

SUBMITTAL DATA SHEET

A.Y. McDonald

6" Submersible Motors



A.Y. McDonald 6" motors range from 5 HP to 60 HP. Cooling and lubrication of the thrust bearing assembly is provided by a mixture of water and glycol.

6" Water Well - Three Wire - Single Phase - 60 HZ (Control Box Required)

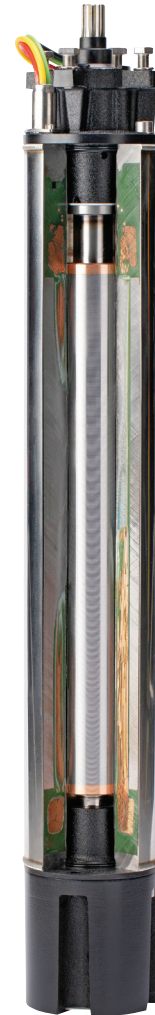


A.Y. McDonald Part No.	A.Y. McDonald Model No.	HP	Voltage	kw	Service Factor	AMP (in)	Downward Thrust	Cable length (ft).
3132-549	SM0613 7.5HP230V	7.5	230	5.5	1.15	33.6	3600	13
3132-547	SM0613 10HP230V	10	230	7.5	1.15	43.2	3600	13
3132-548	SM0613 15HP230V	15	230	11	1.15	62.9	3600	13

6" Water Well - Three Wire - Three Phase - 60 Hz (Starter Kit Required)



A.Y. McDonald Part No.	A.Y. McDonald Model No.	HP	Voltage	kw	Service Factor	AMP (in)	Downward Thrust	Cable length (ft).
3132-551	SM0633 5HP230V	5	230	4	1.15	18.5	3600	13
3132-552	SM0633 5HP460V		460	4	1.15	8.6	3600	13
3132-593	SM0633 5HP575V		575	4	1.15	6.9	3600	13
3132-553	SM0633 7.5HP230V	7.5	230	5.5	1.15	24.0	3600	13
3132-554	SM0633 7.5HP460V		460	5.5	1.15	12.0	3600	13
3132-594	SM0633 7.5HP575V		575	5.5	1.15	9.6	3600	13
3132-555	SM0633 10HP230V	10	230	7.5	1.15	34.0	3600	13
3132-556	SM0633 10HP460V		460	7.5	1.15	15.0	3600	13
3132-570	SM0633 10HP575V		575	7.5	1.15	12.0	3600	13
3132-557	SM0633 15HP230V	15	230	11	1.15	50.0	3600	13
3132-558	SM0633 15HP460V		460	11	1.15	21.0	3600	13
3132-572	SM0633 15HP575V		575	11	1.15	16.8	3600	13
3132-559	SM0633 20HP230V	20	230	15	1.15	63.0	3600	13
3132-560	SM0633 20HP460V		460	15	1.15	27.6	3600	13
3132-573	SM0633 20HP575V		575	15	1.15	22.1	3600	13
3132-561	SM0633 25HP230V	25	230	18.5	1.15	73.4	3600	13
3132-562	SM0633 25HP460V		460	18.5	1.15	36.7	3600	13
3132-591	SM0633 25HP575V		575	18.5	1.15	29.3	3600	13
3132-563	SM0633 30HP230V	30	230	22	1.15	95.0	3600	13
3132-564	SM0633 30HP460V		460	22	1.15	44.7	3600	13
3132-592	SM0633 30HP575V		575	22	1.15	35.7	3600	13
3132-565	SM0633 40HP460V	40	460	30	1.15	54.0	6000	13
3132-571	SM0633 40HP575V		575	30	1.15	43.2	6000	13
3132-566	SM0633 50HP460V	50	460	37	1.15	69.0	6000	13
3132-568	SM0633 50HP575V		575	37	1.15	55.0	6000	13
3132-567	SM0633 60HP460V	60	460	45	1.15	82.0	6000	13
3132-569	SM0633 60HP575V		575	45	1.15		6000	13



These motors are built for dependable operation in 6" diameter or larger water wells.

Do not use motors in swimming areas

SUBMITTAL INFORMATION

- AISI 304 stainless steel shell, thrust bearings, shaft ends
- Removable cable connector to allow fast and easy maintenance
- Temperature Rating 104°F.

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.



A.Y. McDonald Mfg. Co.
P.O. Box 508
Dubuque, IA 52004-0508

Toll Free: 1-800-292-2737
Fax: 1-800-832-9296
Hours: 7:00 a.m. - 5:00 p.m., CST

sales@aymcdonald.com
www.aymcdonald.com

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Submitted by:

SUBMITTAL DATA SHEET

A.Y. McDonald

6" Submersible Motors



6" Asynchronous two-pole submersible motor, made in AISI 304 stainless steel and cast iron with paint coating 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). Removable cable connector to allow fast and easy maintenance. Motor suitable for use with variable frequency drive (60 Hz). Overload protection must be provided by user.

Technical Specification

Flange	NEMA 6"	Voltage tolerance	+ 6% / -10%
Insulation class	F	Max starts	25/h
Degree of protection	IP68	Max operating depth	984 ft
Cooling flow	1.0 ft/sec @ 95 °F	Horizontal operation	5 HP - 60 HP

Components



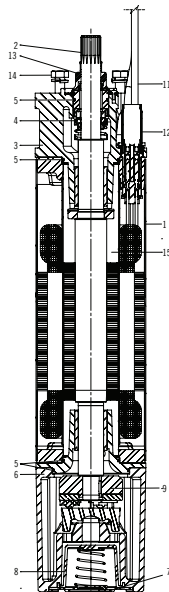
Canned stator with external shell made in AISI 304L stainless steel and flanges with an anti-corrosion treatment. The stator has 24 slots for better elasticity and regularity of operation. Class F double insulated copper wire.



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 "Duplex". Squirrel-cage rotor made in copper for all motor powers.



Materials

COMPONENTS		
1	Int. and external sleeve	AISI 304L
2	Shaft end	AISI 316
3	Upper bracket	Painted cast iron
4	Mechanical seal	Ceramic - carbon
5	Gasket	NBR
6	Lower bracket	Painted cast iron
7	Lower cover	AISI 304
8	Diaphragm	EPDM
9	Thrust bearing	Stainless steel - graphite
10	Valve	Brass
11	Cable	EPDM
12	Connecting plug	AISI 316
13	Sand guard (fixed-removable)	NBR
14	Bolts & screws	AISI 304
15	Cooling liquid	Glycol + water

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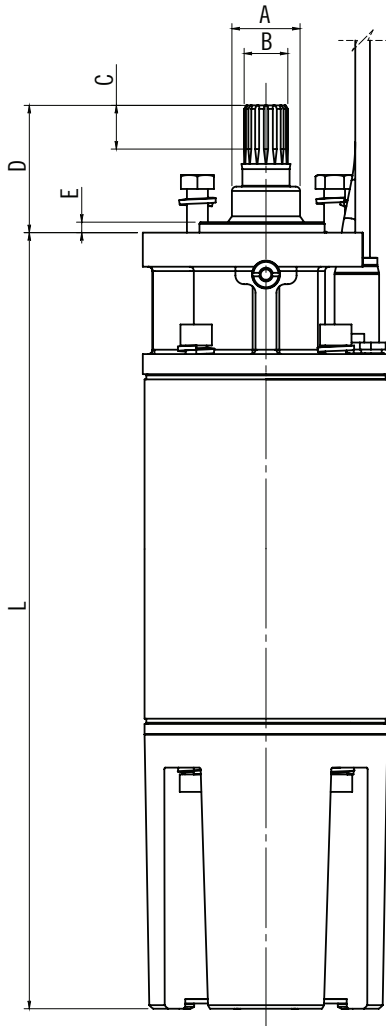
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6" Submersible Motors



60 Hz Dimensions Single Phase Motors

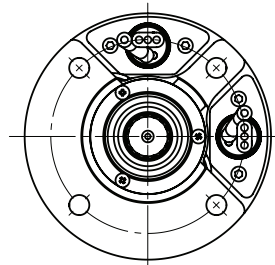
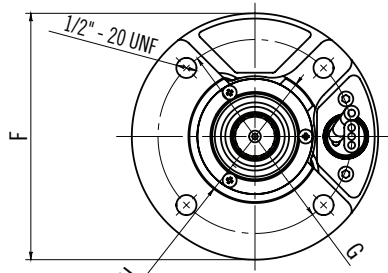
Type	[HP]	[kW]	L [inch]	Wt. [lbs]	Axial Thrust [lbf]
60 Hz	7 1/2	5.5	28.740	154.5	3600
	10	7.5	30.944	168	3600
	15	11	33.897	185.2	3600

60 Hz Dimensions Three Phase Motor

Type	[HP]	[kW]	L [inch]	Wt. [lbs]	Axial Thrust [lbf]
60 Hz	5	4	23.661	123.3	3600
	7 1/2	5.5	24.843	130.7	3600
	10	7.5	26.023	137.4	3600
	15	11	28.779	162.1	3600
	20	15	30.944	174.8	3600
	25	18.5	33.897	192.1	3600
	30	22	36.258	205.3	3600
	40	30	41.377	236.6	6000
	50	37	46.496	274.5	6000
60	45	53.582	311.5	6000	

60 Hz Dimensions

Pos.	inch	Pos.	inch
A	1.535	E	0.236
B	0.984	F	5.551
C	0.984	G	4.370
D	2.867	H	3.000



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6" Submersible Motors



Electrical Data 60 Hz

Single Phase Motors

P2		V	SF	In	In (SF)	Is/In	P1	N	Cos φ	η	C [uF]		Ø	LC
[HP]	[kW]	[V]		[A]	[A]		[W]	[min ⁻¹]		%	Start	Run	[AWG]	[ft]
7 1/2	5.5	230	1.15	33.6	37.0	5.0	7400	3480	0.72	74	324-389	138	4x11	13
10	7.5	230	1.15	43.2	48.8	4.8	9900	3465	0.76	77	324-389	138	4x11	13
15	11	230	1.15	62.9	72.3	4.4	13400	3495	0.77	76	324-389	160	4x9	13

Electrical Data 60 Hz

Three Phase Motors

P2		V	SF	In	In (SF)	Is/In	P1	N	Cos φ	η	Star*	Ø	LC
[HP]	[kW]	[V]		[A]	[A]		[W]	[min ⁻¹]		%		[AWG]	[ft]
5	4	230	1.15	18.5	20.0	5.1	5700	3450	0.77	70	Δ	4x11	13
		460	1.15	8.6	9.5	5.5	5700	3470	0.83	70	Y	4x11	13
		575	1.15	6.9	7.6	5.5	5700	3470	0.83	70	Y	4x11	13
7 1/2	5.5	230	1.15	24.0	26.6	5.0	7400	3480	0.77	74	Δ	4x11	13
		460	1.15	12.0	13.3	5.0	7400	3480	0.77	74	Y	4x11	13
		575	1.15	9.6	10.6	5.0	7400	3470	0.77	74	Y	4x11	13
10	7.5	230	1.15	34.0	37.0	4.8	9900	3465	0.73	76	Δ	4x11	13
		460	1.15	15.0	16.5	5.5	9900	3465	0.83	76	Y	4x11	13
		575	1.15	12.0	13.2	5.5	9900	3465	0.83	76	Y	4x11	13
15	11	230	1.15	50.0	54.0	4.4	13400	3495	0.67	82	Δ	4x9	13
		460	1.15	21.0	23.3	5.2	13400	3495	0.80	82	Y	4x11	13
		575	1.15	16.8	18.6	5.2	13400	3480	0.80	82	Y	4x11	13
20	15	230	1.15	63.0	68.0	4.8	18200	3475	0.73	82	Δ	4x9	13
		460	1.15	27.6	30.8	5.4	18200	3475	0.83	82	Y	4x11	13
		575	1.15	22.1	24.6	5.4	18200	3475	0.83	82	Y	4x11	13
25	18.5	230	1.15	73.4	80.0	5.7	22200	3475	0.76	83	Δ	4x8	13
		460	1.15	36.7	40.0	5.7	22200	3475	0.76	83	Y	4x9	13
		575	1.15	29.3	32.0	5.7	22200	3475	0.76	83	Y	4x9	13
30	22	230	1.15	95.0	105.0	5.5	26500	3480	0.70	83	Δ	4x8	13
		460	1.15	44.7	49.8	5.8	26500	3480	0.74	83	Y	4x9	13
		575	1.15	35.7	39.8	5.8	26500	3480	0.75	83	Y	4x9	13
40	30	460	1.15	54.0	62.0	6.3	35700	3480	0.83	84	Y	4x8	13
		575	1.15	43.2	49.6	6.3	35700	3480	0.83	84	Y	4x8	13
50	37	460	1.15	69.0	77.0	6.1	44800	3480	0.82	83	Y	4x8	13
		575	1.15	55.0	62.0	6.2	44800	3480	0.82	83	Y	4x8	13
60	45	460	1.15	82.0	92.0	6.5	53500	3450	0.83	84	Y	4x8	13

*Star-Delta (Δ) version 230/380V available

P2: Rated output
In: Rated current (Full-Load AMP)
Cs/Cn: Locked rotor Torque/Rated Torque
Cos φ: Power factor
Ø: Cable section

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

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

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