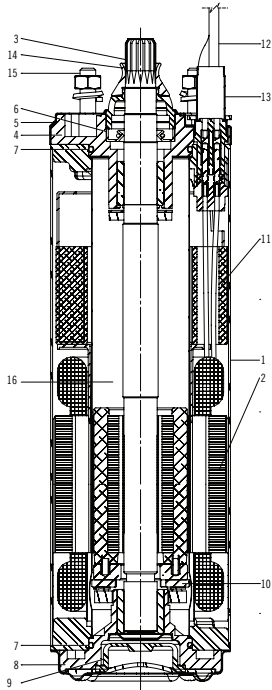


SUBMITTAL DATA SHEET

Two-Wire 4" A.Y. McDonald Submersible Motors

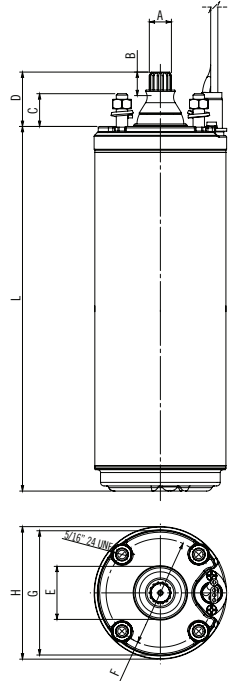


4" Asynchronous two-pole submersible motor, made in AISI 304 stainless steel for parts in contact with water. Cooling and lubrication of the thrust bearing assembly and carbon bushes is provided by a mixture of water and glycol. Squirrel-cage rotor mounted on self-centering thrust bearing. Stator housed in an airtight stainless steel casing (canned-type) with both flanges and shell in AISI 304L stainless steel. Removable cable connector to allow fast and easy maintenance. The capacitor is placed in the Noryl cartridge directly connected to the motor, so the motor doesn't require an external control box. Thermal protection included in the motor from 1/2 HP to 1 HP in the 230V - 60 Hz version.



Materials

COMPONENTS		
1	Int. and external sleeve	AISI 304
2	Stator	AISI 304L
3	Shaft	AISI 304
4	Upper bracket	Cast Iron
5	Bracket cover	AISI 304
6	Lip seal	NBR
7	Gasket	NBR
8	Lower Bracket	Cast Iron
9	Diaphragm	EPDM
10	Thrust Bearing	Stainless Steel - Graphite
11	Capacitor	Internal Capacitor
12	Cable	EPDM
13	Connecting Plug	AISI 316
14	Sand guard (fixed-removable)	NBR
15	Bolts & Screws	AISI 304
16	Cooling Liquid	Glycol + water



60 Hz Dimensions

Single Phase Motors

Type	Power		L [inch]	Wt. [lbs]	Axial Thrust [lbf]
	[HP]	[kW]			
60 Hz	1/2 / 115V	0.37	13.4"	21.4	500
	◇ 1/2 / 230V	0.37	13.0"	21.0	500
	◆ 1/2 / 230V	0.37	14.1"	23.6	450
	3/4	0.55	13.8"	23.2	500
	1	0.75	16.8"	28.9	700
	1 1/2	1.1	18.5"	33.3	700

60 Hz Dimensions (◇ 1/2019 to 7/2023)

Pos.	inch	Pos.	inch
A	0.61"	E	1.465"
B	0.59"	F	3"
C	0.906"	G	3.437"
D	1 1/2"	H	3.662"

60 Hz Dimensions (◆ 7/2023 to present)

Pos.	inch	Pos.	inch
A	0.61"	E	1.378"
B	0.59"	F	3"
C	0.88"	G	3.437"
D	1.5"	H	3.74"

- CSA Certified



NO-LEAD: The weighted average of the wetted surface of this no-lead product contacted by consumable water contains less than one quarter of one percent (0.25%) lead.



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A.Y. McDonald considers the information on this assembly drawing correct when published. Item and option availability, including specifications, are subject to change without notice.

Submitted by:

SUBMITTAL DATA SHEET

Two-Wire

4" A.Y. McDonald Submersible Motors



Electrical Data 60 Hz Single Phase Motors - Two-Wire

P2	V	SF	In	In (SF)	Is/In	Cs/Cn	P1	N	Cos φ	η	C	Ø	LC	
[HP]	[kW]	[V]	[A]	[A]			[W]	[min ⁻¹]		%	[uF]	[AWG]	[ft]	
1/2	0.37	115	1.6	8.6	10	4.2	0.65	800	3450	0.88	46	80	5 1/2	
		◇230	1.6	3.9	5	4.6	0.65	800	3450	0.88	46	20	3x14	5 1/2
		◆230	1.6	4	4.8	4.4	0.69	800	3450	0.97	54	27	3x14	5 1/2
3/4	0.55	230	1.5	6.3	6.9	4.3	0.65	1200	3450	0.82	47	25	3x14	5 1/2
1	0.75	230	1.4	7.7	8.8	4.8	0.68	1500	3450	0.84	50	35	3x14	5 1/2
1 1/2	1.1	230	1.3	10.6	12.1	4.7	0.70	2120	3450	0.85	53	40	3x14	5 1/2

◇ 1/2019 to 7/2023
◆ 7/2023 to present

P2: Rated output
In: Rated current
Cs/Cn: Locked rotor Torque/Rated Torque
Cos φ: Power factor
Ø: Cable cross section

V: Rated voltage
In (SF): Service factor current
P1: Power consumption
η: Efficiency
LC: Cable length

SF: Service factor
Is/In: Locked rotor current/Rated current
N: R.P.M
C: Capacitor

Technical Specification

Flange	NEMA 4"
Insulation class	F
Degree of protection	IP68
Cooling flow	1.0 ft/sec @ 95 °F
Voltage tolerance	+ 6% / -10%
Max starts	20/h
Max operating depth	984 ft

Components



Canned stator with external shell and flanges made in AISI 304L stainless steel. The stator has 24 slots for better elasticity and regularity of operation. Class F double insulated copper wire. Thermal protection included in the motor from 1/2 HP to 1 HP in the 230V - 60 Hz version.



Kingsbury type thrust bearing unit consisting of tilting pads made of highly-resistant stainless steel and machined using the spherical lapping process.



Shafts with end part made of stainless steel AISI 304 with a special process of surface hardening and polishing of the working area of the bushes. Squirrel-cage rotor made in aluminium.

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