



# HVAC HANDBOOK

We endeavour to become the most  
**responsible**, the most **future-oriented**  
and first of all the most **innovative**  
manufacturer in the world



**BE** ➤

Being responsible  
is our foundation

**THINK** ➤

Thinking ahead  
makes it possible

With an annual production of 10 million pump units, Grundfos is one of the world's leading manufacturers of pumps. Currently, it is the world's largest manufacturer of circulators, with more than 50% of the world market. The product line includes pumps and accessories for Water Supply, Plumbing/HVAC, Industrial, Environmental, and Wastewater products.

Grundfos was established in 1945 by the late Poul Due Jensen. Initially, it was named Bjerringbro Die-Casting and Machine Factory, and in 1968 the name was changed to Grundfos. The word Grundfos means "ground spring" in Danish.

The Poul Due Jensen Foundation was established as a self-governing institution in 1975, shortly before Due Jensen's death in 1977. Today, the foundation owns 85% of the shares and the founder's family owns the remaining 15% in Grundfos Holding AG. The aim of the foundation is to expand the economic base of the company and develop the Grundfos Group. The capital and profits of the foundation are re-invested into Grundfos companies worldwide.

The Grundfos Group is represented in over 40 countries through more than 60 companies. Each company is locally managed and operated, and the products are sold through distributors and wholesalers worldwide.

The Group Management is headquartered in Bjerringbro, Denmark with Niels Due Jensen as the Group President. Grundfos Pumps Corporation (USA), established in 1973, is a member of the Grundfos Group and is headquartered in Olathe, Kansas.

The North American Regional Headquarters is located in Olathe, KS with distribution centers in Allentown, PA and Fresno, CA. Outside of the USA, Grundfos Canada Inc. is situated in Toronto, Canada, and Grundfos Mexico is situated in Monterrey, Mexico.

---

# INNOVATE

**Innovation**

is the essence of all we do

# TABLE OF CONTENTS

Table of Contents .....	i2
Applications / Specifications .....	i3
Performance at a Glance .....	i4

## SECTION I

Small Circulating Pump Quick Fact Sheet .....	1-1
UP Terminal Box and Nameplate Convention .....	1-3

### Submittal Data Sheets

Series UP - Open System .....	1-5
Series UP - Closed Systems .....	1-7
Series UP / 26-116 Sub Data .....	1-9
Series UP / 50-75F Sub Data .....	1-11
Series UP / BUC5 & BUC7 .....	1-13
Series UP - Comfort .....	1-15
Series UP - MixiMizer .....	1-17
Series UP - TLC .....	1-19
Series UP - Variable Speed .....	1-21
Flanges .....	1-23
Timer Control .....	1-25
AquaStat (Thermostatic Control) .....	1-26
Series UP - Low Voltage Control .....	1-27
Product & Flange Part Numbers .....	1-28

## SECTION II

Large Circulating Pump Quick Fact Sheet .....	2-1
---	-----

### Submittal Data Sheets

VersaFlo® / UPS32 .....	2-3
VersaFlo® / UPS40 .....	2-5
VersaFlo® / UPS50 .....	2-7
VersaFlo® / UPS80&100 .....	2-9
VersaFlo® / TP32 .....	2-11
VersaFlo® / TP40 .....	2-13
VersaFlo® / TP50 .....	2-15
VersaFlo® / TP80 .....	2-17
VersaFlo® / TP100 .....	2-19
Product & Flange Part Numbers .....	2-21

## SECTION III

### Submittal Data Sheets

Series L / 2.5LM5 .....	3-1
Series L / 2.5LM6 .....	3-3
Series L / 2.5LM8 .....	3-5
Series L / 3.0LM5 .....	3-7
Series L / 3.0LM6 .....	3-9
Series L / 3.0LM8 .....	3-11
Series L / 2.5LP5 .....	3-13
Series L / 3.0LP5 .....	3-15
Series L / 3.0LP6 .....	3-17
Series L / 4.0LP5 .....	3-19
Product & Flange Part Numbers .....	3-21

## SECTION IV

### Technical Data

#### Plumbing & Heating Formulas

Pump Formulas & Affinity Laws .....	4-1
Conversions .....	4-2
NPSH (Net Positive Suction Head) .....	4-3
Barometric Readings & Atmospheric Pressures Corresponding to Different Altitudes .....	4-3
NSPHA / Vapor Pressure .....	4-4
Properties of Water at Various Temperatures .....	4-5
Freezing & Boiling Points of Aqueous Solutions of Ethylene Glycol .....	4-6
Density of Aqueous Solutions of Ethylene Glycol Viscosity of Aqueous Solutions of Ethylene Glycol .....	4-7
Maximum Shock Pressure Caused by Water Hammer .....	4-9
Properties of Water at Various Temperatures Formulas .....	4-11
Pipe Information Sheets (Steel & Copper) .....	4-14
Pressure Loss .....	4-16
Friction of Water - Smooth Wall Copper Tubing, Brass, and Plastic Pipe (3/8" to 4") .....	4-20
Friction of Water - New Steel Pipe (1/2" to 4") .....	4-28
Friction Losses Through Pipe Fittings and Valves .....	4-36
Hydronic Water Flow Calculator .....	4-37
Heat Loss From Bare Steel Pipe & Covered Pipe .....	4-38
Typical Symbols .....	4-39
Circulator Replacement Guide (UP) .....	4-40
VersaFlo UPS/TP Cross Reference Guide .....	4-41

#### Apartment/Condominiums/Office/Hospitals/Schools


Capacity Sizing .....	4-43
Blank Grids .....	4-48

For the latest information regarding our products, visit our Website at [www.grundfos.com](http://www.grundfos.com)

## APPLICATIONS

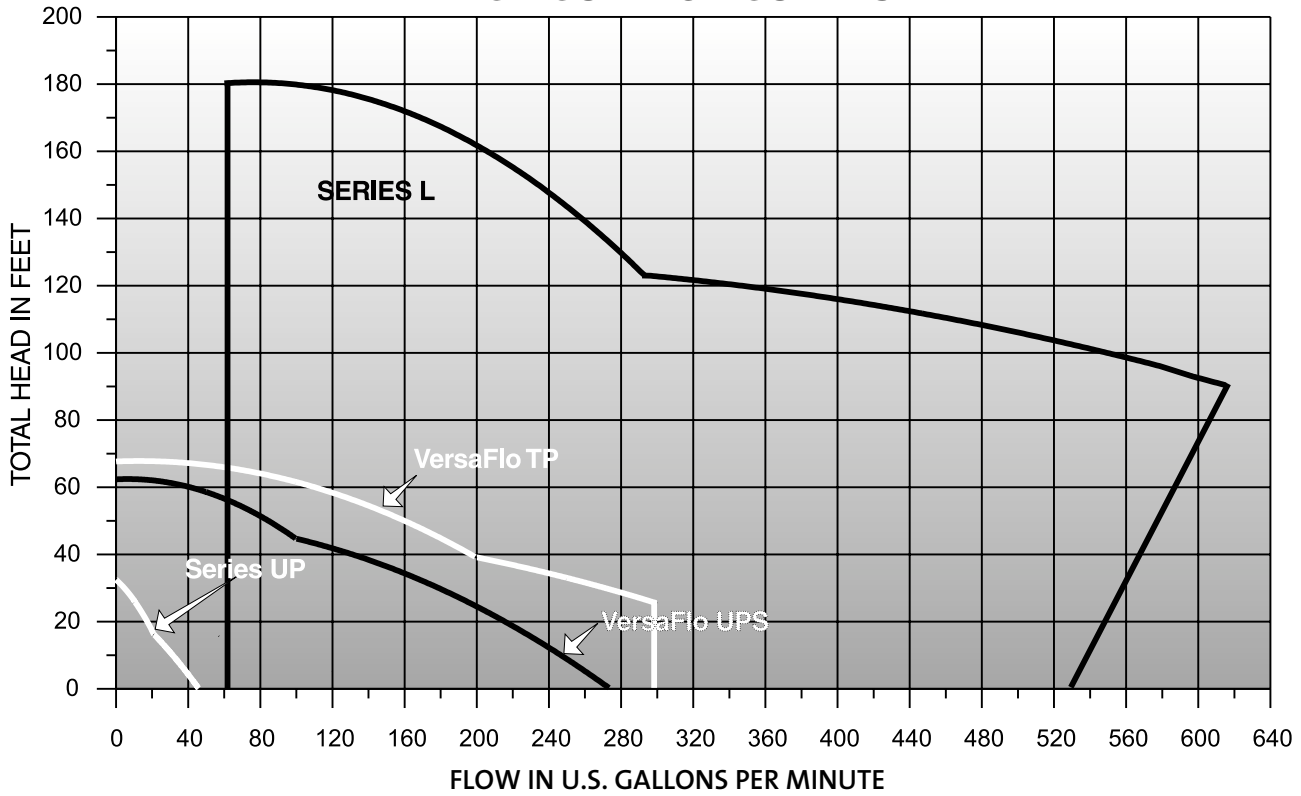
	<b>1</b>	<b>2</b>	<b>3</b>
	<b>SERIES UP</b> CIRCULATORS	<b>SERIES VersaFlo®</b> PUMPS	<b>SERIES "L"</b> PUMPS
BOILER/HYDRONIC HEATING			
CHILLED WATER			
CIRCULATION			
COOLING TOWERS			
DEAERATORS			
DOMESTIC HOT WATER			
DRAINAGE			
EFFLUENT			
FLUID TRANSFER			
FOUNTAINS			
GLYCOL SOLUTIONS			
GROUND SOURCE HEAT PUMPS			
HEAT PUMPS			
HOT WATER RECIRCULATION			
HOT WATER AIR HANDLING			
HVAC			
INDUSTRIAL			
MARINE SERVICE			
PAINT BOOTH			
PROCESS WATER			
QUENCH WATER			
RADIANT FLOOR HEAT			
SEWAGE			
SOLAR			
SUMP			
SWIMMING POOLS			
SNOW MELT SYSTEMS			

## SPECIFICATIONS

<b>Section In This Handbook</b> 	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>
	<b>SERIES UP</b> CIRCULATORS	<b>SERIES VersaFlo® UPS</b> PUMPS	<b>SERIES VersaFlo® TP</b> PUMPS	<b>SERIES "L"</b> PUMPS
<b>Capacity in U.S. gpm</b>	0 - 46 gpm	9 - 270 gpm	8 to 300 gpm	30 - 600 gpm
<b>Total Head in feet</b>	0 - 37.5 feet	1 - 62 feet	3.5 - 67.5 feet	8 - 180 feet
<b>HP</b>	1/25 to 1/6	1/3 to 3	1/3 to 3	3/4 to 20
<b>Temp. Range</b>	32°F - 230°F	14°F - 230°F	5°F - 288°F	5°F - 250°F
<b>Max. Working Pressure</b>	145 PSI	145 PSI	145 PSI	175 PSI

# PERFORMANCE AT A GLANCE

## CIRCULATOR CURVES



GRUNDFOS SERIES UP

# SECTION 1

# QUICK FACT SHEET

## Small Circulating Pumps



### Series UP15's • Open & Closed Systems

#### AVAILABLE MODELS (Closed Systems):

- UPS15-42F & FR (3 Speed)
- UP15-42F & FR BRUTE II®
- UP15-10F & FR
- UP15-42FC & FRC

**CONNECTIONS:** Flange, cast iron, (2) 1/2" diameter bolt holes

#### AVAILABLE MODELS (Open Systems):

- UP15-10B5
- UP15-18B5
- UP15-18SU & SF
- UP15-42B5
- UP15-10B7
- UP15-18B7
- UP15-42SU & SF
- UP15-42B7
- UPS15-42SU & SF

**CONNECTIONS:** B5 - Sweat fittings, Bronze, 1/2"

SU - Union, stainless steel, 1-1/4" NPSM

B7 - Sweat fittings, Bronze, 3/4"

SF - Flange, stainless steel, (2) 1/2" diam. bolt holes

**FLOW RANGE:** 0 to 20 gpm

**MAXIMUM FLUID TEMPERATURE**

**MINIMUM FLUID**

**HEAD RANGE:** 0 to 16.5 feet

**(Open Systems):** 220°F\* (104°C)

**TEMPERATURE:**

**MOTOR:** 2 pole, single phase

**(Closed Systems):** 230°F (110°C)

36°F (2°C)

**PRESSURE:**

145 psi maximum (working)



### Series UP26's • Open & Closed Systems

#### AVAILABLE MODELS (Closed Systems):

- UP26-64F
- UP26-96F
- UP26-99F
- UP43-75F
- UP26-116F

**CONNECTIONS:** Flange, cast iron, (2) 1/2" diameter bolt holes

#### AVAILABLE MODELS (Open Systems):

- UP25-64SU & SF
- UP26-96BF
- UP26-99BF
- UP43-75BF
- UP26-116BF

**CONNECTIONS:** SU - Union, stainless steel, 1-1/4" NPSM

BF - Flange, bronze, (2) 1/2" diam. bolt holes

SF - Flange, stainless steel, (2) 1/2" diam. bolt holes

**FLOW RANGE:** 0 to 46 gpm

**MAXIMUM FLUID TEMPERATURE**

**MINIMUM FLUID**

**HEAD RANGE:** 0 to 37.5 feet

**(Open Systems):** 220°F\* (104°C)

**TEMPERATURE:**

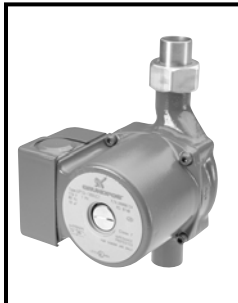
**MOTOR:** 2 pole, single phase

**(Closed Systems):** 230°F (110°C)

32°F (0°C)

**PRESSURE:**

145 psi maximum (working)



### Series UP • BUC5 & BUC7

#### AVAILABLE MODELS:

- UP15-18BUC5
- UP15-42BUC5
- UP15-18BUC7
- UP15-42BUC7

#### CONNECTIONS:

- BUC5 = 1/2" copper pipe, female sweat fittings
- BUC7 = 3/4" copper pipe, female sweat fittings

**FLOW RANGE:** 0 to 16 gpm

**HEAD RANGE:** 0 to 15 feet

**MOTOR:** 2 pole, single phase

**MAXIMUM FLUID TEMPERATURE:**  
200°F\* (93°C)

**MINIMUM FLUID TEMPERATURE:**  
36°F (2°C)

**PRESSURE:** 145 psi max.  
(working)

\*NOTE: It is recommended to keep the operating temperature as low as possible (ie., below 140°F, 60°C to avoid precipitation of calcium).

# Grundfos Circulators

## Series UP • 50-75F Closed System



**FLANGE:** 2" slotted, 4-bolt  
**FLOW RANGE:** 0 to 45 gpm  
**HEAD RANGE:** 0 to 26 feet  
**MODEL:** UP50-75F, 60 Hz  
**MOTOR:** 2 pole, single phase

**MAXIMUM FLUID TEMPERATURE:**  
 230°F (110°C)  
**MINIMUM FLUID TEMPERATURE:**  
 32°F (0°C)  
**PRESSURE:**  
 145 psi maximum (working)

### MATERIALS OF CONSTRUCTION: *Closed Systems & Open Systems*

DESCRIPTION (Closed)	MATERIAL	DESCRIPTION (Open)	MATERIAL
Shaft, Upper & Lower Radial Bearings	Aluminum Oxide Ceramic	Inlet Cone, Bearing Plate, Bearing Retainers, Rotor Can, Rotor Cladding, Shaft Retainer, Check Valve Spring on (UP BUC5 & BUC7)	Stainless Steel 304
Thrust Bearing	Metal Impregnated Carbon	Volute Retainer (SU & SF Models) & Stator Housing	Aluminum
O-ring & Gaskets	EP (Ethylene Propylene Rubber)	Pump Housing (Volute )	Silicon Bronze (c875) or 304SS or Cast Iron
Impeller	PES Composite (30% Glass Filled)	Union Gasket on BUC5 & BUC7	Non Asbestos Fiber
		Tail Piece & Union Nut on BUC5 & BUC7	Brass (UNS C36000)
		Terminal Box	Noryl®
		Check Valve Housing, Valve and Torpedo	POM (Polyoxymethylene)

Noryl® is a registered trademark of General Electric Company.  
 BRUTE II® is a registered trademark of Grundfos Pumps Corporation.



Grundfos Pumps Corporation • 17100 W. 118th Terrace • Olathe, KS 66061

Phone: 913.227.3400 • Fax: 913.227.3500

Canada: Oakville, Ontario • Mexico: Apodaca, N.L.



Visit our website at [www.grundfos.com](http://www.grundfos.com)

L-PH-QF-002 | Rev. 01/01  
 PRINTED IN USA

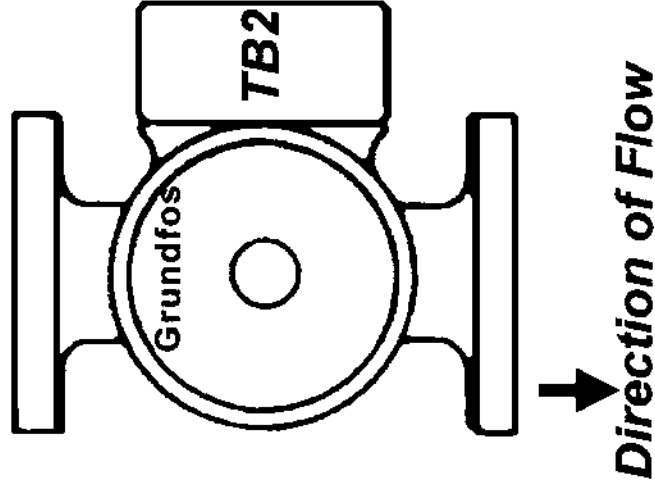
# UP Terminal Box and Nameplate Convention

## Prior Convention

**Orientation:** Pumping Down

Terminal Box: TB2

Nameplate: 270° Clockwise from TB

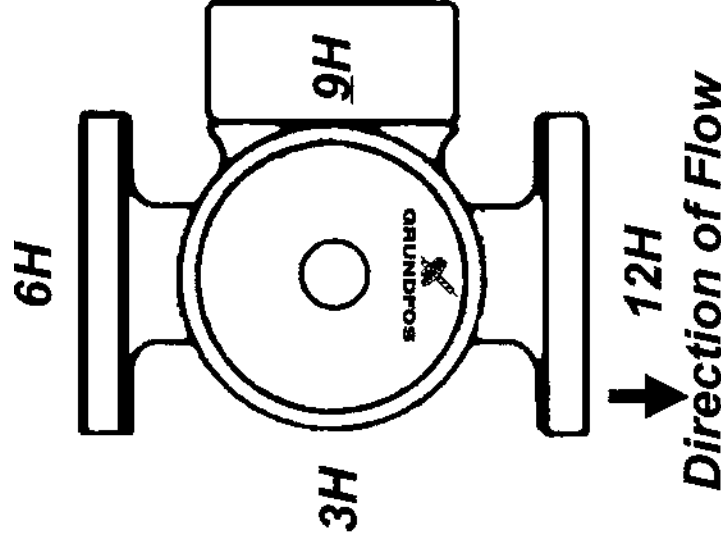


## Current Convention

**Orientation:** Pumping Up

Terminal Box: 9H


Nameplate: 12H





# Submittal Data



# 60 Cycle

	JOB or CUSTOMER:	
	ENGINEER:	
	CONTRACTOR:	
	SUBMITTED BY:	DATE:
	APPROVED BY:	DATE:
	ORDER NO:	DATE:
	SPECIFICATION REF:	

QUANTITY	TAG NO.	MODEL NO.	GPM	FEET	VOLT	PHASE	COMMENTS

### Technical Data

**FLOW RANGE:** 0 to 46 U.S. GPM      **MIN. FLUID TEMPERATURE for UP15:** 36°F (2°C)  
**HEAD RANGE:** 0 to 32 Feet      **MIN. FLUID TEMPERATURE for ALL OTHERS:** 32°F (0°C)  
**MOTORS:** 2 Pole, Single Phase  
**MAXIMUM FLUID TEMPERATURE:** 220°F (104°C), Maximum design temperature.  
**FOR OPEN SYSTEMS - 140°F (60°C)** is the maximum recommended fluid temperature to avoid precipitation of calcium in water.

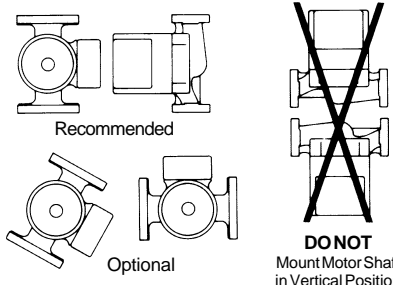



Ambient Air Temp.	130°F (55°C)	140°F (60°C)	160°F (71°C)	175°F (79°C)
Maximum Water Temp.	220°F (104°C)	210°F (99°C)	190°F (88°C)	175°F (79°C)

**MAXIMUM WORKING PRESSURE:** 145 PSI  
**MINIMUM REQUIRED INLET PRESSURE:**

Temperature	220°F (104°C)	190°F (88°C)	140°F (60°C)
Pressure	36 Ft. (11m) 15.6 psi	9.0 Ft. (2.8m) 4.0 psi	3.0 Ft. (0.9m) 1.3 psi

### Mounting Positions



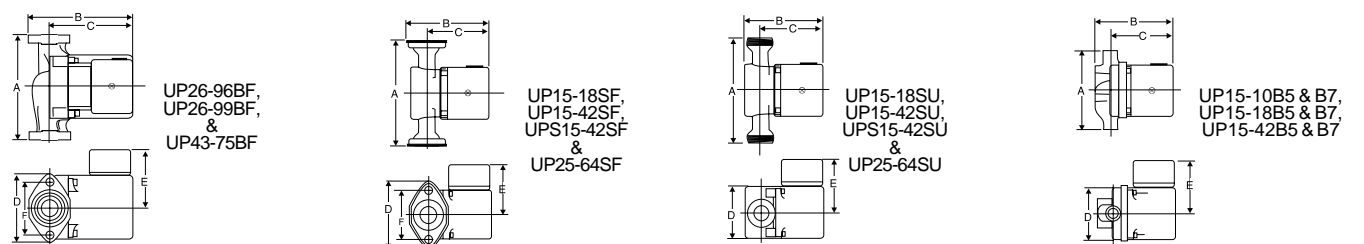
**Recommended**

**Optional**

**DON'T**  
Mount Motor Shaft in Vertical Position

**FOR INDOOR USE ONLY**

### Dimensions, and Weights

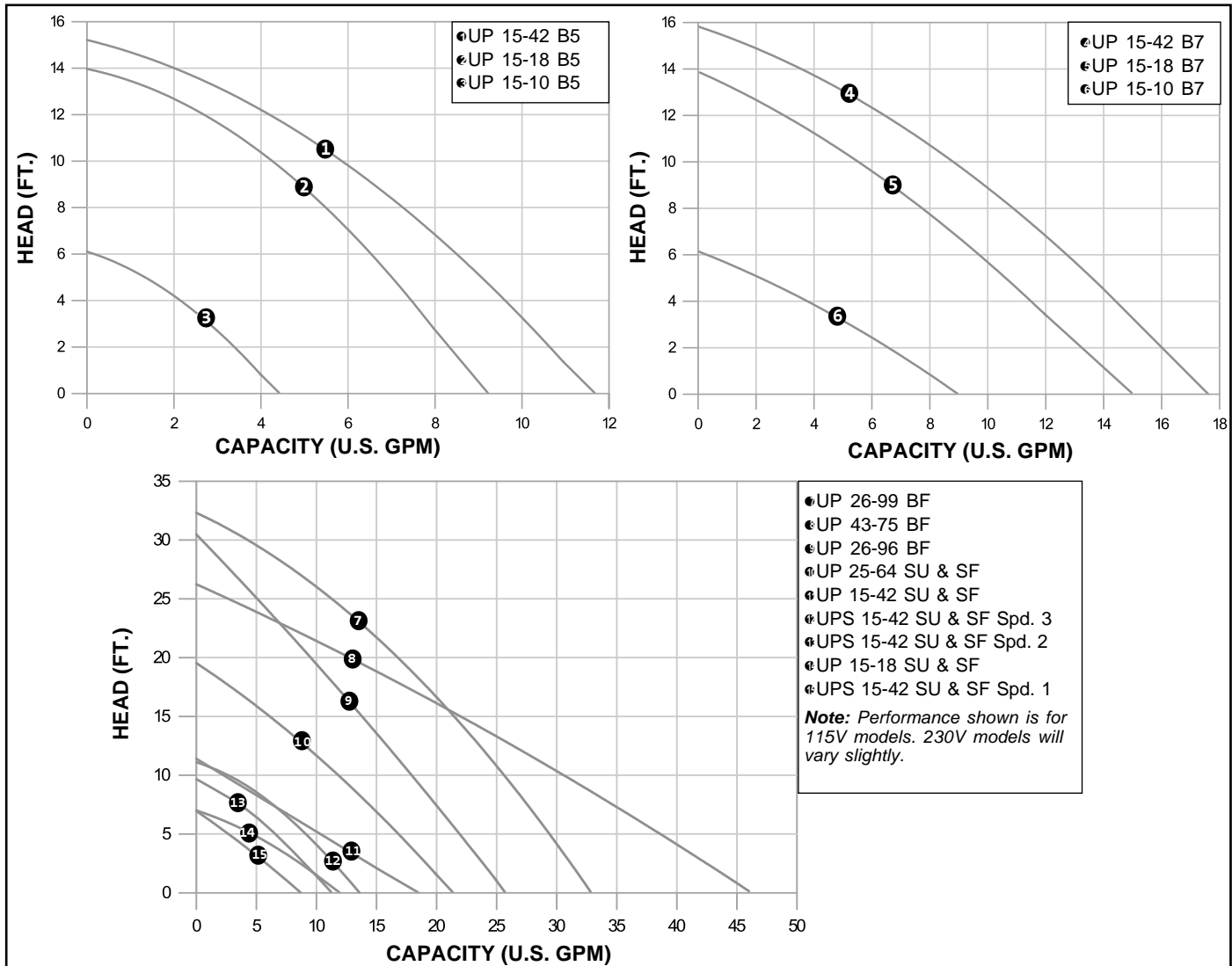


UP26-96BF, UP26-99BF, & UP43-75BF  
 UP15-18SF, UP15-42SF, UPS15-42SF & UP25-64SF  
 UP15-18SU, UP15-42SU, UPS15-42SU & UP25-64SU  
 UP15-10B5 & B7, UP15-18B5 & B7, UP15-42B5 & B7

OPEN SYSTEM MODELS	A	B	C	D	E	F <sup>Ⓢ</sup>	Connection Type and Size	Shipping Wt. (Lbs.)
UP15-10B5	5	4 1/16	4	4	3 1/2	—	Sweat – 1/2"	6
UP15-10B7	6 3/8	5 1/8	4	3 13/16	3 1/4	—	Sweat – 3/4"	6.7
UP15-18SU & UP/UPS15-42SU	5 7/8	5 1/16	4	3 7/16	3 1/4	—	Union – 1 1/4" NPSM	5
UP15-18SF & UP/UPS15-42SF	6 1/2	5 1/4	4	4 3/16	3 1/4	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	6
UP15-18B5 & UP15-42B5	5	4 1/16	4	3 1/2	3 1/4	—	Sweat – 1/2"	6
UP15-18B7 & UP15-42B7	6 3/8	5 1/8	4	3 13/16	3 1/4	—	Sweat – 3/4"	6.7
UP25-64SU	5 7/8	5 13/16	4 13/16	4	3 1/2	—	Union – 1 1/4" NPSM	9
UP25-64SF	6 1/2	6 1/16	4 13/16	4 3/16	3 1/2	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	10
UP26-96BF	6 1/2	6 3/8	5 1/16	4 1/8	3 1/2	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	12.5
UP26-99BF	6 1/2	6 3/8	5 1/16	4 1/8	3 1/2	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	12.5
UP43-75BF	8 1/2	6 1/16	5 3/16	4 3/4	3 1/2	3 7/16	Flange – (2) 1/2" Dia. Bolt Holes	15

NOTES: All dimensions are in inches. \* "F" dimension is the flange bolt centerline to centerline.

# Performance *Stainless Steel or Bronze Construction - Flange, Union, or Sweat Mount*



## Electrical Data

MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR	MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR
UP15-10B5 & B7	115	.55	58	1/25	8µF/180V	UP25-64SU & SF	115	1.70	180	1/12	8µF/180V
UP15-18SU, SF, & B5	115	.74	85	1/25	10µF/180V		230	.80	175	1/12	2.5µF/380V
UP15-18B7	115	.74	85	1/25	10µF/180V	UP26-96BF	115	1.70	205	1/12	10µF/180V
	230	.40	90	1/25	2µF/400V		230	.80	205	1/12	2.5µF/380V
UP15-42SU, SF, & B5	115	.74	85	1/25	10µF/180V	UP26-99BF	115	2.15	245	1/6	10µF/180V
	230	.41	95	1/25	2µF/400V		230	1.07	245	1/6	2.5µF/380V
UP15-42B7	115	.74	85	1/25	10µF/180V	UP43-75BF	115	2.15	215	1/6	10µF/180V
	230	.41	95	1/25	2µF/400V		230	1.07	220	1/6	2.5µF/380V

## Materials of Construction

DESCRIPTION	MATERIAL	DESCRIPTION	MATERIAL
Inlet Cone, Bearing Plate, Bearing Retainers, Rotor Can, Rotor Cladding, Shaft Retainer.	304 Stainless Steel	O'Ring & Gaskets	EP (Ethylene Propylene Rubber)
Volute Retainer (SU & SF Models) & Stator Housing	Aluminum	Pump Housing (Volute)	Silicone Bronze C875 or Stainless Steel
Shaft, Upper & Lower Radial Bearings	Aluminum Oxide Ceramic	Impeller	PES Composite (30% Glass Filled)
Thrust Bearing	Metal Impregnated Carbon	Terminal Box	Noryl®



Grundfos Pumps Corporation • 17100 W. 118th Terrace • Olathe, KS 66061

Phone: 913.227.3400 • Fax: 913.227.3500

Canada: Oakville, Ontario • Mexico: Apodaca, N.L.


Visit our website at [www.grundfos.com](http://www.grundfos.com)



Wet-Rotor, In-Line, Single Stage, Maintenance Free, Circulator Pumps

### Submittal Data

### 60 Cycle

	JOB or CUSTOMER:						
	ENGINEER:						
	CONTRACTOR:						
	SUBMITTED BY:				DATE:		
	APPROVED BY:				DATE:		
	ORDER NO:				DATE:		
SPECIFICATION REF:							
QUANTITY	TAG NO.	MODEL NO.	GPM	FEET	VOLT	PHASE	COMMENTS

#### Technical Data

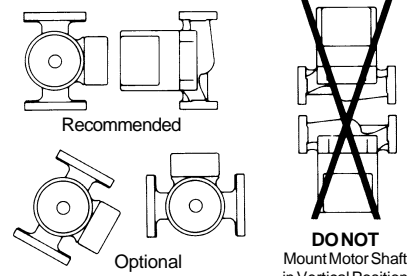
**FLOW RANGE:** 0 to 46 U.S. GPM      **MIN. FLUID TEMPERATURE for UP15:** 36°F (2°C)  
**HEAD RANGE:** 0 to 32 Feet          **MIN. FLUID TEMPERATURE for ALL OTHERS:** 32°F (0°C)  
**MOTOR:** 2Pole, Single Phase  
**MAXIMUM FLUID TEMPERATURE – CLOSED SYSTEMS:** 230°F (110°C)

Ambient Air Temp.	95°F (35°C)	130°F (55°C)	140°F (60°C)	160°F (71°C)	175°F (79°C)
Maximum Water Temp.	230°F (110°C)	220°F (104°C)	210°F (99°C)	190°F (88°C)	175°F (79°C)

**MAXIMUM WORKING PRESSURE:** 145 PSI      **MINIMUM REQUIRED INLET PRESSURE**

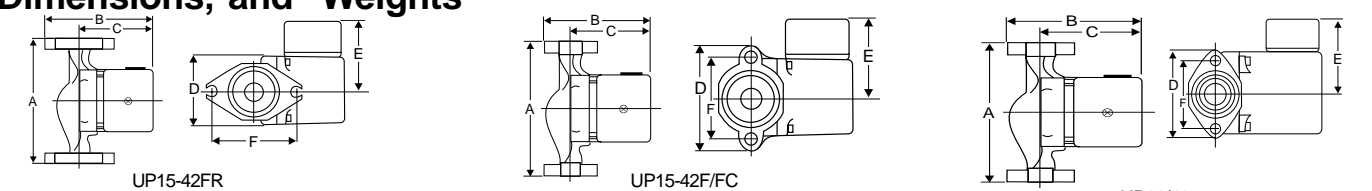
Fluid Temp	230°F (110°C)	190°F (88°C)	140°F (60°C)
Feet of Water	36 Ft. (1.10m)	9.0 Ft. (2.8m)	3.0 Ft. (0.9m)
Inlet Pressure	15.6 psi	4.0 psi	1.3 psi

#### Mounting Positions



**FOR INDOOR USE ONLY**

#### Dimensions, and Weights



UP15-42FR  
UPS15-42FR

UP15-42F/FC  
UPS15-42F

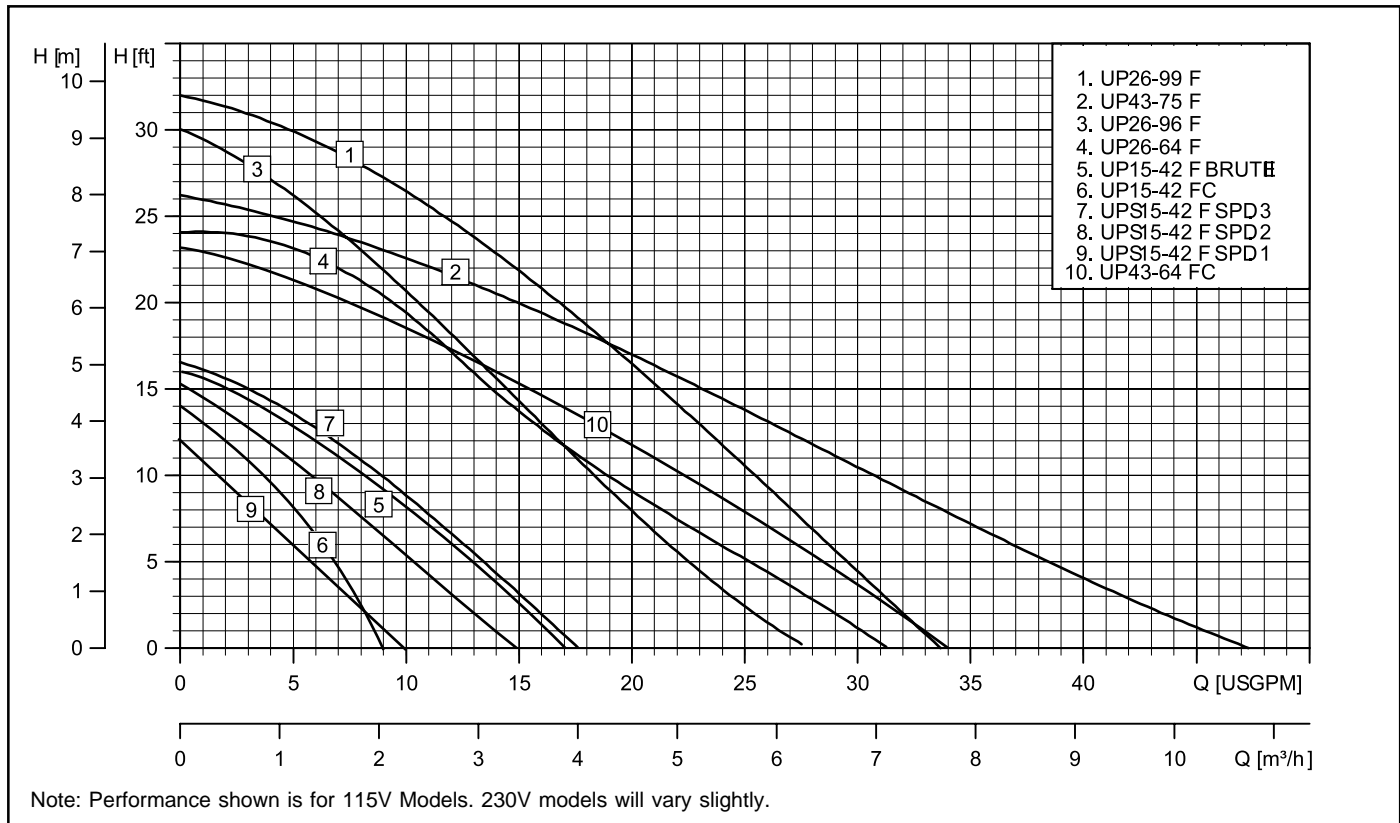
UP26/43

CLOSED SYSTEM MODELS	A	B	C	D	E	F $\ddot{A}$	Connection Type and Size	Shipping Wt. (Lbs.)
UP15-42F (BRUTE II®) & UPS15-42F	6 1/2	5 1/4	4	4 3/16	3 1/4	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	7 1/4
UP15-FR (BRUTE II®) & UPS15-42FR	6 1/2	5 15/16	4	3 3/4	3 1/4	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	7 1/4
UP15-42FC (*Brute II w/ check valve)	6 1/2	5 1/4	4	4 3/16	3 1/4	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	7 1/4
UP26-64F & UP26-96F	6 1/2	6 3/8	5 1/16	4 1/8	3 1/2	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	11 1/4
UP26-99F	6 1/2	6 3/8	5 1/16	4 1/8	3 1/2	3 5/32	Flange – (2) 1/2" Dia. Bolt Holes	12 1/2
UP43-75F	8 1/2	6 11/16	5 3/16	4 3/4	3 1/2	3 7/16	Flange – (2) 1/2" Dia. Bolt Holes	13 1/2

NOTES: All dimensions are in inches. "F" dimension is the flange bolt centerline to centerline.  
 \*Circulators w/ check valve have a maximum water temperature of 200°F.

# Performance Curves

Cast Iron Construction – Flange Mount



## Electrical Data

MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR	MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR
UP15-42F/FR/FC (BRUTE II®)	115	.74	85	1/25	10µF/180V	UP26-64F	115	1.70	185	1/12	8µF/180V
	230	.43	95	1/25	2µF/400V		230	.80	175	1/12	2.5µF/380V
UPS15-42F Spd. 3 (115V)	115	.74	85	1/25	10µF/180V	UP26-96F	115	1.70	205	1/12	10µF/180V
	Spd. 2	---	.57	65	---		230	.80	205	1/12	2.5µF/380V
	Spd. 1	---	.40	45	---	---	UP26-99F	115	2.15	245	1/6
UPS15-42F Spd. 3 (230V)	230	.43	95	1/25	2µF/400V	230		1.07	245	1/6	2.5µF/380V
	Spd. 2	---	.19	40	---	UP43-75F	115	2.15	215	1/6	10µF/180V
	Spd. 1	---	.14	30	---		230	1.07	220	1/6	2.5µF/380V

NOTE: All UP models are single speed except for the 3-speed UPS15-42F, 115 and 230 volt.

## Materials of Construction

DESCRIPTION	MATERIAL	DESCRIPTION	MATERIAL
Inlet Cone, Bearing Plate, Bearing Retainers, Rotor Can, Rotor Cladding, Shaft Retainer	304 Stainless Steel	Pump Housing (Volute)	Cast Iron
Stator Housing	Aluminum	O'Ring & Gaskets	EP (Ethylene Propylene Rubber)
Shaft, Upper & Lower Radial Bearings	Aluminum Oxide Ceramic	Impeller	PES Composite (30% Glass Filled)
Thrust Bearing	Metal Impregnated Carbon	Terminal Box	Noryl®
Check Valve	ACETAL With 302 Stainless Steel Spring & Nitrile Rubber Seats		

NOTE: Noryl® is a registered trademark of General Electric Company. BRUTE II® is a registered trademark of Grundfos Pumps Corporation.



Grundfos Pumps Corporation • 17100 W. 118th Terrace • Olathe, KS 66061

Phone: 913.227.3400 • Fax: 913.227.3500

Canada: Oakville, Ontario • Mexico: Apodaca, N.L.

Visit our website at [www.grundfos.com](http://www.grundfos.com)



# Submittal Data

# 60 Cycle



JOB or CUSTOMER:	
ENGINEER:	
CONTRACTOR:	
SUBMITTED BY:	DATE:
APPROVED BY:	DATE:
ORDER NO:	DATE:
SPECIFICATION REF:	

QUANTITY	TAG NO.	MODEL NO.	GPM	FEET	VOLT	PHASE	COMMENTS

### Technical Data

**FLOW RANGE:** 0 – 38.5 U.S. GPM  
**HEAD RANGE:** 0 – 37.5 Feet  
**MOTOR:** 2 Pole, Single Phase, PSC  
**MINIMUM FLUID TEMPERATURE:** 32°F (0°C)  
**MAXIMUM FLUID TEMPERATURE:** 150°F (65°C)  
**MAXIMUM WORKING PRESSURE:** 145 PSI (10 Bars)

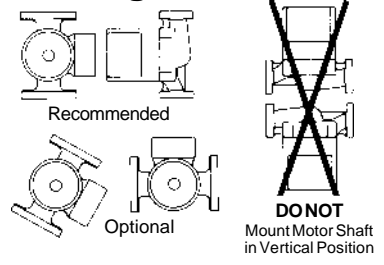
**CONNECTION TYPE & SIZE:**  
 Flange - (2)-1/2" Dia. Bolt Holes

**MINIMUM REQUIRED INLET PRESSURE:**

Fluid Temp.	150°F (65.5°C)	140°F (60°C)
Feet of Water	4 Ft.	3 Ft.
Inlet Pressure	1.7 psi	1.3 psi

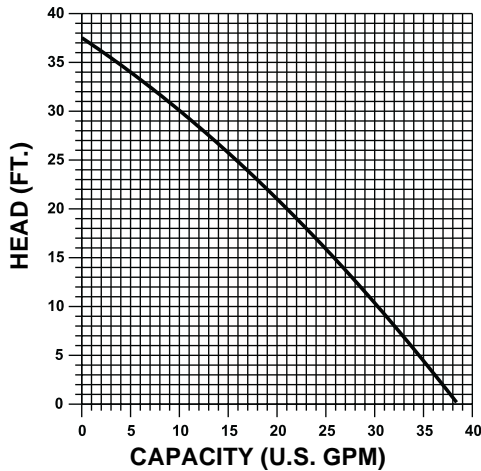


### Mounting Positions



**FOR INDOOR USE ONLY**

### Performance Curves

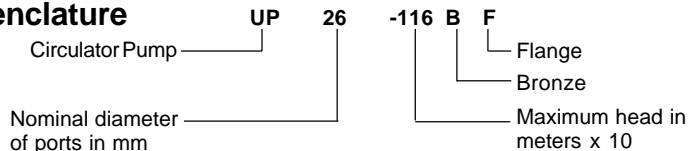


### Materials of Construction

Inlet Cone, Bearing Plate, Bearing Retainers, Rotor Can, Rotor Cladding, Shaft Retainer	304 Stainless Steel
Impeller	PES Composite (30% Glass Filled)
Stator Housing	Aluminum
Shaft, Upper and Lower Radial Bearings	Aluminum Oxide Ceramic
Thrust Bearing	Metal Impregnated Carbon
Pump Housing (volute)	Cast Iron or Silicon Bronze C875
O-Ring and Gaskets	EP (Ethylene Propylene Rubber)
Terminal Box	Noryl®

Note: Noryl® is a registered trademark of General Electric Company

### Nomenclature

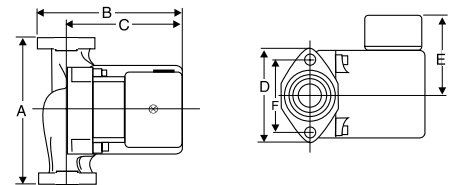


### Dimensions and Weight

MODEL	A	B	C	D	E	F①	SHIP. WT.
UP26-116F & BF	6-1/2	6-3/8	5-1/16	4-1/8	3-1/2	3-5/32	12-1/2 lbs.

### Electrical Data

MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR
UP26-116F & BF	230	1.75	385	1/6	2.5µF/380V



NOTES: All dimensions are in inches. ① "F" dimension is the flange bolt centerline to centerline. Subject to change without notice.






Wet-Rotor, In-Line, Single Stage, Maintenance Free,  
Circulator Pumps

### Submittal Data

### 60 Cycle

	JOB or CUSTOMER:	
	ENGINEER:	
	CONTRACTOR:	
	SUBMITTED BY:	DATE:
	APPROVED BY:	DATE:
	ORDER NO:	DATE:
	SPECIFICATION REF:	

QUANTITY	TAG NO.	MODEL NO.	GPM	FEET	VOLT	PHASE	COMMENTS

#### Technical Data

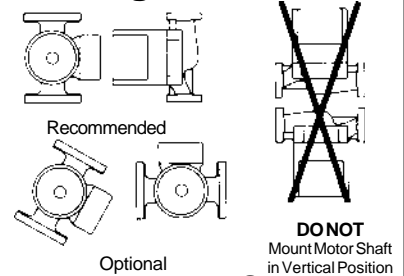
**FLOW RANGE:** 0 to 45 U.S. GPM  
**HEAD RANGE:** 0 to 27 Feet  
**MOTOR:** 2 Pole, Single Phase  
**MINIMUM FLUID TEMPERATURE:** 32°F (0°C)  
**MAXIMUM FLUID TEMPERATURE:** 230°F (110°C)



Ambient Air Temp.	95°F (35°C)	130°F (55°C)	140°F* (60°C)	160°F (71°C)	175°F (79°C)
Maximum Water Temp.	230°F (110°C)	220°F (104°C)	210°F (99°C)	190°F (88°C)	175°F (79°C)

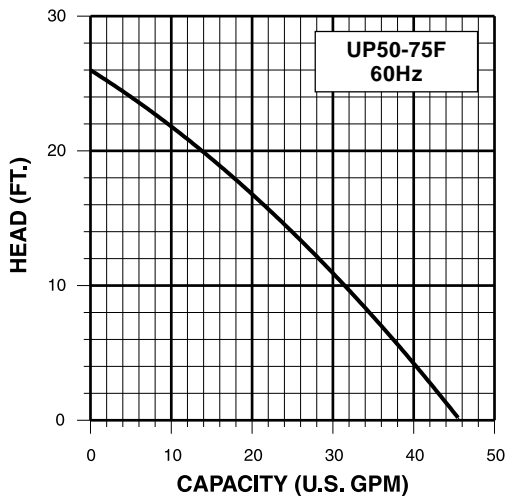
<b>MAXIMUM WORKING PRESSURE:</b> 145 PSI	230°F (110°C)	190°F (88°C)	140°F* (60°C)
<b>MINIMUM REQUIRED INLET PRESSURE :</b>	36 Ft. (1.10m)	9.0 Ft. (2.8m)	3.0 Ft. (0.9m)
	15.6 psi	4.0 psi	1.3 psi

#### Mounting Positions



**FOR INDOOR USE ONLY**

#### Performance Curves



#### Materials of Construction

Inlet Cone, Bearing Plate, Bearing Retainers	Stainless Steel
Rotor Can, Rotor Cladding, Shaft Retainer, Impeller	PES Composite (30% Glass Filled)
Stator Housing	Aluminum
Shaft, Upper and Lower Radial Bearings	Aluminum Oxide Ceramic
Thrust Bearing	Metal Impregnated Carbon
Pump Housing (volute)	Cast Iron
O-Ring and Gaskets	EP (Ethylene Propylene Rubber)
Terminal Box	Noryl®

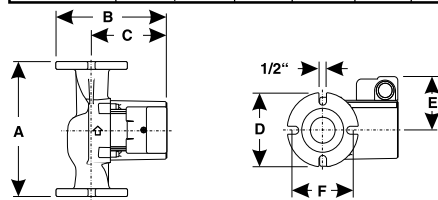
Note: Noryl is a registered trademark of General Electric Company

#### Electrical Data

Model	Volts	Amps	Watts	HP	Capacitor
UP50-75F	115	2.15	215	1/6	10µF/180V
UP50-75F	230	1.07	220	1/6	2.5µF/380V

#### Dimensions and Weight

MODEL	A	B	C	D	E	F	Shipping Wt.
UP50-75F	8 1/2	7 1/2	5 1/16	4 7/8	3 1/2	4 1/16	15 1/2 lbs.



NOTES: All dimensions are in inches.

"F" dimension is the flange bolt centerline to centerline.





Wet-Rotor, In-Line, Single Stage, Maintenance Free, Circulator Pumps with Integral Check Valve and Bronze Union Sweat Fittings

## Submittal Data



JOB or CUSTOMER: \_\_\_\_\_

ENGINEER: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

ORDER NO: \_\_\_\_\_ DATE: \_\_\_\_\_

SPECIFICATION REF: \_\_\_\_\_

QUANTITY	TAG NO.	MODEL NO.	GPM	FEET	VOLT	PHASE	COMMENTS

### Technical Data

FLOW RANGE: 0–16 U.S. GPM  
 HEAD RANGE: 0–15 Feet  
 MOTORS: 2 Pole, Single Phase

MINIMUM FLUID TEMPERATURE: 36°F (2°C)  
 MAXIMUM FLUID TEMPERATURE: 200°F (93°C)  
 MAXIMUM WORKING PRESSURE: 145 PSI

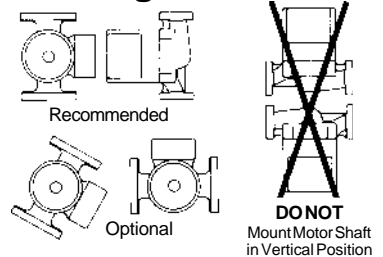
FOR OPEN SYSTEMS - 140°F (60°C) is the maximum recommended fluid temperature to avoid precipitation of calcium in water.

Ambient Air Temp.	95°F (35°C)	130°F (55°C)	140°F (60°C)	160°F (71°C)	175°F (79°C)
Maximum Water Temp.	230°F (110°C)	220°F (104°C)	210°F (99°C)	190°F (88°C)	175°F (79°C)

#### MINIMUM REQUIRED INLET PRESSURE:

Temperature	200°F (93°C)	140°F (60°C)
Pressure	9.0 Ft. (2.8m) 4.0 psi	3.0 Ft. (0.9m) 1.3 psi

### Mounting Positions



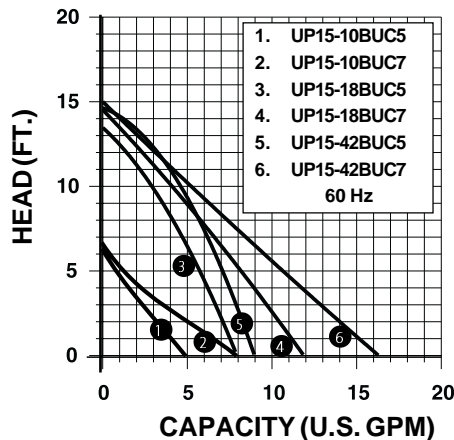
**FOR INDOOR USE ONLY**



#### Nomenclature:

- B - Bronze, lead free pump housing
- C - Integral check valve
- 7 - 3/4" copper pipe, female sweat fittings
- U - Union connection for check valve
- 5 - 1/2" copper pipe, female sweat fittings

### Performance Curves



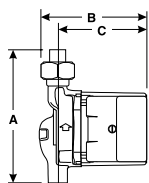
### Materials of Construction

Inlet Cone, Bearing Plate, Bearing Retainers	Stainless Steel
Rotor Can, Rotor Cladding, Shaft Retainer, Check Valve Spring	Stainless Steel
Stator Housing	Aluminum
Shaft, Upper and Lower Radial Bearings	Aluminum Oxide Ceramic
Thrust Bearing	Metal Impregnated Carbon
Pump Housing (volute)	Lead Free Bronze (Alloy C875)
Tail Piece and Union Nut	Brass (UNSC36000)
O-Ring and Gaskets	EP (Ethylene Propylene Rubber)
Impeller	PES Composite (30% Glass Filled)
Terminal Box	Noryl®
Check Valve Housing, Valve and Torpedo	POM (polyoxymethylene)
Union Gasket	Non Asbestos Fiber

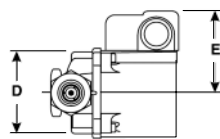
Note: Noryl is a registered trademark of General Electric Company

### Dimensions and Weight

Model	A	B	C	D	E	Connection	Ship Wt.
UP15BUC5	6 1/2"	5 1/4"	4"	3 3/16"	3 1/4"	Sweat 1/2"	7 1/4 lbs.
UP15BUC7	7 3/4"	5 1/4"	4"	3 3/4"	3 1/4"	Sweat 3/4"	8 lbs.



\*NOTES: All dimensions are in inches.



### Electrical Data

Model	Volts	Amps	Watts	HP	Capacitor
UP15-10BUC5	115	0.55	60	1/25	8µF/180V
UP15-10BUC7	115	0.55	60	1/25	8µF/180V
UP15-18BUC5	115	0.74	85	1/25	10µF/180V
UP15-18BUC7	115	0.74	85	1/25	10µF/180V
UP15-42BUC5	115	0.74	85	1/25	10µF/180V
UP15-42BUC7	115	0.74	85	1/25	10µF/180V

Grundfos Pumps Corporation • 3131 N. Business Park Avenue • Fresno, CA 93727  
 Customer Service Centers: Allentown, PA • Fresno, CA

Phone: (559) 292-8000 • Fax: (559) 291-1357

Canada: Oakville, Ontario • Mexico: Apodaca, N.L.

Visit our website at [www.grundfos.com](http://www.grundfos.com)

L-UP-TL-013 | Rev. 01/01  
 PRINTED IN USA






**Wet-Rotor, In-Line, Single Stage, Maintenance Free, Circulator Pumps**

# Submittal Data



# 60 Cycle

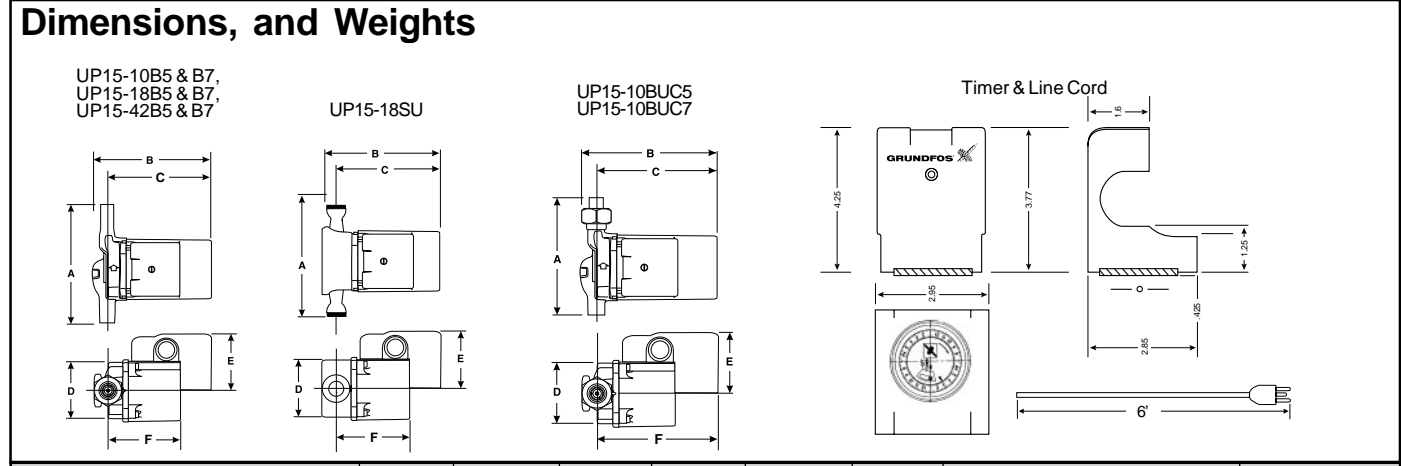
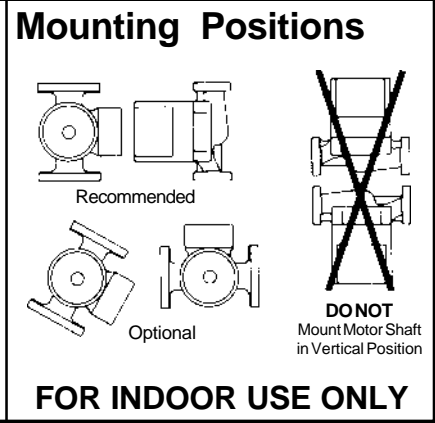
	JOB or CUSTOMER:	
	ENGINEER:	
	CONTRACTOR:	
	SUBMITTED BY:	DATE:
	APPROVED BY:	DATE:
	ORDER NO:	DATE:
	SPECIFICATION REF:	

QUANTITY	TAG NO.	MODEL NO.	GPM	FEET	VOLT	PHASE	COMMENTS

### Technical Data

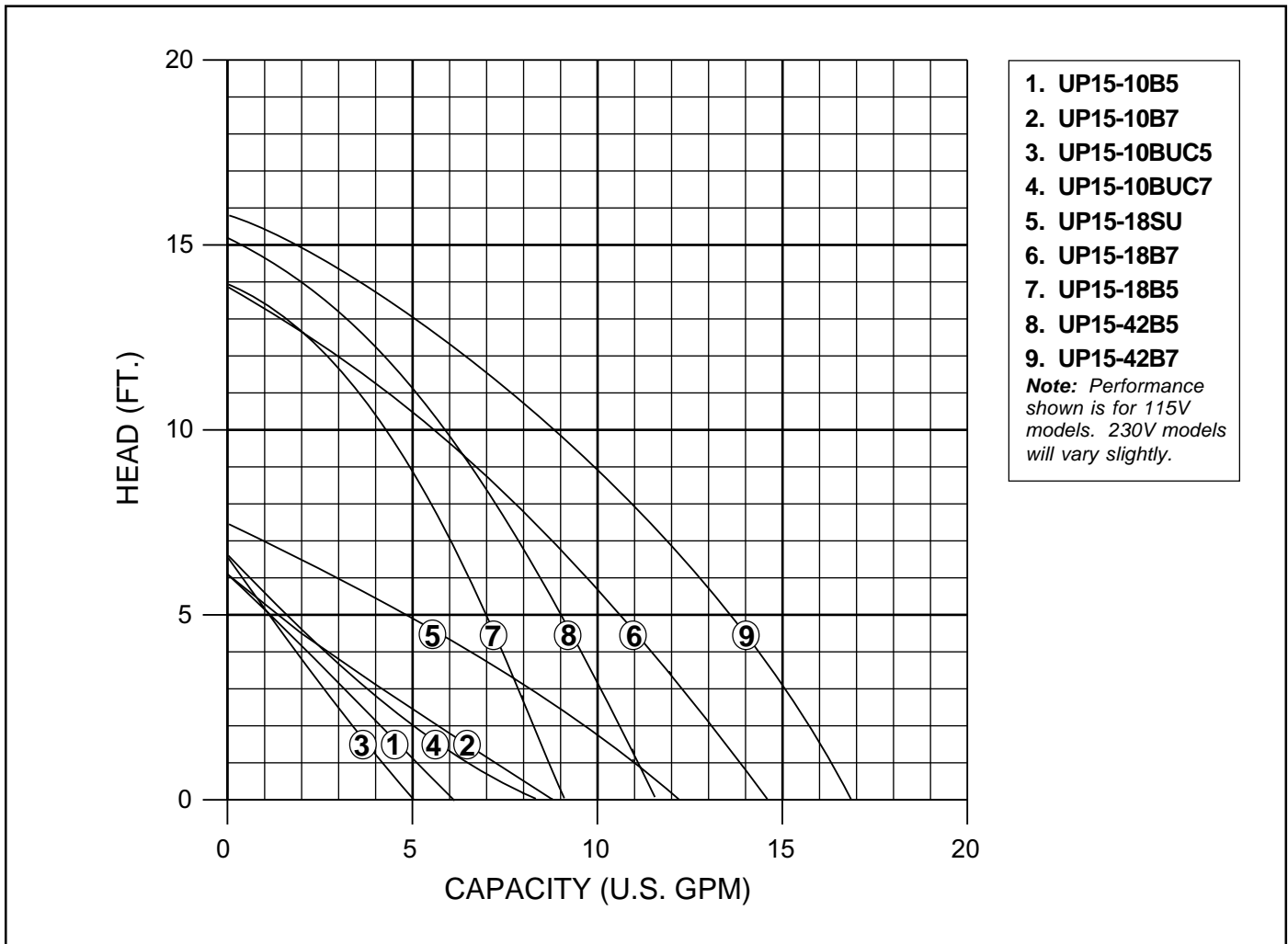
**FLOW RANGE:** 0 to 17 U.S. GPM  
**HEAD RANGE:** 0 to 16 Feet  
**MOTORS:** 2 Pole, Single Phase  
**MAXIMUM FLUID TEMPERATURE:** 150°F (66°C), Maximum design temperature.  
**MIN. FLUID TEMPERATURE for UP15:** 36°F (2°C)  
**TIMER:** 24 hours 3 positions (ON/TIMER/OFF) 15 minute interval.  
**LINE CORD:** Six-Foot 18-3 with 5-15P grounded plug.  
**MAXIMUM WORKING PRESSURE:** 145 PSI  
**MINIMUM REQUIRED INLET PRESSURE:** At 150°F (66°C), 3.0 Ft. (0.9m) 1.3 PSI.



TIMER & LINE CORD MODELS	A	B	C	D	E	F	Connection Type and Size	Shipping Wt. (Lbs.)
UP15-10B5/LC & TLC	5	6 <sup>3</sup> / <sub>16</sub>	5 1/2	4	3 1/2	4	Sweat – 1/2"	6.5
UP15-10B7/ LC & TLC	6 <sup>3</sup> / <sub>8</sub>	6 <sup>5</sup> / <sub>8</sub>	5 1/2	3 <sup>13</sup> / <sub>16</sub>	3 1/4	4	Sweat – 3/4"	7.2
UP15-18B5/LC & TLC	5	6 <sup>3</sup> / <sub>16</sub>	5 1/2	3 1/2	3 1/4	4	Sweat – 1/2"	6.5
UP15-18B7/LC & TLC	6 <sup>3</sup> / <sub>8</sub>	6 <sup>5</sup> / <sub>8</sub>	5 1/2	3 <sup>13</sup> / <sub>16</sub>	3 1/4	4	Sweat – 3/4"	7.2
UP15-42B5/LC & TLC	5	6 <sup>3</sup> / <sub>16</sub>	5 1/2	3 1/2	3 1/4	4	Sweat – 1/2"	6.5
UP15-42B7/LC & TLC	6 <sup>3</sup> / <sub>8</sub>	6 <sup>5</sup> / <sub>8</sub>	5 1/2	3 <sup>13</sup> / <sub>16</sub>	3 1/4	4	Sweat – 3/4"	7.2
UP15-10BUC5/LC & TLC	6 1/2	6 <sup>3</sup> / <sub>4</sub>	5 1/2	3 <sup>3</sup> / <sub>16</sub>	3 1/4	4	Sweat 1/2"	7.7
UP15-10BUC7/LC & TLC	7 <sup>3</sup> / <sub>4</sub>	6 <sup>3</sup> / <sub>4</sub>	5 1/2	3 <sup>3</sup> / <sub>4</sub>	3 1/4	4	Sweat 3/4"	8.5
UP15-18SU/LC & TLC	5 <sup>7</sup> / <sub>8</sub>	6 <sup>4</sup> / <sub>16</sub>	5 1/2	3 <sup>7</sup> / <sub>16</sub>	3 1/4	4	Union – 1 1/4" NPSM	5.5

# Performance *Stainless Steel or Bronze Construction - Flange, Union, or Sweat Mount*



## Electrical Data

MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR	MODEL	VOLTS	AMPS	WATTS	HP	CAPACITOR
UP15-10B5 & B7	115	.55	60	1/25	8μF/180V	UP15-42B5	115	.74	85	1/25	10μF/180V
UP15-18SU & B5	115	.74	85	1/25	10μF/180V	UP15-42B7	115	.74	85	1/25	10μF/180V
UP15-18B7	115	.74	85	1/25	10μF/180V	UP15-10BUC5/7	115	0.55	60	1/25	8μF/180V

## Materials of Construction

DESCRIPTION	MATERIAL	DESCRIPTION	MATERIAL
Inlet Cone, Bearing Plate, Bearing Retainers, Rotor Can, Rotor Cladding, Shaft Retainer.	304 Stainless Steel	O'Ring & Gaskets	EP (Ethylene Propylene Rubber)
Pump Housing (Volute) on UP15-18SU/SF		Pump Housing (Volute) for UP15-10B5 & B7, UP15-18B5 & B7, UP15-42B5 & B7, UP15-10BUC5 & B7	Silicone Bronze C875
Volute Retainer (SU Model) & Stator Housing	Aluminum	Impeller	PES Composite (30% Glass Filled)
Shaft, Upper & Lower Radial Bearings	Aluminum Oxide Ceramic	Terminal Box	Noryl®
Thrust Bearing	Metal Impregnated Carbon		



Grundfos Pumps Corporation • 17100 W. 118th Terrace • Olathe, KS 66061

Phone: 913.227.3400 • Fax: 913.227.3500

Canada: Oakville, Ontario • Mexico: Apodaca, N.L.

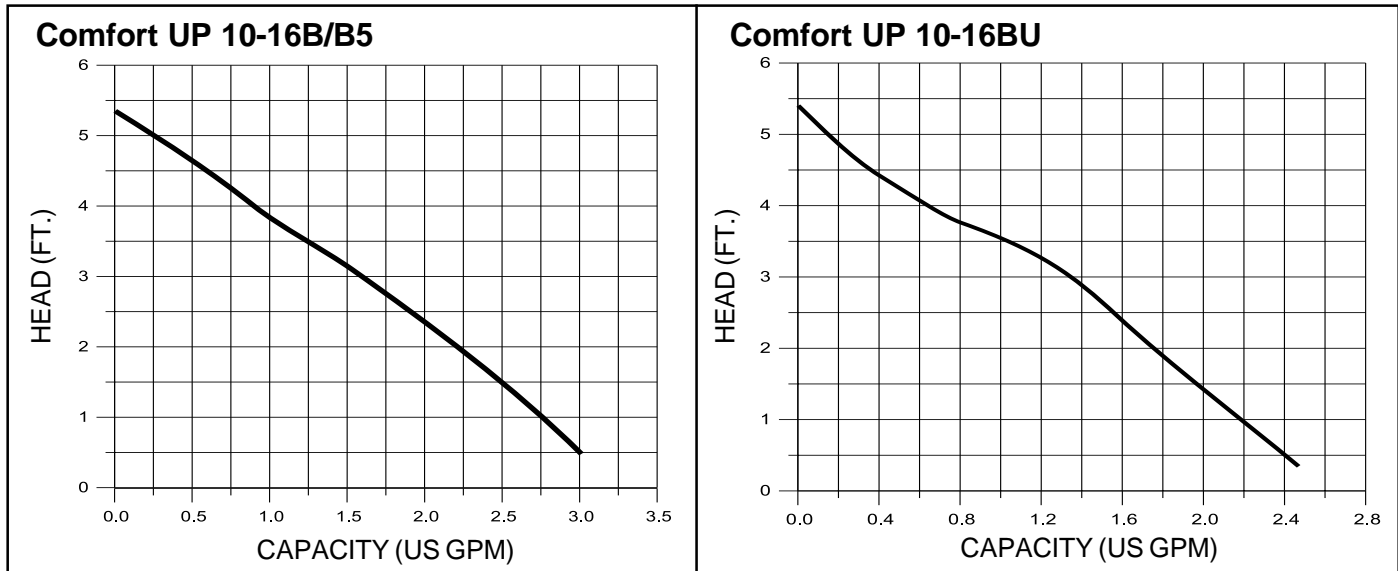
Visit our website at [www.grundfos.com](http://www.grundfos.com)



L-UP-TL-034 | Rev. 8/00  
 PRINTED IN USA



# Performance



## Electrical Data 1 X 115V

P1 [W]	1 <sub>1/11</sub> [A]
25	0.23

### Electrical connection

The pump is fitted with 5 foot cord & 115V plug.

### Motor protection

Impedance-protected. No external motor protection required.

## Product Range

Type	Product number	Supplied with			
		12-hour timer	Thermostat	Line cord+ plug	Shut-off valve and non-return valve
UP 10-16 B5/LC	96 43 38 94			●	
UP 10-16 B5/TLC	96 43 38 95	●		●	
UP 10-16 B5/ATLC	96 43 38 96	●	●	●	
UP 10-16 BN5/LC	96 43 38 97			●	
UP 10-16 BN5/TLC	96 43 38 98	●		●	
UP 10-16 BN5/ATLC	96 43 38 99	●	●	●	
UP 10-16 BU/LC	96 43 39 00			●	●
UP 10-16 BU/TLC	96 43 39 01	●		●	●
UP 10-16 BU/ATLC	96 43 39 02	●	●	●	●

## Thermostat:

The built-in thermostat can be set to stop the pump at a preset liquid temperature. The setting range is 95-150°F. The thermostat function can be interrupted by turning the thermostat to the position . The factory setting of the thermostat is: 95°F (35°C)

## Materials of Construction

DESCRIPTION	MATERIAL	DESCRIPTION	MATERIAL
Stator housing	Aluminium	Terminal box cover, Motor Cover	PA66/6
Spherical separator	Stainless steel	Screw	Stainless steel
Rotor can complete	Stainless steel/tungsten carbide	Light	Lexan
Rotor, impeller	Stainless steel, EPDM, PPO, PTFE, graphite	Cable, Cable Relief	PVC
Pump housing	Brass MS 58	Insulating cover	EPP 55
Isolation Valve	PPO	Orings	EPDM
		Check Valve	POM



Grundfos Pumps Corporation • 17100 W. 118th Terrace • Olathe, KS 66061

Phone: 913.227.3400 • Fax: 913.227.3500

Canada: Oakville, Ontario • Mexico: Apodaca, N.L.

Visit our website at [www.grundfos.com](http://www.grundfos.com)

L-UP-TL-040 | Rev. 03/01  
PRINTED IN USA

