

## F16J

**PISTONS [N: (specially adapted for dampers F16F9/32)];  
CYLINDERS; SEALINGS**

### F16J 1/00

**Pistons; Trunk pistons; Plungers (bellows pistons F16J3/06 ; piston-rings or seats therefore F16J9/00 ; [N: manufacture of pistons B23P15/10 ] ; rotary pistons, e.g. for "Wankel" type engines F01C ; specific for combustion engines, i.e. constructed to withstand high temperature or modified for guiding, igniting, vaporising or otherwise treating the charge F02F ; [N: pistons for hydraulic engines F03C]; pumps F04B ; floats F16K33/00)**

#### Definition statement

*This subclass/group covers:*

Pistons not specific to a particular use.

#### References relevant to classification in this group

*This subclass/group does not cover:*

Rotary pistons, e.g. for "Wankel" type engines	<a href="#">F01C</a>
Pistons for hydraulic engines	<a href="#">F03C</a>
Pumps	<a href="#">F04B</a>
Floats	<a href="#">F16K 33/00</a>

#### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Manufacture of pistons	<a href="#">B23P 15/10</a>
Bellows pistons	<a href="#">F16J 3/06</a>
Piston-rings or seats therefore	<a href="#">F16J 9/00</a>

## F16J 3/00

Diaphragms; Bellows; Bellows pistons (connection of valves to inflatable elastic bodies B60C29/00 ; bellows or the like used in instruments G12B1/04 ; diaphragms for electromechanical transducers H04R7/00 )

### Definition statement

*This subclass/group covers:*

Diaphragm, bellows and bellow pistons not specific to a particular use

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Connection of valves to inflatable elastic bodies	<a href="#">B60C 29/00</a>
Bellows or the like used in instruments	<a href="#">G12B 1/04</a>
Diaphragms for electromechanical transducers	<a href="#">H04R 7/00</a>

## F16J 7/00

### Piston-rods

### Definition statement

*This subclass/group covers:*

Piston-rods not specific to a particular use

## F16J 9/00

Piston-rings, [N: e.g. non-metallic piston-rings] , seats therefor; Ring sealings of similar construction in general (other sealings between pistons and cylinders F16J3/06 , F16J15/16 ; [N: manufacture of piston-rings B23P15/06 , B23P15/08 ] ; tools for mounting or removing piston-rings or the like B25B ; piston sealing arrangements on brake master cylinders B60T11/236 ; [N: sealing provided on pump pistons F04B53/143 ] )

## Definition statement

*This subclass/group covers:*

Piston-rings or piston-ring expanders metallic or non-metallic; Seats therefore

## References relevant to classification in this group

*This subclass/group does not cover:*

Ring sealing of similar construction in general also when used between pistons and cylinders	<a href="#">F16J 3/06</a> , <a href="#">F16J 15/16</a>
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## Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Manufacture of piston-rings	<a href="#">B23P 15/06</a> , <a href="#">B23P 15/08</a>
Tools for mounting or removing piston-rings or the like	<a href="#">B25B</a>
Sealing arrangement on brake master cylinder	<a href="#">B60T 11/236</a>
Sealing provided on pump pistons	<a href="#">F04B 53/143</a>

## Special rules of classification within this group

Piston rings specific for combustion engines are classified in [F16J 9/00](#) not in [F02F 5/00](#)

## F16J 10/00

**Engine or like cylinders (pressure vessels in general F16J12/00 ; cylinders for engines or other apparatus of particular kinds, see the appropriate subclasses, e.g. for combustion engines F02F ) ; Features of hollow, e.g. cylindrical, bodies in general**

## Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Cylinders for engines or other	<a href="#">F02F</a>
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apparatus of particular kinds, see the appropriate subclasses, e.g. for combustion engines	
Pressure vessels in general	<a href="#">F16J 12/00</a>

## F16J 12/00

**Pressure vessels in general (covers therefore F16J13/00 ; for particular applications, see the relevant subclasses, e.g. B01J , F17C , G21C )**

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

For particular use see the relevant subclass -for chemical or physical processes -for storing compressed, liquefied or solidified gasses-nuclear reactors	<a href="#">B01J F17C G21C</a>
Cover therefore	<a href="#">F16J 13/00</a>

## F16J 13/00

**Covers or similar closure members for pressure vessels in general (for engines or like cylinders F16J10/00 ; sealings F16J15/02 ; covers for box-like containers B65D43/00 ; devices for securing or retaining closure members B65D45/00 ; closures for containers not otherwise provided for B65D51/00 ; manholes, covers for large containers B65D90/10 ; gates or closures for large containers B65D90/54 ; for vessels for containing or storing compressed, liquefied or solidified gases F17C13/06 ; steam boilers F22B )**

### Informative references

*Attention is drawn to the following places, which may be of interest for search:*

Covers for box-like containers	<a href="#">B65D 43/00</a>
Devices for securing or retaining closures members	<a href="#">B65D 45/00</a>

Closures for containers not otherwise provided for	<a href="#">B65D 51/00</a>
Manholes, covers for large containers	<a href="#">B65D 90/10</a>
Gates or closures for large containers	<a href="#">B65D 90/54</a>
For engines or like cylinder	<a href="#">F16J 10/00</a>
Sealings	<a href="#">F16J 15/02</a>
For vessels storing compressed, liquefied or solidified gasses	<a href="#">F17C 13/06</a>
Steam boiler	<a href="#">F22B 5/00</a> to <a href="#">F22B 31/00</a>

## **F16J 15/00**

**Sealings (sealing arrangements for vehicle windows, windscreens, non-fixed roofs, doors, or similar devices B60J10/00 ; sealing or packing elements for container closures B65D53/00 ; sealing arrangements in rotary-piston machines or engines F01C19/00 ; sealings in non-positive-displacement machines or engines F01D11/00 ; arrangements of sealings in combustion engines F02F11/00 ; sealing arrangements in rotary-piston pumps F04C27/00 ; sealing lead-in or lead-through insulators H01B17/30 )**

### **Definition statement**

*This subclass/group covers:*

Sealing means that acts at a joint or juncture of adjacent parts

### **References relevant to classification in this group**

*This subclass/group does not cover:*

Sealing arrangements for vehicle windows, non-fixed roofs, doors, or similar devices	<a href="#">B60J 10/00</a>
Sealing or packing elements for container closures	<a href="#">B65D 53/00</a>

Sealing lead-in or lead-through insulators	<a href="#">H01B 17/30</a>
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### Informative references

Attention is drawn to the following places, which may be of interest for search:

Sealing arrangements in rotary-piston machines or engines	<a href="#">F01C 19/00</a>
Sealings in non-positive-displacement machines or engines	<a href="#">F01D 11/00</a>
Arrangements or sealings in combustion engines	<a href="#">F02F 11/00</a>
Sealing and arrangements in rotary-piston pumps	<a href="#">F04C 27/00</a>

### F16J 15/002

[N: comprising at least two sealings in succession (F16J15/162, F16J15/40 take precedence)]

### References relevant to classification in this group

This subclass/group does not cover:

Special parts or details relating to lubrication or cooling of the sealing itself	<a href="#">F16J 15/162</a>
Sealings by means of fluid	<a href="#">F16J 15/40</a>

### F16J 15/006

[N: with division of the pressure (F16J15/44 takes precedence)]

### References relevant to classification in this group

This subclass/group does not cover:

Free-space packings	<a href="#">F16J 15/44</a>
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## F16J 15/02

between relatively-stationary surfaces (F16J15/46 , F16J15/48 take precedence)

### References relevant to classification in this group

*This subclass/group does not cover:*

Sealings with packing ring expanded or pressed into place by fluid pressure	<a href="#">F16J 15/46</a>
Sealings influenced by the pressure within the member to be sealed	<a href="#">F16J 15/48</a>

## F16J 15/021

[N: with elastic packing (F16J15/08 takes precedence) ]

### References relevant to classification in this group

*This subclass/group does not cover:*

Sealings with exclusively metal packing	<a href="#">F16J 15/08</a>
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## F16J 15/061

[N: with positioning means (F16J15/0831 takes precedence)]

### References relevant to classification in this group

*This subclass/group does not cover:*

Flat gasket with mounting aids	<a href="#">F16J 15/0831</a>
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## F16J 15/16

between relatively moving surfaces (F16J15/50 , F16J15/52 take precedence; bellows pistons F16J3/06 ; piston-rings or

**ring sealing of similar construction in general F16J9/00 ;  
spindle sealings for valves F16K41/00 )**

**References relevant to classification in this group**

*This subclass/group does not cover:*

Piston-rings or ring sealing of similar construction in general	<a href="#">F16J 9/00</a>
Sealings between relatively-movable members, by means of a sealing without relatively-moving surfaces	<a href="#">F16J 15/50</a>
Sealings by means of sealing bellows or diaphragms	<a href="#">F16J 15/52</a>

**Informative references**

*Attention is drawn to the following places, which may be of interest for search:*

Bellows pistons	<a href="#">F16J 3/06</a>
Spindle sealings for valves	<a href="#">F16K 41/00</a>

**F16J 15/162**

**[N: Special parts or details relating to lubrication or cooling of the sealing itself (F16J15/324 , F16J15/3404 , F16J15/40 take precedence) ]**

**References relevant to classification in this group**

*This subclass/group does not cover:*

Details relating to lubrication or cooling of the sealing itself	<a href="#">F16J 15/324</a>
Sealings and characterised by parts or details relating to lubrication, cooling or venting of the sea	<a href="#">F16J 15/3404</a>
Sealings by means of fluid	<a href="#">F16J 15/40</a>



## F16J 15/32

with elastic sealing lip [N: with elastic sealing, e.g. "O" ring; F16J15/34 takes precedence]

### References relevant to classification in this group

*This subclass/group does not cover:*

Sealings with slip-ring pressed against a more or less radial face on one member	<a href="#">F16J 15/34</a>
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### Glossary of terms

*In this subclass/group, the following terms (or expressions) are used with the meaning indicated:*

In this group the following terms (or expressions) are used with the meaning indicated:

Lip	any flexible tapered or rounded part contacting the surface to be sealed e.g. O-ring
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## F16J 15/3232

[N: with a plurality of lips (F16J15/3208 to F16J15/3228 take precedence)]

### References relevant to classification in this group

*This subclass/group does not cover:*

Sealings provided with a spring-tension element	<a href="#">F16J 15/3208</a>
Sealings formed by deforming a flat annular ring	<a href="#">F16J 15/3228</a>

## F16J 15/324

[N: Details relating to lubrication or cooling of the sealing

itself (in general F16J15/162 )]

### Informative references

Attention is drawn to the following places, which may be of interest for search:

For seals other than lip seals	<a href="#">F16J 15/162</a>
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### F16J 15/3296

[N: Measuring or controlling equipment specially adapted for elastic sealings (measuring in general G01; Controlling in general G05)]

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Measuring in general	G01
Controlling in general	G05

### F16J 15/3412

[N: with cavities (F16J15/3424 takes precedence)]

### References relevant to classification in this group

This subclass/group does not cover:

Sealings with micro-cavities	<a href="#">F16J 15/3424</a>
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### F16J 15/453

characterised by the use of particular materials [N: (F16J15/444 takes precedence)]

### References relevant to classification in this group

This subclass/group does not cover:

Sealings with facing materials having honeycomb-like structure	<a href="#">F16J 15/444</a>
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## F16J 15/46

with packing ring expanded or pressed into place by fluid pressure, e.g. inflatable packings (connection of valves to inflatable elastic bodies B60C29/00 ; [N: for sealing arrangements in vehicles B60J10/00B ; for sealing arrangements of openings in buildings E06B7/2318 ]; for tube connections F16L)

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Connection of valves to inflatable elastic bodies	<a href="#">B60C 29/00</a>
For sealing arrangements in vehicles	<a href="#">B60J 10/00B</a>
For sealing arrangements of openings in buildings	<a href="#">E06B 7/2318</a>
For tube connections	<a href="#">F16L 13/00</a> to <a href="#">F16L 49/00</a>

## F16J 15/52

by means of sealing bellows or diaphragms (connection of valves to inflatable elastic bodies B60C29/00 )

### Informative references

Attention is drawn to the following places, which may be of interest for search:

Connection of valves to inflatable elastic bodies	<a href="#">B60C 29/00</a>
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