Motor Repair

A complete repair service for all AC and DC motors.
Motors repaired or replaced from 0.12kW to 250kW.
Onsite maintenance for all types of electrical equipment from pumps to industrial generator units

Manufacturers Stocks and Spares

We hold large stocks of spares to ensure repairs are completed to client time scales in order to limit production downtime. We supply new motors off the shelf from 0.12kW to 11.0kW. B5 and B14 flange options are available. Above 11kW a next day service is available.

We operate as distributors for various brands of motors, pumps, gearboxes, drives and generators. Notably, V.E.M, Power Plus, TEE(TEC), Grundfos, Lowara, Flyght, S.T.M., Flender, Parker S.S.D. Drives, Mecalte Spa and many others.

Experience and Excellence

Our staff have well over 100 years of combined experience in the field of motor or associated equipment repair. Our dedication to quality is backed by the latest diagnostic and repair equipment. We have the proven ability to repair a diverse range of products of all types and makes. Permanent magnet, shunt wound DC motors and many others. Whatever your company's requirements or problems we are confident we can accommodate your requirements to keep your business operating at maximum efficiency.

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Miniature circuit breakers for use in conjunction with motor starters and transformers

Motor starters

In general miniature circuit breakers can give only short circuit protection to motor loads due to the high starting currents which may be encountered; typically 3 to 12 times full load current (FLC).

Assumptions

The table gives recommended mcb ratings for motors up to 37kW based on the following assumptions;

direct-on-line starting

starting current = 7 x FLC
run-up time =
6 seconds, motors < 3kW
10 seconds, motors < 22kW
running currents = average values only (individual manufacturer's figure will vary), four pole motors, i.e. speed approx. 1500 rev/min.

For higher inertia loads, i.e. hoists or fans, run-up times may be considerably longer than those assumed above. The rating of the mcb must take account of the greater run-up time and starting current. The required mcb rating can be determined by reference to time/current curves (consult us).

star/delta starting

Since, during the changeover from star to delta, a high current surge in the order of DOL values may be met, the mcb rating selected should be the same as that recommended for DOL starting.

Table 1 - 3 phase 415V AC D.O.L. starting Recommended mcb

kW	hp	running I	C60HB	C60HC	C60HD	NC100C	NC100D
0.12	0.166	0.65	2	2	1	-	-
0.18	0.25	0.7	2	2	1	-	-
0.25	0.33	0.87	4	2	1	-	-
0.37	0.5	1.35	4	4	2	-	-
0.55	0.75	1.55	4	4	2	-	-
0.75	1.0	1.93	6	4	4	-	-
1.1	1.5	2.5	6	6	4	-	-
1.5	2	3.5	10	10	6	-	-
2.2	3	4.8	16	10	10	10	10
3	4	6.4	20	20	10	16	10
3.75	5	7.8	25	25	16	20	16
4	5.5	8.1	25	25	16	20	16
5.5	7.5	11	32	32	16	25	16
7.5	10	14.4	50	50	20	25	20
9.33	12.5	17.3	63	50	20	32	20
11	15	21	63	63	25	40	25
13	17.5	25	-	-	32	50	32
15	20	28	-	-	40	50	40
18.5	25	35	-	-	50	63	50
22	30	40	-	-	50	63	50
30	40	54	-	-	63	80	63
37	50	65.5	-	-	-	100	80

Table 2 phase 240V AC D.O.L. starting

kW	hp	running I	C60HB	C60HC	C60HD	NC100C	NC100D
0.12	0.166	0.95	4	2	1	-	-
0.18	0.25	1.5	4	4	2	-	-
0.25	0.33	1.7	6	4	2	-	-
0.37	0.5	3	10	6	4	-	-
0.55	0.75	4.5	16	10	6	10	-
0.75	1	5.5	16	16	10	16	10
1.1	1.5	8.5	25	25	16	20	16
1.5	2	10.5	32	32	20	25	20
2.2	3	15.5	40	40	25	32	25
3	4	20	63	63	32	40	32
3.75	5	24	-	63	40	50	40
5.5	7.5	34	-	-	50	63	50
6.3	8.5	36.5	-	-	63	63	63
7.5	10	45	-	-	63	80	63
11	15	66.5	-	-	-	100	80

Transformers

High inrush currents are also produced when transformers are switched on, typically 10-15 times full load current.

Assumptions

The tables give recommended mcb ratings for single phase transformers up to 12500 VA and three phase transformers up to 30000 VA based on the following formula:

mcb rating =

$$\frac{\text{15 x normal running current of transformer}}{\text{min. instantaneous tripping coefficient of mcb}}$$

Table 3 - 3 phase transformers 415V AC supply

VA	primary In (A)	C60HB	C60HC	C60HD	NC100C	NC100D
500	0.7	4	2	1	-	-
750	1.04	6	4	2	-	-
1000	1.39	10	6	4	-	-
2000	2.78	16	10	6	10	-
5000	6.95	40	25	16	25	16
10000	13.89	-	50	25	50	25
15000	20.84	-	63	32	63	32
20000	27.78	-	-	50	63	50
25000	34.73	-	-	63	80	63
30000	41.67	-	-	63	100	63

Table 4 - 1 phase transformers 240V AC supply

VA	primary In (A)	C60HB	C60HC	C60HD	NC100C	NC100D
50	0.21	2	-	-	-	-
100	0.42	4	2	1	-	-
250	1.04	6	4	2	-	-
500	2.08	16	10	4	-	-
1000	4.17	25	16	10	16	10
2500	10.42	63	32	16	25	16
5000	20.84	-	63	32	50	32
10000	41.68	-	-	63	80	63
12500	52.08	-	-	-	100	80

Severn Controls