

IIS Valve Plates, Flapper Valve Reeds & Springs for Compressors.



International Industrial Springs

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Reed Valve is a Flapper valve steel component used in different types of compressors for effective control of gas, fuel and air. Flapper Reed valves must be capable of working continuously for long periods without failure. A careful & controlled manufacturing process is essential for the proper function & longer service life of a Flapper Reed Valve.

Flapper valves are used in :

- 1. Refrigerators
- 2. Air Conditioners.
- 3. Freezers
- 4. Vacuum pumps, etc.
- 5. Heat Pumps
- 6. Brake Systems
- 7. Vacuum Pumps
- 8. Industrial Air Compressors



Material :

Material used for Reed valves are 20C, 7C27Mo2 & Hiflex This material is purchased from Sandvik Materials Technology

Chemical composition Sandvik Sweden of 7C27Mo2

Elements	C	Si	Mn	Cr	Mo
7C27Mo2	0.38%	0.40%	0.55%	13.5%	1.0%\
20C	1.00%	0.25%	0.40%	-	-

High quality Martensitic chromium, stainless steel alloyed with molybdenum give better corrosion resistance and higher fatigue strength resulting in a more efficient compressor because of lower flow losses across the valve.

Surface Finish - Bright, fine & polished

Strip thickness max. 0.508 mm (<0.020 inch):

R_a = maximum 0.13 μm (5.2 u inch)*

R_{max} = maximum 1.5 μm (60 u inch)

Strip thickness over 0.508 mm (.020 inch):

R_a = maximum 0.25 μm (10 u inch)*

R_{max} = maximum 2.5 μm (100 u inch)

*Cut off 0.25 mm (0.01 inch)

FLATNESS - Extra accurate

This means a maximum out-of-flatness across and along the strip of max. 0.20% of the nominal strip width.





Samples of Flapper Valve Reed

Features of IIS Flapper Reed Valve

Made from Sandvik Strip Steel which ensures

- ↳ High Fatigue Strength
- ↳ High Purity
- ↳ Good flatness & surface finish
- ↳ Fine thickness tolerances
- ↳ Radiused Edges
- ↳ High Service temperature
- ↳ Longer service life
- ↳ Cost saving & Low maintenance

Testing Facilities

IIS has in house testing facilities for mechanical, Chemical, flatness, surface finish & edge radius.



**ROUGHNESS TESTER FOR
SURFACE FINISH CHECKING**



Microscope for edge radius checking

Edge Radius



After
Blanking

Normal
Tumbling

IIS
Tumbling



Quality Assurance:-

International Industrial Springs has a Quality Management System approved by internationally recognized organization. We hold Quality System certificate approval for ISO 9001 : 2000 including the clause of Design from AQSR (American Quality System Registrar)

Manufacturing Facilities & Process :

1. Tool Design

We have specialized engineers having good experience in designing & manufacturing reed valves & valve plates. Material used for Tool manufacturing is wear resistant high speed alloy steel, heat treated in special vacuum heat treatment furnaces.



2. Blanking :

Precision Power Presses are used for blanking Flapper Valve Reeds. Fully automatic strip feeding arrangement and precision blanking presses enable us to produce quality reeds with competitive prices.

3. Finishing Process :

After blanking cold worked edges of reed valves are rough and need to be well rounded. This can be achieved by our proprietary process using Centrifugal Finishing Machine. This process increases intensity of compressive residual stresses on the surface of reed valve. This process converts tensile stress into compressive stress and greatly enhances the fatigue strength of Reed Valves.

4. Stress Relieving :

Reed valve are stress relieved in order to reduce the residual stress from blanking operation wherever required Stress relieving is done on specially designed furnace with specified temperature.

Products Range

Rings



Compressors Valve Springs



Disc Springs



Disc Springs



Quality Policy

We are Committed to Deliver Quality Products and Services to our Customers on time at Competitive Prices through Continual Improvement, Team work and Excellence in everything we do thereby contributing to the Customer Success.



Valve Plate & Assembly

Valve Assemblies are used in Air Compressors for different types of applications. Valve Plates are made from High Chromium Stainless Steel material. Valve Plates are manufactured and heat treated in precision SPM's. Flatness, Parallism and Surface finish of Valve Plates is most important factor to increase efficiency of compressor valves. We have all test facilities to Check Flatness, Parallism and surface finish of valve plate's. We have developed a unique manufacturing process from our decades of experience and research.

