

### EXPLOSION-PROOF FOR HAZARDOUS LOCATIONS

Underwriters Laboratories and Canadian Standards Association Listed

#### General Specifications:

These explosion-proof motors are designed and approved for application in hazardous environments having certain explosive gases or materials present.



#### Features:

Rugged mechanical construction meeting all requirements for safety. UL and CSA listed.

Double shielded, pre-lubricated ball bearings are standard. All motors have inherent automatic overload protection. NEMA 1.0 Service Factor except as noted.



Explosion-proof conduit box included at no extra cost.

Capacitors on single phase designs are mounted inside the motor frame.

#### Application Notes:

These motors must be applied in accordance with the National Electrical Code, Article #500. A partial listing of explosive agents is noted below. Consult NFPA Publication 497M for a complete listing. No LEESON motors are listed for Class I, Group A or B. Please note subheads above each column for qualifications of LEESON motors.

#### Class I

**Group A:** Acetylene

**Group B:** Butadiene, ethylene oxide, hydrogen, propylene oxide, manufactured gases containing more than 30% hydrogen by volume.

**Group C:** Acetaldehyde, cyclopropane, diethyl ether, ethylene.

**Group D:** Acetone, acrylonitrile, ammonia, benzene, butane, ethanol, ethylene dichloride, gasoline, hexane, isoprene, methane (natural gas), methanol, naphtha, propane, propylene, styrene, toluene, vinyl acetate, vinyl chloride, xylene.

#### Class II

**Group E:** Aluminum, magnesium and other metal dusts with similar characteristics.

**Group F:** Carbon black, coke or coal dust.

**Group G:** Flour, starch or grain dust.

### SINGLE PHASE • RIGID BASE

#### CLASS I, GROUPS C & D—CLASS II, GROUPS F & G • W/CONDUIT BOX

	RPM 60 Hz	NEMA Frame	Catalog Number	List Price	Disc. Sym.	App. Wgt. (lbs.)	Voltage	Over- load Prot.	FL Amps 230V	% FL Eff.	"C" Dim. (Inches)
<b>1/3</b>	1725	56	<b>111074</b> ●	\$395	A	35	115/208-230	Auto.	2.9	63.0	12.38
<b>1/2</b>	1725	56H	<b>111084</b> □	435	A	41	115/208-230	Auto.	4.0	65.0	13.97
<b>3/4</b>	1725	56H	<b>110934</b> □	513	A	46	115/208-230	Auto.	5.4	70.0	14.47
<b>1</b>	1725	56H	<b>110961</b> □	584	A	47	115/208-230	Auto.	6.4	75.0	14.47

### SINGLE PHASE • C FACE LESS BASE

#### CLASS I, GROUPS C & D—CLASS II, GROUPS F & G • W/CONDUIT BOX

	RPM 60 Hz	NEMA Frame	Catalog Number	List Price	Disc. Sym.	App. Wgt. (lbs.)	Voltage	Over- load Prot.	FL Amps 230V	% FL Eff.	"C" Dim. (Inches)
<b>1/3</b>	3450	56C	<b>111095</b> ●	\$415	A	38	115/208-230	Auto.	2.1	65.0	12.87
	1725	56C	<b>111075</b> ●	435	A	41	115/208-230	Auto.	2.9	70.0	12.37
<b>1/2</b>	3450	56C	<b>111098</b>	420	A	35	115/208-230	Auto.	3.6	58.0	13.46
	3450	56J	<b>116188</b>	403	A	35	115/208-230	Auto.	3.6	58.0	13.96
	1725	56C	<b>111085</b>	483	A	45	115/208-230	Auto.	4.0	65.0	13.96
<b>3/4</b>	3450	56C	<b>111097</b>	450	A	40	115/208-230	Auto.	5.0	65.0	13.96
	3450	56J	<b>116186</b>	452	A	40	115/208-230	Auto.	5.0	65.0	14.46
	1725	56C	<b>111086</b>	537	A	50	115/208-230	Auto.	5.4	70.0	14.46
<b>1</b>	3450	56C	<b>111096</b>	483	A	49	115/208-230	Auto.	6.0	66.0	14.46
	3450	56J	<b>116185</b>	485	A	49	115/208-230	Auto.	6.0	66.0	14.96
	1725	56C	<b>110852</b>	611	A	53	115/208-230	Auto.	6.4	75.0	14.46
<b>1 1/2</b>	3450	56C	<b>114424</b>	693	A	44	115/208-230	Auto.	8.5	72.0	14.96
	3450	56J	<b>116183</b>	622	A	54	115/208-230	Auto.	8.5	72.0	15.46
<b>2</b>	3450	56C	<b>114425</b>	852	A	54	115/208-230	Auto.	10.5	74.0	15.96
	3450	56J	<b>116181</b>	677	A	54	115/208-230	Auto.	10.5	74.0	16.46

- These motors are totally enclosed, non-ventilated—Others are fan cooled.
- Combination 56H base motors have mounting holes for NEMA 56 and NEMA 143-5T and a standard NEMA 56 shaft.

**EXPLOSION-PROOF FOR HAZARDOUS LOCATIONS**

**Underwriters Laboratories and Canadian Standards Association Listed**



**General Specifications:**

These explosion-proof motors are designed and approved for application in hazardous environments having certain explosive gases or materials present.

**Features:**

Rugged mechanical construction meeting all requirements for safety. UL and CSA listed.  
Double shielded, pre-lubricated ball bearings are standard. All motors have inherent automatic overload protection. NEMA 1.0 Service Factor except as noted.  
Explosion-proof conduit box included at no extra cost. Normally-closed thermostats are standard on cast iron motors.

**Application Notes:**

These motors must be applied in accordance with the National Electrical Code, Article #500. A partial listing of explosive agents is noted below. Consult NFPA Publication 497M for a complete listing. No LEESON motors are listed for Class I, Group A or B. Please note subheads above each column for qualifications of LEESON motors.

**Class I**

**Group A:** Acetylene

**Group B:** Butadiene, ethylene oxide, hydrogen, propylene oxide, manufactured gases containing more than 30% hydrogen by volume.

**Group C:** Acetaldehyde, cyclopropane, diethyl ether, ethylene.

**Group D:** Acetone, acrylonitrile, ammonia, benzene, butane, ethanol, ethylene dichloride, gasoline, hexane, isoprene, methane (natural gas), methanol, naphtha, propane, propylene, styrene, toluene, vinyl acetate, vinyl chloride, xylene.

**Class II**

**Group E:** Aluminum, magnesium and other metal dusts with similar characteristics.

**Group F:** Carbon black, coke or coal dust.

**Group G:** Flour, starch or grain dust.

**EXCEPT AS NOTED, STEEL FRAME EXPLOSION-PROOF MOTORS ARE NOT INVERTER-RATED AND MUST NOT BE USED WITH AN INVERTER**

**THREE PHASE • RIGID BASE**

**CLASS I, GROUPS C & D—CLASS II, GROUPS F & G • W/CONDUIT BOX**

HP	RPM 60 Hz	NEMA Frame	Catalog Number	List Price	Disc. Sym.	App. Wgt. (lbs.)	Voltage	Over- load Prot.	FL Amps 230V	% FL Eff.	"C" Dim. (Inches)
1/3	1725	56	111932▲●	\$403	A	33	208-230/460	Auto.	1.3	76.0	10.88
	1140	56H	111940▲●	579	A	39	208-230/460	Auto.	1.5	70.0	12.38
1/2	3450	56	111934▲●	461	A	39	208-230/460	Auto.	1.4	76.0	12.38
	1725	56	111929▲●	419	A	32	208-230/460	Auto.	1.7	75.0	11.38
	1140	56H	111938▲□	612	A	44	208-230/460	Auto.	2.0	71.0	13.97
3/4	3450	56	111937▲	482	A	37	208-230/460	Auto.	2.4	72.0	12.97
	1725	56	111923▲	485	A	38	208-230/460	Auto.	2.6	75.0	12.47
1	3450	56	111942▲	508	A	34	208-230/460	Auto.	3.2	77.1	12.97
	1725	56H	111922▲□	529	A	45	208-230/460	Auto.	3.4	78.0	13.97
1½	3450	143T	G120489▲	519	B	46	208-230/460	Auto.	4.0	82.5	14.41
	1725	145T	G120490	577	B	56	208-230/460	Auto.	4.4	84.0	14.41
2	3450	145T	G120491▲	533	B	51	208-230/460	Auto.	5.0	84.0	15.91
	1725	145T	G120391	639	B	56	208-230/460	Auto.	6.0	84.0	16.91
3	3450	145T	G120387	630	B	51	208-230/460	Auto.	7.4	85.5	15.91

- ▲ These motors are satisfactory for operation on 50 Hz power supply at full rated horsepower.
- These motors are totally enclosed, non-ventilated—Others are fan cooled.
- Combination 56H base motors have mounting holes for NEMA 56 and NEMA 143-5T and a standard NEMA 56 shaft.

**THREE PHASE • C FACE LESS BASE**

**CLASS I, GROUPS C & D—CLASS II, GROUPS F & G • W/CONDUIT BOX**

HP	RPM 60 Hz▲	NEMA Frame	Catalog Number	List Price	Disc. Sym.	App. Wgt. (lbs.)	Voltage	Over- load Prot.	FL Amps 230V	% FL Eff.	"C" Dim. (Inches)
1/3	3450	56C	111944▲●	\$481	A	36	208-230/460	Auto.	1.0	68.0	11.87
	1725	56C	111931▲●	518	A	29	208-230/460	Auto.	1.7	76.0	10.87
1/2	3450	56C	111933▲●✦	502	A	33	208-230/460	Auto.	1.4	67.0	12.37
	3450	56J	116187▲●	496	A	33	208-230/460	Auto.	1.5	76.0	12.87
	1725	56C	111930▲●	547	A	34	208-230/460	Auto.	1.7	75.0	11.37
3/4	3450	56C	111936▲	518	A	27	208-230/460	Auto.	2.4	72.0	12.96
	1725	56C	111935▲	557	A	36	208-230/460	Auto.	2.6	75.0	12.46
1	3450	56C	111943▲	541	A	30	208-230/460	Auto.	3.2	77.1	12.96
	3450	56J	116184▲	535	A	33	208-230/460	Auto.	3.6	77.1	13.46
	1725	56C	111926▲	584	A	46	208-230/460	Auto.	3.4	78.0	13.46
1½	3450	56C	111939▲	615	A	48	208-230/460	Auto.	4.0	80.3	13.96
	3450	56J	116182▲	547	A	48	208-230/460	Auto.	4.6	80.3	14.46
	1725	56C	111941	629	A	46	208-230/460	Auto.	4.4	80.0	13.96
2	3450	56C	113971▲✦	688	A	50	208-230/460	Auto.	5.6	78.8	14.46
	3450	56J	116180▲	573	A	50	208-230/460	Auto.	6.2	78.8	14.96
	1725	145TC	121178	680	B	50	208-230/460	Auto.	6.0	84.0	15.53
3	3450	56C	114419③	766	A	54	208-230/460	Auto.	7.2	83.0	15.46
	1740	182TC	158003④	803	C	91	230/460	T-Stat	8.8	80.0	15.62
5	1740	184TC	158005④	918	C	110	230/460	T-Stat	13.4	82.5	16.12

③ Catalog #114419 is approved for Class I, Group C & D – Class II, Group F service only.

④ Explosion-proof motors are Class I, Group D—Class II, Groups F & G.

- ▲ These motors are satisfactory for operation on 50 Hz power supply at full rated horsepower.
- These motors are totally enclosed, non-ventilated—Others are fan cooled.
- ✦ These motors have 1.15 Service Factors.

**SHADED FRAME INDICATES CAST IRON CONSTRUCTION**

**SEE PAGE 34 FOR INVERTER-RATED STEEL FRAME EXPLOSION-PROOF MOTORS**

Catalog numbers in green are EPACT motors.

# LEESON<sup>®</sup> EXPLOSION-PROOF MOTORS

## THREE PHASE • C FACE

### EXPLOSION-PROOF FOR HAZARDOUS LOCATIONS

Underwriters Laboratories and Canadian Standards Association Listed

#### General Specifications:

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#### Features:

Rugged mechanical construction meeting all requirements for safety. UL and CSA listed.

Double shielded, pre-lubricated ball bearings are standard. All motors have inherent automatic overload protection. NEMA 1.0 Service Factor except as noted.

Explosion-proof conduit box included at no extra cost.

#### Application Notes:

These motors must be applied in accordance with the National Electrical Code, Article #500. A partial listing of explosive agents is noted below. Consult NFPA Publication 497M for a complete listing. No LEESON Motors are listed for Class I, Group A or B. Please note subheads above each column for qualifications of LEESON motors.

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**EXCEPT AS NOTED, STEEL FRAME EXPLOSION-PROOF MOTORS ARE *NOT* INVERTER-RATED AND MUST *NOT* BE USED WITH AN INVERTER**



### THREE PHASE • C FACE WITH BASE

#### CLASS I, GROUPS C & D—CLASS II, GROUPS F & G • W/CONDUIT BOX

HP	RPM 60 Hz	NEMA Frame	Catalog Number	List Price	Disc. Sym.	App. Wgt. (lbs.)	Voltage	Over- load Prot.	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)
1/3	3450	56C	114625▲●	\$485	A	33	208-230/460	Auto.	1.0	68.0	11.87
	1725	56C	114626▲●	526	A	38	208-230/460	Auto.	1.3	76.0	10.87
1/2	3450	56C	114627▲●★	506	A	35	208-230/460	Auto.	1.4	67.0	12.37
	1725	56C	114628▲●	549	A	35	208-230/460	Auto.	1.7	75.0	11.37
	1725	56C	116190◆	689	A	34	208-230/460	T-Stat	2.4	68.0	13.44
3/4	3450	56C	114629▲	523	A	33	208-230/460	Auto.	2.4	72.0	12.96
	1725	56C	114630▲	559	A	42	208-230/460	Auto.	2.6	75.0	12.46
	1725	56C	116191◆	705	A	38	208-230/460	T-Stat	3.0	75.5	13.44
1	3450	56C	114631▲	547	A	34	208-230/460	Auto.	3.2	77.1	12.96
	1725	56C	114632▲	595	A	47	208-230/460	Auto.	3.4	78.0	13.96
	1725	143TC	G121541◆	785	B	44	208-230/460	T-Stat	3.0	82.5	14.50
1½	3450	56C	114633▲	621	A	42	208-230/460	Auto.	4.0	80.3	13.96
	1725	56HC	114634	636	A	45	208-230/460	Auto.	4.4	80.0	13.96
	1725	145TC	G121542◆	814	B	54	208-230/460	T-Stat	4.4	84.0	16.00
2	3450	56HC	114635▲★	614	A	51	208-230/460	Auto.	5.6	78.8	14.46
	1740	145TC	G121182	686	B	58	208-230/460	Auto.	6.0	84.0	15.53
	1725	145TC	G121543◆	891	B	65	208-230/460	T-Stat	5.6	84.0	16.50
3	3450	56HC	114636③	771	A	62	208-230/460	Auto.	7.2	83.0	15.46

③ Catalog #114636 is approved for Class I, Group C & D – Class II, Group F service only.

- ▲ These motors are satisfactory for operation on 50 Hz power supply at full rated horsepower.
- These motors are totally enclosed, non-ventilated—Others are fan cooled.
- ★ These motors have 1.15 Service Factors.
- ◆ These motors are inverter-rated and suitable for use with an inverter. Others are not!

### C FACE WITH RIGID BASE • THREE PHASE CAST IRON FRAME

#### CLASS I, GROUP D—CLASS II, GROUPS F & G WITH CONDUIT BOX AND NORMALLY-CLOSED THERMOSTATS

HP	RPM 60 Hz	NEMA Frame	Catalog Number	List Price	Disc. Sym.	App. Wgt. (lbs.)	Voltage	F.L. Amps 460 V.	% F.L. Eff.	"C" Dim. (Inches)
3	3450	182TC	G850587	\$796	C	90	230/460	3.8	85.5	17.12
	1750	182TC	G850617	796	C	91	230/460	4.0	87.5	17.12
5	3450	184TC	G850588	851	C	125	230/460	6.2	87.5	17.12
	1750	184TC	G850618	851	C	125	230/460	6.3	87.5	17.12
7½	3450	213TC	G850589	1277	C	138	230/460	9.5	88.5	20.18
	1750	213TC	G850619	1263	C	138	230/460	10.0	89.5	20.18
10	3450	215TC	G850590	1340	C	155	230/460	12.0	89.5	20.18
	1750	215TC	G850620	1331	C	155	230/460	13.0	91.0	20.18
15	3450	254TC	G850591	1756	C	238	230/460	18.0	90.2	23.52
	1750	254TC	G850621	2059	C	238	230/460	19.5	91.0	23.52
20	3450	256TC	G850592	2360	C	263	230/460	23.0	90.2	25.27
	1750	256TC	G850622	2347	C	263	230/460	25.0	91.0	25.27
25	3450	284TSC	G850593	2443	C	365	230/460	29.0	91.0	24.94
	1750	284TC	G850623	2416	C	366	230/460	31.5	92.4	26.30
30	1750	286TC	G850624	2745	C	385	230/460	37.0	92.4	27.80
40	1750	324TC	G850625	3568	C	550	230/460	51.5	93.0	28.87
50	1750	326TC	G850626	4392	C	570	230/460	61.5	93.0	30.37

SHADED FRAME INDICATES CAST IRON CONSTRUCTION

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**Underwriters Laboratories and Canadian Standards Association Listed**

**General Specifications:**

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**Features:**

Rugged mechanical construction meeting all requirements for safety. UL and CSA listed.

Double shielded, pre-lubricated ball bearings are standard. All motors have inherent automatic overload protection. NEMA 1.15 service factor except as noted.

Explosion-proof conduit box included at no extra cost. Normally-closed thermostats are standard on cast iron motors.

**Application Notes:**

These motors must be applied in accordance with the National Electrical Code, Article #500. A partial listing of explosive agents is noted below. Consult NFPA Publication 497M for a complete listing. No LEESON Motors are listed for Class I, Groups A or B. Please note headings and footnotes for qualifications of specific LEESON motors.

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**Class II**

**Group E:** Aluminum, magnesium and other metal dusts with similar characteristics.

**Group F:** Carbon black, coke or coal dust.

**Group G:** Flour, starch or grain dust.



**THREE PHASE • CAST IRON FRAME • RIGID BASE WITH CONDUIT BOX AND NORMALLY CLOSED THERMOSTATS**

HP	RPM 60 Hz	NEMA Frame	Catalog Number	List Price	Disc. Sym.	App. Wgt. (lbs.)	Voltage	FL. Amps 460V	% FL. Eff.	"C" Dim. (Inches)
3	1760	182T	<b>G158362</b> ⓐ	\$755	C	100	230/460	4.2	87.5	17.12
5	3475	184T	<b>G158319</b> ⓐ	796	C	110	230/460	6.2	87.5	17.12
	1745	184T	<b>G158366</b> ⓐ	782	C	120	230/460	6.5	87.5	17.12
7½	3530	213T	<b>G158158</b> ⓐ	1221	C	175	230/460	9.5	88.5	20.91
	1760	213T	<b>G158157</b> ⓐ	1208	C	138	230/460	10.0	89.5	19.66
10	3535	215T	<b>G158159</b> ⓐ	1282	C	190	230/460	12.0	89.5	20.91
	1765	215T	<b>G158140</b> ⓐ	1277	C	155	230/460	12.5	89.5	20.91
15	3520	254T	<b>G158000</b> ⓐ	1729	C	325	230/460	18.0	90.2	23.52
	1765	254T	<b>G158001</b> ⓐ	1721	C	375	230/460	19.5	91.0	23.52
20	3525	256T	<b>G825039</b> ⓐ	1812	C	375	230/460	23.5	90.2	25.27
	1765	256T	<b>G158010</b> ⓐ	1798	C	263	230/460	25.0	91.0	25.27
25	3525	284TS	<b>G825046</b> ⓐ	2337	C	400	230/460	29.0	91.0	24.94
	1770	284T	<b>G825047</b> ⓐ	2099	C	366	230/460	31.5	92.4	26.30
30	3515	286TS	<b>G825040</b> ⓐ	2520	C	450	230/460	35.0	91.0	26.44
	1760	286T	<b>G825041</b> ⓐ	2433	C	450	230/460	37.0	92.4	27.80
40	3550	324TS	<b>G825042</b> ⓐ	3392	C	500	230/460	45.5	91.7	27.37
	1770	324T	<b>G825043</b> ⓐ	3240	C	525	230/460	51.5	93.0	28.87
50	3550	326TS	<b>G825044</b> ⓐ	4384	C	570	230/460	57.0	92.4	28.87
	1765	326T	<b>G825045</b> ⓐ	3945	C	570	230/460	61.5	93.0	30.37
60	3560	364TS	<b>G825001</b> ⓐ	6264	C	875	230/460	70.5	93.0	29.38
	1775	364T	<b>G825002</b> ⓐ	5731	C	975	230/460	72.0	93.6	31.50
75	3555	365TS	<b>G825004</b> ⓐ	7239	C	1000	230/460	84.0	93.6	30.38
	1780	365T	<b>G825005</b> ⓐ	7051	C	1025	230/460	86.0	94.1	32.50
100	3565	405TS	<b>G825007</b> ⓐ	9794	C	1150	230/460	112.0	94.1	34.12
	1780	405T	<b>G825008</b> ⓐ	8670	C	1300	230/460	114.0	94.5	37.12
125	3565	444TS	<b>G825010</b> ⓐ	13519	C	1750	230/460	136.0	94.5	37.50
	1780	444T	<b>G825011</b> ⓐ	11199	C	1800	460	143.0	94.5	41.25
150	3570	445TS	<b>G825013</b> ⓐ	15824	C	2050	460	167.0	95.0	37.50
	1785	445T	<b>G825014</b> ⓐ	13238	C	2050	460	172.0	95.0	43.19
200	3570	445TS	<b>G825016</b> ⓐ	19309	C	2300	460	222.0	95.0	37.50
	1785	445T	<b>G825017</b> ⓐ	15648	C	2250	460	225.0	95.0	43.19
250	3570	449TS	<b>825019.99</b> ⓐ	21312	C	2450	460	280.0	95.0	47.97
	1785	449T	<b>825020.99</b> ⓐ	17610	C	2600	460	290.0	95.0	51.69

These explosion-proof motors are not designed for vertical mounting.

ⓐ Explosion-proof motors are Class I, Group D—Class II, Groups F & G.  
ⓑ Explosion-proof motors are Class I, Groups C & D—Class II, Groups F & G.



**QUICK REFERENCE**

EXPLOSION-PROOF DC MOTORS	Page 75
EXPLOSION-PROOF G-SERIES DIMENSIONS	198
EXPLOSION-PROOF 158 SERIES DIMENSIONS	197

**SHADED FRAME INDICATES CAST IRON CONSTRUCTION**

Catalog numbers in green are EPACT motors.