HOSE USA Inc
1-800-626-0895
www.hoseusainc.com

INTRODUCTION

Hose USA Inc. offers a complete line of custom fabricated metal hose assemblies in a wide variety of alloys, sizes, and end configurations. Our standard stock sizes range from 1/4" to 12" I.D. with larger sizes produced on order. Our sales department will gladly assist you in the proper selection and application of standard flexible hose, special applications or prototypes.

Hose USA Inc. corrugated hose is made from strip metal of various alloys. The strip metal is formed into tubes and the edges are inert-arc butt welded. The tube is then corrugated.

Corrugated hose is pressure tight and suited to continuous flexing or vibration. Hose is available in open or closed pitch. Open pitch hose is used when extreme flexibility is not essential. For pressure applications, one or more wire braid coverings are used. Braiding prevents hose elongation when under pressure, dampens vibrations and provides some mechanical protection for the inner core.

The flexibility of corrugated metal hose is due to the spring-like quality of the corrugations. It will return to its original position when bending forces are removed. However, if the hose is bent beyond its minimum recommended bend radius, the hose will take on a permanent set.

Hose USA Inc. assemblies are designed to correct problems involving: **Vibration**, **Temperature Variations**, **Misalignment**, **Pipe Line Expansion and Contraction**, and **Offset Motion**.

CONTENTS

HOW TO ORDER

When placing an order or requesting a quotation, the following information is required:

1. Quantity
2. I.D. Size (inside diameter)
3. Overall Length
4. Hose Type and Metal Alloy
5. Working Pressure
6. Temperature
7. Application
8. Media
9. Fittings (complete description should include type and metal alloy)
10. Special Requirements

HSS 321 & 316L STAINLESS STEEL ANNULAR CORRUGATED HOSE

TYPE

HSS-700 UNBRAIDED
HSS-701 SINGLE BRAID
HSS-702 DOUBLE BRAID

CONSTRUCTION

TYPE 321 & 316L STAINLESS STEEL BUTT WELDED TUBE
ANNULAR CLOSE PITCH CORRUGATIONS
TYPE 304 STAINLESS STEEL BRAID

NOMINAL HOSE I.D. INCHES	STAINLESS STEEL HOSE TYPE	NOMINAL HOSE O.D.INCHES	MAXIMUM WORKING PRESSURE P.S.I.G. @ 70 F°	MAXIMUM TEST PRESSURE P.S.I.G. 70 F°	RATED BURST PRESSURE P.S.I.G. @ 70 F°	CONSTANT FLEXING INCHES	STATIC BEND NORMAL VIBRATION INCHES	WEIGHT PER FOOT (lb.)
1/4	HSS-700 HSS-701 HSS-702	.50 .57 .64	180 2,562 4,099	270 3,844 6,150	-- 10,250 16,400	5.00	1.00	.09 .17 .26
3/8	HSS-700 HSS-701 HSS-702	.67 .74 .81	100 1,501 2,401	150 2,251 3,602	-- 6,004 9,604	5.50	1.25	.13 .25 .36
1/2	HSS-700 HSS-701 HSS-702	.82 .89 .96	80 1,075 1,720	120 1,613 2,580	-- 4,301 6,880	6.00	1.50	.23 .34 .46
3/4	HSS-700 HSS-701 HSS-702	1.21 1.28 1.35	70 792 1,267	105 1,188 1,901	-- 3,168 5,069	8.00	2.25	.39 .59 .79
1	HSS-700 HSS-701 HSS-702	1.51 1.58 1.65	40 571 914	60 857 1,370	-- 2,285 3,654	9.00	2.75	.53 .75 .98
1-1/4	HSS-700 HSS-701 HSS-702	1.85 1.93 2.02	25 531 850	38 797 1,274	-- 2,125 3,398	10.50	3.50	.76 1.07 1.37
1-1/2	HSS-700 HSS-701 HSS-702	2.19 2.28 2.37	20 472 755	30 708 1,133	-- 1,887 3,021	12.00	4.00	.84 1.23 1.63
2	HSS-700 HSS-701 HSS-702	2.51 2.61 2.71	15 518 829	23 778 1,243	-- 2,074 3,318	15.00	5.00	1.04 1.73 2.41
2-1/2	HSS-700 HSS-701 HSS-702	3.23 3.33 3.43	12 387 619	18 581 929	-- 1,548 2,477	20.00	8.00	1.16 1.86 2.56
3	HSS-700 HSS-701 HSS-702	3.78 3.88 3.98	10 316 506	15 474 758	-- 1,264 2,022	22.00	9.00	1.21 2.00 2.80
4	HSS-700 HSS-701 HSS-702	4.85 4.98 5.10	8 232 371	12 348 557	-- 927 1,485	27.00	13.00	1.69 2.68 3.68
5	HSS-700 HSS-701 HSS-702	5.90 6.03 6.15	6 191 306	9 286 458	-- 754 1,222	31.00	18.00	2.50 3.75 5.00
6	HSS-700 HSS-701 HSS-702	6.87 7.10 7.33	5 133 212	8 199 318	-- 533 848	36.00	19.00	3.47 4.75 6.04
8	HSS-700 HSS-701 HSS-702	9.09 9.19 9.28	6 234 374	9 350 561	-- 934 1,495	33.50	29.50	5.56 9.44 13.36
10	HSS-700 HSS-701 HSS-702	11.18 11.32 11.45	5 230 367	8 344 551	-- 918 1,469	37.50	33.50	6.80 12.90 19.00
12	HSS-700 HSS-701 HSS-702	13.23 13.37 13.50	3 161 257	5 241 386	-- 643 1,029	55.50	47.50	9.02 14.83 20.64

HSS 316L HEAVY WALL / HIGH PRESSURE
STAINLESS STEEL ANNULAR CORRUGATED HOSE

TYPE
HSS-800 UNBRAIDED
HSS-801 SINGLE BRAID
HSS-802 DOUBLE BRAID

CONSTRUCTION
TYPE 316L STAINLESS STEEL BUTT WELDED TUBE
ANNULAR CLOSE PITCH CORRUGATIONS
TYPE 304 STAINLESS STEEL BRAID

NOMINAL HOSE I.D. INCHES	STAINLESS STEEL HOSE TYPE	NOMINAL HOSE O.D.INCHES	MAXIMUM WORKING PRESSURE P.S.I.G. @ 70 F°	MAXIMUM TEST PRESSURE P.S.I.G. 70 F°	RATED BURST PRESSURE P.S.I.G. @ 70 F°	CONSTANT FLEXING INCHES	STATIC BEND NORMAL VIBRATION INCHES	WEIGHT PER FOOT (lb.)
1/2	HSS-800 HSS-801 HSS-802	.82 .92 1.02	80 2,194 3,510	120 3,291 5,265	-- 8,777 14,040	8.00	1.50	.39 .63 .87
3/4	HSS-800 HSS-801 HSS-802	1.21 1.31 1.41	70 1,311 2,098	105 1,967 3,147	-- 5,244 8,392	8.00	2.00	.48 .79 1.10
1	HSS-800 HSS-801 HSS-802	1.50 1.60 1.70	40 1,069 1,710	60 1,604 2,566	-- 4,276 6,840	9.00	3.00	.79 1.20 1.61
1 ¼	HSS-800 HSS-801 HSS-802	1.85 1.97 2.10	33 1,110 1,776	50 1,666 2,665	-- 4,443 7,040	10.00	3.25	1.02 1.62 2.30
1 ½	HSS-800 HSS-801 HSS-802	2.17 2.30 2.43	20 868 1,388	30 1,302 2,082	-- 3,472 5,552	10.00	3.25	1.36 2.11 2.86
2	HSS-800 HSS-801 HSS-802	2.51 2.64 2.76	15 810 1,296	23 1,215 1,944	-- 3,240 5,184	11.50	5.38	1.60 2.56 3.52
2 ½	HSS-800 HSS-801 HSS-802	3.23 3.36 3.49	10 578 925	15 867 1,387	-- 2,312 3,700	24.00	7.00	2.00 3.12 3.30
3	HSS-800 HSS-801 HSS-802	3.78 3.91 4.03	10 540 650	15 810 974	-- 2,160 2,598	28.00	7.50	2.97 4.42 5.87
4	HSS-800 HSS-801 HSS-802	4.81 4.93 5.05	8 333 533	12 500 800	-- 1,332 2,132	40.00	20.00	3.10 4.55 6.00
6	HSS-800 HSS-801 HSS-802	6.87 7.10 7.33	5 266 425	8 398 638	-- 1,062 1,700	95.00	24.00	3.85 6.45 9.05

HSS 316L HEAVY DUTY / LONGER RESISTANCE TO CHEMICAL CORROSION

TYPE
HSS-900 UNBRAIDED
HSS-901 SINGLE BRAID
HSS-902 DOUBLE BRAID

CONSTRUCTION
TYPE 316L STAINLESS STEEL BUTT WELDED TUBE
ANNULAR CLOSE PITCH CORRUGATIONS
TYPE 304 STAINLESS STEEL BRAID

NOMINAL HOSE I.D. INCHES	NOMINAL HOSE I.D. INCHES	NOMINAL HOSE O.D.INCHES	MAXIMUM WORKING PRESSURE P.S.I.G. @ 70 F°	MAXIMUM TEST PRESSURE P.S.I.G. 70 F°	RATED BURST PRESSURE P.S.I.G. @ 70 F°	CONSTANT FLEXING INCHES	STATIC BEND NORMAL VIBRATION INCHES	WEIGHT PER FOOT (lb.)
1/4	HSS-900 HSS-901 HSS-902	.50 .58 .64	180 2,754 4,406	270 4,131 6,609	-- 11,017 17,627	12.00	6.00	.20 .28 .36
3/8	HSS-900 HSS-901 HSS-902	.67 .75 .83	100 1,921 3,073	150 2,881 4,610	-- 7,682 12,291	12.00	6.00	.31 .43 .55
1/2	HSS-900 HSS-901 HSS-902	.82 .92 1.02	80 2,194 3,510	120 3,291 5,265	-- 8,777 14,040	14.00	7.00	.40 .58 .76
3/4	HSS-900 HSS-901 HSS-902	1.22 1.34 1.46	70 1,994 3,192	105 2,991 4,788	-- 7,980 12,769	15.00	7.50	.65 .92 1.19
1	HSS-900 HSS-901 HSS-902	1.52 1.65 1.77	40 1,599 2,558	60 2,398 3,830	-- 6,397 10,234	16.00	8.00	1.02 1.48 1.94
1 ¼	HSS-900 HSS-901 HSS-902	1.85 1.97 2.09	25 1,317 2,107	38 1,975 3,161	-- 5,270 8,431	18.00	9.00	1.56 2.02 2.48
1 ½	HSS-900 HSS-901 HSS-902	2.19 2.31 2.43	20 1,062 1,698	30 1,592 2,547	-- 4,247 6,795	19.00	9.50	2.01 2.65 3.30
2	HSS-900 HSS-901 HSS-902	2.51 2.64 2.77	15 842 1,346	23 1,262 2,019	-- 3,368 5,388	24.00	12.00	2.43 3.17 3.91

SERIES 1100 MONEL HOSE

TYPE
HSS-1100 UNBRAIDED
HSS-1101 SINGLE BRAID
HSS-1102 DOUBLE BRAID

CONSTUCTION
ANNULAR / STANDARD PITCH
MONEL BRAID

NOMINAL HOSE I.D. INCHES	PART NUMBER	BRAID LAYERS	NOMINAL HOSE O.D. (in)	MAXIMUM WORKING PRESSURE P.S.I.G. @ 70 F°	MAXIMUM TEST PRESSURE P.S.I.G. 70 F°	RATED BURST PRESSURE P.S.I.G. @ 70 F°	CENTERLINE DYNAMIC BEND RADIUS INCHES	CENTERLINE STATIC BEND RADIUS INCHES	WEIGHT PER FOOT (lb)
1/4	HSS-1100 HSS-1101 HSS-1102	0 1 2	.50 .58 .66	144 1,882 3,010	216 2,822 4,515	-- 7,527 12,043	5.00	1.00	.09 .19 .29
1/2	HSS-1100 HSS-1101 HSS-1102	0 1 2	.82 .90 .98	64 701 1,121	96 1,051 1,793	-- 2,805 4,483	8.00	1.50	.39 .63 .87
3/4	HSS-1100 HSS-1101 HSS-1102	0 1 2	1.21 1.29 1.38	56 542 867	84 814 1,301	-- 2,171 3,469	8.00	2.00	.48 .79 1.10
1	HSS-1100 HSS-1101 HSS-1102	0 1 2	1.50 1.58 1.66	32 464 742	48 696 1,114	-- 1,857 2,970	9.00	3.00	.79 1.00 1.20
1 ½	HSS-1100 HSS-1101 HSS-1102	0 1 2	2.19 2.27 2.35	16 330 528	24 495 792	-- 1,322 2,112	12.00	4.00	.84 1.28 1.72
2	HSS-1100 HSS-1101 HSS-1102	0 1 2	2.51 2.59 2.67	12 316 506	18 474 758	-- 1,266 2,022	15.00	5.00	1.04 1.72 2.40
3	HSS-1100 HSS-1101 HSS-1102	0 1 2	3.78 3.88 3.98	8 197 314	12 295 471	-- 788 1,258	22.00	9.00	1.21 2.04 2.87

HSS BRONZE CORRUGATED HOSE

TYPE
HSS-201 SINGLE BRAID
HSS-202 DOUBLE BRAID

CONSTRUCTION
BRONZE HOSE AND BRAID
BUTT WELDED TUBE

NOMINAL HOSE I.D. INCHES	BRONZE HOSE TYPE	NOMINAL HOSE O.D. INCHES	MAXIMUM WORKING PRESSURE P.S.I.G. @ 70 F	MAXIMUM TEST PRESSURE P.S.I.G. 70 F	RATED BURST PRESSURE P.S.I.G. @ 70 F	CONSTANT FLEXING INCHES	STATIC BEND NORMAL VIBRATION INCHES	WEIGHT PER FOOT (lb.)
1/4	HB-201 HB-202	.57 .65	1,035 1,656	1,553 2,649	4,142 6,627	5.50	1.00	.23 .33
3/8	HB-201 HB-202	.75 .83	685 1,096	1,027 1,644	2,738 4,381	6.00	1.25	.36 .47
1/2	HB-201 HB-202	.90 .98	706 1,130	1,059 1,695	2,825 4,520	7.00	1.50	.57 .76
3/4	HB-201 HB-202	1.31 1.41	577 923	865 1,384	2,307 3,691	8.00	2.25	.83 1.16
1	HB-201 HB-202	1.61 1.71	470 752	705 1,128	1,881 3,009	10.00	3.00	1.12 1.56
1 ¼	HB-201 HB-202	1.95 2.05	361 577	541 865	1,443 2,309	12.00	3.50	1.31 1.82
1 ½	HB-201 HB-202	2.31 2.43	329 526	493 789	1,317 2,107	13.50	4.00	1.73 2.43
2	HB-201 HB-202	2.63 2.75	317 507	475 760	1,267 2,027	17.00	5.00	2.73 3.65
2 ½	HB-201 HB-202	3.31 3.43	272 435	408 653	1,090 1,744	22.00	8.00	2.66 3.93
3	HB-201 HB-202	3.78 3.91	201 322	301 482	805 1,288	24.00	12.00	2.84 4.11
4	HB-201 HB-202	4.94 5.06	142 227	213 341	568 909	26.00	14.00	5.03 6.61

HSS-350 DIESEL EXHAUST HOSE
ANNULAR CORRUGATED STAINLESS STEEL

CONSTRUCTION: OPEN PITCH; TYPE 321/ 316 STAINLESS STEEL; BUTT WELDED TUBING

NOMINAL HOSE I.D. INCHES	NOMINAL HOSE O.D. INCHES	MAXIMUM WORKING PRESSURE P.S.I.G. @ 70 F	MAXIMUM AXIAL EXPANSION/ CONTRACTION (In. Per Ft.)	MAXIMUM LATERAL OFFSET (In. Per Ft.)	CONSTANT FLEXING INCHES	STATIC BEND INCHES	MINIMUM LIVE LENGTH FOR NORMAL VIBRATION (Inches)	WEIGHT PER FOOT (lb.)
1 ½	2.02	50	.14	1.25	22	2.7	9.5	1.15
2	2.72	40	.14	.97	24	3.5	11.0	1.35
2 ½	3.15	30	.22	.82	28	4.2	12.5	1.65
3	3.75	25	.22	.75	36	4.7	14.0	1.72
3 ½	4.25	23	.22	.65	40	5.6	14.5	2.00
4	4.75	20	.22	.62	44	6.2	15.0	2.28
5	5.88	20	.22	.48	56	7.5	16.0	3.38
6	7.00	18	.25	.44	68	8.5	19.0	4.06
8	9.00	15	.25	.34	88	10.5	21.0	5.40
10	11.00	10	.25	.25	100	13.5	22.5	7.90
12	13.12	6	.25	.22	116	16.0	25.0	9.09
14	14.37	5	.25	.20	132	18.5	27.5	9.92

CORRECTION FACTORS FOR ELEVATED TEMPERATURES

As the operating temperatures of a hose assembly increases the maximum working pressure decrease. Pressure ratings in the data selections of this catalog are valid at 70°F. For operating temperatures in excess of 70°F, the maximum working pressure must be decreased according to the Correction Factors chart listed below.

Conversion Factors

Apply to pressure rating for elevated temperatures

Temperature	Materials		
°F	Stainless Steel	Steel	Bronze
70	1.00	1.00	1.00
150	.97	.99	.92
200	.94	.97	.89
250	.92	.96	.86
300	.88	.93	.83
350	.86	.91	.81
400	.83	.87	.78
450	.81	.86	.75
500	.78	.81	
600	.74	.74	
700	.70	.66	
800	.66	.52	
900	.62	.50	
1000	.60		
1100	.58		
1200	.55		
1300	.50		
1400	.44		
1500	.40		

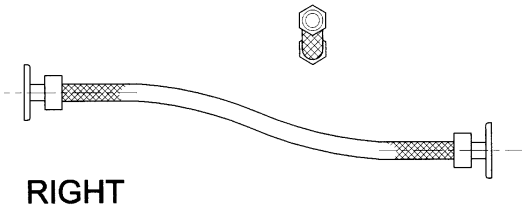
1. Determine maximum operating temperature.
2. Locate appropriate correction factor on chart.
3. Multiply correction factor by maximum working pressure (MWP) at 70°F PSIG specified for desired product.

Maximum Service Temperature

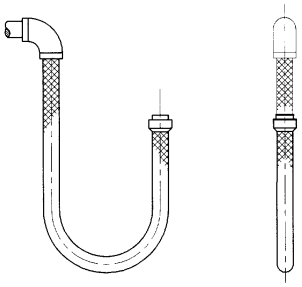
Alloy	Max. Temp. (°F)
AISI Stainless Steel Type:	
321	1500
316 ELC	1500
304 L	1500
304	850
302	850
Mild Steel	850
Malleable Iron	800
Bronze	450
Brass	450
Copper	400

INSTALLATION PRECAUTIONS

Hose USA Inc. metal hose will render maximum service life when properly installed. The following precautions should be observed when installing flexible metal hose.



RIGHT



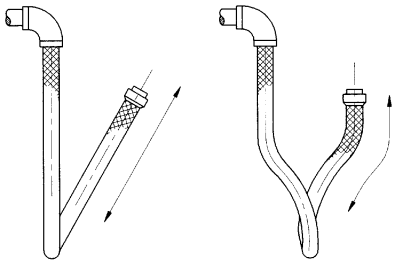
AVOID TORQUE

Torque or twisting is harmful to hose and substantially reduces service life. This condition can be avoided by using a floating flange or union at one end of an assembly in place of a rigid connection. Always install hose so that flexing takes place in one plane.

WRONG

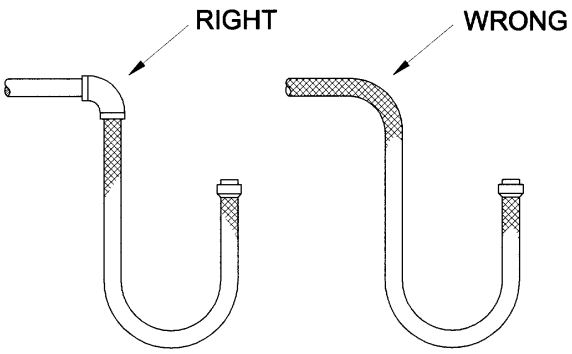
AVOID OVERBENDING

If metal hose is bent below the minimum recommended bend radius, fatigue and premature failure can result. This bending often occurs at end connections and can be avoided by installing an interlock guard or elbow.



AVOID IMPROPER HANDLING

Always lift hose-do not drag. Do not permit hose to be in an area where it is subject to spills, corrosive sprays, etc.



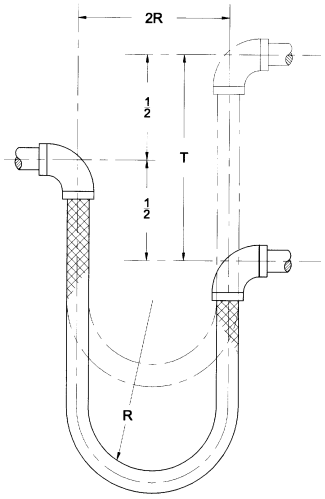
INSTALLATION AND USE

VERTICAL LOOP

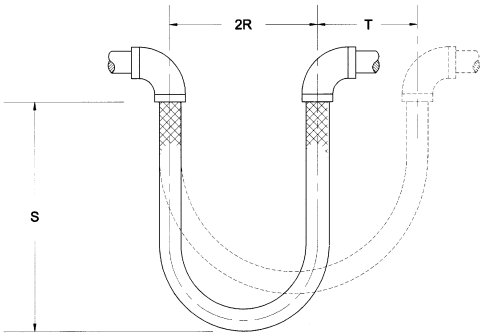
$$L = \frac{(\pi \times T) + (8.12 \times R)}{2}$$

$$S = (\pi/2) \times (R + T/2)$$

L= LIVE LENGTH OF HOSE (in.)
R= HOSE CENTERLINE BEND RADIUS (in.)
T= TRAVEL (in.)
S= LOOP DEPTH (in.)

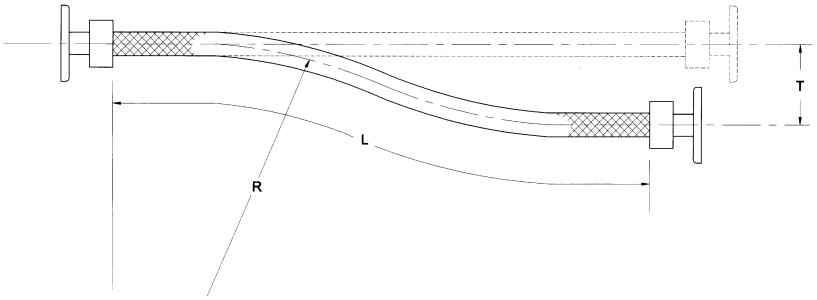


HORIZONTAL LOOP



OFFSET

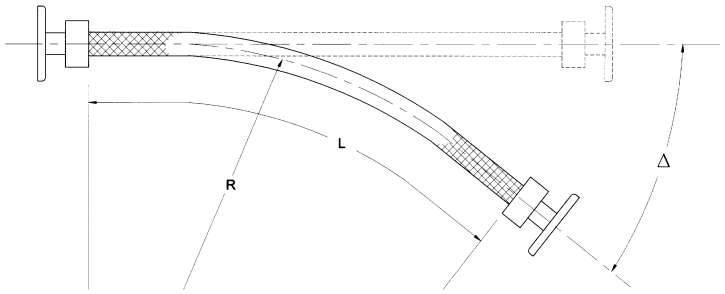
L= (T2 + 6 X T X R) ^ ½
L= LIVE LENGTH OF HOSE (in.)
R= HOSE CENTERLINE BEND RADIUS
T= TRAVEL (in.)
Formula is for offset both sides of centerline



BENDING

$$L = \frac{\pi \times R \times \Delta}{180}$$

L= LIVE LENGTH OF HOSE (in.)
R= HOSE CENTERLINE BEND RADIUS (in.)
Δ= ANGLE OF BEND (degrees)



DETERMINATION OF MINIMUM LIVE HOSE LENGTH

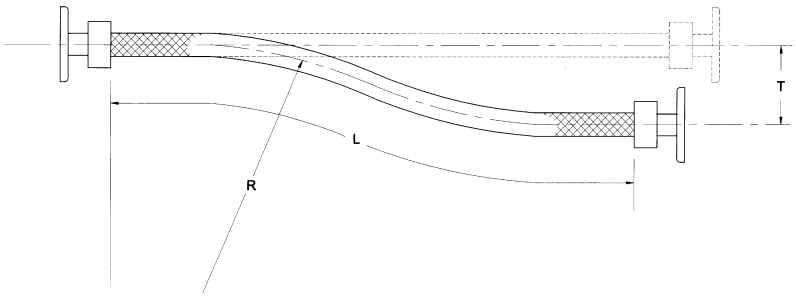
Center Line Radius Inches "R"	INTERMITTENT OFFSET MOTION Maximum Distance from Centerline = "T"													
	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1½"	2"	3"	4"	5"	6"	8"	10"
2	1¼	1¾	2¼	2½	3¼	3¾	4½	5 ¼	6¾	8	9 ¼	10½	11¾	15
4	1¾	2½	3	3½	4¼	5	6¼	7¼	9	10¾	12	13½	16	18½
6	2¼	3¼	3¾	4 ¼	5¼	6¼	7½	8¼	10¾	12¾	14¼	16	19	21½
8	2½	3½	4¼	5	6	7	8¾	10	12½	14½	16¼	18	20½	24¼
10	2¾	4	4¾	5½	6¾	8	9¾	11¼	13¾	16	18	20	23½	26½
12	3	4¼	5¼	6	7½	8½	10½	12¼	15	17½	19½	21½	25½	28¾
14	3¼	4¾	5¾	6½	8	9¼	11¼	13¼	16¼	18¾	21	23½	27¼	30¾
16	3½	5	6	7	8½	10	12¼	14	17¼	20	22½	25	29	32¾
18	3¾	5¼	6½	7½	9	10½	13	15	18¼	21¼	24	26	30½	34
20	4	5½	6¾	7¾	9½	11	13½	15¾	19¼	22½	25	27½	32¼	36¼
25	4½	6¼	7½	8¾	10¾	12¼	15	17½	21½	25	28	30½	35¾	40
30	4¾	6¾	8¼	9½	11¾	13½	16½	19	23½	27¼	30½	33½	39	43¾
35	5¼	7¼	9	10¼	12½	14½	18	20¾	26¼	29½	32¾	36	42	47
40	5½	7¾	9½	11	13½	15½	19	22	27	31¼	35	38½	44¾	50
45	6	8¼	10	11¾	14¼	16½	20¾	23½	28½	33¼	37	41	47½	53
50	6¼	8¾	10¾	12¼	15	17½	21½	24¾	30	35	39	43	50	56
60	6¾	9½	11¾	13½	16½	19	23¼	27	33	38¼	43	47	54½	61
70	7¼	10¼	12¾	14¾	17¾	20½	25¼	29	35½	41½	46	51	58¾	65¾
80	7¾	11	13½	15½	19	22	27	31	38	44	49½	54	62¾	70
90	8¼	11¾	14¼	16½	20¼	23½	28½	33	40½	46¾	52	57¼	66¼	74¼
100	8¾	12¼	15	17½	21¼	24½	30	35	42½	49¼	55	60¼	69¾	78¼
110	9¼	13	15¾	18¼	22½	25¾	31¾	36½	44¾	51½	58	63¼	73¼	82
120	9½	13½	16½	19	23¼	27	33	38¼	46¾	54	60½	66	76½	85½
130	10	14	17¼	20	24¼	28	34¾	39¾	48½	56	62¾	68¾	79½	89
	Live Length "L"													

IMPORTANT NOTE: The values shown in the shaded portion are applicable to static bends only. For intermittent flexing, the offset motion should never be greater than 1/4 (25%) of the centerline radius.

ASSEMBLY LENGTH (LIVE LENGTH AND OVERALL LENGTH)

After the hose is selected for the application, the live length and overall length of the assembly must be determined to complete the design. The live length is the flexible portion of the assembly.

After the live length has been determined, the overall length is calculated by adding the dimensions for the end fittings.



Be sure to add fitting lengths for each end

THERMAL EXPANSION OF PIPE

VACUUM (IN Hg) BELOW 212°F – PRESSURE (PSI GAUGE) ABOVE 212°F	TEMP. °F	CAST IRON	CARBON AND CARBON MOLYB-DENUM STEEL	WROUGHT IRON	4-6% Cr STAINLESS STEEL	12% Cr STAINLESS STEEL	18 Cr- 8 Ni STAINLESS STEEL	COPPER	BRASS	ALUMINIM 6061 ALLOY
	-80	-.481	-.563	-.570	-.550	-.520	-.880	-.835	-.888	-.98
	-60	-.368	-.428	-.435	-.430	-.0400	-.670	-.630	-.673	-.74
	-40	-.248	-.288	-.295	-.290	-.270	-.450	-.421	-.452	-.49
	-20	-.127	-.145	-.152	-.145	-.130	-.225	-.210	-.227	-.25
	0	0	0	0	0	0	0	0	0	0
	20	.128	.148	.154	.140	.140	.220	.238	.233	.34
	32	.209	.230	.249	.234	.234	.356	.366	.373	.54
	40	.263	.285	.313	.280	.280	.446	.451	.466	.68
28.39	60	.391	.448	.468	.430	.430	.669	.684	.690	1.01
28.89	80	.522	.580	.628	.600	.600	.892	.896	.920	1.35
27.99	100	.660	.753	.787	.750	.750	1.115	1.134	1.159	1.69
26.48	120	.799	.910	.958	.900	.900	1.338	1.366	1.390	2.02
24.04	140	.924	1.064	1.113	1.050	1.050	1.545	1.590	1.625	2.36
20.27	160	1.073	1.223	1.275	1.220	.1220	1.784	1.804	1.865	2.68
14.63	180	1.218	1.383	1.445	1.370	1.370	2.000	2.051	2.100	3.03
6.45	200	1.368	1.546	1.626	1.520	1.520	2.230	2.296	2.340	3.38
0	212	1.451	1.643	1.721	1.600	1.600	2.361	2.428	2.467	3.59
2.5	220	1.507	1.707	1.784	1.675	1.675	2.460	2.516	2.580	3.72
10.3	240	1.653	1.875	1.958	1.825	1.825	2.680	2.756	2.830	4.05
20.7	260	1.804	2.038	2.127	2.000	2.000	2.920	2.985	3.070	4.39
34.5	280	1.958	2.205	2.313	2.150	2.150	3.130	3.218	3.315	4.72
52.3	300	2.106	2.374	2.478	2.320	2.320	3.375	3.461	3.565	5.07
74.9	320	2.268	2.545	2.648	2.470	2.470	3.615	3.696	3.820	5.41
103.3	340	2.416	2.717	2.836	2.625	2.625	3.840	3.941	4.065	5.74
138.3	360	2.573	2.884	3.023	2.820	2.780	4.075	4.176	4.320	6.08
180.9	380	2.732	3.066	3.198	2.980	2.980	4.346	4.424	4.560	6.42
232.4	400	2.881	3.230	3.369	3.140	3.130	4.560	4.666	4.825	6.77
293.7	420	3.055	3.421	3.568	3.300	3.300	4.800	4.914	5.080	7.10
366.1	440	3.218	3.595	3.748	3.470	3.470	5.045	5.154	5.340	7.44
451.3	460	3.384	3.784	3.944	3.650	3.650	5.335	5.408	5.600	7.77
550.3	480	3.556	3.955	4.128	3.800	3.800	5.540	5.651	5.925	8.11
664.3	500	3.720	4.151	4.325	4.000	4.000	5.800	5.906	6.120	8.44
795.3	520	3.893	4.342	4.525	4.150	4.150	6.050	6.148	6.380	8.78
945.3	540	4.063	4.525	4.714	4.350	4.340	6.320	6.410	6.650	9.13
1,115	560	4.238	4.715	4.905	4.540	4.500	6.572	6.640	6.920	9.46
1,308	580	4.414	4.906	5.116	4.740	4.640	6.835	6.919	7.170	9.80
1,525	600	4.598	5.102	5.303	4.920	4.850	7.100	7.184	7.440	10.14
1,768	620	4.769	5.292	5.508	5.110	5.020	7.370	7.432	7.715	10.49
2,041	640	4.955	5.482	50698	5.280	5.180	7.630	7.698	7.980	10.82
2,346	660	5.133	5.686	50915	5.470	5.350	7.900	7.949	8.240	
2,705	680	5.315	5.875	6.108	50670	5.550	8.170	8.196	8.515	
3,080	700	5.502	6.084	6.329	5.850	5.700	8.425	8.472	8.780	
	720	5.681	6.280	6.521	6.050	5.900	8.670	8.708	9.050	
	740	5.879	6.490	6.747	6.220	6.040	8.932	8.999	9.324	
	760	6.073	6.688	6.948	6.430	6.280	9.220	9.256	9.600	
	780	6.262	6.901	7.162	6.600	6.480	9.480	9.532	9.870	
	800	6.460	7.105	7.356	6.800	6.680	9.750	9.788	10.150	
	820	6.652	7.319	7.605	7.000	6.890	10.020	10.068	10.425	
	840	6.843	7.517	7.800	7.200	7.090	10.270	10.308	10.690	
	860	7.049	7.743	8.043	7.400	7.300	10.240	10.610	10.975	
	880	7.248	7.953	8.248	7.580	7.500	10.820	10.971	11.250	
	900	7.452	8.168	8.487	7.770	7.720	11.075	11.156	11.545	
	920	7.668	8.400	8.715	7.970	7.950	11.350	11.421	11.815	
	940	7.862	8.610	8.937	8.170	8.140	11.620	11.707	12.120	
	960	8.073	8.830	9.148	8.360	8.350	11.900	11.976	12.420	
	980	8.279	9.051	9.395	8.560	8.550	12.150	12.269	12.720	
	1000	8.490	9.276	9.624	8.760	8.750	12.432	12.543	13.080	

METAL HOSE TERMINOLOGY

Annular:
The annular hose profile is designed so that each convolution is a complete ring or circle.

Braid:
Woven wire sheath placed over hose which prevents elongation of the hose under internal pressure.

Close Pitch:
Less spacing between the corrugations or more corrugations per foot, thereby giving longest fatigue life and minimum bend radius.

Open Pitch:
Fewer corrugations per foot which limits motions and bend radius Applications – Diesel Engine Exhaust.

Constant Motion:
Motion that occurs on a regular cyclic basis at a constant travel.

Intermittent Motion:
Motion that occurs on a regular or irregular cyclic basis along a path of full travel.

Fittings:
Parts attached to the ends of metal hose so that it can be connected to other components. Examples of fittings: flanges, unions, nipples, or stub ends.

Flow Velocity:
When the flow Velocity exceeds 50 ft/second liquid, 100 ft/second gas in braided hose, or 75 ft/second liquid, 150 ft/second gas in braided hose, a flexible metal interlocked liner should be used.

Maximum Test Pressure:
Maximum test hose assembly should be subject to for testing purposes. Based on 150% of the Maximum Working Pressure.

Media:
Material conveyed by a hose assembly such as chemicals, gases, or liquids.

Constant Flexing Bend Radius:
The minimum radius to which a hose can be repeatedly bent and render satisfactory flexure life.

NPT:
American Standard Tapered Pipe Thread

Operating Conditions:
Temperature, Pressure, Media, Motion, and Application involved.

PSIG:
Pounds per square inch gage.

Rated Burst Pressure:
Pressure at which hose can be expected to fail. Burst pressures in this catalog were obtained with the hose installed straight at 70°F and subjected to constantly increasing pressure. Braid will normally fail under tensile load.

Random Motion:
Uncontrollable motion that occurs from manual handling of hose.

Safety Factor:
Difference between working pressure and rated burst pressure.

Static Bend:
Minimum center bend radius to which flexible metal hose may be bent for installation.

Vibration:
Rapid application of motion.

Shock or Pulsating Pressure:
Shock, pulsating or surge pressure which can cause premature failure of hose. The maximum allowable pressure should not exceed 50% of the Maximum Working Pressure.

Working Temperature:
Temperature which hose is subjected to during operation

AREA OF EXPERTISE

Hose USA Inc. is the one source for precision designed metal hose and expansion joints to protect against corrosion, high temperature, and pressure in the chemical processing, power piping, cryogenic, exhaust, marine and heavy construction industries. Fast quotations and delivery times for the most difficult applications are our specialty. Give us a call and find out for yourself how we can design and fabricate the right assembly right when you need it.

LIMITED WARRANTY

The merchandise or products sold or distributed by Hose USA, Inc. are warranted to our customers to be free from defects in material and workmanship at the time of shipment by us. All warranty claims shall be made within 30 days after we have shipped the merchandise. Our liability hereunder is limited to the purchase price of any merchandise proving defective, or, at our option, to the replacement of such merchandise upon its authorized return to us.

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