



## **CofferLok™ Clamp Connector**

# Taper-Lok® and CoffeLok™ Connection Systems

Our process piping, pipeline, riser and exchanger connection systems provide the solutions to chronic problems associated with standard ANSI and API flange connections.



## Leak-Free Reliability

AFGlobal's metal-to-metal seal ring technology offers leak-free reliability over traditional ANSI and API gaskets. Our seal rings offer welded joint integrity and can be used in critical and chronic leak areas.



## Weight Savings

With weight savings of up to 80% in comparison to ANSI flanges, our connection systems can typically save up to 1 million lbs. of weight on an offshore floating platform.



## Space Savings

Space savings of up to 82% with smaller O.D. and length dimensions compared to ANSI/API flanges. Pipe runs are closer together for more room for process equipment and future tie-backs. Ideal for small O.D. pull-in-head requirements.



## External Loads

Our connectors are able to handle high fatigue and high bending moments. We can optimize the design of the connector as needed to meet project requirements.



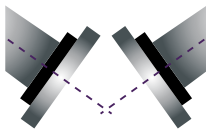
## Quick Assembly

Our connection systems typically use less and smaller bolts in comparison to ANSI or API flanges. Our catalog of connectors include clamps that only require four bolts and connectors that are self aligning.



## Cost Savings

In many cases, our connector assemblies are less expensive to purchase than the corresponding ANSI or API flange assembly. Our leak-free seal rings save operational costs.



## Misalignment Capability

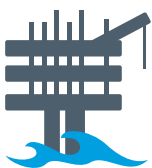
AFGlobal offers connection systems that are self-aligning and offer up to 20° of misalignment capability.



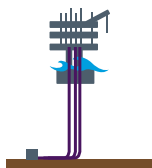
## High Pressure/Temperature

Our connector systems have applications in high pressure and/or high temperature where they out perform ANSI and API flanges in terms of reliability and leak free service.

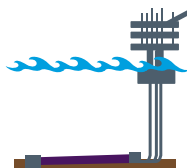
## Connector Applications



TOPSIDES



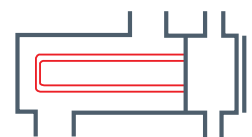
RISERS



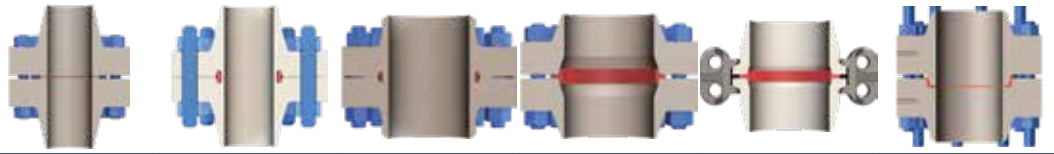
SUBSEA



REFINERY &  
PETROCHEMICAL



HEAT EXCHANGER  
RETROFITS



|                               |  | ANSI / API<br>Flanges | CoffeLok<br>Compact<br>Flange<br>(Economy) | CoffeLok<br>Compact<br>Flange<br>(NORSOK<br>L-005)<br>ISO 27509 | CoffeLok<br>Compact<br>Flange<br>(Standard) | CoffeLok<br>Clamp<br>Connector | Taper-Lok |
|-------------------------------|--|-----------------------|--------------------------------------------|-----------------------------------------------------------------|---------------------------------------------|--------------------------------|-----------|
| Leak-Free<br>Reliability      |  |                       |                                            |                                                                 |                                             |                                |           |
| Weight<br>Savings             |  |                       |                                            |                                                                 |                                             |                                |           |
| Space<br>Savings              |  |                       |                                            |                                                                 |                                             |                                |           |
| External<br>Loads             |  |                       |                                            |                                                                 |                                             |                                |           |
| Quick<br>Assembly             |  |                       |                                            |                                                                 |                                             |                                |           |
| Cost<br>Savings               |  |                       |                                            |                                                                 |                                             |                                |           |
| Misalignment<br>Capability    |  |                       |                                            |                                                                 |                                             |                                |           |
| High Pressure/<br>Temperature |  |                       |                                            |                                                                 |                                             |                                |           |

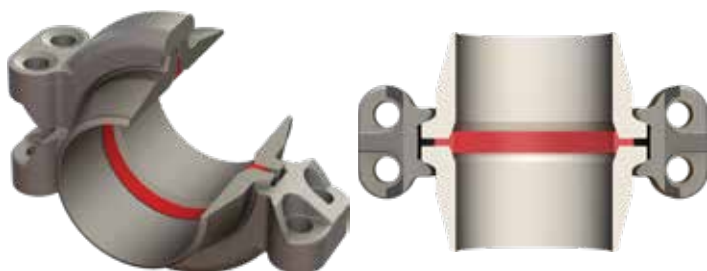
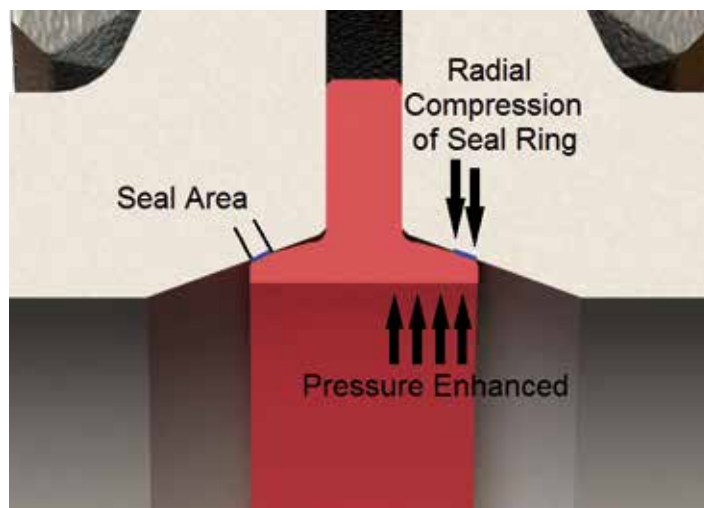
ICON  
RANK = 1 6  
 OK Superior



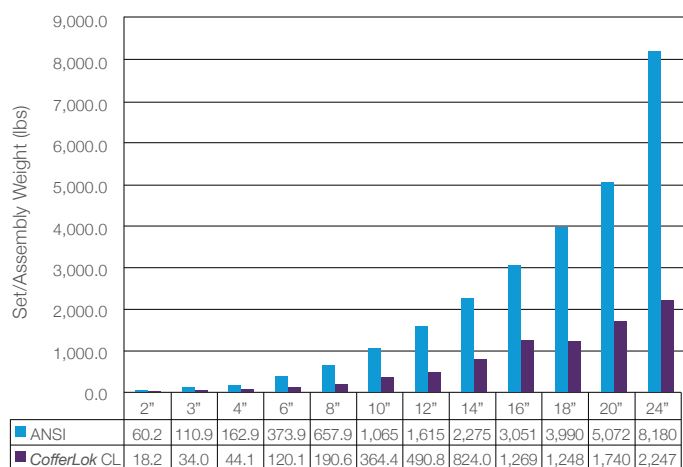
# CofferLok™ Clamp Connectors

- Consists of (2) hubs, (1) seal ring, (1) clamp set with (4) bolts and (8) nuts
- Self energized, pressure enhanced metal seal ring
- Seal ring is designed to be reusable
- Clamp assembly is up to 75% lighter and requires less space compared to standard flanges
- Sizes from ½-in. to 36-in.\*
- Pressures up to 20,000 psi\*
- Available in all material grades
- The CofferLok Clamp Connector is interchangeable with other clamp connectors in the market

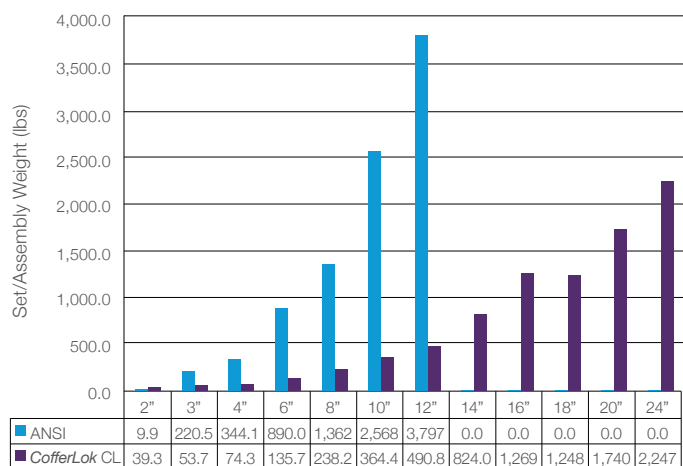
\*Special designs available.



1500# Class Comparison



2500# Class Comparison



8-in. – 2500# ANSI Class Comparison



**CofferLok Clamp Connector**  
-238 lbs

**ANSI B16.5**  
-1,362 lbs.



# Cofferklok Clamp Connector vs. ANSI/API Flanges

## Advantages of Cofferklok Clamp Connector

- Self energized and pressure enhanced seal
- Seal ring is designed to be reusable
- Small relative movements between hubs can be accommodated by seal ring deflection
- Clamp assembly lighter and requires less space
- Clamp bolts are oriented perpendicular to pressure end thrust and are not subjected to hydrostatic loading due to pressure
- Small outside dimensions allow use in more congested areas
- Clamps can be conveniently rotated for desired bolt orientation
- Four bolt design has built in safety factor which allows for bolt failure without loss of sealing integrity
- The connectors method of sealing does not require precision bolt loading, thus easier to make up



## Disadvantages of ANSI/API Flanges

- Larger and bulkier flange forging
- Often more and larger bolts
- Generally a crush type gasket
- High bolt torque required to seat and maintain contact pressure
- Poor adaptability to changing conditions (temperature)
- Even make-up required to avoid impingement of gasket
- Gasket is not reusable
- Gasket has to handle piping bending loads
- Performance not good in high vibration
- ANSI Flange design is over 100 years old and outdated technology

# Cofferlok Clamp Connector Material Selection

| HUB MATERIAL                    | SEAL RING MATERIAL                            | COATING OPTIONS          | CLAMP MATERIAL          | BOLTING OPTIONS         |
|---------------------------------|-----------------------------------------------|--------------------------|-------------------------|-------------------------|
| A105                            | AISI 4140                                     | MoS2 or PTFE             | AISI 4140               | B7/2H or L7/7 or L7M/7M |
| A350 LF2                        |                                               |                          |                         |                         |
| A694 F52                        |                                               |                          |                         |                         |
| AISI 4130                       |                                               |                          |                         |                         |
| A350 LF2 with Alloy 625 overlay | Alloy 718                                     |                          |                         |                         |
| A182 F304                       | Duplex or F316 or 17-4PH(630 SS) or Alloy 718 | MoS2 or PTFE or Graphite | AISI 4140 or A 182 F304 | B7/2H or B8/8           |
| A182 F316                       |                                               |                          |                         |                         |
| A182 F321                       |                                               |                          |                         |                         |
| A182 F51                        | S-Duplex or 17-4PH(630 SS)                    | MoS2 or PTFE             | AISI 4140               | B7/2H or L7/7 or L7M/7M |
| Nickel Alloys                   | Alloy 718                                     | MoS2 or PTFE or Graphite | AISI 4140 or A 182 F304 | B7/2H or B8/8           |



# Cofferklok Clamp Connector vs. ANSI/API Flanges

| ANSI FLANGE CLASS / COFFERLOK CLAMP/HUB SIZE |         |      |           |         |      |           |         |      |           |         |      |           |         |      |           |
|----------------------------------------------|---------|------|-----------|---------|------|-----------|---------|------|-----------|---------|------|-----------|---------|------|-----------|
| NOMINAL PIPE SIZE                            | 600#    |      |           | 900#    |      |           | 1500#   |      |           | 2500#   |      |           | 4500#   |      |           |
|                                              | CLAMP   | SEAL | MAX. BORE | CLAMP   | SEAL | MAX. BORE | CLAMP   | SEAL | MAX. BORE | CLAMP   | SEAL | MAX. BORE | CLAMP   | SEAL | MAX. BORE |
| 1"                                           | 1-in.   | 11   | 1.125"    | 1-in.   | 11   | 1.125"    | 1-in.   | 11   | 1.125"    | 1-in.   | 7    | 0.906"    | 1-in.   | 5    | 0.625"    |
| 1-1/2"                                       | 1.5-in. | 14   | 1.160"    | 1.5-in. | 14   | 1.160"    | 1.5-in. | 14   | 1.160"    | 1.5-in. | 14   | 1.610"    | 1.5-in. | 14   | 1.125"    |
| 2"                                           | 2-in.   | 20   | 2.063"    | 2-in.   | 20   | 2.063"    | 2-in.   | 20   | 2.063"    | 2-in.   | 14   | 1.610"    | 2-in.   | 11   | 1.125"    |
| 3"                                           | 3-in.   | 31   | 3.250"    | 3-in.   | 31   | 3.250"    | 3-in.   | 25   | 2.672"    | 3-in.   | 23   | 2.375"    | 3-in.   | 20   | 2.063"    |
| 4"                                           | 4-in.   | 42   | 4.188"    | 4-in.   | 40   | 4.063"    | 4-in.   | 34   | 3.688"    | 4-in.   | 31   | 3.250"    | 4-in.   | 25   | 2.672"    |
| 5"                                           | 5-in.   | 52   | 5.313"    | 5-in.   | 52   | 5.313"    | 5-in.   | 47   | 4.875"    | 5-in.   | 42   | 4.188"    | 5-in.   | 31   | 3.250"    |
| 6"                                           | 6-in.   | 64   | 6.500"    | 6-in.   | 62   | 6.065"    | 6-in.   | 52   | 5.313"    | 6-in.   | 47   | 4.875"    | 6-in.   | 34   | 3.688"    |
| 8"                                           | 8-in.   | 84   | 8.500"    | 8-in.   | 76   | 7.750"    | H8-in.  | 72   | 7.250"    | H8-in.  | 64   | 6.500"    | H8-in.  | 47   | 4.875"    |
| 10"                                          | H10-in. | 97   | 9.875"    | H10-in. | 94   | 9.500"    | H10-in. | 87   | 8.875"    | H10-in. | 72   | 7.250"    | H10-in. | 62   | 6.065"    |
| 12"                                          | H12-in. | 122  | 12.250"   | H12-in. | 112  | 11.250"   | H12-in. | 106  | 10.750"   | H12-in. | 82   | 8.250"    | H12-in. | 72   | 7.250"    |
| 14"                                          | L14-in. | 134  | 13.500"   | L14-in. | 130  | 13.000"   | L14-in. | 112  | 11.250"   | L14-in. | 84   | 8.500"    | H14-in. | 76   | 7.750"    |
| 16"                                          | L16-in. | 152  | 15.250"   | L16-in. | 144  | 14.500"   | H16-in. | 120  | 12.000"   | H16-in. | 94   | 9.500"    | H16-in. | 84   | 8.500"    |
| 18"                                          | L18-in. | 170  | 17.000"   | L18-in. | 160  | 16.000"   | L18-in. | 122  | 12.250"   | L20-in. | 106  | 10.750"   |         |      |           |
| 20"                                          | L20-in. | 192  | 19.250"   | L20-in. | 180  | 18.000"   | L20-in. | 144  | 14.500"   |         |      |           |         |      |           |
| 24"                                          | L24-in. | 232  | 23.250"   | H26-in. | 192  | 19.250"   |         |      |           |         |      |           |         |      |           |

| TEMP. (°F) | MAXIMUM ANSI PRESSURE RATINGS (PSI) |      |       |       |       |
|------------|-------------------------------------|------|-------|-------|-------|
|            | 600#                                | 900# | 1500# | 2500# | 4500# |
| -20 to 100 | 1500                                | 2250 | 3750  | 6250  | 11250 |
| 200        | 1500                                | 2250 | 3750  | 6250  | 11250 |
| 300        | 1455                                | 2185 | 3640  | 6070  | 10925 |
| 400        | 1410                                | 2115 | 3530  | 5880  | 10585 |
| 500        | 1330                                | 1995 | 3325  | 5540  | 9965  |
| 600        | 1210                                | 1815 | 3025  | 5040  | 9070  |
| 650        | 1175                                | 1765 | 2940  | 4905  | 8825  |
| 700        | 1135                                | 1705 | 2840  | 4730  | 8515  |

- Notes**
1. Maximum bore through connection is shown. For applications requiring a larger bore, contact AFGlobal.
  2. The *Cofferklok* size shown will meet or exceed the maximum ANSI Ratings for materials listed.
  3. Ratings are with plain carbon steel clamps and hubs.

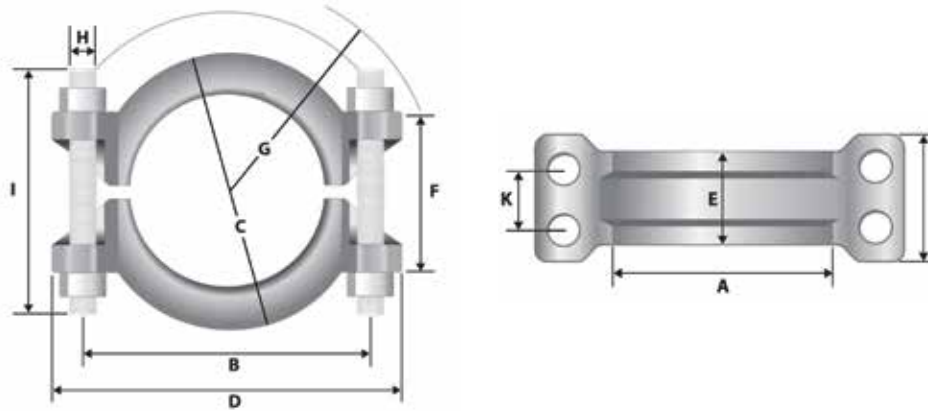
| API FLANGE CLASS / COFFERLOK CLAMP/HUB SIZE |                             |      |           |                             |      |           |                             |      |           |                             |      |           |                             |      |           |
|---------------------------------------------|-----------------------------|------|-----------|-----------------------------|------|-----------|-----------------------------|------|-----------|-----------------------------|------|-----------|-----------------------------|------|-----------|
| NOMINAL BORE                                | 2000 6B                     |      |           | 3000 6B                     |      |           | 5000 6B                     |      |           | 10000 6BX                   |      |           | 15000 6BX                   |      |           |
|                                             | CLAMP                       | SEAL | MAX. BORE | CLAMP                       | SEAL | MAX. BORE | CLAMP                       | SEAL | MAX. BORE | CLAMP                       | SEAL | MAX. BORE | CLAMP                       | SEAL | MAX. BORE |
| 1-13/16"                                    |                             |      |           |                             |      |           |                             |      |           | H2-in.                      | 16   | 1-868"    | H2-in.                      | 16   | 1-868"    |
| 2-1/16"                                     | H2-in.                      | 20   | 2.063"    | H2-in.                      | 20   | 2.063"    | H2-in.                      | 20   | 2.063"    | H2-in.                      | 20   | 2.063"    | H2-in.                      | 20   | 2.063"    |
| 2-9/16"                                     | H3-in.                      | 25   | 2.672"    | H3-in.                      | 25   | 2.672"    | H3-in.                      | 25   | 2.672"    | H3-in.                      | 25   | 2.672"    | H3-in.                      | 25   | 2.672"    |
| 3-1/16"                                     |                             |      |           |                             |      |           |                             |      |           | H4-in.                      | 27   | 3.063"    | H4-in.                      | 27   | 3.063"    |
| 3-1/8"                                      | H4-in.                      | 31   | 3.250"    | H4-in.                      | 31   | 3.250"    | H4-in.                      | 31   | 3.250"    | H4-in.                      | 31   | 3.250"    | H4-in.                      | 31   | 3.250"    |
| 4-1/16"                                     | 5-in.                       | 40   | 4.063"    | 5-in.                       | 40   | 4.063"    | 5-in.                       | 40   | 4.063"    | 6-in.                       | 40R  | 4.063"    | 6-in.                       | 40R  | 4.063"    |
| 7-1/16"                                     | H8-in.                      | 72   | 7.250"    | H8-in.                      | 72   | 7.250"    | H8-in.                      | 72   | 7.250"    | H10-in.                     | 72R  | 7.250"    | H10-in.                     | 72R  | 7.250"    |
| 9"                                          | H10-in.                     | 91   | 9.125"    | H10-in.                     | 91   | 9.125"    | H10-in.                     | 91   | 9.125"    | H12-in.                     | 91   | 9.125"    | H12-in.                     | 91   | 9.125"    |
| 11"                                         | H12-in.                     | 112  | 11.250"   | H12-in.                     | 112  | 11.250"   | H12-in.                     | 112  | 11.250"   | H16-in.                     | 112  | 11.25     | Non-Standard Size Available |      |           |
| 13-5/8"                                     | Non-Standard Size Available |      |           | Non-Standard Size Available |      |           | H16-in.                     | 137  | 13.875"   | H20-in.                     | 137  | 13.875"   |                             |      |           |
| 16-3/4"                                     | H22-in.                     | 170  | 17.000"   | H22-in.                     | 170  | 17.000"   | H22-in.                     | 170  | 17.000"   | Non-Standard Size Available |      |           |                             |      |           |
| 18-3/4"                                     |                             |      |           |                             |      |           | Non-Standard Size Available |      |           | Non-Standard Size Available |      |           |                             |      |           |
| 20-3/4"                                     |                             |      |           | H22-in.                     | 170  | 17.000"   |                             |      |           |                             |      |           |                             |      |           |
| 21-1/4"                                     | Non-Standard Size Available |      |           | L20-in.                     | 180  | 18.000"   | Non-Standard Size Available |      |           | Non-Standard Size Available |      |           |                             |      |           |

- Notes**
1. 2000, 3000, 5000 Use 60 ksi min yield hub material.
  2. 10000, 15000 Use 75 ksi min yield hub material.
  3. 75 ksi min yield clamp material.

# Cofferlok Clamp Assembly

**CofferLok** Clamps are manufactured as interchangeable segments and sold as a set with bolting included. Standard clamp materials are carbon steel (AISI 4130/4140) or stainless steel (ASTM A182 F304). Other materials are available on request.

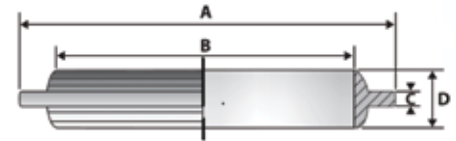
**Bolting:** Two studs are used in each ear of the clamp to provide redundancy in bolting strength. Bolting is provided with UNC/8UN thread series with spherical-faced heavy hex nuts. Bolt coating can be supplied based on customer requirements.



| STANDARD   |                     |       |       |       |       |       |       |       |        |      |       |       |       |       |       |      |      |       |       |       |       |      |       |                  |       |
|------------|---------------------|-------|-------|-------|-------|-------|-------|-------|--------|------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|------|-------|------------------|-------|
| CLAMP SIZE | OPTIONAL CLAMP SIZE | A     |       | B     |       | C     |       | D     |        | E    |       | F     |       | G     |       | H    |      | I     |       | J     |       | K    |       | CLAMP SET WEIGHT |       |
|            |                     | INS   | MM    | INS   | MM    | INS   | MM    | INS   | MM     | INS  | MM    | INS   | MM    | INS   | MM    | INS  | MM   | INS   | MM    | INS   | MM    | INS  | MM    | LBS              | KG    |
| 1-in.      | 1GR                 | 1.69  | 42.9  | 3.25  | 82.6  | 2.81  | 71.5  | 4.25  | 108.0  | 1.38 | 34.9  | 2.19  | 55.6  | 2.63  | 66.7  | 0.50 | 12.7 | 3.50  | 88.9  | 2.25  | 57.2  | 1.25 | 31.8  | 4.20             | 1.9   |
| 1.5-in.    | 1.5GR               | 2.69  | 68.2  | 5.00  | 127.0 | 4.50  | 114.3 | 6.50  | 165.1  | 2.00 | 50.8  | 3.25  | 82.6  | 4.00  | 101.6 | 0.63 | 15.9 | 5.00  | 127.0 | 3.13  | 79.4  | 1.63 | 41.3  | 9.90             | 4.5   |
| 2-in.      | 2GR                 | 3.20  | 81.3  | 5.75  | 146.1 | 5.50  | 139.7 | 7.50  | 190.5  | 2.00 | 50.8  | 3.52  | 89.4  | 4.50  | 114.3 | 0.75 | 19.1 | 5.25  | 133.4 | 3.38  | 85.7  | 1.81 | 46.1  | 13.20            | 6.0   |
| 3-in.      | 3GR                 | 4.38  | 111.1 | 7.50  | 190.5 | 6.88  | 174.6 | 9.25  | 235.0  | 2.38 | 60.3  | 4.60  | 116.8 | 5.25  | 133.4 | 0.75 | 19.1 | 6.50  | 165.1 | 3.38  | 85.7  | 1.81 | 46.1  | 23.60            | 10.7  |
| 4-in.      | 4GR                 | 5.38  | 136.5 | 8.50  | 215.9 | 8.25  | 209.6 | 10.50 | 266.7  | 2.38 | 60.3  | 5.40  | 137.2 | 6.00  | 152.4 | 0.88 | 22.2 | 7.50  | 190.5 | 4.00  | 101.6 | 2.06 | 52.4  | 28.70            | 13.0  |
| 5-in.      | 5GR, E              | 6.88  | 174.6 | 10.25 | 260.4 | 9.88  | 250.8 | 12.38 | 314.3  | 3.13 | 79.4  | 6.13  | 155.6 | 7.25  | 184.2 | 1.00 | 25.4 | 8.25  | 209.6 | 4.50  | 114.3 | 2.31 | 58.8  | 41.00            | 18.6  |
| 6-in.      | 6GR, E, XF          | 8.38  | 212.7 | 12.63 | 320.7 | 12.00 | 304.8 | 15.25 | 387.4  | 3.75 | 95.3  | 6.88  | 174.6 | 8.75  | 222.3 | 1.13 | 28.6 | 10.63 | 269.9 | 5.25  | 133.4 | 2.44 | 61.9  | 70.30            | 31.9  |
| 8-in.      | 8GR, X8GR           | 10.63 | 269.9 | 15.25 | 387.4 | 14.50 | 368.3 | 18.50 | 469.9  | 3.75 | 95.3  | 7.88  | 200.0 | 9.88  | 250.8 | 1.25 | 31.8 | 12.00 | 304.8 | 5.75  | 146.1 | 2.88 | 73.0  | 110.20           | 50.0  |
| HEAVY DUTY |                     |       |       |       |       |       |       |       |        |      |       |       |       |       |       |      |      |       |       |       |       |      |       |                  |       |
|            |                     | INS   | MM    | INS   | MM    | INS   | MM    | INS   | MM     | INS  | MM    | INS   | MM    | INS   | MM    | INS  | MM   | INS   | MM    | INS   | MM    | INS  | MM    | LBS              | KG    |
| H2-in.     | B                   | 4.13  | 104.8 | 7.25  | 184.2 | 6.88  | 174.6 | 9.00  | 228.6  | 2.88 | 73.0  | 4.88  | 123.8 | 5.63  | 142.9 | 0.88 | 22.2 | 7.50  | 190.5 | 3.75  | 95.3  | 2.00 | 50.8  | 24.30            | 11.0  |
| H3-in.     | C                   | 4.88  | 123.8 | 8.00  | 203.2 | 7.75  | 196.9 | 10.00 | 254.0  | 3.00 | 76.2  | 5.43  | 137.9 | 6.13  | 155.6 | 0.88 | 22.2 | 7.50  | 190.5 | 4.00  | 101.6 | 2.06 | 52.4  | 33.10            | 15.0  |
| H4-in.     | D                   | 6.13  | 155.6 | 9.56  | 242.9 | 9.00  | 228.6 | 11.75 | 298.5  | 3.00 | 76.2  | 5.75  | 146.1 | 7.00  | 177.8 | 1.00 | 25.4 | 8.25  | 209.6 | 4.38  | 111.1 | 2.31 | 58.8  | 39.90            | 18.1  |
| H8-in.     | G, XG               | 10.13 | 257.2 | 16.00 | 406.4 | 14.75 | 374.7 | 18.63 | 473.1  | 4.50 | 114.3 | 7.75  | 196.9 | 10.75 | 273.1 | 1.38 | 34.9 | 12.00 | 304.8 | 5.88  | 149.2 | 3.13 | 79.4  | 138.00           | 62.6  |
| H10-in.    | 10H, X10H           | 12.25 | 311.2 | 18.25 | 463.6 | 17.63 | 447.7 | 22.50 | 571.5  | 5.50 | 139.7 | 10.50 | 266.7 | 12.75 | 323.9 | 1.63 | 41.3 | 15.63 | 396.9 | 7.25  | 184.2 | 3.63 | 92.1  | 242.50           | 110.0 |
| H12-in.    | 12M, X12M           | 14.63 | 371.5 | 21.00 | 533.4 | 20.38 | 517.5 | 25.00 | 635.0  | 5.75 | 146.1 | 11.25 | 285.8 | 14.25 | 362.0 | 1.75 | 44.5 | 17.00 | 431.8 | 7.50  | 190.5 | 3.75 | 95.3  | 319.70           | 145.0 |
| H14-in.    | P, 5P, R            | 17.13 | 435.0 | 24.75 | 628.7 | 23.00 | 584.2 | 29.25 | 743.0  | 6.13 | 155.6 | 11.25 | 285.8 | 16.25 | 412.8 | 1.88 | 47.6 | 17.25 | 438.2 | 8.25  | 209.6 | 4.25 | 108.0 | 429.90           | 195.0 |
| H16-in.    | S                   | 19.69 | 500.1 | 29.25 | 743.0 | 27.19 | 690.6 | 34.25 | 870.0  | 7.63 | 193.7 | 13.50 | 342.9 | 19.13 | 485.8 | 2.25 | 57.2 | 22.00 | 558.8 | 9.63  | 244.5 | 5.00 | 127.0 | 683.40           | 310.0 |
| H18-in.    | T                   | 20.69 | 525.5 | 29.25 | 743.0 | 27.69 | 703.3 | 34.25 | 870.0  | 7.63 | 193.7 | 14.00 | 355.6 | 19.63 | 498.5 | 2.25 | 57.2 | 22.00 | 558.8 | 9.63  | 244.5 | 5.00 | 127.0 | 650.40           | 295.0 |
| H20-in.    | U                   | 23.69 | 601.7 | 32.00 | 812.8 | 30.38 | 771.5 | 37.63 | 955.7  | 7.50 | 190.5 | 18.00 | 457.2 | 21.50 | 546.1 | 2.25 | 57.2 | 26.00 | 660.4 | 10.00 | 254.0 | 5.00 | 127.0 | 859.80           | 390.0 |
| H22-in.    | V, 3V, 5V           | 24.69 | 627.1 | 32.00 | 812.8 | 32.25 | 819.2 | 37.63 | 955.7  | 7.50 | 190.5 | 18.00 | 457.2 | 21.50 | 546.1 | 2.25 | 57.2 | 26.00 | 660.4 | 10.00 | 254.0 | 5.00 | 127.0 | 815.70           | 370.0 |
| H24-in.    | W, 3W               | 28.19 | 716.0 | 36.00 | 914.4 | 36.13 | 917.6 | 40.50 | 1028.7 | 7.00 | 177.8 | 19.40 | 492.8 | 23.75 | 603.3 | 2.25 | 57.2 | 27.00 | 685.8 | 10.50 | 266.7 | 5.00 | 127.0 | 1047.20          | 475.0 |
| H26-in.    | Y, 3Y               | 29.94 | 760.4 | 38.75 | 984.3 | 37.85 | 961.4 | 46.50 | 1181.1 | 8.00 | 203.2 | 19.60 | 497.8 | 27.00 | 685.8 | 2.50 | 63.5 | 28.00 | 711.2 | 10.50 | 266.7 | 5.50 | 139.7 | 1155.20          | 524.0 |
| LIGHT DUTY |                     |       |       |       |       |       |       |       |        |      |       |       |       |       |       |      |      |       |       |       |       |      |       |                  |       |
|            |                     | INS   | MM    | INS   | MM    | INS   | MM    | INS   | MM     | INS  | MM    | INS   | MM    | INS   | MM    | INS  | MM   | INS   | MM    | INS   | MM    | INS  | MM    | LBS              | KG    |
| L14-in.    | X14GR               | 16.38 | 415.9 | 22.25 | 565.2 | 21.50 | 546.1 | 26.00 | 660.4  | 5.00 | 127.0 | 10.88 | 276.2 | 14.75 | 374.7 | 1.63 | 41.3 | 17.00 | 431.8 | 7.38  | 187.5 | 3.63 | 92.1  | 275.6            | 125.0 |
| L16-in.    | X16GR               | 18.63 | 473.1 | 24.00 | 609.6 | 23.50 | 596.9 | 27.75 | 704.9  | 5.00 | 127.0 | 13.00 | 330.2 | 16.25 | 412.8 | 1.75 | 44.5 | 19.50 | 495.3 | 7.63  | 193.8 | 3.88 | 98.4  | 308.6            | 140.0 |
| L18-in.    | X18GR               | 20.88 | 530.2 | 25.75 | 654.1 | 26.00 | 660.4 | 29.50 | 749.3  | 5.00 | 127.0 | 14.38 | 365.1 | 17.50 | 444.5 | 1.88 | 47.6 | 21.50 | 546.1 | 8.00  | 203.2 | 4.13 | 104.8 | 352.7            | 160.0 |
| L20-in.    | X20GR               | 23.63 | 600.1 | 28.31 | 719.2 | 29.38 | 746.1 | 32.25 | 819.2  | 5.00 | 127.0 | 17.13 | 435.0 | 19.50 | 495.3 | 2.00 | 50.8 | 24.75 | 628.7 | 8.50  | 215.9 | 4.38 | 111.1 | 418.9            | 190.0 |
| L24-in.    | X24GR               | 28.31 | 719.2 | 34.25 | 870.0 | 34.75 | 882.7 | 38.88 | 987.4  | 6.25 | 158.8 | 18.38 | 466.7 | 22.50 | 571.5 | 2.25 | 57.2 | 27.00 | 685.8 | 9.50  | 241.3 | 5.00 | 127.0 | 661.4            | 300.0 |

# CofferLok Seal Rings

| SEAL RING SIZE | A      |       | B      |       | C     |      | D     |      | SEAL RING WEIGHT |       |
|----------------|--------|-------|--------|-------|-------|------|-------|------|------------------|-------|
|                | INS    | MM    | INS    | MM    | INS   | MM   | INS   | MM   | LBS              | KG    |
| 4              | 1.000  | 25.4  | 0.500  | 12.7  | 0.125 | 3.2  | 0.375 | 9.5  | 0.03             | 0.01  |
| 5              | 1.094  | 27.8  | 0.625  | 15.9  | 0.125 | 3.2  | 0.375 | 9.5  | 0.03             | 0.01  |
| 7              | 1.375  | 34.9  | 0.906  | 23.0  | 0.125 | 3.2  | 0.375 | 9.5  | 0.04             | 0.02  |
| 8              | 1.625  | 41.3  | 1.000  | 25.4  | 0.125 | 3.2  | 0.375 | 9.5  | 0.04             | 0.02  |
| 11             | 1.750  | 44.5  | 1.125  | 28.6  | 0.125 | 3.2  | 0.375 | 9.5  | 0.06             | 0.03  |
| 13             | 2.375  | 60.3  | 1.500  | 38.1  | 0.125 | 3.2  | 0.375 | 9.5  | 0.11             | 0.05  |
| 14             | 2.625  | 66.7  | 1.609  | 40.9  | 0.250 | 6.4  | 0.563 | 14.3 | 0.28             | 0.13  |
| 16             | 2.750  | 69.9  | 1.868  | 47.4  | 0.250 | 6.4  | 0.625 | 15.9 | 0.28             | 0.13  |
| 20             | 3.250  | 82.6  | 2.063  | 52.4  | 0.250 | 6.4  | 0.750 | 19.1 | 0.45             | 0.2   |
| 23             | 3.500  | 88.9  | 2.375  | 60.3  | 0.250 | 6.4  | 0.750 | 19.1 | 0.48             | 0.22  |
| 25             | 4.000  | 102.0 | 2.672  | 67.9  | 0.250 | 6.4  | 0.750 | 19.1 | 0.62             | 0.28  |
| 27             | 4.250  | 108.0 | 3.063  | 77.8  | 0.250 | 6.4  | 0.750 | 19.1 | 0.62             | 0.28  |
| 31             | 4.500  | 114.0 | 3.250  | 82.6  | 0.250 | 6.4  | 0.750 | 19.1 | 0.69             | 0.31  |
| 34             | 5.000  | 127.0 | 3.688  | 93.7  | 0.250 | 6.4  | 0.750 | 19.1 | 0.80             | 0.36  |
| 40             | 5.500  | 140.0 | 4.063  | 103.0 | 0.250 | 6.4  | 1.000 | 25.4 | 1.13             | 0.51  |
| 42             | 6.375  | 162.0 | 4.188  | 106.0 | 0.250 | 6.4  | 1.000 | 25.4 | 1.68             | 0.76  |
| 46             | 6.250  | 159.0 | 4.750  | 121.0 | 0.250 | 6.4  | 1.000 | 25.4 | 1.34             | 0.61  |
| 52             | 6.625  | 168.0 | 5.313  | 135.0 | 0.250 | 6.4  | 1.000 | 25.4 | 1.33             | 0.6   |
| 54             | 6.812  | 173.0 | 5.500  | 140.0 | 0.250 | 6.4  | 1.000 | 25.4 | 1.57             | 0.71  |
| 56             | 7.500  | 191.0 | 5.750  | 146.0 | 0.250 | 6.4  | 1.000 | 25.4 | 1.82             | 0.83  |
| 62             | 7.875  | 200.0 | 6.065  | 154.0 | 0.375 | 9.5  | 1.375 | 34.9 | 3.13             | 1.42  |
| 64             | 8.625  | 219.0 | 6.500  | 165.0 | 0.375 | 9.5  | 1.375 | 34.9 | 3.80             | 1.72  |
| 67             | 8.750  | 222.0 | 6.875  | 175.0 | 0.375 | 9.5  | 1.375 | 34.9 | 3.61             | 1.64  |
| 72             | 9.500  | 241.0 | 7.250  | 184.0 | 0.375 | 9.5  | 1.375 | 34.9 | 4.40             | 2.00  |
| 76             | 10.000 | 254.0 | 7.750  | 197.0 | 0.375 | 9.5  | 1.375 | 34.9 | 4.67             | 2.12  |
| 82             | 10.125 | 257.0 | 8.250  | 210.0 | 0.375 | 9.5  | 1.375 | 34.9 | 4.26             | 1.93  |
| 84             | 11.125 | 283.0 | 8.500  | 216.0 | 0.375 | 9.5  | 1.375 | 34.9 | 5.79             | 2.63  |
| 87             | 11.375 | 289.0 | 8.875  | 225.0 | 0.375 | 9.5  | 1.375 | 34.9 | 5.77             | 2.62  |
| 91             | 11.500 | 292.0 | 9.125  | 232.0 | 0.375 | 9.5  | 1.375 | 34.9 | 5.66             | 2.57  |
| 92             | 11.625 | 295.0 | 9.250  | 235.0 | 0.375 | 9.5  | 1.375 | 34.9 | 5.78             | 2.62  |
| 94             | 11.750 | 298.0 | 9.500  | 241.0 | 0.375 | 9.5  | 1.375 | 34.9 | 5.61             | 2.54  |
| 97             | 12.000 | 305.0 | 9.875  | 251.0 | 0.375 | 9.5  | 1.375 | 34.9 | 5.55             | 2.52  |
| 102            | 12.250 | 311.0 | 10.250 | 260.0 | 0.375 | 9.5  | 1.375 | 34.9 | 5.48             | 2.49  |
| 106            | 12.750 | 324.0 | 10.750 | 273.0 | 0.375 | 9.5  | 1.375 | 34.9 | 5.72             | 2.59  |
| 112            | 14.125 | 359.0 | 11.250 | 286.0 | 0.625 | 15.9 | 1.625 | 41.3 | 12.33            | 5.59  |
| 116            | 14.125 | 359.0 | 11.750 | 298.0 | 0.375 | 9.5  | 1.375 | 34.9 | 7.21             | 3.27  |
| 120            | 13.875 | 352.0 | 12.000 | 305.0 | 0.375 | 9.5  | 1.375 | 34.9 | 6.04             | 2.74  |
| 122            | 14.125 | 359.0 | 12.250 | 311.0 | 0.375 | 9.5  | 1.375 | 34.9 | 6.16             | 2.79  |
| 124            | 14.625 | 371.0 | 12.500 | 318.0 | 0.375 | 9.5  | 1.375 | 34.9 | 7.10             | 3.22  |
| 130            | 15.000 | 381.0 | 13.000 | 330.0 | 0.500 | 12.7 | 1.500 | 38.1 | 8.47             | 3.84  |
| 134            | 15.500 | 394.0 | 13.500 | 343.0 | 0.500 | 12.7 | 1.500 | 38.1 | 8.78             | 3.98  |
| 137            | 16.500 | 419.0 | 13.875 | 352.0 | 0.625 | 15.9 | 1.625 | 41.3 | 13.70            | 6.21  |
| 140            | 16.500 | 419.0 | 14.000 | 356.0 | 0.500 | 12.7 | 1.500 | 38.1 | 10.98            | 4.98  |
| 144            | 17.000 | 432.0 | 14.500 | 368.0 | 0.500 | 12.7 | 1.500 | 38.1 | 11.35            | 5.15  |
| 152            | 17.750 | 451.0 | 15.250 | 387.0 | 0.500 | 12.7 | 1.500 | 38.1 | 11.89            | 5.39  |
| 160            | 18.500 | 470.0 | 16.000 | 406.0 | 0.500 | 12.7 | 1.500 | 38.1 | 12.44            | 5.64  |
| 170            | 19.438 | 494.0 | 17.000 | 432.0 | 0.500 | 12.7 | 1.750 | 44.5 | 13.84            | 6.28  |
| 180            | 20.500 | 521.0 | 18.000 | 457.0 | 0.500 | 12.7 | 1.750 | 44.5 | 14.61            | 6.63  |
| 185            | 21.250 | 540.0 | 18.625 | 473.0 | 0.500 | 12.7 | 1.750 | 44.5 | 16.37            | 7.43  |
| 192            | 22.000 | 559.0 | 19.250 | 489.0 | 0.500 | 12.7 | 1.750 | 44.5 | 17.16            | 7.78  |
| 200            | 22.750 | 578.0 | 20.000 | 508.0 | 0.500 | 12.7 | 1.750 | 44.5 | 17.80            | 8.07  |
| 210            | 24.000 | 610.0 | 21.000 | 533.0 | 0.500 | 12.7 | 2.000 | 50.8 | 21.36            | 9.69  |
| 220            | 25.000 | 635.0 | 22.000 | 559.0 | 0.500 | 12.7 | 2.000 | 50.8 | 22.32            | 10.12 |
| 225            | 25.750 | 654.0 | 22.625 | 575.0 | 0.500 | 12.7 | 2.000 | 50.8 | 24.19            | 10.97 |
| 232            | 26.375 | 670.0 | 23.250 | 591.0 | 0.500 | 12.7 | 2.000 | 50.8 | 24.29            | 11.02 |
| 240            | 27.500 | 699.0 | 24.000 | 610.0 | 0.500 | 12.7 | 2.000 | 50.8 | 27.42            | 12.44 |
| 244            | 27.750 | 705.0 | 24.500 | 622.0 | 0.500 | 12.7 | 2.000 | 50.8 | 26.34            | 11.95 |
| 254            | 28.875 | 733.0 | 25.500 | 648.0 | 0.500 | 12.7 | 2.000 | 50.8 | 28.20            | 12.79 |
| 264            | 30.000 | 762.0 | 26.500 | 673.0 | 0.500 | 12.7 | 2.000 | 50.8 | 30.12            | 13.66 |
| 274            | 31.125 | 791.0 | 27.500 | 699.0 | 0.500 | 12.7 | 2.000 | 50.8 | 32.31            | 14.66 |
| 284            | 32.250 | 819.0 | 28.500 | 724.0 | 0.500 | 12.7 | 2.000 | 50.8 | 34.36            | 15.59 |
| 292            | 32.250 | 819.0 | 29.250 | 743.0 | 0.5   | 12.7 | 2.000 | 50.8 | 29.30            | 13.29 |



*CofferLok* seal rings are available in a number of carefully selected materials and are coated to provide lubrication during makeup. Seal rings are typically made of 4140 or 17-4PH material and come with PTFE or MoS<sub>2</sub> coating, but can be manufactured of other materials or coatings to meet specific service conditions.

The *CofferLok* seal ring is a reusable solid metal double cone-shaped ring, designed for an interference load when installed in mating hubs or flanges.

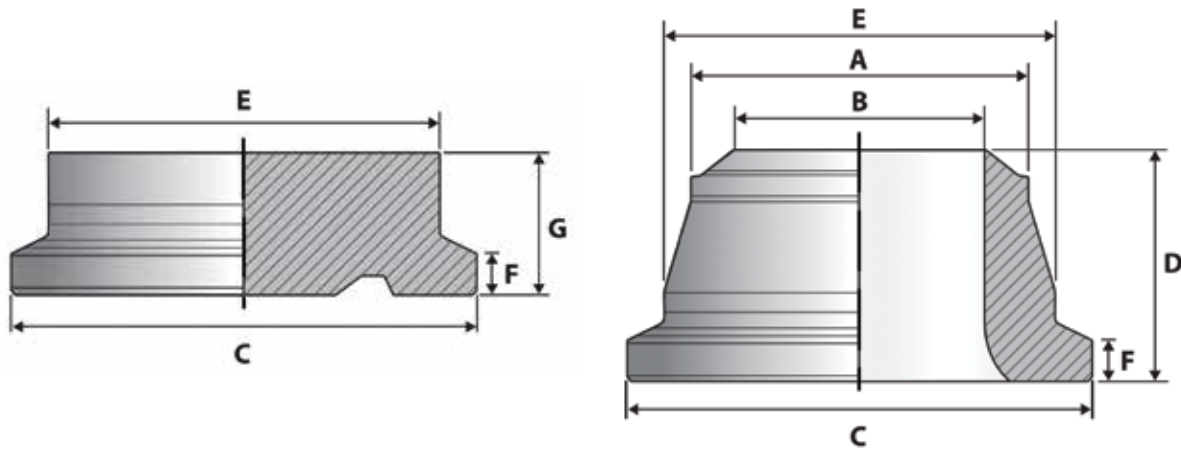
High loading combined with the strength of the seal material provides considerable stored energy in the seal. Since the seal is exposed to line pressure, the additional benefit of a pressure enhanced seal is obtained. The *CofferLok* seal ring will provide leak tight service in dynamic systems of vibration or thermal cycling where normal seals are inadequate.

Transition seal rings, Orifice seal rings and Blind seal rings are also available.

Seal Ring materials include: AISI 4130/4140, A182 F316, A182 F44, A564 630 (17-4PH), A182 F51, A182 F55, Alloy 718, 625 and X 750.



# CofferLok Hubs - Standard



| PIPE SIZE<br>PIPE O.D.<br>(A) | (DN)     | PIPE<br>SCHEDULE | COFFERLOK HUB<br>DESIGNATION | B     |       | C      |       | D     |       | E      |       | F     |      | G     |      | BW HUB<br>WEIGHT |      | BLIND HUB<br>WEIGHT |      |
|-------------------------------|----------|------------------|------------------------------|-------|-------|--------|-------|-------|-------|--------|-------|-------|------|-------|------|------------------|------|---------------------|------|
| INS                           | (MM)     |                  |                              | INS   | MM    | INS    | MM    | INS   | MM    | INS    | MM    | INS   | MM   | INS   | MM   | LBS              | KG   | LBS                 | KG   |
| 1/2"                          | (DN 15)  | 40               | 1-in. 5                      | 0.622 | 15.8  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.6              | 0.3  | 0.8                 | 0.4  |
| 0.84                          | 21.3     | 80               | 1-in. 5                      | 0.546 | 13.9  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.6              | 0.3  | 0.8                 | 0.4  |
|                               |          | 160              | 1-in. 4                      | 0.466 | 11.8  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.6              | 0.3  | 0.8                 | 0.4  |
|                               |          | XXS              | 1-in. 4                      | 0.252 | 6.4   | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.7              | 0.3  | 0.8                 | 0.4  |
| 3/4"                          | (DN 20)  | 40               | 1-in. 7                      | 0.824 | 20.9  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.5              | 0.2  | 0.8                 | 0.4  |
| 1.05                          | 26.7     | 80               | 1-in. 7                      | 0.742 | 18.8  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.6              | 0.3  | 0.8                 | 0.4  |
|                               |          | 160              | 1-in. 5                      | 0.614 | 15.6  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.7              | 0.3  | 0.8                 | 0.4  |
|                               |          | XXS              | 1-in. 4                      | 0.434 | 11.0  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.7              | 0.3  | 0.8                 | 0.4  |
| 1"                            | (DN 25)  | 40               | 1-in. 11                     | 1.049 | 26.6  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.5              | 0.2  | 0.8                 | 0.4  |
| 1.315                         | 33.4     | 80               | 1-in. 11                     | 0.957 | 24.3  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.5              | 0.2  | 0.8                 | 0.4  |
|                               |          | 160              | 1-in. 7                      | 0.815 | 20.7  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.6              | 0.3  | 0.8                 | 0.4  |
|                               |          | XXS              | 1-in. 5                      | 0.599 | 15.2  | 2.000  | 50.8  | 1.750 | 44.5  | 1.500  | 38.1  | 0.313 | 8.0  | 1.313 | 33.4 | 0.7              | 0.3  | 0.8                 | 0.4  |
| 1-1/2"                        | (DN 40)  | 40               | 1.5-in. 14                   | 1.610 | 40.9  | 3.125  | 79.4  | 2.375 | 60.3  | 2.375  | 60.3  | 0.437 | 11.1 | 1.625 | 41.3 | 1.6              | 0.7  | 2.5                 | 1.1  |
| 1.9                           | 48.3     | 80               | 1.5-in. 13                   | 1.500 | 38.1  | 3.125  | 79.4  | 2.375 | 60.3  | 2.375  | 60.3  | 0.500 | 12.7 | 1.625 | 41.3 | 1.9              | 0.8  | 2.6                 | 1.2  |
|                               |          | 160              | 1.5-in. 13                   | 1.338 | 34.0  | 3.125  | 79.4  | 2.375 | 60.3  | 2.375  | 60.3  | 0.500 | 12.7 | 1.625 | 41.3 | 2.0              | 0.9  | 2.6                 | 1.2  |
|                               |          | XXS              | 1.5-in. 11                   | 1.100 | 27.9  | 3.125  | 79.4  | 2.375 | 60.3  | 2.375  | 60.3  | 0.500 | 12.7 | 1.625 | 41.3 | 2.4              | 1.1  | 2.6                 | 1.2  |
| 2"                            | (DN 50)  | 40               | 2-in. 20                     | 2.067 | 52.5  | 3.625  | 92.1  | 2.750 | 69.9  | 2.875  | 73.0  | 0.437 | 11.1 | 1.750 | 44.5 | 2.2              | 1.0  | 3.7                 | 1.7  |
| 2.375                         | 60.3     | 80               | 2-in. 20                     | 1.939 | 49.3  | 3.625  | 92.1  | 2.750 | 69.9  | 2.875  | 73.0  | 0.437 | 11.1 | 1.750 | 44.5 | 2.5              | 1.1  | 3.7                 | 1.7  |
|                               |          | 160              | 2-in. 16                     | 1.689 | 42.9  | 3.625  | 92.1  | 2.750 | 69.9  | 2.875  | 73.0  | 0.437 | 11.1 | 1.750 | 44.5 | 3.0              | 1.4  | 3.8                 | 1.7  |
|                               |          | XXS              | 2-in. 14                     | 1.503 | 38.2  | 3.625  | 92.1  | 2.750 | 69.9  | 2.875  | 73.0  | 0.437 | 11.1 | 1.750 | 44.5 | 3.4              | 1.5  | 3.8                 | 1.7  |
| 3"                            | (DN 75)  | 40               | 3-in. 27                     | 3.068 | 77.9  | 5.000  | 127.0 | 3.250 | 82.6  | 4.000  | 101.6 | 0.500 | 12.7 | 1.875 | 47.6 | 4.7              | 2.1  | 7.8                 | 3.5  |
| 3.5                           | 88.9     | 80               | 3-in. 27                     | 2.900 | 73.7  | 5.000  | 127.0 | 3.250 | 82.6  | 4.000  | 101.6 | 0.500 | 12.7 | 1.875 | 47.6 | 5.2              | 2.4  | 7.8                 | 3.5  |
|                               |          | 160              | 3-in. 25                     | 2.624 | 66.6  | 5.000  | 127.0 | 3.250 | 82.6  | 4.000  | 101.6 | 0.500 | 12.7 | 1.875 | 47.6 | 6.3              | 2.9  | 7.8                 | 3.5  |
|                               |          | XXS              | 3-in. 23                     | 2.300 | 58.4  | 5.000  | 127.0 | 3.250 | 82.6  | 4.000  | 101.6 | 0.500 | 12.7 | 1.875 | 47.6 | 7.4              | 3.3  | 7.8                 | 3.6  |
| 4"                            | (DN 100) | 40               | 4-in. 40                     | 4.026 | 102.3 | 6.000  | 152.4 | 3.625 | 92.1  | 5.000  | 127.0 | 0.500 | 12.7 | 2.125 | 54.0 | 6.7              | 3.1  | 13.1                | 5.9  |
| 4.5                           | 114.3    | 80               | 4-in. 40                     | 3.826 | 97.2  | 6.000  | 152.4 | 3.625 | 92.1  | 5.000  | 127.0 | 0.500 | 12.7 | 2.125 | 54.0 | 7.7              | 3.5  | 13.1                | 5.9  |
|                               |          | 120              | 4-in. 34                     | 3.624 | 92.0  | 6.000  | 152.4 | 3.625 | 92.1  | 5.000  | 127.0 | 0.500 | 12.7 | 2.125 | 54.0 | 9.2              | 4.2  | 13.2                | 6.0  |
|                               |          | 160              | 4-in. 34                     | 3.438 | 87.3  | 6.000  | 152.4 | 3.625 | 92.1  | 5.000  | 127.0 | 0.500 | 12.7 | 2.125 | 54.0 | 10.0             | 4.5  | 13.2                | 6.0  |
|                               |          | XXS              | 4-in. 31                     | 3.152 | 80.1  | 6.000  | 152.4 | 3.625 | 92.1  | 5.000  | 127.0 | 0.500 | 12.7 | 2.125 | 54.0 | 11.5             | 5.2  | 13.2                | 6.0  |
| 5"                            | (DN 125) | 40               | 5-in. 52                     | 5.047 | 128.2 | 7.500  | 190.5 | 4.375 | 111.1 | 6.500  | 165.1 | 0.625 | 15.9 | 2.750 | 69.9 | 13.3             | 6.0  | 27.8                | 12.6 |
| 5.563                         | 141.3    | 80               | 5-in. 52                     | 4.813 | 122.3 | 7.500  | 190.5 | 4.375 | 111.1 | 6.500  | 165.1 | 0.625 | 15.9 | 2.750 | 69.9 | 14.8             | 6.7  | 27.8                | 12.6 |
|                               |          | 120              | 5-in. 46                     | 4.563 | 115.9 | 7.500  | 190.5 | 4.375 | 111.1 | 6.500  | 165.1 | 0.625 | 15.9 | 2.750 | 69.9 | 17.8             | 8.1  | 27.8                | 12.6 |
|                               |          | 160              | 5-in. 46                     | 4.313 | 109.6 | 7.500  | 190.5 | 4.375 | 111.1 | 6.500  | 165.1 | 0.625 | 15.9 | 2.750 | 69.9 | 19.2             | 8.7  | 27.8                | 12.6 |
|                               |          | XXS              | 5-in. 40                     | 4.063 | 103.2 | 7.500  | 190.5 | 4.375 | 111.1 | 6.500  | 165.1 | 0.625 | 15.9 | 2.750 | 69.9 | 21.9             | 9.9  | 27.9                | 12.6 |
| 6"                            | (DN 150) | 40               | 6-in. 62                     | 6.065 | 154.1 | 9.250  | 235.0 | 4.625 | 117.5 | 7.750  | 196.9 | 0.750 | 19.1 | 2.875 | 73.0 | 20.4             | 9.2  | 43.0                | 19.5 |
| 6.625                         | 168.3    | 80               | 6-in. 56                     | 5.761 | 146.3 | 9.250  | 235.0 | 4.625 | 117.5 | 7.750  | 196.9 | 0.812 | 20.6 | 2.875 | 73.0 | 24.9             | 11.3 | 43.6                | 19.8 |
|                               |          | 120              | 6-in. 54                     | 5.501 | 139.7 | 9.250  | 235.0 | 4.625 | 117.5 | 7.750  | 196.9 | 0.812 | 20.6 | 2.875 | 73.0 | 27.7             | 12.6 | 43.6                | 19.8 |
|                               |          | 160              | 6-in. 52                     | 5.189 | 131.8 | 9.250  | 235.0 | 4.625 | 117.5 | 7.750  | 196.9 | 0.812 | 20.6 | 2.875 | 73.0 | 30.7             | 13.9 | 43.6                | 19.8 |
|                               |          | XXS              | 6-in. 52                     | 4.897 | 124.4 | 9.250  | 235.0 | 4.625 | 117.5 | 7.750  | 196.9 | 0.812 | 20.6 | 2.875 | 73.0 | 32.7             | 14.8 | 43.6                | 19.8 |
| 8"                            | (DN 200) | 40               | 8-in. 82                     | 7.981 | 202.7 | 11.500 | 292.1 | 5.375 | 136.5 | 10.000 | 254.0 | 0.750 | 19.1 | 3.188 | 81.0 | 33.0             | 15.0 | 76.7                | 34.8 |
| 8.625                         | 219.1    | 80               | 8-in. 76                     | 7.625 | 193.7 | 11.500 | 292.1 | 5.375 | 136.5 | 10.000 | 254.0 | 0.750 | 19.1 | 3.188 | 81.0 | 40.3             | 18.3 | 76.7                | 34.8 |
|                               |          | 100              | 8-in. 76                     | 7.439 | 189.0 | 11.500 | 292.1 | 5.375 | 136.5 | 10.000 | 254.0 | 0.750 | 19.1 | 3.188 | 81.0 | 42.4             | 19.2 | 76.7                | 34.8 |
|                               |          | 120              | 8-in. 72                     | 7.189 | 182.6 | 11.500 | 292.1 | 5.375 | 136.5 | 10.000 | 254.0 | 0.750 | 19.1 | 3.188 | 81.0 | 47.8             | 21.7 | 76.7                | 34.8 |
|                               |          | 140              | 8-in. 72                     | 7.001 | 177.8 | 11.500 | 292.1 | 5.375 | 136.5 | 10.000 | 254.0 | 0.750 | 19.1 | 3.188 | 81.0 | 49.9             | 22.6 | 76.7                | 34.8 |
|                               |          | XXS              | 8-in. 67                     | 6.875 | 174.6 | 11.500 | 292.1 | 5.375 | 136.5 | 10.000 | 254.0 | 0.750 | 19.1 | 3.188 | 81.0 | 52.9             | 24.0 | 76.8                | 34.8 |
|                               |          | 160              | 8-in. 67                     | 6.813 | 173.1 | 11.500 | 292.1 | 5.375 | 136.5 | 10.000 | 254.0 | 0.750 | 19.1 | 3.188 | 81.0 | 53.6             | 24.3 | 76.8                | 34.8 |



# CofferLok Hubs - Heavy Duty

| PIPE SIZE<br>PIPE O.D.<br>(A) | (DN)     | PIPE<br>SCHEDULE | COFFERLOK<br>HUB<br>DESIGNATION | B      |       | C      |       | D     |       | E      |       | F     |      | G     |       | BW HUB<br>WEIGHT |       | BLIND HUB<br>WEIGHT |       |
|-------------------------------|----------|------------------|---------------------------------|--------|-------|--------|-------|-------|-------|--------|-------|-------|------|-------|-------|------------------|-------|---------------------|-------|
| INS                           | (MM)     |                  |                                 | INS    | MM    | INS    | MM    | INS   | MM    | INS    | MM    | INS   | MM   | INS   | MM    | LBS              | KG    | LBS                 | KG    |
| 2"                            | (DN 50)  | 40               | H2-in. 20                       | 2.067  | 52.5  | 4.750  | 120.7 | 3.250 | 82.6  | 3.750  | 95.3  | 0.625 | 15.9 | 1.875 | 47.6  | 6.2              | 2.8   | 7.2                 | 3.3   |
| 2.375                         | 60.3     | 80               | H2-in. 20                       | 1.939  | 49.3  | 4.750  | 120.7 | 3.250 | 82.6  | 3.750  | 95.3  | 0.625 | 15.9 | 1.875 | 47.6  | 6.5              | 2.9   | 7.2                 | 3.3   |
|                               |          | 160              | H2-in. 16                       | 1.689  | 42.9  | 4.750  | 120.7 | 3.250 | 82.6  | 3.750  | 95.3  | 0.625 | 15.9 | 1.875 | 47.6  | 7.1              | 3.2   | 7.2                 | 3.3   |
|                               |          | XXS              | H2-in. 14                       | 1.503  | 38.2  | 4.750  | 120.7 | 3.250 | 82.6  | 3.750  | 95.3  | 0.625 | 15.9 | 1.875 | 47.6  | 7.5              | 3.4   | 7.2                 | 3.3   |
| 3"                            | (DN 75)  | 40               | H3-in. 27                       | 3.068  | 77.9  | 5.500  | 139.7 | 3.500 | 88.9  | 4.500  | 114.3 | 0.625 | 15.9 | 2.125 | 54.0  | 7.3              | 3.3   | 11.1                | 5.0   |
| 3.5                           | 88.9     | 80               | H3-in. 27                       | 2.900  | 73.7  | 5.500  | 139.7 | 3.500 | 88.9  | 4.500  | 114.3 | 0.625 | 15.9 | 2.125 | 54.0  | 8.0              | 3.6   | 11.1                | 5.0   |
|                               |          | 160              | H3-in. 25                       | 2.624  | 66.6  | 5.500  | 139.7 | 3.500 | 88.9  | 4.500  | 114.3 | 0.625 | 15.9 | 2.125 | 54.0  | 9.2              | 4.2   | 11.1                | 5.0   |
|                               |          | XXS              | H3-in. 23                       | 2.300  | 58.4  | 5.500  | 139.7 | 3.500 | 88.9  | 4.500  | 114.3 | 0.625 | 15.9 | 2.125 | 54.0  | 10.3             | 4.7   | 11.1                | 5.1   |
| 4"                            | (DN 100) | 40               | H4-in. 40                       | 4.026  | 102.3 | 6.750  | 171.5 | 4.000 | 101.6 | 5.750  | 146.1 | 0.625 | 15.9 | 2.750 | 69.9  | 11.9             | 5.4   | 22.0                | 10.0  |
| 4.5                           | 114.3    | 80               | H4-in. 40                       | 3.826  | 97.2  | 6.750  | 171.5 | 4.000 | 101.6 | 5.750  | 146.1 | 0.625 | 15.9 | 2.750 | 69.9  | 13.0             | 5.9   | 22.0                | 10.0  |
|                               |          | 120              | H4-in. 34                       | 3.624  | 92.0  | 6.750  | 171.5 | 4.000 | 101.6 | 5.750  | 146.1 | 0.625 | 15.9 | 2.750 | 69.9  | 14.6             | 6.6   | 22.2                | 10.1  |
|                               |          | 160              | H4-in. 34                       | 3.438  | 87.3  | 6.750  | 171.5 | 4.000 | 101.6 | 5.750  | 146.1 | 0.625 | 15.9 | 2.750 | 69.9  | 15.5             | 7.0   | 22.2                | 10.1  |
|                               |          | XXS              | H4-in. 31                       | 3.152  | 80.1  | 6.750  | 171.5 | 4.000 | 101.6 | 5.750  | 146.1 | 0.625 | 15.9 | 2.750 | 69.9  | 17.2             | 7.8   | 22.2                | 10.1  |
| 6"                            | (DN 150) | 80               | H8-in. 56                       | 5.761  | 146.3 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.063 | 27.0 | 3.188 | 81.0  | 64.5             | 29.3  | 75.7                | 34.3  |
| 6.625                         | 168.3    | 120              | H8-in. 54                       | 5.501  | 139.7 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.063 | 27.0 | 3.188 | 81.0  | 67.1             | 30.4  | 75.7                | 34.3  |
|                               |          | 160              | H8-in. 52                       | 5.189  | 131.8 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.063 | 27.0 | 3.188 | 81.0  | 69.6             | 31.6  | 75.7                | 34.3  |
|                               |          | XXS              | H8-in. 52                       | 4.897  | 124.4 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.063 | 27.0 | 3.188 | 81.0  | 71.1             | 32.3  | 75.7                | 34.3  |
| 8"                            | (DN 200) | 40               | H8-in. 82                       | 7.981  | 202.7 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.000 | 25.4 | 3.188 | 81.0  | 31.6             | 14.3  | 74.6                | 33.8  |
| 8.625                         | 219.1    | 80               | H8-in. 76                       | 7.625  | 193.7 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.000 | 25.4 | 3.188 | 81.0  | 38.3             | 17.4  | 74.6                | 33.9  |
|                               |          | 100              | H8-in. 76                       | 7.439  | 189.0 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.000 | 25.4 | 3.188 | 81.0  | 40.3             | 18.3  | 74.6                | 33.9  |
|                               |          | 120              | H8-in. 72                       | 7.189  | 182.6 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.000 | 25.4 | 3.188 | 81.0  | 45.4             | 20.6  | 74.7                | 33.9  |
|                               |          | 140              | H8-in. 72                       | 7.001  | 177.8 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.000 | 25.4 | 3.188 | 81.0  | 47.2             | 21.4  | 74.7                | 33.9  |
|                               |          | XXS              | H8-in. 67                       | 6.875  | 174.6 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.000 | 25.4 | 3.188 | 81.0  | 50.1             | 22.7  | 74.7                | 33.9  |
|                               |          | 160              | H8-in. 67                       | 6.813  | 173.1 | 11.500 | 292.1 | 5.000 | 127.0 | 9.500  | 241.3 | 1.000 | 25.4 | 3.188 | 81.0  | 50.7             | 23.0  | 74.7                | 33.9  |
| 10"                           | (DN 250) | 40               | H10-in. 102                     | 10.020 | 254.5 | 13.625 | 346.1 | 6.000 | 152.4 | 11.625 | 295.3 | 1.250 | 31.8 | 3.500 | 88.9  | 49.9             | 22.6  | 120.7               | 54.8  |
| 10.75                         | 273.1    | 80               | H10-in. 97                      | 9.750  | 247.7 | 13.625 | 346.1 | 6.000 | 152.4 | 11.625 | 295.3 | 1.250 | 31.8 | 3.500 | 88.9  | 57.5             | 26.1  | 120.8               | 54.8  |
|                               |          | 80               | H10-in. 97                      | 9.564  | 242.9 | 13.625 | 346.1 | 6.000 | 152.4 | 11.625 | 295.3 | 1.250 | 31.8 | 3.500 | 88.9  | 60.7             | 27.6  | 120.8               | 54.8  |
|                               |          | 100              | H10-in. 94                      | 9.314  | 236.6 | 13.625 | 346.1 | 6.000 | 152.4 | 11.625 | 295.3 | 1.250 | 31.8 | 3.500 | 88.9  | 67.6             | 30.7  | 120.8               | 54.8  |
|                               |          | 120              | H10-in. 91                      | 9.064  | 230.2 | 13.625 | 346.1 | 6.000 | 152.4 | 11.625 | 295.3 | 1.250 | 31.8 | 3.500 | 88.9  | 74.0             | 33.6  | 120.8               | 54.8  |
|                               |          | XXS 140          | H10-in. 87                      | 8.750  | 222.3 | 13.625 | 346.1 | 6.000 | 152.4 | 11.625 | 295.3 | 1.250 | 31.8 | 3.500 | 88.9  | 80.5             | 36.5  | 120.8               | 54.8  |
|                               |          | 160              | H10-in. 84                      | 8.500  | 215.9 | 13.625 | 346.1 | 6.000 | 152.4 | 11.625 | 295.3 | 1.250 | 31.8 | 3.500 | 88.9  | 86.2             | 39.1  | 120.9               | 54.8  |
| 12"                           | (DN 300) | 40               | H12-in. 120                     | 12.000 | 304.8 | 16.000 | 406.4 | 6.625 | 168.3 | 14.000 | 355.6 | 1.375 | 34.9 | 4.000 | 101.6 | 77.1             | 35.0  | 194.5               | 88.2  |
| 12.75                         | 323.9    | 40               | H12-in. 120                     | 11.938 | 303.2 | 16.000 | 406.4 | 6.625 | 168.3 | 14.000 | 355.6 | 1.375 | 34.9 | 4.000 | 101.6 | 78.8             | 35.8  | 194.5               | 88.2  |
|                               |          | XS               | H12-in. 116                     | 11.750 | 298.5 | 16.000 | 406.4 | 6.625 | 168.3 | 14.000 | 355.6 | 1.375 | 34.9 | 4.000 | 101.6 | 85.4             | 38.7  | 194.5               | 88.2  |
|                               |          | 80               | H12-in. 116                     | 11.376 | 289.0 | 16.000 | 406.4 | 6.625 | 168.3 | 14.000 | 355.6 | 1.375 | 34.9 | 4.000 | 101.6 | 94.4             | 42.8  | 194.5               | 88.2  |
|                               |          | 100              | H12-in. 112                     | 11.064 | 281.0 | 16.000 | 406.4 | 6.625 | 168.3 | 14.000 | 355.6 | 1.250 | 31.8 | 4.000 | 101.6 | 104.3            | 47.3  | 192.9               | 87.5  |
|                               |          | XXS 120          | H12-in. 106                     | 10.750 | 273.1 | 16.000 | 406.4 | 6.625 | 168.3 | 14.000 | 355.6 | 1.375 | 34.9 | 4.000 | 101.6 | 112.9            | 51.2  | 194.6               | 88.3  |
|                               |          | 140              | H12-in. 106                     | 10.500 | 266.7 | 16.000 | 406.4 | 6.625 | 168.3 | 14.000 | 355.6 | 1.375 | 34.9 | 4.000 | 101.6 | 118.3            | 53.7  | 194.6               | 88.3  |
|                               |          | 160              | H12-in. 102                     | 10.126 | 257.2 | 16.000 | 406.4 | 6.625 | 168.3 | 14.000 | 355.6 | 1.375 | 34.9 | 4.000 | 101.6 | 129.3            | 58.7  | 194.6               | 88.3  |
| 14"                           | (DN 350) | 40               | H14-in. 134                     | 13.124 | 333.3 | 18.500 | 469.9 | 7.250 | 184.2 | 16.500 | 419.1 | 1.187 | 30.1 | 4.500 | 114.3 | 124.7            | 56.6  | 293.0               | 132.9 |
| 14                            | 355.6    | XS               | H14-in. 130                     | 13.000 | 330.2 | 18.500 | 469.9 | 7.250 | 184.2 | 16.500 | 419.1 | 1.187 | 30.1 | 4.500 | 114.3 | 133.2            | 60.4  | 293.1               | 132.9 |
|                               |          | 80               | H14-in. 124                     | 12.500 | 317.5 | 18.500 | 469.9 | 7.250 | 184.2 | 16.500 | 419.1 | 1.250 | 31.8 | 4.500 | 114.3 | 153.3            | 69.5  | 294.1               | 133.4 |
|                               |          | 100              | H14-in. 124                     | 12.124 | 307.9 | 18.500 | 469.9 | 7.250 | 184.2 | 16.500 | 419.1 | 1.250 | 31.8 | 4.500 | 114.3 | 163.8            | 74.3  | 294.1               | 133.4 |
|                               |          | 120              | H14-in. 120                     | 11.814 | 300.1 | 18.500 | 469.9 | 7.250 | 184.2 | 16.500 | 419.1 | 1.250 | 31.8 | 4.500 | 114.3 | 177.3            | 80.4  | 294.2               | 133.4 |
|                               |          | 140              | H14-in. 116                     | 11.500 | 292.1 | 18.500 | 469.9 | 7.250 | 184.2 | 16.500 | 419.1 | 1.250 | 31.8 | 4.500 | 114.3 | 187.2            | 84.9  | 294.2               | 133.4 |
|                               |          | 160              | H14-in. 112                     | 11.188 | 284.2 | 18.500 | 469.9 | 7.250 | 184.2 | 16.500 | 419.1 | 1.125 | 28.6 | 4.500 | 114.3 | 197.0            | 89.4  | 292.3               | 132.6 |
| 16"                           | (DN 400) | 40               | H16-in. 152                     | 15.000 | 381.0 | 21.000 | 533.4 | 7.875 | 200.0 | 19.000 | 482.6 | 1.688 | 42.9 | 5.000 | 127.0 | 194.8            | 88.4  | 433.8               | 196.8 |
| 16                            | 406.4    | 60               | H16-in. 152                     | 14.688 | 373.1 | 21.000 | 533.4 | 7.875 | 200.0 | 19.000 | 482.6 | 1.688 | 42.9 | 5.000 | 127.0 | 206.3            | 93.6  | 433.8               | 196.8 |
|                               |          | 80               | H16-in. 144                     | 14.314 | 363.6 | 21.000 | 533.4 | 7.875 | 200.0 | 19.000 | 482.6 | 1.688 | 42.9 | 5.000 | 127.0 | 229.1            | 103.9 | 433.9               | 196.8 |
|                               |          | 100              | H16-in. 140                     | 13.938 | 354.0 | 21.000 | 533.4 | 7.875 | 200.0 | 19.000 | 482.6 | 1.688 | 42.9 | 5.000 | 127.0 | 247.5            | 112.3 | 434.0               | 196.8 |
|                               |          | 120              | H16-in. 137                     | 13.564 | 344.5 | 21.000 | 533.4 | 7.875 | 200.0 | 19.000 | 482.6 | 1.625 | 41.3 | 5.000 | 127.0 | 260.5            | 118.2 | 432.8               | 196.3 |
|                               |          | 140              | H16-in. 134                     | 13.124 | 333.3 | 21.000 | 533.4 | 7.875 | 200.0 | 19.000 | 482.6 | 1.688 | 42.9 | 5.000 | 127.0 | 279.4            | 126.8 | 434.0               | 196.9 |
|                               |          | 160              | H16-in. 130                     | 12.812 | 325.4 | 21.000 | 533.4 | 7.875 | 200.0 | 19.000 | 482.6 | 1.688 | 42.9 | 5.000 | 127.0 | 293.9            | 133.3 | 434.1               | 196.9 |
| 18"                           | (DN 450) | 40               | H18-in. 170                     | 16.876 | 428.7 | 22.000 | 558.8 | 7.875 | 200.0 | 20.000 | 508.0 | 1.688 | 42.9 | 5.000 | 127.0 | 176.0            | 79.8  | 477.8               | 216.7 |
| 18                            | 457.2    | 60               | H18-in. 170                     | 16.500 | 419.1 | 22.000 | 558.8 | 7.875 | 200.0 | 20.000 | 508.0 | 1.688 | 42.9 | 5.000 | 127.0 | 191.7            | 86.9  | 477.8               | 216.7 |
|                               |          | 80               | H18-in. 160                     | 16.126 | 409.6 | 22.000 | 558.8 | 7.875 | 200.0 | 20.000 | 508.0 | 1.688 | 42.9 | 5.000 | 127.0 | 219.8            | 99.7  | 478.8               | 217.2 |
|                               |          | 100              | H18-in. 160                     | 15.688 | 398.5 | 22.000 | 558.8 | 7.875 | 200.0 | 20.000 | 508.0 | 1.688 | 42.9 | 5.000 | 127.0 | 238.1            | 108.0 | 478.8               | 217.2 |
|                               |          | 120              | H18-in. 152                     | 15.250 | 387.4 | 22.000 | 558.8 | 7.875 | 200.0 | 20.000 | 508.0 | 1.688 | 42.9 | 5.000 | 127.0 | 262.8            | 119.2 | 478.9               | 217.2 |
|                               |          | 140              | H18-in. 152                     | 14.876 | 377.9 | 22.000 | 558.8 | 7.875 | 200.0 | 20.000 | 508.0 | 1.688 | 42.9 | 5.000 | 127.0 | 276.4            | 125.4 | 478.9               | 217.2 |
|                               |          | 160              | H18-in. 144                     | 14.438 | 366.7 | 22.000 | 558.8 | 7.875 | 200.0 | 20.000 | 508.0 | 1.688 | 42.9 | 5.000 | 127.0 | 299.2            | 135.7 | 479.0               | 217.3 |
| 20"                           | (DN 500) | 40               | H20-in. 192                     | 18.814 | 477.9 | 25.000 | 635.0 | 8.750 | 222.3 | 23.000 | 584.2 | 1.625 | 41.3 | 5.500 | 139.7 | 262.7            | 119.2 | 683.4               | 310.0 |
| 20                            | 508      | 60               | H20-in. 185                     | 18.376 | 466.8 | 25.000 | 635.0 | 8.750 | 222   |        |       |       |      |       |       |                  |       |                     |       |

# CofferLok Clamp Connector

## Ratings for Carbon Steel - Standard

### Conversion Factor

Multiply the base capacity of the A105 material by the factor below indicated to obtain the capacity of the *Cofferlok* Clamp Connector in different material grades.

Example: 2-in.20 in A105 has a max pressure rating of 6,150 psi at 100°F

Multiply 6,150 x .85 = 5,227.5 to get the max pressure rating for a 2-in.20 in A182 316 material at 100°F

| (°F)  | MATERIAL<br>A182 F316 |
|-------|-----------------------|
| 100°F | 0.85                  |
| 200°F | 0.93                  |
| 300°F | 0.92                  |
| 400°F | 0.90                  |
| 500°F | 0.89                  |
| 600°F | 0.87                  |

| (°F)  | MATERIAL<br>A182 F51 |
|-------|----------------------|
| 100°F | 1.27                 |
| 200°F | 1.24                 |
| 300°F | 1.19                 |
| 400°F | 1.15                 |
| 500°F | 1.12                 |
| 600°F | 1.09                 |

| (°F)  | MATERIAL<br>A182 F55 |
|-------|----------------------|
| 100°F | 1.57                 |
| 200°F | 1.53                 |
| 300°F | 1.51                 |
| 400°F | 1.48                 |
| 500°F | 1.40                 |
| 600°F | 1.36                 |

**Note:** Guide only, please confirm with AFGlobal

| REFERENCE FOR HUB MATERIAL   |             |               | A 105                  |        |        |        |        |        |
|------------------------------|-------------|---------------|------------------------|--------|--------|--------|--------|--------|
| REFERENCE FOR CLAMP MATERIAL |             |               | AISI 4140              |        |        |        |        |        |
| NPS                          | COFFERLOK   | PIPE SCHEDULE | PRESSURE RATINGS (PSI) |        |        |        |        |        |
|                              |             |               | 100°F                  | 200°F  | 300°F  | 400°F  | 500°F  | 600°F  |
| 1"                           | 1-in.11     | 40/80         | 4,250                  | 4,032  | 3,916  | 3,814  | 3,626  | 3,379  |
|                              | 1-in. 7     | 160           | 8,615                  | 8,035  | 7,861  | 7,614  | 7,281  | 6,744  |
|                              | 1-in. 5     | XXS           | 14,228                 | 12,502 | 12,285 | 11,908 | 11,356 | 10,501 |
| 1-1/2"                       | 1.5-in. 14  | 40            | 7,629                  | 6,817  | 6,672  | 6,483  | 6,164  | 5,714  |
|                              | 1.5-in. 11  | XXS           | 12,807                 | 12,198 | 11,893 | 11,545 | 10,921 | 10,167 |
| 2"                           | 2-in. 20    | 40/80         | 6,150                  | 5,831  | 5,700  | 5,540  | 5,265  | 4,859  |
|                              | 2-in. 16    | 160           | 8,369                  | 7,876  | 7,731  | 7,498  | 7,107  | 6,643  |
|                              | 2-in. 14    | XXS           | 11,676                 | 10,602 | 10,370 | 10,066 | 9,558  | 8,847  |
| 3"                           | 3-in. 27    | 40/80         | 4,801                  | 4,293  | 4,177  | 4,047  | 3,873  | 3,582  |
|                              | 3-in. 25    | 160           | 8,195                  | 7,426  | 7,266  | 7,034  | 6,701  | 6,237  |
|                              | 3-in. 23    | XXS           | 11,705                 | 10,225 | 10,022 | 9,660  | 9,195  | 8,572  |
| 4"                           | 4-in. 40    | 40/80         | 3,147                  | 2,799  | 2,741  | 2,654  | 2,524  | 2,335  |
|                              | 4-in. 34    | 120/160       | 5,497                  | 5,134  | 5,033  | 4,844  | 4,598  | 4,293  |
|                              | 4-in. 31    | XXS           | 9,326                  | 8,122  | 7,890  | 7,687  | 7,310  | 6,759  |
|                              | 4-in. 27    |               | 10,486                 | 9,485  | 9,311  | 8,963  | 8,572  | 7,934  |
| 5"                           | 5-in. 52    | 40/80         | 3,191                  | 2,959  | 2,886  | 2,799  | 2,640  | 2,480  |
|                              | 5-in. 46    | 120/160       | 6,222                  | 5,627  | 5,526  | 5,337  | 5,047  | 4,714  |
|                              | 5-in. 40    | XXS           | 9,979                  | 9,253  | 9,050  | 8,746  | 8,311  | 7,731  |
| 6"                           | 6-in. 62    | 40            | 3,640                  | 3,452  | 3,379  | 3,278  | 3,089  | 2,886  |
|                              | 6-in. 52    | 160           | 7,948                  | 7,150  | 6,976  | 6,744  | 6,454  | 5,990  |
|                              | 6-in. 46    | XXS           | 10,544                 | 9,761  | 9,572  | 9,297  | 8,847  | 8,180  |
|                              | 6-in. 40    |               | 13,619                 | 11,908 | 11,661 | 11,226 | 10,675 | 9,935  |
| 8"                           | 8-in. 82    | 40            | 2,741                  | 2,466  | 2,393  | 2,335  | 2,205  | 2,045  |
|                              | 8-in. 76    | 80            | 4,221                  | 3,713  | 3,655  | 3,539  | 3,350  | 3,133  |
|                              | 8-in. 72    | 140           | 6,092                  | 5,366  | 5,192  | 5,062  | 4,772  | 4,467  |
| 10"                          | H10-in. 94  | 100           | 5,236                  | 4,699  | 4,206  | 3,945  | 3,640  | 3,466  |
|                              | H10-in. 87  | 140           | 6,280                  | 5,831  | 5,453  | 5,091  | 4,801  | 4,612  |
|                              | H10-in. 84  | 160           | 6,614                  | 6,063  | 5,889  | 5,743  | 5,468  | 5,062  |
| 12"                          | H12-in. 120 | 40            | 3,176                  | 2,901  | 2,741  | 2,466  | 2,234  | 2,089  |
|                              | H12-in. 112 | 100           | 4,119                  | 3,974  | 3,756  | 3,568  | 3,365  | 3,075  |
|                              | H12-in. 102 | 160           | 7,266                  | 6,556  | 6,150  | 5,918  | 5,642  | 5,236  |
| 14"                          | L14-in.130  | XS            | 2,712                  | 2,640  | 2,524  | 2,495  | 2,292  | 2,147  |
|                              | L14-in.120  | 120           | 4,801                  | 3,945  | 4,366  | 4,250  | 3,989  | 3,713  |
|                              | L14-in.112  | 160           | 5,366                  | 5,004  | 4,946  | 4,844  | 4,743  | 4,554  |
| 16"                          | L16-in.152  | 40            | 2,480                  | 2,219  | 2,118  | 2,016  | 1,914  | 1,856  |
|                              | L16-in.140  | 100           | 3,989                  | 3,684  | 3,611  | 3,510  | 3,379  | 3,133  |
|                              | L16-in.137  | 120           | 4,192                  | 3,756  | 3,655  | 3,553  | 3,437  | 3,176  |
| 18"                          | L16-in.130  | 160           | 4,627                  | 4,235  | 4,119  | 4,032  | 3,843  | 3,582  |
|                              | L18-in.170  | 40            | 2,466                  | 2,379  | 2,292  | 2,234  | 2,132  | 2,002  |
|                              | L18-in.160  | 80/100        | 3,191                  | 2,944  | 2,872  | 2,799  | 2,756  | 2,741  |
| 20"                          | L18-in.152  | 120/140       | 3,394                  | 3,191  | 3,162  | 3,104  | 3,060  | 3,002  |
|                              | L20-in.192  | 40            | 2,640                  | 2,538  | 2,451  | 2,408  | 2,248  | 2,132  |
|                              | L20-in.180  | 80/100        | 3,278                  | 2,886  | 2,872  | 2,799  | 2,640  | 2,466  |
| 24"                          | L20-in.170  | 120/140       | 3,582                  | 3,162  | 3,075  | 3,031  | 2,915  | 2,799  |
|                              | L24-in.220  | 60/80         | 2,698                  | 2,611  | 2,567  | 2,524  | 2,480  | 2,495  |
| 24"                          | L24-in.210  | 100/120       | 3,147                  | 2,901  | 2,872  | 2,843  | 2,828  | 2,785  |

# CofferLok Clamp Connector

## Ratings for Carbon Steel - Heavy Duty



| REFERENCE FOR HUB MATERIAL   |             |               | A 105                  |        |        |        |        |        |
|------------------------------|-------------|---------------|------------------------|--------|--------|--------|--------|--------|
| REFERENCE FOR CLAMP MATERIAL |             |               | AISI 4140              |        |        |        |        |        |
| NPS                          | COFFERLOK   | PIPE SCHEDULE | PRESSURE RATINGS (PSI) |        |        |        |        |        |
|                              |             |               | 100°F                  | 200°F  | 300°F  | 400°F  | 500°F  | 600°F  |
| 2"                           | H2-in. 20   | 40/80         | 11,661                 | 11,081 | 10,791 | 10,443 | 9,964  | 9,282  |
|                              | H2-in. 16   | 160           | 14,228                 | 12,009 | 11,705 | 11,371 | 10,776 | 10,095 |
|                              | H2-in. 14   | XXS           | 13,851                 | 13,155 | 12,923 | 12,430 | 11,864 | 11,052 |
| 3"                           | H3-in. 25   | 160           | 11,618                 | 10,312 | 10,051 | 9,761  | 9,282  | 8,630  |
|                              | H3-in. 23   | XXS           | 13,213                 | 11,603 | 11,284 | 10,994 | 10,457 | 9,703  |
|                              | H3-in. 20   |               | 13,503                 | 12,836 | 12,444 | 12,125 | 11,472 | 10,675 |
| 4"                           | H4-in. 34   | 160           | 9,689                  | 8,833  | 8,630  | 8,340  | 7,963  | 7,382  |
|                              | H4-in. 31   | XXS           | 12,227                 | 10,994 | 10,718 | 10,428 | 9,863  | 9,152  |
|                              | H4-in. 27   |               | 12,343                 | 11,632 | 11,342 | 10,965 | 10,428 | 9,689  |
| 6"                           | 6-in. 56    | 80/120        | 10,153                 | 9,007  | 8,383  | 7,745  | 7,353  | 6,933  |
|                              | 6-in. 46    | XXS           | 14,808                 | 13,126 | 12,299 | 11,835 | 10,689 | 10,269 |
|                              | 6-in. 40    |               | 19,986                 | 17,869 | 17,042 | 16,520 | 15,388 | 14,721 |
| 8"                           | 8-in. 72    | 120/140       | 4,844                  | 4,496  | 4,395  | 4,279  | 4,047  | 3,756  |
|                              | 8-in. 67    | XXS           | 6,730                  | 5,845  | 5,714  | 5,555  | 5,279  | 4,917  |
|                              | 8-in. 64    |               | 7,571                  | 7,092  | 6,991  | 6,715  | 6,396  | 5,932  |
|                              | 8-in. 62    |               | 9,819                  | 8,702  | 8,499  | 8,224  | 8,557  | 7,310  |
| 10"                          | H10-in. 97  | 80            | 2,683                  | 2,480  | 2,422  | 2,350  | 2,234  | 2,074  |
|                              | H10-in. 94  | 120/100       | 3,597                  | 3,278  | 3,205  | 3,118  | 2,944  | 2,756  |
|                              | H10-in. 87  | XXS           | 5,091                  | 4,859  | 4,757  | 4,627  | 4,366  | 4,090  |
|                              | H10-in. 84  | 160           | 6,556                  | 5,932  | 5,816  | 5,656  | 5,381  | 4,989  |
|                              | H10-in. 82  |               | 7,208                  | 6,614  | 6,469  | 6,280  | 5,976  | 5,540  |
| 12"                          | H12-in. 120 | 40            | 2,524                  | 2,335  | 2,292  | 2,234  | 2,118  | 1,973  |
|                              | H12-in. 112 | 100           | 4,264                  | 3,727  | 3,611  | 3,539  | 3,350  | 3,118  |
|                              | H12-in. 106 | XXS           | 5,236                  | 4,844  | 4,714  | 4,569  | 4,351  | 4,047  |
|                              | H12-in. 102 |               | 6,744                  | 6,048  | 5,889  | 5,700  | 5,410  | 5,033  |
| 14"                          | H14-in. 130 | XS            | 4,409                  | 3,916  | 3,829  | 3,742  | 3,553  | 3,307  |
|                              | H14-in. 120 | 120           | 6,686                  | 6,034  | 5,918  | 5,685  | 5,410  | 5,047  |
|                              | H14-in. 112 | 160           | 8,079                  | 7,542  | 7,353  | 7,078  | 6,759  | 6,309  |
|                              | H14-in. 106 |               | 9,094                  | 8,543  | 8,354  | 8,151  | 7,702  | 7,179  |
| 16"                          | H16-in. 152 | 40            | 4,395                  | 3,931  | 3,814  | 3,713  | 3,524  | 3,292  |
|                              | H16-in. 140 | 100           | 6,411                  | 6,034  | 5,932  | 5,743  | 5,453  | 5,033  |
|                              | H16-in. 137 | 120           | 6,962                  | 6,251  | 6,121  | 5,947  | 5,613  | 5,250  |
|                              | H16-in. 134 | 140           | 7,440                  | 6,918  | 6,686  | 6,498  | 6,179  | 5,743  |
|                              | H16-in. 130 | 130           | 8,543                  | 7,745  | 7,556  | 7,368  | 7,005  | 6,483  |
|                              | H16-in. 120 |               | 10,921                 | 9,761  | 9,514  | 9,239  | 8,731  | 8,093  |
| 18"                          | H20-in. 170 | 40            | 5,091                  | 4,424  | 4,264  | 4,061  | 3,829  | 3,640  |
|                              | H20-in. 160 | 80            | 5,540                  | 5,076  | 4,815  | 4,554  | 4,322  | 4,119  |
|                              | H20-in. 152 | 120           | 6,280                  | 5,511  | 5,236  | 4,975  | 4,612  | 4,395  |
| 20"                          | H22-in. 192 | 40            | 3,858                  | 3,394  | 3,263  | 3,176  | 2,973  | 2,727  |
|                              | H22-in. 180 | 80/100        | 4,975                  | 4,467  | 4,366  | 4,221  | 4,003  | 3,713  |
|                              | H22-in. 170 | 120/140       | 5,395                  | 4,815  | 4,598  | 4,351  | 4,119  | 3,858  |
|                              | H22-in. 160 | 160           | 6,019                  | 5,410  | 5,105  | 4,902  | 4,656  | 4,395  |
| 24"                          | H26-in. 220 | 60/80         | 5,903                  | 5,105  | 4,960  | 4,801  | 4,569  | 4,177  |
|                              | H26-in. 210 | 100/120       | 6,875                  | 6,324  | 6,208  | 6,005  | 5,613  | 5,163  |
|                              | H26-in. 200 | 140/160       | 8,079                  | 7,672  | 7,455  | 7,179  | 6,744  | 6,222  |
|                              | H26-in. 192 |               | 8,615                  | 7,832  | 7,556  | 7,368  | 7,136  | 6,440  |

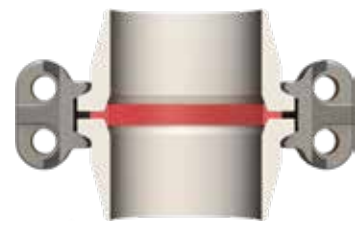
# CofferLok™ Clamp Connector Interchangeability

AFGlobal's **CofferLok** clamp connector is an equal alternative to \*Grayloc® or other clamp connector manufacturers' products.

This clamp connector has successfully undergone interchangeability testing with the equivalent \*Grayloc® hub, clamp and seal ring parts as witnessed by the American Bureau of Shipping (ABS). Proper sizing can be matched by using the cross-reference chart below.

The **CofferLok** clamp connector is designed to offer the strength and sealing technology of a welded joint and versatility of a mechanical joint. It serves the same purpose as a bolted flange assembly, with added advantages of being more easily installed (only 4 bolts) and up to 75 percent lighter and smaller by comparison to ANSI or API flanges. The connector consists of: 2 hubs, 1 seal ring, 1 clamp set with 4 bolts and 8 nuts.

All materials available.



## Clamp Connector Cross-reference Tables

| STANDARD CLAMP SERIES |   |                  |                  |
|-----------------------|---|------------------|------------------|
| CLAMP SIZE            |   | GR STANDARD SIZE | GR OPTIONAL SIZE |
| 1-in.                 | = | 1 GR             |                  |
| 1-1/2-in.             | = | 1.5 GR           |                  |
| 2-in.                 | = | 2 GR             |                  |
| 3-in.                 | = | 3 GR             |                  |
| 4-in.                 | = | 4 GR             |                  |
| 5-in.                 | = | 5 GR             | E                |
| 6-in.                 | = | 6 GR             | F, XF            |
| 8-in.                 | = | 8 GR             | X8GR             |

Note: Light Duty Series Available

| CROSS-REFERENCE EXAMPLE    |
|----------------------------|
| 6-in. 52 = 6 GR 52         |
| 6-in. = hub and clamp size |
| 52 = seal ring size        |

| HEAVY DUTY CLAMP SERIES |   |                    |                     |
|-------------------------|---|--------------------|---------------------|
| HEAVY DUTY CLAMP SIZE   |   | GR HEAVY DUTY SIZE | GR OPTIONAL HD SIZE |
| H2-in.                  | = | B                  |                     |
| H3-in.                  | = | C                  |                     |
| H4-in.                  | = | D                  |                     |
| H8-in.                  | = | G                  | XG                  |
| H10-in.                 | = | 10H                | X10H                |
| H12-in.                 | = | 12M                | X12M                |
| H14-in.                 | = | P                  | 5P, R               |
| H16-in.                 | = | S                  |                     |
| H18-in.                 | = | T                  |                     |
| H20-in.                 | = | U                  |                     |
| H22-in.                 | = | V                  | 3V, 5V              |
| H24-in.                 | = | W                  | 3W                  |
| H26-in.                 | = | Y                  | 3Y                  |

*\*Grayloc® is a registered trademark owned by Oceaneering International.*

# Cofferklok Clamp Connector Installation Procedures

## 1. Verify Component Compatibility

The correct size, part number and material type of all parts **MUST** be verified before assembly.

## 2. Clean and Examine Components

Using a solvent and/or nonabrasive soft cloth, clean all components to remove grease and dirt. Special care should be taken on the sealing surfaces, as shown in **Figure 1** (label "A").

Sealing surfaces shall be free from leak path scratches, damage marks, rust and other surface irregularities. Polish off any small scratches on the sealing surfaces with a fine emery cloth in the circumferential direction only (see **Figure 2**). Polish at least one third of the circumference to ensure a uniform blending of the re-worked area. Do not polish in the axial direction.

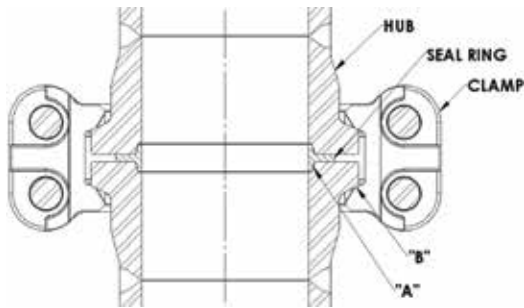


Figure 1: Critical Surfaces

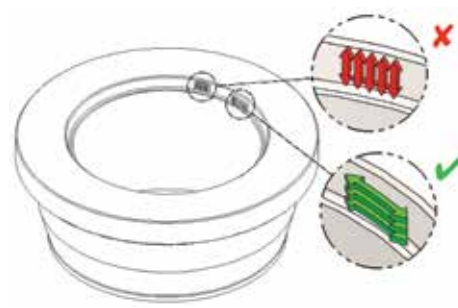


Figure 2: Polish in Circumferential Direction, not Axial

## 3. Measure Seal Ring Stand-Off Gap

Lubricate the Seal Ring & Hub sealing surfaces (label "A" in **Figure 1**). Place the seal ring into the hub, rock it by pressing on the rib per **Figure 3**, and compare the stand-off gap to the gap dimensions given in **Table 1**.

Table 1: Seal Ring Standoff

| SEAL RING | MINIMUM STANDOFF |      |
|-----------|------------------|------|
|           | (IN)             | (MM) |
| 4         | 0.007            | 0.18 |
| 5         | 0.007            | 0.18 |
| 7         | 0.009            | 0.22 |
| 11        | 0.011            | 0.27 |
| 13        | 0.011            | 0.27 |
| 14        | 0.010            | 0.25 |
| 16        | 0.010            | 0.26 |
| 20        | 0.010            | 0.26 |
| 23        | 0.011            | 0.28 |
| 25        | 0.013            | 0.32 |
| 27        | 0.014            | 0.35 |
| 31        | 0.014            | 0.36 |
| 34        | 0.017            | 0.42 |
| 40        | 0.018            | 0.45 |
| 42        | 0.019            | 0.48 |
| 46        | 0.023            | 0.59 |
| 52        | 0.023            | 0.58 |
| 54        | 0.024            | 0.61 |

| SEAL RING | MINIMUM STANDOFF |      |
|-----------|------------------|------|
|           | (IN)             | (MM) |
| 56        | 0.025            | 0.63 |
| 62        | 0.035            | 0.89 |
| 64        | 0.037            | 0.95 |
| 67        | 0.039            | 1.00 |
| 72        | 0.042            | 1.07 |
| 76        | 0.045            | 1.14 |
| 82        | 0.048            | 1.21 |
| 84        | 0.049            | 1.24 |
| 87        | 0.052            | 1.32 |
| 91        | 0.053            | 1.35 |
| 92        | 0.054            | 1.37 |
| 94        | 0.055            | 1.41 |
| 97        | 0.058            | 1.46 |
| 102       | 0.060            | 1.51 |
| 106       | 0.062            | 1.59 |
| 112       | 0.065            | 1.66 |
| 116       | 0.068            | 1.73 |
| 120       | 0.069            | 1.76 |

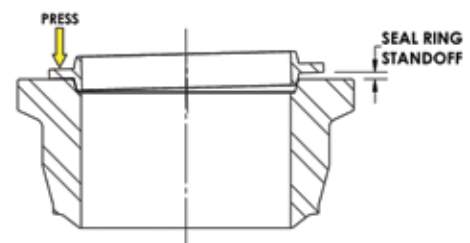


Figure 3: Seal Ring Standoff





# Cofferklok Clamp Connector Installation Procedures

## 4. Assembly

### 4.1 Install Seal Ring

Hubs should be concentric (see **Figure 4**) so that the Seal Ring can be installed properly in between the Hubs. Correct any hub misalignment prior to installing Seal Ring and tightening the Clamps.

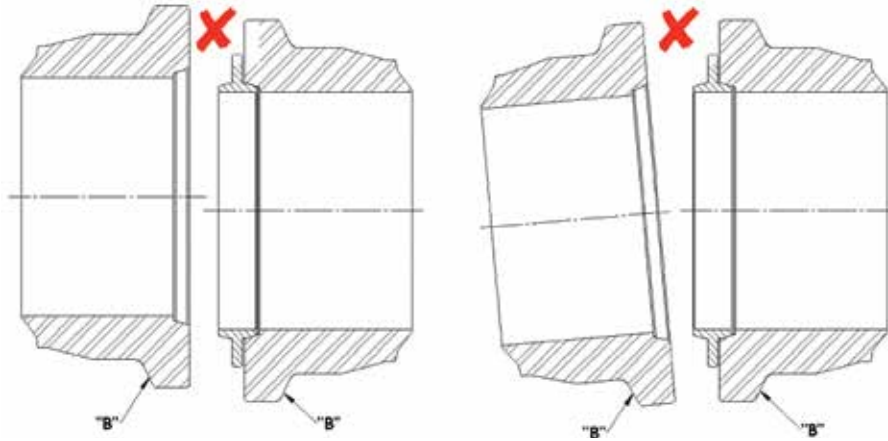


Figure 4: Hubs & Seal Ring have to be Concentric

### 4.2 Lubricate

- 4.2.1 Apply lubricant to the Hub/Clamp contact areas (label “B” in **Figure 4**), the nut faces, and the bolt threads.
- 4.2.2 Place the clamps around the Hubs and insert stud/nuts. The spherically faced nuts shall sit into the spherical seats of the clamps.

### 4.3 Tighten Bolts

Bolting should be tightened while keeping the spacing between Clamp halves approximately equal. Clamp segments may be shocked with suitable soft faced hammer to aid assembly.

Using the torque values from **Table 2**, follow the cross pattern bolt-tightening sequence for the following rounds:

- **Round 1:** Tighten to 20%-30% of target torque. Check gap between the Clamps for uniformity and make appropriate adjustments through selective tightening.
- **Round 2:** Tighten to 50%-70% of target torque. Check gap between the Clamps for uniformity and make appropriate adjustments through selective tightening.
- **Round 3:** Tighten to 100% of target torque. Check gap between the Clamps for uniformity and make appropriate adjustments through selective tightening.
- **Round 4:** Continue tightening the nuts until no further nut rotation occurs at 100% of the target torque value.

# Cofferklok Clamp Connector Installation Procedures

**Table 2: Bolt Torque Data**

| CLAMP SIZE<br>(IN) | BOLT SIZE<br>(IN) | TPI       | BOLT PRE-LOAD |       | BOLT TORQUE |       | NOTES |
|--------------------|-------------------|-----------|---------------|-------|-------------|-------|-------|
|                    |                   |           | (LBF)         | (KN)  | (FT-LBS)    | (NM)  |       |
| 1                  | .500              | 13 UNC-2A | 2,844         | 12.7  | 17          | 23    | a & c |
| 1½                 | .625              | 11 UNC-2A | 4,766         | 21.2  | 35          | 48    | b & c |
| 2                  | .750              | 10 UNC-2A | 6,516         | 29.0  | 55          | 75    | b & c |
| 3                  | .750              | 10 UNC-2A | 7,476         | 33.3  | 65          | 88    | b & c |
| 4                  | .875              | 9 UNC-2A  | 9,946         | 44.2  | 100         | 136   | b & c |
| 5                  | 1.000             | 8 UNC-2A  | 13,986        | 62.2  | 160         | 217   | b & c |
| 6                  | 1.125             | 8 UN-2A   | 16,032        | 71.3  | 210         | 285   | b & c |
| 8                  | 1.250             | 8 UN-2A   | 20,887        | 92.9  | 300         | 407   | b & c |
| 10                 | 1.625             | 8 UN-2A   | 39,722        | 177.0 | 700         | 949   | b & c |
| 12                 | 1.750             | 8 UN-2A   | 47,340        | 211.0 | 900         | 1,220 | b & c |

**Notes:**

a. For 900 lb systems and above, increase bolt torque/preload by 1.5.

b. For 900 lb-1500 lb systems, increase bolt torque/preload by 1.5; for 2500 lb (incl. 5K) systems and above increase bolt torque/preload by 2.0.

c. Increased bolt torques/preload values in points a & b above are meant for Low Alloy steel clamps with B7/B7M bolting (or equivalent). Do not use for Stainless Steel clamps.

## 4.4 Final Check

After bolt tightening, check for an equal gap between the two Hubs and between the Clamp halves.

## 5. Disassembly

This section describes the process to follow to make a proper disconnection. **Always check, never take it for granted that the line has been de-pressurized.**

### 5.1 Slacken Nuts

Gradually run the nuts back along the bolts until just loose, but do not remove the nuts from the bolts (see **Figure 6**).

If Clamp segments remain bound onto Hubs, then both segments must be slackened by hitting the inner face (see **Figure 6**) of the Clamp lugs with a suitable soft-faced hammer.

### 5.2 Continue Slacking Process

Continue loosening the nuts and re-slacken both Clamp segments until the maximum nut travel is reached. This should relieve Seal Ring contact pressure, causing any residual pressure to be released.

Disassembly can be completed only when Clamps are slack and free to rock/rotate.

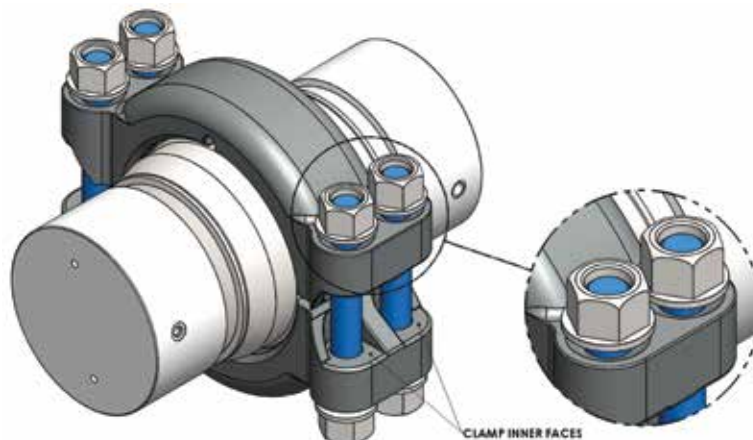
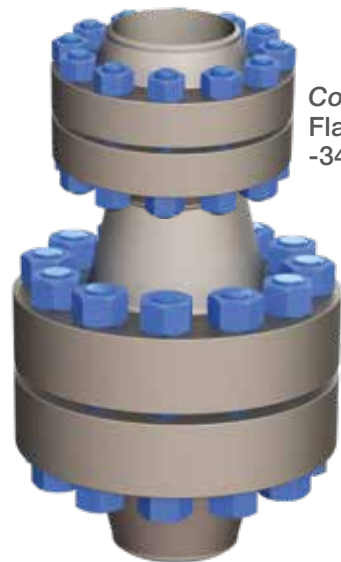
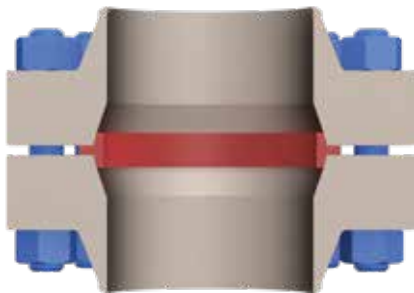
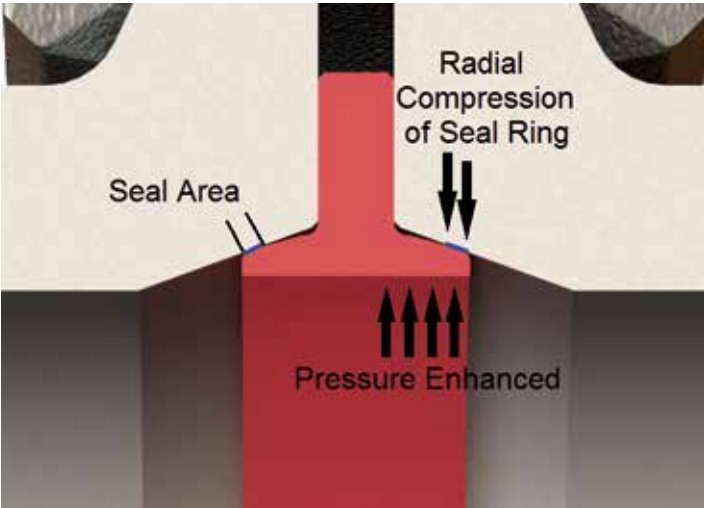


Figure 6: Nuts loosened to ends of studs



# CofferLok™ Compact Flanges (Standard)

- The *CofferLok* Compact Flange (standard) is lighter, smaller and easier to install than an ANSI raised face or ring joint flanges
- The *CofferLok* Compact Flange (standard) is available in all sizes/pressure classes and designed to offer improved sealing integrity while saving weight, space and cost
- Design codes under ANSI/ASME, API and can meet customer's specific requirements
- Achieves extremely high levels of performance by incorporating the three most important concepts in piping connector design
  1. Seal at the smallest possible diameter (to reduce separation loads)
  2. Use the *CofferLok* pressure-enhanced metal seal (to reduce make-up load requirements)
  3. Isolates the seal from piping loads (to maintain performance under changing conditions)

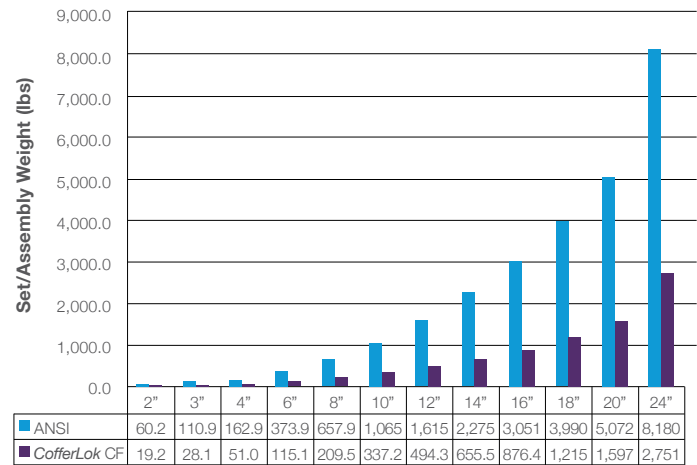


CofferLok Compact Flange (Standard)  
-340 lbs.

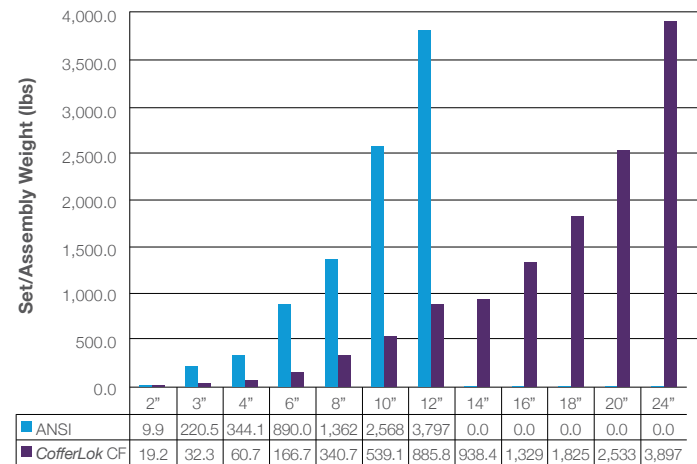
ANSI B16.5  
-1,362 lbs.

8-in. – 2500# ANSI Class Comparison

1500# Class Comparison



2500# Class Comparison



# ANSI Flanges

| ANSI FLANGES                                                                      |                                                                                                                  | ANSI SPECIALTY FLANGES                                                             |                                                                                                                  |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
|  |                                                                                                                  |  |                                                                                                                  |
| DIAMETER                                                                          | ½-in. to 200-in.                                                                                                 | DIAMETER                                                                           | ½-in. to 200-in.                                                                                                 |
| PRESSURE CLASS                                                                    | CL 150 psi to CL 2500 psi                                                                                        | PRESSURE CLASS                                                                     | CL 150 psi to CL 2500 psi                                                                                        |
| FACES                                                                             | Multiple facing configurations with other combinations of diameter and pressure class available up to 200-in. OD | FACES                                                                              | Multiple facing configurations with other combinations of diameter and pressure class available up to 200-in. OD |
| MATERIALS GRADES                                                                  | Stainless, Nickel Alloys, Carbon and Alloy, Precipitation Hardening                                              | MATERIALS GRADES                                                                   | Stainless, Nickel Alloys, Carbon and Alloy, Precipitation Hardening                                              |
| AFGLOBAL BRANDS: AMERIFORGE • COFFER • FVC                                        |                                                                                                                  |                                                                                    |                                                                                                                  |

## Global Locations



**Sealing Products  
& Technologies**

from AFGlobal



945 Bunker Hill, Suite 500 | Houston, Texas 77024 USA | 713-393-4200

1 B Tebay Road, | Bromborough, Wirral CH62 3AB United Kingdom | +44(0) 1744884881

[afglobalcorp.com](http://afglobalcorp.com)