FEDERAL SUPPLY CLASS
4730

RATIONALE

THIS FITTING STANDARD IS BASED ON THE AS1007 FITTING. IT INCORPORATES THE IMPROVED TOLERANCE FITTING DESIGN STANDARDS AS5863, AS5684, AND OTHER IMPROVEMENTS.

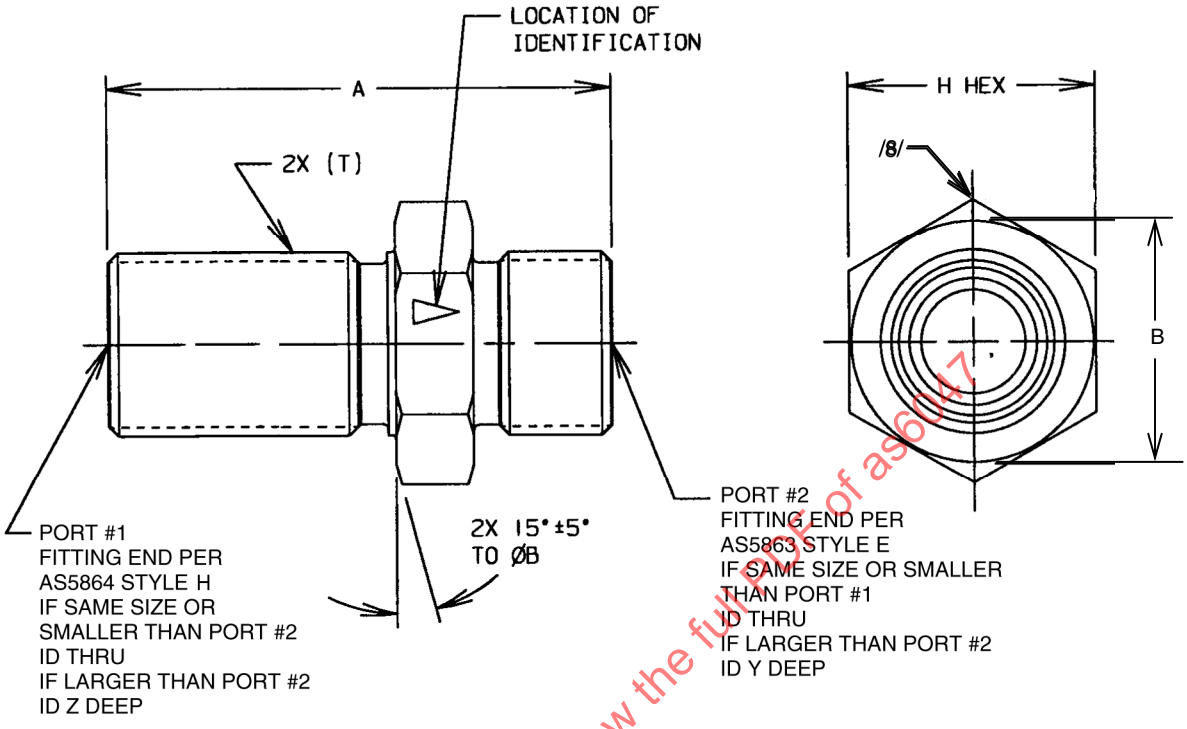
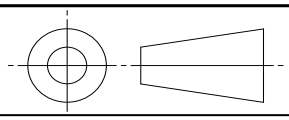


FIGURE 1 - FITTING, UNION, STANDARD AND REDUCER, BULKHEAD END, NON-REDUCER SHOWN

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, UNION,
STANDARD AND REDUCER,
BULKHEAD, FLARELESS, PRECISION TYPE

SAE AS6047

TABLE 1 - OVERALL LENGTH A /9/ /11/

SIZE OF PORT #2	SIZE OF PORT #1 02 ±.010	03 ±.010	04 ±.010	05 ±.010	06 ±.010	08 ±.010	10 ±.010	12 ±.010	14 ±.010	16 ±.010	20 ±.010	24 ±.010	32 ±.010
02	1.484	1.516	1.578	1.609	1.703	1.844	2.000	2.156	2.156	2.156	2.156	2.156	2.422
03	1.516	1.563	1.625	1.656	1.750	1.891	2.047	2.203	2.203	2.203	2.203	2.203	2.469
04	1.547	1.594	1.656	1.688	1.781	1.922	2.078	2.234	2.234	2.234	2.234	2.234	2.500
05	1.578	1.625	1.688	1.688	1.781	1.922	2.078	2.324	2.234	2.234	2.234	2.234	2.500
06	1.641	1.688	1.750	1.750	1.797	1.938	2.094	2.250	2.250	2.250	2.250	2.250	2.516
08	1.734	1.781	1.844	1.844	1.891	2.031	2.188	2.344	2.344	2.344	2.344	2.344	2.609
10	1.813	1.859	1.922	1.922	1.969	2.109	2.250	2.406	2.406	2.406	2.406	2.406	2.672
12	1.922	1.969	2.031	2.031	2.078	2.219	2.360	2.484	2.469	2.469	2.469	2.469	2.734
14	1.922	1.969	2.031	2.031	2.078	2.219	2.360	2.469	2.469	2.469	2.469	2.469	2.734
16	1.922	1.969	2.031	2.031	2.078	2.219	2.360	2.469	2.469	2.469	2.469	2.469	2.734
20	1.922	1.969	2.031	2.031	2.078	2.219	2.360	2.469	2.469	2.469	2.469	2.469	2.734
24	1.922	1.969	2.031	2.031	2.078	2.219	2.360	2.469	2.469	2.469	2.469	2.469	2.734
32	1.984	2.031	2.094	2.094	2.141	2.281	2.422	2.531	2.531	2.531	2.531	2.531	2.734

TABLE 2 - HOLE DEPTH Y /9/ /11/

SIZE OF PORT #2	SIZE OF PORT #1 02	03	04	05	06	08	10	12	14	16	20	24	32
02	-	-	-	-	-	-	-	-	-	-	-	-	-
03	.469	-	-	-	-	-	-	-	-	-	-	-	-
04	.484	.484	-	-	-	-	-	-	-	-	-	-	-
05	.500	.500	.516	-	-	-	-	-	-	-	-	-	-
06	.547	.531	.562	.562	-	-	-	-	-	-	-	-	-
08	.594	.594	.625	.625	.641	-	-	-	-	-	-	-	-
10	.656	.656	.672	.672	.703	.672	-	-	-	-	-	-	-
12	.719	.719	.734	.750	.766	.750	.750	-	-	-	-	-	-
14	.688	.688	.704	.719	.735	.719	.719	.861	-	-	-	-	-
16	.656	.656	.672	.672	.703	.688	.688	.719	.688	-	-	-	-
20	.594	.594	.609	.609	.641	.625	.625	.656	.625	.703	-	-	-
24	.516	.516	.531	.547	.562	.641	.656	.578	.547	.641	.656	-	-
32	.453	.438	.469	.469	.469	.469	.469	.516	.485	.562	.578	.656	-

TABLE 3 - HOLE DEPTH Z /9/ /11/

SIZE OF PORT #2	SIZE OF PORT #1 02	03	04	05	06	08	10	12	14	16	20	24	32
02	-	1.016	1.062	1.078	1.156	1.250	1.391	1.500	1.477	1.438	1.375	1.297	1.438
03	-	-	1.047	1.078	1.141	1.250	1.391	1.500	1.471	1.422	1.375	1.297	1.422
04	-	-	-	1.094	1.172	1.281	1.406	1.516	1.494	1.453	1.391	1.312	1.453
05	-	-	-	-	1.172	1.281	1.422	1.531	1.500	1.453	1.391	1.328	1.453
06	-	-	-	-	-	1.297	1.438	1.547	1.523	1.391	1.422	1.344	1.484
08	-	-	-	-	-	-	1.453	1.562	1.533	1.484	1.438	1.359	1.391
10	-	-	-	-	-	-	-	1.562	1.537	1.500	1.438	1.359	1.500
12	-	-	-	-	-	-	-	-	1.574	1.531	1.468	1.406	1.531
14	-	-	-	-	-	-	-	-	-	1.566	1.503	1.430	1.559
16	-	-	-	-	-	-	-	-	-	-	1.516	1.453	1.562
20	-	-	-	-	-	-	-	-	-	-	-	1.468	1.594
24	-	-	-	-	-	-	-	-	-	-	-	-	-
32	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 4 - TUBE SIZE AND CORRESPONDING THREAD

PORT SIZE	(NOMINAL TUBE SIZE)	T THREAD 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	1.8750-12 UNJ
16	1.000	1.3125-12 UNJ
20	1.250	1.6250-12 UNJ
24	1.500	1.8750-12 UNJ
32	2.000	2.5000-12 UNJ

TABLE 5 - HEX DIMENSION AND WEIGHTS /9/ /10/

BASIC NO. AS6047 /19/ LARGEST PORT SIZE CODE	B ±.010	H	LB/EA APPROX REF ALUM	LB/EA APPROX REF STEEL	LB/EA APPROX REF TI
02	.542	.552- .565	.00990	.0279	.0153
03	.605	.615- .628	.0162	.0432	.0243
04	.668	.678- .691	.0207	.0558	.0315
05	.730	.740- .753	.0261	.0702	.0405
06	.792	.802- .815	.0315	.0855	.0486
08	.980	.990-1.003	.0576	.158	.0900
10	1.103	1.113-1.128	.0810	.210	.126
12	1.353	1.363-1.380	.120	.325	.187
14	1.478	1.488-1.505	-	-	-
16	1.603	1.613-1.630	.182	.437	.286
20	1.853	1.863-1.880	.224	.610	.332
24	2.099	2.109-2.225	.266	.733	.422
32	2.724	2.734-2.760	-	-	-

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 – TYPE 7075-T7351 ALUMINUM ALLOY BAR 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 – T73 OR T7351 PER PROCUREMENT SPECIFICATION

/4/ OXYGEN SYSTEM AND COMPONENT CLEANING, SUFFIX LETTER A /19/:

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

8. THE HEX CORNERS MAY BE ROUNDED PER ARP1942.

/9/ THE DIMENSIONS IN THE TABLES 1 THROUGH 5 ARE FOR FINAL MACHINED PARTS. THE BAR SIZE IS DETERMINED AS THE SIZE NECESSARY TO MAKE THE LARGEST FITTING END.

/10/ WEIGHTS ARE FOR NON-REDUCERS ONLY. REDUCER FITTINGS WILL HAVE LOWER WEIGHTS.

/11/ REDUCER FITTINGS WHICH FALL IN THE SHADED AREA OF TABLES 1, 2, AND 3 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.

12. FITTING IDENTIFICATION SHALL BE IN ACCORDANCE WITH AS18280.

13. 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.

14. INTERPRETATION OF DRAWING PER ARP4296.

15. FLUID PASSAGE, HOLE CONTOUR PER ARP4266.

16. 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.

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

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