

# Jain Plastic Flange



**JAIN**<sup>®</sup>

**Jain Irrigation Systems Ltd.**

*Small Ideas. Big Revolutions.*

## Jain Plastic Flange

- 1) These flanges are molded from selected High impact Engineering plastic that provides a secure joint with better performance.
- 2) These flanges can be used for various application for joining
  - HDPE pipes with Stub End
  - PVC pipes with Tail piece (TP) & Tail piece with socket (TPF)
  - Joining HDPE To PVC Pipes
  - Filter Manifolds
  - Filters assembly
  - Valves in pipe lines
- 3) Connection Suitability for national & International standards BS 10 Table D, IS10124, IS1538, EN1092, ISO7005, ISO9624.
- 4) Recommended for up to 10 kg / cm<sup>2</sup> Pressure rating.
- 5) Plastic blind flanges available range from 50 to 160 mm
- 6) Siphon and blind flanges available in range from 50 to 160 mm
- 7) Male and Female Threaded flanges available from 63 to 110 mm.



Size in mm	Code	O.D	P.C.D		ID	HOLE		Thick	Bolt Size	Washer Size
			P.C.D 1	P.C.D 2		No of Hole	Hole dia			
50	PFMN50	149.3	98.00	110.00	64	4	18	20	M16	M16
63	PFMN63	166.50	114.50	124.00	75.6	4	18	20.25	M16	M16
75	PFMN75	187.00	123.60	148.40	88	4	14.6	20	M16	M16
90	PFMN90	201	144.00	158.00	102	8	14.7	20.5	M16	M16
110	PFMN110	221.50	177.80	180.00	123.5	8	19.7	20	M16	M16
125	PFMN125	256.35	209.50	210.00	138	8	18	20.5	M16	M16
140	PFMN140	248.80	210.00	210.00	153.82	8	18	20	M16	M16
160	PFMN160	282.70	235.00	240.00	174	8	24.5	21	M20	M20

Note: All Dimension are in mm

## When to Use Flange Connections

Flanged joints can be used in applications where frequent dismantling is required. Plastic flanges are available in siphon, blind socket and threaded configurations in a variety of styles including one piece flanges, easing bolt hole alignment during assembly. Most plastic flanges carry a maximum working pressure rating of 10 kg/cm<sup>2</sup> non-shock for water.

Care should be taken to select the proper gasket material for compatibility with the fluid being conveyed

## Flange Installation Instructions

### Flange Gasket

A rubber gasket must be used between the flange faces in order to ensure a good seal. JISL recommends a 3 mm" thick, full-face gasket with Shore A scale hardness of 70 ±5, and the bolt torque values shown on the table "Flange Bolt Torque" are based on this specification.

Contact JISL for torque recommendations if other gasket hardness is required.

Select the gasket material based on the chemical resistance requirements of your system.

A full-face gasket should cover the entire flange-to-flange interface without extending into the flow path.

### Fastener Specifications

Either the bolt or the nut, and preferably both, should be zincplated to ensure minimal friction. If using stainless steel bolt and nut, anti-seize lubricant must be used to prevent high friction and seizing.

The following fastener combinations are acceptable:

- zinc-on-zinc, with or without lube
- zinc-on-stainless-steel, with or without lube
- stainless-on-stainless, with lube only

Cadmium-plated fasteners are also acceptable with or without lubrication. Galvanized and carbon-steel fasteners are not recommended. Use a compatible antiseize lubricant to ensure smooth engagement and the ability to disassemble and reassemble the system easily.

Bolts must be long enough that two complete threads are exposed when the nut is tightened by hand.

A washer must be used under each bolt head and nut. The purpose of the washer is to distribute pressure over a wider area. Failure to use washers voids the JISL warranty.

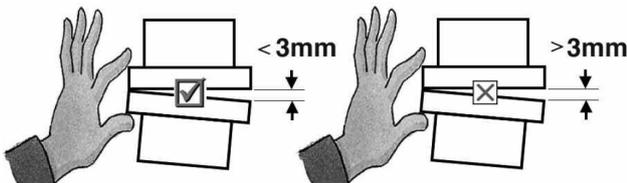
## Installation

### Checking System Alignment

Before assembling the flange, be sure that the two parts of the system being joined are properly aligned. First check the gap between the flange faces by pinching the two mating components toward each other with one hand as shown below. If the faces can be made to touch, then the gap between them is acceptable.

Check the angle between the flange faces. If the faces are completely flush when pinched together, then the alignment is perfect, and you may continue installation. Otherwise, pinch the faces together so that one side is touching, then measure the gap between the faces on the opposite side.

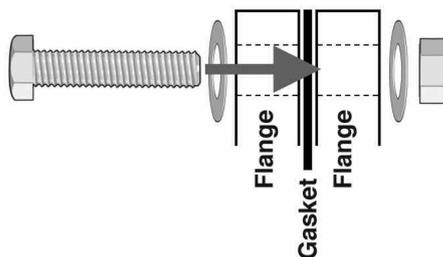
The gap should be no more than 3mm or 1/8"!



If the gap between the components cannot be closed by pinching them with one hand, or if the angle between them is too large, refit the system with proper alignment before bolting.

### Assembly of the Flange

Center the gasket between the flange faces, with the bolt holes aligned with corresponding holes in the gasket. A full-face gasket cut to the specified dimensions (see table "Flange Dimensions") should come just to the inner edge of the flange face near the flow path, or overlap the edge slightly.

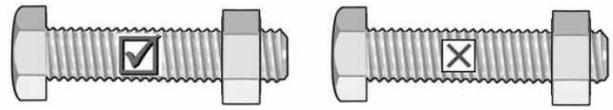


If using a compatible antiseize lubricant as recommended, apply the lubricant evenly with a brush directly to the bolt threads, and to the nut if desired. Cover the bolt from its tip to the maximum extent to which the nut will be threaded.

Insert bolts through washers and bolts holes as shown:

### Tightening the Bolts

Tighten all nuts by hand. As you tighten each nut, the nuts on the other bolts will loosen slightly. Continue to hand-tighten all of the nuts until none remain loose.



Now the flange assembly will remain in place as you prepare to fully tighten it. When hand-tightened, at least two threads beyond the nut should be exposed in order to ensure permanent engagement. If fewer than two threads are exposed, disassemble the flange and use longer bolts.

To ensure even distribution of stresses in the fully-installed flange, tighten the bolts in a star pattern then repeat the star pattern while tightening to the next torque value, and so on up to the maximum torque value.

For the installer's convenience, the pattern is also indicated by numbers molded into the vinyl flange next to each bolt hole. The torque required on each bolt in order to achieve the best seal with minimal mechanical stress is given on table below.

Plastic flanges deform slightly under stress. Therefore, a final tightening after 24 hours is recommended, when practical. If a flange leaks when pressure-tested, re-tighten the bolts to the full recommended torque and retest. Do not exceed the recommended torque before consulting an engineer or JISL representative.

### Flange Connection to other Components

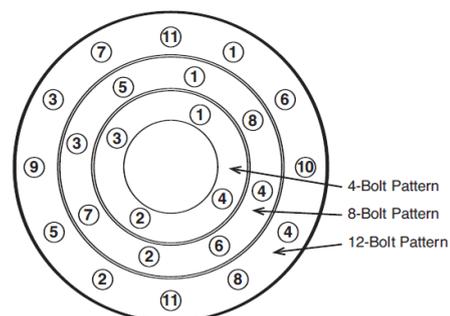
Note that the torques listed in the table are for flange-to-flange connections in which the full faces of the flanges are in contact.

For other types of connections, such as between a flange and a butterfly valve, where the full face of the flange is not in contact with the mating component, less torque will be required. Do not apply the maximum listed torque to the bolts in such connections, which may cause deformation or cracking, since the flange is not fully supported by the mating component.

Instead, start with approximately two-thirds of the listed maximum torque and increase as necessary to make the

### Flange Bolt Torque

Size (in.)	Torque Sequence (ft-lb, lubed*)	Size (in.)	Torque Sequence (ft-lb, lubed*)
50	13.56-20.34	110	13.56-20.34
63	13.56-20.34	125	27.12-40.67
75	13.56-20.34	140	27.12-40.67
90	13.56-20.34	160	27.12-40.67



Sr.	Photo	Item Code	Description
1		PFM50	DIS/SIS PVC FLANGE 50MM
2		PFM63	DIS/SIS PVC FLANGE 63MM
3		PFM75	DIS/SIS PVC MOLDED FLANGE 75 MM
4		PFM90	DIS/SIS PVC MOLDED FLANGE 90 MM
5		PFM110	DIS/SIS PVC MOLDED FLANGE 110 MM
6		PFM125	DIS/SIS PVC MOLDED FLANGE 125 MM
7		PFM140	DIS/SIS PVC MOLDED FLANGE 140 MM
8		PFM160M	DIS/SIS PVC MOULDED FLANGE 160 MM
9		PFMN63	DIS/SIS PLASTIC MOULDED FLANG(NYLON)63MM
10		PFMN75	DIS/SIS PLASTIC MOULDED FLANG(NYLON)75MM
11		PFMN90	DIS/SIS PL MOULDED FLA (NYLON) 90MM
12		PFMN110	DIS/SIS PL MOULDED FLA (NYLON) 110MM
13		PFMN125	DIS/SIS PLASTIC MOULD FLANGE(NYLON)125MM
14		PFMN140	DIS/SIS PLASTIC MOULD FLANGE(NYLON)140MM
15		PFMN160	PLASTIC MOULDED FLANGE (NYLON) 160MM
16		PMFFTN63	PL MOULD FLANGE FEMALE BSP TH.(NYLON) 63MM (2)
17		PMFFTN75	PL MOULD FLANGE FEMALE BSP TH.NYLON 75MM (2½)
18		PMFFTN90	PL MOULD FLANGE FEMALE BSP TH. (NYLON) 90MM(3)
19		PMFFTN110	DIS/SIS PL MOULD FL FE TH(NYLON)110MM(4)
20		PMFMTN63	DIS/SIS PL MOULD FL MAL BSPT TH(NYLON)63MM(2)
21		PMFMTN75	PL MOULD FLANGE MALE BSPT TH. (NYLON) 75MM (2½)
22		PMFMTN90	PL MOULD FLANGE MALE BSPT TH.(NYLON)90MM(3)
23		PMFMTN110	DIS/SIS PL MOULD FL MAL BSPT TH (NYLON)110MM(4)

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