01

PRODUCT FAMILY 01 · DN6 – DN300

SS corrugated flexible hoses

A corrugated metal hose assembly is a thin-wall stainless steel tube formed into a precise annular (wave) corrugated profile that provides flexibility while maintaining full fluid and pressure containment. One or two layers of stainless steel wire braid are applied over the corrugated core to increase the working pressure rating and provide mechanical protection.

Compared with rubber hoses, corrugated metal hoses offer superior temperature range, full chemical resistance, zero permeation, fire safety, and significantly longer service life — the standard choice for industrial piping connections where vibration isolation, thermal flexibility, or movement compensation is required. Standard grades SS 304L · 316L held in stock; SS 321 to order.

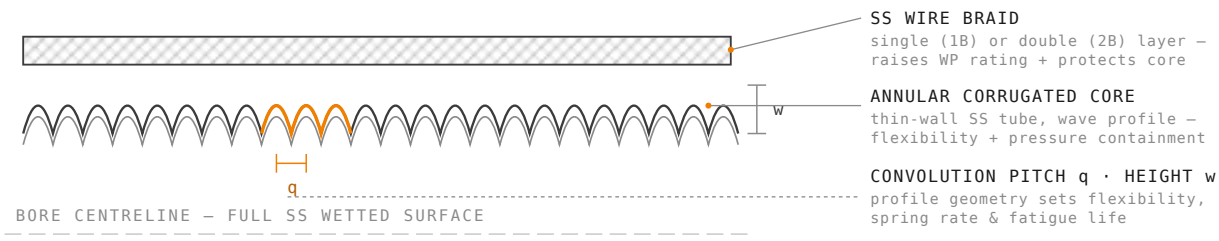


FIG. 01 — CORRUGATED HOSE CROSS-SECTION · ANNULAR PROFILE + BRAID

— TWO MANUFACTURING TYPES —

	HYDROFORMED — DN20 TO DN300	MECHANICALLY FORMED — DN6 TO DN50
PROCESS	Straight SS tube formed by high-pressure internal fluid — wall worked evenly without thinning	Profile produced by mechanical tooling — rollers form the wave on the tube wall
STRENGTHS	Higher pressure performance · superior fatigue life for dynamic service · tight dimensional control, consistent spring rate	Small-bore range DN6–DN50 · flexible corrugation pitch & amplitude · cost-effective for standard pressures
BRAIDING	**1B single braid** — substantially raises working pressure + mechanical protection · **2B double braid** — higher pressure service, heavy-duty protection against abrasion / impact	

08 / TECHNICAL DATA

Corrugated hose pressure & bend data.

MATERIALS SS 304L / 316L · AT 20 °C
PRESSURES IN kg/cm² · ×0.98 = BAR
TEST = 1.5× WP · BURST ≥ 4× WP

TABLE 1 — WORKING PRESSURE & MINIMUM BEND RADIUS

DN	SIZE	WORKING PRESSURE (KG/CM²)			MIN. BEND RADIUS (MM)	
		HOSE ONLY	SINGLE BRAID	DOUBLE BRAID	STATIC	FLEXING (T-2)
DN6	¼"	4	100	160	25	140
DN8	5/16"	4	100	160	32	165
DN10	⅜"	4	90	144	38	190
DN12	½"	3	80	128	45	210
DN16	⅝"	3	70	112	58	250
DN20	¾"	2	64	102	70	285
DN25	1"	2	50	80	85	325
DN32	1¼"	1.5	40	64	105	380
DN40	1½"	1.5	30	48	130	430
DN50	2"	1	28	44	160	490
DN65	2½"	1	24	38	200	580
DN80	3"	1	18	28	240	800
DN100	4"	0.8	16	26	290	1000
DN125	5"	0.6	12	20	350	1250
DN150	6"	0.6	10	16	400	1550
DN200	8"	0.5	8	12	520	2000
DN250	10"	0.25	6	9	620	2500
DN300	12"	0.2	4	6	720	3000
DN350 *	14"	0.1	2	4	900	3600

TABLE 2 — TEMPERATURE DERATING (× WP) · ISO 10380

MEDIA TEMP.	304L	316L	321 †
-200 to -20 °C	1.00	1.00	1.00
20 °C	1.00	1.00	1.00
50 °C	0.87	0.88	0.92
100 °C	0.72	0.74	0.83
150 °C	0.65	0.67	0.78
200 °C	0.59	0.62	0.74
250 °C	0.55	0.58	0.71
300 °C	0.51	0.54	0.67
350 °C	0.48	0.52	0.64
400 °C	0.46	0.50	0.62
450 °C	0.45	0.48	0.61
500 °C	0.44	0.47	0.60
550 °C	0.43	0.47	0.59

Derating factors per ISO 10380:2012 Table 3 (proof-stress basis). Working pressure at temperature = the 20 °C rating of the weakest component × the factor for the grade. 304L / 316L standard continuous service -196 to +450 °C; above +450 °C on application. † SS 321 to order. Fittings & attachment can further limit ratings at temperature.

NOTES TO TABLE 1

1. Ratings apply to complete braided assemblies with welded end fittings at ambient temperature; assembly-specific ratings are confirmed per order on the test certificate.
2. Hose only (unbraided) is bulk hose for customer fabrication / low-pressure duty — limited by convolution squirm; never operate it at braided-assembly ratings.
3. Static radius = permanently formed installation. Flexing radius = repeated / dynamic movement — use the STATIC column for a fixed, one-time installation and the FLEXING column for any repeated movement. Flexing radii shown are Type 2 (continuous / high-cycle movement); Type 1 radii for occasional, low-cycle movement are smaller — ask EWPL engineering.
4. Pulsating / surge service: reduce working pressure by 50%. Values are EWPL published hose technical data. DN350 on request — confirm ratings with EWPL engineering.

09 / END CONNECTIONS & FLOW

End connections & flow limits.

END CONNECTION OPTIONS

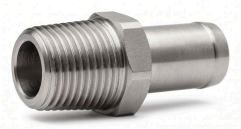
01



Plain weld end

Bevel or socket weld for permanent pipe welding — process piping, industrial systems

02



Threaded — NPT / BSP / metric

NPT (ASME B1.20.1) · BSP (ISO 228-1) · BSPT — general industrial, instrumentation

03



Flanged — RF / FF / RTJ

EN 1092-1 (PN 6–40) · ASME B16.5 (Class 150 / 300 / 600) — high-integrity pipework, large bore

04



Tri-clamp / sanitary

ISO 2852 · DIN 32676 · DIN 11851 · Tri-Clover type — pharma, food & beverage, CIP/SIP lines

05



JIC 37° flare & ORFS

SAE J514 (JIC) · SAE J1453 (ORFS) — hydraulic and instrumentation interfaces

06



Swaged / crimped end

Permanently attached fitting — high-pressure permanent installations

07



Quick-release camlock

Type A–F single-hand connect / disconnect — tanker loading-unloading, mobile equipment

08



Swivel flange

Rotating flange for positional adjustment where rotational misalignment must be absorbed

FLOW VELOCITY LIMITS (M/S)

Exceeding these limits causes resonance-induced fatigue. If velocity is higher, upsize the bore or specify an interlock liner inside the hose.

CONFIGURATION	GAS	LIQUID
Straight — unbraided hose	30.5	15.2
Straight — braided (1B / 2B)	45	22
90° bend — unbraided hose	15.2	7.6
90° bend — braided (1B / 2B)	22.5	11

1B = SINGLE BRAIDED · 2B = DOUBLE BRAIDED. For intermediate bend angles, interpolate between straight and 90° values.

GETTING THE LENGTH RIGHT

Live length, movement and installation practice: Sections 10–11. Send your STAMPED enquiry (p.18) and EWPL will size the assembly.