

LKA-10

VIBRATION ABSORBER RUBBER EXPANSION JOINTS

GENERAL FEATURES

Ayvaz rubber expansion joints provide excellent compensating features by their highly rated rubber bellows which is consisted of EPDM and steel wire.

Ayvaz's rubber expansion joints are designed to compensate axial, lateral and angular movements at the same time.

Application Areas

- Air Conditioning System
- Air ducts, chemical lines
- Circulating water lines
- Compressor lines, paper stock lines
- Pump-suction and discharge
- Refrigeration lines
- Turbine to condenser

Advantages of Rubber Expansion Joints

- Excellent chemical resistance
- No fatigue due to vibrations or life cycle
- Negligible pressure loss of pipes
- Elastic material, extra safety
- Excellent wear resistance
- Excellent sound reduction

* Not suitable for oil gasoline and greases.

Transport and Storage

Rubber expansion joint should be stored in dry and dark place. Avoid exposure to direct sunlight. Protect from moisture and mechanical damage. Storage temperature should not exceed -10°C and 50°C. Do not use connection holes for transport.

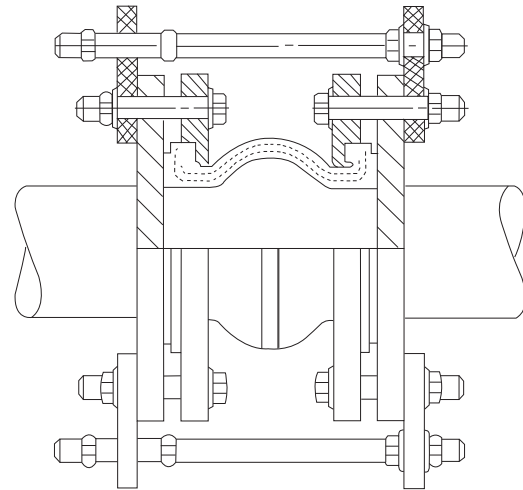
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INSTALLATION

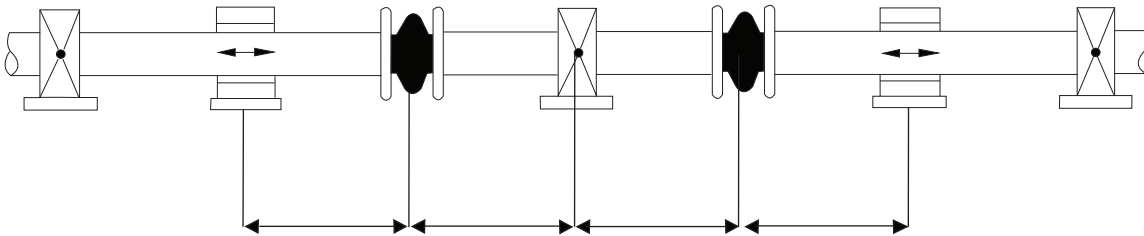
The installation should be designed so that rubber expansion joints was not used as a support element. The pipeline should be equipped with fixed supports and sliding guides in the appropriate place. Counter flanges should be clean and free of burrs and oil and should fit the mounting area of the rubber bellow.

Rubber Expansion Joints with Tie Rods

In case of making rubber expansion joints “restrained” Additional tie rods may be used. This would provide extra safety against fixed point failures. Diameter, material, number of the tie rods are decided by internal pressure.



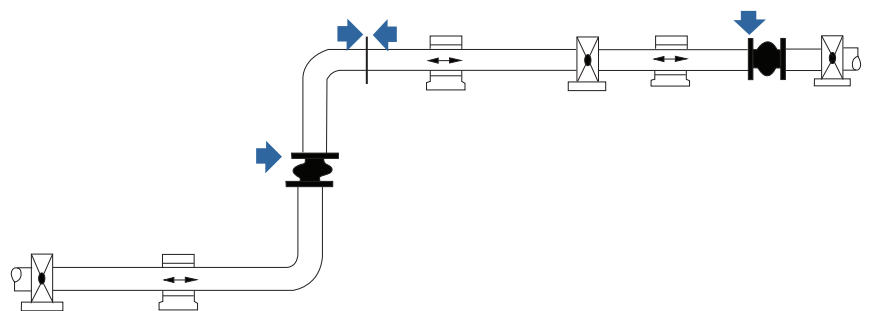
Basic Installation Scheme



When two successive sliding support are used, the distance between them can be $14 \times D$, where D is the outer diameter of the pipe.

Counter flanges which the rubber expansion joints is mounted should be parallel and the distance between the rebate should be consistent with "L". **The permissible deviation of the installation dimension is max. +/- 5mm.**

When mounting the rubber expansion joints in the vicinity of the pump, the distance of the rubber expansion joints from the nozzle should be min. $1.5 \times D$.

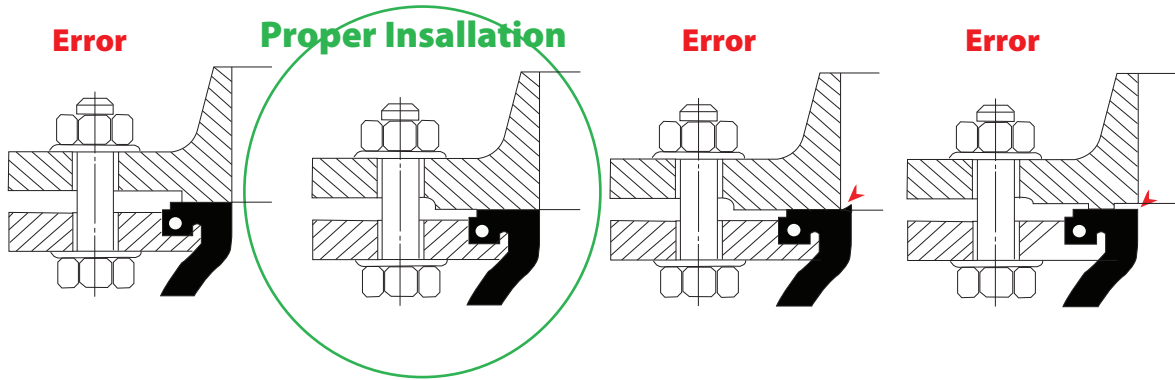
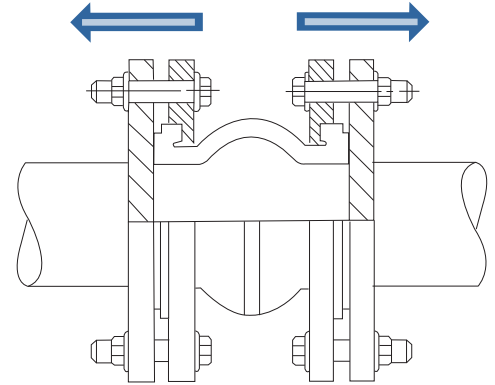


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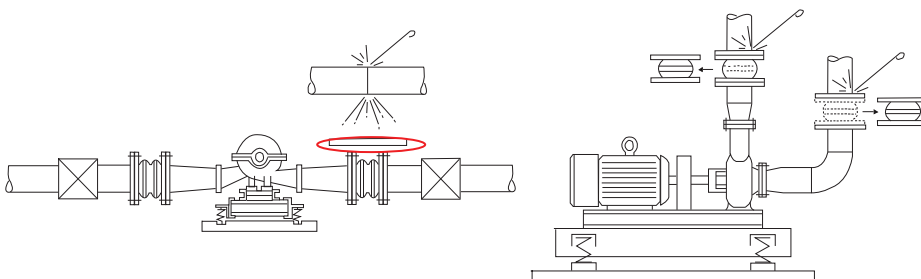
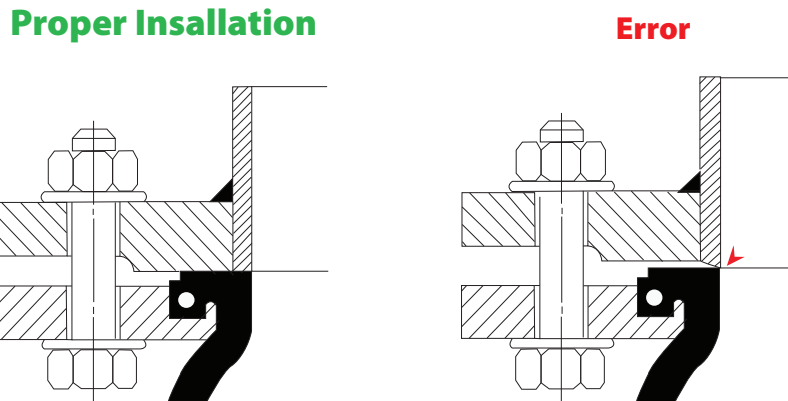
Recommendations for assembly.

Nuts should be placed on the side of counter flange.

Counter flanges should be selected specially. Proper surface of the sealing face must coincide with the surface of the rubber expansion joints. Proper selection is show below.



Edge of the pipe rims beyond the surface of the rebate may damage the expansion joints. The joint plane should be aligned.

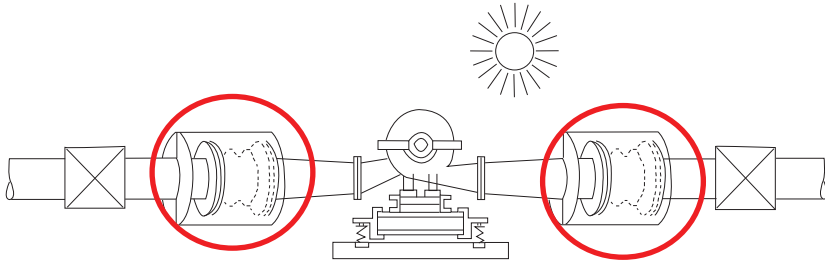


At the time of assembly you should be careful near the rubber expansion joints. In particular when grinding and welding, rubber expansion joints should be covered. Installation of rubber expansion joints may be carried out by welding of counter-flanges.

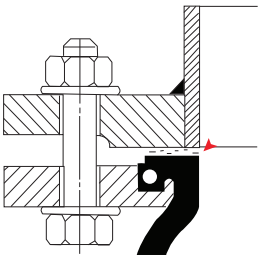
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In case of installation outside of the building, where the rubber expansion joints is exposed to direct sunlight the permanent cover should be provided.

Rubber Expansion Joints must not be isolated.



Immediately prior to installation, clean the contact surface of the rubber expansion joints and counter flange from the mechanical impurities degrease them and remove the remaining paint if needed.



The first step is to tighten the screws by hand and the other two passages should be performed using a torque wrench. This will prevent the destruction of the sealing surface.

Service and Repair

Periodically inspect rubber expansion joints. The first inspection should take place a week after the start-up and subsequent ones in cycles set by the user but not less frequently than once a year. Particular attention should be paid to external damage of the rubber expansion joints, such as blisters, cracks and leaks and its deformation. Please check unacceptable displacements and changes in the length of the installation, as well as corrosion and wear the assembly.

For cleaning the rubber expansion joint do not use any sharp-edged objects, wire brushes or abrasive paper. Cleaning of the rubber expansion joints should be carried out with clean water and soap with a weak alkaline pH.

It is forbidden to perform actions within the rubber expansion joint (loosening the fixing screws on the flanges) when the system is under pressure.

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SPECIFICATION

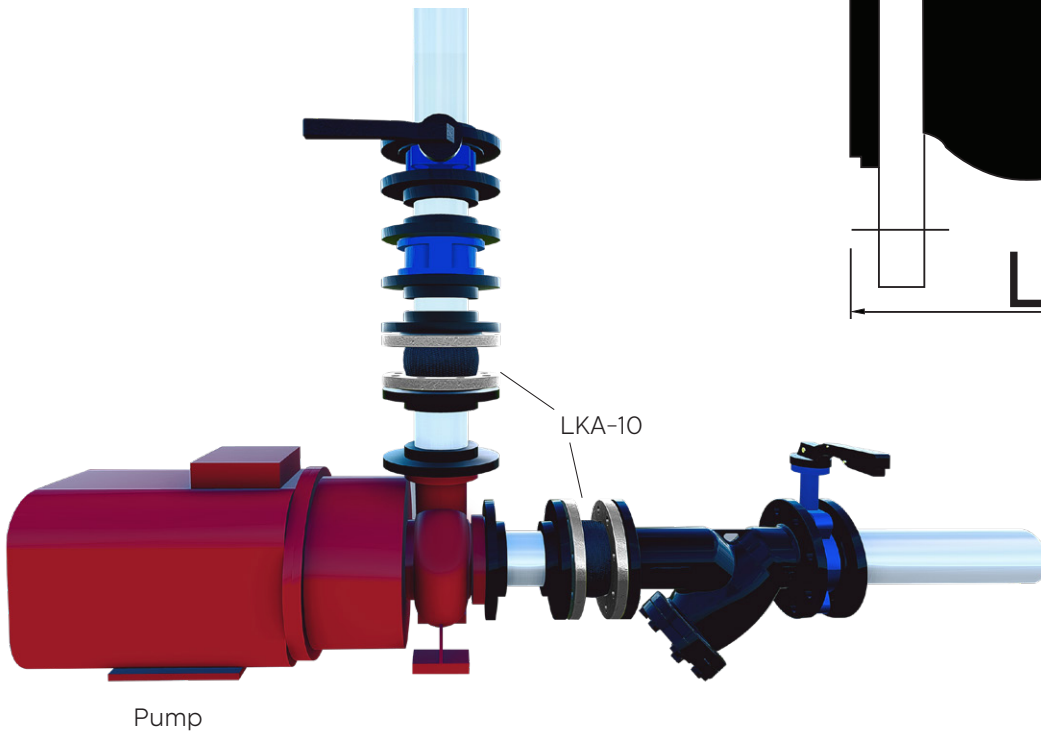
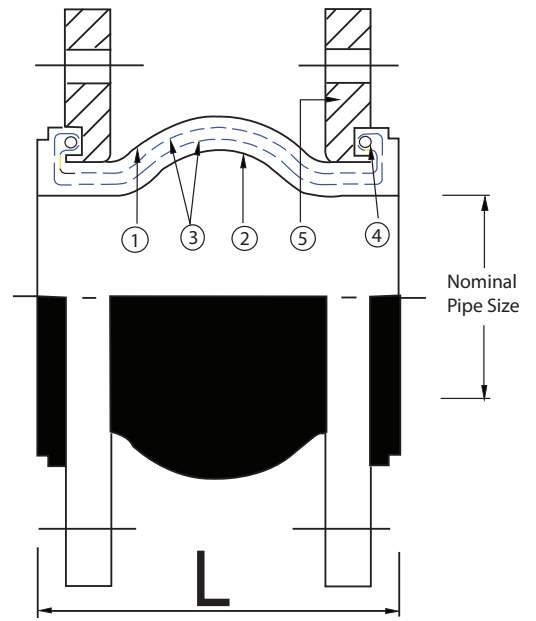
Size up to DN 300							
Nominal Pipe Size		Neutral Length L	Axial Compression	Axial Elongation	Lateral Deflection	Angular Deflection	Maximum Operating Pressure
mm	inç	mm	mm	mm	+or -mm	+or -deg	bar
32	1 1/4	100	10	10	10	10	16
40	1 1/2	100	10	10	10	10	16
50	2	100	10	10	10	10	16
65	2 1/2	100	10	10	10	10	16
80	3	100	10	10	10	10	16
100	4	100	10	10	10	10	16
125	5	120	12	12	12	12	16
150	6	120	12	12	12	12	16
200	8	120	12	12	12	12	16
250	10	120	12	12	12	12	16
300	12	120	12	12	12	12	16

Size from DN 350 to DN 600							
Nominal Pipe Size		Neutral Length L	Axial Compression	Axial Elongation	Lateral Deflection	Angular Deflection	Maximum Operating Pressure
mm	inç	mm	mm	mm	+or -mm	+or -deg	bar
350	14	266	25	16	18	15	10
400	16	266	20	16	18	15	10
450	18	200	20	12	18	15	10
500	20	200	20	12	18	15	10
600	24	250	20	12	18	15	10

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OPERATING CONDITIONS						
Operating Temperature	Ambient	50 °C	60 °C	70 °C	80 °C	90 °C
Maximum Operating Pressure (bar)	16 Up to DN 300	12.4	10	7.5	6.5	4
	10 DN 350- DN 600	7.5	6.2	5	4	2.4

TECHNICAL FEATURES		
Part No	Part Name	Material
1	Body (Outer Layer)	EPDM
2	Body (Inner Layer)	EPDM
3	Reinforcing Fabric	Nylon Fabric
4	Wire	Hard Steel Wire
5	Flange	Mild Steel



HEAD OFFICE - FACTORY

Atatürk Sanayi Bölgesi Hadımköy Mahallesi Mustafa İnan Caddesi No: 44 Arnavutköy - İSTANBUL
 Tel: +90 212 771 01 45 (pbx) | Fax: +90 212 771 47 27
 info@ayvaz.com | www.ayvaz.com

Cona
Caserta/Italy
 Tel: +39 0823 187 3988
 rmolaro@ayvaz.com

Ayvaz Germany
Viernheim/Germany
 Tel: +49 62046014399
 germany@ayvaz.com

Ayvaz Ukraine
Kiev/Ukraine
 Tel: +380 44 390 57 57
 info@ayvaz.com.ua

Tricorr
Warsaw/Poland
 Tel: +48 530 030 810
 +48 533 603 335
 tricorr@tricorr.eu

Ayvaz Azerbaijan
Baku/Azerbaijan
 Tel: +99 (455) 579-84-32
 ahayatov@ayvaz.com

Ayvaz Egypt
Cairo/Egypt
 Tel: +20 122 819 78 29
 andrew.eid@ayvaz.com

Ayvaz Gulf
Dubai/U.A.E
 Tel: +971 563550822
 +971 501306871
 mideast@ayvaz.com

Ayvaz China
Ningbo/China
 Tel: +86 152 5830 7361
 msahin@ayvaz.com

Ayvaz Kazakhstan LLP
Almaty/Kazakhstan
 Tel: +7 (727) 327 97 57
 info_kz@ayvaz.com

Ayvaz N
İsperih/Bulgaria
 Tel: +359 8431 27 32
 office@ayvaz-n.eu

Ayvaz Serbia
Belgrade/Serbia
 Tel: +381 61 658 70 52
 yakbiyik@ayvaz.com

Ayvaz Vietnam
HCMC/Vietnam
 Tel: +84 89 8508345

Ayvaz Americas
Rhode Island/USA
 Tel: +1 401 737 8380
 americas@ayvaz.com