

*Quality People. Building Solutions.*

Comfort Systems USA (Arkansas), Inc.  
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Fax 501-834-5416

**Date:** 5/17/2024  
**Return Request:** 5/27/2024  
**Project:** CALS Main Library Renovations  
**Supplier:** Sanders Supply  
**Manufacturer:** Various  
**Submittal:** Domestic Water Pumps  
**Submittal Number:** 22 11 23-01  
**Drawing # and Installation:** Plumbing Drawings

**ARCHITECT**

Polk Stanley Wilcox  
801 South Spring St.  
Little Rock, AR 72201  
501-378-0878

**ENGINEER**

Bernhard  
1 Allied Drive, Bldg. 2, Suite 2600  
Little Rock, AR 72202  
501-666-6776

**GENERAL CONTRACTOR**

CDI  
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Little Rock, AR 72202  
501-5666-4300

**MECHANICAL SUBCONTRACTOR**

Comfort Systems USA (Arkansas), Inc.  
9924 Landers Rd.  
N. Little Rock, AR 72117  
501-834-3320

Notes:

**CSUSA PROJECT NO.**

**23-8016**

[dpierce@comfortar.com](mailto:dpierce@comfortar.com)

9924 Landers Rd.  
No. Little Rock, AR 72117

**HW/RP-1**

### **Model 009 Cartridge Circulator**

The High Velocity series Taco 009 cartridge circulator is designed for quiet, efficient operation in higher-head/lower-flow applications for hydronic heating, radiant in-floor/panel heating, solar heating, heat recovery, and domestic water recirculation systems. Its unique field-serviceable cartridge contains all moving parts. Replacing the cartridge rebuilds the circulator. With no mechanical seal, the self-lubricating, maintenance free design provides unmatched reliability. Available in Cast Iron or Stainless Steel construction.



Low-Lead  
Compliant



# Submittal Data Information Model 009 Cartridge Circulator

Submittal Data # 101-032  
Supersedes: 05/08/13

Effective: 01/12/15

## Features

- Standard high capacity output-compact design
- Quiet, efficient operation
- Direct drive - Low power consumption
- Unique replaceable cartridge design — Field serviceable
- Self lubricating
- No mechanical seal
- Unmatched reliability - Maintenance free
- Universal flange to flange dimensions
- Cast Iron or Stainless Steel construction

## Materials of Construction

Casing (Volute):..... Cast Iron or St. Steel  
Stator Housing:..... Aluminum  
Cartridge:..... Stainless Steel  
Impeller: ..... Non-Metallic  
Shaft:..... Ceramic  
Bearings:..... Carbon  
O-Ring & Gaskets:..... EPDM

## Model Nomenclature

F – Cast Iron, Flanged  
SF – Stainless Steel, Flanged

## Performance Data

Max. Flow: 10 GPM  
Max. Range: 35 Feet  
Min. Fluid Temperature: 40°F (4°C)  
Max. Fluid Temperature: 230°F (110°C)  
Max. Working Pressure: 150 psi  
Connection Sizes:  
3/4", 1", 1-1/4", 1-1/2" Flanged

## Certifications & Listings

 **US LISTED** FOR INDOOR USE ONLY

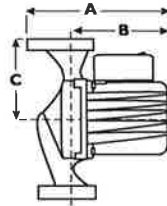
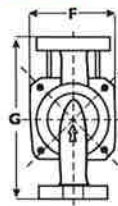
 **Low-Lead Compliant**

## Application

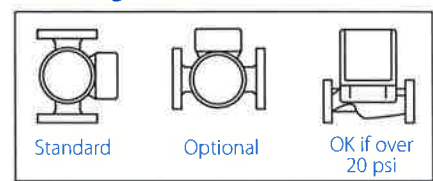
The Taco 009 is designed for a wide range of residential and light commercial higher-head/lower-flow water circulating applications. Typical uses include hydronic heating, radiant in-floor/panel heating and closed-loop solar heating systems. The Stainless Steel 009 can be used in higher-head/lower-flow heat recovery, open-loop solar heating and light commercial domestic water recirculation systems. The unique replaceable cartridge contains all of the moving parts and allows for easy service, instead of replacing the entire circulator. Compact, direct-drive, low power consumption design is ideal for high-efficiency jobs.

## Pump Dimensions & Weights

Models	Casing	A		B		C		D		F		G		Ship Wt.	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	Kg
009-F5	Cast Iron	7	178	5-11/16	144	3-3/16	81	3-15/16	84	4-1/8	105	6-3/8	162	9.5	4.3
009-SF5	St. Steel	7	178	5-11/16	144	3-3/16	81	3-15/16	84	4-1/8	105	6-3/8	162	9.5	4.3



## Mounting Positions

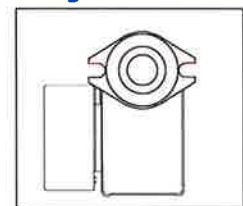


## Electrical Data

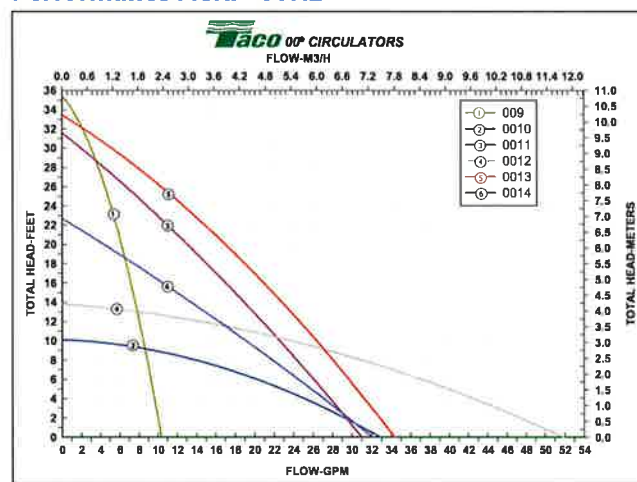
Model	Volts	Hz	Ph	Amps	RPM	HP
009-F5	115	60	1	1.40	3250	1/8
009-SF5	115	60	1	1.40	3250	1/8

Motor Type: Permanent Split Capacitor Impedance Protected  
Motor Options: 220/50/1, 220/60/1, 230/60/1, 100/110/50/60/1

## Flange Orientation



## Performance Field - 60Hz



# 280-Series

## Impeller

Vortex style engineered polymer

## Paint

Powder coat

## Max Fluid Temperature

140°F (60°C) Intermittent  
104°F (40°C) Continuous duty

## Motor Specifications

1/2 hp 8A (115V) 4A (208/230V)  
Oil-Filled; Thermally Protected  
(PSC) Permanent Split Capacitor

## Power Cord Type

SJTW (10' and 15' models)  
SJTOOW (35' and 50' models)

## Motor Housing

Class 25 cast iron

## Dimensional Data

**Weight:** 29 lbs  
**Height:** 13"  
**Major Width:** 10" (Model 287)

## Shaft

Stainless

## Hardware

Stainless

## Mechanical Shaft Seal

Unitized ceramic carbon

## Bearings

Upper and lower ball bearings

## Minimum Sump Diameters

Models 281, 283 14"  
Model 287 10"

FACTORY SWITCH SETTINGS	MODELS 281 & 283	MODEL 287
Turn on level	13"	9.5"
Turn off level	7"	4"

The Model 283 features a fully adjustable wide-angle float switch. Differential adjustments can be made easily by tethering the float switch to the discharge pipe or other mounting point. Vertical float switch Model 287 is not adjustable.

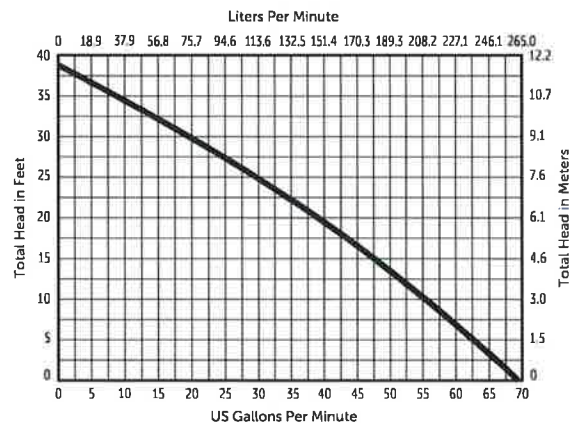
## Cord Lengths

MODEL	10'	25'[-2]	35'[-3]	50'[-5]
280	Standard	Optional	Optional	Optional
281	Standard	Optional	Optional	Optional
283	Standard	Optional	Optional	N/A
287	Standard	Optional	N/A	N/A

10' cord length standard on all models. For optional lengths, add "-2, -3 or -5" suffix to model number.  
Example: for model 280 with 35' cord, order 280-3

## Performance Curve

60 Hz, 3450 RPM



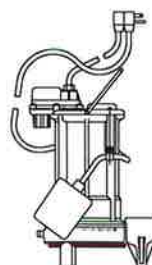
## Effluent Models



**Model 280**  
Manual,  
no float switch



**Model 281**  
Wide-angle  
float switch  
with Quick-  
connect



**Model 283**  
Wide-angle  
float switch  
with series  
(piggyback)  
plug

## Sump Models



**Model 287  
VMF-Series**  
Vertical magnetic  
float switch for  
smaller pits – will  
operate in a 10"  
diameter sump

Specifications subject to change without notice.

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# STANDARD CHECK VALVES



A Family and Employee Owned Company

## Economy Check Valves



**CV2N1** 1-1/4" and 1-1/2" combo

**CV150** 1-1/2"

**CV200** 2"

- ABS valve body
- Rubber slip connect with hose clamps
- Vertical or horizontal installation
- 15 PSI rated at 104°F for CV2N1 and CV150
- 25 PSI rated at 140°F for CV200

## Thread X Barb Fit



**CV150-125T** 1-1/2" MPT x 1-1/4" Barb

**CV150-150T** 1-1/2" MPT x 1-1/2" Barb

- PVC construction
- Thread directly into 1-1/2" sump pump discharge
- 30 PSI rated at 104°F

## Cast Iron High-temperature 200°F



**HCV150** 1-1/2"

**HCV200** 2"

- Heavy-duty cast iron body
- Full flow
- High-temperature rubber flapper - 200°F
- 125 PSI rated
- Vertical or horizontal installation
- Female NPT connections

## Ball/Check/Union Combination



**BCV150** 1-1/2"

**BCV200** 2"

- Ball/check combo provides compact design
- Heavy-duty PVC
- 150 PSI rated at 72°F
- 30 PSI rated at 140°F
- Vertical or horizontal installation
- Features union for easy disassembly
- Socket weld connections

## Heavy-Duty Compression Fit



**CV2N1C** 1-1/4" and 1-1/2" combo

**CV200C** 2"

**CV300C** 3"



- Heavy-duty PVC
- Vertical or horizontal installation
- 150 PSI rated at 72°F for CV2N1C and CV200C
- 30 PSI rated at 140°F for CV2N1C and CV200C
- 125 PSI rated at 72°F for CV300C
- 25 PSI rated at 140°F for CV300C

# STANDARD ALARMS

For Sump, Sewage and Effluent

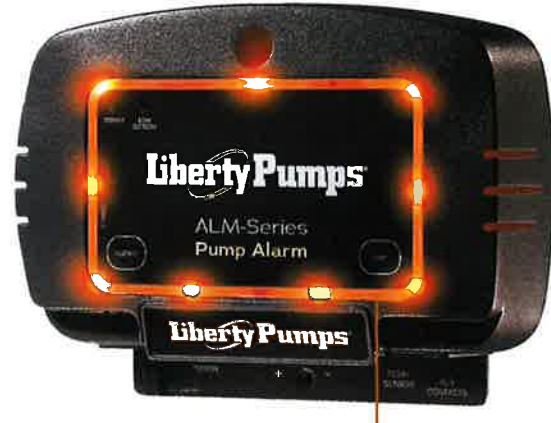


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## ALM-Series

- Indoor rated
- 115V Operation with 9-volt battery backup
- 86 Decibel horn
- Red LED alarm ring
- Green power "ON" light
- Auxiliary contacts
- Automatic alarm reset
- Alarm Test / Silence buttons
- 9-volt battery included

See **ALM-EYE Series** literature for Wi-Fi connected models



Patent: See [LibertyPumps.com/patents](http://LibertyPumps.com/patents)

Super bright LED alarm ring

## Models

- ALM-2-1** Narrow angle float switch, 10' cord
- ALM-2** Narrow angle float switch, 20' cord
- ALM-P1** Compact snap-on float switch, 10' cord
- ALM-PK** Puddle sensor, 50' cord



**Narrow Angle Float Switch**  
(Sewage/Effluent application)



**Compact Snap-on Float Switch**  
Fits 1-1/4" or 1-1/2" pipe  
(Sump application)



**Puddle Sensor**  
(For floor level sensing)



## ALM-2W & ALM-230W

**Indoor/Outdoor**  
**ALM-2W - 115V**  
**ALM-230W - 230V**

- Meets Enclosure Type 3R Standards
- 115V Operation, direct wire
- Thermoplastic enclosure
- Red alarm beacon
- 82 Decibel horn
- Alarm Test / Silence switch
- 20' Float switch cord
- Includes auxiliary contacts
- Easy field wiring with removable cover



## ALM-3W

**Commercial Outdoor**

- NEMA 4X rated
- Commercial-duty enclosure
- 115V Operation, direct wire
- Flashing red alarm LEDs
- 95 Decibel horn
- Alarm "Test / ON / Silence" switch
- 20' Float switch cord
- Includes auxiliary contacts



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