



B&D
MFG, INC.®

Full Line Product Catalog

- ♦ HDPE Fittings
- ♦ Geothermal Fittings
- ♦ Residential & Commercial Equipment
- ♦ Fusion Equipment



**Contact your local
Distributor for pricing
and availability**



Volume 7 Updates & New Products

New Warehouse Location in New York State	8
New Product Release - HSS® Hydronic Air Handler	30-31
CAD Drawings to Help with Hose Kit Installation	41-42
New Item - Geo-Sentry Geothermal Zone Valve 3/4"	46
New Item Sizes - Butt Fusion x SCH 80 PVC Transition	47
New Item - 1" x 1" 45 Degree Molded Elbow	53
New Item Sizes - Stainless Steel Butt Fusion Male Adapters	69
New Item Sizes - Butt Fusion Flange Adapters	71
New Item Sizes - Metal Back-up Rings	71
New Item - MJ Adapters w/Stiffener Sleeve	72
New Item Sizes - Service Saddles	74
New Item Sizes - Electrofusion Branch Saddles	79
New Item Sizes - Electrofusion Branch Saddle Tapping Tees	80



THANK YOU FOR TAKING THE TIME TO LOOK THROUGH OUR CATALOG!!

We know the high quality products we supply in this catalog will spark interest with you!! **WE CAN SAVE YOU TIME AND SAVE YOU MONEY.** Give us a call on any questions you have. We are here to give you prompt service. Our number is **1-866-646-6724**. It will be a call that will improve your business from this point on.

Call **1-866-646-6724** to have a credit application faxed or emailed to you today. You may return these by mail or fax us at **1-800-952-7101**.

Once we have reviewed your credit application you will be given a multiplier which will allow you to buy at a considerable discount. However, special pricing for large bid jobs may be applicable. Contact us for details.

Once again, thank you for your time and we hope to hear from you soon.

Sincerely,

B&D Mfg., Inc

Prices are subject to change without notice.

TABLE OF CONTENTS

NOTES	3-7
ONLINE PRICING SIGN-UP	8
TRAINING INFORMATION	9-10
FLOW CENTERS	11-27
HSS BUFFER TANK	28-29
HSS AIR HANDLER	30-31
FLUSH CARTS	32-34
PUMPS	35
FLOWMETER TOOL	36
FLOWMETERS	37
HSS SERIES CONTROLS & ACCESSORIES	38
PE ACCESSORIES (SWIVEL NUT, PT PLUGS, GAUGE)	39
HOSE KITS, PE & HOSEKIT COMPLETE INSTALLATION KIT	40-42
BRASS BARB FITTINGS	43
GLYCOL TESTER	44
REGULATOR VALVES, SOLENOID VALVES, GEOTHERMAL VALVES	44-46
ACCESSORIES (TEST CAPS, DETECTABLE TAPE, TRANSITION FITTINGS)	47
POLY-ROLLER	48
PIPE	49-51
SOCKET FITTINGS	52-60
MANIFOLDS	61-65
SPECIALITY HEADERS	66
STAB FITTINGS	67
BUTT FUSION FITTINGS	68-73
SADDLE FITTINGS	74-75
MOLDED & FABRICATED TEES	76-77
ELECTROFUSION FITTINGS	78-80
POLYBALL VALVES	81
COMPRESSION FITTINGS	82-83
FULL PORT BRASS BALL VALVES	84
UNION BALL VALVE W/ PT PORT	85
BUTTERFLY VALVES	86
FUSION KITS & EQUIPMENT	87-102
HOW TO FLUSH A EARTH LOOP	103
B & D TERMS AND CONDITIONS	104
WARRANTIES	105-107
PIPE WATER VOLUME	108
PUMP CURVES	109-111
NOTES	112
ENGINEERING DESIGN SERVICES	INSIDE BACK COVER



NOTES:



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B&D PRODUCT TRAINING



Classes are open to inside and outside Salesman of B&D distributors, and their installers. (No Homeowners) Those who want or need to gain more knowledge about geothermal and how to properly apply the products they are buying to improve their sales.

Training Session to Include:

What a “Non-Pressurized System” really is.

- How it works
- Why it can be the system of choice
- How to select the right flow center for the job

Multi-zone Smart Pump Flow Centers

Proper applications for commercial & high-end residential

- New VFD Technology!
- Tear down and rebuild of a VFD System
- VFD Sizing and selection program

GT®/QT® Flow Centers

- How to select the size needed for a project
- Installation guidelines
- Trouble Shooting
- Flow center selection Program

HSS® Buffer Tanks

- Mechanics behind the HSS® Series
- Proper pump & circuit selections
- Authorization to sell this series

B&D Catalog

- A detailed explanation of the B&D Catalog.
- The new and improved catalog

Warranty

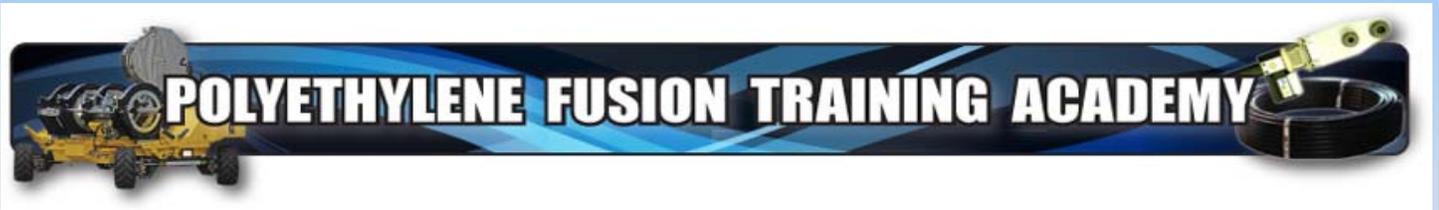
- Overview of warranty on products and RMA forms

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FUSION TRAINING



Classes are open to inside and outside Salesman of B&D distributors, and their installers. (No Homeowners) Those who want or need to gain more knowledge about geothermal and how to properly apply the products they are buying to improve their sales.

Training Session to Include:

What fusion really is.

- How it works
- Why it can be the system of choice
- How to select the right tool for the job

1"-24" Butt Fusion

- Installation guidance and procedures
- Mechanics behind fusion
- Trouble Shooting
- Hands on training

3/4"-2" Socket Fusion

- Installation guidelines and procedures
- Trouble Shooting
- Hands on training

1"-24" Electrofusion

- Installation guidance and procedures
- Mechanics behind fusion
- Trouble Shooting
- Hands on training

Polyethylene Pipes and Fittings

- Knowledge of various: polyethylene pipes, fittings, & industries to target

B&D Catalog

- A detailed explanation of the B&D Catalog.
- The new and improved catalog

Warranty

- Overview of warranty on products and RMA forms

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B&D TRAINING IN JEFFERSON IOWA CENTER IS LOCATED 90 MILES NORTHWEST OF THE DES MOINES AIRPORT

FLOW CENTERS: BREAKDOWN OF SIZES



KT SS Flow Center – The “Knocked – Down” Cost Effective Solution
(Field Assembly Required)

Part Number	# of ckts	# of Pumps	Voltage	Amps Grundfos (HI Spd)	HP (ea.)	Inlet**/Outlet Size	Overall Size (in)			
							Ht. (in.)	Wdth (in.)	Dpth (in.)	Weight (lbs)
3-230KFC-SS	1	3	230	.90	1/6	1-1/4" FPT	42	6 1/2	18	35

*Comes with Brass Union. Model Number Letter G=3-2699-3 Speed M=26-116F (1.8 Amps per Pump)

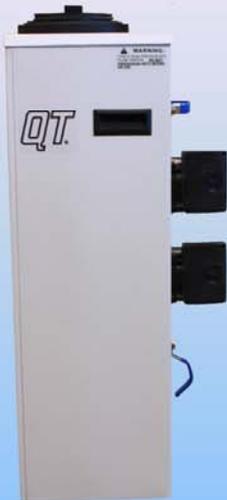
GT® SS Flow Center – The Industry Standard Solution

Part Number	# of Pumps	Voltage	Amps Grundfos (HI Spd)	HP (ea.)	Inlet*/Outlet Size	Overall Size (in)			
						Ht. (in.)	Wdth (in.)	Dpth (in.)	Weight (lbs)
NPFC-SS	0	-	-	-	1" FPT	34	6 1/2	15 1/2	28
1-230PFC-SS-G	1	230	.90	1/6	1" FPT	34	6 1/2	15 1/2	40
2-230PFC-SS-G	2	230	1.8	1/6	1" FPT	34	6 1/2	15 1/2	53
1-230PFC-SS-M	1	230	1.8	1/6	1" FPT	34	6 1/2	15 1/2	40
2-230PFC-SS-M	2	230	3.6	1/6	1" FPT	34	6 1/2	15 1/2	53

*Comes with Brass Union. Model Number Letter G=3-2699-3 Speed M=26-116F (1.8 Amps per Pump)



GT® Flow Center



QT® Flow Center

QT® Flow Center – The Premium Choice for the Refined Customer

Part Number	# of Pumps	Voltage	Amps Grundfos (HI Spd)	HP (ea.)	Inlet/Outlet Size	Overall Size (in)			
						Ht. (in.)	Wdth (in.)	Dpth (in.)	Weight (lbs)
1-230QFC-G	1	230	.90	1/6	1" Swivel (FPT)	34	7.5	14 3/4	40
2-230QFC-G	2	230	1.8	1/6	1" Swivel (FPT)	34	7.5	14 3/4	50
1-230QFC-M	1	230	1.8	1/6	1" Swivel (FPT)	34	7.5	14 3/4	40
2-230QFC-M	2	230	3.6	1/6	1" Swivel (FPT)	34	7.5	14 3/4	50

Model Number Letter G=3-2699-3 Speed M=26-116F (1.8 Amps per Pump)

*Dimensions are approximate



FLOW CENTERS: BREAKDOWN OF SIZES



XT Flow Center

XT Flow Center – When Normal Pumping Isn't Enough

Overall Size (in)

With Pumps

Part Number	# of Pumps	Voltage	Amps Grundfos	HP (ea.)	Inlet**/Outlet Size	Ht. (in.)	Wdth (in.)	Dpth (in.)	Weight (lbs)
2-230XT-SS	2	230	3.4	1/6	1-1/4" FPT	48 1/2	10	22 1/2	99

**Grundfos - 43-100F



QT-EA Flow Center

QT® - EA Flow Center – The Premium Choice for the Refined Customer

Overall Size (in)

With Pumps

Part Number	# of Pumps	Voltage	Amps Grundfos (HI Spd)	HP (ea.)	Inlet/Outlet Size	Ht (in.)	Wdth (in.)	Dpth (in.)	Weight (lbs)
1-1EA-SS-230QFC-G	2	230	1.8	1/6	1-1/4" Swivel (FPT)	43 1/2	14	21 1/2	87
2-1EA-SS-230QFC-G	3	230	2.7	1/6	1-1/4" Swivel (FPT)	43 1/2	14	21 1/2	92
2-2EA-SS-230QFC-G	4	230	3.6	1/6	1-1/4" Swivel (FPT)	43 1/2	14	21 1/2	98
1-1EA-SS-230QFC-M	2	230	3.6	1/6	1-1/4" Swivel (FPT)	43 1/2	14	21 1/2	87
2-1EA-SS-230QFC-M	3	230	5.4	1/6	1-1/4" Swivel (FPT)	43 1/2	14	21 1/2	92
2-2EA-SS-230QFC-M	4	230	7.2	1/6	1-1/4" Swivel (FPT)	43 1/2	14	21 1/2	98

*Comes with Brass Union.

Model Number Letter G=3-2699-3 Speed

M=26-116F (1.8 Amps per Pump)

EA® Series SS Flow Center – Special 2 Circuit Applications
(Field Assembly Required)

Overall Size (in)

Part Number	# of Pumps	Voltage	Amps Grundfos (HI Spd)	HP (ea.)	Inlet/Outlet Size	Ht (in.)	Wdth (in.)	Dpth (in.)	Weight (lbs)
0-0EA-KFC-SS	0	-	-	-	1-1/4" MPT/1-1/4" FPT	42 1/2	9 1/4	21	41
1-1EA-KFC-SS-G	2	230	1.8	1/6	1-1/4" MPT/1-1/4" FPT	42 1/2	9 1/4	21	61
2-1EA-KFC-SS-G	3	230	2.7	1/6	1-1/4" MPT/1-1/4" FPT	42 1/2	9 1/4	21	72
2-2EA-KFC-SS-G	4	230	3.6	1/6	1-1/4" MPT/1-1/4" FPT	42 1/2	9 1/4	21	83
1-1EA-KFC-SS-M	2	230	3.6	1/6	1-1/4" MPT/1-1/4" FPT	42 1/2	9 1/4	21	61
2-1EA-KFC-SS-M	3	230	5.4	1/6	1-1/4" MPT/1-1/4" FPT	42 1/2	9 1/4	21	72
2-2EA-KFC-SS-M	4	230	7.2	1/6	1-1/4" MPT/1-1/4" FPT	42 1/2	9 1/4	21	83

*Standard: IPT on Inlet Connection. Union can be special ordered. Model Number Letter G=3-2699-3 Speed M=26-116F (1.8 Amps per Pump)



EA® Flow Center

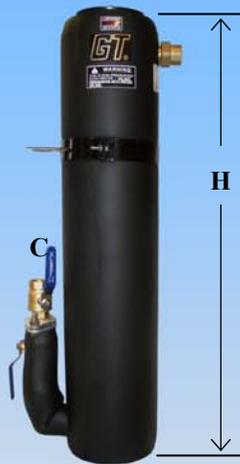
*Dimensions are approximate



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FLOW CENTERS: NO PUMP, ONE PUMP, TWO PUMP STAINLESS STEEL PFC'S



MODEL NPFC-SS
28 lb.



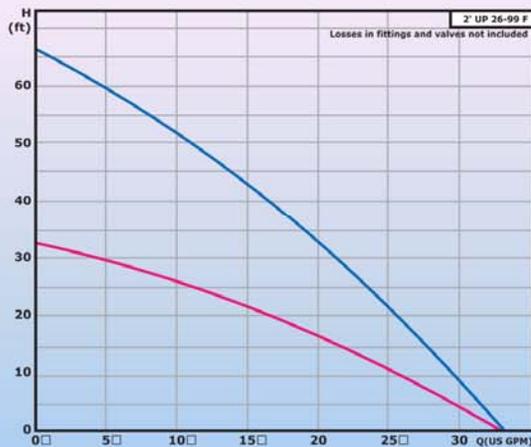
MODEL 1-230PFC-SS
40 lb.



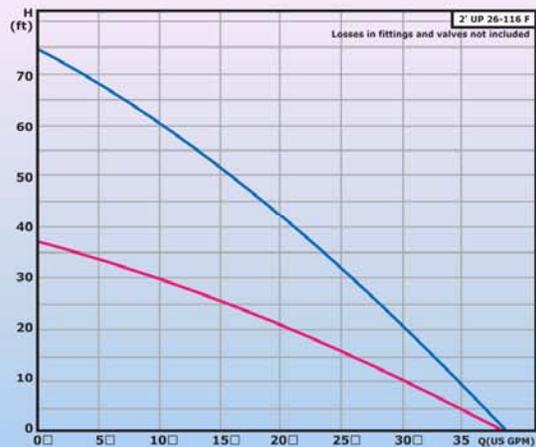
MODEL 2-230PFC-SS
53 lb.

ELECTRICAL: 1/60/230V
INSULATION: 3/8" VOLUME: 4.5 Gal
MATERIAL: 304L Stainless Steel Tubing

A=1" UNION (FPT) B=1" FPT C=1" FLANGE w/BALL VALVE H=34" D=15-1/2"



U.S. GPM
FLOW CHART FOR 1-230PFC-SS,
2-230PFC-SS (Grundfos 26-99-3 Speed)



U.S. GPM
FLOW CHART FOR 1-230PFC-SS,
2-230PFC-SS (Grundfos 26-116)

Patent No. 5,244,037



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Features & Benefits

Non Pressurized Flow Center

- ~ Eliminates Callbacks
- ~ Fast Installation

Removable Lid

- ~ Easy to Fill
- ~ Check Flow Rates*
- ~ Add Anti-Freeze

Air Separation Chamber

- ~ Continually Performs Purging Function

Check Valve

- ~ Pump Protection

5 Year Warranty

Stainless Steel Canister

*Requires Service Tool (Part# WFT-17), sold separately

*Optional Flow Center Wrench for lid (Part# FCW), sold separately



FLOW CENTERS: GT® FLOW CENTER SPECIFICATIONS W/ PUMP CURVES

ONE COMPLETE PACKAGE

The non-pressurized GT® Flow Center pumping station is unlike other pump protection devices. For instance, the GT® Flow Center includes a built-in patented pump protection feature that eliminates the need for a flush cart when filling and flushing a closed-loop system when your manifolds are indoors. And since it is non-pressurized, it allows you to add fluids like anti-freeze or water, while automatically eliminating air from the closed-loop system.

SIMPLE INSTALLATION

As a result of the GT® Flow Center being completely packaged at the factory, installation is simple. Just connect the return line from an earth loop to the GT® Flow Center, then connect a supply line from the GT® to the heat pump unit. Also available is the flow meter tool, an exclusive service tool, which provides a direct reading of system flow rate, and eliminating the uncertainty associated with current methods.

EASY TO OPERATE & MAINTAIN

The system includes a self-sealing feature that keeps dirt & debris out and water in. For you, that means trouble-free operation, easier installation, and fewer call backs. This also means added reliability for the homeowner. In addition, adding anti-freeze is easy, just remove the self-sealing lid and pour it into the air elimination chamber. Since the only moving part of this system are the pump(s), service is minimal. Each part is made to be removed for servicing, without risk of fluid loss or air entry into the system.

A SMART ADDITION TO WATER SOURCE TECHNOLOGY

A homeowner's initial investment in a water source system is slightly more than that of a conventional system. It's an investment that the homeowner will want to protect. Recommending the GT® Flow Center will not only add to the reliability of the closed-loop system, it will also add to the customer's satisfaction in the long run.

Patent No. 5,244,037

Self-Sealing Lid
All fluids are poured into the top of the chamber: for filling, flushing & adding anti-freeze. The top remains open until installation is complete.

Air Elimination Chamber
Removes air from the system as it is circulated through the canister.

Ball Valves
Allow each pump to be removed for service without the risk of fluid loss to the system.

Pumps
Circulate fluid throughout the earth-loop system.

Built-In Check Valve
Holds water in the pump volutes after initial filling. This feature protects the pump by keeping water on the bearings even if the chamber runs dry.

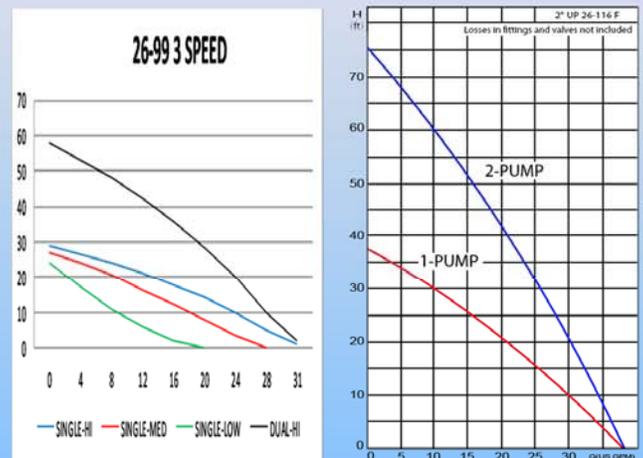


Part Number	# of Pumps	Voltage	Amps Grundfos 3-Speed	HP (ea.)	Inlet*/Outlet Size
1-230PFC-SS	1	230	.90	1/6	1" FPT
2-230PFC-SS	2	230	1.8	1/6	1" FPT

Grundfos 26-99/3 Speed
GT®'s Overall Size - 34" X 6 1/2" X 15 1/2"

*Dimensions are approximate

NON-PRESSURIZED FLOW CENTER



26-116F PUMPS ARE SPECIAL ORDER ON A GT® FLOW CENTER



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FEATURE/BENEFITS

Non Pressurized Flow Center

- ◆ Eliminates Callbacks
- ◆ Fast Installation

Removable Lid

- ◆ Easy to Fill
- ◆ Check Flow Rates*
- ◆ Add Anti-Freeze

Air Separation Chamber

- ◆ Continually Performs Purging Function

Foam Insulation

- ◆ Eliminates Unsightly Condensation

Solid Durable Construction

- ◆ Long Life

Check Valve

- ◆ Pump Protection

5 Year Warranty

- ◆ Customer Assurance

Swivel Connectors

- ◆ Fast and Flexible Installation

Wall Bracket

- ◆ Ease of Handling and Installation



*Requires Service Tool (Part# WFT-17), sold separately

*Optional Flow Center Wrench for lid (Part# fcw), sold separately



FLOW CENTERS: QT® FLOW CENTER SPECIFICATIONS W/ PUMP CURVES

ONE COMPLETE PACKAGE

The non-pressurized QT® Flow Center pumping station is unlike other pump protection devices. For instance, the QT® Flow Center includes a built-in pump protection feature that eliminates the need for a flush cart when filling and flushing a closed-loop system when your manifolds are indoors. And since it is non-pressurized, it allows you to add fluids like anti-freeze or water, while automatically eliminating air from the closed loop system.

SIMPLE INSTALLATION

As a result of the QT® Flow Center being completely packaged at the factory, installation is simple. Just connect the return line from an earth loop to the QT® Flow Center, then connect a supply line from the QT® to the heat pump unit. Also available is the flow meter tool, an exclusive service tool, which provides a direct reading of system flow rate, and eliminating the uncertainty associated with current methods.



EASY TO OPERATE & MAINTAIN

The system includes a self-sealing feature that keeps dirt & debris out and water in. For you, that means trouble-free operation, easier installation, and fewer call backs. This also means added reliability for the homeowner. In addition, adding anti-freeze is easy, just remove the self-sealing lid and pour it into the air elimination chamber. Since the only moving part of this system are the pump(s), service is minimal. Each part is made to be removed for servicing, without risk of fluid loss or air entry into the system.

The QT® Flow Center is designed for years of operation!

A SMART ADDITION TO WATER SOURCE TECHNOLOGY

A homeowner's initial investment in a water source system is slightly more than that of a conventional system. It's an investment that the homeowner will want to protect. Recommending the QT® Flow Center will not only add to the reliability of the closed-loop system, it will also add to the customer's satisfaction in the long run.

Part Number	# of Pumps	Voltage	Amps Grundfos (HI Spd)	HP (ea.)	Inlet*/Outlet Size
1-230QFC*	1	230	.90	1/6	1" FPT SWIVEL
2-230QFC*	2	230	1.8	1/6	1" FPT SWIVEL

Grundfos 26-99/3 Speed

QT®'s Overall Size 34" x 7 1/2" x 14 3/4"

*Dimensions are approximate

Patent No. 5,244,037

NON-PRESSURIZED FLOW CENTER



26-116F PUMPS ARE SPECIAL ORDER ON A QT® FLOW CENTER



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FLOW CENTERS: EA®-SS-KFC



SPECIAL 2 CIRCUIT FLOW CENTER
 DESIGNED FOR 6 TO 10 TON SPLIT COILS OR
 TOTAL 28* GPM WITH 2 PUMPS ON EACH
 CIRCUIT FOR ONE COMMON LOOP FIELD.

If you have ever installed 2 heat pumps and then were faced with trying to figure out the best way to connect them to the loop field, you will see the benefits of this flow center.

*** For Max Flow Use 116F Grundfos Pumps ***

180 DEGREE MODEL:

1-1EA®-230KFC-SS (total 2 pumps)

1 1/4" FPT ON PUMPS

1 1/4" S.S. IPT RETURN INLET
 (FIELD ASSEMBLY REQUIRED)

Part Number	Max GPM	# of Ckts	# of Pumps	Voltage	Amps Grundfos Hi Spd	HP (ea.)	Inlet*/Outlet Size
0-0E-A-KFC-SS.	18*	2	0	-	-	-	1 1/4" IPT/1-1/4" FPT
1-1E-A-KFC-SS.	18*	2	2	230	1.80	1/6	1 1/4" IPT/1-1/4" FPT
2-1E-A-KFC-SS.	22*	2	3	230	2.70	1/6	1 1/4" IPT/1-1/4" FPT
2-2E-A-KFC-SS.	28*	2	4	230	3.60	1/6	1 1/4" IPT/1-1/4" FPT

*Standard: IPT on Inlet Connection. Union can be Special Ordered.



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FLOW CENTERS: QT® -MAXX

QT® -MAXX Flow Center

The pump is ECM technology that is controlled through an external control via PWM signal generation cable. The control operates the pump based off two sensors that are plumbed into the systems piping in the inlet and outlet to the heat pump. The controller then speeds the pump up or down based off of inputs defined at initial start-up by the installer. Initial inputs defined by the contractor are as follows. 1. Heating Delta T 2. Cooling Delta T 3. Safety Flow Rate 4. Anti-freeze type 5. Percentage of Antifreeze. The QT-MAXX will then try to maintain the user defined Delta T while the heat pump is active based on the temperature of the water. This will determine the pump is to maintain the heating or cooling Delta T. If for any reason the pump cannot maintain the Delta T specified the pump will then operate at the specified Safety Flow. The Controller will then indicate the gallons per minute being pumped through the heat pump and the earth loop. Also the Controller will indicate the power usage of the pump while running and via changing colors of the backlight display will indicate if there are any potential problems with the system. This information is critical in evaluating the performance of any geothermal system. Currently, the technician has to estimate the flow rate by measuring the pressure drop across the heat pump heat exchanger, and even then he has to have the correct product data with him in order to translate that pressure drop into gallons per minute.



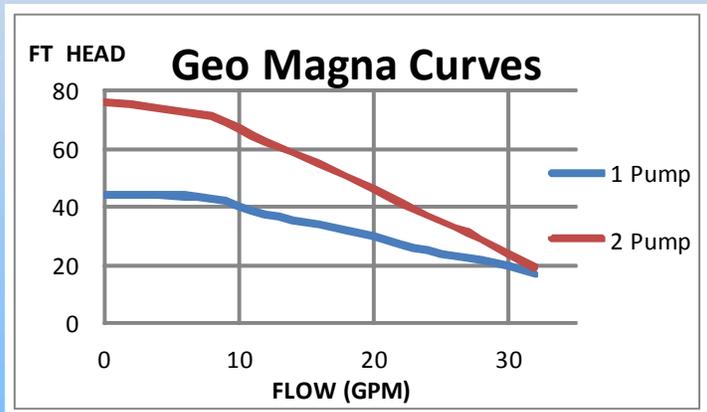
Features & Benefits

- * Remote speed controlled high efficiency ECM pump with permanent magnet rotor and frequency converter
- * Fit for cold antifreeze media containing glycol or ethanol
- * Fit for condensing environments
- * Conduit connection
- * Controlled via digital low voltage PWM signal
- * PWM feedback signal to system control: power consumption, under-voltage warning, under-voltage stop, locked rotor, internal failure
- * Uses up to 80% less electrical power compared to standard constant speed pumps
- * Uses up to 60% less electrical power compared to standard speed controlled pumps
- * Check Valve/Pump Protection
- * 2 Year Warranty/Customer Assurance

Physical/Electrical Data

Part #	# of Pumps	Voltage	Amps	HP	Inlet/Outlet Size
1-230MAX	1	230	1.7	1/6	1"Swivel(FPT)
2-230MAX	2	230	3.4	1/6	1"Swivel(FPT)

**Controller is 24VAC powered through heat pump



FLOW CENTERS: 2-2EA®-SS-QFC

DESIGNED FOR 6 TO 10 TON SPLIT COILS OR
TOTAL 28* GPM WITH 2 PUMPS ON EACH
CIRCUIT FOR ONE COMMON LOOP FIELD.

Features & Benefits

- Check Valve
Pump Protection
- 5 Year Limited Warranty
Customer Assurance
- Solid Durable Construction
Long Life
- Removable Lid
Fast Installation, Easy to Fill
- 1 1/4" Swivel Connectors on Pumps
Fast and Flexible Installation
- Non Pressurized Flow Center
Eliminates Callbacks
- Ease of Handling and Installation
 - Foam Insulation
Eliminates Condensation
 - Air Separation Chamber
Continually Performs Purging Function



180 DEGREE MODEL

1 1/4" Brass IPT Return Inlet



ALL THE "PUMP" YOU NEED AND MORE

1-866-646-6724
712-652-3424
www.bdmfginc.com

FLOW CENTERS: 2-2EA®-SS-QFC SPECIFICATIONS

SIMPLE INSTALLATION

Because the QT® Flow Center is completely packaged at the factory, installation is simple. The system should be mounted on the floor. Simply connect a return line from the earth system to the QT® Flow Center. Then connect a supply line from the QT® to the heat pump unit. That's all there is to adding reliable pump protection to any closed-loop system. Also available is the Flow Meter Tool, an exclusive service tool which provides a direct reading of system flow rate, eliminating the uncertainty associated with current methods.

Pump Curves



QT® Specifications

*Dimensions are approximate



ALL THE "PUMP" YOU NEED AND MORE

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FLOW CENTERS: XT

The XT is designed to work with 7-12 ton single coil dual stage heat pumps.

Construction:

The XT is a stainless steel canister with brass check valves below the pumps. The canister is placed in a metal box and insulated with foam. All sections are factory assembled. The pumps are Grundfos UPS 43-100F.

Check Valves:

The check valve is to help with proper flow and pump protection.

Insulation:

The canister is insulated by foam to help eliminate condensation and is encased by a box design.

Field Assembly:

The unit has 1 1/4" female port for any type of male connection. An easy disconnect fitting is recommended.

Isolation Ball Valves:

The unit has a pair of isolation ball valves, allowing for removal and service of individual heat pumps while maintaining operability of the rest of the systems. Also, makes removal of pumps for replacement simple.

Air Separation Chamber:

The chamber continually performs a purging function to eliminate air.

Part Number	# of Pumps	Voltage	Amps Grundfos 43-100	HP (ea.)	Inlet*/Outlet Size
2-230XT-SS*	2	230	3.4	1/6	1 1/4" FPT

*43-100F Pump

XT's Overall Size 48 1/2" x 10 x 22 1/2"

*Dimensions are approximate

For pump curves refer to page 111.



ALL THE "PUMP" YOU NEED AND MORE

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FLOW CENTERS: MULTIZONE FLOW CENTER

It is a recognized fact that geothermal applications utilizing multiple heat pumps are optimized when a single consolidated earth loop is used.

This consolidated earth loop approach capitalizes on load diversity and can reduce loop installation costs by up to 25%.

Until now, there were many reasons why an application did not use a consolidated earth loop. Typically, there may have been a need for individual tenant metering, as in a multi-tenant application. Or a centralized larger pump consumed too much energy. Or, in many cases the sophisticated control requirements led to excessive installation costs.

THOSE DAYS ARE GONE, YOU CAN NOW HAVE AN OPTIMIZED CONSOLIDATED LOOP WITH CONTROL SIMPLICITY AND INDIVIDUAL TENANT METERING, WHILE MAINTAINING A SIMPLE AND COST EFFICIENT INSTALLATION.

- **OPTIMIZED PERFORMANCE**

The benefits of taking advantage of load diversity are many, but perhaps the most significant is the impact on system performance/ installed cost. You have the flexibility to maximize operating efficiency or minimize installed costs, or compromise and have excellent efficiency with a reduced installation cost.

- **CONTROL SIMPLICITY**

The circuit pump(s) are controlled directly with a branch circuit from the heat pump that is connected to it. No need for relay boxes or other more complicated control strategies.

- **INDIVIDUAL METERING**

All energy consumed in a Multizone System is monitored through the meters supplying power to the heat pumps. For landlords, that translates into zero energy costs.

- **LOWER INSTALLED COSTS**

The simplicity of the system will result in fewer man-hours for installation as well as the significantly reduced earth loop size.

- **MAINTENANCE SIMPLICITY**

Simply by closing the pump isolation valves, turning off and disconnecting the electrical power and removing four bolts a pump can be removed and then replaced, and the total system does not have to be shut down during this procedure..... and for this the other tenants will be very thankful.

Here is a Multizone Flow Center designed for a 4 zone application.

Model: **CFCSS4000-3G**

CF - Commercial Flow Center

C - Size C

SS - Stainless Steel

4 - 4 Circuit

0 - No. 2 pump circuit

0 - NA

0 - No. 3530 Series pumps

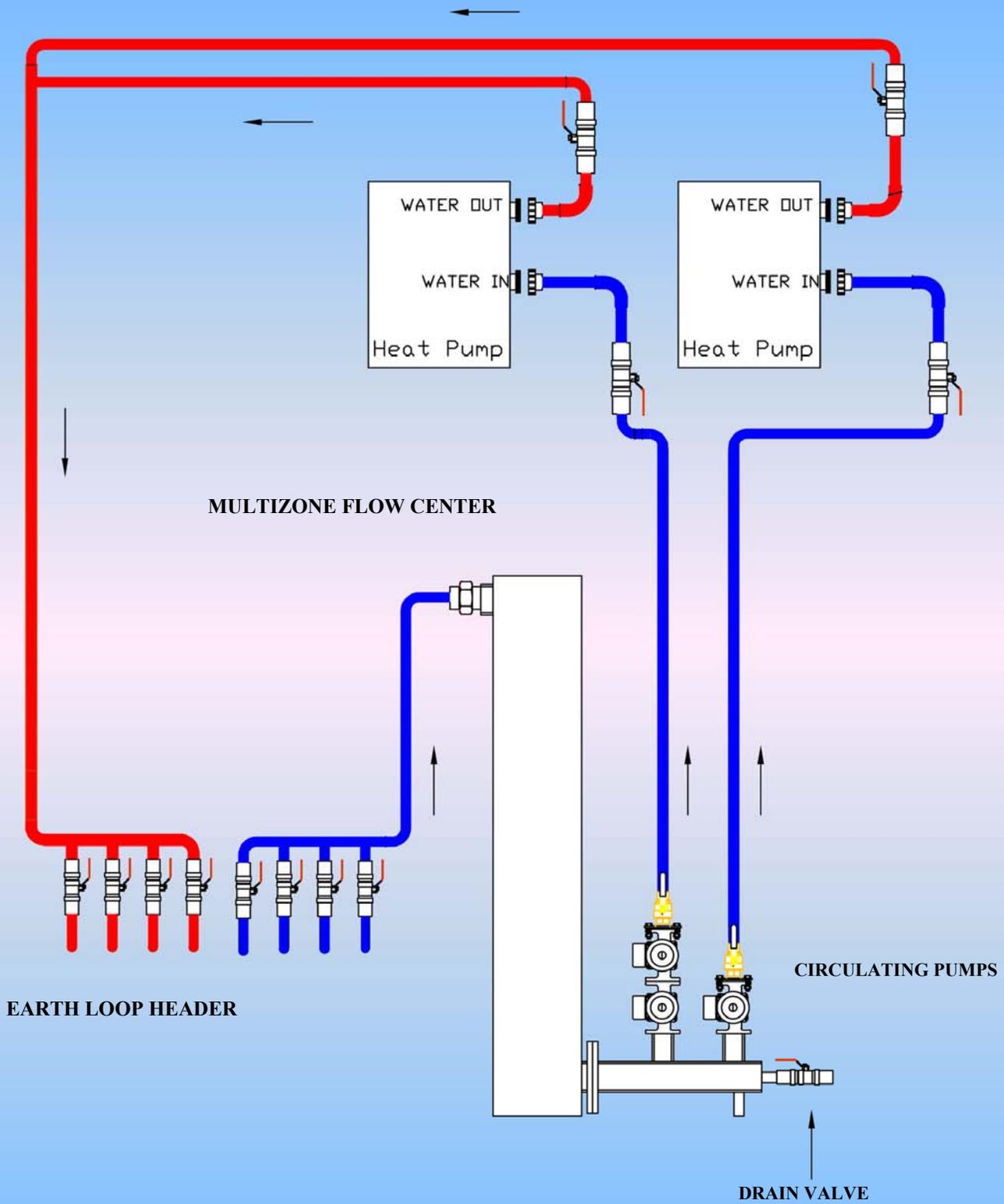
3 - 208/230 V Single phase

G - Grundfos Pumps

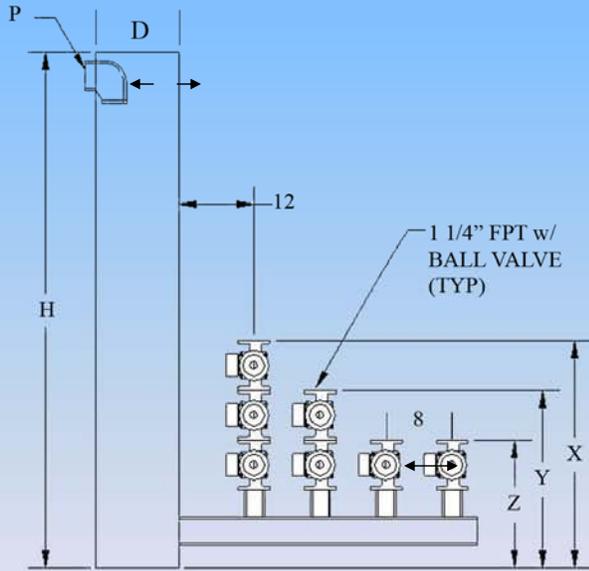
(*C-Model - (4 circuit header max)



FLOW CENTERS: MULTIZONE FLOW CENTER SYSTEM PIPING SCHEMATIC



FLOW CENTERS: MULTIZONE FLOW CENTER DIMENSIONS



Multizone GT Flow Center Physical Dimensions (in.)

Size	H	D	X	Y	Z	P (IPT)	Volume (gal)
B	62	10	43	36 1/2	30	2	17.5
C	70	12	45	38 1/2	32	3	20.8

* B-Model - (3 circuit header max & single pump only)

** C-Model- (4 circuit header max)

*** D-Model to be used with Smart Pump Systems only

<Limited custom configurations are available, call for help>

The best pumping solution for a geothermal heat pump system. Unsurpassed in delivering the following benefits:

Ease of Installation, Very Low Operating Costs, Ease of Maintenance, Individual Tenant Metering, Control Simplicity

Sealable Lid – Provides for a closed sealed system while allowing for ease of access to sample fluid and measure flow rate.

Inlet Connection – Stainless Steel MPT connection provided as standard, with various transitions available upon request. Size based on canister size (see chart).

Check Valves – Check valves are provided in each pump circuit assuring proper flow and reliable pump operation.

Canister – Provides a standing column of water on the suction side of the pump(s) to insure a flooded volute and reliable pump operation. Size required is based on max load design flow rate (see chart).

Optional Ball Valve – Butterfly Valve is available as an option to isolate canister from pump manifold (not shown).

Pump Connection – 1 1/4" FPT Brass with isolation ball valve.

Pump Control – Pumps can be directly controlled with a branch circuit from the heat pump or controlled with a relay box.

Pump Circuits – Individual pump circuits consisting of one, two or three 1/6 HP circulating pumps. Capable of delivering up to 25 gpm @ 48 ft of H₂O head loss. Grundfos 2699/3 speed is standard with others available upon request. For flow rates greater than 25 gpm larger end suction pumps are available. Voltage 230-1ph.

Pump Isolation – 1 1/4" Brass isolation ball valves provided above and below each pump (or set of pumps) allowing for service of one circulator while the rest of the system is functional.

Insulation – 3/8" Armaflex insulation factory installed to prevent condensation

Pump Manifold – Factory assembled manifold, including check valves, one isolation valve per circuit and drain valve at end of a 4 circuit manifold.

Manifold Connection – Flange provided to field assemble the pump manifold to the canister and allowing for installation of optional butterfly valve.



FLOW CENTERS: SMART PUMP MULTIZONE

For the applications that require a little more than it's Multizone cousin can provide, the all New Smart Pump Multizone utilizes the latest in Variable Speed Technology. Designed for the high end residential or commercial applications, the Smart Pump Multizone can be used with single phase power to keep things simple. With no added controls to complicate your system the Smart Pump Multizone is very user friendly and is easily adjustable and customized for your source side geothermal systems.

VARIABLE SPEED TECHNOLOGY IS EASIER THAN EVER TO PROVIDE FOR YOUR APPLICATION. WHY COMPLICATE THINGS FOR YOUR END USER "KEEP IT SIMPLE".



*TWO-WAY CONTROL VALVES WILL NEED TO BE INSTALLED ON EACH HEAT PUMP CIRCUIT FOR PROPER VARIABLE SPEED PUMP OPERATION.

- **EFFICIENT OPERATION**

When compared to multiple smaller pumps typically used for each heat pump zone you will notice the efficiency on smaller motors is in the range of 25-30% to yield a very inefficient operation. The Smart Pump Multizone utilizes efficient motor technology with its one single motor offering 60-80% efficient operation. In fact less horse power will be used with a single pump/motor combination verses several small circulators for your multizone heat pump system.

- **INSTALLATION SIMPLICITY**

With only one pump and motor to install, contractor installation time is reduced. All the work consists of setting the GT® canister, mounting the pump to the provided flange, mount the motor to the pump, mount the variable speed drive unit on the adjacent wall and the electrical power. Its that simple your system will be ready to run.

- **COMPETITIVE INSTALLED COSTS**

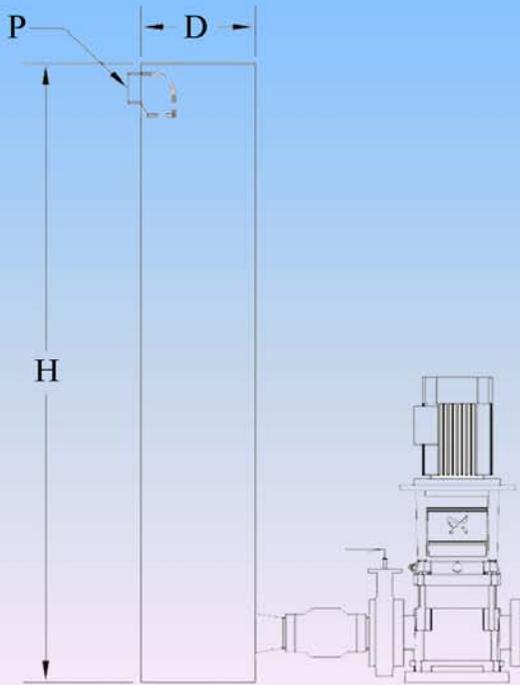
When you look at the cost of purchasing and installing several pumps switching to the Smart Pump Multizone will save more than just energy.

- **MAINTENANCE SIMPLICITY**

The Smart Pump Multizone utilizes one of the industries most popular in-line circulators. This bullet proof pump is very reliable however in the event of a pump failure, parts and qualified technicians are readily available.



FLOW CENTERS: SMART PUMP MULTIZONE DIMENSIONS W/ CURVES



The most energy efficient pumping system for any geothermal heat pump application. Unsurpassed in delivering the following benefits:

Ease of Installation, Very Low Operating Costs, Ease of Maintenance, Simple System Start Up

Sealable Lid – Provides for a closed sealed system while allowing for ease of access to sample fluid and measure flow rate.

Inlet Connection – Stainless Steel MPT connection provided as standard, with various transitions available upon request. Size based on canister size (see chart).

Check Valve – A check valve is provided before the pump assuring proper flow and reliable pump operation.

Canister – Provides a standing column of water on the suction side of the pump to insure a flooded volute and reliable pump operation. Size required is based on max load design flow rate (see chart).

Optional Isolation Valve – An isolation valve is available on the pump discharge for ease of maintenance (not shown).

Variable Speed Pump Control – The Smart Pump Drive is robust and designed to operate in some of the harshest conditions.

Insulation – 3/8" Armaflex insulation factory installed to prevent condensation.

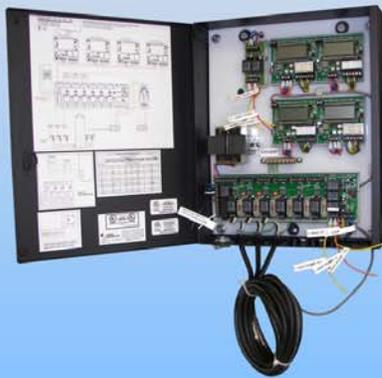
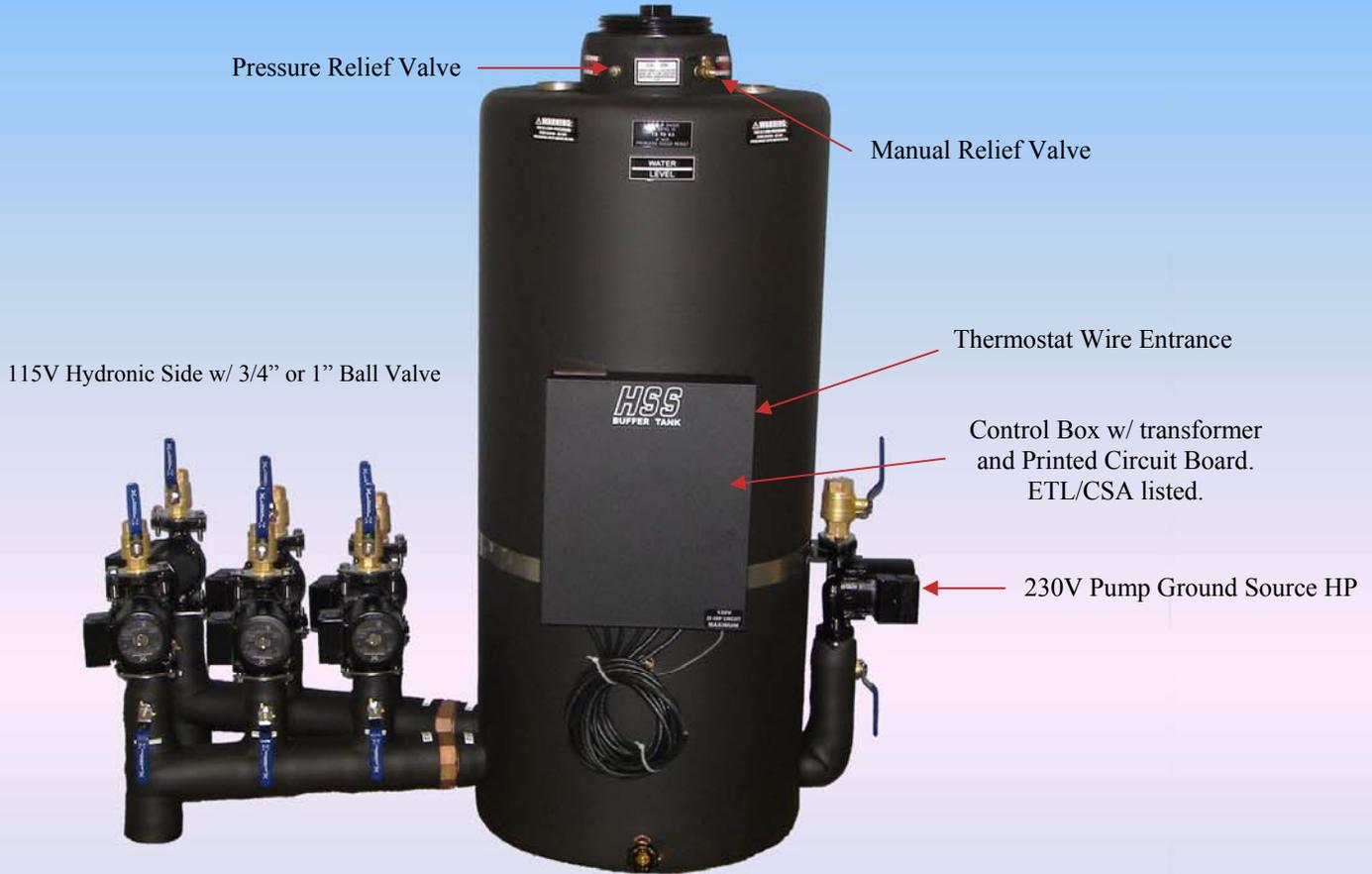
Smart Pump Multizone Dimensions (in.)

Size	MAX FLOW (gpm*)	H	D	P (IPT)	Volume (gal)
C	130	70	12	3	20.8
D	180	70	14	3	29.5



ALL THE "PUMP" YOU NEED AND MORE

A NON-PRESSURIZED STAINLESS STEEL BUFFER TANK FOR HYDRONIC HEAT!

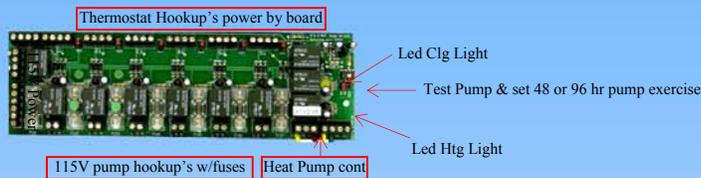


- Available Sizes: HSS®-12, HSS®-20, HSS®-30, HSS®-40, HSS®-60, HSS®-80
- Available in Heating Only or Heating & Cooling.
- 1 1/4", 1 1/2" or 2" inlet & 3/4" or 1" Ball Valve Outlets
- Water Temperature not to exceed 150 degree max.
- Designed for 6 to 10 gallons per ton.
- 115V Pump on Hydronic Heat Side
- 230V Pump on Water to Water Side.
- Two Stage Heat or Heating & Cooling built in.
- Hydronic 115V 26/99-3 is a three speed pump (low-med-hi)

*****CUSTOM TANKS MADE TO ORDER*****



FLOW CENTERS: HSS® SERIES SPECIFICATIONS



Control Board Electrical Data:
115V/Single Phase 15 amp Circuit



HSS® BUFFER TANK Flow Center Physical Dimensions (in.)*

Max Gallon Storage	Max Hydronic Circuits	Max Water/Water Circuits	G	H	I	J	K	L	M	N	O	P	Q	Wt Tank
12	3	1	21"	7 1/2"	7"	9"	24"	49"	57 1/2"	10"	17"	1-1/4" MPT	2" Union	30#
20	6	2	21"	7 1/2"	7"	9"	24"	49"	57 1/2"	13"	20"	1-1/4" MPT	2" Union	38#
30	9	3	21"	7 1/2"	7"	9"	24"	49"	54"	16"	23"	1 1/2" FPT	2" Union	52#
40	12	3	21"	7 1/2"	7"	9"	24"	49"	54"	18"	25"	2" FPT	2" Union	60#
60	12	4	21"	7 1/2"	7"	9"	24"	49"	54"	22"	29"	2" FPT	2" Union	84#
80	12	4	21"	7 1/2"	7"	9"	24"	49"	54"	25"	31"	2" FPT	2" Union	97#

* Dimensions are approximate

Hydronic circuit ball valve
3/4" on 15/58,
1" on 26/99-3 speed pump.
Water /Water Side
1-1/4" Ball Valve



ALL THE "PUMP" YOU NEED AND MORE

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www.bdmfginc.com

AIR HANDLER: 1-5 TON

1 & 2 Ton HSS® Air Handler Unit Information

Swivel Connections
1" Inlet & 1" Outlet

Drain Pan Connections
3/4" Primary
3/4" Secondary

Factory Installed Filter
Merv 8 Air Filter Included
18" x 22" x 1"

- ◆ 1 Ton Electrical Strip Enclosure
 - ◆ Choice of none or a 5kw factory installed
- ◆ 2 Ton Electrical Heat Strip Enclosure Options
 - ◆ Choice of none or a 5kw factory installed
- ◆ All Electrical Heat Strip Units
 - ◆ Adjustable time delay on heat strip start-up
 - ◆ Plug & Play Design to add later to all units



MODEL#	APPROX. WT (lbs)
BDAH1	100
BDAH2	105

HSS® Air Handler with Left Side Configuration Shown



MODEL#	APPROX. WT (lbs)
BDAH3	136
BDAH4	146
BDAH5	165

HSS® Air Handler with Left Side Configuration Shown

3, 4 & 5 Ton HSS® Air Handler Unit Information

Swivel Connections
3 Ton = 1" Inlet & 1" Outlet
4 & 5 Ton = 1-1/4" Inlet & 1-1/4" Outlet

4 Row Cooling/Heating Coil
3 Ton, 4 Ton & 5 Ton Units Only

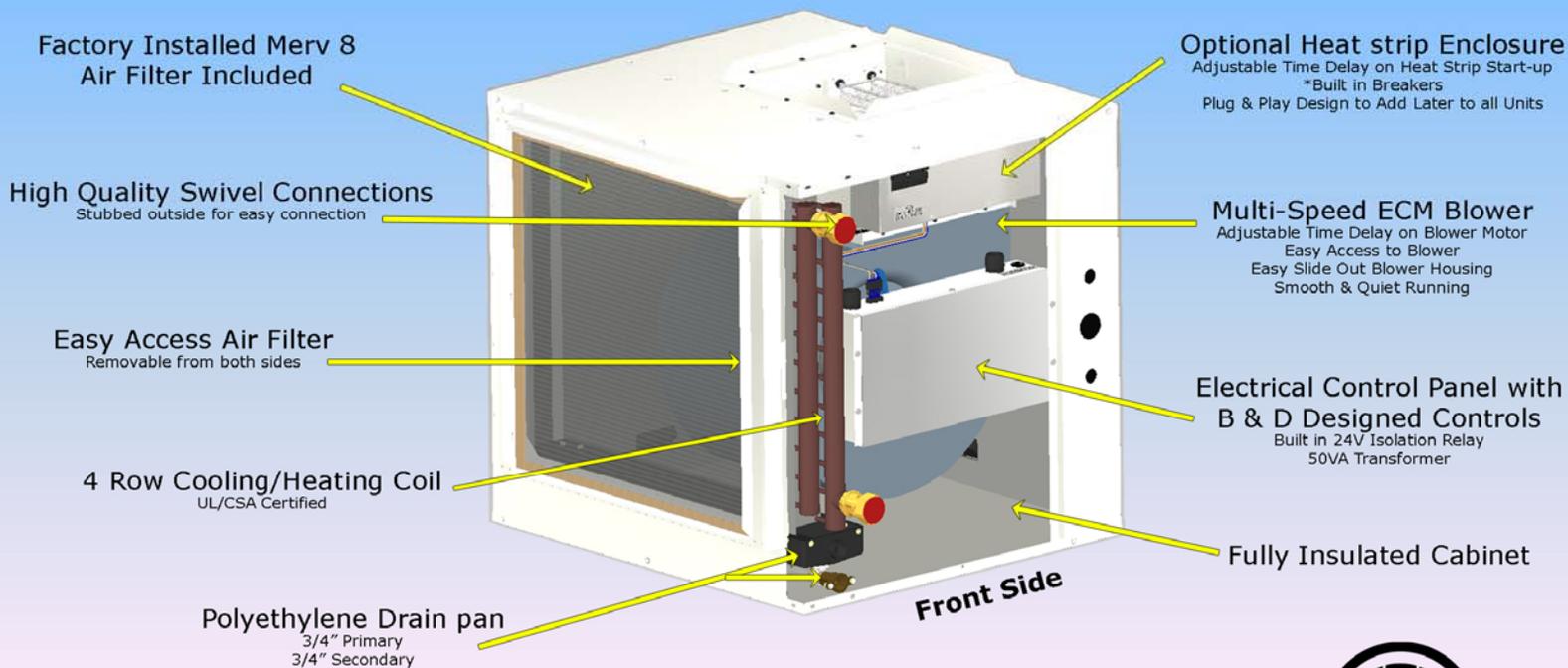
Factory Installed Filter
Merv 8 Air Filter Included
25" x 25" x 1"

Drain Pan Connections
3/4" Primary
3/4" Secondary

- ◆ 3 Ton Electrical Strip Enclosure
 - ◆ Choice of none or 10kw factory installed
- ◆ 4 Ton Electrical Heat Strip Enclosure Options
 - ◆ Choice of none or 10kw, 15kw factory installed
- ◆ 5 Ton Electrical Heat Strip Enclosure Options
 - ◆ Choice of none or 10kw, 15kw factory installed
- ◆ All Electrical Heat Strip Units
 - ◆ Include a circuit breaker disconnect above 5kw
 - ◆ Adjustable time delay on heat strip start-up
 - ◆ Plug & Play Design to add later to all units



AIR HANDLER: FEATURES & BENEFITS



HSS® Air Handler with Left Side Configuration Shown



Other Features

- ◆ ETL Listed
- ◆ 3 Year Warranty on all Components
- ◆ Small compact cabinet with heavy gauge steel and a durable ArmorGuardTM baked on Polyester finish.
- ◆ Polyethylene drain pan that will not rust or corrode with 3/4" primary and 3/4" secondary ports.
- ◆ Emergency electric heat strip of a 5kw, 10kw, or 15kw is factory installed.
*includes a circuit breaker disconnect above 5kw
- ◆ Easy installation to add Electric Back-up Heat Strip to all units ordered without Electric Back-up Heat Strip (Plug & Play Design)
- ◆ The motors are single phase, 240v, permanent magnet, continuous run, brushless ECM, 4 speed, programmed smart motors and are also field adjustable.
- ◆ The 9" (1 ton & 2 ton) 10" (3 ton & 4 ton) and 12" (5 ton) diameter blowers are direct drive, centrifugal and statically and dynamically balanced for smooth, quiet running.

B & D Lab Tested with Time Tested Components for Reliable Performance



ALL THE "PUMP" YOU NEED AND MORE

1-866-646-6724
712-652-3424
www.bdmfginc.com

PURGE CARTS: 1.5 HP, 2 HP

1 1/4" Full Port Ball Valves With 1" Hoses

1 1/4" Full Port Ball Valves With 1 1/4" Hoses

Anti-freeze Flush Drain

2 HP Motor 115V

1.5 HP Motor 115V

Pump 60 gpm @ 68 FT Head

Pump 90 gpm @ 62 FT Head

304SS-1.5
WEIGHT: 192 lbs W/ HOSES

304SS-2
WEIGHT: 196 lbs W/ HOSES

- 13" Flat Free Wheels**
- Pressure Drain**
- 14 gauge Stainless Steel Tank**
- Stainless Steel Piping**
- 2 - 10ft Hoses**

- Gravity Drain**
- 10 Gallon Tank Volume**
- Quick Connect Couplings**
- Lift Out Filter Screen**

Water Tight Switch Box Located on Back of Cart. Flush System is factory mounted to heavy duty cart with mounts on the back for hoses.

PURGE CART ASSESSORIES

Size	Part Number
1" Swivel X 1" Plug	PC55S
1" Swivel X 1 1/4" Plug	PC65S
1 1/4" X 1" Cam Coupling	CAM65



CAM65

PC55S / PC65S



ALL THE "PUMP" YOU NEED AND MORE

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PURGE CARTS: SUBMITTAL DATA



2 Horse Power

Cart Material: Mild Steel
Tank Material: 304L Stainless Steel
Piping: 304 Stainless, Red Brass
Piping Size: 1 1/4"
Valves: Yellow Brass
Valve Size: 1 1/4"
Drain Valves: Stainless (Hose Bib)
Hoses: 150 PSI Rubber Hose
Hose Size: 1 1/4"
Pump: Refer to Add'l Page
Electrical Plug: 20 Amp~115V
Hose Connections: 1 1/4" Cam and Groove
Total Weight: 196 LBS.
Dimensions: H=53" W= 22 1/2"
Tank Volume: 10 Gallons
Filter: In Tank; Stainless Steel Screen
1" Swivel X 1" Plug (PC55S) included (Seen on previous page)

1 1/2 Horse Power

Cart Material: Mild Steel
Tank Material: 304L Stainless Steel
Piping: 304 Stainless, Red Brass
Piping Size: 1 1/4"
Valves: Yellow Brass
Valve Size: 1 1/4"
Drain Valves: Stainless (Hose Bib)
Hoses: 200 PSI Rubber Hose
Hose Size: 1"
Pump: Refer to Add'l Page
Electrical Plug: 20 Amp~115V
Hose Connections: 1" Cam and Groove
Total Weight: 192 LBS.
Dimensions: H=57" W= 22 1/2"
Tank Volume: 10 Gallons
Filter: In Tank; Stainless Steel Screen
1" Swivel X 1-1/4" Plug (PC65S) included (Seen on previous page)
1 1/4" X 1" Cam Coupling (CAM65) included (Seen on previous page)

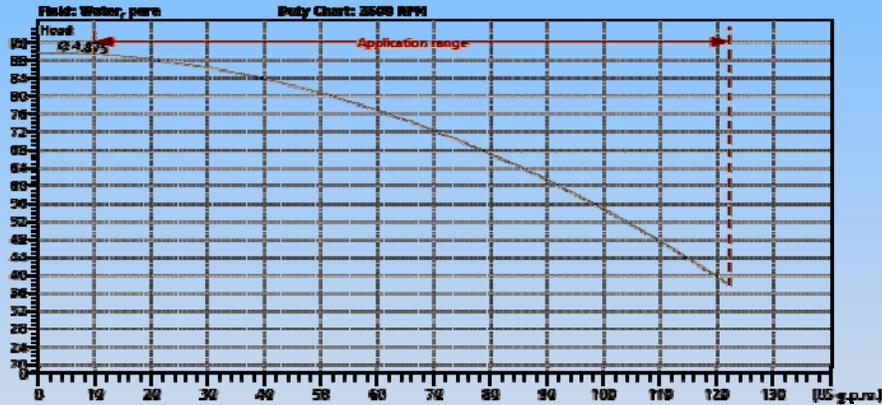
Flush System is factory mounted to heavy duty cart- with mounts on the back for hoses.

Data subject to change



PURGE CARTS: SUBMITTAL DATA

2 Horse Power Motor



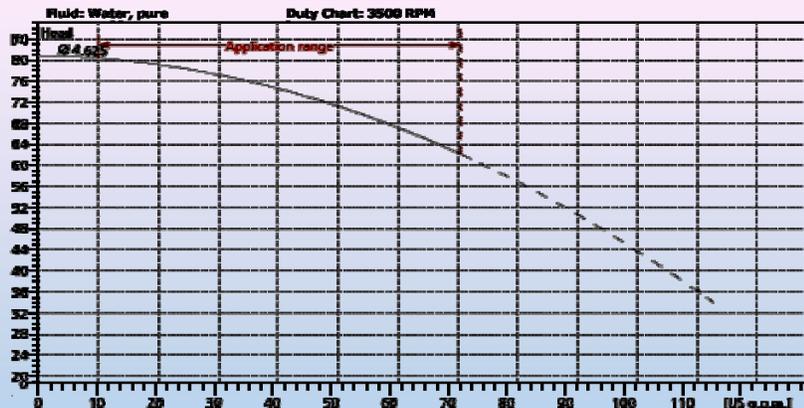
Hydraulic Data					Motor Data		NPE Model	Quantity
Maximum Flow	Flow at Duty Point	Maximum TDH	TDH at Duty Point	NPSH _g	Voltage/Phase/Enclosure			
122 US g.p.m.	0 US g.p.m.	90 ft	0 ft		115V 1Ph TEFC		2ST1G4C4	1

Pump Technical Data

Pump Code: 2ST1G4C4
 System Input Power: 1~115V
 Electrical Enclosures: TEFC
 Impeller Size: 4-7/8"
 Impeller Type: Radial impeller

Max. Temperature: 400°F
 Max. Frequency: 60 HZ
 Motor Standard: NEMA
 Sense of Rotation: Clockwise from the drive end
 Impeller Material: AISI 316 Stainless Steel

1 1/2 Horse Power Motor



Hydraulic Data					Motor Data		NPE Model	Quantity
Maximum Flow	Flow at Duty Point	Maximum TDH	TDH at Duty Point	NPSH _g	Voltage/Phase/Enclosure			
113 US g.p.m.	0 US g.p.m.	81 ft	0 ft		115V 1Ph TEFC		2ST1F4D4	1

Pump Technical Data

Pump Code: 2ST1F4D4
 System Input Power: 1~115V
 Electrical Enclosures: TEFC
 Impeller Type: Radial impeller
 Impeller Construction: Closed

Max. Temperature: 400°F
 Max. Frequency: 60 HZ
 Motor Standard: NEMA
 Impeller Size: 4-5/8"



PUMPS: GRUNDFOS PUMPS & FLANGES, WEBSTONE FLANGES, BELL & GOSSETT PUMPS

Size	Part Number
GRUNDFOS PUMP 115V (COATED) HYDRONIC	G-15-58F
GRUNDFOS PUMP 230V 3 SPEED PUMP 43-100	G-43-100F
GRUNDFOS PUMP-CLOSED SYSTEM MODEL- 115V/3 SPEED	G 1-2699/3
GRUNDFOS PUMP 230V - 2699/ 3 SPEED PUMP	G 3-2699/3
GRUNDFOS PUMP 230V - 116	G2-116F
3/4" GRUNDFOS BRASS FLANGE BALL VALVE W/ HDLE	G591203
1" GRUNDFOS BRASS FLANGE BALL VALVE W/ HDLE	G591204
1 1/4" GRUNDFOS BRASS FLANGE BALL VALVE W/ HDLE	G591205
GRUNDFOS I.V. GASKET	G510231
WEBSTONE BALL VALVE GASKET	G40403
1 1/4" WEBSTONE ISO VALVE W/ HANDLE	G43405
1" PRESS X FLANGE BALL VALVE	G81404HV
1 1/4" PRESS X FLANGE BALL VALVE	G81405HV
1" 3-WAY GEO VALVE 4 SEAT BALL VALVE W/ SWIVEL NUT	G81424HV



G591204

G43405



G81424HV



G81404HV



GRUNDFOS

Size	Part Number
26 SERIES PUMP INSULATORS	G-26-INS

BELL & GOSSETT

Size	Part Number
BELL & GOSSETT NRF36 230V-E-COATED (3 SPEED) - Replacement Only	G-NRF36

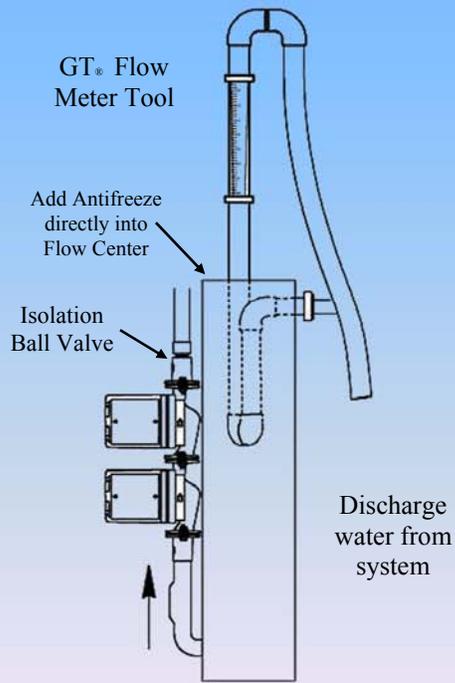


NRF36

Call for availability of other sizes on Commercial and Residential.
1/2 to 5 HP or Larger
Pumps to be used for replacement parts only.



FLOW CENTER ACCESSORIES: FLOWMETER TOOL



1-WFT17-A

Flowmeter Tool & Case

Size	Part Number
FLOW METER TOOL with Case - (17 GAL)	1-WFT17-A
FLOW METER TOOL- (3-30 GAL)	1-WFT30-R
COMMERCIAL FLOW METER TOOL- (40 GAL)	1-WFTC40
FLOW CENTER WRENCH	1-FCW



1-FCW



ACCESSORIES: FLOWMETERS

WF-400N SERIES IN-LINE FLOWMETERS

The F-400N units offer individual, handmade quality, combined with excellent accuracy and repeatability.

F-400N series flowmeters are machined of high quality, acrylic rod stock and carefully polished to a clear-as-glass finish. Easy to read scales are screen printed on the meter body. Adapters are reinforced with *aluminum stress rings for added strength, and O-ring seals are Viton.

WF-452 SERIES FLOWMETERS

The newest addition to our Polysulfone flowmeter line offers excellent accuracy and repeatability and pride-of-workmanship...all at a realistic price!

F-452 units have 2" FPT adapters, Viton O-ring seals, and #316 stainless steel internal parts. Half union connectors couple the meter body to the 2" FPT adapters at each end of the flowmeter.

The F-452 series offers many of the capabilities of glass and metal flowmeters that cost many times more.

F-452 units are available specially equipped for harsh environments.

Calibration

Size	Part Number	GPM	LPM	Adapter Size
WF-400N IN-LINE FLOWMETER	F-40750LN-12	1.0 to 10	4.0 to 38	3/4" FPT
WF-400N IN-LINE FLOWMETER	F-40750LN-16	1.0 to 10	4.0 to 38	1" FPT
WF-400N IN-LINE FLOWMETER	F-41017LN-12	1.0 to 17	...	3/4" FPT
WF-400N IN-LINE FLOWMETER	F-41017LN-16	1.0 to 17	...	1" FPT
WF-400N IN-LINE FLOWMETER	F-41000LN-12	2.0 to 20	8.0 to 78	3/4" FPT
WF-400N IN-LINE FLOWMETER	F-41000LN-16	2.0 to 20	8.0 to 78	1" FPT

Calibration

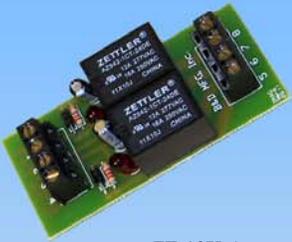
Size	Part Number	GPM	LPM	Adapter Size
WF-452 FLOWMETER	F-452020LH*	2.0 to 20	...	2" FPT
WF-452 FLOWMETER	F-452060LH	6.0 to 60	30 to 230	2" FPT
WF-452 FLOWMETER	F-452080LH*	10 to 80	40 to 300	2" FPT
WF-452 FLOWMETER	F-452100LH	5.0 to 100	20 to 380	2" FPT
WF-452 FLOWMETER	F-452130LH*	15 to 130	60 to 500	2" FPT
WF-452 FLOWMETER	F-452175LH*	20 to 175	...	2" FPT



*Special Size Flowmeters -Special Order.
Call for availability of other sizes.



HSS® SERIES: CONTROLS & ACCESSORIES



ZT-12X-A



WD17535



BC6



2876710



B2-30T



HSS® Control Box



H2-2TC



FUSE



B3-6CR

Size	Part Number
DIGITAL THERMOMETER	WD17535
30 MINUTE ADJUSTABLE DELAY TIMER	B2-30T
HSS®- 6 CIRCUIT CONTROL PRINTED CIRCUIT BOARD	B3-6CR
HSS® CONTROL BOX –CALL FOR CONFIGURATION QUOTE	CALL FOR PRICING
2-STAGE ELECTRONIC TEMPERATURE CONTROLLER	H2-2TC
50VA TRANSFORMER 110V	2876710
3 CIRCUIT, 24V RELAY-1, HP CONTROL	ZT-12X-A
THERMISTOR 6' CABLE	BC6
3 AMP FUSE	740-0551
1 AMP FUSE	740-5189

Call for availability if extra fuses are needed.



ALL THE "PUMP" YOU NEED AND MORE

1-866-646-6724
712-652-3424
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PE ACCESSORIES: MALE PIPE x SWIVEL NUT ADAPTERS, P/T PLUGS, GAUGE



MALE PIPE x SWIVEL NUT ADAPTER



GAUGE, PRESSURE PROBES, PT PLUG

Size	Part Number
3/4" MPT X 1" SWIVEL NUT	MSA45
1" MPT X 1" SWIVEL NUT	MSA55
1" MPT X 1 1/4" SWIVEL NUT	MSA56

Size	Part Number
1/4" MPT P/T PLUG (BRASS)	N76-02
1/2" MPT P/T PLUG (BRASS)	N78-02
1/16" STAINLESS STEEL PRESSURE GAUGE PROBE	GA80-01
1/8" STAINLESS STEEL PRESSURE GAUGE PROBE	GA80-02
1/8" STAINLESS STEEL PRESSURE GAUGE PROBE EXTENDED LENGTH	GA80-03XL
4" PRESSURE GAUGE	WP060
2 1/2" PRESSURE GAUGE, LIQUID FILLED	PGNL25-100-G



PGNL25-100-G

NOTE: Brass fittings are not lead free .

Can be bought individually.
Call for availability of other sizes.



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ACCESSORIES: HOSE KITS

Size	Part Number
3/4" X 1" X 10 FT CLOSED LOOP HOSE KIT	HK-3/4-1-10
3/4" X 1" X 12 FT CLOSED LOOP HOSE KIT	HK-3/4-1-12
1" x 10 FT CLOSED LOOP HOSE KIT	HK-1-10
1" x 12 FT CLOSED LOOP HOSE KIT	HK-1-12
1-1/4" X 12 FT CLOSED LOOP HOSE KIT	HK-1-1/4-12
1" x 1 1/4" x 10 FT CLOSED LOOP HOSE KIT	HK-1-1-1/4-10
1" x 1 1/4" x 12 FT CLOSED LOOP HOSE KIT	HK-1-1-1/4-12

Size	Part Number
1" RUBBER HOSE 200 PSI (PER FT)	WH01-200
1-1/4" RUBBER HOSE 150 PSI (PER FT)	WH0125-150

Size	Part Number
SIZE 20, 3/4" - 1-3/4" CLAMP DIAMETER S.S.	WS13053



Call for availability of other sizes.



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ACCESSORIES: HOSE KITS & PE COMPLETE INSTALLATION KITS

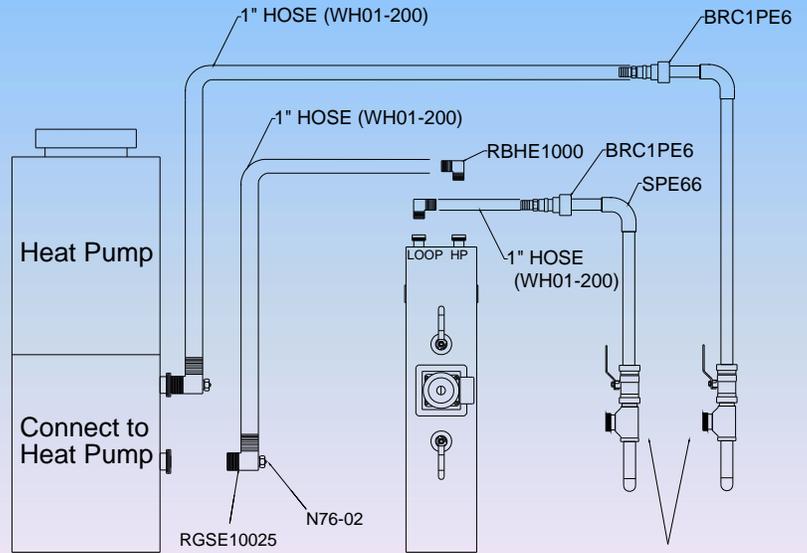


FC-CHK-KIT1-125
PARTS INCLUDED

- (2) PEVT666S (2) SPE66
- (2) RGSE10025 (2) RBHE1000
- (12) WS13053 (2) N76-02
- (2) BRC1PE6 (12 FT) WH01-200

1" Hose Kit Complete Installation Kit

FC-CHK-KIT1-125



USE AS REFERENCE ONLY

PEVT666S
for
Flushing Outside Header

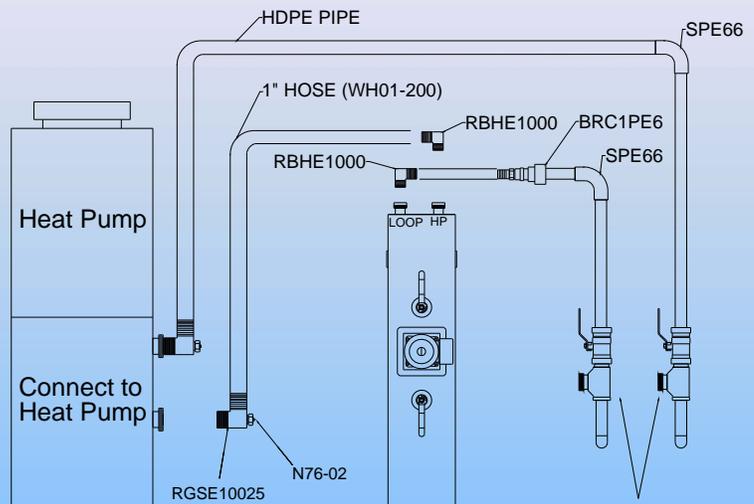


FC-HK-KIT1-125
PARTS INCLUDED

- (2) PEVT666S (6) SPE66
- (1) SPMA65 (1) BRC1PE6
- (2) RGSE10025 (1) RBHE1000
- (8) WS13053 (2) N76-02
- (10 FT) WH01-200

1" Flow Center & Heat Pump Connection
w/ 1 1/4" Supply Return Hose Kit Complete
Install Kit

FC-HK-KIT125



USE AS REFERENCE ONLY

PEVT666S
for
Flushing Outside Header



ACCESSORIES: HOSE KITS & PE COMPLETE INSTALLATION KITS

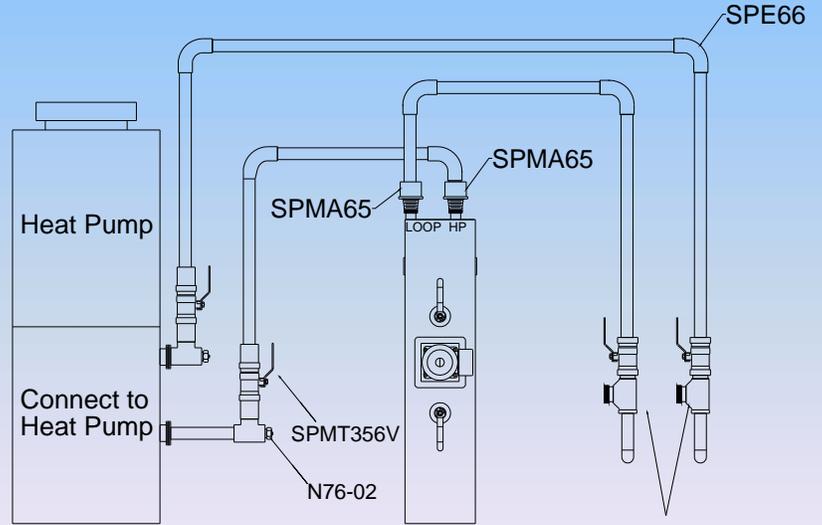
PE COMPLETE INSTALLATION KIT



FC-PE-KIT125
PARTS INCLUDED

- (2) PEVT666S
- (2) SPMA65
- (2) N76-02
- (16) SPE66
- (2) SPMT356V

FC-PE-KIT125 FC-PE-N1125



USE AS REFERENCE ONLY

PEVT666S
for
Flushing Outside Header



ALL THE "PUMP" YOU NEED AND MORE

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ACCESSORIES: BRASS BARB FITTINGS



RGSE



RBCP



RBHE



RBMA / CRBMA



BRC



RBFA100

FPT / MIP X BARB STRAIGHT	Part Number
1" FPT X 1" BARB STRAIGHT ADAPTER	RBFA100
3/4" MIP X 3/4" BARB STRAIGHT ADAPTER	RBMA75
1" MIP X 1" BARB STRAIGHT ADAPTER	CRBMA100
1" MIP X 1 1/4" BARB STRAIGHT ADAPTER	RBMA2510
1 1/4" MIP X 1" BARB STRAIGHT ADAPTER	CRBMA1025
1 1/4" MIP X 1 1/4" BARB STRAIGHT ADAPTER	CRBMA125

BARB X FUSION COUPLING	Part Number
1" BRASS BARB X 3/4" FUSION COUPLING	BRC1PE4
1" BRASS BARB X 1" FUSION COUPLING	BRC1PE5
1" BRASS BARB X 1 1/4" FUSION COUPLING	BRC1PE6
1" BRASS BARB X 1 1/2" FUSION COUPLING	BRC1PE7
1 1/4" BRASS BARB X 1 1/4" FUSION COUPLING	BRC125PE6
1" BRASS BARB X 2" FUSION COUPLING	BRC1PE8

MIP X BARB ELBOW W/PT PORT	Part Number
3/4" MIP X 1" BARB ELBOW W/PT PORT	RGSE10725
1" MIP X 1" BARB ELBOW W/PT PORT	RGSE10025
1 1/4" MIP X 1 1/4" BARB ELBOW W/ PT PORT	RGSE12525

BARB X BARB	Part Number
3/4" INSERT X 1" INSERT BRASS	RBCP7510
1" INSERT X 1" INSERT BRASS	RBCP100
1" INSERT X 1 1/4" INSERT BRASS	RBCP1025
1 1/4" INSERT X 1 1/4" INSERT BRASS	RBCP125

MIP X BARB ELBOW	Part Number
3/4" MIP X 1" BARB ELBOW	RBHE100
1" MIP X 1" BARB ELBOW	RBHE1000
1" MIP X 1 1/4" BARB ELBOW	RBHE1025
1 1/4" MIP X 1 1/4" BARB ELBOW	RBHE125

NOTE: Brass fittings are not lead free .

Call for availability of other sizes.



ACCESSORIES: GLYCOL TESTER, REGULATOR VALVE

MISCO 7084

Glycol Tester

Automatically Temperature Compensated —
Now Measure Antifreeze to 70% (-84 °F)

Checks Both Old & New Antifreeze Formulas —

You can also check other Ethylene and Propylene Glycol-based fluids, like aircraft de-icing fluids.

New Battery Scale —

You can now accurately test Specific Gravity from 1.095 to 1.400. The battery scale is also temperature corrected.

Temperature Compensation Is Automatic —

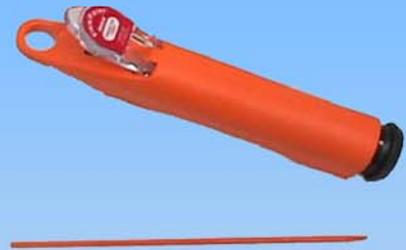
Temperature is automatically corrected when testing hot or cold fluids. No time wasted with temperature conversion tables and nothing to adjust or calibrate. Get correct reading immediately.

Rugged & Reliable —

Heavy vinyl encased body is built to withstand years of wear and tear — no glass tubes to shatter, no joints to leak, no moving parts or batteries.

Accurate —

Measures the refractive index of the antifreeze. This method is proven to be the most accurate of all conventional testing methods. Accurate readings will save antifreeze and extend the life of your engine and water pump.



Size	Part Number
GLYCOL TESTER	GT7084

- Eyepiece
- Dip Stick
- Syringe to Draw Fluids
- Hole for Wall Hanging
- High-Impact Housing
- ViewPoint^R Illuminator



- 3/4" FNPT - Inlet/Outlet
- 1.0 to 11.5 GPM
- 8 oz. Net Weight

Size	Part Number
2 GAL. B. F. REGULATOR VALVE	WGC2F
3 GAL. B. F. REGULATOR VALVE	WGC3F
4 GAL. B. F. REGULATOR VALVE	WGC4F
5 GAL. B. F. REGULATOR VALVE	WGC5F
6 GAL. B. F. REGULATOR VALVE	WGC6F
7 GAL. B. F. REGULATOR VALVE	WGC7F
8 GAL. B. F. REGULATOR VALVE	WGC8F
9 GAL. B. F. REGULATOR VALVE	WGC9F
10 GAL. B. F. REGULATOR VALVE	WGC10F
11.5 GAL. B. F. REGULATOR VALVE	WGC11.5F
20 GAL. B. F. REGULATOR VALVE	WGC20F



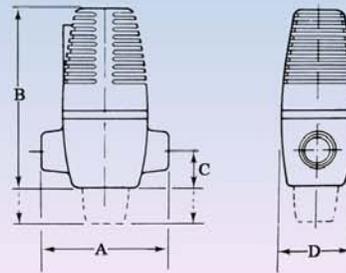
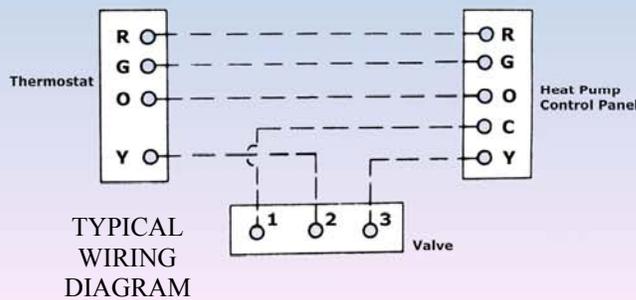
ACCESSORIES: GEOTHERMAL VALVES

Bronze body and corrosion resistant internal parts provide for long, trouble-free service.

Created especially to eliminate noisy water hammer. The Taco GT Whisper Guard operates in a totally different way from fast-acting solenoids. How? Because it closes slowly and no water hammer occurs. The unique end-switch design permits control of the heat pump by the valve. This allows movement of cold water into the coil before the heat pump actually starts. Taco GT Whisper Guard is available with: 3/4" thread (5101-G2) and 1" sweat (557-G2).

Offers long-term economy both in power consumption and maintenance. Taco Whisper Guard operates on a low 24V AC electrical current for minimum annual cost. It's fast and easy to service, too. There's no need to drain the system — just remove the power head. All it requires for removal is a slight twist. The gland assembly is replaceable.

Simple to install — with a choice of threaded or sweat connections. Installation is made easy because the power head does not have to be removed. Only 3 low-voltage wiring connections have to be made.



DIMENSIONS IN INCHES

Size	Part Number	A	B	C	D	Weight
3/4" Thread	T5101G2	3 3/8"	5 3/8"	1 9/16"	2	2 1/4
1" Sweat	T557G3	3 5/8"	5 3/8"	1 9/16"	2	2 1/2

Size	Part Number	Normal Flow Range, GPM	Press Drop Thru-Valve Ft. of Pipe Equiv.	Pump Head Ft. of Water	Maximum Work Press., PSI	Oper. Temp. Range, °F	AMP Rating	Volts Frequency
3/4" Thread	T5101G2	4 1/2 TO 6	20	150	125	40 TO 240	0.9	24V-60 Hz
1" Sweat	T557G3	6 TO 10	60	150	125	40 TO 240	0.9	24V-60 Hz

*For detailed specification data, write for Taco Submittal Data Sheet SD100-4.4.



Size	Part Number
3/4" Geothermal Head For Valve	T555-173RP

Call for availability of other sizes.



ALL THE "PUMP" YOU NEED AND MORE

ACCESSORIES: PLASTIC SOLENOID VALVE, ZONE SENTRY VALVE

Electric Globe (Light Commercial)

Applications

The debris-tolerant operation of the 205 Series valves makes them an excellent choice for both clean and dirty water applications.

Size 1” plastic models

Performance

- Flow range from 5-25 GPM
- Pressure range from 10-150 psi
- Manual external bleed
- Debris-tolerant design
- High-flow, low friction loss design
- Optional flow control allows precise flow adjustment and manual shutoff

Quality Construction

- Heavy-duty, corrosion and UV-resistant PVC construction
- Stainless steel and fabric-reinforced synthetic rubber diaphragm
- Encapsulated solenoid
- Available in NPT or slip configuration for high-volume applications
- Removable, tamper-resistant flow control handle
- Easily serviced without removal from the system
- 1 year limited warranty



Size	Part Number
SOLENOID VALVE	205TF

ELECTRICAL SPECIFICATIONS

- Solenoid: 24 VAC
- Inrush volt-amp: 24 VAC-11.50 VA
- Inrush current: .4 amp
- Holding volt-amp: 24 VAC-5.75 VA
- Holding current: .2 amp

Zone Sentry® Zone Valve Zone Valves with Multi-function LED

The Taco Zone Sentry® Zone Valves Zone Valves provide on-off, normally open or normally closed control in both open and closed hydronic systems. The valves can be used in a wide variety of heating and non condensing cooling applications, primarily designed for use with baseboard, fan coils, radiators, convectors, air handlers, heat pumps and radiant applications.

Features

- Uses up to 93% less energy than other commonly installed zone valves
- Up to 12 valves on (1) 40VA transformer
- Multi function LED assists with troubleshooting
- Bidirectional flow (you can't install the valve backwards)
- The actuator mounts on the valve in either direction
- 125 PSI shut-off pressure with industry leading Cv's
- Quick release actuator mounting clip
- Manual override button
- Positional indicator shows the ball valve's actual position

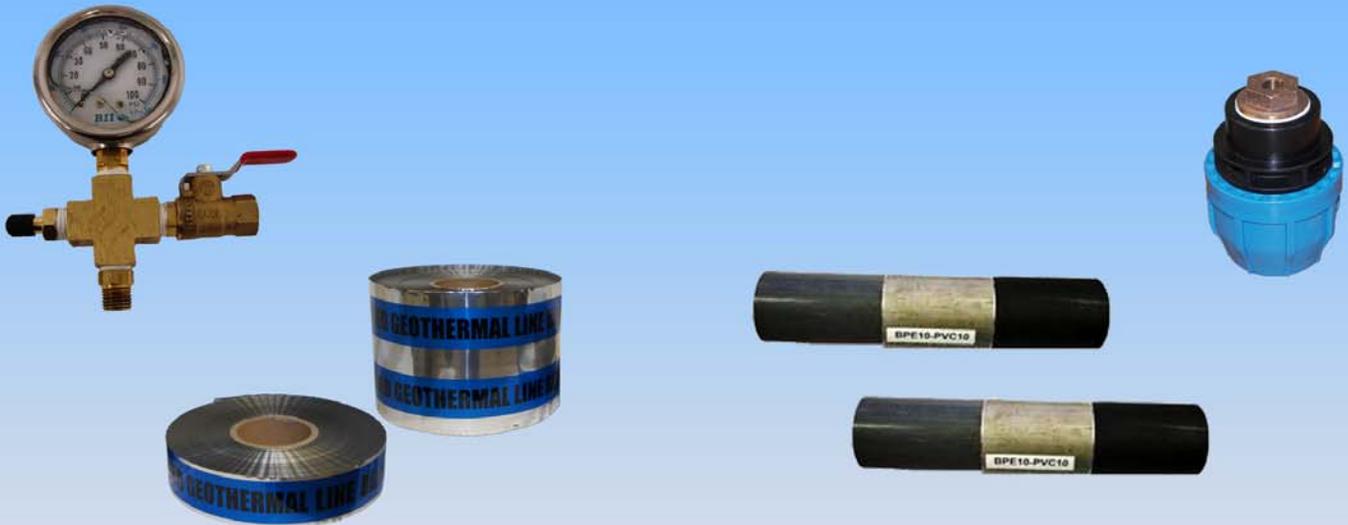


Size	Part Number
Zone Sentry Valve 1” NPT 2-Way 24V	Z100AAT2
Zone Sentry Valve 3/4” NPT 2-Way 24V	Z075T2-1
Geo-Sentry Geothermal Zone Valve 3/4” NPT 2-Way 24V	V075TG-1

Specifications available upon request



ACCESSORIES: TEST CAPS, DETECTABLE TAPE, TRANSITION FITTINGS, TEST KIT



Size	Part Number
TEST CAP W/ 3/4" X 1/4" FPT	ELO-42-TC
TEST CAP W/ 1" X 1/4" FPT	ELO-52-TC
TEST CAP 1 1/4" X 1/4" FPT	ELO-62-TC
TEST CAP 1 1/2" X 1/4" FPT	ELO-72-TC
TEST CAP 2" X 1/4" FPT	ELO-82-TC
2" X 1000 FT UNDERGROUND DETECTABLE TAPE	UGDT1000-2
2" X 1000 FT UNDERGROUND DETECTABLE TAPE (12 Case)	UGDT1000-2-12C
3" X 1000 FT UNDERGROUND DETECTABLE TAPE	UGDT1000-3
3" X 1000 FT UNDERGROUND DETECTABLE TAPE (6 Case)	UGDT1000-3-6C
6" X 1000 FT UNDERGROUND DETECTABLE TAPE	UGDT1000-6
6" X 1000 FT UNDERGROUND DETECTABLE TAPE (4 Case)	UGDT1000-6-4C
3/4" SDR11 B FUSION X 3/4" SCH 80 PVC TRANSITION	BPE4-PVC4
1" SDR11 B FUSION X 1" SCH 80 PVC TRANSITION	BPE5-PVC5
1 1/4" SDR11 B FUSION X 1 1/4" SCH 80 PVC TRANSITION	BPE6-PVC6
1 1/2" SDR11 B FUSION X 1 1/4" SCH 80 PVC TRANSITION	BPE7-PVC7
2" SDR11 B FUSION X 2" SCH 80 PVC TRANSITION	BPE8-PVC8
3" SDR11 B FUSION X 3" SCH 80 PVC TRANSITION	BPE10-PVC10
4" SDR11 B FUSION X 4" SCH 80 PVC TRANSITION	BPE11-PVC11
TEST KIT W/GAUGE, VALVE, HOSE HOOKUP	KIT-AGV

****Refer to page 82 for more Test Cap Options****

* Non-Stock Item-Call for Availability.
Call for availability of other sizes.



PIPE ACCESSORIES: POLY-ROLLER

Handle Polyethylene Pipes and Tubing in a neat, Orderly Manner with the Poly-Roller.

- ◇ Keeps product clean to work with...No disorderly lashing and unrolling.
- ◇ Lightweight—yet well constructed.
- ◇ Capacity up to two 700-foot rolls of 3/4-inch pipe... Adjustable to handle larger or smaller diameter rolls of pipe.
- ◇ Accommodates pipe up to 1 1/4-inch in diameter.
- ◇ Earth-coupled heating and cooling systems.
- ◇ Installing poly-pipe for sprinkling systems.
- ◇ Installing poly-pipe water lines.
- ◇ Poly-pipe conduits for electrical or fiber optics.
- ◇ Display dispensing of poly-pipe and tubing.
- ◇ Dispensing miscellaneous cables and ropes.
- ◇ Excellent for installing radiant heating systems in floors.
- ◇ Vertical guide to ensure orderly unrolling optional.
- ◇ On single roll, pipe is held in a stationary position by upright tubes...tubes are anchored by spring tension.
- ◇ Two-roll application doubles capacity and availability of product...This is particularly convenient when preparing loops for earth coupled heating and cooling systems.
- ◇ Basic unit weighs approximately 30 lbs.
- ◇ Unassembled size: 42 x 42 x 10 inches.
- ◇ Assembly requires only the four thumb screws provided & four bolts.



Size	Part Number
POLY-ROLLER	WPR

For Residential or Commercial Polyethylene Pipe.



POLYETHYLENE PIPE: 20 FT LENGTHS

Size	Part Number
3/4" P.E. STRAIGHT 20 FT LENGTHS-PE4710, SDR11	6-075020
1" P.E. STRAIGHT 20 FT LENGTHS -PE4710, SDR11	6-100020
1-1/4" P.E. STRAIGHT 20 FT LENGTHS-PE4710, SDR11	6-125020
1-1/2" P.E. STRAIGHT 20 FT LENGTHS-PE4710, SDR11	6-150020
2" P.E. STRAIGHT 20 FT LENGTHS-PE4710, SDR11	6-200020
3" P.E. STRAIGHT 20 FT LENGTHS-PE4710, SDR11	6-300020
4" P.E. STRAIGHT 20 FT LENGTHS-PE4710, SDR11	6-400020
6" P.E. STRAIGHT 20 FT LENGTHS-PE4710, SDR11	6-600020



Call for availability of other sizes.
 Certain sizes special order.



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POLYETHYLENE PIPE: COILS

Size	Part Number
3/4" X 100 FT. P.E. COILS -PE4710, SDR11	6-0750100
3/4" X 200 FT. P.E. COILS -PE4710, SDR11	6-0750200
3/4" X 300 FT. COILS-PE4710, SDR11	6-0750300
3/4" X 500 FT. COILS-PE4710, SDR11	6-0750500
3/4" X 600 FT. COILS-PE4710, SDR11	6-0750600
3/4" X 700 FT. P.E. COILS -PE4710, SDR11	6-0750700
3/4" X 800 FT. COILS-PE4710, SDR11	6-0750800
3/4" X 1000 FT. COILS-PE4710, SDR11	6-07501000



Size	Part Number
1" X 100 FT. P.E. COILS -PE4710, SDR11	6-100100
1" X 300 FT. COILS-PE4710, SDR11	6-100300
1" X 500 FT. COILS-PE4710, SDR11	6-100500

Size	Part Number
3" X 300 FT. P.E. COILS -PE4710, SDR11	6-300300

Size	Part Number
1 1/4" X 100 FT. COILS-PE4710, SDR11	6-125100
1 1/4" X 200 FT. COILS-PE4710, SDR11	6-125200
1 1/4" X 300 FT. COILS-PE4710, SDR11	6-125300
1 1/4" X 500 FT. COILS-PE4710, SDR11	6-125500

Size	Part Number
4" X 300 FT. P.E. COILS -PE4710, SDR11	6-400300

Size	Part Number
1 1/2" X 100 FT. COILS-PE4710, SDR11	6-150100
1 1/2" X 200 FT. COILS-PE4710, SDR11	6-150200
1 1/2" X 300 FT. COILS-PE4710, SDR11	6-150300

Size	Part Number
2" X 100 FT. COILS-PE4710, SDR11	6-200100
2" X 200 FT. COILS-PE4710, SDR11	6-200200
2" X 300 FT. COILS-PE4710, SDR11	6-200300

Call for availability of other sizes.
Certain sizes special order.



POLYETHYLENE PIPE: U-BEND COILS SDR11



Size	Part Number
3/4" X 2-155 FT COILS-PE4710,SDR11 U-BEND COILS	6-075U310
3/4" X 2-175 FT COILS--PE4710,SDR11 U-BEND COILS	6-075U350
3/4" X 2-205 FT COILS--PE4710,SDR11 U-BEND COILS	6-075U410
3/4" X 2-205 FT COILS-PE4710,SDR11 U-BEND COILS REVERSE	6-075U410-R
3/4" X 2-255 FT COILS--PE4710,SDR11 U-BEND COILS	6-075U510
3/4" X 2-255 FT COILS--PE4710,SDR11 U-BEND COILS REVERSE	6-075U510-R

Size	Part Number
1" X 2-205 FT COILS--PE4710,SDR11 U-BEND COILS	6-100U410
1" X 2-255 FT COILS--PE4710,SDR11 U-BEND COILS	6-100U510
1" X 2-305 FT COILS-PE4710,SDR11 U-BEND COILS	6-100U610

Call for availability of other sizes.
 Certain sizes special order.



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SOCKET FITTINGS: COUPLINGS

Size	Part Number
3/4" x 3/4"	SPC44
1" X 3/4"	SPC54
1" X 1"	SPC55
1 1/4" X 3/4"	SPC64
1 1/4" X 1"	SPC65
1 1/4" X 1 1/4" (Slim Line)	SPC66SL
1 1/4" X 1 1/4"	SPC66
1 1/2" X 3/4"	SPC74
1 1/2" X 1"	SPC75
1 1/2" X 1 1/4"	SPC76
1 1/2" X 1 1/2"	SPC77
2" X 3/4" (FAB)	SPC84
2" X 1"	SPC85
2" X 1 1/4"	SPC86
2" X 1 1/2"	SPC87
2" X 2"	SPC88
2" X 2" (Slim Line)	SPC88-SL
2" X 2" (Heavy Duty)	SPC88-HD
3" X 3"	SPC1010



SPC88-HD



Slim Line

NEED A SPECIAL SIZE?
FABRICATED SIZES AVAILABLE!
CALL YOUR SALESMAN, TODAY!



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SOCKET FITTINGS: ELBOWS

FUSION ELBOWS (FUSION X FUSION)

Size	Part Number
3/4" x 3/4"	SPE44
1" X 3/4"	SPE54
1" X 1"	SPE55
1 1/4" X 3/4"	SPE64
1 1/4" X 1"	SPE65
1 1/4" X 1 1/4"	SPE66
1 1/2" X 1 1/2"	SPE77
2" X 1 1/4"	SPE86
2" X 2"	SPE88



FUSION 45° ELBOWS (FABRICATED)

Size	Part Number
1 1/2" X 1 1/2" - 45° ELBOW (FAB)	SPE77-45



FUSION 45° ELBOW MOLDED

Size	Part Number
1" X 1" - 45° ELBOW	SPE55-45
1 1/4" X 1 1/4" - 45° ELBOW	SPE66-45
2" X 2" - 45° ELBOW	SPE88-45



FUSION ELBOWS (SLIM LINE)

Size	Part Number
1 1/4" X 1 1/4" (SLIM LINE)	SPE66SL



NEED A SPECIAL SIZE?
FABRICATED SIZES AVAILABLE!
CALL YOUR SALESMAN, TODAY!

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SOCKET FITTINGS: TEES

Size	Part Number
3/4" x 3/4" X 3/4"	SPT444
1" X 1" X 3/4"	SPT554
1" X 1" X 1"	SPT555
1 1/4" X 3/4" X 3/4"	SPT644
1 1/4" X 1" X 1"	SPT655
1 1/4" X 1 1/4" X 3/4"	SPT664
1 1/4" X 1 1/4" X 1"	SPT665
1 1/4" X 1 1/4" X 1 1/4"	SPT666
1 1/2" X 3/4" X 3/4"	SPT744
1 1/2" X 1" X 1"	SPT755
1 1/2" X 1" X 1 1/4"	SPT756
1 1/2" X 1" X 1 1/2"	SPT757
1 1/2" X 1 1/4" X 3/4"	SPT764
1 1/2" X 1 1/4" X 1"	SPT765
1 1/2" X 1 1/4" X 1 1/4"	SPT766
1 1/2" X 1 1/2" X 3/4"	SPT774
1 1/2" X 1 1/2" X 1"	SPT775
1 1/2" X 1 1/2" X 1 1/4"	SPT776



Size	Part Number
1 1/2" X 1 1/2" X 1 1/2"	SPT777
2" X 1 1/4" X 3/4"	SPT864
2" X 1 1/4" X 1"	SPT865
2" X 1 1/4" X 1 1/4"	SPT866
2" X 1 1/2" X 3/4"	SPT874
2" X 1 1/2" X 1"	SPT875
2" X 1 1/2" X 1 1/4"	SPT876
2" X 2" X 3/4"	SPT884
2" X 2" X 1"	SPT885
2" X 2" X 1 1/4"	SPT886
2" X 2" X 2"	SPT888



ALL THE "PUMP" YOU NEED AND MORE

NEED A SPECIAL SIZE?
FABRICATED SIZES AVAILABLE!
CALL YOUR SALESMAN, TODAY!

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**SOCKET FITTINGS: FUSION END CAPS,
SOCKET FUSION REDUCERS**

Size	Part Number
3/4" SOCKET FUSION CAP	SPCP4
1" SOCKET FUSION CAP	SPCP5
1 1/4" SOCKET FUSION CAP	SPCP6
1 1/2" SOCKET FUSION CAP	SPCP7
2" SOCKET FUSION CAP	SPCP8



Size	Part Number
1 1/4" X 3/4" SOCKET FUSION BUSHING	SPRB64
1 1/4" X 1" SOCKET FUSION BUSHING	SPRB65
1 1/2" X 3/4" SOCKET FUSION BUSHING	SPRB74
1 1/2" X 1" SOCKET FUSION BUSHING	SPRB75
1 1/2" X 1 1/4" SOCKET FUSION BUSHING	SPRB76
2" X 3/4" SOCKET FUSION BUSHING	SPRB84
2" X 1" SOCKET FUSION BUSHING	SPRB85
2" X 1 1/4" SOCKET FUSION BUSHING	SPRB86
2" X 1 1/2" SOCKET FUSION BUSHING	SPRB87



NEED A SPECIAL SIZE?
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**PE FUSION FITTINGS: FUSION U-DO ELBOW,
FUSION U-BEND ASSEMBLY**



Fusion U-Bend

SPEU-66M



Size	Part Number
3/4" U-BEND ASSEMBLY	SFUB4
3/4" U-BEND WITH COUPLING	SFUB4C
1" U-BEND ASSEMBLY	SFUB5
1" U-BEND WITH COUPLING	SFUB5C
1 1/4" FUSION U-BEND	SFUB6
1 1/4" U-BEND WITH COUPLING	SFUB6C

Size	Part Number
USE W/ SPE44 (U-DO 3/4" U-BEND)	SPEU44
USE W/ SPE55 (U-DO 1" U-BEND)	SPEU55
USE W/ SPEU-66M (U-DO 1 1/4" U-BEND)	SPEU-66F
USE W/ SPEU-66F (U-DO 1 1/4" U-BEND)	SPEU-66M



SPEU-66F



NEED A SPECIAL SIZE?
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**PE FUSION FITTINGS: MALE ADAPTERS,
BRASS FEMALE ADAPTERS**

NUPI

Size	Part Number
3/4" FUSION X 3/4" MALE ADAPTER	SPMA44
1" FUSION X 3/4" MALE ADAPTER	SPMA54
1" FUSION X 1" MALE ADAPTER	SPMA55
1 1/4" FUSION X 3/4" MALE ADAPTER	SPMA64
1 1/4" FUSION X 1" MALE ADAPTER	SPMA65
1 1/4" FUSION X 1 1/4" MALE ADAPTER	SPMA66
1 1/2" FUSION X 1 1/2" MALE ADAPTER	SPMA77
2" FUSION X 2" MALE ADAPTER	SPMA88



NUPI

Size	Part Number
3/4" X 3/4" FUSION COUPLING FEMALE ADAPTER	SPFA44
1" X 3/4" FUSION COUPLING FEMALE ADAPTER	SPFA54
1" X 1" FUSION COUPLING FEMALE ADAPTER	SPFA55
1 1/4" X 3/4" FUSION COUPLING FEMALE ADAPTER	SPFA64
1 1/4" X 1" FUSION COUPLING FEMALE ADAPTER	SPFA65
1 1/4" X 1 1/4" FUSION COUPLING FEMALE ADAPTER	SPFA66
1 1/2" X 1 1/2" FUSION COUPLING FEMALE ADAPTER	SPFA77
2" X 1 1/2" FUSION COUPLING FEMALE ADAPTER	SPFA87
2" X 2" FUSION COUPLING FEMALE ADAPTER	SPFA88



NOTE: Brass fittings are not lead free

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PE FUSION FITTINGS: MALE THREADED TEE, TEE W/ F. ADAPTER, COUPLING W/ F. ADAPTER



SPMT



SPST



SPSC

Size	Part Number
1/2" FPT X 1" MNT X 1" SKT	SPMT355
3/4" X 1" FUSION MPT H.P. TEE	SPMT453
1" X 1" FUSION MPT H.P. TEE	SPMT553
1 1/4" SOC X 1" SOC X 1" MNT - W/CAP	SPMT555
1 1/4" SOC X 1 1/4" SOC X 1" MNT - W/CAP	SPMT665S
3/4" X 3/4" X 1/2" FUSION X FPT	SPST443
1" X 1" X 1/2" FUSION X FPT	SPST553
3/4" X 1/4" FUSION COUPLING FEMALE ADAPTER	SPSC42
3/4" X 1/2" FUSION COUPLING FEMALE ADAPTER	SPSC43
1" X 1/4" FUSION COUPLING FEMALE ADAPTER	SPSC52
1" X 1/2" FUSION COUPLING FEMALE ADAPTER	SPSC53
1" X 3/4" FUSION COUPLING FEMALE ADAPTER	SPSC54

Size	Part Number
1" FUSION ELBOW X 1" MALE ADAPTER	SPE-MA55
1 1/4" FUSION ELBOW X 1 1/4" MALE ADAPTER	SPE-MA66



NOTE: Brass fittings are not lead free



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PE FUSION FITTINGS: MALE THREADED ELBOW, FUSION BALL VALVE



SPME



SPEV66C



BPEV66

Size	Part Number
3/4" X 1" FUSION M.T. ELBOW	SPME45S
1" X 1" FUSION M.T. ELBOW	SPME55S
1" VALVE ASSEMBLY WITH P.E. PIPE.	BPEV55
1 1/4" VALVE ASSEMBLY WITH P.E. PIPE.	BPEV66
1" FUSION BALL VALVE W/ 3/4" COUPLING	SPEV54C
1" FUSION BALL VALVE W/COUPLING	SPEV55C
1 1/4" FUSION BALL VALVE W/COUPLING	SPEV66C

Size	Part Number
3/4"X 1" FUSION MNT COUPLING	SPMC45S
1"X 1" FUSION MNT COUPLING	SPMC55S
1 1/4" FUSION X 1 1/4" MNT COUPLING	SPMC66S



NOTE: Brass fittings are not lead free

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ACCESSORIES: P.E. FLUSH VALVES



PEVT566S



SPMT665S



PEVT666S



PE2VT666S



HEAT PUMP CONNECTION



PEVTM566S / PEVTM666S

Size	Part Number
P.E. 1" MALE FLUSH TEE STRAIGHT 1 1/4"x 1 1/4" FUSION	PEVTM566S
P.E. 1 1/4" MALE FLUSH TEE STRAIGHT 1 1/4"x 1 1/4" FUSION	PEVTM666S
P.E. FLOW CENTER FLUSH TEE STRAIGHT 1" x 1 1/4" FUSION	PEVT566S
P.E. STRAIGHT VALVED FLUSH TEE 1 1/4" x 1 1/4" FUSION	PEVT666S
PE STRAIGHT 2 VALVED FLUSH TEE 1" FEMALE	PE2VT665F
PE STRAIGHT 2 VALVED FLUSH TEE 1" MALE	PE2VT665M
P.E. STRAIGHT 2 VALVED FLUSH TEE 1 1/4" x 1 1/4"	PE2VT666S
1-1/4" SOC X 1" SOC X 1" MNT FUSION TEE - W/CAP	SPMT555
1-1/4" SOC X 1-1/4" SOC X 1" MNT FUSION TEE - W/CAP	SPMT665S
1" HEAT PUMP CONNECTION ASSEMBLY W/ PT PORT X 1" FUSION	SPMT355V
1" HEAT PUMP CONNECTION ASSEMBLY W/ PT PORT X 1-1/4" FUSION	SPMT356V
1-1/4" HEAT PUMP CONNECTION ASSEMBLY W/ PT X 1-1/4" FUSION	SPMT366V
1" PE BY-PASS ASSEMBLY W/ FLUSH PORTS	BPVA5
1 1/4" PE BY-PASS ASSEMBLY W/ FLUSH PORTS	BPVA6
2" PE BY-PASS ASSEMBLY W/ FLUSH PORTS	BPVA8



BPVA

10" CENTER TO CENTER

NOTE: Brass fittings are not lead free



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SOCKET FITTINGS: PARALLEL HEADERS

Size	Part Number
1-1/4" INLET X (3) 3/4" OUTLETS	SK644K02
1-1/4" INLET X (4) 3/4" OUTLETS	SK644K03
1-1/4" INLET X (5) 3/4" OUTLETS	SK644K04
1-1/4" INLET X (6) 3/4" OUTLETS	SK644K05
1-1/4" INLET X (7) 3/4" OUTLETS	SK644K06
1-1/4" INLET X (8) 3/4" OUTLETS	SK644K07

Size	Part Number
1-1/4" INLET X (3) 1" OUTLETS	SK655K02
1-1/4" INLET X (4) 1" OUTLETS	SK655K03
1-1/4" INLET X (5) 1" OUTLETS	SK655K04
1-1/4" INLET X (6) 1" OUTLETS	SK655K05
1-1/4" INLET X (7) 1" OUTLETS	SK655K06

Size	Part Number
1-1/2" INLET X (4) 3/4" OUTLETS	SK744K03
1-1/2" INLET X (5) 3/4" OUTLETS	SK744K04
1-1/2" INLET X (6) 3/4" OUTLETS	SK744K05
1-1/2" INLET X (7) 3/4" OUTLETS	SK744K06
1-1/2" INLET X (8) 3/4" OUTLETS	SK744K07

Size	Part Number
1-1/2" INLET X (3) 1" OUTLETS	SK755K02
1-1/2" INLET X (4) 1" OUTLETS	SK755K03
1-1/2" INLET X (5) 1" OUTLETS	SK755K04
1-1/2" INLET X (6) 1" OUTLETS	SK755K05
1-1/2" INLET X (7) 1" OUTLETS	SK755K06



PARALLEL HEADERS ARE SOLD INDIVIDUALLY , NOT AS A PAIR.

Size	Part Number
2" INLET X (5) 3/4" OUTLETS	SK844K04
2" INLET X (6) 3/4" OUTLETS	SK844K05
2" INLET X (7) 3/4" OUTLETS	SK844K06
2" INLET X (8) 3/4" OUTLETS	SK844K07
2" INLET X (9) 3/4" OUTLETS	SK844K08
2" INLET X (10) 3/4" OUTLETS	SK844K09
2" INLET X (11) 3/4" OUTLETS	SK844K010
2" INLET X (12) 3/4" OUTLETS	SK844K011

Size	Part Number
2" INLET X (3) 1" OUTLETS	SK855K02
2" INLET X (4) 1" OUTLETS	SK855K03
2" INLET X (5) 1" OUTLETS	SK855K04
2" INLET X (6) 1" OUTLETS	SK855K05
2" INLET X (7) 1" OUTLETS	SK855K06
2" INLET X (8) 1" OUTLETS	SK855K07
2" INLET X (9) 1" OUTLETS	SK855K08
2" INLET X (10) 1" OUTLETS	SK855K09



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SOCKET FITTINGS: ALT 180 HEADER

Size	Part Number
1-1/4" INLET X (3) 3/4" OUTLETS	SK644K02H
1-1/4" INLET X (4) 3/4" OUTLETS	SK644K03H
1-1/4" INLET X (5) 3/4" OUTLETS	SK644K04H
1-1/4" INLET X (6) 3/4" OUTLETS	SK644K05H
1-1/4" INLET X (7) 3/4" OUTLETS	SK644K06H



ALT 180 HEADERS ARE SOLD INDIVIDUALLY , NOT AS A PAIR.

Size	Part Number
1-1/4" INLET X (3) 1" OUTLETS	SK655K02H
1-1/4" INLET X (4) 1" OUTLETS	SK655K03H
1-1/4" INLET X (5) 1" OUTLETS	SK655K04H
1-1/4" INLET X (6) 1" OUTLETS	SK655K05H
1-1/4" INLET X (7) 1" OUTLETS	SK655K06H

Size	Part Number
2" INLET X (8) 3/4" OUTLETS	SK844K07H
2" INLET X (9) 3/4" OUTLETS	SK844K08H
2" INLET X (10) 3/4" OUTLETS	SK844K09H
2" INLET X (11) 3/4" OUTLETS	SK844K010H
2" INLET X (12) 3/4" OUTLETS	SK844K011H

Size	Part Number
2" INLET X (8) 1" OUTLETS	SK855K07H
2" INLET X (9) 1" OUTLETS	SK855K08H
2" INLET X (10) 1" OUTLETS	SK855K09H

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**SOCKET FITTINGS: COMPLETE HEADER
INSTALLATION KITS**



**FC-LK-3TON
PARTS INCLUDED**

(2) SK644K02 (6) SPE66



**FC-LK-4TON
PARTS INCLUDED**

(2) SK644K03 (6) SPE66



**FC-LK-5TON
PARTS INCLUDED**

(2) SK644K04 (6) SPE66



**FC-LK-6TON
PARTS INCLUDED**

(2) SK644K05 (6) SPE66



NEED A SPECIAL SIZE?
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MANIFOLDS: PVC MANIFOLDS



 1 1/4" Main = 4 1/4" on center
 2" Main = 5" on center
 3" Main = 6" on center

NOTE: All manifolds come with plugs to make right or left hand option. Price is the same. Also, standard manifold will have 90-degree PVC to Compression P.E. Fittings or straight PVC to Compression P.E. Fittings. A = 90 degree, S = straight.

Size	Part Number
2 CIRCUIT 3/4" X 1-1/4" HEADER (INSULATED) ANGLE	M232PA-INS
2 CIRCUIT 3/4" X 1-1/4" HEADER (INSULATED) STRAIGHT	M232PS-INS
3 CIRCUIT 3/4" X 1-1/4" HEADER (INSULATED) ANGLE	M332PA-INS
3 CIRCUIT 3/4" X 1-1/4" HEADER (INSULATED) STRAIGHT	M332PS-INS
4 CIRCUIT 3/4" X 1-1/4" HEADER (INSULATED) ANGLE	M432PA-INS
4 CIRCUIT 3/4" X 1-1/4" HEADER (INSULATED) STRAIGHT	M432PS-INS
5 CIRCUIT 3/4" X 1 1/4" HEADER (INSULATED) ANGLE	M532PA-INS
5 CIRCUIT 3/4" X 1 1/4" HEADER (INSULATED) STRAIGHT	M532PS-INS
6 CIRCUIT 3/4" X 1 1/4" HEADER (INSULATED) ANGLE	M632PA-INS
6 CIRCUIT 3/4" X 1 1/4" HEADER (INSULATED) STRAIGHT	M632PS-INS

Manifolds come in pairs when ordered.

Call for availability on non-insulated.



NEED A SPECIAL SIZE?
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**MANIFOLDS: P.E. MANIFOLDS
"SPECIAL ORDER ONLY"**



All manifolds come in pairs when ordered.
A= 90 degree S= Straight

Size	Part Number
1 1/4" HEADER x 2 CIRCUIT 3/4" STRAIGHT	MPE232PS
1 1/4" HEADER x 2 CIRCUIT 3/4" ANGLE	MPE232PA
1 1/4" HEADER x 3 CIRCUIT 3/4" STRAIGHT	MPE332PS
1 1/4" HEADER x 3 CIRCUIT 3/4" ANGLE	MPE332PA
1 1/4" HEADER x 4 CIRCUIT 3/4" STRAIGHT	MPE432PS
1 1/4" HEADER x 4 CIRCUIT 3/4" ANGLE	MPE432PA
1 1/4" HEADER x 5 CIRCUIT 3/4" STRAIGHT	MPE532PS
1 1/4" HEADER x 5 CIRCUIT 3/4" ANGLE	MPE532PA
1 1/4" HEADER x 6 CIRCUIT 3/4" STRAIGHT	MPE632PS
1 1/4" HEADER x 6 CIRCUIT 3/4" ANGLE	MPE632PA

Manifolds come in pairs when ordered.

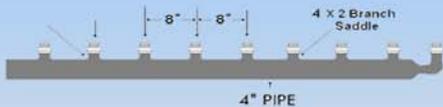
Special Order - Non-Returnable Item



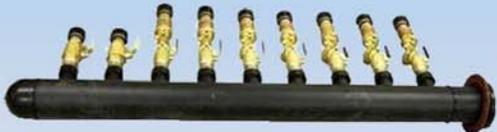
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SPECIALITY: HEADERS MADE TO ORDER



4" HEADER W/8 - 2" OUTLETS W/ 2" MALE ADAPTERS



The headers above are samples of previous headers designed. Call for design help on all of your header needs. Will need to supply a detailed shop drawing.



STAB FITTINGS: COUPLINGS, 90° ELBOW, STRAIGHT TEE, REPAIR SCOPE

GEO-STAB™ COUPLING

Size	Part Number
3/4" IPS SDR11 GEO-STAB™ FULL COUPLING	P1007754
1" IPS SDR11 GEO-STAB™ FULL COUPLING	P1007755
1 1/4" IPS SDR11 GEO-STAB™ FULL COUPLING	P1007756
1 1/2" IPS SDR11 GEO-STAB™ FULL COUPLING	P1007757
2" IPS SDR11 GEO-STAB™ FULL COUPLING	P1007758



GEO-STAB™ HALF COUPLING X FOR SOCKET FUSION

Size	Part Number
1" IPS SDR11 X 1" SOCKET FUSION GEO-STAB™ HALF COUPLING	P1007726
1 1/4" IPS SDR11 X 1 1/4" SOCKET FUSION GEO-STAB™ HALF COUPLING	P1007727
1 1/2" IPS SDR11 X 1 1/2" SOCKET FUSION GEO-STAB™ HALF COUPLING	P1007728
2" IPS SDR11 X 2" SOCKET FUSION GEO-STAB™ HALF COUPLING	P1007729



CHAMFER TOOL

Size	Part Number
3/4" IPS SDR-11 STAB CHAMFER TOOL	33658013
1" IPS SDR-11 STAB CHAMFER TOOL	33658014
1 1/4" IPS SDR-11 STAB CHAMFER TOOL	33658010
1 1/2" IPS SDR-11 STAB CHAMFER TOOL	33658016
2" IPS SDR-11 STAB CHAMFER TOOL	33659017



GEO-STAB™ REPAIR SCOPE

Size	Part Number
3/4" IPS SDR11 GEO-STAB™ REPAIR SCOPE	P1007744
1" IPS SDR11 GEO-STAB™ REPAIR SCOPE	P1007745
1 1/4" IPS SDR11 GEO-STAB™ REPAIR SCOPE	P1007746
1 1/2" IPS SDR11 GEO-STAB™ REPAIR SCOPE	P1007747
2" IPS SDR11 GEO-STAB™ REPAIR SCOPE	P1007748



Call for availability of other sizes and fitting options.



ALL THE "PUMP" YOU NEED AND MORE

BUTT FUSION FITTINGS: REDUCERS, BUTT FUSION MALE ADAPTERS

REDUCERS

Size	Part Number
1" X 3/4" BUTT FUSION REDUCER	BFPRC-54
1 1/4" X 1" BUTT FUSION REDUCER	BFPRC-65
1 1/2" X 3/4" BUTT FUSION REDUCER	BFPRC-74
1 1/2" X 1" BUTT FUSION REDUCER	BFPRC-75
1 1/2" X 1 1/4" BUTT FUSION REDUCER	BFPRC-76
2" X 1" BUTT FUSION REDUCER	BFPRC-85
2" X 1 1/4" BUTT FUSION REDUCER	BFPRC-86
2" X 1 1/2" BUTT FUSION REDUCER	BFPRC-87
3" X 2" BUTT FUSION REDUCER	BFPRC-108
4" X 2" BUTT FUSION REDUCER	BFPRC-118
4" X 3" BUTT FUSION REDUCER	BFPRC-1110
6" X 3" BUTT FUSION REDUCER	BFPRC-1210
6" X 4" BUTT FUSION REDUCER	BFPRC-1211
8" X 6" BUTT FUSION REDUCER	BFPRC-1412
10" X 8" BUTT FUSION REDUCER	BFPRC-1614
12" X 10" BUTT FUSION REDUCER	BFPRC-1816



BUTT FUSION MALE ADAPTERS INTERNAL EPOXY COATED / BRASS

Size	Part Number
3/4" BUTT FUSION X 3/4" MALE ADAPTER EPOXY COATED	BFPMA44
1" BUTT FUSION X 1" MALE ADAPTER EPOXY COATED	BFPMA55
1 1/4" BUTT FUSION X 1" MALE ADAPTER (BRASS)	BFPMA65
1 1/4" BUTT FUSION X 1 1/4" MALE ADAPTER EPOXY COATED	BFPMA66
1 1/2" BUTT FUSION X 1 1/2" MALE ADAPTER (BRASS)	BFPMA77
2" BUTT FUSION X 2" MALE ADAPTER (BRASS)	BFPMA88
3" BUTT FUSION X 3" MALE ADAPTER EPOXY COATED	BFPMA-10
4" BUTT FUSION X 4" MALE ADAPTER EPOXY COATED	BFPMA-11
6" BUTT FUSION X 6" MALE ADAPTER EPOXY COATED	BFPMA-12



*All Butt Fusion Male Adapters available in epoxy or Brass.

Call for availability of other sizes.



BUTT FUSION FITTINGS: SS MALE ADAPTERS, TEES, CAPS & WYES

STAINLESS STEEL BUTT FUSION MALE ADAPTERS

Size	Part Number
3/4" MPT SS X 3/4" PE 3408 BUTT FUSION	BFPSSMA-44
1" MPT SS X 1" PE 3408 BUTT FUSION	BFPSSMA-55
1 1/4" MPT SS X 1 1/4" PE 3408 BUTT FUSION	BFPSSMA-66
1 1/2" MPT SS X 1 1/2" PE 3408 BUTT FUSION	BFPSSMA-77
2" MPT SS X 2" PE 3408 BUTT FUSION	BFPSSMA-88
3" MPT SS X 3" PE3408 BUTT FUSION	BFPSSMA-10
4" MPT SS X 4" PE3408 BUTT FUSION	BFPSSMA-11



Not all sizes stock items. Call for Lead times

BUTT FUSION TEES

Size	Part Number
1" BUTT FUSION TEE	BFPT-5
1 1/4" BUTT FUSION TEE	BFPT-6
1 1/2" BUTT FUSION TEE	BFPT-7
2" BUTT FUSION TEE	BFPT-8
3" BUTT FUSION TEE	BFPT-10
4" BUTT FUSION TEE	BFPT-11
6" BUTT FUSION TEE	BFPT-12
8" BUTT FUSION TEE	BFPT-14
10" BUTT FUSION TEE	BFPT-16
12" BUTT FUSION TEE	BFPT-18



BUTT FUSION CAPS

Size	Part Number
2" BUTT FUSION CAP	BFPCP-8
3" BUTT FUSION CAP	BFPCP-10
4" BUTT FUSION CAP	BFPCP-11
6" BUTT FUSION CAP	BFPCP-12
8" BUTT FUSION CAP	BFPCP-14
10" BUTT FUSION CAP	BFPCP-16
12" BUTT FUSION CAP	BFPCP-18



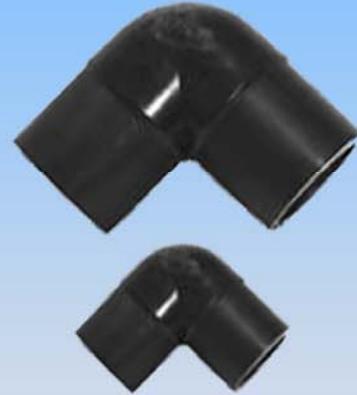
Call for availability of other sizes.



BUTT FUSION FITTINGS: 90° ELBOWS, 45° ELBOWS

90° ELBOW

Size	Part Number
1" BUTT FUSION ELBOW	BFPE-5
1 1/4" BUTT FUSION ELBOW	BFPE-6
1 1/2" BUTT FUSION ELBOW	BFPE-7
2" BUTT FUSION ELBOW	BFPE-8
3" BUTT FUSION ELBOW	BFPE-10
4" BUTT FUSION ELBOW	BFPE-11
6" BUTT FUSION ELBOW	BFPE-12
8" BUTT FUSION ELBOW	BFPE-14
10" BUTT FUSION ELBOW	BFPE-16
12" BUTT FUSION ELBOW	BFPE-18



45° ELBOW

Size	Part Number
1" BUTT FUSION 45 DEG EL PE 3408	BFPE-5-45
1 1/4" BUTT FUSION 45 DEG EL PE 3408	BFPE-6-45
1 1/2" BUTT FUSION 45 DEG EL PE 3408	BFPE-7-45
2" BUTT FUSION 45 DEG EL PE 3408	BFPE-8-45
3" BUTT FUSION 45 DEG EL PE 3408	BFPE-10-45
4" BUTT FUSION 45 DEG EL PE 3408	BFPE-11-45
6" BUTT FUSION 45 DEG EL PE 3408	BFPE-12-45
8" BUTT FUSION 45 DEG EL PE 3408	BFPE-14-45
10" BUTT FUSION 45 DEG EL PE 3408	BFPE-16-45
12" BUTT FUSION 45 DEG EL PE 3408	BFPE-18-45



BUTT FUSION WYES

Size	Part Number
2" BUTT FUSION WYE	BFPY8



Call for availability of other sizes.



BUTT FUSION FITTINGS: ADAPTERS, BACK-UP RINGS

Size	Part Number
1" BUTT FUSION FLANGE ADAPTER	BFPFA-5
1-1/4" BUTT FUSION FLANGE ADAPTER	BFPFA-6
1-1/2" BUTT FUSION FLANGE ADAPTER	BFPFA-7
2" BUTT FUSION FLANGE ADAPTER-TAPERED	BFPFA-8-T
3" BUTT FUSION FLANGE ADAPTER-TAPERED	BFPFA-10-T
4" BUTT FUSION FLANGE ADAPTER-TAPERED	BFPFA-11-T
6" BUTT FUSION FLANGE ADAPTER-TAPERED	BFPFA-12-T
8" BUTT FUSION FLANGE ADAPTER-TAPERED	BFPFA-14-T
10" BUTT FUSION FLANGE ADAPTER-TAPERED	BFPFA-16-T
12" BUTT FUSION FLANGE ADAPTER-TAPERED	BFPFA-18-T
14" BUTT FUSION FLANGE ADAPTER	BFPFA-20
16" BUTT FUSION FLANGE ADAPTER	BFPFA-22
18" BUTT FUSION FLANGE ADAPTER	BFPFA-24
24" BUTT FUSION FLANGE ADAPTER	BFPFA-30

**Un-tapered are special order



Size	Part Number
1" IPS METAL BACK-UP RING 150#	DFIBR-5
1-1/4" IPS METAL BACK-UP RING 150#	DFIBR-6
1-1/2" IPS METAL BACK-UP RING 150#	DFIBR-7
2" IPS METAL BACK-UP RING 150#	DFIBR-8
3" IPS METAL BACK-UP RING 150#	DFIBR-10
4" IPS METAL BACK-UP RING 150#	DFIBR11
6" IPS METAL BACK-UP RING 150#	DFIBR-12
8" IPS METAL BACK-UP RING 150#	DFIBR-14
10" IPS METAL BACK-UP RING 150#	DFIBR-16
12" IPS METAL BACK-UP RING 150#	DFIBR-18
14" IPS METAL BACK-UP RING 150#	DFIBR-20
16" IPS METAL BACK-UP RING 150#	DFIBR-22
18" IPS METAL BACK-UP RING 150#	DFIBR-24
24" IPS METAL BACK-UP RING 150#	DFIBR30



Size	Part Number
AVAILABLE IN 2",3",4",6",8" & 10" #150 RED RUBBER 1/8FF GSKT	CALL FOR PART#

**Do to variations in valve dimensions, the installer should verify proper function of the valve at the time of installation.

Call for availability of other sizes.



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BUTT FUSION FITTINGS: MJ ADAPTERS

MJ ADAPTERS WITHOUT STIFFENER SLEEVE

Size	Part Number
2" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ8
3" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ10
4" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ11
6" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ12
8" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ14
10" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ16
12" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ18*
14" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ20*
16" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ22*
18" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ24*
24" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJ30*

Always DIPS on this side of MJ



IPS or DIPS
on this side
of MJ

MJ ADAPTERS WITHOUT STIFFENER SLEEVE

Size	Part Number
3" DIPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMDJ10
4" DIPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMDJ11
6" DIPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD12
8" DIPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD14
10" DIPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD16*
12" DIPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD18*
14" DIPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD20*
16" DIPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD22*
18" DIPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD24*
24" DIPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD30*

MJ ADAPTERS WITH STIFFENER SLEEVE

Size	Part Number
3" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMDJ10SS
4" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMDJ11SS
6" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD12SS
8" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD14SS
10" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD16SS
12" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD18SS*
14" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD20SS*
16" IPS x DIPS MJ Adapter AWWA SDR11 HDPE-3408/4710	BFPMJD22SS*

*Not a Stock Item.
Call for availability of other sizes.



BUTT FUSION FITTINGS: MJ ACCESSORY KITS

Size	Part Number
2" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK8
3" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK10
4" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK11
6" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK12
8" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK14
10" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK16
12" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK18
14" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK20
16" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK22
18" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK24
24" METAL MJ KIT C153-Includes Gland, Ring	DFIMJK30

KITS ARE UNIVERSAL FOR IPS & DIPS



Call for availability of other sizes.



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SADDLE FITTINGS: SERVICE SADDLES

Size	Part Number
1 1/4" X 1/2" SOCKET FUSION 3/4" BUTT FUSION SERVICE SADDLE	BFPSS-63S/64B
1 1/4" X 3/4" BUTT FUSION SERVICE SADDLE: BUTT FUSED OUTLET	BFPSS-64B
1 1/4" X 3/4" SOCKET FUSION 1" BUTT FUSION SERVICE SADDLE	BFPSS-64S/65B
1 1/4" X 1" SERVICE SADDLE: SOCKET FUSED OUTLET	BFPSS-65S
1 1/2" X 3/4" SOCKET FUSION 1" BUTT FUSION SERVICE SADDLE	BFPSS-74S/75B
1 1/2" X 3/4" SERVICE SADDLE: SOCKET FUSED OUTLET	BFPSS-74S
1 1/2" X 1" SERVICE SADDLE: SOCKET FUSED OUTLET	BFPSS-75S
1 1/2" X 1 1/4" SERVICE SADDLE: BUTT FUSED OUTLET	BFPSS-76B
2" X 3/4" SOCKET FUSION 1" BUTT FUSION SERVICE SADDLE	BFPSS-84S/85B
2" X 1" SOCKET FUSION 1 1/4" BUTT FUSION SERVICE SADDLE	BFPSS-85S/86B
2" X 1 1/4" SERVICE SADDLE: SOCKET FUSED OUTLET	BFPSS-86S
3" X 3/4" SOCKET FUSION 1" BUTT FUSION SERVICE SADDLE	BFPSS-104S/105B
3" X 1" SOCKET FUSION 1 1/4" BUTT FUSION SERVICE SADDLE	BFPSS-105S/106B
3" X 1 1/4" SERVICE SADDLE: SOCKET FUSED OUTLET	BFPSS-106S
3 X 1 1/2" SERVICE SADDLE: BUTT FUSED OUTLET-ROUND B.	BFPSS107B
4" X 3/4" SOCKET FUSION 1" BUTT FUSION SERVICE SADDLE	BFPSS-114S/115B
4" X 1" SOCKET FUSION 1 1/4" BUTT FUSION SERVICE SADDLE	BFPSS-115S/116B
4" X 1 1/4" SERVICE SADDLE: BUTT FUSED OUTLET	BFPSS-116B
4" X 1 1/4" SERVICE SADDLE: SOCKET FUSED OUTLET	BFPSS-116S
4 X 1 1/2" SERVICE SADDLE: BUTT FUSED OUTLET-ROUND B.	BFPSS117B
6" X 3/4" SOCKET FUSION 1" BUTT FUSION SERVICE SADDLE	BFPSS-124S/125B
6" X 1" SERVICE SADDLE: SOCKET FUSED OUTLET	BFPSS-125S
6" X 1 1/4" SERVICE SADDLE: SOCKET FUSED OUTLET	BFPSS-126S
6 X 1 1/2" SERVICE SADDLE: BUTT FUSED OUTLET-ROUND B.	BFPSS-127B
8" X 3/4" SERVICE SADDLE: SOCKET FUSED OUTLET	BFPSS-144S
8" X 3/4" SOCKET FUSION 1" BUTT FUSION SERVICE SADDLE	BFPSS-144S/145B
8" X 1" SERVICE SADDLE: SOCKET FUSED OUTLET	BFPSS-145S
10 X 1 1/4" SERVICE SADDLE: BUTT FUSED OUTLET	BFPSS166B



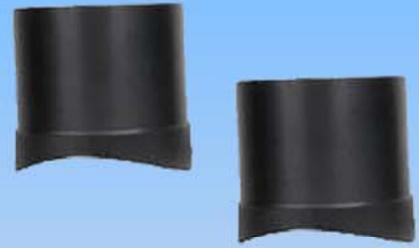
Call for availability of other sizes.



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SADDLE FITTINGS: BRANCH SADDLES



Size	Part Number
3" X 2" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS108
4" X 2" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS118
4" X 3" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1110
6" X 2" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-128
6" X 3" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1210
6" X 4" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1211
8" X 2" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-148
8" X 3" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1410
8" X 4" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1411
8" X 6" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1412
10" X 1 1/4" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1606
10" X 2" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1608
10" X 3" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1610
10" X 4" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1611
12" X 4" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-1811
18" X 6" BRANCH SADDLE BUTT FUSED OUTLET-ROUND B.	BFPBS-2412

Call for availability of other sizes.



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**MOLDED & FABRICATED TEES:
BUTT TEES ONLY**



FABRICATED TEES

Size	Part Number
3" BUTT x 3" BUTT x 3/4" BUTT	BFPT 1010-4BF
3" BUTT x 3" BUTT x 1 1/2" BUTT	BFPT 1010-7BF
4" BUTT x 4" BUTT x 3/4" BUTT	BFPT 1111-4BF
4" BUTT x 4" BUTT x 1" BUTT	BFPT 1111-5BF
4" BUTT x 4" BUTT x 1 1/4" BUTT	BFPT 1111-6BF
4" BUTT x 4" BUTT x 1 1/2" BUTT	BFPT 1111-7BF
4" BUTT x 4" BUTT x 3" BUTT	BFPT 1111-10BF
6" BUTT x 4" BUTT x 3" BUTT	BFPT 1211-10BF
6" BUTT x 4" BUTT x 4" BUTT	BFPT 1211-11BF
6" BUTT x 6" BUTT x 3/4" BUTT	BFPT 1212-4BF
6" BUTT x 6" BUTT x 1" BUTT	BFPT 1212-5BF
6" BUTT x 6" BUTT x 1 1/4" BUTT	BFPT 1212-6BF
6" BUTT x 6" BUTT x 1 1/2" BUTT	BFPT 1212-7BF
6" BUTT x 6" BUTT x 3" BUTT	BFPT 1212-10BF
6" BUTT x 6" BUTT x 4" BUTT	BFPT 1212-11BF
8" BUTT x 8" BUTT x 3/4" BUTT	BFPT 1414-4BF
8" BUTT x 8" BUTT x 1" BUTT	BFPT 1414-5BF
8" BUTT x 8" BUTT x 1 1/4" BUTT	BFPT 1414-6BF
8" BUTT x 8" BUTT x 1 1/2" BUTT	BFPT 1414-7BF
8" BUTT x 8" BUTT x 2" BUTT	BFPT 1414-8BF
8" BUTT x 8" BUTT x 3" BUTT	BFPT 1414-10BF
8" BUTT x 8" BUTT x 4" BUTT	BFPT 1414-11BF



MOLDED TEES

Size	Part Number
2" BUTT x 2" BUTT x 3/4" BUTT	BFPT0804
2" BUTT x 2" BUTT x 1" BUTT	BFPT0805
2" BUTT x 2" BUTT x 1 1/4" BUTT	BFPT0806
3" BUTT x 3" BUTT x 1" BUTT	BFPT1010-5B
3" BUTT x 3" BUTT x 1 1/4" BUTT	BFPT1010-6B
3" BUTT x 3" BUTT x 2" BUTT	BFPT1010-8B
4" BUTT x 4" BUTT x 1 1/4" BUTT	BFPT1106
4" BUTT x 4" BUTT x 2" BUTT	BFPT1108
6" BUTT x 6" BUTT x 2" BUTT	BFPT1208
6" BUTT x 6" BUTT x 3" BUTT	BFPT1210
6" BUTT x 6" BUTT x 4" BUTT	BFPT1211
8" BUTT x 8" BUTT x 4" BUTT	BFPT1414-11B

Non-Stock Items - Lead Time 14 days

Call for availability of other sizes.

Call to verify part number as some may have changed



FABRICATED TEES: BUTT-BUTT-SOCKET TEES ONLY, BUTT-BUTT-MPT ADAPTER

Size	Part Number
3" BUTT x 3" BUTT x 3/4" SOCKET	BFPT 1010-4SF
3" BUTT x 3" BUTT x 1" SOCKET	BFPT 1010-5SF
3" BUTT x 3" BUTT x 1 1/4" SOCKET	BFPT 1010-6SF
4" BUTT x 4" BUTT x 3/4" SOCKET	BFPT 1111-4SF
4" BUTT x 4" BUTT x 1" SOCKET	BFPT 1111-5SF
4" BUTT x 4" BUTT x 1 1/4" SOCKET	BFPT 1111-6SF
6" BUTT x 6" BUTT x 3/4" SOCKET	BFPT 1212-4SF
6" BUTT x 6" BUTT x 1" SOCKET	BFPT 1212-5SF
6" BUTT x 6" BUTT x 1 1/4" SOCKET	BFPT 1212-6SF
8" BUTT x 8" BUTT x 3/4" SOCKET	BFPT 1414-4SF
8" BUTT x 8" BUTT x 1" SOCKET	BFPT 1414-5SF
8" BUTT x 8" BUTT x 1 1/4" SOCKET	BFPT 1414-6SF

Size	Part Number
3" BUTT x 3" BUTT x 3/4" MALE PIPE THREAD	BFPT 1010-4-MPT
3" BUTT x 3" BUTT x 1" MALE PIPE THREAD	BFPT 1010-5-MPT
3" BUTT x 3" BUTT x 1 1/4" MALE PIPE THREAD	BFPT 1010-6-MPT
3" BUTT x 3" BUTT x 2" MALE PIPE THREAD	BFPT 1010-8-MPT
4" BUTT x 4" BUTT x 3/4" MALE PIPE THREAD	BFPT 1111-4-MPT
4" BUTT x 4" BUTT x 1" MALE PIPE THREAD	BFPT 1111-5-MPT
4" BUTT x 4" BUTT x 1 1/4" MALE PIPE THREAD	BFPT 1111-6-MPT
4" BUTT x 4" BUTT x 2" MALE PIPE THREAD	BFPT 1111-8-MPT
6" BUTT x 6" BUTT x 3/4" MALE PIPE THREAD	BFPT 1212-4-MPT
6" BUTT x 6" BUTT x 1" MALE PIPE THREAD	BFPT 1212-5-MPT
6" BUTT x 6" BUTT x 1 1/4" MALE PIPE THREAD	BFPT 1212-6-MPT
6" BUTT x 6" BUTT x 2" MALE PIPE THREAD	BFPT 1212-8-MPT
8" BUTT x 8" BUTT x 3/4" MALE PIPE THREAD	BFPT 1414-4-MPT
8" BUTT x 8" BUTT x 1" MALE PIPE THREAD	BFPT 1414-5-MPT
8" BUTT x 8" BUTT x 1 1/4" MALE PIPE THREAD	BFPT 1414-6-MPT
8" BUTT x 8" BUTT x 2" MALE PIPE THREAD	BFPT 1414-8-MPT



Non-Stock Items - Lead Time 14 days

Call for availability of other sizes.

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ELECTROFUSION FITTINGS: COUPLINGS

NUPI

Size	Part Number
1/2" CTS ELECTROFUSION COUPLING	12EIME12C
3/4" IPS ELECTROFUSION COUPLING	12EIME34
1" IPS ELECTROFUSION COUPLING	12EIME01
1" CTS ELECTROFUSION COUPLING	12EIME01C
1 1/4" IPS ELECTROFUSION COUPLING	12EIME114
2" IPS ELECTROFUSION COUPLING	12EIME02
3" IPS ELECTROFUSION COUPLING	12EIME03
4" IPS ELECTROFUSION COUPLING	12EIME04
6" IPS ELECTROFUSION COUPLING	12EIME06
8" IPS ELECTROFUSION COUPLING	12EIME08
10" IPS ELECTROFUSION COUPLING	12EIME10
12" IPS ELECTROFUSION COUPLING	12EIME12
14" IPS ELECTROFUSION COUPLING	12EIME14
16" IPS ELECTROFUSION COUPLING	12EIME16
18" IPS ELECTROFUSION COUPLING	12EIME18
20" IPS ELECTROFUSION COUPLING	12EIME20
24" IPS ELECTROFUSION COUPLING	12EIME24



EF Couplings 14" thru 24" Special Order.
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We also offer DIPS EF Couplings
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ELECTROFUSION FITTINGS: BRANCH SADDLE

Size	Part Number
2" X 3/4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0234
2" X 1" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0201
2" X 2" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0202
3" X 3/4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0334
3" X 1" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0301
3" X 1 1/4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL03114
3" X 2" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0302
4" X 3/4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0434
4" X 1" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0401
4" X 1 1/4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL04114
4" X 2" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0402
6" X 3/4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0634
6" X 1" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0601
6" X 1 1/4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL06114
6" X 2" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0602
6" x 3" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0603
8" X 3/4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0834
8" X 1" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0801
8" X 1 1/4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL08114
8" X 2" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0802
8" X 3" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0803
8" X 4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL0804
10" X 1 1/4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL10114
10" X 2" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL1002
10" X 3" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL1003
10" X 4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL1004
12" X 2" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL1202
12" X 3" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL1203
12" X 4" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL1204
12" X 6" IPS NUPI EF BRANCH SADDLE 230 PSI (Elofit)	12EICOL1206
14"- 24" X 2" IPS EF BRANCH SADDLE	12EICOL14242
NUPI to CENTRAL MALE & FEMALE CONNECTOR	12E8202



12E8202

Call for availability of other sizes.



ELECTROFUSION FITTINGS: TEES, ELBOWS & REDUCERS



Size	Part Number
2" IPS ELECTROFUSION ELBOW	12EIGEM02
3" IPS ELECTROFUSION ELBOW	12EIGEM03
2" IPS ELECTROFUSION TEE W/ SPIGOT END	12EITCE02

Size	Part Number
3" X 2" IPS ELECTROFUSION REDUCER PE 4710/230 PSI	12EIRDE0302
4" X 2" IPS ELECTROFUSION REDUCER PE 4710/230 PSI	12EIRDE0402
6" X 4" IPS ELECTROFUSION REDUCER PE 4710/230 PSI	12EIRDE0604



Size	Part Number
1 1/4" X 1/2" CTS ELECTROFUSION TAPPING TEE—BUTT	12EIPRES11412C
2" X 3/4" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES0234
2" X 1" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES0201
3" X 3/4" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES0334
3" X 1" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES0301
3" X 1 1/4" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES03114
4" X 3/4" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES0434
4" X 1" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES0401
4" X 1 1/4" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES04114
6" X 3/4" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES0634
6" X 1" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES0601
6" X 1 1/4" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES06114
6" X 2" HIGH VOLUME IPS ELECTROFUSION BRANCH SDLE TAPPING TEE -BUTT	12EIPRES0602
8" X 1" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES0801
12" X 1" IPS ELECTROFUSION BRANCH SDLE TAPPING TEE - BUTT	12EIPRES1201
12" X 2" HIGH VOLUME IPS ELECTROFUSION BRANCH SDLE TAPPING TEE -BUTT	12EIPRES1202



12EIPRES0634

Call for availability of other sizes.

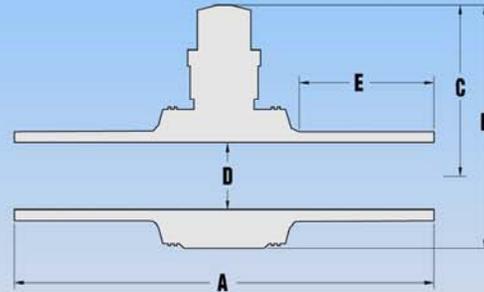


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ACCESSORIES: KEROTEST POLYBALL

This robust American made polyethylene ball valve has a high strength polyethylene ball for a long life and low operating torque. A reliable Buna-N ball seat giving it a wide temperature range, dual o-rings and weather seal which protects from ground water and dirt. It is corrosion-free, maintenance-free and a valve with independent third party evaluation. Insuring the highest performance and reliability.

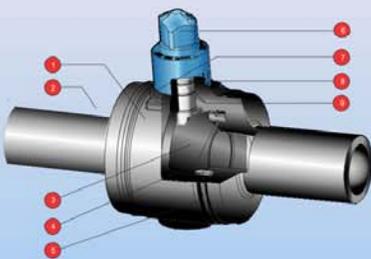


Valve Sizes and Dimensions (Approx. Inches) Full Port

Size	Part Number	A	B	C	D	E	Cv
1 1/4" FULL PORT POLYBALL 4710-SDR11 Butt Fusion-NSF/ANSI 61	BFPV66FP-K	11.8	6.9	5.2	1.38	3.2	49
2" FULL PORT POLYBALL 4710-SDR11 Butt Fusion-NSF/ANSI 61	BFPV88FP-K	19	9.7	7.0	1.90	6.4	180
3" FULL PORT POLYBALL 4710-SDR11 Butt Fusion-NSF/ANSI 61	BFPV1010FP-K	21	12.2	8.7	2.70	6.4	400
4" FULL PORT POLYBALL 4710-SDR11 Butt Fusion-NSF/ANSI 61	BFPV1111FP-K	25	14.8	10.2	3.63	7.6	710
6" FULL PORT POLYBALL 4710-SDR11 Butt Fusion-NSF/ANSI 61	BFPV1212FP-K	27	19.6	13.2	5.25	7.0	1900
8" FULL PORT POLYBALL 4710-SDR11 Butt Fusion-NSF/ANSI 61	BFPV1414FP-K	28	25.5	17.2	6.70	5.3	3750

NO.	Component	Material	Features and Benefits
1	Body	POLYETHYLENE	PE 4710, flat base, robust design
2	Ends	POLYETHYLENE	PE 4710, various SDR'S
3	Ball	POLYPROPYLENE	High strength, long life and low operating torque
4	Retainer	POLYPROPYLENE	Positive restraint under any condition; Retains seat under high differential pressure
5	Ball Seat	BUNA-N	Reliable sealing, 32°F to 140°F
6	Actuator	POLYPROPYLENE	2" operating square, positive position indication, over-torque protection
7	Weather Seal	BUNA-N	Protects from ground water and dirt
8	Stem	ACETAL	Excellent durability and strength, blowout proof*
9	Stem Seals	BUNA-N	Redundant sealing with dual o-rings

*Stem is SS on 1 1/2" FP & 1 1/4" FP sizes



Size	Part Number
STREET KEY FOR POLYETHYLENE VALVE, 2 THRU 12"	PV-KEY-2



ALL THE "PUMP" YOU NEED AND MORE

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712-652-3424
www.bdmfginc.com

COMPRESSION FITTINGS: ADAPTERS, TEST CAPS W/ BUSHING

Size	Part Number
3/4" COMPRESSION X 3/4" FEMALE ADAPTER FOR P.E.	ELO-44-FA
1" COMPRESSION X 1" FEMALE ADAPTER FOR P.E.	ELO-55-FA
1 1/4" COMPRESSION X 1 1/4" FEMALE ADAPTER FOR P.E.	ELO-66-FA
1 1/2" COMPRESSION X 1 1/2" FEMALE ADAPTER FOR P.E.	ELO-77-FA
2" COMPRESSION X 2" FEMALE ADAPTER FOR P.E.	ELO-88-FA



Size	Part Number
3/4" COMPRESSION X 3/4" MALE ADAPTER FOR P.E.	ELO-44-MA
1" COMPRESSION X 1" MALE ADAPTER FOR P.E.	ELO-55-MA
1 1/4" COMPRESSION X 1 1/4" MALE ADAPTER FOR P.E.	ELO-66-MA
1 1/2" COMPRESSION X 1 1/2" MALE ADAPTER FOR P.E.	ELO-77-MA
2" COMPRESSION X 2" MALE ADAPTER FOR P.E.	ELO-88-MA



Size	Part Number
TEST CAP W/ 3/4" X 1/4" FPT	ELO-42-TC
TEST CAP W/ 1" X 1/4" FPT	ELO-52-TC
TEST CAP 1 1/4" X 1/4" FPT	ELO-62-TC
TEST CAP 1 1/2" X 1/4" FPT	ELO-72-TC
TEST CAP 2" X 1/4" FPT	ELO-82-TC



Size	Part Number
3/4" TEST CAP KIT	ELO-TC4-Kit
1" TEST CAP KIT	ELO-TC5-Kit
1-1/4" TEST CAP KIT	ELO-TC6-Kit
1-1/2" TEST CAP KIT	ELO-TC7-Kit
2" TEST CAP KIT	ELO-TC8-Kit
3/4" X 1-1/4" TEST CAP KIT	ELO-TC46-Kit



Replacement parts available for compression fittings.
Call for availability of other sizes.



COMPRESSION FITTINGS: COUPLINGS, END CAPS, ELBOWS, CONVERSION KITS

Size	Part Number
3/4" PE X 3/4" PVC COUPLING	PE4C-PVC4C
1" PE X 1" PVC COUPLING	PE5C-PVC5C
1 1/4" PE X 1 1/4" PVC COUPLING	PE6C-PVC6C



Size	Part Number
3/4" PE X 3/4" PE COUPLING	ELO-44C
1" PE X 1" PE COUPLING	ELO-55C
1 1/4" PE X 1 1/4" PE COUPLING	ELO-66C
1 1/2" PE X 1 1/2" PE COUPLING	ELO-77C
2" PE X 2" PE COUPLING	ELO-88C



Size	Part Number
3/4" COMPRESSION END CAP FOR P.E.	ELO-4-EC
1" COMPRESSION END CAP FOR P.E.	ELO-5-EC
1 1/4" COMPRESSION END CAP FOR P.E.	ELO-6-EC
1 1/2" COMPRESSION END CAP FOR P.E.	ELO-7-EC
2" COMPRESSION END CAP FOR P.E.	ELO-8-EC



Size	Part Number
3/4" PE X 3/4" PVC ELBOW	PE4E-PVC4E
1" PE X 1" PVC ELBOW	PE5E-PVC5E
1 1/4" PE X 1 1/4" PVC ELBOW	PE6E-PVC6E



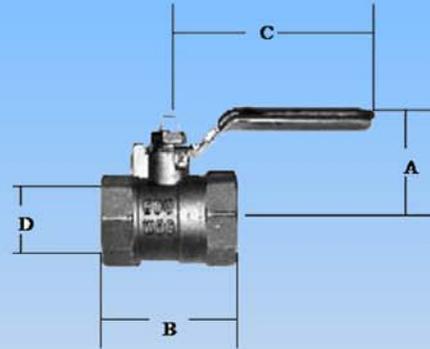
Size	Part Number
3/4" PE X 3/4" PE ELBOW	ELO-44E
1" PE X 1" PE ELBOW	ELO-55E
1 1/4" PE X 1 1/4" PE ELBOW	ELO-66E
1 1/2" PE X 1 1/2" PE ELBOW	ELO-77E
2" PE X 2" PE ELBOW	ELO-88E



Call for availability of other sizes.



ACCESSORIES: FULL PORT BRASS BALL VALVES



DIMENSIONS IN INCHES

Size	Part Number	A	B	C	D (Bore)	Weight
3/4" FPT BRASS BALL VALVE (Full Port)	BV004	2.06	2.39	3.74	.79	.64lbs
1" FPT BRASS BALL VALVE (Full Port)	BV007	2.31	2.87	4.53	.98	1.07lbs
1 1/4" FPT BRASS BALL VALVE (Full Port)	BV010	3.00	3.41	5.51	1.26	1.61lbs
1 1/2" FPT BRASS BALL VALVE (Full Port)	BV013	3.15	3.74	5.51	1.57	2.25lbs
2" FPT BRASS BALL VALVE (Full Port)	BV016	3.54	4.25	5.91	1.97	3.12lbs

PRESSURE RATING
1/2"-2" 600 W.O.G.

Body Material: 1/2" thru 1 1/4" = Forged Brass/
1 1/2" thru 4" = Cast brass

Handle Material: Steel

Ball Material: Machined Brass w/ Electroplated Chrome

Stem Material: Blow-out proof, machined brass w/ Dual O-ring Seals

Seal Material: Teflon (PTFE)

Pipe Threads: National Pipe Thread Standard

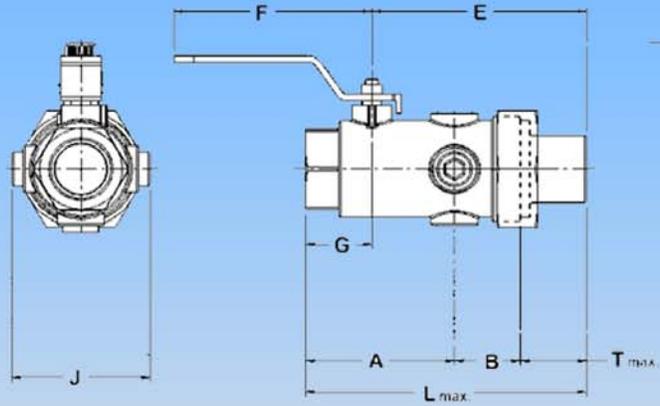
Suitable Medium: Water, Oil, Gas

Steam Rating: 125 PSIG Saturated Steam

Valve Sizes and Dimensions (approx) in.
Call for availability of other sizes.



ACCESSORIES: UNION FULL PORT BALL VALVE WITH P/T



DIMENSIONS IN INCHES

Size	Part Number	A	B	E	F	G	J	T(max)	L(max)	Weight
1" FPT BBV W/UNION P/T	BV-IBU3FF	2.35	0.88	4.14	4.00	1.08	2.28	2.00	5.23	2.9lbs
1 1/4" FPT BBV W/UNION P/T	BV-IBU4FF	3.30	1.09	4.94	5.38	1.45	3.04	2.00	6.39	3.9lbs
1 1/2" FPT BBV W/UNION P/T	BV-IBU5FF	4.01	1.12	5.76	5.50	1.90	3.60	2.52	7.65	5.2lbs
2" FPT BBV W/UNION P/T	BV-IBU6FF	4.20	1.21	6.97	6.00	1.59	4.13	3.14	8.55	7.7lbs

UBV is a combination full port shut-off valve and union for use in HVAC systems.

CONSTRUCTION:

- Body: Brass C37000
- Ball: Chrome Plated
- Ball Seal: Teflon
- Stem: Explosion Proof
- O-Rings: EPDM
- Handle: Chrome Plated Steel w/ Plastic Cover
- TAPS: Comes with 3 Total

MAXIMUM WORKING PRESSURE
400 PSIG
MAXIMUM OPERATING TEMPERATURE
-4°F (-20°C) to 250°F (121°C)



1/4" MPT P/T PLUG (BRASS)	N76-02
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Valve Sizes and Dimensions (approx) in.
Call for availability of other sizes.



ACCESSORIES: BUTTERFLY VALVES

Size	Part Number
2" CASTIRON LUG W/EPDM 416 SS-SHAFT W/LEVER	NLJ300D
3" CASTIRON LUG W/EPDM 416 SS-SHAFT W/LEVER	NLJ300F
4" CASTIRON LUG W/EPDM 416 SS-SHAFT W/LEVER	NLJ300H
6" CASTIRON LUG W/EPDM 416 SS-SHAFT W/LEVER	NLJ300K
8" CASTIRON LUG W/EPDM 416 SS-SHAFT W/LEVER	NLJ300L
10" CASTIRON LUG W/EPDM 416 SS-SHAFT W/GEAR OPERATOR	NLJ310M
12" CASTIRON LUG W/EPDM 416 SS-SHAFT W/ GEAR OPERATOR	NLJ310N



****CASTIRON WAFERS AVAILABLE
UPON REQUEST****



*Call for availability on Wafer Valves.
Various items not in stock.
Call for availability of other sizes.



FUSION KITS: RITMO R63TE FUSION KITS



The following kit contains the tools required to fuse the indicated pipe size with fittings. The kit is packed in a tool box and contains the following:

R63-46C-1K 3/4" & 1 1/4" Set

- R63 TE Socket Fusion Tool
- Socket Face Set -3/4" and 1 1/4" IPS
- Chamfer/Depth Gauge - 3/4" and 1 1/4"
- Cold Rings - 3/4" and 1 1/4"
- Hex Key
- 1 1/4" Ratchet Cutter
- Tool Cover Bag
- Kwik Cutter (up to 2" IPS)
- Cotton Wipe Rag
- Fusion Tool Mounting Bracket
- Tempstik 475 & 525 F (one of each)
- Second Timer

R63-48C-1K COMPLETE SET- 3/4" Thru 2" Set

- R63 TE Socket Fusion Tool
- Socket Face Set -3/4" thru 2" IPS
- Chamfer/Depth Gauge - 3/4" thru 2"
- Cold Rings - 3/4" thru 2"
- Hex Keys
- Roll Cutter 3/4" - 2"
- Tool Cover Bag
- Kwik Cutter (up to 2" IPS)
- Cotton Wipe Rag
- Fusion Tool Mounting Bracket
- Tempstik 475 & 525 F (one of each)
- Second Timer

R 63 TE socket fusion tool is practical, easy to handle and safe, thanks to the warning lights (main power is ON and working temperature OK), the plastic ergonomic handle and excellent thermal insulation provided by the stainless steel wiring enclosure.

The tool is supplied with an Electronic Thermo regulator with temperature set at 260°C (500°F) on the socket. Two Year Limited Warranty on iron only.

***Notice:** Socket heat fusion should only be performed by a properly trained or certified individual.



FUSION EQUIPMENT: HEATING EQUIPMENT



RT-1-H



RT-2-H

RITMO

Size	Part Number
R63 TFE (110V) SOCKET FUSION TOOL DOUBLE ONLY	RT-1-H
R125Q-TE (115V) SOCKET FUSION TOOL MULTIPLE	RT-2-H

NOTE:HEATER BAG NOT INCLUDED

Call for availability of other heating equipment.
Various items not in stock.



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712-652-3424
www.bdmfginc.com

SOCKET FUSION TOOLS: SOCKET FACES, DEPTH GAUGE, CHAMFER TOOL

VANGUARD

Size	Part Number
3/4" SOCKET FACE	FHSF4P
1" SOCKET FACE	FHSF5P
1 1/4" SOCKET FACE	FHSF6P
1 1/2" SOCKET FACE	FHSF7P
2" SOCKET FACE	FHSF8P



****Re-coating of fusion plates and socket faces available up to 22". Call for availability on other sizes.**

RITMO

Size	Part Number
3/4" IPS SOCKET FUSION FACE	RSP4
1" IPS SOCKET FUSION FACE	RSP5
1 1/4" IPS SOCKET FUSION FACE	RSP6
1 1/2" IPS SOCKET FUSION FACE	RSP7
2" IPS SOCKET FUSION FACE	RSP8



VANGUARD

Size	Part Number
3/4" DEPTH GAUGE	DG4P
1" DEPTH GAUGE	DG5P
1 1/4" DEPTH GAUGE	DG6P
1 1/2" DEPTH GAUGE	DG7P
2" DEPTH GAUGE	DG8P



RITMO

Size	Part Number
3/4" IPS CHAMFER TOOL/DEPTH GAUGE	CTDG4
1" IPS CHAMFER TOOL/DEPTH GAUGE	CTDG5
1 1/4" IPS CHAMFER TOOL/DEPTH GAUGE	CTDG6
1 1/2" IPS CHAMFER TOOL/DEPTH GAUGE	CTDG7
2" IPS CHAMFER TOOL/DEPTH GAUGE	CTDG8



Call for availability of other sizes.



SOCKET FUSION TOOLS: COLD RINGS, FUSION TOOL COVER, MOUNTING BRACKET

VANGUARD

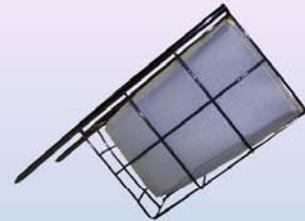
Size	Part Number
3/4" IPS COLD RING	FHCR4P
1" IPS COLD RING	FHCR5P
1 1/4" IPS COLD RING	FHCR6P
1 1/2" IPS COLD RING	FHCR7P
2" IPS COLD RING	FHCR8P



Size	Part Number
B & D FUSION TOOL COVER FOR RITMO IRON	BDFB-1



Size	Part Number
DITCH BUDDY W/ BAG FOR RITMO IRON	DBUD



Size	Part Number
HEATER MUFF BAG W/ROPE - LARGE FOR CENTRAL IRON	CHM300



FUSION EQUIPMENT: TUBING CUTTERS

Precision cutters ensure quick, square cutting of polyethylene pipe.



TC2QP



T-RS2



RS7290



CTBG8



C2-RC

Size	Part Number
3/4" TO 2" TUBING CUTTER FOR PLASTIC	TC2QP
LARGE RATCHET SHEAR FOR PLASTIC PIPE FOR 2"	T-RS2
SMALL RATCHET SHEAR FOR PLASTIC PIPE FOR 2"	RS7290
KWIK CUTTER (UP TO 1 3/8" IPS)	CTBG8
1 1/4" PIPE CUTTER RATCHET	C2-RC

Call for availability of other tubing cutters..
Various items not in stock.



SOCKET FUSION TOOLS: TEMPSTIK, TIMER, SURFACE PYROMETER

Size	Part Number
TEMPSTIK 475 DEGREES F	MSK-F-475-1
TEMPSTIK 500 DEGREES F	MSK-F-500-1
TEMPSTIK 525 DEGREES F	MSK-F-525-1



Size	Part Number
DIGITAL TIMER	V00864



Size	Part Number
SURFACE PYROMETER (check surface temp iron)	28-8559-1200-10



FUSION EQUIPMENT: RITMO RAM 14



RAM 14 (1" IPS - 4" DIPS)

Manual fusion machine designed to butt fuse pipe and fittings. Included with the RAM 14 is a set of 4" IPS liners.

RAM 14 is supplied with electronic-adjustable heating plate and an electric facer.

Aluminum made jaws, guarantee fusion force, strength and light weight. Ideal for in-ditch fusion.

CTS, IPS, DIPS and metric inserts available.

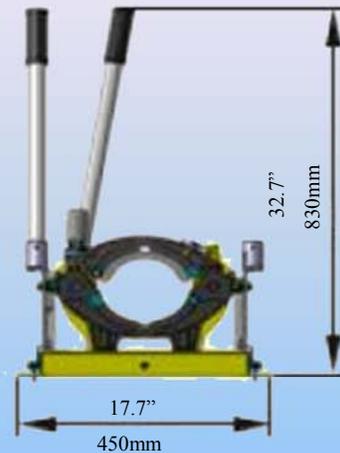
Size	Part Number
RAM 14 (1" to 4") 110V	RAM 14 B.F. 1-4

DIMENSIONS:



TECHNICAL FEATURES

Working Range	Ø 1"IPS - 4"DIPS pipe (32-110 mm)
Weight	112 lb (51 Kg)
Power Supply	120 V, 50/60 Hz
Maximum absorbed power	1850W
Facer	850W
Heater	1000W
Pressure working range	0-2176 PSI (0-150 bar)



FUSION EQUIPMENT: RITMO RAM 28

The **RAM 28** is an electro-hydraulic butt fusion machine with fusion capabilities ranging from 2" IPS to 8" DIPS pipe sizes. The machine is designed for in-field fusion of HDPE pipe and fittings and other plastic pipes. Included with the **RAM 28** is a set of 8" IPS liners.

The **RAM 28** is provided with unique and innovative programming and control system, Easy-Life. The Easy-Life system permits the operator to program and perform all of the fusion procedures quickly and easily. The program/control panel allows the operator to set the machine for heating temperature, facing pressure, heating time, soaking time, fusion pressure, fusion time, and cooling time. The machine body and clamping system can be easily removed from 4-wheeled frame and chassis for in-ditch use, the Easy-Life program/control panel can also be removed from chassis to allow the operator to control the fusion procedures out of the ditch.

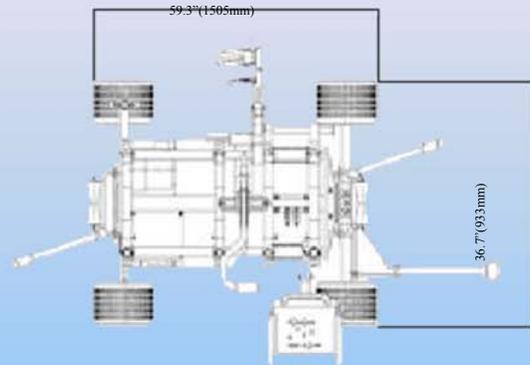
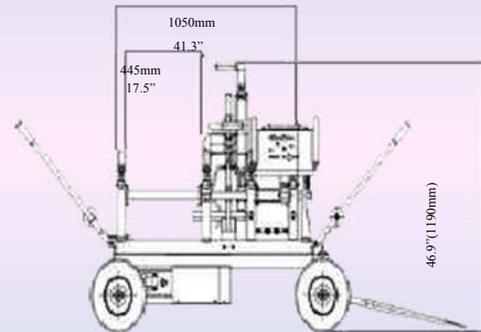
The **RAM 28** includes additional feature for operator safety and increased production.

The **RAM 28** can be equipped with an optional data-logging device.



Size	Part Number
RAM 28 (2"-8" DIPS)	RAM 28 B.F. 2-8

DIMENSIONS:



TECHNICAL FEATURES

Working Range	2" IPS - 8" DIPS pipe (63-225 mm)
Overall cylinder section	1.45 in ² (9.36 cm ²)
Weight	441 lbs (200 kg)
Power Supply	230 V, 50-60 Hz - 1Ph
Maximum absorbed power	3810W
Easy Life hydraulic unit	1100W
Facer	710W
Heater	2000W
Pressure working range	0-2176 PSI (0-150 bar)
Heater working temperature	356 - 536°F (180 - 280° C)



FUSION EQUIPMENT: RITMO RAM 414

The **RAM 414** is an independent and motorized electro-hydraulic butt fusion machine with fusion capabilities ranging from 4" IPS to 14" IPS pipe sizes. The machine is designed for in-field fusion of HDPE pipe and fittings and other plastic pipes.

The **RAM 414** is provided with Ritmo's unique and innovative programming and control system, Easy-Life. The Easy-Life system permits the operator to program and perform all the fusion procedures quickly and easily. The program/control panel allows the operator to set the machine for heating temperature, facing pressure, heating time, soaking time, fusion pressure, fusion time, and cooling time. It incorporates a data-logging device and GPS system for the easiest and absolute associability of fusion information and location of the pipeline joints thru the years. Easy-Life system can be connected to a PC or computer handbook to download all the fusion cycles and GPS information.

The **RAM 414** is powered by an on-board low vibration 15 HP gasoline engine, and the 4-wheel chassis is motorized for easy maneuvering of the equipment in all terrain conditions.

The machine is equipped with an **hydraulic pipe lift roller**.

The machine body and clamping system can be easily removed from the 4-wheeled framed and chassis for in-ditch use, the Easy-Life program/control panel can also be removed from the chassis to allow the operator to control the fusion procedures out of the ditch.

The **RAM 414** includes additional features designed for operator safety and increased production like the patented Quick-Click insert system that permits fast installation and removal of the pipe inserts. No "master inserts" are needed for smaller diameter pipe.

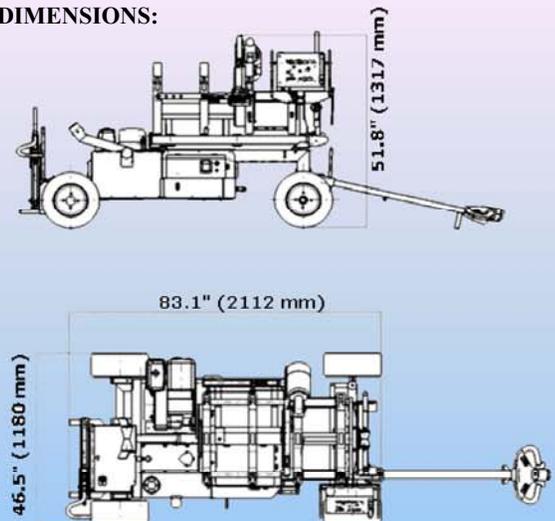


Size	Part Number
RAM 414 (4"-14"DIPS)	RAM 14 B.F. 4-14

TECHNICAL FEATURES

Working Range	4" IPS - 14" IPS pipe (125-355 mm)
Overall cylinder section	3.47 in ² (22.38 cm ²)
Weight	992 lbs (450 kg)
Power Supply	Self contained/ independent gasoline engine 15HP
Pressure working range	0-2176 PSI (0-150 bar)
Heater working temperature	356 - 536°F (180 - 280° C)

DIMENSIONS:



Accessories available. Please call for pricing.
Various items not in stock.



FUSION EQUIPMENT: RITMO RAM 14, RAM 28 & RAM 414 INSERT LINERS



Size	Part Number
1" IPS INSERT LINERS (RAM 14)	R-77291461B
1 1/4" IPS INSERT LINERS (RAM 14)	R-77291721B
1 1/2" IPS INSERT LINERS (RAM 14)	R-77291811B
2" IPS INSERT LINERS (RAM 14)	R-77292331B
3" IPS INSERT LINERS (RAM 14)	R-77292871B
4" IPS INSERT LINERS (RAM 14)	R-77293161B

**DIPS available

IPS	Pipe OD
1"	1.32"
1 1/4"	1.66"
1 1/2"	1.90"
2"	2.38"
3"	3.50"
4"	4.50"

RAM 14

RAM 28

IPS	Pipe OD
2"	2.38"
3"	3.50"
4"	4.50"
5"	5.56"
6"	6.63"
8"	8.63"

Size	Part Number
INSERT LINERS 2" IPS (RAM 28)	R-87292305
INSERT LINERS 3" IPS (RAM 28)	R-87292731
INSERT LINERS 4" IPS (RAM 28)	R-87293238
INSERT LINERS 6" IPS (RAM 28)	R-87294047
INSERT LINERS 8" IPS (RAM 28)	R-87294622

**DIPS available



Size	Part Number
INSERT LINERS 4" IPS (RAM 414)	R-87293354
INSERT LINERS 6" IPS (RAM 414)	R-87294153
INSERT LINERS 8" IPS (RAM 414)	R-87294643N
INSERT LINERS 10" IPS (RAM 414)	R-87295382N
INSERT LINERS 12" IPS (RAM 414)	R-87295803N

**DIPS available

IPS	Pipe OD
4"	4.50"
5"	5.56"
6"	6.63"
8"	8.63"
10"	10.75"
12"	12.75"
14"	14.00"

RAM 414

Call for availability of other sizes.
Various items not in stock.



ELECTROFUSION PROCESSORS: ELEKTRA LIGHT

Elektra Light is a multipurpose Machine (in low voltage 8 ÷ 48V) capable of fusing any brand of coupler available in the market for transport of gas, water and other fluids under pressure (HDPE, PP, PP-R) meeting the national and international welding standards.

Elektra Light is light and easy to carry.

Elektra Light has a memory that keeps track of 350 cycles of welding with the possibility to download them via adapter DB9M-USB (on request) to a USB stick or a serial printer.

Basic equipment supplied with the welding unit:

- Connectors Ø 4,0 mm, Ø 4,7 mm
- Carrying Case
- Manual Scraper
- Gun Scanner

On Request

- Kit transferring data from welding serial printer (including serial & printer cables) USB data transfer cable



Size	Part Number
ELEKTRA LIGHT	96906080

TECHNICAL FEATURES

Working Range	up to 6" (20-125/160mm)
Welding output voltage	8 ÷ 48V
Single phase/power supply	115v—60 Hz
Maximum absorbed power	2000W
Maximum output current	8A
60% Duty Cycle output	23A
Memory capacity	350 report
Protection degree	IP 54
Dimensions	200 x 250 x 210 mm
Weight	8 kg



ELECTROFUSION PROCESSORS: ELEKTRA 400 & ELEKTRA 800

Elektra is an electrofusion machine suitable for welding low voltage HDPE and PP couplings (from 8 to 48V) for high pressure conduits. The Elektra machine is made in accordance with the International standards and is composed of:

- A versatile machine body capable of adapting to different operational requests, inside as outside the ditch, thanks to a control panel that can be turned upward or be positioned horizontally to the ground, with protection degree IP 54 (protects against penetration of dust and water spray)
- An Scanner Gun barcode-reading that allows the automatic setting of the welding parameters
- An internal storage with 4000 welding cycles and the possibility of transferring them to a computer, to an external storage or to a serial printer through USB port and a RS232
- A graphic display that, by using a specific software, shows all kind of information, even possible anomalies that might occur before or during the welding

Basic equipment supplied with the welding unit:

- Connectors Ø 4 mm, Ø 4 ÷ 4, 7 mm adapters
- Transport Case
- Manual Scraper
- Scanner Gun



Size	Part Number
ELEKTRA 400	96906020
ELEKTRA 800	96906321

TECHNICAL FEATURES

	ELEKTRA 400	ELEKTRA 800
Working Range	Up to 16" IPS	Up to 32" IPS
Welding output voltage	8 ÷ 48V	8 ÷ 48V
Single phase/power supply	110v - 50/60 Hz	230v - 50/60 Hz
Maximum absorbed power	2500W	2700W
Maximum output current	100A	120A
Operating Modes	Barcode/Manual (numerical code or tension/time)	Barcode/Manual (numerical code or tension/time)
Connections	USB for external memory & RS232 serial printer	USB for external memory & RS232 serial printer
Memory capacity	4000 reports	4000 reports
Protection Rating	IP 54	IP 54
Outside T° Range	23 ÷ 140° F	23 ÷ 140° F
Dimensions	14.09" x 11.22" x 11.88"	14.09" x 11.22" x 11.88"
Weight	43 lb	49.60 lb



ELECTROFUSION PROCESSORS: NUPI BLUETOOTH

The Bluetooth Electrofusion Processor, manufactured in compliance with UNI 10566 standards, has been designed for the welding of electrofusion fittings utilizing the 24 digit barcode system (per ISO 13950). The unit has a peak amperage of 100 amps. The welding unit can be operated in five different languages (English, Italian, Spanish, French, and German). Data can be put in automatically with the optical pen or manually by entering welding data (time & voltage) related to the fitting in use.

During the welding cycle, the large backlit display shows the heating time, power consumption and energy used. The welding unit has the capacity to store the parameters of 300 welding cycles and to communicate with a PC or a printer by means of wireless Bluetooth technology.

The internal software, developed especially for this welding unit, enables the user to:

- Download welding reports (to PC or to printer)
- Record the traceability of the fitting
- Find the GPS coordinates of the fitting
- Test the pressurized fluid distribution networks

Welding range: 1/2" CTS-24" IPS (20mm-630mm)

Technical characteristics:

- Conforms with CE requirements
- Conforms with UNI 10566—POLYVALENT type
- Illuminated display with 4 lines, 20 characters each
- Memory for 300 welding cycles
- 8 memories of 500 parameters each for pressure tests
- Fittings working range up to 100 amp maximum peak
- Ambient temperature sensor
- Maximum power: 2500 VA
- Output voltage: from 5 to 42V
- Power cable: L=12 feet (3.8m)
- Welding Cable: L=9 feet (3m)
- Degree of protection: IP 54
- Working temperature: from 10°F - 125°F



Size	Part Number
BLUETOOTH PROCESSOR	12E9002/110

Codes:

12E9001	230V
12E9001/110	115V
12E9001/48	48V

Basic equipment supplied with the welding unit:

- User's handbook
- Shipping Box
- Includes 4.0 MM pin
- Optical pen for barcode input
- Adapters with 4.7 MM pins



ELECTROFUSION EQUIPMENT: UNIVERSAL SCRAPERS

Size	Part Number
3" TO 12" UNIVERSAL SCRAPER	RTC 315



Size	Part Number
2" TO 6" UNIVERSAL SCRAPER	RTC 160



Size	Part Number
6" TO 24" REVOLVING SCRAPER	12RAT2



**ELECTROFUSION EQUIPMENT:
RITMO TURBO SCRAPER, E-FUSION CLAMPS**

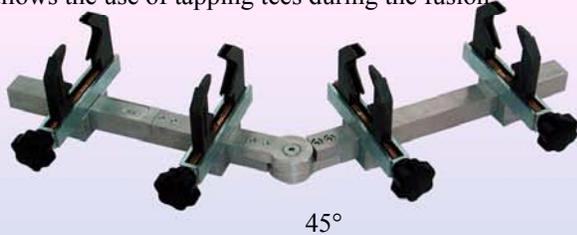
Size	Part Number
3/4" TURBO SCRAPER	99890007
1" TURBO SCRAPER	99890008
1 1/4" TURBO SCRAPER	99890009
1 1/2" TURBO SCRAPER	99890010
2" TURBO SCRAPER	99890011



Size	Part Number
1/2" thru 2" IPS UNIVERSAL ALIGNER 63 KIT	99500002
2" thru 5" IPS UNIVERSAL ALIGNER 160 LIGHT KIT	99520006

UNIVERSAL ALIGNER 63

This professional tool is essential to hold pipes still and aligned during electrofusion. The UNIVERSAL ALIGNER 63 is made almost entirely in a special Aluminium alloy and features a central joint for the fixed positions at 45° and 90°, four self-centering clamps that require no adapters. The possibility to remove one part of the axis that carries the clamps and one clamp it self, allows the use of tapping tees during the fusion.



UNIVERSAL ALIGNER 160 light

The UNIVERSAL ALIGNER 160 light is made almost entirely in a special Aluminium alloy and features a central joint for the fixed positions at 45° and 90°, four self-centering clamps that require no adapters, and on request an additional axle complete with two clamps for welding the tees.

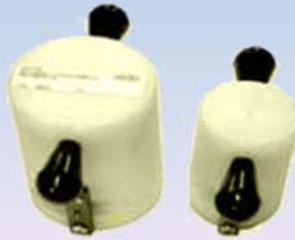


ELECTROFUSION EQUIPMENT: SCRAPERS

Size	Part Number
2" IPS MOLDED SCRAPER	5752118
3" IPS MOLDED SCRAPER	5752122
4" IPS MOLDED SCRAPER	5752119



Size	Part Number
3/4" IPS PENCIL SCRAPER	5752125
1" IPS PENCIL SCRAPER	5752127
1 1/4" IPS PENCIL SCRAPER	5752143
1 1/2" IPS PENCIL SCRAPER	5752139



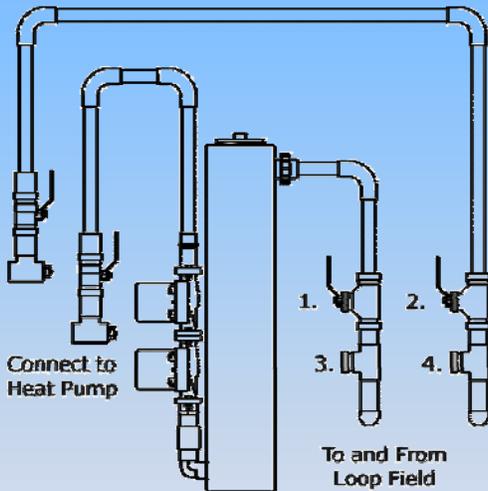
Various items not in stock.
Call for availability of other sizes.



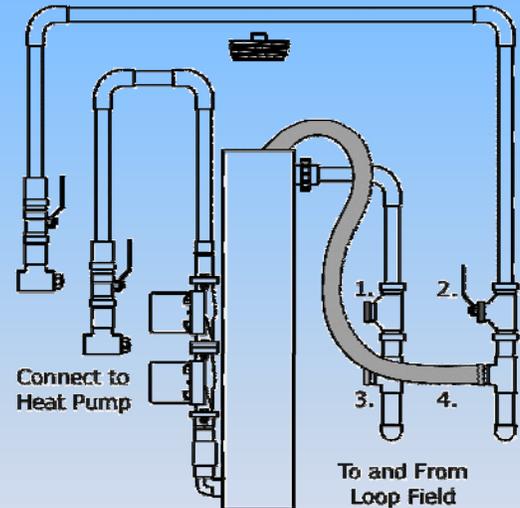
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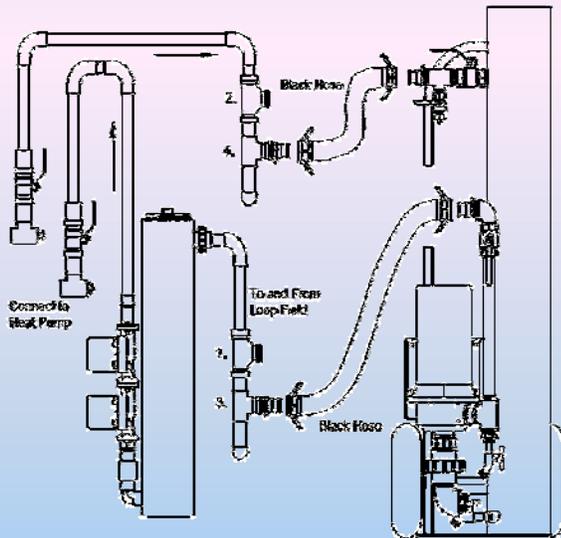
FLOW CENTERS: HOW TO FLUSH A EARTH LOOP WITH A BURIED MANIFOLD



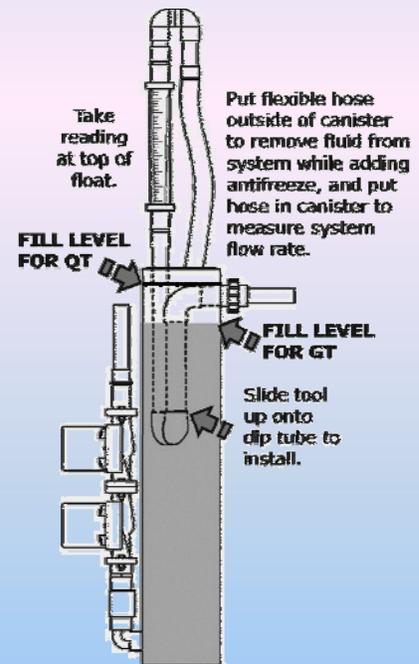
1. Close valves 1. and 2., located on lines to and from the loop field.
2. Remove screw caps from tees 3. and 4. and connect flush cart hoses to 1" MNT.
3. Flush and purge loop field thoroughly with flush cart.



7. Close valve 2. and disconnect hose from tee 4.; screw cap back on.
8. Open valve 1. and 2.; start system.



4. Disconnect hoses from tees 3. and 4. Put cap back on Tee 3.
5. Connect 1" clear hose with swivel connector to tee 4., put hose into top of flow center.
6. Open valve 2. and turn on flow center; flush inside piping and heat pump with the GT®/QT® flow center pump(s).



9. Any small amounts of air remaining in the system will become trapped and isolated in the GT®/QT® flow center
10. Check the flow with a flow meter tool. Fill flow center to bottom of dip tube elbow on a GT® flow center or to the top of the elbow on a QT® flow center.



B & D TERMS & CONDITIONS OF SALE

APPROVED OPEN ACCOUNT

Standard terms are “Net 30 Days”; meaning payment should be made within 30 days from date of invoice. The credit department must approve all open account terms. Discount terms for early payment may be allowed under approved credit conditions. B & D Mfg., Inc sells through wholesale distributors only.

OVERDUE ACCOUNTS

A delinquency charge of 1 ½ percent per month (18% per annum, or according to state maximum allowed by law) will be added to all past accounts. Once your accounts are past due, it will be reviewed and could become C.O.D.

PRICES

All prices contained herein become effective immediately and supersede all prior published prices and quotations. All prices subject to change without notice.

SHIPPING WEIGHTS

Standards herein are approximate and not guaranteed.

FREIGHT

All shipments are F.O.B. Scranton (IA), Fort Smith (AR), and Syracuse (NY) and is up to our discretion. Shipments will be motor freight Prepaid and Fed Ex unless otherwise specified. Arkansas Warehouse and Syracuse Warehouse are Fed Ex only. The buyer must initial all freight claims. If your shipment arrived with a shortage or is damaged, you are responsible to the freight agent to note the exact product missing or the extent of the damage on the freight bill. All shipping orders for one day air or two day air will automatically have an additional delivery surcharge up to \$50. This charge is in addition to regular delivery charges.

RETURNS/DISCREPANCIES

All returns are required to have a RMA form with issued approval number and must be received in good sellable condition. Special Orders and Fabricated Fittings are non-returnable items and subject to refusal. B & D Mfg., Inc. does not allow returns on pipe. B&D Mfg., Inc. must be notified of any discrepancy in shipment, order, and/or invoice within 10 days after receipt. Items returned to stock will be evaluated for resale condition. Returns will be charged a \$25 processing fee, plus a restock fee up to 25%. For further instructions please refer to RMA sheet.



WARRANTY: B & D LIMITED 5 YEAR WARRANTY

LIMITED 5 YEAR WARRANTY

ALL RESIDENTIAL GT®, QT®, AND QT®-EA MODEL FLOW CENTERS bought after November 1st, 2010.

B & D Mfg., Inc. warrants for a period of sixty (60) months from the date of purchase, but not more than sixty-five (65) months from date of manufacture, that all Models GT®, QT®, and QT®-EA Flow Centers are free from defects in materials or workmanship.

TERMS OF LIMITED WARRANTY

Limited Warranty is only applicable to products installed for use in ground source heat pump systems using clean Potable Water.

Complete unit replacements are not covered, defective parts will be repaired and/or replaced at the Manufacturer's discretion.

Limited Warranty shall not apply if serial number or data plates have been removed or altered. Warranty will be null and void.

Limited Warranty shall not apply if products are not installed and maintained according to instructions in the product installation manual.

Replacement and/or factory repaired parts are warranted only for the remainder of the original warranty period.

B&D MFG, INC does not warrant products that have been modified from original design. Any product returned with design deviations will null and void any and all warranties.

B&D MFG, INC is not responsible for any labor, shipping and transportation costs.

In no event will liability exceed the purchase price of the product.

THE FOREGOING LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES (AND IMPLIED CONDITIONS IN CANADA), EXPRESSED, IMPLIED AND STATUTORY, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL SUCH WARRANTIES EXPRESS OR IMPLIED, ARE EXCLUDED AND SHALL NOT APPLY TO THE GOODS SOLD. IN NO EVENT SHALL THE WARRANTOR BE LIABLE FOR DIRECT, INDIRECT INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN THE GOODS EXCEPT TO THE EXTENT SET FORTH HEREIN.

FORM 105
REV Nov 2010/Replaces All previous Warranty Statements



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WARRANTY: B & D LIMITED WARRANTY

B & D MFG., INC. LIMITED WARRANTY STATEMENT

ALL RESIDENTIAL 3-Pump KFC, XT AND EA® MODEL FLOW CENTERS

B & D Mfg., Inc. warrants for a period of twenty-four (24) months from the date of purchase, but not more than thirty (30) months from date of manufacture, that all Models 3-Pump KFC, XT and EA® Flow Centers are free from defects in materials or workmanship. Defective parts will be repaired or replaced at the Manufacturer's discretion. No allowance for labor or property damage is implied.

ALL WARRANTY PRODUCTS MUST BE RETURNED WITHIN 30 DAYS OF RECEIPT OF REPLACEMENT TO RECEIVE CREDIT.

ALL COMMERCIAL MULTIZONE FLOW CENTERS and SMART PUMPS

B & D Mfg., Inc. warrants for a period of twelve (12) months from date of purchase, but not more than (18) months from date of manufacture that all products furnished by it are free from defects in materials and workmanship.

Seller's liability for any breach of this Warranty shall be limited solely to replacement or repair, and the sole option of seller, of any part or parts found to be defective during the Warranty period provided the Product is properly installed and is being used as originally intended. Buyer must notify Seller of any breach of this Warranty within the aforementioned Warranty period: defective parts must be shipped by Buyer to Seller with transportation charges prepaid.

It is expressly agreed that this shall be the sole and exclusive remedy of the buyer. Under no circumstances shall seller be liable for any costs, loss expenses damages, special damages, incidental damages of manufacture, sale, use or repair of the product whether based upon warranty, contract, negligence or strict liability. In no event will liability exceed the purchase price of the product.

The warranty and limits of liability contained herein are in lieu of all other warranties and liabilities, expressed or implied. All implied warranties of merchantability and fitness for a particular purpose are hereby disclaimed by seller and excluded from this warranty.

Seller neither assumes nor authorizes any person to assume for it, any other Warranty obligation in connection with the sale of the Product. This Warranty shall not apply to any Product or parts of Products which (a) have been repaired or altered outside of seller's facilities: or (b) have been subject to misuse, negligence or accidents: or (c) have been used in a manner contrary to seller's instructions.

PURGE CARTS

The Power-Flow Purge Cart is warranted for one year from date of sale. Alleged defective product must be returned to B&D Mfg., Inc., 901 9th Street, Scranton, Iowa 51462, for inspection via prepaid freight. Defective parts will be repaired or replaced at the manufacturer's discretion. No allowance for labor or property damage is implied. Warranty of performance is limited to the table provided with the unit.



WARRANTY: HSS® LIMITED WARRANTY

B & D Mfg., Inc. warrants for a period of three (3) years from date of purchase that all HSS® Flow Center pumps and circuit boards are free from defects in materials and workmanship. B & D Mfg., Inc. warrants for a period of five (5) years from date of purchase that all HSS® Flow Center, Stainless Steel Tanks only, are free from defects in materials and workmanship. B & D Mfg., Inc. warrants for a period of one (1) year from date of purchase that all other parts are free from defects in materials and workmanship. Defective parts will be repaired or replaced at the Manufacturer's discretion. No allowance for labor or property damage is implied.



Warning: HSS® Buffer Tank should never be used with an outdoor wood boiler. Outdoor wood boilers can produce water temperatures above 150 degrees and will void ALL WARRANTIES.

ALL WARRANTY PRODUCTS MUST BE RETURNED WITHIN 30 DAYS OF RECEIPT OF REPLACEMENT TO RECEIVE CREDIT.

Seller's liability for any breach of this Warranty shall be limited solely to replacement or repair, and the sole option of seller, of any part or parts found to be defective during the Warranty period provided the Product is properly installed and is being used as originally intended. Buyer must notify Seller of any breach of this Warranty within the aforementioned Warranty period: defective parts must be shipped by Buyer to Seller with transportation charges prepaid.

It is expressly agreed that this shall be the sole and exclusive remedy of the buyer. Under no circumstances shall seller be liable for any costs, loss expenses damages, special damages, incidental damages of manufacture, sale, use or repair of the product whether based upon warranty, contract, negligence or strict liability. In no event will liability exceed the purchase price of the product.

The warranty and limits of liability contained herein are in lieu of all other warranties and liabilities, expressed or implied. All implied warranties of merchantability and fitness for a particular purpose are hereby disclaimed by seller and excluded from this warranty.

Seller neither assumes nor authorizes any person to assume for it, any other Warranty obligation in connection with the sale of the Product. This Warranty shall not apply to any Product or parts of Products which (a) have been repaired or altered outside of seller's facilities: or (b) have been subject to misuse, negligence or accidents: or (c) have been used in a manner contrary to seller's instructions.

FORM 100
REV Nov 2010/Replaces All previous Warranty Statements



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PIPE: WATER VOLUME, TEMPERATURE LIMITS

Water Volume Per 100' of Pipe Geo-Black Polyethylene Pipe

NOMINAL PIPE SIZE	GALLONS	LITERS
3/4 SDR-11	3.02	11.42
1" SDR-11	4.73	17.91
1-1/4" SDR-11	7.55	28.56
1-1/2" SDR-11	9.93	37.58
2" SDR-11	15.36	58.12
3" SDR-11	33.47	126.67
4" SDR-11	55.31	209.36

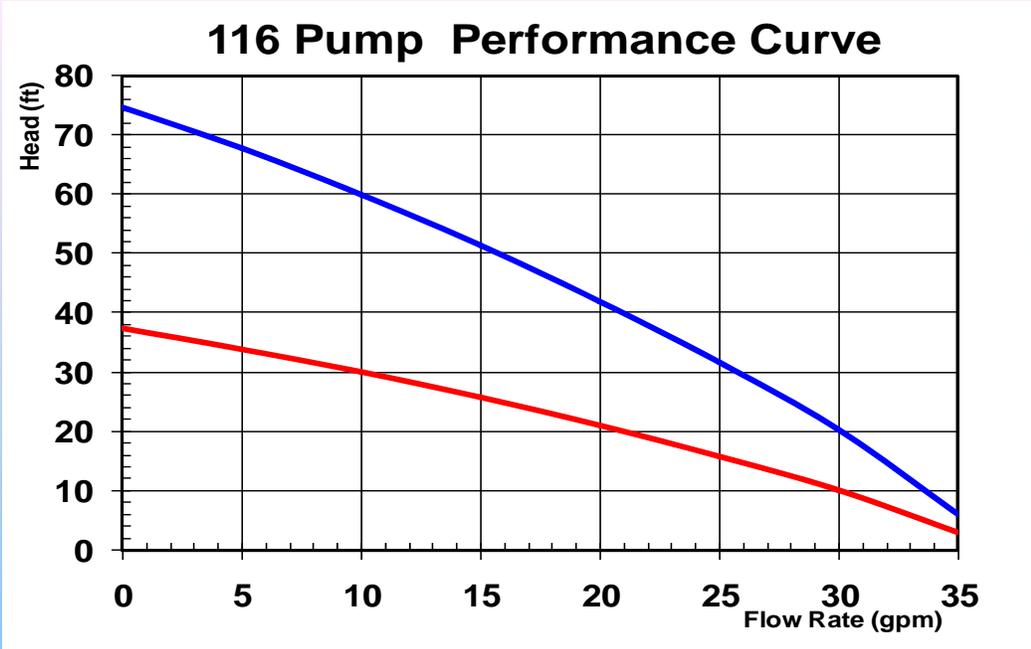
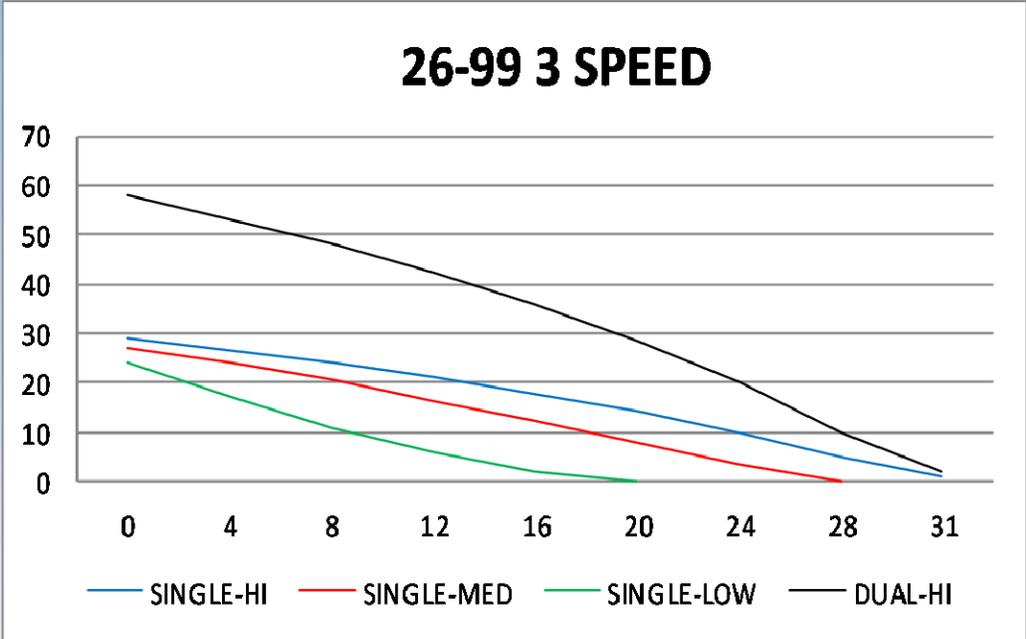
Temperature Limits

GEO-BLACK is recommended for continuous use below 100 °F but can be exposed for limited periods to temperatures up to 120 °F. For design purposes, derating pressure factors for higher temperature installations are shown below:

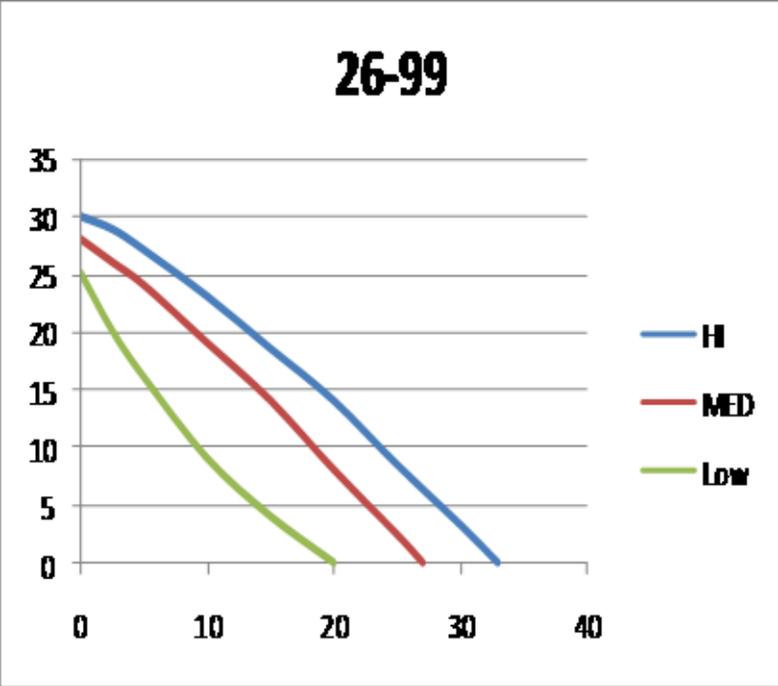
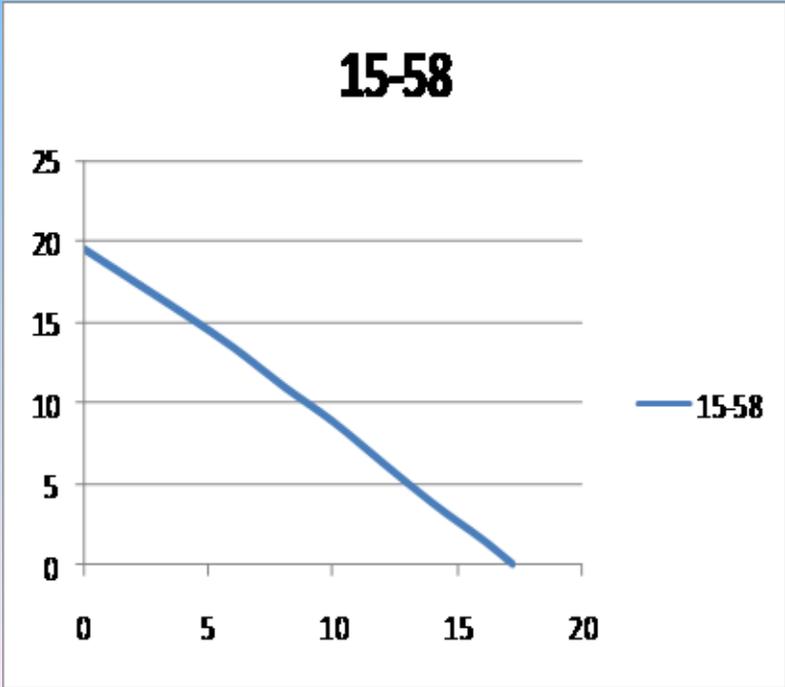
OPERATING TEMPERATURE, °F	De-Rating Factor
73	1.00
100	0.75
140	0.50



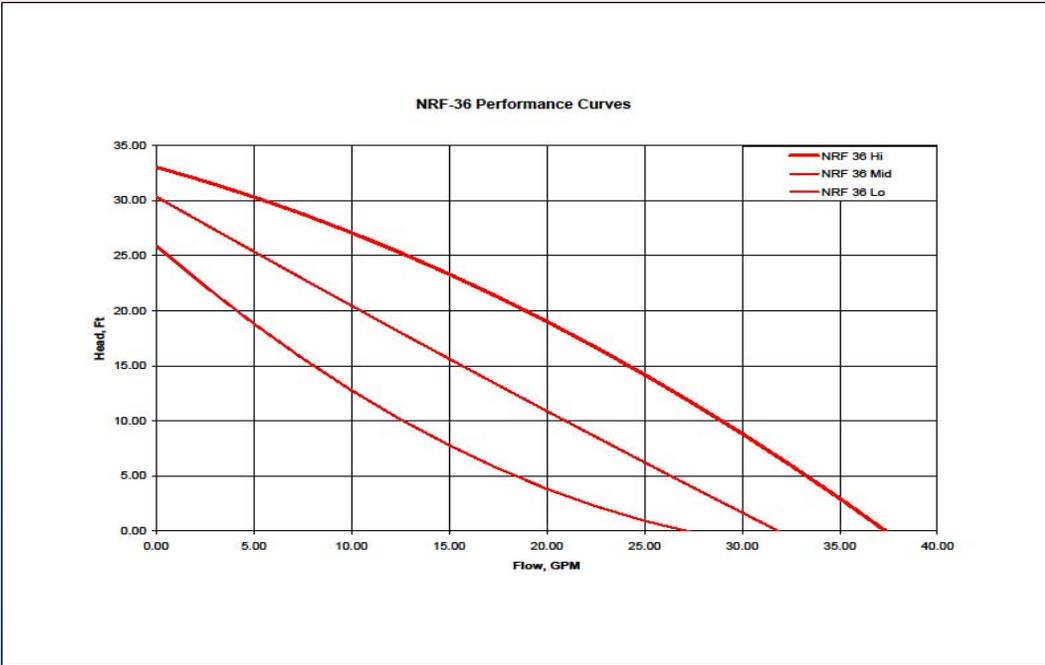
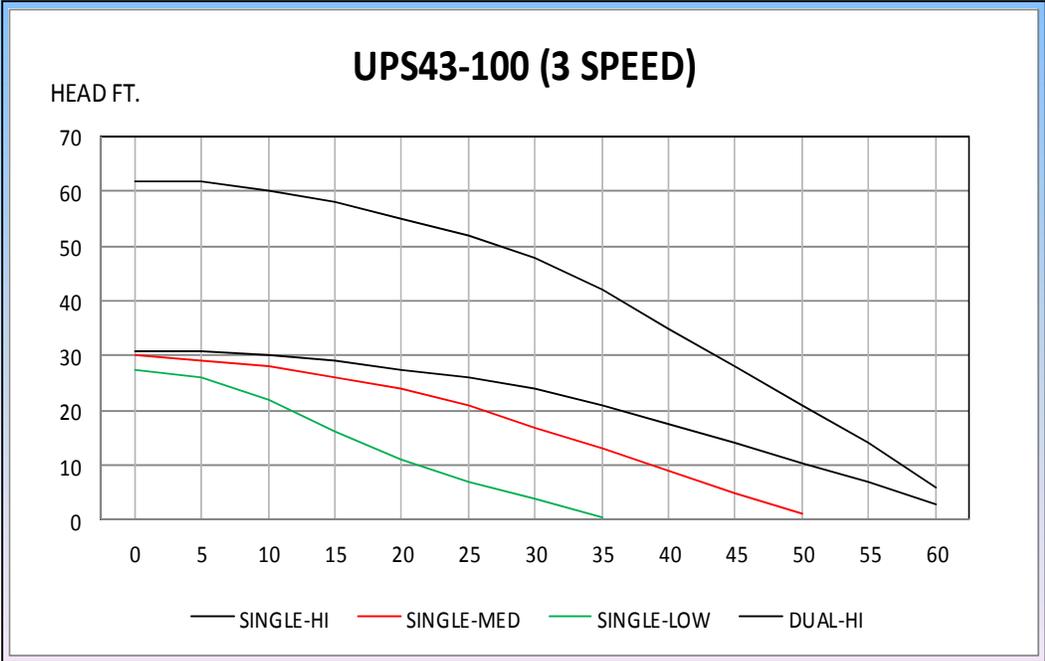
FLOW CENTERS: PUMP CURVES
26-99/3 (230V) & 116



FLOW CENTERS: PUMP CURVES 15-58 & 26-99 3-SPEED (115V)



FLOW CENTERS: PUMP CURVES 43-100F & NRF-36



NOTES:



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HEAT PUMP SCHEDULING
CLOSED-LOOP GHEX DESIGN
INTERIOR PIPING DESIGN
HEAD LOSS CALCULATIONS
CIRCULATING PUMP SELECTION
ACCA MANUAL D DUCT DESIGN

GEO 
CONNECTIONS 



LOOPFIELD DESIGN
PEAK LOAD ESTIMATOR
OPERATING COST COMPARISON
DOMESTIC HOT WATER CALCULATOR
COST OF OWNERSHIP CALCULATOR
CO₂ EMISSIONS CALCULATOR

BASED ON THE LATEST IGSHPA RESIDENTIAL/LIGHT COMMERCIAL DESIGN &
INSTALLATION MANUAL, LOOPLINK IS THE INDUSTRY'S FIRST WEB BASED
GEOTHERMAL DESIGN SOFTWARE.



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Cut back on down time so you can get back to business.

Rental Units Available

BUTT FUSION MACHINES:

RAM28 * RAM414

ELECTROFUSION MACHINES:

ELEKTRA LIGHT * ELEKTRA 400