

A.Y. McDonald Submersible Motors



4" Water Well - Two Wire - Single Phase - 60 HZ

A.Y. McDonald Part No.	A.Y. McDonald Model No.	HP	Voltage	kw	Service Factor	AMP (in)	Downward Thrust	Cable length (ft.)
3132-008	SM0412 0.5HP115V	1/2	115	0.37	1.6	8.6	500	5 1/2
3132-005	SM0412 0.5HP230V	1/2	230	0.37	1.6	3.9	500	5 1/2
3132-006	SM0412 0.75HP230V	3/4	230	0.55	1.5	6.3	500	5 1/2
3132-007	SM0412 1HP230V	1	230	0.75	1.4	7.7	700	5 1/2
3132-009	SM0412 1.5HP230V	1 1/2	230	1.1	1.3	11.8	700	5 1/2



4" 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.)
3132-003	SM0413 0.5HP115V	1/2	115	0.37	1.6	10	500	5 1/2
3132-004	SM0413 0.5HP230V	1/2	230	0.37	1.6	5.5	500	5 1/2
3132-000	SM0413 0.75HP230V	3/4	230	0.55	1.5	7.4	500	5 1/2
3132-001	SM0413 1HP230V	1	230	0.75	1.4	8.3	700	5 1/2
3132-002	SM0413 1.5HP230V	1 1/2	230	1.1	1.3	10.1	700	5 1/2
3132-510	SM0413 2HP230V	2	230	1.5	1.25	10.6	700	5 1/2
3132-512	SM0413 3HP230V	3	230	2.2	1.15	14.3	1500	5 1/2
3132-513	SM0413 5HP230V	5	230	3.7	1.15	22.2	1500	8 3/4



4" 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.)
3132-525	SM0433 0.5HP230V	1/2	230	0.37	1.6	3.2	500	5 1/2
3132-526	SM0433 0.5HP460V		460	0.37	1.6	1.6	500	5 1/2
3132-527	SM0433 0.75HP230V	3/4	230	0.55	1.5	4.4	500	5 1/2
3132-528	SM0433 0.75HP460V		460	0.55	1.5	2.2	500	5 1/2
3132-529	SM0433 1HP230V	1	230	0.75	1.4	5.2	500	5 1/2
3132-530	SM0433 1HP460V		460	0.75	1.4	2.6	500	5 1/2
3132-531	SM0433 1.5HP230V	1 1/2	230	1.1	1.3	7.2	700	5 1/2
3132-532	SM0433 1.5HP460V		460	1.1	1.25	3.6	700	5 1/2
3132-533	SM0433 1.5HP575V		575				700	5 1/2
3132-534	SM0433 2HP230V	2	230	1.5	1.15	9.2	700	5 1/2
3132-535	SM0433 2HP460V		460	1.5	1.15	4.6	700	5 1/2
3132-536	SM0433 2HP575V		575	1.5	1.15		700	5 1/2
3132-514	SM0433 3HP230V	3	230	2.2	1.15	11.2	1500	5 1/2
3132-515	SM0433 3HP460V		460	2.2	1.15	5.6	1500	5 1/2
3132-516	SM0433 3HP575V		575	2.2	1.15		1500	5 1/2
3132-517	SM0433 5HP230V	5	230	4	1.15	17.8	1500	8 3/4
3132-518	SM0433 5HP460V		460	4	1.15	8.9	1500	8 3/4
3132-519	SM0433 5HP575V		575	4	1.15		1500	8 3/4
3132-520	SM0433 7.5HP230V	7 1/2	230	5.5	1.15	24	1500	8 3/4
3132-521	SM0433 7.5HP460V		460	5.5	1.15	12	1500	8 3/4
3132-522	SM0433 7.5HP575V		575	5.5	1.15		1500	8 3/4
3132-523	SM0433 10HP460V	10	460	7.5	1.15	15.4	1500	11 1/2
3132-524	SM0433 10HP575V		575	7.5	1.15		1500	11 1/2

Do not use motors in swimming areas

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

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 brushes 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. Motor suitable for use with variable frequency drive (60 Hz). For the single-phase 60 Hz version the thermal protection is included in the motor (from 1/2 HP to 1 HP). Overload protection must be provided by user for the three-phase version.



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
Horizontal operation	1/2 HP - 10 HP

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.



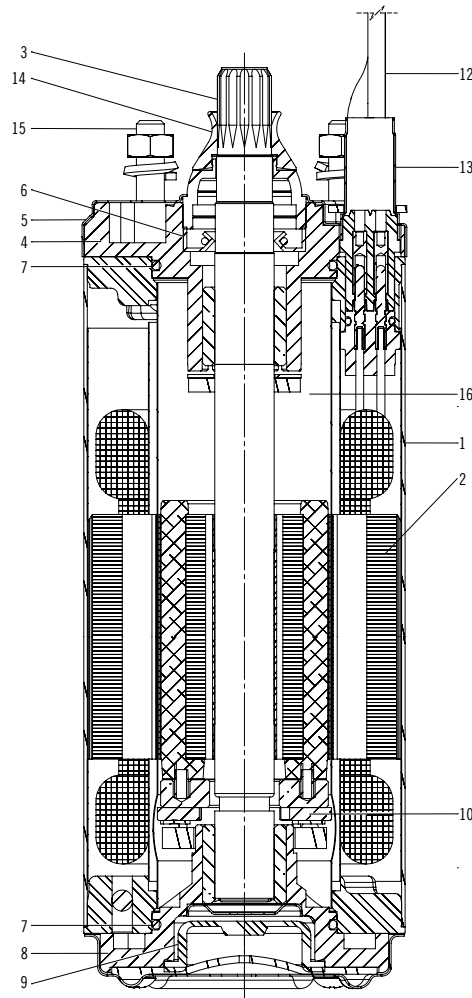
Kingsbury type thrust bearing unit consisting of tilting pads made of highly-resistant stainless steel and machined by using the spherical lapping process.



Shafts with end part made of stainless steel AISI 304/Duplex with a special process of surface hardening and polishing of the working area of the bushes. Squirrel-cage rotor made in aluminium for motor power 1/2HP through 3 HP and in copper for motor power 5 HP and above.

4" A.Y. McDonald Submersible Motors

Three-Wire

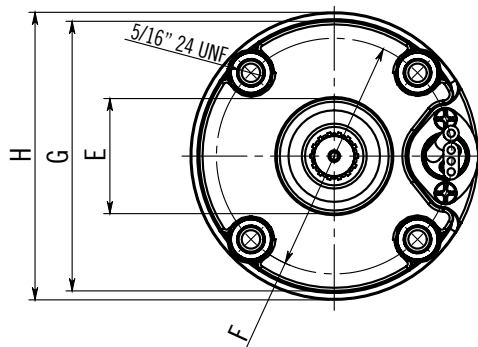
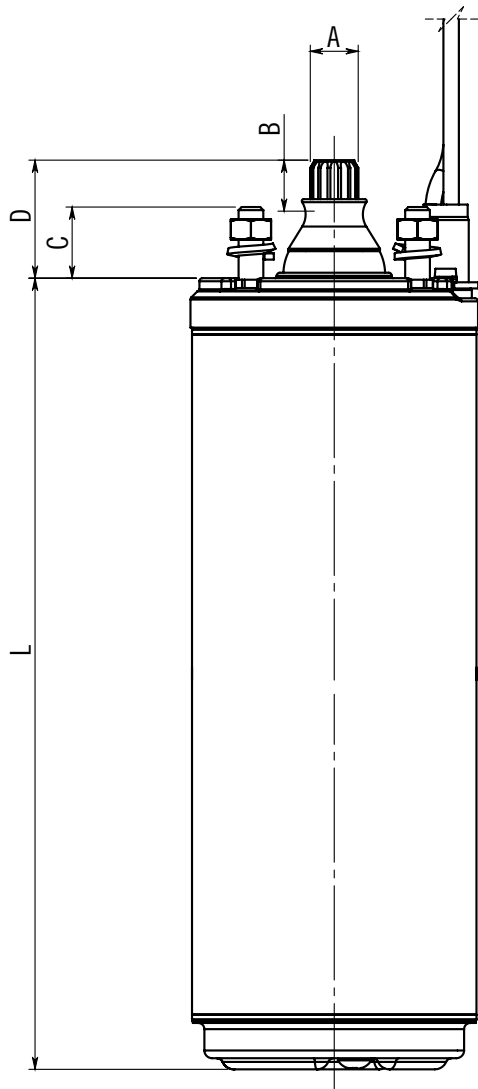


Materials

COMPONENTS		
1	Int. and external sleeve	AISI 304
2	Stator	AISI 304L / Duplex
3	Shaft end	AISI 431
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	Valve	AISI 303
12	Cable	EPDM
13	Connecting Plug	AISI 316
14	Sand guard (fixed-removable)	NBR
15	Bolts & Screws	AISI 304
16	Cooling Liquid	Glycol + water

4" A.Y. McDonald Submersible Motors

Three-Wire



60 Hz Dimensions / Single Phase Motors

Type			L	WT	Axial Thrust
	[HP]	[kW]	[inch]	[lbs]	[lbf]
60 Hz 3W	1/2	0.37	10.472	19.4	500
	3/4	0.55	11.260	21.4	500
	1	0.75	13.622	27.8	700
	1 1/2	1.1	16.181	32.5	700
	2	1.5	16.181	32.7	700
	3	2.2	21.417	45.2	1500
	5	3.7	26.929	59.8	1500

60 Hz Dimensions / Three Phase Motors

Type			L	Wt.	Axial Thrust
	[HP]	[kW]	[inch]	[lbs]	[lbf]
60 Hz	1/2	0.37	9.291	16.3	500
	3/4	0.55	10.472	19.4	500
	1	0.75	11.260	21.4	500
	1 1/2	1.1	13.622	25.8	700
	2	1.5	15.394	30.5	700
	3	2.2	19.843	40.8	1500
	5	4	24.173	51.9	1500
	7 1/2	5.5	26.929	59.8	1500
	10	7.5	30.079	68.7	1500

60 Hz Dimensions

Pos.	inch	Pos.	inch
A	0.61 ^{+0.002} _{-0.003}	E	1.465 ^{+0.016} _{-0.016}
B	0.591 ^{+0.02} ₀	F	3 ^{+0.004} ₀
C	0.906 ^{+0.005} _{-0.005}	G	3.437 ⁺⁰ _{-0.004}
D	1 1/2 ^{+0.02} _{-0.02}	H	3.662 ^{+0.004} _{-0.004}

- CSA Certified



4" Motors & Controls