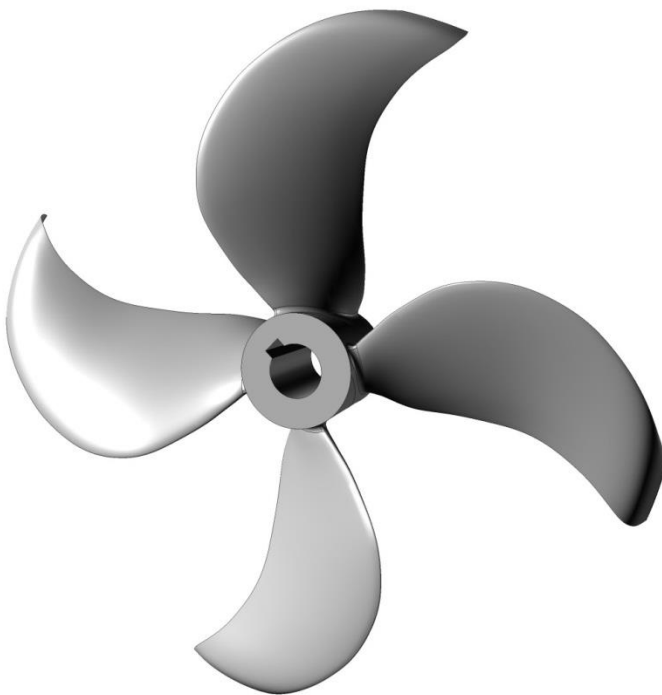# Geometry: Unconventional propeller (Tip Rake Propeller)

The main data of the propeller geometry is given for the scale ratios $\lambda = 31.428$ and $\lambda = 1$:

Scale ratio	λ	[-]	31.428	1
Propeller diameter	D	[mm]	238.6407	7500.0000
Pitch at $r/R = 0.70$	$P_{0.7}$	[mm]	200.6109	6304.7994
Pitch at $r/R = 0.75$	$P_{0.75}$	[mm]	191.0150	6003.2194
Mean pitch	P_{mean}	[mm]	195.4697	6143.2217
Chord length at $r/R = 0.70$	$C_{0.7}$	[mm]	56.3980	1772.4763
Chord length at $r/R = 0.75$	$C_{0.75}$	[mm]	55.6172	1747.9374
Thickness at $r/R = 0.75$	$t_{0.75}$	[mm]	2.9329	92.1752
Pitch ratio	$P_{0.7}/D$	[-]	0.8406	
Mean pitch ratio	P_{mean}/D	[-]	0.8191	
Area ratio	A_E/A_0	[-]	0.4438	
Skew	θ_{eff}	[°]	25.6812	
Rake at $r/R = 0.70$	$\varepsilon_{0.7}$	[°]	-8.9852	
Rake at $r/R = 0.75$	$\varepsilon_{0.75}$	[°]	-8.8422	
Hub diameter ratio	d_h/D	[-]	0.1542	
Number of blades	z	[-]	4	
Direction of rotation			right-handed	

The propeller is a fixed pitch propeller.

Pictures of the geometry are given below.

Suction side   Pressure side