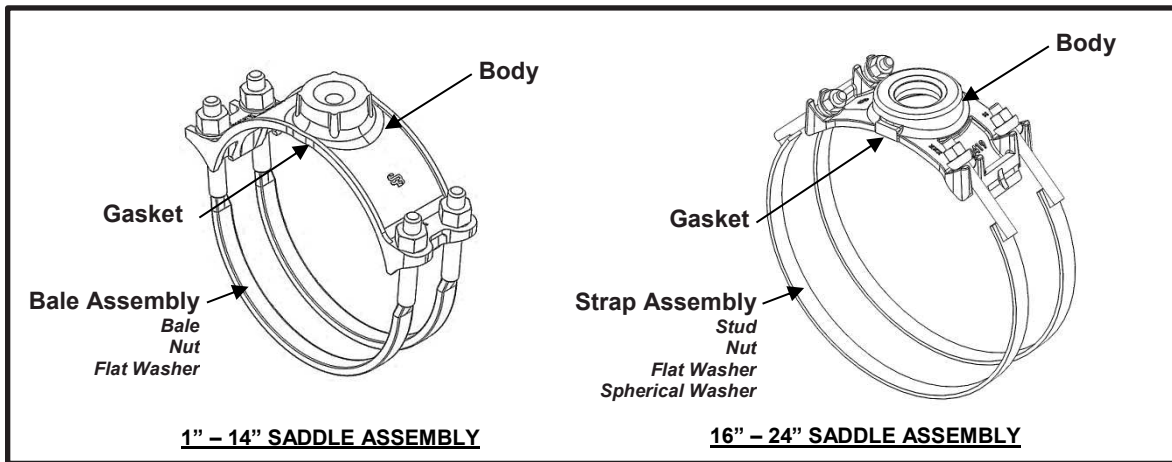


# SPECIFICATION

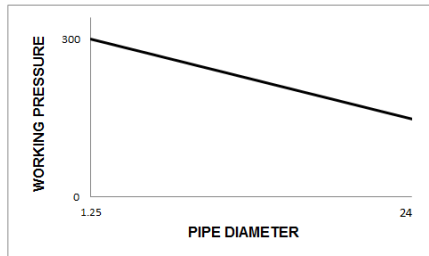
## SERVICE SADDLE DOUBLE BALE MODEL 313



### APPLICATIONS

- **Typical Uses**
  - Tapping branch connections on new or existing pipe
  - Installing air/vacuum valves, pitot tubes, drain valves, or other miscellaneous service equipment
  - Installing pipe supports, hangers, or sign mounting brackets
- **Standard Pipe Sizes**
  - 1.25" to 24" nominal
- **Standard Taps**
  - NPT: 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 3" and 4"
  - CC/AWWA: 1/2", 5/8", 3/4", 1", 1-1/4", 1-1/2" and 2"
  - BSP: 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", and 3"

*See Smith-Blair catalog for available pipe diameter and tap size combinations as some combinations are not available*
- **Type of Pipe**
  - Carbon Steel, Stainless Steel, Ductile Iron, Asbestos Cement, Aluminum
- **Working Pressure**
  - Up to 300 psi depending on type of pipe, type of repair, pipe diameter, service conditions, and installation workmanship





# SPECIFICATION

## SERVICE SADDLE DOUBLE BALE

### MODEL 313

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#### MATERIALS

- **Body** (*Small (ST) and Large (LT) Tap sizes 1/2" – 2-1/2"*)
  - Cast using Ductile Iron 65-45-12 per ASTM A536
  - Flexi-Coat® fusion bonded epoxy finish which meets application methods AWWA C213
  - Closed ears holds nut and bale in place allowing the assembly to hinge for ease of installation around pipe
  - Open ears provide easy slip on installation and removal of nuts are not required preventing lost hardware
  - Canted ears for maximum tangential tightening of bale or strap
  - Wraparound design provides maximum pipe support, reinforcement, and sealing pressure
  - Wide skirt and heavy tapping boss provides excellent stability on the pipe
- **Body** (*Extra-Large (XLT) Tap sizes 3" and 4"*)
  - Cast using Ductile Iron 65-45-12 per ASTM A536
  - Flexi-Coat® fusion bonded epoxy finish which meets application methods AWWA C213
  - Open ears provide easy slip on installation and removal of nuts are not required preventing lost hardware
  - Canted ears for maximum tangential tightening of bale or strap
  - Wraparound design provides maximum pipe support, reinforcement, and sealing pressure
  - Wide skirt and heavy tapping boss provides excellent stability on the pipe
- **Gasket**
  - Nitrile (Buna-N) per ASTM D2000
  - Certified to NSF/ANSI 61-G& 372
  - Compounded to resist water, oil, natural gas, acids, alkalies, most (aliphatic) hydrocarbon fluids, and many other chemicals
  - Temperature range: -20°F to +180°F
  - TaperSeal™ hydro-mechanical lip enables the saddle to hold higher pressures with minimal nut torque
  - Gasket is fully cemented in a cavity to hold it in place
- **Bale Assembly** (*used only on 1.25" - ~14" nominal pipe size saddles with 1/2" thru 4" tap sizes*)
  - **Bale**
    - HSLA Carbon Steel per AWWA C111/A21.11
    - Fe/Zn Coated per ASTM F1941-10
    - Size:
      - 1.25" – 3" nominal pipe size = 1/2"-13UNC
      - 4" – 14" nominal pipe size = 5/8"-11UNC
      - Extra-Large (XLT) Taps < 14.73" O.D. = 5/8"-11UNC
    - Pipe contact surface flattened to provide a wider bearing surface against pipe
    - Rolled threads for improved physical characteristics, greater thread accuracy, and smooth surface finish
  - **Nut**
    - Carbon Steel per ASTM A307
    - Fe/Zn Coated per ASTM F1941-10
    - Size:
      - 1.25" – 3" nominal pipe size = 1/2"-13UNC Heavy Hex Semi-Finished
      - 4" – 14" nominal pipe size = 5/8"-11UNC Heavy Hex Semi-Finished
      - Extra-Large (XLT) Taps < 14.73" O.D. = 5/8"-11UNC Heavy Hex Semi-Finished
  - **Flat Washer**
    - Carbon Steel per ASTM F844
    - Fe/Zn Coated per ASTM F1941-10
    - Size:
      - 1.25" – 3" nominal pipe size = 1/2" Type A Plain
      - 4" – 14" nominal pipe size = 5/8" Type A Plain
      - Extra-Large (XLT) Taps < 14.73" O.D. = 5/8" Type A Plain
    - Fe/Zn Coated per ASTM F1941-10



# SPECIFICATION

## SERVICE SADDLE DOUBLE BALE

### MODEL 313

- **Strap Assembly** *(used only on 16" - 24" nominal pipe size saddles with 1/2" thru 2-1/2" tap sizes)*
  - **Strap**
    - Carbon Steel per ASTM A36
    - Flexi-Coat® fusion bonded epoxy finish which meets application methods AWWA C213
    - Formed using 0.25" x 1.25" flat bar
    - Provides continuous circumferential support of the pipe for better performance in the tapped area (nearly 360°)
  - **Stud**
    - HSLA Carbon Steel per AWWA C111/A21.11
    - Flexi-Coat® fusion bonded epoxy finish which meets application methods AWWA C213 (threads free from epoxy coating)
    - 5/8"-11UNC, Stud welded to Strap
    - Rolled threads for improved physical characteristics, greater thread accuracy, and smooth surface finish
  - **Welding**
    - Welds accomplished using qualified welders
    - GMAW weld process utilized
  - **Nut**
    - Carbon Steel per ASTM A307
    - 5/8"-11UNC Heavy Hex Semi-Finished
    - Fe/Zn Coated per ASTM F1941-10
  - **Flat Washer**
    - Carbon Steel per ASTM F844
    - 5/8" Type A Plain
    - Fe/Zn Coated per ASTM F1941-10
  - **Spherical Washer** *(used only on 16" - 24" nominal pipe size saddles)*
    - Cast using Ductile Iron 65-45-12 per ASTM A536
    - Flexi-Coat® fusion bonded epoxy finish which meets application methods AWWA C213
    - Provide full bearing for the strap nuts and align the straps with the saddle body
    - Distributes load for better performance



# SPECIFICATION

## SERVICE SADDLE DOUBLE BALE

### MODEL 313

- **Strap Assembly** (used only on 14" - 18" nominal pipe size saddles with 3" and 4" tap sizes)
  - **Strap**
    - Carbon Steel per ASTM A36
    - Flexi-Coat® fusion bonded epoxy finish which meets application methods AWWA C213
    - Formed using 0.25" x 1.75" flat bar
    - Provides continuous circumferential support of the pipe for better performance in the tapped area (nearly 360°)
  - **Stud**
    - HSLA Carbon Steel per AWWA C111/A21.11
    - Flexi-Coat® fusion bonded epoxy finish which meets application methods AWWA C213 (threads free from epoxy coating)
    - 3/4"-10UNC, Stud welded to Strap
    - Rolled threads for improved physical characteristics, greater thread accuracy, and smooth surface finish
  - **Welding**
    - Welds accomplished using qualified welders
    - GMAW weld process utilized
  - **Nut**
    - Carbon Steel per ASTM A307
    - 3/4"-10UNC Heavy Hex Semi-Finished
    - Fe/Zn Coated per ASTM F1941-10
  - **Flat Washer**
    - Carbon Steel per ASTM F844
    - 3/4" Type A Plain
    - Fe/Zn Coated per ASTM F1941-10
  - **Spherical Washer**
    - Cast using Ductile Iron 65-45-12 per ASTM A536
    - Flexi-Coat® fusion bonded epoxy finish which meets application methods AWWA C213
    - Provide full bearing for the strap nuts and align the straps with the saddle body
    - Distributes load for better performance

#### LISTINGS

- Certified to NSF/ANSI 61-G & 372
- Meets applicable AWWA C800 standards

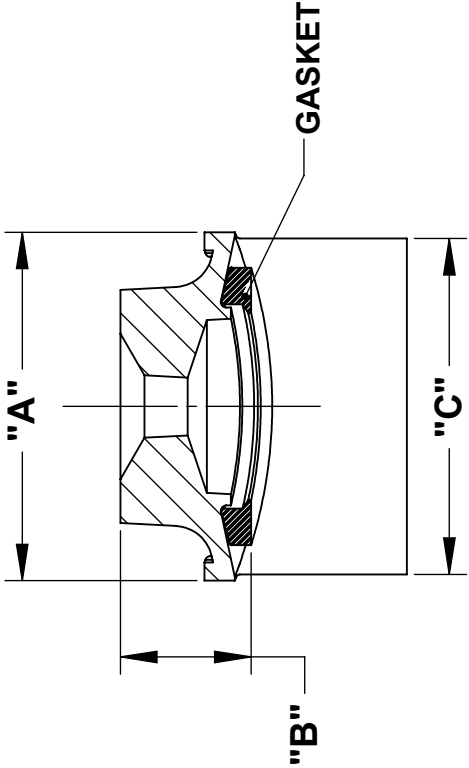
#### OPTIONS

- Type 304 Stainless Steel bale assembly with fluoropolymer coated nuts to prevent galling
- Type 316 Stainless Steel strap assembly with fluoropolymer coated nuts to prevent galling (*spherical washers remain D.I*)
- Electro-galvanized strap assembly
- Alternative gasket material (e.g. Viton, EPDM, etc.)
- Anode connector

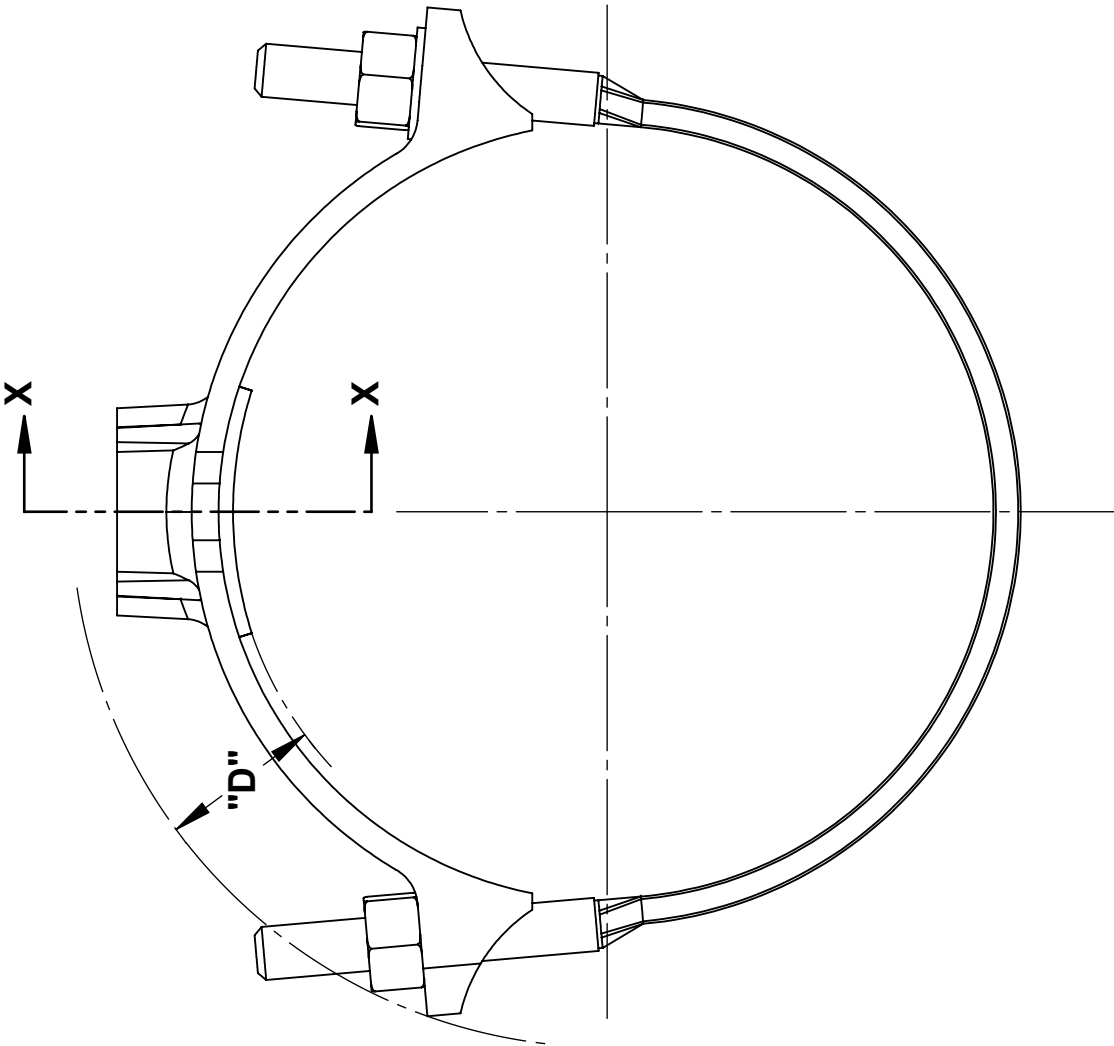
#### NOTES

- These product specifications were correct at the time of publication and are subject to change without notice
- Flexi-Coat® is a registered trademark of Smith-Blair, Inc.
- Taperseal™ is a trademark of Smith-Blair, Inc.
- See the Smith-Blair® web site for part numbers and ordering information
- See the Smith-Blair® web site for warranty information
- See the Smith-Blair® web site for corrosion warnings

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SECTION X-X

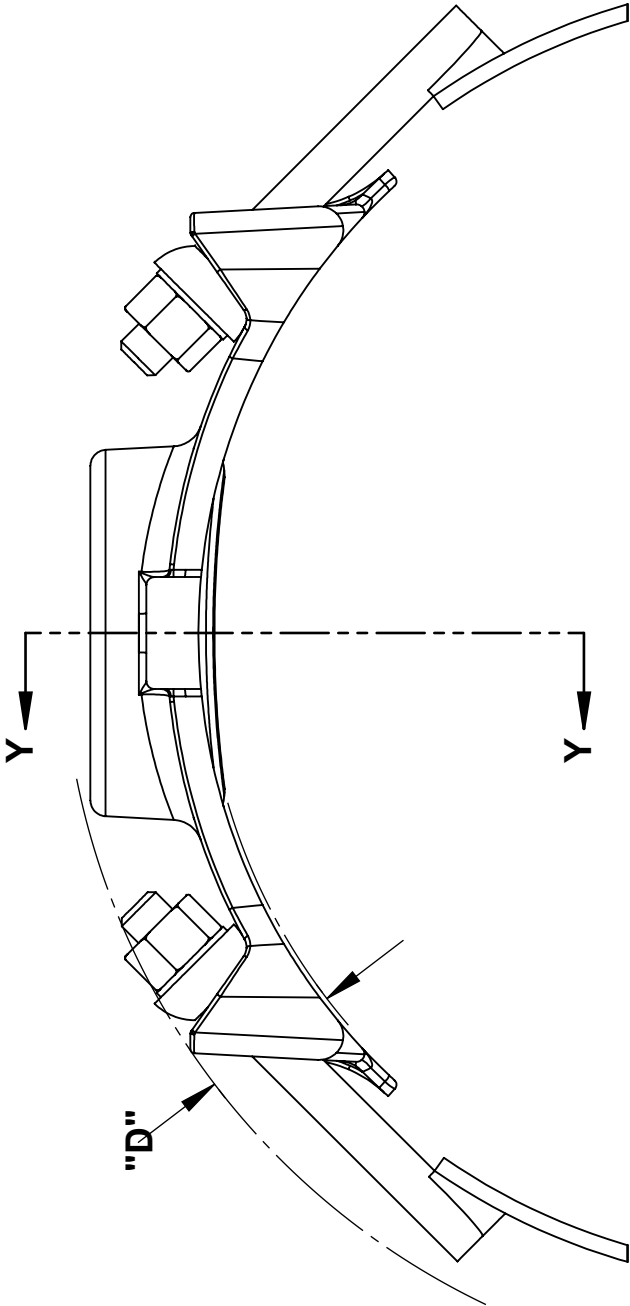
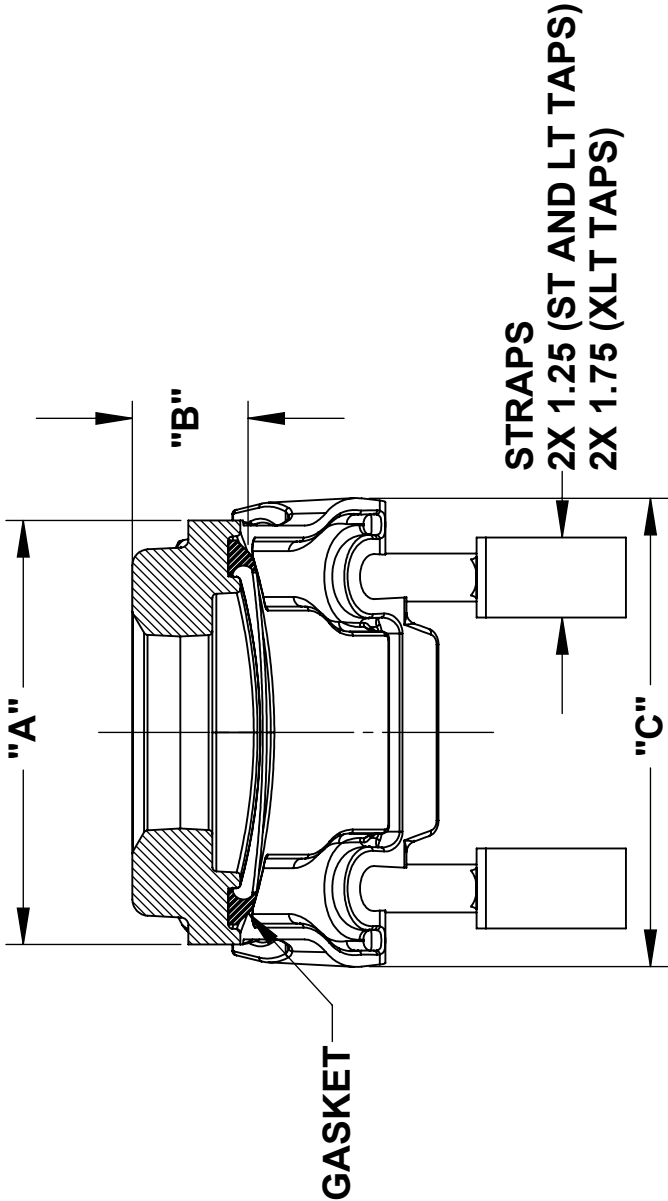


| NOMINAL SIZE | APPROX. WT. (LB) | TAP CODE | A    | B    | C    | D    | SOCKET SIZE |
|--------------|------------------|----------|------|------|------|------|-------------|
| 1.25 - 2.50  | 3                | ST       | 3.40 | 1.35 | 2.88 | 1.53 | 7/8"        |
|              | -                | LT       | -    | -    | -    | -    |             |
| 3            | 4                | ST       | 3.40 | 1.40 | 3.00 | 1.70 | 1-1/16"     |
|              | 5                | LT       | 4.40 | 1.40 | 3.60 | 1.65 |             |
| 4            | 6                | ST       | 3.70 | 1.40 | 3.50 | 1.60 | 1-1/4"      |
|              | 6                | LT       | 5.50 | 1.75 | 3.65 | 1.75 |             |
| 5            | 6                | ST       | 3.70 | 1.40 | 3.60 | 1.75 | 1-1/2"      |
|              | 9                | LT       | 5.50 | 1.75 | 3.65 | 1.70 |             |
| 6            | 7                | ST       | 3.75 | 1.40 | 3.60 | 1.75 | 1-3/4"      |
|              | 7                | LT       | 5.50 | 1.75 | 3.65 | 1.78 |             |
| 8            | 13               | XLT      | 6.05 | 1.93 | 4.20 | 1.83 | 2"          |
|              | 8                | ST       | 3.75 | 1.40 | 3.60 | 1.87 |             |
| 10           | 11               | LT       | 5.50 | 1.75 | 3.65 | 1.90 | 2-1/4"      |
|              | 15               | XLT      | 6.05 | 1.85 | 4.10 | 1.90 |             |
| 12           | 10               | ST       | 3.75 | 1.40 | 3.60 | 1.90 | 2-3/4"      |
|              | 11               | LT       | 5.50 | 1.75 | 3.60 | 1.90 |             |
| 14           | 14               | XLT      | 7.20 | 2.00 | 4.20 | 1.85 | 3"          |
|              | 14               | ST       | 3.75 | 1.45 | 3.60 | 2.00 |             |
| 15-16        | 15               | LT       | 5.50 | 1.75 | 3.60 | 1.95 | 3-1/4"      |
|              | 18               | XLT      | 7.20 | 2.00 | 4.20 | 1.85 |             |
| 17           | 18               | ST       | 4.45 | 1.40 | 2.85 | 1.90 | 3-1/2"      |
|              | 18               | LT       | 4.45 | 1.40 | 3.60 | 1.90 |             |
| 19           | 28               | XLT      | 7.20 | 2.00 | 4.20 | 1.85 | 3-3/4"      |
|              | 19               | ST       | 4.45 | 1.80 | 5.00 | 2.15 |             |
| 21           | 19               | LT       | 4.45 | 1.80 | 5.00 | 2.15 | 4"          |
|              | 29               | XLT      | 6.90 | 1.95 | 7.35 | 2.30 |             |

- NOTES:**
- SEE SMITH-BLAIR CATALOG FOR AVAILABLE PIPE DIAMETER AND TAP SIZE COMBINATIONS AS SOME COMBINATIONS ARE NOT AVAILABLE
  - 9.05" SADDLE SHOWN OTHER SIZES SIMILAR
  - ABREVIATIONS:  
ST = SMALL TAP SIZES 1/2" THRU 1-1/2"  
LT = LARGE TAP SIZES 1-1/2" THRU 2-1/2"  
XLT = EXTRA-LARGE TAP SIZES 3" AND 4"

CERTIFIED TO NSF/ANSI 61-G & 372

|                                                                                           |                                                                |        |         |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------|---------|
| TOLERANCES U.N.O.<br>XX= ±.03<br>XXX= ±.015<br>FRACTIONS=1/16<br>ANGLES=±1°<br>MACH. FIN= | NOTES:<br>REMOVE BURRS<br>AND SHARP EDGES<br>DO NOT SCALE DWG. | APP'D  | DATE    |
|                                                                                           |                                                                | CK'D   | DATE    |
|                                                                                           | SCALE: N/A                                                     | DRN    | CHD     |
| ALL DIMENSIONS ARE IN INCHES.                                                             |                                                                |        | DATE    |
| TITLE                                                                                     |                                                                |        | 6/15/15 |
| SPECIFICATION                                                                             |                                                                |        |         |
| SERVICE SADDLE DOUBLE BALE                                                                |                                                                |        |         |
| MODEL 313                                                                                 |                                                                |        |         |
| SMITH-BLAIR, Inc.                                                                         |                                                                | P/N    |         |
| TEXARKANA, ARKANSAS                                                                       |                                                                | N/A    |         |
| SPEC_313.DRW                                                                              |                                                                | 1 OF 2 | 3/8/16  |
| DWG. NO.                                                                                  |                                                                | SHEET  | REV.    |



SECTION Y-Y

CERTIFIED TO NSF/ANSI 61-G & 372

NOTES:

1. SEE SMITH-BLAIR CATALOG FOR AVAILABLE PIPE DIAMETER AND TAP SIZE COMBINATIONS AS SOME COMBINATIONS ARE NOT AVAILABLE

2. 19.50" XLT SADDLE SHOWN OTHER SIZES SIMILAR

3. ABREVIATIONS:  
ST = SMALL TAP SIZES 1/2" THRU 1-1/2"  
LT = LARGE TAP SIZES 1-1/2" THRU 2-1/2"  
XLT = EXTRA-LARGE TAP SIZES 3" AND 4"

| NOMINAL SIZE | APPROX. WT. (LB) | TAP CODE | A    | B    | C    | D    | SOCKET SIZE |
|--------------|------------------|----------|------|------|------|------|-------------|
| 18           | 20               | ST       | 4.45 | 1.85 | 4.95 | 2.15 | 1-1/16"     |
|              | 20               | LT       | 6.90 | 1.85 | 7.25 | 2.15 |             |
|              | 30               | XLT      | 3.90 | 1.85 | 7.25 | 2.15 |             |
| 20           | 20               | ST       | 4.45 | 1.85 | 5.00 | 2.30 | 1-1/16"     |
|              | 20               | LT       | 4.46 | 1.90 | 5.00 | 2.10 |             |
|              | -                | XLT      | -    | -    | -    | -    |             |
| 24           | 20               | ST       | 4.45 | 1.85 | 5.00 | 2.30 | 1-1/16"     |
|              | 20               | LT       | 4.45 | 1.85 | 5.00 | 2.30 |             |
|              | -                | XLT      | -    | -    | -    | -    |             |

TOLERANCES U.N.O.  
XX= ±.03  
XXX= ±.015  
FRACTIONS=  
ANGLES=1°  
MACH. FIN=

NOTES:  
REMOVE BURRS  
AND SHARP EDGES  
DO NOT SCALE DWG.

APP'D

DATE

| SCALE: N/A | DRN | CHD | DATE |
| ALL DIMENSIONS ARE IN INCHES. | 6/15/15 |  |

TITLE

SPECIFICATION

SERVICE SADDLE DOUBLE BALE

MODEL 313

|                     |              |        |
|---------------------|--------------|--------|
| SMITH-BLAIR, Inc.   | P/N          | N/A    |
| TEXARKANA, ARKANSAS | SPEC_313.DRW | 2 OF 2 |
|                     | DWG. NO.     | SHEET  |
|                     |              | REV.   |
|                     |              | 3/8/16 |