY5-08-250050	41-TY5-08-250050
10x10x3	5	1-7/8	10-23/32	3-33/64	12-3/64	4-1/4	10-47/64	3-33/64	18-33/64	21-1/16	11-TY5-08-250080	41-TY5-08-250080
10x10x4	5	2-1/4	10-23/32	4-17/32	12-3/64	5-9/32	10-47/64	4-1/2	18-33/64	21-1/16	11-TY5-08-250100	41-TY5-08-250100
10x10x6	5	3	10-23/32	6-21/32	12-3/64	7-41/64	10-47/64	6-5/8	18-33/64	21-5/64	11-TY5-08-250150	41-TY5-08-250150
10x10x8	5	4	10-23/32	8-21/32	12-3/64	9-47/64	10-47/64	8-5/8	21-17/32	25	11-TY5-08-250200	41-TY5-08-250200
12x12x12	6	6	12-25/32	12-25/32	14-3/8	14-3/8	12-47/64	12-47/64	28-61/64	33-25/64	11-TY5-08-300300	41-TY5-08-300300
12x12x2	6	1-1/2	12-25/32	2-13/32	14-3/8	2-61/64	12-47/64	2-3/8	17-39/64	24-51/64	11-TY5-08-300050	41-TY5-08-300050
12x12x3	6	1-7/8	12-25/32	3-33/64	14-3/8	4-1/4	12-47/64	3-33/64	17-39/64	24-51/64	11-TY5-08-300080	41-TY5-08-300080
12x12x4	6	2-1/4	12-25/32	4-17/32	14-3/8	5-9/32	12-47/64	4-1/2	17-39/64	24-51/64	11-TY5-08-300100	41-TY5-08-300100
12x12x6	6	3	12-25/32	6-21/32	14-3/8	7-41/64	12-47/64	6-5/8	23-57/64	24-51/64	11-TY5-08-300150	41-TY5-08-300150
12x12x8	6	4	12-25/32	8-21/32	14-3/8	9-47/64	12-47/64	8-5/8	23-57/64	24-51/64	11-TY5-08-300200	41-TY5-08-300200
12x12x10	6	5	12-25/32	10-23/32	14-3/8	12-3/64	12-47/64	10-47/64	26-49/64	28-47/64	11-TY5-08-300250	41-TY5-08-300250
14x14x14	7	7	14-5/64	14-5/64	15-1/2	15-1/2	13-63/64	13-63/64	31-45/64	37-57/64	11-TY5-08-350350	41-TY5-08-350350
14x14x2	7	1-1/2	14-5/64	2-13/32	15-1/2	2-61/64	13-63/64	2-3/8	19-17/64	28-47/64	11-TY5-08-350050	41-TY5-08-350050
14x14x3	7	1-7/8	14-5/64	3-33/64	15-1/2	4-1/4	13-63/64	3-33/64	19-17/64	28-47/64	11-TY5-08-350080	41-TY5-08-350080
14x14x4	7	2-1/4	14-5/64	4-17/32	15-1/2	5-9/32	13-63/64	4-1/2	19-17/64	28-47/64	11-TY5-08-350100	41-TY5-08-350100
14x14x6	7	3	14-5/64	6-21/32	15-1/2	7-41/64	13-63/64	6-5/8	20-27/32	28-47/64	11-TY5-08-350150	41-TY5-08-350150
14x14x8	7	4	14-5/64	8-21/32	15-1/2	9-47/64	13-63/64	8-5/8	20-27/32	28-47/64	11-TY5-08-350200	41-TY5-08-350200
14x14x10	7	5	14-5/64	10-23/32	15-1/2	12-3/64	13-63/64	10-47/64	26-3/16	34-11/32	11-TY5-08-350250	41-TY5-08-350250
14x14x12	7	6	14-5/64	12-25/32	15-1/2	14-3/8	13-63/64	12-3/4	31-15/32	36-23/32	11-TY5-08-350300	41-TY5-08-350300
16x16x16	8	8	16-3/64	16-3/64	17-57/64	17-57/64	15-63/64	15-63/64	38-23/32	47-49/64	11-TY5-08-400400	41-TY5-08-400400
16x16x2	8	1-1/2	16-3/64	2-13/32	17-57/64	2-61/64	15-63/64	2-3/8	22-47/64	34-19/32	11-TY5-08-400050	41-TY5-08-400050
16x16x3	8	1-7/8	16-3/64	3-33/64	17-57/64	4-1/4	15-63/64	3-33/64	22-47/64	34-19/32	11-TY5-08-400080	41-TY5-08-400080
16x16x4	8	2-1/4	16-3/64	4-17/32	17-57/64	5-9/32	15-63/64	4-1/2	22-47/64	34-19/32	11-TY5-08-400100	41-TY5-08-400100

WYE

(Soc*Soc*Soc)
(ANSI SCH80)
(Fabricated Socket Type)

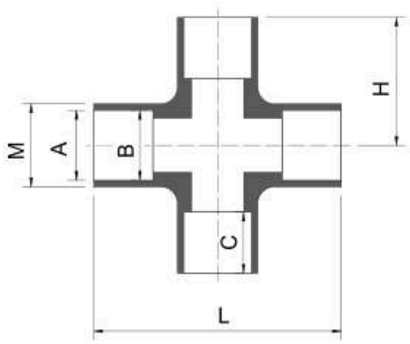


Unit: inch

Size	C	C1	A	A1	M	M1	B	B1	H	L	UPVC code no.	CPVC code no.
16x16x6	8	3	16-3/64	6-21/32	17-57/64	7-41/64	15-63/64	6-5/8	27-5/32	34-19/32	11-TY5-08-400150	41-TY5-08-400150
16x16x8	8	4	16-3/64	8-21/32	17-57/64	9-47/64	15-63/64	8-5/8	27-5/32	34-19/32	11-TY5-08-400200	41-TY5-08-400200
16x16x10	8	5	16-3/64	10-23/32	17-57/64	12-3/64	15-63/64	10-47/64	28-23/32	34-19/32	11-TY5-08-400250	41-TY5-08-400250
16x16x12	8	6	16-3/64	12-25/32	17-57/64	14-3/8	15-63/64	12-47/64	34-19/64	40-51/64	11-TY5-08-400300	41-TY5-08-400300
16x16x14	8	7	16-3/64	14-5/64	17-57/64	15-1/2	15-63/64	13-57/64	34-19/64	40-51/64	11-TY5-08-400350	41-TY5-08-400350
18x18x18	9	9	18-3/64	18-3/64	19-7/8	19-7/8	17-29/32	17-29/32	40-1/8	49-45/64	11-TY5-08-450450	41-TY5-08-450450
18x18x2	9	1-1/2	18-3/64	2-13/32	19-7/8	2-61/64	17-29/32	2-3/8	21-39/64	39-3/64	11-TY5-08-450050	41-TY5-08-250050
18x18x3	9	1-7/8	18-3/64	3-33/64	19-7/8	4-1/4	17-29/32	3-33/64	21-39/64	39-3/64	11-TY5-08-450080	41-TY5-08-450080
18x18x4	9	2-1/4	18-3/64	4-17/32	19-7/8	5-9/32	17-29/32	4-1/2	21-39/64	39-3/64	11-TY5-08-450100	41-TY5-08-450100
18x18x6	9	3	18-3/64	6-21/32	19-7/8	7-41/64	17-29/32	6-5/8	33-45/64	39-3/64	11-TY5-08-450150	41-TY5-08-450150
18x18x8	9	4	18-3/64	8-21/32	19-7/8	9-47/64	17-29/32	8-5/8	33-45/64	39-3/64	11-TY5-08-450200	41-TY5-08-450200
18x18x10	9	5	18-3/64	10-23/32	19-7/8	12-3/64	17-29/32	10-3/4	33-45/64	39-3/64	11-TY5-08-450250	41-TY5-08-450250
18x18x12	9	6	18-3/64	12-25/32	19-7/8	14-3/8	17-29/32	12-47/64	43-5/64	48-55/64	11-TY5-08-450300	41-TY5-08-450300
18x18x14	9	7	18-3/64	14-5/64	19-7/8	15-1/2	17-29/32	13-57/64	43-5/64	48-55/64	11-TY5-08-450350	41-TY5-08-450350
18x18x16	9	8	18-3/64	16-3/64	19-7/8	17-57/64	17-29/32	15-63/64	43-5/64	48-55/64	11-TY5-08-450400	41-TY5-08-450400
20x20x20	10	10	20-3/64	20-3/64	22-15/64	22-15/64	19-63/64	19-63/64	47-1/6	53-39-64	11-TY5-08-500500	41-TY5-08-500500
20x20x2	10	1-1/2	20-3/64	2-13/32	22-15/64	2-61/64	19-63/64	2-3/8	36-17/64	43-1/32	11-TY5-08-500050	41-TY5-08-500050
20x20x3	10	1-7/8	20-3/64	3-33/64	22-15/64	4-1/4	19-63/64	3-33/64	36-17/64	43-1/32	11-TY5-08-500080	41-TY5-08-500080
20x20x4	10	2-1/4	20-3/64	4-17/32	22-15/64	5-9/32	19-63/64	4-1/2	36-17/64	43-1/32	11-TY5-08-500100	41-TY5-08-500100
20x20x6	10	3	20-3/64	6-21/32	22-15/64	7-41/64	19-63/64	6-5/8	31-23/32	43-1/32	11-TY5-08-500150	41-TY5-08-500150
20x20x8	10	4	20-3/64	8-21/32	22-15/64	9-47/64	19-63/64	8-5/8	31-23/32	43-1/32	11-TY5-08-500200	41-TY5-08-500200
20x20x10	10	5	20-3/64	10-23/32	22-15/64	12-3/64	19-63/64	10-3/4	31-23/32	43-1/32	11-TY5-08-500250	41-TY5-08-500250
20x20x12	10	6	20-3/64	12-25/32	22-15/64	14-3/8	19-63/64	12-47/64	44-47/64	53-35/64	11-TY5-08-500300	41-TY5-08-500300
20x20x14	10	7	20-3/64	14-5/64	22-15/64	15-1/2	19-63/64	13-57/64	44-47/64	53-35/64	11-TY5-08-500350	41-TY5-08-500350
20x20x16	10	8	20-3/64	16-3/64	22-15/64	17-57/64	19-63/64	15-63/64	44-47/64	53-35/64	11-TY5-08-500400	41-TY5-08-500400
20x20x18	10	9	20-3/64	18-3/64	22-15/64	19-7/8	19-63/64	17-29/32	44-47/64	53-35/64	11-TY5-08-500450	41-TY5-08-500450

CROSS

(Soc*Soc*Soc*Soc)
(ANSI SCH80)





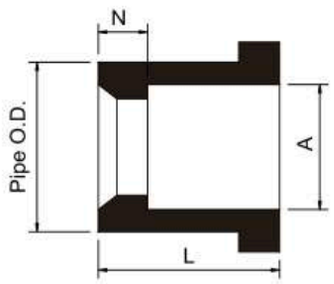
Unit: inch

Size	A	B	C	H	M	L	UPVC code no.	CPVC code no.
1/2	27/32	27/32	7/8	1-23/64	1-3/16	2-23/32	11-TZ1-08-0015	41-TZ1-08-0015
3/4	1-1/16	1-1/16	1	1-5/8	1-3/8	3-1/	11-TZ1-08-0020	41-TZ1-08-0020
1	1-11/32	1-5/16	1-1/8	2-3/32	1-11/16	4-3/16	11-TZ1-08-0025	41-TZ1-08-0025
1-1/4	1-11/16	1-21/32	1-1/8	2-11/32	2-1/16	4-43/64	11-TZ1-08-0032	41-TZ1-08-0032
1-1/2	1-29/32	1-29/32	1-3/8	2-5/8	2-7/16	5-1/4	11-TZ1-08-0040	41-TZ1-08-0040
2	2-13/32	2-3/8	1-1/2	3	3-1/16	6	11-TZ1-08-0050	41-TZ1-08-0050
2-1/2	2-29/32	2-7/8	1-3/4	3-7/16	3-19/32	6-7/8	11-TZ1-08-0065	41-TZ1-08-0065
3	3-17/32	3-1/2	1-7/8	3-15/16	4-19/64	7-7/8	11-TZ1-08-0080	41-TZ1-08-0080
4	4-17/32	4-1/2	2-1/4	4-7/8	5-1/4	9-3/4	11-TZ1-08-0100	41-TZ1-08-0100
6	6-5/8	6-19/32	3	10-1/2	7-17/32	21	11-TZ1-08-0150	41-TZ1-08-0150
8	8-21/32	8-19/32	3-31/32	12-1/8	10-5/32	24-1/4	11-TZ1-08-0200	41-TZ1-08-0200
* 10	10-7/8	10-25/32	5-17/32	14-1/2	12	29	11-TZ1-08-0250	41-TZ1-08-0250
* 12	12-13/16	12-11/16	6-5/16	16-7/16	14-1/8	32-7/8	11-TZ1-08-0300	41-TZ1-08-0300
* 14	14-1/32	13-29/32	7	19-1/4	15-1/2	38-1/2	11-TZ1-08-0350	41-TZ1-08-0350
* 16	16-1/16	15-29/32	8-15/32	21-1/8	17-11/16	42-1/4	11-TZ1-08-0400	41-TZ1-08-0400
* 18	18-1/16	17-7/8	9	23-1/2	20	47	11-TZ1-08-0450	41-TZ1-08-0450
* 20	20-3/32	19-29/32	10	24-7/8	22-1/8	49-3/4	11-TZ1-08-0500	41-TZ1-08-0500
* 24	24-1/8	23-15/16	11-1/32	28-3/4	26-1/2	57-1/2	11-TZ1-08-0600	41-TZ1-08-0600

* Fabricated

REDUCER BUSHING

(SipgxSoc)
(Flush Style)
(ANSI SCH80)



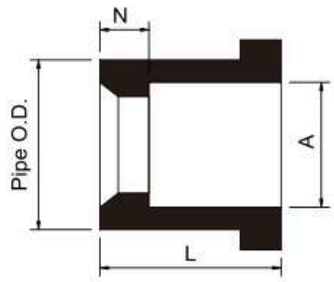


Unit: inch

Size	N	L	A	UPVC code no.	CPVC code no.
3/4x1/2	25/64	1-17/64	27/32	11-RB1-08-020015	41-RB1-08-020015
1x1/2	1/2	1-3/8	27/32	11-RB1-08-025015	41-RB1-08-025015
1x3/4	25/64	1-3/8	1-1/16	11-RB1-08-025020	41-RB1-08-025020
1-1/4x1/2	11/16	1-9/16	27/32	11-RB1-08-032015	41-RB1-08-032015
1-1/4x3/4	9/16	1-9/16	1-1/16	11-RB1-08-032020	41-RB1-08-032020
1-1/4x1	29/64	1-9/16	1-21/64	11-RB1-08-032025	41-RB1-08-032025
1-1/2x1/2	7/8	1-45/64	27/32	11-RB1-08-040015	41-RB1-08-040015
1-1/2x3/4	47/64	1-45/64	1-1/16	11-RB1-08-040020	41-RB1-08-040020
1-1/2x1	5/8	1-45/64	1-21/64	11-RB1-08-040025	41-RB1-08-040025
1-1/2x1-1/4	29/64	1-45/64	1-43/64	11-RB1-08-040032	41-RB1-08-040032
2x1/2	63/64	1-29/32	27/32	11-RB1-08-050015	41-RB1-08-050015
2x3/4	29/32	1-29/32	1-1/16	11-RB1-08-050020	41-RB1-08-050020
2x1	25/32	1-29/32	1-21/64	11-RB1-08-050025	41-RB1-08-050025
2x1-1/4	21/32	1-29/32	1-43/64	11-RB1-08-050032	41-RB1-08-050032
2x1-1/2	35/64	1-29/32	1-29/32	11-RB1-08-050040	41-RB1-08-050040
2-1/2x2	53/64	2-11/32	2-25/64	11-RB1-08-065050	41-RB1-08-065050
3x1	1-13/64	2-5/16	1-21/64	11-RB1-08-080025	41-RB1-08-080025
3x1-1/2	15/16	2-5/16	1-29/32	11-RB1-08-080040	41-RB1-08-080040
3x2	13/16	2-5/16	2-25/64	11-RB1-08-080050	41-RB1-08-080050
3x2-1/2	9/32	2-5/16	2-57/64	11-RB1-08-080065	41-RB1-08-080065
4x2	1-5/32	2-21/32	2-25/64	11-RB1-08-100050	41-RB1-08-100050
4x3	25/32	2-21/32	3-33/64	11-RB1-08-100080	41-RB1-08-100080
5x3	1-5/32	3-1/32	3-33/64	11-RB1-08-125080	41-RB1-08-125080

REDUCER BUSHING

(SipgxSoc)
(Flush Style)
(ANSI SCH80)





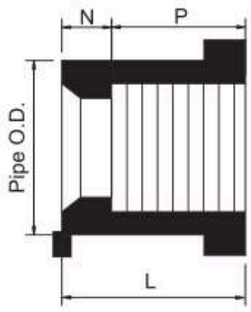
Unit : inch

Size	N	L	A	UPVC code no.	CPVC code no.
5x4	49/64	3-1/32	4-33/64	11-RB1-08-125100	41-RB1-08-125100
6x2	1-31/32	3-15/32	2-25/64	11-RB1-08-150050	41-RB1-08-150050
6x3	1-45/64	3-35/64	3-33/64	11-RB1-08-150080	41-RB1-08-150080
6x4	1-9/32	3-35/64	4-33/64	11-RB1-08-150100	41-RB1-08-150100
6x5	27/32	3-15/32	5-37/64	11-RB1-08-150125	41-RB1-08-150125
8x2	3-1/64	4-33/64	2-25/64	11-RB1-08-200050	41-RB1-08-200050
8x3	2-41/64	4-33/64	3-33/64	11-RB1-08-200080	41-RB1-08-200080
8x4	2-1/4	4-33/64	4-33/64	11-RB1-08-200100	41-RB1-08-200100
8x5	1-7/8	4-33/64	5-37/64	11-RB1-08-200125	41-RB1-08-200125
8x6	1-33/64	4-33/64	6-21/32	11-RB1-08-200150	41-RB1-08-200150
10x3	3-47/64	5-39/64	3-33/64	11-RB1-08-250080	41-RB1-08-250080
10x4	3-11/32	5-39/64	4-33/64	11-RB1-08-250100	41-RB1-08-250100
10x6	2-19/32	5-5/8	6-21/32	11-RB1-08-250150	41-RB1-08-250150
10x8	1-39/64	5-41/64	8-21/32	11-RB1-08-250200	41-RB1-08-250200
12x4	4-7/16	6-45/64	4-33/64	11-RB1-08-300100	41-RB1-08-300100
12x6	3-45/64	6-45/64	6-21/32	11-RB1-08-300150	41-RB1-08-300150
12x8	2-45/64	6-1/2	8-21/32	11-RB1-08-300200	41-RB1-08-300200
12x10	1-45/64	6-1/2	10-55/64	11-RB1-08-300250	41-RB1-08-300250
14x8	3-49/64	7-25/32	8-21/32	11-RB1-08-350200	41-RB1-08-350200
14x12	1-25/32	7-25/32	12-25/32	11-RB1-08-350300	41-RB1-08-350300
16x14	1-59/64	8-59/64	14-1/32	11-RB1-08-400350	41-RB1-08-400350
18x16	1-15/16	9-15/16	16-1/32	11-RB1-08-450400	41-RB1-08-450400
* 20x18	2-1/32	11-1/32	18-1/32	11-RB1-08-500450	41-RB1-08-500450
* 24x20	3-7/16	13-1/2	20-1/32	11-RB1-08-600500	41-RB1-08-600500

* Fabricated

REDUCER BUSHING

(SpigxFipt)
(Flush Style)
(ANSI SCH80)



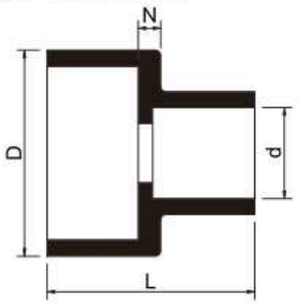


Unit : inch

Size	N	L	P	UPVC code no.	CPVC code no.
3/8 x 1/4	3/8	1	5/8	11-RB2-08-010008	41-RB2-08-010008
1/2 x 1/8	11/16	1-1/16	3/8	11-RB2-08-015003	41-RB2-08-015003
1/2 x 1/4	7/16	1-7/64	5/8	11-RB2-08-015008	41-RB2-08-015008
1/2 x 3/8	29/64	1-7/64	9/16	11-RB2-08-015010	41-RB2-08-015010
3/4 x 1/4	33/64	1-9/32	37/64	11-RB2-08-020008	41-RB2-08-020008
3/4 x 1/2	33/64	1-9/32	37/64	11-RB2-08-020015	41-RB2-08-020015
1 x 3/8	13/16	1-3/8	9/16	11-RB2-08-025010	41-RB2-08-025010
1 x 1/2	41/64	1-29/64	39/64	11-RB2-08-025015	41-RB2-08-025015
1 x 3/4	41/64	1-15/32	45/64	11-RB2-08-025020	41-RB2-08-025020
1-1/4 x 1/2	13/16	1-9/16	3/4	11-RB2-08-032015	41-RB2-08-032015
1-1/4 x 3/4	3/4	1-9/16	13/16	11-RB2-08-032020	41-RB2-08-032020
1-1/4 x 1	5/8	1-9/16	15/16	11-RB2-08-032025	41-RB2-08-032025
1-1/2 x 1/2	1	1-11/16	11/16	11-RB2-08-040015	41-RB2-08-040015
1-1/2 x 3/4	19/32	1-47/64	45/64	11-RB2-08-040020	41-RB2-08-040020
1-1/2 x 1	19/32	1-47/64	25/32	11-RB2-08-040025	41-RB2-08-040025
1-1/2 x 1-1/4	11/16	1-11/16	1	11-RB2-08-040032	41-RB2-08-040032
2 x 1/2	1-1/8	1-15/16	13/16	11-RB2-08-050015	41-RB2-08-050015
2 x 3/4	1-5/32	1-7/8	23/32	11-RB2-08-050020	41-RB2-08-050020
2 x 1	15/16	1-7/8	15/16	11-RB2-08-050025	41-RB2-08-050025
2 x 1-1/4	29/32	1-7/8	31/32	11-RB2-08-050032	41-RB2-08-050032
2 x 1-1/2	7/8	1-7/8	1	11-RB2-08-050040	41-RB2-08-050040
2-1/2 x 1/2	1-11/16	2-3/8	11/16	11-RB2-08-065015	41-RB2-08-065015
2-1/2 x 3/4	1-5/8	2-7/16	13/16	11-RB2-08-065020	41-RB2-08-065020
2-1/2 x 1	1-3/8	2-7/16	1-1/16	11-RB2-08-065025	41-RB2-08-065025
2-1/2 x 1-1/4	1-3/8	2-3/8	1	11-RB2-08-065032	41-RB2-08-065032
2-1/2 x 1-1/2	1-3/8	2-3/8	1	11-RB2-08-065040	41-RB2-08-065040
2-1/2 x 2	1-5/16	2-3/8	1-1/16	11-RB2-08-065050	41-RB2-08-065050
3 x 3/4	1-7/8	2-7/16	9/16	11-RB2-08-080020	41-RB2-08-080020
3 x 1	1-3/8	2-7/16	1-1/16	11-RB2-08-080025	41-RB2-08-080025
3 x 1-1/4	1-3/8	2-7/16	1-1/16	11-RB2-08-080032	41-RB2-08-080032
3 x 1-1/2	1-3/8	2-7/16	1-1/16	11-RB2-08-080040	41-RB2-08-080040
3 x 2	1-3/8	2-3/8	1	11-RB2-08-080050	41-RB2-08-080050
3 x 2-1/2	13/16	2-3/8	1-9/16	11-RB2-08-080065	41-RB2-08-080065
4 x 2	1-1/2	2-5/8	1-1/8	11-RB2-08-100050	41-RB2-08-100050
4 x 2-1/2	1-1/8	2-11/16	1-9/16	11-RB2-08-100065	41-RB2-08-100065
4 x 3	1-1/16	2-11/16	1-5/8	11-RB2-08-100080	41-RB2-08-100080
6 x 2	2-15/16	4-1/16	1-1/8	11-RB2-08-150050	41-RB2-08-150050
6 x 3	2-3/8	4	1-5/8	11-RB2-08-150080	41-RB2-08-150080
6 x 4	2-1/4	4	1-3/4	11-RB2-08-150100	41-RB2-08-150100

REDUCER COUPLING

(SocxSoc)
(ANSI SCH80)





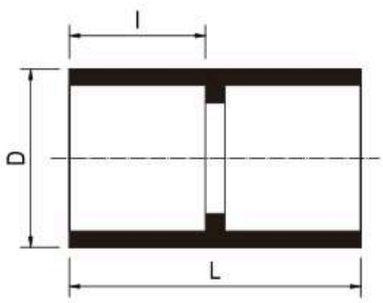
Unit: inch

Size	D	d	N	L	UPVC code no.	CPVC code no.
3/4x1/2	1-3/8	27/32	11/32	2-1/8	11-RC1-08-020015	41-RC1-08-020015
1x1/2	1-11/16	27/32	7/32	2-3/16	11-RC1-08-025015	41-RC1-08-025015
1x3/4	1-11/16	1-3/64	5/16	2-11/32	11-RC1-08-025020	41-RC1-08-025020
1-1/4x3/4	2-7/64	1-3/64	13/32	2-1/2	11-RC1-08-032020	41-RC1-08-032020
1-1/4x1	2-7/64	1-21/64	5/16	2-11/16	11-RC1-08-032025	41-RC1-08-032025
1-1/2x1/2	2-23/64	27/32	21/32	2-25/32	11-RC1-08-040015	41-RC1-08-040015
1-1/2x3/4	2-23/64	1-3/64	1/4	2-1/2	11-RC1-08-040020	41-RC1-08-040020
1-1/2x1	2-23/64	1-21/64	1/4	2-5/8	11-RC1-08-040025	41-RC1-08-040025
1-1/2x1-1/4	2-23/64	1-43/64	9/32	2-13/16	11-RC1-08-040032	41-RC1-08-040032
2x1/2	2-55/64	55/64	15/16	2-31/32	11-RC1-08-050015	41-RC1-08-050015
2x3/4	2-55/64	1-3/64	5/16	2-31/32	11-RC1-08-050020	41-RC1-08-050020
2x1	2-55/64	1-21/64	5/16	3-5/32	11-RC1-08-050025	41-RC1-08-050025
2x1-1/2	2-55/64	1-29/32	19/32	3-7/32	11-RC1-08-050040	41-RC1-08-050040
3x2	4-1/8	2-25/64	13/32	3-9/16	11-RC1-08-080050	41-RC1-08-080050
4x2	5-9/32	2-25/64	13/32	3-15/16	11-RC1-08-100050	41-RC1-08-100050
4x3	5-9/32	3-1/2	15/32	4-11/32	11-RC1-08-100080	41-RC1-08-100080
5x4	6-3/8	4-33/64	1/2	5-3/8	11-RC1-08-125100	41-RC1-08-125100
6x4	7-17/32	4-33/64	17/32	6-11/16	11-RC1-08-150100	41-RC1-08-150100
6x5	7-17/32	5-33/64	9/16	6-21/32	11-RC1-08-150125	41-RC1-08-150125
8x6	9-21/32	6-21/32	11/16	8	11-RC1-08-200150	41-RC1-08-200150
10x8	12-5/64	8-11/16	1-1/8	10-31/32	11-RC1-08-250200	41-RC1-08-250200
12x10	14-21/64	10-55/64	1-1/2	12-3/4	11-RC1-08-300250	41-RC1-08-300250
△ 14x12	15-1/2	12-25/32	3/8	15-11/64	11-RC1-08-350300	41-RC1-08-350300
△ 16x14	17-23/32	14-1/32	1-19/64	18-3/16	11-RC1-08-400350	41-RC1-08-400350
△ 18x16	19-7/8	16-3/64	1-17/32	20-31/64	11-RC1-08-450400	41-RC1-08-450400
＊ 20x18	22-1/8	18-1/32	5-49/64	24-13/16	11-RC1-08-500450	41-RC1-08-500450
＊ 24x20	26-41/64	20-1/16	6-7/64	26-23/64	11-RC1-08-600500	41-RC1-08-600500

△ Transition
＊ Fabricated

COUPLING

(Soc*Soc)
(ANSI SCH80)





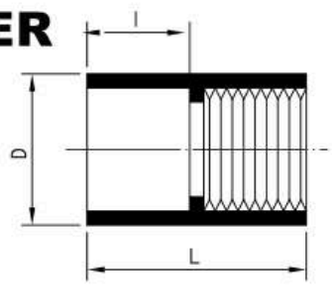
Unit: inch

Size	D	I	L	UPVC code no.	CPVC code no.
1/2	1-9/32	29/32	1-15/16	11-CL2-08-0015	41-CL2-08-0015
3/4	1-1/2	1	2-11/64	11-CL2-08-0020	41-CL2-08-0020
1	1-47/64	1-1/8	2-1/2	11-CL2-08-0025	41-CL2-08-0025
1-1/4	2-3/16	1-1/4	2-45/64	11-CL2-08-0032	41-CL2-08-0032
1-1/2	2-31/64	1-3/8	2-31/32	11-CL2-08-0040	41-CL2-08-0040
2	2-61/64	1-1/2	3-5/16	11-CL2-08-0050	41-CL2-08-0050
2-1/2	3-9/16	1-25/32	3-27/32	11-CL2-08-0065	41-CL2-08-0065
3	4-1/4	1-7/8	4-1/64	11-CL2-08-0080	41-CL2-08-0080
4	5-9/32	2-1/4	4-3/4	11-CL2-08-0100	41-CL2-08-0100
5	6-3/8	2-21/32	5-33/64	11-CL2-08-0125	41-CL2-08-0125
6	7-41/64	2-31/32	6-15/64	11-CL2-08-0150	41-CL2-08-0150
8	9-47/64	3-15/16	8-27/64	11-CL2-08-0200	41-CL2-08-0200
10	12-3/64	5-1/32	10-35/64	11-CL2-08-0250	41-CL2-08-0250
12	14-3/8	6-1/32	12-13/32	11-CL2-08-0300	41-CL2-08-0300
14	15-1/2	7	14-3/8	11-CL2-08-0350	41-CL2-08-0350
16	17-57/64	8	18-17/64	11-CL2-08-0400	41-CL2-08-0400
18	19-7/8	9	19-17/32	11-CL2-08-0450	41-CL2-08-0450
20	22-15/64	10-13/64	21-17/32	11-CL2-08-0500	41-CL2-08-0500
* 24	26-37/64	12-13/64	30-23/32	11-CL2-08-0600	41-CL2-08-0600

*Fabricated

FEMALE ADAPTER

(SocxFipt)
(ANSI SCH80)



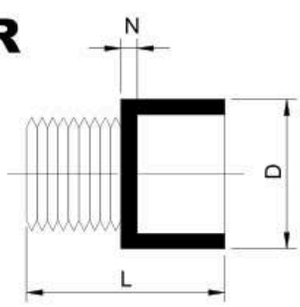


Unit: inch

Size	D	I	L	UPVC code no.	CPVC code no.
1/2	1-3/16	7/8	1-25/32	11-FD3-08-0015	41-FD3-08-0015
3/4	1-3/8	1	1-57/64	11-FD3-08-0020	41-FD3-08-0020
1	1-47/64	1-7/64	2-15/64	11-FD3-08-0025	41-FD3-08-0025
1-1/4	2-3/16	1-1/4	2-3/8	11-FD3-08-0032	41-FD3-08-0032
1-1/2	2-5/16	1-3/8	2-1/2	11-FD3-08-0040	41-FD3-08-0040
2	3	1-1/2	2-11/16	11-FD3-08-0050	41-FD3-08-0050
2-1/2	3-1/2	1-3/4	3-17/32	11-FD3-08-0065	41-FD3-08-0065
3	4-5/32	1-7/8	3-27/32	11-FD3-08-0080	41-FD3-08-0080
4	5-13/64	2-1/4	4-11/32	11-FD3-08-0100	41-FD3-08-0100

MALE ADAPTER

(MiptxSoc)
(ANSI SCH80)



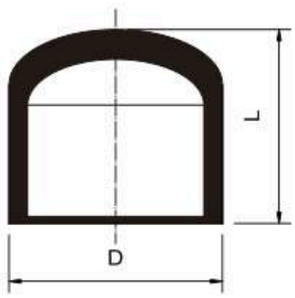


Unit: inch

Size	D	N	L	UPVC code no.	CPVC code no.
1/2	1-19/64	1/4	1-7/8	11-MD3-08-0015	41-MD3-08-0015
3/4	1-3/8	9/32	2-3/32	11-MD3-08-0020	41-MD3-08-0020
1	1-47/64	17/64	2-3/8	11-MD3-08-0025	41-MD3-08-0025
1-1/4	2-7/64	17/64	2-1/2	11-MD3-08-0032	41-MD3-08-0032
1-1/2	2-3/8	19/64	2-11/16	11-MD3-08-0040	41-MD3-08-0040
2	2-7/8	5/16	2-7/8	11-MD3-08-0050	41-MD3-08-0050
2-1/2	3-33/64	5/16	3-11/16	11-MD3-08-0065	41-MD3-08-0065
3	4-11/64	3/8	3-15/16	11-MD3-08-0080	41-MD3-08-0080
4	5-13/64	7/16	4-27/64	11-MD3-08-0100	41-MD3-08-0100

CAP

(Soc)
(ANSI SCH80)





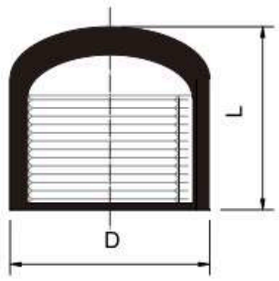
Unit: inch

Size	D	L	UPVC code no.	CPVC code no.
1/2	1-3/16	1-17/64	11-CP4-08-0015	41-CP4-08-0015
3/4	1-3/8	1-25/64	11-CP4-08-0020	41-CP4-08-0020
1	1-11/16	1-21/32	11-CP4-08-0025	41-CP4-08-0025
1-1/4	2	1-27/32	11-CP4-08-0032	41-CP4-08-0032
1-1/2	2-19/64	2-3/64	11-CP4-08-0040	41-CP4-08-0040
2	3-1/32	2-7/16	11-CP4-08-0050	41-CP4-08-0050
2-1/2	3-37/64	2-21/64	11-CP4-08-0065	41-CP4-08-0065
3	4-19/64	2-23-32	11-CP4-08-0080	41-CP4-08-0080
4	5-15/64	3-1/32	11-CP4-08-0100	41-CP4-08-0100
6	7-9/16	4-59/64	11-CP4-08-0150	41-CP4-08-0150
8	9-9/16	6-7/32	11-CP4-08-0200	41-CP4-08-0200
10	12-19/64	8-3/16	11-CP4-08-0250	41-CP4-08-0250
12	14-23/64	9-17/32	11-CP4-08-0300	41-CP4-08-0300
* 14	15-1/2	7-3/8	11-CP4-08-0350	41-CP4-08-0350
* 16	17-23/32	8-1/2	11-CP4-08-0400	41-CP4-08-0400
* 18	20	9-1/4	11-CP4-08-0450	41-CP4-08-0450
* 20	22-1/8	14	11-CP4-08-0500	41-CP4-08-0500
* 24	26-41/64	18	11-CP4-08-0600	41-CP4-08-0600

* Fabricated

CAP

(Fipt)
(ANSI SCH80)



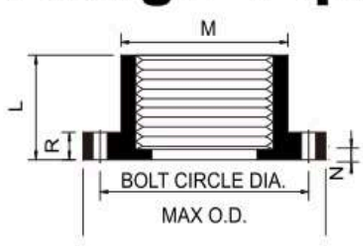


Unit: inch

Size	D	L	UPVC code no.	CPVC code no.
1/2	1-3/16	1-17/64	11-CP3-08-0015	41-CP3-08-0015
3/4	1-3/8	1-25/64	11-CP3-08-0020	41-CP3-08-0020
1	1-11/16	1-21/32	11-CP3-08-0025	41-CP3-08-0025
1-1/4	2-7/32	1-57/64	11-CP3-08-0032	41-CP3-08-0032
1-1/2	2-5/16	2-3/64	11-CP3-08-0040	41-CP3-08-0040
2	3-1/32	2-31/64	11-CP3-08-0050	41-CP3-08-0050
2-1/2	3-37/64	2-23/64	11-CP3-08-0065	41-CP3-08-0065
3	4-9/32	2-3/4	11-CP3-08-0080	41-CP3-08-0080
4	5-15/64	3-17/64	11-CP3-08-0100	41-CP3-08-0100

One-Piece Flange--Fipt

(ANSI)



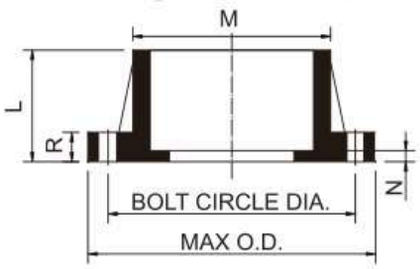


Unit: inch

Size	MAX. O.D.	L	M	N	R	Bolt Circle Dia.	No.of Bolt Holes	Bolt Size	Min. Bolt Length	UPVC code no.	CPVC code no.
1/2	3-1/2	47/64	1-3/8	9/32	35/64	2-3/8	4	5/8	2	11-FTA-08-0015	41-FTA-08-0015
3/4	3-31-32	29/32	1-31/64	5/16	11/16	2-3/4	4	5/8	2	11-FTA-08-0020	41-FTA-08-0020
1	4-21/64	15/16	2-3/64	11/32	11/16	3-1/8	4	5/8	2-1/4	11-FTA-08-0025	41-FTA-08-0025
1-1/4	4-11/16	63/64	2-3/8	7/32	39/64	3-1/2	4	5/8	2-1/4	11-FTA-08-0032	41-FTA-08-0032
1-1/2	5-1/32	1-1/32	2-47/64	1/4	25/32	3-7/8	4	5/8	2-1/2	11-FTA-08-0040	41-FTA-08-0040
2	6-9/64	1-1/4	3-1/8	5/16	55/64	4-3/4	4	3/4	3	11-FTA-08-0050	41-FTA-08-0050
2-1/2	6-63/64	1-7/64	4-3/16	5/16	25/32	5-1/2	4	3/4	3-1/4	11-FTA-08-0065	41-FTA-08-0065
3	7-17/32	1-17/64	4-45/64	3/8	29/32	6	4	3/4	3-1/4	11-FTA-08-0080	41-FTA-08-0080
4	9-3/64	1-27/64	5-17/32	9/16	29/32	7-1/2	8	3/4	3-1/2	11-FTA-08-0100	41-FTA-08-0100

One-Piece Flange--Slip

(ANSI)





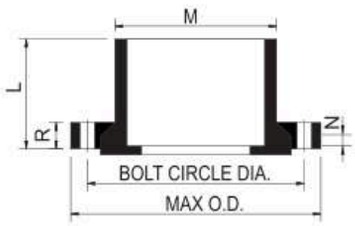
Unit : inch

Size	MAX. O.D.	L	M	N	R	Bolt Circle Dia.	No.of Bolt Holes	Bolt Size	Min. Bolt Length	UPVC code no.	CPVC code no.
1/2	3-1/2	13/16	1-17/64	1/8	15/32	2-3/8	4	1/2	2	11-FT4-08-0015	41-FT4-08-0015
3/4	3-7/8	1-1/8	1-11/2	1/8	33/64	2-3/4	4	1/2	2	11-FT4-08-0020	41-FT4-08-0020
1	4-9/32	1-17/64	1-53/64	1/8	39/64	3-1/8	4	1/2	2-1/4	11-FT4-08-0025	41-FT4-08-0025
1-1/4	4-37/64	1-11/32	2-11/64	5/32	39/64	3-1/2	4	1/2	2-1/4	11-FT4-08-0032	41-FT4-08-0032
1-1/2	5	1-37/64	2-1/2	5/32	21/32	3-7/8	4	1/2	2-1/2	11-FT4-08-0040	41-FT4-08-0040
2	6	1-21/32	3-3/64	1/8	23/32	4-3/4	4	5/8	3	11-FT4-08-0050	41-FT4-08-0050
2-1/2	7	2-9/64	3-1/2	3/8	61/64	5-1/2	4	5/8	3-1/4	11-FT4-08-0065	41-FT4-08-0065
3	7-3/64	2-9/32	4-3/8	17/64	55/64	6	4	5/8	3-1/4	11-FT4-08-0080	41-FT4-08-0080
4	9-3/64	2-3/8	5-25/64	5/32	1-7/64	7-1/2	8	5/8	3-1/2	11-FT4-08-0100	41-FT4-08-0100
5	10-1/16	3-7/8	6-3/8	1/4	1	8-1/2	8	3/4	3-3/4	11-FT4-08-0125	41-FT4-08-0125
6	10-63/64	3-13/64	7-37/64	13/64	1-15/64	9-1/2	8	3/4	4	11-FT4-08-0150	41-FT4-08-0150
8	13-1/2	6-1/2	9-3/8	35/64	1-9/64	11-3/4	8	3/4	4-1/2	11-FT4-08-0200	41-FT4-08-0200
10	16	5-9/16	12	9/16	1-11/32	14-1/4	12	15/16	5	11-FT4-08-0250	41-FT4-08-0250
12	19	6-5/8	14-1/2	5/8	1-7/16	17	12	31/32	5	11-FT4-08-0300	41-FT4-08-0300
* 14	21	7-5/8	15-3/4	5/8	1-1/2	18-3/4	12	1-5/64	5-1/2	11-FT4-08-0350	41-FT4-08-0350
* 16	23-1/2	8-23/32	17-11/16	23/32	1-19/32	21-1/4	16	1-3/32	6-1/2	11-FT4-08-0400	41-FT4-08-0400
* 18	25	9-23/32	20	23/32	1-21/32	22-3/4	16	1-1/8	6-1/2	11-FT4-08-0450	41-FT4-08-0450
* 20	27-1/2	10-25/32	22-1/8	3/4	1-3/4	25	20	1-9/32	5-15/16	11-FT4-08-0500	41-FT4-08-0500
* 24	32	12-19/32	26-1/2	3/4	1-13/16	29-1/2	20	1-3/8	6-9/32	11-FT4-08-0600	41-FT4-08-0600

* Fabricated

Van Stone Style Flange--Slip

(Two-Piece) (with plastic ring)
1/2″~20″
(Two-Piece) (with steel ring)
24″
(ANSI)

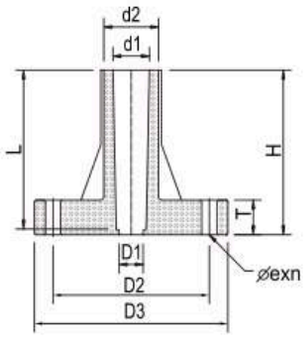




Unit: inch

Size	MAX. O.D.	L	M	N	R	Bolt Circle Dia.	No.of Bolt Holes	Bolt Size	Min. Bolt Length	UPVC code no.	CPVC code no.
1/2	3 -1/2	31/32	1 -7/32	1/8	33/64	2 - 3/8	4	1/2	2	11-FT5-08-0015	41-FT5-08-0015
3/4	3 -7/8	1-5/64	1-7/16	1/8	17/32	2 - 3/4	4	1/2	2	11-FT5-08-0020	41-FT5-08-0020
1	4-1/4	1-15/64	1-3/4	1/8	21/32	3 -1/8	4	1/2	2 -1/4	11-FT5-08-0025	41-FT5-08-0025
1-1/4	4 -9/16	1-23/64	2-3/32	1/8	21/32	3 -1/2	4	1/2	2 -1/4	11-FT5-08-0032	41-FT5-08-0032
1-1/2	4 -15/16	1-29/64	2 -3/8	1/8	23/32	3 - 7/8	4	1/2	2 - 1/2	11-FT5-08-0040	41-FT5-08-0040
2	5 -7/8	1 -39/64	2-7/8	1/8	3/4	4 - 3/4	4	5/8	3	11-FT5-08-0050	41-FT5-08-0050
2-1/2	6 -15/16	1-39/64	3-39/64	3/16	15/16	5 - 1/2	4	5/8	3 - 1/4	11-FT5-08-0065	41-FT5-08-0065
3	7 -1/2	2-13/64	4-7/32	1/4	1	6	8	5/8	3 - 1/4	11-FT5-08-0080	41-FT5-08-0080
4	9-1/16	2-7/16	5 -1/4	1/4	1-3/32	7 - 1/2	8	5/8	3 - 1/2	11-FT5-08-0100	41-FT5-08-0100
5	10 -1/8	2-7/8	6-23/64	1/4	1-9/64	8 - 1/2	8	3/4	3 - 3/4	11-FT5-08-0125	41-FT5-08-0125
6	11 -7/32	3-9/32	7 -9/16	3/8	1-11/32	9 -17/32	8	3/4	4	11-FT5-08-0150	41-FT5-08-0150
8	13 -1/2	4-9/16	9 -17/32	1/4	1-13/32	11-21/32	8	3/4	4 - 1/2	11-FT5-08-0200	41-FT5-08-0200
10	16-1/8	5-21/32	11 -47/64	3/8	1 -11/16	14-7/32	12	7/8	5	11-FT5-08-0250	41-FT5-08-0250
12	19 -3/32	7-9/32	13-45/64	9/16	1 -11/16	16-15/16	12	7/8	5	11-FT5-08-0300	41-FT5-08-0300
14	21 -1/16	7-31/64	15-29/64	7/16	2-1/64	18-13/16	12	1	5 - 1/2	11-FT5-08-0350	41-FT5-08-0350
16	23-1/2	8-27/64	17-23/32	7/16	2-23/64	21- 5/16	16	1	6 - 1/2	11-FT5-08-0400	41-FT5-08-0400
18	25	9-27/64	20-9/64	1/4	2-21/64	22-3/4	16	1-1/4	6-1/2	11-FT5-08-0450	41-FT5-08-0450
20	27-1/2	10-5/16	22-25/64	1/4	2-13/32	25	20	1-1/4	7-7/16	11-FT5-08-0500	41-FT5-08-0500
24	32	12-54/64	26-7/16	1/4	1-3/8	29-1/2	20	1-3/8	8-5/16	11-FT5-08-0600	41-FT5-08-0600

TS-FLANGE
ANSI





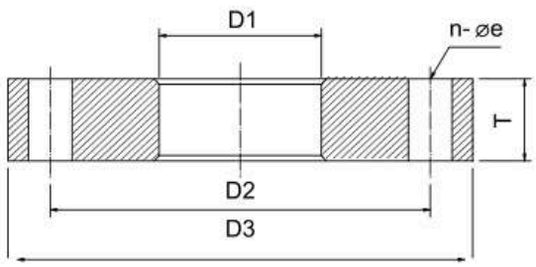
Unit: inch

Size	d1	D2	D3	D1	d2	L	T	H	n	ø e	UPVC code no.	CPVC code no.
1/2	7/8	2- 3/8	3- 1/2	23/32	1- 1/4	1- 7/32	19/32	1- 7/16	4	5/8	11-FT9-08-0015	41-FT9-08-0015
3/4	1-1/16	2- 3/4	3- 7/8	27/32	1- 3/8	1- 17/32	19/32	1- 11/16	4	5/8	11-FT9-08-0020	41-FT9-08-0020
1	1- 11/32	3- 1/8	4- 1/4	1- 1/32	1- 11/16	1- 21/32	5/8	1- 27/32	4	5/8	11-FT9-08-0025	41-FT9-08-0025
1-1/4	1- 11/16	3- 1/2	4- 5/8	1- 3/8	2- 1/32	1- 31/32	21/32	2- 3/16	4	5/8	11-FT9-08-0032	41-FT9-08-0032
1-1/2	1- 15/16	3- 7/8	5	1- 3/4	2- 13/32	2- 3/8	25/32	2- 19/32	4	5/8	11-FT9-08-0040	41-FT9-08-0040
2	2- 13/32	4- 3/4	6	2- 1/16	2- 29/32	2- 17/32	25/32	2- 25/32	4	3/4	11-FT9-08-0050	41-FT9-08-0050
2-1/2	2- 29/32	5- 1/2	7	2- 21/32	3- 1/2	2- 13/16	25/32	2- 23/32	4	3/4	11-FT9-08-0065	41-FT9-08-0065
3	3- 17/32	6	7- 1/2	3- 3/32	4- 5/64	2- 7/8	13/16	3- 5/32	4	3/4	11-FT9-08-0080	41-FT9-08-0080
4	4- 17/32	7- 1/2	9	3- 15/16	5- 7/32	3- 5/16	29/32	3- 19/32	8	3/4	11-FT9-08-0100	41-FT9-08-0100
5	5- 19/32	8- 1/2	10	4- 15/16	6- 1/4	3- 31/32	31/32	4- 13/32	8	7/8	11-FT9-08-0125	41-FT9-08-0125
6	6- 21/32	9- 1/2	11- 23/32	5- 29/32	7- 5/16	5- 3/32	31/32	5- 17/32	8	7/8	11-FT9-08-0150	41-FT9-08-0150
8	8-21/32	11-3/4	13- 1/2	7- 11/16	9-13/32	5-29/32	1- 1/8	6- 15/32	8	7/8	11-FT9-08-0200	41-FT9-08-0200
10	10-7/8	14-1/4	16	9-23/32	11-1/2	7-1/4	1-3/16	7-13/16	12	1	11-FT9-08-0250	41-FT9-08-0250
12	12-25/32	17	19	9-27/32	13-23/32	7-1/4	1-3/16	7-7/8	12	1	11-FT9-08-0300	41-FT9-08-0300
* 14	14-1/32	18-3/4	21	13-23/32	14-31/32	9-1/16	1-1/4	9-21/32	12	1-1/8	11-FT9-08-0350	41-FT9-08-0350
* 16	16-3/4	21-1/4	23-1/2	15-3/4	16-31/32	9-15/32	1-1/4	10-1/32	16	1-1/8	11-FT9-08-0400	41-FT9-08-0400
* 18	18-1/32	22-3/4	25	17-17/32	18-31/32	10-1/32	1-1/4	10-5/8	16	1-1/4	11-FT9-08-0450	41-FT9-08-0450
* 20	20-1/32	25	27-1/2	19-11/16	20-31/32	12	1-3/8	12-19/32	20	1-1/4	11-FT9-08-0500	41-FT9-08-0500
* 24	24-3/32	29-1/2	32	23-5/8	25-1/4	13-31/32	1-3/8	14-9/16	20	1-3/8	11-FT9-08-0600	41-FT9-08-0600

* Fabricated

WELDING-FLANGE

ANSI



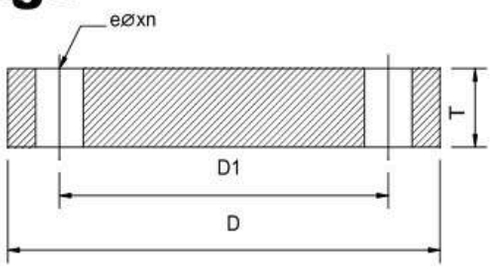


Unit: inch

Non Size	D1	D2	D3	T	e	n	UPVC code no.	CPVC code no.
1/2	27/32	2-3/8	3-1/2	5/8	5/8	4	11-FT8-08-0015	41-FT8-08-0015
3/4	1-1/16	2-3/4	3-7/8	9/16	5/8	4	11-FT8-08-0020	41-FT8-08-0020
1	1-5/16	3-1/8	4-1/4	23/32	5/8	4	11-FT8-08-0025	41-FT8-08-0025
1-1/4	1-21/32	3-1/2	4-5/8	23/32	5/8	4	11-FT8-08-0032	41-FT8-08-0032
1-1/2	1-29/32	3-7/8	5	3/4	5/8	4	11-FT8-08-0040	41-FT8-08-0040
2	2-3/8	4-3/4	5-31/32	3/4	3/4	4	11-FT8-08-0050	41-FT8-08-0050
2-1/2	2-7/8	5-17/32	7	3/4	3/4	4	11-FT8-08-0065	41-FT8-08-0065
3	3-1/2	5-31/32	7-17/32	29/32	3/4	4	11-FT8-08-0080	41-FT8-08-0080
4	4-1/2	7-17/32	9-1/32	29/32	3/4	8	11-FT8-08-0100	41-FT8-08-0100
5	5-9/16	8-1/2	10	29/32	7/8	8	11-FT8-08-0125	41-FT8-08-0125
6	6-5/8	9-1/2	10-31/32	29/32	7/8	8	11-FT8-08-0150	41-FT8-08-0150
8	8-5/8	11-3/4	13-1/2	29/32	7/8	8	11-FT8-08-0200	41-FT8-08-0200
10	10-3/4	14-1/4	15-31/32	27/32	31/32	12	11-FT8-08-0250	41-FT8-08-0250
12	12-3/4	17	19-1/32	27/32	31/32	12	11-FT8-08-0300	41-FT8-08-0300
14	14	18-3/4	20-31/32	1-1/8	1-5/32	12	11-FT8-08-0350	41-FT8-08-0350
16	16	21-9/32	23-1/2	1-1/8	1-5/32	16	11-FT8-08-0400	41-FT8-08-0400
18	18	22-3/4	25	1-1/8	1-9/32	16	11-FT8-08-0450	41-FT8-08-0450
20	20	25	27-17/32	1-1/8	1-9/32	20	11-FT8-08-0500	41-FT8-08-0500
24	24	29-1/2	32	1-1/8	1-3/8	20	11-FT8-08-0600	41-FT8-08-0600

Blind Flange

ANSI



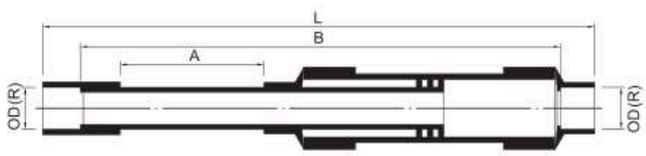


Unit : inch

Size	D	D1	T	Øe	N	UPVC code no.	CPVC code no.
1/2	3-1/2	2-3/8	5/8	5/8	4	11-FT7-08-0015	41-FT7-08-0015
3/4	3-7/8	2-3/4	11/16	5/8	4	11-FT7-08-0020	41-FT7-08-0020
1	4-1/4	3-1/8	11/16	5/8	4	11-FT7-08-0025	41-FT7-08-0025
1-1/4	4-5/8	3-1/2	3/4	5/8	4	11-FT7-08-0032	41-FT7-08-0032
1-1/2	5	3-7/8	3/4	5/8	4	11-FT7-08-0040	41-FT7-08-0040
2	6	4-3/4	7/8	13/16	4	11-FT7-08-0050	41-FT7-08-0050
2-1/2	6-15/16	5-1/2	13/16	13/16	4	11-FT7-08-0065	41-FT7-08-0065
3	7-1/2	6	15/16	13/16	4	11-FT7-08-0080	41-FT7-08-0080
4	9	7-1/2	15/16	13/16	8	11-FT7-08-0100	41-FT7-08-0100
5	10	8-1/2	1	7/8	8	11-FT7-08-0125	41-FT7-08-0125
6	11-1/8	9-1/2	1	7/8	8	11-FT7-08-0150	41-FT7-08-0150
8	13-9/16	11-3/4	1-1/8	7/8	8	11-FT7-08-0200	41-FT7-08-0200
10	16	14-1/4	1-3/16	15/16	12	11-FT7-08-0250	41-FT7-08-0250
12	19	17	1-5/16	15/16	12	11-FT7-08-0300	41-FT7-08-0300
14	20-15/16	18-3/4	1-5/16	1-1/8	12	11-FT7-08-0350	41-FT7-08-0350
16	23-1/2	21-1/4	1-7/16	1-1/8	16	11-FT7-08-0400	41-FT7-08-0400
18	25	22-3/4	1-1/8	1-1/4	16	11-FT7-08-0450	41-FT7-08-0450
20	27-1/2	25	1-1/8	1-1/4	20	11-FT7-08-0500	41-FT7-08-0500
24	32-1/16	29-1/2	1-1/8	1-1/4	20	11-FT7-08-0600	41-FT7-08-0600

EXPANSION JOINT REPAIR COUPLINGS





THREAD

Linear expansion and contraction from temperature fluctuations can be a major problem in thermoplastic piping system.

Expansion joints consist of two telescoping tubes with internal o'ring seals. For proper operation, the outer tube should be firmly anchored to allow free movement of the inner tube or piston. Support and thrust block the system to direct movement squarely into the expansion joint. Alignment is critical, axial guides should be installed to ensure straight movement into expansion joint.

Protect the cylinder shaft from scratches, damage and debris to prevent leaks.

General rule: For UPVC systems, allow 3/8" expansion for every 10F change in temperature per 100 feet of pipe. For CPVC systems, allow 1/2" expansion for every 10F change in temperature per 100 feet of pipe.

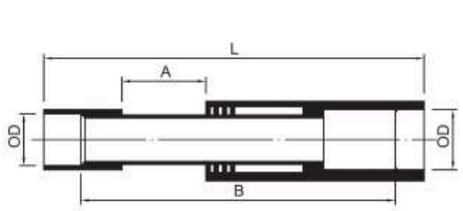
Unit : mm

Size	JIS	ANSI	DIN	6" TRAVEL			12" TRAVEL		
	R	R	R	A	L	B	A	L	B
1/2"	PT 1/2"	NPT 1/2"	R 1/2"	76	364	320	152	593	549
3/4"	PT 3/4"	NPT 3/4"	R 3/4"	76	376	325	152	605	554
1"	PT 1"	NPT 1"	R 1"	76	388	330	152	617	559
1-1/4"	PT 1-1/4"	NPT 1-1/4"	R 1-1/4"	76	399	335	152	628	564
1-1/2"	PT 1-1/2"	NPT 1-1/2"	R 1-1/2"	76	408	338	152	637	567
2"	PT 2"	NPT 2"	R 2"	76	436	360	152	665	589
2-1/2"	PT 2-1/2"	NPT 2-1/2"	R 2-1/2"	76	460	370	152	689	599
3"	PT 3"	NPT 3"	R 3"	76	472	370	152	701	599
4"	PT 4"	NPT 4"	R 4"	76	545	445	152	775	675

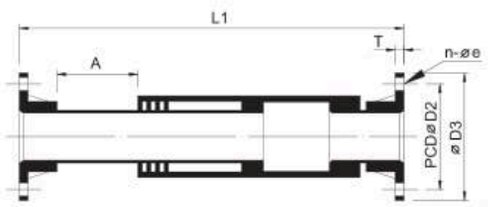
THREAD CODE NUMBER

Size	JIS		ANSI		DIN	
	6" TRAVEL	12" TRAVEL	6" TRAVEL	12" TRAVEL	6" TRAVEL	12" TRAVEL
1/2"	11-EJ3-08-015J	11-EJ4-08-015J	11-EJ3-08-015A	11-EJ4-08-015A	11-EJ3-08-015D	11-EJ4-08-015D
3/4"	11-EJ3-08-020J	11-EJ4-08-020J	11-EJ3-08-020A	11-EJ4-08-020A	11-EJ3-08-020D	11-EJ4-08-020D
1"	11-EJ3-08-025J	11-EJ4-08-025J	11-EJ3-08-025A	11-EJ4-08-025A	11-EJ3-08-025D	11-EJ4-08-025D
1-1/4"	11-EJ3-08-032J	11-EJ4-08-032J	11-EJ3-08-032A	11-EJ4-08-032A	11-EJ3-08-032D	11-EJ4-08-032D
1-1/2"	11-EJ3-08-040J	11-EJ4-08-040J	11-EJ3-08-040A	11-EJ4-08-040A	11-EJ3-08-040D	11-EJ4-08-040D
2"	11-EJ3-08-050J	11-EJ4-08-050J	11-EJ3-08-050A	11-EJ4-08-050A	11-EJ3-08-050D	11-EJ4-08-050D
2-1/2"	11-EJ3-08-065J	11-EJ4-08-065J	11-EJ3-08-065A	11-EJ4-08-065A	11-EJ3-08-065D	11-EJ4-08-065D
3"	11-EJ3-08-080J	11-EJ4-08-080J	11-EJ3-08-080A	11-EJ4-08-080A	11-EJ3-08-080D	11-EJ4-08-080D
4"	11-EJ3-08-100J	11-EJ4-08-100J	11-EJ3-08-100A	11-EJ4-08-100A	11-EJ3-08-100D	11-EJ4-08-100D

EXPANSION JOINT REPAIR COUPLINGS



SOCKET --- (EJ-S)



FLANGED --- (EJ-F)



JIS

Unit:mm

Size	OD	6" TRAVEL				12" TRAVEL				D2	D3	T	e	n
		A	EJ-S		EJ-F	A	EJ-S		EJ -F					
			L	B	L1		L	B	L1					
1/2"	22.20	76	360	317	397	152	579	535	616	70	95.40	15	15	4
3/4"	26.55	76	380	330	423	152	602	552	645	75	99.30	15	15	4
1"	32.55	76	396	340	443	152	624	568	671	90	124.6	15	19	4
1-1/4"	38.65	76	404	342	446	152	632	570	674	100	134.8	16	19	4
1-1/2"	48.90	76	424	354	480	152	652	582	708	105	139.8	17	19	4
2"	60.80	76	447	371	510	152	675	599	738	120	156.0	20	19	4
2-1/2"	76.80	76	482	392	542	152	710	620	770	140	173.8	20	19	4
3"	89.60	76	492	396	553	152	720	624	781	150	184.5	20	19	8
4"	114.70	76	537	422	627	152	765	650	855	175	210.0	23	19	8
5"	140.85	76	579	445	691	152	807	673	919	210	250.0	24	23	8
6"	166.00	76	640	488	781	152	868	716	1009	240	280.0	27	23	8
8"	218.00	76	733	529	895	152	--	--	1123	290	330.0	30	23	12
10"	268.00	76	856	606	1056	152	--	--	1284	355	400.0	33	25	12
12"	--	76	--	--	1073	152	--	--	1301	400	445.0	35	25	16

ANSI

Unit:mm

Size	OD	6" TRAVEL				12" TRAVEL				D2	D3	T	e	n
		A	EJ-S		EJ-F	A	EJ-S		EJ -F					
			L	B	L1		L	B	L1					
1/2"	21.64	76	360	317	397	152	579	535	616	60	89	13	16	4
3/4"	26.99	76	380	330	423	152	602	552	645	70	98	14	16	4
1"	33.78	76	396	340	443	152	624	568	671	79	108	15	16	4
1-1/4"	42.55	76	404	342	446	152	632	570	674	89	117	16	16	4
1-1/2"	48.72	76	424	354	480	152	652	582	708	98	127	18	16	4
2"	60.78	76	447	371	510	152	675	599	738	121	152	19	19	4
2-1/2"	73.56	76	482	392	542	152	710	620	770	140	178	25	19	4
3"	89.51	76	492	396	553	152	720	624	781	152	191	25	19	4
4"	114.99	76	537	422	627	152	765	650	855	190.5	228.6	25	19	8
5"	142.06	76	579	445	691	152	807	673	919	216.0	254.0	26	22.2	8
6"	169.09	76	640	488	781	152	868	716	1009	241.3	279.4	32	22.2	8
8"	219.07	76	733	529	895	152	--	--	1123	298.0	343.0	30	22.0	8
10"	273.81	76	856	606	1056	152	--	--	1284	362.0	406.0	33	25.0	12
12"	--	76	--	--	1073	152	--	--	1301	431.8	482.6	35	25.0	12

DIN

Unit:mm

Size	OD	6" TRAVEL				12" TRAVEL				D2	D3	T	e	n
		A	EJ-S		EJ-F	A	EJ-S		EJ -F					
			L	B	L1		L	B	L1					
1/2"	20	76	360	317	397	152	579	535	616	65	95	12.8	14	4
3/4"	25	76	380	330	423	152	602	552	645	75	105	12.8	14	4
1"	32	76	396	340	443	152	624	568	671	85	115	14.8	14	4
1-1/4"	40	76	404	342	446	152	632	570	674	100	140	15.8	18	4
1-1/2"	50	76	424	354	480	152	652	582	708	110	150	16.8	18	4
2"	63	76	447	371	510	152	675	599	738	125	165	18.8	18	4
2-1/2"	75	76	482	392	542	152	710	620	770	145	185	19.8	18	4
3"	90	76	492	396	553	152	720	624	781	160	200	20.8	18	8
4"	110	76	537	422	627	152	765	650	855	180	220	22.8	18	8
5"	140	76	579	445	691	152	807	673	919	210	250	23.0	18	8
6"	160	76	640	488	781	152	868	716	1009	240	289	23.0	23	8
8"	226	76	733	529	895	152	--	--	1123	295	331	23.0	23	8
10"	281	76	856	606	1056	152	--	--	1284	350	416	25.0	23	12
12"	--	76	--	--	1073	152	--	--	1301	400	445	25.0	23	12

EXPANSION JOINT REPAIR COUPLINGS



SOCKET CODE NUMBER (EJ-S)

Size	JIS		ANSI		DIN	
	6" TRAVEL	12" T RAVEL	6" TRAVEL	12" T RAVEL	6" TRAVEL	12" T RAVEL
1/2"	11-EJ5-08-015J	11-EJ6-08-015J	11-EJ5-08-015A	11-EJ6-08-015A	11-EJ5-08-015D	11-EJ6-08-015D
3/4"	11-EJ5-08-020J	11-EJ6-08-020J	11-EJ5-08-020A	11-EJ6-08-020A	11-EJ5-08-020D	11-EJ6-08-020D
1"	11-EJ5-08-025J	11-EJ6-08-025J	11-EJ5-08-025A	11-EJ6-08-025A	11-EJ5-08-025D	11-EJ6-08-025D
1-1/4"	11-EJ5-08-032J	11-EJ6-08-032J	11-EJ5-08-032A	11-EJ6-08-032A	11-EJ5-08-032D	11-EJ6-08-032D
1-1/2"	11-EJ5-08-040J	11-EJ6-08-040J	11-EJ5-08-040A	11-EJ6-08-040A	11-EJ5-08-040D	11-EJ6-08-040D
2"	11-EJ5-08-050J	11-EJ6-08-050J	11-EJ5-08-050A	11-EJ6-08-050A	11-EJ5-08-050D	11-EJ6-08-050D
2-1/2"	11-EJ5-08-065J	11-EJ6-08-065J	11-EJ5-08-065A	11-EJ6-08-065A	11-EJ5-08-065D	11-EJ6-08-065D
3"	11-EJ5-08-080J	11-EJ6-08-080J	11-EJ5-08-080A	11-EJ6-08-080A	11-EJ5-08-080D	11-EJ6-08-080D
4"	11-EJ5-08-100J	11-EJ6-08-100J	11-EJ5-08-100A	11-EJ6-08-100A	11-EJ5-08-100D	11-EJ6-08-100D
5"	11-EJ5-08-125J	11-EJ6-08-125J	11-EJ5-08-125A	11-EJ6-08-125A	11-EJ5-08-125D	11-EJ6-08-125D
6"	11-EJ5-08-150J	11-EJ6-08-150J	11-EJ5-08-150A	11-EJ6-08-150A	11-EJ5-08-150D	11-EJ6-08-150D
8"	11-EJ5-08-200J	--	11-EJ5-08-200A	--	11-EJ5-08-200D	--
10"	11-EJ5-08-250J	--	11-EJ5-08-250A	--	11-EJ5-08-250D	--
12"	--	--	--	--	--	--

FLANGED CODE NUMBER (EJ-F)

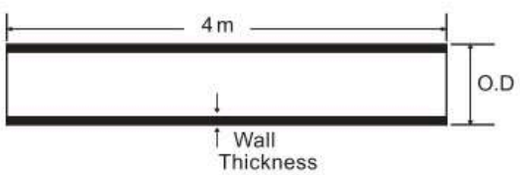
Size	JIS		ANSI		DIN	
	6" TRAVEL	12" T RAVEL	6" TRAVEL	12" T RAVEL	6" TRAVEL	12" T RAVEL
1/2"	11-EJ7-08-015J	11-EJ8-08-015J	11-EJ7-08-015A	11-EJ8-08-015A	11-EJ7-08-015D	11-EJ8-08-015D
3/4"	11-EJ7-08-020J	11-EJ8-08-020J	11-EJ7-08-020A	11-EJ8-08-020A	11-EJ7-08-020D	11-EJ8-08-020D
1"	11-EJ7-08-025J	11-EJ8-08-025J	11-EJ7-08-025A	11-EJ8-08-025A	11-EJ7-08-025D	11-EJ8-08-025D
1-1/4"	11-EJ7-08-032J	11-EJ8-08-032J	11-EJ7-08-032A	11-EJ8-08-032A	11-EJ7-08-032D	11-EJ8-08-032D
1-1/2"	11-EJ7-08-040J	11-EJ8-08-040J	11-EJ7-08-040A	11-EJ8-08-040A	11-EJ7-08-040D	11-EJ8-08-040D
2"	11-EJ7-08-050J	11-EJ8-08-050J	11-EJ7-08-050A	11-EJ8-08-050A	11-EJ7-08-050D	11-EJ8-08-050D
2-1/2"	11-EJ7-08-065J	11-EJ8-08-065J	11-EJ7-08-065A	11-EJ8-08-065A	11-EJ7-08-065D	11-EJ8-08-065D
3"	11-EJ7-08-080J	11-EJ8-08-080J	11-EJ7-08-080A	11-EJ8-08-080A	11-EJ7-08-080D	11-EJ8-08-080D
4"	11-EJ7-08-100J	11-EJ8-08-100J	11-EJ7-08-100A	11-EJ8-08-100A	11-EJ7-08-100D	11-EJ8-08-100D
5"	11-EJ7-08-125J	11-EJ8-08-125J	11-EJ7-08-125A	11-EJ8-08-125A	11-EJ7-08-125D	11-EJ8-08-125D
6"	11-EJ7-08-150J	11-EJ8-08-150J	11-EJ7-08-150A	11-EJ8-08-150A	11-EJ7-08-150D	11-EJ8-08-150D
8"	11-EJ7-08-200J	11-EJ8-08-200J	11-EJ7-08-200A	11-EJ8-08-200A	11-EJ7-08-200D	11-EJ8-08-200D
10"	11-EJ7-08-250J	11-EJ8-08-250J	11-EJ7-08-250A	11-EJ8-08-250A	11-EJ7-08-250D	11-EJ8-08-250D
12"	11-EJ7-08-300J	11-EJ8-08-300J	11-EJ7-08-300A	11-EJ8-08-300A	11-EJ7-08-300D	11-EJ8-08-300D

CPVC CTS PIPE & FITTING

PIPE

Unit: inch

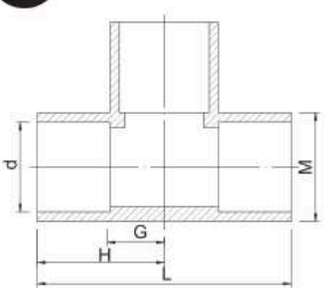
Nominal Pipe Size	Mean Outside Diameter	O.D. Tolerance	Minimum Wall Thickness	code
1/2"	0.625	±0.003	0.068	44-PIO-08-0015
3/4"	0.875	±0.003	0.080	44-PIO-08-0020
1"	1.125	±0.003	0.102	44-PIO-08-0025
1-1/4"	1.375	±0.003	0.125	44-PIO-08-0032
1-1/2"	1.625	±0.004	0.148	44-PIO-08-0040
2"	2.125	±0.004	0.193	44-PIO-08-0050



TEE

Unit: inch

Size	d	G	H	L	M	code
1/2"	0.633	7/16	15/16	1-7/8	13/16	44-TT5-08-0015
3/4"	0.884	17/32	1-1/4	2-1/2	1-3/32	44-TT5-08-0020
1"	1.135	11/16	1-19/32	3-5/32	1-11/32	44-TT5-08-0025
1-1/4"	1.386	13/16	1-29/32	3-25/32	1-21/32	44-TT5-08-0032
1-1/2"	1.840	15/16	2-1/4	4-15/32	1-31/32	44-TT5-08-0040
2"	2.141	1-3/16	2-29/32	5-25/32	2-9/16	44-TT5-08-0050

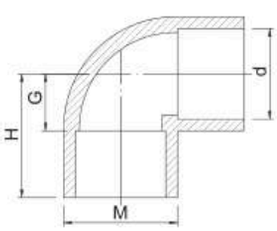




90°ELL

Unit: inch

Size	d	G	H	M	code
1/2"	0.633	3/8	15/16	7/8	44-L95-08-0015
3/4"	0.883	9/16	1-1/4	1-1/8	44-L95-08-0020
1"	1.135	11/16	1-9/16	1-3/8	44-L95-08-0025
1-1/4"	1.386	13/16	1-29/32	1-21/32	44-L95-08-0032
1-1/2"	1.840	15/16	2-1/4	1-31/32	44-L95-08-0040
2"	2.141	1-3/16	2-29/32	2-9/16	44-L95-08-0050

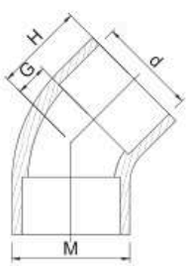




45°ELL

Unit: inch

Size	d	G	H	M	code
1/2"	0.633	3/4	3/16	13/18	44-L48-08-0015
3/4"	0.884	1	5/16	1-1/16	44-L48-08-0020
1"	1.135	1-1/4	11/32	1-11/32	44-L48-08-0025
1-1/4"	1.386	1-1/2	13/32	1-21/32	44-L48-08-0032
1-1/2"	1.840	1-3/4	7/16	1-31/32	44-L48-08-0040
2"	2.141	2-1/4	17/32	2-9/16	44-L48-08-0050



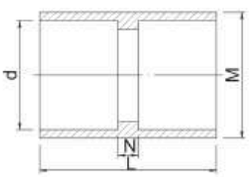


CPVC CTS PIPE & FITTING

COUPLING

Unit: inch

Size	d	L	M	N	code
1/2"	0.633	1-5/32	27/32	3/32	44-CL2-08-0015
3/4"	0.884	1-9/16	1-1/16	1/8	44-CL2-08-0020
1"	1.135	1-15/16	1-3/8	1/8	44-CL2-08-0025
1-1/4"	1.386	2-3/8	1-21/32	3/16	44-CL2-08-0032
1-1/2"	1.840	2-3/4	1-31/32	1/4	44-CL2-08-0040
2"	2.141	3-9/16	2-9/16	1/4	44-CL2-08-0050

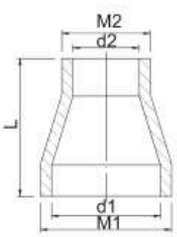




REDUCER COUPLING

Unit: inch

Size	d1	d2	L	M1	M2	code
3/4 * 1/2	0.884	0.633	1-38	1-3/32	27/32	44-RC3-08-020015
1 * 1/2	1.135	0.633	1-3/4	1-11/32	27/32	44-RC3-08-025015
1 * 3/4	1.135	0.884	1-3/4	1-11/32	1-3/32	44-RC3-08-025020
1-1/4 * 1/2	1.386	0.633	2-5/8	1-21/32	27/32	44-RC3-08-032015
1-1/4 * 3/4	1.386	0.884	2-5/8	1-21/32	1-3/32	44-RC3-08-032020
1-1/4 * 1	1.386	1.135	2-5/8	1-21/32	1-11/32	44-RC3-08-032025

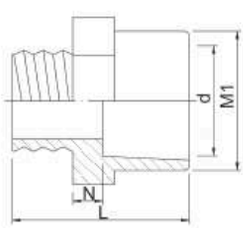




MALE ADAPTER

Unit: inch

Size	d	L	M1	M	code
1/2"	0.633	1-1/4	7/8	3/16	44-MD3-08-0015
3/4"	0.884	1-19/32	1-3/32	7/32	44-MD3-08-0020
1"	1.135	1-7/8	1-11/32	7/32	44-MD3-08-0025
1-1/4"	1.386	2-9/32	1-21/32	5/16	44-MD3-08-0032
1-1/2"	1.840	2-15/32	1-31/32	5/16	44-MD3-08-0040
2"	2.141	2-29/32	2-9/16	5/16	44-MD3-08-0050

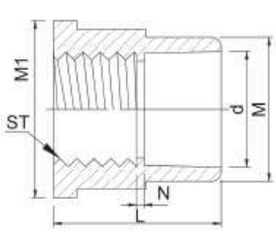




FEMALE ADAPTER

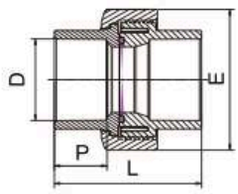
Unit: inch

Size	d	L	M	M1	N	code
1/2"	0.633	1-11/32	27/32	1-3/16	7/32	44-FD3-08-0015
3/4"	0.884	1-9/16	1-3/32	1-3/8	7/32	44-FD3-08-0020
1"	1.135	1-15/16	1-3/8	1-11/16	5/16	44-FD3-08-0025





UNION
(SocxSoc)
ANSI

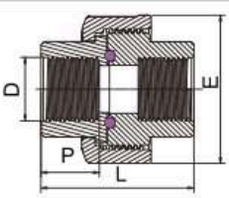




Unit: inch

Size	E	D	L		P	UPVC code		CPVC code	
			S	TS		S	TS	S	TS
1/2	1-27/32	27/32	2-3/16	2-1/4	7/8	11-EU3-08-0010	11-EU4-08-0010	41-EU3-08-0010	41-EU4-08-0010
3/4	2-13/32	1-1/16	2-11/16	2-17/32	1	11-EU3-08-0020	11-EU4-08-0020	41-EU3-08-0020	41-EU4-08-0020
1	2-3/4	1-5/16	2-31/32	2-27/32	1-1/8	11-EU3-08-0025	11-EU4-08-0025	41-EU3-08-0025	41-EU4-08-0025
1-1/4	3-7/32	1-21/32	3-3/16	3-3/16	1-1/4	11-EU3-08-0032	11-EU4-08-0032	41-EU3-08-0032	41-EU4-08-0032
1-1/2	3-1/2	1-29/32	3-9/16	3-9/16	1-3/8	11-EU3-08-0040	11-EU4-08-0040	41-EU3-08-0040	41-EU4-08-0040
2	3-31/32	2-3/8	4-1/32	4-1/32	1-1/2	11-EU3-08-0050	11-EU4-08-0050	41-EU3-08-0050	41-EU4-08-0050
2-1/2	5-29/32	2-7/8	3-7/16	4-17/32	1-3/4	11-EU3-08-0065	11-EU4-08-0065	41-EU3-08-0065	41-EU4-08-0065
3	7-1/4	3-1/2	4-21/32	5-3/8	1-7/8	11-EU3-08-0080	11-EU4-08-0080	41-EU3-08-0080	41-EU4-08-0080
4	7-27/32	4-1/2	6-5/32	6-5/32	2-1/4	11-EU3-08-0100	11-EU4-08-0100	41-EU3-08-0100	41-EU4-08-0400

UNION
(FiptxFip)
ANSI

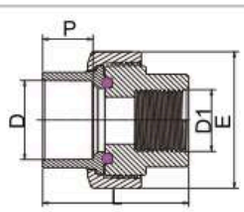




Unit: inch

Size	E	D	L		P	UPVC code		CPVC code	
			S	TS		S	TS	S	TS
1/2	1-27/32	NPT 1/2	2-3/16	2-1/4	7/8	11-EU5-08-0010	11-EU6-08-0010	41-EU5-08-0010	41-EU6-08-0010
3/4	2-13/32	NPT 3/4	2-11/16	2-17/32	1	11-EU5-08-0020	11-EU6-08-0020	41-EU5-08-0020	41-EU6-08-0020
1	2-3/4	NPT 1	2-31/32	2-27/32	1-1/8	11-EU5-08-0025	11-EU6-08-0025	41-EU5-08-0025	41-EU6-08-0025
1-1/4	3-7/32	NPT 1-1/4	3-3/16	3-3/16	1-1/4	11-EU5-08-0032	11-EU6-08-0032	41-EU5-08-0032	41-EU6-08-0032
1-1/2	3-1/2	NPT 1-1/2	3-9/16	3-9/16	1-3/8	11-EU5-08-0040	11-EU6-08-0040	41-EU5-08-0040	41-EU6-08-0040
2	3-31/32	NPT 2	4-1/32	4-1/32	1-1/2	11-EU5-08-0050	11-EU6-08-0050	41-EU5-08-0050	41-EU6-08-0050
2-1/2	5-29/32	NPT 2-1/2	3-7/16	4-17/32	1-3/4	11-EU5-08-0065	11-EU6-08-0065	41-EU5-08-0060	41-EU6-08-0065
3	7-1/4	NPT 3	4-21/32	5-3/8	1-7/8	11-EU5-08-0080	11-EU6-08-0080	41-EU5-08-0080	41-EU6-08-0080
4	7-27/32	NPT 4	6-5/32	6-5/32	2-1/4	11-EU5-08-0100	11-EU6-08-0100	41-EU5-08-0100	41-EU6-08-0400

UNION
(SocxFipt)
ANSI





Unit: inch

Size	E	D	D1	L		P	UPVC code		CPVC code	
				S	TS		S	TS	S	TS
1/2	1-27/32	27/32	NPT 1/2	2-3/16	2-1/4	7/8	11-EU7-08-0010	11-EU8-08-0010	41-EU7-08-0010	41-EU8-08-0010
3/4	2-13/32	1-1/16	NPT 3/4	2-11/16	2-17/32	1	11-EU7-08-0020	11-EU8-08-0020	41-EU7-08-0020	41-EU8-08-0020
1	2-3/4	1-5/16	NPT 1	2-31/32	2-27/32	1-1/8	11-EU7-08-0025	11-EU8-08-0025	41-EU7-08-0025	41-EU8-08-0025
1-1/4	3-7/32	1-21/32	NPT 1-1/4	3-3/16	3-3/16	1-1/4	11-EU7-08-0032	11-EU8-08-0032	41-EU7-08-0032	41-EU3-08-0032
1-1/2	3-1/2	1-29/32	NPT 1-1/2	3-9/16	3-9/16	1-3/8	11-EU7-08-0040	11-EU8-08-0040	41-EU7-08-0040	41-EU8-08-0040
2	3-31/32	2-3/8	NPT 2	4-1/32	4-1/32	1-1/2	11-EU7-08-0050	11-EU8-08-0050	41-EU7-08-0050	41-EU8-08-0050
2-1/2	5-29/32	2-7/8	NPT 2-1/2	3-7/16	4-17/32	1-3/4	11-EU7-08-0065	11-EU8-08-0065	41-EU7-08-0065	41-EU8-08-0065
3	7-1/4	3-1/2	NPT 3	4-21/32	5-3/8	1-7/8	11-EU7-08-0080	11-EU8-08-0080	41-EU7-08-0080	41-EU8-08-0080
4	7-27/32	4-1/2	NPT 4	6-5/32	6-5/32	2-1/4	11-EU7-08-0100	11-EU8-08-0100	41-EU7-08-0100	41-EU8-08-0400

CPVC-CTS COMPACT BALL VALVE

CTS100 SOCKET

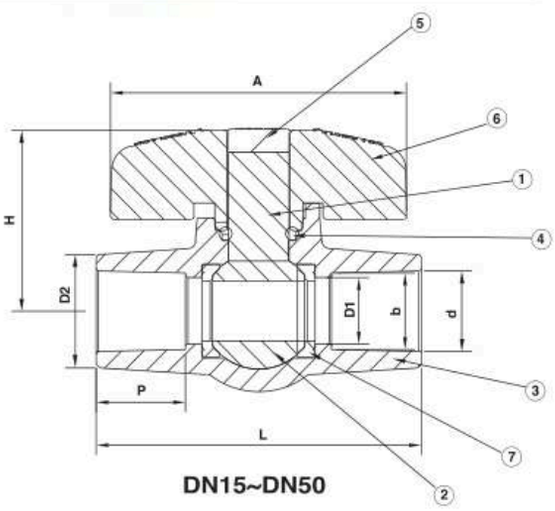
Size: 1/2"- 2" (Copper Tube Size)

NSF 14/NSF 61



MATERIALS OF CONSTRUCTION

Item	Parts	Pcs	Materials
1	Stem	1	CPVC
2	Ball	1	CPVC
3	Body	1	CPVC
4	Stem O'ring	2	EPDM
5	Cap	2	ABS
6	Handle	1	ABS
7	Seat	2	PTFE



DN15~DN50

DIMENSIONS TABLE

Standards Nom, Size DN-Inch	DIMENSIONS							Uniti:inch
	A	H	L	d	b	P	D1	D2
15(1/2")	2.441	1.327	2.701	0.633	0.619	0.709	0.504	0.965
20(3/4")	2.809	1.791	3.120	0.884	0.870	0.882	0.742	1.248
25(1")	2.988	2.185	3.551	1.135	1.121	1.020	0.756	1.512
32(1-1/4")	3.528	2.402	4.024	1.386	1.372	1.102	0.961	1.740
40(1-1/2")	4.098	2.539	4.598	1.640	1.622	1.299	1.260	2.134
50(2")	4.378	2.894	5.110	2.141	2.123	1.496	1.496	2.563

TRUE UNION(DOUBLE UNION)BALL VALVE

CD100 SOCKET/ CD200 THREAD/ CD300 FLANGED

Size: 1/2"- 4"

NSF 14/NSF 61



MATERIALS OF CONSTRUCTION

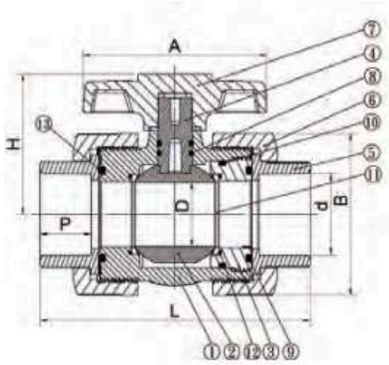
Item	Parts	Pcs	Materials	Item	Parts	Pcs	Materials
1	BODY	1	UPVC,PP,CPVC,PVDF	8	STEM O'RING	2	EPDM,VITON
2	BALL	1	UPVC,PP,CPVC,PVDF	9	END'S O'RING	1	EPDM,VITON
3	SEAT CARRIER	1	UPVC,PP,CPVC,PVDF	10	BODY O'RING	1	EPDM,VITON
4	STEM	1	UPVC,PP,CPVC,PVDF	11	SEAT	1	PTFE
5	END CONNECTOR	2	UPVC,PP,CPVC,PVDF	12	SOLID CARRIER O'RING	2	EPDM,VITON
6	UNION NUT	2	UPVC,PP,CPVC,PVDF	13	SOLID END O'RING	1	EPDM,VITON
7	HANDLE	1	ABS	14	FLANGE	2	UPVC,PP,CPVC,PVDF

DIMENSIONS TABLE

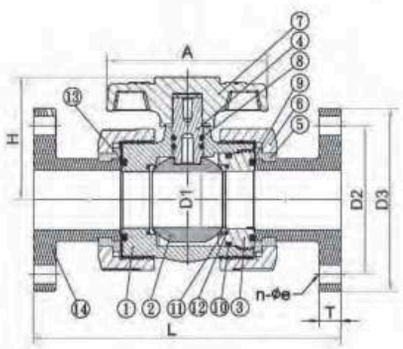
JIS

Unit:mm

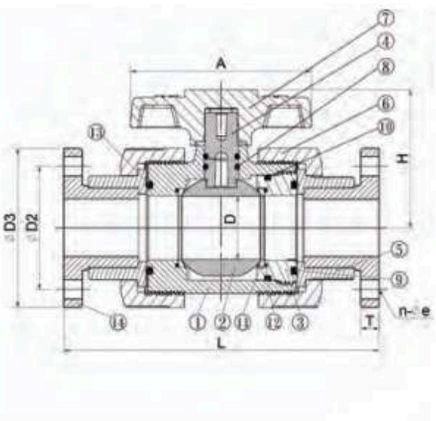
Nom Size DN-inch	D1	D2	D3	d		Øe	n	P	L			A	T	H	B	Testpress (kgf/cm²)	Working press (kgf/cm²)
				Socket	Thread				Socket	Thread	Flange						
15(1/2")	15	70	95	22	PT1/2	15	4	22.2	112	112	152	82.5	15	61	47	22.5	15
20(3/4")	20	75	100	26	PT3/4	15	4	25.4	130	130	170	101	15	64	61	22.5	15
25(1")	25	90	125	32	PT1	19	4	28.6	144	144	189	111	17	65	70	22.5	15
32(1-1/4")	38	100	135	38	PT1-1/4	19	4	31.8	167	167	211	111	17	89	93	22.5	15
40(1-1/2")	38	105	140	48	PT1-1/2	19	4	34.9	185	185	232	128.3	17	88.7	93	22.5	15
50(2")	48	120	155	60	PT2	19	4	38.1	198	198	250	152.5	20	108.5	113	22.5	15
65(2-1/2")	65	140	175	76	PT2-1/2	19	4	44.5	228	228	279	190	20	140	150	15	10
80(3")	78	150	185	89	PT3	19	8	47.6	273	273	328	230	23	165	184	15	10
100(4")	102	175	210	114	PT4	19	8	57.2	323	323	387	274	23	172	226	15	10



SOCKET & SCREW TYPE



15A-50A FLANGE TYPE



65A-100A FLANGE TYPE

DIMENSIONS TABLE

ANSI Unit:inch

Nominal Pipe Size	D1	D2	D3	d		e	n	P	L			A	T	H	B	Test Press (lb/in²)	Working press (lb/in²)
				Socket	Thread				Socket	Thread	Flange						
15(1/2")	0.59	2.375	3.500	0.848	NPT1/2	0.625	4	0.875	4.528	4.528	5.984	3.03	0.591	2.17	2.17	353	235
20(3/4")	0.748	2.750	3.875	1.058	NPT3/4	0.625	4	1.000	4.961	4.961	6.457	3.35	0.630	2.36	2.56	353	235
25(1")	0.98	3.125	4.250	1.325	NPT1	0.625	4	1.125	5.709	5.709	7.441	3.86	0.669	2.80	2.87	353	235
32(1-1/4")	1.496	3.500	4.625	1.670	NPT1-1/4	0.625	4	1.250	6.574	6.574	8.307	4.29	0.669	2.95	3.19	353	235
40(1-1/2")	1.496	3.875	5.000	1.912	NPT1-1/2	0.625	4	1.375	7.165	7.165	9.055	4.65	0.709	3.74	3.86	353	235
50(2")	1.89	4.750	6.000	2.387	NPT2	0.750	4	1.500	7.953	7.953	10.000	5.39	0.787	4.09	4.72	353	235
65(2-1/2")	2.56	5.500	7.000	2.889	NPT2-1/2	0.750	4	1.750	8.937	8.937	10.984	7.48	0.787	5.51	5.90	235	150
80(3")	3.07	6.000	7.500	3.515	NPT3	0.750	4	1.875	10.748	10.748	12.914	9.06	0.90	6.50	7.24	235	150
100(4")	4.01	7.500	9.000	4.518	NPT4	0.750	8	2.250	12.716	12.716	15.236	10.79	0.90	6.77	8.897	235	150

DIN Unit:mm

Nominal Pipe Size	D1	D2	D3	d		e	n	P	L			A	T	H	B	Test Press (bar)	Working press (bar)
				Socket	Thread				Socket	Thread	Flange						
15(1/2")	15	65	95	20	R1/2	14	4	16.0	115	115	152	77	15	55	54	24	16
20(3/4")	19	75	105	25	R3/4	14	4	18.5	126	126	164	85	16	60	65	24	16
25(1")	25	85	115	32	R1	14	4	22.0	145	145	189	98	17	71	73	24	16
32(1-1/4")	38	100	140	40	R1-1/4	18	4	26.0	167	167	211	109	17	75	81	24	16
40(1-1/2")	38	110	150	50	R1-1/2	18	4	31.0	182	182	230	118	18	95	98	24	16
50(2")	48	125	165	63	R2	18	4	37.5	202	202	254	137	20	104	120	24	16
65(2-1/2")	65	145	185	75	R2-1/2	18	4	43.5	227	227	279	190	20	140	150	15	10
80(3")	78	160	200	90	R3	18	8	51.0	273	273	328	230	23	165	184	15	10
100(4")	102	180	220	110	R4	18	8	61.0	323	323	387	274	23	172	226	15	10

The dimension table is calculated based on PVC material.
※ The valve of test pressure is calculated based on PVC PVDF materials.
The valve of test pressure for PP material is 70% based on the table.
The flanged length tolerance is according to EN558-1:1995.

COMPACT BALL VALVE

CC100 SOCKET/ CC200 THREAD
Size:DN8~DN150

NSF 14/NSF 61



Compact Ball Valves Torque Value

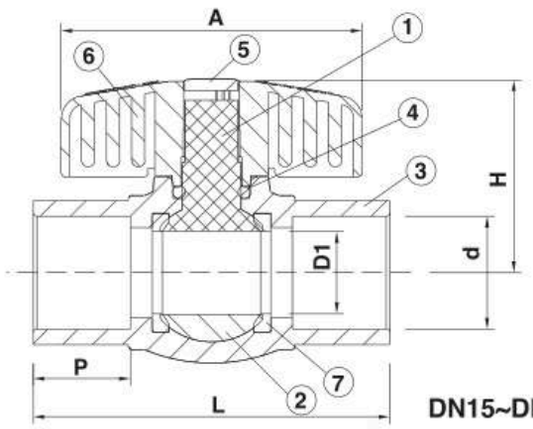
	Torque Value(kgf/cm²)			
	EPDM-SEAT		PTFE -SEAT	
SIZE	OPEN	CLOSE	OPEN	CLOSE
1/2"	12-22	12-22	10-20	20-30
3/4"	20-30	30-40	20-30	25-35
1"	26-36	43-53	30-40	30-40
1-1/4"	44-59	44-59	50-65	70-85
1-1/2"	50-65	60-75	47-62	60-75
2"	50-70	100-120	60-80	120-140
2-1/2"	80-100	70-90	-	-
3"	140-160	130-150	-	-
4"	160-180	150-170	-	-
5"	-	-	195-215	235-255
6"	-	-	195-215	235-255

1Kg.cm=0.0981N.m

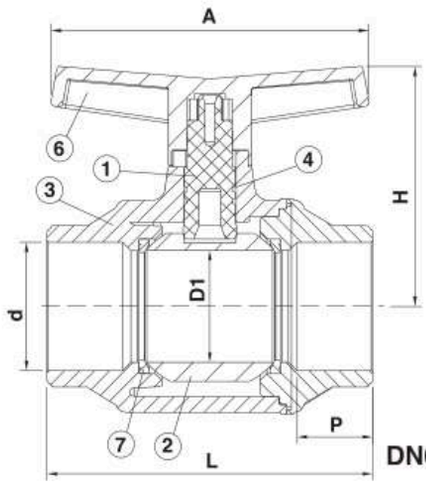
MATERIALS OF CONSTRUCTION

Item	Parts	Pcs	Materials	Item	Parts	Pcs	Materials	Item	Parts	Pcs	Materials
1	Stem	1	UPVC	7	Seat	2	PTFE	13	Washer	1	PP
2	Ball	1	UPVC	8	Body O'ring	2	EPDM	14	Bolt ($\frac{3}{4}$"x $\frac{3}{16}$")	1	SUS 304
3	Body	1	UPVC	9	Activities Jumper	1	PVDF	15	Seat Carrier	1	UPVC
4	Stem O'ring	2	EPDM	10	Handle Lever	1	P P	16	End Connector	1	UPVC
5	Cap	1	PP	11	Jumper	1	ABS				
6	Handle	1	ABS	12	Seat Carrier O'ring	2	EPDM				

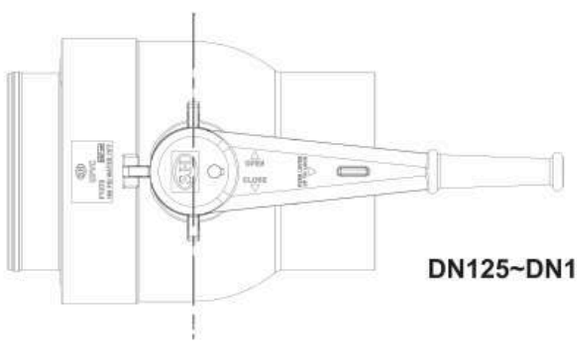
UPVC / CPVC PIPE FITTING VALVE



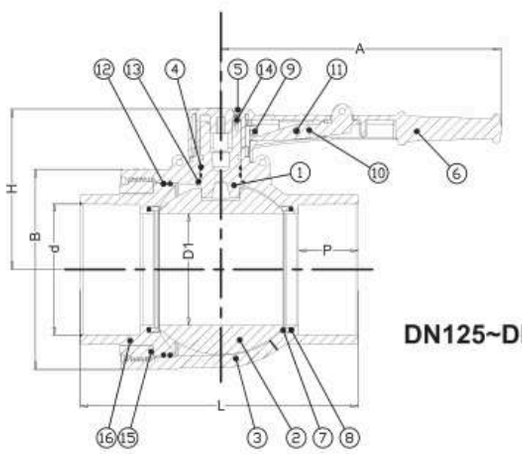
DN15~DN50



DN65~DN100



DN125~DN150



DN125~DN150

DIMENSIONS TABLE

Standards	JIS								Unit:mm	ANSI								Unit:inch	DIN								Unit:mm
Nom.Size DN-inch	D1	d		P	L	H	A	Test Press. (kgf/cm²)	Working press (kgf/cm²)	D1	d		P	L	H	A	Test Press. (lb/in²)	Working press (kgf/cm²)	D1	d		P	L	H	A	Test Press. (bar)	Workin press (bar)
		Socket	Thread								Socket	Thread								Socket	Thread							
15(1/2")	15	22	PT1/2	22.2	79	47	70	15	10	0.591	0.840	NPT1/2	0.875	3.110	1.850	2.756	225	150	15	20	R1/2	16.0	79	47	70	15	10
20(3/4")	20	26	PT 3/4	25.4	90.5	57	77	15	10	0.787	1.050	NPT3/4	1.000	3.562	2.244	3.031	225	150	20	25	R3/4	18.5	90.5	57	77	15	10
25(1")	25	32	PT1	28.6	106.5	61	89	15	10	0.984	1.315	NPT1	1.125	4.173	2.402	3.504	225	150	25	32	R1	22.0	106.5	61	89	15	10
32(1-1/4")	32	38	PT1-1/4	31.8	123	66	89	15	10	1.260	1.660	NPT1-1/4	1.250	4.842	2.598	3.504	225	150	32	40	R1-1/4	26.0	123	66	89	15	10
40(1-1/2")	39	48	PT1-1/2	34.9	129	74	111	15	10	1.535	1.900	NPT1-1/2	1.375	5.098	2.913	4.370	225	150	39	50	R1-1/2	31.0	129	74	111	15	10
50(2")	50	60	PT2	38.1	150.5	80	139	15	10	1.969	2.375	NPT2	1.500	5.925	3.150	5.472	225	150	50	63	R2	37.5	150.5	80	139	15	10
*65(2-1/2")	66	76	PT2-1/2	44.5	194	141	190	15	10	2.598	2.875	NPT2-1/2	1.750	7.638	5.550	7.48	225	150	66	75	R2-1/2	43.5	194	141	190	15	10
*80(3")	78	89	PT3	47.6	233	154	230	15	10	3.071	3.500	NPT3	1.875	9.173	6.063	9.005	225	150	78	90	R3	51.0	233	154	230	15	10
*100(4")	100	114	PT4	57.6	280	170	274	15	10	3.94	4.500	NPT4	2.250	11.00	6.7	10.79	225	150	100	110	R4	61.0	280	170	274	15	10
*125(5")	144.5	168.5	PT5	77	384.6	207	261.5	15	10	5.69	6.65	NPT5	3.03	15.14	7.17	8.15	225	150	144.5	166	R5	77	384.6	207	361.5	15	10
*150(6")	144.5	168.5	PT6	77	357	207	361.5	15	10	5.69	6.65	NPT6	3.03	14.05	7.17	8.15	225	150	144.5	166	R6	77	357	207	361.5	15	10

TRUE UNION DIAPHRAGM VALVE

DE100/DE200 PVDF3 LAYS DIAPHRAGM VALVE

Suitable to the protect diaphragm from the gas permeation in the corrosion resistance and electrolytic chlorine gas.



MATERIALS OF CONSTRUCTION

Item	Parts	Pcs	Materials	Item	Parts	Pcs	Materials
1	Shaft	1	BRASS	9	Gauge Cover	1	PC
2	Diaphragm	1	EPDM, TEFLON, PVDF 3 LAYS	10	O'ring	2	EPDM, VITON
3	Body	1	UPVC, PP, CPVC, PVDF	11	Compressor	1	15A-25A PVDF 32A-50A PPG
4	Sleeve	1	BRASS	12	Indicator	1	PE
5	Union Nut	2	UPVC, PP, CPVC, PVDF	13	Bolt	4	SUS304
6	Handle	1	ABS	14	Nut	4	SUS304
7	End Connector	2	UPVC, PP, CPVC, PVDF	15	Washer spring washer	8	SUS304
8	Bonnet	1	UPVC, PP, CPVC, PVDF				
8-1	Bonnet Board	1	SUS304				

TORQUE VALUE

SIZE	Kg.cm	N.m
1/2"-3/4"	60	5.88
1"	100	9.81
1-1/2"	140	13.72
2"	210	20.58

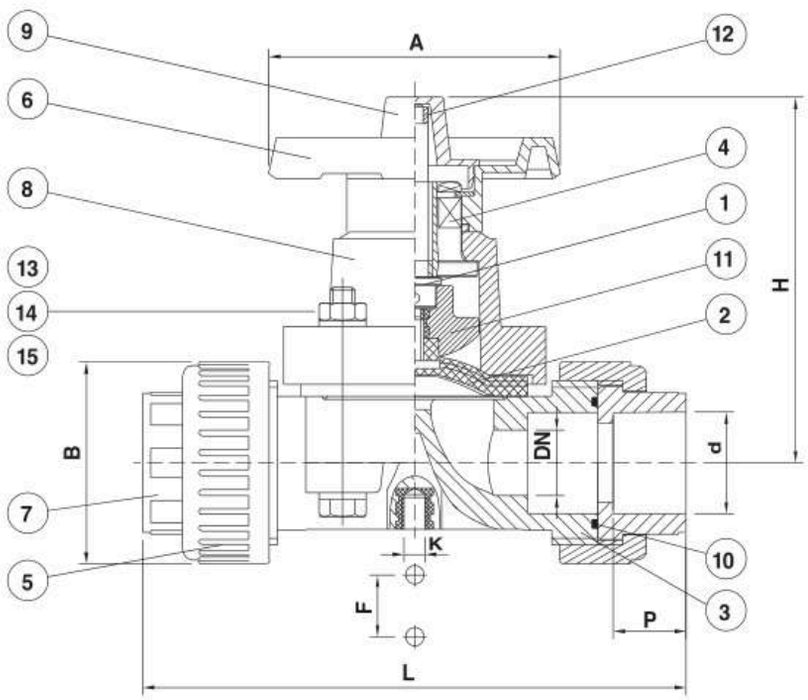
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CV VALUE

cv value [GMP/(1lbf/in^2)$^{1/2}$]

OPENING:100%

size	cv value
1/2"	3.27
3/4"	5.29
1"	8.87
1-1/2"	31.09
2	43.15



DN15~DN50

DIMENSIONS TABLE

Standards / Nom. Size	JIS Unit: mm											ANSI Unit: inch											DIN Unit: mm									
	d		P	B	L	H	A	F	K	Test Press (kgf/cm^2)		d		P	B	L	H	A	F	K	Test Press (lb/in^2)		d		P	B	L	H	A	F	K	Test Press (bar)	
	Socket	Thread								Ptfe dia,	Rubber Dia,	Socket	Thread								Ptfe dia,	Rubber Dia,	Socket	Thread								Ptfe dia,	Rubber Dia,
15(1/2")	22	PT1/2	22.2	54	166	107.5	81	25	8	10	10	0.84	NPT1/2	0.875	2.126	6.53	4.23	3.189	0.984	0.315	150	150	20	R1/2	16.0	54	166	107.5	81	25	8	10	10
20(3/4")	26	PT3/4	25.4	54	166	107.5	81	25	8	10	10	1.05	NPT3/4	1.000	2.126	6.53	4.23	3.189	0.984	0.315	150	150	25	R3/4	18.5	54	166	107.5	81	25	8	10	10
25(1")	32	PT1	28.6	63	183	116	91	25	8	10	10	1.32	NPT1	1.125	2.480	7.2	4.567	3.583	0.984	0.315	150	150	32	R1	22.0	63	183	116	91	25	8	10	10
32(1-1/4")	38	PT11/4	31.8	89	238	142	117	45	8	10	10	1.66	NPT1-1/4	1.250	3.5	9.37	5.591	4.606	1.772	0.315	150	150	40	R1-1/4	26.0	89	238	142	117	45	8	10	10
40(1-1/2")	48	PT11/2	34.9	89	238	142	117	45	8	10	10	1.90	NPT1-1/2	1.375	3.5	9.37	5.591	4.606	1.772	0.315	150	150	50	R1-1/2	31.0	89	238	142	117	45	8	10	10
50(2")	60	PT2	38.1	101	273	176	150	45	8	10	10	2.38	NPT2	1.500	3.97	10.74	6.929	5.906	1.772	0.315	150	150	63	R2	37.5	101	273	176	150	45	8	10	10

※ Standard dimensimns based on UPVC material

DIAPHRAGM VALVE / Flanged type

DF300
Size: DN15~DN250

DE300 PVDF 3 LAYS DIAPHRAGM VALVE

Suitable to the protect diaphragm from the gas permeation in the corrosion resistance and electrolytic chlorine gas



MATERIALS OF CONSTRUCTION

No.	Parts	Pcs.	Materials	No.	Parts	Pcs.	Materials
1	Body	1	UPVC, PP, CPVC, PPG, PVDF	10	Name Plate	1	PVC
2	Bonnet	1	UPVC, CPVC, PPG, PVDF	11	Grease Nipple	1	SUS304
3	Compressor	1	15A-25A PVDF 40A-250A FC20	12	Stud Bolt & Nut	4 ..... 15A-25A 6 ..... 40A-50A	SUS304
4	Hand Wheel	1	ABS	13	Inserted Nut	8 ..... 65A-125A 12 ..... 150A	BSBM
5	Sleeve	1	15A-50A BSBM 65A-250A FCD45	14	Bolt Nut & Washer	16 ..... 200A 20 ..... 250A	SUS304
6	Stem	1	15A-50A BSBM 65A-250A SUS304	15	thrust Bearing	1	Standardized 80A-250A USED ONLY
7	Diaphragm	1	EPDM,HYPALON TEFLON,PVDF 3 lays	16	Stopper	1	SS-41 BSBM SUS304
7-1	Upper Board	1	SUS304	17	Set Nut	1	SS41 BSBM SUS304
7-2	Down Board	2	SUS304	18	Gauge Cover	1	PC
8	Cap	1	15A-25A BSBM 40A-250A PVC	19	Sheet Ring	1	EPDM
9	Compressor Pin	1	SUS-304	20	Washer	1	SUS304

Note : 1. SUS 304 .....Stainless Steel AISI 304 2. SS 41 .....Rolled steel for General Structure 3. BSBM .....Free Cutting Brass Bar
4. FC 20.....Grav Cast Iron 5. SUP.....Steel for Spring ASTM A-230-68

The standard material to bonnet : PPG.
Optional PVDF bonnet material for PVDF diaphragm valve.
Optional materials on request for part no. 4.5.6.12.14.: SUS 304 or SUS 316.

®VITION & TEFLON are tradmarks of E.I. Du Pont

DIMENSIONS TABLE

JIS												Unit: mm	PRESS Test for Assembly (at 20°C)									
													Test Pressure Unit: kgf/cm²									
													Rubber Diaphragm					Teflon Diaphragm				
Nom. Size m/m(inch)	D1	D2	D3	e	n No. of holes	D4	D5	Lift ℓ	L	T	H	I	UPVC	PP	PPG	CPVC	PVDF	UPVC	PP	PPG	CPVC	PVDF
15(1/2")	16	70	91.5	15	4	58x51	94	13	110	15	101	140	10	10	10	10	10	10	10	10	10	10
20(3/4")	20	75	97	15	4	70x60	94	13	120	17	106	152	10	10	10	10	10	10	10	10	10	10
25(1")	25	90	125	19	4	79x65	94	14	130	17	113	158	10	10	10	10	10	10	10	10	10	10
40(1-1/2")	41	105	135	19	4	123	147	24	180	19	133	193	10	10	10	10	10	10	10	10	10	10
50(2")	52	120	151	19	4	148	147	28	210	19	145	210	10	10	10	10	10	10	10	10	10	10
65(2-1/2")	68	140	185	19	4	183	202	32	250	24	197	276	10	10	10	10	10	10	7	7	10	10
80(3")	78	150	183.5	19	8	201	202	34	280	23	218	293	10	10	10	10	10	10	7	7	10	10
100(4")	100	175	210	19	8	250	241	54	340	24	261	370	10	10	10	10	10	10	7	7	10	10
125(5")	125	210	250	23	8	321	274	72	410	26	308	412	10	7	7	10	10	7	7	7	7	7
150(6")	148	240	282	23	8	382	395	72	480	33	334	471	10	7	7	10	10	7	7	7	7	7
200(8")	198	290	337	23	12	431	395	96	570	33	419	625	7	5	5	7	7	5	5	5	5	5
250(10")	248	355	397	25	12	529	555	132	680	38	510	750	7	5	5	7	7	5	5	5	5	5

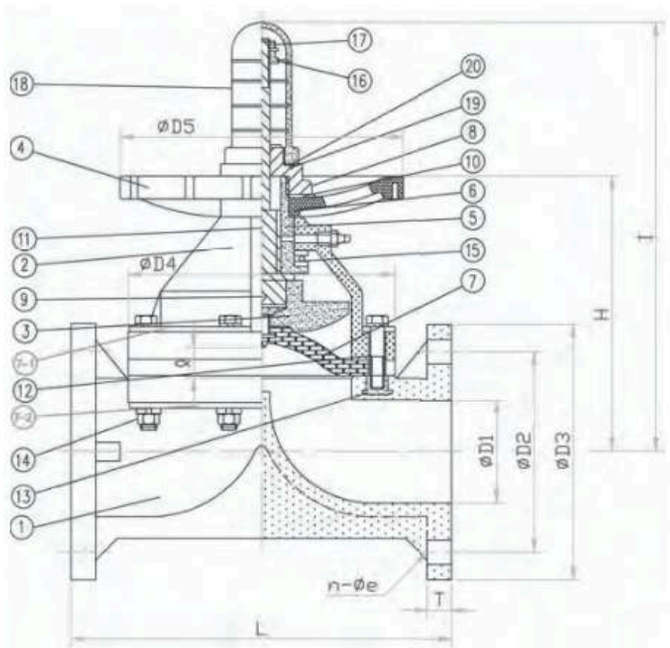
CV VALUE

CV value [GMP/(1lbf/in²)^1/2] Full Open: 100%	
SIZE	CV value
1/2"	3.27
3/4"	5.29
1"	8.87
1-1/2"	31.09
2"	43.15
2-1/2"	90.68
3"	116.79
4"	186.78
6"	345.26

BOLTS TORQUE VALUE

SIZE	Kg.m	N.m
1/2"	90	8.83
3/4"	110	10.79
1"	110	10.79
1-1/2"	150	14.72
2"	220	21.58
2-1/2"	220	21.58
3"	280	27.47
4"	280	27.47
6"	280	27.47

1Kg.cm=0.0981N.m



DIMENSIONS TABLE

ANSI Unit: inch

Nom. Size m/m(inch)	D1	D2	D3	e	n No. of holes	D4	D5	Lift ℓ	L	T	H	I	PRESS Test for Assembly (at 20°C) Test Pressure Unit: psi									
													Rubber Diaphragm					Teflon Diaphragm				
													UPVC	PP	PPG	CPVC	PVDF	UPVC	PP	PPG	CPVC	PVDF
15(1/2")	0.63	2.38	3.50	0.63	4	2.28x2	3.70	0.51	4.25	0.59	3.98	5.51	150	150	150	150	150	150	150	150	150	150
20(3/4")	0.79	2.76	3.86	0.63	4	2.76x2.36	3.70	0.51	5.90	0.63	4.17	5.98	150	150	150	150	150	150	150	150	150	150
25(1")	0.98	3.13	4.25	0.63	4	3.11x2.56	3.70	0.55	5.90	0.63	4.45	6.22	150	150	150	150	150	150	150	150	150	150
40(1-1/2")	1.61	3.88	5.00	0.63	4	4.84	5.79	0.94	6.95	0.67	5.24	7.60	150	150	150	150	150	150	150	150	150	150
50(2")	2.05	4.74	5.98	0.75	4	5.83	5.79	1.10	7.95	0.67	5.71	8.27	150	150	150	150	150	150	150	150	150	150
65(2-1/2")	2.68	5.49	7.01	0.75	4	7.20	7.95	1.26	9.85	0.87	7.76	10.87	150	150	150	150	150	150	105	105	150	150
80(3")	3.07	6.00	7.52	0.75	4	7.91	7.95	1.34	10.40	0.75	8.50	11.54	150	150	150	150	150	150	105	105	150	150
100(4")	3.94	7.50	9.17	0.75	8	9.84	9.49	2.13	12.95	0.91	10.28	14.57	150	150	150	150	150	150	105	105	150	150
125(5")	4.92	8.50	10.00	0.87	8	12.64	10.79	2.83	16.14	0.94	12.13	16.22	150	105	105	150	150	105	105	105	105	150
150(6")	5.83	9.51	10.98	0.87	8	15.04	15.55	2.83	18.90	1.18	13.15	18.54	150	105	105	150	150	105	105	105	105	150
200(8")	7.80	11.75	13.50	0.87	8	16.97	15.55	3.78	22.44	1.26	16.40	24.61	105	75	75	105	105	75	75	75	75	105
250(10")	9.76	14.25	15.98	0.98	12	20.83	21.85	5.20	26.77	1.26	20.08	29.53	105	75	75	105	105	75	75	75	75	105

DIN Unit: mm

Nom. Size m/m(inch)	D1	D2	D3	e	n No. of holes	D4	D5	Lift ℓ	L	T	H	I	PRESS Test for Assembly (at 20°C) Test Pressure Unit: (bar)									
													Rubber Diaphragm					Teflon Diaphragm				
													UPVC	PP	PPG	CPVC	PVDF	UPVC	PP	PPG	CPVC	PVDF
15(1/2")	16	65	95	14	4	58x51	94	13	130	23	101	140	10	10	10	10	10	10	10	10	10	10
20(3/4")	20	75	105	14	4	70x60	94	13	150	23	106	152	10	10	10	10	10	10	10	10	10	10
25(1")	25	85	125	14	4	79x65	94	14	160	23	113	158	10	10	10	10	10	10	10	10	10	10
40(1-1/2")	41	110	150	18	4	123	147	24	200	23	133	193	10	10	10	10	10	10	10	10	10	10
50(2")	52	125	165	18	4	148	147	28	230	21	145	210	10	10	10	10	10	10	10	10	10	10
65(2-1/2")	68	145	185	18	4	183	202	32	290	22	197	276	10	10	10	10	10	10	7	7	10	10
80(3")	78	160	200	18	8	201	202	34	310	22	218	293	10	10	10	10	10	10	7	7	10	10
100(4")	100	180	210	18	8	250	241	54	350	25	261	370	10	10	10	10	10	10	7	7	7	10
125(5")	125	210	250	18	8	321	274	72	400	24	308	412	10	7	7	10	10	7	7	7	7	7
150(6")	148	240	285	23	8	382	395	72	480	30	334	471	10	7	7	10	10	7	7	7	7	7
200(8")	198	295	340	23	8	431	395	96	600	32	419	625	7	5	5	7	7	5	5	5	5	5
250(10")	248	350	395	23	12	529	555	132	680	32	510	750	7	5	5	7	7	5	5	5	5	5

※ The dimension table is calculated based on PVC material.
※ The flanged length tolerance is according to EN558-1:1995.

BUTTERFLY VALVE-Universal Type (With actuator direct mounting pad) Lever Handle Type



BE300
Size: 2"- 8"

End Type: Flanged

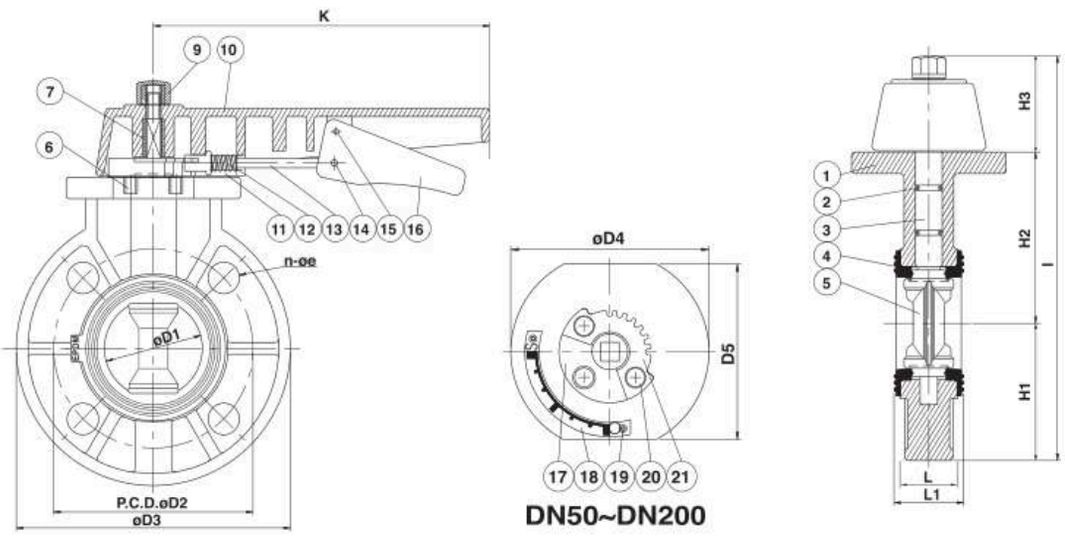
Test Pressure: 225 PSI

Working Pressure: 150 PSI

- Corrosion resistance.
- Excellent flow characteristics.
- Lower flow loss.
- Compact and lightweight designs in an energy-saving and cost-efficient Butterfly Valve.
- With clear indication of disc opening degree.
- Ideally suited for flow control in a minimum piping space.

MATERIALS OF CONSTRUCTION

No.	Parts	Pcs	Materials	No.	Parts	Pcs	Materials
1	Body	1	UPVC, PP, CPVC, PVDF	11	Spring	1	SUS 304
2	Stem O'ring	2	EPDM, VITON	12	Lever	1	SUS 304
3	Stem	1	SUS 410, SUS 316	13	Setpin(Short)	1	SUS 304
4	Seat	1	EPDM, VITON, NBR	14	Setpin(Long)	1	SUS 304
5	Disc	1	UPVC, PP, CPVC, PVDF	15	Lever	1	ABS
6	Bolt	1	BRASS, SUS 304	16	Positioner	1	UPVC
7	Handle Insert	1	FC 0208	17	Indicator	1	SUS 304
8	Stem Bolt	1	UPVC, BRASS	18	Bolt	2	SUS 304
9	Handle	1	ABS	19	Bolt	3	SUS 304
10	Handle Cap	1	ABS	20	Teeth Plate	1	SUS 304



DN50~DN200

The Torque Values

	AT Water							
	W/O Pressure (Kgf.m)		Pressure at 50PSI (Kgf.m)		Pressure at 100PSI (Kgf.m)		Pressure at 150PSI (Kgf.m)	
	Open	Close	Open	Close	Open	Close	Open	Close
2"	0.80	0.80	0.80	1.00	0.80	1.00	1.00	1.00
3"	2.50	2.50	3.00	3.00	2.50	2.50	3.00	3.00
4"	2.50	3.00	3.00	3.00	3.00	3.00	3.00	3.00
6"	8.00	9.00	8.00	8.00	7.50	8.00	6.00	7.00
8"	10.00	11.00	11.00	11.00	10.50	10.50	9.50	9.50

DIMENSIONS TABLE

JIS — Unit: mm

Nom. size DN(inch)	D1	D2	D3	n	L	L1	D4	H1	H2	H3	I	K	D5	Test Press(kgf/cm²) Body	Test Press(kgf/cm²) Seat	Working Press (kgf/cm²)
40(1-1/2")	44	105	149	4	36.1	43.5	105	73	98	63	234	202	93	15	12	10
50(2")	55	120	164	4	36.1	43.5	105	82.0	107	63	252	202	93	15	12	10
65(2-1/2")	69.6	140	185	4	40	46.4	105	92	115	63	270	202	95.5	15	12	10
80(3")	78	150	196	8	40	47.4	127	98	123	63	284	202	95	15	12	10
100(4")	100	175	225	8	48	52.4	134	112.5	139.5	68	320	253	100	15	12	10
125(5")	128	210	254	8	51.2	58.8	169.5	127	160	86	373	297	100.8	15	12	10
150(6")	152	240	286	8	51	57	170	143	178	86	407	297	101	15	12	10
200(8")	200	290	344	12	61	67.5	191	172	212	86	470	297	110	15	12	10

ANSI — Unit: inch

Nom. size DN(inch)	D1	D2	D3	n	L	L1	D4	H1	H2	H3	I	K	D5	Test Press (lb/in²) Body	Test Press (lb/in²) Seat	Working Press (lb/in²)
40(1-1/2")	1.73	3.88	5.87	4	1.42	1.71	4.13	2.87	3.86	2.48	9.21	7.95	3.66	235	180	150
50(2")	2.16	4.75	6.46	4	1.42	1.71	4.13	3.23	4.21	2.48	9.92	7.95	3.66	235	180	150
65(2-1/2")	2.74	5.5	7.28	4	1.57	1.83	5.04	3.62	4.53	2.48	10.63	7.95	3.76	235	180	150
80(3")	3.07	6.0	7.72	4	1.57	1.87	5.00	3.86	4.84	2.48	11.18	7.95	3.74	235	180	150
100(4")	3.94	7.5	8.85	8	1.89	2.06	5.27	4.43	5.49	2.68	12.60	9.96	3.94	235	180	150
125(5")	5.04	8.5	10.0	8	2.02	2.31	6.673	5.00	6.30	3.39	14.69	11.69	3.97	235	180	150
150(6")	5.98	9.5	11.26	8	2.01	2.24	6.69	5.63	7.00	3.39	16.02	11.69	3.98	235	180	150
200(8")	7.87	11.75	13.54	8	2.40	2.66	7.52	6.77	8.35	3.39	18.5	11.69	4.31	235	180	150

DIN — Unit: mm

Nom. size DN(inch)	D1	D2	D3	n	L	L1	D4	H1	H2	H3	I	K	D5	Test Press (bar) Body	Test Press (bar) Seat	Working Press (bar)
40(1-1/2")	44	110	149	4	36.1	43.5	105	73	98	63	234	202	93	15	12	10
50(2")	55	125	164	4	36.1	43.5	105	82.0	107	63	252	202	93	15	12	10
65(2-1/2")	69.6	145	185	4	40	46.4	128	92	115	63	270	202	95.5	15	12	10
80(3")	78	160	196	8	40	47.4	127	98	123	63	284	202	95	15	12	10
100(4")	100	180	225	8	48	52.4	134	112.5	139.5	68	320	253	100	15	12	10
125(5")	128	210	254	8	51.2	58.8	169.5	127	160	86	373	297	100.8	15	12	10
150(6")	152	240	286	8	51	57	170	143	178	86	407	297	101	15	12	10
200(8")	200	295	344	8	61	67.5	191	172	212	86	470	297	110	15	12	10

※ Standard dimensions based on PVC material.
※ The flanged length tolerance is according to EN558-1:1995.
※ L : The suggested length of the valve as installed on pipeline.

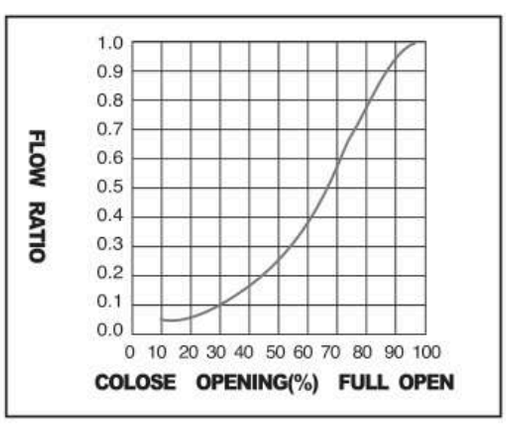
BUTTERFLY VALVE / Lever handle type

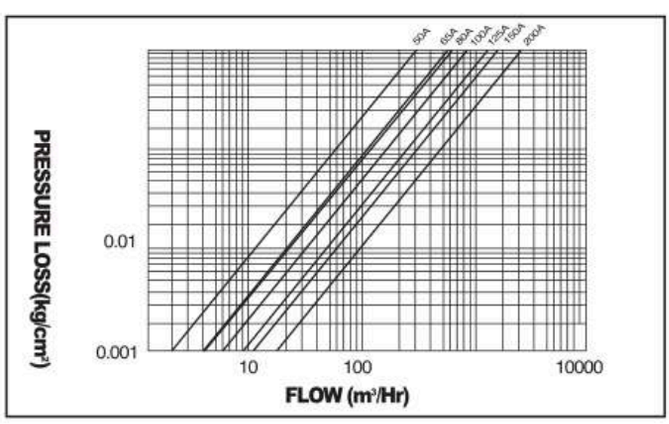
BB300

Size: 2"- 8"

options:8"(DN200) GEAR OPERATOR TYPE

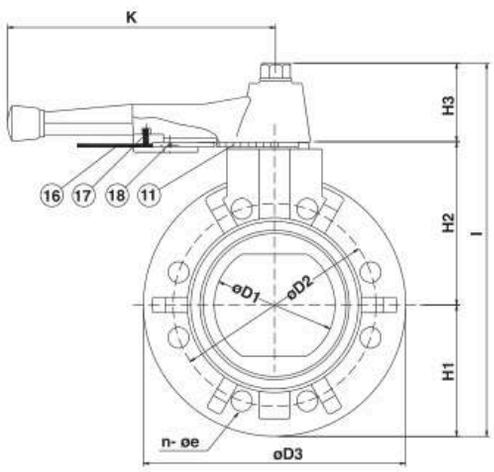


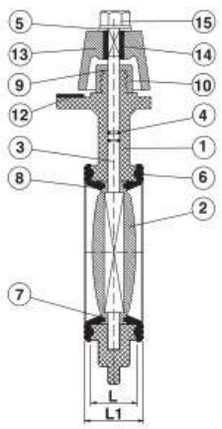




MATERIALS OF CONSTRUCTION

No.	Parts	Pcs.	Materials	No.	Parts	Pcs.	Materials
1	Body	1	UPVC,PP,PPG,PVDF,CPVC	10	Reatainer Cap	1	UPVC,PP,PVDF
2	Disc	1	UPVC,PP,PPG,PVDF,CPVC	11	Positioner	1	SUS304
3	Stem	1	SUS410,SUS316,SUS304	12	Screw	3...DN50-200 4...DN200	SUS304
4	Stem O-ring	2	EPDM,VITON	13	Handle	1	ABS
5	Washer	1	SUS304	14	Inserted Metal Of Handle	1	FC0208
6	Seat	1	EPDM,VITON,NBR, HYPALON	15	Nut	1	PVC COATED BRASS,SUS304
7	Disc O'ring(1)	2	EPDM,VITON	16	Handle Lever	1	SUS304
8	Disc O'ring(2)	2	EPDM,VITON	17	Spring	1	SUS304
9	Stem Retainer	1	SUS304	18	Set Pin	1	BSBM





DN50~DN200

TORQUE VALUES (1kgf/m= 9.8N.m)

BF-V'S Size	Torque Under Without Any Water Pressure (Kgf/m)	Under Water Testing Pressure(Kg/cm²)			BF-V'S Size	Torque Under Without Any Water Pressure (Kgf/m)	Under Water Testing Pressure(Kg/cm²)		
		Water Pressure(Kgf/cm²)	Open Torque(Kgf/m)	Close Torque(Kgf/m)			Water Pressure(Kgf/cm²)	Open Torque(Kgf/m)	Close Torque(Kgf/m)
2"	1.5	15	0.5	0.5	10"	17.0	8	7	10
2-1/2"	1.5	15	0.5	0.5	12"	27.0	6	14	18
3"	2.0	15	1	1.5	14"	37.0	6	25	28
4"	2.0	12	1	1.5	16"	42.0	-	-	-
5"	5.0	12	2.5	4.5	18"	52.0	-	-	-
6"	6.5	12	4	7	20"	65.0	-	-	-
8"	10.0	10	6	8.5	24"	76.0	-	-	-

DIMENSIONS TABLE

JIS — Unit: mm

Nom. Size DN(inch)	D1	D2	D3	øe	n	L	L1	H1	H2	H3	I	K	Test Press (kgf/cm²) Body	Test Press (kgf/cm²) Seat	Working Press (kgf/cm²)
50(2")	57	120	165	19	4	36.5	40.5	82.5	102	63	253	220	15.0	12.0	10.0
65(2-1/2")	72	140	184	19	4	40.5	44.5	92	110	63	270	220	15.0	12.0	10.0
80(3")	80	150	200	19	8	40.5	44.5	100	118	63	286	220	15.0	12.0	10.0
100(4")	100	175	230	19	8	50.5	56.5	115	134	63	312	220	15.0	12.0	10.0
125(5")	130	210	256	23	8	60.5	66.5	128	160	96	391	310	15.0	12.0	10.0
150(6")	150	240	288	23	8	66	71	144	177	96	418	310	15.0	12.0	10.0
200(8")	203	290	348	23	12	82	87	174	204	93	476	414	15.0	12.0	10.0

ANSI — Unit: inch

Nom. Size DN(inch)	D1	D2	D3	øe	n	L	L1	H1	H2	H3	I	K	Test Press (lb/in²) Body	Test Press (lb/in²) Seat	Working Press (lb/in²)
50(2")	2.24	4.75	6.50	0.75	4	1.44	1.59	3.25	4.01	2.48	9.96	8.66	235	180	150
65(2-1/2")	2.83	5.50	7.24	0.75	4	1.59	1.75	3.62	4.33	2.48	10.63	8.66	235	180	150
80(3")	3.15	6.00	7.87	0.75	4	1.59	1.75	3.94	4.64	2.48	11.26	8.66	235	180	150
100(4")	3.93	7.50	9.06	0.75	8	1.99	2.22	4.53	5.28	2.48	12.48	8.66	235	180	150
125(5")	5.12	8.50	10.07	0.87	8	2.38	2.62	5.00	6.30	3.78	15	12.20	235	180	150
150(6")	5.90	9.50	11.34	0.87	8	2.60	2.80	5.67	6.97	3.78	16.46	12.20	235	180	150
200(8")	7.99	11.75	13.70	0.87	8	3.23	3.43	6.85	8.03	3.66	18.74	16.30	235	180	150

DIN — Unit: mm

Nom. Size DN(inch)	D1	D2	D3	øe	n	L	L1	H1	H2	H3	I	K	Test Press (bar) Body	Test Press (bar) Seat	Working Press (bar)
50(2")	57	125	165	18	4	36.5	40.5	82.5	102	63	253	220	15.0	12.0	10.0
65(2-1/2")	72	145	184	18	4	40.5	44.5	92	110	63	270	220	15.0	12.0	10.0
80(3")	80	160	200	18	8	40.5	44.5	100	118	63	286	220	15.0	12.0	10.0
100(4")	100	180	230	18	8	50.5	56.5	115	134	63	312	220	15.0	12.0	10.0
125(5")	130	210	256	18	8	60.5	66.5	128	160	96	391	310	15.0	12.0	10.0
150(6")	150	240	288	23	8	66	71	144	177	96	418	310	15.0	12.0	10.0
200(8")	203	295	348	23	8	82	87	174	204	93	476	414	15.0	12.0	10.0

※ Standard dimensions based on PVC material.
※ The flanged length tolerance is according to EN558-1:1995.
※ L : The suggested length of the valve as installed on pipeline.

BUTTERFLY VALVE GEAR OPERATOR FULL FLANGED TYPE

BF300

Size: 8"- 24"

OPTION: 8"(DN200)Lever type.

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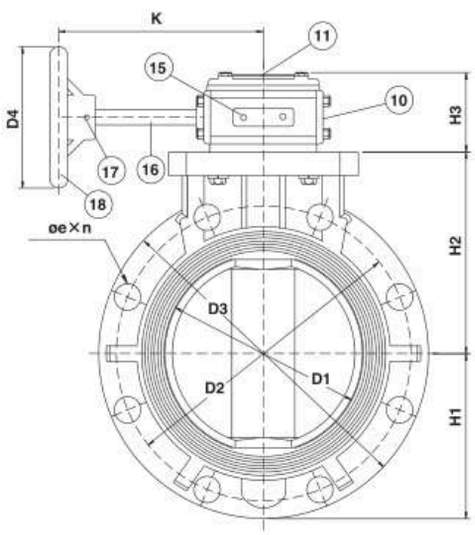


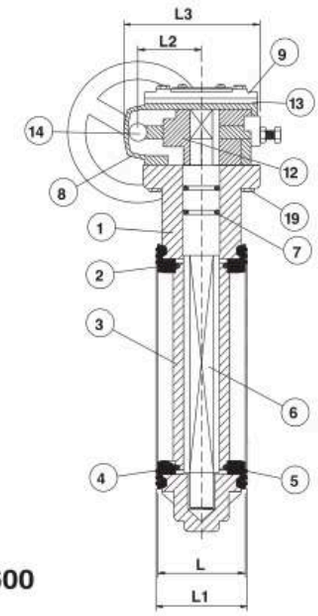
MATERIALS OF CONSTRUCTION

No.	Parts	Pcs.	Materials	No.	Parts	Pcs.	Materials
1	Body	1	UPVC, PP,CPVC, PPG, PVDF	11	Inicator Plate	1	UPVC
2	Seat	1	EPDM, VITON, NBR, HYPALON	12	Gear	1	FCD45
3	Disc	1	UPVC, PP,CPVC, PPG, PVDF	13	Oil Seal	1	EPDM
4	Disc O'ring(A)	2	EPDM, VITON	14	Bearing	1	SMCM220/420/810
5	Disc O'ring(B)	2	EPDM, VITON	15	Adjuatable Bolt	2	SS41
6	Stem	1	SUS410, SUS304, SUS316	16	Gearing	1	SS41
7	Stem O'ring	2	EPDM, VITON	17	Set Pin	1	K7
8	Gear Box	1	FC25	18	Hand Wheel	1	FCD45
9	Gear Box Cap	1	FC25	19	Tightening Bolt	4	SCM3,SUS304
10	Side Cap	1	FC25				

Torque Values (1kgf/m=9.8N.m)

BF-V'S Size	Torque Under Without Any Water Pressure (Kgf/m)	Under Water Testing Pressure(Kg/cm²)			BF-V'S Size	Torque Under Without Any Water Pressure (Kgf/m)	Under Water Testing Pressure(Kg/cm²)		
		Water Pressure(Kgf/cm²)	Open Torque(Kgf/m)	Close Torque(Kgf/m)			Water Pressure(Kgf/cm²)	Open Torque(Kgf/m)	Close Torque(Kgf/m)
2"	1.5	15	0.5	0.5	12"	27.0	6	14	18
2-1/2"	1.5	15	0.5	0.5	14"	37.0	6	25	28
3"	2.0	15	1	1.5	16"	42.0	–	–	–
4"	2.0	12	1	1.5	18"	52.0	–	–	–
5"	5.0	12	2.5	4.5	20"	65.0	–	–	–
6"	6.5	12	4	7	24"	76.0	–	–	–
8"	10.0	10	6	8.5					
10"	17.0	8	7	10					





DN200~DN600

DIMENSIONS TABLE

JIS — Unit: mm

Nom. Size DN(inch)	D1	D2	n	øe	D3	L	L1	H1	H2	H3	K	L2	L3	D4	Test Press (kgf/cm²) Body	Test Press (kgf/cm²) Seat	Working Press (kgf/cm²)
200(8")	203	290	12	23	348	82	87	174	211	108	175	51	136	180	15.0	12.0	10.0
250(10")	255	355	12	25	412	102	108	206	243	83	195	51	136	180	15.0	12.0	10.0
300(12")	312	400	16	25	493	120	126	247	289	110	210	72	189	305	12.0	10.0	8.0
350(14")	355	445	16	25	540	123	129	270	305	110	210	72	189	305	10.5	8.5	7.0
400(16")	398	510	16	27	615	163	170	307.5	353	130	330	72	189	356	9.0	7.0	6.0
450(18")	451	565	20	27	640	175	182	325	365	130	330	116	285	406	9.0	6.0	5.0
500(20")	500	620	20	27	730	183	190	373	405	130	330	116	285	457	9.0	6.0	5.0
600(24")	600	730	24	33	844	205	218	435	460	175	350	116	285	508	7.5	6.0	5.0

ANSI — Unit: inch

Nom. Size DN(inch)	D1	D2	n	øe	D3	L	L1	H1	H2	H3	K	L2	L3	D4	Test Press (lb/in²) Body	Test Press (lb/in²) Seat	Working Press (lb/in²)
200(8")	7.99	11.75	8	0.88	13.70	3.23	3.43	6.85	8.31	4.25	6.89	2.01	5.35	7.09	225	180	150
250(10")	10	14.25	12	0.98	16.22	4.02	4.25	8.11	9.56	3.27	7.68	2.01	5.35	7.09	225	180	150
300(12")	12.28	17.00	12	0.98	19.41	4.72	4.96	9.72	11.38	4.33	8.27	2.83	7.44	12.01	180	150	120
350(14")	13.97	18.75	12	1.14	21.26	4.84	5.08	10.63	12.01	4.33	8.27	2.83	7.44	12.01	155	125	105
400(16")	15.69	21.25	16	1.14	24.21	6.42	6.69	12.11	13.90	5.12	12.99	2.83	7.44	14.02	133	100	88
450(18")	17.75	22.75	16	1.26	25.20	6.89	7.17	12.80	14.37	5.12	12.99	4.57	11.22	15.98	133	90	75
500(20")	19.70	25.00	20	1.26	28.74	7.20	7.48	14.69	15.94	5.12	12.99	4.57	11.22	17.99	133	90	75
600(24")	23.66	29.50	20	1.38	33.23	8.07	8.58	17.13	18.11	6.89	13.78	4.57	11.22	20.00	111	90	75

DIN — Unit: mm

Nom. Size DN(inch)	D1	D2	n	øe	D3	L	L1	H1	H2	H3	K	L2	L3	D4	Test Press (bar) Body	Test Press (bar) Seat	Working Press (bar)
200(8")	203	295	8	23	348	82	87	174	211.2	108	175	51	136	180	15.0	12.0	10.0
250(10")	255	350	12	25	412	102	108	206	242.7	83	195	51	136	180	15.0	12.0	10.0
300(12")	312	400	12	25	493	120	126	247	289	110	210	72	189	305	12.0	10.0	8.0
350(14")	355	460	16	25	540	123	129	270	305	110	210	72	189	305	10.5	8.5	7.0
400(16")	398	515	16	27	615	163	170	307.5	363	130	330	72	189	356	9.0	7.0	6.0
450(18")	451	565	20	27	640	175	182	325	365	130	330	116	285	406	9.0	6.0	5.0
500(20")	500	620	20	27	730	183	190	373	405	130	330	116	285	457	9.0	6.0	5.0
600(24")	600	725	20	30	844	205	218	435	460	175	350	116	285	508	7.5	6.0	5.0

※ Standard dimensions based on PVC material.
※ The flanged length tolerance is according to EN558-1:1995.
※ L : The suggested length of the valve as installed on pipeline.

SUPER LARGE SIZED BUTTERFLY VALVE



BS300

Size: Ø700(28")～ø1200(48")

MATERIAL: UPVC, PP, CPVC, PPG, PVDF

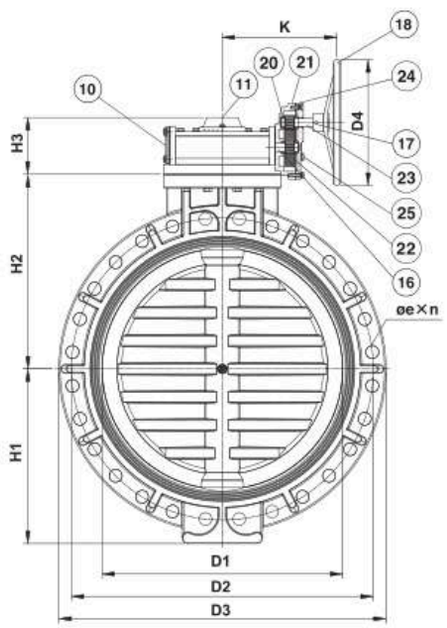
MODEL: Gear operated type · Chaining type
Hydraulic type · Pneumatin type

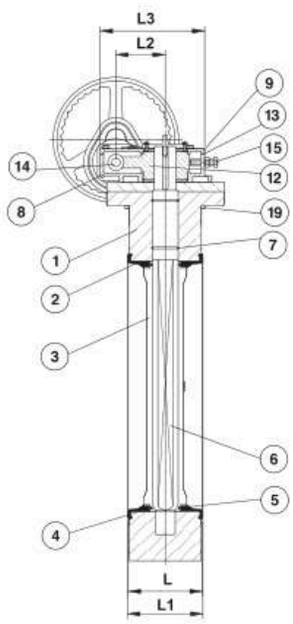
FEATURES:

- Fullport allowing max. fluid flow.
- ECONOMIC EQUIPMENT:Fluid control plate conealed in piping system, space saved.
- EASY OPERATION-90° open and close,long duration
- WIDE APPLICATION RANGE-Acid &aik all resistance, anti-corrosion, and suitable for fluid and air use.

MATERIALS OF CONSTRUCTION

No.	Parts	Pcs.	Materials	No.	Parts	Pcs.	Materials
1	Body	1	PP, PPG	14	Bearing	1	STEEL
2	Seat	1	EPDM, VITON, NBR, HYPALON	15	Adjustable Bolt	2	STEEL
3	Disc	1	UPVC,PP,CPVC,PPG,PVDF	16	WORM SHAFT	1	STEEL
4	Disc O'ring(A)	2	EPDM,VITON	17	Set Pin	1	K7
5	Disc O'ring(B)	2	EPDM,VITON	18	Hand Wheel	1	CAST IRON
6	Stem	1	SUS410,SUS304,SUS316	19	Tightening Bolt	4	SUS304
7	Stem O'ring	2	EPDM,VITON	20	Bearing	4	COPPER
8	Gear Box	1	CAST IRON	21	SPUR GEAR BODY	1	CAST IRON
9	Gear Box Cap	1	CAST IRON	22	SPUR GEAR	1	STEEL
10	Side Cap	1	CAST IRON	23	SPUR GEAR SHAFT	1	STEEL
11	Inicator Plate	1	CAST IRON	24	SPUR GEAR COVER	1	CAST IRON
12	Gear	1	DUCTILE IRON	25	BOLT	6	STEEL
13	Oil Seal	1	EPDM				





DN700~DN1200

TORQUE VALUES (1Kgf/m=9.8 N.m)

BF-V'S Size	700(28")	800(32")	900(36")	1000(40")	1200(48")
Torque Under Without Any Water Pressure (Kgf/m)	4480	5850	7400	10300	10300

DIMENSIONS TABLE

JIS — Unit: mm

Nom. size DN(inch)	D1	D2	D3	n	e	H1	H2	H3	K	D4	L	L1	Test Press (kgf/cm²)	Working Press (kgf/cm²)
700(28")	680	840	942	24	33	498	563	138	325	356	203	210	4	3
800(32")	780	950	1068	28	33	503	630	132	372	406	241	248	4	3
900(36")	870	1050	1185	28	33	621	694	132	372	406	241	248	4	3
1000(40")	970	1160	1290	28	39	683	762	210	471	508	300	307	4	3
1200(48")	1170	1380	1512	32	39	776	876	210	471	508	300	307	3	2

ANSI — Unit: inch

Nom. size DN(inch)	D1	D2	D3	n	e	H1	H2	H3	K	D4	L	L1	Test Press (lb/in²)	Working Press (lb/in²)
700(28")	26.77	33.99	37.09	24	1.37	19.60	22.17	5.40	12.57	14.02	7.99	8.26	60	45
800(32")	30.70	38.50	42.05	24	1.61	19.80	24.80	5.18	14.59	15.98	9.48	9.76	60	45
900(36")	34.25	42.75	46.65	32	1.62	24.45	27.32	5.18	14.59	15.98	9.48	9.76	60	45
1000(40")	38.18	46.25	50.88	32	1.62	26.89	30.00	8.27	18.54	20	11.81	12.08	60	45
1200(48")	46.06	56.00	59.52	44	1.62	30.55	34.48	8.27	18.54	20	11.81	12.08	45	30

DIN — Unit: mm

Nom. size DN(inch)	D1	D2	D3	n	e	H1	H2	H3	K	D4	L	L1	Test Press (bar)	Working Press (bar)
700(28")	680	840	942	24	30	498	563	138	325	356	203	210	4	3
800(32")	780	950	1068	24	33	503	630	132	372	406	241	248	4	3
900(36")	870	1050	1185	28	33	621	694	132	372	406	241	248	4	3
1000(40")	970	1175	1290	28	36	683	762	210	471	508	300	307	4	3
1200(48")	1170	1380	1512	32	39	776	876	210	471	508	300	307	3	2

※ Standard dimensions based on PP material.
※ The flanged length tolerance is according to EN558-1:1995.
※ L : The suggested length of the valve as installed on pipeline.

BALL CHECK VALVE(VERTICAL TYPE)

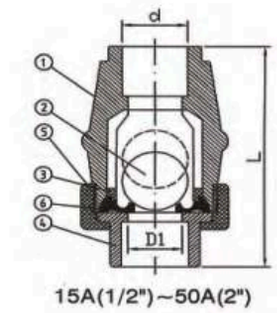
SOCKET JB100 / THREAD JB200 / FLANGED JB300
SIZE: 1/2"-10"



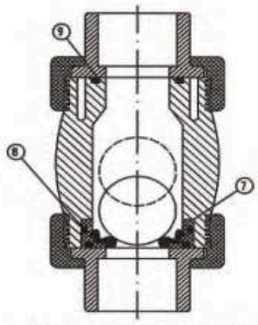
MATERIALS OF CONSTRUCTION

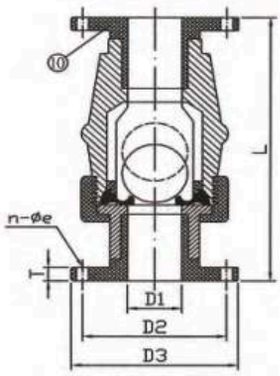
No.	Parts	Pcs.	Materials
1	Body	1	UPVC,PP,CPVC,PVDF
2	Ball	1	UPVC,CPVC,PVDF,PPG
3	Washer	1	UPVC,PP,CPVC,PVDF
4	End Connector	1...DN15-50 2...DN65-100	UPVC,PP,CPVC,PVDF
5	Union Nut	1...DN15-50 2...DN65-100	UPVC,PP,CPVC,PVDF
6	Seat	1	EPDM,VITON
7	Seat Carrier	1	UPVC,PP,CPVC,PVDF
8	Seat Carrier O'ring	1	EPDM,VITON
9	Solid End O'ring	1	EPDM,VITON
10	Flanged End	2...DN15-100 1...DN150-250	UPVC,PP,CPVC,PVDF
11	Reinforcement Plate	4...DN150 8...DN250	SUS304(150A-250A)
12	Bolts on Reinforcement Plate	10...DN150 20...DN250	SUS304

Min.Open Close Pressure kgf/cm² (bar)		
Size	Open	Close
1/2"	0.05	0.2
3/4"	0.05	0.3
1"	0.05	0.3
1-1/4"	0.1	0.3
1-1/2"	0.1	0.3
2"	0.1	0.3
2-1/2"	0.1	0.3
3"	0.1	0.2
4"	0.1	0.2
6"		
10"		

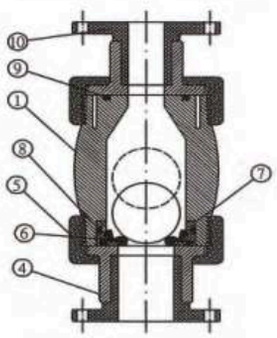


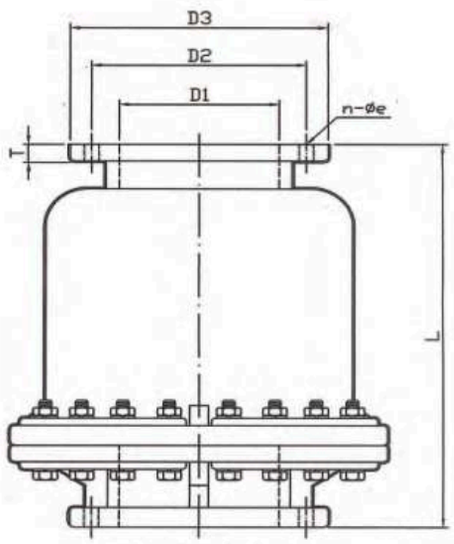
15A(1/2")~50A(2")


65A(2-1/2")~100A(4")



FLANGED TYPE
15A(1/2")~50A(2")


FLANGED TYPE
65A(2-1/2")~100A(4")



FLANGED TYPE
150A(6")~250A(10")

SPECIFICATIONS:

1.Test Press: ① {15mm(1/2")~100mm(4") : 15kgf/cm²(bar){225lb/in²)}	2.Working Press: ① {15mm(1/2")~100mm(4") : 10kgf/cm²(bar){150lb/in²)}
② {150mm(6") : 10kgf/cm² (bar) (150lb/in²) }	② {150mm(6") : 7kgf/cm² (bar) (100lb/in²) }
③ {250mm(10") : 5kgf/cm² (bar) (75lb/in²) }	③ {250mm(10") : 3kgf/cm² (bar) (45lb/in²) }

DIMENSIONS TABLE

Nom. Size DN-inch	JIS Unit:mm											ANSI Unit:inch											DIN Unit:mm										
	D1	d		D2	D3	n	øe	L			T	D1	d		D2	D3	n	øe	L			T	D1	d		D2	D3	n	øe	L			T
		Screw	Socket					Screw	Socket	Flange			Screw	Socket					Screw	Socket	Flange			Screw	Socket					Screw	Socket	Flange	
15(1/2")	15	PT	22	70	95	4	15	96	96	135	15	0.59	NPT	0.84	2.375	3.500	4	0.63	3.78	3.78	5.32	0.59	15	R1/2	20	65	95	4	14	96	96	135	15
20(3/4")	20	PT	26	75	100	4	15	118	118	157	16	0.79	NPT	1.05	2.750	3.785	4	0.63	4.65	4.65	6.18	0.59	20	R3/4	25	75	105	4	14	118	118	157	15
25(1")	26	PT	32	90	125	4	19	124	124	167	17	0.98	NPT	1.32	3.125	4.250	4	0.63	4.88	4.88	6.58	0.66	26	R1	32	85	115	4	14	124	124	167	17
32(1-1/4")	36	PT	38	100	135	4	19	151	151	197	16	1.42	NPT	1.67	3.500	4.625	4	0.63	5.94	5.94	7.77	0.67	36	R1-1/4	40	100	140	4	18	151	151	197	17
40(1-1/2")	36	PT	48	105	145	4	19	151	151	199	18	1.57	NPT	1.91	3.875	5.000	4	0.63	5.94	5.94	7.84	0.7	36	R1-1/2	50	110	150	4	18	151	151	199	17
50(2")	50	PT	60	120	155	4	19	180	180	231	21	1.96	NPT	2.38	4.750	6.000	4	0.75	7.09	7.09	9.09	0.78	50	R2	63	125	165	4	18	180	180	231	20
65(2-1/2")	65	PT	76	140	175	4	19	222	222	275	20	2.36	NPT	2.88	5.500	7.000	4	0.75	8.74	8.74	10.83	0.8	65	R2-1/2	75	145	185	4	18	222	222	275	20
80(3")	80	PT	89	150	185	8	19	275	275	330	23	3.15	NPT	3.51	6.000	7.500	4	0.75	10.83	10.83	12.99	0.91	80	R3	90	160	200	8	18	275	275	330	23
100(4")	100	PT	114	175	210	8	19	361	361	415	20	3.74	NPT	4.51	7.500	9.000	8	0.75	14.21	14.21	16.34	0.92	100	R4	110	180	220	8	18	361	361	415	20
150(6")	150	-	-	240	280	8	23	-	-	485	23	-	-	-	9.500	11.000	8	0.88	-	-	19.09	0.87	150	-	-	240	285	8	23	-	-	485	23
250(10")	250	-	-	355	400	12	25	-	-	668	25	-	-	-	14.250	16.000	12	1.00	-	-	26.3	0.94	250	-	-	350	395	12	23	-	-	668	25

※ The dimension table is calculated based on PVC material.
※ The valve of test pressure is calculated based on PVC PVDF materials.
※ The valve of test pressure for PP material is 70% based on the table.
※ The flanged length tolerance is according to EN558-1:1995.

WAFER CHECK VALVE

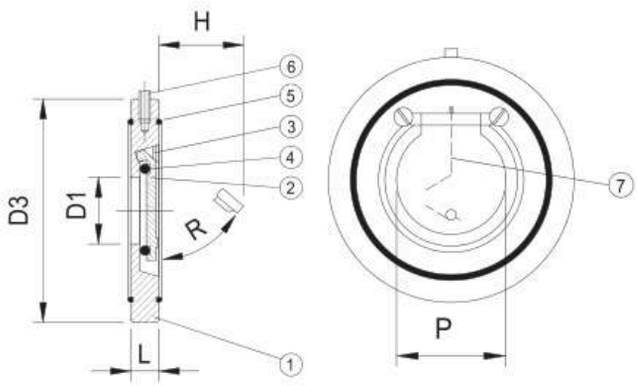
Size: DN40 ~ DN600



(W/0 Spring)
JT 300



(W/ Spring)
JT 300S



Applications:
- Water and waste water treatment
- Chemical Industrial
- Enviromental Industrial
- Process Industrial
- Systems engineering

Features:
- Require little space in piping system
- Economica - Simple and durable construction
- Easy Installation- Wafer Body to slip between standard flanges
- Light Weight
- Chemical Resistant
- No corrosion

MATERIALS OF CONSTRUCTION

No.	Parts	Pcs.	Materials	No.	Parts	Pcs.	Materials
1	Body	1	UPVC.PP.CPVC.PVDF	5	Packing	2	EPDM.VITON
2	Flapper	1	UPVC.PP.CPVC.PVDF	6	Installation device	1	SUS304, SUS316
3	Flapper mounting screw	2	PP,PVDF	7	Spring	1	SUS304, SUS316
4	O'ring	1	EPDM.VITON				

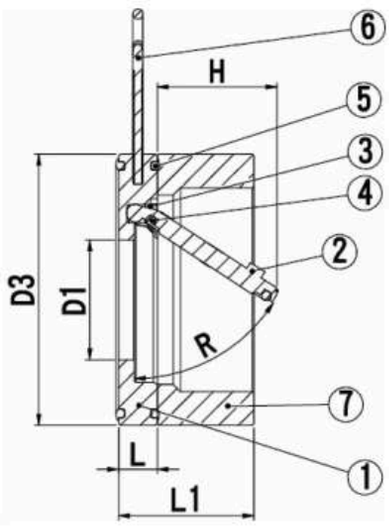
DIMENSIONS TABLE

Nom. Size DN(inch)	JIS Unit:mm					ANSI Unit:inch					DIN Unit:mm					Test press (kgf/cm²) (bar)	Work press (kgf/cm²) (bar)	Mini Back Pressure Rates psi	
	D1	D3	P	L	H	D1	D3	P	L	H	D1	D3	P	L	H				
40(1-1/2")	23	86	35	16	25	0.89	3.25	1.38	0.63	0.99	23	92	35	16	25	15	10	0.2	0.3
50(2")	32	101	47	20	46	1.26	4.00	1.85	0.79	1.80	32	107	47	20	46	15	10	0.2	0.3
65(2-1/2")	40	121	57	20	51	1.57	4.75	2.24	0.79	2.00	40	127	57	20	51	15	10	0.2	0.3
80(3")	54	131	72	20	74	2.13	5.25	2.83	0.79	2.90	54	142	72	20	74	15	10	0.25	0.3
100(4")	70	156	90	22	91	2.76	6.75	3.54	0.87	3.60	70	162	90	22	91	15	10	0.25	0.3
125(5")	92	187	114	22	96	3.64	7.63	4.48	0.87	3.77	92	187	114	22	96	15	10	0.25	0.3
150(6")	112	217	134	26	147	4.40	8.63	5.27	1.02	5.80	112	217	134	26	147	15	10	0.25	0.3
200(8")	150	267	179	35	191	5.90	10.88	7.04	1.38	7.50	150	272	179	35	191	10	7	0.3	0.3
250(10")	190	330	226	40	229	7.48	13.27	8.89	1.57	9.00	190	327	226	40	229	9	6	0.3	0.3
300(12")	216	375	264	45	259	8.62	16.01	10.39	1.77	10.20	216	375	264	45	259	9	6	0.3	0.3
350(14")	266	420	311	49	245	10.47	17.61	12.24	1.93	9.64	266	430	311	49	245	9	6	0.5	0.5
400(16")	310	483	354	65	285	12.20	20.11	13.93	2.56	11.22	310	488	354	65	285	7	5	0.7	0.6
450(18")	350	538	396	68	330	13.78	21.49	15.59	2.67	13.00	350	538	396	68	330	5	3.5	1.0	0.8
500(20")	400	593	437	78	385	15 75	23.74	17.2	3.07	15.15	400	593	437	78	385	5	3.5	1.1	1.0

※ The dimension table is calculated based on PVC material.
※ The valve of test pressure is calculated based on PVC PVDF materials.
※ The valve of test pressure for PP material is 70% based on the table.
※ The flanged length tolerance is according to EN558-1:1995.

SPACER CONNECTOR





MATERIALS OF CONSTRUCTION

Item	Parts	Pcs	Material
1	Body	1	UPVC, CPVC, PP, PVDF
2	Flapper	1	UPVC, CPVC, PP, PVDF
3	Flapper Mounting Screw	2	UPVC, CPVC, PVDF
4	O'ring	1	EPDM, VITON
5	Body O'ring	2	EPDM, VITON
6	Installation Device	1	SUS 316(350~600 NO)
7	Adaptors	1	UPVC, CPVC, PP, PVDF(350~600 NO)
8	Spring	1	SUS 316

DIMENSIONS TABLE

Nom. Size	JIS (DIN)						Unit:mm	ANSI						Unit:inch
	D1	D3	P	L	H	L1	R	D1	D3	P	L	H	L1	R
40(1-1/2")	23	82	35	16	25	38.2	56.0	0.90	3.23	1.38	0.63	0.98	1.50	56.0
50(2")	32	101	45	20	46	46.2	45.0	1.26	3.98	1.77	0.79	1.81	1.82	45.0
65(2-1/2")	38	119	60	20.2	51	59.4	38.0	1.50	4.69	2.36	0.80	2.00	2.34	38.0
80(3")	54	129	72	20	74	67.2	57.0	2.13	5.08	2.83	0.79	2.91	2.65	57.0
100(4")	68	154.4	90	22	91	77.2	57.0	2.68	6.08	3.54	0.87	3.58	3.04	57.0
125(5")	90	187	109	22	96	90.7	45.0	3.54	7.36	4.29	0.87	3.78	3.57	45.0
150(6")	110	210	132	26	113	110.2	45.0	4.33	8.27	5.20	1.02	4.45	4.34	45.0
200(8")	150	262	176	35	153	118.2	45.0	5.90	10.30	6.96	1.38	6.02	4.65	45.0
250(10")	190	321.4	222	42	188	175.2	45.0	7.48	12.65	8.74	1.65	7.40	6.90	45.0
300(12")	216	376	260	45	259	186.2	62.0	8.50	14.80	10.24	1.77	10.20	7.33	62.0

CHECK VALVE/ HORIZATIONAL TYPE

JW300
SIZE: 1"-8"



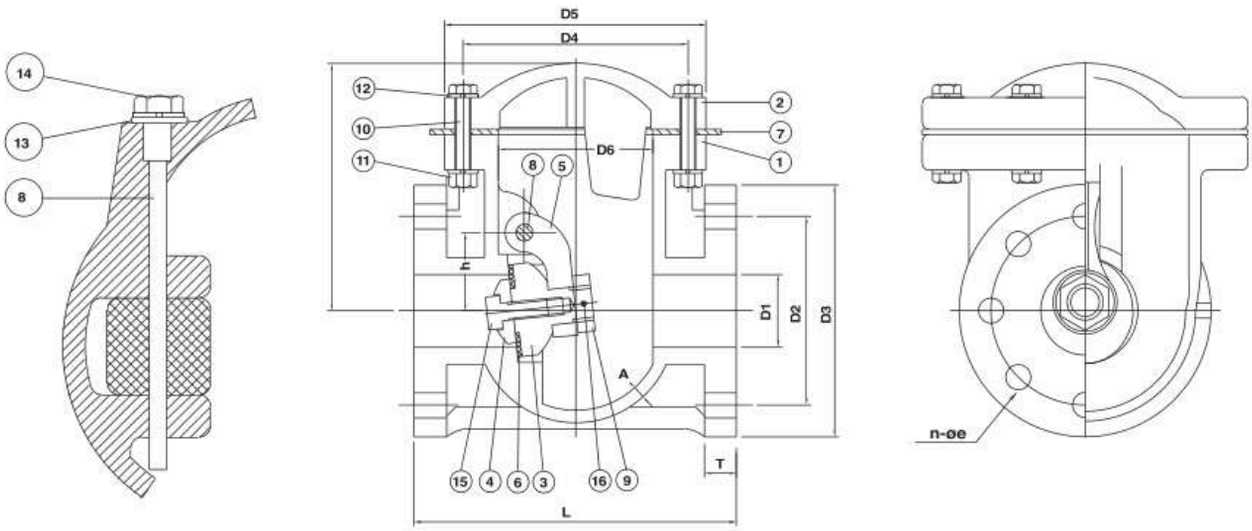
MATERIALS OF CONSTRUCTION

No.	Parts	Pcs.	Materials	No.	Parts	Pcs.	Materials	
1	Body	1	UPVC, PP, CPVC, PPG, PVDF	9	Disc Holder	1	PP,PVDF	
2	Bonnet	1	UPVC, CPVC, PPG, PVDF	10	Bolts	6...DN15-50 8...DN65-125 10...DN150 12...DN200	SUS304	
3	Disc	1	UPVC, PP, CPVC, PPG, PVDF	11	Nuts		SUS304	
4	Sheet Gasket Holder	1	UPVC, PP, CPVC, PPG, PVDF	12	Washers		SUS304	
5	Swing Arms	1	UPVC, PP, CPVC, PPG, PVDF	13	O'ring	1	EPDM,VITON	
6	Disc Gasket	1	EPDM, VITON , TEFLON	14	Shaft Holder	1	PVDF	
7	Bonnet Gasket	1	EPDM, VITON , TEFLON	15	Set Bolts	1...DN15-80 3...DN100-125 4...DN150-200	PVDF	
8	Shoft	1	PP, PVDF	16	Set Pin	1	SUS304	1/2"~1-1/2"
							PVDF	2"~8"

DIMENSIONS TABLE

JIS — Unit: mm

Nom. Size DN(inch)	D1	D2	D3	e	n No. of holes	D4	D5	D6	L	T	A	h	H	D	Test Press (kgf/cm²)	Working Press (kgf/cm²)	Mini Back Pressure Rates (kgf/cm²)
25(1")	25	90	126	19	4	110	130	75	160	15	6	40	129	8	15	10	0.34
40(1-1/2")	41	105	151	19	4	125	145	85	180	18	8	45	141	8	15	10	0.50
50(2")	52	120	166	19	4	155	180	105	200	18	8	55	165	10	15	10	0.50
65(2-1/2")	80	140	187	19	4	181	205	130	260	20	9	70	180	12	15	10	0.6
80(3")	80	150	201	19	8	181	205	130	260	20	9	70	180	12	15	10	0.6
100(4")	100	175	232	19	8	235	265	170	300	24	10	90	216	16	10	7	0.68
125(5")	125	210	254	23	8	285	330	210	350	24	14	110	239.5	18	10	7	0.68
150(6")	150	240	288	23	8	330	370	250	400	30	16	135	273	20	10	7	0.84
200(8")	200	290	348	23	12	390	425	300	500	30	18	170	310	20	10	7	0.84



DN25~DN200

DIMENSIONS TABLE

ANSI — Unit: inch

Nom. Size DN(inch)	D1	D2	D3	e	n No. of holes	D4	D5	D6	L	T	A	h	H	D	Test Press (lb/in^2)	Working Press (lb/in^2)	Mini Back Pressure Rates (PSI)
25(1")	1.00	3.13	4.96	0.63	4	4.34	5.13	2.97	6.31	0.59	0.24	1.56	5.07	0.31	222	150	5
40(1-1/2")	1.63	3.88	5.94	0.63	4	4.94	5.72	3.34	7.09	0.70	0.31	1.78	5.55	0.31	222	150	7.5
50(2")	2.06	4.75	6.54	0.75	4	6.09	7.09	4.13	7.88	0.70	0.31	2.16	6.50	0.41	222	150	7.5
65(2-1/2")	3.15	5.50	7.36	0.75	4	7.13	8.06	5.13	10.25	0.79	0.35	2.75	7.09	0.47	222	150	8.5
80(3")	3.15	6.00	7.91	0.75	4	7.13	8.06	5.13	10.25	0.79	0.35	2.75	7.09	0.47	222	150	8.5
100(4")	3.94	7.50	9.13	0.75	8	9.25	10.44	6.69	11.82	0.94	0.39	3.53	8.50	0.63	222	150	10
125(5")	4.94	8.50	10.0	0.88	8	11.22	13.00	8.28	13.78	0.94	0.55	4.34	9.43	0.72	150	100	10
150(6")	5.90	9.50	11.33	0.88	8	13.00	14.56	9.84	15.75	1.18	0.63	5.31	10.75	0.78	150	100	12.5
200(8")	7.88	11.75	13.70	0.88	8	15.31	16.71	11.81	19.69	1.18	0.71	6.69	12.21	0.78	150	100	12.5

DIN — Unit: mm

Nom. Size DN(inch)	D1	D2	D3	e	n No. of holes	D4	D5	D6	L	T	A	h	H	D	Test Press (bar)	Working Press (bar)	Mini Back Pressure Rates (bar)
25(1")	25	85	126	14	4	110	130	75	160	15	6	40	129	8	15	10	0.34
40(1-1/2")	41	110	151	18	4	125	145	85	180	18	8	45	141	8	15	10	0.5
50(2")	52	125	166	18	4	155	180	105	200	18	8	55	165	10	15	10	0.5
65(2-1/2")	80	145	187	18	4	181	205	130	260	20	9	70	180	12	15	10	0.6
80(3")	80	160	201	18	8	181	205	130	260	20	9	70	180	12	15	10	0.6
100(4")	100	180	232	18	8	235	265	170	300	24	10	90	216	16	15	10	0.68
125(5")	125	210	254	18	8	285	330	210	350	24	14	110	239.5	18	10	7	0.68
150(6")	150	240	288	23	8	330	370	250	400	30	16	135	273	20	10	7	0.84
200(8")	200	295	348	23	8	390	425	300	500	30	18	170	310	20	10	7	0.84

※ The dimension table is calculated based on PVC material.
※ The valve of test pressure is calculated based on PVC PVDF materials.
※ The valve of test pressure for PP material is 70% based on the table.
※ The flanged length tolerance is according to EN558-1:1995.

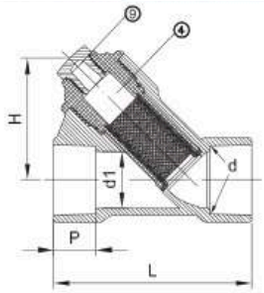
Y-SEDIMENT STRAINERS

SOCKET EY100 / THREAD EY 200 / FLANGE EY 300
Size: 1/2"- 4"

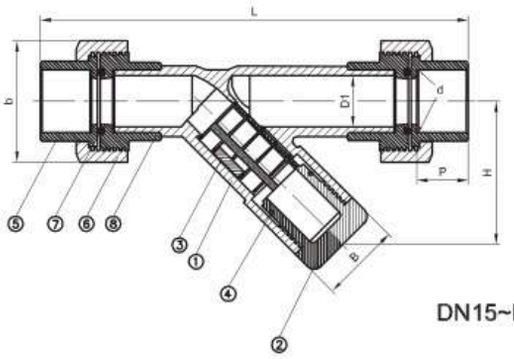


MATERIALS OF CONSTRUCTION

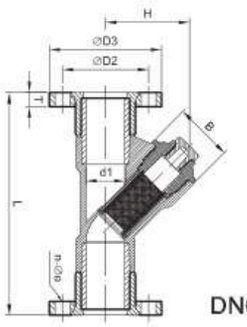
No.	Parts	Pcs.	Materials
1	Body	1	UPVC,CPVC
2	Lid	1	UPVC,CPVC
3	Screen	1	PE
4	Body O'ring	1	EPDM,VITON
5	Connector	2	UPVC,CPVC
6	Union Nut	2	UPVC,CPVC
7	Union O'ring	2	EPDM,VITON
8	Flange	2	UPVC,CPVC
9	Bolt O'ring	1	EPDM,VITON



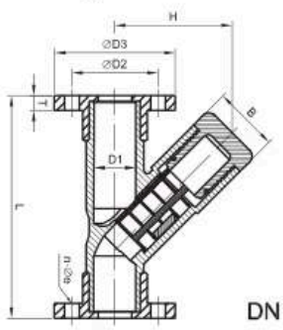
DN65~DN100 (ANSI only)



DN15~DN100



DN65~DN100



DN15~DN50

DIMENSIONS TABLE

JIS Unit:mm

Nom. Size DN-inch	D1	D2	D3	d SOCKET	d THREAD	Øe	n	P	L SOCKET	L THREAD	L FLANGE	B	T	H	b	Test Press (kgf/cm²)	Working Press (kgf/cm²)
15(1/2")	15.0	70	95	22	PT 1/2"	15	4	22.2	205.0	205.0	146.0	35.0	15	70.0	46	15	10
20(3/4")	20.0	75	100	26	PT 3/4"	15	4	25.4	234.0	234.0	170.0	39.0	15	80.0	61	15	10
25(1")	26.0	90	125	32 / (CNS) 34	PT 1"	19	4	28.6	250.0	250.0	174.0	47.0	17	95.0	70 / 67	15	10
32(1-1/4")	32.0	100	135	38 / (CNS) 42	PT 1-1/4"	19	4	31.8	283.0	283.0	200.0	55.0	17	110.0	81 / 89	15	10
40(1-1/2")	40.0	105	140	48	PT 1-1/2"	19	4	34.9	312.0	312.0	218.0	70.0	17	132.0	89	15	10
50(2")	50.0	120	155	60	PT 2"	19	4	38.1	352.0	352.0	238.0	81.0	20	155.0	101	15	10
65(2-1/2")	60.6	140	175	76	PT 2-1/2"	19	4	44.5	445.0	445.0	312.0	89.5	20	137.1	150	15	10
80(3")	80.0	150	185	89	PT 3"	19	8	47.6	516.0	516.0	360.0	109.3	23	163.8	184	15	10
100(4")	100.0	175	210	114	PT 4"	19	8	57.1	602.0	602.0	408.0	136.1	23	199.2	199	15	10

ANSI Unit:inch

Nom. Size DN-inch	D1	D2	D3	d SOCKET	d THREAD	Øe	n	P	L SOCKET	L THREAD	L FLANGE	B	T	H	b	Test Press (lb/in²)	Working Press (lb/in²)
15(1/2")	0.59	2.38	3.50	0.84	NPT 1/2"	0.63	4	0.88	8.07	8.07	5.75	1.37	0.59	2.76	1.81	235	150
20(3/4")	0.79	2.75	3.88	1.05	NPT 3/4"	0.63	4	1.00	9.21	9.21	6.69	1.53	0.63	3.15	2.40	235	150
25(1")	1.02	3.13	4.25	1.31	NPT 1"	0.63	4	1.13	9.84	9.84	6.85	1.85	0.67	3.74	2.76	235	150
32(1-1/4")	1.26	3.50	4.63	1.66	NPT 1-1/4"	0.63	4	1.25	11.14	11.14	7.87	2.16	0.67	4.33	3.19	235	150
40(1-1/2")	1.57	3.88	5.00	1.89	NPT 1-1/2"	0.63	4	1.38	12.28	12.28	8.58	2.75	0.71	5.20	3.50	235	150
50(2")	1.97	4.75	6.00	2.37	NPT 2"	0.75	4	1.50	13.86	13.86	9.37	3.18	0.79	6.10	3.98	235	150
65(2-1/2")	2.39	5.50	7.00	2.87	NPT 2-1/2"	0.75	4	1.75	8.25	8.25	12.28	3.52	0.79	5.40	5.91	235	150
80(3")	3.15	6.00	7.50	3.49	NPT 3"	0.75	4	1.88	9.63	9.63	14.17	4.30	0.90	6.45	7.24	235	150
100(4")	3.94	7.50	9.00	4.49	NPT 4"	0.75	8	2.25	11.69	11.69	16.06	5.36	0.90	7.84	7.83	235	150

DIN Unit:mm

Nom. Size DN-inch	D1	D2	D3	d SOCKET	d THREAD	Øe	n	P	L SOCKET	L THREAD	L FLANGE	B	T	H	b	Test Press (bar)	Working Press (bar)
15(1/2")	15.0	65	95	20	R1/2"	14	4	16.0	205.0	205.0	146.0	35.0	15	70.0	46	15	10
20(3/4")	20.0	75	105	25	R3/4"	14	4	18.5	234.0	234.0	170.0	39.0	16	80.0	61	15	10
25(1")	26.0	85	115	32	R1"	14	4	22.0	250.0	250.0	174.0	47.0	17	95.0	70	15	10
32(1-1/4")	32.0	100	140	40	R1-1/4"	18	4	26.0	283.0	283.0	200.0	55.0	17	110.0	81	15	10
40(1-1/2")	40.0	110	150	50	R1-1/2"	18	4	31.0	312.0	312.0	218.0	70.0	17	132.0	88	15	10
50(2")	50.0	125	165	63	R2"	18	4	37.5	352.0	352.0	238.0	81.0	20	155.0	101	15	10
65(2-1/2")	60.6	145	185	75	R2-1/2"	18	4	43.5	445.0	445.0	312.0	89.5	20	137.1	150	15	10
80(3")	80.0	160	200	90	R3"	18	8	51.0	516.0	516.0	360.0	109.3	23	163.8	184	15	10
100(4")	100.0	180	220	110	R4"	18	8	61.0	602.0	602.0	408.0	136.1	23	199.2	199	15	10

※ The flanged length tolerance is according to EN558-1:1995.

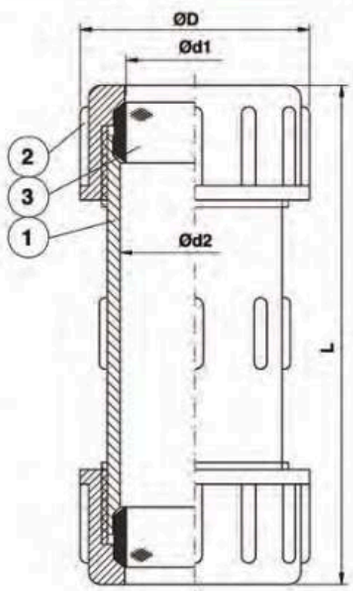
COMPRESSION COUPLING

(Soc*Soc)



EC100
Size: 1/2" to 4"

- For use in any general piping applications, metal, plastic or copper pipe.
- Easy to operate for instant and emergency piping.



DN15~DN100

MATERIALS OF CONSTRUCTION

NO.	Parts	Materials	Pcs
1	BODY	UPVC	1
2	UNION NUT	UPVC	2
3	SEAL	NBR , EPDM	2

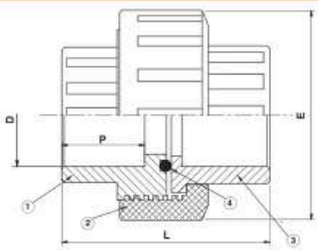
C.T.S DIMENSIONS

	1/2"	3/4"	1"
D	35.00	43.60	49.00
d1	16.08	22.45	28.83
d2	18.00	24.00	30.00
L	114.5	121.0	128.0

DIMENSIONS TABLE

SIZE / Nom.		13mm (3/8")	15mm (1/2")	20mm (3/4")	25mm (1")	32mm (1-1/4")	40mm (1-1/2")	50mm (2")	65mm (2-1/2")	80mm (3")	100mm (4")
D		35.0	43.6	49.0	57.0	66.9	73.2	88.6	110.0	130.0	160.5
d1	JIS	18.0	21.4	25.5	32.2	38.0	48.3	60.3	75.2	89.1	114.5
	ANSI	18.0	21.4	26.7	33.5	42.2	48.3	60.3	73.2	89.1	114.5
	DIN	16.1	20.3	25.5	32.2	40.5	50.4	63.4	75.2	90.5	110.5
	BS	18.0	20.3	26.7	33.2	42.2	48.3	60.3	75.2	89.1	114.5
d2		19.2	22.7	27.7	34.9	43.3	49.2	63.8	76.8	92.4	116.3
L		114.0	121.0	128.0	133.0	151.0	168.0	175.0	252.0	277.0	310.0

ED Series



DN15~DN 50

ED 100:SOCKET / ED 200:THREAD
Size: 1/2 " to 2"
UNION

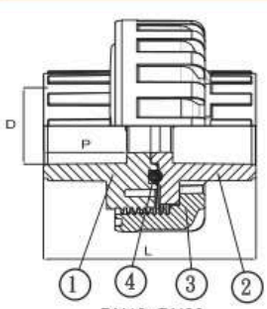


No.	Part s	Materials	Pcs
1	BODY	UPVC, PP,CPVC, PVDF	1
2	UNION NUT	UPVC, PP,CPVC, PVDF	1
3	END CONNRCTOR	UPVC, PP,CPVC, PVDF	1
4	O'RING	EPDM,VITON	1

Nom.Size m/m(inch)	E	D			L		P		
		JIS	ANS	DIN	S	TS	JIS	ANSI	DIN
15(1/2")	48	22	21.3	20	57	57	22.22	22.22	16.0
20(3/4")	62	26	26.7	25	67	67	25.40	25.40	18.5
25(1")	70	32	33.4	32	70	70	28.60	28.60	22.0
25(1")CNS	70	34	-	-	70	70	28.60	-	-
32(1-1/4")	82	38	42.2	40	82	82	31.75	31.75	26.0
32(1-1/4")CNS	82	42	-	-	82	82	31.75	-	-
40(1-1/2")	94	48	48.3	50	101	101	34.90	34.90	31.0
50(2")	113	60	60.3	60	100	100	38.10	38.10	37.5

S:Screwed TS:Socket

EK Series



DN10~DN80

EK 100:SOCKET / EK 200:THREAD
Size: 3/8" to 3"



No.	Part s	Materials	Pcs
1	BODY	UPVC, CPVC	1
2	UNION NUT	UPVC, CPVC	1
3	END CONNRCTOR	UPVC, CPVC	1
4	O'RING	EPDM,VITON	1

Nom.Size m/m(inch)	D			L		P		
	JIS	ANS	DIN	S	TS	JIS	ANSI	DIN
10(3/8")	18.25	17.50	16.20	48.25	48.25	19.05	19.05	14.60
15(1/2")	22.25	21.60	20.20	55.30	55.30	22.50	22.50	22.50
20(3/4")	26.30	26.92	25.25	60.60	60.60	25.40	25.40	18.50
25(1")	32.37	33.72	32.30	67.20	67.20	28.60	28.60	22.00
32(1-1/4")	38.33	42.50	40.28	75.60	75.60	31.80	31.80	26.00
40(1-1/2")	48.50	48.65	50.30	82.00	82.00	35.00	35.00	31.00
50(2")	60.60	60.73	63.30	90.50	90.50	38.10	38.10	37.50
65(2-1/2")	76.60	73.50	75.20	109.80	109.80	45.00	45.00	45.00
80(3")	89.60	89.40	90.30	127.90	127.90	48.00	48.00	51.00

S:Screwed TS:Socket

UPVC & CPVC
Corrosion Resistant Industrial Pressure Pipe
Installation

Basic Principles of Solvent Cementing

The solvent-cemented connection in thermoplastic pipe and fittings is the last vital link in a plastic pipe installation. It can mean the success or failure of the system as a whole. Accordingly, it requires the same professional care and attention that are given to other components of the system. There are many solvent cementing techniques published covering step-by-step procedures on just how to make solvent cemented joints. However, we feel that if the basic principles involved are explained, known and understood, better understanding would be gained as to what techniques are necessary to suit particular applications, temperature conditions, and variations in size and fits of pipe and fittings. Be aware at all times of goods safety practices. Solvent cements for pipe and fittings are flammable, so there should be no smoking or other sources of heat or flame in working or storage areas. Be sure to work only in a well-ventilated space and avoid unnecessary skin contact with all solvents. Refer to Safety Precautions section for additional information.

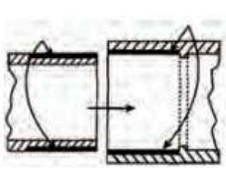
To consistently make goods joints, the following should be carefully understood:

1.The joining surfaces must be softened and made semi-fluid.
2.Sufficient cement must be applied to fill the gap between pipe and fitting.
3.Assembly of pipe and fittings must be made while the surfaces are still wet and fluid.
4.Joint strength develops as the cement dries. In the tight parts of the joint the surfaces will tend to fuse together, in the loose part the cement will bond to both surfaces.

Important: Installers should verify for themselves that they can make satisfactory joints under varying conditions and should receive training in installation and safety procedures.

Softening and Penetration

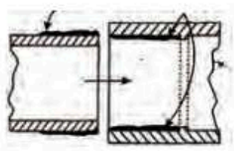
These areas must be softened and penetrated. This can be achieved by the cement itself, by using a suitable primer, or by the use of both primer and cement. A suitable primer will usually penetrate and soften the surfaces more quickly than the cement alone.



marked areas must be softend and penetrated

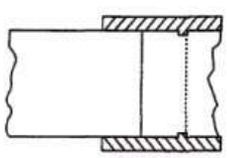
Sufficient Application of Cement

More than sufficient cement to fill the gap in the loose part of the joint must be applied in addition to fill the gap, adequate cement layers will penetrate the jointing surfaces and remain fluid until the joint is assembled.



cement coating of sufficient thickness

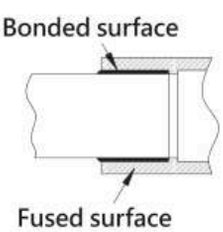
If the cement coating on the pipe and fittingsare wet and fluid when assembling, they will tend to flow together and become one layer. Also, if the cement is wet, the bottom layer will still be soft, and these softened surfaces in the tight part of the joint will tend to fuse together.



surface must be assemblde while they are wet and soft

As the solvent dissipates, the cement layer and the softened surfaces will harden with a corresponding increase the joint strength.

A good joint required working pressure before the joint is fully dry and final strength is obtained. In the tight (fused) part of the joint, strength will develop more quickly than in the looser (bonded) part of the joint. Information about the development of bond strength of solvent cemented joints is available.



Hot Weather

In multiple conditions, operating solvent cementing piping products in 95°F temperatures and over cannot be avoided. If a few special precautions are taken, problems can be avoided. Solvent cements contain high-strength solvents which evaporate faster at elevated temperatures. This is especially true when there is a hot wind blowing.If the pipe has placed in direct sunlight for any length of time, surface temperatures may be 20°F to 30 ° above air temperature. Solvents attack these hot surfaces faster and deeper, especially inside a joint. Thus, it is very important to avoid pudding inside sockets, and to wipe off excess cement outside.

Tips Follow when Solvent Cementing in High Temperatures:

1.Store solvent cements in a cool or shaded area before using.
2.If possible, store the fittings and pipe, or at least the ends to be solvent welded, in a shady area before cementing.
3.Use a damp clothes to cool down the jointed surface Be sure that surfaces are dry prior to applying solvent cement.
4.Try to do the solvent cementing in cooler morning hours.
5.Make sure that both surfaces are still wet with cement when jointing them together.

Cold Weather

Solvent Cement products have excellent cold weather stability and are formulated to have well balanced drying characteristics even in subfreezing temperatures. When providingthe proper care and using a little common sense, good solvent cemented joints can be made in very cold conditions. In cold weather, solvents penetrate and surfaces soften more slowly than in warm weather. The plastic is also more resistant to solvent attack.Therefore, it becomes more important to pre-soften surfaces. Because of slower evaporation, a longer cure time is necessary.

Tips to Follow when Solvent Cementing in Cold Temperatures:

1.Prefabricate as much of the system as possible in a heated work area.
2.Store cements in a warmer area when not in use and make sure they remain fluid.
3.Take special care to remove moisture, including ice and snow.
4.To ensure joining surfaces are adequately softened, multi-layer cement is required.
5.Allow a longer cure period before the system is used. Follow appropriate set and cure times prior to pressure testing.

Getting Started

- Review Safety Precaution
- Review Cement Can Label
- Review Assembly Instructions
- Condition pipe and fitting being jointed to the same temperature conditions prior to use.

Inspection Before Use

Pipe and fittings should always be inspected for damage before actual installation. Pipe or fittings with cuts, gouges, scratches, splits, or other signs of damage from improper handling or storage should not be used. Damaged sections on lengths of pipe can easily be cut out using proper techniques for cutting thermoplastic pipe.

Check Material

Make sure the fittings, valves, and pipe being jointed are of the same type of plastic product (i.e. UPVC or CPVC). Make sure that the proper primer and cement is being used with the proper pipe and fittings. Never use CPVC cement on Type I PVC pipe or, conversely, never use PVC cement on CPVC pipe and fittings. Verify the expiration dates stamped on the cements and primers prior to use (date codes can typically be found on the bottom of the container).

Handling of Cement

Keep cement containers covered while not in use. If the container of cement with the lid off is subject to prolonged exposure to air, the cement in the can becomes thick and viscous, or gel like. Chances are that this condition has been brought about by the evaporation of the tetra hydro furan (THF) solvent. If this occurred, the cement is useless. Do not try to restore the cement by stirring in a thinner. For this reason, it is suggested that smaller containers of cement, rather than the large container, be used, especially in warm or hot weather. Prior to using an unopened can of cement, it is well to shake it vigorously to insure proper dispersion of the resin and solvents. Keep in mind that the solvents contained in PVC cements are highly flammable and should not be used near an open flame. The area in which the cement is being used should be well ventilated, and prolonged breathing of the fumes should be avoided, as well as contact with the skin or eyes. All PVC cemen should be handled in the same manner as a very fast-drying lacquer. Verify the expiration dates stamped on the cements and primers prior to use.

UPVC & CPVC
Corrosion Resistant Industrial Pressure Pipe

Installation

1·Cutting

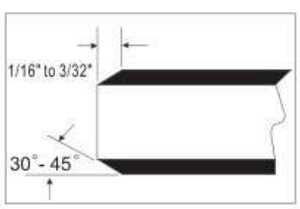


Cut ends of pipe square using appropriate tools. To ensure the pipe is cut square, a miter box must be used when using a saw.Cutting the pipe as squarely as possible provides the surface of the pipe with a maximum bonding area. PVC and CPVC pipe can be easily cut with as wheel-type plastic tubing cutter, a power saw, or a finetoothed saw.Care must be taken not to split the pipe if a ratchet type cutter is used, especially in temperatures below 50°F. If any indication of damage or cracking is evident, cut off at least two (2) inches beyond any visible crack. It is important that the cutting tools used are designed for use on plastic pipe.

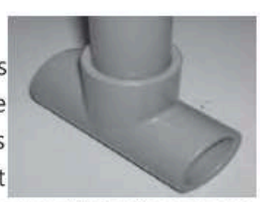
2.Bevel/ Debur

Burrs and fittings can prevent contact between pipe and fitting during assembly, and must be removed from the outside and the inside of the pipe. A chamfering tool or file is suitable for this purpose. A slight bevel shall be placed at the end of the pipe to ease entry of the pipe into the socket and Min.imize the chances of wiping solvent cement from the fitting. Place a 30° to 45° bevel approximately 1/16" to 3/32" in width on the end of the pipe.





3.Jointing Prepa$_r$ation



A.Inspect & Clean Components
Before assembling, all components shall be inspected for any damage or irregularities. Mating components shall be checked to assure that tolerances and engagements are compatible. Do not use components that appear irregular or do not fit properly. Contact the appropriate manufacturer if the component product in question to determine usability. Using a clean, dry rag, to wipe dirt and moisture from the fitting socket and pipe end. Moisture can slow the cure time, and at this stage of assembly, excessive water can reduce joint strength.

B.Check the dry fit
The pipe should enter the fitting socket easily one- quarter to three-quarters of the way. If the pipe bottoms in the fitting with little interference, use extra solvent cement in making the joint.
C.Measure the socket depth
Measure the socket depth of the fitting and mark this distance on the pipe end. This reference mark can be used when jointing to ensure the pipe is completely bottomed into the fitting during assembly.
D.Position the pipe and fitting for alignment.

4.Primer Application

Primer must be used to prepare the bonding area for the addition of the solvent cement and subsequent assembly. It is important to use a proper applicator- a dauber, natural bristle brush, or roller approximately 1/2 the size of the pipe diameter is appropriate. A rag must NOT be used. Primer must be applied to both the pipe and fittings. Primer must apply on outside of the pipe and fittings socket. Apply Primer to the fitting socket, then to the outside of the pipe end.Re-dipping applicator as necessary to ensure entire surface is wet. Repeated applications may be necessary.



5.Solvent Cement Application

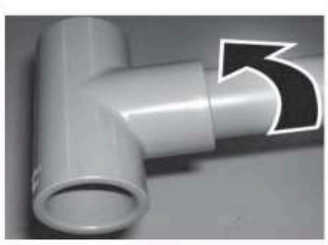
The solvent cement shall be applied when the pipe and fittings are clean and free of any moisture and debris, and must be applied immediately while primer is still tacky. Cement shall be applied to the jointing surfaces using a dauber, natural bristle brush, or roller approximately 1/2 the size of the pipe diameter. Apply a heavy, even coat of cement to the outside pipe end to equal to the depth of the fitting socket. The amount should be more than sufficient

to fill any gap. Apply a medium coat to the fitting socket. Avoid pudding. If there was little or no interference when the dry fit was checked,e a second application of cement should be mad to the pipe end.



6.Assembly

While BOTH SURFACES are STILL WET with solvent cement, immediately insert the pipe into the fitting socket while rotating the pipe ¼turn. Pipe must bottom completely to the fitting stop. Properly align the fitting for installation at this time. Hold the assembly for approximately 30 seconds to ensure initial bonding. Due to the taper on the interference fit, the pipe can back-off the fitting stop if steady pressure is not held on the joint during initial bonding. A bead of cement should be evident around the pipe and fitting juncture. If this bead is not continuous around the socket shoulder, it may indicate that insufficient cement was applied. If insufficient cement is applied, the joint must be cut out, discarded and begun again. Cement in excess of the bead can be wiped of with a rag.



Solvent Cement set and cure times are a function of the cement type used, pipe size, temperature, relative humidity, and tightness of fit.Drying time is faster for drier environments, smaller pipe sizes, high temperatures and tighter fits. The assembly must be allowed to set without any stress on the joint, for 1 to 5 minutes depending on the pipe size and temperature. Following the initial set period the assembly can be handled carefully avoiding stresses to the joint. All solvent- cemented assemblies, must be allowed cure properly prior to pressure testing.

7.Set and Cure Times

⚠ The general step by step instructions provided herein are based on the use of conventional Schedule 40 & 80 PVC & CPVC industrial piping products used under normal installation conditions and cannot be constructed as covering every possible combination of field conditions.

UPVC & CPVC
Corrosion Resistant Industrial Pressure Pipe
Installation

Estimated Quantities of Solvent Cement

Estimated quantities of PVC and CPVC cement can vary due to installation conditions, tolerance variations, and socket depths. Fabricated and belled fittings will usually require larger quantities. It is better practice to error on the liberal side skimp if precautions as outlined in instructions are recognized and followed. Field conditions or a combination of factors could occur during installation that has not yet been encountered. Consequently, the information contained herein may be considered as a basis for recommendation but not as a guarantee.

Fabricated fittings socket depths can vary with respect to manufacturer or if the fittings are pressure rated. The cement requirements shown for these sizes are based upon the socket depths shown. If the socket depth is shorter, a smaller quantity of cement can be utilized. For example, if the socket depth of a 12" fitting is only 5" , you would take 5/8.5 of cement quantity shown per joint. If the socket depth is 9" for a 12" fitting, you would take 9/8.5 of the cement quantity shown.

Socket Joints

Size(in.)	Socket Depth (IN.)	Cement* Quarts/ Joint
10	8	0.75
12	8.5	1.00
14	9	1.25
16	10	1.50
18	12	2.00
20	12	2.25
24	14	3.25

Quantities of P-70 Primer requirement average 1/3 of the cement requirements.
Estimated Number of Joints per Pint Quart Sizes Based on Pipe Diameter

	PINT				QUART			
Size Fitting (in.)	No. of Joints	No. of Couplings or 90s	No. of Tees	No. of Belled Pipe Joints	No. of Joints	No. of Couplings or 90s	No. of Tees	No. of Belled Pipe Joints
1/2	190	95	64	N/A	380	190	127	N/A
3/4	120	60	40	N/A	240	120	80	N/A
1	100	50	33	N/A	200	100	66	N/A
1-1/4	70	35	24	N/A	140	70	48	N/A
1-1/2	50	25	17	N/A	100	50	33	N/A
2	30	15	10	25	60	30	20	50
2-1/2	25	12	8	20	50	24	16	40
3	20	10	6	16	40	20	12	32
4	12	6	4	9	24	12	8	18
5	9	4.5	3	-	18	9	6	-
6	5	2.5	1.8	3	10	5	3.3	6
8	2.5	1	0.8	2	5	2.1	1.6	4

Gasket Pipe (Lubricant)

NoMin.al Pipe Size (in.)	Arg. Number of Joints Per Pint (I lb.) Container of lubricant
2	70
2.5	60
3	50
4	35
6	20
8	14
10	10
12	7
14	5
16	3
18	2
20	1.5
24	1

Solvent Cement Assembly Instructions

General Instructions

⚠ CAUTION BEFORE APPLYING PRIMER ANdD CEMENT, appropriate safety precautions should be taken. Primer and cement should be stored in the shade between 40°F and 110°F.Eliminate all ignition sources. Avoid breathing vapors. Use only with adequate ventilation; explosion-proof general mechanical ventilation or local exhaust is recommended to maintain vapor concentrations below recommended exposure limits. In confined or partially enclosed areas, a NIOSH- approved organic vapor cartridge respirator with full face-piece is recommended. Containers should be kept tightly closed when not in use, and covered as much as possible when in use. Avoid frequent contact with skin; wearing PVA-coated protective gloves and an important apron are recommended. Avoid any contact with eyes; splash proof chemical goggles are recommended. (Please refer to safety,Basic Principles,and Getting Started sections on the proceeding pages prior to use).Verify expiration dates stamped on cements and primers prior to use.

Component Preparation: Condition the pipe and fitting to the same temperature conditions prior to use. All pipe, fittings and tools used for jointing must be clean and free of dirt, moisture, grease or other contamination prior to and during the joining process.

Set and Cure Times

⚠ NOTE appropriate safety precautions should be taken. Primer The following set and times are average times based on the use of IPS Weld-On P-70 Primer and IPS Weld-On #717 and/or IPS Weld-On #719 Solvent cements as applicable for joining Schedule 40 & Schedule 80 PVC Piping, and the use of IPS Weld-On #714 as applicable for joining Schedule 40 & Schedule 80 CPVC Piping. Actual set and cure times are dependent on the pipe material and solvent cement system utilized, pipe size, temperature, relative humidity, pressure and tightness of fit.

SET TIME:

The initial set times shown below are the recommended waiting period before handling newly assembled joints. After initial set, the joints will withstand the stresses of normal installation. (A badly misaligned installation will cause excessive stresses in the joint, pipe and fittings.)

Temp. Range	Pipe Sizes 1/2" – 1-1/4"	Pipe Sizes 1-1/2" – 2"	Pipe Sizes 2-1/2" – 8"	Pipe Sizes 10" – 15"	Pipe Sizes 16" – 24"
60°-100°F	2Min.	5 Min.	30 Min.	2 Hrs.	4Hrs.
40°-60°F	5 Min.	10 Min.	2 Hrs.	8Hrs.	16Hrs.
0°-40°F	10 Min.	15 Min.	12 Hrs.	24 Hrs.	48 Hrs.

Average Set Times

CURE TIME:

The cure time is the recommended waiting period before pressurizing newly assembled joints. These times depend on type of cement used, pipe size, fit, temperature, humidity and pressure.Follow appropriate cure times carefully. Allow longer cure period for high humidity and/ or cold weather.

Avoid pudding of cement or primer on within fitting and pipe that causes excess softening of the material and could cause damage to the product.

Hot Weather

There are many occasions when solvent cementing piping products in 95°F temperatures and over cannot be avoided. If a few special precautions are taken, problems can be avoided.Solvent cements contain high-strength solvents that evaporate faster at elevated temperatures.This is especially true when there is a hot wind blowing. If the pipe has been in direct sunlight for any length of time, surface temperatures may be 20°F to 30°F above air temperature. Solvents attack these hot surfaces faster and deeper, especially inside a joint. Thus, it is very important to avoid pudding

Tips to Follow when Solvent Cementing in High Temperatures:

1.Store solvent cements in a cool or shaded area prior to use. inside sockets, and to wipe off excess cement outside.
2.If possible, store the fittings and pipe, or at least the ends to be solvent welded, in a shady area before cementing.
3.Wipe with a damp rag to cool surfaces which will be joined. Be sure that surfaces are dry prior to applying solvent cement.
4.Try to do the solvent cementing in cooler morning hours.
5.Make sure that booth surfaces to be joined are still wet with cement whetn putting them together.

Cold Weather

Solvent Cement products have excellent cold weather stability and are formulated to have well balanced drying characteristics even in subfreezing temperatures.When providingthe proper care and using a little common sense,good solvent cemented joints can be made in very cold conditions. In cold weather, solvents penetrate and surfaces soften more slowly than in warm weather. The plastic is also more resistant to solvent attack, therefore, it becomes more important to pre-soften surfaces. Because of slower evaporation, a longer cure time is necessary.

Tips to Follow when Solvent Cementing in Cold Temperatures:

1.Prefabricate as much of the system as possible in a heated work area.
2.Store cements in a warmer area when not in use and make sure they remain fluid.
3.Take special care to remove moisture, including ice and snow.
4.Use special care to ensure joining surfaces are adequately softened; more than one application may be necessary.
5.Allow a longer cure period before the system is used.

Follow appropriate set and cure times prior to pressure testing.

Relative Humidity 60% or Less*	Pipe Sizes 1/2" – 1-1/4"		Pipe Sizes 1-1/2" – 2"		Pipe Sizes 2-1/2" – 8"		Pipe Sizes 10" – 15"	Pipe Sizes 16" – 24"
Temperature Range During Assembly and Cure Periods	Up to 160 psi	Above 160 to 370 psi	Up to 160 psi	Above 160 to 315 psi	Up to 160 psi	Above 160 to 315 psi	Up to 100 psi	Up to 100 psi
60°-100°F	15 Min.	6Hrs.	30 Min.	12 Hrs.	1-1/2 Hrs.	24Hrs.	48Hrs.	72Hrs.
40°-60°F	20 Min.	12 Hrs.	45 Min.	24 Hrs.	4 Hrs.	48 Hrs.	96Hrs.	6 Days
0°-40°F	30 Min.	48 Hrs.	1 Hrs.	96 Hrs.	72 Hrs.	8Days	8Days	14 Days

Average Cure Times

⚠ in damp or humid weather allow 50%, more curetime. The cure schedule shown is provided as a courtesy and is suggested as guides only. They are based on laboratory test data, and should not be taken to be the recommendations of all cement manufacturers.Individual solvent cement manufacture' s recommendations for the particular cement being used should be followed. The above cure schedules are based on laboratory test data obtained on Net Fit Joints (NET FIT = in a dry fit, the pipe bottoms snugly in the fitting socket without meeting interference. Contact the appropriate solvent cement manufacture foradditional information. Import ! installers should verify for themselves that they can make satisfactory joints under varying conditions and should receive training in installation and safety procedures.

UPVC & CPVC
Corrosion Resistant Industrial Pressure Pipe
Installation

Flanged Connections

Flanged joints can be used in applications where frequent dismantling is required.PVC and CPVC flanges are available in socket, spigot and threaded configurations in a variety of styles including one piece solid style flanges and two piece Van Stone style flangeswhere the bolt ring spins freely of the hub, easing bolt hole alignment during assembly. Most plastic flanges carry a maximum working pressure rating of 150 psi non-shock for water at 73°F.Care should be taken to select the proper gasket material for compatibility with the fluid being conveyed.

Flange bolts should be tight enough to compress the gasket slightly and make a good seal, but not so tight as to distort the flange. Suitable washers should be used between the bolt head and nut. Opposite bolts should be made up in alternate sequence. Follow flange manufactures assembly instructions, recommended bolt torque valves, and bolt tightening sequence.

Recommended Flange Bolt Torque for Plastic Flange

Temp. Range (in.)	No. of Bolt Holes	Bolt Dia. (in.)	Min. Bolt Length (in.)	Torque ft.-lb. PSI
1/2	4	1/2	2	10-15
3/4	4	1/2	2	10-15
1	4	1/2	2-1/4	10-15
1-1/4	4	1/2	2-1/4	10-15
1-1/2	4	1/2	2-1/2	20-30
2	4	5/8	3	20-30
2-1/2	4	5/8	3-1/4	20-30
3	4	5/8	3-1/4	20-30
4	8	5/8	3-1/2	20-30
6	8	3/4	4	30-50
8	8	3/4	4-1/2	30-50
10	12	7/8	5	50-80
12	12	7/8	5	80-100
14	12	1	5-1/2	100-120
16	16	1	6-1/2	100-120
18	16	1-1/8	4-1/8	100-120
20	20	1-1/8	5-1/2	100-120
24	20	1-1/4	5-1/2	100-120

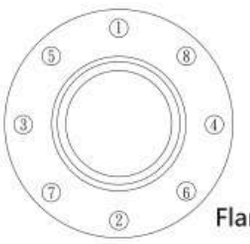
Bolt Torque

Recommended Bolt torque is shown above. Threads should be cleaned and well lubricated.Actual field conditions may require variations in these recommendations.

⚠ CAUTION UNNECESSARY OVER TORQUING WILL DAMAGE FLANGE

Gaskets

Full faced 1/8" thick elastomer gaskets with a Shore "A" Durometer of approximately 70 is recommended.



Flanged Bolt Tightening Sequence

Flange Make-up

Follow proper solvent cement and / or threaded component procedures as applicable to join the flange to the pipe. Once a flange is jointed to pipe, the method for joining two flanges is as follow:

A.Piping runs joined to the flanges must be installed in a straight-line position to the flange to avoid stress on flange due to misalignment. Piping must also be secured and supported to prevent lateral movement that can create stress and damage the flange.

B.With gasket in place, align the bolt holes of the mating flanges by rotating the ring into position.

C.Insert all bolts, washers (two standard flat washers per bolt), and nuts.

D.Make sure the faces of the mating surfaces are flush against the gasket prior to bolting down the flanges.

E.Tighten the nuts by hand until they are snug. Establish uniform pressure over the flange face by tightening the bolts in 5 ft.-lbs. increments according to the sequence shown in the diagram, following a 180° opposing sequence.

F.Care must be taken to avoid "bending the flange when jointing a flange to a "raised face flange, or a wafer-style valve. Do not use bolts to bring together improp erly mated flanges.

Specified minimum bolt lengths are based on the use of two Flanges of manufacture, two standard flat washes, standard nut and 1/8" thick elastomer full-face gasket. Mating with other brands or accessories may require variation. Bolts and gasket are not supplied with flanges.Actual field conditions may require a variation in these recommendations. The above recommendations are considered general and are provided as a courtesy. Follow flange component-manufactures assembly instructions to ensure the highest system integrity.

Above Ground Installation

Thermal Expansion & Contraction

The system must be designed and installed to compensate for movement as result of thermal expansion and ontraction. This is particularly true for above ground applications installed outdoors and within unoccupied buildings where ambient temperature swings can be significant. For example, a system installed in an unoccupied (i.e. un-heated) building during the winter months will expanded considerably when temperatures rise. The direct opposite is true for systems installed at higher ambient temperatures where temperatures may drop down after installation. This fact must be addressed with proper system design to compensate for movement generated as the result of the effects of thermal Expansion & Contraction section for additional information.

Outdoor Applications.

PVC and CPVC piping have been used successfully in outdoor applications when proper recommendation is followed. As with any other piping system, the system must be protected from freezing in applications subject to colder temperatures. Many standard cold weather piping design and installation practices can be used to protect the system from freezing such as use of pipe insulation, anti-freeze solutions, and trace tapes. The manufactures of these products should be consulted for suitability and compatibility of their products for use with PVC and CPVC products prior to use.

We recommends that PVC and CPVC piping products exposed to the effects of sunlight (UV radiation) be painted with a light colored acrylic or latex paint that is chemically compatible with the PVC/CPVC products. Compatibility information should be confirmed with the paint manufacture. The use of oil-based paints is not recommended. After painting, the effects of exposure to sunlight are significantly reduced, however, consideration should be given to the effects of expansion/ contraction of the system caused by heat absorption in outdoors application. The use of a light colored, reflective paint coating will reduce this affect, however, the system must also be designed and installed in such a manner to reduce the effects of movement due to thermal expansion. Refer to Temperature Limitations and Thermal Expansion & contraction for additional information.

Hangers and Supports

Hanger Support Spacing

Proper support selection and spacing is critical to prevent stress concentration areas as the result of weight loading, bending stress, the effects of thermal expansion/ contraction, and to limit pipe displacement (sag). As with all thermoplastic materials, proper pipe support spacing is dependent on pipe size, the location and magnitude of any concentrated weight loads, and the operating temperatures of the system due to the effects that temperature has on the tensile and compressive strength of the material. Increases in temperature require dditional supports. When operating at or near maximum recommended temperature limits, it may be more economical to provide consecutive support for the system via structural angle or channel that is free from rough or sharp edges. Local building codes should also be consult for applicable requirements prior to installation.Proper support spacing can be calculated similarly to that of metallic systems by using simple and continuous beam calculations. This can be achieved by using the maximum fiber stress of the material, or deflection based on the long term modulus of the material at the temperature selected as the limiting factors.

Hanger Selection

Many hangers designed for metallic pipe are suitable for thermoplastics; however, the use of hangers and supports should provide adequate load-bearing surface, which is smooth and free of rough or sharp edges that could damage the pipe. The use of improper supports can generate excessive sag resulting in failure. Movement caused by the effects of expansion and contraction of the system due to temperature variations. As well as movement as the result of pressure fluctuations must be considered to ensure proper hanger selection and placement. Hangers and supports used must permit axial movement of the system, they should not compress the pipe or otherwise restrict this movement.

Placement

Common practice is to install suitable hangers within two feet of each side of a pipe changes indirection should be supported as close as possible to the fitting to reduce tensional stress.

Heavy system components such as valves, flanged assemblies, tees and other forms of concentrated stress loads must be independently supported. In addition, valves should be braced adequately to prevent movement stress loads as the result of operational torque.

Consideration should also be given for certain processes where solids accumulation within the line is a possibility.

UPVC & CPVC
Corrosion Resistant Industrial Pressure Pipe
Installation

PVC PIPE SUPPORT SPACING (ft.)

	SCHEDULE 40					SCHEDULE 80					SCHEDULE 120				
	60°F	80°F	100°F	120°F	140°F	60°F	80°F	100°F	120°F	140°F	60°F	80°F	100°F	120°F	140°F
1/4	4	3-1/2	3-1/2	2	2	4	4	3-1/2	2-1/2	2	-	-	-	-	-
3/8	4	4	3-1/2	2-1/2	2	4-1/2	4-1/2	4	2-1/2	2-1/2	-	-	-	-	-
1/2	4-1/2	4-1/2	4	2-1/2	2-1/2	5	4-1/2	4-1/2	3	2-1/2	5	5	4-1/2	3	2-1/2
3/4	5	1/2	4	2-1/2	2-1/2	5-1/2	5	4-1/2	3	2-1/2	5-1/2	5	4-1/2	3	3
1	5-1/2	5	4-1/2	3	2-1/2	6	5-1/2	5	3-1/2	3	6	5-1/2	5	3-1/2	3
1-1/4	5-1/2	5-1/2	5	3	3	6	6	5-1/2	3-1/2	3	6-1/2	6	5-1/2	3-1/2	3-1/2
1-1/2	6	5-1/2	5	3-1/2	3	6-1/2	6	5-1/2	3-1/2	3-1/2	6-1/2	6-1/2	6	4	3-1/2
2	6	5-1/2	5	3-1/2	3	7	6-1/2	6	4	3-1/2	7-1/2	7	6-1/2	4	3-1/2
2-1/2	7	6-1/2	6	4	3-1/2	7-1/2	7-1/2	6-1/2	4-1/2	4	8	7-1/2	7	7-1/2	4
3	7	7	6	4	3-1/2	8	7-1/2	7	4-1/2	4	8-1/2	8	7-1/2	5	4-1/2
3-1/2	7-1/2	7	6-1/2	4	4	8-1/2	8	7-1/2	5	4-1/2	9	8-1/2	7-1/2	5	4-1/2
4	7-1/2	7	6-1/2	4-1/2	4	9	8-1/2	7-1/2	5	4-1/2	9-1/2	9	8-1/2	5-1/2	5
5	8	7-1/2	7	4-1/2	4	9-1/2	9	8	5-1/2	5	10-1/2	10	9	6	5-1/2
6	8-1/2	8	7-1/2	5	4-1/2	10	9-1/2	9	6	5	11-1/2	10-1/2	9-1/2	6-1/2	6
8	9	8-1/2	8	5	4-1/2	11	10-1/2	9-1/2	6-1/2	5-1/2	-	-	-	-	-
10	10	9	8-1/2	5-1/2	5	12	11	10	7	6	-	-	-	-	-
12	11-1/2	10-1/2	9-1/2	6-1/2	5-1/2	13	12	10-1/2	7-1/2	6-1/2	-	-	-	-	-
14	12	11	10	7	6	13-1/2	13	11	8	7	-	-	-	-	-
16	12-1/2	11-1/2	10-1/2	7-1/2	6-1/2	14	13-1/2	11-1/2	8-1/2	7-1/2	-	-	-	-	-
18	13	12	11	8	7	14-1/2	14	12	11	9	-	-	-	-	-
20	14	12-1/2	11-1/2	10	8-1/2	15-1/2	14-1/2	12-1/2	11-1/2	9-1/2	-	-	-	-	-
24	15	13	12-1/2	11	9-1/2	17	15	14	12-1/2	10-12	-	-	-	-	-
	SDR 41					SDR 26									
18	13	12	11	8	7	14-1/2	14	12	9	8	-	-	-	-	-
20	13-1/2	12-1/2	11-1/2	8-1/2	7-182	15	14-1/2	12-1/2	9-1/2	8-1/2	-	-	-	-	-
24	14	13	12	9	8	15-1/2	15	13	10	9	-	-	-	-	-

⚠ NOTE

Although support spacing is shownat 140°F for PVC, consideration should be given to the use of CPVC or continuous support above 120°F. The possibility of temperature overrides beyond regular working temperature and cost may either make other of the alternative more desirable. This chart based on continuous spans and for un-insulated line carrying fluids of specific gravity up to 1.00.

CPVC PIPE SUPPORT SPACING (ft.)

PIPE SIXE	SCHEDULE 40						SCHEDULE 80					
(in.)	73°F	100°F	120°F	140°F	160°F	180°F	73°F	100°F	120°F	140°F	160°F	180°F
1/2	5	4-1/2	4-1/2	4	2-1/2	2-1/2	5-1/2	5	4-1/2	4-1/2	3	2-1/2
3/4	5	5	4-1/2	4	2-1/2	2-1/2	5-1/2	5-1/2	5	4-1/2	3	2-1/2
1	5-1/2	5-1/2	5	4-1/2	3	2-1/2	6	6	5-1/2	5	3-1/2	3
1-1/4	5-1/2	5-1/2	5-1/2	5	3	3	6-1/2	6	6	5-1/2	3-1/2	3
1-1/2	6	6	5-1/2	5	3	3	7	6-1/2	6	5-1/2	3-1/2	3-1/2
2	6	6	5-1/2	5	3-1/2	3	7	7	6-1/2	6	4	3-1/2
2-1/2	7	7	6-1/2	6	4	3-1/2	8	7-1/2	7-1/2	6-1/2	4-1/2	4
3	7	7	7	6	4	3-1/2	8	8	7-1/2	7	4-1/2	4
3-1/2	7 -1/2	7-1/2	7	6-1/2	4	4	8-1/2	8-1/2	8	7-1/2	5	4-1/2
4	7 -1/2	7-1/2	7	6-1/2	4 -1/2	4	8-1/2	9	8-1/2	7-1/2	5	4-1/2
6	8 -1/2	8	7-1/2	7	5	4-1/2	10	9-1/2	9	8	5-1/2	5
8	9-1/2	9	8-1/2	7-1/2	5-1/2	5	11	10-1/2	10	9	6	5-1/2
10	10-1/2	10	9-1/2	8	6	5-1/2	11-1/2	11	10-1/2	9-1/2	6-1/2	6
12	11-1/2	10-1/2	10	8-1/2	6-1/2	6	12-1/2	12	11-1/2	10-1/2	7-1/2	6-1/2
14	12	11	10	9	8	6	15	13-1/2	12-1/2	11-1/2	9-1/2	8
16	13	12	11	9-1/2	8-1/2	7	16	15	13-1/2	12	10	8-1/2

⚠ NOTE

Although support spacing is shown at 140°F for PVC, consideration should be given to the use of CPVC or continuous support above 120°F. The possibility of temperature overrides beyond regular working temperature and cost may either make other of the alternative more desirable. This chart based on continuous spans and for un-insulated line carrying fluids of specific gravity up to 1.00.

Engineering & Design Data
Temperature Limitations
UPVC

UPVC piping products are manufactured from a Type I , Grade I UPVC compound with a Cell Classification of ASTM D1784. UPVC Schedule 40 and Schedule 80 pipe is manufactured in strict compliance to ASTM D1785, and consistently meets or exceeds the requirements of this standard with regard to materials, workmanship, dimensions, sustained pressure, burst pressure, flattening resistance and extrusion quality.

The maximum operating temperature for UPVC pipe produced to these standards is 140°F. As with all thermoplastic materials, an increase in temperature results in an increase in impact strength and a decrease in tensile strength and pipe stiffness, which reduces the pressure rating. The mechanical properties of UPVC pipe manufactured to the above referenced standard are routinely tested and recorded at 73°F based on testing per applicable ASTM material test standards.

Appropriate temperature de-rating factors must be applied when working at elevated temperatures to determine maximum allowable pressure. The following temperature de-rating factors are to be applied to the working pressure ratings stated for the products at 73°F.when operating at elevated temperature:

Multiply the working pressure rating of the selected at 73°F, by the appropriate de-rating factor to determine the maximum working pressure rating of the pipe at the elevated temperature chosen.

EX: 10" UPC SCHEDULE 80@120°F =?
230 psi x 0.40 =92 psi max. @120°F

Temp (°F)	Working De-Rating Factor
73	1.00
80	0.88
90	0.75
100	0.62
110	0.51
120	0.40
130	0.31
140	0.22

THE MAXIMUM SERVICE TEMEPRATURE FOR UPVC IS 140°F.

Solvent cemented joints should be utilized when working at or near maximum temperatures. We do not recommend the use of UPVC for threaded connections at temperature above 110°F; use flanged joints, unions, or roll grooved couplings where disassembly is necessary at elevated temperature.It is a documented fact that as temperature fall below 73°F, tensile strength and pipe stiffness values increase thereby increasing the pipes pressure bearing capability and resistance to bending deflection. However, as with most temperatures. In addition, a drop in temperature will cause the piping contract, which must be addressed with proper system design. Due to UPVC S coefficient of thermal expansion, a 20-feet length of pipe will contract approximately 3/4" when cooled from 95°F to -5°F.

Since pressure bearing capacity is not reduced with a decrease in temperature, UPVC pipe is suitable for use at colder temperatures provided the fluid medium isprotected from freezing, consideration is given to the effects of expansion and contraction, and additional care and attention are given during handling, installation and operation of the system to prevent physical damage caused by impact or other mechanical forces.

It should be noted that we routinely conducts drop impact testing on our UPVC piping products at 73°F as well as 32°F. The impact resistance of UPVC pipe at 32°F.VS. 73°F is dependent on the pipe diameter as well as the all thickness of the product. To our knowledge, defective testing has not been conducted to establish as accurate ratio of the actual reduction in impact strength on the entire range of sizes/ dimensions of UPVC piping at lower temperature.

CPVC

CPVC piping products are manufactured from a Type IV, Grade compound with a Cell Classification of ASTM D1784. CPVC Schedule 40 and Schedule 80 pipe is manufactured in strict compliance to ASTM F441, and consistently meets or exceeds the requirements of this standard with regard to materials, workmanship, dimensions, sustained pressure, burst pressure, flattening resistance and extrusion quality.

The maximum operating temperature for CPVC pipe produced to these standards is 200°F. As with all thermoplastic materials, an increase in temperature result in an increase in impact strength and a decrease in tensile strength and pipe stiffness, which reduces the pressure rating. The mechanical properties of CPVC pipe manufactured to the above referenced standards are routinely tested and recorded at 73°F based on testing per applicable ASTM material test standards.

Appropriate temperature de-rating factors must be applied when at elevated temperatures to determine maximum allowable pressure. The following temperature de-rating factors are to be applied to the working pressure ratings stated for the products at 73°Fwhen operating at elevated temperatures:

Multiply the working pressure rating of the selected pipe at 73°F, by the appropriate de-rating factor to determine the maximum working pressure rating of the pipe at the elevated temperature chosen.

EX: 10" CPVC SCHEDULE 80@120°F =?
230 psi x 0.65 =149.5 psi max. @120°F

Temp (°F)	Working De-Rating Factor
73-80	1.00
90	0.91
100	0.82
110	0.72
120	0.65
130	0.57
140	0.50
150	0.42
160	0.40
170	0.29
180	0.25
200	0.20

THE MAXIMUM SERVICE TEMEPRATURE FOR CPVC IS 200°F.