SS316L 3000 PSI UNION, THREADED

Three Piece Union · Forged Stainless Steel ASTM A182 F316/F316L · Female NPT to ASME B16.11

BRAND: SW FLOW CONTROLS | SKU: SW-0243 | SIZE 1/8" TO 3" | CLASS 3000



FIG. 1 | SS316L 3000 PSI UNION, THREADED

PRODUCT OVERVIEW

The SWBM SS316L 3000 PSI Threaded Union is a three piece fitting that allows a threaded line to be broken and remade without turning the pipe. It is forged from ASTM A182 F316/F316L stainless steel, solution annealed, and made to MSS SP-83 Class 3000.

The male and female ends carry female NPT threads to ASME B1.20.1, and the union nut draws them together on an integral metal to metal seat. This gives a leak tight joint that can be opened for maintenance of valves, pumps and instruments.

Fitting type	**Union, three piece, forged**
End connection	**Female NPT, ASME B1.20.1**
Material	**ASTM A182 F316/F316L forged stainless steel**
Pressure class	**Class 3000 (3000 lb)**
Standard	**MSS SP-83**
Size range	**1/8" to 3" (DN6 to DN80)**

TECHNICAL SPECIFICATION

Design standard	**MSS SP-83**
Material	**ASTM A182 F316/F316L forged stainless steel**
Pressure class	**Class 3000**
End connection	**Female NPT, 2 ends**
Size range	**1/8" to 3" (DN6 to DN80)**
Thread standard	**ASME B1.20.1 (NPT)**

Heat treatment	**Solution annealed**
Marking	**MSS SP-25**
Surface finish	**Natural forged, machined ends**
Temperature range	**-196°C to +425°C**

BILL OF MATERIALS

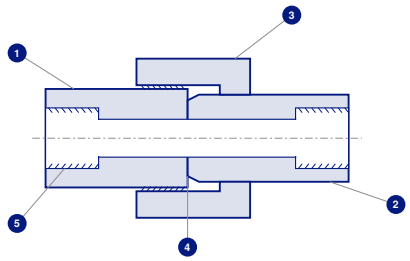


FIG. 2 | SECTIONAL ARRANGEMENT (SCHEMATIC)

#	COMPONENT	MATERIAL / DETAIL
1	Female end (thread end)	ASTM A182 F316/F316L forged stainless steel
2	Male end (seat end)	ASTM A182 F316/F316L forged stainless steel
3	Union nut	ASTM A182 F316/F316L forged stainless steel
4	Seat	Integral metal to metal, no gasket
5	Pipe end (2 nos.)	Female NPT to ASME B1.20.1

Three piece assembly. Item 4 is an integral feature of the end pieces. Nut thread engagement is a minimum of 4 full threads, class 2A/2B fit. BSPT pipe threads can be offered against enquiry.

DIMENSIONS

SIZE	DN	THREAD	THREAD L2 (MM)	END OD A (MM)	WALL C MIN (MM)	BORE D (MM)	LENGTH L (MM)	NUT CLEARANCE N (MM)
1/8"	6	1/8" NPT	8.8	22.9	2.41	8.40	41.4	50.8
1/4"	8	1/4" NPT	11.4	22.9	3.02	11.20	41.4	50.8
3/8"	10	3/8" NPT	12.4	22.9	3.20	14.60	46.0	55.9
1/2"	15	1/2" NPT	14.9	27.7	3.73	17.27	49.0	58.4
3/4"	20	3/4" NPT	16.8	33.5	3.91	21.59	56.9	66.0
1"	25	1" NPT	19.6	41.4	4.55	27.94	62.0	78.7
1.1/4"	32	1.1/4" NPT	21.9	50.5	4.85	35.56	71.1	94.0
1.1/2"	40	1.1/2" NPT	22.7	57.2	5.08	41.40	76.5	111.8
2"	50	2" NPT	23.9	70.1	5.54	52.33	86.1	132.1
2.1/2"	65	2.1/2" NPT	30.5	85.3	7.01	64.52	102.4	149.9
3"	80	3" NPT	32.8	102.4	7.62	77.47	109.0	175.3

L2 = length of useful thread to ASME B1.20.1, A = outside diameter of pipe end, C = minimum wall, D = waterway bore (1/8" to 3/8" to the manufacturer machining standard), L = assembled length (nominal), N = clearance diameter of assembled nut. Dimensions from the manufacturer standard, in accordance with MSS SP-83 Class 3000. Dimensions are nominal. Weights and certified drawings are issued on request.

ORDERING INFORMATION

FIELD	OPTIONS
Product code	SW-0243
Size	1/8", 1/4", 3/8", 1/2", 3/4", 1", 1.1/4", 1.1/2", 2", 2.1/2", 3"
Class	Class 3000
Thread	NPT female to ASME B1.20.1. BSPT on enquiry
Certification	EN 10204 3.1 on request
Order example	**SW-0243 / 1" / CL3000 / NPT / F316L**

Stock held in Dubai for fast despatch across the UAE and GCC. Contact our sales desk for pricing, availability, project quantities and certification requirements.

PRESSURE AND TEMPERATURE

Pressure class	**Class 3000 to MSS SP-83**
Rating basis	**Per MSS SP-83, Class 3000**
Material group	**ASTM A182 F316/F316L, ASME B16.5 Gr. 2.2**
Temperature range	**-196°C to +425°C**

Class 3000 is a class designation, not a working pressure. The allowable pressure equals that of the matching pipe schedule, size and design temperature under ASME B31.3 or the governing code. Confirm duty with SWBM before use on media or temperatures outside normal service.

COMPLIANCE AND QUALITY

- Dimensions and testing to MSS SP-83, Class 3000
- Material to ASTM A182 F316/F316L, solution annealed
- Integral metal to metal seat, no gasket
- Pipe threads to ASME B1.20.1 (NPT)
- Material test certificate EN 10204 3.1 on request
- Third party inspection on request

TYPICAL APPLICATIONS

- Break points at pumps, valves and equipment
- Instrument and analyser connections
- Oil and gas production and process piping
- Steam, condensate and utility lines
- Skid packages needing removable spools
- Marine, offshore and shipyard piping

INSTALLATION AND OPERATION

- Separate the ends and make each one up on its pipe with sealant on the male thread only
- Tighten each end with a wrench on the flats, not on the nut
- Align the two ends before engaging the nut, never use the nut to pull pipe into line
- Keep the seat faces clean and free of sealant and damage
- Tighten the nut with a spanner while holding the female end
- Use an anti-galling thread sealant, stainless threads can gall if dry

COMPANY

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