



C l e a n n e s s b y P u r p o s e

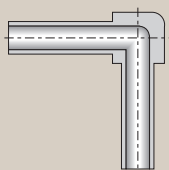
U.S.A. Ver.



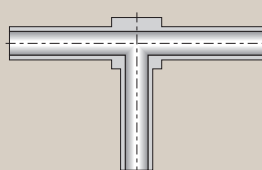
WF Weld Fitting

IHARA SCIENCE CORPORATION

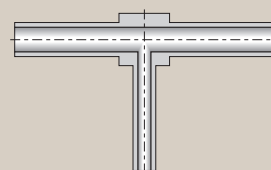
ELBOW

3 AWF-L (Forged Surface)

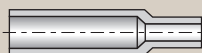
TEE

3 AWF-T (Forged Surface)

REDUCING TEE

3 AWF-TR (Forged Surface)

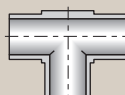
REDUCING UNION

4 AWURB

SHORT ELBOW

4 SAWLSB

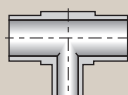
SHORT TEE

4 SAWTSB

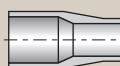
SHORT REDUCING ELBOW

4 SAWLRB

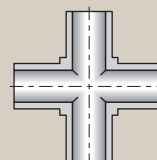
SHORT REDUCING TEE

4 SAWTRB

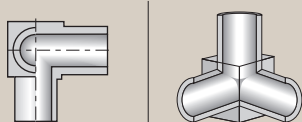
SHORT REDUCING UNION

4 SAWURB

SHORT CROSS

5 SAWXSB

SHORT ANGLE TEE

5 SAWLST

FEATURES

- The two standard material are single melt material and double melt material.
- Dimensional tolerances are held to minimum by precision machining.
- After precision washings, fittings are sealed in high purity nitrogen gas and packed in double in a clean room.



PART NUMBERS BY DESCRIPTIVE

MACHINED SURFACE

SHORT TYPE S
LONG TYPE Blank

Shape Symbol

AW

SIZE

GRADE

C-

INCH	Symbol
1/8	2
1/4	4
3/8	6
1/2	8
3/4	12
1	16

Contents	Symbol
SHORT ELBOW	LSB
SHORT TEE	TSB
SHORT CROSS	XSB
SHORT ANGLE TEE	LST
REDUCING UNION	URB
REDUCING ELBOW	LRB
REDUCING TEE	TRB

Contents	Symbol
Ra0.8(Rmax3.2) Single Melt	32
Ra0.2(Rmax0.7) Single Melt	07
Ra0.2(Rmax0.7) Double Melt	07W
Ra0.1(Rmax0.4) Double Melt	04W

FORGED SURFACE

Shape Symbol

AWF-

SIZE

GRADE

C-

Contents	Symbol
ELBOW	L
TEE	T
REDUCING TEE	TR

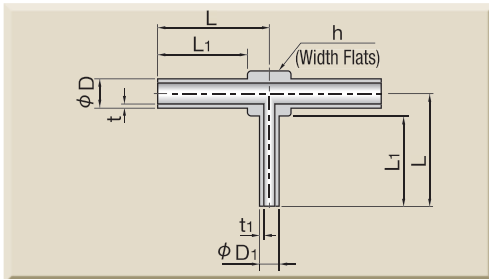
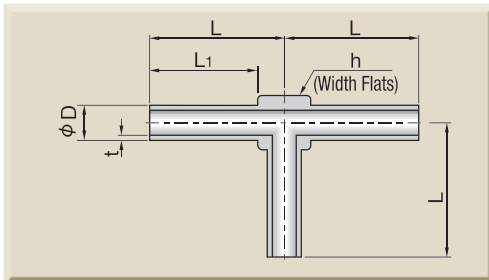
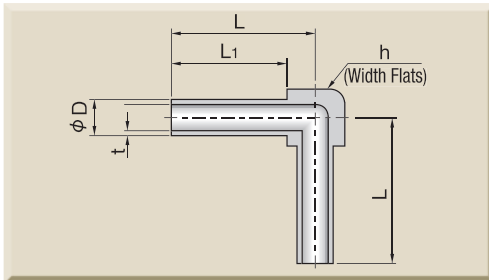
Standard material : 316SS

⚠ WARNING

Inappropriate selection and improper handling of fittings, valves and related accessories can result in physical injuries and damaged to the system. Fittings, valves and related accessories should be under the responsibility and authority of the system engineers and the users with due consideration to their compatibility to the systems to which they are applied and the condition of their use, and must be proper installed, operated and maintained.



LONG TYPE



FORGED SURFACE

ELBOW

inch (mm)

Part Number	ϕ D	t	L1	L	h	Pressure Rating
AWF-L4C	1/4 (6.35)	0.035 (0.89)	0.75 (19.05)	1.23 (31.2)	7/16	8500 (586)
AWF-L6C	3/8 (9.53)	0.035 (0.89)	0.75 (19.05)	1.20 (30.5)	7/16	5100 (352)
AWF-L8C	1/2 (12.70)	0.049 (1.24)	0.75 (19.05)	1.34 (34.0)	11/16	3300 (228)
AWF-L12C	3/4 (19.05)	0.049 (1.24)	0.75 (19.05)	1.46 (37.1)	15/16	3700 (255)

TEE

inch (mm)

Part Number	ϕ D	t	L1	L	h	Pressure Rating
AWF-T4C	1/4 (6.35)	0.035 (0.89)	0.75 (19.05)	1.23 (31.2)	7/16	8500 (586)
AWF-T6C	3/8 (9.53)	0.035 (0.89)	0.75 (19.05)	1.20 (30.5)	7/16	5100 (352)
AWF-T8C	1/2 (12.70)	0.049 (1.24)	0.75 (19.05)	1.34 (34.0)	11/16	3300 (228)
AWF-T12C	3/4 (19.05)	0.049 (1.24)	0.75 (19.05)	1.46 (37.1)	15/16	3700 (255)

REDUCING TEE

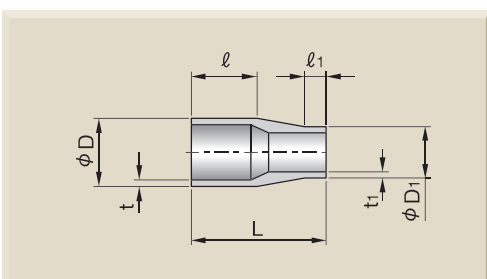
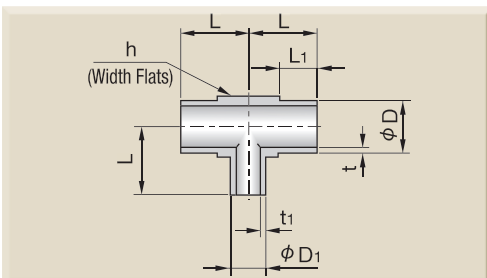
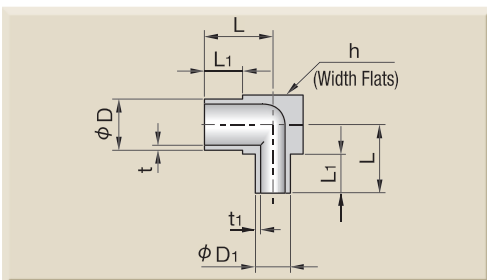
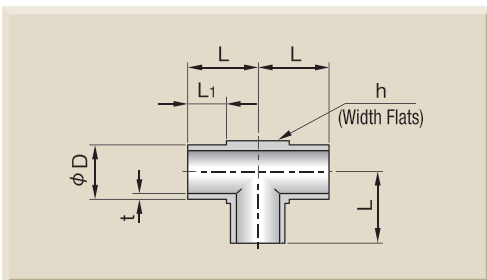
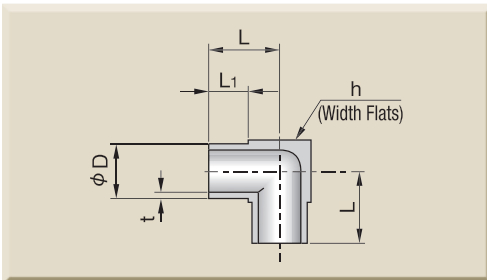
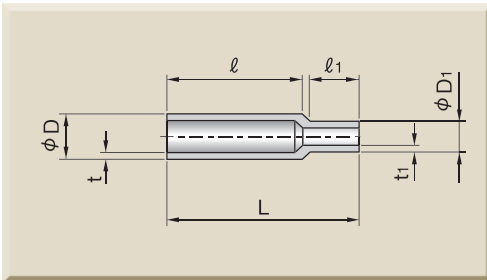
inch (mm)

Part Number	ϕ D	ϕ D1	t	t1	L1	L	L2	h	Pressure Rating
AWF-TR 6-4C	3/8 (9.53)	1/4 (6.35)	0.035 (0.89)	0.035 (0.89)	0.75 (19.05)	1.20 (30.5)	1.23 (31.2)	7/16	3300 (228)
AWF-TR 8-4C	1/2 (12.70)	1/4 (6.35)	0.049 (1.24)	0.035 (0.89)	0.75 (19.05)	1.34 (34.0)	1.34 (34.0)	11/16	3700 (255)
AWF-TR 8-6C	1/2 (12.70)	3/8 (9.53)	0.049 (1.24)	0.035 (0.89)	0.75 (19.05)	1.34 (34.0)	1.34 (34.0)	11/16	3700 (255)
AWF-TR 12-4C	3/4 (19.05)	1/4 (6.35)	0.049 (1.24)	0.035 (0.89)	0.75 (19.05)	1.46 (37.1)	1.48 (37.6)	15/16	3300 (228)
AWF-TR 12-6C	3/4 (19.05)	3/8 (9.53)	0.049 (1.24)	0.035 (0.89)	0.75 (19.05)	1.46 (37.1)	1.35 (34.3)	15/16	3300 (228)

Pressure Rating: psig (bar)



LONG TYPE



REDUCING UNION

inch (mm)

Part Number	ϕD	ϕD_1	t	t ₁	L	ℓ	ℓ_1	Pressure Rating
AWURB 6-4C	3/8 (9.53)	1/4 (6.35)	0.035 (0.89)	0.035 (0.89)	1.5 (38.1)	0.75 (19.1)	0.75 (19.1)	3300 (228)
AWURB 8-4C	1/2 (12.70)	1/4 (6.35)	0.049 (1.24)	0.035 (0.89)	1.5 (38.1)	0.75 (19.1)	0.75 (19.1)	3700 (255)
AWURB 8-6C	1/2 (12.70)	3/8 (9.53)	0.049 (1.24)	0.035 (0.89)	1.5 (38.1)	0.75 (19.1)	0.75 (19.1)	3300 (228)
AWURB 12-8C	3/4 (19.05)	1/2 (12.70)	0.049 (1.24)	0.049 (1.24)	1.5 (38.1)	0.75 (19.1)	0.75 (19.1)	2400 (166)
AWURB 16-8C	1 (25.40)	1/2 (12.70)	0.065 (1.65)	0.049 (1.24)	1.5 (38.1)	0.75 (19.1)	0.75 (19.1)	2400 (166)
AWURB 16-12C	1 (25.40)	3/4 (19.05)	0.065 (1.65)	0.049 (1.24)	1.5 (38.1)	0.75 (19.1)	0.75 (19.1)	2400 (166)

SHORT ELBOW

inch (mm)

Part Number	ϕD	t	L ₁	L	h	Pressure Rating
SAWLSB 2C	1/8 (3.18)	0.028 (0.71)	0.25 (6.35)	0.41 (10.4)	5/16	8500 (586)
SAWLSB 4C	1/4 (6.35)	0.035 (0.89)	0.25 (6.35)	0.41 (10.4)	5/16	5100 (352)
SAWLSB 6C	3/8 (9.53)	0.035 (0.89)	0.25 (6.35)	0.47 (11.9)	7/16	3300 (228)
SAWLSB 8C	1/2 (12.70)	0.049 (1.24)	0.25 (6.35)	0.53 (13.5)	9/16	3700 (255)

SHORT TEE

inch (mm)

Part Number	ϕD	t	L ₁	L	h	Pressure Rating
SAWTSB 2C	1/8 (3.18)	0.028 (0.71)	0.25 (6.35)	0.41 (10.4)	5/16	8500 (586)
SAWTSB 4C	1/4 (6.35)	0.035 (0.89)	0.25 (6.35)	0.41 (10.4)	5/16	5100 (352)
SAWTSB 6C	3/8 (9.53)	0.035 (0.89)	0.25 (6.35)	0.47 (11.9)	7/16	3300 (228)
SAWTSB 8C	1/2 (12.70)	0.049 (1.24)	0.25 (6.35)	0.53 (13.5)	9/16	3700 (255)

SHORT REDUCING ELBOW

inch (mm)

Part Number	ϕD	ϕD_1	t	t ₁	L ₁	L	h	Pressure Rating
SAWLRB 6-4C	3/8 (9.53)	1/4 (6.35)	0.035 (0.89)	0.035 (0.89)	0.25 (6.35)	0.47 (11.9)	7/16	3300 (228)
SAWLRB 8-4C	1/2 (12.70)	1/4 (6.35)	0.049 (1.24)	0.035 (0.89)	0.25 (6.35)	0.53 (13.5)	9/16	3700 (255)
SAWLRB 8-6C	1/2 (12.70)	3/8 (9.53)	0.049 (1.24)	0.035 (0.89)	0.25 (6.35)	0.53 (13.5)	9/16	3300 (228)

SHORT REDUCING TEE

inch (mm)

Part Number	ϕD	ϕD_1	t	t ₁	L ₁	L	h	Pressure Rating
SAWTRB 6-4C	3/8 (9.53)	1/4 (6.35)	0.035 (0.89)	0.035 (0.89)	0.25 (6.35)	0.47 (11.9)	7/16	3300 (228)
SAWTRB 8-4C	1/2 (12.70)	1/4 (6.35)	0.049 (1.24)	0.035 (0.89)	0.25 (6.35)	0.53 (13.5)	7/16	3700 (255)
SAWTRB 8-6C	1/2 (12.70)	3/8 (9.53)	0.049 (1.24)	0.035 (0.89)	0.25 (6.35)	0.53 (13.5)	7/16	3300 (228)

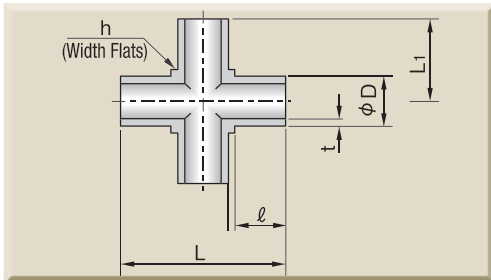
SHORT REDUCING UNION

inch (mm)

Part Number	ϕD	ϕD_1	t	t ₁	L	ℓ	ℓ_1	Pressure Rating
SAWURB 4-2C	1/4 (6.35)	1/8 (3.18)	0.035 (0.89)	0.028 (0.71)	0.75 (19.1)	0.42 (10.7)	0.25 (6.4)	5100 (352)
SAWURB 6-4C	3/8 (9.53)	1/4 (6.35)	0.035 (0.89)	0.035 (0.89)	0.75 (19.1)	0.42 (10.7)	0.25 (6.4)	3300 (228)
SAWURB 8-4C	1/2 (12.70)	1/4 (6.35)	0.049 (1.24)	0.035 (0.89)	0.75 (19.1)	0.42 (10.7)	0.25 (6.4)	3700 (255)
SAWURB 8-6C	1/2 (12.70)	3/8 (9.53)	0.049 (1.24)	0.035 (0.89)	0.75 (19.1)	0.42 (10.7)	0.25 (6.4)	3300 (228)

Pressure Rating: psig (bar)

SHORT TYPE



SHORT CROSS

inch (mm)

Part Number	ϕD	t	L1	L	h	Pressure Rating
SAWXSb 2C	1/8 (3.18)	0.028 (0.71)	0.41 (10.41)	0.82 (20.8)	5/16	8500 (586)
SAWXSb 4C	1/4 (6.35)	0.035 (0.89)	0.41 (10.41)	0.82 (20.8)	5/16	5100 (352)
SAWXSb 6C	3/8 (9.53)	0.035 (0.89)	0.47 (11.94)	0.94 (23.9)	7/16	3300 (228)
SAWXSb 8C	1/2 (12.70)	0.049 (1.24)	0.53 (13.46)	1.06 (26.9)	9/16	3700 (255)

SHORT ANGLE TEE

inch (mm)

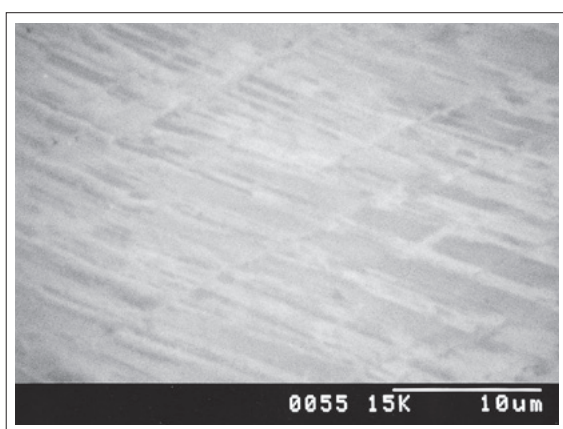
Part Number	ϕD	t	L1	L	h	Pressure Rating
SAWLST 4C	1/4 (6.35)	0.035 (0.89)	0.25 (6.35)	0.41 (10.4)	5/16	5100 (352)
SAWLST 6C	3/8 (9.53)	0.035 (0.89)	0.25 (6.35)	0.47 (11.9)	7/16	3300 (228)
SAWLST 8C	1/2 (12.70)	0.049 (1.24)	0.25 (6.35)	0.53 (13.5)	9/16	3700 (255)

Pressure Rating: psig (bar)

PRODUCT SPECIFICATION

Grade	32	07	07W	04W
Material	316LSS Mn $\leq$ 0.80 % S $\leq$ 0.002 %		316LSS Vacuum double melt material C $\leq$ 0.015 % Mn $\leq$ 0.05 % S $\leq$ 0.002 %	
Cleanliness grade (JIS)	A+B+C $\leq$ 0.05%		A+B+C $\leq$ 0.03%	
Surface finish	Ra0.8 (μ m)	Ra0.18 (μ m)		Ra0.1 (μ m)
Packing label color	White	Yellow	Pink	Blue

Double melt (VIM+VAR) material



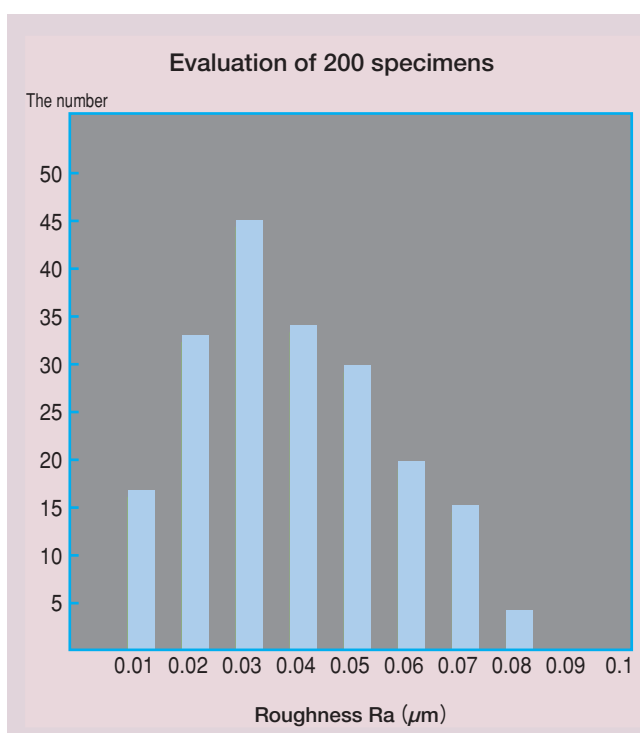
($\times$ 3000)

Measurement of non-metallic inclusion (JIS G 0555)

Type	A-inclusion	B-inclusion	C-inclusion	Total (A+B+C)
Single melt	0	0.01	0.02	0.03
Double melt	0	0	0.02	0.02

(%)

Results of inside surface roughness measurement distribution



Chemical Composition of Material

	C	Mn	P	S	Si	Ni	Cr	Mo
316L Stainless steel (JIS) (Equivalent to ASTM A276/A182)	0.030	2.00	0.045	0.030	1.00	12.00 15.00	16.00 18.00	2.00 3.00
Ihara standard Single Melt	0.030	0.80	0.032	0.002	0.35 0.73	12.00 15.00	16.00 18.00	2.00 3.00
Ihara standard Double Melt	0.015	0.05	0.030	0.002	0.015	12.00 15.00	16.00 18.00	2.00 3.00
Actual Single Melt	0.020	0.89	0.028	0.010	0.55	12.09	17.21	2.05
Actual Double Melt	0.001	0.01	0.003	0.001	0.01	14.70	17.80	2.64

(%)

**WARNING**

If you don't select and handle fittings, valves and related accessories in an adequate manner, it may damage human beings and applicable systems.

Within the responsibility and authorization of users and piping designers, fittings, valves and related accessories shall be adequately selected, assembled, used and maintained based on the applicable conditions and product conformity to the system to be applied. Please read carefully our operation manual and feel free to contact with Ihara if you have any question or request.

Product Warranty

1. **Warranty Period** The warranty period of our products is one (1) year from putting into service or one and half (1.5) years after delivery whichever comes earlier. However, the products of special specification and/or the cases used under deviating from the specification shall be exempted. Please inquire us for the products that specify the service life or replacing parts.
2. **Scope of Warranty** Any failure and damage under maker's responsibility will be found during the warranty period, the substitute and/or replacement parts shall be provided free of charge. The warranty shall not be extended to a claim for the liquidated damages.



ISO9001, ISO14001 Certified Office
Certified office for high-pressure gas facility testing and manufacturing,
certified office for N valves and N-II fittings

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