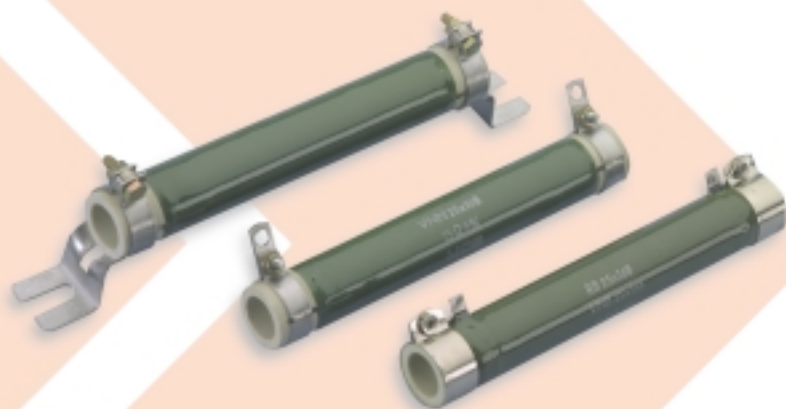




VITREOUS WIREWOUND POWER RESISTORS

- **High dissipation**
- **Applicable standard : NFC 93 214**
- **3 models :** VNF traction lug
VNB rings
VNN collars

GENERAL CHARACTERISTICS

Core :	ceramic
Winding :	NiCr alloy
Coating :	vitreous
Ohmic values :	E 12
Standard tolerance :	± 5 %
Temperature coefficient :	75 ppm / °C (typical)
Temperature range :	- 55 °C to + 450 °C

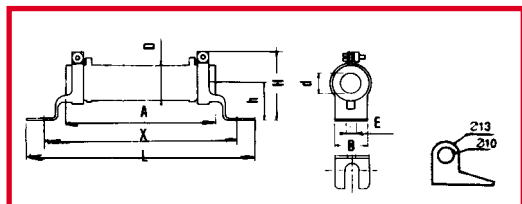
SPECIFIC CHARACTERISTICS

TYPE		42X362	30X250	30X153	25X168	25X138	25X110
NFC 93 214			(RB 30x250)		(RB 25X168)		
	Pn		240W		140W		
	R min		4,7Ω		2,7Ω		
	Rmax ø63μ*		56 kΩ		33 kΩ		
	Rmax ø38μ*		180 kΩ		100 kΩ		
MCB Ind.	POWER	600 W	320 W	200 W	180 W	145 W	120 W
	R min	8,2 Ω	4,7 Ω	3,3 Ω	2,7 Ω	2,7 Ω	2,7 Ω
	R max	470 kΩ	390 kΩ	270 kΩ	270 kΩ	180 kΩ	120 kΩ
	U lim	4500 V	3000 V	1700 V	1900 V	1400 V	1000 V

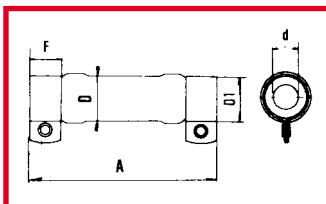
TYPES		25X84	20X117	16X94	13X70	10X52
NFC 93 214			(RB 20x117)		(RB 13X70)	
	Pn		72W		28W	
	R min		2,7Ω		2,2Ω	
	Rmax ø63μ*		15 KΩ		4,7 kΩ	
	Rmax ø38μ*		47 KΩ		15 kΩ	
MCB Ind.	POWER	85 W	90 W	55 W	35 W	22 W
	R min	2,2 Ω	2,2 Ω	2,2 Ω	2,2 Ω	1 Ω
	R max	82 kΩ	120 kΩ	68 kΩ	56 kΩ	33 kΩ
	U lim	650 V	1100 V	900 V	650 V	450 V

*Wire diameter set by standard

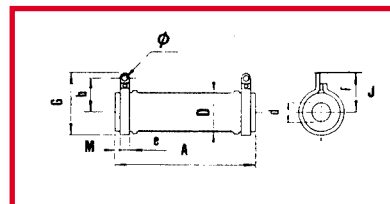
DIMENSIONS



VNF



VNB



VNN

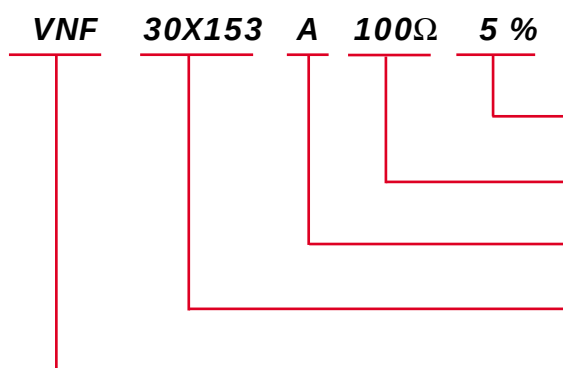
Dimensions in millimeters and weights in grams

TYPE	42X362	30X250	30X153	25X168	25X138	25X110	25X84	20X117	16X94	13X70	10X52
A	362±7	250±2	152,5±2	168±2	138±2	110±2	84±2	117±2	94±2	70±2	52±1
B+0,5-0	30	25	25	24	24	24	24			13	6
b	43±1,5	33±1	33±1	28,5±1	28,5±1	28,5±1	28,5±1	26±0,7	22±0,5	20±0,5	18±0,5
D max	46	33	33	28	28	28	28	23	19	16	13
D1		31±1	31±1	26±0,9	26±0,9	26±0,9	26±0,9	21±0,7	17±0,6	13±0,5	11±0,6
d	26±0,5	17min	17min	17±0,35	17±0,35	17±0,35	17±0,35	12±0,5	10±0,3	7±0,21	6,2±0-2
E	9±0,5	9±0,5	9±0,5	6,5±0,2	6,5±0,2	6,5±0,2	6,5±0,2			4,2±0,2	3±0,2
e ±1	18	13	13	9	9	9	9	9	8	7	7
F		18±0,5-0	18±0,5-0	15±0,5-0	15±0,5-0	15±0,5-0	15±0,5-0	14±0,5-0	12±0,5-0	10,5±0,50	8±0,5
g max	88	63	63	55	55	55	55	48,5	40	37	34
H max	72	62	62	53	53	53	53			20,5	18
h ±2	45	30	30	27	27	27	27			7	6
J	52±1,5	39±1	39±1	33,5±1	33,5±1	33,5±1	33,5±1	31±0,7	26,5±0,5	24±0,5	22±0,5
L max	440	222,5	320	230	200	171	145			93	70
M	10-0+3	5±1,5	5±1,5	6±1,5	6±1,5	6±1,5	6±1,5	5±1,5	4±1,5	3,5±1,5	2±1,5
ø	6,2±0,5	5,7±0,5	5,7±0,5	5±0,8	5±0,8	5±0,8	5±0,8	5±0,8	4,2±0,30,1	4,2±0,30,1	4,2±0,30,1
X ±2	398	285	187,5	198	168	141	115			81	62
Weight	1300	380	250	250	200	160	10	85	40	25	16

OPTIONS (consult us)

- Other value than E12 series
- Intermediate terminals

HOW TO MAKE OUT YOUR ORDER



Tolerance

Value (E12 series)

" A " for non-inductive

Type

Model

For information only and subject to amendment



SPECIFIC NON-INDUCTIVE "A" VN MODEL CHARACTERISTICS

TYPE	42x362A	30X250A	30X153A	28X168A	25X138A	25X110A
R min	8,2 Ω	4,7 Ω	3,3 Ω	2,7 Ω	2,7 Ω	2,7 Ω
R max	1,5 k Ω	820 Ω	560 Ω	680 Ω	470 Ω	330 Ω

TYPE	25X84A	20X117A	16X94A	13X70A	10X52A
R min	2,2 Ω	2,2 Ω	2,2 Ω	2,2 Ω	1 Ω
R max	180 Ω	390 Ω	270 Ω	220 Ω	150 Ω

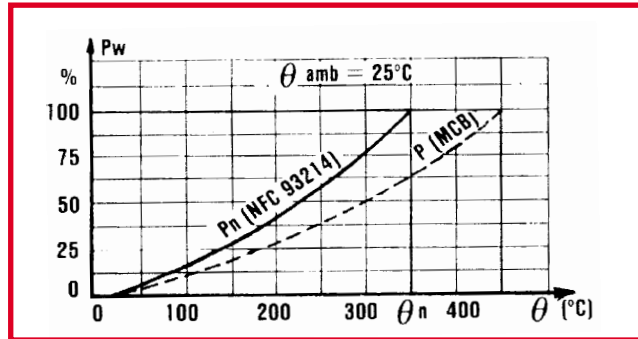
PERFORMANCES

TESTS	CONDITIONS	NFC 93 214 REQUIREMENTS	TYPICAL VALUES MCB Ind.
Overloads	10 Pn (temp. nom.) 5 sec	2 % ou 0,05 Ω *	0,5 %
Climatic	- 55 °C/ 5 cycles / +200 °C	3 % or 0,05 Ω *	0,2 %
Damp heat	56 days 95 % HR	2 % or 0,05 Ω *	0,1 %
Thermal shocks	Pn - 55 °C	2 % or 0,05 Ω *	0,2 %
Shocks	Sévérité 50 A	0,5 % or 0,05 Ω *	0,25 %
Vibrations	Sévérité 55 / 10	0,5 % or 0,05 Ω *	0,25 %
Terminal as strenght	40 N Collar 60Nm rings	1 % or 0,05 Ω *	0,1 %
Endurance	500 cycles Pn 90mn/30mn	5 %	1,5 %

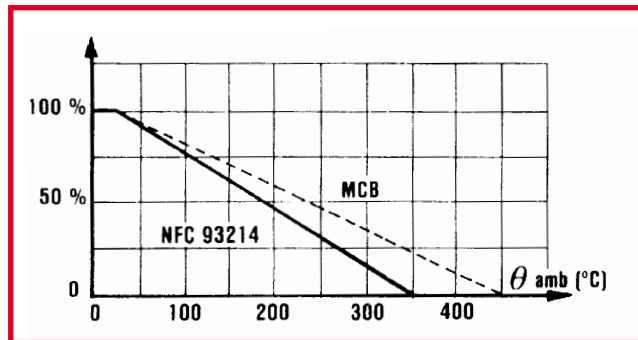
*The higher of either value

DISSIPATION

Temperature as a function
of surface temperature
 $P(W) = F(\text{temp. surf})$



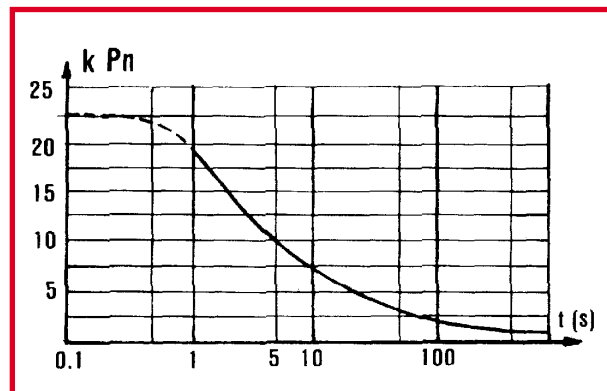
Derating in Power
as a function
of ambient
temperature



OVERLOAD

Intermittent overloads
(exceptionnal operation)

Initial temperature $< 70^{\circ}\text{C}$
 $k \times P_n = F(r)$



ENERGY ABSORTION

Energy as a function
of R_n Repetitive operation
Pulse duration $< 100\text{ms}$

- | | |
|-----------|-----------|
| 1: 42X362 | 6: 25X110 |
| 2: 30X250 | 7: 25X64 |
| 3: 30X153 | 8: 20X117 |
| 4: 25X168 | 9: 16X94 |
| 5: 25X138 | 10: 13X70 |
| | 11: 10X52 |
- $E = f(R)$

