

# PTFE SHAFT SEALS

## BECA

### 860-869



#### DESCRIPTION

The BECA 860 profile is a filled or virgin PTFE machined shaft seal and is composed of a primary lip pre-stressed by a stainless steel V-spring for dynamic sealing and an O'Ring for static sealing.

The BECA 869 profile is specially designed for applications where the seal is in contact with food products. It is characterised by a silicone overmoulding on the inside of the seal, which completely hides the V-spring, thus preventing impurities from accumulating in this hard-to-clean area.

#### ADVANTAGES

Low friction coefficient; no stick-slip effect on start up

Excellent abrasion and extrusion resistance

Suitable for a wide temperature range

Excellent chemical inertia

#### APPLICATIONS

Food & Beverage

Medical

Pharmaceutical

General industry

#### MATERIALS

##### Profiled seal

Virgin PTFE

Carbon-filled PTFE

##### Metal insert

Stainless steel - AISI 316

##### O'Ring

NBR 70 Shore A

Other grades of materials are available. Please refer to the materials table on the next page.

#### TECHNICAL DATA

Temperature	-30°C / +200°C
Pressure	In dynamic applications: 15 MPa In static applications: 25 MPa
Speed	2 m/s
Media	Practically all types of fluids, and chemical and gas products

The figures above indicate the maximum values and may not be cumulated. They may be developed, depending on the materials used.

#### SURFACE ROUGHNESS

Roughness	Dynamic surface area	Static surface area	Groove flanks
Ra	0.05 - 0.2 µm	≤1.6 µm	≤3.2 µm
Rz	0.4 - 1.6 µm	≤6.3 µm	≤10.0 µm
Rmax	0.63 - 2.5 µm	≤10.0 µm	≤16.0 µm

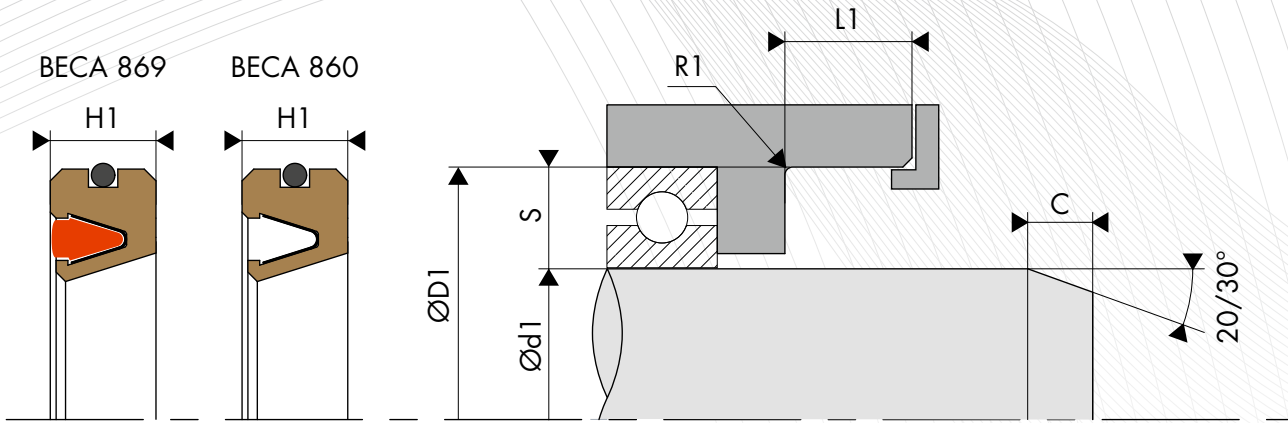
#### CHAMFERS AND RADIUS

Radial section S	Radius R1	Chamfer C
2.50 to 5.00	0.10	2.00
4.00 to 7.00	0.20	3.00
5.00 to 7.40	0.20	3.00
7.50 to 10.90	0.30	4.00
≥ 11.00	0.30	5.00

TABLE MATERIALS

Profiled seal					V-spring		O'Ring			Mating surface material
Standard code	ISO code	Material	Colour	Characteristics	Code	Type of material	Code	Type of material	Service temperature	
DP	P	Virgin PTFE	White	Resistance to chemical products Impermeability Dielectric Non-stick Low friction coefficient Food industry	I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	Steel Stainless steel Chrome steel Aluminium Bronze Cast iron Treated surface
							G6	FKM 70 Shore A	-20°C/+200°C	
							C6	EPDM 70 Shore A	-45°C/+150°C	
							F6	VMQ 70 Shore A	-60°C/+200°C	
DC	C	PTFE + 25% Carbon	Grey	<b>Improvements</b> • <b>Wear properties</b> • <b>Compression set</b> Good resistance to chemical products Thermal and electrical conductivity Anti-static High-performing in compression-based dynamic applications	I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	
							G6	FKM 70 Shore A	-20°C/+200°C	
							C6	EPDM 70 Shore A	-45°C/+150°C	
CG	C	PTFE + 23% Carbon + 2% Graphite	Black		I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	
							G6	FKM 70 Shore A	-20°C/+200°C	
							C6	EPDM 70 Shore A	-45°C/+150°C	
DV	V	PTFE + 25 % Glass	Blue	<b>Improvements</b> • <b>Wear properties</b> • <b>Mechanical strength</b> Slightly more abrasive, however, this is corrected by adding MOS2 Maintains its chemical and dielectric properties	I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	
							G6	FKM 70 Shore A	-20°C/+200°C	
VM	M	PTFE + 15 % Glass + 5% MOS2	Grey	Well-suited to applications with rotational and simultaneous alternating movements	I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	
							G6	FKM 70 Shore A	-20°C/+200°C	
DX	X	PTFE GL Blue + Glass + Metal oxides	Turquoise blue	Resistance to compression Resistance to wear Excellent chemical stability Good thermal conductivity	I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	
							G6	FKM 70 Shore A	-20°C/+200°C	
DG	G	PTFE + 15% Graphite	Black	<b>Improvements</b> • <b>Wear properties</b> Reduced wear on metal parts Self-lubricating Thermal and electrical conductivity Low permeability Good friction coefficient Anti-static High performing in dynamic self-lubricating applications	I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	
							G6	FKM 70 Shore A	-20°C/+200°C	
							C6	EPDM 70 Shore A	-45°C/+150°C	
K1	K	PTFE + 10% Ekonol	Light brown	<b>Improvements</b> • <b>Better abrasion resistance</b> • <b>Better dimensional stability at high temperatures</b> Use up to +300°C Good friction coefficient and low permeability	I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	
							G6	FKM 70 Shore A	-20°C/+200°C	
							C6	EPDM 70 Shore A	-45°C/+150°C	
K2	K	PTFE + 20% Ekonol	Light brown		I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	
							G6	FKM 70 Shore A	-20°C/+200°C	
							C6	EPDM 70 Shore A	-45°C/+150°C	
DB	B	PTFE + 60% Bronze	Dark brown	<b>Improvements</b> • <b>Wear properties</b> • <b>Warping resistance and creep strength</b> • <b>Compression resistance</b> Self-lubricating Electrical and thermal conductivity	I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	
							G6	FKM 70 Shore A	-20°C/+200°C	
B4	B	PTFE + 40% Bronze	Dark brown	Does not alter the metal parts Reduced hold with certain chemical products Used for high-compression dynamic seals and has a low level of wear	I	X10 Cr Ni 18-8	K6	NBR 70 Shore A	-30°C/+100°C	
							G6	FKM 70 Shore A	-20°C/+200°C	

Other grades of materials are available depending on your specificities.



## INSTALLATION DIMENSIONS

Series	Shaft diameter Ød1 f8/h9	Bore diameter ØD1 H9	Groove width L1	Radial section S
BECA 860.0	≤ 3.0	≤ 10.0	≥ 2.50	2.50 to 5.00
BECA 860.1	≤ 6.0	≤ 16.0	≥ 4.00	4.00 to 7.00
BECA 860.2	≤ 10.0	≤ 20.0	≥ 5.50	5.00 to 7.40
BECA 860.3	≤ 25.0	≤ 40.0	≥ 7.50	7.50 to 10.90
BECA 860.4	≤ 40.0	≤ 52.0	≥ 7.50	≥ 11.00

## EXAMPLE OF CODIFICATION

### STANDARD CODIFICATION

**Materials** \_\_\_\_\_ : PTFE + 25% Carbon profiled seal - Code DC  
 \_\_\_\_\_ : NBR 70 Shore A O'Ring - Code K6  
 \_\_\_\_\_ : Stainless steel V-Shaped spring - Code I  
**Shaft diameter** \_\_\_\_\_ : Ød1 = 26.00 mm  
**Housing diameter** \_\_\_\_\_ : ØD1 = 36.00 mm  
**Part number** \_\_\_\_\_ : 860.3026DCI

**Part number -** 860.3 026 DC I  
 Family \_\_\_\_\_  
 Shaft diameter \_\_\_\_\_  
 Profiled seal material\* \_\_\_\_\_  
 V-Shaped spring material\* \_\_\_\_\_

\* The codes that define the materials are set out in the materials table on the previous page.