

# 海卓 SVS1500 系列表面声速仪产品数据手册

## Hydro SVS1500 Series Sound Velocity Sensor data sheet

### 1. 海卓 SVS1500 系列表面声速仪特点

#### The feature of SVS1500 Series Sound Velocity Sensor

SVS1500 系列表面声速仪采用了目前最先进的“时间飞跃”技术进行声速测量，并结合先进的数字信号处理技术，使声速的测量精度达到 0.05m/s 的世界先进水平。基于先进的集成电路和传感器技术实现了体积小、易携带、使用方便的声速测量仪，让外业测绘人员彻底解决了查表法带来的误差巨大风险，同时又摆脱了原始检测板比对法的繁琐操作的苦恼。

SVS1500 Series Sound Velocity Sensor adopts the most advanced "time of flight" technology to measure the sound velocity and combines advanced digital signal processing technology to make the measuring accuracy of sound velocity reach 0.05m/s world advanced level. Based on advanced integrated circuit and sensor technology to achieve a small volume, easy to carry, easy to use the sound velocity Sensor, so that the outside industry surveying and mapping personnel to completely solve the error of the Look-up table method brings great risk, at the same time get rid of the original test board than the cumbersome operation of the trouble.



SVS1500 系列表面声速仪突破国际最先进的“时间飞跃”技术，时间测量精度提升至皮秒级，声速测量精度提升至 0.05m/s。

SVS1500 series sound velocity sensor breakthrough the international most

advanced " time of flight " technology, the time measurement precision to the picosecond level, the speed of sound measurement improved to 0.05m/s.

海卓同创跨专业跨行业研究选择各类材料, 最终获得超低热膨胀冷缩系数的新材料, 使用新材料制作的支撑杆, 适应各种环境而不变形。同时尝试多种精密机械加工, 实现工艺精确控制, 把反射面和超生换能器的距离精度控制在微米量级。以 0.005 度恒温场水浴校准设备为基础, 建立高标准参数标校流程, 对每一台声速仪每个缓解严格校准, 确保精度可靠。

Hydro-tech with a cross professional cross-sectoral research selection of various materials, and eventually obtain ultra-low thermal expansion shrinkage coefficient of new materials, the use of novel material made of support rods, adapt to a variety of environments without deformation. At the same time, a variety of precision machining, to achieve precise control of the process, the reflector and the distance of the transducer to control the precision of the micron level. Based on the water bath calibration equipment of 0.005 degree constant temperature field, set up the high standard parameter calibration process, and strictly calibrate each speed meter to ensure the accuracy and reliability.

通过海卓同创的不断创新努力, 最终使 SVS1500 系列表面声速仪具备了精度高、响应快、测量稳定、使用方便等特点。

Through the continuous innovation efforts of the Hydro-tech, the SVS1500 series surface acoustic velocity instrument has the characteristics of high precision, quick response, stable measurement and convenient use.

## 2. 性能指标 Performance indicators

技术指标	参数
声速范围	1400m/s~1600m/s (其他量程可定制)
声速分辨率	0.001m/s
声速测量精度	0.05m/s
换能器频率	2MHz
输出速率	1~30Hz, 用户可调

温度传感器	PT1000
温度范围	0~40°C
温度分辨率	0.001°C
温度测量精度	0.05°C
供电电压	12V±%10
通信接口	RS232
通信速率	2400bps~115200bps
工作深度	50m
重量	1Kg(不含线缆)
尺寸	255mm（长）X 40mm（直径）
材质	316L 不锈钢

注：因产品升级带来的技术参数变更，恕不另行通知。

<b>Technical indicator</b>	<b>Parameter</b>
Range	1400m/s~1600m/s（Other ranges can be customized）
Resolution	0.001m/s
Accuracy	0.05m/s
Acoustic Frequency	2MHz
Output rate	1~30Hz, User-Adjustable
Temperature sensor	PT1000
Temperature range	0~40°C
Temperature resolution	0.001°C
Temperature measurement Accuracy	0.05°C
Supply voltage	12V±%10
Communication interface	RS232
Baud Rate	2400bps~115200bps
Working depth	50m

Weight	1Kg(No cables)
Size	255mm (length) X 40mm (diameter)
Material	316L stainless

Note: The technical parameters of product upgrades are subject to change without prior notice.

### 3. 物理尺寸 Physical dimensions

