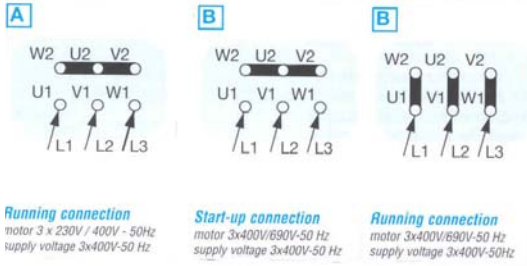




Connection diagrams

Single-speed motors suitable for 2 voltages by winding connection in Y or Δ

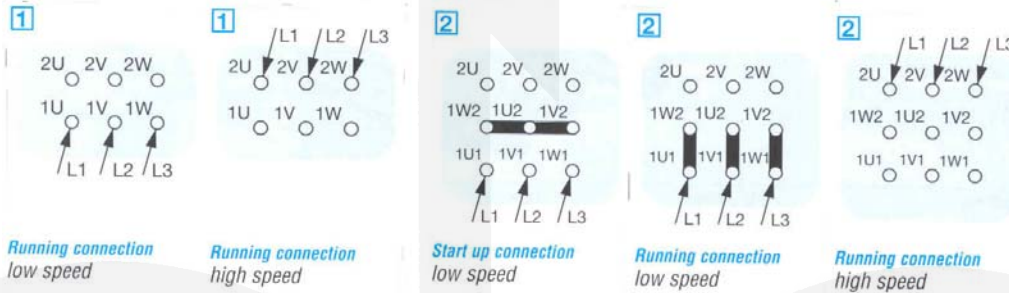


- A. Low power motors ($\leq 2,2$ kW) are usually switched on directly in Y position (D.O.L.). With a supply voltage of 3 x 400V-50Hz, for instance, the motor used has a winding that is suitable for 3 x 230V/400V-50Hz. (switching Δ and Y respectively).
- B. For greater outputs motors should preferably be switched in Y position during the starting period so that the winding is suitable for $\sqrt{3}$ x the mains supply voltage. In actual fact the motor then starts operating at an under-voltage, which significantly limits the starting current during the starting period. With a supply voltage of 3 x 400V-50Hz, for instance, the motor used has a winding that is suitable for 3 x 400V/690V-50Hz. (switching Δ and Y respectively).

Pole-changing motors with 2 separate windings

Type connection	Number of terminals	Start up	
		Low speed	High speed
1. Y / Y	6	direct	direct*
2. Δ / Y	9	star-delta	direct*
3. Y / Δ	9	direct	star-delta
4. Δ / Δ	12	star-delta	star-delta

1. Motors with an output lower than 2,2 kW at the low speeds are usually designed as Y / Y.
2. Motors with an output greater than 2,2 kW in the low speeds in Δ / Y. Motors with connection types 3. and 4. are available at an extra price (special on request). An advantage here is the low starting current during the entire start-up period, also at the high speeds.

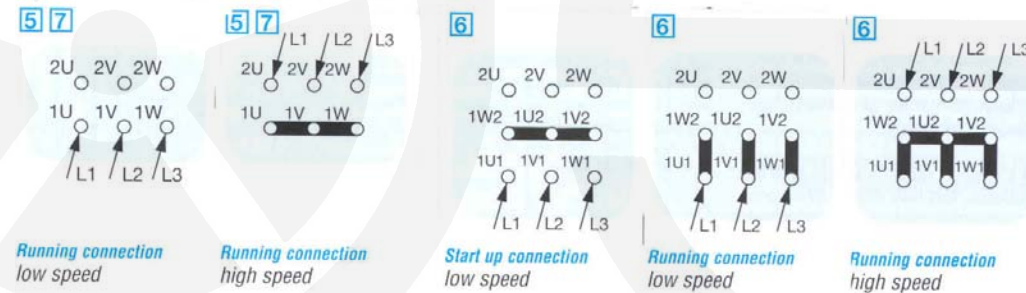


* note

It is usual to switch on the high speed via start-up in the low speed. The starting current for the direct switching in the high speed is not limited by this, but the starting time with this high current is however shorted.

Pole-changing motors with Dahlander winding

Type connection	% output low speed compared to high	Number of terminals	Connection	
			Low speed	High speed
5. Δ / YY	50 a 80 %	6	direct	direct*
6. Δ / YY	50 a 80 %	9	star-delta	direct*
7. Y / YY	20 a 30 %	6	direct	direct*



5. & 6. Dahlander B connection Δ / YY; delta/double star

At low speed the winding is connected in delta, for which there are two options: with 6 terminals for outputs lower than 2,2 kW and possibly 9 terminals for greater outputs.

7. Dahlander C connection Y / YY; star/double star

The nominal output at the low speed is 20 % to 30 % of the output at the high speed (fan usage). The low speed is constantly connected in star internally and directly switched on (no switch to delta). The high speeds are also double-star connected, also for direct switching (no switch to delta).