

**SPEED-O-CONTROLS
PVT. LTD.**



CRANE CONTROL SOLUTIONS

STAINLESS STEEL RESISTANCE BOX



DISCOVER OUR RANGE OF RESISTANCE BOX

INDEX

**PUNCHED GRID
RESISTANCE BOX
PS 375°C**



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**PUNCHED GRID
RESISTANCE BOX
2PS 375°C**



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**DYNAMIC BRAKING
RESISTOR**



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Punched Grid Resistance Box - PS 375° C



Introduction

Resistance boxes are used to add resistance to an electric motor circuit for modifying the performance characteristic of slip ring induction motors of EOT cranes, rubber mills, steel rolling mills, cement mills, power plants, conveyors, coke oven, blowers, etc. For speed control and developing starting torque with low starting currents. They are also used as Dynamic Braking Resistor for VVVF AC drives, electric loading of ac alternators, degeneration, and dynamometers. Resistors are designed to meet the requirements of both A.C. & D.C. applications. .

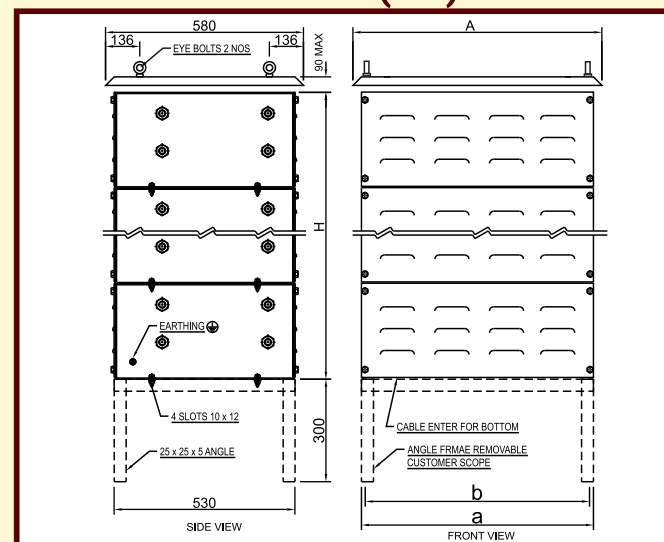
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Technical Data

Type Of Grid	Punched Grid
Cooling	Natural Air cooled
Resistors Material	Stainless Steel
Enclosure	Sheet Steel (Galvanized)
Mounting	Floor Mounting Horizontal
Cable Entry	Bottom
Protection Degree	IP-20 / IP-21 / IP-23 / IP-33
Over Ambient Temperature	375° C
Current Rating	8 Amps -----3000 Amps
Connections	Series / Parallel
Voltage	600 V
Terminals	3/8"
Other Voltage	1100/3300 V on request

Resistance Boxes (PS)



Resistance Boxes

Current rating chart for Punched Grid Resistors for 375°C temperature rise

Grid Type	Rated Value	Current rating for various duty factors (Amps)			
		25%ED	40%ED	60%ED	100%ED
PS-10	0.01	390	325	280	234
PS-15	0.015	318	265	228	190
PS-22	0.022	265	220	190	158
PS-32	0.032	220	182	153	131
PS-46	0.046	185	151	130	110
PS-68	0.068	152	126	110	90
PS-100	0.1	125	103	88	74
PS-150	0.15	101	84	72	61
PS-220	0.22	83	70	59	50
PS-300	0.3	82	59	50	43
PS-460	0.46	58	48	40	35
PS-720	0.72	47	39	33	28
PS-1000	1	40	33	28	24
PS-1500	1.5	32	27	23	19
PS-2500	2.5	25	21	18	15
PS-3500	3.5	20	17	15	12
PS-4500	4.5	15	13	11	8

Resistance Boxes (PS)

Dimension Details of Punched Stainless Steel Resistance Boxes

Unit Size	A	a	b	Unit Size	A	a	b	H
A1	430	380	360	B1	580	530	510	280
A2	430	380	360	B2	580	530	510	560
C1	730	680	650	D1	880	830	805	280
C2	730	680	650	D2	880	830	805	560
C3	730	680	650	D3	880	830	805	840
C4	730	680	650	D4	880	830	805	1120
C5	730	680	650	D5	880	830	805	1400
C6	730	680	650	D6	880	830	805	1680

Punched Grid Resistance Box - 2PS 375° C



Introduction

Resistance boxes are used to add resistance to an electric motor circuit for modifying the performance characteristic of slip ring induction motors of EOT cranes, rubber mills, steel rolling mills, cement mills, power plants, conveyors, coke oven, blowers, etc. For speed control and developing starting torque with low starting currents. They are also used as Dynamic Braking Resistor for VVVF AC drives, electric loading of ac alternators, degeneration, and dynamometers. Resistors are designed to meet the requirements of both A.C. & D.C. applications. .

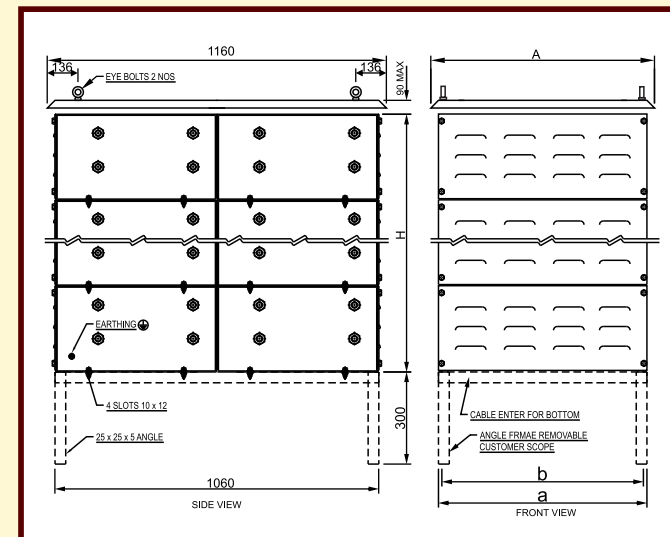
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Technical Data

Type Of Grid	Punched Grid
Cooling	Natural Air cooled
Resistors Material	Stainless Steel
Enclosure	Sheet Steel (Galvanized)
Mounting	Floor Mounting Horizontal
Cable Entry	Bottom
Protection Degree	IP-20 / IP-21 / IP-23 / IP-33
Over Ambient Temperature	375° C
Current Rating	8 Amps -----3000 Amps
Connections	Series / Parallel
Voltage	600 V
Terminals	3/8"
Other Voltage	1100/3300 V on request

Resistance Boxes (2PS)



Resistance Boxes

Current rating chart for Punched Grid Resistors for 375°C temperature rise

Grid Type	Rated Value	Current rating for various duty factors (Amps)			
		25%ED	40%ED	60%ED	100%ED
2PS-10	0.005	780	650	560	468
2PS-15	0.0075	636	530	456	380
2PS-22	0.011	530	440	380	316
2PS-32	0.016	440	364	306	262
2PS-46	0.023	370	302	260	220
2PS-68	0.034	304	252	220	180
2PS-100	0.05	250	206	176	148
2PS-150	0.075	204	168	144	122
2PS-220	0.11	166	140	118	100
2PS-300	0.15	164	118	100	86
2PS-460	0.23	116	96	80	70
2PS-720	0.36	94	78	66	56
2PS-1000	0.5	80	66	56	48
2PS-1500	0.75	64	54	46	38
2PS-2500	1.25	50	42	36	30
2PS-4500	2.25	30	26	22	16

Resistance Boxes (PS)

Dimension Details of Punched Stainless Steel Resistance Boxes

Unit Size	A	a	b	Unit Size	A	a	b	H
A1	430	380	360	B1	580	530	510	280
A2	430	380	360	B2	580	530	510	560
C1	730	680	650	D1	880	830	805	280
C2	730	680	650	D2	880	830	805	560
C3	730	680	650	D3	880	830	805	840
C4	730	680	650	D4	880	830	805	1120
C5	730	680	650	D5	880	830	805	1400
C6	730	680	650	D6	880	830	805	1680



Dynamic Braking Resistor PS

Introduction

Braking Resistors are used in the d. c. Link of the frequency converter. A braking chopper activates the resistor. If the output frequency converter drops-be it by a control process, a drop operating frequency of the motor, the motor takes on the function of a generator. The consequence is arise in the link voltage. If this voltage exceeds the specific value of the unit in resistor. If the voltage drops to a value just above the grid voltage of the link, the chopper will interrupt the circuit. This process will be repeated until the motor speed once again matches the applied operating frequency. The braking resistor takes on the energy and converts it into heat.

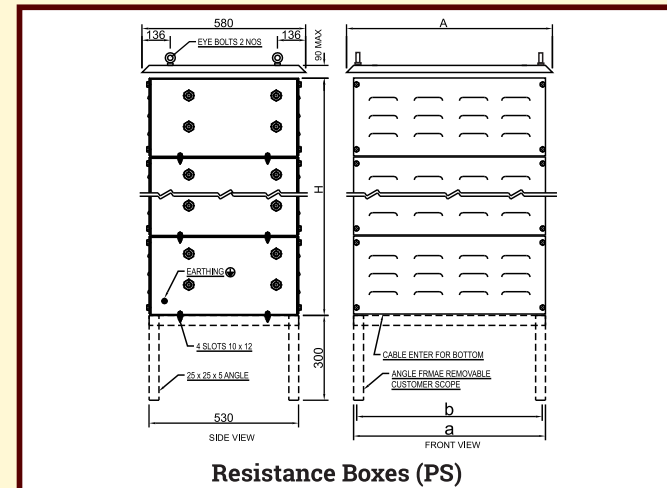
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Braking resistor operating modes

Braking resistors are usually only activated for a short time, save the braking energy and give off the short time, save the braking energy and give off the stored heat to the environment during the breaks when they are inactive. This is intermittent operation with a cyclic duration factor (c.d.f) indicated in % of the duty cycle time. The duty cycle time tsp is calculated from the total of the braking time to plus resting time. The overload capacity of the resistor is dependent on the thermal time constant and thus on the design, among others.

Resistance Boxes (PS)



The resistance value of the Braking Resistors

In general, the resistance value of a braking lowest value of the admissible value for the braking chopper and a maximum value where the required braking performance is still achieved. Assuming a standard reserved of 25% which takes into account the manufacturing tolerance and the resistance change due to heating up as well as the lower mean value of the link voltage as compared with the chopper activating voltage, the maximum value for the braking resistor is calculated as:

Resistance Boxes (PS)

Dimension Details of Punched Stainless Steel Resistance Boxes

Unit Size	A	a	b	Unit Size	A	a	b	H
A1	430	380	360	B1	580	530	510	280
A2	430	380	360	B2	580	530	510	560
C1	730	680	650	D1	880	830	805	280
C2	730	680	650	D2	880	830	805	560
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SPEED-O-CONTROLS PVT. LTD.

CRANE CONTROL SOLUTIONS

CRANE CONTROL GEAR



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