

# senior Flexonics

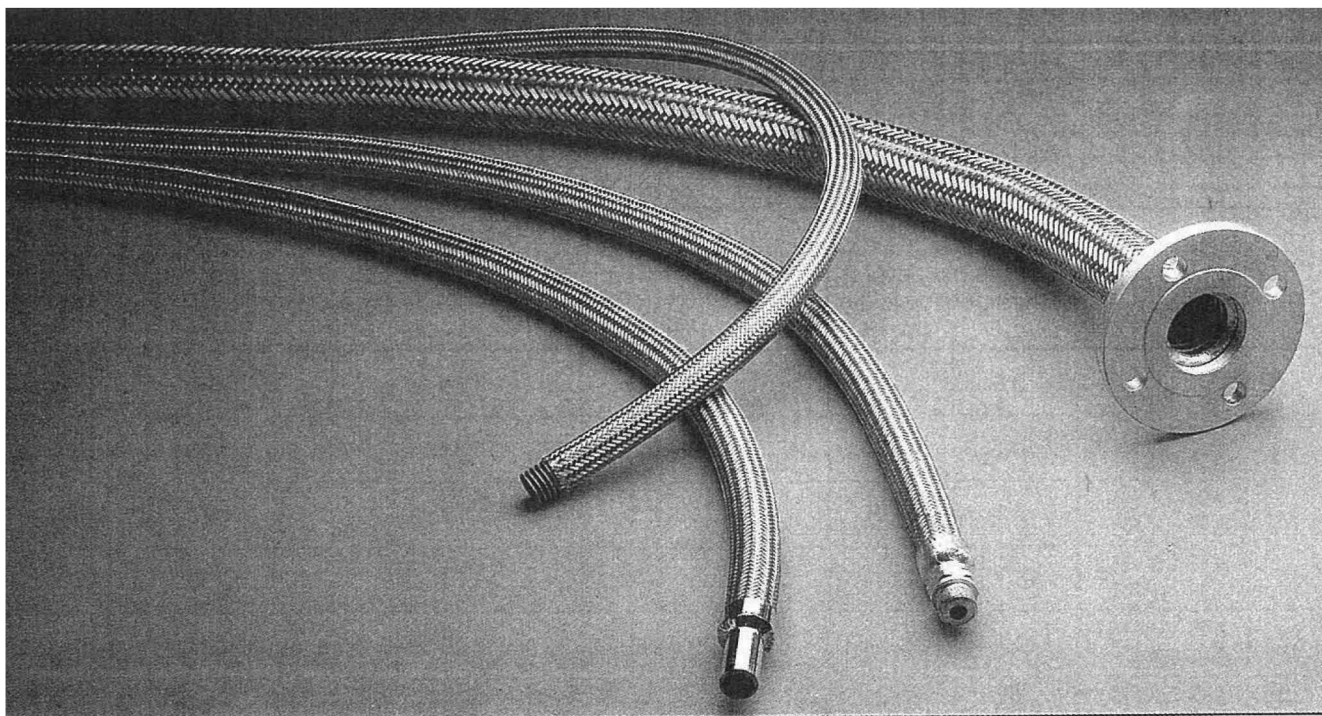
Canada



## FLEXIBLE METAL HOSE ASSEMBLIES



# FLEXIBLE METAL HOSES FLEXIBLE METALLSCHLÄUCHE



## Construction:

Annularly corrugated metal bellows hydraulically formed from butt-welded tubes.

## Materials:

Bellows made of austenitic stainless steel X10CrNi Ti 18 9, DIN 1.4541 (equivalent to AISI 321) as per DIN 17440 bright.

Braiding made of stainless steel wire X5CrNi 18 9, DIN 1.4301, (equivalent to AISI 304).

End connections either stainless steel or carbon steel.

Other materials on request.

## Connections:

Flanges, male or female threaded ends, swivel unions, welding ends.

## Nominal diameters:

DN 8 (5/16") - DN 50 (2")

## Pressure Ratings:

up to max. 80 bar operation pressure depending on nominal diameter and operation temperature.

## Temperature ranges:

- 196°C up to + 800°C depending on the material

## Operation applications:

Conveying lines for liquid or gaseous mediums, particularly suitable for corrosive substances, such as acids and chemicals where pressure, temperature, vacuum, vibration problems are existing.

## Order-No.:

without braiding order-no. ASS (DN) FHU  
with single-ply stainless steel wire braiding order-no. ASS (DN) FH

## Konstruktion:

Ringförmig gewellte Metallschläuche aus stumpfgeschweissten Rohren hydraulisch geformt.

## Materialien:

Faltenbalg aus austenitischem Edelstahl X10CrNi Ti 18 9, DIN 1.4541 (vergleichbar AISI 321) gemäss DIN 17440 blank.

Ummantelung auf nichtrostendem Edelstahl-Draht X5CrNi 18 9, DIN 1.4301 (vergleichbar AISI 304).

Anschlüsse aus nichtrostendem Edelstahl oder unlegierter Stahl.

Andere Materialien auf Anfrage.

## Anschlüsse:

Flansche, Innen- und Aussengewinde, Überwurfmutter, Schweissenden.

## Nennweiten:

DN 8 (5/16") - DN 50 (2")

## Druckbereiche:

bis max. 80 bar Betriebsdruck abhängig von der Nennweite und der Betriebstemperatur.

## Temperaturbereiche:

- 196°C bis + 800°C Material abhängig

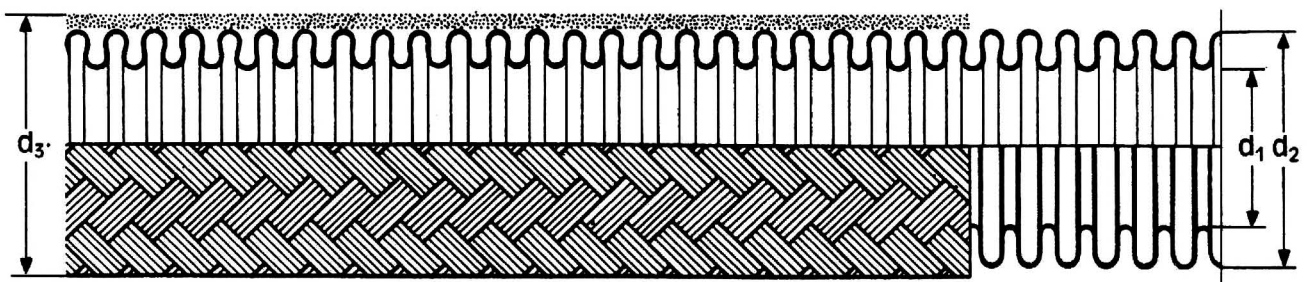
## Anwendungsbereiche:

Förderleitungen von flüssigen und gasförmigen Medien, insbesondere geeignet für korrosive Substanzen, wie z.B. Säuren und Chemikalien, wo Probleme bezüglich Druck, Temperatur, Vakuum und Vibration bestehen.

## Bestell-Nr.:

mit Ummantelung Bestell-Nr. ASS (DN) FHU  
mit einlagiger Edelstahl Drahtgeflechts-Ummantelung Bestell-Nr. ASS (DN) FH

# ANNULARLY CORRUGATED STAINLESS STEEL HOSES RINGWELL SCHLÄUCHE AUS EDELSTAHL



DN	Order no. Bestell-Nr.	Inside diameter Innen-durchmesser		Outside diameter Aussen-durchmesser		Min. bend radius Mindest-Biegeradius $r_{min}$	Nom. bend radius Nenn-Biegeradius $r_n$	PN bar
		$d_1$	tol. ( $\pm$ )	$d_2, d_3$	tol. ( $\pm$ )			
8	ASS 8 FHU ASS 8 FH	8.6	0.2	12.6 14.0	0.2	45	100	4 64
10	ASS 10 FHU ASS 10 FH	10.7	0.2	15.1 16.5	0.2	55	150	6 80
12	ASS 12 FHU ASS 12 FH	12.7	0.2	17.7 19.1	0.2	65	170	4 50
16	ASS 16 FHU ASS 16 FH	15.7	0.2	22.2 23.8	0.2	75	190	2.5 50
20	ASS 20 FHU ASS 20 FH	20.6	0.2	27.1 28.7	0.2	105	220	2.5 50
25	ASS 25 FHU ASS 25 FH	25.6	0.3	33.2 35.2	0.3	120	250	1.6 40
32	ASS 32 FHU ASS 32 FH	32.6	0.3	42.0 46.0	0.3	140	290	1 32
40	ASS 40 FHU ASS 40 FH	40.5	0.3	51.5 53.8	0.3	160	320	1 25
50	ASS 50 FHU ASS 50 FH	51.1	0.4	64.0 65.3	0.4	210	350	0.5 20

Dimensions in mm / Masse in mm

### Effect of temperature:

in conformity with DIN 2401

Flexible metal hoses can be used at room temperature (20°C) up to the pressure stage given in the tables.

Reduction coefficients given in the table below should be used for determining the permissible operation pressure at increased temperatures.

$$P_{perm.} = PN \times k_t \text{ (bar)}$$

(°C) Operation temperature / Betriebstemperatur:

( $k_t$ ) Reduction coefficient DIN 1.4541/ Reduzierungs-Beiwert DIN 1.4541:

°C	20	100	150	200	250	300	350	400	450	500	550	600
$k_t$	1,0	0,96	0,86	0,81	0,76	0,66	0,64	0,61	0,59	0,58	0,57	0,50

### Please state in your order sheet:

Flexible metal hoses, order-no., nominal diameter (DN), pressure rating (PN), materials, connections, medium and operation temperature as well as details of application.

### Temperaturbegrenzung:

in Übereinstimmung mit DIN 2401

Flexible Metallschläuche können bei Raumtemperatur (20°C) bis zu der Druckstufe gemäss Tabelle eingesetzt werden.

Der Reduzierungs-Beiwert gemäss nachfolgender Tabelle soll zur Ermittlung des zulässigen Betriebsdruckes bei steigender Temperatur dienen.

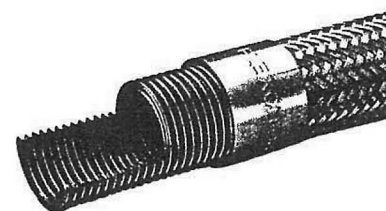
$$P_{zul.} = PN \times k_t \text{ (bar)}$$

### Bei Bestellung bitte angeben:

Flexible Metallschläuche, Bestell-Nr., Nennweite (DN), Druckbereich (PN), Materialien, Anschlüsse, Medium und Betriebstemperatur sowie Angaben über den vorgesehenen Einsatz.

Technical modifications reserved. / Technische Änderungen vorbehalten.

# STAINLESS STEEL CORRUGATED FLEXIBLE METAL HOSE



## STANDARD PRESSURE HOSE

### TYPE

- UFBX0 UNBRAIDED
- UFBX1 SINGLE BRAID
- UFBX2 DOUBLE BRAID

### CONSTRUCTION

- TYPE 321 OR 316 STAINLESS STEEL TUBE
- TYPE 304 BRAID

### FLEXIBILITY

UFBX MEETS TYPE 'B' Flexibility as a minimum - to British Standard BS 6501, Part 1 (1991) - Flexible metallic hose assemblies and also meets ISO 10380 Standards.

Nominal Hose I.D.	Hose Type	Maximum Hose O.D.	PRESSURE DATA			MINIMUM C/L BEND RADIUS		Approx Weight
			Maximum Working Pressure Bar @ 21°C	Maximum Test Pressure Bar @ 21°C	Minimum Burst Pressure Bar @ 21°C	Constant Flexing	Static Bend	
mm		mm				mm	mm	Kg/M
6	UFBX0	10.0	10	15	40	100	16	0.088
	UFBX1	11.4	167	250	668	100	25	0.17
	UFBX2	12.8	220	350	880	100	25	0.25
10	UFBX0	14.9	5.5	8.3	22	150	22	0.17
	UFBX1	16.3	100	150	400	150	40	0.28
	UFBX2	17.6	178	267	712	150	40	0.39
12	UFBX0	19.2	5.5	8.3	22	150	24	0.24
	UFBX1	20.6	95	143	380	150	50	0.43
	UFBX2	22.0	154	230	616	150	50	0.60
20	UFBX0	25.7	4.1	6.2	16.4	200	30	0.37
	UFBX1	27.3	72	108	288	200	70	0.62
	UFBX2	28.9	131	197	524	200	70	0.87
25	UFBX0	33.2	4.1	6.2	16.4	200	44	0.50
	UFBX1	35.3	65	98	260	200	90	0.88
	UFBX2	37.4	102	153	408	200	90	1.3
32	UFBX0	40.9	3.4	5.1	13.6	250	55	0.64
	UFBX1	43.0	46	69	184	250	110	1.1
	UFBX2	45.1	85	128	340	250	110	1.6
40	UFBX0	47.8	2.4	3.6	9.6	250	70	0.89
	UFBX1	49.9	40	60	160	250	127	1.4
	UFBX2	52.1	72	108	288	250	127	1.9
50	UFBX0	62.1	1.0	1.5	4.0	350	90	1.2
	UFBX1	64.2	33	50	132	350	180	1.9
	UFBX2	66.3	60	90	24.0	350	180	2.7
65	UFBX0	76.5	1.0	1.5	4.0	410	110	1.9
	UFBX1	78.6	26	39	104	410	203	2.8
	UFBX2	80.7	46	69	184	410	203	3.7
80	UFBX0	89.8	1.0	1.5	4.0	450	130	2.3
	UFBX1	91.9	22	33	88	450	230	3.4
	UFBX2	94.1	40	60	160	450	230	4.5
90	UFBX0	114	0.75	1.13	3	510	175	2.5
	UFBX1	117	20.6	30.9	82.4	510	220	4.1
	UFBX2	120	27.0	40.5	108	510	220	5.7
100	UFBX0	126	0.69	1.04	2.8	560	200	2.8
	UFBX1	129	18.4	27.6	73.6	560	230	4.6
	UFBX2	132	33.0	49.5	132	560	230	6.4
125	UFBX0	151	0.69	1.04	2.8	710	250	4.7
	UFBX1	153	11.5	17.3	46.0	710	280	6.6
	UFBX2	156	20.7	31.0	82.8	710	280	8.5
150	UFBX0	178	0.55	0.83	2.2	815	290	5.5
	UFBX1	180	11.2	16.8	44.8	815	320	7.7
	UFBX2	183	20.0	30.0	80.0	815	320	9.9
200	UFBX0	232	0.31	0.46	1.24	1015	400	7.3
	UFBX1	235	7.0	11.0	28.0	1015	435	10
	UFBX2	237	10	15	40.0	1015	435	13
250	UFBX0	287	0.25	0.37	1.0	1220	490	9.2
	UFBX1	292	9.6	14.4	38.4	1220	560	14.7
	UFBX2	-	-	-	-	-	-	-

N.B. Technical data is subject to change without notice.

## END CONNECTIONS FOR CORRUGATED FLEXIBLE METAL HOSE

End connections for corrugated flexible metal hose used under pressure are normally attached by welding or silver-brazing.

Welded assemblies are suitable for temperatures up to the maximum tubing rating and silver-brazed assemblies are suitable for temperatures up to 250°C.

### TERMINATIONS

End connections are available with terminations to current European and American standards.

Screwed - Male or Female

B.S.P.T. or N.P.T.

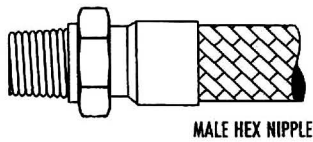
Flanged - AS2129 (BS10 Table D, E, F, H etc.)

AISI B16.5 (ASA 150, 300 etc.)

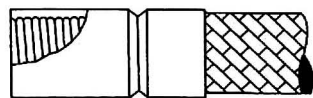
DIN 2532-2545

### METALS

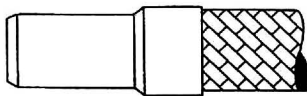
End connections are regularly stocked in stainless steel, carbon steel and copper alloy.



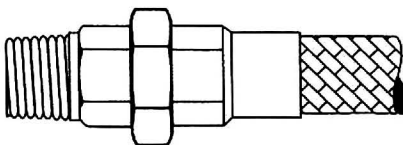
MALE HEX NIPPLE



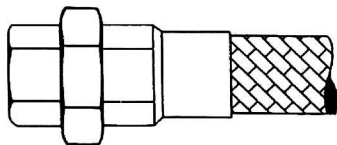
FEMALE COUPLING



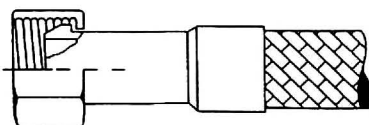
WELD ENDS



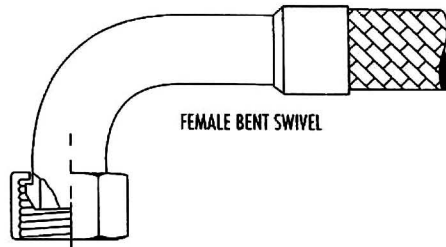
MALE UNION



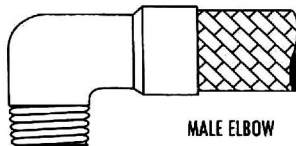
FEMALE UNION



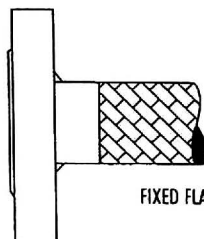
FEMALE SWIVEL



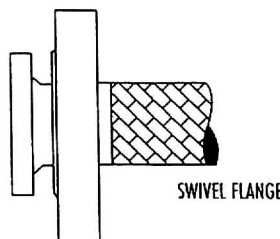
FEMALE BENT SWIVEL



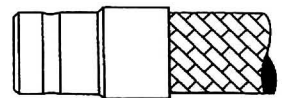
MALE ELBOW



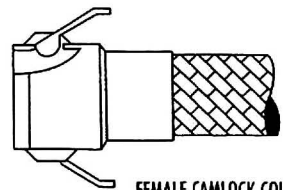
FIXED FLANGE



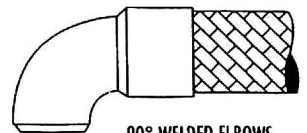
SWIVEL FLANGE



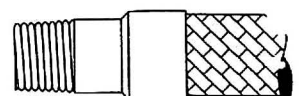
MALE CAMLOCK COUPLING



FEMALE CAMLOCK COUPLING



90° WELDED ELBOWS



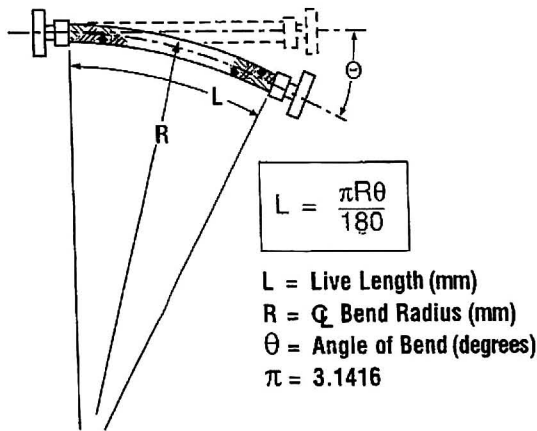
MALE PIPE NIPPLE



## IV. MOTION

Most industrial applications can be reduced to one of five classes of motion: (1) Angular; (2) Axial; (3) Offset; (4) Radial; or (5) Random.

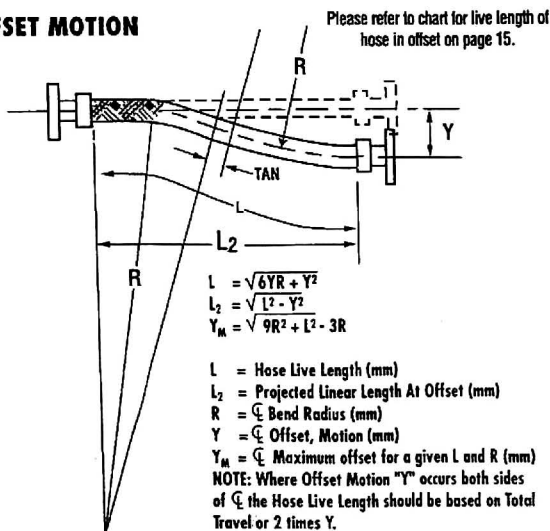
1. **Angular Motion:** Motion that occurs when one end of a hose assembly is deflected in a simple bend with the ends not remaining parallel. Angular motion may be incorporated in an installation to accommodate misalignment and vibration only, but must not be used to accommodate expansion that would result in unloading the braid.



2. **Axial Motion:** This type of motion occurs when one end of a hose assembly is deflected along its longitudinal axis. Axial motion is applicable to annular corrugated, unbraided flexible hose only. Neither helical hose nor braided hose should be used in axial motion applications.

3. **Offset Motion:** Motion that occurs when one end of the hose assembly is deflected in a plane perpendicular to the longitudinal axis with the end remaining parallel. Offset is measured in inches of displacement of the free end centre line from the fixed end centre line. In offset motion applications, the offset should never be greater than one-fourth (25%) of the minimum centre line bend radius.

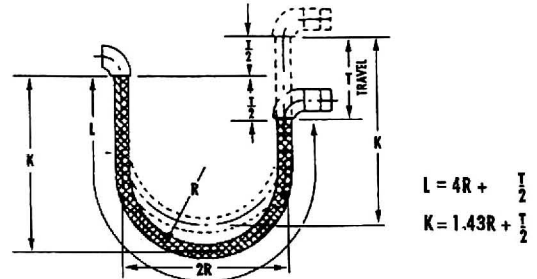
### OFFSET MOTION



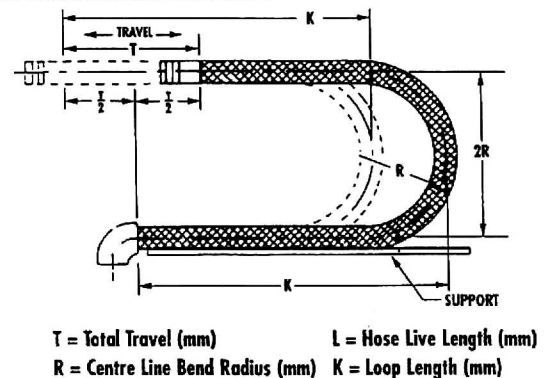
4. **Radial Motion:** This type of motion occurs when the centre line of a hose assembly is bent in a circular arc. In industrial applications, radial motion is most commonly found in travelling loops.

### CLASS "A" TRAVELLING LOOPS

...FOR MAXIMUM VERTICAL TRAVEL

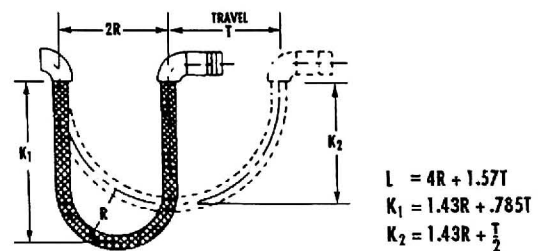


...FOR MAXIMUM HORIZONTAL TRAVEL



### CLASS "B" TRAVELLING LOOPS

...FOR SHORT HORIZONTAL TRAVEL



...FOR SHORT VERTICAL TRAVEL

