



### Product Description

1. Cartridge unit
2. Category 2 and 3, Type A, Arrangement 1
3. Design acc. to API 682 / ISO 21 049
4. Independent of direction of rotation
5. Integrated pumping device available (BB10PSS-F)
6. Rotating multiple springs
7. Single seal

### Technical Features

1. "Low-Emission-Seal" acc. to the American STLE-limits
2. Extended field operation in terms of temperature and pressure
3. Fits to any seal chamber
4. metal parts also in special materials available

API/d1	API/d2	API/d3	API/d4	d5	d6	l4	l5	l6	l7	l11	Overall length
Inch	Inch	Inch	Inch	Inch	Inch	Inch	Inch	Inch	Inch	Inch	Inch
0.750	2.756	4.134	3.346	1.969	5.433	3.740	3.701	0.039	2.992	0.236	3.937
1.125	3.150	4.528	3.740	2.441	5.827	3.957	3.858	0.098	3.031	0.236	4.094
1.500	3.543	4.921	4.134	2.835	6.220	4.154	3.878	0.276	3.051	0.236	4.921
2.000	3.937	5.512	4.528	3.386	6.614	4.390	3.917	0.472	3.091	0.236	5.512
2.250	4.724	6.299	5.315	3.898	7.402	4.744	4.016	0.728	3.189	0.236	6.299
2.750	5.118	6.693	5.709	4.291	7.795	4.902	4.173	0.709	3.189	0.236	6.693
3.125	5.512	7.087	6.102	4.685	8.189	5.079	4.173	0.906	3.189	0.236	7.087
3.500	6.299	8.071	6.890	5.079	9.370	5.079	4.173	0.906	3.189	0.236	8.071
3.750	6.693	8.465	7.283	6.024	9.764	5.236	4.291	0.945	3.189	0.236	8.465
4.250	7.087	8.858	7.677	6.614	10.157	5.236	4.291	0.945	3.189	0.236	8.858

API/d1	API/d2	API/d3	API/d4	d5	d6	l4	l5	l6	l7	l11	Overall length
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
20	70	105	85	50	138	95.0	94.0	1.0	76.0	6	100
30	80	115	95	62	148	100.5	98.0	2.5	77.0	6	104
40	90	125	105	72	158	105.5	98.5	7.0	77.5	6	125
50	100	140	115	86	168	111.5	99.5	12.0	78.5	6	140
60	120	160	135	99	188	120.5	102.0	18.5	81.0	6	160
70	130	170	145	109	198	124.5	106.0	18.0	81.0	6	170
80	140	180	155	119	208	129.0	106.0	23.0	81.0	6	180
90	160	205	175	129	238	129.0	106.0	23.0	81.0	6	205
100	170	215	185	153	248	133.0	109.0	24.0	81.0	6	215
110	180	225	195	168	258	133.0	109.0	24.0	81.0	6	225

### Typical Industrial Applications

Light hydrocarbons  
 Oil and gas industry  
 Petrochemical industry  
 Refining technology  
 API 610 / ISO 13709 pumps  
 Process pumps

### Performance Capabilities

Sizes: d = Upto 110 mm (Upto 4.250")\*  
 Pressure: p1 = 40 bar (580 PSI)  
 Temperature: t = -40°C ... +220°C (-40°F ... 428°F)  
 Speed = 23 m/s (75 ft/s)  
 Permissible axial movement: ± 2.0 ... 4.0 mm  
 depending on diameter and installation situation

### Materials

Seal face: Carbon graphite antimony impregnated (A)  
 Seat: Silicon carbide (Q1, Q2)  
 Secondary seal: EPDM (E), NBR (P), FKM (V), FFKM (K)  
 Springs: Hastelloy® C-4 (M)  
 Metal parts: CrNiMo steel (G), Duplex (G1), Hastelloy® C-4 (M)

### Standards

API 682 / ISO 21049

### Design Variations

**BB10PSS-F:** Dimensions, items and descriptions as BB10PSS, but with pumping ring. Shorter installation length possible.

### BB10PSS also available:

Seal Face: Silicon carbide (Q1, Q2)  
 Seat: Silicon carbide (Q1, Q2)