

# **VRA and VRA-C Dry-Running, Top-Entry Mixer Seals**



#### **Features and benefits**

- Self-lubricating carbon or filled PTFE seal face runs completely dry without cooling. Long life and reliability are achieved in the dry vapor space at the top of the mixer vessel while eliminating product contamination from liquid barrier fluids.
- Flexible rotor design compensates for shaft misalignment.
   Clearances, drive design, seal face dimensions and
   O-ring configuration were optimized for the high run-out requirements of mixers and similar equipment. The
   VRA operates at eccentric run-out levels up to 3.81 mm (0.150 in.) TIR.
- Double O-ring mounted stator prevents distortion. Various configurations are available to fit different equipment types.
- Non-metallic collar option provides superior chemical resistance. Designated the VRA-C, a two-piece collar design eliminates the need for expensive exotic metal alloys in non-wetted areas.
- Optional sanitary gland allows steam cleaning and sterilizing
  of the seal's interior while mounted on the equipment. Sanitary
  porting aids in the removal of steam cleaning debris.

### **Materials of construction**

Metal components	316 stainless steel, filled PTFE	
Rotating face	Carbon, filled PTFE	
Stationary face	Durchrome®, tungsten carbide, aluminum oxide	
Gaskets	Fluoroelastomer, perfluoroelastomer, EPR *Food-grade materials of construction also available	
Springs	Alloy C-276	

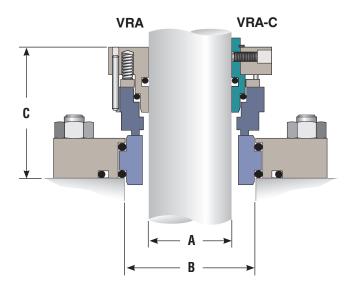
<sup>®</sup> Durchrome is a registered trademark of Flowserve Corporation.

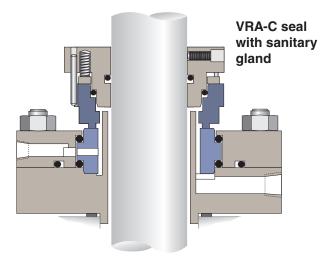
### **Operating parameters**

Pressure	Full vacuum to 13.8 bar (200 psi)	
Temperature	Up to 149°C (300°F)	
Shaft speed	Up to 350 rpm	
Shaft sizes	25 to 178 mm (1.000 to 7.000 in.)	









## **Dimensional data in millimeters**

## Dimensional data in inches

Α	В	С
25.40	50.80	76.20
31.75	57.15	76.20
38.10	63.50	76.20
44.45	69.85	76.20
50.80	76.20	76.20
57.15	82.55	76.20
63.50	88.90	76.20
69.85	95.25	76.20
76.20	101.60	76.20
82.55	108.00	76.20
88.90	114.30	76.20
95.25	120.70	82.55
101.60	127.00	82.55
108.00	133.40	82.55
114.30	139.70	82.55
120.70	146.10	82.55
127.00 133.40	152.40 158.80	82.55 82.55
139.70 146.10	165.10 171.10	82.55 82.55
152.40	177.80	82.55
152.40	184.20	82.55
165.10	190.50	82.55
171.50	196.90	82.55
177.80	203.20	82.55

Α	В	С
1.000	2.000	3.00
1.250	2.250	3.00
1.500	2.500	3.00
1.750	2.750	3.00
2.000	3.000	3.00
2.250	3.250	3.00
2.500	3.500	3.00
2.750	3.750	3.00
3.000	4.000	3.00
3.250	4.250	3.00
3.500	4.500	3.00
3.750	4.750	3.25
4.000	5.000	3.25
4.250	5.250	3.25
4.500	5.500	3.25
4.750	5.750	3.25
5.000	6.000	3.25
5.250	6.250	3.25
5.500	6.500	3.25
5.750	6.750	3.25
6.000	7.000	3.25
6.250	7.250	3.25
6.500	7.500	3.25
6.750	7.750	3.25
7.000	8.000	3.25

Note: For sizes and conditions not listed, contact your local Flowserve representative.