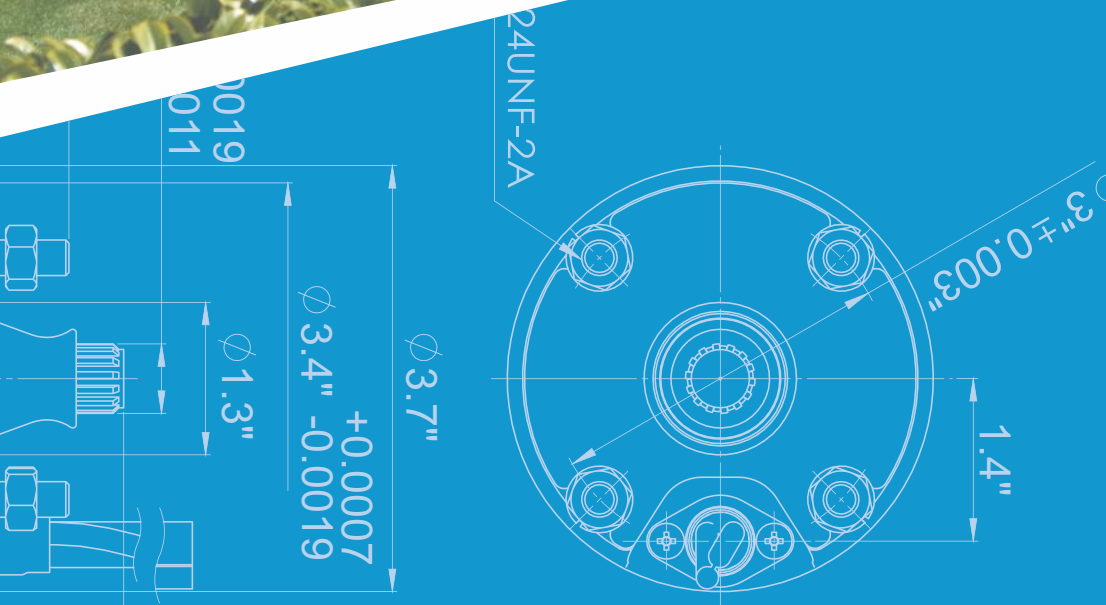


NC SERIES



# ENCAPSULATED WATER FILLED MOTORS



60Hz

PRODUCT CATALOGUE

[www.northam-inc.com](http://www.northam-inc.com)

## ENCAPSULATED WATER FILLED MOTORS

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<b>4" Encapsulated Water Filled Motors</b>	
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## ENCAPSULATED WATER FILLED MOTORS

0.5 HP to 7.5 HP
MODEL CODE
MOTOR SIZE: 4"

NC
A
4
0005
6
2W
A
2
2

### Thrust Load

Code	Thrust Load
2	2000N
3	3000N
4	4000N
6	6000N

### Pole

Code	Pole
2	2

### Volts

Code	Volts
A	110-115V
B	220-230V
D	460V

### Power Supply

Code	Power Supply
2W	2-wire single phase
3W	3-wire single phase
3P	3 Phase

### Frequency

Code	Hz
6	60

### Motor HP

Code	HP
0005	0.5 HP
0007	0.75 HP
0010	1 HP
0075	7.5 HP

### Motor size

Code	Size
4	4"

### Material of construction

Code	Material
A	304 Stainless steel
B	316 Stainless steel
C	304 Stainless steel over iron

### Series name

Code	Series
NC	Encapsulated motor

## ENCAPSULATED WATER FILLED MOTORS

0.5 HP to 7.5 HP

GENERAL DATA

MOTOR SIZE: 4"

### SUITABLE WELL SIZE

- ▶ These motors are designed and sized for installation in 4" diameter or larger water wells.

### FEATURES

- ▶ Hermetically canned stator with antitrack resin to prevent motor burn out.
- ▶ High efficiency electrical design.
- ▶ Removable lead connector.
- ▶ Water lubricated thrust and radial bearing enable maintenance free operation.
- ▶ Standard NEMA mounting dimensions.
- ▶ 3-wire submersible motor control boxes are available.
- ▶ All motors are inspected and tested at factory before dispatch.

### SPECIFICATIONS

Motor construction	
Frequency	60 Hz
Motor ratings	1 phase - 0.5 to 5.0 HP 3 phase - 0.5 to 7.5 HP
Voltages	1 phase : 220-230V 3 phase : 220-230V, 460V
Pole/RPM	2 Pole / 3450 RPM
Degree of protection	IP 68
Insulation class	F
Duty rating	Continuous
Ambient temperature	86°F / 30°C
Rotation	1 phase - CCW 3 phase - CCW
Maximum nos. of starts/hour	20
Minimum cooling flow along the motor	0.08 m/s
Mounting	Vertical

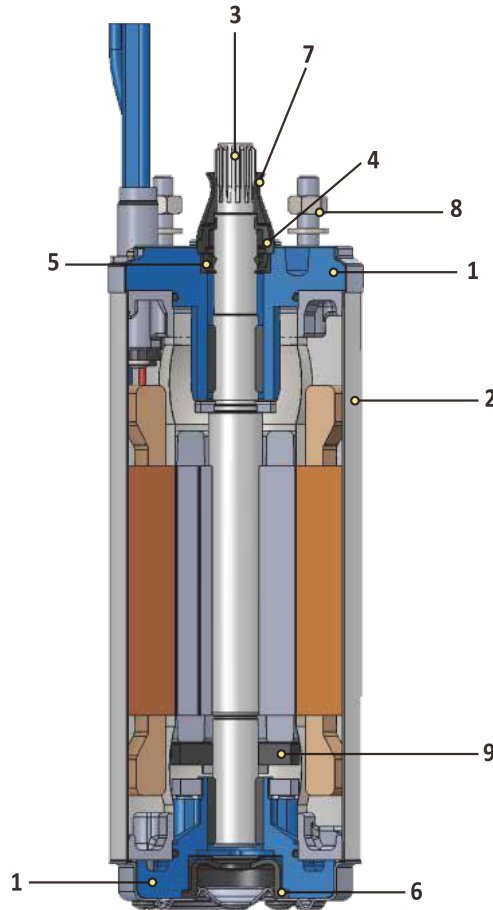
NOTE: SPECIFICATIONS ARE SUBJECT TO PERIODIC CHANGES DUE TO CONTINUOUS IMPROVEMENTS.

## ENCAPSULATED WATER FILLED MOTORS

0.5 HP to 7.5 HP

Material of Construction

MOTOR SIZE: 4"



Material of Construction				
SR.NO	PART NAME	NCC	NCA	NCB
1	Upper / Lower Housing	AISI 304 over iron	AISI 304	AISI 316
2	Stator Jacket	AISI 304	AISI 304	AISI 316
3	Shaft Extension	AISI 304	AISI 420	AISI 630
4	Seal Cover	Polyamide	Polyamide	Polyamide
5	Lip Seal	NBR	NBR	NBR
6	Expansion Diaphragm	NBR	NBR	NBR
7	Sand Slinger	NBR	NBR	NBR
8	Fasteners	AISI 304	AISI 304	AISI 316
9	Thrust Disc	Resin Impregnated Graphite		

## ENCAPSULATED WATER FILLED MOTORS

0.5 HP to 7.5 HP

ORDER INFORMATION

MOTOR SIZE: 4"

### SINGLE PHASE

HP	kW	Hz	WIRE	VOLTS	CABLE (ft)	Thrust Load [N]	Motor Type	ORDER NO. / MODEL CODE
0.5	0.37	60	2	220-230	3.9	2000N	Permanent Split Capacitor	NC-C-4-0005-6-2W-B-2-2
0.75	0.55	60	2	220-230	3.9	2000N		NC-C-4-0007-6-2W-B-2-2
1.0	0.75	60	2	220-230	3.9	3000N		NC-C-4-0010-6-2W-B-2-3
1.5	1.1	60	2	220-230	3.9	3000N		NC-C-4-0015-6-2W-B-2-3
0.5	0.37	60	3	220-230	3.9	2000N	Capacitor Start & Run	NC-C-4-0005-6-3W-B-2-2
0.75	0.55	60	3	220-230	3.9	2000N		NC-C-4-0007-6-3W-B-2-2
1.0	0.75	60	3	220-230	3.9	3000N		NC-C-4-0010-6-3W-B-2-3
1.5	1.1	60	3	220-230	3.9	3000N		NC-C-4-0015-6-3W-B-2-3
2.0	1.5	60	3	220-230	3.9	3000N		NC-C-4-0020-6-3W-B-2-3
3.0	2.2	60	3	220-230	8.2	4000N		NC-C-4-0030-6-3W-B-2-4
5.0	3.7	60	3	220-230	8.2	6000N		NC-C-4-0050-6-3W-B-2-6

### THREE PHASE

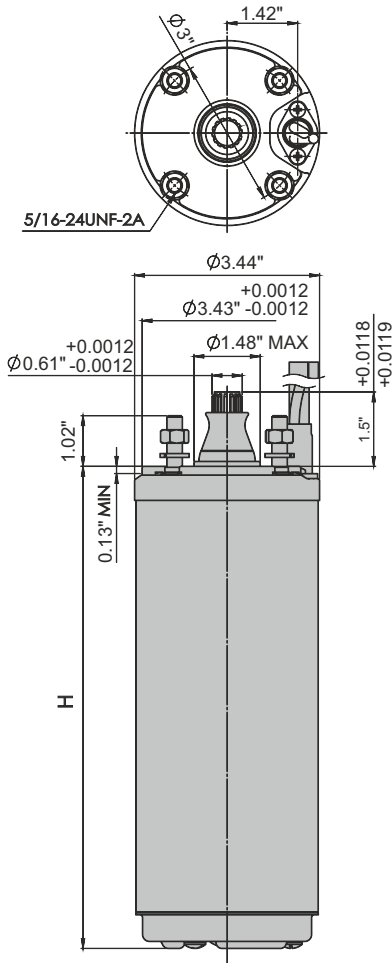
HP	kW	Hz	VOLTS	CABLE (ft)	Thrust Load [N]	ORDER NO. / MODEL CODE
0.5	0.37	60	220-230	3.9	2000N	NC-C-4-0005-6-3P-B-2-2
0.75	0.55	60	220-230	3.9	2000N	NC-C-4-0007-6-3P-B-2-2
1.0	0.75	60	220-230	3.9	3000N	NC-C-4-0010-6-3P-B-2-3
1.5	1.1	60	220-230	3.9	3000N	NC-C-4-0015-6-3P-B-2-3
2.0	1.5	60	220-230	3.9	3000N	NC-C-4-0020-6-3P-B-2-3
3.0	2.2	60	220-230	8.2	4000N	NC-C-4-0030-6-3P-B-2-4
5.0	3.7	60	220-230	8.2	6000N	NC-C-4-0050-6-3P-B-2-6
7.5	5.5	60	220-230	8.2	6000N	NC-C-4-0075-6-3P-B-2-6
0.5	0.37	60	460	3.9	2000N	NC-C-4-0005-6-3P-D-2-2
0.75	0.55	60	460	3.9	2000N	NC-C-4-0007-6-3P-D-2-2
1.0	0.75	60	460	3.9	3000N	NC-C-4-0010-6-3P-D-2-3
1.5	1.1	60	460	3.9	3000N	NC-C-4-0015-6-3P-D-2-3
2.0	1.5	60	460	3.9	3000N	NC-C-4-0020-6-3P-D-2-3
3.0	2.2	60	460	8.2	4000N	NC-C-4-0030-6-3P-D-2-4
5.0	3.7	60	460	8.2	6000N	NC-C-4-0050-6-3P-D-2-6
7.5	5.5	60	460	8.2	6000N	NC-C-4-0075-6-3P-D-2-6

## ENCAPSULATED WATER FILLED MOTORS

Single Phase	DIMENSIONS	MOTOR SIZE: 4"
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### 2-wire

HP	VOLTS	Dimension H (in)	Cable (ft)	Cable (AWG)	Shipping Weight (lbs)
0.5	220-230	12.12	3.9	14	21.1
0.75	220-230	13.18	3.9	14	23.9
1.0	220-230	14.88	3.9	14	26.7
1.5	220-230	16.65	3.9	14	31.6



### 3-wire

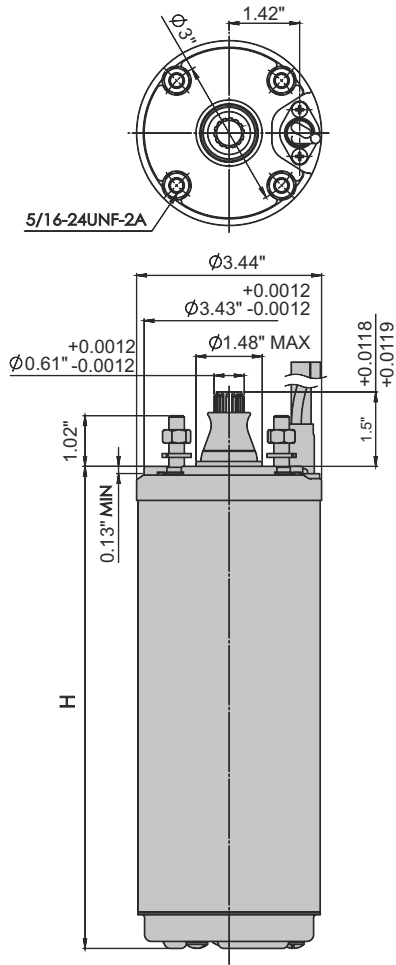
HP	VOLTS	Dimension H (in)	Cable (ft)	Cable (AWG)	Shipping Weight (lbs)
0.5	220-230	9.76	3.9	14	19.9
0.75	220-230	10.82	3.9	14	22.8
1.0	220-230	11.73	3.9	14	24.9
1.5	220-230	13.66	3.9	14	29.4
2.0	220-230	15.27	3.9	14	33.4
3.0	220-230	18.62	8.2	14	41.6
5.0	220-230	27.71	8.2	14	65.6

## ENCAPSULATED WATER FILLED MOTORS

Three Phase

DIMENSIONS

MOTOR SIZE: 4"



HP	VOLTS	Dimension H (in)	Cable (ft)	Cable (AWG)	Shipping Weight (lbs)
0.5	220-230	9.76	3.9	14	20.3
0.75	220-230	10.82	3.9	14	22.5
1.0	220-230	11.73	3.9	14	24.8
1.5	220-230	11.73	3.9	14	24.9
2.0	220-230	13.85	3.9	14	30.0
3.0	220-230	15.59	8.2	14	34.5
4.0	220-230	21.69	8.2	14	49.9
5.0	220-230	21.69	8.2	14	50.2
7.5	220-230	27.71	8.2	14	66.5

HP	VOLTS	Dimension H (in)	Cable (ft)	Cable (AWG)	Shipping Weight (lbs)
0.5	460	9.76	3.9	14	19.9
0.75	460	10.82	3.9	14	22.8
1.0	460	11.73	3.9	14	25.2
1.5	460	11.73	3.9	14	25.2
2.0	460	13.85	3.9	14	30.3
3.0	460	15.59	8.2	14	34.4
4.0	460	21.69	8.2	14	50.4
5.0	460	21.69	8.2	14	57.0
7.5	460	27.71	8.2	14	66.5



## ENCAPSULATED WATER FILLED MOTORS

Single Phase

PERFORMANCE DATA-60 Hz

MOTOR SIZE: 4"

### 2-wire

HP	S.F.	U <sub>N</sub> [V]	I <sub>N</sub> [A]	I <sub>max</sub> [A]	I <sub>start</sub> [A]	Cos φ PF[%]	Effi.[%]	n <sub>N</sub> [min <sup>-1</sup> ]	Thrust Load [N]
						100% load	100% load		
0.5	1.6	220	3.8	5.1	15.2	0.95	54.0	3450	2000
		230	3.8	5.2	15.8	0.93			
0.75	1.5	220	7.0	8.1	21.9	0.82	60.0	3450	2000
		230	7.6	7.7	23.0	0.75			
1.0	1.4	220	6.3	8.1	23.5	0.98	61.0	3450	3000
		230	6.2	7.8	24.2	0.97			
1.5	1.3	220	9.2	11.8	31.0	0.97	62.0	3450	3000
		230	8.9	10.8	31.8	0.95			

### 3-wire

HP	S.F.	U <sub>N</sub> [V]	I <sub>N</sub> [A]	I <sub>max</sub> [A]	I <sub>start</sub> [A]	Cos φ PF[%]	Effi.[%]	n <sub>N</sub> [min <sup>-1</sup> ]	Thrust Load [N]
						100% load	100% load		
0.5	1.6	220	5.8	6.7	22.0	0.57	51.0	3450	2000
		230	6.2	7.5	23.1	0.60			
0.75	1.5	220	8.1	9.0	31.6	0.59	51.1	3450	2000
		230	9.0	10.1	33.3	0.60			
1.0	1.4	220	9.3	11.5	36.4	0.70	60.1	3450	3000
		230	9.5	11.3	38.1	0.65			
1.5	1.3	220	10.1	13.0	41.4	0.87	65.1	3450	3000
		230	9.9	12.1	44.0	0.84			
2.0	1.25	220	13.1	16.0	49.4	0.89	66.2	3450	3000
		230	13.1	15.5	52.6	0.86			
3.0	1.15	220	16.6	19.1	70.5	0.98	70.6	3450	4000
		230	16.0	18.2	74.0	0.97			
5.0	1.15	220	27.8	32.3	101.1	0.99	69.9	3450	6000
		230	26.3	30.1	106.7	0.99			

## ENCAPSULATED WATER FILLED MOTORS

Three Phase

PERFORMANCE DATA-60 Hz

MOTOR SIZE: 4"

HP	S.F.	U <sub>N</sub> [V]	I <sub>N</sub> [A]	I <sub>max</sub> [A]	I <sub>start</sub> [A]	Cos φ PF[%]	Effi. [%]	n <sub>N</sub> [min <sup>-1</sup> ]	Thrust Load [N]
						100% load	100% load		
0.5	1.6	220	2.2	2.8	14.2	0.62	67.7	3450	2000
		230	2.4	2.8	15.0	0.57			
0.75	1.5	220	3.6	4.1	23.6	0.59	67.9	3450	2000
		230	4.0	4.3	25.2	0.53			
1.0	1.4	220	3.6	4.5	18.8	0.75	72.5	3450	3000
		230	3.6	4.4	20.0	0.71			
1.5	1.3	220	4.8	5.9	33.2	0.77	76.7	3450	3000
		230	4.8	6.4	34.8	0.73			
2.0	1.25	220	6.5	7.7	35.5	0.79	76.3	3450	3000
		230	6.5	7.5	34.1	0.76			
3.0	1.15	220	9.6	10.6	54.3	0.78	77.1	3450	4000
		230	9.8	10.6	56.0	0.73			
5.0	1.15	220	15.9	17.7	84.3	0.81	75.3	3450	6000
		230	15.7	17.3	88.4	0.78			
7.5	1.15	220	24.1	26.6	123.4	0.77	77.4	3450	6000
		230	24.7	26.9	126.2	0.73			

HP	S.F.	U <sub>N</sub> [V]	I <sub>N</sub> [A]	I <sub>max</sub> [A]	I <sub>start</sub> [A]	Cos φ PF[%]	Effi. [%]	n <sub>N</sub> [min <sup>-1</sup> ]	Thrust Load [N]
						100% load	100% load		
0.5	1.6	460	0.9	1.3	4.5	0.72	67.9	3450	2000
0.75	1.5	460	1.9	2.2	10.6	0.54	68.0	3450	2000
1.0	1.4	460	3.0	3.2	19.1	0.48	72.5	3450	3000
1.5	1.3	460	2.5	3.0	15.5	0.74	72.7	3450	3000
2.0	1.25	460	3.7	4.1	23.1	0.68	75.4	3450	3000
3.0	1.15	460	4.9	5.4	28.8	0.74	75.7	3450	4000
5.0	1.15	460	8.7	9.5	68.4	0.68	77.4	3450	6000
7.5	1.15	460	10.9	12.1	78.3	0.79	79.1	3450	6000

## CONTROL BOX

0.5 HP to 5 HP      MODEL CODE      MOTOR SIZE: 4"

**NB**    **C**    **4**    **S**    **0005**    **A**

### Volts

Code	Volts
A	110-115V
B	220-230V

### Motor HP

Code	HP
0005	0.5 HP
0007	0.75 HP
0010	1 HP
0050	5 HP

### Capacitor Type

Code	Capacitor Type
S	Start capacitor
D	Start & Run capacitor

### Motor size

Code	Size
4	4"

### Submersible Motor Type

Code	Submersible Motor Type
C	Encapsulated water filled motor

### Series name

Code	Series
NB	Control box

## CONTROL BOX

Single Phase

ORDER INFORMATION

MOTOR SIZE: 4"

Model	Capacitor Type	HP	Voltage [V]	Start Capacitor MFD	Run Capacitor UF
NB-C-4-D-0005-B	START & RUN	0.5	220-230	60 - 80 MFD 400V	15UF 440V
NB-C-4-D-0007-B	START & RUN	0.75	220-230	120 - 150 MFD 400V	20UF 440V
NB-C-4-D-0010-B	START & RUN	1.0	220-230	100 - 120 MFD 400V	25UF 440V
NB-C-4-D-0015-B	START & RUN	1.5	220-230	150 - 200 MFD 400V	20UF 440V
NB-C-4-D-0020-B	START & RUN	2.0	220-230	200 - 250 MFD 400V	30UF 440V
NB-C-4-D-0030-B	START & RUN	3.0	220-230	200 - 250 MFD 400V	60UF 440V
NB-C-4-D-0050-B	START & RUN	5.0	220-230	250 - 300 MFD 400V	72UF 440V

## CONTROL BOX

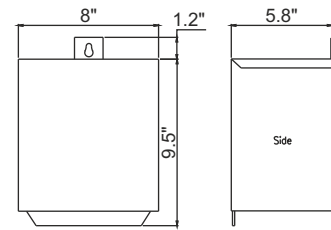
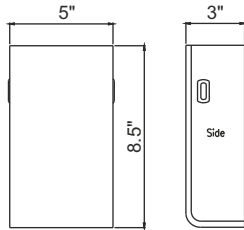
Single Phase

DIMENSIONS

MOTOR SIZE: 4"

Start Capacitor Control box

Start & Run Capacitor Control box



HP	kW	Voltage [V]	Capacitor Type	Carton Box Size			Bottom Knockouts Quantity	Side Knockouts Diameter	Volume
				L	W	H			
0.5	0.37	220-230	START & RUN	9.9"	5.5"	3.6"	2	Ø0.86"	39.3" x 32.2" x 54.3"
0.75	0.55	220-230	START & RUN	9.9"	5.5"	3.6"	2	Ø0.86"	39.3" x 32.2" x 54.3"
1.0	0.75	220-230	START & RUN	9.9"	5.5"	3.6"	2	Ø0.86"	39.3" x 32.2" x 54.3"
1.5	1.1	220-230	START & RUN	11.5"	8.5"	6.5"	2	Ø1.3"	40.9" x 34.6" x 55.1"
2.0	1.5	220-230	START & RUN	11.5"	8.5"	6.5"	2	Ø1.3"	40.9" x 34.6" x 55.1"
3.0	2.2	220-230	START & RUN	11.5"	8.5"	6.5"	2	Ø1.3"	40.9" x 34.6" x 55.1"
5.0	3.7	220-230	START & RUN	11.5"	8.5"	6.5"	2	Ø1.3"	40.9" x 34.6" x 55.1"







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