

HART SURE SEAL O-RING UNIONS

MANUFACTURING SPECIFICATIONS

General Standards

Dimensions / Pressure Class	MSS SP-83	Butt Weld Ends	ASME B16.9
Testing / Quality / Surface Finish	MSS SP-83	Socket Weld Ends Wall Dimensions	ASME B16.11 ASME B36.10M
Union Nut Threads (UN)	ASME B1.1	Pipe Threads (NPT)	ASME B1.20.1

Union Nuts

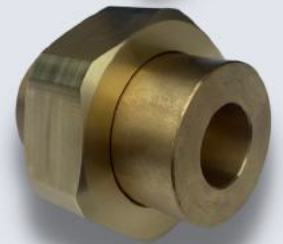
All HART stainless unions come with industry-standard 303 stainless nuts to reduce and prevent galling. Carbon steel and brass unions come standard with compatible material nuts.

Union Identification / Pressure Class

HART unions can be identified by the "WOG" pressure class rating (3000 or 6000), which is included in the figure number marked on the union surface.

Material Standards

Standard Materials	Specification
Stainless Steel	ASTM A182F304 & L ASTM A182F316 & L
Carbon Steel Low-Temperature	ASTM A105 / A105 Normalized ASTM A108 (12L14) ASTM A350-LF2
Brass 360 Brass 464	C36000 (ASTM B16) C46400 (ASTM B21)
Aluminum 6061-T6	A96061 (ASTM B429)
Specialty Materials	Specification
Copper-Nickel (CuNi) 70/30 Copper-Nickel (CuNi) 90/30	C71500 (ASTM B151) C70600 (ASTM B151)
Monel / Alloy 400 Hastelloy / Alloy C-276 Inconel / Alloy 600 Carpenter Steel / Alloy 20	N04400 (ASTM B165) N10276 (ASTM B575) N06600 (ASTM B168) N08020 (ASTM B473)
Titanium (Grade 2)	R50400 (ASTM B348)



Raw material can be requested compliant with DFARS, Buy America Act, and/or Buy American provisions.



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Sure Seal O-Ring Unions

HART SURE SEAL O-RING UNIONS

PRESSURE / TEMPERATURE REFERENCE

Class 3000 Pipe Unions

Service Temperature (°F)	Non-Shock Working Pressure (psig)											
	A105 Carbon Steel	A350-LF2 Carbon Steel	A182F304 Stainless Steel	A182F304L Stainless Steel	A182F304H Stainless Steel	A182F316 Stainless Steel	A182F316L Stainless Steel	A182F316H Stainless Steel	F347 Stainless Steel	Monel 400	Hastelloy C276	Alloy 20
100	3000	3000	2915	2430	2915	2915	2430	2915	2915	2430	3000	3000
200	2750	2750	2430	2070	2430	2510	2070	2510	2680	2130	3000	3000
300	2650	2650	2180	1850	2180	2265	1850	2265	2500	1985	2950	2875
400	2565	2565	2010	1700	2010	2080	1700	2080	2335	1915	2825	2765
500	2445	2445	1885	1595	1885	1935	1595	1935	2195	1915	2695	2655
600	2300	2300	1790	1505	1790	1830	1505	1830	2090	1915	2450	2450
650	2225	2225	1750	1480	1750	1790	1480	1790	2050	1915	2380	2380
700	2150	2150	1710	1460	1710	1760	1460	1760	2010	1905	2300	2300
750	2055	2055	1675	1430	1675	1730	1430	1730	1990	1885	2155	2155
800	-	-	1645	1400	1645	1710	1400	1710	1970	1855	2060	2055
850	-	-	1605	1370	1605	1695	1370	1695	1965	1525	1970	
900	-	-	1575	-	1575	1680	-	1680	1820	1110	1820	
950	-	-	1545	-	1545	1565	-	1565	1565		1565	
1000	-	-	1435	-	1435	1475	-	1475	1475		1475	

Class 6000 Pipe Unions

Service Temperature (°F)	Non-Shock Working Pressure (psig)											
	A105 Carbon Steel	A350-LF2 Carbon Steel	A182F304 Stainless Steel	A182F304L Stainless Steel	A182F304H Stainless Steel	A182F316 Stainless Steel	A182F316L Stainless Steel	A182F316H Stainless Steel	F347 Stainless Steel	Monel 400	Hastelloy C276	Alloy 20
100	6000	6000	5835	4860	5835	5835	4860	5835	5835	4860	6000	6000
200	5500	5500	4860	4140	4860	5020	4140	5020	5370	4260	6000	6000
300	5300	5300	4355	3695	4355	4530	3695	4530	5000	3970	5900	5760
400	5135	5135	4025	3405	4025	4160	3405	4160	4670	3830	5660	5520
500	4885	4885	3775	3190	3775	3870	3190	3870	4395	3830	5385	5310
600	4600	4600	3580	3015	3580	3655	3015	3655	4180	3830	4900	4900
650	4450	4450	3500	2955	3500	3580	2955	3580	4105	3830	4770	4775
700	4305	4305	3425	2915	3425	3520	2915	3520	4025	3810	4600	4595
750	4115	4115	3345	2860	3345	3460	2860	3460	3985	3775	4310	4300
800	-	-	3285	-	3285	3425	2800	3425	3950	3715	4115	4110
850	-	-	3210	-	3210	3385	2740	3385	3930	3060	3950	
900	-	-	3150	-	3150	f	-	3365	3640	2220	3640	
950	-	-	3090	-	3090	3130	-	3130	3130		3130	
1000	-	-	2870	-	2870	2945	-	2945	2945		2945	

Note: The pressure/temperature service data detailed above is for general guidance only. Actual service conditions should be validated and tested.

Source: Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. "MSS SP-83-2018." 2018.



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