

REV. A

MA2104

FEDERAL SUPPLY CLASS
4720

RATIONALE

MA2104A HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

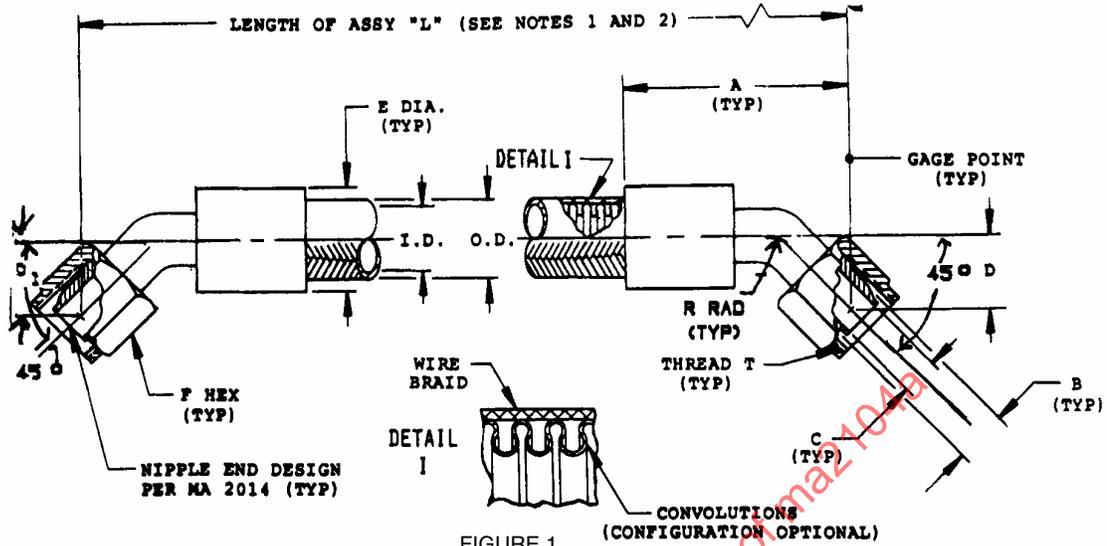


FIGURE 1

TABLE 1

HOSE ASSY PART NUMBER	HOSE ASSY SIZE (DN) ¹	THREAD T PER MA1370 4H 5H	A MAX MM	B GAGE DIA BASIC	C DIA MIN THRU MM	D		E DIA MAX ENVELOPE MM	F HEX (REF) MM	R RAD (REF) MM
						MIN MM	MAX MM			
MA2104E	06	MJ12X1.25	41.2	7.5	3.35	12.5	15.5	22.9	14	6.4
MA2104G	08	MJ14X1.5	47.8	9.5	6.50	13.7	18.5	30.5	17	9.5
MA2104H	12	MJ18X1.5	53.9	13.5	8.76	17.0	23.4	33.0	22	12.7
MA2104J	16	MJ22X1.5	60.5	17.5	10.92	21.1	27.4	38.1	27	15.9
MA2104K	20	MJ27X1.5	68.3	21.5	14.4	21.8	28.2	44.2	32	19.0
MA2104M	25	MJ33X1.5	81.0	26.5	19.3	22.9	29.2	58.4	41	25.4
MA2104N	32	MJ42X2	93.7	33.7	23.4	23.9	33.5	72.4	46	31.8

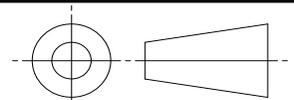
¹ DN = NOMINAL TUBE OUTSIDE DIAMETER

TABLE 2

HOSE SIZE (DN) NOM	HOSE		21 °C (70 °F)			BALL DIA MM (SEE NOTE 5)	CORRECTION FACTOR MM (SEE NOTE 2)
	ID MIN MM	OD MAX MM	OPERATING PRESSURE MAX KPA	PROOF PRESSURE MIN KPA	BURST PRESSURE MIN KPA		
06	5.5	11.0	13 750	20 650	55 150	3	2.8
08	7.0	13.5	12 000	18 000	48 000	6	2.8
	11.0	20.5	9 600	14 500	38 600	8	2.8
16	14.0	24.0	8 300	13 400	33 000	10	2.8
20	17.5	29.0	7 200	10 700	29 000	14	2.8
25	23.0	36.0	5 500	8 300	22 000	18	2.8
32	30.0	44.0	3 800	5 700	15 200	22	2.8

SAE values your input. To provide feedback on this Technical Report, please visit <http://www.sae.org/technical/standards/MA2104A>

THIRD ANGLE PROJECTION



CUSTODIAN: G-3/G-3D (SEE NOTE 7)

PROCUREMENT SPECIFICATION: MA2100



AEROSPACE STANDARD

HOSE ASSEMBLY, METAL, MEDIUM PRESSURE, FLARELESS, WELDED, 45° TO 45° FITTING ENDS, METRIC

MA2104
SHEET 1 OF 3

REV. A

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ISSUED 1989-10 REVISED 2004-11 REAFFIRMED 2015-04

TABLE 3

HOSE ASSEMBLY LENGTH	AVAILABLE LENGTH INCREMENT	LENGTH TOLERANCE
UNDER 457 MM	(NOT LESS THAN) 3 MM	±3 MM
457 TO 914 MM	(NOT LESS THAN) 7 MM	±7 MM
914 TO 1270 MM	(NOT LESS THAN) 13 MM	±13 MM
OVER 1270 MM	(NOT LESS THAN) 26 MM	±1%

CONSTRUCTION AND PERFORMANCE: THESE HOSE ASSEMBLIES SHALL MEET THE CONSTRUCTION AND PERFORMANCE REQUIREMENTS OF MA2100 (ISO/DIS7314).

OPERATING CHARACTERISTICS: SEE PROCUREMENT SPECIFICATION.

MATERIALS AND FINISH: 321 OR OTHER CORROSION RESISTANT STEEL, PASSIVATED, IN ACCORDANCE WITH THE PROCUREMENT SPECIFICATION.

IDENTIFICATION: SEE MA2100, 3.7

PROCUREMENT SPECIFICATION: MA2100 (ISO/DIS7314)

NOTES:

- LENGTH "L" IS MEASURED FROM GAGE POINT TO GAGE POINT. SEE TABLE 3 FOR AVAILABLE LENGTH INCREMENTS. IN THE EXAMPLE OF PART NUMBER BELOW, LENGTH "L" IS DEFINED BY A FOUR DIGIT DASH NUMBER DESCRIBING THE HOSE ASSEMBLY LENGTH IN MM.
- TO CONVERT "GAGE POINT TO GAGE POINT" TO "END TO END" MEASUREMENT, ADD TO "L" THE APPROPRIATE TABLE 2 CORRECTION FACTOR FOR EACH END FITTING.
- THE HOSE ASSEMBLIES ARE INTENDED FOR USE IN LOW AND MEDIUM PRESSURE PNEUMATIC SYSTEMS UP TO 425 °C WITH SHORT DURATION EXCURSIONS TO 650 °C. MAXIMUM RATED OPERATING PRESSURE IS DEPENDENT ON AMBIENT OPERATING TEMPERATURE AND CAN BE DETERMINED FROM MA2100, TABLE 2.
- DIMENSIONS IN MM. DIMENSIONING AND TOLERANCING ARE PER ANSI Y14.5M AND UNIT SYMBOLS ARE PER ANSI Y10.19, SAE J916 AND ANSI Z210.1.
- A TRUE CIRCULAR CROSS SECTION IS NOT REQUIRED THROUGH THE END FITTING. HOWEVER, A BALL OF THE SIZE DIAMETER LISTED IN TABLE 2 SHALL PASS THROUGH THE END FITTING AFTER THE END FITTING IS ATTACHED TO THE HOSE ASSEMBLY.
- DO NOT USE UNASSIGNED SIZE CODES.
- CHANGES TO THIS STANDARD DRAWING SHALL BE COORDINATED WITH SAE COMMITTEE E-25, GENERAL STANDARDS FOR AEROSPACE AND PROPULSION SYSTEMS.
- THE FITTING ORIENTATION DASH NUMBER IS A THREE DIGIT NUMBER DEFINING THE RELATIVE POSITION OF THE END FITTINGS IN 1 DEG INCREMENTS (EXAMPLE: 090=90 DEG). FITTING ORIENTATION SHALL BE MEASURED COUNTER CLOCKWISE FROM THE NEAREST END FITTING, WHICH SHALL BE IN THE RELATIVE 000 POSITION (SEE FIGURE 2). WHEN END FITTINGS ARE POINTED IN THE SAME DIRECTION, THIS DASH NUMBER SHALL BE 000.
- EXAMPLE OF PART NUMBER:

MA2104 E 0360 - 270

_____ = 270 DEG ANGULAR ORIENTATION (SEE NOTE 8 AND FIG. 2)

_____ = 360 mm LENGTH (SEE NOTE 2)

_____ = DN06 NOMINAL DIAMETER SIZE (SEE TABLE 1)

_____ = BASIC PART NUMBER FOR A METAL, WELDED, MEDIUM PRESSURE HOSE ASSEMBLY WITH 45 DEG ELBOW TO 45 DEG ELBOW FITTINGS

	AEROSPACE STANDARD	MA2104 SHEET 2 OF 3	REV. A
	HOSE ASSEMBLY, METAL, MEDIUM PRESSURE, FLARELESS, WELDED, 45° TO 45° FITTING ENDS, METRIC		