

# DRY-RUNNING MULTI-SPRING COMPONENT SEAL

FOR TOP FNTRY MIXERS & AGITATORS

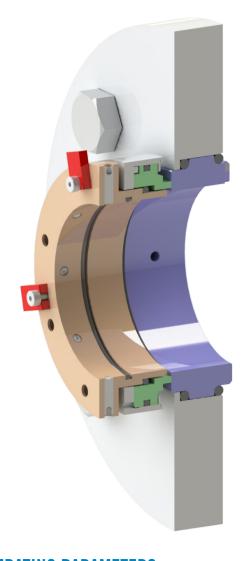
The **Style 23M** outside mounted component seal is a rugged, customizable choice designed to meet the unique sealing challenges found in top entry mixers, agitators, and reactors. The Style 23M features generous clearances to handle equipment misalignment and utilizes self-lubricating faces for reliable dry-running operation.

#### **Overview**

- · Hydraulically balanced design.
- · Cartridge-like installation with setting clips.
- Assembled and preset at the factory for straightforward installation.
- · Easy to install repair kits.

#### **Design options include**

- · Debris well / sanitary gland.
- Silicon carbide sleeve when non-metallic materials required.



## MATERIALS OF CONSTRUCTION

Faces	Proprietary dry-running carbon vs. Tungsten Carbide
Elastomers	FKM standard
Metallurgy	316 SS standard
Springs	Alloy C-276

### FDA-compliant and other materials available upon request

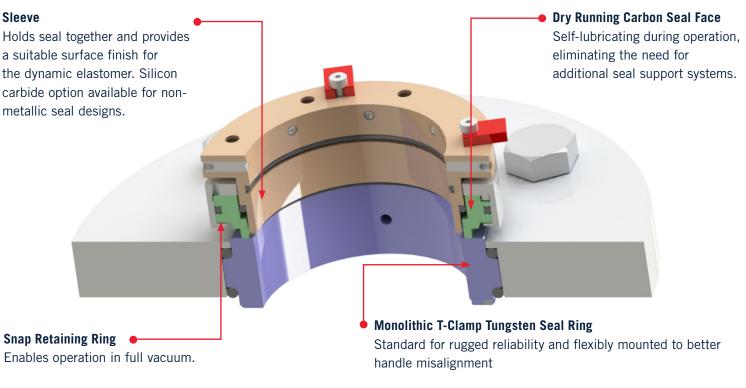
# **OPERATING PARAMETERS**

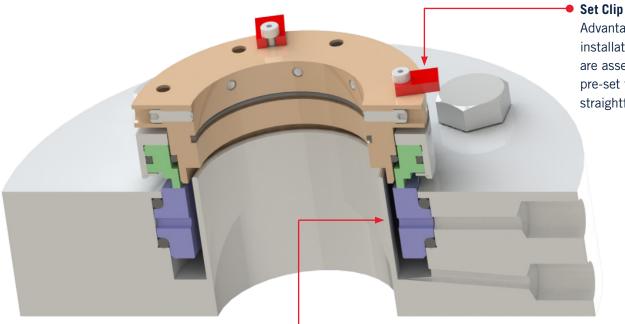
Max Temp	FFKM up to 550 °F (287.7 °C)				
Max Pressure	Full vacuum (28 inHg) up to 200 psig (13.7 bar)				
Max Speed	600 rpm				
	0.150 max. radial TIR				
Max Allowable Misalignment	0.062 max axial TIR				
	0.032 max seal chamber squareness TIR				

Maximum temperature/speed/pressure indicates operating extremes independently and does not imply the seal will function at these extremes at the same time.



# 23M FEATURES AND BENEFITS





Advantage allows for simplified installation. Seal components are assembled and factory pre-set for convenient and straightforward seal operation.

Debris Well / Sanitary Flange / Gland Plate

Prevents product contamination and permits periodic flushing of the flush and drain connections to keep the seal clean.



-16	DASH	Α	В	C	D	E	F	G
-20         1.250         2.250         2.625         1.000         0.743         1/2         3.3           -24         1.500         2.500         2.875         1.000         0.743         1/2         3.8           -28         1.750         2.750         3.125         1.125         0.808         1/2         4.0           -32         2.000         3.000         3.391         1.125         0.808         1/2         4.3           -36         2.250         3.250         3.641         1.250         0.873         5/8         4.5           -40         2.500         3.500         3.891         1.250         1.010         5/8         5.1           -44         2.750         3.750         4.141         1.250         1.010         5/8         5.4           -48         3.000         4.000         4.597         1.250         1.010         5/8         5.8           -52         3.250         4.250         4.847         1.375         1.095         5/8         6.3           -56         3.500         4.500         5.097         1.375         1.095         5/8         6.3           -60         3.750         4.750 <td>-12</td> <td>0.750</td> <td>1.750</td> <td>2.106</td> <td>0.874</td> <td>0.637</td> <td>1/2</td> <td>3.056</td>	-12	0.750	1.750	2.106	0.874	0.637	1/2	3.056
-24         1.500         2.500         2.875         1.000         0.743         1/2         3.8           -28         1.750         2.750         3.125         1.125         0.808         1/2         4.6           -32         2.000         3.000         3.391         1.125         0.808         1/2         4.3           -36         2.250         3.250         3.641         1.250         0.873         5/8         4.5           -40         2.500         3.500         3.891         1.250         1.010         5/8         5.1           -44         2.750         3.750         4.141         1.250         1.010         5/8         5.4           -48         3.000         4.000         4.597         1.250         1.010         5/8         5.8           -52         3.250         4.250         4.847         1.375         1.095         5/8         6.3           -52         3.250         4.250         5.097         1.375         1.095         5/8         6.3           -52         3.250         4.250         5.493         1.375         1.095         5/8         6.3           -60         3.750         4.750 <td>-16</td> <td>1.000</td> <td>2.000</td> <td>2.375</td> <td>1.000</td> <td>0.743</td> <td>1/2</td> <td>3.325</td>	-16	1.000	2.000	2.375	1.000	0.743	1/2	3.325
-28         1.750         2.750         3.125         1.125         0.808         1/2         4.0           -32         2.000         3.000         3.391         1.125         0.808         1/2         4.3           -36         2.250         3.250         3.641         1.250         0.873         5/8         4.5           -40         2.500         3.500         3.891         1.250         1.010         5/8         5.1           -44         2.750         3.750         4.141         1.250         1.010         5/8         5.4           -48         3.000         4.000         4.597         1.250         1.010         5/8         5.8           -52         3.250         4.250         4.847         1.375         1.095         5/8         6.3           -52         3.250         4.250         5.097         1.375         1.095         5/8         6.3           -52         3.250         4.250         5.493         1.375         1.095         5/8         6.3           -60         3.750         4.750         5.493         1.375         1.095         5/8         7.2           -64         4.000         5.000 <td>-20</td> <td>1.250</td> <td>2.250</td> <td>2.625</td> <td>1.000</td> <td>0.743</td> <td>1/2</td> <td>3.575</td>	-20	1.250	2.250	2.625	1.000	0.743	1/2	3.575
-32         2.000         3.000         3.391         1.125         0.808         1/2         4.3           -36         2.250         3.250         3.641         1.250         0.873         5/8         4.9           -40         2.500         3.500         3.891         1.250         1.010         5/8         5.1           -44         2.750         3.750         4.141         1.250         1.010         5/8         5.8           -48         3.000         4.000         4.597         1.250         1.010         5/8         5.8           -52         3.250         4.250         4.847         1.375         1.095         5/8         6.3           -56         3.500         4.500         5.097         1.375         1.095         5/8         6.3           -60         3.750         4.750         5.493         1.375         1.095         5/8         6.3           -64         4.000         5.000         5.750         1.375         1.095         5/8         7.2           -72         4.500         5.500         6.262         1.375         1.095         5/8         7.5           -76         4.750         5.750 <td>-24</td> <td>1.500</td> <td>2.500</td> <td>2.875</td> <td>1.000</td> <td>0.743</td> <td>1/2</td> <td>3.825</td>	-24	1.500	2.500	2.875	1.000	0.743	1/2	3.825
-36         2.250         3.250         3.641         1.250         0.873         5/8         4.5           -40         2.500         3.500         3.891         1.250         1.010         5/8         5.1           -44         2.750         3.750         4.141         1.250         1.010         5/8         5.4           -48         3.000         4.000         4.597         1.250         1.010         5/8         5.8           -52         3.250         4.250         4.847         1.375         1.095         5/8         6.3           -56         3.500         4.500         5.097         1.375         1.095         5/8         6.3           -60         3.750         4.750         5.493         1.375         1.095         5/8         6.3           -64         4.000         5.000         5.750         1.375         1.095         5/8         7.0           -68         4.250         5.250         6.006         1.375         1.095         5/8         7.5           -72         4.500         5.500         6.262         1.375         1.095         5/8         7.5           -80         5.000         6.000 <td>-28</td> <td>1.750</td> <td>2.750</td> <td>3.125</td> <td>1.125</td> <td>0.808</td> <td>1/2</td> <td>4.075</td>	-28	1.750	2.750	3.125	1.125	0.808	1/2	4.075
-40         2.500         3.500         3.891         1.250         1.010         5/8         5.1           -44         2.750         3.750         4.141         1.250         1.010         5/8         5.4           -48         3.000         4.000         4.597         1.250         1.010         5/8         5.8           -52         3.250         4.250         4.847         1.375         1.095         5/8         6.3           -56         3.500         4.500         5.097         1.375         1.095         5/8         6.3           -60         3.750         4.750         5.493         1.375         1.095         5/8         6.3           -64         4.000         5.000         5.750         1.375         1.095         5/8         7.2           -68         4.250         5.250         6.006         1.375         1.095         5/8         7.2           -72         4.500         5.500         6.262         1.375         1.095         5/8         7.2           -76         4.750         5.750         6.518         1.375         1.095         5/8         8.0           -80         5.000         6.000 <td>-32</td> <td>2.000</td> <td>3.000</td> <td>3.391</td> <td>1.125</td> <td>0.808</td> <td>1/2</td> <td>4.341</td>	-32	2.000	3.000	3.391	1.125	0.808	1/2	4.341
-44         2.750         3.750         4.141         1.250         1.010         5/8         5.4           -48         3.000         4.000         4.597         1.250         1.010         5/8         5.8           -52         3.250         4.250         4.847         1.375         1.095         5/8         6.3           -56         3.500         4.500         5.097         1.375         1.095         5/8         6.3           -60         3.750         4.750         5.493         1.375         1.095         5/8         6.3           -64         4.000         5.000         5.750         1.375         1.095         5/8         7.0           -68         4.250         5.250         6.006         1.375         1.095         5/8         7.2           -72         4.500         5.500         6.262         1.375         1.095         5/8         7.5           -76         4.750         5.750         6.518         1.375         1.095         5/8         8.0           -80         5.000         6.000         6.775         1.375         1.095         5/8         8.2           -84         5.250         6.250 <td>-36</td> <td>2.250</td> <td>3.250</td> <td>3.641</td> <td>1.250</td> <td>0.873</td> <td>5/8</td> <td>4.903</td>	-36	2.250	3.250	3.641	1.250	0.873	5/8	4.903
-48         3.000         4.000         4.597         1.250         1.010         5/8         5.8           -52         3.250         4.250         4.847         1.375         1.095         5/8         6.1           -56         3.500         4.500         5.097         1.375         1.095         5/8         6.3           -60         3.750         4.750         5.493         1.375         1.095         5/8         6.7           -64         4.000         5.000         5.750         1.375         1.095         5/8         7.2           -68         4.250         5.250         6.006         1.375         1.095         5/8         7.2           -72         4.500         5.500         6.262         1.375         1.095         5/8         7.5           -76         4.750         5.750         6.518         1.375         1.095         5/8         7.5           -80         5.000         6.000         6.775         1.375         1.095         5/8         8.2           -84         5.250         6.250         7.031         1.375         1.095         5/8         8.2           -88         5.500         6.500 <td>-40</td> <td>2.500</td> <td>3.500</td> <td>3.891</td> <td>1.250</td> <td>1.010</td> <td>5/8</td> <td>5.153</td>	-40	2.500	3.500	3.891	1.250	1.010	5/8	5.153
-52         3.250         4.250         4.847         1.375         1.095         5/8         6.1           -56         3.500         4.500         5.097         1.375         1.095         5/8         6.3           -60         3.750         4.750         5.493         1.375         1.095         5/8         6.7           -64         4.000         5.000         5.750         1.375         1.095         5/8         7.2           -68         4.250         5.250         6.006         1.375         1.095         5/8         7.2           -72         4.500         5.500         6.262         1.375         1.095         5/8         7.5           -76         4.750         5.750         6.518         1.375         1.095         5/8         7.5           -80         5.000         6.000         6.775         1.375         1.095         5/8         8.2           -84         5.250         6.250         7.031         1.375         1.095         5/8         8.2           -88         5.500         6.500         7.287         1.375         1.095         3/4         8.3           -92         5.750         6.750 <td>-44</td> <td>2.750</td> <td>3.750</td> <td>4.141</td> <td>1.250</td> <td>1.010</td> <td>5/8</td> <td>5.403</td>	-44	2.750	3.750	4.141	1.250	1.010	5/8	5.403
-56         3.500         4.500         5.097         1.375         1.095         5/8         6.3           -60         3.750         4.750         5.493         1.375         1.095         5/8         6.3           -64         4.000         5.000         5.750         1.375         1.095         5/8         7.0           -68         4.250         5.250         6.006         1.375         1.095         5/8         7.2           -72         4.500         5.500         6.262         1.375         1.095         5/8         7.5           -76         4.750         5.750         6.518         1.375         1.095         5/8         7.5           -80         5.000         6.000         6.775         1.375         1.095         5/8         8.0           -84         5.250         6.250         7.031         1.375         1.095         5/8         8.2           -88         5.500         6.500         7.287         1.375         1.095         3/4         8.3           -92         5.750         6.750         7.543         1.375         1.095         3/4         8.3           -96         6.000         7.000 <td>-48</td> <td>3.000</td> <td>4.000</td> <td>4.597</td> <td>1.250</td> <td>1.010</td> <td>5/8</td> <td>5.859</td>	-48	3.000	4.000	4.597	1.250	1.010	5/8	5.859
-60         3.750         4.750         5.493         1.375         1.095         5/8         6.7           -64         4.000         5.000         5.750         1.375         1.095         5/8         7.2           -68         4.250         5.250         6.006         1.375         1.095         5/8         7.2           -72         4.500         5.500         6.262         1.375         1.095         5/8         7.5           -76         4.750         5.750         6.518         1.375         1.095         5/8         7.           -80         5.000         6.000         6.775         1.375         1.095         5/8         8.0           -84         5.250         6.250         7.031         1.375         1.095         5/8         8.2           -88         5.500         6.500         7.287         1.375         1.095         3/4         8.3           -92         5.750         6.750         7.543         1.375         1.095         3/4         8.9           -96         6.000         7.000         7.800         1.375         1.095         3/4         9.5           -104         6.500         7.250 <td>-52</td> <td>3.250</td> <td>4.250</td> <td>4.847</td> <td>1.375</td> <td>1.095</td> <td>5/8</td> <td>6.109</td>	-52	3.250	4.250	4.847	1.375	1.095	5/8	6.109
-64         4.000         5.000         5.750         1.375         1.095         5/8         7.0           -68         4.250         5.250         6.006         1.375         1.095         5/8         7.2           -72         4.500         5.500         6.262         1.375         1.095         5/8         7.5           -76         4.750         5.750         6.518         1.375         1.095         5/8         7.           -80         5.000         6.000         6.775         1.375         1.095         5/8         8.0           -84         5.250         6.250         7.031         1.375         1.095         5/8         8.2           -88         5.500         6.500         7.287         1.375         1.095         3/4         8.3           -92         5.750         6.750         7.543         1.375         1.095         3/4         8.9           -96         6.000         7.000         7.800         1.375         1.095         3/4         9.5           -100         6.250         7.250         8.056         1.375         1.095         3/4         9.5           -104         6.500         7.500 <td>-56</td> <td>3.500</td> <td>4.500</td> <td>5.097</td> <td>1.375</td> <td>1.095</td> <td>5/8</td> <td>6.359</td>	-56	3.500	4.500	5.097	1.375	1.095	5/8	6.359
-68         4.250         5.250         6.006         1.375         1.095         5/8         7.2           -72         4.500         5.500         6.262         1.375         1.095         5/8         7.5           -76         4.750         5.750         6.518         1.375         1.095         5/8         7.           -80         5.000         6.000         6.775         1.375         1.095         5/8         8.2           -84         5.250         6.250         7.031         1.375         1.095         5/8         8.2           -88         5.500         6.500         7.287         1.375         1.095         3/4         8.3           -92         5.750         6.750         7.543         1.375         1.095         3/4         8.5           -96         6.000         7.000         7.800         1.375         1.095         3/4         9.5           -100         6.250         7.250         8.056         1.375         1.095         3/4         9.5           -104         6.500         7.500         8.312         1.375         1.095         3/4         9.5	-60	3.750	4.750	5.493	1.375	1.095	5/8	6.755
-72         4.500         5.500         6.262         1.375         1.095         5/8         7.5           -76         4.750         5.750         6.518         1.375         1.095         5/8         7.           -80         5.000         6.000         6.775         1.375         1.095         5/8         8.0           -84         5.250         6.250         7.031         1.375         1.095         5/8         8.2           -88         5.500         6.500         7.287         1.375         1.095         3/4         8.3           -92         5.750         6.750         7.543         1.375         1.095         3/4         8.3           -96         6.000         7.000         7.800         1.375         1.095         3/4         9.5           -100         6.250         7.250         8.056         1.375         1.095         3/4         9.5           -104         6.500         7.500         8.312         1.375         1.095         3/4         9.5	-64	4.000	5.000	5.750	1.375	1.095	5/8	7.012
-76         4.750         5.750         6.518         1.375         1.095         5/8         7.           -80         5.000         6.000         6.775         1.375         1.095         5/8         8.0           -84         5.250         6.250         7.031         1.375         1.095         5/8         8.2           -88         5.500         6.500         7.287         1.375         1.095         3/4         8.7           -92         5.750         6.750         7.543         1.375         1.095         3/4         8.9           -96         6.000         7.000         7.800         1.375         1.095         3/4         9.5           -100         6.250         7.250         8.056         1.375         1.095         3/4         9.5           -104         6.500         7.500         8.312         1.375         1.095         3/4         9.5	-68	4.250	5.250	6.006	1.375	1.095	5/8	7.268
-80         5.000         6.000         6.775         1.375         1.095         5/8         8.0           -84         5.250         6.250         7.031         1.375         1.095         5/8         8.2           -88         5.500         6.500         7.287         1.375         1.095         3/4         8.7           -92         5.750         6.750         7.543         1.375         1.095         3/4         8.9           -96         6.000         7.000         7.800         1.375         1.095         3/4         9.5           -100         6.250         7.250         8.056         1.375         1.095         3/4         9.5           -104         6.500         7.500         8.312         1.375         1.095         3/4         9.5	-72	4.500	5.500	6.262	1.375	1.095	5/8	7.524
-84         5.250         6.250         7.031         1.375         1.095         5/8         8.2           -88         5.500         6.500         7.287         1.375         1.095         3/4         8.3           -92         5.750         6.750         7.543         1.375         1.095         3/4         8.5           -96         6.000         7.000         7.800         1.375         1.095         3/4         9.5           -100         6.250         7.250         8.056         1.375         1.095         3/4         9.5           -104         6.500         7.500         8.312         1.375         1.095         3/4         9.7	-76	4.750	5.750	6.518	1.375	1.095	5/8	7.78
-88         5.500         6.500         7.287         1.375         1.095         3/4         8.7           -92         5.750         6.750         7.543         1.375         1.095         3/4         8.9           -96         6.000         7.000         7.800         1.375         1.095         3/4         9.           -100         6.250         7.250         8.056         1.375         1.095         3/4         9.5           -104         6.500         7.500         8.312         1.375         1.095         3/4         9.7	-80	5.000	6.000	6.775	1.375	1.095	5/8	8.037
-92     5.750     6.750     7.543     1.375     1.095     3/4     8.5       -96     6.000     7.000     7.800     1.375     1.095     3/4     9.       -100     6.250     7.250     8.056     1.375     1.095     3/4     9.5       -104     6.500     7.500     8.312     1.375     1.095     3/4     9.7	-84	5.250	6.250	7.031	1.375	1.095	5/8	8.293
-96         6.000         7.000         7.800         1.375         1.095         3/4         9.           -100         6.250         7.250         8.056         1.375         1.095         3/4         9.5           -104         6.500         7.500         8.312         1.375         1.095         3/4         9.7	-88	5.500	6.500	7.287	1.375	1.095	3/4	8.737
-100 6.250 7.250 8.056 1.375 1.095 3/4 9.5 -104 6.500 7.500 8.312 1.375 1.095 3/4 9.7	-92	5.750	6.750	7.543	1.375	1.095	3/4	8.993
-104 6.500 7.500 8.312 1.375 1.095 3/4 9.7	-96	6.000	7.000	7.800	1.375	1.095	3/4	9.25
	-100	6.250	7.250	8.056	1.375	1.095	3/4	9.506
-108 6.750 7.750 8.568 1.375 1.095 3/4 10.	-104	6.500	7.500	8.312	1.375	1.095	3/4	9.762
	-108	6.750	7.750	8.568	1.375	1.095	3/4	10.018
-112 7.000 8.000 8.825 1.375 1.095 3/4 10.	-112	7.000	8.000	8.825	1.375	1.095	3/4	10.275

For seals with the debris well option refer to dimensions for a  $\frac{1}{2}$ " larger shaft size.

