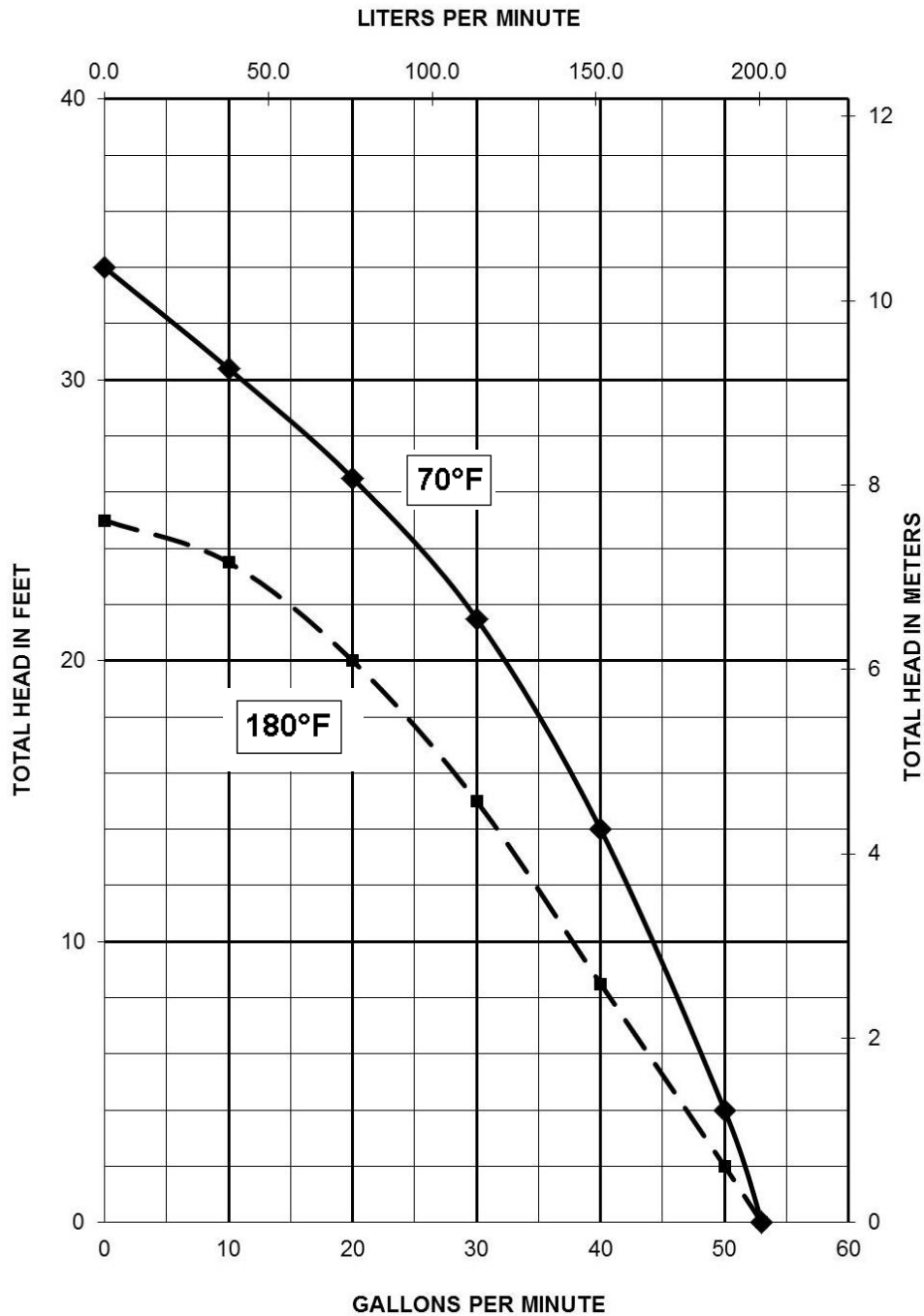
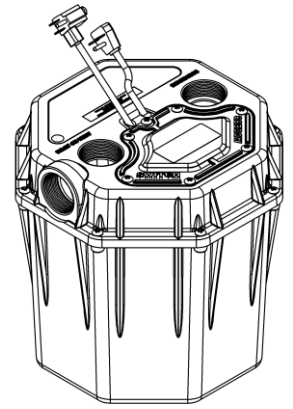
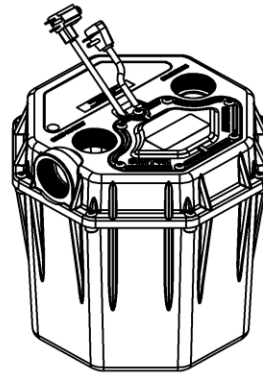
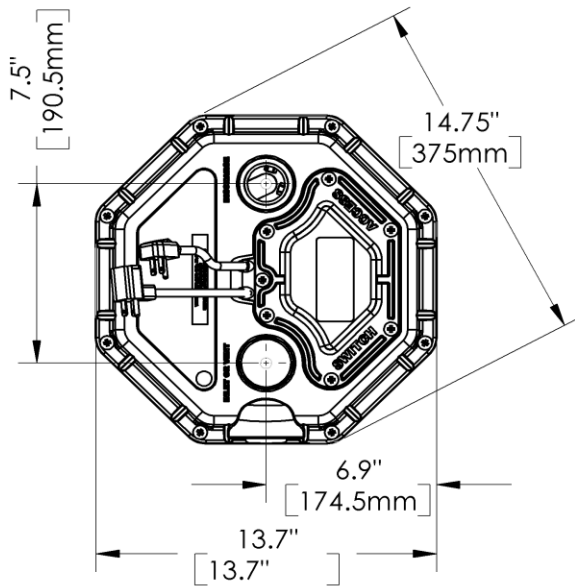




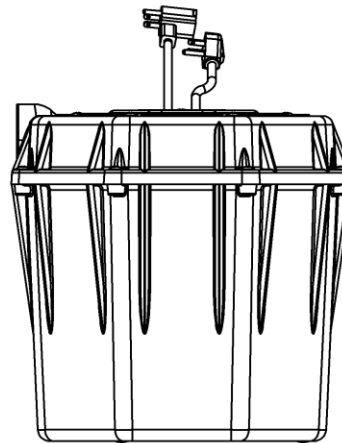
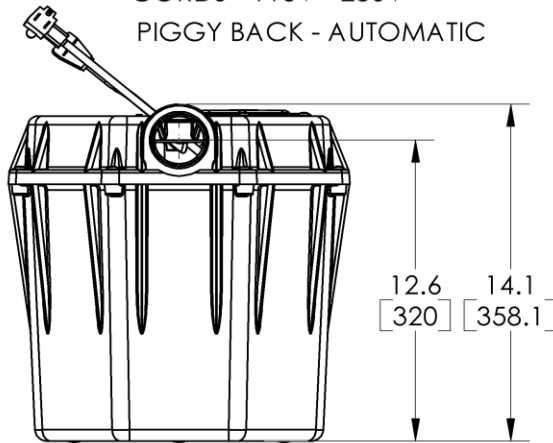
## Pump Specifications

### 405 Series Commercial Drain Pump (High-Temp)





CORDS - 115V - 230V  
PIGGY BACK - AUTOMATIC



**PROPRIETARY AND CONFIDENTIAL**  
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APPLICATION DO NOT SCALE DRAWING

405 SERIES DIMENSIONAL

SIZE <b>A</b>	JAN / 2007	REV. <b>A</b>
SCALE:1:4	WEIGHT: 23 LBS	SHEET 1 OF 1

## 405-Series Electrical Data

MODEL	HP	VOLTAGE	PH.	FULL LOAD AMPS	LOCKED ROTOR AMPS	THERMAL OVERLOAD TEMP	STATOR WINDING CLASS	CORD LENGTH FT	DISCHARGE	AUTOMATIC	ALARM
405	½	115	1	7.3	16	140°C / 284°F	F	10	2"	YES	
405-HV	½	208/230	1	3.5	7	140°C / 284°F	F	10	2"	YES	
405/A	½	115	1	7.3	16	140°C / 284°F	F	10	2"	YES	YES
405/A-EYE	½	115	1	7.3	16	140°C / 284°F	F	10	2"	YES	YES NIGHTEYE®

## 405-Series Technical Data

IMPELLER	VORTEX HIGH TEMPERATUER ENGINEERED POLYMER
SOLIDS HANDLING	3/8"
PAINT (PUMP)	POWDER COAT
MAX LIQUID TEMP	82°C / 180°F CONTINUOUS
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
ORINGS	BUNA N
SHAFT SEAL	ENGINEERED DOUBLE LIP WITH STAINLESS SPRINGS
WEIGHT	23 LBS
TANK MATERIAL	POLYPROPYLENE
INLET SIZE	2" FEMALE NPT
DISCHARGE SIZE	2" FEMALE NPT
VENT SIZE	2" FEMALE NPT

## 405-Series Specifications

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### 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 Series 405 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 degrees F.


### 2.01 OPERATING CONDITIONS:

Each drain pump shall be rated at 1/2 hp \_\_\_\_\_volts, single phase, 60 Hz. 3450 RPM. The unit shall produce \_\_\_\_\_ G.P.M. at \_\_\_\_\_ feet of total dynamic head.

The drain pump shall be capable of handling effluent with 3/8" solid 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 piggy back style on/off float switch.

### 3.01 CONSTRUCTION:

Each drain pump shall be equal to the Series 405 with  Certified 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 feet of multiconductor power cord. 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 cable shall not enter the motor housing directly but will conduct electricity to the motor by means of a water tight 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

Single phase 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 degrees C unmerged. 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.

## **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, which fills the motor housing. The motor shaft shall be made of 300 or 400 series stainless steel and have a minimum diameter of .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 piggy back 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 free standing 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 is performed to ensure integrity of the motor housing. The pump shall be run, voltage current monitored, and the tester checks for noise or other malfunction.

## **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.