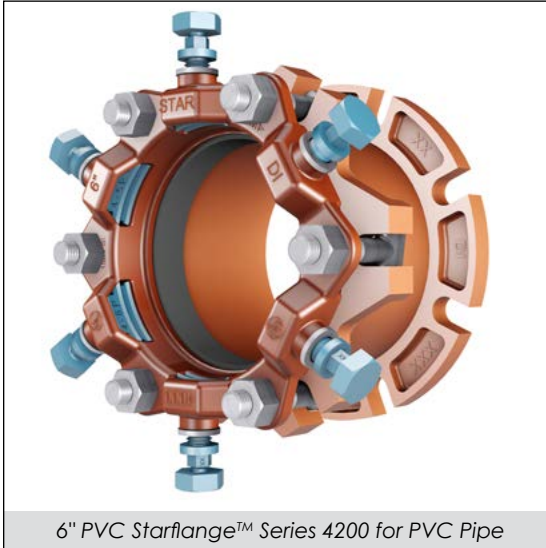




PVC StarFlange™ series 4200

Restrained Adapter Flange Coupling for PVC Pipe



6" PVC Starflange™ Series 4200 for PVC Pipe

INFORMATION

PVC StarFlange™ Series 4200 is a restrained adapter flange coupling device designed to connect plain end PVC pipe to a flanged pipe or fitting. A ductile iron flange body provides the flange connection and includes an O-ring gasket that seals with the mating flange. The PVC Stargrip® Series 4000 provides restraint for the plain end PVC pipe.

No Special Tools Required For Installation

FEATURES & ADVANTAGES

- Provides flexibility to accommodate pipe misalignment
- No special tools required for installation
- Fully restrained to pressure rating as listed on next page, with a 2:1 safety factor
- Pipe end does not need to be square cut.
- Flange meets ANSI Class 125/150 and ANSI/AWWA C115/A21.15 drill pattern.
- Can be used on 3" - 12" IPS PVC Pipe (**a transition MJ gasket is required with IPS pipe**)
- StarFlange™ body and PVC Stargrip® are manufactured from high strength Ductile Iron per ASTM A536, Grade 65-45-12.
- MJ gasket and O-ring flange gasket are made from styrene butadiene rubber (SBR) per ANSI / AWWA C111/ A-21.11.
- T-bolts / nuts are produced from high strength low alloy steel per ANSI/AWWA C111/A-21.11
- Includes PVC Stargrip®, Flange Adapter, MJ Gasket, O-Ring gasket and low alloy steel T-bolts
- StarFlange™ size 4"-12" are listed with Underwriters Laboratories Inc. and approved by Factory Mutual Research (FM) for use on DR18 Class 235 C900 PVC pipe at 150 PSI.
- Standard gland color is Coral Red (RAL 3016).

SAMPLE SPECIFICATIONS

Restrained adapter flange is to be used to connect plain end PVC pipe to a flanged pipe, valve or fitting. The device shall be manufactured of high strength ductile iron in accordance to ASTM A536 Grade 65-45-12 for all sizes. The restrainer portion of the device shall be of wedge type design with torque limiting bolts to insure proper engagement of the wedges.

Applicable dimensions shall conform to ANSI/AWWA C111/A21.11, C110/A21.10 and C153/A21.53. Flange ends to meet ANSI Class 125/150 & ANSI/AWWA C115/A21.15 drill pattern.

All sizes shall have a minimum safety factor of 2:1 (i.e. twice the pressure rating as stated in most current catalog). Restrained flange adapter shall be Star® Pipe Products StarFlange™ Series 4200 or an approved equal.

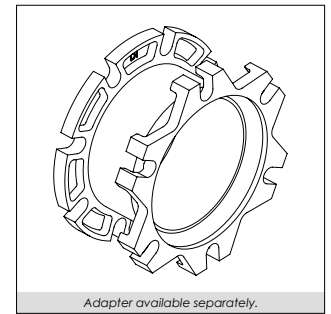
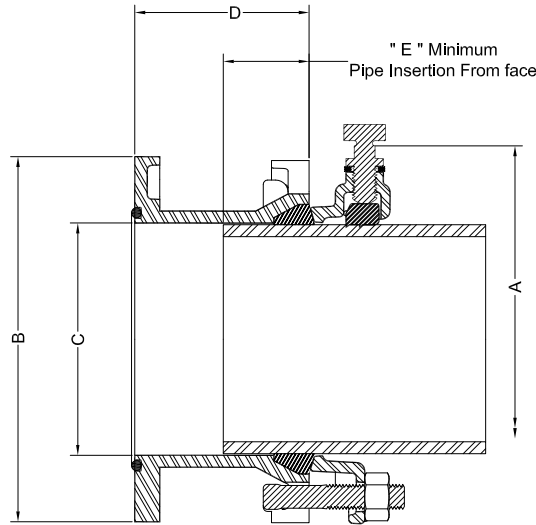
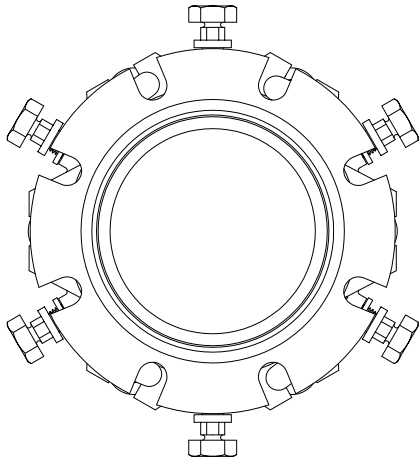
STAR® PIPE PRODUCTS



PVC StarFlange™ series 4200

Restrained Adapter Flange Coupling for PVC Pipe

TECHNICAL INFORMATION



6" PVC Starflange™ Series 4200 for PVC Pipe

PVC STARFLANGE™ 4200 SPECIFICATIONS*

| NOM. SIZE | C900/C900 PIPE OD | IPS PIPE OD | A ¹ | B | C | D | E | ² MAXIMUM JOINT DEFLECTION ² | APPROX. WT. (LBS) |
|-----------|-------------------|-------------|----------------|-------|-------|------|------|--|-------------------|
| 3 | N/A | 3.50 | 8.50 | 7.50 | 4.06 | 3.88 | 2.13 | 5° | 20 |
| 4 | 4.80 | 4.50 | 9.64 | 9.00 | 4.90 | 4.35 | 2.13 | 5° | 27 |
| 6 | 6.90 | 6.63 | 11.72 | 11.00 | 7.00 | 5.25 | 2.50 | 5° | 39 |
| 8 | 9.05 | 8.63 | 13.97 | 13.50 | 9.15 | 5.25 | 2.50 | 5° | 53 |
| 10 | 11.10 | 10.75 | 16.18 | 16.00 | 11.20 | 5.62 | 2.50 | 3° | 72 |
| 12 | 13.20 | 12.75 | 18.23 | 19.00 | 13.30 | 5.69 | 2.50 | 3° | 92 |
| 14 | 15.30 | N/A | 20.36 | 21.00 | 15.44 | 6.67 | 3.00 | 2° | 134 |
| 16 | 17.40 | N/A | 22.46 | 23.50 | 17.54 | 6.79 | 3.00 | 2° | 162 |
| 18 | 19.50 | N/A | 24.56 | 25.00 | 19.64 | 7.40 | 3.00 | 1.5° | 188 |
| 20 | 21.60 | N/A | 26.66 | 27.50 | 21.74 | 7.41 | 3.00 | 1.5° | 220 |
| 24 | 25.80 | N/A | 30.86 | 32.00 | 25.94 | 7.90 | 3.00 | 1° | 293 |
| 30 | 32.00 | N/A | 36.82 | 38.75 | 32.17 | 8.50 | 3.00 | 1° | 453 |
| 36 | 38.30 | N/A | 43.12 | 46.00 | 38.47 | 9.00 | 3.00 | 1° | 623 |

*All dimensions in inches except where indicated.

1 - Dimension after assembly on pipe.

2 - Deflection attained at minimum pipe insertion.

MAXIMUM WORKING PRESSURE RATING WITH OCCASSIONAL & RECURRING SURGES

| NOM. SIZE (IN.) | C900 | | | | | | | | | AWWA C909 PVC0 | | | ASTM D2241 | | |
|-----------------|------|------|------|------|------|--------|--------|------|------|----------------|---------------|-------|------------|--------|--------|
| | | | | | | | | | | IPEX PVC0 | JM EAGLE PVC0 | | | | |
| | DR14 | DR17 | DR18 | DR21 | DR25 | DR27.5 | DR32.5 | DR41 | DR51 | | PC235 | PC235 | PC165 | SDR 17 | SDR 21 |
| 3 | 305 | 250 | 235 | 200 | 165 | - | - | - | - | 235 | - | - | 250 | 200 | 160 |
| 4 | 305 | 250 | 235 | 200 | 165 | - | - | - | - | 235 | 235 | - | 250 | 200 | 160 |
| 6 | 305 | 250 | 235 | 200 | 165 | - | - | - | - | 235 | 235 | - | 250 | 200 | 160 |
| 8 | 305 | 250 | 235 | 200 | 165 | - | - | - | - | 235 | 235 | - | 250 | 200 | 160 |
| 10 | 305 | 250 | 235 | 200 | 165 | - | - | - | - | 235 | 235 | - | 250 | 200 | 160 |
| 12 | 305 | 250 | 235 | 200 | 165 | - | - | - | - | 235 | 235 | - | 250 | 200 | 160 |
| 14 | 305 | 250 | 235 | 200 | 165 | 150 | 125 | - | - | 235 | - | - | - | - | - |
| 16 | 205 | 250 | 235 | 200 | 165 | 150 | 125 | - | - | 235 | - | 165 | - | - | - |
| 18 | - | 250 | 235 | 200 | 165 | 150 | 125 | - | - | 200 | - | - | - | - | - |
| 20 | - | 250 | 235 | 200 | 165 | 150 | 125 | - | - | - | - | - | - | - | - |
| 24 | - | 250 | 235 | 200 | 165 | 150 | 125 | - | - | - | - | - | - | - | - |
| 30 | - | - | 235 | 200 | 165 | 150 | 125 | - | - | - | - | - | - | - | - |
| 36 | - | - | 235 | 200 | 165 | 165 | 125 | - | - | - | - | - | - | - | - |

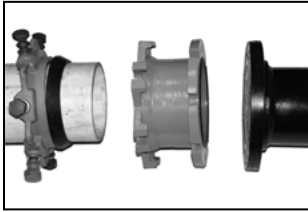
STAR® PIPE PRODUCTS



PVC StarFlange™ series 4200

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INSTALLATION INSTRUCTIONS - SIZES 3" - 36"

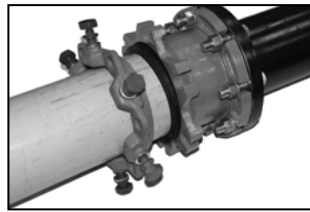


STEP 1

Check the StarFlange™ ensuring that no damage has occurred or parts are missing. Make sure that the ring gasket on the flange face of the StarFlange™ is securely in place.

The pipe end must be thoroughly cleaned for a distance of 2" greater than the length of the StarFlange™ body.

Slide the PVC Stargrip gland on the plain end of the pipe making sure that the lip extension is towards the mechanical joint bell of the StarFlange™.

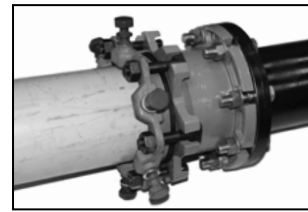


STEP 2

Brush both the gasket & the plain end of the pipe with soapy water or approved pipe lubricant, which meets ANSI/AWWA C111/A21.11. Slide the MJ gasket over the pipe with the beveled edge towards the MJ bell of StarFlange™.

Slide the StarFlange™ on to the pipe with the MJ bell towards the PVC Stargrip gland. Pipe must be inserted into the StarFlange™ a minimum length as indicated in the table to attain maximum deflection.

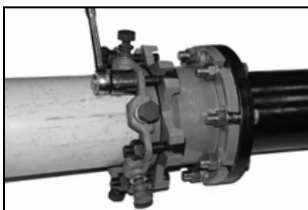
Position the pipe and flanged end of the StarFlange™ against the mating flange, making sure that the flange bolt holes line-up. Assemble the flanged joint using flange bolts. **Note: Flange bolts not supplied with StarFlange™.**



STEP 3

Center the pipe so that the space between the OD of the pipe and the ID of the StarFlange™ is even all around the pipe.

Slide the MJ gasket into the MJ bell recess of the StarFlange™. Slide the PVC Stargrip towards the StarFlange™ with the gland lip against the gasket. Insert T-bolts and hand-tighten nuts.



STEP 4

In order to keep the spigot fully homed in the MJ bell, the joint will need to be kept in compression until the completion of step 6. Tighten the T-bolts to the normal range of bolt torque (see table).

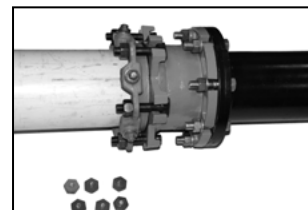
This may require multiple rounds. It is necessary that the gland be brought up toward the bell flange evenly, maintaining approximately the same distance between the gland and the face of the flange at all points around the socket. It is recommended to follow alternating star pattern while tightening T-bolts.



STEP 5

Tighten the torque limiting twist off bolts in a clockwise direction until all the wedges are in firm contact with the pipe surface.

Note: When installing sizes 4" – 12" on IPS PVC pipe, the spacer washers must be removed from the torque limiting bolts.



STEP 6

Continue tightening in an alternating manner until all of the Torque-limiting twist-off bolt heads have been twisted off.

If removal is necessary, utilize the 5/8" hex head provided. If reassembly is required, assemble the joint in the same manner as above and tighten the wedge bolt to 90 ft-lbs.

| (TABLE A) T-HEAD BOLT & NUT DETAILS | | |
|-------------------------------------|----------------|---------------------------------------|
| PIPE SIZE (IN) | BOLT SIZE (IN) | RANGE ¹ OF TORQUE (FT-LBS) |
| 3 | 5/8 | 45-60 |
| 4-24 | 3/4 | 75-90 |
| 30-36 | 1 | 100-120 |

¹These torque ranges are requirements of AWWA C600

Notes:

- If effective sealing is not attained at the maximum torque indicated, then the joint should be disassembled, thoroughly cleaned, and reassembled. **Overstressing the bolts to compensate for poor installation practice is not acceptable.**
- For use on IPS PVC pipe, Transition MJ gasket must be used & removal of spacer washers from the torque limiting bolts must be ensured.
- Not to be used on DI or steel pipe.

JRCAT18.02



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