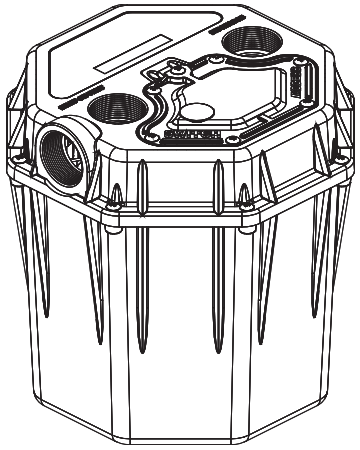
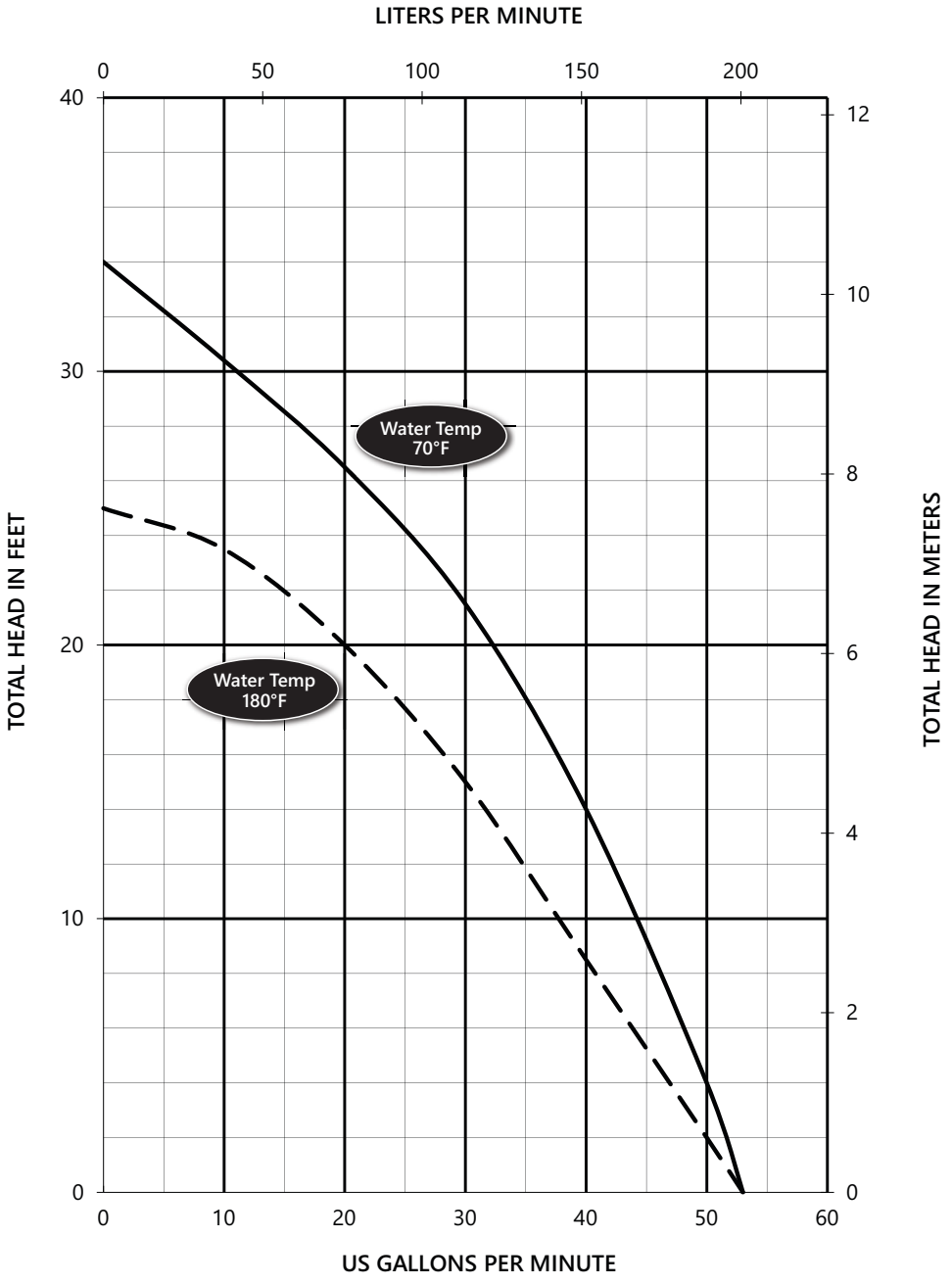
Liberty Pumps®

A Family and Employee Owned Company

System **Specifications**

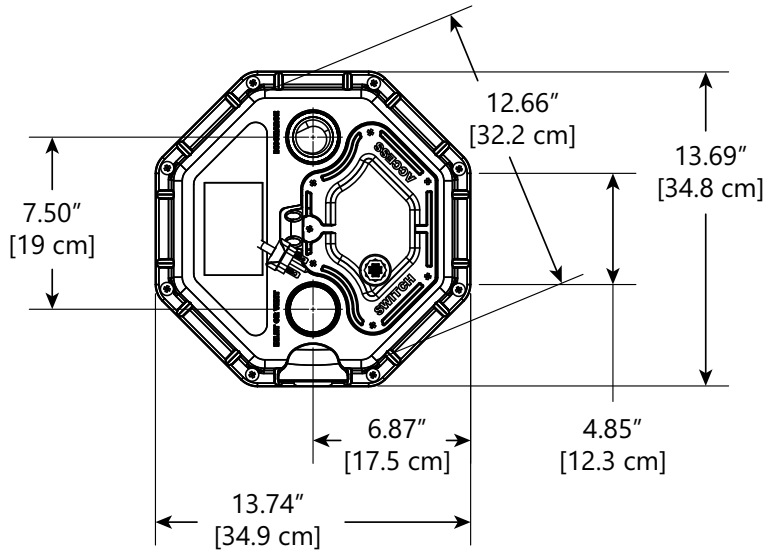
405-Series Commercial High Temp Drain Pumps

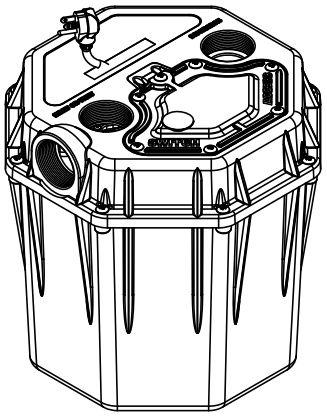


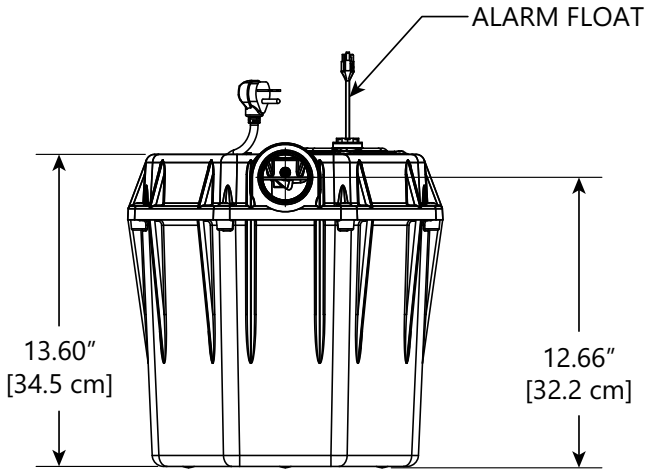


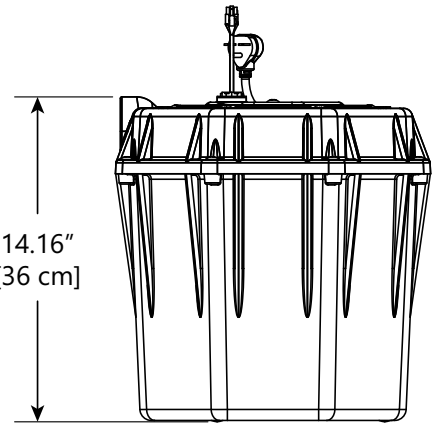
7000 Apple Tree Avenue Bergen NY 14416 ■ ***Phone*** *1-800-543-2550* ■ ***Fax*** *1-585-494-1839* ■ ***Email*** *Liberty@LibertyPumps.com* ■ ***Web*** *www.LibertyPumps.com*

405-Series Dimensional Data









7000 Apple Tree Avenue Bergen NY 14416 ■ ***Phone*** *1-800-543-2550* ■ ***Fax*** *1-585-494-1839* ■ ***Email*** *Liberty@LibertyPumps.com* ■ ***Web*** *www.LibertyPumps.com*

405-Series Electrical Data

MODEL	HP	VOLTAGE	PH	FULL LOAD AMPS	LOCKED ROTOR AMPS	THERMAL OVERLOAD TEMP	STATOR WINDING CLASS	CORD LENGTH	DISCHARGE	AUTOMATIC	ALARM
405	1/2	115	1	7.3	16	140°C / 284°F	F	10′	2″	YES	NO
405HV	1/2	208/230	1	3.5	7	140°C / 284°F	F	10′	2″	YES	NO
405HV-2	1/2	208/230	1	3.5	7	140°C / 284°F	F	25′	2″	YES	NO
405HVK	1/2	208/230	1	3.5	7	140°C / 284°F	F	10′	2″	YES	NO
405HVK-CV	1/2	208/230	1	3.5	7	140°C / 284°F	F	10′	2″	YES	NO
405/A	1/2	115	1	7.3	16	140°C / 284°F	F	10′	2″	YES	YES
405/A-EYE	1/2	115	1	7.3	16	140°C / 284°F	F	10′	2″	YES	YES NIGHTEYE®

*7000 Apple Tree Avenue Bergen NY 14416 ■ **Phone** 1-800-543-2550 ■ **Fax** 1-585-494-1839 ■ **Email** Liberty@LibertyPumps.com ■ **Web** www.LibertyPumps.com*

405-Series Technical Data

SYSTEM	**TANK**	POLYPROPYLENE
	INLET SIZE	2" FEMALE NPT
	DISCHARGE SIZE	2" FEMALE NPT
	VENT SIZE	2" FEMALE NPT
	CAPACITY	20.8 LITERS / 5.5 GALLONS
	WEIGHT	10.4 KG / 23 LBS
PUMP	**IMPELLER**	VORTEX HIGH TEMPERATURE ENGINEERED POLYMER
	SOLIDS HANDLING	3/8"
	PAINT	POWDER COATING
	MAX LIQUID TEMP	82°C / 180°F CONTINUOUS DUTY
	MAX STATOR TEMP	CLASS F 155°C / 311°F
	THERMAL OVERLOAD	140°C / 284°F
	POWER CORD TYPE	SJTOOW
	MOTOR HOUSING	DEEP FINNED POWDER COATED ALUMINUM
	VOLUTE	ENGINEERED POLYMER
	SHAFT	STAINLESS
	HARDWARE	STAINLESS
	O-RINGS	BUNA-N
	SHAFT SEAL	ENGINEERED DOUBLE LIP WITH STAINLESS SPRINGS
	CERTIFICATIONS	SSPMA, cCSAus

*7000 Apple Tree Avenue Bergen NY 14416 ■ **Phone** 1-800-543-2550 ■ **Fax** 1-585-494-1839 ■ **Email** Liberty@LibertyPumps.com ■ **Web** www.LibertyPumps.com*

405-Series Specifications

1.01 GENERAL

The contractor shall provide labor, material, equipment, and incidentals required to provide _____ (QTY) commercial drain pumps as specified herein. The pump models covered in this specification are 405-Series single-phase pumps. The pump furnished for this application shall be model _____ as manufactured by Liberty Pumps, and have a maximum fluid temperature rating of 180°F.

2.01 OPERATING CONDITIONS

Each drain pump shall be rated at 1/2 hp, _____ volts, 60 Hz, 3450 RPM. The unit shall produce _____ GPM at _____ feet of total dynamic head.

The drain pump shall be capable of handling effluent with 3/8" solids handling capability. The drain pump shall have a shut-off head of 34 feet and a maximum flow of 48 GPM @ 5 feet of total dynamic head.

The pump shall be controlled with a piggyback style on/off float switch.

3.01 CONSTRUCTION

Each drain pump shall be equal to the  Certified 405-Series pump as manufactured by Liberty Pumps, Bergen NY. The motor housing shall be constructed of a deep finned powder coated aluminum. The motor housing shall be oil-filled to dissipate heat. Air-filled motors shall not be considered equal since they do not properly dissipate heat from the motor. All mating parts shall be machined and sealed with a Buna-N O-ring. All fasteners exposed to the liquid shall be stainless steel. The motor shall be protected on the top side with sealed cord entry plate with molded pins to conduct electricity eliminating the ability of water to enter internally through the cord. The motor shall be protected on the lower side with an engineered double lip seal with stainless steel springs. The tank shall be made of polypropylene.

4.01 ELECTRICAL POWER CORD

The drain pump shall be supplied with 10 or 25 feet of multi-conductor power cord as per ***Electrical Data*** table. It shall be cord type SJTOOW, capable of continued exposure to the pumped liquid. The power cord shall be sized for the rated full load amps of the pump in accordance with the National Electric Code. The power cord shall not enter the motor housing directly but will conduct electricity to the motor by means of a watertight compression fitting cord plate assembly with molded pins to conduct electricity. This will eliminate the ability of water to enter internally through the cord by means of a damaged or wicking cord.

5.01 MOTORS

Motors shall be oil-filled, permanent split capacitor, class F insulated, NEMA B design, rated for continuous duty. At maximum load, the winding temperature shall not exceed 155°C unsubmerged. Since air-filled motors are not capable of dissipating heat, they shall not be considered equal. The pump motor shall have an integral thermal overload switch in the windings for protecting the motor. The capacitor circuit shall be mounted internally in the pump.

*7000 Apple Tree Avenue Bergen NY 14416 ■ **Phone** 1-800-543-2550 ■ **Fax** 1-585-494-1839 ■ **Email** Liberty@LibertyPumps.com ■ **Web** www.LibertyPumps.com*

6.01 BEARINGS AND SHAFT

Upper and lower ball bearings shall be required. The bearings shall be a single ball/race type bearing. Both bearings shall be permanently lubricated by the oil that fills the motor housing. The motor shaft shall be made of 300 or 400 series stainless steel and have a minimum diameter of 0.311".

7.01 SEALS

The pump shall have an engineered double lip seal with stainless steel springs. The motor plate/housing interface shall be sealed with a Buna-N O-ring.

8.01 IMPELLER

The impeller shall be molded engineered polymer with pump out vanes on the back shroud to keep debris away from the seal area. It shall be threaded to the motor shaft.

9.01 CONTROLS

All units are supplied with CSA and UL approved automatic wide-angle tilt float switches. The switches shall be equipped with piggyback style plug that allows the pump to be operated manually without the removal of the pump in the event that a switch becomes inoperable. The switches shall be mounted under a separately sealed access cover and tethered to a removable stainless steel rod for easy removal and serviceability.

10.01 PAINT

The exterior of the casting shall be protected with powder coat paint.

11.01 SUPPORT

The polyolefin tank shall be a freestanding unit.

12.01 SERVICEABILITY

Components required for the repair of the pump shall be shipped within a period of 24 hours.

13.01 TESTING

The pump shall have a ground continuity check and the motor chamber shall be hi-potted to test for electrical integrity, moisture content and insulation defects. The motor and volute housing shall be pressurized and an air leak decay test performed to ensure integrity of the motor housing. The pump shall be run at rated voltage to verify current, performance curve and monitor operation.

14.01 QUALITY CONTROL

The pump shall be manufactured in an ISO 9001 certified facility.

15.01 WARRANTY

Standard limited warranty shall be 3 years.

7000 Apple Tree Avenue Bergen NY 14416 ■ ***Phone*** *1-800-543-2550* ■ ***Fax*** *1-585-494-1839* ■ ***Email*** *Liberty@LibertyPumps.com* ■ ***Web*** *www.LibertyPumps.com*