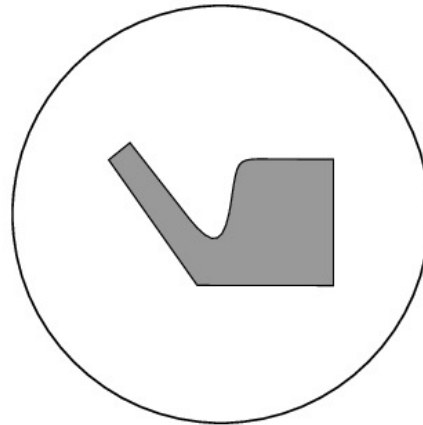




Rotation seals of the HV 280 series have been in use for years in machine construction as elastomeric seals for shafts and bearings. They effectively and reliably provide sealing against attack by dust, dirt, oil and water splashes etc for axial sealing areas.

### Special Features:

- Reliable and convenient axial sealing
- No wear (erosion) of shaft
- Safe function even for slightly tilted opposite (running) face or low shaft eccentricity
- Simple slide assembly in small mounting space
- Lower storage costs because of suitability to various shaft diameters
- Increases life of machine components due to protection of bearings
- Lower starting torque and friction in operation
- No sticking at the sealing lip even after long periods of stand stills.
- Highly wear resistant of elastomer material
- Also available in FPM



Material : Rubber elastomere  
Velocity : peripheral velocity (rotary) to 8 m/s  
Temperature : -60 up to +220 °C (je nach Werkstoff)

### Design Variations:

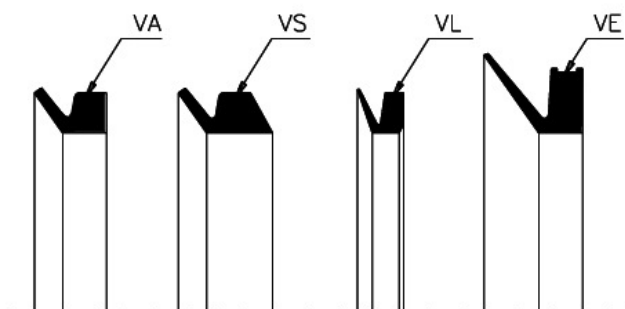
HV 280 is available in four design variations:

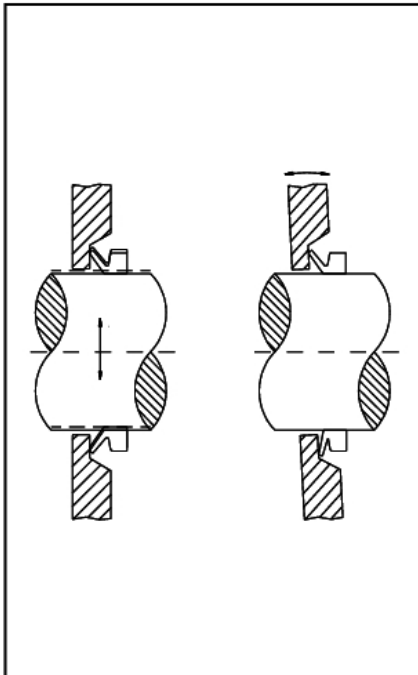
**VA (01):** Standard profile with vertical backside. Large range of sizes (3 mm up to 2020 mm) shaft diameter.

**VS (02):** Wider body, designed to take higher radial force than the design VA. Available for shaft diameters from 5 mm up to 310 mm.

**VL (03):** Special profile for small mounting spaces. Available for 135 mm up to 165 mm shaft diameters.

**VE (04):** For heavy duty application and large diameter. Normal commercial tightening strap can be used to improve axial fit.





### Use in shaft eccentricity or misalignment cases:

Die V-Form des Profils sichert eine wirksame und zuverlässige Dichtfunktion selbst bei ovalem Querschnitt oder exzentrischen Wellen. Die Dichtwirkung wird auch durch eine leicht gekippte Gegenlauffläche nicht beeinträchtigt.

### Surface:

Surface characteristics of the (opposite) running face determines the service life of the sealing lip to a large extent. It should be designed for  $RA \leq 0,4$  and should be free of sharp edges and scratches.

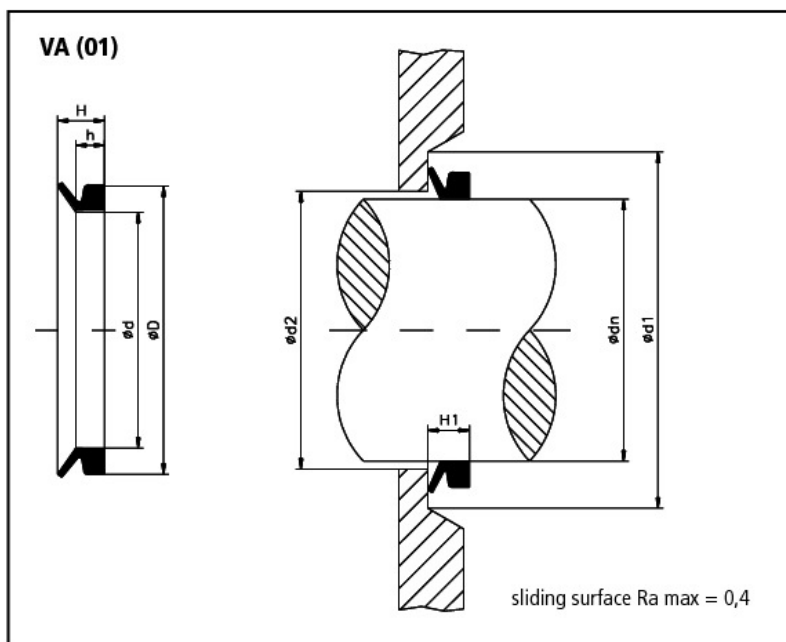
### Choice of material

**NBR (100)** - Standard for most applications from  $-40^{\circ}\text{C}$  bis  $+120^{\circ}\text{C}$  ( $+90^{\circ}\text{C}$  in water) - good resistance to mineral oils, water, lubricants and radiator fluids, - high tensile strength. Not resistant to glycol based truck brake fluids. Low resistance to aromatic solvents and carbon tetrachloride, trichloroethylene (chlorine containing hydrocarbons)

**FPM (120)** - Recommended for high temperature applications (  $-30$  up to  $+200^{\circ}\text{C}$  ), good chemical resistance, outstanding resistance to mineral oils, acids. Good resistance to aromatic and chlorine containing hydrocarbons, ageing, weathering influences, ozone. Low temperature flexibility restriction, Low resistance to polar fluids like ketone, ether, ester.

**SIL (180)** - Recommended for fluctuating service temperatures (  $-60$  up to  $+220^{\circ}\text{C}$  ) at low rotational velocities. Resists continuous heating even at higher temperatures without hardening. Remains flexible even at very low temperatures. Resistant to mineral oils, lubricants and alkaloids. Outstanding resistance to ageing, weathering influences and ozone. Not recommended for use with hydrocarbons, fuels and paraffins or light mineral oils. Not resistant to hot water, oils and non mineral based brake fluids for trucks.

**CR (185)** - Application range (  $-40$  up to  $+80^{\circ}\text{C}$  ) High tensile strength up to 15 Mpa, outstanding resistance to ageing, weathering and ozone. Limited resistance to mineral oils and lubricants. Not resistant to non mineral based brake fluids for trucks.



**Typ VA (01)**

| dn            | d     | D      | h    | H     | d2 max | d1 min  | H1         | Part N°           |
|---------------|-------|--------|------|-------|--------|---------|------------|-------------------|
| 2,7 - 3,5     | 2,50  | 5,50   | 2,10 | 3,00  | dn + 1 | dn + 4  | 2,5 + 0,3  | HV280 0003-01-100 |
| 3,5 - 4,5     | 3,20  | 7,20   | 2,40 | 3,70  | dn + 1 | dn + 6  | 3,0 + 0,4  | HV280 0004-01-100 |
| 4,5 - 5,5     | 4,00  | 8,00   | 2,40 | 3,70  | dn + 1 | dn + 6  | 3,0 + 0,4  | HV280 0005-01-100 |
| 5,5 - 6,5     | 5,00  | 9,00   | 2,40 | 3,70  | dn + 1 | dn + 6  | 3,0 + 0,4  | HV280 0006-01-100 |
| 6,5 - 8,0     | 6,00  | 10,00  | 2,40 | 3,70  | dn + 1 | dn + 6  | 3,0 + 0,4  | HV280 0007-01-100 |
| 8,0 - 9,5     | 7,00  | 11,00  | 2,40 | 3,70  | dn + 1 | dn + 6  | 3,0 + 0,4  | HV280 0008-01-100 |
| 9,5 - 11,5    | 9,00  | 15,00  | 3,40 | 5,50  | dn + 2 | dn + 9  | 4,5 + 0,6  | HV280 0010-01-100 |
| 11,5 - 13,5   | 10,50 | 16,50  | 3,40 | 5,50  | dn + 2 | dn + 9  | 4,5 + 0,6  | HV280 0012-01-100 |
| 13,5 - 15,5   | 12,50 | 18,50  | 3,40 | 5,50  | dn + 2 | dn + 9  | 4,5 + 0,6  | HV280 0014-01-100 |
| 15,5 - 17,5   | 14,00 | 20,00  | 3,40 | 5,50  | dn + 2 | dn + 9  | 4,5 + 0,6  | HV280 0016-01-100 |
| 17,5 - 19,0   | 16,00 | 22,00  | 3,40 | 5,50  | dn + 2 | dn + 9  | 4,5 + 0,6  | HV280 0018-01-100 |
| 19,0 - 21,0   | 18,00 | 26,00  | 4,70 | 7,50  | dn + 2 | dn + 12 | 6,0 + 0,8  | HV280 0020-01-100 |
| 21,0 - 24,0   | 20,00 | 28,00  | 4,70 | 7,50  | dn + 2 | dn + 12 | 6,0 + 0,8  | HV280 0022-01-100 |
| 24,0 - 27,0   | 22,00 | 30,00  | 4,70 | 7,50  | dn + 2 | dn + 12 | 6,0 + 0,8  | HV280 0025-01-100 |
| 27,0 - 29,0   | 25,00 | 33,00  | 4,70 | 7,50  | dn + 3 | dn + 12 | 6,0 + 0,8  | HV280 0028-01-100 |
| 29,0 - 31,0   | 27,00 | 35,00  | 4,70 | 7,50  | dn + 3 | dn + 12 | 6,0 + 0,8  | HV280 0030-01-100 |
| 31,0 - 33,0   | 29,00 | 37,00  | 4,70 | 7,50  | dn + 3 | dn + 12 | 6,0 + 0,8  | HV280 0032-01-100 |
| 33,0 - 36,0   | 31,00 | 39,00  | 4,70 | 7,50  | dn + 3 | dn + 12 | 6,0 + 0,8  | HV280 0035-01-100 |
| 36,0 - 38,0   | 34,00 | 42,00  | 4,70 | 7,50  | dn + 3 | dn + 12 | 6,0 + 0,8  | HV280 0038-01-100 |
| 38,0 - 43,0   | 36,00 | 46,00  | 5,50 | 9,00  | dn + 3 | dn + 15 | 7,0 + 1,0  | HV280 0040-01-100 |
| 43,0 - 48,0   | 40,00 | 50,00  | 5,50 | 9,00  | dn + 3 | dn + 15 | 7,0 + 1,0  | HV280 0045-01-100 |
| 48,0 - 53,0   | 45,00 | 55,00  | 5,50 | 9,00  | dn + 3 | dn + 15 | 7,0 + 1,0  | HV280 0050-01-100 |
| 53,0 - 58,0   | 49,00 | 59,00  | 5,50 | 9,00  | dn + 3 | dn + 15 | 7,0 + 1,0  | HV280 0055-01-100 |
| 58,0 - 63,0   | 54,00 | 64,00  | 5,50 | 9,00  | dn + 3 | dn + 15 | 7,0 + 1,0  | HV280 0060-01-100 |
| 63,0 - 68,0   | 58,00 | 68,00  | 5,50 | 9,00  | dn + 3 | dn + 15 | 7,0 + 1,0  | HV280 0065-01-100 |
| 68,0 - 73,0   | 63,00 | 75,00  | 6,80 | 11,00 | dn + 4 | dn + 18 | 9,0 + 1,2  | HV280 0070-01-100 |
| 73,0 - 78,0   | 67,00 | 79,00  | 6,80 | 11,00 | dn + 4 | dn + 18 | 9,0 + 1,2  | HV280 0075-01-100 |
| 78,0 - 83,0   | 72,00 | 84,00  | 6,80 | 11,00 | dn + 4 | dn + 18 | 9,0 + 1,2  | HV280 0080-01-100 |
| 83,0 - 88,0   | 76,00 | 88,00  | 6,80 | 11,00 | dn + 4 | dn + 18 | 9,0 + 1,2  | HV280 0085-01-100 |
| 88,0 - 93,0   | 81,00 | 93,00  | 6,80 | 11,00 | dn + 4 | dn + 18 | 9,0 + 1,2  | HV280 0090-01-100 |
| 93,0 - 98,0   | 85,00 | 97,00  | 6,80 | 11,00 | dn + 4 | dn + 18 | 9,0 + 1,2  | HV280 0095-01-100 |
| 98,0 - 105,0  | 90,00 | 102,00 | 6,80 | 11,00 | dn + 4 | dn + 18 | 9,0 + 1,2  | HV280 0100-01-100 |
| 105,0 - 115,0 | 99,00 | 113,00 | 7,90 | 12,80 | dn + 4 | dn + 21 | 10,5 + 1,5 | HV280 0110-01-100 |

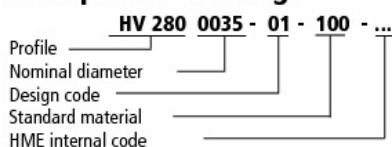


### Typ VA (01)

| dn          | d       | D       | h     | H     | d2 max  | d1 min  | H1         | Part N°           |
|-------------|---------|---------|-------|-------|---------|---------|------------|-------------------|
| 115 - 125   | 108,00  | 122,00  | 7,90  | 12,80 | dn + 4  | dn + 21 | 10,5 ± 1,5 | HV280 0120-01-100 |
| 125 - 135   | 117,00  | 131,00  | 7,90  | 12,80 | dn + 4  | dn + 21 | 10,5 ± 1,5 | HV280 0130-01-100 |
| 135 - 145   | 126,00  | 140,00  | 7,90  | 12,80 | dn + 4  | dn + 21 | 10,5 ± 1,5 | HV280 0140-01-100 |
| 145 - 155   | 135,00  | 149,00  | 7,90  | 12,80 | dn + 4  | dn + 21 | 10,5 ± 1,5 | HV280 0150-01-100 |
| 155 - 165   | 144,00  | 160,00  | 9,00  | 14,50 | dn + 5  | dn + 24 | 12,0 ± 1,8 | HV280 0160-01-100 |
| 165 - 175   | 153,00  | 169,00  | 9,00  | 14,50 | dn + 5  | dn + 24 | 12,0 ± 1,8 | HV280 0170-01-100 |
| 175 - 185   | 162,00  | 178,00  | 9,00  | 14,50 | dn + 5  | dn + 24 | 12,0 ± 1,8 | HV280 0180-01-100 |
| 185 - 195   | 171,00  | 187,00  | 9,00  | 14,50 | dn + 5  | dn + 24 | 12,0 ± 1,8 | HV280 0190-01-100 |
| 195 - 210   | 180,00  | 196,00  | 9,00  | 14,50 | dn + 5  | dn + 24 | 12,0 ± 1,8 | HV280 0199-01-100 |
| 190 - 210   | 180,00  | 210,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0200-01-100 |
| 210 - 235   | 198,00  | 228,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0220-01-100 |
| 235 - 265   | 225,00  | 255,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0250-01-100 |
| 265 - 290   | 247,00  | 277,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0275-01-100 |
| 290 - 310   | 270,00  | 300,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0300-01-100 |
| 310 - 335   | 292,00  | 322,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0325-01-100 |
| 335 - 365   | 315,00  | 345,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0350-01-100 |
| 365 - 390   | 337,00  | 367,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0375-01-100 |
| 390 - 430   | 360,00  | 390,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0400-01-100 |
| 430 - 480   | 405,00  | 435,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0450-01-100 |
| 480 - 530   | 450,00  | 480,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0500-01-100 |
| 530 - 580   | 495,00  | 525,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0550-01-100 |
| 580 - 630   | 540,00  | 570,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0600-01-100 |
| 630 - 665   | 600,00  | 630,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0650-01-100 |
| 665 - 705   | 630,00  | 660,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0700-01-100 |
| 705 - 745   | 670,00  | 700,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0725-01-100 |
| 745 - 785   | 705,00  | 735,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0750-01-100 |
| 785 - 830   | 745,00  | 775,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0800-01-100 |
| 830 - 875   | 785,00  | 815,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0850-01-100 |
| 875 - 920   | 825,00  | 855,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 0900-01-100 |
| 965 - 1015  | 910,00  | 940,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1000-01-100 |
| 1015 - 1065 | 955,00  | 985,00  | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1050-01-100 |
| 1065 - 1115 | 1000,00 | 1030,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1100-01-100 |
| 1115 - 1165 | 1045,00 | 1075,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1150-01-100 |
| 1165 - 1215 | 1090,00 | 1120,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1200-01-100 |
| 1215 - 1270 | 1135,00 | 1165,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1250-01-100 |
| 1270 - 1320 | 1180,00 | 1210,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1300-01-100 |
| 1320 - 1370 | 1225,00 | 1255,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1350-01-100 |
| 1370 - 1420 | 1270,00 | 1300,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1400-01-100 |
| 1420 - 1470 | 1315,00 | 1345,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1450-01-100 |
| 1470 - 1520 | 1360,00 | 1390,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1500-01-100 |
| 1520 - 1570 | 1405,00 | 1435,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1550-01-100 |
| 1570 - 1620 | 1450,00 | 1480,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1600-01-100 |
| 1620 - 1670 | 1495,00 | 1525,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1650-01-100 |
| 1670 - 1720 | 1540,00 | 1570,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1700-01-100 |
| 1720 - 1770 | 1585,00 | 1615,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1750-01-100 |
| 1770 - 1820 | 1630,00 | 1660,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1800-01-100 |
| 1820 - 1870 | 1675,00 | 1705,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1850-01-100 |
| 1870 - 1920 | 1720,00 | 1750,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1900-01-100 |
| 1920 - 1970 | 1765,00 | 1795,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 1950-01-100 |
| 1970 - 2020 | 1811,00 | 1840,00 | 14,30 | 25,00 | dn + 10 | dn + 45 | 20,0 ± 4,0 | HV280 2000-01-100 |

These sizes also available in FPM, Silicone and CR.

### Example for ordering:

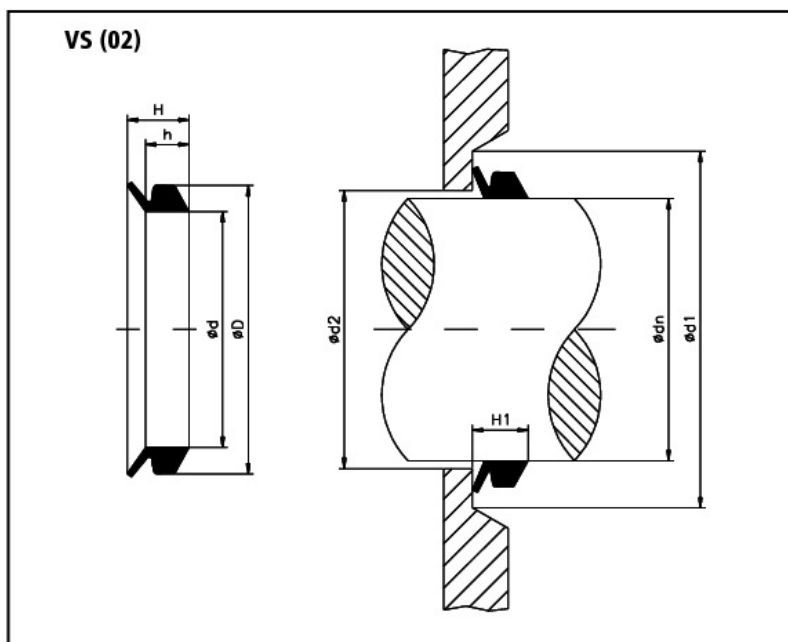


### Material Key:

100 - NBR  
 120 - FPM  
 180 - Silicone  
 185 - CR

### Design Key:

01 - VA  
 02 - VS  
 03 - VL  
 04 - VE



**Typ VS (02)**

| dn            | d      | D      | h     | H     | d2 max | d1 min  | H1         | Part N°           |
|---------------|--------|--------|-------|-------|--------|---------|------------|-------------------|
| 4,5 - 5,5     | 4,00   | 8,00   | 3,90  | 5,20  | dn + 1 | dn + 6  | 4,5 ± 0,4  | HV280 0005-02-100 |
| 5,5 - 6,5     | 5,00   | 9,00   | 3,90  | 5,20  | dn + 1 | dn + 6  | 4,5 ± 0,4  | HV280 0006-02-100 |
| 6,5 - 8,0     | 6,00   | 10,00  | 3,90  | 5,20  | dn + 1 | dn + 6  | 4,5 ± 0,4  | HV280 0007-02-100 |
| 8,0 - 9,5     | 7,00   | 11,00  | 3,90  | 5,20  | dn + 1 | dn + 6  | 4,5 ± 0,4  | HV280 0008-02-100 |
| 9,5 - 11,5    | 9,00   | 15,00  | 5,60  | 7,70  | dn + 2 | dn + 9  | 6,7 ± 0,6  | HV280 0010-02-100 |
| 11,5 - 13,5   | 10,50  | 16,50  | 5,60  | 7,70  | dn + 2 | dn + 9  | 6,7 ± 0,6  | HV280 0012-02-100 |
| 13,5 - 15,5   | 12,50  | 18,50  | 5,60  | 7,70  | dn + 2 | dn + 9  | 6,7 ± 0,6  | HV280 0014-02-100 |
| 15,5 - 17,5   | 14,00  | 20,00  | 5,60  | 7,70  | dn + 2 | dn + 9  | 6,7 ± 0,6  | HV280 0016-02-100 |
| 17,5 - 19,0   | 16,00  | 22,00  | 5,60  | 7,70  | dn + 2 | dn + 9  | 6,7 ± 0,6  | HV280 0018-02-100 |
| 19,0 - 21,0   | 18,00  | 26,00  | 7,90  | 10,50 | dn + 2 | dn + 12 | 9,0 ± 0,8  | HV280 0020-02-100 |
| 21,0 - 24,0   | 20,00  | 28,00  | 7,90  | 10,50 | dn + 2 | dn + 12 | 9,0 ± 0,8  | HV280 0022-02-100 |
| 24,0 - 27,0   | 22,00  | 30,00  | 7,90  | 10,50 | dn + 2 | dn + 12 | 9,0 ± 0,8  | HV280 0025-02-100 |
| 27,0 - 29,0   | 25,00  | 33,00  | 7,90  | 10,50 | dn + 3 | dn + 12 | 9,0 ± 0,8  | HV280 0028-02-100 |
| 29,0 - 31,0   | 27,00  | 35,00  | 7,90  | 10,50 | dn + 3 | dn + 12 | 9,0 ± 0,8  | HV280 0030-02-100 |
| 31,0 - 33,0   | 29,00  | 37,00  | 7,90  | 10,50 | dn + 3 | dn + 12 | 9,0 ± 0,8  | HV280 0032-02-100 |
| 33,0 - 36,0   | 31,00  | 39,00  | 7,90  | 10,50 | dn + 3 | dn + 12 | 9,0 ± 0,8  | HV280 0035-02-100 |
| 36,0 - 38,0   | 34,00  | 42,00  | 7,90  | 10,50 | dn + 3 | dn + 12 | 9,0 ± 0,8  | HV280 0038-02-100 |
| 38,0 - 43,0   | 36,00  | 46,00  | 9,50  | 13,00 | dn + 3 | dn + 15 | 11,0 ± 1,0 | HV280 0040-02-100 |
| 43,0 - 48,0   | 40,00  | 50,00  | 9,50  | 13,00 | dn + 3 | dn + 15 | 11,0 ± 1,0 | HV280 0045-02-100 |
| 48,0 - 53,0   | 45,00  | 55,00  | 9,50  | 13,00 | dn + 3 | dn + 15 | 11,0 ± 1,0 | HV280 0050-02-100 |
| 53,0 - 58,0   | 49,00  | 59,00  | 9,50  | 13,00 | dn + 3 | dn + 15 | 11,0 ± 1,0 | HV280 0055-02-100 |
| 58,0 - 63,0   | 54,00  | 64,00  | 9,50  | 13,00 | dn + 3 | dn + 15 | 11,0 ± 1,0 | HV280 0060-02-100 |
| 63,0 - 68,0   | 58,00  | 68,00  | 9,50  | 13,00 | dn + 3 | dn + 15 | 11,0 ± 1,0 | HV280 0065-02-100 |
| 68,0 - 73,0   | 63,00  | 75,00  | 11,30 | 15,50 | dn + 4 | dn + 18 | 13,5 ± 1,2 | HV280 0070-02-100 |
| 73,0 - 78,0   | 67,00  | 79,00  | 11,30 | 15,50 | dn + 4 | dn + 18 | 13,5 ± 1,2 | HV280 0075-02-100 |
| 78,0 - 83,0   | 72,00  | 84,00  | 11,30 | 15,50 | dn + 4 | dn + 18 | 13,5 ± 1,2 | HV280 0080-02-100 |
| 83,0 - 88,0   | 76,00  | 88,00  | 11,30 | 15,50 | dn + 4 | dn + 18 | 13,5 ± 1,2 | HV280 0085-02-100 |
| 88,0 - 93,0   | 81,00  | 93,00  | 11,30 | 15,50 | dn + 4 | dn + 18 | 13,5 ± 1,2 | HV280 0090-02-100 |
| 93,0 - 98,0   | 85,00  | 97,00  | 11,30 | 15,50 | dn + 4 | dn + 18 | 13,5 ± 1,2 | HV280 0095-02-100 |
| 98,0 - 105,0  | 90,00  | 102,00 | 11,30 | 15,50 | dn + 4 | dn + 18 | 13,5 ± 1,2 | HV280 0100-02-100 |
| 105,0 - 115,0 | 99,00  | 113,00 | 13,10 | 18,00 | dn + 4 | dn + 21 | 15,5 ± 1,5 | HV280 0110-02-100 |
| 115,0 - 125,0 | 108,00 | 122,00 | 13,10 | 18,00 | dn + 4 | dn + 21 | 15,5 ± 1,5 | HV280 0120-02-100 |
| 125,0 - 135,0 | 117,00 | 131,00 | 13,10 | 18,00 | dn + 4 | dn + 21 | 15,5 ± 1,5 | HV280 0130-02-100 |



### Typ VS (02)

| dn        | d      | D      | h     | H     | d2 max | d1 min  | H1         | Part N°.          |
|-----------|--------|--------|-------|-------|--------|---------|------------|-------------------|
| 135 - 145 | 126,00 | 140,00 | 13,10 | 18,00 | dn + 4 | dn + 21 | 15,5 ± 1,5 | HV280 0140-02-100 |
| 145 - 155 | 135,00 | 149,00 | 13,10 | 18,00 | dn + 4 | dn + 21 | 15,5 ± 1,5 | HV280 0150-02-100 |
| 155 - 165 | 144,00 | 160,00 | 15,00 | 20,50 | dn + 5 | dn + 24 | 18,0 ± 1,8 | HV280 0160-02-100 |
| 165 - 175 | 153,00 | 169,00 | 15,00 | 20,50 | dn + 5 | dn + 24 | 18,0 ± 1,8 | HV280 0170-02-100 |
| 175 - 185 | 162,00 | 178,00 | 15,00 | 20,50 | dn + 5 | dn + 24 | 18,0 ± 1,8 | HV280 0180-02-100 |
| 185 - 195 | 171,00 | 187,00 | 15,00 | 20,50 | dn + 5 | dn + 24 | 18,0 ± 1,8 | HV280 0190-02-100 |
| 195 - 210 | 180,00 | 196,00 | 15,00 | 20,50 | dn + 5 | dn + 24 | 18,0 ± 1,8 | HV280 0199-02-100 |

These sizes also available in FPM, Silcon und CR.

### Example for ordering :

**HV 280 0035 - 02 - 100 - ...**

Profile \_\_\_\_\_  
 Nominal diameter \_\_\_\_\_  
 Design code \_\_\_\_\_  
 Standard material \_\_\_\_\_  
 HME internal code \_\_\_\_\_

### Material Key:

100 - NBR  
 120 - FPM  
 180 - Silicon  
 185 - CR

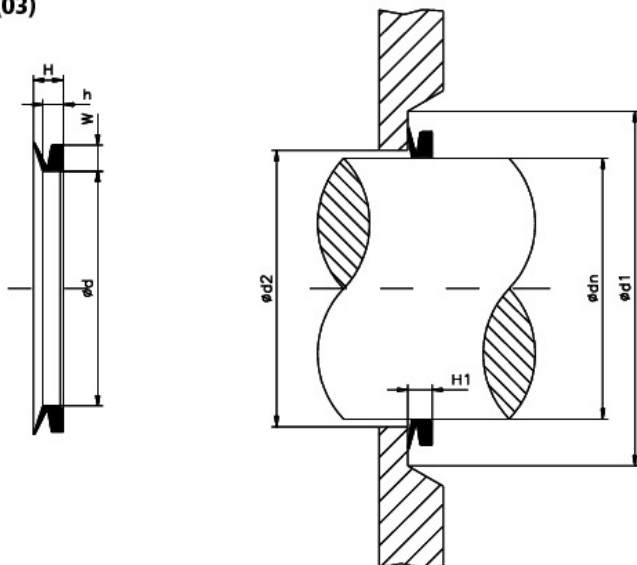
### Design Key:

01 - VA  
 02 - VS  
 03 - VL  
 04 - VE

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### VL (03)



### Ring dimensions:

|   |   |      |
|---|---|------|
| H | = | 10,5 |
| h | = | 6,0  |
| W | = | 6,5  |

### Assembly dimensions:

|        |   |           |
|--------|---|-----------|
| H1     | = | 8 ± 1,5   |
| d2 max | = | dn + 5,0  |
| d1 min | = | dn + 20,0 |

### Typ VL (03)

| dn        | d      | Part N°           |
|-----------|--------|-------------------|
| 135 - 145 | 126,00 | HV280 0140-03-100 |
| 145 - 155 | 135,00 | HV280 0150-03-100 |
| 155 - 165 | 144,00 | HV280 0160-03-100 |
| 165 - 175 | 153,00 | HV280 0170-03-100 |
| 175 - 185 | 162,00 | HV280 0180-03-100 |
| 185 - 195 | 171,00 | HV280 0190-03-100 |
| 190 - 210 | 180,00 | HV280 0200-03-100 |
| 210 - 235 | 198,00 | HV280 0220-03-100 |
| 235 - 265 | 225,00 | HV280 0250-03-100 |
| 265 - 290 | 247,00 | HV280 0275-03-100 |

| dn        | d      | Part N°           |
|-----------|--------|-------------------|
| 290 - 310 | 270,00 | HV280 0300-03-100 |
| 310 - 335 | 292,00 | HV280 0325-03-100 |
| 335 - 365 | 315,00 | HV280 0350-03-100 |
| 365 - 390 | 337,00 | HV280 0375-03-100 |
| 390 - 430 | 360,00 | HV280 0400-03-100 |
| 410 - 440 | 425,00 | HV280 0425-03-100 |
| 430 - 480 | 405,00 | HV280 0450-03-100 |
| 480 - 530 | 450,00 | HV280 0500-03-100 |
| 530 - 580 | 495,00 | HV280 0550-03-100 |
| 580 - 630 | 540,00 | HV280 0600-03-100 |

These sizes also available in FPM, Silicon und CR.

### Example of ordering :

|                   |                                     |
|-------------------|-------------------------------------|
|                   | <b>HV 280 0220 - 03 - 100 - ...</b> |
| Profile           | _____                               |
| Nominal diameter  | _____                               |
| Design code       | _____                               |
| Standard material | _____                               |
| HME internal code | _____                               |

### Material Key:

|               |
|---------------|
| 100 - NBR     |
| 120 - FPM     |
| 180 - Silicon |
| 185 - CR      |

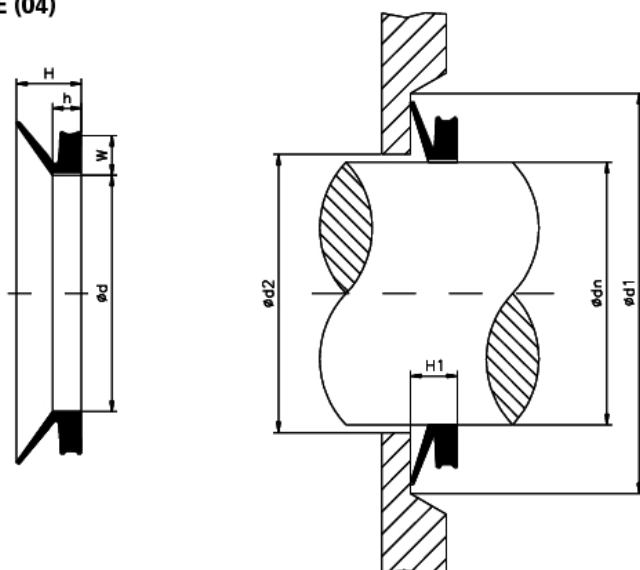
### Design Key:

|         |
|---------|
| 01 - VA |
| 02 - VS |
| 03 - VL |
| 04 - VE |

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VE (04)



### Ring dimensions:

|   |   |      |
|---|---|------|
| H | = | 65,0 |
| h | = | 32,0 |
| W | = | 30,0 |

### Assembly dimensions:

|        |   |    |       |       |
|--------|---|----|-------|-------|
| H1     | = | 50 | $\pm$ | 12,0  |
| d2 max | = | dn | +     | 24,0  |
| d1 min | = | dn | +     | 115,0 |

Typ VE (04)

| dn        | d      | Part N°           |
|-----------|--------|-------------------|
| 450 - 455 | 439,00 | HV280 0450-04-100 |
| 455 - 460 | 444,00 | HV280 0455-04-100 |
| 460 - 465 | 448,00 | HV280 0460-04-100 |
| 465 - 470 | 453,00 | HV280 0465-04-100 |
| 470 - 475 | 458,00 | HV280 0470-04-100 |
| 475 - 480 | 463,00 | HV280 0475-04-100 |
| 480 - 485 | 468,00 | HV280 0480-04-100 |
| 485 - 490 | 473,00 | HV280 0485-04-100 |
| 490 - 495 | 478,00 | HV280 0490-04-100 |
| 495 - 500 | 483,00 | HV280 0495-04-100 |
| 500 - 505 | 488,00 | HV280 0500-04-100 |
| 505 - 510 | 493,00 | HV280 0505-04-100 |
| 510 - 515 | 497,00 | HV280 0510-04-100 |
| 515 - 520 | 502,00 | HV280 0515-04-100 |
| 520 - 525 | 507,00 | HV280 0520-04-100 |
| 525 - 530 | 512,00 | HV280 0525-04-100 |
| 530 - 535 | 517,00 | HV280 0530-04-100 |
| 535 - 540 | 521,00 | HV280 0535-04-100 |
| 540 - 545 | 526,00 | HV280 0540-04-100 |
| 545 - 550 | 531,00 | HV280 0545-04-100 |
| 550 - 555 | 536,00 | HV280 0550-04-100 |
| 555 - 560 | 541,00 | HV280 0555-04-100 |
| 560 - 565 | 546,00 | HV280 0560-04-100 |
| 565 - 570 | 550,00 | HV280 0565-04-100 |
| 570 - 575 | 555,00 | HV280 0570-04-100 |
| 575 - 580 | 560,00 | HV280 0575-04-100 |
| 580 - 585 | 565,00 | HV280 0580-04-100 |
| 585 - 590 | 570,00 | HV280 0585-04-100 |
| 590 - 600 | 575,00 | HV280 0590-04-100 |
| 600 - 610 | 582,00 | HV280 0600-04-100 |
| 610 - 620 | 592,00 | HV280 0610-04-100 |
| 620 - 630 | 602,00 | HV280 0620-04-100 |

| dn        | d      | Part N°           |
|-----------|--------|-------------------|
| 630 - 640 | 612,00 | HV280 0630-04-100 |
| 640 - 650 | 621,00 | HV280 0640-04-100 |
| 650 - 660 | 631,00 | HV280 0650-04-100 |
| 660 - 670 | 640,00 | HV280 0660-04-100 |
| 670 - 680 | 650,00 | HV280 0670-04-100 |
| 680 - 690 | 660,00 | HV280 0680-04-100 |
| 690 - 700 | 670,00 | HV280 0690-04-100 |
| 700 - 710 | 680,00 | HV280 0700-04-100 |
| 710 - 720 | 689,00 | HV280 0710-04-100 |
| 720 - 730 | 699,00 | HV280 0720-04-100 |
| 730 - 740 | 709,00 | HV280 0730-04-100 |
| 740 - 750 | 718,00 | HV280 0740-04-100 |
| 750 - 758 | 728,00 | HV280 0750-04-100 |
| 758 - 766 | 735,00 | HV280 0760-04-100 |
| 766 - 774 | 743,00 | HV280 0770-04-100 |
| 774 - 783 | 751,00 | HV280 0780-04-100 |
| 783 - 792 | 759,00 | HV280 0790-04-100 |
| 792 - 801 | 768,00 | HV280 0800-04-100 |
| 801 - 810 | 777,00 | HV280 0810-04-100 |
| 810 - 821 | 786,00 | HV280 0820-04-100 |
| 821 - 831 | 796,00 | HV280 0830-04-100 |
| 831 - 841 | 805,00 | HV280 0840-04-100 |
| 841 - 851 | 814,00 | HV280 0850-04-100 |
| 851 - 861 | 824,00 | HV280 0860-04-100 |
| 861 - 871 | 833,00 | HV280 0870-04-100 |
| 871 - 882 | 843,00 | HV280 0880-04-100 |
| 882 - 892 | 853,00 | HV280 0890-04-100 |
| 892 - 912 | 871,00 | HV280 0900-04-100 |
| 912 - 922 | 880,00 | HV280 0920-04-100 |
| 922 - 933 | 890,00 | HV280 0930-04-100 |
| 933 - 944 | 900,00 | HV280 0940-04-100 |
| 944 - 955 | 911,00 | HV280 0950-04-100 |



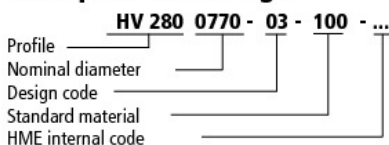
### Typ VE (04)

| dn          | d       | Part N°           |
|-------------|---------|-------------------|
| 955 - 966   | 921,00  | HV280 0960-04-100 |
| 966 - 977   | 932,00  | HV280 0970-04-100 |
| 977 - 988   | 942,00  | HV280 0980-04-100 |
| 988 - 999   | 953,00  | HV280 0990-04-100 |
| 999 - 1010  | 963,00  | HV280 1000-04-100 |
| 1010 - 1025 | 973,00  | HV280 1020-04-100 |
| 1025 - 1045 | 990,00  | HV280 1040-04-100 |
| 1045 - 1065 | 1008,00 | HV280 1060-04-100 |
| 1065 - 1085 | 1027,00 | HV280 1080-04-100 |
| 1085 - 1105 | 1045,00 | HV280 1100-04-100 |
| 1105 - 1125 | 1065,00 | HV280 1120-04-100 |
| 1125 - 1145 | 1084,00 | HV280 1140-04-100 |
| 1145 - 1165 | 1103,00 | HV280 1160-04-100 |
| 1165 - 1185 | 1121,00 | HV280 1180-04-100 |
| 1185 - 1205 | 1139,00 | HV280 1200-04-100 |
| 1205 - 1225 | 1157,00 | HV280 1220-04-100 |
| 1225 - 1245 | 1176,00 | HV280 1240-04-100 |
| 1245 - 1270 | 1195,00 | HV280 1260-04-100 |
| 1270 - 1295 | 1218,00 | HV280 1280-04-100 |
| 1296 - 1315 | 1240,00 | HV280 1300-04-100 |

| dn          | d       | Part N°           |
|-------------|---------|-------------------|
| 1315 - 1340 | 1259,00 | HV280 1325-04-100 |
| 1340 - 1365 | 1281,00 | HV280 1350-04-100 |
| 1365 - 1390 | 1305,00 | HV280 1375-04-100 |
| 1390 - 1415 | 1328,00 | HV280 1400-04-100 |
| 1415 - 1440 | 1350,00 | HV280 1425-04-100 |
| 1440 - 1465 | 1374,00 | HV280 1450-04-100 |
| 1465 - 1490 | 1397,00 | HV280 1475-04-100 |
| 1490 - 1515 | 1419,00 | HV280 1500-04-100 |
| 1515 - 1540 | 1443,00 | HV280 1525-04-100 |
| 1540 - 1570 | 1467,00 | HV280 1550-04-100 |
| 1570 - 1600 | 1495,00 | HV280 1575-04-100 |
| 1600 - 1640 | 1524,00 | HV280 1600-04-100 |
| 1640 - 1680 | 1559,00 | HV280 1650-04-100 |
| 1680 - 1720 | 1596,00 | HV280 1700-04-100 |
| 1720 - 1765 | 1632,00 | HV280 1750-04-100 |
| 1765 - 1810 | 1671,00 | HV280 1800-04-100 |
| 1810 - 1855 | 1714,00 | HV280 1850-04-100 |
| 1855 - 1905 | 1753,00 | HV280 1900-04-100 |
| 1905 - 1955 | 1794,00 | HV280 1950-04-100 |
| 1955 - 2010 | 1844,00 | HV280 2000-04-100 |

These sizes also available in FPM, Silcon und CR.

### Example of ordering :



### Material Key:

100 - NBR  
120 - FPM  
180 - Silicon  
185 - CR

### Design Key:

01 - VA  
02 - VS  
03 - VL  
04 - VE

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Issue

01 05