

Ω OHMEGA

# SV14-600/ -800/ -1100- 1600- 1800

Water Cooled Stainless steel  
MEDIUM POWER BRAKE RESISTORS  
Standard range: 5 kW – 22 kW (steady state)



**SV14/600-3, SV14/800-3, SV14/1100-3, SV14/1600-3 and SV14/1899-3** is a range of water cooled medium power brake resistors.

The resistors consist of stainless steel tube resistors with diameter 14 mm and length 600mm to 1900mm mounted in stainless steel water tanks. The electrical connections comply with protection class IP 00 to IP 54 according to customer specifications.

Danotherm has developed **thermal models** for all resistor types and resistor values. By using these models we are able to calculate the temperature rises in the resistor wire for all possible load applications. We offer our assistance to our customers to find the optimum solution for any situation.

All types can be offered with thermo watch.

### Construction

The OHMEGA SV14-XXX-3 resistors are constructed as follows:

A resistor consists of a water tank (AISI 304) mounted with 3 resistor elements. The resistor elements are wire wound steel tube elements (AISI 316L) with a diameter of 14mm and a length of 600 – 1800 mm.

Power rating: 5 kW to 22 kW / unit.

Standard materials are:

Resistor elements: AISI 316L with NiCr resistor wire.

Water Tank: AISI 304

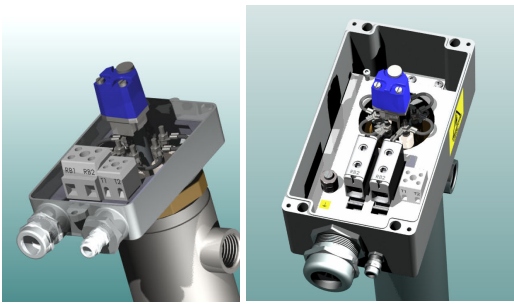
### Connection

Power cables are connected through a M25/M40 cable gland with integrated screen connection. The range of outer diameter of the power cable is 9.0- 16.6mm/19-28mm.

The power cables (2.5-10 mm<sup>2</sup>/2.5-50mm<sup>2</sup>) are connected to a terminal block with screw connections. The PE is connected directly to the connector box with a screw.

The cable for the thermo watch is connected to a terminal block (0.5-4mm<sup>2</sup>) via a M12 gland with clamping range 3 – 7mm.

The Connector Box made of Aluminium has a protection class of IP54, Type B or IP65, Type BG.



Ratings:

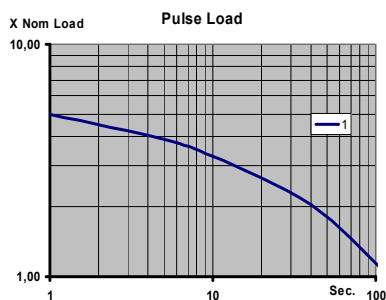
Type	PN kW @40°C	Pulse Load in 5 s each 120 s. P5/120 W @40°C	Pulse Load in 10s each 120 s. P10/120 kW @40°C	Pulse Load in 40 s each 120 s P40/120 kW @40°C	Time Const. sec. (Element, Steady state)	R Ω ±10% Elements in parallel
SV14-600-03	5	20	15	8,5	18	2 – 50
SV14-800-03	9	36	27	16	18	2 – 50
SV14-1100-03	12	48	36	22	18	2 – 50
SV14-1600-03	19	77	58	36	18	3 – 50
SV14-1800-03	22	93	71	44	18	3 – 50

Pulse Ratings for short pulses depend on the ohmic value. (Resistors with lower resistance have more resistor wire than resistors with higher resistance). The ratings in this table refer to resistors of about 40 OHMS/element

General Specifications	
Temperature Coefficient:	<±100ppm
Max resistor wire temperature:	1000 °C
Dielectric strength:	2500VAC 1 minute
Working Voltage:	690VAC; 1100VDC
Isolation Resistance:	> 2 MΩ
Overload:	x in 10 sec; x in 1 s
Environmental:	0 °C – 60 °C
Working pressure:	6 Bar
Test pressure:	10 Bar
Thermo watch contact:	58°C – 110°C/ N.C.; 20A@240VAC

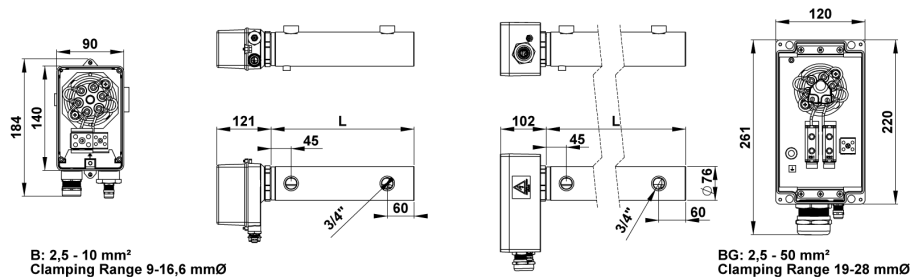
### PULSE LOAD

The curves show the pulse load ability compared to the nominal load for the resistors under the following conditions: The load is a periodic pulse load with a constant period time of 120 sec and a pulse width from one second to 40 sec. The elements are 40 OHM



For further optimization DANOTHERM offers individual thermal electric circuit models for all types and ohm values. With these models the temperature of the resistor wire during any pulse load conditions can be simulated with a standard soft ware like P-Spice. Alternatively Danotherm offers to make thermal simulation for our customers

### Mechanical Data



Type	SV14-600-3	SV14-800-3	SV14-1100-3	SV14-1600-3	SV14-1800-3
L mm	320	465	585	850	965
Weight (Empty)	3 Kg	4 Kg	5 Kg	7 Kg	9 Kg
Weight incl. water	4,5Kg	6 Kg	7,5 Kg	11 Kg	13 Kg
Heat capacity of water ( no flow) kJ/K	6 kJ/K	8,7 kJ/K	11 kJ/K	16 kJ/K	18 kJ/K
Min. Water flow @ PN (Max conf.) ΔT = 30 K	2,5 l/min	4,5 l/min	5,7 l/min	9 l/min	11 l/min
Pressure los @ X l/min					
Water connection	3/4"				
Connection for Valve	1/8"				
Connector Box Type: B	Main Cables 2,5 – 10 mm <sup>2</sup> , Clamping range 9 – 16,6 mmØ				
Connector Box Type BG	Main Cables 2,5 – 50 mm <sup>2</sup> Clamping range 19 – 28 mm				

### Type identification:

**SV14 / 800 – 3 B(G) (T) 22R 567**

