



HAMMER UNIONS TECHNICAL BULLETINS



HAMMER UNIONS

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FIGURE 100

- Recommended for water, oil or gas service up to 1,000 psi NSCWP
- 1" - 8"
- FNPT or Buttweld
- Fig 100 utilizes machined ball-and-cone metal sealing surfaces
- All hammer union components are forged; the materials are dual-certified for standard service and sour (H2S) service with no reduction in pressure rating. This hammer union is available in both a standard temperature range and a low-temperature (-50 F) range.
- Subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing.
- Like parts are physically interchangeable with other manufacturers, however it is highly recommended that all components of a hammer union connection be from the same manufacturer whenever possible to ensure safe and predictable use.
- Design calculations performed in accordance with API 6A Section 5

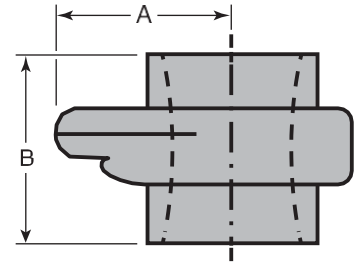


Figure 100 Threaded
Color Code: Yellow Subs/Black Nut

Nominal Pipe Size	2"	2 1/2 "	3"	4"	5"	6"	8"
Qty.	18	5	5	4	3	1	1
Clearance Radius (A)	2.91	3.66	4.02	4.56	5.51	6.5	7.2
End to End Threaded (B)	3.54	4.15	4.88	4.92	5.91	6.9	7.22
Weight (lbs)	5.40	9.50	12.80	20.00	32.20	48.00	69.00
Material, Sub Material, Nut	A105 A105	A105 A395 D.I.	A105 A105	A395 D.I. A395 D.I.	A395 D.I. A395 D.I.	A395 D.I. A395 D.I.	A395 D.I. A395 D.I.

Figure 100 Butt Weld Schedule 80
Color Code: Yellow Subs/Black Nut

Nominal Pipe Size	2"	3"	4"	6"	8"
Qty.	18	5	4	1	1
Clearance Radius (A)	2.91	4.02	4.57	6.50	7.20
End to End (B)	3.23	4.57	5.00	6.85	7.20
Weight (lbs)	5.50	13.20	19.45	46.55	69.88
Material, Sub Material, Nut	A105 A105	A105 A105	A105 A395 D.I.	A105 A105	A105 A395 D.I.

*Schedule 40 available upon request Availability in Socket Weld varies per size

FIGURE 200

- Recommended for water, oil or gas service up to 2,000 psi NSCWP
- 1" - 10"
- FNPT or Buttweld
- Fig 200 utilizes machined ball-and-cone metal sealing surfaces
- All hammer union components are forged; the materials are dual-certified for standard service and sour (H2S) service with no reduction in pressure rating. This hammer union is available in both a standard temperature range and a low-temperature (-50 F) range.
- Subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing.
- Like parts are physically interchangeable with other manufacturers, however it is highly recommended that all components of a hammer union connection be from the same manufacturer whenever possible to ensure safe and predictable use.
- Design calculations performed in accordance with API 6A Section 5

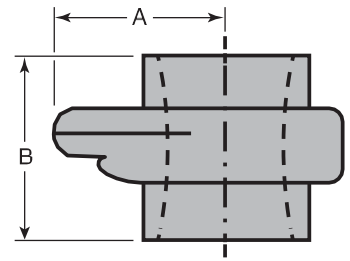


Figure 200 Threaded
Color Code: Gray Subs/Blue Nut

Nominal Pipe Size	1"	1 1/4 "	1 1/2 "	2"	2 1/2 "	3"	4"	6"	8"	10 "
Qty.	32	24	18	18	5	5	4	1	1	1
Clearance Radius (A)	2.01	2.17	2.40	2.91	3.66	4.02	4.57	6.57	7.20	8.98
End to End Threaded (B)	2.60	2.76	2.95	3.43	4.15	4.61	5	6.61	7.22	9.09
Weight (lbs)	1.75	2.25	2.75	4.75	10.50	12.55	18.70	46.10	69.50	89.50
Material, Sub Material, Nut	A105 A105	A105 A395 D.I.	A105 A395 D.I.	A105 A105	A105 A395 D.I.	A105 A105	A105 A105	A105 A105	A105 A216 WCB	A216 WCB A216 WCB

*Also available with 316SS Subs

Figure 200 Butt Weld Schedule 40 and 80
Color Code: Gray Subs/Blue Nut

Nominal Pipe Size	2 "	3"	4"	6"	8"	10 "
Qty.	18	5	4	1	1	1
Clearance Radius (A)	2.91	4.02	4.57	6.57	7.40	8.98
End to End (B)	3.25	4.61	5	6.61	7.20	9.06
Weight (lbs)	4.60	12.60	18.60	46.00	69.80	90.10
Material, Sub Material, Nut	A105 A105	A105 A105	A105 A105	A105 A105	A105 A216 WCB	A216 WCB A216 WCB

FIGURE 206

- Recommended for water, oil or gas service up to 2,000 psi NSCWP
- 1" - 10"
- FNPT or Buttweld
- Fig 206 utilize a Nitrile / Buna-N O-ring as a secondary seal in the male sub, combined with the machined ball-and-cone metal sealing surfaces
- All hammer union components are forged; the materials are dual-certified for standard service and sour (H2S) service with no reduction in pressure rating. This hammer union is available in both a standard temperature range and a low-temperature (-50 F) range.
- Subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing.
- Fig 206 components are identical to Fig 200 components. Like parts are physically interchangeable with other manufacturers, however it is highly recommended that all components of a hammer union connection be from the same manufacturer whenever possible to ensure safe and predictable use.
- Design calculations performed in accordance with API 6A Section 5

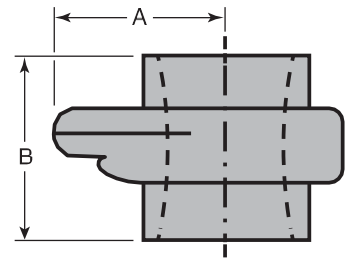


Figure 206 Threaded
Color Code: Gray Subs/Blue Nut

Nominal Pipe Size	1"	1 1/4 "	1 1/2 "	2"	2 1/2 "	3"	4"	6"	8"	10 "
Qty.	32	24	18	18	5	5	4	1	1	1
Clearance Radius (A)	2.01	2.17	2.40	2.91	3.66	4.02	4.57	6.57	7.20	8.98
End to End Threaded (B)	2.60	2.76	2.95	3.46	4.15	4.61	5.00	6.61	7.22	9.09
Weight (lbs)	1.75	2.25	2.75	4.75	10.50	12.55	18.70	46.10	69.50	89.50
Material, Sub Material, Nut	A105 A105	A105 A395 D.I.	A105 A395 D.I.	A105 A105	A105 A395 D.I.	A105 A105	A105 A105	A105 A105	A105 A216 WCB	A216 WCB A216 WCB

Figure 206 Butt Weld
Color Code: Gray Subs/Blue Nut

Nominal Pipe Size	2 "	3"	4"	6"	8"	10 "
Qty.	18	5	4	1	1	1
Clearance Radius (A)	2.91	4.02	4.57	6.57	7.40	8.98
End to End (B)	3.46	4.61	5.00	6.61	7.20	9.06
Weight (lbs)	4.60	12.60	18.60	46.00	69.80	90.10
Material, Sub Material, Nut	A105 A105	A105 A105	A105 A105	A105 A105	A105 A216 WCB	A216 WCB A216 WCB

FIGURE 400

- Recommended for water, oil or gas service up to 4,000 psi NSCWP
- 1" - 12"
- FNPT or Buttweld
- Fig 400 utilizes machined ball-and-cone metal sealing surfaces
- All hammer union components are forged; the materials are dual-certified for standard service and sour (H₂S) service with no reduction in pressure rating. This hammer union is available in both a standard temperature range and a low-temperature (-50 F) range.
- Subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing.
- Like parts are physically interchangeable with other manufacturers, however it is highly recommended that all components of a hammer union connection be from the same manufacturer whenever possible to ensure safe and predictable use.
- Design calculations performed in accordance with API 6A Section 5

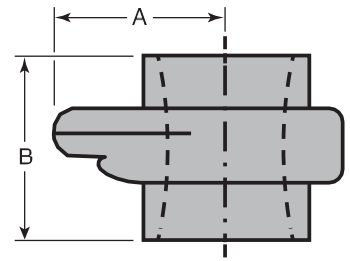


Figure 400 Threaded
Color Code: Red Subs/Black Nut

Nominal Pipe Size	2"	3"	4"	12"
Qty.	6	4	2	1
Clearance Radius (A)	3.50	4.09	5.04	10.24
End to End Threaded (B)	5.30	5.91	8.15	10.83
Weight (lbs)	11.05	19.40	28.00	158.50
Material, Sub Material, Nut	A105. 1045	A105 A105	A105 A105	A105 A105

Figure 400 Butt Weld
Color Code: Red Subs/Black Nut

Nominal Pipe Size	12"
Qty.	1
Clearance Radius (A)	10.24
End to End (B)	10.83
Weight (lbs)	158.50
Material, Sub Material, Nut	A105 A105

FIGURE 602

- Recommended for water, oil or gas service up to 6,000 psi NSCWP
- 1" - 4"
- FNPT or Buttweld
- Fig 602 utilizes a replaceable Nitrile / Buna-N rubber seal that is initially energized during assembly of the hammer union, but also benefits from being further energized due to pressure up to the pressure rating of the union. This rubber seal also protects the metal seal surfaces from flow turbulence.
- All hammer union components are forged; subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing. Chem Oil has standardized the Fig 602 materials in a way that allows all components to be utilized in both standard service and sour service applications with no reduction in pressure rating. All metallic materials for this hammer union meet API 6A charpy impact requirements for Temperature Class L (-50 F to 180 F)
- Subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing.
- Like parts are physically interchangeable with other manufacturers, however it is highly recommended that all components of a hammer union connection be from the same manufacturer whenever possible to ensure safe and predictable use.

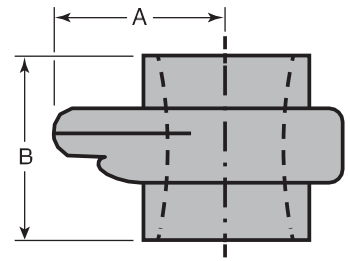


Figure 602 Threaded
Color Code: Orange Subs/Blue Nut

Nominal Pipe Size	1"	1 1/2"	2"	3"	4"
Qty.	32	18	6	3	2
Clearance Radius (A)	2.28	2.99	3.50	4.53	5.20
End to End Threaded (B)	3.50	4.92	5.31	6.30	8.23
Weight (lbs)	3.50	9.00	13.10	23.10	32.80
Material, Sub Material, Nut	4130 4140	4140 4140	4130 4140	4130 4140	4130 4140



Figure 602 Butt Weld Schedule 80, 160 and XXH
Color Code: Orange Subs/Blue Nut

Nominal Pipe Size	2"	3"	4"
Qty.	6	3	2
Clearance Radius (A)	3.50	4.53	5.20
End to End (B)	5.30	5.67	5.91
Weight (lbs)	13.00	23.00	32.80
Material, Sub Material, Nut	4130 4140	4130 4140	4130 4140



FIGURE 1002 STANDARD SERVICE

- Recommended for water, oil or gas service up to 10,000 psi NSCWP
- 1" - 5"
- FNPT or Buttweld
- Fig 1002 Standard Service utilizes a replaceable Nitrile / Buna-N rubber seal that is initially energized during assembly of the hammer union, but also benefits from being further energized due to pressure up to the pressure rating of the union. This rubber seal also protects the metal seal surfaces from flow turbulence.
- All hammer union components are forged; subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing. Standard Service hammer unions are considered AA / BB trim per API 6A and are NOT to be used with H2S-bearing process fluids considered to be "sour" as defined by NACE MRO 175.
- Subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing.
- Like parts are physically interchangeable with other manufacturers, however it is highly recommended that all components of a hammer union connection be from the same manufacturer whenever possible to ensure safe and predictable use.
- Design calculations performed in accordance with API 6A Section 5

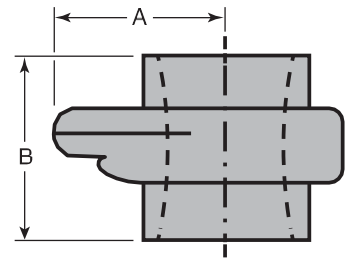


Figure 1002 Threaded
Color Code: Blue Subs/Red Nut

Nominal Pipe Size	1"	1 1/2"	2"	3"	4"	5"
Qty.	32	18	6	3	2	1
Clearance Radius (A)	1.97	3.07	3.50	4.41	5.20	6.26
End to End Threaded (B)	3.50	4.88	5.31	6.18	8.23	9.09
Weight (lbs)	3.50	9.00	13.20	22.20	32.60	65.80
Material, Sub Material, Nut	4130 4140	4140 4140	4130 4140	4130 4140	4130 4140	4130 4140



Figure 1002 Butt Weld
Color Code: Blue Subs/Red Nut

Nominal Pipe Size	2"	3"	4"	5"	6"
Qty.	6	3	2	1	1
Clearance Radius (A)	3.50	4.41	5.20	6.26	6.93
End to End (B)	5.30	6.14	5.91	9.06	7.52
Weight (lbs)	13.40	22.20	33.00	65.80	92.15
Material, Sub Material, Nut	4130 4140	4130 4140	4130 4140	4130 4140	4130 4140



FIGURE 1002 SOUR / H₂S SERVICE

- Recommended for water, oil or gas service up to 7,500 psi NSCWP
- 1" - 5"
- FNPT or Buttweld
- Fig 1002 Sour / H₂S Service utilizes a replaceable Nitrile / Buna-N rubber seal that is initially energized during assembly of the hammer union, but also benefits from being further energized due to pressure up to the pressure rating of the union. This rubber seal also protects the metal seal surfaces from flow turbulence.
- All hammer union components are forged; subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing. Sour Service hammer unions are considered DD / EE trim per API 6A and are intended for use with H₂S-bearing process fluids considered to be "sour" as defined by NACE MRO 175
- Subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing.
- Like parts are physically interchangeable with other manufacturers, however it is highly recommended that all components of a hammer union connection be from the same manufacturer whenever possible to ensure safe and predictable use.
- Design calculations performed in accordance with API 6A Section 5

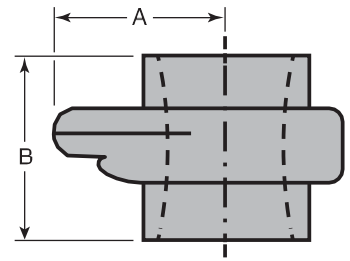


Figure 1002 Threaded
Color Code: Green Subs/Green Nut

Nominal Pipe Size	1"	1 1/2"	2"	3"	4"	5"
Qty.	32	18	6	3	2	1
Clearance Radius (A)	1.97	3.07	3.50	4.41	5.20	6.26
End to End Threaded (B)	3.50	4.88	5.31	6.18	8.23	9.09
Weight (lbs)	3.50	9.00	13.20	22.20	32.60	65.80
Material, Sub Material, Nut	4130 4140	4140 4140	4130 4140	4130 4140	4130 4140	4130 4140



Figure 1002 Butt Weld
Color Code: Green Subs/Green Nut

Nominal Pipe Size	2"	3"	4"	5"	6"
Qty.	6	3	2	1	1
Clearance Radius (A)	3.50	4.41	5.20	6.26	6.93
End to End (B)	5.30	6.14	5.91	9.06	7.52
Weight (lbs)	13.40	22.20	33.00	65.80	92.15
Material, Sub Material, Nut	4130 4140	4130 4140	4130 4140	4130 4140	4130 4140



FIGURE 1502 STANDARD SERVICE

- Recommended for water, oil or gas service up to 15,000 psi NSCWP
- 1" - 10"
- FNPT or Buttweld
- Fig 1502 Standard Service utilizes a replaceable Nitrile / Buna-N rubber seal that is initially energized during assembly of the hammer union, but also benefits from being further energized due to pressure up to the pressure rating of the union. This rubber seal also protects the metal seal surfaces from flow turbulence.
- All hammer union components are forged; subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing. Standard Service hammer unions are considered AA / BB trim per API 6A and are NOT to be used with H2S-bearing process fluids considered to be "sour" as defined by NACE MRO 175.
- Subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing.
- Like parts are physically interchangeable with other manufacturers, however it is highly recommended that all components of a hammer union connection be from the same manufacturer whenever possible to ensure safe and predictable use.
- Design calculations performed in accordance with API 6A Section 5

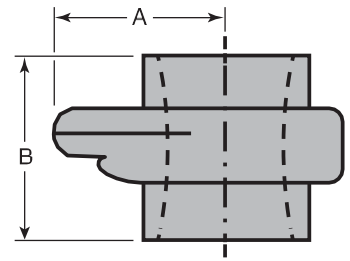


Figure 1502 Threaded
Color Code: Red Subs/Blue Nut

Nominal Pipe Size	1"	1 1/2 "	2"	3"	4"
Qty.	32	18	5	4	1
Clearance Radius (A)	2.76	3.43	3.74	4.37	6.14
End to End Threaded (B)	0.43	4.41	7.01	7.48	8.54
Weight (lbs)	9.00	17.00	19.00	30.00	69.50
Material, Sub Material, Nut	4130 4140	4130 4140	4130 4140	4130 4140	4130 4140



Figure 1502 Butt Weld
Color Code: Red Subs/Blue Nut

Nominal Pipe Size	2"	3"	4"	5"
Qty.	5	4	1	1
Clearance Radius (A)	3.74	4.37	6.14	6.46
End to End (B)	6.34	5.35	8.54	8.86
Weight (lbs)	19.00	30.00	69.50	93.00
Material, Sub Material, Nut	4130 4140	4130 4140	4130 4140	4130 4140



FIGURE 1502 SOUR / H₂S SERVICE

- Recommended for water, oil or gas service up to 10,000 psi NSCWP
- 1" - 10"
- FNPT or Buttweld
- Fig 1502 Sour / H₂S Service utilizes a replaceable Nitrile / Buna-N rubber seal that is initially energized during assembly of the hammer union, but also benefits from being further energized due to pressure up to the pressure rating of the union. This rubber seal also protects the metal seal surfaces from flow turbulence.
- All hammer union components are forged; subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing. Sour Service hammer unions are considered DD / EE trim per API 6A and are intended for use with H₂S-bearing process fluids considered to be "sour" as defined by NACE MRO 175.
- Subs and wingnuts are made from the same heat of a common alloy to simplify material traceability and heat treatment processing.
- Like parts are physically interchangeable with other manufacturers, however it is highly recommended that all components of a hammer union connection be from the same manufacturer whenever possible to ensure safe and predictable use.
- Design calculations performed in accordance with API 6A Section 5

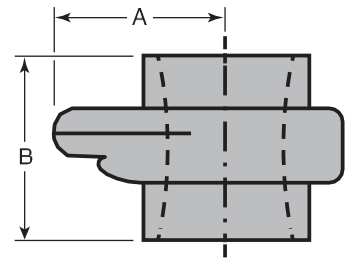


Figure 1502 Threaded
Color Code: Green Subs/Green Nut

Nominal Pipe Size	1"	1 1/2 "	2"	3"	4"
Qty.	32	18	5	4	1
Clearance Radius (A)	2.76	3.43	3.74	4.37	6.14
End to End Threaded (B)	0.43	4.41	7.01	7.48	8.54
Weight (lbs)	9.00	17.00	19.00	30.00	69.50
Material, Sub Material, Nut	4130 4140	4130 4140	4130 4140	4130 4140	4130 4140



Figure 1502 Butt Weld
Color Code: Green Subs/Green Nut

Nominal Pipe Size	2"	3"	4"	5"
Qty.	5	4	1	1
Clearance Radius (A)	3.74	4.37	6.14	6.46
End to End (B)	6.34	5.35	8.54	8.86
Weight (lbs)	19.00	30.00	69.50	93.00
Material, Sub Material, Nut	4130 4140	4130 4140	4130 4140	4130 4140

