

ACE MARINE LTD

stabiliser enquiry form

Ace Reference :-

Please complete the enquiry form and return to address given below.

From:	For the attention of:	Ref:
		Project No
		Newbuilding No
		Ships Name

Equipment Required (description)

Required Delivery Date

Vessel's Particulars

Type of vessel and service on which engaged	Yacht		
Length waterline	19.507 m		
Beam waterline	03.658 m		
Displacement	19.091 Tonnes		
Draught at above displacement	1. m		
Corresponding GM	Solid 1.52 m		
Corresponding KG			
Vessel's speed	Max 13.5 Knots	Service 08.0 Knots	
Percentage stabilisation required	90%		
Operating sea input or sea state	Sea Input 0.00 °	or	Sea State 5.
Electrical Supply	XXX Volts	3 Phase	X Hz
Classification society and classification			
Depth to uppermost continuous deck			
Height of tank top from base line			
Height of deck over from base line			
Vessel's struct' drawings in way of equip't installation			
Body plan in way of equipment installation			
Compartment layout drawing			
Frame spacing			
Environmental requirements:			
Shock level			
Vibration level			
Temperature range			

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Note 1: To give your enquiry immediate attention, it is essential that the data marked with an* is provided.

Fin Sizing Calculations

Reference Number 0

From	For the attention of:	Ref:	0
		Project No	0
0		Newbuilding No	0
		Ships Name	0

Ship particulars	Default	Manual Input	Value Used
Length waterline	19.507 m		19.507 m
Beam waterline	03.658 m		03.658 m
Displacement	19.091 Tonnes		19.091 Tonnes
Draught at above displacement	1. m		1. m
Corresponding GM	1.524 m		1.524 m
Corresponding KG (estimated)	1.423 m		1.423 m
Vessel's speed	08.0 Knots		08.0 Knots
Block Coefficient			0.26

Sea Particulars

Sea State	5		5
Sea Input (from Beam and Sea State)	4.51 °		4.51 °
Density of Sea Water	1.025 Tonnes/m ³		1.025 Tonnes/m ³

Stage 1 - Simplified Sizing Procedure

% Stabilisation Required	90%	90%	90%
Fin Wave Slope Capacity Required	4.06 °		4.06 °
Folding Fin Stabiliser Area (assumes 1 pair of fins)	3.88 ft²		0.36 m²
Non-Retractable Fin Area (assumes 1 pair of fins)	6.79 ft²		0.63 m²

The above fin areas are indications of likely fin sizes based on typical ship parameters. They must not be used for quotation purposes. Complete Stage 2 for detailed fin sizing calculation

Fin Sizing Calculations

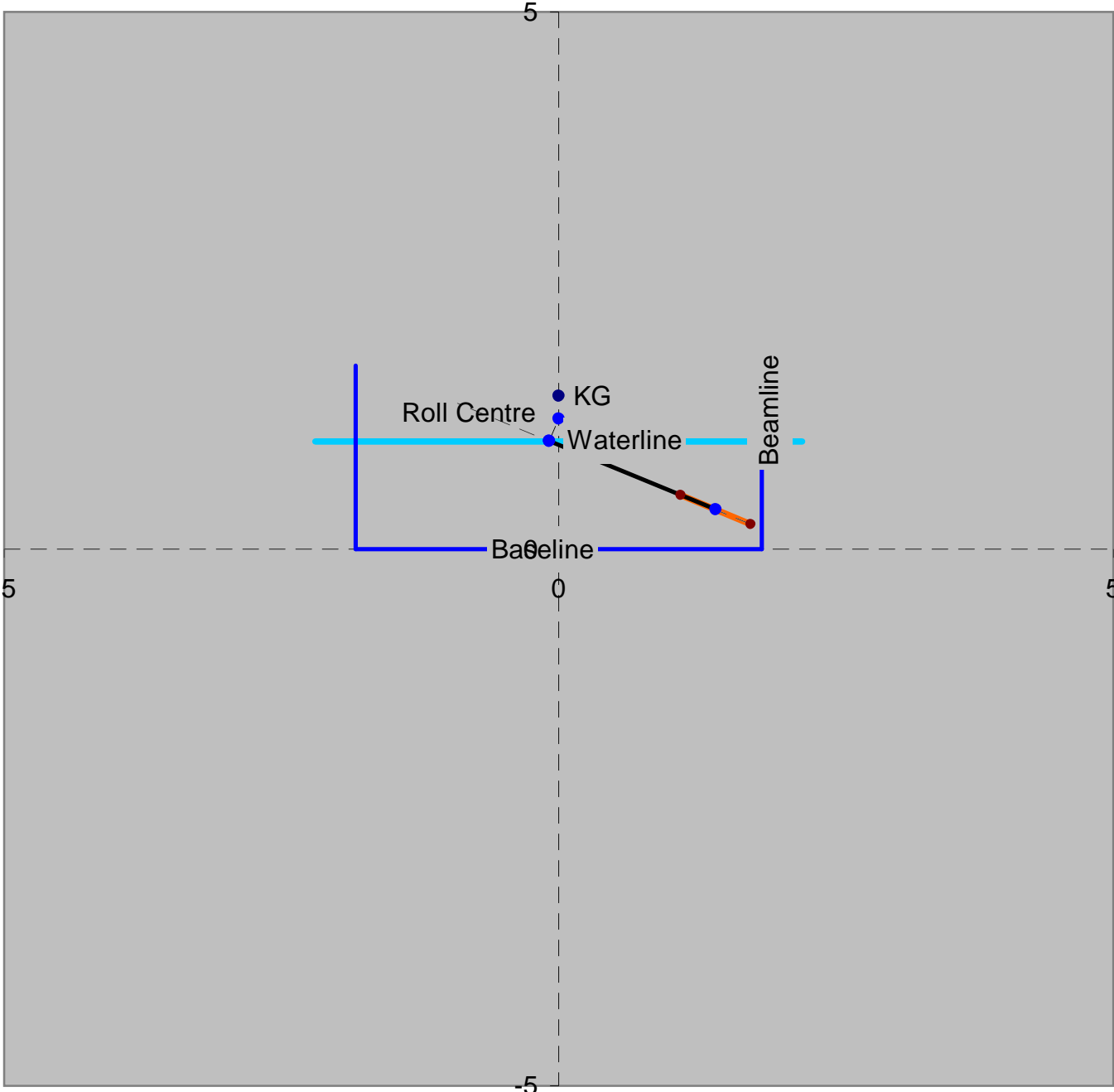
Reference Number 0

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		Project No	0
0		Newbuilding No	0
		Ships Name	0

Stage 2 - Detailed Sizing Procedure

	Default	Manual Input	Value Used
Fin Type		Non Retractable	Non Retractable
Initial Fin Selection	Wesmar RS 0632 Metal - 00.60m ²		
Final Fin Selection	Wesmar RS 0732 Metal -		
Max Stabiliser Design Speed	16.00 Knots		16.00 Knots
Ships Stabiliser Design Speed	08.00 Knots		08.00 Knots
Fin Area	0.70 m ²		0.70 m ²
Fin Outreach	0.688 m		0.688 m
Fin Chord	1.01 m ²		1.01 m ²
Number fin pairs	1 Pair(s)		1 Pair(s)
Fin Separation (if more than 1 pair)	N/A		N/A
Correction for Interference on aft pair(s) of fins	N/A		N/A
Coefficient of Lift (Cl) Calculation			
Foil Type	Plain	Plain	Plain
Max Uncorrected Coefficient of Lift	1		1
Correction of Cl for Cavitation Number			
Fin Submergence	0.769 m		0.769 m
Cavitation Number	12.4		12.4
Corrected Coefficient of Lift	see report 30.106	1.00	1.00
Correction of Cl for Aspect Ratio			
Aspect Ratio of Selected Fin	0.68		0.68
Corrected Coefficient of Lift	see report 30.106	1.00	1.00
Lever Arm Calculation			
Stabiliser Pierce Point distance from Centreline	1.097 m		1.097 m
Stabiliser Pierce Point above Baseline	0.5 m		0.5 m
Installation Angle (relative to horizontal)	23.00 °		23.00 °
Height of Roll Centre above Baseline	1.211 m		1.211 m
Lever Arm	1.632 m		1.632 m
Fin Performance Calculation			
Fin Lift	6 kN		6 kN
Stabilising Moment	20 kNm		20 kNm
Heeling Moment of Ship per Degree	5 kNm		5 kNm
Fin Power			3.96 °
% Stabilisation	88% (BB)	87% (Sperry)	88%
Casualty Condition Check	OK		

Installation Diagram



Fin Sizing Calculations

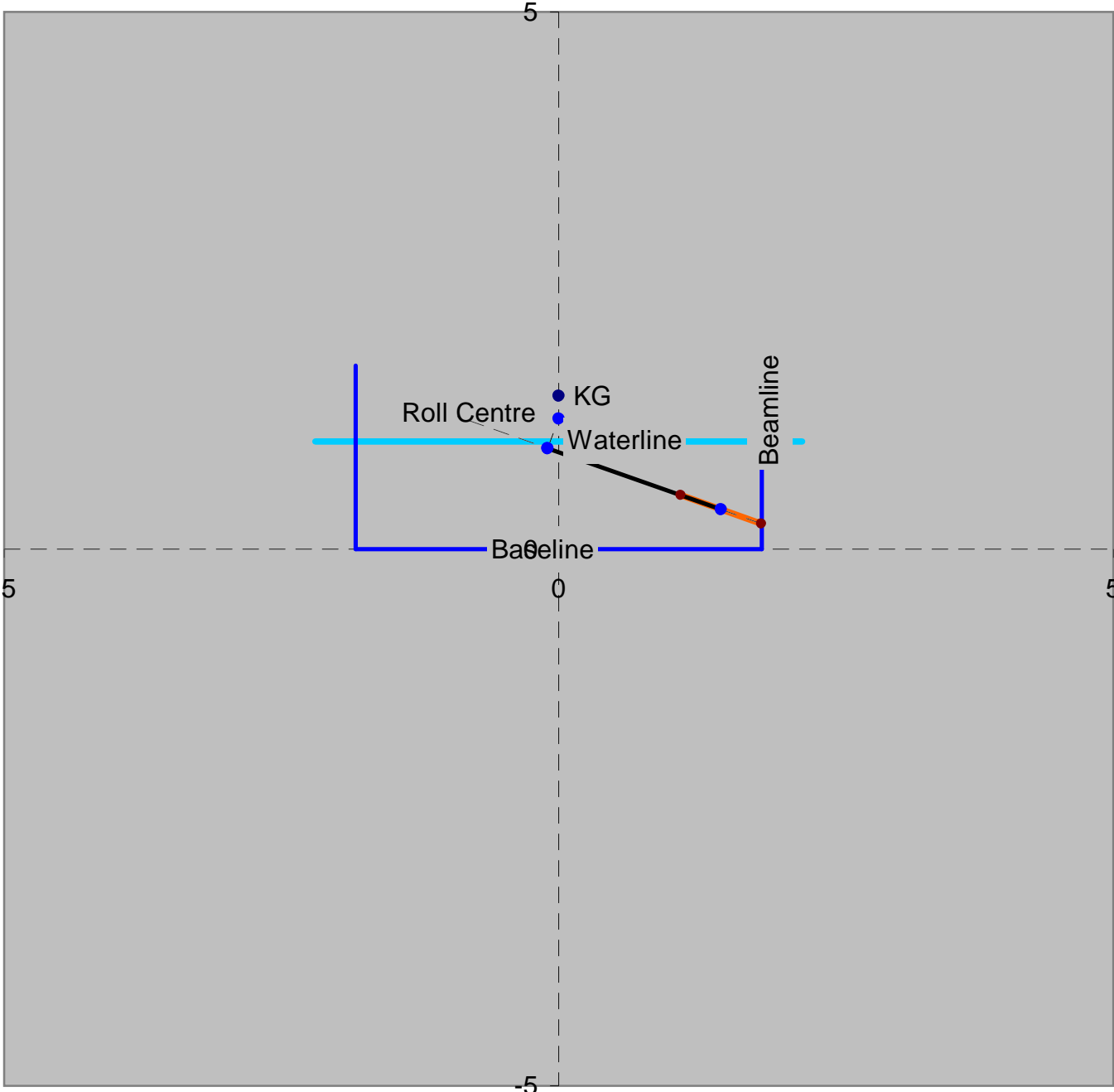
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		Ships Name	0

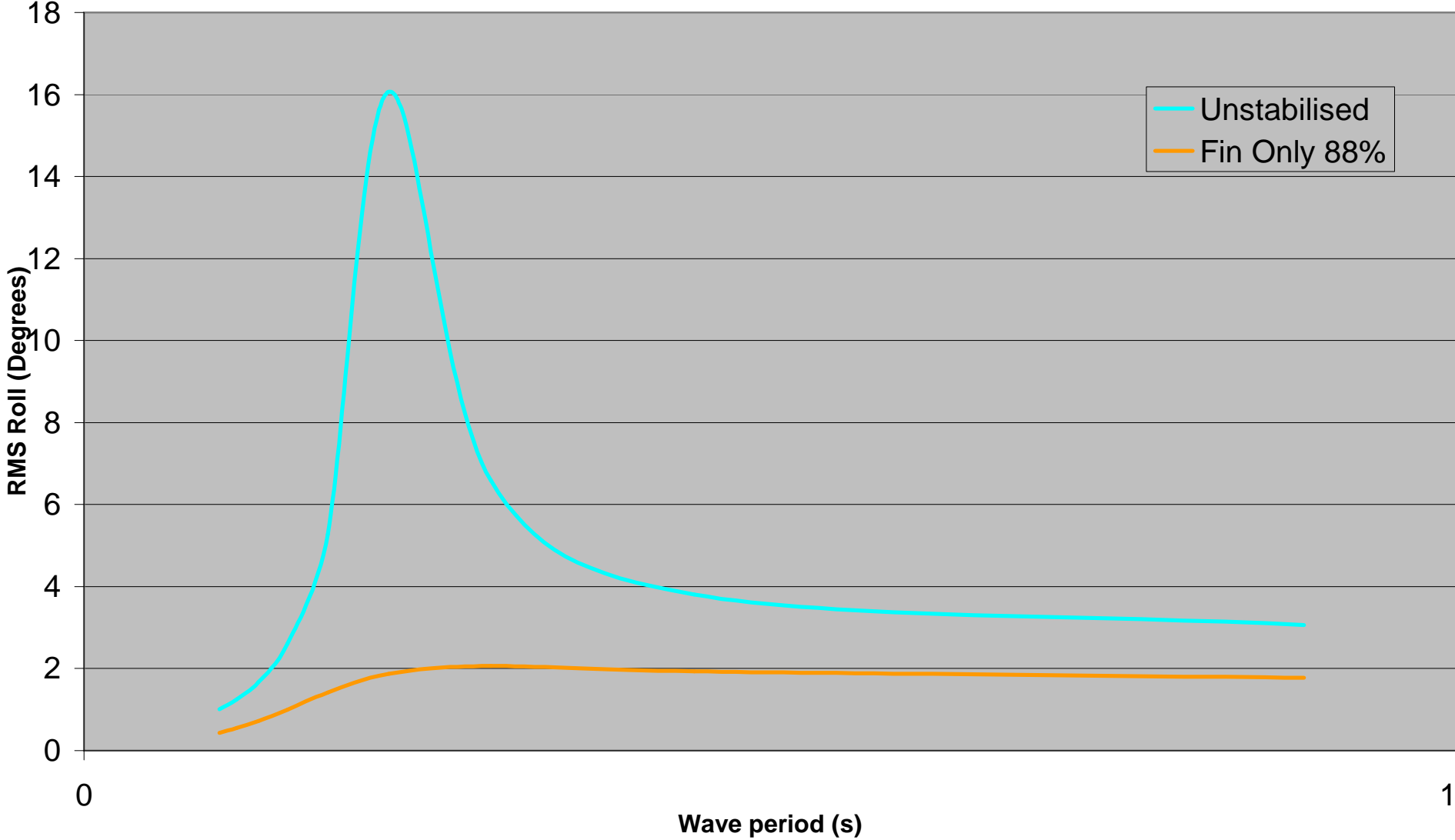
Stage 2 - Detailed Sizing Procedure

	Default	Manual Input	Value Used
Fin Type		Non Retractable	Non Retractable
Initial Fin Selection	Wesmar RS 0632 Metal - 00.60m ²		
Final Fin Selection	Wesmar RS 0900 Composite - }m ²		
Max Stabiliser Design Speed	16.00 Knots		16.00 Knots
Ships Stabiliser Design Speed	08.00 Knots		08.00 Knots
Fin Area	0.88 m ²		0.88 m ²
Fin Outreach	0.775 m		0.775 m
Fin Chord	1.14 m ²		1.14 m ²
Number fin pairs	1 Pair(s)		1 Pair(s)
Fin Separation (if more than 1 pair)	N/A		N/A
Correction for Interference on aft pair(s) of fins	N/A		N/A
Coefficient of Lift (Cl) Calculation			
Foil Type	Plain	Plain	Plain
Max Uncorrected Coefficient of Lift	1		1
Correction of Cl for Cavitation Number			
Fin Submergence	0.765 m		0.765 m
Cavitation Number	12.4		12.4
Corrected Coefficient of Lift	see report 30.106	1.00	1.00
Correction of Cl for Aspect Ratio			
Aspect Ratio of Selected Fin	0.68		0.68
Corrected Coefficient of Lift	see report 30.106	1.00	1.00
Lever Arm Calculation			
Stabiliser Pierce Point distance from Centreline	1.097 m		1.097 m
Stabiliser Pierce Point above Baseline	0.5 m		0.5 m
Installation Angle (relative to horizontal)	20.00 °		20.00 °
Height of Roll Centre above Baseline	1.211 m		1.211 m
Lever Arm	1.662 m		1.662 m
Fin Performance Calculation			
Fin Lift	8 kN		8 kN
Stabilising Moment	25 kNm		25 kNm
Heeling Moment of Ship per Degree	5 kNm		5 kNm
Fin Power			5.11 °
% Stabilisation	113% (BB)	93% (Sperry)	113%
Casualty Condition Check	OK		

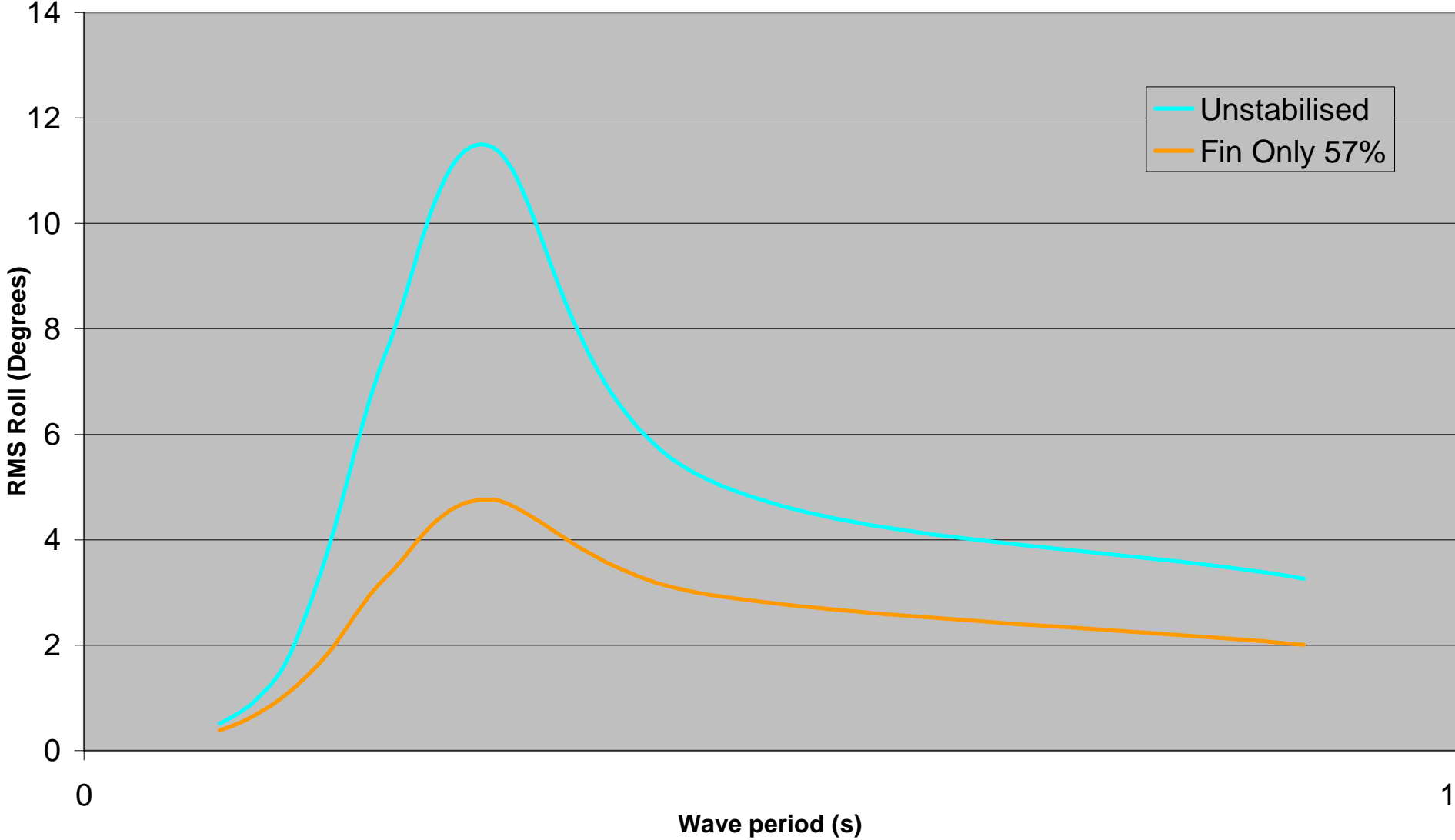
Installation Diagram



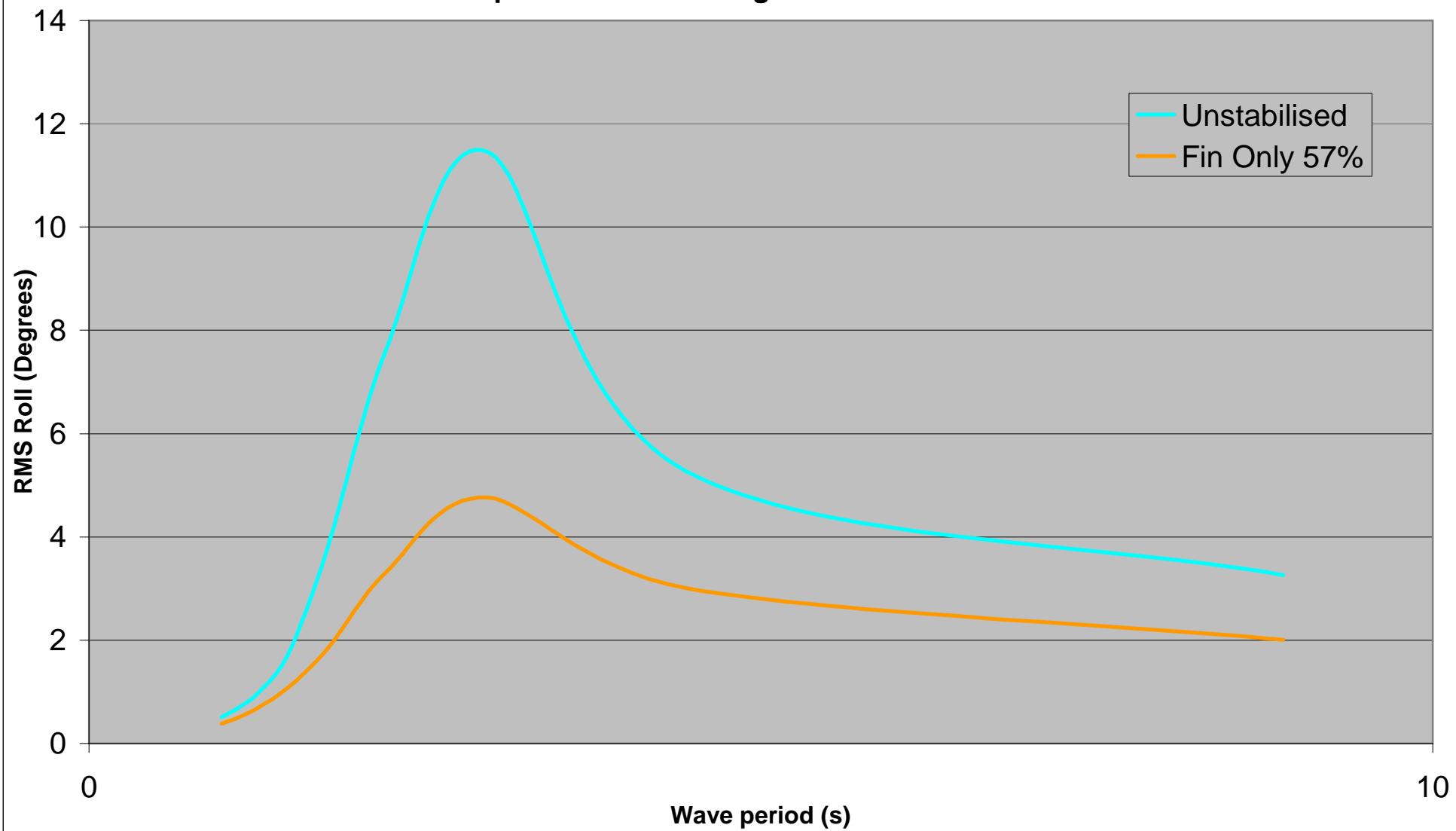
Roll Response Curves - Regular Seas - Wesmar 732



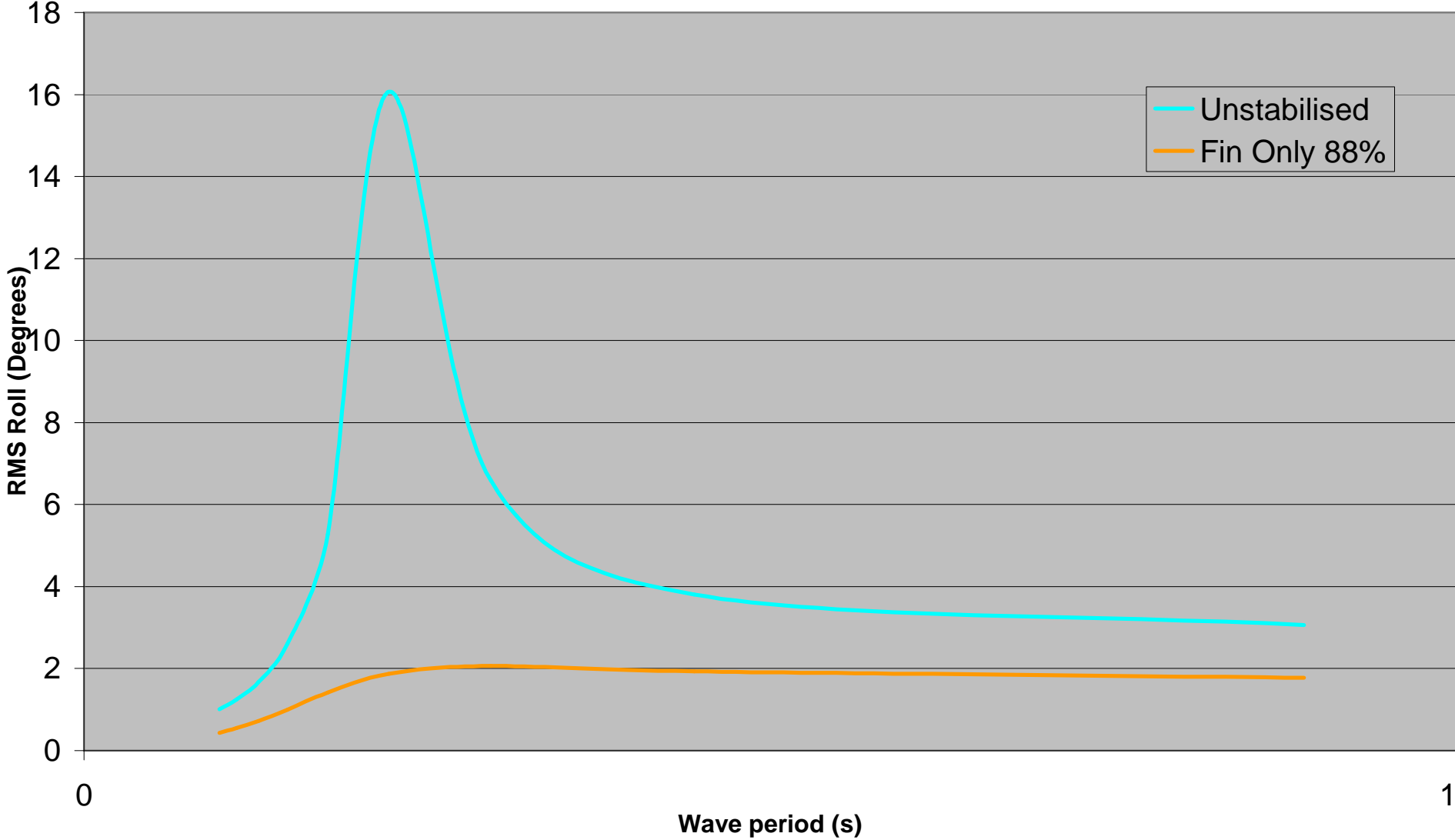
Roll Response Curves - Regular Seas - Wesmar 732



Roll Response Curves - Irregular Seas - Wesmar 732



Roll Response Curves - Regular Seas - Wesmar 900



Roll Response Curves - Irregular Seas - Wesmar 900

