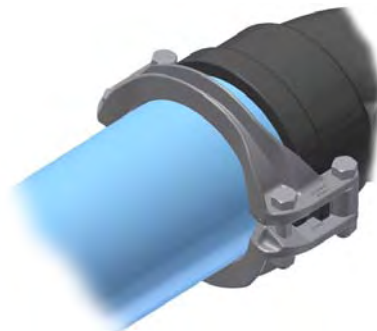


### FITTINGS

## Clam Shell Fitting to Pipe Restraint, Style D



**DUCTILE  
IRON**

### Restraints

#### Eliminate Concrete Thrust Blocks

With HARCO fitting to pipe restraints as well as pipe to pipe restraints and valve restraints, underground gasketed piping can be installed without the use of concrete thrust blocks. Joint restraint is especially useful for bridge crossings, stream crossings, unstable soils, fill areas, and places where concrete thrust blocks are awkward.

#### How Joint Restraint Works

Joint restraint systems tie lengths of pipe to a fitting, relying on the friction of the soil on the pipe to resist fitting thrust forces. There are times when additional lengths of pipe are required to hold the fitting. The pipe to pipe restraint is for this purpose. A simple restrained length calculation program allows a user to input the variables from his application and identify the joint restraint design required for his job. See website for Joint Restraint Link Calculator.

#### The HARCO Difference

HARCO pipe grip rings are machined to ensure sharp, consistent serrations, and roundness. This allows perfect gripping of the pipe every time. Long term performance is guaranteed. On larger fittings, forces rise considerably. With HARCO Style D Restraint there is no danger of "cocking" that can reduce the life of the pipe.

#### AVAILABLE IN SIZES 6" thru 12"

PART NUMBER	SIZES
820611	6"
820811	8"
821011	10"
821211	12"

*Eliminates  
Concrete  
Thrust  
Blocks*

*Machined  
Grip Rings  
Perform  
Long Term*

*Ease of  
Installation  
with Fewer  
Parts*

*Engineered  
for  
Durability*



# FITTING TO PIPE RESTRAINT (Clam Shell)

## Product Sheet

### ASSEMBLY INSTRUCTIONS FOR FITTING TO PIPE RESTRAINT

**Tools Required:** (2) 12" adjustable wrenches.

**Note:** Exact configurations may vary from those depicted.

**ITEMS TO BE ASSEMBLED:**

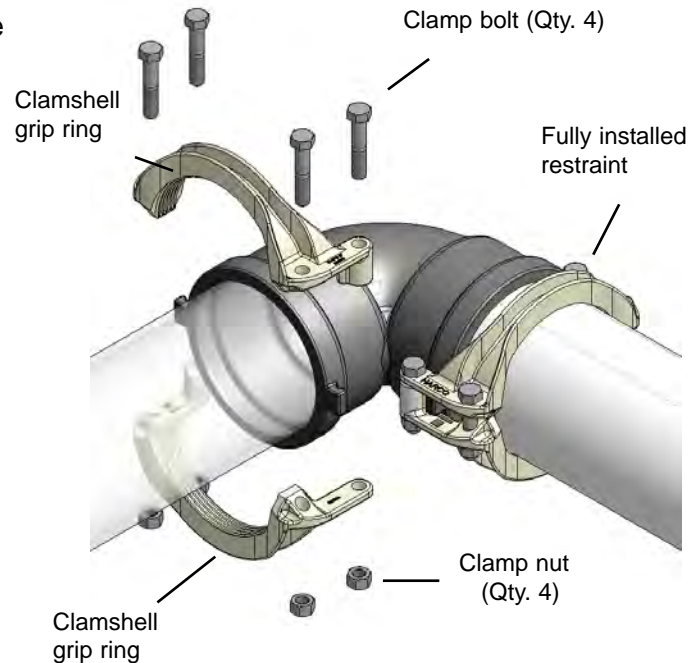
- A - (1) Clamshell grip ring (two halves)
- B - (4) Bolts and (4) nuts.

**TOOLS REQUIRED:** (2) Box end wrenches or (1) Box end wrench and a socket on a ratchet .

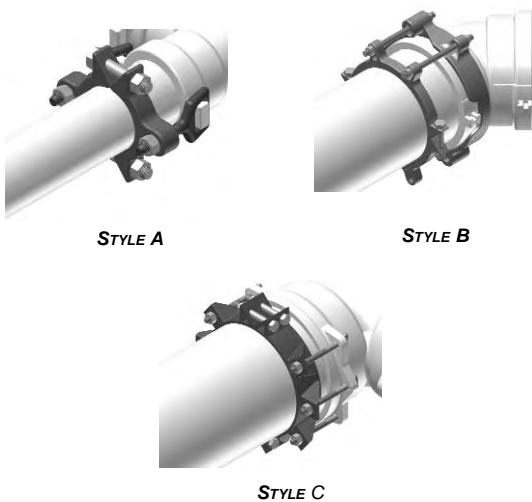
**STEP 1.** Lube pipe and gasket, insert beveled spigot pipe end into HARCO ductile iron fitting bell.

**STEP 2.** Assemble HARCO clamshell grip ring one half from the bottom, the other from the top. Bring the two halves together capturing the lugs on the fitting bell.

**STEP 3.** Insert bolts from the top through holes in grip ring, tighten nuts evenly to 100 ft-lb. of torque.



### Other Styles Available



### Suggested Specifications

Fitting to pipe restraints shall meet the requirements of Unibell B-13-94. Grip ring serrations shall be machined. As cast serrations are not permitted. Restraint rods, bolts and nuts shall be of ductile iron to ASTM A563 or low alloy steel to AWWA/ANSI C111/A21.11. All fitting to pipe restraints shall be manufactured by HARCO Fittings, Lynchburg, Virginia.



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