FEDERAL SUPPLY CLASS
4730

RATIONALE

THIS STANDARD IS BASED ON THE AS1002 FITTING. IT INTRODUCES IMPROVED TOLERANCE END FITTING DESIGNS AS5863, AS5864 AND OTHER IMPROVEMENTS.

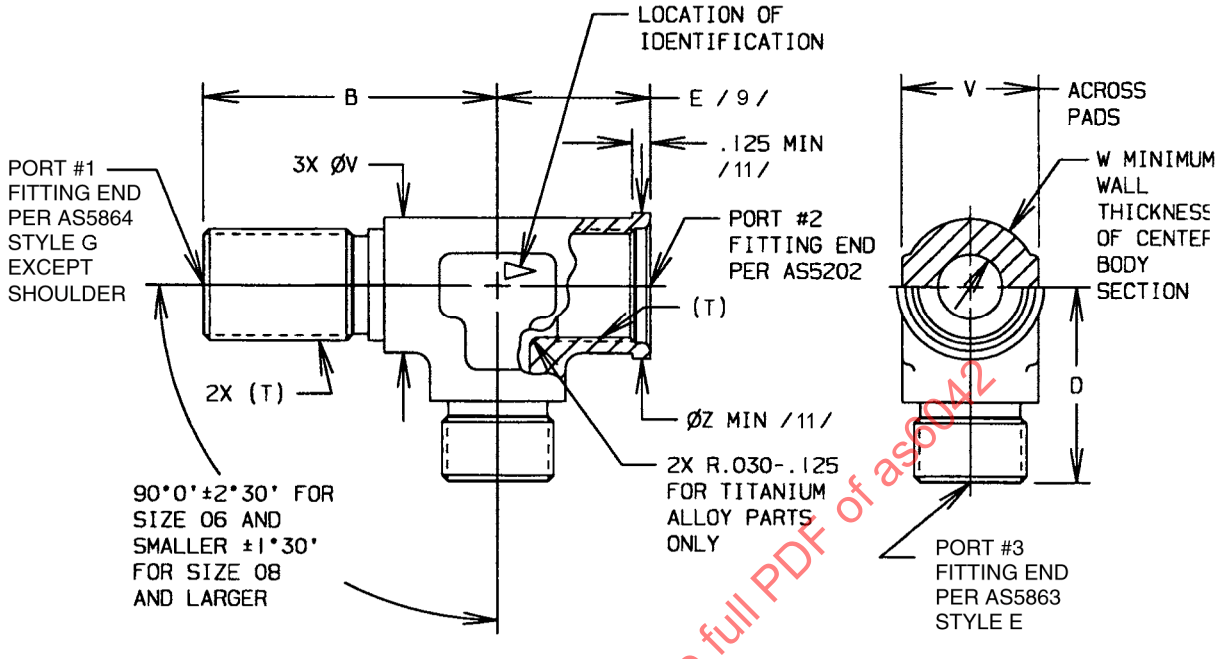


FIGURE 1 - FITTING, TEE, BULKHEAD END, PORT #2 SHOWN AS NON-REDUCER

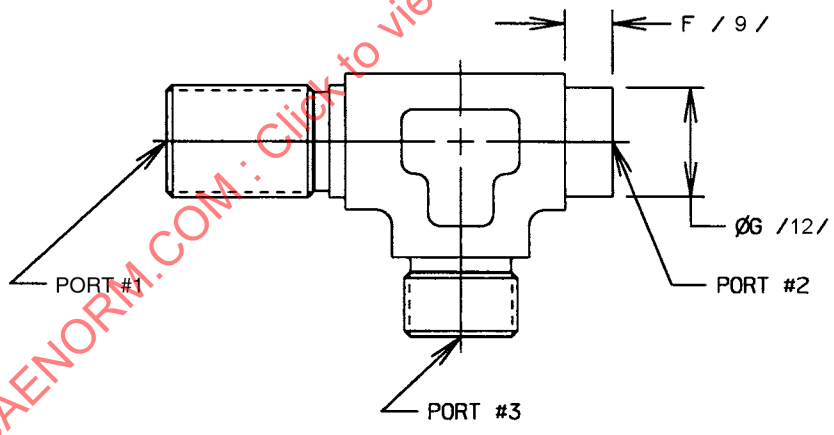
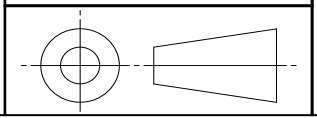


FIGURE 2 - FITTING, TEE, BULKHEAD END, PORT #2 SHOWN AS REDUCER, SAME AS FIGURE 1 EXCEPT AS SHOWN

THIRD ANGLE PROJECTION



ISSUED 2009-12

CUSTODIAN: SAE G-3/G-3B

PROCUREMENT SPECIFICATION: /5/ AS18280

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

FITTING, TEE, STANDARD AND REDUCER, BULKHEAD AND INTERNAL PORT ON RUN, FLARELESS, PRECISION TYPE

SAE AS6042

TABLE 1 - DIMENSIONS AND WEIGHTS /10/ /12/ /13/

BASIC NO. AS6042 /22/ SIZE CODE	E /9/	F / 9/	V	W	Z /11/	LB/EA APPROX REF ALUM	LB/EA APPROX REF STEEL	LB/EA APPROX REF TI
02	.648	-	.485- .502	.090	.562	.018	.051	.029
03	.711	-	.547- .565	.100	.625	.039	.104	.060
04	.773	.375	.735- .753	.110	-	.083	.233	.134
05	.773	.375	.735- .753	.120	.750	.099	.278	.160
06	.836	.375	.860- .878	.120	-	.116	.326	.188
08	1.023	.469	1.047-1.065	.150	-	.197	.554	.319
10	1.180	.625	1.047-1.065	.170	1.125	.206	.579	.334
12	1.367	.688	1.297-1.317	.185	1.375	.360	1.012	.583
14	1.507	.706	1.547-1.567	.200	-	-	-	-
16	1.555	.719	1.605-1.630	.205	1.625	.455	1.340	.773
20	1.742	.781	1.855-1.880	.240	1.938	.672	1.950	1.125

TABLE 2 - LEG LENGTH B /10/ /14/

FORGING SIZE	TUBE SIZE OF PORT #1										
	02	03	04	05	06	08	10	12	14	16	20
02	1.398	-	-	-	-	-	-	-	-	-	-
03	1.430	1.477	-	-	-	-	-	-	-	-	-
04	1.585	1.632	1.695	-	-	-	-	-	-	-	-
05	1.585	1.632	1.695	1.695	-	-	-	-	-	-	-
06	1.758	1.805	1.868	1.868	1.914	-	-	-	-	-	-
08	1.727	1.774	1.837	1.837	1.883	2.055	-	-	-	-	-
10	1.804	1.851	1.914	1.914	1.960	2.132	2.273	-	-	-	-
12	1.883	1.930	1.993	1.993	2.039	2.211	2.352	2.461	-	-	-
14	2.040	2.087	2.150	2.150	2.196	2.368	2.509	2.618	2.618	-	-
16	2.102	2.149	2.212	2.212	2.258	2.430	2.571	2.680	2.680	2.680	-
20	2.242	2.289	2.352	2.352	2.398	2.570	2.711	2.820	2.820	2.820	2.820

TABLE 3 - LEG LENGTH D /10/ /14/

FORGING SIZE	TUBE SIZE OF PORT #3										
	02	03	04	05	06	08	10	12	14	16	20
02	.867	-	-	-	-	-	-	-	-	-	-
03	.883	.930	-	-	-	-	-	-	-	-	-
04	1.039	1.086	1.117	-	-	-	-	-	-	-	-
05	1.039	1.086	1.117	1.117	-	-	-	-	-	-	-
06	1.086	1.133	1.164	1.164	1.180	-	-	-	-	-	-
08	1.180	1.227	1.258	1.258	1.274	1.367	-	-	-	-	-
10	1.273	1.320	1.351	1.351	1.367	1.460	1.523	-	-	-	-
12	1.351	1.398	1.429	1.429	1.445	1.538	1.601	1.644	-	-	-
14	1.492	1.593	1.870	1.570	1.586	1.679	1.724	1.867	1.867	-	-
16	1.554	1.601	1.632	1.632	1.648	1.741	1.804	1.867	1.867	1.867	-
20	1.695	1.742	1.773	1.773	1.789	1.882	1.945	2.008	2.008	2.008	2.008

TABLE 4 - MACHINED ØG /10/ /14/

FORGING SIZE	TUBE SIZE OF PORT #2										
	02	03	04	05	06	08	10	12	14	16	20
02	-	-	-	-	-	-	-	-	-	-	-
03	-	-	-	-	-	-	-	-	-	-	-
04	.594	.656	-	-	-	-	-	-	-	-	-
05	.594	.656	-	-	-	-	-	-	-	-	-
06	.594	.656	.719	.781	-	-	-	-	-	-	-
08	.594	.656	.719	.781	.844	-	-	-	-	-	-
10	.594	.656	.719	.781	.844	-	-	-	-	-	-
12	.594	.656	.719	.781	.844	1.062	-	-	-	-	-
14	.594	.656	.719	.781	.844	1.062	1.188	1.438	-	-	-
16	.594	.656	.719	.781	.844	1.062	1.188	1.438	1.562	-	-
20	.594	.656	.719	.781	.844	1.062	1.188	1.438	1.562	1.688	-

TABLE 5 - TUBE SIZE AND CORRESPONDING THREAD

PORT SIZE	(NOMINAL TUBE SIZE)	T THREAD PER AS8879 OR ISO 3161
02	.125	.3125-24 UNJF
03	.188	.3750-24 UNJF
04	.250	.4375-20 UNJF
05	.312	.5000-20 UNJF
06	.375	.5625-18 UNJF
08	.500	.7500-16 UNJF
10	.625	.8750-14 UNJF
12	.750	1.0625-12 UNJ
14	.875	1.1875-12 UNJ
16	1.000	1.3125-12 UNJ
20	1.250	1.6250-12 UNJ

NOTES:

NOTICE

THIS DOCUMENT REFERENCES A PART WHICH CONTAINS CADMIUM AS A PLATING MATERIAL. CONSULT LOCAL OFFICIALS IF YOU HAVE QUESTIONS CONCERNING CADMIUM'S USE.

/1/ MATERIAL:

a. CODE LETTER T – TYPE 6AL-4V TITANIUM ALLOY PER PROCUREMENT SPECIFICATION
b. CODE LETTER V – TYPE 15-5PH, CORROSION RESISTANT STEEL PER PROCUREMENT SPECIFICATION
c. CODE LETTER W – TYPE 7075-T73 ALUMINUM ALLOY BAR OR FORGING, OR TYPE 7075-T7351 ALUMINUM ALLOY BAR PER PROCUREMENT SPECIFICATION

2. HEAT TREATMENT:

a. MATERIAL CODE LETTER T – ANNEALED PER PROCUREMENT SPECIFICATION
b. MATERIAL CODE LETTER V – AGE TO CONDITION H1075 PER PROCUREMENT SPECIFICATION
c. MATERIAL CODE LETTER W – T73 OR T7351 PER PROCUREMENT SPECIFICATION

/3/ FINISH:

a. MATERIAL CODE LETTER T – ANODIZE OR FLUORIDE PHOSPHATE CONVERSION COAT PER PROCUREMENT SPECIFICATION
b. MATERIAL CODE LETTER V:
   1. V CODE PARTS TO BE PASSIVATED ONLY WILL HAVE NO FINISH CODE LETTER AFTER THE SIZE CODE IN THE PART NUMBER. THE FINISH WILL BE: PASSIVATE PER PROCUREMENT SPECIFICATION
   2. V CODE PARTS TO BE CADMIUM PLATED ONLY SHALL HAVE THE FINISH CODE LETTER "P" AFTER THE SIZE CODE IN THE PART NUMBER. THE FINISH WILL BE: CADMIUM PLATE PER PROCUREMENT SPECIFICATION
c. MATERIAL CODE LETTER W – ANODIZE PER PROCUREMENT SPECIFICATION

/4/ CLEANING AND PACKAGING FOR OXYGEN SYSTEM APPLICATIONS - CODE LETTER A /22/:

a. MATERIAL CODE LETTER V – CLEAN AND PACKAGE PER ARP1176 CATEGORY 1C
b. MATERIAL CODE LETTER W – CLEAN AND PACKAGE PER ARP1176 CATEGORY 2

/5/ PROCUREMENT SPECIFICATION: AS18280 UNLESS OTHERWISE SPECIFIED ON THIS STANDARD. PRODUCT SUPPLIED TO THIS SPECIFICATION SHALL BE MANUFACTURED BY AN ACCREDITED MANUFACTURER AS LISTED IN THE PERFORMANCE REVIEW INSTITUTE (PRI) QUALIFIED PRODUCTS LIST PRI-QPL-AS18280 FOR THIS STANDARD. SEE http://www.eauditnet.com FOR CURRENT QPL ONLINE.

6. INTENDED USE: THIS PART IS DESIGNED FOR USE IN TUBING CONNECTION SYSTEMS WITH NOMINAL OPERATING PRESSURES AS SPECIFIED IN AS18280. ADDITIONAL CRITERIA - FOR REDUCER CONFIGURATIONS THE PRESSURE RATING IS DETERMINED BY THE LARGEST PORT.

7. FITTING IDENTIFICATION SHALL BE IN ACCORDANCE WITH AS18280.

8. WHEN MACHINING FROM BAR STOCK OR OVERSIZED FORGING, THE CENTER BODY DIMENSIONS SHALL CONFORM TO AS1376, TABLE 2.

/9/ DIMENSIONS "E" AND "F" ARE DETERMINED BY THE FORGING SIZE.

/10/ THE DIMENSIONS IN THE TABLES 1 THROUGH 5 ARE FOR FINAL MACHINED PARTS. THE FORGING SIZE IS DETERMINED AS THE SIZE NECESSARY TO MAKE THE LARGEST FITTING END.

/11/ THE .125 MINIMUM DIMENSION APPLIES ONLY WHEN "Z" IS SPECIFIED. WHEN "Z" IS NOT SPECIFIED, USE "V", TABLE 1.

/12/ WHEN "G" DIMENSION FROM TABLE 4 IS NOT SPECIFIED, USE "V" DIMENSION, TABLE 1.

/13/ WEIGHTS ARE FOR NON-REDUCERS ONLY. REDUCER FITTINGS WILL HAVE LOWER WEIGHTS.

/14/ REDUCER FITTINGS WHICH FALL IN THE SHADED AREA OF TABLES 2, 3, AND 4 SHOULD BE AVOIDED. IF THEY MUST BE USED, SPECIAL ATTENTION SHOULD BE GIVEN TO CLAMPING OR OTHER MEANS TO PROTECT THE SMALLER PORT OR TUBE.

15. A CHANGE BAR (l) LOCATED IN THE LEFT MARGIN IS FOR THE CONVENIENCE OF THE USER IN LOCATING AREAS WHERE TECHNICAL REVISIONS, NOT EDITORIAL CHANGES, HAVE BEEN MADE TO THE PREVIOUS ISSUE OF THIS DOCUMENT. AN (R) SYMBOL TO THE LEFT OF THE DOCUMENT TITLE INDICATES A COMPLETE REVISION OF THE DOCUMENT, INCLUDING TECHNICAL REVISIONS. CHANGE BARS AND (R) ARE NOT USED IN ORIGINAL PUBLICATIONS, NOR IN DOCUMENTS THAT CONTAIN EDITORIAL CHANGES ONLY.

16. INTERPRETATION OF DRAWING PER ARP4296.

17. BREAK EDGES .003 TO .015 UNLESS OTHERWISE SPECIFIED.

18. FLUID PASSAGE, HOLE CONTOUR PER ARP4266 .

19. SURFACE TEXTURE: SYMBOLS PER ASME Y14.36M; REQUIREMENTS PER ASME B46.1. UNLESS OTHERWISE SPECIFIED, MACHINED SURFACES TO BE 125 µin Ra. FORGED SURFACES MAY BE 250 µin Ra.

20. DIMENSIONING AND TOLERANCING: ASME Y14.5M-1994.

21. DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: LINEAR DIMENSIONS +/- .016, ANGULAR DIMENSIONS +/- 0°30".