

Topaz Resolve

51 M - DP 2 - Multi-Purpose Supply Vessel

Vessel Specifications

TOPAZ
MARINE



Vessel Specifications

Registration

Flag	Marshall Islands
Class	+HULL, +MACH, Supply Vessel, Unrestricted navigation, +AUT-UMS, INWATERSURVEY, +DYNPOS AM/AT R
Year built / builder	December 2015 / Nico Craft Abu Dhabi LLC
Port of registry	Majuro
IMO number	9544308
Registry number	6667
Call Sign	V7PW2

Dimensions

Length overall	50.9 m
Length between perpendicular	44.4 m
Breadth with sponsons	15 m
Depth moulded	4.9 m
Design draft	4 m
Deadweight	611 t
Displacement of vessel at full load	1760 t
Deck cargo capacity	150 t
Registered tonnage	1160

Machinery

Main engines	2 x Caterpillar 3512B, 1425 bkW @ 1600 rpm
Main generators	2 x Caterpillar 3406 CTA, 320 kW / 60 Hz / 1800 rpm 1 x Caterpillar C32, 730 kW / 60 Hz / 1800 rpm 1 x Caterpillar C18, 500 kW/ 60 Hz / 1800 rpm 1 x Caterpillar 3406TA, 358 bkW @2100 rpm
Emergency generator	1 x Caterpillar C4.4 72e kW / 60 Hz /1800 rpm
Gear box - main propulsion	2 x Ratio 4.63:1, Twin Disc MGX 5600 DC
Bow tunnel thruster	2 x Schottel STT1 CP, 300 kW, CPP, electric driven
Stern tunnel thruster	1 x Schottel STT1 CP, 320 kW, CPP, electric driven
Pump jet thruster	1 x Schottel SPJ 132T, 330 kW @ 1900 rpm, diesel driven
Propulsion system + rudder + kort nozzle	2 x straight shaft + FPP, Teignbridge
Steering system	1 set Wills Ridley

4 Point Mooring Equipment

Mooring Winch	4 x Electro-Hydraulic Winches with Drum Capacity: 600m x 28mm. Rated Pull: 16T x 0-15 m/min, With local and remote controls. Make: Nor Crane
Anchors	4 x HHP 2475 kg stockless anchor
SWR	4 x 28mm dia x 600 meter SWR, Break Strength of minimum 44T
Capstan	3 x Nor Crane, pull 5 tonnes @ 10 m per min

Deck Crane

1 x Offshore Crane 25T @8m (Sea State 2), 18T @ 8m (Sea State 4), 12.5T at 17m (Sea State 4)

Ancillary equipment

Sewage treatment plant	1 x Tecnicomar, 56 person capacity.
Oily water separator	1 x Ocean Clean, 0.5 m ³ per hr @ 15 ppm
Freshwater maker	1 set

Towing and anchor handling equipment

Rubber Bow fenders	W-type fender
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Performance

Trial Speed @ 100% MCR	12 knots
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Vessel Specifications

Capacities

Fuel oil @ 98%	259.4 m ³
Fresh water @ 100%	185.4 m ³
Water ballast @ 100%	212.6 m ³
Lube oil @ 98%	6.8 m ³
Sewage @ 98%	56.38 m ³
Hydraulic oil @ 98%	2.82 m ³
Oily bilge @ 98%	5 m ³
Sludge @ 98%	2.4 m ³
Deck wooden area	166 m ² approx.
Clear deck length	21m long

Auxiliary Machinery

Fuel oil transfer pump	2 x 5 m ³ per hr @ 2 bar Azcue (Internal Transfer)
Fresh water maker	1 set
FW hydrophore set , 500L	2 x 5 m ³ per hr @ 4 bar Azcue
SW hydrophore set , 500L	2 x 5 m ³ per hr @ 4 bar Azcue
Sludge pump	1 x 2 m ³ per hr @ 2.5 bar Azcue
AC cooling pump	2 x 60 m ³ per hr @ 2bar Azcue
LO transfer pump	1 x 2 m ³ per hr @ 2.5 bar Azcue
Breathing air compressor	1 set Bauer or equivalent
Hydraulic oil transfer pump	1 x 3 m ³ per hr @ 2.5 bar Azcue / Gianneschi
Hot water circulating pump	1 x 2 m ³ per hr @ 2 bar Azcue
Hot water calorifiers	1 x 500 litres, 4 x 3 kW heater OSO Hotwater - UK
Fuel oil purifier	1 x 1200 litres per hr Alfa Laval
Bilge / oily water separators	1 x Ocean Clean 0.5 m ³ per hr @ 15ppm
Work air compressor	1 x 25 m ³ per hr @ 7 bar, electric driven, Ingersoll Rand
Air receiver	1 x 300 litres @ 7 bar
Control air bottle	1 x 100 litres @ 7 bar
Bilge / ballast	1 x 35 m ³ per hr @ 5 bar Azcue
Bilge / ballast / fire / deck wash pump	1 x 35 m ³ per hr @ 5 bar Azcue

Communication and navigation equipment

Satcom and type	
SART	2 x Jotron or equivalent
SSAS	1 x Sailor or equivalent
ECDIS	1 x Transas
Voyage data recorder (VDR)	1 x DanElec
GMDSS console	1 set Sailor or equivalent
Portable GMDSS handheld radio	3 x Sailor or equivalent
Inmarsat-C	1 x Sailor or equivalent
Handheld VHF	4 x Motorola
UHF portable radio	1 x ICOM
EPIRB	1 x Jotron
Navtex receiver	1 x JRC
DP system	IMO DP2
Radar X-Band, ARPA	1 x JRC
Radar S-Band, ARPA	1 x JRC
Gyrocompass with repeater	1 x Alphanon
Auto pilot	1 x Navitron or equivalent
DGPS	2 x Koden or equivalent
Echo sounder	1 x JRC
Doppler speed log	1 x JRC
Anemometer	1 x Walker

Vessel Specifications

Fire fighting and anti-pollution equipment

Fixed Internal Fire Fighting System	
Water mist system	1 x Heien-Larssen FlexiFOG
External FiFi system	1 x FiFi ½ CounterFire with dedicated CAT C18 engine
Fire monitors	2 x 600 m3 per hr each minimum
Fireman outfits	6 x Fireguard
Foam fire extinguisher	22 x 9 litres Eversafe
Dry chemical powder extinguisher	4 x 5 kg Eversafe
Emergency fire pump	1 x 25 m3 per hr @ 5 bar Azcue

Safety equipment

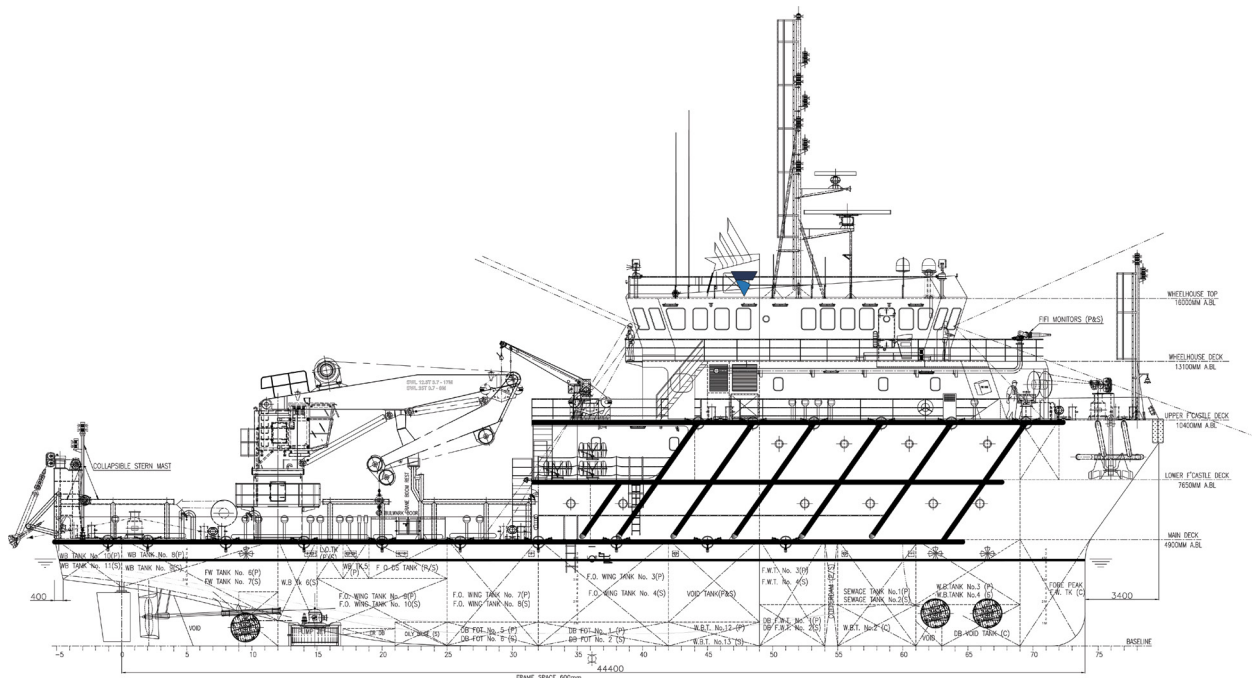
Inflatable life rafts	6 x 20 persons Viking / Zodiac or equivalent
Rescue boat	1 x 6 person Zodiac or equivalent
Lifebuoys ring w/ heaving line	8 x Canepa & Campi / Cosalt / Ialzas
Safety harnesses w/ lifelines	4 x CITEK or equivalent
Davit for rescue boat	1
Rigid life jackets	67 nos. ACR USA / Cosalt / VSG
Immersion suits	12

Accommodation

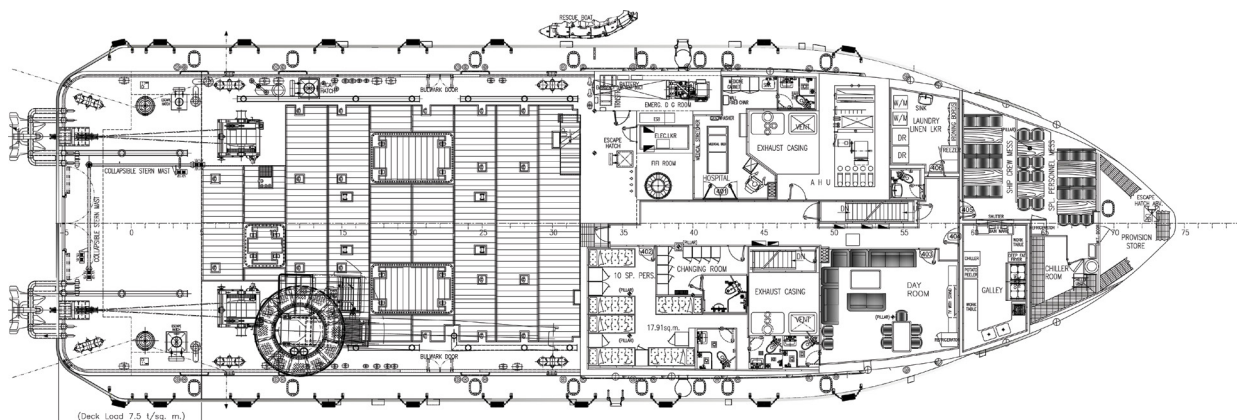
Treatment room	1 berth
Main Deck	5 x 2 berths
Lower forecastle deck	4 x 4 berths 8 x 1 berths 4 x 2 berths
Upper forecastle deck	2 x 4 berths 6 x 1 berths
Total	56

Last Revision August 2017

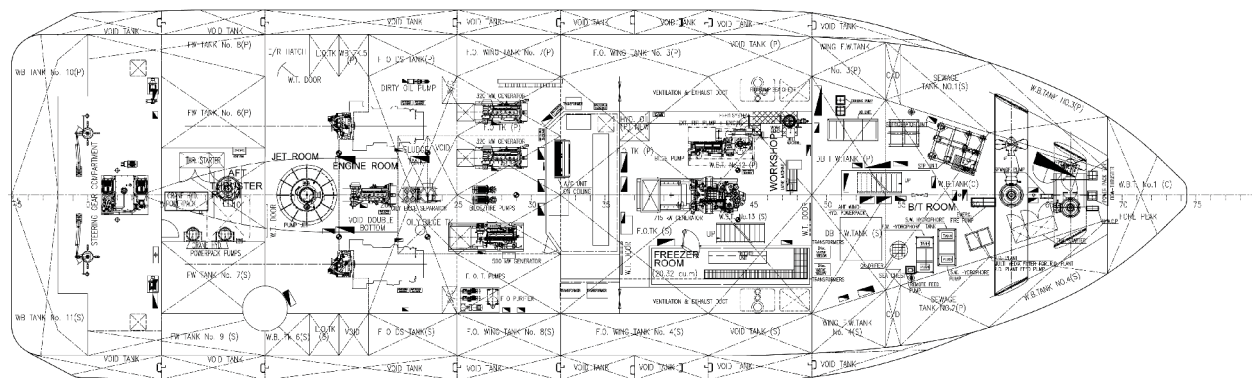
GA Specifications



Outboard profile

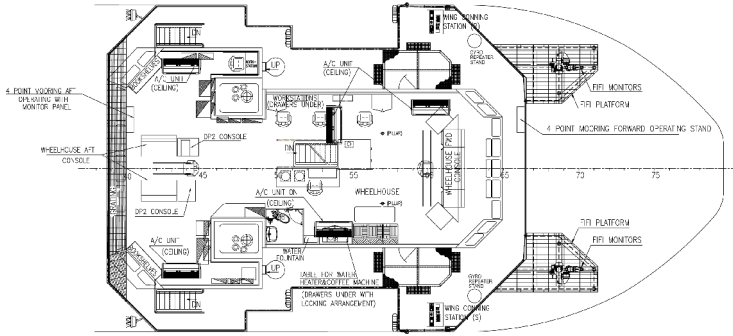


Main deck

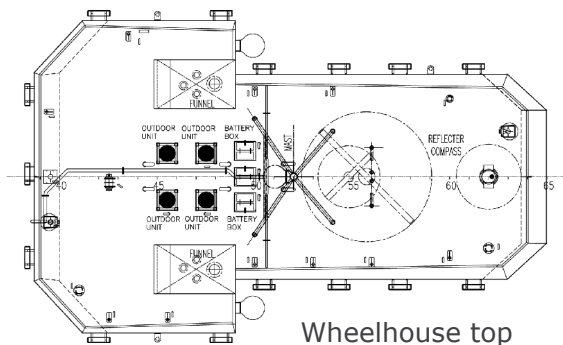


Below main deck

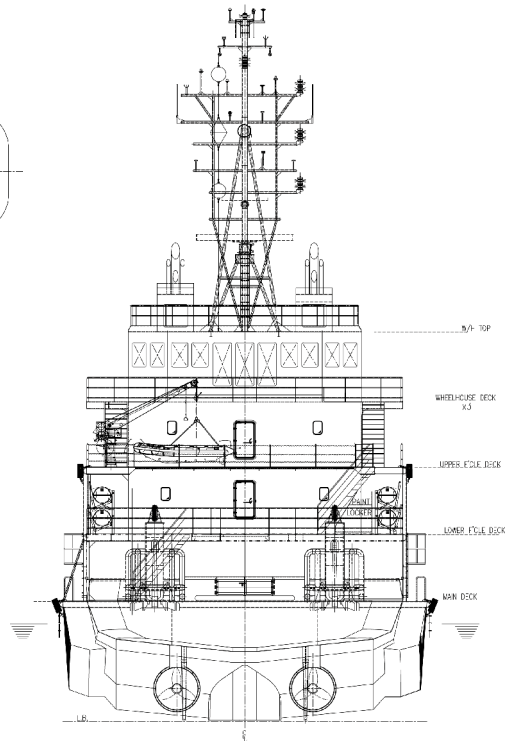
GA Specifications



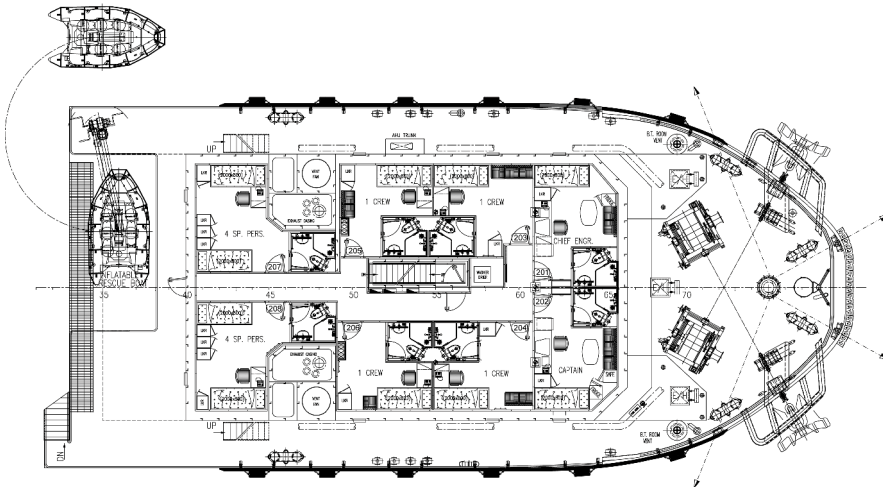
Wheelhouse deck



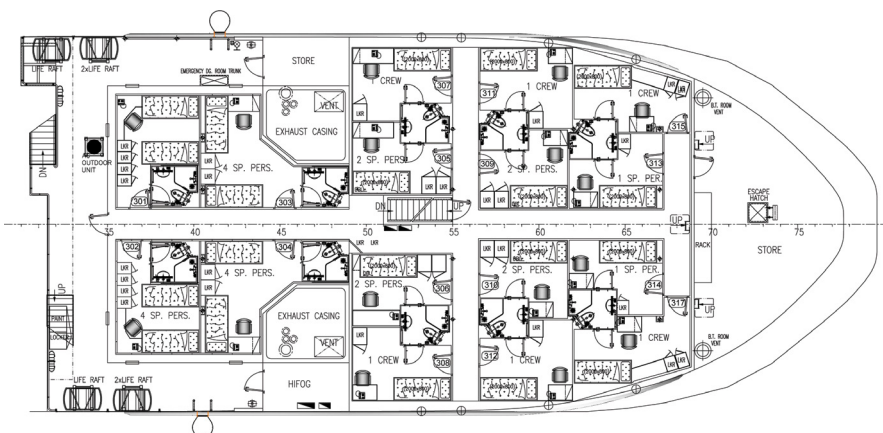
Wheelhouse top



Aft view @ Transom



Upper forecastle deck



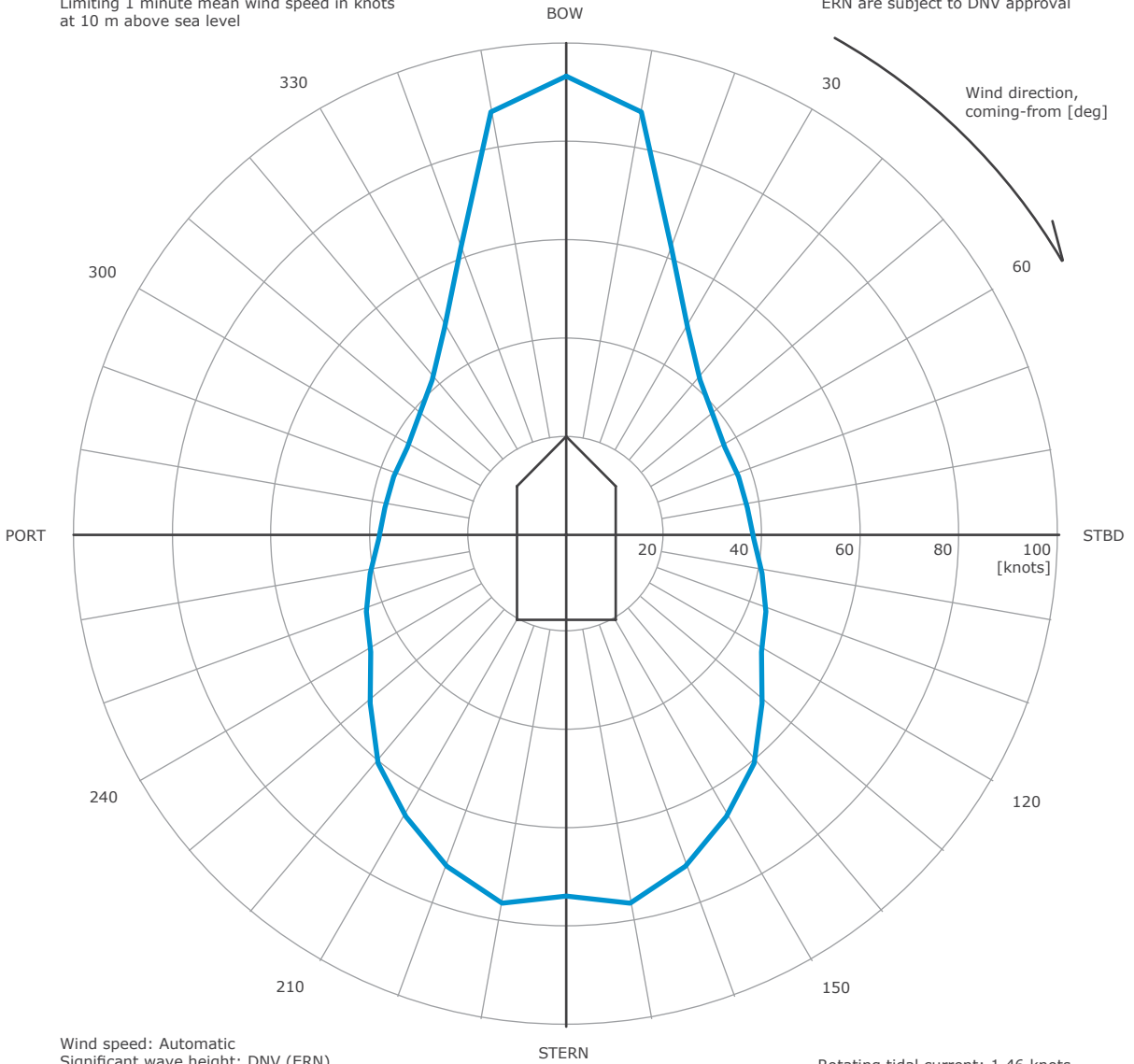
Lower forecastle deck

DP Capability Plot

DP capability envelope for case 1

VARIABLE WIND AND WAVES
Limiting 1 minute mean wind speed in knots
at 10 m above sea level

ERN = 97
ERN are subject to DNV approval



Wind speed: Automatic
Significant wave height: DNV (ERN)
Mean zero up-crossing period: DNV (ERN)

Rotating tidal current: 1.46 knots
Rotating wind induced current: 0.000*Uwi knots



KONGSBERG

Case number	: 1
Case description	: Optimum use of all thrusters
Thrusters active	: T1-T5
Rudders active	:
Input file reference	: Foot_2543C.scp
Last modified	: 2011-02-21 14.55 (v. 2.8.0)
Length overall	: 97.0 m
Length between perpendiculars	: 80.8 m
Breadth	: 18.8 m
Draught	: 6.2 m
Displacement	: 6800.0 t (Cb = 0.70)
Longitudinal radius of inertia	: 20.2 m (= 0.25 * Lpp)
Pos. of origin ahead of Lpp/2 (Xo)	: 0.0 m
Wind load coefficients	: Calculated (Blendermann)
Current load coefficients	: Calculated (Strip-theory)
Wave-drift load coefficients	: Database (Scaled by breadth / length)

Tidal current direction offset	: 0.0 deg
Wave direction offset	: 0.0 deg
Wave spectrum type	: JONSWAP (gamma = 3.30)
Wind spectrum type	: NPD
Current - wave-drift interaction	: OFF
Load dynamics allowance	: 1.0 * STD of thrust demand
Additional surge force	: 0.0 tf
Additional sway force	: 0.0 tf
Additional yawing moment	: 0.0 tf.m
Additional force direction	: Fixed
Density of salt water	: 1026.0 kg / m ³
Density of air	: 1.226 kg / m ³ (15 °C)

Power limitations	: OFF
Thrust loss calculation	: ON

# Thruster	X [m]	Y [m]	F+ [tf]	F- [tf]	Max [%]	Pe [kW]	Rudder
1 TUNNEL	33.8	0.0	10.8	-10.8	100	883	
2 TUNNEL	30.8	0.0	10.8	-10.8	100	883	
3 AZIMUTH	25.3	0.0	14.4	-8.4	100	883	
4 AZIMUTH	-40.4	5.5	28.3	0.0	100	1600	
5 AZIMUTH	-40.4	-5.5	28.3	0.0	100	1600	

CONTACT

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