

# 1 프로펠러 설계 및 모델링 DB 항목

유저 직접입력 항목

Input Contents	Example	Type
프로펠러 이름	KP1711	String
날개수	4	Value
사용단면	NACA 66 mod	String
사용단면 파일 유무	O, X	String
회전방향	Right, Left	String
Power Ratio	5:5, 4:6	String
스케일 비율	42.063	Value
Offset 파일 유무	O, X	Value

Input Contents	Example	Type
Density	998.05	Value
Viscosity	0.00015	Value
After RPS	15	Value
Forward RPS	20	Value
RPS Ratio (After RPS / Forward RPS)	0.75 (15/20)	Value
Reynolds Number (Density x Velocity x Diameter / Viscosity)	0.000011	Value



설계 및 모델링 Table과 성능해석 Table이 분리되어 보이는  
경우 위 Table이 성능해석에도 반복이 필요합니다.

## 파일 업로드 항목 (총 7개)

CRP\_After\_2009

```
4 1 11 0
42.063790.000 0.200 0.699 1.078
160.000158.000158.000 20.000 57.500 75.000
0.200 0.250 0.300 0.400 0.500 0.600 0.700 0.800 0.900 0.950 1.000
396.738489.089572.829714.555821.679894.438932.710936.545905.814877.611840.718
0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000
-0.148 -3.302 -5.990 -7.976 -6.301 -2.368 2.345 7.564 12.861 15.473 18.235
205.640222.540238.580267.650291.670309.130316.950309.360270.970222.700 0.000
0.000 7.051 11.021 12.730 10.192 7.905 5.920 4.086 2.578 1.749 0.000
36.100 33.580 31.130 26.150 21.170 16.590 12.640 9.160 5.610 3.870 2.130
```

Offset 파일 (.dat) -> txt 호환 가능

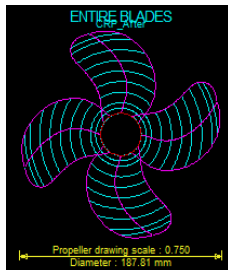
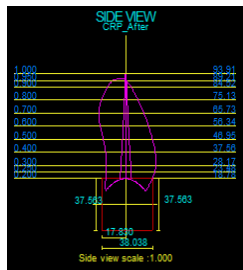
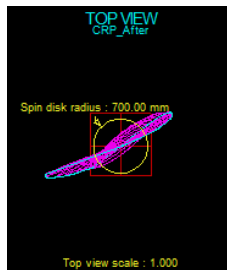
Number of Total Section Profile(1999. 09. 20)

```
1
C= lsecT=0 ===== 1997. 05. 00 =====C
NACA66
Comment | NACA66 Thickness+a=0.8 Meanline Camber modified T.E. at KRISO
DATA XL_G
0.0000 0.0100 0.0250 0.0500 0.1000 0.2000 0.3000 0.4000 0.4500
0.5000 0.6000 0.7000 0.8000 0.9000 0.9500 0.9750 0.9900 1.0000
DATA XCAM_G
0.0000 0.0755 0.1586 0.2711 0.4482 0.6993 0.8635 0.9614 0.9880
1.0000 0.9785 0.8891 0.7027 0.3586 0.1713 0.0823 0.0307 0.0000
DATA XTK_G
0.0000 0.1871 0.2932 0.4132 0.5814 0.8000 0.9274 0.9904 1.0000
0.9924 0.9306 0.8070 0.6220 0.3754 0.2286 0.1510 0.1018 0.0666
ixrG ftk1G ftk2G CRLE
9 0.45 0.55 0.642
```

사용단면 파일 (.blk) -> txt 호환 가능

# 1 프로펠러 설계 및 모델링 DB 항목

## 파일 업로드 항목 (총 7개)



형상 사진 (top, front, side) (.jpg)

PROPELLER GEOMETRY DATA

1. Principal Dimension of the Propeller

Comment : CRP\_After\_2008

Scale Ratio = 42.981 R/D at Mean = 1.0783 Airfoil = 0.7041 Hub Ratio = 0.2000  
 No. of Blade = 4 R/D at root = 0.3522 C/D at 0.71 = 0.4012 Rule = 0.0000  
 Slip (Degree) = 7.000 R/D at 0.71 = 1.1888 BR Skew(Deg) = 26.2110 T/D at 0.71 = 0.2160  
 Model Diameter(m) = 187.814 R/D at Tip = 1.0843 Hub Diameter(m) = 1.5000 T/C at 0.71 = 0.0399

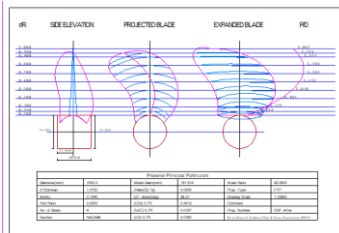
2. Real Scale Propeller Dimension (mm)

Hub Geometry  
 Hub Leng | 160.000 CR | 75.000 BWD Diam | 158.000  
 TWD Diam | 158.000 Taper Ratio | 20.000 Shaft Diam | 57.500

Propeller Geometry

r/R	Pitch	Rate	Skew	Chord	Camber	Thick
0.2000	396.710	0.000	-0.148	225.640	0.000	38.100
0.2200	485.089	0.000	-3.352	222.540	7.001	33.580
0.2400	572.829	0.000	-5.990	218.590	11.021	31.130
0.2600	654.555	0.000	-7.819	217.610	12.770	28.150
0.2800	821.679	0.000	-8.301	211.670	10.192	21.170
0.3000	894.438	0.000	-2.380	203.130	7.705	16.950
0.3200	932.710	0.000	2.345	198.950	5.920	12.640
0.3400	936.540	0.000	7.564	195.300	4.000	9.160
0.3600	955.814	0.000	12.881	175.970	2.378	5.610
0.3800	977.611	0.000	15.619	122.700	1.198	3.670
1.0000	840.718	0.000	18.225	2.227	0.000	2.130

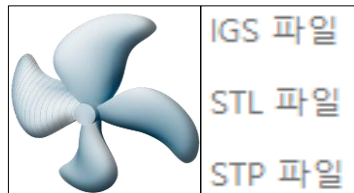
Propeller Geometry Data (.out) -> txt 호환 가능



제작도면 파일 (.jpg)

Excel spreadsheet showing propeller geometry data with columns for R/R, LE/D, LE/Z, Chord, Pitch(mm), Pitch(Deg), Rate, Skew(Deg), Thickness, Camber, etc.

형상 정보 파일 (.csv)



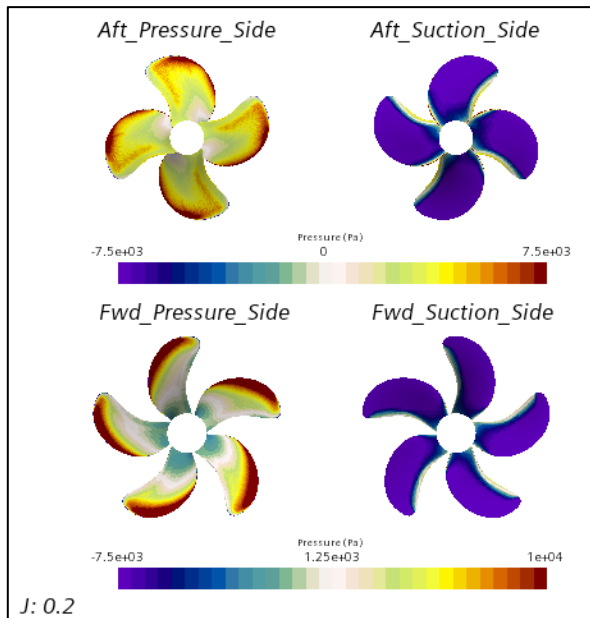
형상 파일 (.igs, .stl, .stp)

### 유저 직접입력 항목

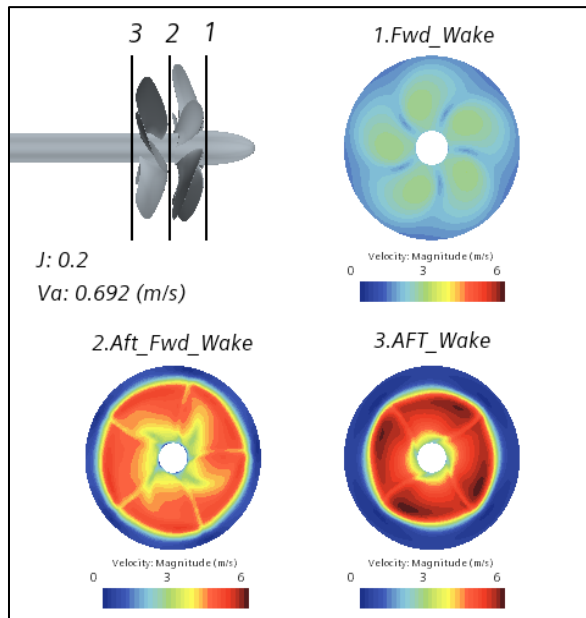
Input Contents	Example	Type
Density	998.05	Value
Viscosity	0.00015	Value
After RPS	15	Value
Forward RPS	20	Value
RPS Ratio (After RPS / Forward RPS)	0.75 (15/20)	Value
Reynolds Number (Density x Velocity x Diameter / Viscosity)	0.000011	Value
J	0.2	Value
Velocity (J x Forward RPS x Forward Diameter)	0.062	Value

Output Contents	Example	Type
Thrust	120.12	Value
Torque	6.83	Value
$K_T$	0.9275	Value
$10K_Q$	1.7802	Value
$\eta_o$	0.1659	Value
Method (RANS / URANS / LES)	Lag K-e, K-w	String

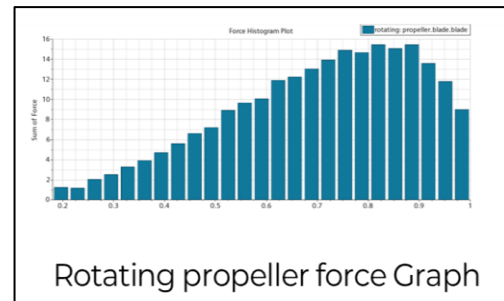
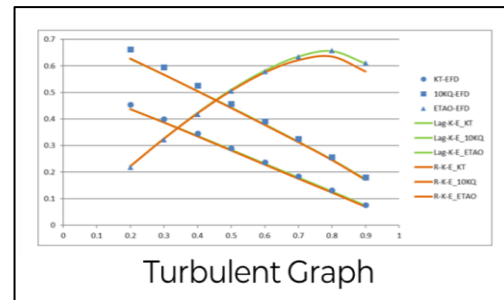
## 파일 업로드 항목 (총 4개)



해석결과 (Pressure) (.png)



해석결과 (Wake) (.png)



Rotating propeller force Graph

해석결과 (Graph) (.png)