

# PFEIFER INDUSTRIES, LLC.

2180 Corporate Lane, Suite 104 ~ Naperville, IL 60563 USA

Phone (630) 596-9000 Fax (630) 596-9002

E-mail: info@pfeiferindustries.com Web site: www.pfeiferindustries.com

## 1/5" (0.200") PITCH - XL

### Pitch Diameter (PD) Calculation

$$PD = (\text{Pitch} \times \text{Number of Teeth}) / \pi$$

**Variables:**

Pitch 0.200 inch  
 Number of teeth 22 Teeth  
 Pi ( $\pi$ ) 3.14159265 Pi

**Result:**

PD (Pitch Diameter) = 1.401 inches

### Outside Diameter (O.D.) Calculation

$$O.D. = [(\text{Pitch} \times \text{Number of Teeth}) / \pi] - (2 \times \text{Distance from belt pitch line to belt tooth bottom})$$

**Variables:**

Pitch 0.200 inch  
 Number of teeth 22 Teeth  
 Pi ( $\pi$ ) 3.14159265 Pi  
 Distance from belt pitch line to belt tooth bottom 0.01 inches

**Result:**

O.D. (Outside Diameter) 1.381 inches

Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
10	0.637	0.617	16.17	15.66
11	0.700	0.680	17.79	17.28
12	0.764	0.744	19.40	18.90
13	0.828	0.808	21.02	20.51
14	0.891	0.871	22.64	22.13
15	0.955	0.935	24.26	23.75
16	1.019	0.999	25.87	25.36
17	1.082	1.062	27.49	26.98
18	1.146	1.126	29.11	28.60
19	1.210	1.190	30.72	30.22
20	1.273	1.253	32.34	31.83
21	1.337	1.317	33.96	33.45
22	1.401	1.381	35.57	35.07
23	1.464	1.444	37.19	36.68
24	1.528	1.508	38.81	38.30
25	1.592	1.572	40.43	39.92
26	1.655	1.635	42.04	41.53
27	1.719	1.699	43.66	43.15
28	1.783	1.763	45.28	44.77
29	1.846	1.826	46.89	46.39
30	1.910	1.890	48.51	48.00
31	1.974	1.954	50.13	49.62
32	2.037	2.017	51.74	51.24
33	2.101	2.081	53.36	52.85
34	2.165	2.145	54.98	54.47
35	2.228	2.208	56.60	56.09
36	2.292	2.272	58.21	57.70
37	2.355	2.335	59.83	59.32
38	2.419	2.399	61.45	60.94
39	2.483	2.463	63.06	62.56
40	2.546	2.526	64.68	64.17
41	2.610	2.590	66.30	65.79
42	2.674	2.654	67.91	67.41
43	2.737	2.717	69.53	69.02
44	2.801	2.781	71.15	70.64
45	2.865	2.845	72.77	72.26

Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
46	2.928	2.908	74.38	73.87
47	2.992	2.972	76.00	75.49
48	3.056	3.036	77.62	77.11
49	3.119	3.099	79.23	78.73
50	3.183	3.163	80.85	80.34
51	3.247	3.227	82.47	81.96
52	3.310	3.290	84.08	83.58
53	3.374	3.354	85.70	85.19
54	3.438	3.418	87.32	86.81
55	3.501	3.481	88.94	88.43
56	3.565	3.545	90.55	90.04
57	3.629	3.609	92.17	91.66
58	3.692	3.672	93.79	93.28
59	3.756	3.736	95.40	94.90
60	3.820	3.800	97.02	96.51
61	3.883	3.863	98.64	98.13
62	3.947	3.927	100.25	99.75
63	4.011	3.991	101.87	101.36
64	4.074	4.054	103.49	102.98
65	4.138	4.118	105.11	104.60
66	4.202	4.182	106.72	106.21
67	4.265	4.245	108.34	107.83
68	4.329	4.309	109.96	109.45
69	4.393	4.373	111.57	111.07
70	4.456	4.436	113.19	112.68
71	4.520	4.500	114.81	114.30
72	4.584	4.564	116.43	115.92
73	4.647	4.627	118.04	117.53
74	4.711	4.691	119.66	119.15
75	4.775	4.755	121.28	120.77
76	4.838	4.818	122.89	122.39
77	4.902	4.882	124.51	124.00
78	4.966	4.946	126.13	125.62
79	5.029	5.009	127.74	127.24
80	5.093	5.073	129.36	128.85
81	5.157	5.137	130.98	130.47

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### Outside Diameter (O.D.) Calculation

$$O.D. = [(\text{Pitch} \times \text{Number of Teeth}) / \pi] - (2 \times \text{Distance from belt pitch line to belt tooth bottom})$$

**Variables:**

Pitch 0.200 inch  
 Number of teeth 22 Teeth  
 Pi ( $\pi$ ) 3.14159265 Pi  
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**Result:**

O.D. (Outside Diameter) 1.381 inches

Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
82	5.220	5.200	132.60	132.09
83	5.284	5.264	134.21	133.70
84	5.348	5.328	135.83	135.32
85	5.411	5.391	137.45	136.94
86	5.475	5.455	139.06	138.56
87	5.539	5.519	140.68	140.17
88	5.602	5.582	142.30	141.79
89	5.666	5.646	143.91	143.41
90	5.730	5.710	145.53	145.02
91	5.793	5.773	147.15	146.64
92	5.857	5.837	148.77	148.26
93	5.921	5.901	150.38	149.87
94	5.984	5.964	152.00	151.49
95	6.048	6.028	153.62	153.11
96	6.112	6.092	155.23	154.73
97	6.175	6.155	156.85	156.34
98	6.239	6.219	158.47	157.96
99	6.303	6.283	160.08	159.58
100	6.366	6.346	161.70	161.19
101	6.430	6.410	163.32	162.81
102	6.494	6.474	164.94	164.43
103	6.557	6.537	166.55	166.04
104	6.621	6.601	168.17	167.66
105	6.685	6.665	169.79	169.28
106	6.748	6.728	171.40	170.90
107	6.812	6.792	173.02	172.51
108	6.875	6.855	174.64	174.13
109	6.939	6.919	176.25	175.75
110	7.003	6.983	177.87	177.36
111	7.066	7.046	179.49	178.98
112	7.130	7.110	181.11	180.60
113	7.194	7.174	182.72	182.21
114	7.257	7.237	184.34	183.83
115	7.321	7.301	185.96	185.45
116	7.385	7.365	187.57	187.07
117	7.448	7.428	189.19	188.68

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118	7.512	7.492	190.81	190.30
119	7.576	7.556	192.42	191.92
120	7.639	7.619	194.04	193.53
121	7.703	7.683	195.66	195.15
122	7.767	7.747	197.28	196.77
123	7.830	7.810	198.89	198.38
124	7.894	7.874	200.51	200.00
125	7.958	7.938	202.13	201.62
126	8.021	8.001	203.74	203.24
127	8.085	8.065	205.36	204.85
128	8.149	8.129	206.98	206.47
129	8.212	8.192	208.59	208.09
130	8.276	8.256	210.21	209.70
131	8.340	8.320	211.83	211.32
132	8.403	8.383	213.45	212.94
133	8.467	8.447	215.06	214.55
134	8.531	8.511	216.68	216.17
135	8.594	8.574	218.30	217.79
136	8.658	8.638	219.91	219.41
137	8.722	8.702	221.53	221.02
138	8.785	8.765	223.15	222.64
139	8.849	8.829	224.77	224.26
140	8.913	8.893	226.38	225.87
141	8.976	8.956	228.00	227.49
142	9.040	9.020	229.62	229.11
143	9.104	9.084	231.23	230.73
144	9.167	9.147	232.85	232.34
145	9.231	9.211	234.47	233.96
146	9.295	9.275	236.08	235.58
147	9.358	9.338	237.70	237.19
148	9.422	9.402	239.32	238.81
149	9.486	9.466	240.94	240.43
150	9.549	9.529	242.55	242.04
151	9.613	9.593	244.17	243.66
152	9.677	9.657	245.79	245.28
153	9.740	9.720	247.40	246.90

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Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
154	9.804	9.784	249.02	248.51
155	9.868	9.848	250.64	250.13
156	9.931	9.911	252.25	251.75
157	9.995	9.975	253.87	253.36
158	10.059	10.039	255.49	254.98
159	10.122	10.102	257.11	256.60
160	10.186	10.166	258.72	258.21
161	10.250	10.230	260.34	259.83
162	10.313	10.293	261.96	261.45
163	10.377	10.357	263.57	263.07
164	10.441	10.421	265.19	264.68
165	10.504	10.484	266.81	266.30
166	10.568	10.548	268.42	267.92
167	10.632	10.612	270.04	269.53
168	10.695	10.675	271.66	271.15
169	10.759	10.739	273.28	272.77
170	10.823	10.803	274.89	274.38
171	10.886	10.866	276.51	276.00
172	10.950	10.930	278.13	277.62
173	11.014	10.994	279.74	279.24
174	11.077	11.057	281.36	280.85
175	11.141	11.121	282.98	282.47
176	11.205	11.185	284.59	284.09
177	11.268	11.248	286.21	285.70
178	11.332	11.312	287.83	287.32
179	11.395	11.375	289.45	288.94
180	11.459	11.439	291.06	290.55
181	11.523	11.503	292.68	292.17
182	11.586	11.566	294.30	293.79
183	11.650	11.630	295.91	295.41
184	11.714	11.694	297.53	297.02
185	11.777	11.757	299.15	298.64
186	11.841	11.821	300.76	300.26
187	11.905	11.885	302.38	301.87
188	11.968	11.948	304.00	303.49
189	12.032	12.012	305.62	305.11

Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
190	12.096	12.076	307.23	306.72
191	12.159	12.139	308.85	308.34
192	12.223	12.203	310.47	309.96
193	12.287	12.267	312.08	311.58
194	12.350	12.330	313.70	313.19
195	12.414	12.394	315.32	314.81
196	12.478	12.458	316.93	316.43
197	12.541	12.521	318.55	318.04
198	12.605	12.585	320.17	319.66
199	12.669	12.649	321.79	321.28
200	12.732	12.712	323.40	322.89
201	12.796	12.776	325.02	324.51
202	12.860	12.840	326.64	326.13
203	12.923	12.903	328.25	327.75
204	12.987	12.967	329.87	329.36
205	13.051	13.031	331.49	330.98
206	13.114	13.094	333.11	332.60
207	13.178	13.158	334.72	334.21
208	13.242	13.222	336.34	335.83
209	13.305	13.285	337.96	337.45
210	13.369	13.349	339.57	339.07
211	13.433	13.413	341.19	340.68
212	13.496	13.476	342.81	342.30
213	13.560	13.540	344.42	343.92
214	13.624	13.604	346.04	345.53
215	13.687	13.667	347.66	347.15
216	13.751	13.731	349.28	348.77
217	13.815	13.795	350.89	350.38
218	13.878	13.858	352.51	352.00
219	13.942	13.922	354.13	353.62
220	14.006	13.986	355.74	355.24
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