



### Available materials

|                                                                                                          |                                                                                          |
|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| - CC                                                                                                     | Chrome steel AISI 52100 Balls. Machined AISI 1016 steel housing, toughened & zinc plated |
| Solve specific application requirements by upgrading materials. Select option by adding suffix i.e. - CS |                                                                                          |
| - CS                                                                                                     | Stainless Steel Balls (AISI 420) but other materials as Standard. Reduce load by 30%.    |
| - SS                                                                                                     | All parts in Stainless Steel - out housing AISI 416, Balls AISI 420. Reduce load by 30%. |
| - CD                                                                                                     | Acetal (POM) main ball option - reduce load. See chart overleaf                          |

### Fixing clip selection

| Part No.  | Ball Size | Minimum Bore ø | Maximum Bore ø |
|-----------|-----------|----------------|----------------|
| P2730.015 | 15        | 24,8           | 25,0           |
| P2730.022 | 22        | 37,0           | 37,2           |
| P2730.030 | 30        | 46,3           | 46,7           |

Clip requires a minimum plate thickness of 3mm to grip securely

### How to select the correct unit

| Ball Type   | Max Load (Kg) | Friction (% of load) | Speed m/sec | Shock Loads |    | Arduous Conditions | Orientation | Instant Change |
|-------------|---------------|----------------------|-------------|-------------|----|--------------------|-------------|----------------|
| Medium Duty | 20-3500       | 2%                   | 1,5         | ✓✓✓         | ✓✓ | ✓✓                 |             | ✓✓✓            |
| Light Duty  | 7-250         | 3%                   | 1,0         | ✓           |    | ✓✓                 |             | ✓✓✓            |

### Variables to consider:



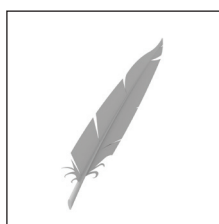
#### Shock Loads:

Standard material ball units have Rockwell 'C' hardness of 60 minimum



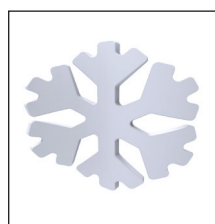
#### Track Hardness/Conveyed Item Material:

Standard material ball units have Rockwell 'C' hardness of 60 minimum



#### Delicate Surfaces:

Ball Units - Acetal (POM) & Phenolic Resin

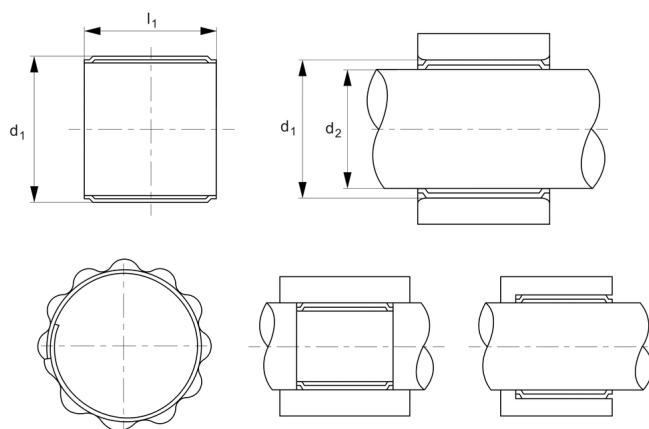


#### Operating Environment:

Wet, dirty, outdoor, radioactive



### P0395



#### Material

Stainless steel (type 304, DIN 1.4301).

#### Technical Notes

Tolerance rings allow the mating of parts

with wider tolerances.

The waves are on the outside, the ring sits on the shaft with the waves being compressed by the housing bore.

#### Tips

For use where there is an accurate bore but the shaft may have a wide tolerance.

| Order No.       | d <sub>1</sub><br>tol. h9 | d <sub>1</sub><br>nom. | l  | d <sub>2</sub> for bearings | d <sub>2</sub> for torque transfer | Torque<br>Nm<br>max. | Radial load<br>N<br>max. | Material  |
|-----------------|---------------------------|------------------------|----|-----------------------------|------------------------------------|----------------------|--------------------------|-----------|
| P0395.SV005-005 | 5                         | 5                      | 5  | 4,01 to 4,06                | 4,14 to 4,18                       | 0.17                 | 180                      | Steel     |
| P0395.SV005-008 | 5                         | 5                      | 8  | 4,01 to 4,06                | 4,18 to 4,18                       | 0.35                 | 260                      | Steel     |
| P0395.SV005-010 | 5                         | 5                      | 10 | 4,01 to 4,06                | 4,14 to 4,18                       | 0.50                 | 310                      | Steel     |
| P0395.SV006-006 | 6                         | 6                      | 6  | 5,01 to 5,06                | 5,14 to 5,18                       | 0.33                 | 380                      | Steel     |
| P0395.SV006-008 | 6                         | 6                      | 8  | 5,01 to 5,06                | 5,14 to 5,18                       | 0.45                 | 575                      | Stainless |
| P0395.SV006-010 | 6                         | 6                      | 10 | 5,01 to 5,06                | 5,14 to 5,18                       | 0.90                 | 690                      | Stainless |
| P0395.SV006-012 | 6                         | 6                      | 12 | 5,01 to 5,06                | 5,14 to 5,18                       | 1.25                 | 940                      | Steel     |
| P0395.SV008-005 | 8                         | 8                      | 5  | 6,51 to 6,57                | 6,65 to 6,71                       | 0.45                 | 550                      | Steel     |
| P0395.SV008-007 | 8                         | 8                      | 7  | 6,51 to 6,57                | 6,65 to 6,71                       | 0.68                 | 780                      | Stainless |
| P0395.SV008-008 | 8                         | 8                      | 8  | 6,51 to 6,57                | 6,65 to 6,71                       | 0.80                 | 910                      | Steel     |
| P0395.SV008-010 | 8                         | 8                      | 10 | 6,51 to 6,57                | 6,65 to 6,71                       | 1.00                 | 1125                     | Steel     |
| P0395.SV008-014 | 8                         | 8                      | 14 | 6,51 to 6,57                | 6,65 to 6,71                       | 1.30                 | 1400                     | Stainless |
| P0395.SV009-008 | 9                         | 9                      | 8  | 7,51 to 7,57                | 7,65 to 7,71                       | 0.85                 | 1070                     | Steel     |
| P0395.SV010-006 | 10                        | 10                     | 6  | 8,51 to 8,57                | 8,65 to 8,71                       | 1.80                 | 950                      | Stainless |
| P0395.SV010-010 | 10                        | 10                     | 10 | 8,51 to 8,57                | 8,65 to 8,71                       | 3.00                 | 1275                     | Steel     |
| P0395.SV010-012 | 10                        | 10                     | 12 | 8,51 to 8,57                | 8,65 to 8,71                       | 3.60                 | 1650                     | Steel     |
| P0395.SV010-014 | 10                        | 10                     | 14 | 8,51 to 8,57                | 8,65 to 8,71                       | 3.90                 | 2000                     | Stainless |
| P0395.SV010-016 | 10                        | 10                     | 16 | 8,51 to 8,57                | 8,65 to 8,71                       | 4.50                 | 2100                     | Steel     |
| P0395.SV011-010 | 11                        | 11                     | 10 | 9,51 to 9,57                | 9,65 to 9,71                       | 4.00                 | 1400                     | Steel     |
| P0395.SV011-014 | 11                        | 11                     | 14 | 9,51 to 9,57                | 9,65 to 9,71                       | 5.50                 | 1680                     | Steel     |
| P0395.SV012-006 | 12                        | 12                     | 6  | 10,52 to 10,59              | 10,70 to 10,77                     | 2.20                 | 1075                     | Stainless |
| P0395.SV012-008 | 12                        | 12                     | 8  | 10,52 to 10,59              | 10,70 to 10,77                     | 3.20                 | 1300                     | Stainless |
| P0395.SV012-010 | 12                        | 12                     | 10 | 10,52 to 10,59              | 10,70 to 10,77                     | 4.50                 | 1560                     | Stainless |
| P0395.SV012-012 | 12                        | 12                     | 12 | 10,52 to 10,59              | 10,70 to 10,77                     | 5.30                 | 2100                     | Stainless |
| P0395.SV012-014 | 12                        | 12                     | 14 | 10,52 to 10,59              | 10,70 to 10,77                     | 6.10                 | 2400                     | Steel     |
| P0395.SV012-018 | 12                        | 12                     | 18 | 10,52 to 10,59              | 10,70 to 10,77                     | 7.90                 | 3075                     | Stainless |
| P0395.SV013-008 | 13                        | 13                     | 8  | 11,52 to 11,59              | 11,70 to 11,77                     | 4.00                 | 1650                     | Stainless |
| P0395.SV013-010 | 13                        | 13                     | 10 | 11,52 to 11,59              | 11,70 to 11,77                     | 4.75                 | 1800                     | Stainless |
| P0395.SV013-012 | 13                        | 13                     | 12 | 11,52 to 11,59              | 11,70 to 11,77                     | 5.60                 | 2300                     | Stainless |
| P0395.SV013-015 | 13                        | 13                     | 15 | 11,52 to 11,59              | 11,70 to 11,77                     | 7.20                 | 3000                     | Stainless |
| P0395.SV014-008 | 14                        | 14                     | 8  | 12,52 to 12,59              | 12,70 to 12,77                     | 4.20                 | 1825                     | Stainless |
| P0395.SV014-010 | 14                        | 14                     | 10 | 12,52 to 12,59              | 12,70 to 12,77                     | 4.90                 | 2000                     | Stainless |
| P0395.SV014-014 | 14                        | 14                     | 14 | 12,52 to 12,59              | 12,70 to 12,77                     | 5.60                 | 3300                     | Stainless |



# Tolerance Rings - Shaft Variable- SV

## SV type, A2 Stainless

# Tolerance Rings



TOLERANCE RINGS

| Order No.       | d <sub>1</sub><br>tol. h9 | d <sub>1</sub><br>nom. | l  | d <sub>2</sub> for bearings | d <sub>2</sub> for torque transfer | Torque<br>Nm<br>max. | Radial load<br>N<br>max. | Material  |
|-----------------|---------------------------|------------------------|----|-----------------------------|------------------------------------|----------------------|--------------------------|-----------|
| P0395.SV014-020 | 14                        | 14                     | 20 | 12,52 to 12,59              | 12,70 to 12,77                     | 8.00                 | 4000                     | Stainless |
| P0395.SV015-006 | 15                        | 15                     | 6  | 13,52 to 13,59              | 13,70 to 13,77                     | 3.70                 | 1200                     | Stainless |
| P0395.SV015-008 | 15                        | 15                     | 8  | 13,52 to 13,59              | 13,70 to 13,77                     | 3.90                 | 1600                     | Stainless |
| P0395.SV015-010 | 15                        | 15                     | 10 | 13,52 to 13,59              | 13,70 to 13,77                     | 4.80                 | 2025                     | Stainless |
| P0395.SV015-012 | 15                        | 15                     | 12 | 13,52 to 13,59              | 13,70 to 13,77                     | 6.80                 | 2650                     | Stainless |
| P0395.SV015-014 | 15                        | 15                     | 14 | 13,52 to 13,59              | 13,70 to 13,77                     | 8.90                 | 2950                     | Stainless |
| P0395.SV015-016 | 15                        | 15                     | 16 | 13,52 to 13,59              | 13,70 to 13,77                     | 11.00                | 3400                     | Stainless |
| P0395.SV015-019 | 15                        | 15                     | 19 | 13,52 to 13,59              | 13,70 to 13,77                     | 12.50                | 3900                     | Steel     |
| P0395.SV016-010 | 16                        | 16                     | 10 | 14,52 to 14,59              | 14,70 to 14,77                     | 7.00                 | 2600                     | Stainless |
| P0395.SV016-014 | 16                        | 16                     | 14 | 14,52 to 14,59              | 14,70 to 14,77                     | 10.50                | 3100                     | Stainless |
| P0395.SV016-016 | 16                        | 16                     | 16 | 14,52 to 14,59              | 14,70 to 14,77                     | 12.00                | 3500                     | Stainless |
| P0395.SV017-006 | 17                        | 17                     | 6  | 15,52 to 15,59              | 15,70 to 15,77                     | 3.90                 | 1500                     | Stainless |
| P0395.SV017-008 | 17                        | 17                     | 8  | 15,52 to 15,59              | 15,70 to 15,77                     | 4.80                 | 1800                     | Stainless |
| P0395.SV017-010 | 17                        | 17                     | 10 | 15,52 to 15,59              | 15,70 to 15,77                     | 8.00                 | 2650                     | Stainless |
| P0395.SV017-012 | 17                        | 17                     | 12 | 15,52 to 15,59              | 15,70 to 15,77                     | 10.00                | 2800                     | Stainless |
| P0395.SV017-014 | 17                        | 17                     | 14 | 15,52 to 15,59              | 15,70 to 15,77                     | 12.00                | 3200                     | Stainless |
| P0395.SV017-016 | 17                        | 17                     | 16 | 15,52 to 15,59              | 15,70 to 15,77                     | 14.00                | 3650                     | Stainless |
| P0395.SV018-010 | 18                        | 18                     | 10 | 16,52 to 16,59              | 16,70 to 16,77                     | 9.00                 | 2650                     | Steel     |
| P0395.SV018-016 | 18                        | 18                     | 16 | 16,52 to 16,59              | 16,70 to 16,77                     | 15.00                | 3900                     | Stainless |
| P0395.SV018-022 | 18                        | 18                     | 22 | 16,52 to 16,59              | 16,70 to 16,77                     | 21.00                | 5600                     | Stainless |
| P0395.SV019-010 | 19                        | 19                     | 10 | 17,52 to 17,59              | 17,70 to 17,77                     | 10.00                | 2800                     | Stainless |
| P0395.SV019-019 | 19                        | 19                     | 19 | 17,52 to 17,59              | 17,70 to 17,77                     | 19.00                | 4900                     | Stainless |
| P0395.SV019-022 | 19                        | 19                     | 22 | 17,52 to 17,59              | 17,70 to 17,77                     | 22.00                | 6000                     | Stainless |
| P0395.SV020-006 | 20                        | 20                     | 6  | 18,02 to 18,11              | 18,25 to 18,33                     | 7.00                 | 1600                     | Stainless |
| P0395.SV020-007 | 20                        | 20                     | 7  | 18,02 to 18,11              | 18,25 to 18,33                     | 8.00                 | 1800                     | Stainless |
| P0395.SV020-008 | 20                        | 20                     | 8  | 18,02 to 18,11              | 18,25 to 18,33                     | 9.00                 | 2200                     | Stainless |
| P0395.SV020-010 | 20                        | 20                     | 10 | 18,02 to 18,11              | 18,25 to 18,33                     | 12.00                | 2900                     | Stainless |
| P0395.SV020-012 | 20                        | 20                     | 12 | 18,02 to 18,11              | 18,25 to 18,33                     | 15.00                | 3750                     | Stainless |
| P0395.SV020-014 | 20                        | 20                     | 14 | 18,02 to 18,11              | 18,25 to 18,33                     | 18.00                | 4600                     | Stainless |
| P0395.SV020-015 | 20                        | 20                     | 15 | 18,02 to 18,11              | 18,25 to 18,33                     | 19.00                | 5200                     | Stainless |
| P0395.SV020-018 | 20                        | 20                     | 18 | 18,02 to 18,11              | 18,25 to 18,33                     | 23.00                | 5900                     | Stainless |
| P0395.SV020-020 | 20                        | 20                     | 20 | 18,02 to 18,11              | 18,25 to 18,33                     | 25.00                | 6850                     | Stainless |
| P0395.SV020-022 | 20                        | 20                     | 22 | 18,02 to 18,33              | 18,25 to 18,33                     | 28.00                | 7700                     | Stainless |
| P0395.SV022-012 | 22                        | 22                     | 12 | 20,02 to 20,11              | 20,25 to 20,33                     | 18.00                | 4450                     | Stainless |
| P0395.SV022-015 | 22                        | 22                     | 15 | 20,02 to 20,11              | 20,25 to 20,33                     | 26.00                | 5550                     | Stainless |
| P0395.SV022-022 | 22                        | 22                     | 22 | 20,02 to 20,11              | 20,25 to 20,33                     | 33.00                | 8250                     | Stainless |
| P0395.SV024-010 | 24                        | 24                     | 10 | 22,02 to 22,11              | 22,25 to 22,33                     | 30.00                | 5950                     | Stainless |
| P0395.SV024-015 | 24                        | 24                     | 15 | 22,02 to 22,11              | 22,25 to 22,33                     | 30.00                | 5950                     | Stainless |
| P0395.SV024-022 | 24                        | 24                     | 22 | 22,02 to 22,11              | 22,25 to 22,33                     | 40.00                | 9000                     | Stainless |
| P0395.SV024-024 | 24                        | 24                     | 24 | 22,02 to 22,11              | 22,25 to 22,33                     | 48.00                | 10200                    | Stainless |
| P0395.SV025-008 | 25                        | 25                     | 8  | 23,02 to 23,11              | 23,25 to 23,33                     | 15.00                | 3000                     | Stainless |
| P0395.SV025-010 | 25                        | 25                     | 10 | 23,02 to 23,11              | 23,25 to 23,33                     | 20.00                | 3850                     | Stainless |
| P0395.SV025-012 | 25                        | 25                     | 12 | 23,02 to 23,11              | 23,25 to 23,33                     | 22.00                | 4900                     | Stainless |
| P0395.SV025-015 | 25                        | 25                     | 15 | 23,02 to 23,11              | 23,25 to 23,33                     | 28.00                | 6450                     | Stainless |
| P0395.SV025-018 | 25                        | 25                     | 18 | 23,02 to 23,11              | 23,25 to 23,33                     | 38.00                | 7200                     | Stainless |
| P0395.SV025-020 | 25                        | 25                     | 20 | 23,02 to 23,11              | 23,25 to 23,33                     | 41.00                | 7575                     | Stainless |
| P0395.SV025-021 | 25                        | 25                     | 21 | 23,02 to 23,11              | 23,25 to 23,33                     | 43.00                | 7700                     | Stainless |
| P0395.SV025-025 | 25                        | 25                     | 25 | 23,02 to 23,11              | 23,25 to 23,33                     | 53.00                | 10600                    | Stainless |
| P0395.SV028-012 | 28                        | 28                     | 12 | 26,02 to 26,11              | 26,25 to 26,33                     | 30.00                | 5750                     | Stainless |
| P0395.SV028-020 | 28                        | 28                     | 20 | 26,02 to 26,11              | 26,25 to 26,33                     | 53.00                | 10600                    | Stainless |
| P0395.SV028-022 | 28                        | 28                     | 22 | 26,02 to 26,11              | 26,25 to 26,33                     | 60.00                | 11300                    | Stainless |
| P0395.SV028-025 | 28                        | 28                     | 25 | 26,02 to 26,11              | 26,25 to 26,33                     | 71.00                | 12000                    | Stainless |
| P0395.SV030-008 | 30                        | 30                     | 8  | 28,02 to 28,11              | 28,25 to 28,33                     | 25.00                | 2800                     | Stainless |
| P0395.SV030-010 | 30                        | 30                     | 10 | 28,02 to 28,11              | 28,25 to 28,33                     | 29.00                | 4200                     | Stainless |
| P0395.SV030-012 | 30                        | 30                     | 12 | 28,02 to 28,11              | 28,25 to 28,33                     | 35.00                | 5400                     | Stainless |
| P0395.SV030-015 | 30                        | 30                     | 15 | 28,02 to 28,11              | 28,25 to 28,33                     | 47.00                | 7000                     | Stainless |
| P0395.SV030-020 | 30                        | 30                     | 20 | 28,02 to 28,11              | 28,25 to 28,33                     | 60.00                | 10200                    | Stainless |
| P0395.SV030-023 | 30                        | 30                     | 23 | 28,02 to 28,11              | 28,25 to 28,33                     | 70.00                | 12200                    | Stainless |
| P0395.SV030-030 | 30                        | 30                     | 30 | 28,02 to 28,11              | 28,25 to 28,33                     | 95.00                | 16600                    | Stainless |
| P0395.SV032-012 | 32                        | 32                     | 12 | 30,02 to 30,11              | 30,25 to 30,33                     | 44.00                | 5800                     | Stainless |
| P0395.SV032-016 | 32                        | 32                     | 16 | 30,02 to 30,11              | 30,25 to 30,33                     | 56.00                | 8400                     | Stainless |
| P0395.SV032-030 | 32                        | 32                     | 30 | 30,02 to 30,11              | 30,25 to 30,33                     | 110.00               | 17000                    | Stainless |
| P0395.SV035-010 | 35                        | 35                     | 10 | 33,03 to 33,13              | 33,25 to 33,40                     | 40.00                | 4000                     | Stainless |
| P0395.SV035-012 | 35                        | 35                     | 12 | 33,03 to 33,13              | 33,25 to 33,40                     | 48.00                | 4600                     | Stainless |
| P0395.SV035-015 | 35                        | 35                     | 15 | 33,03 to 33,13              | 33,25 to 33,40                     | 60.00                | 4950                     | Stainless |
| P0395.SV035-025 | 35                        | 35                     | 25 | 33,03 to 33,13              | 33,25 to 33,40                     | 110.00               | 8650                     | Stainless |
| P0395.SV035-030 | 35                        | 35                     | 30 | 33,03 to 33,13              | 33,25 to 33,40                     | 130.00               | 9800                     | Stainless |



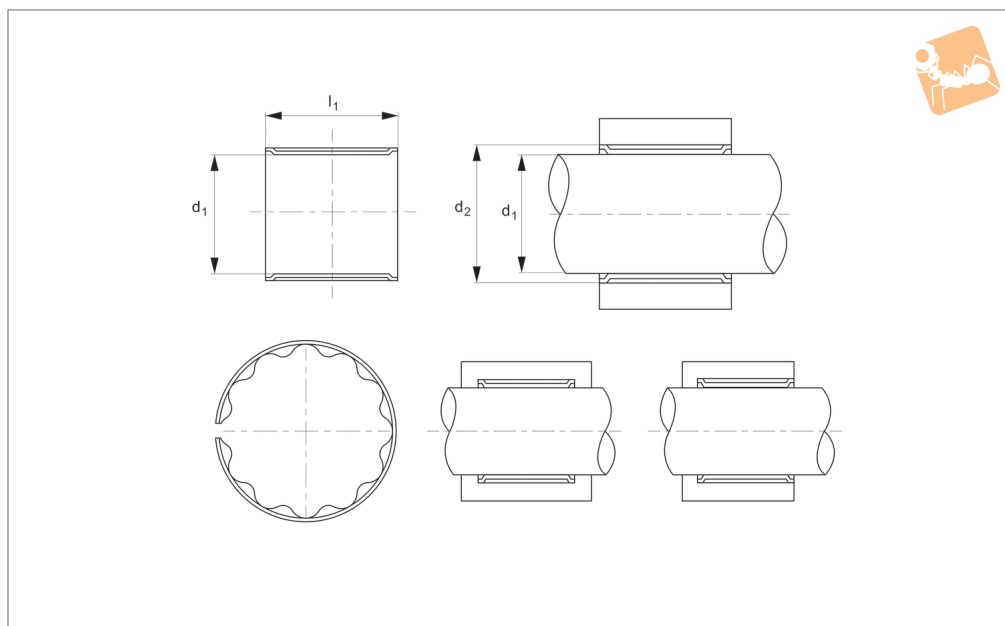
| Order No.       | d <sub>1</sub><br>tol. h9 | d <sub>1</sub><br>nom. | l  | d <sub>2</sub> for bearings | d <sub>2</sub> for torque transfer | Torque<br>Nm<br>max. | Radial load<br>N<br>max. | Material  |
|-----------------|---------------------------|------------------------|----|-----------------------------|------------------------------------|----------------------|--------------------------|-----------|
| P0395.SV036-012 | 36                        | 36                     | 12 | 34,03 to 34,13              | 34,30 to 34,40                     | 55.00                | 4800                     | Stainless |
| P0395.SV036-015 | 36                        | 36                     | 15 | 34,03 to 34,13              | 34,30 to 34,40                     | 63.00                | 5100                     | Stainless |
| P0395.SV036-030 | 36                        | 36                     | 30 | 34,03 to 34,13              | 34,30 to 34,40                     | 135.00               | 10300                    | Stainless |
| P0395.SV040-010 | 40                        | 40                     | 10 | 38,03 to 38,13              | 38,30 to 38,40                     | 55.00                | 3800                     | Stainless |
| P0395.SV040-012 | 40                        | 40                     | 12 | 38,03 to 38,13              | 38,30 to 38,40                     | 63.00                | 4500                     | Stainless |
| P0395.SV040-015 | 40                        | 40                     | 15 | 38,03 to 38,13              | 38,30 to 38,40                     | 83.00                | 5400                     | Stainless |
| P0395.SV040-023 | 40                        | 40                     | 23 | 38,03 to 38,13              | 38,30 to 38,40                     | 104.00               | 8500                     | Steel     |
| P0395.SV040-030 | 40                        | 40                     | 30 | 38,03 to 38,13              | 38,30 to 38,40                     | 180.00               | 12000                    | Stainless |
| P0395.SV045-010 | 45                        | 45                     | 10 | 43,03 to 43,13              | 43,30 to 43,40                     | 68.00                | 4250                     | Stainless |
| P0395.SV045-015 | 45                        | 45                     | 15 | 43,03 to 43,13              | 43,30 to 43,40                     | 102.00               | 6230                     | Stainless |
| P0395.SV045-020 | 45                        | 45                     | 20 | 43,03 to 43,13              | 43,30 to 43,40                     | 145.00               | 9400                     | Stainless |
| P0395.SV045-023 | 45                        | 45                     | 23 | 43,03 to 43,13              | 43,30 to 43,40                     | 160.00               | 10100                    | Steel     |
| P0395.SV045-025 | 45                        | 45                     | 25 | 43,03 to 43,13              | 43,30 to 43,40                     | 200.00               | 11000                    | Stainless |
| P0395.SV045-030 | 45                        | 45                     | 30 | 43,03 to 43,13              | 43,30 to 43,40                     | 230.00               | 13950                    | Stainless |
| P0395.SV050-012 | 50                        | 50                     | 12 | 48,03 to 48,13              | 48,30 to 48,40                     | 107.00               | 5750                     | Stainless |
| P0395.SV050-016 | 50                        | 50                     | 16 | 48,03 to 48,13              | 48,30 to 48,40                     | 141.00               | 7565                     | Steel     |
| P0395.SV050-020 | 50                        | 50                     | 20 | 48,03 to 48,13              | 48,30 to 48,40                     | 186.00               | 9575                     | Stainless |
| P0395.SV050-030 | 50                        | 50                     | 30 | 48,03 to 48,13              | 48,30 to 48,40                     | 310.00               | 13400                    | Stainless |
| P0395.SV050-040 | 50                        | 50                     | 40 | 48,03 to 48,13              | 48,30 to 48,40                     | 350.00               | 18000                    | Steel     |
| P0395.SV055-010 | 55                        | 55                     | 10 | 52,53 to 52,65              | 52,85 to 52,97                     | 125.00               | 4900                     | Stainless |
| P0395.SV055-014 | 55                        | 55                     | 14 | 52,53 to 52,65              | 52,85 to 52,97                     | 175.00               | 6750                     | Stainless |
| P0395.SV055-015 | 55                        | 55                     | 15 | 52,53 to 52,65              | 52,85 to 52,97                     | 185.00               | 6800                     | Stainless |
| P0395.SV055-029 | 55                        | 55                     | 29 | 52,53 to 52,65              | 52,85 to 52,97                     | 330.00               | 12500                    | Stainless |
| P0395.SV060-020 | 60                        | 60                     | 20 | 57,53 to 57,65              | 57,85 to 57,97                     | 310.00               | 12000                    | Stainless |
| P0395.SV060-022 | 60                        | 60                     | 22 | 57,53 to 57,65              | 57,85 to 57,97                     | 350.00               | 13200                    | Stainless |
| P0395.SV060-028 | 60                        | 60                     | 28 | 57,53 to 57,65              | 57,85 to 57,97                     | 420.00               | 18400                    | Stainless |
| P0395.SV065-020 | 65                        | 65                     | 20 | 62,53 to 62,65              | 62,85 to 62,97                     | 480.00               | 14800                    | Stainless |
| P0395.SV065-033 | 65                        | 65                     | 33 | 62,53 to 62,65              | 62,85 to 62,97                     | 650.00               | 21000                    | Stainless |
| P0395.SV080-012 | 80                        | 80                     | 12 | 77,53 to 77,65              | 77,85 to 77,97                     | 550.00               | 15000                    | Stainless |
| P0395.SV080-017 | 80                        | 80                     | 17 | 77,53 to 77,65              | 77,85 to 77,97                     | 700.00               | 16500                    | Stainless |
| P0395.SV085-022 | 85                        | 85                     | 22 | 82,04 to 82,18              | 82,44 to 82,58                     | 800.00               | 19000                    | Stainless |
| P0395.SV090-024 | 90                        | 90                     | 24 | 87,04 to 87,18              | 87,44 to 87,58                     | 850.00               | 22000                    | Stainless |
| P0395.SV090-030 | 90                        | 90                     | 30 | 87,04 to 87,18              | 87,44 to 87,58                     | 1100.00              | 27000                    | Steel     |
| P0395.SV100-024 | 100                       | 100                    | 24 | 97,04 to 97,18              | 97,44 to 97,58                     | 1350.00              | 28000                    | Steel     |
| P0395.SV100-036 | 100                       | 100                    | 36 | 97,04 to 97,18              | 97,44 to 97,58                     | 1900.00              | 36000                    | Steel     |
| P0395.SV140-015 | 140                       | 140                    | 15 | 136,04 to 136,20            | 136,52 to 136,68                   | 1200.00              | 25500                    | Stainless |
| P0395.SV140-022 | 140                       | 140                    | 22 | 136,04 to 136,20            | 136,52 to 136,68                   | 1250.00              | 32000                    | Steel     |



# Tolerance Rings - Hole Variable- HV

HV type, A2 Stainless

## Tolerance Rings



**P0396**

TOLERANCE RINGS

### Material

Stainless steel (type 304, DIN 1.4301).

### Technical Notes

Tolerance rings allow the mating of parts

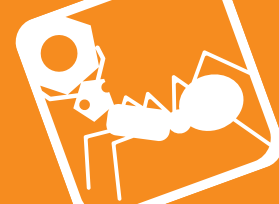
with wider tolerances.

The waves are on the inside, the ring sits on the housing bore with the waves being compressed by the shaft diameter.

### Tips

For use where there is an accurate shaft but the bore may have a wide tolerance.

| Order No.       | d <sub>1</sub><br>tol. H9 | d <sub>1</sub><br>nom. | l  | d <sub>2</sub> for bearings | d <sub>2</sub> for torque transfer | Torque<br>Nm<br>max. | Radial load<br>N<br>max. | Material  |
|-----------------|---------------------------|------------------------|----|-----------------------------|------------------------------------|----------------------|--------------------------|-----------|
| P0396.HV004-006 | 4                         | 4                      | 6  | 4,93 to 4,95                | 4,82 to 4,86                       | 0.15                 | 80                       | Steel     |
| P0396.HV004-008 | 4                         | 4                      | 8  | 4,93 to 4,95                | 4,82 to 4,86                       | 0.25                 | 90                       | Steel     |
| P0396.HV004-010 | 4                         | 4                      | 10 | 4,93 to 4,95                | 4,82 to 4,86                       | 0.35                 | 95                       | Steel     |
| P0396.HV005-005 | 5                         | 5                      | 5  | 5,93 to 5,95                | 5,82 to 5,86                       | 0.45                 | 100                      | Steel     |
| P0396.HV005-008 | 5                         | 5                      | 8  | 5,93 to 5,95                | 5,82 to 5,86                       | 0.66                 | 160                      | Steel     |
| P0396.HV005-012 | 5                         | 5                      | 12 | 5,93 to 5,95                | 5,82 to 5,86                       | 1.25                 | 250                      | Steel     |
| P0396.HV006-006 | 6                         | 6                      | 6  | 6,93 to 6,985               | 6,82 to 6,86                       | 0.45                 | 133                      | Steel     |
| P0396.HV006-008 | 6                         | 6                      | 8  | 6,93 to 6,985               | 6,82 to 6,86                       | 0.75                 | 240                      | Steel     |
| P0396.HV006-010 | 6                         | 6                      | 10 | 6,93 to 6,985               | 6,82 to 6,86                       | 1.00                 | 290                      | Steel     |
| P0396.HV006-015 | 6                         | 6                      | 15 | 6,93 to 6,985               | 6,82 to 6,86                       | 1.20                 | 300                      | Steel     |
| P0396.HV008-006 | 8                         | 8                      | 6  | 9,41 to 9,48                | 9,23 to 9,30                       | 1.00                 | 240                      | Steel     |
| P0396.HV008-008 | 8                         | 8                      | 8  | 9,41 to 9,48                | 9,23 to 9,30                       | 1.45                 | 360                      | Steel     |
| P0396.HV008-012 | 8                         | 8                      | 12 | 9,41 to 9,48                | 9,23 to 9,30                       | 2.00                 | 580                      | Steel     |
| P0396.HV008-014 | 8                         | 8                      | 14 | 9,41 to 9,48                | 9,23 to 9,30                       | 2.10                 | 600                      | Steel     |
| P0396.HV010-004 | 10                        | 10                     | 4  | 11,41 to 11,48              | 11,23 to 11,30                     | 0.95                 | 480                      | Stainless |
| P0396.HV010-006 | 10                        | 10                     | 6  | 11,41 to 11,48              | 11,23 to 11,30                     | 2.30                 | 850                      | Stainless |
| P0396.HV010-008 | 10                        | 10                     | 8  | 11,41 to 11,48              | 11,23 to 11,30                     | 2.50                 | 1020                     | Stainless |
| P0396.HV010-010 | 10                        | 10                     | 10 | 11,41 to 11,48              | 11,23 to 11,30                     | 3.00                 | 1220                     | Stainless |
| P0396.HV010-012 | 10                        | 10                     | 12 | 11,41 to 11,48              | 11,23 to 11,30                     | 3.50                 | 1650                     | Stainless |
| P0396.HV010-014 | 10                        | 10                     | 14 | 11,41 to 11,48              | 11,23 to 11,30                     | 4.00                 | 2050                     | Stainless |
| P0396.HV010-018 | 10                        | 10                     | 18 | 11,41 to 11,48              | 11,23 to 11,30                     | 4.50                 | 2500                     | Stainless |
| P0396.HV012-004 | 12                        | 12                     | 4  | 13,41 to 13,48              | 13,23 to 13,30                     | 1.60                 | 720                      | Stainless |
| P0396.HV012-006 | 12                        | 12                     | 6  | 13,41 to 13,48              | 13,23 to 13,30                     | 3.00                 | 1200                     | Stainless |
| P0396.HV012-010 | 12                        | 12                     | 10 | 13,41 to 13,48              | 13,23 to 13,30                     | 4.00                 | 1825                     | Stainless |
| P0396.HV012-012 | 12                        | 12                     | 12 | 13,41 to 13,48              | 13,23 to 13,30                     | 6.00                 | 2400                     | Stainless |
| P0396.HV012-016 | 12                        | 12                     | 16 | 13,41 to 13,48              | 13,23 to 13,30                     | 8.00                 | 3025                     | Stainless |
| P0396.HV012-018 | 12                        | 12                     | 18 | 13,41 to 13,48              | 13,23 to 13,30                     | 9.00                 | 3350                     | Stainless |
| P0396.HV014-008 | 14                        | 14                     | 8  | 15,41 to 15,48              | 15,23 to 15,30                     | 5.00                 | 1800                     | Stainless |
| P0396.HV014-012 | 14                        | 14                     | 12 | 15,41 to 15,48              | 15,23 to 15,30                     | 7.00                 | 2410                     | Stainless |
| P0396.HV014-014 | 14                        | 14                     | 14 | 15,41 to 15,48              | 15,23 to 15,30                     | 9.00                 | 2750                     | Stainless |
| P0396.HV015-008 | 15                        | 15                     | 8  | 16,41 to 16,48              | 16,23 to 16,30                     | 5.50                 | 1825                     | Stainless |
| P0396.HV015-012 | 15                        | 15                     | 12 | 16,41 to 16,48              | 16,23 to 16,30                     | 7.50                 | 2500                     | Stainless |
| P0396.HV015-014 | 15                        | 15                     | 14 | 16,41 to 16,48              | 16,23 to 16,30                     | 11.00                | 2925                     | Stainless |



| Order No.       | d <sub>1</sub><br>tol. H9 | d <sub>1</sub><br>nom. | l  | d <sub>2</sub> for bearings | d <sub>2</sub> for torque transfer | Torque<br>Nm<br>max. | Radial load<br>N<br>max. | Material  |
|-----------------|---------------------------|------------------------|----|-----------------------------|------------------------------------|----------------------|--------------------------|-----------|
| P0396.HV015-022 | 15                        | 15                     | 22 | 16,41 to 16,48              | 16,23 to 16,30                     | 14.00                | 3500                     | Stainless |
| P0396.HV016-005 | 16                        | 16                     | 5  | 17,41 to 17,48              | 17,23 to 17,30                     | 4.0                  | 1100                     | Stainless |
| P0396.HV016-008 | 16                        | 16                     | 8  | 17,41 to 17,48              | 17,23 to 17,30                     | 7.0                  | 1900                     | Stainless |
| P0396.HV016-010 | 16                        | 16                     | 10 | 17,41 to 17,48              | 17,23 to 17,30                     | 8.0                  | 2275                     | Stainless |
| P0396.HV016-012 | 16                        | 16                     | 12 | 17,41 to 17,48              | 17,23 to 17,30                     | 9.0                  | 2800                     | Stainless |
| P0396.HV016-016 | 16                        | 16                     | 16 | 17,41 to 17,48              | 17,23 to 17,30                     | 14.0                 | 3650                     | Stainless |
| P0396.HV016-022 | 16                        | 16                     | 22 | 17,41 to 17,48              | 17,23 to 17,30                     | 17.0                 | 4500                     | Stainless |
| P0396.HV018-006 | 18                        | 18                     | 6  | 19,89 to 19,98              | 19,67 to 19,75                     | 6.5                  | 1300                     | Stainless |
| P0396.HV018-010 | 18                        | 18                     | 10 | 19,89 to 19,98              | 19,67 to 19,75                     | 11.0                 | 2450                     | Stainless |
| P0396.HV018-016 | 18                        | 18                     | 16 | 19,89 to 19,98              | 19,67 to 19,75                     | 17.0                 | 4100                     | Stainless |
| P0396.HV019-006 | 19                        | 19                     | 6  | 20,89 to 20,98              | 20,67 to 20,75                     | 7.0                  | 1875                     | Stainless |
| P0396.HV009-016 | 19                        | 19                     | 16 | 20,89 to 20,98              | 20,67 to 20,75                     | 21.0                 | 4450                     | Steel     |
| P0396.HV020-012 | 20                        | 20                     | 12 | 21,89 to 21,98              | 21,67 to 21,75                     | 18.0                 | 3650                     | Stainless |
| P0396.HV020-014 | 20                        | 20                     | 14 | 21,89 to 21,98              | 21,67 to 21,75                     | 22.0                 | 4300                     | Steel     |
| P0396.HV020-016 | 20                        | 20                     | 16 | 21,89 to 21,98              | 21,67 to 21,75                     | 24.0                 | 4900                     | Steel     |
| P0396.HV020-020 | 20                        | 20                     | 20 | 21,89 to 21,98              | 21,67 to 21,75                     | 30.0                 | 6100                     | Steel     |
| P0396.HV020-026 | 20                        | 20                     | 26 | 21,89 to 21,98              | 21,67 to 21,75                     | 34.0                 | 7250                     | Stainless |
| P0396.HV022-005 | 22                        | 22                     | 5  | 23,89 to 23,98              | 23,67 to 23,75                     | 12.0                 | 1650                     | Stainless |
| P0396.HV022-007 | 22                        | 22                     | 7  | 23,89 to 23,98              | 23,67 to 23,75                     | 16.0                 | 2450                     | Stainless |
| P0396.HV022-010 | 22                        | 22                     | 10 | 23,89 to 23,98              | 23,67 to 23,75                     | 18.0                 | 3525                     | Stainless |
| P0396.HV022-016 | 22                        | 22                     | 16 | 23,89 to 23,98              | 23,67 to 23,75                     | 30.0                 | 5450                     | Steel     |
| P0396.HV022-020 | 22                        | 22                     | 20 | 23,89 to 23,98              | 23,67 to 23,75                     | 35.0                 | 7000                     | Steel     |
| P0396.HV022-022 | 22                        | 22                     | 22 | 23,89 to 23,98              | 23,67 to 23,75                     | 38.0                 | 8200                     | Steel     |
| P0396.HV024-006 | 24                        | 24                     | 6  | 25,89 to 25,98              | 25,67 to 25,75                     | 17.0                 | 2320                     | Stainless |
| P0396.HV024-007 | 24                        | 24                     | 7  | 25,89 to 25,98              | 25,67 to 25,75                     | 18.0                 | 2715                     | Stainless |
| P0396.HV024-012 | 24                        | 24                     | 12 | 25,89 to 25,98              | 25,67 to 25,75                     | 29.0                 | 5550                     | Stainless |
| P0396.HV024-016 | 24                        | 24                     | 16 | 25,89 to 25,98              | 25,67 to 25,75                     | 32.0                 | 7800                     | Steel     |
| P0396.HV024-020 | 24                        | 24                     | 20 | 25,89 to 25,98              | 25,67 to 25,75                     | 45.0                 | 9000                     | Steel     |
| P0396.HV025-010 | 25                        | 25                     | 10 | 26,89 to 26,98              | 26,67 to 26,75                     | 24.0                 | 4300                     | Steel     |
| P0396.HV025-016 | 25                        | 25                     | 16 | 26,89 to 26,98              | 26,67 to 26,75                     | 35.0                 | 7800                     | Stainless |
| P0396.HV025-020 | 25                        | 25                     | 20 | 26,89 to 26,98              | 26,67 to 26,75                     | 47.0                 | 9000                     | Stainless |
| P0396.HV026-008 | 26                        | 26                     | 8  | 27,89 to 27,98              | 27,67 to 27,75                     | 21.0                 | 3425                     | Stainless |
| P0396.HV026-010 | 26                        | 26                     | 10 | 27,89 to 27,98              | 27,67 to 27,75                     | 26.0                 | 4500                     | Stainless |
| P0396.HV026-016 | 26                        | 26                     | 16 | 27,89 to 27,98              | 27,67 to 27,75                     | 43.0                 | 8250                     | Stainless |
| P0396.HV026-020 | 26                        | 26                     | 20 | 27,89 to 27,98              | 27,67 to 27,75                     | 52.0                 | 9600                     | Stainless |
| P0396.HV028-008 | 28                        | 28                     | 8  | 29,89 to 29,98              | 29,67 to 29,75                     | 27.0                 | 4000                     | Stainless |
| P0396.HV028-010 | 28                        | 28                     | 10 | 29,89 to 29,98              | 29,67 to 29,75                     | 30.0                 | 4700                     | Stainless |
| P0396.HV028-012 | 28                        | 28                     | 12 | 29,89 to 29,98              | 29,67 to 29,75                     | 39.0                 | 6250                     | Stainless |
| P0396.HV028-014 | 28                        | 28                     | 14 | 29,89 to 29,98              | 29,67 to 29,75                     | 45.0                 | 7250                     | Stainless |
| P0396.HV028-020 | 28                        | 28                     | 20 | 29,89 to 29,98              | 29,67 to 29,75                     | 55.0                 | 9050                     | Stainless |
| P0396.HV028-030 | 28                        | 28                     | 30 | 29,89 to 29,98              | 29,67 to 29,75                     | 92.0                 | 15250                    | Steel     |
| P0396.HV030-008 | 30                        | 30                     | 8  | 31,89 to 31,98              | 31,67 to 31,75                     | 28.0                 | 4100                     | Stainless |
| P0396.HV030-012 | 30                        | 30                     | 12 | 31,89 to 31,98              | 31,67 to 31,75                     | 40.0                 | 5700                     | Stainless |
| P0396.HV030-016 | 30                        | 30                     | 16 | 31,89 to 31,98              | 31,67 to 31,75                     | 50.0                 | 8065                     | Stainless |
| P0396.HV030-030 | 30                        | 30                     | 30 | 31,89 to 31,98              | 31,67 to 31,75                     | 95.0                 | 15500                    | Steel     |
| P0396.HV032-008 | 32                        | 32                     | 8  | 33,89 to 33,98              | 33,67 to 33,75                     | 30.0                 | 3000                     | Stainless |
| P0396.HV032-010 | 32                        | 32                     | 10 | 33,89 to 33,98              | 33,67 to 33,75                     | 35.0                 | 3200                     | Stainless |
| P0396.HV032-014 | 32                        | 32                     | 14 | 33,89 to 33,98              | 33,67 to 33,75                     | 50.0                 | 4200                     | Stainless |
| P0396.HV032-030 | 32                        | 32                     | 30 | 33,89 to 33,98              | 33,67 to 33,75                     | 115.0                | 18000                    | Stainless |
| P0396.HV035-006 | 35                        | 35                     | 6  | 36,89 to 36,98              | 36,67 to 36,75                     | 32.0                 | 2900                     | Steel     |
| P0396.HV035-010 | 35                        | 35                     | 10 | 36,89 to 36,98              | 36,67 to 36,75                     | 43.0                 | 3350                     | Stainless |
| P0396.HV035-014 | 35                        | 35                     | 14 | 36,89 to 36,98              | 36,67 to 36,75                     | 58.0                 | 5000                     | Stainless |
| P0396.HV035-016 | 35                        | 35                     | 16 | 36,89 to 36,98              | 36,67 to 36,75                     | 70.0                 | 8200                     | Stainless |
| P0396.HV040-008 | 40                        | 40                     | 8  | 41,89 to 41,98              | 41,67 to 41,75                     | 54.0                 | 2800                     | Steel     |
| P0396.HV040-100 | 40                        | 40                     | 10 | 41,89 to 41,98              | 41,67 to 41,75                     | 62.0                 | 3300                     | Steel     |
| P0396.HV040-012 | 40                        | 40                     | 12 | 41,89 to 41,98              | 41,67 to 41,75                     | 72.0                 | 4450                     | Stainless |
| P0396.HV040-016 | 40                        | 40                     | 16 | 41,89 to 41,98              | 41,67 to 41,75                     | 91.0                 | 6230                     | Stainless |
| P0396.HV040-020 | 40                        | 40                     | 20 | 41,89 to 41,98              | 41,67 to 41,75                     | 125.0                | 8450                     | Stainless |
| P0396.HV040-030 | 40                        | 40                     | 30 | 41,89 to 41,98              | 41,67 to 41,75                     | 180.0                | 12000                    | Stainless |
| P0396.HV042-012 | 42                        | 42                     | 12 | 43,89 to 43,98              | 43,67 to 43,75                     | 75.0                 | 4900                     | Stainless |
| P0396.HV042-030 | 42                        | 42                     | 30 | 43,89 to 43,98              | 43,67 to 43,75                     | 225.0                | 13250                    | Stainless |
| P0396.HV045-012 | 45                        | 45                     | 12 | 46,89 to 46,98              | 46,67 to 46,75                     | 90.0                 | 6000                     | Stainless |
| P0396.HV045-020 | 45                        | 45                     | 20 | 46,89 to 46,98              | 46,67 to 46,75                     | 165.0                | 8700                     | Stainless |
| P0396.HV047-006 | 47                        | 47                     | 6  | 48,89 to 48,98              | 48,67 to 48,75                     | 65.0                 | 2450                     | Steel     |
| P0396.HV047-008 | 47                        | 47                     | 8  | 48,89 to 48,98              | 48,67 to 48,75                     | 76.0                 | 2850                     | Steel     |
| P0396.HV047-014 | 47                        | 47                     | 14 | 48,89 to 48,98              | 48,67 to 48,75                     | 117.0                | 6230                     | Steel     |
| P0396.HV047-018 | 47                        | 47                     | 18 | 48,89 to 48,98              | 48,67 to 48,75                     | 175.0                | 8300                     | Stainless |



# Tolerance Rings - Hole Variable- HV

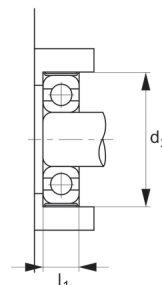
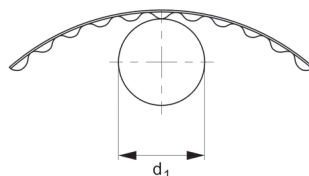
## HV type, A2 Stainless



# Tolerance Rings

| Order No.       | d <sub>1</sub><br>tol. H9 | d <sub>1</sub><br>nom. | l  | d <sub>2</sub> for bearings | d <sub>2</sub> for torque transfer | Torque<br>Nm<br>max. | Radial load<br>N<br>max. | Material  |
|-----------------|---------------------------|------------------------|----|-----------------------------|------------------------------------|----------------------|--------------------------|-----------|
| P0396.HV047-020 | 47                        | 47                     | 20 | 48,89 to 48,98              | 48,67 to 48,75                     | 210.0                | 8450                     | Stainless |
| P0396.HV047-022 | 47                        | 47                     | 22 | 48,89 to 48,98              | 48,67 to 48,75                     | 235.0                | 10750                    | Stainless |
| P0396.HV050-015 | 50                        | 50                     | 15 | 52,35 to 52,47              | 52,03 to 52,15                     | 157.0                | 6600                     | Stainless |
| P0396.HV050-020 | 50                        | 50                     | 20 | 52,35 to 52,47              | 52,03 to 52,15                     | 215.0                | 10100                    | Stainless |
| P0396.HV052-008 | 52                        | 52                     | 8  | 54,35 to 54,47              | 54,03 to 54,15                     | 100.0                | 3200                     | Steel     |
| P0396.HV052-015 | 52                        | 52                     | 15 | 54,35 to 54,47              | 54,03 to 54,15                     | 165.0                | 7120                     | Stainless |
| P0396.HV055-012 | 55                        | 55                     | 12 | 57,35 to 57,47              | 57,03 to 57,15                     | 156.0                | 5550                     | Stainless |
| P0396.HV055-020 | 55                        | 55                     | 20 | 57,35 to 57,47              | 57,03 to 57,15                     | 260.0                | 10750                    | Stainless |
| P0396.HV060-015 | 60                        | 60                     | 15 | 62,35 to 62,47              | 62,03 to 62,15                     | 280.0                | 8800                     | Stainless |
| P0396.HV060-025 | 60                        | 60                     | 25 | 62,35 to 62,47              | 62,03 to 62,15                     | 475.0                | 15500                    | Stainless |
| P0396.HV062-010 | 62                        | 62                     | 10 | 64,35 to 64,47              | 64,03 to 64,15                     | 215.0                | 5300                     | Stainless |
| P0396.HV062-015 | 62                        | 62                     | 15 | 64,35 to 64,47              | 64,03 to 64,15                     | 290.0                | 8450                     | Stainless |
| P0396.HV065-025 | 65                        | 65                     | 25 | 67,35 to 67,47              | 67,03 to 67,15                     | 520.0                | 14900                    | Stainless |
| P0396.HV065-063 | 65                        | 65                     | 63 | 67,35 to 67,47              | 67,03 to 67,15                     | 850.0                | 46000                    | Stainless |
| P0396.HV070-025 | 70                        | 70                     | 25 | 72,35 to 72,47              | 72,03 to 72,15                     | 550.0                | 16900                    | Stainless |
| P0396.HV072-010 | 72                        | 72                     | 10 | 74,35 to 74,47              | 74,03 to 74,15                     | 230.0                | 6000                     | Stainless |
| P0396.HV072-017 | 72                        | 72                     | 17 | 74,35 to 74,47              | 74,03 to 74,15                     | 420.0                | 13000                    | Stainless |
| P0396.HV072-019 | 72                        | 72                     | 19 | 74,35 to 74,47              | 74,03 to 74,15                     | 470.0                | 14500                    | Stainless |
| P0396.HV072-020 | 72                        | 72                     | 20 | 74,35 to 74,47              | 74,03 to 74,15                     | 490.0                | 15000                    | Stainless |
| P0396.HV075-016 | 75                        | 75                     | 16 | 77,35 to 77,47              | 77,03 to 77,15                     | 520.0                | 13000                    | Stainless |
| P0396.HV075-020 | 75                        | 75                     | 20 | 77,35 to 77,47              | 77,03 to 77,15                     | 600.0                | 17000                    | Stainless |
| P0396.HV080-012 | 80                        | 80                     | 12 | 82,35 to 82,47              | 82,03 to 82,15                     | 280.0                | 11000                    | Steel     |
| P0396.HV080-020 | 80                        | 80                     | 20 | 82,35 to 82,47              | 82,03 to 82,15                     | 630.0                | 16800                    | Stainless |
| P0396.HV084-012 | 84                        | 84                     | 12 | 86,82 to 86,96              | 86,42 to 86,56                     | 490.0                | 13000                    | Stainless |
| P0396.HV085-019 | 85                        | 85                     | 19 | 87,82 to 87,96              | 87,42 to 87,56                     | 700.0                | 17000                    | Steel     |
| P0396.HV090-015 | 90                        | 90                     | 15 | 92,82 to 92,96              | 92,42 to 92,56                     | 560.0                | 14000                    | Stainless |
| P0396.HV090-020 | 90                        | 90                     | 20 | 92,82 to 92,96              | 92,42 to 92,56                     | 770.0                | 18000                    | Steel     |
| P0396.HV090-023 | 90                        | 90                     | 23 | 92,82 to 92,96              | 92,42 to 92,56                     | 870.0                | 21000                    | Steel     |
| P0396.HV090-025 | 90                        | 90                     | 25 | 92,82 to 92,96              | 92,42 to 92,56                     | 950.0                | 22500                    | Stainless |

TOLERANCE RINGS


**P0397**

**Material**

Stainless steel (type 304, DIN 1.4301).

**Technical Notes**

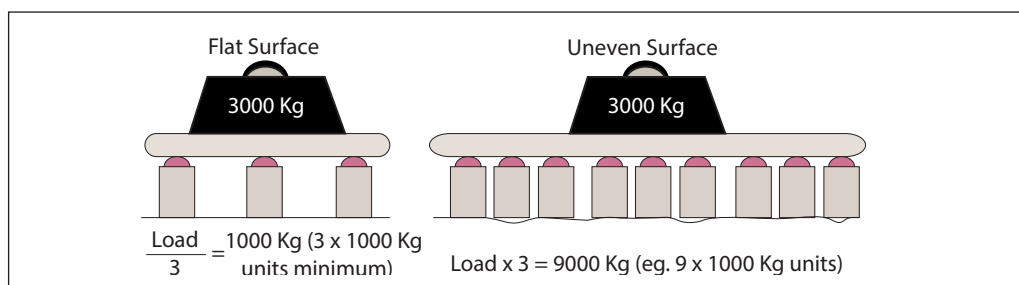
The waves are on the inside, the ring sits

on the housing bore with the waves being compressed by the shaft diameter. Used as a bearing mount where the bearings are required to float axially.

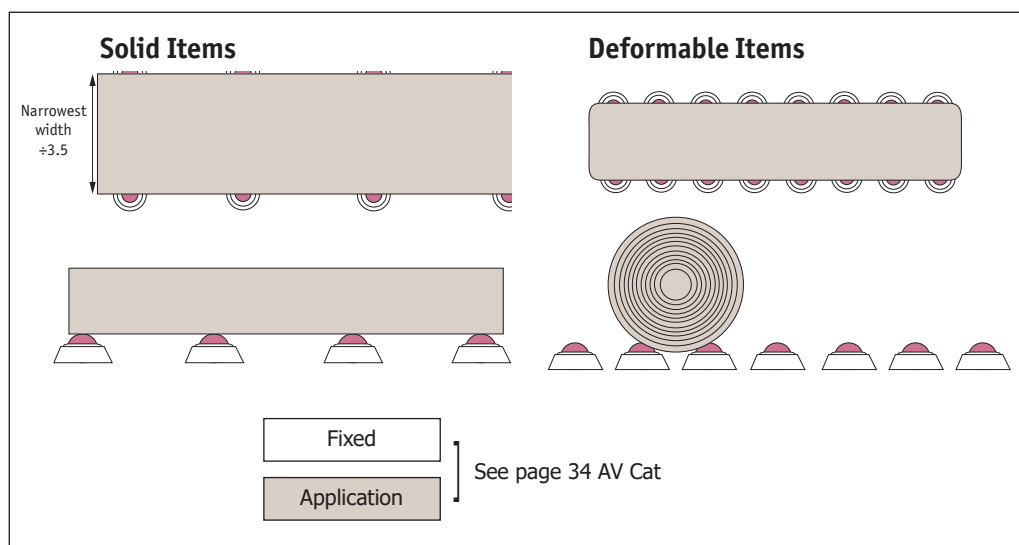
| Order No.        | $d_1$ | $l_1$ | Bearing dia. & no. | $d_2$          | Radial load<br>N<br>max. |
|------------------|-------|-------|--------------------|----------------|--------------------------|
| P0397.HVL013-005 | 13    | 5     | 13 (~624)          | 13,60 to 13,65 | 125                      |
| P0397.HVL016-005 | 16    | 5     | 16 (~625)          | 16,60 to 16,65 | 150                      |
| P0397.HVL019-006 | 19    | 6     | 19 (~626)          | 19,60 to 19,65 | 220                      |
| P0397.HVL022-007 | 22    | 7     | 22 (~608)          | 22,60 to 22,65 | 300                      |
| P0397.HVL024-007 | 24    | 7     | 24 (~609)          | 24,60 to 24,65 | 330                      |
| P0397.HVL026-008 | 26    | 8     | 26 (~629)          | 26,60 to 26,65 | 400                      |
| P0397.HVL028-008 | 28    | 8     | 28 (~6001)         | 28,60 to 28,65 | 440                      |
| P0397.HVL030-009 | 30    | 9     | 30 (~6200)         | 30,60 to 30,65 | 520                      |
| P0397.HVL032-008 | 32    | 8     | 32 (~16002)        | 32,60 to 32,65 | 500                      |
| P0397.HVL032-009 | 32    | 9     | 32 (~6002)         | 32,60 to 32,65 | 560                      |
| P0397.HVL032-010 | 32    | 10    | 32 (~6201)         | 32,60 to 32,65 | 620                      |
| P0397.HVL035-010 | 35    | 10    | 35 (~6003)         | 35,60 to 35,65 | 750                      |
| P0397.HVL035-015 | 35    | 15    | 35 (~6202)         | 35,60 to 35,65 | 1050                     |
| P0397.HVL052-015 | 52    | 15    | 52 (~6205)         | 52,60 to 52,65 | 1600                     |



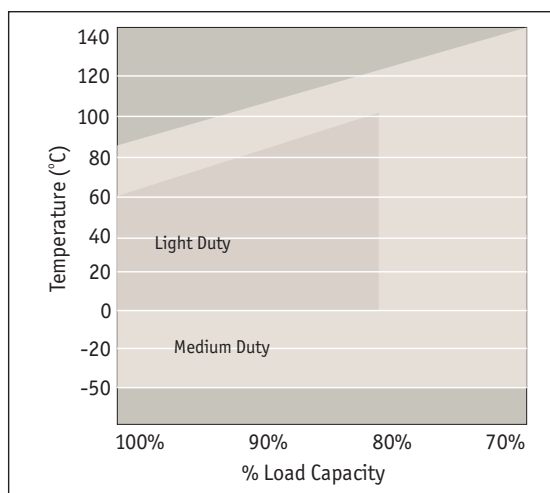
## Load & Stability



## Pitch & Spacing



## Operating Temperature



Ball Transfer Units from Automation Components

TOLERANCE RINGS