

ATAG

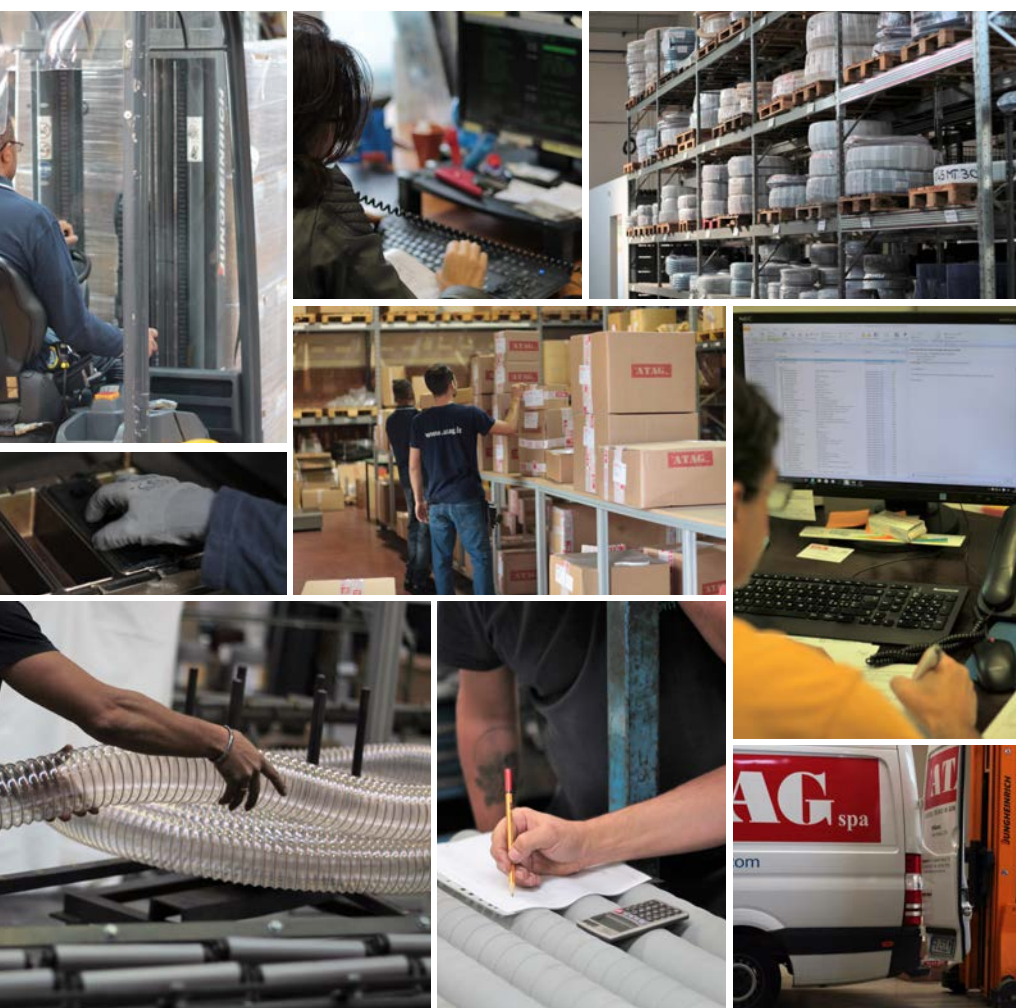
SERVING INDUSTRY SINCE 1947



EXPANSION JOINTS

- Rubber Bellows
- Metal Expansion Bellows
- Fabric Expansion Joints

PAST, PRESENT, FUTURE



ATAG is serving industry since **1947** and is constantly growing.

The wide range of products, the three domestic locations, the controlled companies, the large warehouses, the extensive sales network, the increasingly stringent internal workings, the website in constant evolution and a service based on the qualified technical expertise offered by our sales department, are the reasons why our customers rely constantly on ATAG.

In recent years we have incorporated complementary companies, using their great competencies to improve our own skills. An efficient export department, our European resellers and long-standing customers, allow us to have a better knowledge of foreign markets and strengthen our presence beyond the Italian borders.

Collaborations and agreements with international prestige partners enable us to offer our country products and solutions that are already appreciated and well established in Europe, and to stimulate our research into improved solutions for the Italian industry.

EXPANSION JOINTS

The **COMPENSATORS** are flexible elements that are designed to absorb vibration, changes of length due to thermal expansion, misalignment and angular displacement in pipe work systems.

Based on the application or to specific project requirements they are available as:

Rubber Bellows

Comprising a central rubber body, the point of compensation and vibration absorption in a system, they are supplied fitted with flanges or with threaded cuffs (up to DN2"). The central body can differ in profile and in its length. The most common designs are found in this catalogue. The type of rubber used in the bellows is determined by the application. They can also be supplied together with limiters to control the amount of deflection and also reinforced for use under vacuum.

Metal Expansion Bellows

Made from suitably conforming stainless steel and able to absorb the movements of a pipe work system that is subjected to pressure and temperature. The metal bellows are an alternative to other types of compensation joint in the presence of elevated pressures and are the only solution for large diameter pipes. One of the benefits of this type of product is the resistance to ageing.

Fabric Expansion Joints

Made from a strip of technical fabric (the type of material used determines the area of application) welded on the sides with galvanized steel strips. They are normally used as a coupling to a fan unit in order to compensate for the expansion or misalignment of ventilation or air-conditioning ductwork. Fitted directly between the outlet or inlet of the fan and the ductwork they absorb vibration that otherwise would propagate along the ductwork as transmitted noise.



EXPANSION JOINTS

Rubber Bellows with Rotating Flanges

CODE	DESCRIPTION	TYPE OF MATERIAL	APPLICATIONS	WORKING TEMPERATURE	WORKING PRESSURE
 ERV-G	YELLOW STRIPE	NBR (NITRILE)	Products of base petroleum, petrol, different gas types except LPG	-20 to +90 °C	max. 16 bar
 ERV-OR	ORANGE STRIPE	NBR (NITRILE)	For LPG or applications with greater pressure than 16 bar	-20 to +90 °C	max. 25 bar test: 40 bar bursting: min. 100 bar
 ERV-GS	TWIN YELLOW STRIPE	NBR (NITRILE) with steel filament reinforcing	For cleaning water and for lubricating systems of boats and diesel engines	-20 to +100 °C	max. 16 bar
 EVR-R	RED STRIPE	EPDM / Butyl Composite	Various types of water, approved also for potable water *	-25 to +90 °C	max. 16 bar
 ROTEX	TWIN RED STRIPE	EPDM	Hot water of heating systems	-35 to +110 °C	max. 16 bar
 ERV-GR	GREEN STRIPE	CSM (HYPALON)	Aggressive chemical products such as acids	-20 to +80 °C	max. 16 bar
 ERV-W	WHITE STRIPE	WHITE NBR (White Nitrile)	Foodstuff Products	-20 to +80 °C	max. 16 bar
 ERV-CR	BLACK STRIPE	NEOPRENE	Various types of water, good resistance to abrasive products	-25 to +70 °C	max. 16 bar
 ERP	RED DOT	EPDM Butyl Composite	Various types of water, approved also for potable water *	-25 to +80 °C	max. 10 bar
 ERV TA	WITH PTFE COVER	PTFE	For products where rubber is not normally suitable	Limited by base rubber	max. 6 bar
 9A11RG2A...	VACUUM RESISTANCE RINGS	STAINLESS STEEL	For applications where the bellows are under vacuum	To bellows limit	Uninfluenced
 -----	FLAME RETARDANT COVER	TECHNICAL FABRIC	For bellows external protection	Up to 800° C	Uninfluenced
 T1PN...	MOVEMENT LIMITER	STEEL	To prevent too much displacement of the bellows	Compatible with application	Uninfluenced

Available from diameter 25mm to 1,000mm
Gauge from 130 mm to 300 mm, based on the diameters. The flanges are drilled according to the Norm UNI PN10 - PN16, and on request PN6 - ASA 150.



In case of applications where it is uncertain which type of rubber is suitable then please contact us. Consult the technical datasheet for further details concerning the relation of temperature and pressure.

Temperatures below zero could limit the range of movement
* Approved for drinking water according to German standards

EXPANSION JOINTS

Metal Expansion Bellows



Pipe work systems are subject to thermal expansion and other factors.

Where these movements exceed acceptable values it becomes necessary to use bellows that both **absorb and compensate** for the expansion and movement.

On large diameter pipe systems and in other specific situations, these metal bellows allow **the containment of load loss** and **thermal dispersion** with certain benefits.

In order to function correctly the expansion bellows must be **chosen correctly** based on their working conditions.

This type of product permits joints of different lengths and variable diameters and/or surfaces, with flanged ends or with weldable cuffs (see outlines).

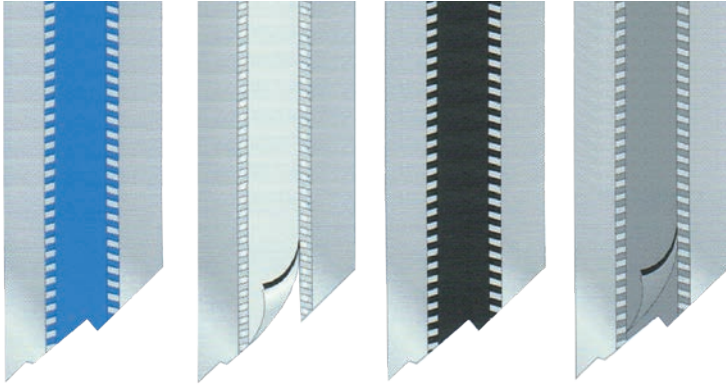
AXIAL FLANGED BELLOWS	STANDARD MATERIAL
	<p>Bellows ASTM A 240 type 321 Flange UNI 2278: Fe 410 B, ASTM A 105</p>
AXIAL WELDABLE BELLOWS	STANDARD MATERIAL
	<p>Bellows ASTM A 240 type 321 Cuffs ASTM A 106 Gr.B</p>

BASED ON THE TYPE OF EXPANSION THAT THEY CAN ABSORB THE METAL BELLOWS ARE CLASSIFIED AS FOLLOWS:

■ AXIAL	■ UNIVERSAL	■ ANGULAR	■ SPHERICAL ANGULAR
■ LATERAL	■ SPHERICAL LATERAL	■ UNIVERSAL WITH NON-COMPRESSION	

EXPANSION JOINTS

Fabric Expansion Joints



Flexible expansion joints designed to connect to ventilation and extraction fans thereby reducing noise and vibration.

Available in three sizes and in four types: two from PVC coated polyester in different colours, one in aluminium backed glass fibre fabric, and an innovative solution that is made from a double layer of silicone coated glass fibre fabric that resists high temperatures and is flame retardant.

All the sizes and types can be supplied in with galvanized edges of AISI 304 stainless steel.

Type POLYESTER-PVC-NEOPRENE colour BLUE

	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
	BLUE NEOPRENE	Galvanised Sheet SP 5/10 Stainless Steel AISI 304 - SP 5/10	100°C	M2	25 PER CARTON
	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
	BLUE NEOPRENE	Galvanised Sheet SP 5/10 Stainless Steel AISI 304 - SP 5/10	100°C	M2	25 PER CARTON
	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
	BLUE NEOPRENE	Galvanised Sheet SP 5/10 Stainless Steel AISI 304 - SP 5/10	100°C	M2	25 PER CARTON

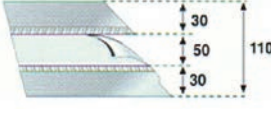
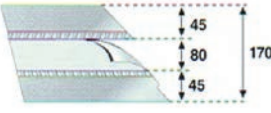
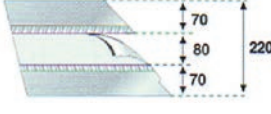
Type POLYESTER-PVC-NEOPRENE colour DARK GREY

	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
	DARK GREY NEOPRENE	Galvanised Sheet SP 5/10 Stainless Steel AISI 304 - SP 5/10	100°C	M2	25 PER CARTON
	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
	DARK GREY NEOPRENE	Galvanised Sheet SP 5/10 Stainless Steel AISI 304 - SP 5/10	100°C	M2	25 PER CARTON
	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
	DARK GREY NEOPRENE	Galvanised Sheet SP 5/10 Stainless Steel AISI 304 - SP 5/10	100°C	M2	25 PER CARTON

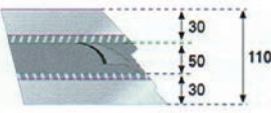
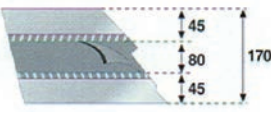
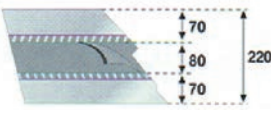
EXPANSION JOINTS

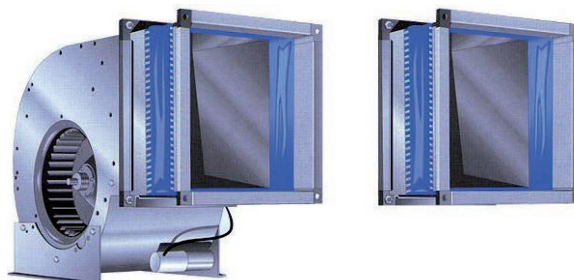
Fabric Expansion Joints

Type ALUMINIUM BACKED GLASS FIBRE

	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
ALUMINISED GLASS FIBRE	Galvanised Sheet SP 5/10	180°C	aluminised side = M2 side with fabric = M1	25 PER CARTON	
	Stainless Steel AISI 304 - SP 5/10				
	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
ALUMINISED GLASS FIBRE	Galvanised Sheet SP 5/10	180°C	aluminised side = M2 side with fabric = M1	25 PER CARTON	
	Stainless Steel AISI 304 - SP 5/10				
	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
ALUMINISED GLASS FIBRE	Galvanised Sheet SP 5/10	180°C	aluminised side = M2 side with fabric = M1	25 PER CARTON	
	Stainless Steel AISI 304 - SP 5/10				

Type SILICONE

	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
SILICONE COATED GLASS FIBRE	Galvanised Sheet SP 5/10	280°C	M Ø	25 PER CARTON	
	Stainless Steel AISI 304 - SP 5/10				
	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
SILICONE COATED GLASS FIBRE	Galvanised Sheet SP 5/10	280°C	M Ø	25 PER CARTON	
	Stainless Steel AISI 304 - SP 5/10				
	FABRIC	EDGING STRIP	TEMPERATURE LIMIT	FLAME RETARDANT CLASSIFICATION	PACKAGING
SILICONE COATED GLASS FIBRE	Galvanised Sheet SP 5/10	280°C	M Ø	25 PER CARTON	
	Stainless Steel AISI 304 - SP 5/10				



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