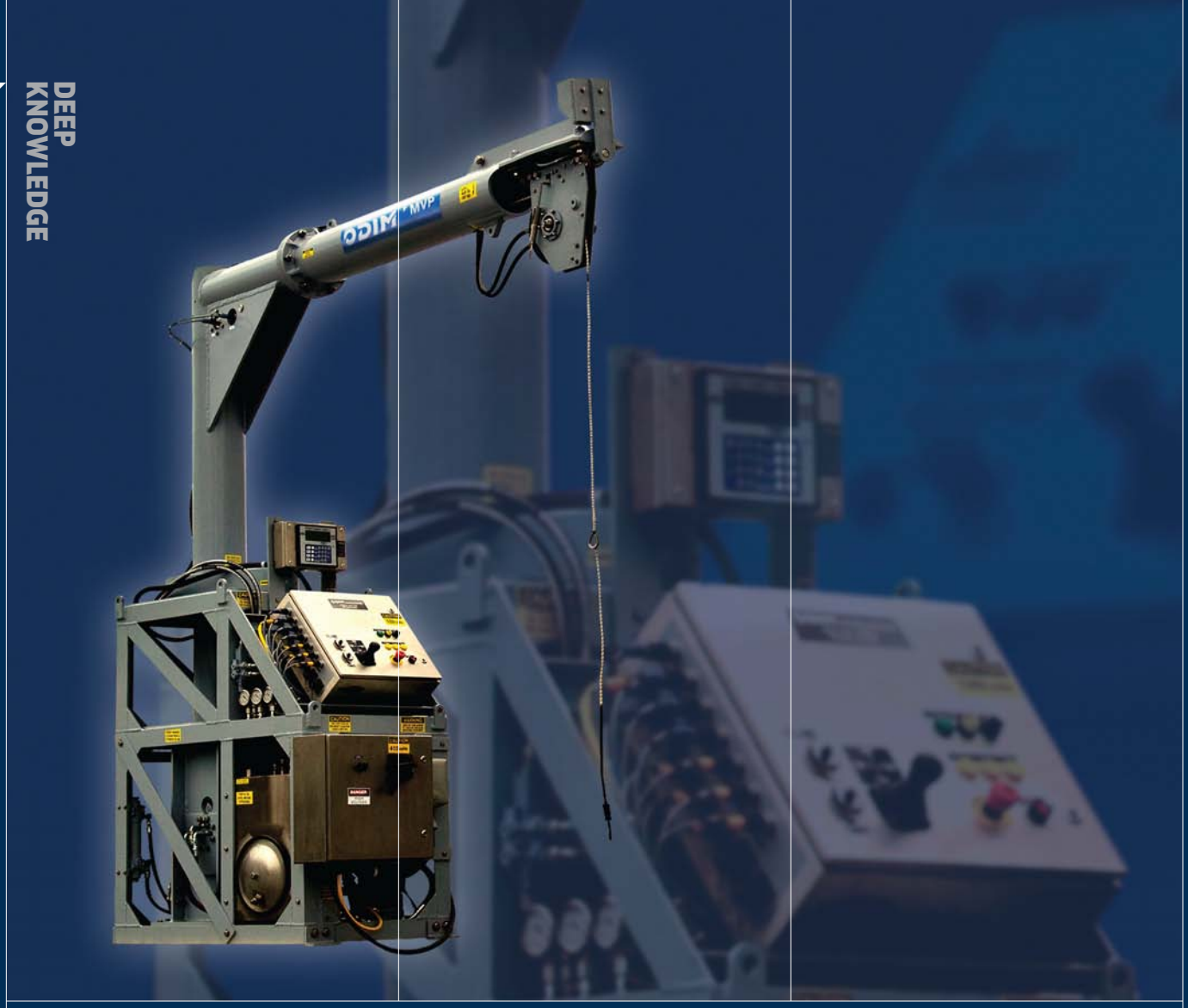
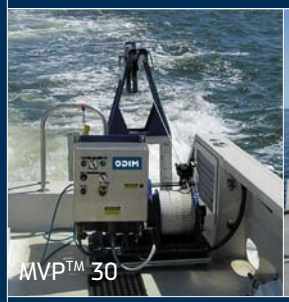
DEEP KNOWLEDGE



CORE TECHNOLOGY // Moving Vessel Profiler

ODIM MVP™

Automated underway water column profiling


MVP™ 30


MVP™ 30-350


MVP™ 200


MVP™ 300

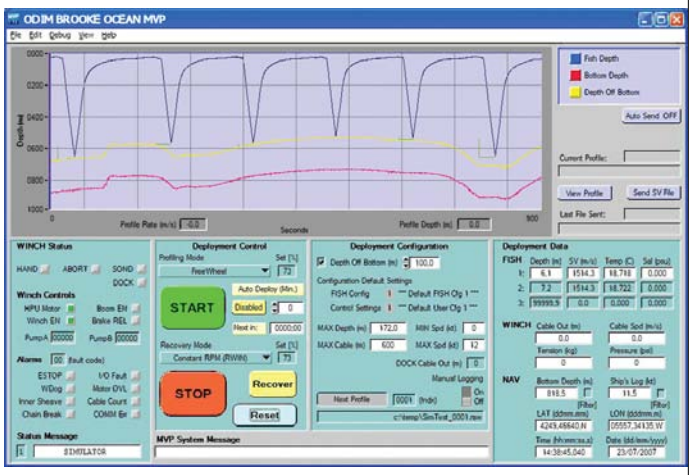

MVP™ 800

ODIM

how does it work?

The ODIM Moving Vessel Profiler (ODIM MVP™) greatly enhances the productivity of CTD, Sound Velocity and other specialized profiling by allowing deep water casts to be made from an underway vessel. The ODIM MVP™ consists of sensors housed in a small, streamlined free fall fish, a conductor cable with strength member, a computer-controlled high speed hydraulic winch and a complete cable metering, overboarding and docking system.

The ODIM MVP™ allows the free fall fish to fall near-vertically. Deployment is executed under computer control and can be restrained by three parameters: desired depth of cast, preset height above the bottom or maximum cable out. Using this concept, the system can achieve a much deeper depth for a given vessel speed than a comparable towed system. Once the programmed downcast depth has been reached, the fish is towed near the surface where it can be recovered or re-deployed.



ODIM MVP™ Software Main Interface Screen

Automated CTD water column collection. Automatically collect CTD data for extended periods of time and in rough weather from a remote station on the bridge or in the lab.

Reduced cost. Save on ship time and data post-processing time, eliminate the use of environmentally-unfriendly expendables and, for seismic operations, reduce dependencies on expensive chase boats.

Creating a safe work environment. Reduce the exposure of employees to harsh working environments and potentially dangerous equipment.

Simultaneously operated with other deck equipment. The small footprint and narrow plane of operation allow other equipment to be deployed simultaneously and safely with ODIM MVP™.

Seamless integration with other lab equipment. ODIM MVP software runs on standard Microsoft Windows-equipped PC or laptop equipment that we custom configure to your needs.

Customized software. ODIM MVP software is custom-configured to your equipment setup. The System Configuration screen allows you select which sensors and data rates you are using and can be changed as often as required.



Automated water column profiling for any situation

A variety of Free Fall Fish are available, each designed to be used on a specific ODIM MVP™ system. Each fish is specifically designed to accommodate either single, dual or multiple sensors, depending on the application.

	MVP30		MVP30-350		MVP200		MVP300		MVP800	
Speed (knots)	Depth Obtained (m)	Cycle Time (min.)	Depth Obtained (m)	Cycle Time (min.)	Depth Obtained (m)	Cycle Time (min.)	Depth Obtained (m)	Cycle Time (min.)	Depth Obtained (m)	Cycle Time (min.)
0	125	2.6	350	8.5	600	12.9	3400	70	5000	60
1	105	2.5	280	7.8	520	9.9	2683	61	4000	50
2	90	2.3	245	7.5	457	8.4	2200	57	3000	44
3	80	2.2	228	7.3	406	7.4	1900	55	2560	41
4	73	2.1	200	7.0	368	6.9	1650	53	2320	39
5	66	2.1	175	6.7	335	6.5	1450	50	1990	37
6	60	2.0	155	6.4	310	6.4	1250	46	1850	35
7	56	1.9	140	5.8	285	6.0	950	37	1660	33
8	51	1.8	121	5.1	265	5.9	740	29	1460	31
9	47	1.7	90	4.2	250	5.8	580	23	1270	28
10	42	1.7	70	3.3	235	5.8	460	19	1070	25
11	35	1.6	55	2.5	223	5.7	370	16	900	23
12	30	1.6	30	2.2	200	5.6	300	13	800	22
Dimensions w/o boom (m)	0.7 x 0.3		0.9 x 0.7		1.3 x 0.7		2.0 x 2.0		2.25 x 2.7	
Weight (kg)	120		250		680		1800		4220	
Power (hp)	1		1.5		15		25		40-45	

Sensor Specifications:

CTD

Conductivity:

Range:	0 to 70 mS/cm
Precision:	+/- 0.005 mS/cm
Accuracy:	+/- 0.01 mS/cm
Resolution:	0.001 mS/cm
Response:	25 ms at 1 m/s

Temperature:

Range:	-2 to 32 ºC
Precision:	+/- 0.003 ºC
Accuracy:	+/- 0.005 ºC
Resolution:	0.001 ºC
Response:	100 ms

Pressure (Depth):

Range:	Various to 6000 m
Precision:	+/- 0.03% of full scale
Accuracy:	+/- 0.05% of full scale
Resolution:	0.005% of full scale
Response:	10 ms

SV(T)&P

Sound Velocity:

Range:	1400 - 1600 m/s
Precision:	+/- 0.03 m/s
Accuracy:	+/- 0.05 m/s
Resolution:	0.015 m/s
Response:	47 ms

Temperature:

Range:	-2 to 32 ºC
Precision:	+/- 0.003 ºC
Accuracy:	+/- 0.005 ºC
Resolution:	0.001 ºC
Response:	100 ms

Pressure (Depth):

Range:	Various to 6000 m
Precision:	+/- 0.03% of full scale
Accuracy:	+/- 0.05% of full scale
Resolution:	0.005% of full scale
Response:	10 ms

Optional Sensors and Equipment:

Laser Optical Plankton Counter (ODIM LOPC)

Free Fall Cone Penetrometer (ODIM FFCPT)

Fluorometer

Dissolved Oxygen

Other - consult factory

All specifications subject to change without notice. Actual performance may change based on ship installation.

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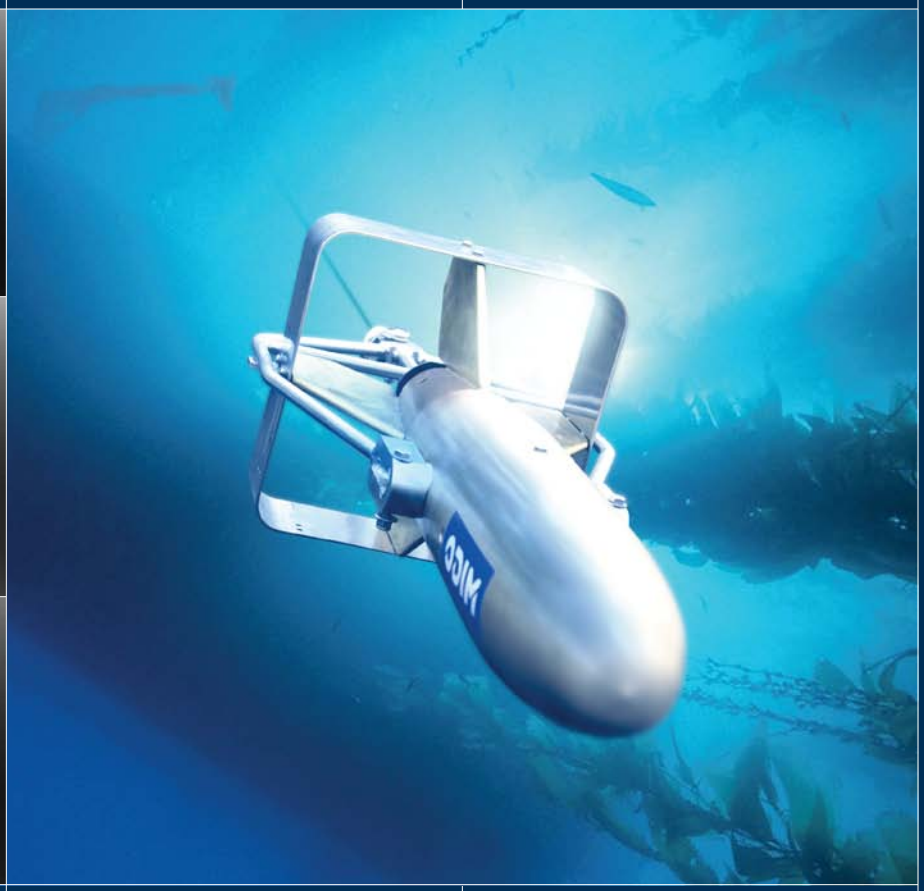
In Situ Geotechnical Measurements

Plankton Counting

CTD, DO, Turbidity and more



The ODIM Moving Vessel Profiler (ODIM MVP™) is a family of products that automates the collection of water column data, eliminating the requirements of having personnel on deck and of stopping the vessel.

Value-added components such as ODIM FFCPT, ODIM LOPC can be incorporated into the ODIM MVP™ system. This provides seamless integration with other data collection methods such as geotechnical measurement and biological sampling.

Accurate knowledge of the water velocity, as a function of depth, at the time of data acquisition efficiently facilitates the removal of discontinuities in multibeam and seismic data caused by velocity variations in the water column. This is particularly important in deeper water and where velocity values are expected to vary over time.