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FEDERAL SUPPLY CLASS

REV. C

AS140

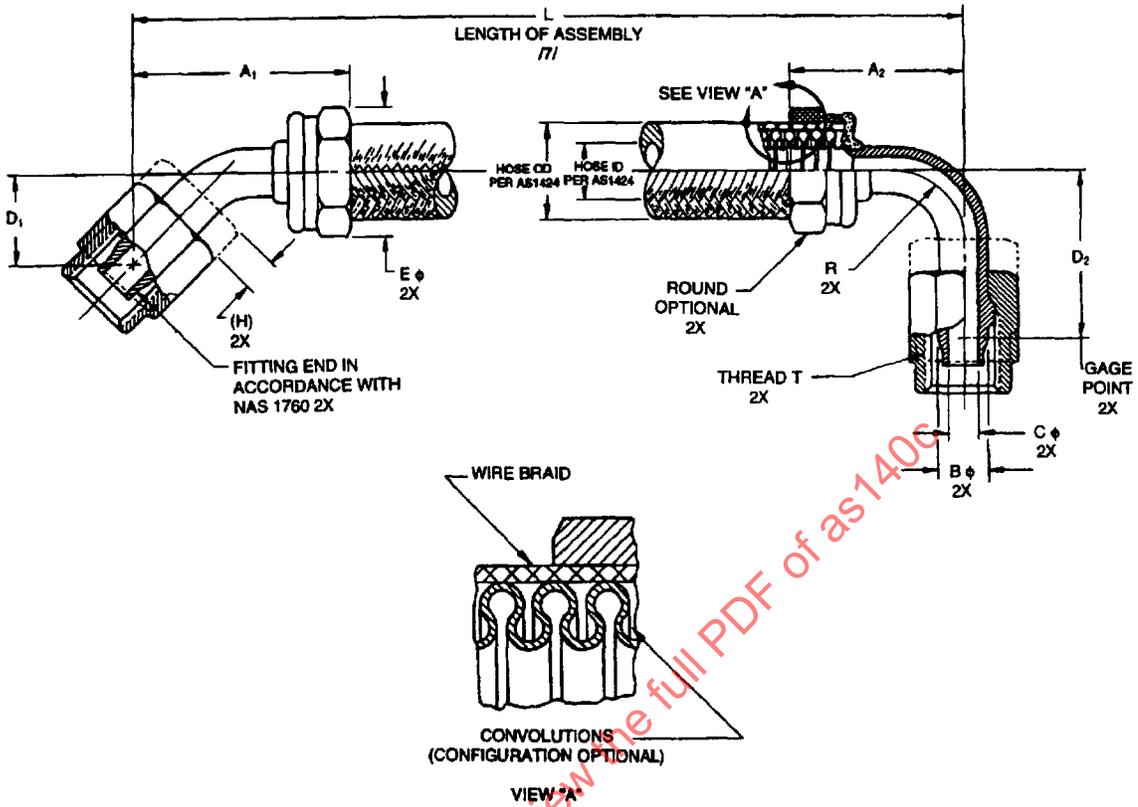


FIGURE 1 - HOSE ASSEMBLY

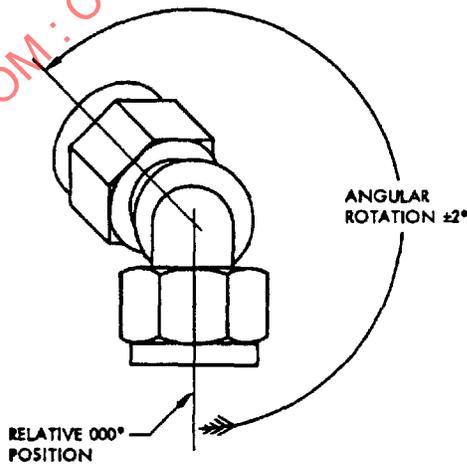


FIGURE 2 - FITTING ANGULAR ORIENTATION /11/

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SAE The Engineering Society
For Advancing Mobility
Land Sea Air and Space
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE STANDARD

HOSE ASSEMBLY, METAL - MEDIUM PRESSURE,
FLARELESS, WELDED, 45° TO 90°

AS140
SHEET 1 OF 4

REV. C

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TABLE 1 - ASSEMBLY DIMENSIONS

HOSE ASSEMBLY CODE	HOSE SIZE (REF)	C										THREAD T		
		A ₁ MAX	A ₂ MAX	B GAGE BASIC	MIN THRU /6/	D ₁ MIN	D ₁ MAX	D ₂ MIN	D ₂ MAX	E MAX	(H) NOM	R (REF)	PER AS8879 (ISO 3161) (REF)	
E	.250	1.62	1.18	.2930	.141	.49	.61	.83	1.08	.900	.40	.250	.4375-20UNJF-3B	
F	.312	1.75	1.24	.3500	.197	.51	.63	.84	1.09	1.100	.40	.312	.5000-20UNJF-3B	
G	.375	1.88	1.31	.4120	.250	.54	.73	.98	1.23	1.200	.40	.375	.5625-18UNJF-3B	
H	.500	2.12	1.50	.5600	.360	.67	.92	1.23	1.54	1.300	.47	.500	.7500-16UNJF-3B	
J	.625	2.38	1.75	.6730	.455	.83	1.08	1.56	1.87	1.500	.53	.625	.8750-14UNJF-3B	
K	.750	2.69	2.06	.8100	.568	.86	1.11	1.67	2.05	1.740	.53	.750	1.0625-12UNJ-3B	
M	1.000	3.19	2.50	1.0620	.760	.90	1.15	1.84	2.22	2.300	.53	1.000	1.3125-12UNJ-3B	
N	1.250	3.69	2.97	1.3160	.920	.94	1.32	2.09	2.59	2.850	.54	1.250	1.6250-12UNJ-3B	

TABLE 2 - ASSEMBLY LENGTH TOLERANCE

HOSE ASSEMBLY LENGTH	LENGTH TOLERANCE
UNDER 10 in	±.062 in
10 TO 36 in, EXCLUSIVE	±.125 in
36 TO 50 in, EXCLUSIVE	±.250 in
50 in AND OVER	±1%

TABLE 3 - HOSE ASSEMBLY PHYSICAL CHARACTERISTIC

HOSE SIZE CODE	70 °F /5/	70 °F /5/	70 °F /5/
	OPERATING PRESSURE PSI MAX	PROOF PRESSURE PSI MIN	BURST PRESSURE PSI MIN
04	2000	3000	8000
05	1800	2700	7200
06	1600	2400	6400
08	1400	2100	5600
10	1200	1800	4800
12	1050	1575	4200
16	800	1200	3200
20	550	825	2200

TABLE 4 - SPHERICAL BALL SIZE FOR DETERMINING MINIMUM HOSE ASSEMBLY ID /8/

HOSE SIZE	ELBOW FITTING
04	.120
05	.167
06	.212
08	.306
10	.387
12	.483
16	.646
20	.782

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TABLE 5 - WEIGHTS (NOM)

HOSE SIZE	HOSE LB/IN	STANDARD FITTING (LB)	
		45° ELBOW	90° ELBOW
-04	.016	.05	.05
-05	.018	.08	.08
-06	.020	.09	.09
-08	.028	.14	.15
-10	.038	.22	.24
-12	.042	.42	.44
-16	.058	.61	.68
-20	.072	.97	1.02

NOTES:

- /1/ MATERIALS:
 - a. CLASS "N": INNERTUBE - NICKEL ALLOY TYPE 625
ALL OTHER COMPONENTS - 321 CORROSION RESISTANT STEEL
 - b. CLASS "S": ALL COMPONENTS - 321 CORROSION RESISTANT STEEL
- /2/ THIS HOSE ASSEMBLY STANDARD SHALL BE QUALIFIED IN ACCORDANCE WITH PROCUREMENT SPECIFICATION AS1424; EXCEPT FLEXURE PRESSURE CYCLING ENDURANCE REQUIREMENT IS NOT APPLICABLE FOR SIZE -04 CLASS "S". SEE NOTE /15/. USERS OF THIS STANDARD ARE ADVISED TO CONTROL SOURCE APPROVAL(S) BY STANDARD PAGE SUPPLEMENT SHEET OR SIMILAR MEANS.
- 3. MARKING SHALL BE PER AS1424 ON A STAINLESS STEEL BAND NOT OVER 1.0 in WIDE OR ON THE END FITTINGS. THE CHARACTERS SHALL BE A MINIMUM OF .060 HIGH. THE BAND SHALL BE SO DESIGNED AS TO REMAIN TIGHT ON THE HOSE TO PREVENT RELATIVE MOTION AND CHAFING. IT SHALL BE OF SUFFICIENT STRENGTH TO PREVENT REMOVAL BY HAND.
- 4. THESE ASSEMBLIES ARE INTENDED FOR USE IN LOW AND MEDIUM PRESSURE PNEUMATIC SYSTEMS UP TO 850 °F WITH SHORT EXCURSIONS TO 1200 °F. MAXIMUM RATED OPERATING PRESSURE IS DEPENDENT ON AMBIENT OPERATING TEMPERATURE AND CAN BE DETERMINED FROM AS1424.
- /5/ SEE AS1424 FOR PRESSURES AT ELEVATED TEMPERATURE.
- 6. CONSTRUCTION AND PERFORMANCE PER AS1424. FITTINGS SHALL BE PERMANENTLY ATTACHED TO THE HOSE.
- /7/ LENGTH "L" IS A FOUR DIGIT NUMBER OF WHICH THE FIRST THREE DIGITS DESCRIBE THE HOSE ASSEMBLY LENGTH IN WHOLE INCHES, AND THE FOURTH DIGIT, IN FRACTION OF AN INCH IN EIGHTHS. LENGTH "L" IS MEASURED FROM "GAGE POINT" TO "GAGE POINT". SEE TABLE 2 FOR ASSEMBLY LENGTH TOLERANCE.
- /8/ A TRUE CIRCULAR CROSS SECTION IS NOT REQUIRED THROUGH THE FITTING ID. HOWEVER, THE APPLICABLE, OR LARGER, BALL DIAMETER LISTED IN TABLE 4 MUST BE CAPABLE OF PASSING THROUGH THE ASSEMBLY.
- 9. DIMENSIONS AND TOLERANCING: ASME Y14.5M
- 10. THESE HOSE ASSEMBLIES SHALL ONLY BE USED WHEN THE APPLICATION DOES NOT PRACTICALLY PERMIT THE USE OF A HOSE ASSEMBLY WITH AT LEAST ONE STRAIGHT END FITTING.
- /11/ THE FITTING ORIENTATION DASH NUMBER IS A THREE DIGIT NUMBER DEFINING THE RELATIVE POSITION OF THE END FITTINGS IN 1° INCREMENTS (EXAMPLE 090 = 90°). FITTING ORIENTATION SHALL BE MEASURED COUNTERCLOCKWISE FROM THE NEAREST END FITTING WHICH SHALL BE IN THE RELATIVE 000° POSITION (SEE FIGURE 2). WHEN END FITTINGS ARE POINTING IN THE SAME DIRECTION, THE DASH NUMBER SHALL BE "000".
- 12. THIS PART STANDARD TAKES PRECEDENT IN CASE OF CONFLICT.

 <p>The Engineering Society For Advancing Mobility Land Sea Air and Space INTERNATIONAL 400 Commonwealth Drive, Warrendale, PA 15096-0001</p>	AEROSPACE STANDARD	AS140 SHEET 3 OF 4	REV. C
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