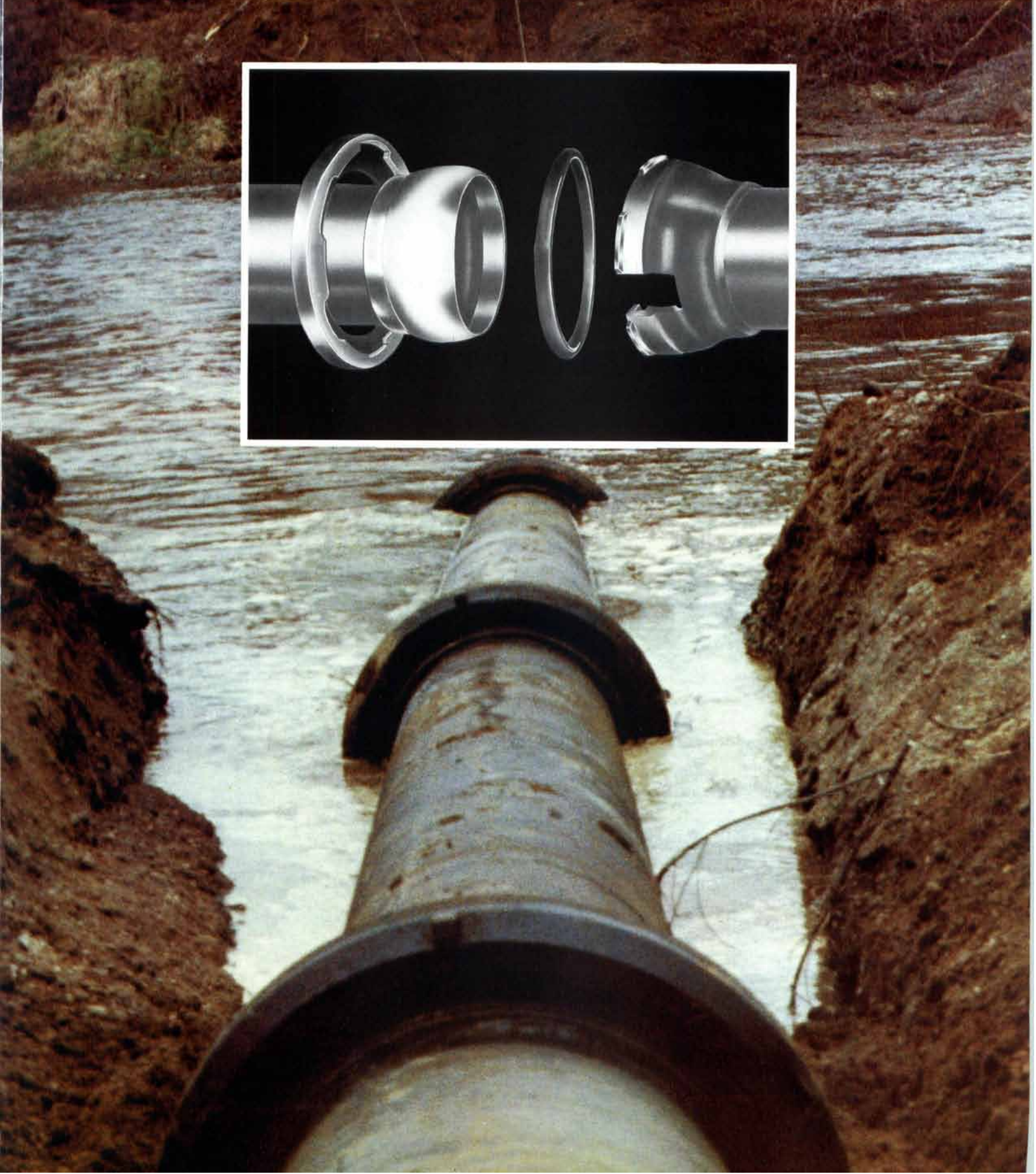
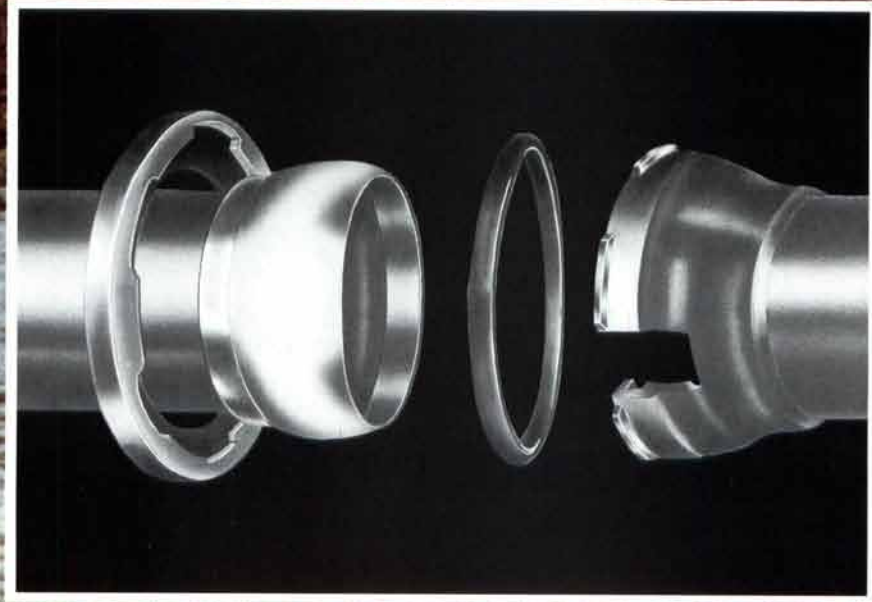


**CLOW**

**Ductile Ball & Socket  
River Crossing Pipe**





## All Ductile River Crossing Pipe

Full flow at full deflection

6" Through 36"

Clow River Crossing pipe is an all ductile iron, high quality, freely deflecting, boltless, locked joint of advanced design. A precisely machined ball joint of the push-on type, available only in super strong ductile iron, it is a premium quality product designed for submerged piping, and other hard usage installations requiring up to 15 degrees joint deflection. The joint is strong, fool-proof, and bottle-tight. 6"-24" are rated at 350 psi, 30" and 36" are rated at 250 psi working pressure. It is not only pressure tight to line contents, but prevents infiltration should negative head conditions occur. It provides a pipe line that is safe, sure, and long-lasting, and one easily connected to standard underground piping to which it must be joined. Its advantages and benefits are unique and exclusive.

The joint is boltless. Restraint is provided by a bayonet-type locking of the retainer over the bell. Uniform load distribution is assured between the joint components, even when fully deflected due to its advanced design.

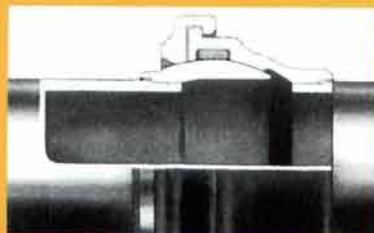
The cast iron Retainer Lock fits between two lugs on the bell to prevent Retainer rotation after assembly. A corrosion-resistant roll-pin keeps this retainer lock in place, but can be easily removed for disassembly.



# Ductile Ball and Socket Clow River Crossing Pipe

The pipe barrel is 60-42-10 ductile iron. Retainer bell and ball are 70-50-5 ductile iron.

The gasket is symmetrical in shape, so that it cannot be installed in any wrong way.



The joint is boltless. Restraint is provided by a bayonet-type locking of the retainer over the bell.

A machined Ductile Iron Retainer assembles over machined lugs on the ductile bell. A retainer lock prevents rotation after assembly, providing a locked, all-metal structural unit.

A precisely machined ball mates perfectly with the machined bell to form a free-turning ball joint which will accommodate changing bed conditions at river bottom.

Assembled joint of all ductile iron serves as a



## Installation

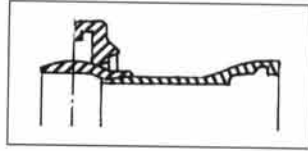
Consult Clow on installation practices for Ball and Socket pipe which is used most frequently for crossing rivers, lakes and other areas where extra joint deflection is needed. Most common methods include:

- pulling into position
- laying from a barge
- cofferdamming

It is usually advisable to prepare the bottom of the river or lake by excavating a trench for the pipe.

## Connecting Pieces

A wide variety of connecting pieces can be furnished to simplify connection to any standard watermain pipe or fitting at end of line.



**NO BOLTS • NO SPLIT PARTS • AN ALL DUCTILE, PREMIUM JOINT**

Integrally cast ductile iron lugs on the bell engage thick, strong locking members to hold retainer ring in fixed position.

6"—24" are rated at 350 psi, 30" and 36" are rated at 250 psi working pressure, providing ample safety factor for all distribution pressure service.



ent is structurally  
The gasket  
al only.

Mating bell recess is finish-machined to precise tolerance to provide a spherical socket for the matching machined ball.

Pipe barrel is the same outside diameter as C151/A21.51 pipe, eliminating difficulties at end-of-the-line connections.



The cast iron Retainer Lock fits between two lugs on the bell to prevent Retainer rotation after assembly.



# CLOW

CLOW WATER SYSTEMS COMPANY

P. O. BOX 6001  
2266 SOUTH 6TH STREET  
COSHOCOTON, OHIO 43812  
(740) 622-6651  
FAX: (740) 622-8551

# CLOW



Atlantic  
States 

## Assembly

1. Carefully remove protective coating from the inside of the bell using a suitable solvent. Inspect gasket groove to be certain that it is free of all foreign matter. Apply lubricant to gasket groove.
2. Insert gasket into bell. Use one hand to hold a loop in gasket, the other to tuck the remaining portion into its groove.
3. Release gasket and press remaining loop into groove. Inspect installed gasket to be certain it is in its proper position.
4. Apply lubricant to exposed gasket surface.
5. Remove hook bolts securing retainer to ball. Carefully remove protective coating from ball O.D. using a suitable solvent. Clean out any dirt behind retainer lugs.
6. Apply lubricant to the outside surface of the ball.
7. Guide ball into bell opening so that it rests against installed gasket.
8. "Make" joint by using come-along to pull pipe together, or other mechanical means to push the ball into the bell.
9. Position retainer so that the recesses line up with the lugs on the bell. Slide retainer over bell and rotate until the lugs on the bell and retainer line up.
10. At drilled hole on retainer O.D., insert cast iron retainer lock in recess formed by lugs on bell and retainer. Insert roll pin in drilled hole and drive flush with retainer O.D.

