FEDERAL SUPPLY CLASS
4730

RATIONALE

THIS STANDARD IS BASED ON AS5230. IT UTILIZES THE AS5863 IMPROVED TOLERANCE FITTING END DESIGN.

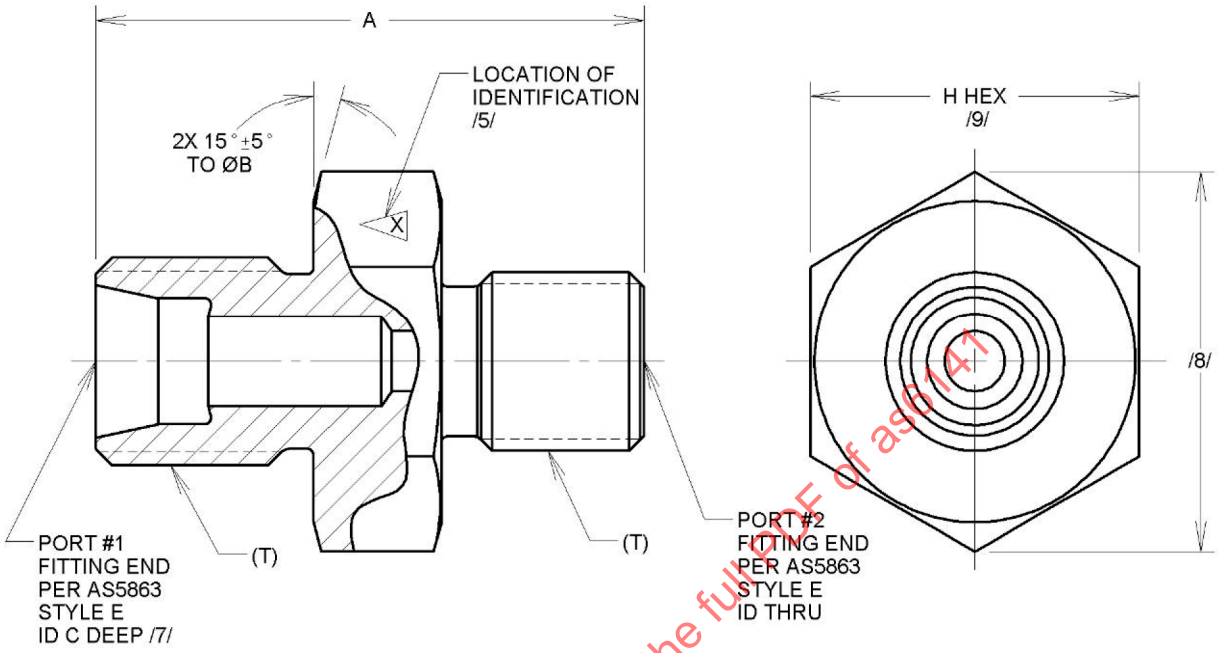
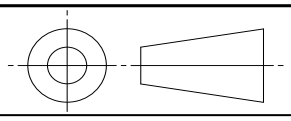


FIGURE 1 – FITTING, UNION AND REDUCER

TABLE 1 – DIMENSIONS /11/

PORT #1 /18/ SIZE CODE	A PORT #2 SIZE CODE												
	02	03	04	05	06	08	10	12	14	16	20	24	32
02	1.063	-	-	-	-	-	-	-	-	-	-	-	-
03	1.047	1.094	-	-	-	-	-	-	-	-	-	-	-
04	1.094	1.141	1.063	-	-	-	-	-	-	-	-	-	-
05	-	-	1.156	1.063	-	-	-	-	-	-	-	-	-
06	1.156	1.203	1.219	1.219	1.188	-	-	-	-	-	-	-	-
08	1.250	1.297	1.344	1.344	1.344	1.375	-	-	-	-	-	-	-
10	-	-	1.438	-	1.625	1.531	1.563	-	-	-	-	-	-
12	-	-	1.531	1.531	1.531	1.625	1.688	1.750	-	-	-	-	-
14	-	-	1.531	1.531	1.531	1.625	1.688	1.750	1.750				
16	-	-	1.531	-	-	-	1.688	1.750	-	1.750	-	-	-
20	-	-	1.531	-	-	-	-	1.813	-	1.750	1.750	-	-
24	-	-	-	-	-	-	-	-	-	1.750	1.750	1.750	-
32	-	-	-	-	-	-	-	-	-	-	-	-	1.813

THIRD ANGLE PROJECTION



ISSUED 2010-08

CUSTODIAN: G-3/G-3B

PROCUREMENT SPECIFICATION: /4/ AS18280

SAE Aerospace
An SAE International Group

AEROSPACE STANDARD

FITTING, UNION AND REDUCER, FLARELESS, PRECISION TYPE

SAE AS6141
SHEET 1 OF 4

TABLE 2 – DIMENSIONS

PORT #1 /18/ SIZE CODE	C ±.031 PORT #2 SIZE CODE												
	02	03	04	05	06	08	10	12	14	16	20	24	32
02	-	-	-	-	-	-	-	-	-	-	-	-	-
03	.553	-	-	-	-	-	-	-	-	-	-	-	-
04	.582	.577	-	-	-	-	-	-	-	-	-	-	-
05	-	-	.570	-	-	-	-	-	-	-	-	-	-
06	.612	.607	.615	.621	-	-	-	-	-	-	-	-	-
08	.647	.664	.703	.709	.716	-	-	-	-	-	-	-	-
10	-	-	.775	-	.974	.796	-	-	-	-	-	-	-
12	-	-	.822	.829	.835	.845	.850	-	-	-	-	-	-
14	-	-	.791	.797	.803	.814	.819	.855	-				
16	-	-	.759	-	-	-	.787	.823	-	-	-	-	-
20	-	-	.696	-	-	-	-	.823	-	.808	-	-	-
24	-	-	-	-	-	-	-	-	-	.735	.751	-	-
32	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 3 – DIMENSIONS AND WEIGHTS /10/

PORT SIZE CODE	(NOMINAL TUBE SIZE)	T THREAD PER AS8879 CLASS 3A	B ±.010	H	LB/EA APPROX REF AL	LB/EA APPROX REF STEEL	LB/EA APPROX REF TI
02	.125	.3125-24 UNJF	.542	.552-.565	.0138	.0396	.0218
03	.188	.3750-24 UNJF	.605	.615-.628	.0165	.0474	.0261
04	.250	.4375-20 UNJF	.668	.678-.691	.0164	.0470	.0259
05	.312	.5000-20 UNJF	.730	.740-.753	.0201	.0577	.0319
06	.375	.5625-18 UNJF	.792	.802-.815	.0286	.0821	.0453
08	.500	.7500-16 UNJF	.980	.990-1.003	.0508	.146	.0805
10	.625	.8750-14 UNJF	1.103	1.113-1.128	.0769	.221	.122
12	.750	1.0625-12 UNJ	1.353	1.363-1.380	.121	.348	.192
14	.875	1.1875-12 UNJ	1.478	1.488-1.505	.142	.408	.225
16	1.000	1.3125-12 UNJ	1.603	1.613-1.630	.167	.478	.264
20	1.250	1.6250-12 UNJ	1.853	1.863-1.880	.235	.676	.373
24	1.500	1.8750-12 UNJ	2.099	2.109-2.135	.279	.801	.442
32	2.000	2.5000-12 UNJ	2.724	2.734-2.760	.509	1.46	.807

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 BAR PER AMS4928

b. CODE LETTER V - TYPE 15-5PH CORROSION RESISTANT STEEL PER AMS5659.

c. CODE LETTER W - TYPE 7075-T73 ALUMINUM ALLOY BAR PER AMSQQ-A-225/9 OR TYPE 7075-T7351 ALUMINUM ALLOY BAR PER AMS4124. /2/

/2/ HEAT TREATMENT:

a. MATERIAL CODE LETTER T - NONE.

b. MATERIAL CODE LETTER V – HEAT TREAT TO CONDITION H 1075 PER AMS2759/3.

c. OTHER CODE LETTER W – SEE ELECTRICAL CONDUXTIVITY AND HARDNESS REQUIREMENT PER PROCUREMENT SPECIFICATION.

3. FINISH:

a. MATERIAL CODE LETTER T – ANNODIZE PER AMS2488 OR FLUORIDE PHOSPHATE CONVERSION COAT PER AMS2486 WITH COLOR PER PROCUREMENT SPECIFICATION.

b. MATERIAL CODE LETTER V WITH NO FINISH CODE – PASSIVATE PER AMS2700, TYPE 2 OR 8.
MATERIAL CODE LETTER V WITH FINISH CODE P – CADMIUM PLATE PER AMS-QQ-P-416, TYPE II, CLASS 2, .0004 MAXIMUM THICKNESS. POST PLATE BAKE FOR A MINIMUM OF 3 HRS AT 375 °F ± 25 °F.

c. MATERIAL CODE LETTER W – ANODIZE PER MIL-A-8625, TYPE II, CLASS 2, DYE BROWN, DUPLEX SEAL PER PROCUREMENT SPECIFICATION.

/4/ PROCUREMENT SPECIFICATION: AS18280 EXCEPT AS 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 https://www.eauditnet.com FOR CURRENT QPL ONLINE.

/5/ IDENTIFICATION AT LOCATION SHOWN: MARK PER AS478 CLASS C, D OR METHOD 7A3, 15A3, OR 15B.

a. FOR SIZE 06 AND SMALLER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, LETTER "AS" AND MATERIAL CODE LETTER.

b. FOR SIZE 08 AND LARGER: MANUFACTURER'S NAME, CAGE CODE OR TRADEMARK, BASIC PART NUMBER AND MATERIAL CODE LETTER.

6. INTENDED USE:

a. THIS STANDARD IS THE FUNCTIONAL EQUIVALENT OF MS21902, AS21916 AND AS5230, AND IS INTENDED TO BE SUITABLE AS A REPLACEMENT STANDARD.

b. CLEANING OF ALUMINUM ALLOY FITTINGS IN ACCORDANCE WITH ARP1176 (CODE LETTER "A") IS REQUIRED FOR OXYGEN SYSTEMS TO AVOID FIRE DUE TO PARTICLES OR OTHER CONTAMINANTS

/7/ THE INTERNAL DIAMETER SHALL END IN A CONICAL END OF 110 DEGREES MINIMUM INCLUDED ANGLE.

/8/ THE HEX CORNERS MAY BE ROUNDED PER ARP1942.

/9/ DIMENSION H IS DETERMINED BY THE LARGER PORT SIZE.

/10/ TABLE 3 WEIGHTS ARE FOR UNIONS WITH THE SAME SIZE ENDS, NOT REDUCERS WITH DIFFERENT ENDS.

/11/ REDUCER FITTINGS WHICH FALL IN THE SHADED AREA OF TABLE 1 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 (REFERENCE ARP5102).

12. ALUMINUM PARTS USED IN OXYGEN SYSTEMS SHALL BE CLEANED AND PACKAGED IN ACCORDANCE WITH ARP1176 CATEGORY 2. THE CODE LETTER "A" SHALL BE ADDED TO THEIR PART NUMBER FOR IDENTIFICATION.

13. INTERPRETATION OF DRAWING PER ARP4296.