

I-Lock-P™ Mechanical Seal

Technical Data Sheet

SCOPE

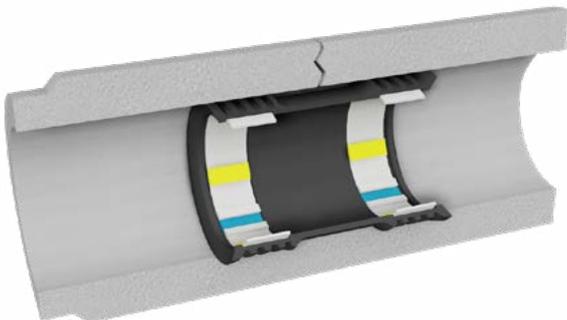
This Data Sheet describes the function of the I-Lock-P™ Mechanical Seal, its principle of operation, and the component materials of the seal and their physical properties.

PRODUCT APPLICATION

I-Lock-P™ Mechanical Seals are designed to seal leaking points in most types of pipe including steel, cast iron, concrete and plastic. They are designed to a pressure rating of 20 bar (290 psi).

PRINCIPLE OF OPERATION

I-Lock-P™ Mechanical Seals stop leaks by covering the leak with a flexible rubber seal and compressing the rubber seal against the inside diameter of the pipe on either side with expansion bands.



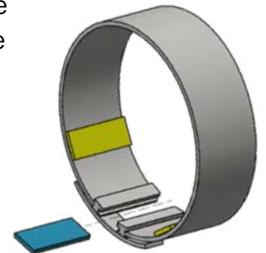
The compressive force on either side of the leaking point is the result of increasing the effective diameter of the stainless-steel expansion bands.

The expansion band diameter is increased using a high force hydraulic expansion tool. Once expanded, a spacer is inserted that provides a positive mechanical lock when the expansion tool is removed.



Depending on the diameter of the pipe being sealed, there will be between one and three Steel Expansion Bands and Spacer Inserts to ensure an even distribution of compressive force on the rubber seal.

The number of bands required by diameter size are shown on the following page.



MATERIAL

I-Lock-P™ Mechanical Seals are lead-free.

The flexible rubber seal is made of high tensile strength EPDM rubber 70 Shore A.

All the metallic parts are stainless steel SS 316.



ADDITIONAL FEATURES

Seal pattern underneath the band creates high seal contact pressure to pipe ID surface

Available in multiple widths and extensions

Optional test port available for pressure testing of the area between the sealing parts

MATERIAL PROPERTIES

Physical Property	Specification	Value
EPDM Flexible Seal		
Hardness	ASTM D2240 (Shore a durometer)	70 Shore A
Tensile strength	ASTM D412	1957 PSI/13.5 MPa Nominal
Elongation	ASTM D412	350 % min
Compression Set	ASTM D395 (70 °C 22 hrs)	25 % max
SS 316 Parts		
Tensile Strength	ASTM A666	70,000 PSI min
Elongation	ASTM A666	40 %

STANDARD CONFIGURATION

Expansion points	Min Diameter	Max Diameter
1	16"	24"
2	25"	47"
3	48"	96"

Check the I-Lock-P™ Installation Guide for a detailed explanation of the preparation, assembly and installation of the Mechanical Seal.



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