

Horsepower or Service Factor vs Ambient Temperature & Altitude

Derating Factor vs HP or SF		Ambient Temperature								
		40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C
Altitude	1000 m 3300 ft	1.00	0.96	0.90	0.86	0.82	0.73	0.69	0.66	0.62
	1500 m 4900 ft	0.97	0.93	0.87	0.83	0.80	0.70	0.67	0.64	0.60
	2000 m 6500 ft	0.94	0.90	0.85	0.81	0.77	0.69	0.66	0.62	0.58
	2500 m 8200 ft	0.90	0.86	0.81	0.77	0.74	0.66	0.62	0.59	0.56
	3000 m 10000 ft	0.86	0.83	0.77	0.74	0.71	0.63	0.59	0.56	0.53
	3500 m 11500 ft	0.82	0.79	0.74	0.71	0.67	0.60	0.56	0.54	0.51
	4000 m 13000 ft	0.77	0.74	0.70	0.66	0.63	0.56	0.53	0.51	0.48

Example: Motor with power rating of 10HP with 1.2 SF

Derating horsepower of motor in constant Service Factor in 50°C Ambient and 6500 ft Altitude.
 $10\text{HP} \times 0.85 = 0.85\text{HP}$

Derating Service Factor of motor in constant horsepower in 50°C Ambient and 6500 ft Altitude.
 $1.2\text{ SF} \times 0.85 = 1.02\text{ SF}$

This table is for reference only. Nidec Motor Canada Corporation does not assume responsibility for the selection, use, or maintenance of any product. Responsibility for the proper selection, use, and maintenance of any Nidec Motor Canada Corporation product remains solely with the purchaser and end-user.