

SERVICE FACTOR

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Duty	Load Classification	Application	Starts Per Hour	Average Operating Hours Per Day			
				<2HR	2HR - 8 HR	9HR - 16HR	17HR - 24HR
Light	Gentle start and steady performance, suitable for small-mass acceleration	<ul style="list-style-type: none"> Centrifugal pumps Belt conveyors with uniformly distributed load Bottling machines Rotary gear pumps Fans Power generator 	<10	0.75	1	1.25	1.5
Medium	Starting with moderate loads, uneven operating conditions, and is suitable for medium-sized masses to be accelerated	<ul style="list-style-type: none"> Belt conveyor with varied loads Leveling machines Shakers and liquid mixers with variable density and viscosity Machines for food industry (kneeding, Mincing & slicing Machines) Textile industry machines Cranes & Hoists 	<10	1	1.25	1.5	1.75
			10 ~ 50	1.25	1.5	1.75	2
			50 ~ 100	1.5	1.75	2	2.2
			100 ~ 200	1.75	2	2.2	2.5
Heavy	Shock loading, heavy loads, and larger masses requiring acceleration.	<ul style="list-style-type: none"> Machinery for the brick Industry, tiles and clay Kneaders Milling machines Lifting winches with buckets Rotating furnaces Heavy fans for mining purposes Conveyors with shock loading Mixers - Concrete Planing machines 	<10	1.25	1.5	1.75	2
			10 ~ 50	1.5	1.75	2	2.2
			50 ~ 100	1.75	2	2.2	2.5
			100 ~ 200	2	2.2	2.5	3

Choosing the right Service Factor ensures the gearbox is neither under- nor over-designed, helping to:

- Improve reliability
- Prevent premature failure
- Optimize cost

Service factor is a safety margin built into gearboxes, allowing them to handle occasional overloads beyond their rated capacity. For example, a gearbox with a 1.5 service factor can operate at 150% of its rated load briefly without damage. It helps compensate for variable loads, shock, or harsh operating conditions, ensuring greater durability and reliability in demanding applications.

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