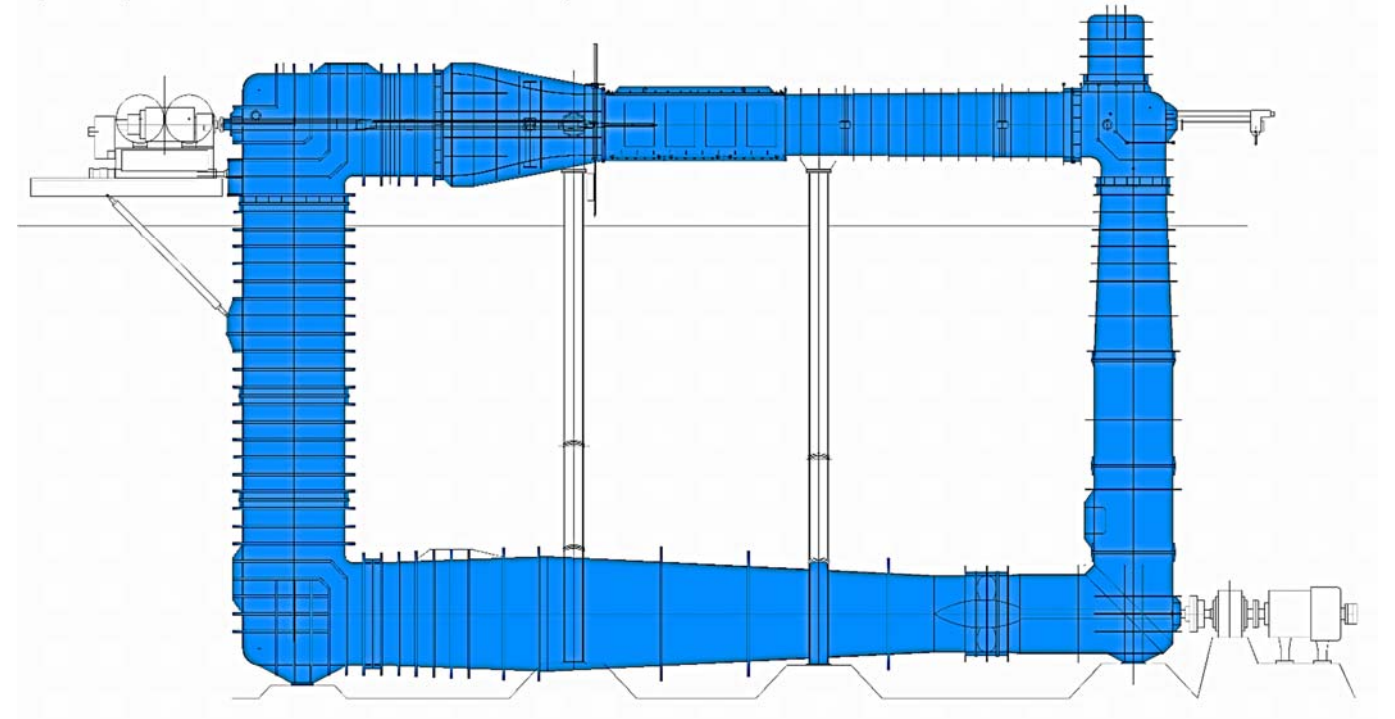


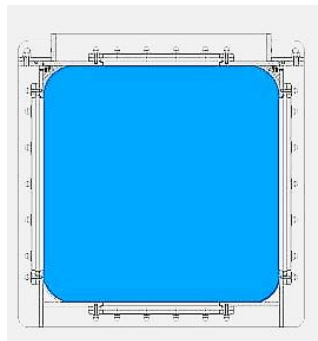
<b>Name of organization</b> Schiffbau-Versuchsanstalt Potsdam GmbH		<b>Year of information updating</b> 2016
<b>Year established</b> 1953		<b>Year of joining the ITTC</b>
<b>Address</b> Marquardter Chaussee 100 D-14469 Potsdam Germany		<b>Status in the ITTC</b>
<b>Contact details</b> Phone: +49 331 567 12 – 0 Fax: +49 331 567 12 - 49 Email: info@sva-potsdam.de		<b>Website</b> www.sva-potsdam.de
<b>Type of facility</b> Closed circulating cavitation tunnel, vertical plane	<b>Year constructed/upgraded</b> 1971/2014	
<b>Name of facility</b> Kempf & Remmers K15A	<b>Location</b>	
<b>Main characteristics</b>		
<p>The length between both vertical parts of the cavitation tunnel is 12 m, the height between the horizontal parts is 7 m. The cavitation tunnel has a 4-bladed axial flow impeller with a diameter of 1.078 m and a total motor power of 100 kW @ 1470 rpm.</p>		
<u>Test section 1</u>		
Length	2600 mm	
Cross section	600 mm x 600 mm	
Contraction ratio of the nozzle	5.96 : 1	
Maximum water velocity	13 m/s	
Variation of the pressure	-970 mbar to 1200 mbar	
<u>Test section 2</u>		
Length	2600 mm	
Cross section	850 mm x 850 mm	
Contraction ratio of the nozzle	2.93 : 1	
Maximum water velocity	7.5 m/s	
Variation of the pressure	-950 mbar to 1200 mbar	

## Drawings of facility

Top-view plan – K15a with test section 2 and dynamometer J25



Corss-section-view plan – test section 2



## Detailed characteristics

### Instrumentation

- Dynamometer K&R J25  $T_{\max} = 3000 \text{ N}$ ,  $Q_{\max} = 150 \text{ Nm}$ ,  $n_{\max} = 60 \text{ s}^{-1}$
- Dynamometer K & R H36  $T_{\max} = 2000 \text{ N}$ ,  $Q_{\max} = 100 \text{ Nm}$ ,  $n_{\max} = 50 \text{ s}^{-1}$ , shaft inclination  $+15^\circ \dots -10^\circ$

Both dynamometers can be used alone or together, so that tests with contra-rotating or tandem propellers can be carried out.

- Dynamometer K&R R45  $T_{\max} = 400 \text{ N}$ ,  $Q_{\max} = 15 \text{ Nm}$ ,  $n_{\max} = 50 \text{ s}^{-1}$  for special tests
- Balance K&R R37  $X = Y1 = Y2 = 800 \text{ N}$ ,  $Z1 = Z2 = Z3 = 500 \text{ N}$
- Balance K&R R35X  $X = 500 \text{ N}$
- Laser system Powersight LDV (TSI)
- PIV-System TSI

## Applications

- Propeller and turbine tests in uniform and non-uniform flows
- Forces and pressure distribution on rudders, fins and hydrofoils
- Velocity measurements around propellers, turbines, propulsion systems, hydrofoils ...
- Cavitation observation tests using high speed video cameras
- Measurement of the propeller induced pressure fluctuations in the simulated 3D-wake, calculated for the full-scale Reynolds number
- Erosion tests
- Acoustic measurements
- Tests of thrusters, podded drives, steering nozzles, ducted propellers, Voith Schneider Propellers, submerged water jets
- Tests of transverse thrusters

## Published description

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Jahrbuch der STG, 84. Band, 1990

Schmidt, D.; Selke, W.; Gerchev, G.

Comparative Joint Investigations in the Cavitation Tunnels of SVA and BSHC on the Prediction of Propeller-Induced Pressure Pulses  
Schiffbauforschung 31 (1992) 1

Heinke, H.-J.

The Influence of Test Parameters and Wake Field Simulation on the Cavitation and the Propeller Induced Pressure Fluctuations

Jahrbuch der Schiffbautechnischen Gesellschaft, 97. Band, 2003

*smp'11*

2nd Symposium on Marine Propulsors & 1st Workshop on Cavitation and Propeller Performance  
June 17 -18, 2011, Hamburg, Germany

*smp'15*

4th Symposium on Marine Propulsors & 2nd Workshop on Cavitation and Propeller Performance  
May 31 – June 4, 2015, Austin, Texas, USA