

AC METRIC MOTORS



These high efficiency motors meet North American performance standards and EPACT energy efficiency mandates, and have 1.15 service factors.

Typically used for replacement on machine tools, textile machinery and other equipment with metric dimensions but requiring the heavy-duty torque and performance of motors designed for use in North America.

Two frame constructions are offered:

Aluminum frame models are designated with a 192000 series catalog number, while **cast iron frame** models are 193000 series.

Both types are built to meet international standards and feature IP55 weatherproof enclosures, 60/50 Hz interchangeability (60Hz 230/460 V & 50Hz 200/400V), dual stamped nameplates, CE mark, and F3 conduit box location. Kits are available for field conversion from B3 to B3/B5 or B3/B14.

LEESON's Inverter Rated Insulation System, (IRIS™) provides superior protection against voltage spikes induced by variable frequency drives.



ALUMINUM FRAME

CSA: File number LR33543

UL: File number E57948 for motors produced January 2004 and later

IP55 weatherproof enclosure allows for use in a wide range of applications.

Drain Hole locations in four quadrants can be drilled-out for multi-position condensate drainage.

D flange (B5) and C face (B14) models available. Field conversion kits also offered.

"Captive Shaft" keyway.

Drilled and tapped shaft.

Oil seals on both the drive end and non drive end.

High efficiency design utilizes low-loss steel laminations for optimum power and performance.

Terminal Boards included.
 • 230/460V motors have 9 leads.
 • 575V motors have 3 leads.
 • All terminal boards have 6 posts.

Conduit box with neoprene gaskets. Reposition metric "PG" tapped lead exit hole by rotating box in 90 degree increments. Move box to F1 or F2 position by relocating motor feet.

Special design steel fan cover and low-noise fan maximize airflow efficiency.

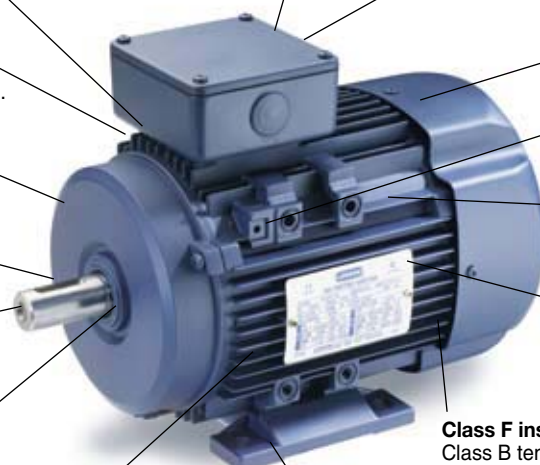
External grounding provision.

Multi-mount repositionable feet allow for three conduit box positions (F2, F1, F3).

Aluminum "full fact" nameplate with information on motor efficiency and power factor. Stamped with 60 Hz and 50 Hz data.

Class F insulation system with Class B temperature rise or lower.

Removable feet.



CAST IRON FRAME

CSA: File number LR62104

UL: File number E57948 for motors produced June 2003 and later

Terminal Boards included.
 • 230/460V motors, 132-frame and larger have 12 leads and 9 post terminal boards.
 • 230/460V motors, smaller than 132-frame have 9 leads and 6 post terminal boards.
 • 575V motors have 3 leads and 6 post terminal boards.

IP55 weatherproof enclosure allows for use in a wide range of applications.

D flange (B5) and C face (B14) models available. Field conversion kits also offered.

Drilled and tapped shaft.

Oil seals on both the drive end and non drive end.

Cast iron mounting feet are precision machined for accurate alignment.

Conduit box with neoprene gaskets. Reposition metric "PG" threaded lead exit by rotating box in 90 degree increments. Motors 132 frame and larger have second lead exit hole for auxiliary box. Box is fixed at F3 location.

Heavy-duty cast iron construction includes frame, endbells and conduit box.

High efficiency design utilizes low-loss steel laminations for optimum power and performance.

Non-sparking fan. Small size reduces noise and enhances efficiency.

Steel fan cover.

Stainless steel "full fact" nameplate with information on motor efficiency and power factor. Stamped with 60 Hz and 50 Hz data

Class F insulation system with Class B temperature rise or lower.





AC METRIC (IEC) MOTORS

THREE PHASE • RIGID BASE

B3 FOOT-MOUNTED METRIC MOTORS • 575 VOLT

Metric-dimensioned, AC motors meeting North American performance standards, including 1.15 service factor and EPACT efficiencies. For replacement use on machine tools, textile machinery and other equipment with metric dimensions but requiring the heavy-duty torque and performance characteristics of motors designed for use in North America.

IP55 weatherproof enclosures, 60/50 Hz interchangeability (60Hz 230/460V & 50Hz 200/400V), dual stamped nameplates, CE mark, and F3 conduit box location. Kits are available for field conversion from B3 to B3/B5 or B3/B14. See page 93 for details.

Motors are available in one of two frame constructions: aluminum or cast iron. Aluminum frame models are designated with a 192000 series catalogue number; cast iron models are 193000 series.



THREE PHASE • IP55 • 1.15 S.F.

HP-KW	RPM 60 Hz	IEC Frame	Catalogue Number	Voltage	F.L. Amps 575V	% F.L. Eff.	"C" Dim. (in.)
1/4-0.18	3600	D63	192088	575	0.3	72.0	8.54
	1800	D63	192089	575	0.4	68.0	8.54
	1200	D71	192090	575	0.6	64.0	9.45
1/3-0.25	3600	D63	192097	575	0.4	74.0	8.54
	1800	D71	192098	575	0.6	67.0	9.45
	1200	D80	192099	575	0.6	65.0	11.10
1/2-0.37	3600	D71	192106	575	0.7	74.0	9.45
	1800	D71	192107	575	0.7	74.0	9.45
	1200	D80	192108	575	0.8	68.0	11.10
3/4-0.56	3600	D71	192115	575	0.9	74.0	9.45
	1800	D80	192116	575	1.0	73.0	11.10
	1200	D80	192117	575	1.1	72.0	11.10
1-0.75	3600	D80	192124	575	1.1	75.5	11.10
	1800	D80	192125	575	1.4	82.5	11.10
	1200	D90S	192215	575	1.5	82.5	12.60
	1200	D90S	192126	575	1.5	82.5	12.60
1 1/2-1.1	3600	D80	192133	575	1.6	82.5	11.10
	1800	D90S	192230	575	1.8	86.5	12.60
	1800	D90S	192134	575	1.8	84.0	12.60
	1200	D90L	193412	575	1.9	87.5	12.60
2-1.5	3600	D90S	192231	575	2.1	85.5	12.60
	3600	D90S	192142	575	2.1	84.0	12.60
	1800	D90L	192232	575	2.4	86.5	12.60
	1800	D90L	192143	575	2.4	84.0	12.60
	1200	DF100L	193400	575	2.9	88.5	14.96
	1200	DF100L	193190	575	2.9	86.5	14.96
3-2.2	3600	D90L	192233	575	2.9	86.5	12.60
	3600	D90L	192148	575	2.9	85.8	12.60
	1800	DF100L	193379	575	3.5	89.5	14.96
	1800	DF100L	193193	575	3.5	87.5	14.96
	1200	DF112M	193401	575	3.8	89.5	15.75
	1200	DF112M	193194	575	3.8	87.5	15.75
4-3	3600	DF100L	193380	575	4.0	88.5	14.96
	3600	DF100L	193199	575	4.0	87.5	14.96
	1800	DF100L	193381	575	4.2	89.5	14.96
	1800	DF100L	193200	575	4.2	87.5	14.96
	1200	DF132S	193402	575	5.2	89.5	18.70
	1200	DF132S	193201	575	5.2	87.5	18.70
5 1/2-4	3600	DF112M	193382	575	5.0	88.5	15.75
	3600	DF112M	193208	575	5.0	87.5	15.75
	1800	DF112M	193383	575	5.4	89.5	15.75
	1800	DF112M	193209	575	5.4	87.5	15.75
	1200	DF132M	193403	575	6.9	89.5	20.28
	1200	DF132M	193210	575	6.9	87.5	20.28

THREE PHASE • IP55 • 1.15 S.F.

HP-KW	RPM 60 Hz	IEC Frame	Catalogue Number	Voltage	F.L. Amps 575V	% F.L. Eff.	"C" Dim. (in.)
7 1/2-5.5	3600	DF132S	193384	575	7.2	89.5	18.70
	3600	DF132S	193217	575	7.2	88.5	18.70
	1800	DF132S	193385	575	7.9	91.7	18.70
	1800	DF132S	193218	575	7.9	89.5	18.70
10-7.5	1200	DF132M	193404	575	9.4	91.0	20.28
	1200	DF132M	193219	575	9.4	89.5	20.28
	3600	DF132S	193386	575	9.6	90.2	18.70
	3600	DF132S	193226	575	9.6	89.5	18.70
15-11	1800	DF132M	193387	575	10.5	91.7	20.28
	1800	DF132M	193227	575	10.5	89.5	20.28
	1200	DF160M	193405	575	10.8	91.0	23.62
	1200	DF160M	193228	575	10.8	89.5	23.62
20-15	3600	DF160M	193388	575	13.8	91.0	23.62
	3600	DF160M	193235	575	13.8	90.2	23.62
	1800	DF160M	193389	575	14.6	92.4	23.62
	1800	DF160M	193236	575	14.6	91.0	23.62
25-18.5	1200	DF160L	193406	575	15.5	91.7	25.39
	1200	DF160L	193237	575	15.5	90.2	25.39
	3600	DF160M	193390	575	18.8	91.0	23.62
	3600	DF160M	193244	575	18.8	90.2	23.62
30-22	1800	DF160L	193391	575	19.0	93.0	25.39
	1800	DF160L	193245	575	19.0	91.0	25.39
	1200	DF180L	193392	575	20.6	91.7	27.95
	1200	DF180L	193246	575	20.6	90.2	27.95
35-25.5	3600	DF160L	193392	575	22.9	91.7	25.39
	3600	DF160L	193253	575	22.9	91.0	25.39
	1800	DF180M	193393	575	23.8	93.6	26.38
	1800	DF180M	193254	575	23.8	92.4	26.38
40-30	1200	DF200L	193408	575	25.2	93.0	30.51
	1200	DF200L	193255	575	25.2	91.7	30.51
	3600	DF180M	193394	575	27.5	91.7	26.38
	3600	DF180M	193262	575	27.5	91.0	26.38
45-33	1800	DF180L	193395	575	28.4	93.6	27.95
	1800	DF180L	193263	575	28.4	92.4	27.95
	1200	DF200L	193409	575	30.4	93.0	30.51
	1200	DF200L	193264	575	30.4	91.7	30.51
50-37	3600	DF200L	193396	575	38.4	92.4	30.51
	3600	DF200L	193271	575	38.4	91.7	30.51
	1800	DF200L	193397	575	37.6	94.1	30.51
	1800	DF200L	193272	575	37.6	93.0	30.51
60-45	1200	DF225M	193410	575	40.0	94.1	33.26
	1200	DF225M	193273	575	40.0	93.0	33.26
	3600	DF200L	193398	575	46.8	93.0	30.51
	3600	DF200L	193280	575	46.8	92.4	30.51
75-55	1800	DF225S	193399	575	47.2	94.5	33.26
	1800	DF225S	193281	575	47.2	93.0	33.26
	1200	DF250M	193411	575	50.0	94.1	36.61
	1200	DF250M	193282	575	50.0	93.0	36.61

SHADED FRAME INDICATES CAST IRON CONSTRUCTION

Specifications are subject to change without notice

B3 FOOT-MOUNTED METRIC MOTORS • 230/460 VOLT

Metric-dimensioned, AC motors meeting North American performance standards, including 1.15 service factor and EPACT efficiencies. For replacement use on machine tools, textile machinery and other equipment with metric dimensions but requiring the heavy-duty torque and performance characteristics of motors designed for use in North America.

IP55 weatherproof enclosures, 60/50 Hz interchangeability (60Hz 230/460V & 50Hz 200/400V), dual stamped nameplates, CE mark, and F3 conduit box location. Kits are available for field conversion from B3 to B3/B5 or B3/B14. See page 93 for details.

Motors are available in one of two frame constructions: aluminum or cast iron. Aluminum frame models are designated with a 192000 series catalogue number; cast iron models are 193000 series.



THREE PHASE • IP55 • 1.15 S.F.

HP-KW	RPM 60 Hz	IEC Frame	Catalogue Number	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (in.)
1/4-0.18	3600	D63	192010	230/460	0.8	72.0	8.54
	1800	D63	192011	230/460	1.0	68.0	8.54
	1200	D71	192012	230/460	0.8	64.0	9.45
1/3-0.25	3600	D63	192020	230/460	1.1	74.0	8.54
	1800	D71	192021	230/460	1.4	67.0	9.45
	1200	D80	192022	230/460	1.6	65.0	11.10
1/2-0.37	3600	D71	192030	230/460	1.6	74.0	9.45
	1800	D71	192031	230/460	1.8	74.0	9.45
	1200	D80	192032	230/460	2.4	68.0	11.10
3/4-0.56	3600	D71	192040	230/460	2.4	74.0	9.45
	1800	D71*	192172	230/460	2.8	70.0	9.45
	1800	D80	192041	230/460	2.5	73.0	11.10
	1200	D80	192042	230/460	3.0	72.0	11.10
1-0.75	3600	D80	192050	230/460	2.8	75.5	11.10
	1800	D80	192051	230/460	3.2	82.5	11.10
	1200	D90S	192200	230/460	4.0	82.5	12.60
	1200	D90S	192052	230/460	4.0	80.0	12.60
1 1/2-1.1	3600	D80	192060	230/460	4.0	82.5	11.10
	1800	D90S	192202	230/460	4.4	86.5	12.60
	1800	D90S	192061	230/460	4.4	84.0	12.60
	1200	D90L	193413	230/460	5.6	87.5	12.60
	1200	D90L	192062	230/460	5.6	85.5	12.60
	2-1.5	3600	D90S	192208	230/460	5.2	85.5	12.60
3600	D90S	192070	230/460	5.2	84.0	12.60	
1800	D90L	192205	230/460	5.8	86.5	12.60	
1800	D90L	192071	230/460	5.8	84.0	12.60	
1200	DF100L	193300	230/460	6.4	88.5	14.96	
1200	DF100L	193333	230/460	6.4	84.0	14.96	
3-2.2	3600	D90L	192209	230/460	7.2	86.5	12.60
	3600	D90L	192080	230/460	7.2	85.8	12.60
	1800	DF100L	193301	230/460	8.8	89.5	14.96
	1800	DF100L	193081	230/460	8.8	87.5	14.96
	1200	DF112M	193302	230/460	9.6	89.5	15.75
	1200	DF112M	193082	230/460	9.6	87.5	15.75
4-3	3600	DF100L	193303	230/460	10.0	88.5	14.96
	3600	DF100L	193090	230/460	10.0	87.5	14.96
	1800	DF100L	193304	230/460	10.6	89.5	14.96
	1800	DF100L	193091	230/460	10.6	87.5	14.96
	1200	DF132S	193305	230/460	13.0	89.5	18.70
	1200	DF132S	193092	230/460	13.0	87.5	18.70
5 1/2-4	3600	DF112M	193306	230/460	12.6	88.5	15.75
	3600	DF112M	193100	230/460	12.6	87.5	15.75
	1800	DF112M	193307	230/460	15.0	89.5	15.75
	1800	DF112M	193101	230/460	15.0	87.5	15.75
	1200	DF132M	193308	230/460	17.0	89.5	20.28
	1200	DF132M	193102	230/460	17.0	87.5	20.28

* B5 flange, round body

THREE PHASE • IP55 • 1.15 S.F.

HP-KW	RPM 60 Hz	IEC Frame	Catalogue Number	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (in.)
7 1/2-5.5	3600	DF132S	193309	230/460	18.0	89.5	18.70
	3600	DF132S	193110	230/460	18.0	88.5	18.70
	1800	DF132S	193310	230/460	19.6	91.7	18.70
	1800	DF132S	193111	230/460	19.6	89.5	18.70
	1200	DF132M	193311	230/460	23.4	91.0	20.28
	1200	DF132M	193112	230/460	23.4	89.5	20.28
10-7.5	3600	DF132S	193312	230/460	24.0	90.2	18.70
	3600	DF132S	193120	230/460	24.0	89.5	18.70
	1800	DF132M	193313	230/460	26.0	91.7	20.28
	1800	DF132M	193121	230/460	26.0	89.5	20.28
	1200	DF160M	193314	230/460	28.0	91.0	23.62
	1200	DF160M	193122	230/460	28.0	89.5	23.62
15-11	3600	DF160M	193315	230/460	34.6	91.0	23.62
	3600	DF160M	193130	230/460	34.6	90.2	23.62
	1800	DF160M	193316	230/460	36.0	92.4	23.62
	1800	DF160M	193131	230/460	36.0	91.0	23.62
	1200	DF160L	193317	230/460	38.8	91.7	25.39
	1200	DF160L	193132	230/460	38.8	90.2	25.39
20-15	3600	DF160M	193318	230/460	46.8	91.0	23.62
	3600	DF160M	193140	230/460	46.8	90.2	23.62
	1800	DF160L	193319	230/460	47.0	93.0	25.39
	1800	DF160L	193141	230/460	47.0	91.0	25.39
	1200	DF180L	193320	230/460	54.0	91.7	27.95
	1200	DF180L	193142	230/460	54.0	90.2	27.95
25-18.5	3600	DF160L	193321	230/460	57.2	91.7	25.39
	3600	DF160L	193150	230/460	57.2	91.0	25.39
	1800	DF180M	193322	230/460	58.6	93.6	26.38
	1800	DF180M	193151	230/460	58.6	92.4	26.38
	1200	DF200L	193323	230/460	63.0	93.0	30.51
	1200	DF200L	193152	230/460	63.0	91.7	30.51
30-22	3600	DF180M	193324	230/460	68.8	91.7	26.38
	3600	DF180M	193160	230/460	68.8	91.0	26.38
	1800	DF180L	193325	230/460	70.0	93.6	27.95
	1800	DF180L	193161	230/460	70.0	92.4	27.95
	1200	DF200L	193326	230/460	76.0	93.0	30.51
	1200	DF200L	193162	230/460	76.0	91.7	30.51
40-30	3600	DF200L	193327	230/460	94.6	92.4	30.51
	3600	DF200L	193170	230/460	94.6	91.7	30.51
	1800	DF200L	193328	230/460	95.0	94.1	30.51
	1800	DF200L	193171	230/460	95.0	93.0	30.51
	1200	DF225M	193329	230/460	100.0	94.1	33.26
	1200	DF225M	193172	230/460	100.0	93.0	33.26
50-37	3600	DF200L	193330	230/460	117.0	93.0	30.51
	3600	DF200L	193180	230/460	117.0	92.4	30.51
	1800	DF225S	193331	230/460	118.0	94.5	33.26
	1800	DF225S	193181	230/460	118.0	93.0	33.26
	1200	DF250M	193332	230/460	125.0	94.1	36.61
	1200	DF250M	193182	230/460	125.0	93.0	36.61

SHADED FRAME INDICATES CAST IRON CONSTRUCTION

Specifications are subject to change without notice



AC MOTORS (IEC) MOTORS

SINGLE PHASE • ROUND BODY • FLANGES

ROUND BODY METRIC (IEC) MOTORS • 115/230V



Metric-dimensioned 1PH motors meeting North American performance standards, including 1.15 service factor and higher efficiencies. For replacement use on machine tools, textile machinery and other equipment with metric dimensions but requiring the heavy-duty torque and performance characteristics of motors designed for use in North America. These motors are supplied round body and may require the use of a B5 or B14 flange listed below.

Features:
 IP55 weatherproof enclosure
 Class F insulation
 F2 Conduit box location
 Rolled Steel
 Round Body

SINGLE PHASE • IP55

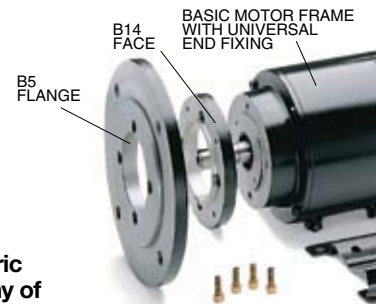
HP-KW	SYN RPM 60 Hz	IEC Frame	Catalog Number	App. Wgt. (lbs.)	Voltage	F.L. Amps 230V	% F.L. Eff.	"C" Dim. (Inches)	B5 Flange	B14 Flange
1/3-0.25	1800	D71	103450	14	115/230	3.3	61.0	10.50	175106	175107
1/2-0.37	1800	D71	103451	18	115/230	4.0	66.0	11.13	175106	175107
3/4-0.56	1800	D80	103449	26	115/230	5.4	70.0	12.25	175108	175109
1.0-0.75	1800	D80	117475	27	115/230	7.0	74.0	13.25	175108	175109

FLANGE AND FACE KITS FOR AC METRIC (IEC) FRAME MOTORS

An advantage of LEESON'S modular design concept is the possible use of a different diameter B5 flange or B14 face than is normally assigned to a motor by IEC dimensional standards. This flexibility makes it possible to accommodate a wide variety of gear reducers, pumps and similar close coupled motor mounted loads.



Round body AC 1PH Metric IEC motors will accept any of the flange or face kits listed.



B5 FLANGE KITS (For AC 1PH Metric Motors Only)

IEC Frame	Catalogue Number	App. Wgt. (lbs.)	BD Flange Dia. (mm)	AK Register (mm)	BF Hole (mm)	AJ Bolt Circle (mm)
71	175106	2	160	110	9	130
80	175108	3	200	130	12	165

B14 FACE KITS (For AC 1PH Metric Motors Only)

IEC Frame	Catalogue Number	App. Wgt. (lbs.)	BD Flange Dia. (mm)	AK Register (mm)	BF Tap (mm)	AJ Bolt Circle (mm)
71	175107	1	105	70	6	85
80	175109	1	120	80	6	100



METRIC (IEC) B5 FLANGE KITS

Includes parts to convert a B3 rigid mount motor (pages 73 & 74) to B5 flange mounting.

For Aluminum Frame Motors Only (192000 Series)

	63 Frame		71 Frame		80 Frame		90 Frame	
	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)
(B5) Flange	175850	1	175852	1	175854	2	175856	2

For Cast Iron Frame Motors Only (193000 Series)

	100 Frame		112 Frame		132 Frame		160 Frame		180 Frame		200 Frame		225 Frame		250 Frame	
	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)
(B5) Flange	175984	13	175986	16	175988	20	175990	36	175992	43	163098	50	163099	60	163100	89
(B5) Flange*	175810	13	175811	16	175812	20	175990	36	175890	43	175994	50	175995	60	175619	89
(B5) Flange ^{①*}	...	...	175827 ^②	16	175828	20	175829	36	175830	43	175831	50	...	...	...	...

* for use with Premium Efficient motors

① For use with 3600 rpm motor built June 2011 or later

② For use with 1800 rpm motor built June 2011 or later

METRIC (IEC) B14 FACE KITS

Includes parts to convert a B3 rigid mount motor (pages 59 & 60) to B14 face mounting.

For Aluminum Frame Motors Only (192000 Series)

	63 Frame		71 Frame		80 Frame		90 Frame	
	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)
(B14) Face	175851	1	175853	1	175855	1	175857	1

For Cast Iron Frame Motors Only (193000 Series)

These kits are for use only on IEC cast iron motors built after May, 2000. For information on kits for such motors built prior to May, 2000, contact LEESON.

	100 Frame		112 Frame		132 Frame		160 Frame	
	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)	Cat. No.	App. Wgt. (lbs.)
(B14) Face	175985	8	175987	8	175989	12	175991	25
(B14)* Face	175817	8	175818	8	175819	12	175991	25
(B14) ^{①*} Face	...	...	175832 ^②	8	175833	12	175834	25

* for use with Premium Efficient motors

① For use with 3600 rpm motor built June 2011 or later

② For use with 1800 rpm motor built June 2011 or later



REDUCED DIAMETER METRIC FLANGES

Imported OEM equipment can often have a flange face that is different from its motor's frame size. LEESON stocks metric (IEC) reduced diameter flanges so you can put a 71 frame flange on an 80 frame motor for example. Flanges come pre-fitted with oil seals and have all the necessary hardware for easy field mounting.

Motor Frame	Flange Frame	Catalogue Number
63	56	175900
71	63	175901
80	71	175902
90	80	175903

