

NEC (National Electric Code) Guidelines

1 Phase motor requirements (copper wire must be THW, THHN-THWN, XHHW). No solid core wire.

NOTE: Wire size is based on being within 30 feet of main electrical panel. Installation further away would need a qualified electrician to properly size the wire to account for voltage drop.

Horse Power	Voltage	Instantaneous Trip Circuit Breaker Rating	Circuit Breaker Trip Rating	Minimum Wire Size
1.5	115	30	40	12
1.5	230	15	20	14
2	115	50	50	10
2	230	30	30	14
3	115	50	70	8
3	230	30	40	12
5	230	50	60	10
7.5	230	70	80	8
10	230	90	100	4

NOTE: Some rotary screw compressors have additional drive motors for the cooling fans that need to be taken into account when sizing the electrical system.

3 Phase motor requirements (copper wire must be THW, THHN-THWN, XHHW). No solid core wire.

NOTE: Wire size is based on being within 30 feet of main electrical panel. Installation further would need a qualified electrician to properly size the wire to account for voltage drop.

Horse Power	Voltage	Circuit Breaker Trip Rating	Minimum Wire Size	Horse Power	Voltage	Circuit Breaker Trip Rating	Minimum Wire Size
3	200	20	14	30	200	150	2
3	230	20	14	30	230	125	3
3	460	15	14	30	460	80	8
3	575	15	14	30	575	60	8
5	200	35	12	40	200	200	1/0
5	230	30	14	40	230	175	1
5	460	15	14	40	460	100	6
5	575	15	14	40	575	80	6
7.5	200	50	10	50	200	200	3/0
7.5	230	45	10	50	230	200	2/0
7.5	460	20	14	50	460	125	4
7.5	575	20	14	50	575	100	6
10	200	60	8	60	200	250	4/0
10	230	60	10	60	230	225	3/0
10	460	35	14	60	460	125	3
10	575	25	14	60	575	125	4
15	200	90	6	75	200	300	300
15	230	80	6	75	230	300	250
15	460	45	10	75	460	150	1
15	575	40	12	75	575	125	3
20	200	100	4	100	200	400	500
20	230	90	4	100	230	400	350
20	460	60	10	100	460	200	2/0
20	575	50	10	100	575	175	1
25	200	125	3				
25	230	125	4				
25	460	70	8				
25	575	60	10				

NOTE: Some rotary screw compressors have additional drive motors for the cooling fans that need to be taken into account when sizing the electrical system.