

Technical Support Sheet - Installation Manual

Rubber Bellows

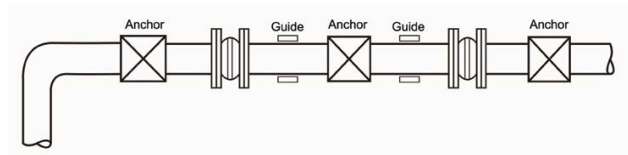
Application of Gillies Rubber Bellows/Joints

TECHNICAL SUPPORT SHEET: **PF7.1IM**

Installation Cautions 1

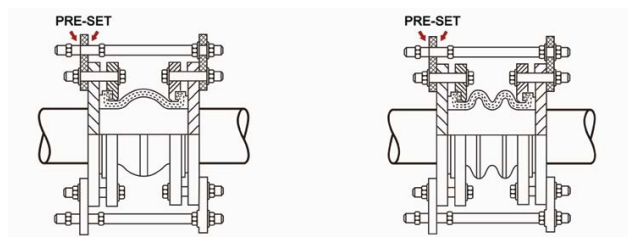
Gillies rubber expansion joints will extend in length when under pressure conditions unless adequately restrained by anchors and guides, to ensure the pipe line is free from sag or pressure deflection.

These pressure thrust forces can be very substantial at pressure above 2 bar. Do not use the expansion joint as a pipe support. Control rod assemblies are strictly required when the movement could exceed the permissible limit.



Installation Cautions 2

The control rod assemblies are pre-set at the maximum allowable expansion and/or contraction of the joint during the commissioning and operation. Control rods are recommended for unanchored/unsupported systems and also spring mounted pumps or equipment. Control rod joints must be strictly used when the movement could exceed the permissible limit.



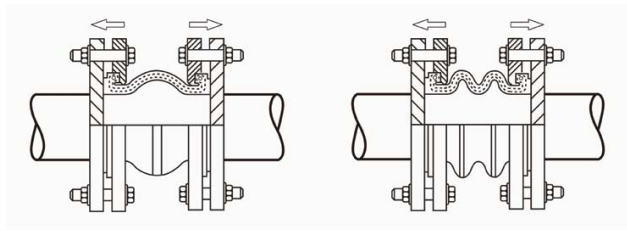
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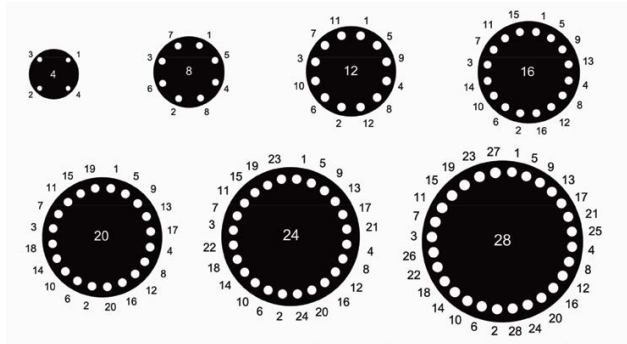
July 2020

Installation Cautions 3

Insert the bolts in the flanges with the heads toward the joints. Tighten the bolts in opposite pairs, across the flange. The bolts and nuts shall be tightened progressively and crosswise with bolting pressure evenly distributed.



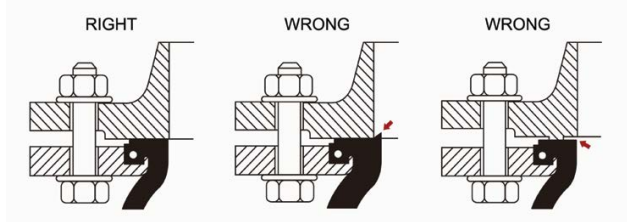
Tighten opposing nuts/bolts gradually according to the following cross torque sequence.



Installation Cautions 4

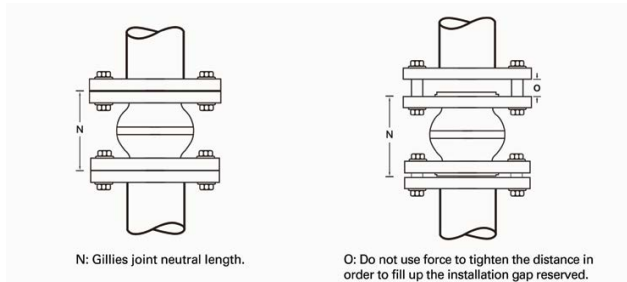
The use of the right connection flange is important when fixing the Gillies rubber joints. The right connecting flange provides a safe connection and prevents leakage as well as preventing turbulence (pressure loss).

The connecting flange should cover a maximum of the seating surface of the joint.



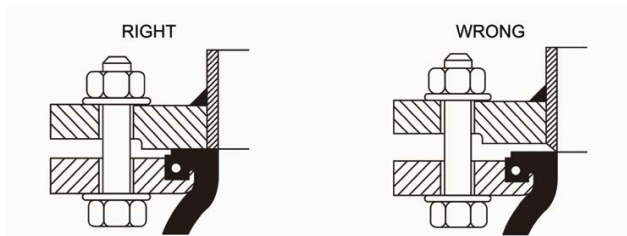
Installation Cautions 5

Do not use force to close the gap between the joint and flange. Failure to install the joint in a neutral state will effect performance.



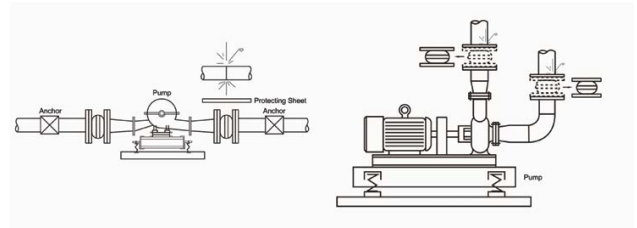
Installation Cautions 6

Protruded sharp pipe ends shall be strictly avoided as it causes damage to the rubber joint contact surfaces.



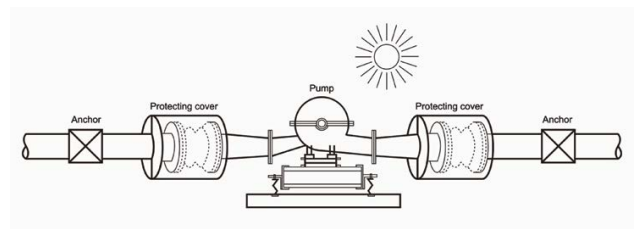
Installation Cautions 7

The Gillies joint is made of rubber; heat shall strictly be avoided during installation. Particular care shall be taken against sparks from welding, grinding, etc near the point of joint installation.



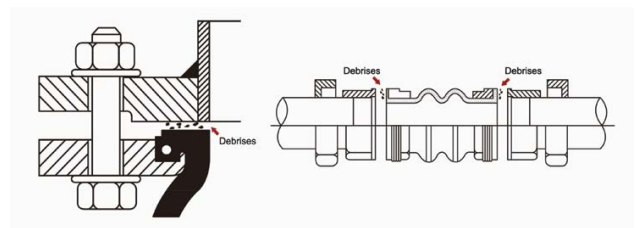
Installation Cautions 8

Particular care shall be taken to avoid the Gillies joints being directly exposed to sunlight in case of outdoor piping.



Installation Cautions 9

Before fixing of the Gillies joint, make sure the rubber joint/flange surface is clear of welding/threading debris, oil, paint, etc. Particular care shall be taken to ensure the storage area is kept cleaned.



Gillies Rubber Joint Typical Pipeline Layout:

Figure 1

Typical piping layout utilising Gillies Rubber Joints when equipment and piping are properly anchored.

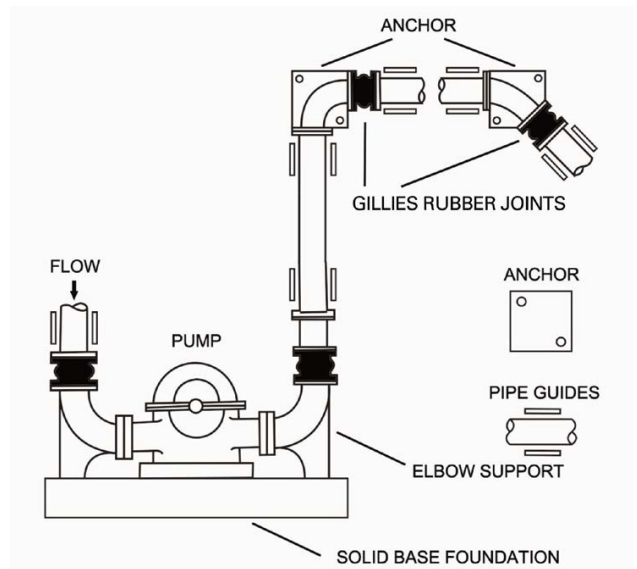


Figure 2

Typical piping layout utilising Gillies Rubber Joints and the proper use of anchors and pipe guides in branch locations.

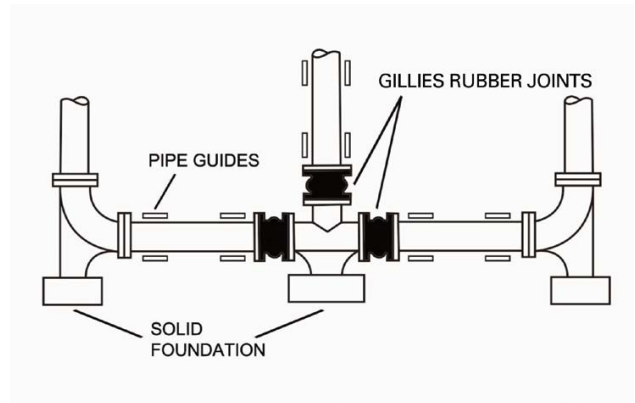


Figure 3

Typical pump installation with Gillies Rubber Joints utilising pump vibration mounts.

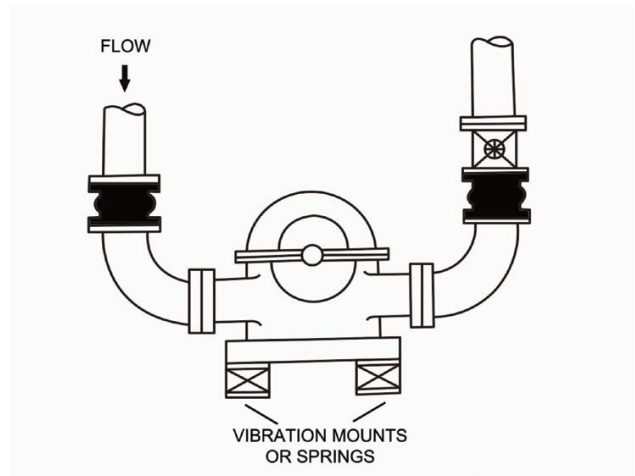
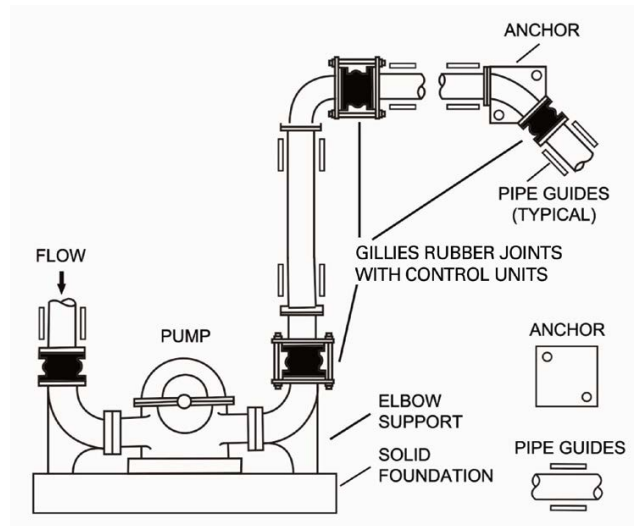


Figure 4

Typical piping layout showing the use of Gillies Rubber Joints when proper anchoring is limited. Note the tie rods on the Gillies Rubber Joints.



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