

Motor Types

Electrical Engineering

Five machines side by side, on how their speed is set and what they are chosen for.

Speed control is usually what decides the choice.

Machine	Speed set by	Typical use
Induction, cage	Inverter frequency	Pumps, fans, conveyors
Synchronous	Locked to the supply	Large drives, pf support
Brushed DC	Armature voltage	Small tools and actuators
Brushless DC	Electronic commutation	Drones, vehicles, servos
Stepper	Counted pulses	Positioning, printers

Educational reference. Brushed machines need brush maintenance; brushless ones move that complexity into the drive electronics.