

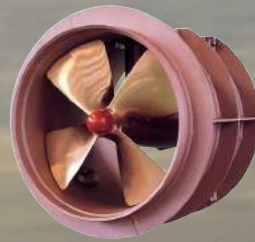
# Commercial Propellers



**NAKASHIMA**  
Controllable Pitch



**NAKASHIMA**  
Fixed Pitch



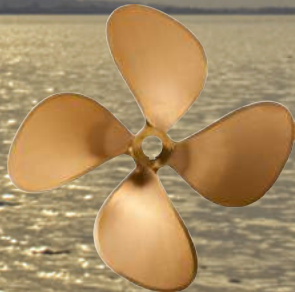
**NAKASHIMA**  
TFN Thruster



**NAKASHIMA**  
TCT Thruster



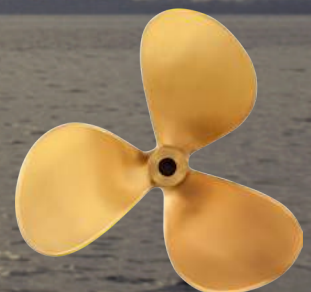
DQ Special



Dura-Quad



Kaplan



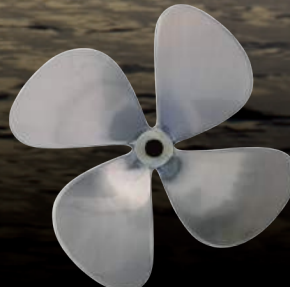
MP-3



Machine Pitch



Maxima



Pac-Master



Trawler



Work Horse



Work Horse 5



Weedless

# WORK HORSE & MACHINE PITCH

## Specifications

MACHINE PITCH	
Blades	3
Diameter 9" - 60"	E.A.R. 0.51
Diameter 62" - 96"	E.A.R. 0.47

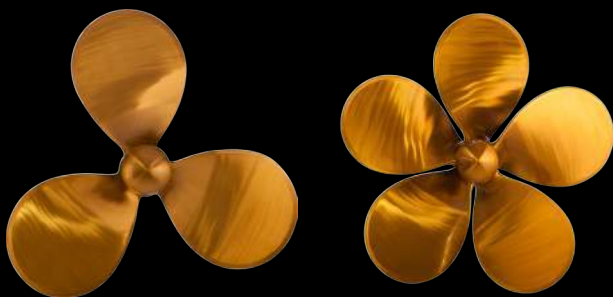
WORK HORSE	
Blades	4
Diameter 18" - 60"	E.A.R. 0.71
Diameter 62" - 96"	E.A.R. 0.62

WORK HORSE 5	
Blades	5
E.A.R.	0.89

### Who Should Buy "Work Horse" Series Propellers?

The Michigan Wheel Work Horse and Machine Pitch propellers are the best known commercial boat propellers in the world. Available in 3, 4, and 5 blade models to cover a wide range of commercial vessels. Non-standard blade areas available by request.

The blade design of Work Horse and Machine Pitch Propellers offers durability as well as performance for workboats that need to maximize bollard thrust when pushing and pulling. High quality materials make repairs by your local prop shop easier and help get your vessel back on the water faster. Commercial mariners trust Work Horse and Machine Pitch propellers to get the job done every day.



### Commercial Applications

Unsure if this is the right propeller for you? Contact your local Michigan Wheel Distributor, or the Michigan Wheel team to review your application.

*Excellence in Propulsion*



MACHINE PITCH & WORK HORSE SPECIFICATIONS										MACHINE PITCH		WORK HORSE		WORK HORSE 5	
DIAMETER		HUB DIMENSIONS (INCHES)			STANDARD TAPER BORE (INCHES)			MAXIMUM BLADE WIDTH (INCHES)	EXPANDED AREA PER BLADE (SQ.IN)	APPROX. NET WEIGHT (LBS.)	*WR <sup>2</sup> (LBS.-IN <sup>2</sup> )	APPROX. NET WEIGHT (LBS.)	*WR <sup>2</sup> (LBS.-IN <sup>2</sup> )	APPROX. NET WEIGHT (LBS.)	*WR <sup>2</sup> (LBS.-IN <sup>2</sup> )
INCHES	MM	AFT END	FORWARD END	LENGTH	MINIMUM BORE	MAXIMUM BORE	PILOT BORE								
9	229	1-5/16	1-7/16	2-1/8	3/4	3/4	3/4	3-7/8	11.8	2.5	13	-	-	-	-
10	254	1-7/16	1-5/8	2-1/8	3/4	7/8	3/4	4-5/16	14.5	3.5	21	-	-	-	-
11	279	1-7/16	1-5/8	2-1/8	3/4	7/8	3/4	4-5/8	17.6	4	34	-	-	-	-
12	305	1-9/16	1-3/4	2-5/8	7/8	1-1/8	7/8	5-1/16	20.9	5	50	-	-	-	-
13	330	1-9/16	1-3/4	2-3/4	1	1-1/8	1	4-15/16	22.7	6	65	-	-	-	-
14	356	1-3/4	2	3	1	1-1/8	1	5-5/16	26.4	8	90	-	-	-	-
15	381	1-3/4	2	3	1	1-1/8	1	5-5/8	30.3	9	120	-	-	-	-
16	406	1-15/16	2-3/16	3-3/8	1-1/8	1-1/4	1-1/8	6-15/16	34.5	11	160	-	-	-	-
17	432	2	2-5/16	3-3/8	1-1/8	1-3/8	1-1/8	6-7/16	38.9	12	210	-	-	-	-
18	457	2	2-5/16	3-3/8	1-1/8	1-3/8	1-1/8	6-7/8	43.6	14	280	17	370	-	-
19	483	2-1/8	2-7/16	3-3/4	1-1/4	1-3/8	1-1/4	7-1/4	48.6	16	350	20	480	-	-
20	508	2-1/8	2-7/16	3-3/4	1-1/4	1-3/8	1-1/4	7-1/2	53.8	18	470	23	630	-	-
21	533	2-7/16	2-13/16	4-1/8	1-3/8	1-1/2	1-3/8	8	59.4	22	590	28	790	-	-
22	559	2-7/16	2-13/16	4-1/8	1-3/8	1-1/2	1-3/8	8-3/8	65.1	25	760	32	1,020	-	-
23	584	2-13/16	3-3/16	4-1/2	1-1/2	1-3/4	1-1/2	8-7/8	71.2	30	940	38	1,250	-	-
24	610	2-13/16	3-3/16	4-1/2	1-1/2	1-3/4	1-1/2	9-1/8	77.5	33	1,140	41	1,510	-	-
26	660	3-3/16	3-5/8	5-1/4	1-3/4	2	1-3/4	9-7/8	91	44	1,710	54	2,280	-	-
28	711	3-1/2	4	5-1/4	1-3/4	2-1/4	1-3/4	10-5/8	105.5	55	2,490	68	3,320	-	-
30	762	3-13/16	4-3/8	6	2	2-1/2	2	11-3/8	124.7	70	3,460	87	4,590	108	6,100
32	813	4-1/4	4-13/16	6	2	3	2	12-3/16	141.8	97	5,960	121	7,920	150	10,526
34	864	4-7/16	5-1/16	6-3/4	2-1/4	3-1/4	2-1/4	12-7/8	160.1	114	7,810	142	10,380	177	13,795
36	914	4-3/4	5-1/2	7	2-1/2	3-1/2	2-1/2	13-5/8	179.5	136	10,350	170	13,750	211	18,274
38	965	5-1/16	5-13/16	7-1/4	2-1/2	3-3/4	2-1/2	14-7/16	200	159	13,200	198	17,540	246	23,311
40	1,016	5-1/16	5-13/16	7-3/4	2-3/4	3-3/4	2-3/4	15-3/16	221.6	177	16,600	221	22,070	275	29,331
42	1,067	5-1/4	6	8	2-3/4	3-3/4	2-3/4	15-15/16	244.3	211	22,620	265	30,090	329	39,990
44	1,118	5-1/4	6	8	2-3/4	3-3/4	2-3/4	16-3/4	268.1	232	27,820	293	37,010	364	49,186
46	1,168	6	6-3/4	10	3	4	3	17-7/16	293.1	285	34,170	354	45,400	440	60,337
48	1,219	6	6-3/4	10	3	4	3	18-1/4	319.1	309	41,290	386	54,900	480	72,962
50	1,270	6-9/16	7-3/8	10-3/4	3	4-1/2	3	19	346.2	362	49,820	447	66,190	556	87,967
52	1,320	6-9/16	7-3/8	10-3/4	3	4-1/2	3	19-3/4	374.5	390	59,370	485	78,900	603	104,858
54	1,371	6-9/16	7-3/8	10-3/4	3	4-1/2	3	20-1/2	408.8	420	70,320	526	93,510	654	124,275
56	1,422	7-5/8	8-3/8	11-1/2	3-1/4	5	3-1/4	21-1/4	434.3	498	83,470	615	110,830	764	147,293
58	1,473	7-5/8	8-3/8	11-1/2	3-1/4	5	3-1/4	21-7/8	465.9	533	97,700	661	129,810	822	172,517
60	1,524	7-5/8	8-3/8	12	3-1/2	5	3-1/2	22-3/4	498.6	572	113,880	713	151,360	886	201,157
62	1,575	9	10	13-1/4	4	6	4	22-1/2	492.8	737	143,870	902	190,790	-	-
64	1,625	9	10	13-1/4	4	6	4	23-1/8	525.1	781	165,830	961	220,060	-	-
66	1,676	9	10	13-1/4	4	6	4	23-15/16	558.4	828	190,420	1,024	252,850	-	-
68	1,727	10-1/2	11-3/4	14-1/2	5	7	5	24-5/8	592.8	987	221,140	1,199	292,710	-	-
70	1,778	10-1/2	11-3/4	14-1/2	5	7	5	25-3/8	628.1	1,039	251,690	1,269	333,450	-	-
72	1,823	10-1/2	11-3/4	14-1/2	5	7	5	26-1/8	664.5	1,094	285,590	1,342	378,650	-	-
74	1,879	10-1/2	11-3/4	14-1/2	6	7	6	26-7/8	702	1,159	340,800	1,436	452,320	-	-
76	1,930	10-1/2	11-3/4	14-1/2	6	7	6	27-9/16	740.4	1,228	388,680	1,529	516,160	-	-
78	1,981	10-1/2	11-3/4	14-1/2	6	7	6	28-1/4	779.9	1,301	441,530	1,626	586,630	-	-
80	2,032	11-1/8	12-1/2	17	6	7-1/2	6	29	820.4	1,493	503,610	1,844	668,350	-	-
82	2,083	11-1/8	12-1/2	17	6	7-1/2	6	29-3/4	862	1,574	568,320	1,952	754,640	-	-
84	2,134	11-1/8	12-1/2	17	6	7-1/2	6	30-7/16	904.5	1,659	639,650	2,064	849,740	-	-
86	2,184	11-1/8	12-1/2	17	6	7-1/2	6	31-3/16	948.1	1,748	718,600	2,183	955,010	-	-
88	2,235	11-1/8	12-1/2	17	6	7-1/2	6	31-15/16	992.7	1,842	805,280	2,308	1,070,600	-	-
90	2,286	11-7/8	13-1/4	18-1/4	6	8	6	32-5/8	1,038.3	2,048	903,200	2,547	1,199,900	-	-
92	2,337	11-7/8	13-1/4	18-1/4	6	8	6	33-3/8	1,085.0	2,150	1,003,950	2,683	1,338,260	-	-
94	2,388	11-7/8	13-1/4	18-1/4	6	8	6	34-1/16	1,132.7	2,256	1,119,400	2,825	1,488,200	-	-
96	2,438	11-7/8	13-1/4	18-1/4	6	8	6	34-13/16	1,181.4	2,263	1,238,750	2,869	1,648,600	-	-