



WHDN

Stainless steel high power

Water cooled Resistor

25kW - 1.3MW



The WHDN style resistors are mainly used in marine applications as brake resistors for winches, steering and propulsion (dynamic positioning). Depending on the needed power rating the WHDN resistors have a tank with a diameter ranging from 100mm to 300mm. The length is also dependent on the requested power rating and can be up to 3000mm. In same power ratings you may choose between a short resistor with a large diameter or vice versa. WHDN resistors are cooled with fresh water or a mixture of water-glycol. Depending on the water flow a suitable size water connector is selected. In principle, any water connection style the customer desires can be used.

Inside the water tank a number of steel tube resistor elements are fitted. This way a simple star or delta configuration is possible but also a load bank with different power steps.

The connections are done in a stainless steel connection box. The number and size of the cable glands can be according to customer specifications.

The WHDN resistors are made completely from stainless steel, for salty environments we recommend to use AISI316 steel.

WHDN are high power, liquid-cooled resistors, mainly used in marine applications. Wherever there is regenerative power, brake resistors are needed to dissipate the surplus energy that cannot be absorbed by other systems.

WHDN steel tube resistors are used in applications for winches, steering systems and propulsion systems. Because of their high continuous load capability, they are also used in dynamic positioning systems.

Construction

The tubular steel resistor elements are fitted inside a stainless steel cylinder. The elements are sealed with special epoxy resin to ensure high and stable resistor insulation values. The cylindrical housing is fitted with water connection flanges that can be made in any style, according to the customers' specifications. A special internal circulation system forces the water flow for optimum cooling.

The salient characteristics of WHDN types are:

- Construction made completely in AISI 304 or AISI316
- Protection degree IP66
- Continuous power range from 25kW to 1.3MW
- Operated pressure up to 10 bar
- Working voltage up to 1400 VDC.

WHDN

Type	Ohmic value [Ω] ±5%	Power P _n [kW]		Weight [kg]
WHDN 100	2 - 60	25 - 80		36 - 70
WHDN 150	2 - 40	80 - 180		110 - 140
WHDN 200	1 - 30	150 - 450		170 - 220
WHDN 250	1 - 15	280 - 600		250 - 350
WHDN 300	1 - 15	600 - 1300		350 - 450
General Specifications				
Insulation resistance	all types	≥20 MΩ @ 5,000 VDC per tube		
	WHDN.300	≥5 MΩ @ 5,000 VDC per tube		
Limit element voltage		1,400V		
Dielectric strength		3,500 VAC @ 50Hz 1 min		
Protection degree		IP66		
Working pressure	all types	10 bar		
	WHDN 300	8 bar		
Coolant		Fresh water/Water-glycol		
Dimensions	A [mm]	B [mm]	C [mm]	H [mm]
WHDN 100	1.000 - 1.700	A + 150	220	270
WHDN 150	1.100 - 2.400	A + 200	300	360
WHDN 200	1.200 - 3.000	A + 250	350	450
WHDN 250	1.600 - 3.000	A + 250	410	500
WHDN 300	1.650 - 2.400	A + 350	450	640

