12V DC
6MK98

180V DC
48ZG71

Dayton LEESON

NEMA Frame 12, 24, 90, and 180VDC Permanent Magnet Motors

- Rotation: CW/CCW
- Service factor: 1.0
- Mounting: Face/base
- Bearings: ball
- Max. ambient temp.: 40°C

Designed for use with speed controls or NEMA Type K DC power supplies on constant or diminishing torque applications. Performance matched with Dayton and Dart Speed Controls found on page 159. Dayton 90V and 180V models feature a tapped hole on the fan end shaft to mount a 6Z392 or 5JJ65 pulse generator found on page 159. 56C frame models have a removable base. All motors are designed for mechanical loads and for hard-to-start applications such as conveyors, belt-driven equipment, machine tools, and reciprocating pumps.

HP	Nameplate RPM	Frame	Motor Enclosure Design	Full Load Amps	Ins. Class	Overall Length	Brand	Item No.
12V DC								
¼	1,800	56C	TENV	21.0 A	F	10 ¼ in	Dayton	**6MK98**
¼	1,800	56C	TENV	21.0 A	F	10 ¼ in	Leeson	**48ZG47**
⅓	1,800	56C	TENV	27.0 A	F	10 ¾ in	Dayton	**6MK99**
⅓	1,800	56C	TENV	27.0 A	F	10 ¾ in	Leeson	**48ZG48**
½	1,800	56C	TENV	39.0 A	H	11 ¾ in	Dayton	**6ML02**
½	1,800	56C	TENV	39.0 A	H	11 ¾ in	Leeson	**48ZG49**
¾	1,800	56C	TEFC	58.0 A	F	13 5⁄16 in	Dayton	**6ML04**
¾	1,800	56C	TEFC	58.0 A	F	13 5⁄16 in	Leeson	**48ZG50**
1	1,800	56C	TEFC	80.0 A	H	13 13⁄16 in	Dayton	**6ML06**
1	1,800	56C	TEFC	80.0 A	H	13 13⁄16 in	Leeson	**48ZG51**
24V DC								
⅓	1,800	56C	TENV	13.5 A	F	10 ¾ in	Dayton	**6ML01**
⅓	1,800	56C	TENV	13.5 A	F	10 ¾ in	Leeson	**48ZG52**
½	1,800	56C	TENV	20.0 A	F	11 ¾ in	Dayton	**6ML03**
½	1,800	56C	TENV	20.0 A	F	11 ¾ in	Leeson	**48ZG53**
¾	1,800	56C	TEFC	29.0 A	F	12 13⁄16 in	Dayton	**6ML05**
¾	1,800	56C	TEFC	29.0 A	F	10 ¾ in	Leeson	**48ZG54**
1	1,800	56C	TEFC	39.0 A	H	13 13⁄16 in	Dayton	**6ML07**
1	1,800	56C	TEFC	39.0 A	H	13 13⁄16 in	Leeson	**48ZG55**
90V DC								
¼	1,750	56C	TEFC	2.5 A	F	10 13⁄16 in	Dayton	**2M167**
¼	1,750	56C	TEFC	2.5 A	F	10 13⁄16 in	Leeson	**48ZG56**
⅓	1,750	56C	TEFC	3.5 A	F	11 5⁄16 in	Dayton	**2M509**
⅓	1,750	56C	TEFC	3.5 A	F	11 5⁄16 in	Leeson	**48ZG57**
½	2,500	56C	TEFC	5.0 A	F	10 13⁄16 in	Leeson	**48ZG61**
½	1,750	56C	TEFC	5.0 A	F	11 13⁄16 in	Leeson	**48ZG58**
½	1,725	56C	TEFC	5.0 A	F	11 13⁄16 in	Dayton	**2M168**
¾	2,500	56C	TEFC	7.6 A	F	11 13⁄16 in	Leeson	**48ZG62**
¾	1,750	56C	TEFC	7.6 A	F	13 13⁄16 in	Leeson	**48ZG59**
¾	1,725	56C	TEFC	7.6 A	F	13 13⁄16 in	Dayton	**2M169**
1	2,500	56C	TEFC	10.0 A	F	13 5⁄16 in	Leeson	**48ZG63**
1	1,750	56C	TEFC	10.0 A	F	14 13⁄16 in	Dayton	**2M170**
1	1,750	56C	TEFC	10.0 A	F	14 13⁄16 in	Leeson	**48ZG60**
180V DC								
⅓	1,750	56C	TEFC	1.70	F	11 31⁄100 in	Leeson	**60PT98**
½	1,750	56C	TEFC	2.5 A	F	11 13⁄16 in	Leeson	**48ZG64**
½	1,725	56C	TEFC	2.5 A	F	11 13⁄16 in	Dayton	**4Z524**
¾	1,750	56C	TEFC	3.8 A	F	13 13⁄16 in	Dayton	**4Z525**
¾	1,750	56C	TEFC	3.8 A	F	13 13⁄16 in	Leeson	**48ZG65**
1	2,500	56C	TEFC	5.0 A	F	13 13⁄16 in	Leeson	**48ZG71**
1	1,750	56C	TEFC	5.0 A	F	14 13⁄16 in	Dayton	**4Z378**
1	1,750	56C	TEFC	5.0 A	F	14 13⁄16 in	Leeson	**48ZG66**
1½	2,500	56C	TEFC	7.5 A	H	15 5⁄16 in	Leeson	**48ZG72**
1½	1,750	56C	TEFC	7.6 A	H	16 13⁄16 in	Leeson	**48ZG67**
1½	1,750	143/5TC	TEFC	7.5 A	H	18 5⁄16 in	Dayton	**4Z379**
1½	1,750	143/5TC	TEFC	7.6 A	H	17 3⁄8 in	Leeson	**48ZG68**
1½	1,750	145TC	TEFC	7.5	H	18 1⁄50 in	Leeson	**60PT99**
2	2,500	56CZ	TEFC	8.6 A	F	17 ⅞ in	Leeson	**48ZG73**
2	1,750	143/5TC	TEFC	9.5 A	H	19 5⁄16 in	Leeson	**48ZG69**
3	1,750	143/5TC	TEFC	15.0 A	H	22 5⁄16 in	Dayton	**6Z791**
3	1,750	143/5TC	TEFC	14.0 A	H	19 5⁄8 in	Leeson	**48ZG70**

Dayton

90 and 180VDC Permanent Magnet Motors with Control

- Enclosure: totally enclosed fan-cooled, NEMA 1 control
- Rotation: CW/CCW
- Insulation: Class F
- Mounting: C-face with removable rigid base
- Bearings: ball
- Max. ambient temp.: 40°C
- Input: 115 or 230VAC, 60/50 Hz (4Z226 requires 250V, 20A receptacle)
- 50:1 control speed range

4Z248

Control regulates speeds within 1% of nameplate rpm and provides full-wave rectification with adjustable min./max. speed, current/torque limit, IR compensation, fixed acceleration, transient and surge protection, and front-panel fuse protection.

HP	Nameplate RPM	Frame	Full Load Amps	Full Load Torque	Overall Length	Item No.
115V AC Input, 90V DC Armature						
¼	1,750	56C	2.5 A	9.1 in-lb	15 ½ in	**4Z248**
½	1,750	56C	5.0 A	18.2 in-lb	16 ½ in	**1F800**
¾	2,500	56C	7.6 A	18.9 in-lb	16 ½ in	**2Z846**
	1,750	56C	7.6 A	27 in-lb	18 ½ in	**1F796**
1	1,750	56C	10.0 A	36.6 in-lb	20 ½ in	**1F798**
230V AC Input, 180V DC Armature						
1 ½	2,500	56C	7.5 A	37.8 in-lb	19 ½ in	**4Z226**

Enclosure	AC Input Voltage	HP @ 90VDC	HP @ 180VDC	External Switches	W	H	D	Mfr. Model	Item No.
Replacement Speed Control									
NEMA 1	120/240V AC	¼ to 1	½ to 2	FWD/OFF/REV	6 in	5.13 in	6.5 in	41D720	**41D720**

Fuse protected.

Dayton

12VDC Permanent Magnet Motor

- Enclosure: totally enclosed nonventilated
- Rotation: CW/CCW
- Bearings: sleeve
- Max. ambient temp.: 40°C

For use with mobile home and RV ventilation or pumps, and with automotive heaters or air conditioners. Shaft is ¼" x 1" with flat. 3⅛"-dia. body mounts with ½"-long studs, 2 5⁄16" on center.

HP	Nameplate RPM	Frame	Voltage	Full Load Amps	Ins. Class	Overall Length	Item No.
1⁄35	2,350	Non-Standard	12V DC	3.8 A	A	4 ⅞ in	**3LCH7**

Dayton

Non-Standard Frame 12/24, 90, and 180VDC Permanent Magnet Motors

3XE19

- Enclosure: totally enclosed nonventilated
- Rotation: CW/CCW
- Bearings: ball
- Max. ambient temp.: 40°C

Use with Type K DC rectified power sources matched to voltage (providing form factor does not exceed 1.3); see page 159. For adjustable speed controls see page 159.

HP	Nameplate RPM	Full Load Torque	Full Load Amps	Ins. Class	Shaft Dia.	Overall Length	Base Mounting O.C.	Face Mounting O.C.	Item No.
12/24V DC									
1⁄18, 1⁄44	1,800/4,300	0.8 in-lb	2.4 A	B	¼ in	5 15⁄16 in	3¾ x 1¼ in	1¾ x 1¾	**3XE19**
1⁄9, 1⁄20	1,725/4,000	1.8 in-lb	5.1 A	B	5⁄16 in	6 27⁄64 in	4 15⁄16 x 1¼ in	1¾ x 1¾	**3XE20**
1⁄4, 1⁄7	1,750/3,900	5.6 in-lb	14.0 A	B	½ in	8 ⅜ in	6 7⁄16 x 2 in	2⅝ x 2⅝	**4Z143**
1⁄6, 1⁄14	1,750/4,200	2.6 in-lb	6.9 A	B	½ in	6 ⅜ in	4 7⁄16 x 2 in	2⅝ x 2⅝	**4Z144**
1⁄3, 1⁄8	1,800/4,200	6.4 in-lb	16.2 A	B	½ in	9 ⅜ in	7 7⁄16 x 2 in	2⅝ x 2⅝	**4Z529**
90V DC									
1⁄53	2,500	0.5 in-lb	0.30 A	B	¼ in	5 15⁄16 in	3½ x 1¼ in	1¾ x 1¾	**3XE21**
1⁄27	1,800	1.3 in-lb	0.50 A	B	5⁄16 in	6 7⁄16 in	4 11⁄16 x 1¼ in	1¾ x 1¾	**3XE22**
1⁄18	1,800	1.9 in-lb	0.80 A	B	½ in	6 ⅜ in	4 7⁄16 x 2 in	2⅝ x 2⅝	**4Z141**
⅛	1,800	4.4 in-lb	1.50 A	B	½ in	8 ⅜ in	6 7⁄16 x 2 in	2⅝ x 2⅝	**4Z140**
⅙	1,800	5.6 in-lb	1.80 A	B	½ in	9 ⅜ in	7 7⁄16 x 2 in	2⅝ x 2⅝	**4Z528**
180V DC									
⅙	1,800	5.6 in-lb	0.90 A	F	½ in	9 ⅜ in	7 7⁄16 x 2 in	2⅝ x 2⅝	**1Z851**