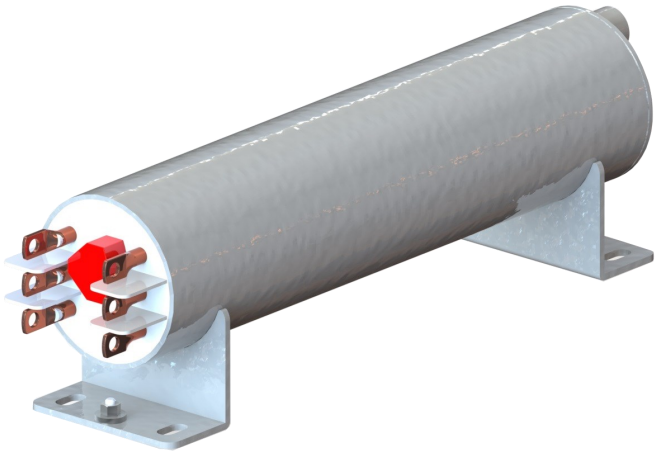
WHBS

Medium power

Fully welded

water cooled Resistor

3.5kW - 45kW



WHBS are compact, stainless steel, fully welded medium power resistors. They are mainly used on board of **vessels** and **off-shore wind turbines** where salt air conditions and high vibrations are constantly present. WHBS style resistors are used as brake resistor for winches, steering systems and other drive systems.

The electrical connections can be cable lugs, threaded rods , copper bars. The resistor can be fitted with an IP 66 connection box. The working voltage differs per power rating and ranges from **1400 to 3000V**. Insulation voltage levels are up to 12.000VAC.

The water connections are selected based on the required water flow however in principle any water connection style can be chosen.

Because of there compactness they are easy to install and require minimum maintenance. They are made from stainless steel **AISI304 or AISI316** and suitable in harsh environmental conditions. In Wind turbine applications they can be used as filter resistor where a constant power of several kilowatts needs to be dissipated.

WHBS style resistors are medium-power resistors ranging from 5 to 45kW. Because of their compact size they are ideally suited for constant load conditions such as filter applications in wind turbines or medium-power brake applications onboard vessels. Their stainless steel (AISI 304 or AISI316) housings allow them to be used in salt-air environments.

The salient characteristics of WHBS type resistors are:

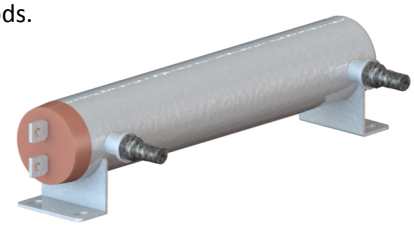
- Housings entirely made of AISI 304 or AISI316 stainless steels
- Protection degree IP66
- Continuous power range from 5 to 45 kW
- Working pressure 6 bar, testing pressure 10 bar

Construction

The WHBS series has one or six internal steel tube elements. The elements can be placed in any configuration like star or delta connection, individual or in parallel.

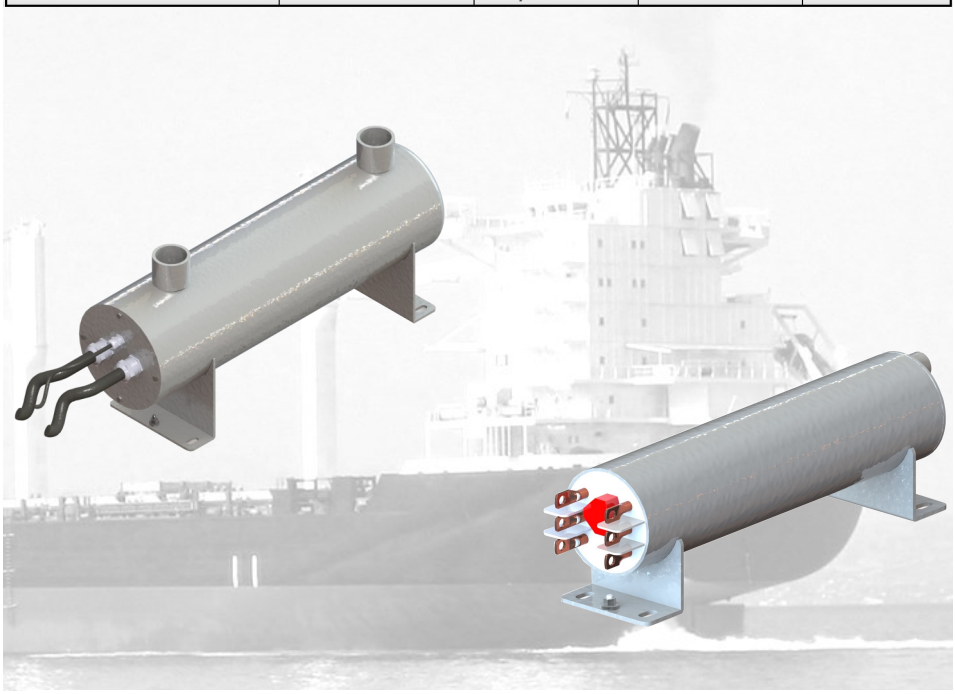
Connection

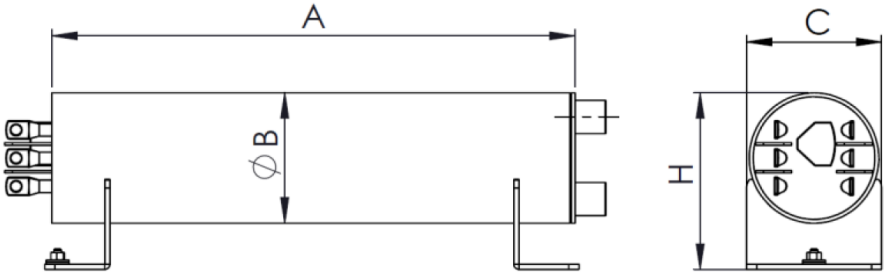
The WHBS can be equipped with or without connection box, depending on the protection degree requirement. The connection can be cable lug or threated rods.



WHBS Welded

Type	Ohmic value [Ω] ±5%	Power P_n [kW]	Limit element voltage	Weight [kg]
WHBS 32.2	0.05 - 250	5	1,500 V	3
WHBS 32.4	0.05 - 250	10	1,500 V	5
WHBS 70.1	0.05 - 250	3,5	3,000 V	4
WHBS 16.3	0.01 - 50	10	1,400 V	9
WHBS 16.6	2 - 30	45	1,400 V	25
General Specifications				
Insulation resistance	WHBS 16	≥20 MΩ @ 2,500 VDC		
	other	≥40 MΩ @ 5,000 VDC		
Dielectric strength	WHBS 32	10,000 VAC @ 50Hz 1 min		
	WHBS 70	12,000 VAC @ 50Hz 1 min		
	WHBS 16	3,500 VAC @ 50Hz 1 min		
Protection degree		IP66		
Working pressure		6 bar		
Cooling		Water/Water-glycol		
Dimensions	A [mm]	B [mm]	C [mm]	H [mm]
WHBS 32.2	500	Ø 101.6	106	138
WHBS 32.4	500	Ø 101.6	106	138
WHBS 70.1	500	Ø 101.6	106	138
WHBS 16.3	520	Ø 101.6	106	138
WHBS 16.6	1020	Ø 114.3	115	195





DANOTHERM™

Danotherm Electric A/S
Naesbyvej 20
2610 Roedovre
Denmark

www.danotherm.com
CVR 1012 6061