

# ORR-Ez Performance Pack

ORR-Ez – July 2019

## **Your ORR – Ez Performance Pack includes:**

1. This 3-page introduction with notes and instruction.
2. Your ORR-Ez Polars with the numbers for YOUR Boat - which include 3 Tables

Table 1 - An Upwind Only Quick Glance Table for your cockpit bulkhead.  
Table 2 - A Downwind Only Quick Glance Table for your cockpit bulkhead  
Table 3 - A VPP Handy Guide.

## *Some notes on how some successful racers use their polars.*

*Sailmaker Dave Ullman using his "Targets" to win the 2007 Melges 24 Worlds:*

"I'm a huge believer in sailing by the speedo and following my target numbers. Without the speedo you're going to sail around three- or four-tenths too slow all the time. Our target range is 5.8 to 6.0, so let's say I'm sailing along and my target at the moment is 5.8.

If I'm sailing at 5.4, all I do is let the sheet out 2 inches and within 10 seconds

I'll be sailing at 5.8 again. You couldn't possibly do that without a speedo.

*The key is that you want to go as high as you can while keeping to that target range.*

*Your targets will tell you - the best speed and point of sail - for the best VMG.*

*(VMG: Velocity (speed) made good. (To the next turning mark on your course).  
Races are lost in your extra time on the race course. The extra time adds up when you are sailing LESS THAN your optimal VMG. That's the whole point in having access to, and using your polars correctly.*

The first place to start using targets successfully is making sure your speedo

is correctly calibrated! Then the strategy is: trim, steer and match the sail plan to what best suits your boat for the conditions.

From Ed Tracey, co-owner & skipper of *Incommunicado*, *Best Boat Overall in the*

*Chesapeake 2015:*

One of the crew's first pre-race tasks is to tape the laminated Target Sheets to the cockpit bulkheads.

“Targets are such a huge help to our program. We try to get the boat dialed in to whatever the number is on the board. If we don’t get *Incommunicado* to targets quickly, we know something is wrong and we run through the protocols quickly, pre-race, to set car positions, halyard tension, etc. Then when the starting gun goes off, we race with confidence when the numbers match the speedo.”

**Polar Tables: Introduction and Instruction.**

*The instructional mock-up’s numbers are for a – pretend - boat. Not yours.*

**The Quick Glance Upwind.**

• Customized for your boat make/model and name

**BENETEAU 32.5 "MYTHOLOGICAL"**

**ORR-Ez**  
OFFSHORE RACING RULE

**UPWIND**

TWS	TARGET BOAT SPEED	TWA
6	5.4	45
8	6.1	41
10	6.3	38
12	6.5	37
16	6.7	36.5
20	6.9	36.5
24	7.0	37

• The data for sailing upwind in 10 knots of True windspeed.

• With 10 knots of breeze, your boatspeed should be 6.3 knots at a heading 38 degrees off the True Wind direction

As Dave Ullman mentioned above, get your true wind speed, read the target and make

sure you have the boat making speed through the water equal to the number. Consistently faster than the Target? Then you are most likely sailing too low and your VMG will suffer.

## The Quick Glance Downwind



### DOWNWIND

- Likewise, sailing downwind, in 10 knots of breeze, you'd consult the card to see what your target boatspeed should be and what angle to the True Wind direction will result in the best VMG

TWS	TARGET BOAT SPEED	TWA
6	5.7	139
8	6.6	145
10	7.2	148
12	8.0	147
16	10.5	143
20	12.4	147
24	15.0	152

Note - the data is large and easily read. That means the helm or tactician can very quickly glance and see how the speedo compares to the target. **\*\*NEW** – *Upwind & Downwind targets now include 4kt numbers.*

## The ORR-Ez VPP Handy Guide

Lastly, here's the more complex set of numbers, that might be more useful for a distance race or a Random Leg Course that would involve one or more reaching legs.

The ORR-Ez Handy Table gives you optimum sailing angles for 8 wind speeds.

- Left hand column Tables: Boxes for 4, 8, 12 and 20 knots

- Right Hand column Tables: Boxes for 6, 10, 16 and 24 knots

For each wind speed box there is an optimum VMG - upwind and downwind-angle for your boat. These are the highlighted colored rows.

For each wind speed box there are also targets if you need to sail at a given angle for your race course.

*VPP - Velocity Prediction Program. ORR's VPP generates the ratings for your boat as well as for your Performance Pack. The VPP uses the information that you supplied about your boat in applying for your Ez Certificate.*

• 44.4 in green refers to the optimal angle to the True Wind direction for the best VMG at this windspeed (6 kn)

• 140 in green refers to the optimal angle to the True Wind direction for the best VMG at this windspeed (8 kn)

• The green numbers in this column, highlighted in orange, are your boatspeed targets

	True Wind Speed (kts)	True Wind Angle (deg)	TARGET BOAT SPEED (kts)	App Wind Speed (kts)	App Wind Angle (deg)
6		44.4	4.7	9.8	23.8
		60	5.8	10.0	29.3
		90	6.8	9.0	38.3
		120	6.4	6.2	55.1
		144	5.4	4.3	72.4
8		43.2	5.9	12.5	23.3
		60	6.8	12.5	30.0
		90	7.4	10.7	43.6
		120	7.3	7.6	62.3
		140	6.6	5.6	78.3
10		40.2	6.2	14.7	22.6
		60	7.2	14.4	32.1
		90	7.8	12.4	48.6
		120	8.0	9.0	68.2
		135	7.3	6.9	85.9
12		38.4	6.4	16.7	22.9
		60	7.4	16.1	34.3
		90	8.2	13.8	51.7
		120	8.6	10.4	72.5
		135	7.9	8.3	91.8
	156.1	6.8	6.0	128.6	

	True Wind Speed (kts)	True Wind Angle (deg)	TARGET BOAT SPEED (kts)	App Wind Speed (kts)	App Wind Angle (deg)
14		38.4	6.4	16.7	22.9
		60	7.4	16.1	34.3
		90	8.2	13.8	51.7
		120	8.6	10.4	72.5
		135	7.9	8.3	91.8
	156.1	6.8	6.0	128.6	
16		37.2	6.5	20.2	23.9
		60	7.7	19.2	37.5
		90	8.6	16.8	57.3
		120	9.4	13.4	81.8
		135	9.4	11.1	98.1
	164.2	7.7	8.4	149.8	
20		37.2	6.7	23.2	25.2
		60	7.8	22.4	40.0
		90	9.0	19.9	61.4
		120	10.0	16.1	87.4
		135	10.8	13.7	102.2
	147	10.2	12.2	120.0	
24		37.4	6.7	26.4	26.4
		60	7.9	25.5	42.1
		90	9.2	22.9	64.5
		120	10.6	19.0	91.2
		135	11.4	16.3	106.5
	147.4	12.4	14.3	120.6	

• Numbers highlighted in this blue and orange band represent the best predicted wind angle and boatspeed for this particular windspeed

• Numbers in un-highlighted bands show the expected target speeds for this windspeed, in this case assuming it was necessary to sail at 90 degrees True Wind Angle for part of the race.

- - End of Introduction - -