

PFEIFER INDUSTRIES, LLC.

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

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5mm PITCH - HTD / POWERGRIP GT / GT2

Pitch Diameter (PD) Calculation

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

Variables:

Pitch 5 mm
 Number of teeth 16 Teeth
 Pi (π) 3.14159265 Pi

Result:

PD (Pitch Diameter) = **1.003** 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 5 mm
 Number of teeth 16 Teeth
 Pi (π) 3.14159265 Pi
 Distance from belt pitch line to belt tooth bottom 0.0225 inches

Result:

O.D. (Outside Diameter) **0.958** inches

Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
14				
15				
16	1.003	0.958	25.465	24.32
17	1.065	1.020	27.056	25.91
18	1.128	1.083	28.65	27.50
19	1.191	1.146	30.24	29.10
20	1.253	1.208	31.83	30.69
21	1.316	1.271	33.42	32.28
22	1.379	1.334	35.01	33.87
23	1.441	1.396	36.61	35.46
24	1.504	1.459	38.20	37.05
25	1.566	1.521	39.79	38.65
26	1.629	1.584	41.38	40.24
27	1.692	1.647	42.97	41.83
28	1.754	1.709	44.56	43.42
29	1.817	1.772	46.15	45.01
30	1.880	1.835	47.75	46.60
31	1.942	1.897	49.34	48.20
32	2.005	1.960	50.93	49.79
33	2.068	2.023	52.52	51.38
34	2.130	2.085	54.11	52.97
35	2.193	2.148	55.70	54.56
36	2.256	2.211	57.30	56.15
37	2.318	2.273	58.89	57.74
38	2.381	2.336	60.48	59.34
39	2.444	2.399	62.07	60.93
40	2.506	2.461	63.66	62.52
41	2.569	2.524	65.25	64.11
42	2.632	2.587	66.85	65.70
43	2.694	2.649	68.44	67.29
44	2.757	2.712	70.03	68.89
45	2.820	2.775	71.62	70.48
46	2.882	2.837	73.21	72.07
47	2.945	2.900	74.80	73.66
48	3.008	2.963	76.39	75.25
49	3.070	3.025	77.99	76.84

Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
50	3.133	3.088	79.58	78.43
51	3.196	3.151	81.17	80.03
52	3.258	3.213	82.76	81.62
53	3.321	3.276	84.35	83.21
54	3.384	3.339	85.94	84.80
55	3.446	3.401	87.54	86.39
56	3.509	3.464	89.13	87.98
57	3.572	3.527	90.72	89.58
58	3.634	3.589	92.31	91.17
59	3.697	3.652	93.90	92.76
60	3.760	3.715	95.49	94.35
61	3.822	3.777	97.08	95.94
62	3.885	3.840	98.68	97.53
63	3.948	3.903	100.27	99.12
64	4.010	3.965	101.86	100.72
65	4.073	4.028	103.45	102.31
66	4.136	4.091	105.04	103.90
67	4.198	4.153	106.63	105.49
68	4.261	4.216	108.23	107.08
69	4.323	4.278	109.82	108.67
70	4.386	4.341	111.41	110.27
71	4.449	4.404	113.00	111.86
72	4.511	4.466	114.59	113.45
73	4.574	4.529	116.18	115.04
74	4.637	4.592	117.77	116.63
75	4.699	4.654	119.37	118.22
76	4.762	4.717	120.96	119.81
77	4.825	4.780	122.55	121.41
78	4.887	4.842	124.14	123.00
79	4.950	4.905	125.73	124.59
80	5.013	4.968	127.32	126.18
81	5.075	5.030	128.92	127.77
82	5.138	5.093	130.51	129.36
83	5.201	5.156	132.10	130.96
84	5.263	5.218	133.69	132.55
85	5.326	5.281	135.28	134.14

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5mm PITCH - HTD / POWERGRIP GT / GT2

Pitch Diameter (PD) Calculation	
PD = (Pitch x Number of Teeth) / π	
Variables:	
Pitch	<u>5</u> mm
Number of teeth	<u>16</u> Teeth
Pi (π)	<u>3.14159265</u> Pi
Result:	
PD (Pitch Diameter) =	1.003 inches

Outside Diameter (O.D.) Calculation	
O.D. = [(Pitch x Number of Teeth) / π] - (2 x Distance from belt pitch line to belt tooth bottom)	
Variables:	
Pitch	<u>5</u> mm
Number of teeth	<u>16</u> Teeth
Pi (π)	<u>3.14159265</u> Pi
Distance from belt pitch line to belt tooth bottom	<u>0.0225</u> inches
Result:	
O.D. (Outside Diameter)	0.958 inches

Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
86	5.389	5.344	136.87	135.73
87	5.451	5.406	138.46	137.32
88	5.514	5.469	140.06	138.91
89	5.577	5.532	141.65	140.50
90	5.639	5.594	143.24	142.10
91	5.702	5.657	144.83	143.69
92	5.765	5.720	146.42	145.28
93	5.827	5.782	148.01	146.87
94	5.890	5.845	149.61	148.46
95	5.953	5.908	151.20	150.05
96	6.015	5.970	152.79	151.65
97	6.078	6.033	154.38	153.24
98	6.141	6.096	155.97	154.83
99	6.203	6.158	157.56	156.42
100	6.266	6.221	159.15	158.01
101	6.329	6.284	160.75	159.60
102	6.391	6.346	162.34	161.20
103	6.454	6.409	163.93	162.79
104	6.517	6.472	165.52	164.38
105	6.579	6.534	167.11	165.97
106	6.642	6.597	168.70	167.56
107	6.705	6.660	170.30	169.15
108	6.767	6.722	171.89	170.74
109	6.830	6.785	173.48	172.34
110	6.893	6.848	175.07	173.93
111	6.955	6.910	176.66	175.52
112	7.018	6.973	178.25	177.11
113	7.080	7.035	179.85	178.70
114	7.143	7.098	181.44	180.29
115	7.206	7.161	183.03	181.89
116	7.268	7.223	184.62	183.48
117	7.331	7.286	186.21	185.07
118	7.394	7.349	187.80	186.66
119	7.456	7.411	189.39	188.25
120	7.519	7.474	190.99	189.84
121	7.582	7.537	192.58	191.43

Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
122	7.644	7.599	194.17	193.03
123	7.707	7.662	195.76	194.62
124	7.770	7.725	197.35	196.21
125	7.832	7.787	198.94	197.80
126	7.895	7.850	200.54	199.39
127	7.958	7.913	202.13	200.98
128	8.020	7.975	203.72	202.58
129	8.083	8.038	205.31	204.17
130	8.146	8.101	206.90	205.76
131	8.208	8.163	208.49	207.35
132	8.271	8.226	210.08	208.94
133	8.334	8.289	211.68	210.53
134	8.396	8.351	213.27	212.12
135	8.459	8.414	214.86	213.72
136	8.522	8.477	216.45	215.31
137	8.584	8.539	218.04	216.90
138	8.647	8.602	219.63	218.49
139	8.710	8.665	221.23	220.08
140	8.772	8.727	222.82	221.67
141	8.835	8.790	224.41	223.27
142	8.898	8.853	226.00	224.86
143	8.960	8.915	227.59	226.45
144	9.023	8.978	229.18	228.04
145	9.086	9.041	230.77	229.63
146	9.148	9.103	232.37	231.22
147	9.211	9.166	233.96	232.81
148	9.274	9.229	235.55	234.41
149	9.336	9.291	237.14	236.00
150	9.399	9.354	238.73	237.59
151	9.462	9.417	240.32	239.18
152	9.524	9.479	241.92	240.77
153	9.587	9.542	243.51	242.36
154	9.650	9.605	245.10	243.96
155	9.712	9.667	246.69	245.55
156	9.775	9.730	248.28	247.14
157	9.837	9.792	249.87	248.73

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Result:

O.D. (Outside Diameter) **0.958** inches

Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
158	9.900	9.855	251.46	250.32
159	9.963	9.918	253.06	251.91
160	10.025	9.980	254.65	253.50
161	10.088	10.043	256.24	255.10
162	10.151	10.106	257.83	256.69
163	10.213	10.168	259.42	258.28
164	10.276	10.231	261.01	259.87
165	10.339	10.294	262.61	261.46
166	10.401	10.356	264.20	263.05
167	10.464	10.419	265.79	264.65
168	10.527	10.482	267.38	266.24
169	10.589	10.544	268.97	267.83
170	10.652	10.607	270.56	269.42
171	10.715	10.670	272.15	271.01
172	10.777	10.732	273.75	272.60
173	10.840	10.795	275.34	274.20
174	10.903	10.858	276.93	275.79
175	10.965	10.920	278.52	277.38
176	11.028	10.983	280.11	278.97
177	11.091	11.046	281.70	280.56
178	11.153	11.108	283.30	282.15
179	11.216	11.171	284.89	283.74
180	11.279	11.234	286.48	285.34
181	11.341	11.296	288.07	286.93
182	11.404	11.359	289.66	288.52
183	11.467	11.422	291.25	290.11
184	11.529	11.484	292.85	291.70
185	11.592	11.547	294.44	293.29
186	11.655	11.610	296.03	294.89
187	11.717	11.672	297.62	296.48
188	11.780	11.735	299.21	298.07
189	11.843	11.798	300.80	299.66
190	11.905	11.860	302.39	301.25
191	11.968	11.923	303.99	302.84
192	12.031	11.986	305.58	304.43
193	12.093	12.048	307.17	306.03

Number of Teeth	Inches (in)		Metric (mm)	
	Pitch Diameter (PD)	Outside Diameter (O.D.)	Pitch Diameter (PD)	Outside Diameter (O.D.)
194	12.156	12.111	308.76	307.62
195	12.219	12.174	310.35	309.21
196	12.281	12.236	311.94	310.80
197	12.344	12.299	313.54	312.39
198	12.407	12.362	315.13	313.98
199	12.469	12.424	316.72	315.58
200	12.532	12.487	318.31	317.17
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