

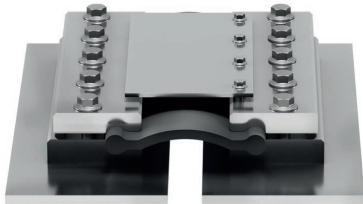
Dog bone

Dog bone series

The Dog Bone Type Expansion Joint is used as flexible connection between Turbines and Condensers. This turbine exhaust expansion joint is used as a flexible connection in power plants and it is the most widely used turbine to condenser expansion joint in use.

One of the main functions of the Dog Bone Expansion Joint is to absorb the differential thermal expansion between the steam turbine and the condenser while imparting minimal forces and moments on the turbine exhaust flange. Steam turbines come in a variety of exhaust configurations such as down exhaust, axial exhaust and top exhaust. Each configuration has unique design and performance requirements for the expansion joint. The expansion joint must perform satisfactory under a wide range of operating conditions to ensure reliable operation of the turbine condenser system.

MACOGA provides the highest Quality Dog-Bone Type Expansion Joints.



Multiply moulded belt

A moulded construction of plies of rubber impregnated fabric, rubber covered and spliced endless to a specific peripheral dimension. Dog Bone Expansion Joints can be made of Neoprene (Poly-Chloroprene) or EPDM (Ethylene Propylene Polymer).

Standard overall width	240 mm (9-3/8")
Rubber material	EPDM or Neoprene
Reinforcements	6 (standard) or 8 ply polyester 500 warp x 500 fill tensile strength.
Knobs	32 mm (1-1/4") diameter
Core	16 mm (5/8") Polypropylene cord

Rate movements

For a standard 240 mm width.

Axial compression	25 mm (1")
Axial extension	3 mm (1/8")
Lateral movement	12 mm (1/2")

Max. temperature rating

EPDM	121 °C (250 °F) continuous 194 °C (350 °F) intermittent (max. 36 hours whole life)
Neoprene	107 °C (225 °F) continuous 152 °C (275 °F) intermittent (max. 36 hours whole life)

Inner liner

The internal liner secures a smooth flow, protects bellows from flow induced vibrations, hold friction to a minimum and protect bellows from erosion. Neoprene (Poly-Chloro-prene) or EPDM (Ethylene Propylene Polymer).

Connecting ends

In carbon steel material as standard, they can be supplied with landing bars or weld ends for welding to customer's ducting or with flanges drilled to match customer's equipment.

Clamps

The rubber belt expansion joint equipped on both sides with self-sealing rubber knobs, affixed to the connecting metal parts using specially designed machined clamps that ensure tightness. The machined clamps and the bolting ensure leak tightness during operation. The clamps on either end are welded to a flange if the expansion joint is to be bolted to the condenser and the turbine. The clamps are welded to filler piece of a weld end if the expansion joint is to be welded to the turbine or the condenser.

Sample images

