



Liquid-cooled components

Our three cooling variants

Indirect cooling with heat sink:

This version the heat sinks are integrated into the components and directly fixed to the heat sources in order to enable a higher degree of efficiency. This design is particularly efficient at higher power levels.



Schematic diagram of **indirect cooling**

- Cooling block
- Winding
- Core

Indirect cooling with coldplate:

In this version a heat sink is attached externally to cool it. This is a more economical method for low power levels and smaller components.

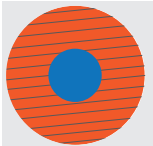


Schematic diagram of **Coldplate**

- Cooling block
- Winding
- Core

Direct cooling with waveguides:

In addition to it's standard indirect cooling method REO now offers the direct cooling method, which enhances cooling efficiency even more. The direct cooling uses waveguides, which includes the conductive material as well as the cooling fluid (water/glycol). The use of this method provides optimal cooling.



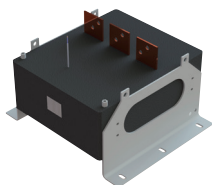
Schematic diagram of direct cooling

- Cooling liquid
- Conductive material

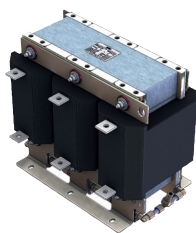
Liquid-cooled chokes

Advantages

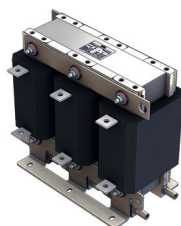
- Low surface temperature
- Increased life time
- Size reduction



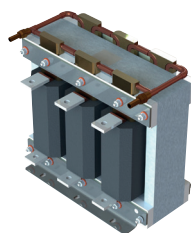
CNW MD 806



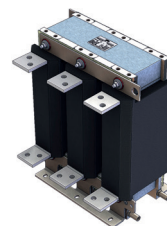
CNW MD 953



CNW MD 903



CNW MD 835



CNW MD 854



NNT MD 953



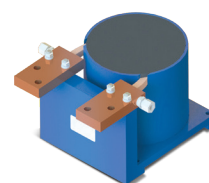
CNW MD 854



CNW MD 903



CNW MD 933



NTT LD-DH 100

Technical data

Liquid-cooled chokes*						
Type	Product group	Rated current	Voltage	Design	Protection	Cooling type
CNW MD 806	Dv/dt Choke	100 - 1200 A	500 - 800 V	Encapsulation	IP00	Indirect cooling
CNW MD 953	Mains choke	200 - 1200 A	3x400 V (3x690 V)	Partial Encapsulation	IP00	Indirect cooling
CNW MD 903	Mains choke	200 - 1200 A	3x400 V (3x690 V)	Partial Encapsulation	IP00	Indirect cooling
CNW MD 835	5-Limb Motor choke	450 - 700 A	3x500 V	Partial Encapsulation	IP00	Indirect cooling
CNW MD 854	Motor choke	200 - 1200 A	3x400 V (3x690 V)	Partial Encapsulation	IP00	Indirect cooling
NNT MD 953	Mains choke	200 - 1200 A	3x400 V (3x690 V)	Encapsulation	IP00	Indirect cooling
CNW MD 854	Motor choke	6 - 70 A	500 V	Encapsulation	IP 20 - IP 65	Cold Plate
CNW MD 903	Mains choke	6 - 70 A	500 V	Encapsulation	IP 20 - IP 65	Cold Plate
CNW MD 933	Sinusoidal filter	6 - 70 A	500 V	Encapsulation	IP 20 - IP 65	Cold Plate
NTT LD-DH 100	Snubberchoke	500 - 2500 A	bis 3000 V	Encapsulation	IP00	Direct cooling

*All products are not in stock

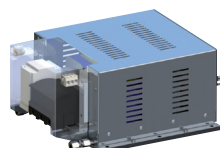
Liquid-cooled filter/ combinations

Advantages

- Low surface temperature
- Use of cooling surfaces possible by the customer
- Size reduction



CNW MD 458



CNW C 329

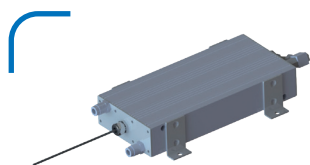
Technical data

Liquid-cooled filter/ combinations*						
Type	Product group	Rated current	Voltage	Design	Protection	Cooling type
CNW MD 458	Mains filter	3 - 64 A	480 V	Housing	IP20	Indirect cooling
CNW C 329	Liquid-cooled Combination	10 - 180 A	500 V	Housing	IP42	Indirect cooling

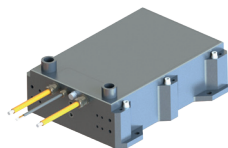
Liquid-cooled resistors

Advantages

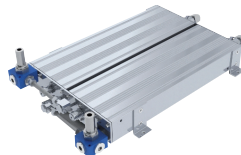
- Minimierung der Baugröße bis zu 80%
- Hohe Effizienz
- Geräuscharm



BW D 158



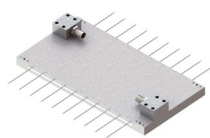
BW D 330



NTT RD 158



R D 169



R D 330



REOLOAD 300

Technical data

Liquid-cooled resistors*						
Type	Product group	Power	Voltage	Design	Protection	Cooling type
BW D 158	Braking resistor	1 - 60 kW	1000 V	-	up to IP65	Indirect cooling
BW D 330	Braking resistor	15 - 60 kW	800 V	-	up to IP69K	Indirect cooling
NTT RD 158	Railway application	2,6 kW	4200 V	-	up to IP65	Indirect cooling
R D 169	Loading resistor	4 - 6 kW	690 V	-	IP00	Indirect cooling
R D 330	Loading resistor	30 -160 kW	500 V	-	IP20	Indirect cooling
REOLOAD 300	Resistive loads	up to 400 kW	400 - 1000 V	Switch cabinet	IP20 - IP54	Indirect cooling

*All products are not in stock

Notes

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