GI FLEXIBLE CONNECTOR UNION TYPE

Twin Sphere Rubber Expansion Joint · Female Threaded Union Ends · Galvanised Malleable Iron

BRAND: JARTA | SKU: SW-0037 | SIZE 1/2" TO 3" | 10 BAR / 150 PSI



FIG. 1 | GI UNION TYPE, TWIN SPHERE

PRODUCT OVERVIEW

The SWBM GI Flexible Connector Union Type is a twin sphere rubber expansion joint fitted with female threaded union ends. It absorbs vibration, noise and pipe movement on small bore pumped lines, protecting circulators, booster sets and connected equipment from mechanical fatigue and transmitted noise.

The moulded EPDM body is reinforced with nylon cord fabric plies and steel bead wire rings. The twin sphere form gives greater movement capacity and lower reaction forces than a single sphere of the same length. Hot dip galvanised malleable iron unions allow the joint to be fitted and removed without disturbing the pipework.

Product type	**Twin sphere rubber expansion joint**
Body material	**EPDM rubber, nylon cord reinforced**
End connection	**Female threaded union, BSPT / NPT**
End material	**Malleable iron, hot dip galvanised**
Pressure rating	**10 bar (150 psi) at ambient**
Size range	**1/2" to 3" (DN15 to DN80)**

TECHNICAL SPECIFICATION

Design type	**Twin sphere, moulded and vulcanised**	Working pressure	**10 bar (150 psi), non-shock**
Body construction	**EPDM inner liner and outer cover**	Test pressure	**15 bar (1.5 x rated)**
Reinforcement	**Nylon cord plies, steel bead wire**	Vacuum service	**660 mmHg (26 in. Hg)**
Union material	**Malleable iron, hot dip galvanised**	Temperature range	**-20°C to +110°C**
Threads (BSPT)	**ISO 7-1 / BS 21**	Axial movement	**22 mm compression, 6 mm extension**
Threads (NPT)	**ASME B1.20.1**	Overall length	**Per dimensions table**

MEDIA AND COMPOUND SELECTION

COMPOUND	TYPICAL MEDIA	TEMPERATURE RANGE
EPDM	Water, chilled and condenser water, dilute acids and alkalis	**-20°C to +110°C**
NBR	Mineral oil, diesel, lubricating oil and oily water	**-20°C to +90°C**
CR (neoprene)	General water, sea water, weak acids, outdoor exposure	**-20°C to +100°C**
NR	Abrasive slurries and sand laden water	**-20°C to +80°C**

EPDM is supplied as standard and must not be used on mineral oil or hydrocarbon media. State the service medium, temperature and pressure at enquiry.

BILL OF MATERIALS

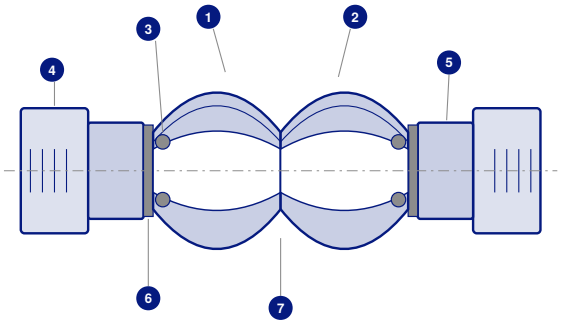

FIG. 2 | SECTIONAL ARRANGEMENT

#	COMPONENT	MATERIAL
1	Outer cover	EPDM rubber, weather and ozone resistant
2	Reinforcement ply	Nylon cord fabric, multiple plies
3	Bead wire ring	Steel wire rope, vulcanised in
4	Union nut	Malleable iron, hot dip galvanised
5	Union tailpiece, female threaded	Malleable iron, hot dip galvanised
6	Union seat seal	EPDM gasket
7	Inner liner	EPDM rubber, smooth bore

NBR body compound can be supplied for oil bearing media. Threads are supplied BSPT unless NPT is stated on the order.

DIMENSIONS AND MOVEMENTS

SIZE	DN	THREAD	L OVERALL (MM)	AXIAL COMP. (MM)	AXIAL EXT. (MM)	LATERAL (MM)	ANGULAR	WEIGHT (KG)
1/2"	15	1/2"	203	22	6	22	±32°	0.49
3/4"	20	3/4"	203	22	6	22	±32°	0.70
1"	25	1"	203	22	6	22	±25°	1.20
1.1/4"	32	1.1/4"	203	22	6	22	±21°	1.58
1.1/2"	40	1.1/2"	203	22	6	22	±18°	1.96
2"	50	2"	203	22	6	22	±13°	2.59
2.1/2"	65	2.1/2"	244	22	6	22	±11°	4.25
3"	80	3"	244	22	6	22	±9°	5.27

L = overall length between the mating pipe thread faces. Movements are non concurrent maxima and weights are for the complete assembly. Figures are nominal, certified drawings are issued on request.

ORDERING INFORMATION

FIELD	OPTIONS
Product code	SW-0037
Size	1/2", 3/4", 1", 1.1/4", 1.1/2", 2", 2.1/2", 3"
Thread	BSPT or NPT, female
Body compound	EPDM standard. NBR on request
End material	Malleable iron, hot dip galvanised
Order example	**SW-0037 / 1.1/2" / BSPT / EPDM**

Stock held in Dubai for fast despatch across the UAE and GCC. Contact our sales desk for pricing, availability, project quantities and certification requirements.

PRESSURE AND TEMPERATURE

Working pressure (EPDM)	**10 bar (150 psi) at ambient**
Test pressure	**15 bar, 1.5 x rated**
Vacuum service	**660 mmHg (26 in. Hg)**
Temperature range	**-20°C to +110°C**
Peak temperature	**+120°C, intermittent**
Angular movement	**Per dimensions table**

Ratings apply to cold, non-shock water service with an EPDM body. Derating applies above +80°C and should be confirmed with SWBM before order. EPDM is not suitable for mineral oil or hydrocarbon service, specify an NBR body for those media.

TYPICAL APPLICATIONS

- Small pump and circulator connections
- Chilled water and HVAC branch lines
- Domestic and commercial water booster sets
- Compressed air and low pressure utility lines
- Sewage and effluent transfer pumps
- Plant room and equipment take off piping

COMPLIANCE AND QUALITY

- Twin sphere body moulded and vulcanised, nylon cord reinforced
- Female threads to ISO 7-1 / BS 21 (BSPT) or ASME B1.20.1 (NPT)
- Hydrostatic shell test at 1.5 x rated pressure
- 100% pressure tested before despatch
- EPDM compound suitable for potable and chilled water
- Material and test certificate EN 10204 3.1 on request
- NBR body compound available for oil bearing media

INSTALLATION AND OPERATION

- Flush the line thoroughly before installation to clear weld slag, sand and debris
- Align the pipe ends and set the gap to the overall length of the joint before making up the unions
- Do not stretch or compress the rubber body to take up a gap in the pipework
- Tighten on the union nut flats only, never on the rubber body or the reinforcement
- Apply PTFE tape or an approved sealant to the mating male thread only
- Support the pipework on both sides so that the joint carries no pipe weight
- Keep the joint clear of heat sources, direct sunlight, ozone and sharp tools

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