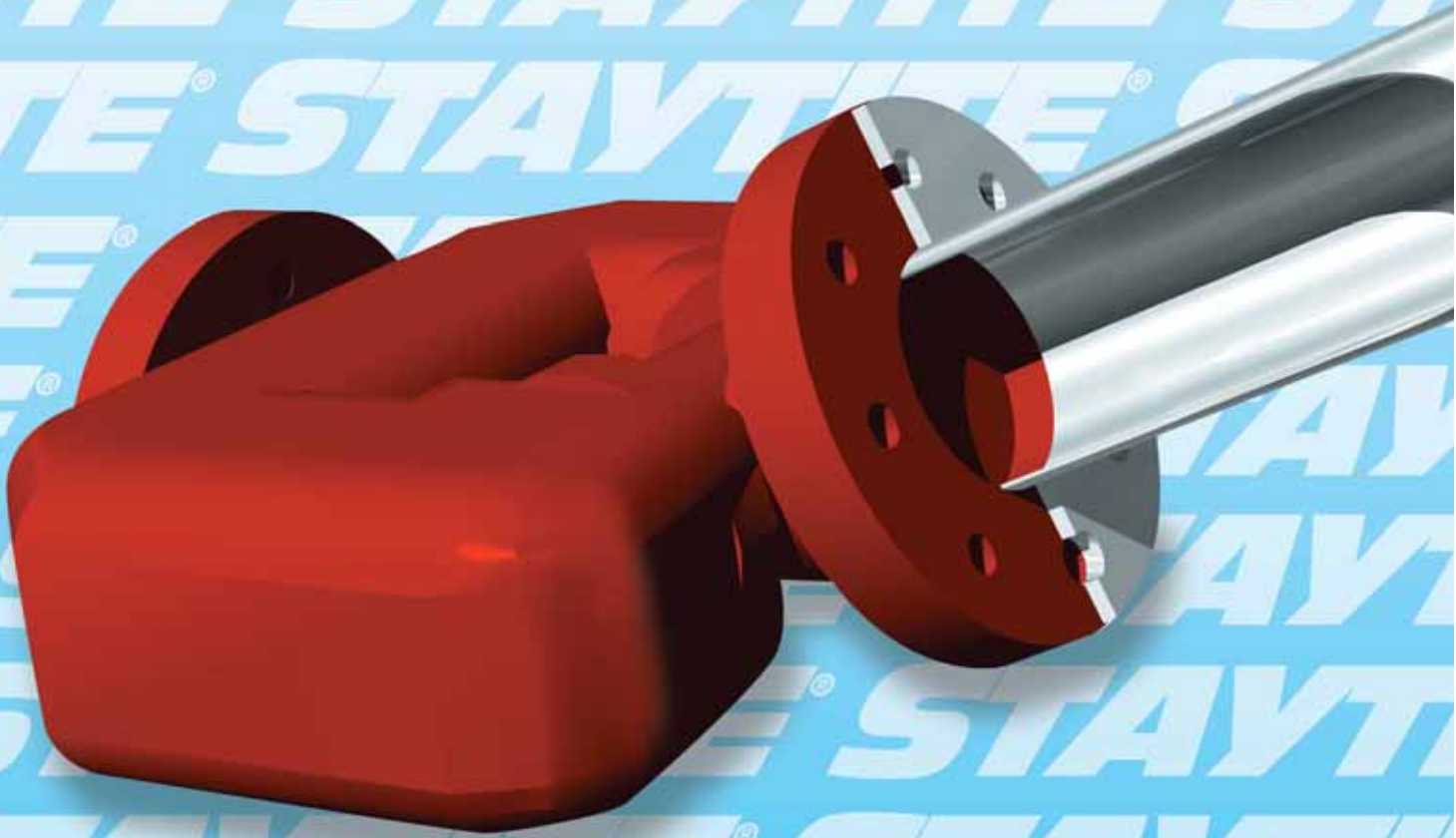




A Unit of Robbins & Myers, Inc.



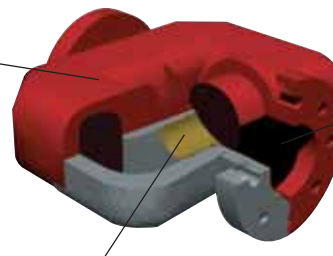
STAYTITE[®]
FOR PETROLEUM
AND PETROCHEMICAL
STORAGE TANKS

Swing Joints Central Type Design

For over one-half century, StayTite Swing Joints have proven the superiority of their "central-type" design and rugged construction. Long life and trouble-free service make them the most cost-effective swing joint on the market.

Each StayTite Swing Joint is hydrostatically tested to 40 P.S.I. to insure mechanically sound and leak-tight assemblies.

StayTite Swing Joints are constructed of only four major parts: a cast iron "U"-shaped yoke, a specially manufactured tee, and two bronze or Ni-Resist™ bushings with nitrile O-ring seals. The StayTite Swing Joint is balanced, leak-tight, and will not tilt or pull apart.

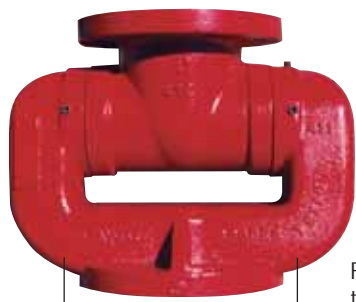


The passage through the joint is larger than a standard pipe, and there are no interior obstructions to block the flow of liquid.

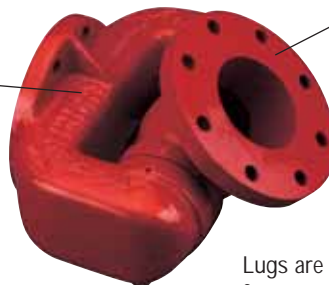
The bearing area is larger than other swing joints to assure reliability and ease of operation.

The flanged tee is precision aligned and rotates on large stationary, bronze or Ni-Resist bushings which are hydraulically pressed into the yoke. Bushings are mechanically locked inside the yoke to allow bi-directional flow.

Lugs are cast on the bottom of the yoke for centering of optional pipe supports. See page 3.



The heavy, cast iron "U"-shaped yoke bolts to the tank nozzle to form a rigid, compact and tight connection at the tank shell. Fluid thrust is balanced, compared to "elbow style" joints, eliminating lock-up of the swing joint and bending of the tank nozzle.



STAYTITE® SWING JOINT INSTALLATION AND MAINTENANCE INSTRUCTIONS

Note: Both flanges of the swing joint are cast iron flat faced flanges ANSI B16.1 Class 125 (same drilling pattern as ANSI B16.5 Class 150). Bolt holes straddle bushing center lines on all sizes except 10" and 12" which are on bushing center lines. **IT IS NOT RECOMMENDED TO CONNECT FLAT FACE AND RAISED FACE FLANGES.**

CAUTION: USE THE FOLLOWING INSTALLATION PROCEDURE TO PREVENT DAMAGE TO SWING JOINT FLANGES.

1. Mating pipe flanges must be parallel and aligned properly to prevent undue pipe bending stresses.
2. Class 125 flat face flanges MUST USE a full face gasket and be mated only with a flat face flange. DO NOT use a ring gasket which fits inside the bolt circle or a raised face flange as they can cause bending loads severe enough to crack the cast iron flange on the swing joint.
3. ANSI B16.1 standard for cast iron pipe flanges recommends bolting no stronger than ASTM A307 Grade B. Tapped holes in yoke require studs with UNC (Unified National Coarse) threads. Standard ANSI/API flange studs (w/8 TPI) cannot be installed in

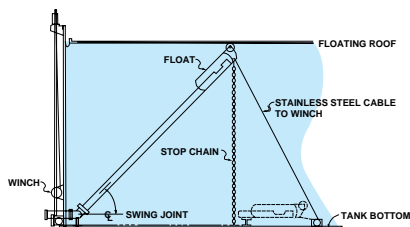
tapped holes in Swing Joints smaller or larger than 16". See page 3 for correct stud threads/inch.

4. The swing joint should be leveled during installation to insure the swing pipe pivots in a vertical plane.
 - a) Bolt the swing joint to the tank nozzle flange. Do not completely tighten the bolts. Rotate the tee flange looking up.
 - b) Lugs are cast on the bottom of the yoke to center the pipe supports. Use standard pipe supports and floor flanges to carry the weight of the swing joint to the tank bottom. **Do not tighten supports until swing joint is level.**
 - c) Place a level inside the tee long enough to rest on the inside diameter of both bushings.
 - d) The clearance between the flange holes and bolts will allow a small rotational adjustment of the yoke. When a good level is obtained, cross tighten the bolts.
5. A cross-bolt tightening technique for uniform flange stress and gasket loading should be used on both swing joint flanges.
6. Routine maintenance is not required; however, each time the tank is opened the swing joint should be inspected.

Typical Installations

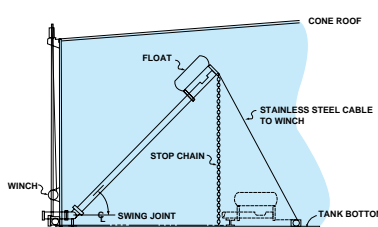
Floating Roof Tank

Typical swing joint assembly for a floating suction.



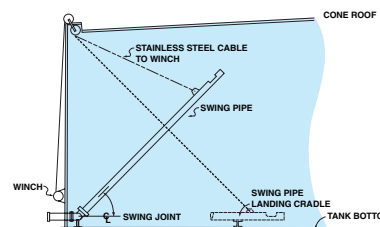
Cone Roof Tank

Typical swing joint assembly for a floating suction.



Cone Roof Tank

Typical swing joint assembly for a non-floating suction.



A Unit of Robbins & Myers, Inc.

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