



CP04 SERIES OWNERS MANUAL



CARRY PUMPS™ STAINLESS STEEL SUBMERSIBLE HIGH-VOLUME AXIAL-FLOW PUMP

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PRODUCT USE & SAFETY INFORMATION

- **Do not use a Carry Pumps™ Stainless Steel Submersible High-Volume Axial-Flow Pump in a swimming area.**
- **Carry Pumps™ does not recommend the use of 1 to 3 Horsepower Franklin Electric Motors for use in continuous duty applications such as fish farms.**
The life expectancy of the motors may be too short.
- Vertical pump configurations are preferred. As the mounting position of the motor becomes further from vertical and closer to horizontal, the probability of shortened thrust bearing life increases.
- The electrical control panel must be installed observing all applicable state and local codes.
- A local disconnect is recommended near the control panel for ease of servicing.
- **A good earth ground must be provided at the electrical service entrance using a metal grounding stake.**
- The pump must be properly grounded to protect personnel from a **serious or fatal electrical shock hazard**, and the pump motor from lightning.
- A 1 Phase Carry Pumps™ Stainless Steel Submersible Axial-Flow Pumps must be connected to the correct pump controls.



PRODUCT USE & SAFETY INFORMATION

- **Use of a Lightning Arrestor is highly recommended.**
- The level control wiring must be encapsulated or low voltage for safety.
- Running a Carry Pumps™ Stainless Steel Submersible Axial-Flow Pump dry (without water freely flowing by the motor as a coolant) will ruin the motor. This motor failure is not covered under warranty.
- **Use caution when operating a pump on manual control.** It is very important to not let the pump run dry.
- Do not let water freeze in and around the pump. Severe damage will result to the pump and motor if water freezes around them.
- Remove any construction debris, muck and sludge from the sump bottom before the installation and initial start up. These obstructions can starve the pump of water and ruin the motor.
- Carry Pumps™ Strainer Screens will provide an effective barrier from debris in storm water and water transfer applications. However, it is very important to make sure the screen stays clean and does not become plugged by debris. A screen that is clogged will starve the pump of water and the motor will fail. This motor failure is not covered under warranty.



**CP04 SERIES HIGH VOLUME STAINLESS STEEL
VERTICAL AXIAL-FLOW SUBMERSIBLE PUMP
MODEL NUMBER EXPLANATION**

2019 MODEL NUMBER

EXAMPLE: CP04-0010-231-09 = 1HP/230V/1PH
Vertical Axial Flow Pump
with a 9° Impeller

GENERAL DESCRIPTION:

CP04 = Carry Pumps™ High-Volume
Axial-Flow Pump with a 4" Impeller
(6" discharge/pipe recommended)

HORSEPOWER:

0010 = 1 Horsepower
0015 = 1.5 Horsepower
0020 = 2 Horsepower
0030 = 3 Horsepower

PHASE/VOLTAGE:

231 = 230 Volt / 1 Phase
203 = 208 Volt / 3 Phase
233 = 230 Volt / 3 Phase
463 = 460 Volt / 3 Phase
573 = 575 Volt / 3 Phase

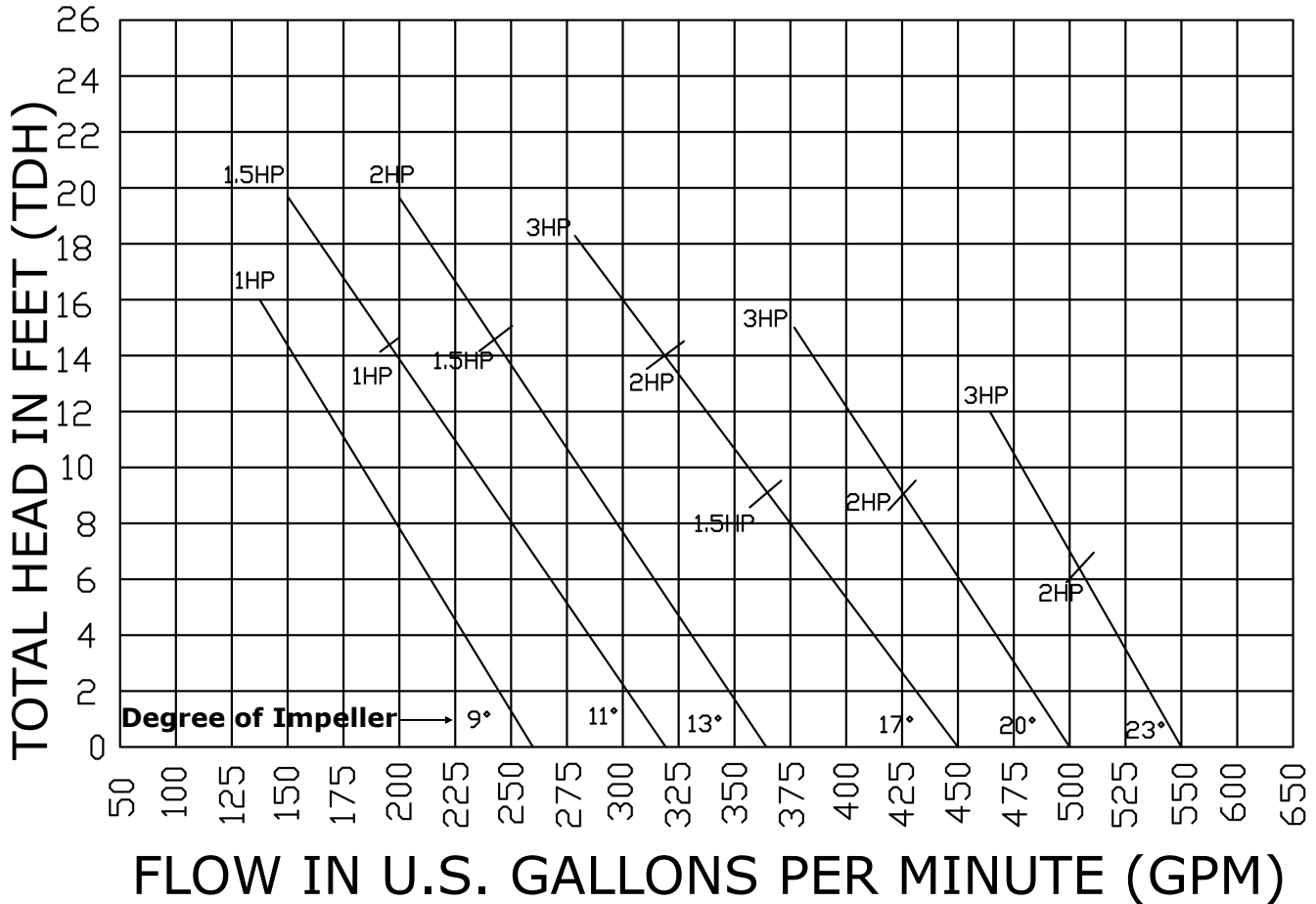
IMPELLER PITCH:

09 = 9° Impeller
11 = 11° Impeller
13 = 13° Impeller
17 = 17° Impeller
20 = 20° Impeller
23 = 23° Impeller
(chosen from pump curve chart)

PLEASE NOTE: All Carry Pumps™ CP04 Series Pumps come
standard with a 30' power lead. Additional



CP04 AXIAL-FLOW PUMP CURVES

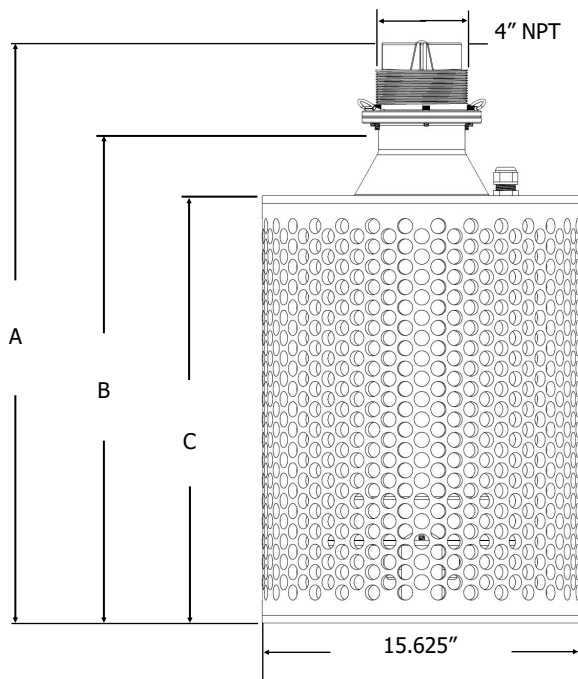


PLOT YOUR POINT: Follow the flow in U.S. gallons per minute required horizontally on the chart to your GPM flow required; then follow up to your total head in feet required.

The location of the point plotted on the chart determines the horsepower of pump required.



CP04 SERIES HIGH-VOLUME AXIAL-FLOW PUMP DIMENSIONS 230V/1 PHASE



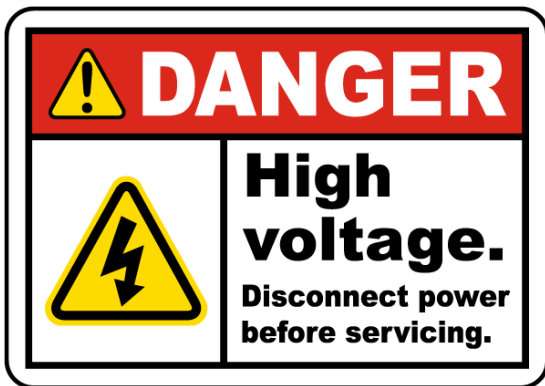
230V/1 PHASE				
HORSEPOWER	WEIGHT	(A) OVERALL HEIGHT	(B) MINIMUM SUBMERGENCE	(C) SCREEN HEIGHT
1 HP	69	20"	18"	14.5"
1.5 HP	79	24"	20.5"	16.5"
2 HP	76	26"	22.5"	18.75"
3 HP	104	30"	26.5"	23.5"



4" FRANKLIN 230V/1 PHASE MOTOR SPECIFICATIONS & TESTING PARAMETERS

**MOTORS WITH 4 WIRES (3-WIRE WITH GROUND WIRE)
WIRES = WHITE/YELLOW, BLACK, RED & GREEN**

HORSEPOWER MOTOR DIA. MAKE & RPM	VOLTS	PHASE	Hz	SERVICE FACTOR	FULL LOAD AMPS	MAX LOAD AMPS	RECOMMENDED CIRCUIT BREAKER	LINE to LINE RESISTANCE IN OHMS	LOCKED ROTOR AMPS
1 HP 4" FRANKLIN 3450 RPM	230V	1 PH	60 HZ	1.40	W/Y 6.6 B 6.6 R 1.3 G-Ground	W/Y 8.0 B 7.9 R 1.3 G-Ground	25 AMP	W/Y to B MAIN 2.2 - 2.7 W/Y to R START 9.9 - 12.1	43.0
1.5 HP 4" FRANKLIN 3450 RPM	230V	1 PH	60 HZ	1.30	W/Y 10.0 B 9.9 R 1.3 G-Ground	W/Y 11.5 B 11.9 R 2.6 G-Ground	30 AMP	W/Y to B MAIN 1.7 - 2.1 W/Y to R START 7.5 - 9.2	51.4
2 HP 4" FRANKLIN 3450 RPM	230V	1 PH	60 HZ	1.25	W/Y 10.0 B 9.3 R 2.6 G-Ground	W/Y 13.2 B 11.9 R 2.6 G-Ground	25 AMP	W/Y to B MAIN 1.8 - 2.3 W/Y to R START 5.5 - 7.2	53.1
3 HP 4" FRANKLIN 3450 RPM	230V	1 PH	60 HZ	1.15	W/Y 14.0 B 11.2 R 6.1 G-Ground	W/Y 17.0 B 12.6 R 6.0 G-Ground	40 AMP	W/Y to B MAIN 1.1 - 1.4 W/Y to R START 4.0 - 4.8	83.4



IMPORTANT

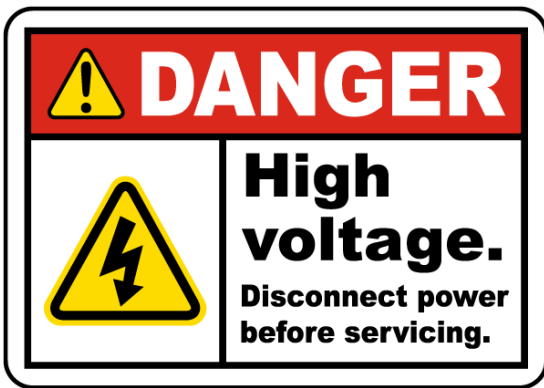
- DO NOT** test Winding resistance with the motor connected to the Control Box.
- Test the Windings Line to Line Resistance by using a Multimeter or Ohmmeter to measure Ohms (Resistance) between the wires.
- Ohms (Resistance) measured between any combination of wires should be a similar value.
White/Yellow to Black = Main Windings
White/Yellow to Red = Start Windings
- A bound pump will cause locked rotor amps and over-current fault/shut down. Check for obstructions in the pump and/or the amps on the Black wire at start-up.



4" FRANKLIN 230V/1 PHASE MOTOR SPECIFICATIONS & TESTING PARAMETERS

**MOTORS WITH 3 WIRES (2-WIRE WITH GROUND WIRE)
WIRES = WHITE/YELLOW, BLACK & GREEN**

HORSEPOWER MOTOR DIA. MAKE & RPM	VOLTS	PHASE	Hz	SERVICE FACTOR	FULL LOAD AMPS	MAX LOAD AMPS	RECOMMENDED CIRCUIT BREAKER	LINE to LINE RESISTANCE IN OHMS	LOCKED ROTOR AMPS
0.5 HP 4" FRANKLIN 3450 RPM	115V	1 PH	60 HZ	1.6	10.0	12.0	30 AMP	1.0 - 1.3	64.4
0.5 HP 4" FRANKLIN 3450 RPM	230V	1 PH	60 HZ	1.6	5.0	6.0	15 AMP	4.2 - 5.2	32.2
0.75 HP 4" FRANKLIN 3450 RPM	230V	1 PH	60 HZ	1.5	6.8	8.0	20 AMP	3.0 - 3.6	40.7
1 HP 4" FRANKLIN 3450 RPM	230V	1 PH	60 HZ	1.4	8.2	10.4	25 AMP	2.2 - 2.7	48.7
1.5 HP 4" FRANKLIN 3450 RPM	230V	1 PH	60 HZ	1.3	10.6	13.1	30 AMP	1.5 - 2.1	66.2



IMPORTANT

- ✓ **DO NOT** test Winding resistance with the motor connected to the power source.
- ✓ Test the windings by using a Multimeter or Ohmmeter to measure Ohms (Resistance) between White/Yellow to Black.
- ✓ Ohms (Resistance) measured between White/Yellow to Black wires should be within the given parameters.
- ✓ A bound pump will cause locked rotor amps and over-current fault/shut down. Check for obstructions in the pump and/or the amps on the Black wire at start-up.



CAUTION

Motor must be phased to ensure proper rotation

PHASING THE MOTOR 3 PHASE MOTORS ONLY

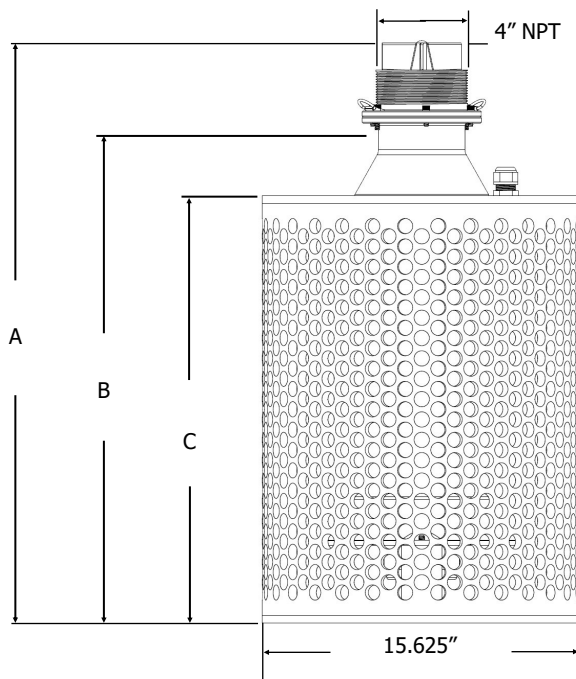
- 3 Phase motors are capable of running in both forward and reverse, so the pump can pump water both directions.
- If wired incorrectly, the pump will run in the reverse direction, pumping little water.

Continuously running the pump in reverse will cause premature motor failure that is not covered by warranty.

- When wired correctly, there will be a measurable increase in the amount of water pumped.
- Swapping any two wires: red, yellow, or black wire connections, will reverse the direction the motor is running.
- When in doubt, reverse any two wires: red, yellow, or black wire connections, and then compare the water flow to determine the correct wiring configuration.



CP04 SERIES VERTICAL AXIAL-FLOW PUMP DIMENSIONS 3 PHASE

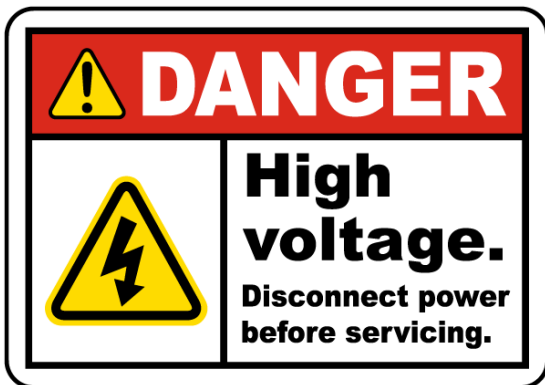


3 PHASE				
HORSEPOWER	WEIGHT	(A) OVERALL HEIGHT	(B) MINIMUM SUBMERGENCE	(C) SCREEN HEIGHT
1 HP	72	22"	18.5"	14.5"
1.5 HP	72	22"	18.5"	14.5"
2 HP	82	24"	20"	16.5"
3 HP	84	26"	22"	18.75"



4" FRANKLIN ELECTRIC 3 PHASE MOTOR SPECIFICATIONS & TESTING PARAMETERS

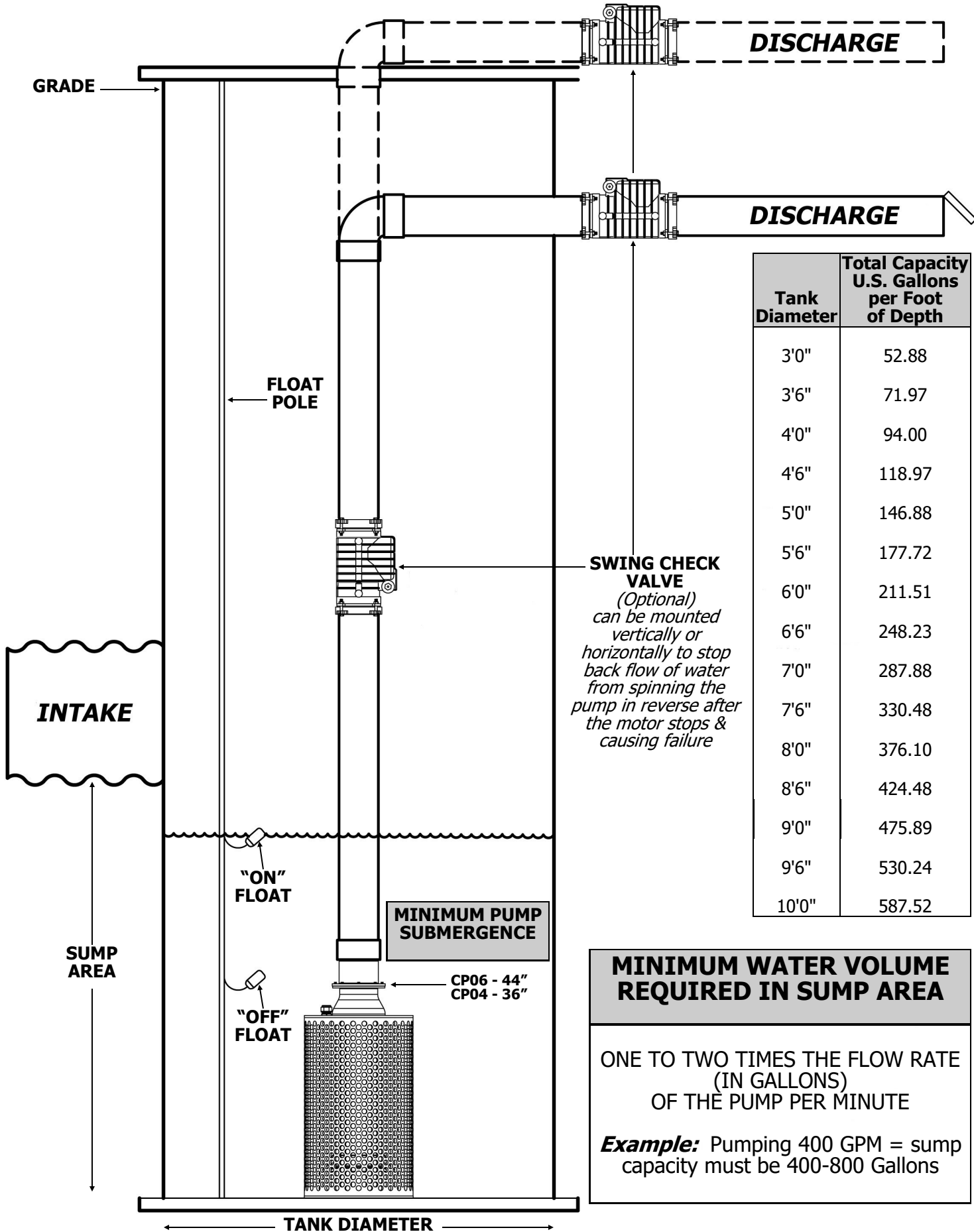
HORSEPOWER MOTOR DIA. MAKE & RPM	VOLTS	PHASE	Hz	SERVICE FACTOR	FULL LOAD AMPS	MAX LOAD AMPS	LINE to LINE RESISTANCE IN OHMS	LOCKED ROTOR AMPS
1 HP 4" FRANKLIN 3450 RPM	208V	3 PH	60 Hz	1.4	4.5	5.4	3.8 - 4.5	30.9
	230V				3.9	4.7	4.9 - 5.6	26.9
	460V				2.0	2.4	19.9 - 23.0	13.5
	575V				1.6	1.9	30.1 - 36.7	10.8
1.5 HP 4" FRANKLIN 3450 RPM	208V	3 PH	60 Hz	1.3	5.8	6.8	2.5 - 3.0	38.2
	230V				5.0	5.9	3.2 - 4.0	33.2
	460V				2.5	3.1	13.0 - 16.0	16.6
	575V				2.0	2.4	20.3 - 25.0	13.3
2 HP 4" FRANKLIN 3450 RPM	208V	3 PH	60 Hz	1.25	7.7	9.3	1.8 - 2.4	50.3
	230V				6.7	8.1	2.3 - 3.0	45.0
	460V				3.4	4.1	9.2 - 12.0	22.5
	575V				2.7	3.2	14.6 - 18.7	17.8
3 HP 4" FRANKLIN 3450 RPM	208V	3 PH	60 Hz	1.15	10.9	12.5	1.3 - 1.7	69.5
	230V				9.5	10.9	1.8 - 2.2	60.3
	460V				4.8	5.5	7.2 - 8.8	31.0
	575V				3.8	4.4	11.4 - 13.9	25.1



IMPORTANT

- ✓ **DO NOT** test Winding resistance with the motor connected to the Control Box or Variable Frequency Drive (VFD).
- ✓ Test the windings by using a Multimeter or Ohmmeter to measure Ohms (Resistance) between Yellow or White to Red, Yellow or White to Black, and Red to Black.
- ✓ Resistance measured between any combination of wires should be a similar value.
- ✓ A bound pump will cause locked rotor amps and over-current fault/shut down. Check for obstructions in the pump and/or the amps on the Black wire at start-up.

PUMP STATION EXAMPLE



Tank Diameter	Total Capacity U.S. Gallons per Foot of Depth
3'0"	52.88
3'6"	71.97
4'0"	94.00
4'6"	118.97
5'0"	146.88
5'6"	177.72
6'0"	211.51
6'6"	248.23
7'0"	287.88
7'6"	330.48
8'0"	376.10
8'6"	424.48
9'0"	475.89
9'6"	530.24
10'0"	587.52

SWING CHECK VALVE
(Optional)
 can be mounted vertically or horizontally to stop back flow of water from spinning the pump in reverse after the motor stops & causing failure

MINIMUM WATER VOLUME REQUIRED IN SUMP AREA

ONE TO TWO TIMES THE FLOW RATE (IN GALLONS) OF THE PUMP PER MINUTE

Example: Pumping 400 GPM = sump capacity must be 400-800 Gallons

TERMS, PAYMENT & INVOICING

Standard payment terms are NET 30 days from the date of invoice for approved accounts. Customers who do not have an approved account must prepay prior to order being shipped. Retaining a percentage of the contract sale amount is prohibited without prior, written agreement. Payment must be made in U.S. Funds. An invoice will be rendered as of the date product is ready for shipment. A service fee of 1-1/2% per month on all invoices over 30 days past due will be imposed. In the event of any default by the Purchaser, Carry Pumps, Inc. shall have the right to repossess the product as well as all other rights afforded to a conditional seller under the provisions of the Uniform Conditional Sales Act and any other applicable laws.

STANDARD WARRANTY AND CONDITIONS OF SALE

LIMITED WARRANTY: CARRY PUMPS, INC. warrants the product sold by it to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase.

WARRANTY DISCLAIMER: *This warranty does not apply to pumps sold without compatible Carry electrical controls, horizontal pumps, and/or if the product is used in saltwater, aquaculture (fish farming), water feature applications, continuous-duty use (24/7 operation), or to pumps that have been subject to misuse (including use in a manner inconsistent with the design of the pump), abuse, neglect, accident or improper installation or maintenance, or to pumps that have been altered or repaired by anyone other than CARRY PUMPS, INC.* The warranties in this agreement are in lieu of all other warranties, express or implied, including without limitation, any warranties of merchantability or fitness for a particular purpose, said warranties being expressly disclaimed.

WARRANTY AMENDMENTS: Prior or subsequent courses of dealing, trade usage and verbal agreements not reduced to a writing signed by CARRY PUMPS, INC., to the extent they differ from, modify, add to or detract from this warranty shall not be binding upon CARRY PUMPS, INC.. There are no agreements, promises or understandings, either verbal or written, that are not fully expressed in this warranty. No statements, recommendations or assistance by either party have been relied upon by either party nor shall they be relied upon and shall not constitute a waiver by either party of any of the provisions hereof. This warranty may be amended or altered only if agreed to in writing signed by CARRY PUMPS, INC.

LIMITED REMEDY: CARRY PUMPS, INC. and Purchaser agree the repair or replacement of the pump at issue is a commercially reasonable allocation of risk and, therefore, Purchaser agrees that its sole and exclusive remedy against CARRY PUMPS, INC. shall be limited to the repair or replacement of the pump at issue. This exclusive remedy shall not be deemed to have failed of its essential purpose so long as CARRY PUMPS, INC. is willing and able to repair or replace the pump at issue. In the event CARRY PUMPS, INC. is unable to repair or replace the pump at issue in a manner acceptable to purchaser, or in the event it shall be determined by a court having jurisdiction thereof that any provisions of this warranty are unconscionable or fail in its essential purpose, then the maximum liability of CARRY PUMPS, INC. shall be that as set forth in the paragraph next following entitled "Limitation on Liability".

STANDARD WARRANTY AND CONDITIONS OF SALE

LIMITATION ON LIABILITY: CARRY PUMPS, INC. shall not be liable for any loss, damage or injury resulting from delay in delivery or installation of the pump or for any failure to perform which is due to circumstances beyond its control. CARRY PUMPS, INC. and Purchaser agree it is a commercially reasonable allocation of risk that the maximum liability, if any, of CARRY PUMPS, INC. for all damages, including without limitation contract damages and damages for injuries to persons or property, whether arising from CARRY PUMPS, INC.' breach of this agreement, breach of warranty, negligence, strict liability or other tort, is limited to an amount not to exceed the purchase price of the pump at issue in the dispute and said liability is so limited. In no event shall CARRY PUMPS, INC. be liable to Purchaser for any incidental, consequential or special damages, including without limitation, lost revenues and profits, even if it has been advised of the possibility of such damages.

WARRANTY CLAIM PROCEDURE: This warranty is valid only if the following conditions are complied with by the Purchaser: Purchaser shall notify CARRY PUMPS, INC. in writing of the defect in the pump at issue within 30 days of discovery of the defect. The notice shall include with it copies of the proof of purchase and the return receipt signed by a representative of CARRY PUMPS, INC. as provided above. In the event repair or replacement of the pump at issue is approved by CARRY PUMPS, INC., Purchaser shall, upon written notice by CARRY PUMPS, INC. of the approval, return the pump to CARRY PUMPS, INC., freight pre-paid. CARRY PUMPS, INC. will return the repaired or replaced pump to Purchaser, freight prepaid. The repair or replacement of the pump shall not extend the duration of the one-year warranty term.

GOVERNING LAW: This warranty shall be governed and controlled by and enforced in accordance with the laws of the State of Michigan, U.S.A., in all respects.

FORUM: The parties agree they are of equal bargaining power and irrevocably submit to the jurisdiction and venue of the Circuit Court for the County of Tuscola, State of Michigan, or if original jurisdiction can be established, the United States District Court for the Eastern District of Michigan, Northern Division, with respect to any performance or breach of this agreement. The parties hereby stipulate that the venues referenced in this agreement are convenient to each of them.

RETURNS: Authorization and shipping instructions for the return of any product must first be obtained by the Purchaser from CARRY PUMPS, INC. or shipment will be refused. Only unused standard product or materials of current design by CARRY PUMPS, INC. purchased within a will be considered for return. Products are not eligible for return more than 6 months after the initial ship date of the product. Custom products cannot be returned for credit. If the returned product is in sellable condition, a credit memorandum will be issued for the original purchase price, less a minimum restocking charge of 20%. If there are any shipping charges that were paid by Carry Pumps, Inc., the amount of those shipping charges will also be deducted from the credit amount.

GENERAL: These terms and conditions shall constitute a part of any contract which may be entered into and shall not be altered, modified, or added to unless specifically and expressly agreed to in writing by CARRY PUMPS, INC. All oral agreements and representations of CARRY PUMPS, INC. or its representative to the Purchaser shall be embodied in any written contract of which CARRY PUMPS, INC. is a part.