ESSEM
WORKS PVT. LTD.

Lifeline of the Industrial World

STAINLESS STEEL CORRUGATED
FLEXIBLE HOSE • BRAID • HOSE ASSEMBLIES
& RELATED END FITTINGS

About

Essem Works Pvt Ltd. is a leading manufacturer located in Ahmedabad, Gujarat specializing in stainless steel corrugated hoses, interlock hoses, and bellows for diverse industrial applications. Committed to international quality standards, Essem Works holds ISO 9001-2015, 14001-2015 & 45001-2018 certification, reflecting our focus on consistent product reliability and safety. Our extensive product range caters to the demanding requirements of industries such as chemical, oil & gas, power, and processing plants, offering solutions for flexible connections, expansion joints, and vibration absorption.Supported by a team of experienced engineers and professionals, Essem Works combines technical expertise with innovative manufacturing processes to deliver outstanding customer service and customized solutions. With state-of-the-art facilities and a culture of continuous improvement, we strive to set benchmarks in quality, performance, and customer satisfaction.

Industrial precision captured

ISO 9001:2015

ISO 41001:2015

ISO 45001:2018

Trusted by Industry Leaders

Reliance · UltraTech Cement The Engineer's Choice · Aditya Birla Hindalco · Larsen & Toubro · AGL Tiles Asian Granito India Ltd. Beautiful Life · Transformers & Rectifiers (India) Ltd · torrent POWER

EPIGRAL · Meghmani Organics Ltd · Rajesh Power · Marko Steamjet Pvt. Ltd. · Hilex Hydraulics Pvt. Ltd. · Jekson Hydraulic Ltd. · Nu-Vu Conair PiovanGroup

Chiripal · Aksar Food Machine · Ecoleum Energy · Amicis Pharmaceuticals

ESSEM WORKS PVT. LTD.

Advanced industrial pipe solutions

Engineered for performance in demanding industrial environments

SS Corrugated Flexible Hoses

- SS corrugated flexible hoses range from DN 6 mm to 6mm to 350 mm
- SS 304L, 316L & 321L.
- Designed for flexibility and durability in various industrial applications.
- Ideal for transferring liquids and gases in harsh environments.
- Available in smooth bore and annular corrugated designs.
- Customized options for specific pressure and temperature requirements.
- Compliance with industry standards for quality and safety.

Robust SS Interlock Hoses

- Designed for diverse operational conditions
- Available sizes range from 6mm to 200mm
- Engineered for durability and flexibility
- Ideal for various industrial applications
- Corrosion-resistant construction
- Offers high-pressure capabilities
- Ensures secure connections through interlocking design
- Lightweight and easy to install

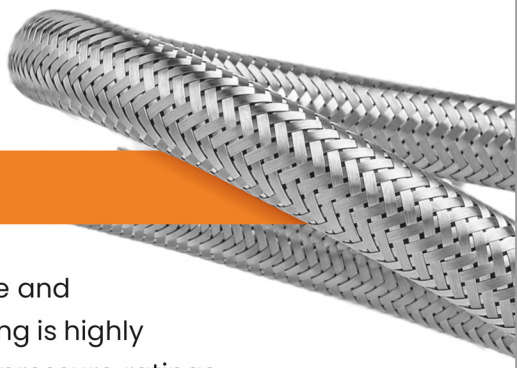
SS Industrial Expansion Bellows

- Innovative design meets rigorous engineering standards.
- Tailored for durability and reliability.
- Enhanced flexibility for diverse applications.
- Corrosion-resistant materials ensure longevity.
- Superior performance under varying conditions.
- engineered to be flexible, designed specifically to absorb thermal expansion, vibration, and movement

Manufacturing
excellence built on precision

HOSE

Corrugated Flexible Hoses are offered in 6mm (1/4 ") to 300 mm (8"NB) nominal bore.



BRAID

Unbraided Corrugated Hoses tend to elongate when pressurised above a certain level. To restrain this, an external layer of Stainless Steel wire braiding is provided on the Hose. Braiding prevents longitudinal expansion of Corrugated Hose and thus increases the internal pressure strength of the Hose many fold. Braiding is highly flexible and exactly follows the movements of the Hose. To increase the pressure ratings further, two or even three layers of braiding are provided.

ASSEMBLIES

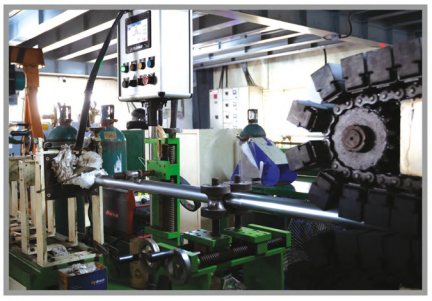
Assemblies are made by TIG welding of Stainless Steel and Carbon Steel end connections or by Silver Braizing in case of Copper and Brass end connections.

These hose assemblies are used for transferring air, gas & liquids from one place to another place.

Hose - Technical Data

Nominal Size		Without Braid		Single Braid		Double Braid		Min Bend Radius		
Inch	mm	Max WP (Kg/cm2)	Test Pressure (Kg/cm2)	Max WP (Kg/cm2)	Test Pressure (Kg/cm2)	Max WP (Kg/cm2)	Test Pressure (Kg/cm2)	Static (mm)	Flexing Type-1 (mm)	Flexing Type-2 (mm)
1/4	6	4	6	100	150	160	240	25	110	140
5/16	8	4	6	100	150	160	240	32	130	165
3/8	10	4	6	90	135	144	216	38	150	190
1/2	12	3	4.5	80	120	128	192	45	165	210
5/8	16	3	4.5	70	105	112	168	58	195	250
3/4	20	2	3	64	96	102	153	70	225	285
1	25	2	3	50	75	80	120	85	260	325
1 1/4	32	1.5	2.3	40	60	64	96	105	300	380
1 1/2	40	1.5	2.3	30	45	48	72	130	340	430
2	50	1	1.5	28	42	44	66	160	390	490
2 1/2	65	1	1.5	24	36	38	57	200	460	580
3	80	1	1.5	18	27	28	42	240	600	800
4	100	0.8	1.2	16	24	26	39	290	750	1000
5	125	0.6	0.9	12	18	20	30	350	1000	1250
6	150	0.6	0.9	10	15	16	24	400	1250	1550
8	200	0.5	0.75	8	12	12	18	520	1600	2000
10	250	0.25	0.36	6	9	9	14	620	2000	2500
12	300	0.20	0.30	4	6	6	9	720	2400	3000
14	350	0.10	0.15	2	3	4	6	900	3000	3600

- The above values are applicable for ESSEM WORKS Braided Hoses & Assemblies. The above pressure ratings are for fluid and ambient temperature of 20°C. For higher temperatures apply correction factor. The above data for 250mm to 350mm N.B. can be supplied on request. The burst pressure is 4 times the maximum working pressure.
- The above technical data is subject to change on account of design improvement.



Temperature & Pressure Technical Data

Temperature Range	Derating Factors "f" Material				
(°C)	1.4541 (Ss321)	1.4304 (Ss304)	1.4404 (SS316L)	1.4306 (SS304L)	Carbon Steel
-200 to -20	1	1	1	1	1
20	1	1	1	1	1
50	0.92	0.88	0.88	0.87	0.97
100	0.83	0.73	0.74	0.72	0.91
150	0.78	0.66	0.67	0.65	0.84
200	0.74	0.6	0.62	0.59	0.77
250	0.71	0.56	0.58	0.55	0.71
300	0.67	0.52	0.54	0.51	0.65
350	0.64	0.5	0.52	0.48	0.6
400	0.62	0.48	0.5	0.46	0.57
450	0.61	0.47	0.48	0.45	0.29
500	0.6	0.46	0.47	0.44	0.18
550	0.59	0.42	0.47	0.43	-
600	-	-	-	-	-
650	-	-	-	-	-

Temperature Correction Factor

Correcting hose pressure ratings for elevated temperatures requires applying derating factors specific to material grade and operating temperature. The derating factor table lists correction multipliers (designated "f") for five material grades across temperature ranges from -200°C to 650°C. Multiply nominal working pressure by the applicable derating factor to obtain the adjusted maximum pressure rating.

Pressure Loss in Corrugated Systems

The corrugated bore geometry induces friction losses 100% greater than smooth-bore welded steel. This translates to a practical requirement: increase hose diameter by 15% to achieve equivalent pressure drop performance compared to conventional piping.

Flow Rate Pressure Drop Calculation

The pressure drop chart provides empirical relationships between flow rate and pressure loss for water applications. Pressure drop values correspond to the vertical-axis intersection of base line flow rate and nominal diameter.

200+
Happy
Customers

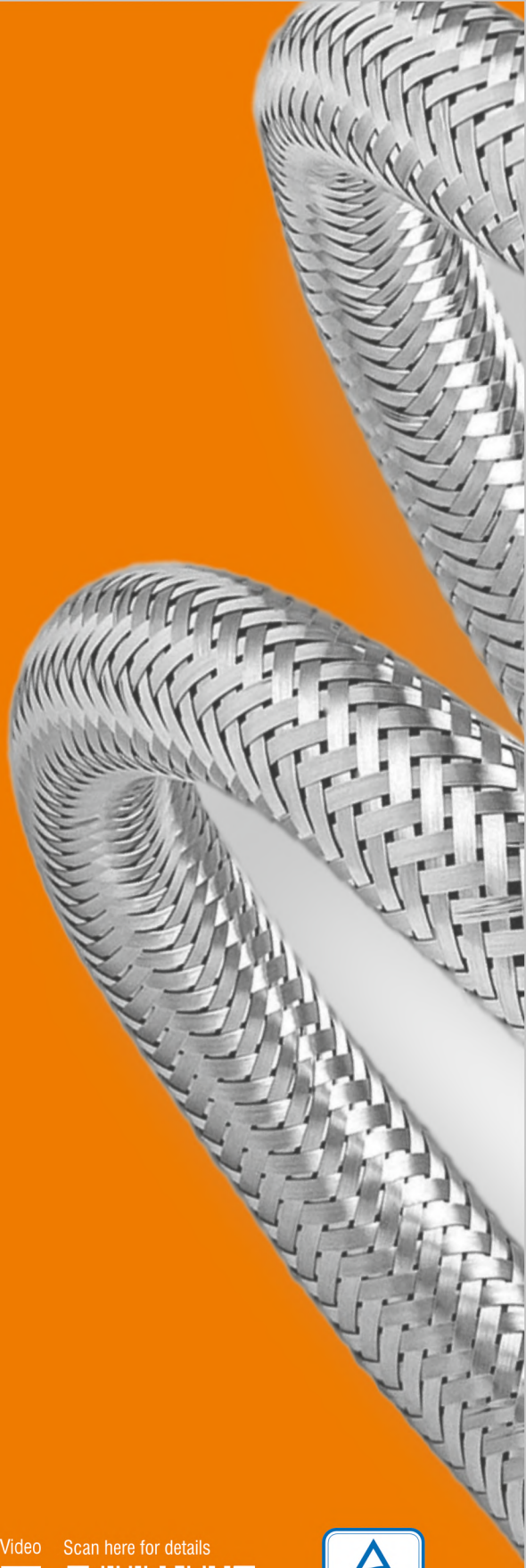
30+
Years of
team experience

60+
Skilled
Workmen

35,000+
SQ. FT. of
Manufacturing Plant

10,00,000+
Meter Production
Capacity

ISO
9001, 14001, 45001
& TUV Certified



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