

HYGIENIC STAINLESS STEEL CLAMP FITTINGS



Axiom Process is a specialist stainless steel fabricator and our range of hygienic stainless steel clamp fittings can be fabricated to customer requirements.

Our clamp unions, ferrules, tees, bends, hoseliners and adaptors are used extensively throughout the pharmaceutical, biotech, cosmetic, food and beverage industries.

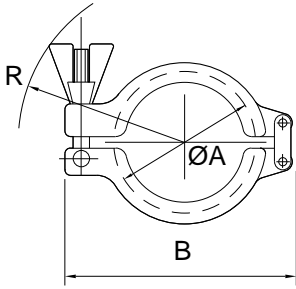


- **Associated Standards:-** BS4825-3, ASME BPE 2009, ISO 1127 (2852), DIN 32676, SMS 3008.
- Material certification to BS EN 10204/ DIN 50049 3.1 for all wetted parts.
- Exotic materials available, *Hastelloy® C-22, C-276, Duplex.
- Special options include clamp ended ball and butterfly valves, sample valves, sightglasses, mesh gaskets and tank ferrules.

Our clamp union is crevice free and is designed for quick and easy assembly without the use of tools.

Clamp heavy duty - 316 imperial tube.
(13MHHM - DP)

5021

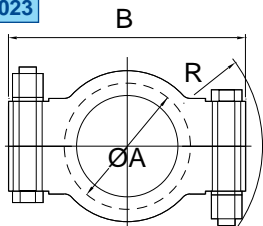


- Double wing nut design available from 6" upwards (is standard from 10" upwards)
- Torque up to 5 Nm
- Light duty options available

| Nom Size | A | B | R |
|-------------|-------|-------|-------|
| 1/2" - 3/4" | 25.4 | 75.0 | 63.0 |
| 1" - 1 1/2" | 50.5 | 102.0 | 77.0 |
| 2" | 64.0 | 123.0 | 93.0 |
| 2 1/2" | 77.5 | 140.0 | 100.0 |
| 3" | 91.0 | 150.0 | 106.0 |
| 3 1/2" | 106.0 | 165.0 | 113.0 |
| 4" | 119.0 | 185.0 | 119.0 |
| 4 1/2" | 130.0 | 191.0 | 128.0 |
| 5" | 144.0 | 215.0 | 132.0 |
| 5 1/2" | 155.0 | 252.0 | 148.0 |
| 6" | 167.0 | 262.0 | 152.0 |
| 6 5/8" | 183.0 | 280.0 | 157.0 |
| 8" | 217.0 | 325.0 | 182.0 |
| 8 5/8" | 233.0 | 333.0 | 188.0 |
| 10" | 268.0 | 382.0 | 207.0 |
| 10 5/8" | 286.1 | 405.0 | 216.0 |
| 12" | 319.0 | 458.0 | 242.0 |
| 12 5/8" | 338.0 | 463.0 | 244.0 |

Clamp high pressure - imperial tube - 304
(13MHP)

5023

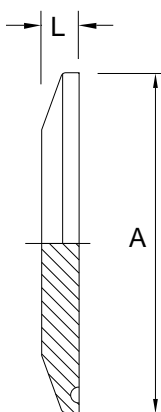


- Supplied with brass nuts as standard
- Torque to 15 Nm if 1/2", 27 Nm > 1/2"

| Nom Size | A | B | R |
|-------------|-------|-------|-------|
| 1/2" - 3/4" | 25.4 | 65.0 | 37.0 |
| 1" - 1 1/2" | 50.5 | 103.0 | 64.0 |
| 2" | 64.0 | 113.0 | 73.0 |
| 2 1/2" | 77.5 | 128.0 | 80.0 |
| 3" | 91.0 | 137.0 | 86.0 |
| 3 1/2" | 106.0 | 150.0 | 94.0 |
| 4" | 119.0 | 165.0 | 102.0 |
| 4 1/2" | 130.0 | 174.0 | 105.0 |
| 6" | 167.0 | 240.0 | 130.0 |
| 6 5/8" | 183.0 | 260.0 | 140.0 |
| 8 5/8" | 233.0 | 318.0 | 168.0 |

Clamp blank - imperial tube - 316L

5019



- Metric, nominal bore options available
- 0.8 Ra standard internal finish, 0.4 Ra option available

| Nom Size | A | L |
|-------------|-------|------|
| 1/2" - 3/4" | 25.4 | 5.6 |
| 1" - 1 1/2" | 50.5 | 7.0 |
| 2" | 64.0 | 7.0 |
| 2 1/2" | 77.5 | 7.0 |
| 3" | 91.0 | 7.0 |
| 4" | 119.0 | 9.0 |
| 4 1/2" | 130.0 | 9.0 |
| 5" | 144.4 | 10.0 |
| 6" | 167.0 | 10.0 |
| 8" | 217.4 | 10.0 |
| 10" | 268.0 | 10.0 |
| 12" | 319.0 | 10.0 |

Ferrules can be fabricated to customer specification

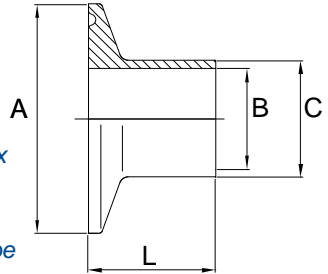


Clamp ferrule - imperial tube - 316L

(machined from solid)

Options available include:

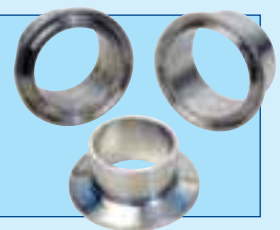
- *Hastelloy® C-22, Duplex
- Tank ferrules
- Ferrules for DIN, ASME, ISO, SMS, Schedule tube



| Length | Nom Size | A | B | C | L | |
|-----------------------|-----------------------|-------|--------|--------|-------|------|
| 21.5mm 5033 | 1/2" | 25.4 | 9.52 | 12.70 | 21.5 | |
| | 3/4" | 25.4 | 15.87 | 19.05 | 21.5 | |
| | 1" | 50.5 | 22.20 | 25.65 | 21.5 | |
| | 1 1/2" | 50.5 | 34.90 | 38.35 | 21.5 | |
| | 2" | 64.0 | 47.60 | 51.05 | 21.5 | |
| | 2 1/2" | 77.5 | 60.30 | 63.75 | 21.5 | |
| | 3" | 91.0 | 73.00 | 76.45 | 21.5 | |
| | 4" | 119.0 | 97.60 | 101.85 | 21.5 | |
| | 28.0mm 5034 | 1/2" | 25.4 | 9.52 | 12.70 | 28.0 |
| | | 3/4" | 25.4 | 15.87 | 19.05 | 28.0 |
| 1" | | 50.5 | 22.20 | 25.65 | 28.0 | |
| 1 1/2" | | 50.5 | 34.90 | 38.35 | 28.0 | |
| 2" | | 64.0 | 47.60 | 51.05 | 28.0 | |
| 2 1/2" | | 77.5 | 60.30 | 63.75 | 28.0 | |
| 3" | | 91.0 | 73.00 | 76.45 | 28.0 | |
| 4" | | 119.0 | 97.60 | 101.85 | 28.0 | |
| 4 1/2" | | 130.0 | 110.30 | 114.95 | 28.0 | |
| 5" | | 144.4 | 123.00 | 127.00 | 28.0 | |
| 5 1/2" | | 155.0 | 135.76 | 140.55 | 28.0 | |
| 6" | | 167.0 | 150.00 | 154.00 | 28.0 | |
| 6 5/8" | | 183.0 | 163.10 | 169.35 | 28.0 | |
| 8" | | 217.4 | 200.00 | 204.00 | 28.0 | |
| 8 5/8" | | 233.5 | 213.9 | 220.55 | 28.0 | |
| 10" | | 268.0 | 250.00 | 254.00 | 28.0 | |
| 10 5/8" | | 286.1 | 266.30 | 273.00 | 28.0 | |
| 12" | | 319.0 | 300.80 | 304.80 | 28.0 | |

Non - standard BS4825 Ferrules in varying lengths also available

- Ferrules fully traceable - part marked with material grade and heat number
- 0.8 Ra standard internal ferrule finishes - 0.4 Ra option available



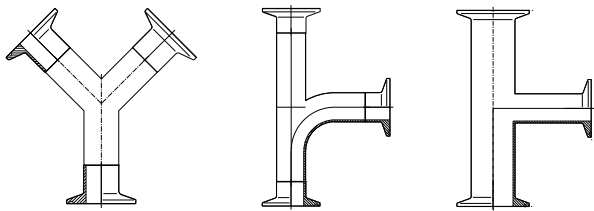
316 stainless steel safety clamp closures available - can only be released when the wing nut has been significantly loosened to enable the smaller diameter of the gate bolt to swing and pass through the sectioned gate

DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.

ALL DATA IS PROVIDED IN GOOD FAITH AND IS SUBJECT TO CHANGE.

We specialise in custom fabrication to customer requirements:

- Clamp Y pieces
- Clamp Seagulls
- Clamp Swept Tees
- Clamp Reducing Tees

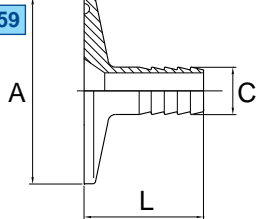


- Welds removed internally & externally, polished 0.8 Ra
- 0.4 Ra finish option available (pharmaceutical)

Clamp hoseliner - 316L

(machined from solid)

5059



| Nom Size | A | C | L |
|----------|------|------|------|
| 1/2" | 25.4 | 12.7 | 32.0 |
| 3/4" | 25.4 | 19.0 | 32.0 |
| 1" | 50.5 | 25.4 | 40.0 |
| 1 1/2" | 50.5 | 38.1 | 40.0 |
| 2" | 64.0 | 50.8 | 60.0 |

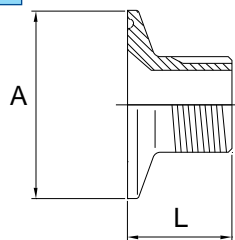
- Other metric and imperial sizes available

- 0.8 Ra standard internal finish, 0.4 Ra option available
- Reducing hoseliners stocked in various sizes including 1/2" x 1/4", 1" x 1/4", 1" x 1/2", 2" x 1/2"

Clamp - BSP male adaptor - 316L

(machined from solid)

5197

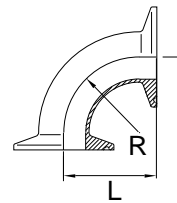


| Nom Size | | A | L |
|----------|------|------|------|
| Clamp | BSP | | |
| 1/2" | 1/4" | 25.4 | 30.0 |
| 1/2" | 3/8" | 25.4 | 30.0 |
| 1/2" | 1/2" | 25.4 | 32.0 |
| 1 1/2" | 3/8" | 50.5 | 35.0 |
| 1 1/2" | 1/2" | 50.5 | 35.0 |
| 1 1/2" | 3/4" | 50.5 | 35.0 |
| 1 1/2" | 1" | 50.5 | 35.0 |

- Clamp - BSP female adaptor - 316L also available
- 0.8 Ra standard internal finish, 0.4 Ra option available

Clamp bend 90° - Short - 316L

5075



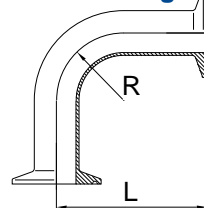
| Nom Size | L | R |
|----------|-------|-------|
| 1" | 65.0 | 38.1 |
| 1 1/2" | 85.0 | 57.2 |
| 2" | 110.0 | 76.2 |
| 2 1/2" | 135.0 | 95.3 |
| 3" | 155.0 | 114.3 |
| 4" | 195.0 | 152.4 |

- 45°, 88° & 92° options available

- Welds removed internally & externally, polished 0.8 Ra
- 0.4 Ra finish option available (pharmaceutical)

Clamp bend 90° - Long 316L

5076



| Nom Size | L | R |
|----------|-------|-------|
| 1" | 86.5 | 38.1 |
| 1 1/2" | 106.5 | 57.2 |
| 2" | 131.5 | 76.2 |
| 2 1/2" | 156.5 | 95.3 |
| 3" | 176.5 | 114.3 |
| 4" | 216.5 | 152.4 |

- 45°, 88° & 92° options available

- Welds removed internally & externally, polished 0.8 Ra
- 0.4 Ra finish option available (pharmaceutical)

Clamp 90° ID Bends

- Clamp 90° ID bends available from 1" up to 4"

- Options include 88° & 92°

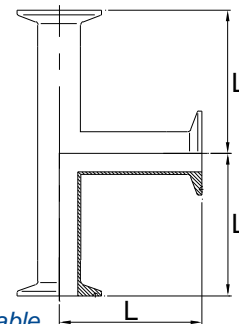
- Welds removed internally & externally, polished 0.8 Ra

- 0.4 Ra finish option available (pharmaceutical)



Clamp equal tee - 316L

5080



| Nom Size | L |
|----------|-------|
| 1/2" | 59.5 |
| 3/4" | 67.5 |
| 1" | 65.0 |
| 1 1/2" | 85.0 |
| 2" | 110.0 |
| 2 1/2" | 135.0 |
| 3" | 155.0 |
| 4" | 195.0 |

- 92° option available

- Welds removed internally & externally, polished 0.8 Ra
- 0.4 Ra finish option available (pharmaceutical)








Concentric Reducer

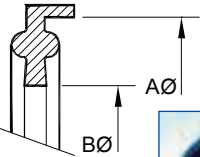

- 1/2" up to 4" various options available
- Welds removed internally & externally, polished 0.8 Ra
- 0.4 Ra finish option available
- Larger sizes available to customer specification
- Eccentric reducers available

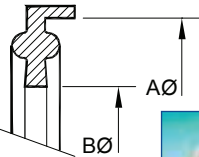

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Axium Process stocks a wide range of seal materials manufactured from FDA & USP Class VI approved polymers

| Characteristics/ Resistance | Nitrile or Buna  | EPDM  | Silicone  | *Viton®  | PTFE and Encapsulated PTFE  |
|--|--|---|--|--|---|
| *Operating temperature °C | -20°C to +120°C | -50°C to +150°C | -90°C to +200°C | -30°C to +250°C | -25°C to +250°C |
| Acids | Good | Good | Fair | Good | Excellent |
| Alkalis | Fair/Good | Good | Fair | Poor/Fair | Excellent |
| Fats/oils | Good/Excellent | Poor | Fair | Good | Excellent |
| Petroleum | Good | Poor | Good | Excellent | Excellent |
| Steam | Fair | Excellent | Good | Good | Fair |
| Taste | Good | Good | Good | Good | Excellent |
| Odour | Good | Fair/Good | Good | Good | Excellent |
| The temperature range quoted is for guidance only. | | | | | |

| Clamp lipped EPDM seal - imperial tube (type A) 5044 | Nom Size | A | B |
|--|---|-------|-------|
| |   <ul style="list-style-type: none"> Metric, nominal bore options available Unlipped seals are available from ½" to 12" Silicone, *Viton®, nitrile material options available | 1" | 50.5 |
| 1½" | | 50.5 | 34.9 |
| 2" | | 64.0 | 47.6 |
| 2½" | | 77.5 | 60.3 |
| 3" | | 91.0 | 73.0 |
| 4" | | 119.0 | 97.6 |
| 6" | | 167.0 | 150.0 |
| 8" | | 217.4 | 200.0 |
| 10" | | 268.0 | 250.0 |
| 12" | | 319.0 | 300.8 |

| Clamp lipped solid PTFE seal - imperial tube (type A) 5044 | Nom Size | A | B |
|--|---|-------|-------|
| |   <ul style="list-style-type: none"> Metric, nominal bore options available Unlipped seals are available from ½" to 12" PTFE encapsulated, *Viton®, EPDM material options available | 1" | 50.5 |
| 1½" | | 50.5 | 34.9 |
| 2" | | 64.0 | 47.6 |
| 2½" | | 77.5 | 60.3 |
| 3" | | 91.0 | 73.0 |
| 4" | | 119.0 | 97.6 |
| 6" | | 167.0 | 150.0 |
| 8" | | 217.4 | 200.0 |
| 10" | | 268.0 | 250.0 |
| 12" | | 319.0 | 300.8 |

| Clamp Design | Clamp Unions - Working Pressure Data (in bar up to 150°C) | | | | | | |
|---|---|----------|----|--|----|----|----|
| | For applications where higher pressures are required than those specified, please consult our technical department. A safety factor of 2 has been applied to the figures illustrated. | | | | | | |
| | ½" - ¾" | 1" - 1½" | 2" | 2½" | 3" | 4" | 6" |
| Light Duty Clamp, 304 | 25 | 25 | 25 | 25 | 20 | 17 | - |
| Heavy Duty Clamp, 316 | 50 | 50 | 50 | 50 | 40 | 35 | 30 |
| High Pressure Clamp, 304 | 75 | 75 | 75 | 75 | 60 | 53 | 45 |
| Where the environment is deemed aggressive to either the seal or clamp union, please provide details of the media and operating conditions and our technical department will assist you in the selection of the most appropriate material | | | | NB: Standard and high pressure clamps comply with the requirements of BS 4825 : Part 1 which states that if tubes are to operate above 20 Bar or 150°C then the customer should make this known to the supplier. | | | |

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