



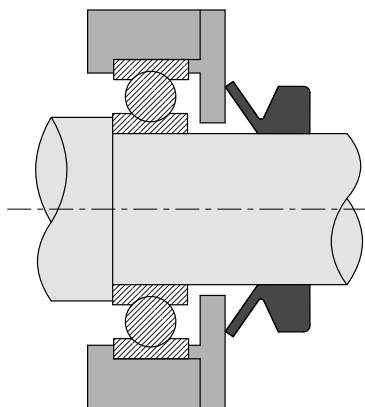
○ V'RINGS

1. Description

V'Rings are seal parts that are very often combined with other types of seals such as radial shaft seals. They are also used as the primary seal in other cases. As they offer optimal axial sealing, V'Rings are used to protect the metal parts against dirt, grease, oil and dust. They are frequently used in mechanical transmissions, rolling-mills, machine tools, etc.

As a technical component made completely of rubber, V'Rings have three parts:

- the body: the thickest part of the seal, which is clamped in place on the rotating axle and permits rotation.
- the hinge: the part connecting the sealing lip to the body of the seal, which provides a certain amount of flexibility, thus preventing significant position stresses.
- the sealing lip: the part that compensates for radial runout (angle deviations in the rotating axle) as well as significant tolerance gaps other than those recommended by its flexibility. It therefore ensures sealing on the opposing metal surface.



Stretched on the shaft, the V'Ring must be positioned at a precise distance in relation to the opposing metal friction surface (or back) to guarantee optimal sealing under axial pre-stressing of the sealing lip. The V'Ring turns with the rotating shaft and depending on the circumferential speed, the centrifugal force acting on the sealing lip repels it on the outside, which reduces compression. Beyond a certain speed, the sealing lip must not come into constant contact with the opposing metal wall, as sealing is not guaranteed.

2. Materials

2.1 RUBBERS

The table below provides an overview of the different rubber families.

ABBREVIATION ISO 1629 ASTM 1418	FRANCE JOINT CODE	CHEMICAL NAME
ACM	B	Polyacrylate
AEM	V	Ethylene acrylate rubber
EPDM	C	Ethylene Propylene Diene Monomer rubber
FKM	G	Fluorinated rubber
HNBR	HK	Hydrogenated Nitrile Butadiene rubber
NBR	K	Nitrile Butadiene rubber

● **ACM** (Polyacrylate)

Polymers containing ethyl acrylate (or butyl acrylate) have a small amount of monomer, which is necessary for cross-linking; ACM is a material with better heat resistance than NBR. It is often used for automatic gearboxes.

Chemical resistance

Mineral oils (motor oils, gear box oils, ATF oils)
Atmospheric and ozone agents

Compatibility issue

Glycol-based brake fluids (Dot 3 & 4)
Aromatic and chlorinated hydrocarbons
Water and steam
Acids, alkalis and amines

Temperature range

-25°C / +150°C (short-term peak at +160°C)

● **AEM** (ethylene acrylate rubber)

As a methyl acrylate and ethylene copolymer, AEM is considered to be better resistant to heat than ACM. Its characteristics make it an intermediary between the ACM and FKM.

Resistance to chemicals

Cooling fluids
Aggressive mineral oils
Atmospheric agents
Water

Compatibility issue

Aromatic solvents
Strong acids
Brake fluids
Gearbox oils
ATF oils

Temperature range

-40°C/+150°C

● EPDM (Ethylene Propylene Diene Monomer rubber)

As an Ethylene Propylene Diene Monomer copolymer, EPDM is commonly used for hot water taps, cooling systems, brake systems, dishwashers and washing machines.

Resistance to chemicals

Hot water and steam up to +150°C
 Glycol-based brake fluids (Dot 3 & 4) and silicone-based brake fluids (Dot 5)
 Organic and inorganic acids
 Cleaning agents, sodium and potassium alkalis
 Hydraulic fluids (HFD-R)
 Silicone oils and greases
 Polar solvents (alcohols, ketones and esters)
 Atmospheric and ozone agents

Compatibility issue

Mineral oils and greases
 Hydrocarbons
 Low impermeability to gas

Temperature range

-45°C / +150°C (short-term peak at +175°C)

● FKM (fluorinated rubber)

Depending on their structure and fluorine content, fluoroelastomers can vary in terms of chemical resistance and resistance to cold. This FKM-based rubber is very often used for high-temperature hydraulics and pneumatics, for industrial valves, injection/fuel systems, motor seals and high-vacuum systems.

Resistance to chemicals

Mineral oils and greases, ASTM n°1, IRM 902 and IRM 903 oils.
 Fire-resistant liquids (HFD)
 Silicone oils and greases
 Mineral and vegetable oils and greases
 Aliphatic hydrocarbons (propane, butane, petroleum)
 Aromatic hydrocarbons (benzene, toluene)
 Chlorinated hydrocarbons (trichlorethylene)
 Fuel (including high alcohol content)
 Atmospheric and ozone agents

Compatibility issue

Glycol-based brake fluids
 Ammonia gas
 Organic acids with a low molecular weight (formic and acetic acids)

Temperature range

-20°C / +200°C (short-term peak at +230°C)

● HNBR (Hydrogenated Nitrile Butadiene Rubber)

This HNBR-based elastomer is obtained through selective hydrogenation of the NBR's butadiene groups. It is commonly used for power-assisted steering and for air conditioning.

Chemical resistance

Aliphatic hydrocarbons
 Mineral and vegetable oils and greases
 Fire-resistant fluids (HFA, HFB and HFC)
 Diluted acids, saline solutions and bases for operation at an average temperature
 Water and steam up to +150°C
 Atmospheric and ozone agents

Compatibility issue

Chlorinated hydrocarbons
 Polar solvents (ketones, esters and ethers)
 Strong acids

Temperature range

-30°C / +150°C (short-term peak at +160°C)

● NBR (Nitrile Butadiene Rubber)

Nitrile rubber (NBR) is the general term for acrylonitrile-butadiene copolymer. The ACN content can vary between 18% and 50%. While the acrylonitrile content is important, the resistance to oil and fuel is more so. Conversely, the elasticity and compression set are not as good. The NBR has good mechanical properties and good wear resistance. However, its resistance to atmospheric agents and the ozone is relatively low.

Chemical resistance

Aliphatic hydrocarbons (propane, butane, petroleum, diesel fuel)
 Mineral oils and greases
 Fire-resistant fluids (HFA, HFB and HFC)
 Diluted acids, low-temperature alkaline and saline solutions
 Water (up to +100°C max)

Compatibility issue

Fuels with high aromatic content
 Aromatic hydrocarbons (benzene)
 Chlorinated hydrocarbons (trichlorethylene)
 Polar solvents (ketone, acetone, acetic acid, ethylene-ester)
 Strong acids
 Glycol-based brake fluids
 Atmospheric and ozone agents

Temperature range

-30°C / +100°C (short-term peak at +120°C)

2.2 CHEMICAL COMPATIBILITY

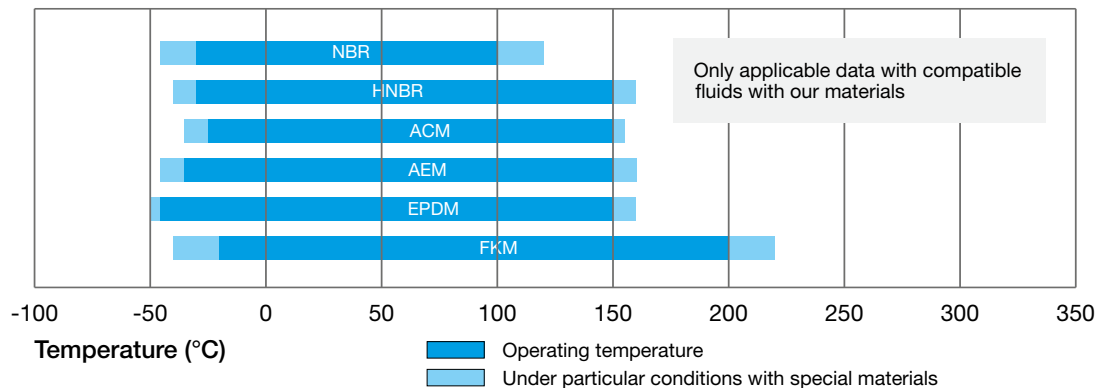
A "Chemical compatibility guide" catalogue can be downloaded from our website: www.francejoint.com

You can also use our online "**Chemical compatibility**" tool free of charge.

These two tools enable you to measure the behaviour of our materials that come into contact with the majority of existing fluids. The data displayed is the result of rigorous testing at the ambient temperature and takes previous publications into consideration. Test results are not fully representative because of the specific features of your application. The tests performed actually do not consider additives and impurities that may exist under actual conditions of use, nor the potential elevation of temperatures. Other parameters can also alter the behaviour of our materials, such as the hardness, compression set, abrasion, etc. We therefore recommend performing your own tests to verify the compatibility of our materials depending on your specific application. Our technical team can provide you with any additional information.

2.3 TEMPERATURE RESISTANCE

The temperature strongly influences the physical properties of materials. The graph below sets out the temperature limits for each material. However, we can provide custom-made hybrids depending on your needs (e.g. NBR or FKM capable of withstanding temperatures of -40°C)

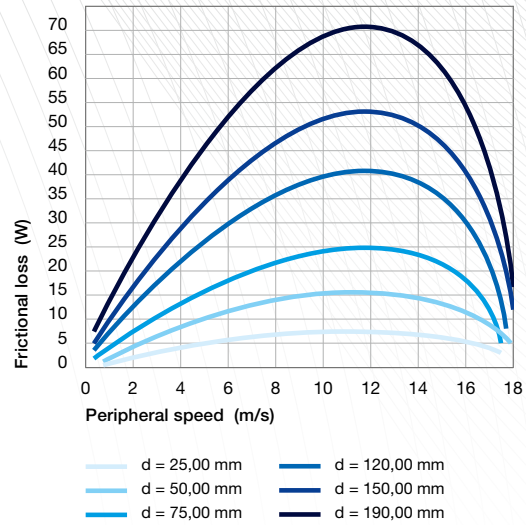


3. Technical data

3.1 LOSS OF POWER

The sealing lip of a V'Ring exerts such a low pressure on the contact surface area that the loss of power resulting from it is also low. The variations in power loss depend on the circumferential speed as well as the diameter of the axis in rotation, as shown in the graph below.

At speeds greater than 11 m/sec, the sealing lip has a tendency to detach itself, as the centrifugal force is greater.



3.2 SHAFT DESIGN

Considering that the V'Ring is stretched and tightened on the shaft, it is driven into rotation with the shaft. The tolerance and surface roughness requirements ($Ra \leq 3.2 \mu\text{m}$) are relatively moderate. We recommend carefully selecting the size using the dimensional chart for applications in which power loss and V'Ring lifespan are important criteria. If the diameter of the shaft $\varnothing d1$ overlaps two potential V'Ring choices, we recommend selecting the larger V'Ring. The tightness on the shaft will in fact reduce, like the contact pressure of the lip on the back.

3.3 DESIGN OF THE BACK

a. Surface roughness

The quality of the back side considerably influences the lifespan of the V'Ring in contact. The surface roughness on the back side is determined according to the fluid to be sealed and the circumferential speed of the shaft.

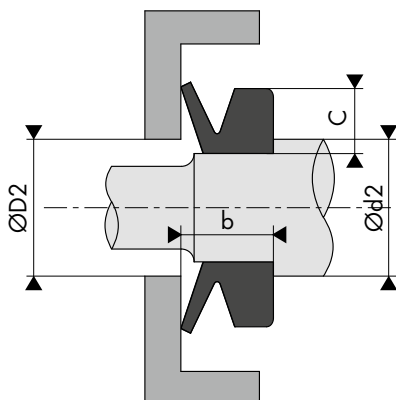
Roughness Ra	Circumferential speed v	Media
0.40 μm - 0.80 μm	> 10.0 m/sec	Oil, water
0.80 μm - 1.60 μm	5.0 m/sec - 10.0 m/sec	Oil splashes, grease, water splashes
1.60 μm - 2.00 μm	1.0 m/sec - 5.0 m/sec	Grease, dirt, water splashes
2.00 μm - 2.50 μm	< 1.0 m/s	Grease, dirt

The surface roughness on the back side must not exceed $Ra 0.05 \mu\text{m}$.

b. Flatness

The flatness of the back is essential, even more so when rotation speeds are high. The maximum acceptable deviation is 0.40 mm for 100.00 mm.

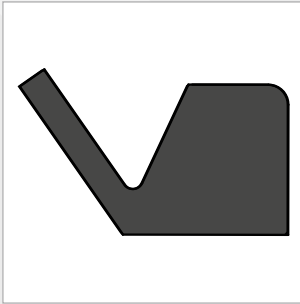
3.4 AXIAL SUPPORT



Installing the V'Ring is recommended when the axial support is at full stop. This is also recommended for applications where tightening between the V'Ring and the shaft is relatively weak and where the circumferential speed will exceed 6.0 - 8.0 m/sec.

The table below sets out the calculation method for the diameter of the support $\varnothing d2$.

V'Ring profiles	Diameter $\varnothing d2$
BECA 120VA	$\varnothing d1 + 0.50 \times C$
BECA 120VE	$\varnothing d1 + 9.00 \text{ mm}$
BECA 120VL	$\varnothing d1 + 3.00 \text{ mm}$
BECA 120VS	$\varnothing d1 + 0.50 \times C$



V'RINGS BECA 120VA



DESCRIPTION

The BECA 120VA profile is a standard rubber facial effect V'Ring composed of a flat rear face.

ADVANTAGES

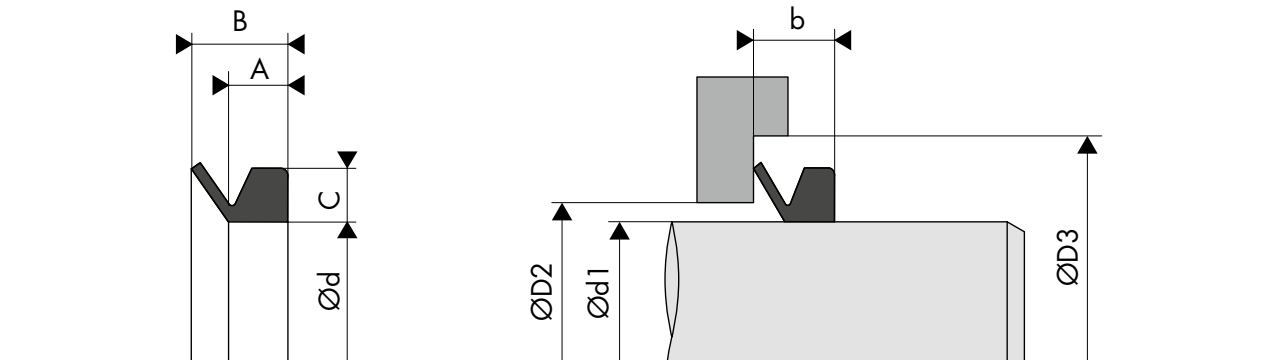
- Excellent chemical compatibility and wide temperature range, depending on the type of material chosen
- Low friction
- Good elasticity

APPLICATIONS

- Electric motors
- Power transmissions
- Bearing protections

MATERIALS

- FKM 60 and 70 Shore A
- NBR 60 and 70 Shore A



DIMENSIONS

Part number	Shaft diameter Ød1	Inside diameter Ød	Width before fitting B	Height of the body C	Width of the body A	Width after fitting b	ØD2 Max	ØD3 Min
120.VA003	2.7 - 3.4	2.50	3.00	1.50	2.10	2.5 ± 0.3	d1 + 1.0	d1 + 4.0
120.VA004	3.5 - 4.4	3.20	3.70	2.00	2.40	3.0 ± 0.4	d1 + 1.0	d1 + 6.0
120.VA005	4.5 - 5.4	4.00	3.70	2.00	2.40	3.0 ± 0.4	d1 + 1.0	d1 + 6.0
120.VA006	5.5 - 6.4	5.00	3.70	2.00	2.40	3.0 ± 0.4	d1 + 1.0	d1 + 6.0
120.VA007	6.5 - 8.0	6.00	3.70	2.00	2.40	3.0 ± 0.4	d1 + 1.0	d1 + 6.0
120.VA008	8.0 - 9.5	7.00	3.70	2.00	2.40	3.0 ± 0.4	d1 + 1.0	d1 + 6.0
120.VA010	9.5 - 11.5	9.00	5.50	3.00	3.40	4.5 ± 0.6	d1 + 2.0	d1 + 9.0
120.VA012	11.5 - 12.5	10.50	5.50	3.00	3.40	4.5 ± 0.6	d1 + 2.0	d1 + 9.0
120.VA014	13.5 - 15.5	10.50	5.50	3.00	3.40	4.5 ± 0.6	d1 + 2.0	d1 + 9.0
120.VA016	15.5 - 17.5	14.00	5.50	3.00	3.40	4.5 ± 0.6	d1 + 2.0	d1 + 9.0
120.VA018	17.5 - 19.0	16.00	5.50	3.00	3.40	4.5 ± 0.6	d1 + 2.0	d1 + 9.0
120.VA020	19.0 - 21.0	18.00	7.50	4.00	4.70	6.0 ± 0.8	d1 + 2.0	d1 + 12.0
120.VA022	21.0 - 24.0	20.00	7.50	4.00	4.70	6.0 ± 0.8	d1 + 2.0	d1 + 12.0
120.VA025	24.0 - 27.0	22.00	7.50	4.00	4.70	6.0 ± 0.8	d1 + 2.0	d1 + 12.0
120.VA028	27.0 - 29.0	25.00	7.50	4.00	4.70	6.0 ± 0.8	d1 + 2.0	d1 + 12.0
120.VA030	29.0 - 31.0	27.00	7.50	4.00	4.70	6.0 ± 0.8	d1 + 3.0	d1 + 12.0
120.VA032	31.0 - 33.0	29.00	7.50	4.00	4.70	6.0 ± 0.8	d1 + 3.0	d1 + 12.0
120.VA035	33.0 - 36.0	31.00	7.50	4.00	4.70	6.0 ± 0.8	d1 + 3.0	d1 + 12.0
120.VA038	36.0 - 38.0	34.00	7.50	4.00	4.70	6.0 ± 0.8	d1 + 3.0	d1 + 12.0

Part number	Shaft diameter Ød1	Inside diameter Ød	Width before fitting B	Height of the body C	Width of the body A	Width after fitting b	ØD2 Max	ØD3 Min
120.VA040	38.0 - 43.0	36.00	9.00	5.00	5.50	7.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VA045	43.0 - 48.0	40.00	9.00	5.00	5.50	7.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VA050	48.0 - 53.0	45.00	9.00	5.00	5.50	7.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VA055	53.0 - 58.0	49.00	9.00	5.00	5.50	7.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VA060	58.0 - 63.0	54.00	9.00	5.00	5.50	7.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VA065	63.0 - 68.0	58.00	9.00	5.00	5.50	7.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VA070	68.0 - 73.0	63.00	11.00	6.00	6.80	9.0 ± 1.2	d1 + 4.0	d1 + 18.0
120.VA075	63.0 - 78.0	67.00	11.00	6.00	6.80	9.0 ± 1.2	d1 + 4.0	d1 + 18.0
120.VA080	78.0 - 83.0	72.00	11.00	6.00	6.80	9.0 ± 1.2	d1 + 4.0	d1 + 18.0
120.VA085	83.0 - 88.0	76.00	11.00	6.00	6.80	9.0 ± 1.2	d1 + 4.0	d1 + 18.0
120.VA090	88.0 - 93.0	81.00	11.00	6.00	6.80	9.0 ± 1.2	d1 + 4.0	d1 + 18.0
120.VA095	93.0 - 98.0	85.00	11.00	6.00	6.80	9.0 ± 1.2	d1 + 4.0	d1 + 18.0
120.VA100	98.0 - 105.0	90.00	11.00	6.00	6.80	9.0 ± 1.2	d1 + 4.0	d1 + 18.0
120.VA110	105.0 - 115.0	99.00	12.80	7.00	7.90	10.5 ± 1.5	d1 + 4.0	d1 + 21.0
120.VA120	115.0 - 125.0	108.00	12.80	7.00	7.90	10.5 ± 1.5	d1 + 4.0	d1 + 21.0
120.VA130	125.0 - 135.0	117.00	12.80	7.00	7.90	10.5 ± 1.5	d1 + 4.0	d1 + 21.0
120.VA140	135.0 - 145.0	126.00	12.80	7.00	7.90	10.5 ± 1.5	d1 + 4.0	d1 + 21.0
120.VA150	145.0 - 155.0	135.00	12.80	7.00	7.90	10.5 ± 1.5	d1 + 4.0	d1 + 21.0
120.VA160	155.0 - 165.0	144.00	14.50	8.00	9.00	12.0 ± 1.8	d1 + 5.0	d1 + 24.0
120.VA170	165.0 - 175.0	153.00	14.50	8.00	9.00	12.0 ± 1.8	d1 + 5.0	d1 + 24.0
120.VA180	175.0 - 185.0	162.00	14.50	8.00	9.00	12.0 ± 1.8	d1 + 5.0	d1 + 24.0
120.VA190	185.0 - 195.0	171.00	14.50	8.00	9.00	12.0 ± 1.8	d1 + 5.0	d1 + 24.0
120.VA199	195.0 - 205.0	180.00	14.50	8.00	9.00	12.0 ± 1.8	d1 + 5.0	d1 + 24.0
120.VA200	190.0 - 210.0	180.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA220	210.0 - 235.0	198.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA250	235.0 - 265.0	225.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA275	265.0 - 290.0	247.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA300	290.0 - 310.0	270.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA325	310.0 - 335.0	292.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA350	335.0 - 365.0	315.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA375	365.0 - 390.0	337.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA400	390.0 - 430.0	360.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA450	430.0 - 480.0	405.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA500	480.0 - 530.0	450.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA550	530.0 - 580.0	495.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA600	580.0 - 630.0	540.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA650	630.0 - 665.0	600.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA700	665.0 - 705.0	630.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA725	705.0 - 745.0	670.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA750	745.0 - 785.0	705.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA800	785.0 - 830.0	745.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA850	830.0 - 875.0	785.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA900	875.0 - 920.0	825.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.VA950	920.0 - 965.0	865.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1000	965.0 - 1015.0	910.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1050	1015.0 - 1065.0	955.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1100	1065.0 - 1115.0	1000.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1150	1115.0 - 1165.0	1045.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1200	1165.0 - 1215.0	1090.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1250	1215.0 - 1270.0	1135.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1300	1270.0 - 1320.0	1180.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1350	1320.0 - 1370.0	1225.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1400	1370.0 - 1420.0	1270.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1450	1420.0 - 1470.0	1315.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1500	1470.0 - 1520.0	1360.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1550	1520.0 - 1570.0	1405.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1600	1570.0 - 1620.0	1450.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1650	1620.0 - 1670.0	1495.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1700	1670.0 - 1720.0	1540.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1750	1720.0 - 1770.0	1585.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1800	1770.0 - 1820.0	1630.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1850	1820.0 - 1870.0	1675.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1900	1870.0 - 1920.0	1720.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A1950	1920.0 - 1970.0	1765.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0
120.A2000	1970.0 - 2020.0	1810.00	25.00	15.00	14.30	20.0 ± 4.0	d1 + 10.0	d1 + 45.0



V'RINGS BECA 120VE



DESCRIPTION

The BECA 120VE profile is a facial effect V'Ring with a large radial section and is used for large dimensions.

ADVANTAGES

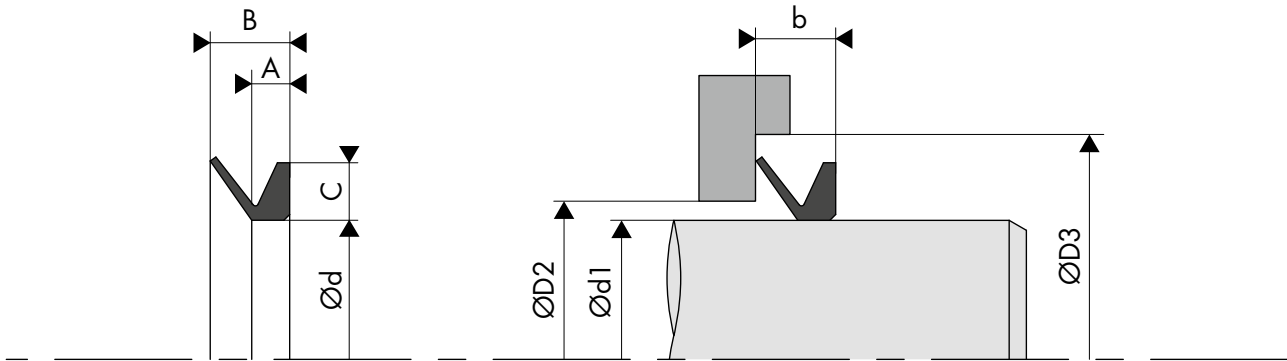
- Excellent chemical compatibility and wide temperature range, depending on the type of material chosen
- Low friction
- Good elasticity
- Used as a secondary seal for heavy-duty applications
- Greater axial movement is possible

APPLICATIONS

- Mobile hydraulics
- Axes

MATERIALS

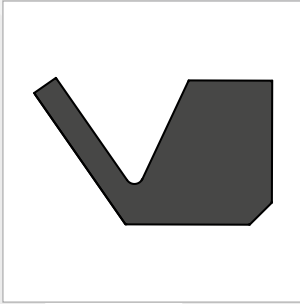
- FKM 60 and 70 Shore A
- NBR 60 and 70 Shore A



DIMENSIONS

Part number	Shaft diameter Ød1	Inside diameter Ød	Width before fitting B	Height of the body C	Width of the body A	Width after fitting b	ØD2 Max	ØD3 Min
120.VE300	300.0 - 305.0	294.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE305	305.0 - 310.0	299.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE310	310.0 - 215.0	304.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE315	315.0 - 320.0	309.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE320	320.0 - 325.0	314.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE325	325.0 - 330.0	319.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE330	330.0 - 335.0	323.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE335	335.0 - 340.0	328.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE340	340.0 - 345.0	333.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE345	345.0 - 350.0	338.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE350	350.0 - 355.0	343.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE355	355.0 - 360.0	347.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0

Part number	Shaft diameter Ød1	Inside diameter Ød	Width before fitting B	Height of the body C	Width of the body A	Width after fitting b	ØD2 Max	ØD3 Min
120.VE360	360.0 - 365.0	352.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE365	365.0 - 370.0	357.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE370	370.0 - 375.0	362.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE375	375.0 - 380.0	367.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE380	380.0 - 385.0	371.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE385	385.0 - 390.0	376.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE390	390.0 - 395.0	381.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE395	395.0 - 400.0	386.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE400	400.0 - 405.0	391.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE405	405.0 - 410.0	396.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE410	410.0 - 415.0	401.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE415	415.0 - 420.0	405.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE420	420.0 - 425.0	410.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE425	425.0 - 430.0	415.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE430	430.0 - 435.0	420.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE435	435.0 - 440.0	425.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE440	440.0 - 445.0	429.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE445	445.0 - 450.0	434.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE450	450.0 - 455.0	439.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE455	455.0 - 460.0	444.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE460	460.0 - 465.0	448.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE465	465.0 - 470.0	453.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE470	470.0 - 475.0	458.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE475	475.0 - 480.0	463.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE480	480.0 - 485.0	468.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE485	485.0 - 490.0	473.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE490	490.0 - 495.0	478.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE495	495.0 - 500.0	483.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0
120.VE500	500.0 - 505.0	488.00	65.00	30.00	32.50	50.0 ± 12.0	d1 + 24.0	d1 + 115.0



V'RINGS BECA 120VL



DESCRIPTION

The BECA 120VL profile is a rubber facial effect V'Ring.

ADVANTAGES

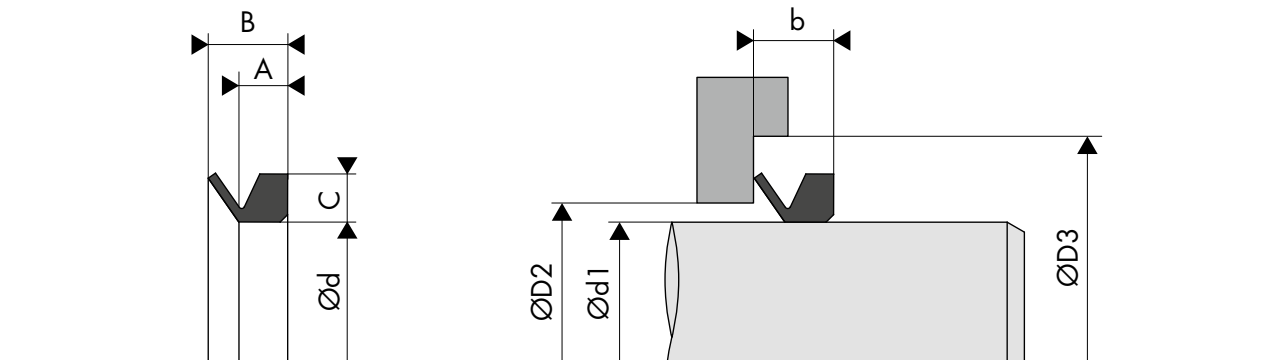
- Excellent chemical compatibility and wide temperature range, depending on the type of material chosen
- Low friction
- Good elasticity
- Suitable for confined spaces, substituting labyrinth seals

APPLICATIONS

General industry

MATERIALS

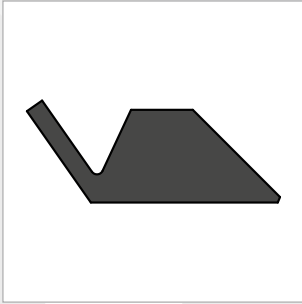
FKM 60 and 70 Shore A
NBR 60 and 70 Shore A



DIMENSIONS

Part number	Shaft diameter Ød1	Inside diameter Ød	Width before fitting B	Height of the body C	Width of the body A	Width after fitting b	ØD2 Max	ØD3 Min
120.VL130	125.0 - 135.0	117.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL140	135.0 - 145.0	126.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL150	145.0 - 155.0	135.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL160	155.0 - 165.0	144.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL170	165.0 - 175.0	153.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL180	175.0 - 185.0	162.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL200	195.0 - 210.0	182.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL220	210.0 - 233.0	198.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL250	233.0 - 260.0	225.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL275	260.0 - 285.0	247.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL300	285.0 - 310.0	270.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL325	310.0 - 335.0	292.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL350	335.0 - 365.0	315.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL375	365.0 - 385.0	337.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL400	385.0 - 410.0	360.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0

Part number	Shaft diameter Ød1	Inside diameter Ød	Width before fitting B	Height of the body C	Width of the body A	Width after fitting b	ØD2 Max	ØD3 Min
120.VL425	410.0 - 440.0	382.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL450	440.0 - 475.0	405.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL500	475.0 - 510.0	450.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL525	510.0 - 540.0	472.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL550	540.0 - 575.0	495.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL600	575.0 - 625.0	540.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL650	625.0 - 675.0	600.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL700	675.0 - 710.0	630.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL725	710.0 - 740.0	670.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL750	740.0 - 775.0	705.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL800	775.0 - 825.0	745.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL850	825.0 - 875.0	785.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL900	875.0 - 925.0	825.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL950	952.0 - 975.0	865.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL110	105.0 - 115.0	99.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL120	115.0 - 125.0	108.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.VL190	185.0 - 195.0	171.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.L1000	975.0 - 1025.0	910.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0
120.L1050	1025.0 - 1075.0	955.00	10.50	6.50	6.00	8.0 ± 1.5	d1 + 5.0	d1 + 20.0



V'RINGS

BECA 120VS



DESCRIPTION

The BECA 120VS profile is a rubber facial effect V'Ring composed of a conical rear face with a large body with a low radial section.

ADVANTAGES

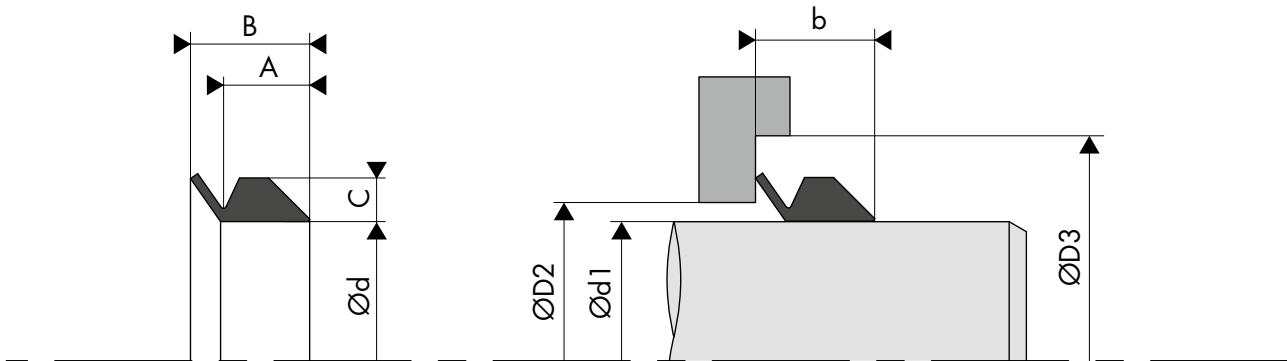
- Excellent chemical compatibility and wide temperature range, depending on the type of material chosen
- Low friction
- Good elasticity
- Firm grip on the shaft

APPLICATIONS

- Agriculture
- Automotive

MATERIALS

- FKM 60 and 70 Shore A
- NBR 60 and 70 Shore A



DIMENSIONS

Part number	Shaft diameter Ød1	Inside diameter Ød	Width before fitting B	Height of the body C	Width of the body A	Width after fitting b	ØD2 Max	ØD3 Min
120.VS005	4.5 - 5.5	4.00	5.20	2.00	3.90	4.5 ± 0.4	d1 + 1.0	d1 + 6.0
120.VS006	5.5 - 6.5	5.00	5.20	2.00	3.90	4.5 ± 0.4	d1 + 1.0	d1 + 6.0
120.VS007	6.5 - 8.0	6.00	5.20	2.00	3.90	4.5 ± 0.4	d1 + 1.0	d1 + 6.0
120.VS008	8.0 - 9.5	7.00	5.20	2.00	3.90	4.5 ± 0.4	d1 + 1.0	d1 + 6.0
120.VS010	9.5 - 11.5	9.00	5.20	2.00	3.90	4.5 ± 0.4	d1 + 1.0	d1 + 6.0
120.VS012	11.5 - 13.5	10.50	5.20	2.00	3.90	4.5 ± 0.4	d1 + 1.0	d1 + 6.0
120.VS014	13.5 - 15.5	12.50	7.70	3.00	5.60	6.7 ± 0.6	d1 + 2.0	d1 + 9.0
120.VS016	15.5 - 17.5	14.00	7.70	3.00	5.60	6.7 ± 0.6	d1 + 2.0	d1 + 9.0
120.VS018	17.5 - 19.0	16.00	7.70	3.00	5.60	6.7 ± 0.6	d1 + 2.0	d1 + 9.0
120.VS020	19.0 - 21.0	18.00	10.50	4.00	7.90	9.0 ± 0.8	d1 + 2.0	d1 + 12.0
120.VS022	21.0 - 24.0	20.00	10.50	4.00	7.90	9.0 ± 0.8	d1 + 2.0	d1 + 12.0
120.VS025	24.0 - 27.0	22.00	10.50	4.00	7.90	9.0 ± 0.8	d1 + 2.0	d1 + 12.0
120.VS028	27.0 - 29.0	25.00	10.50	4.00	7.90	9.0 ± 0.8	d1 + 3.0	d1 + 12.0
120.VS030	29.0 - 31.0	27.00	10.50	4.00	7.90	9.0 ± 0.8	d1 + 3.0	d1 + 12.0
120.VS032	31.0 - 33.0	19.00	10.50	4.00	7.90	9.0 ± 0.8	d1 + 3.0	d1 + 12.0

Part number	Shaft diameter Ød1	Inside diameter Ød	Width before fitting B	Height of the body C	Width of the body A	Width after fitting b	ØD2 Max	ØD3 Min
120.VS035	33.0 - 36.0	31.00	10.50	4.00	7.90	9.0 ± 0.8	d1 + 3.0	d1 + 12.0
120.VS038	36.0 - 38.0	34.00	10.50	4.00	7.90	9.0 ± 0.8	d1 + 3.0	d1 + 12.0
120.VS040	38.0 - 43.0	36.00	13.00	5.00	9.50	11.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VS045	43.0 - 48.0	40.00	13.00	5.00	9.50	11.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VS050	48.0 - 53.0	45.00	13.00	5.00	9.50	11.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VS055	53.0 - 58.0	49.00	13.00	5.00	9.50	11.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VS060	58.0 - 63.0	54.00	13.00	5.00	9.50	11.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VS065	63.0 - 68.0	58.00	13.00	5.00	9.50	11.0 ± 1.0	d1 + 3.0	d1 + 15.0
120.VS070	68.0 - 73.0	63.00	15.50	6.00	11.30	13.5 ± 1.2	d1 + 4.0	d1 + 18.0
120.VS075	73.0 - 78.0	67.00	15.50	6.00	11.30	13.5 ± 1.2	d1 + 4.0	d1 + 18.0
120.VS080	78.0 - 83.0	72.00	15.50	6.00	11.30	13.5 ± 1.2	d1 + 4.0	d1 + 18.0
120.VS085	83.0 - 88.0	76.00	15.50	6.00	11.30	13.5 ± 1.2	d1 + 4.0	d1 + 18.0
120.VS090	88.0 - 93.0	81.00	15.50	6.00	11.30	13.5 ± 1.2	d1 + 4.0	d1 + 18.0
120.VS095	93.0 - 98.0	85.00	15.50	6.00	11.30	13.5 ± 1.2	d1 + 4.0	d1 + 18.0
120.VS100	98.0 - 105.0	90.00	15.50	6.00	11.30	13.5 ± 1.2	d1 + 4.0	d1 + 18.0
120.VS120	115.0 - 125.0	108.00	18.00	7.00	13.10	15.5 ± 1.5	d1 + 4.0	d1 + 21.0
120.VS130	125.0 - 135.0	117.00	18.00	7.00	13.10	15.5 ± 1.5	d1 + 4.0	d1 + 21.0
120.VS140	135.0 - 145.0	126.00	18.00	7.00	13.10	15.5 ± 1.5	d1 + 4.0	d1 + 21.0
120.VS150	145.0 - 155.0	135.00	18.00	7.00	13.10	15.5 ± 1.5	d1 + 4.0	d1 + 21.0
120.VS160	155.0 - 165.0	144.00	20.50	8.00	15.00	18.0 ± 1.8	d1 + 5.0	d1 + 24.0
120.VS170	165.0 - 175.0	153.00	20.50	8.00	15.00	18.0 ± 1.8	d1 + 5.0	d1 + 24.0
120.VS180	175.0 - 185.0	162.00	20.50	8.00	15.00	18.0 ± 1.8	d1 + 5.0	d1 + 24.0
120.VS190	185.0 - 195.0	171.00	20.50	8.00	15.00	18.0 ± 1.8	d1 + 5.0	d1 + 24.0
120.VS199	195.0 - 210.0	180.00	20.50	8.00	15.00	18.0 ± 1.8	d1 + 5.0	d1 + 24.0
120.VS110	105.0 - 115.0	99.00	18.00	7.00	13.10	15.5 ± 1.5	d1 + 4.0	d1 + 21.0