



2025 Catalog

Carrier Geothermal Accessories

Carrier offers a wide variety of accessories for geothermal installations including flow centers (pressurized and non-pressurized), hose kits, fittings, unit mounting pads, auxiliary heaters, service tools and more. These products are listed in this Geothermal System Components Catalog (part number AG-GEOCAC-12).

On occasion, a geothermal installation may require components that are not currently offered by Carrier. Examples of items available that are not currently supplied by Carrier include: commercial flow centers and pumps, multi-circuit flow centers, hydraulic separators, butterfly valves, wye strainers, geothermal pipe and fittings, hydronic buffer tanks, and much more. Contact your Carrier Distributor for information and pricing on additional geothermal accessories. Note that items not supplied by Carrier are not covered by the Carrier warranty.

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Flo-Link & GPM series Pressurized Flow Centers

Residential flow centers are available in a wide variety of combinations. Flo-Link double O-ring style flow centers are unsurpassed in ease of installation. Flo-Link double O-ring fittings provide leak-free union connections at the flow center, installed without tools (no need for pipe wrenches). Virtually any type of transition (fusion, thread, barb, etc.) is available for Flo-Link fittings. The full port 3-way flushing and isolation valves are designed for the wide range of temperatures experienced in ground loop applications.



Flo-Link series foamed flow center with high impact polystyrene cabinet (shown with variable-speed Grundfos UPMXL 25-124 pump): Flo-Link flow centers are available in one pump and two pump configuration with variable-speed (UPS32-140) and constant speed (UPS26-99) pump(s).



Flo-Link™ double O-ring fitting sets for union/transition to flow center: See Hose Kit/Fitting section for complete assortment of Flo-Link fittings.

Flo-Link flow centers include specially designed volutes, which allow the entire power head to be external to cabinet. This provides additional flexibility for installers and service technicians when a pump head needs to be rotated, or when a single pump flow center needs to be upgraded to a two pump flow center.



GPM series foamed flow center with ABS plastic cabinet (shown as GPM-1, single pump--also available as GPM-2)

The GPM series flow centers utilize reliable 3-way valves with the same features and benefits as the Flo-Link valves, but have threaded FPT connections. GPM flow centers are available in one to four pump configurations. The cabinet is designed to allow pump heads to be rotated, or for upgrading/downgrading (i.e. adding/removing a pump).

> Field upgradable to two pump flow center

NON-Pressurized Flow Center

The NP series non-pressurized flow center raises the bar for non-pressurized applications. Building upon the success of the 3-way flushing valves with Flo-Link connections, the NP series reduces installation time, and increases reliability. In fact, by incorporating flushing valves into the flow center, the ground loop may be flushed without adding external flush ports, saving installation time and additional cost. Plus, piping becomes much simpler. Flo-Link double fittings include transitions for most any application (PE fusion, threaded, etc.). Top or side connections to the heat pump and ground loop add even more flexibility. Current options are as follows:

- NP¹ -- Grundfos UPS26-99 or UP26-116
- NP² -- Two UPS26-99 (3-speed) or UP26-116 pumps
- NP v -- Variable-speed UPMXL 25-124
- NP V2-- One UPMXL 25-124 and one UPS26-99



Geo-Prime Series Hybrid Flow Centers



The Geo-Prime series is a hybrid system with a tank that may be added to a standard pressurized flow center or pump to create a non-pressurized system. In addition to its applicability in a non-pressurized system, the tank can be used as an add-on to traditional pressurized systems. In either case, the Geo-Prime ensures that the pumps receive only air-free loop fluid and provides enough additional make-up fluid to prevent call-backs associated with loop expansion during seasonal temperature changes.

The Geo-Prime Tank consists of a fluid reservoir, two bypass valves and an air-eliminating dip tube inside of a foam-insulated cabinet. The tank includes a sealing cap with integrated pressure and vacuum relief to prevent the reservoir from being over-pressurized or collapsing. The tank is mounted above the suction flange of the pump to ensure a flooded volute and to provide the necessary suction head pressure for the pump.

Benefits Include:

- HDPE construction with fused joints
- Single pass internal air separation
- Integrated pressure/vacuum relief in sealing cap
- Integrated bypass valves to allow ground loop system to be flushed with industry standard flush cart
- Utilizes Flo-Link double O-ring connections for easy installation
- Integrated "sight glass" for fluid level monitoring without removing cap
- Approx. 2.5 gallon fluid capacity
- Foam insulated high impact polystyrene cabinet
- Modular system: may be used with pressurized flow center or insulated pump.



Typical Application: Geo-Prime is installed above flow center. An insulated pump may also be used instead of a flow center when 3-way flushing valves are not needed (see picture to the left).

Flow Center Nomenclature

A wide range of both pressurized and non-pressurized products are available, saving installation time and providing the most reliable solutions for geothermal closed loop systems on the market today. The charts following this page show which model number combinations are available.

Flow Centers



NOTE: Heat pumps with Infinity controls require a second wiring kit (**RC** part #4129) when connecting to a variable-speed flow center.

Part	Description	
Number	Flo-Link Foamed Cabinet (Double O-ring Connections Brass Valves)	
FCP11BD	FL1-99 UPS26-99, 3-speed, 230V, Grundfos	
FCP12BD	FL1-116 UP26-116, single-speed, 230V, Grundfos	
FCP15BD	FLV1, UPS32-140 (variable-speed), 230V, Grundfos**	
FCP21BD	FL2-99 UPS26-99, 3-speed, 230V, Grundfos, Qty 2	
FCP22BD	FL2-116 UP26-116, single-speed, 230V, Grundfos, Qty 2	
FCP26BD	FLV2, one UPS32-140 (variable-speed) and one UPS26-99 (3-speed), 230V, Grundfos**	
Each unit co **NOTE: Va	ntains: Mounting hardware and one set of Flo-Link by 1-1/4" fusion fittings (loop side). riable-speed flow centers require a controller package (See Accessories section)	
	Flo-Link Foamed Cabinet (Double O-ring Connections Composite Valves)	
FCP11CD	FL1-99 UPS26-99, 3-speed, 230V Grundfos	
FCP21CD	FL2-99 UPS26-99, 3-speed, 230V, Grundfos, Qty 2	
Each unit contains: Mounting hardware and one set of FIS4D5U Flo-Link by 1-1/4" fusion fittings		

Flo-Link Series (Double O-ring) Pressurized Flow Centers

IMPORTANT: For heat pumps with Infinity controls, use wiring kit (RC part # 4129) when connecting to a variable-speed flow center.

Hose kit HK4MM along with fitting set FIS3M4W or FIS4M4W is reccomended. See page 12.

NOTE: Part #s in BOLD ITALIC are stocking items



Flo-Link double O-ring fitting sets for union/transition to flow center: See Hose Kit/Fitting section for complete assortment of Flo-Link fittings. *Loop Pressurization Accessories:* A Pressure Battery expansion tank is recommended for all pressurized systems. See Geothermal Accessories section for loop pressurization options.

Panel Mount Variable-Speed Flow Centers

In our ongoing efforts to create products that are easier to install and time-saving, there are several new packages for variable-speed pumping options that completely eliminate the need for wiring the controller. The packages listed below include panel-mounted controls with a terminal strip for simply wiring the panel to the heat pump thermostat connections. Note that this option is for heat pumps with 24VAC thermostats.



		Description	
Part	Variable-speed	d Pre-wired Packages (Panel M	ounted)
Number	Flow Center	Control	Connections
FCM15BDT	UPMXL 25-124 (var. spd.), brass valves	Temperature Difference	Hose kit / PE fusion**
FCM15BDF	UPMXL 25-124 (var. spd.), brass valves	Flow & Temperature Control	Hose kit / PE fusion**
FCM26BDT	1-UPMXL 25-124 + 1-UPS26-99, brass vlvs	Temperature Difference	Hose kit / PE fusion**
FCM26BDF	1-UPMXL 25-124 + 1-UPS26-99, brass vlvs	Flow & Temperature Control	Hose kit / PE fusion**

NOTE: Part #s in BOLD ITALIC are stocking items

**Kit includes all of the fittings necessary for connecting to the ground loop (1-1/4" PE fusion) and to the heat pump (1" MPT).



GPM Series (FPT) Pressurized Flow Centers



GPM-1



GPM-2

Part	Description	
Number	GPM-1 with Foamed Cabinet (FPT Connections)	
FCP11BF	GPM-1 UPS26-99, 3-speed, 230V, Grundfos	
FCP12BF	GPM-1 UP26-116, single-speed 230V, Grundfos	
Each unit co	ntains: Mounting hardware.	
	GPM-2 with Foamed Cabinet (FPT Connections)	
FCP21BF	GPM-2 UPS26-99, 3-speed, 230V, Grundfos, Qty 2	
FCP22BF	GPM-2 UP26-116, single-speed 230V, Grundfos, Qty 2	
Each unit contains: Mounting hardware.		
	GPM-3 with Foamed Cabinet (FPT Connections)	
FCP32BF	GPM-3 UP26-116, single-speed 230V, Grundfos, Qty 3	
Each unit contains: Mounting hardware.		
	GPM-4 with Foamed Cabinet (FPT Connections)	
FCP42BF	GPM-4 UP26-116, single-speed 230V, Grundfos, Qty 4	
Each unit co	ntains: Mounting hardware	

NOTE: Part #s in BOLD ITALIC are stocking items

Hose kit HK4MM along with fitting set FIS3M4W or FIS4M4W is reccomended. See page 12.



GPM-3



GPM-4

GPM series flow centers require 1" MPT adapter fittings. See Hose Kit/Fitting section for complete assortment of fittings.





Outdoor split geothermal installations are great for retrofit applications, including Hybrid Heat[®] systems. The Outdoor flow center kit provides all of the components needed to connect the ground loop to the heat pump.

OS Series (Outdoor Split) Pressurized Flow Centers



Part	Description		
Number	NP ¹ with Foamed Cabinet (Flo-Link Double O-Ring Connections)		
FCN11CD	NP ¹ UPS26-99, 3-speed, 230V, Grundfos		
FCN12CD	NP ¹ UP26-116, single-speed, 230V, Grundfos		
Requires: Flo	p-Link adapter sets for all connections or connector kit (see Hose Kit/Fitting section)		
	NP ² with Foamed Cabinet (Flo-Link Double O-Ring Connections)		
FCN21CD	NP ² UPS26-99, 3-speed, 230V, Grundfos, Qty 2		
FCN22CD	NP ² UP26-116, single-speed, 230V, Grundfos, Qty 2		
Requires: Flo	Requires: Flo-Link adapter sets for all connections or connector kit (see Hose Kit/Fitting section)		
	NP ^v & NP ^{v2} w/ Foamed Cabinet (Flo-Link Dbl O-Ring Connections)		
FCN15CD	NP ^v UPMXL 25-124 (variable-speed), 230V, Grundfos**		
FCN26CD	NP ^{v2} 1-UPMXL 25-124 (variable-spd.) & 1-UPS26-99 (constant spd.), 230V, Grundfos**		
Requires: Flo-Link adapter sets for all connections or connector kit (see Hose Kit/Fitting section) **NOTE: Variable-speed flow centers require a controller package (See Accessories section)			

IMPORTANT: For heat pumps with Infinity controls, use wiring kit (RC part # 4129) when connecting to a variable-speed flow center.



A controller kit is required for all variablespeed flow centers (see Geothermal Accessories) or a Flow Center Kit (FCK) is available, which includes all necessary components.



NOTE: Part #s in BOLD ITALIC

are stocking items

Also available with UPMXL 25-124 variable-speed pump





NP Series (Two-pump version shown)



Flo-Link double O-ring fitting sets for union/transition to flow center. See Hose Kit/Fitting section for complete assortment of Flo-Link fittings.

Hose Kit Nomenclature

Hose kits provide a turn-key solution for connecting the geothermal heat pump to the flow center. They even include insulating boots for the elbow at the heat pump to help prevent condensation, and to lessen installation time.



	Description	
Part Number	NP Series Hose Kit with 3-way Flushing/Purging Valve	ACPTP1
ACCKNP	 Hose kit contents: Qty 1: 10 ft. 1" ID black hose. 150 psi Qty 4: Insulating boot Qty 2: Elbow, 1" MPT x 1" hose barb w/PT port (heat pump connection) Qty 2: PT plug, 1/4" MPT Qty 2: Elbow with 1/4" plugs, Flo-Link x 1" hose barb (flow center connection) Qty 1: 3-way Valve, Single, Composite, Flo-Link fittings Qty 1: 1-1/4" PE fusion x Flo-Link (3-way Valve connection to ground loop) Qty 1: Flo-Link x 1" hose barb (3-way Valve connection to heat pump) Qty 1: 1-1/4" PE fusion x 1" hose barb (ground loop connection to hose at flow center, RH side) Qty 12: Hose clamps 	ACPTP2
	Compatible with NP series flow centers and heat pumps with 1" FPT connections.	
NOTE: Part	#s in BOLD ITALIC are stocking items	
ACCKNP		





HK4DM	Part	Description
	Number	1" Hose Kit (Flo-Link Dbl O-ring @ Flow Cntr; MPT @ Heat Pump)
	HK4DM	 Use with Flo-Link Double O-ring flow centers Hose kit contents: Qty 1: 10 ft. 1" ID black hose Qty 2: Insulating boot Qty 2: Insulating boot caps Qty 2: PT plug, 1/4" MPT Qty 2: Fitting, Flo-Link x 1" hose barb (flow center) Qty 2: Elbow, 1" MPT x 1" hose barb w/PT port (heat pump) Qty 8: Hose clamps, stainless steel
- 102 A		1" Hose Kit (MPT @ Flow Center & Heat Pump)
НК4ММ	НК4ММ	 Use with GPM Series flow centers only (page 8) Hose kit contents: Qty 1: 10 ft. 1" ID black hose Qty 2: Insulating boot Qty 2: Insulating boot caps Qty 2: PT plug, 1/4" MPT Qty 2: Fitting, 1" MPT x 1" hose barb (flow center) Qty 2: Elbow, 1" MPT x 1" hose barb w/PT port (heat pump) Qtv 8: Hose clamps stainless steel
CONTRACTOR OF THE OWNER		

Carrier geothermal heat pumps with R-454b utilize either 3/4" FNPT or 1" FNPT loop connections depending on the unit size. We recommend the use of fitting set FIS3M4W for 3/4" units or FIS4M4W for 1" units along with a 1" hose kit HK4DM or HK4MM.



FIS3M4W: 3/4" MPT X 1" Swivel



FIS4M4W: 1" MPT X 1" Swivel

Fitting Nomenclature



W = Swivel

Z = Straight mechanical thread (male)

NOTE: Not all nomenclature combinations are available part numbers

Fittings

Flo-Link double O-ring fittings are the geothermal industry's best transition/union fittings for connections to flow centers and heat pumps. The Flo-Link design provides a leak-free connection without the use of thread sealant, and saves installation time.



Accessory Nomenclature

Accessories include connection kits, pump controllers, and other items to add to the ease of installation for geothermal systems.





Pump Sharing Relay (Two heat pumps with one flow center) ACPSRN



use wiring kit (RC part # 4129) when connecting to a

Controller Kit, Temperature (ACVCT shown)



(ACVCFHB shown)

Unit Mounting Pad

The vast majority of geothermal systems are installed indoors, which makes vibration and sound isolation important. Standard condenser pads are not designed for indoor packaged equipment. ACMP pads are made of high-density SBR recycled rubber, which provides a high degree of vibration and sound absorption for compressor-bearing units installed indoors.

Part	Description
Number	Unit Mounting Pad
ACMP2436	3/4" high density rubber equipment pad, 24" x 36"
ACMP2836	3/4" high density rubber equipment pad, 28" x 36"

NOTE: Part #s in BOLD ITALIC are stocking items

	R454-B Mounting Pad used by Model					
Size	GBA/HBR Vertical	GCA/HCR Vertical	GZA / HSR Split system	GWA / HWR Split system		
18	ACMP2436	N/A	N/A	N/A		
24	ACMP2436	ACMP2436	ACMP2436	ACMP2836		
30	ACMP2436	N/A	N/A	N/A		
36	ACMP2436	ACMP2836	ACMP2436	ACMP2836		
42	ACMP2836	N/A	N/A	N/A		
48	ACMP2836	ACMP2836	ACMP2436	ACMP2836		
60	ACMP2836	ACMP2836	ACMP2436	ACMP2836		
72	ACMP2836	ACMP2836	ACMP2436	ACMP2836		
120	N/A	N/A	N/A	N/A		

Equipment Pad Features:

- Absorbs low frequency sound/vibration (particularly suited for compressors)
- Environmentally friendly recycled material (SBR bonded black recycled rubber)
- High density (60 lbs/cu. ft.)
- Anti-skid texture
- Non-porous, both sides
- Rated for packaged unit weight (very little compression)
- May be trimmed as needed
- Individually boxed



R-410A Auxiliary Heater Nomenclature

The KW series heater package is a field Installable electric resistance heater kit designed for the GC, GP, and GB series heat pumps. The KW series heater package requires separate electrical service connection, independent from the heat pump's power supply. Installation of this heater package will convert the heat pump into a two point power connection. The heater package is available in four capacities, 5, 10, 15, and 20 kW. Unit tonnage vs. heater package capacity compatibility is shown in the table below.



Heater	GHP	Aux. Heat Size Compatibility			
Series	Model	5 kW	10 kW	15 kW	20 kW
	GP024	•	•	-	-
Ŧ	GP036	•	•	-	-
our	GP048	•	•	•	-
Š	GP060	•	•	•	•
nal	GP072	•	•	•	•
iter	GB018	•	-	-	-
<u>_</u>	GB024	•	•	-	-
B"	GB030	•	•	-	-
ies	GB036	•	•	•	-
Ser	GB042	•	•	•	-
0)	GB048	•	•	•	•
	GB060	•	•	•	•
₹.	GC024	•	•	-	-
nt "C	GC036	•	•	•	-
ies teri 1ou	GC048	•	•	•	•
Ser	GC060	•	•	•	•
•,	GC072	•	•	•	•
, t	GC024	•	•	-	-
D" "	GC036	•	•	•	-
ries A M	GC048	-	•	•	-
Ser	GC060	-	-	•	•
	GC072	-	-	•	•

Notes:

- 1. Side discharge GP and GB models require externally-mounted duct heaters (supplied by others).
- 2. Series "C" heaters are used with GC Infinity models only.
- 3. Side discharge GC models require "C" series duct mounted heaters.

• = Heater Kit compatible

-- = Heater Kit NOT compatible

R-454B Auxiliary Heater Nomenclature

The KW series heater package is a field Installable electric resistance heater kit designed for the GC, GP, and GB series heat pumps. The KW series heater package requires separate electrical service connection, independent from the heat pump's power supply. Installation of this heater package will convert the heat pump into a two-point power connection. The heater package is available in four capacities, 5, 10, 15, and 20 kW. Unit tonnage vs. heater package capacity compatibility is shown in the table below.



Heater	GHP	Aux	. Heat Size	e Compatik	oility	Notes:
Series	Model	5 kW	10 kW	15 kW	20 kW	
	GVA 24	•	•	-	-	Side discharge GPA, GBA, and GCA models
Ħ	GVA 36	•	•	-	-	1. require externally-mounted duct heaters
our	GVA 48	•	•	•	-	(supplied by 3rd party manufacture)
Š	GVA 60	•	•	•	•	(supplied by Sid party manufacture)
nal	GVA 72	٠	•	•	•	2. Series "C" heaters are used with GCA Infinity
Iter	GBA18	•	-	-	-	models only
-	GBA24	•	•	-	-	models only.
ц Ц	GBA30	•	•	-	-	
ies	GBA36	•	•	٠	-	
<u>Šeri</u>	GBA42	•	•	٠	-	
0,	GBA48	•	•	٠	•	
	GBA60	•	•	•	•	_
.	GCA24	•	•	-	-	
nt "C	GCA36	•	•	٠	-	
ies teri 1ou	GCA48	•	•	٠	•	
⊇ ⊑ ≥	GCA60	•	•	٠	•	
	GCA72	•	•	•	•	_
s, t	GCA24	•	•	-	-	
D" ol	GCA36	•	•	٠	-	= Heater Kit compatible
ries t	GCA48	-	•	•	-	- Heater Kit NOT compatible
Sel Duc	GCA60	-	-	٠	•	= Heater Kit NOT compatible

Open Loop Accessory Nomenclature

Solenoid valves and flow restrictors are essential for open loop systems to shut off the water when the heat pump is not running and to maintain proper water flow without wasting water.



MVBR3F & MVBR4F



FR2 through FR9



Part	Description				
Number	Motorized Solenoid Valves				
MVBR3F	Valve, motorized solenoid, forged brass 3/4" FPT, 24V w/end sw				
MVBR4F	Valve, motorized solenoid, forged brass 1" FPT, 24V w/end sw				
	Flow Regulator Valves				
FR2	Valve, flow regulator, 3/4" FPT x 3/4" FPT, 2 GPM				
FR3	Valve, flow regulator, 3/4" FPT x 3/4" FPT, 3 GPM				
FR4	Valve, flow regulator, 3/4" FPT x 3/4" FPT, 4 GPM				
FR5	Valve, flow regulator, 3/4" FPT x 3/4" FPT, 5 GPM				
FR6	Valve, flow regulator, 3/4" FPT x 3/4" FPT, 6 GPM				
FR7	Valve, flow regulator, 3/4" FPT x 3/4" FPT, 7 GPM				
FR8	Valve, flow regulator, 3/4" FPT x 3/4" FPT, 8 GPM				
FR9	Valve, flow regulator, 3/4" FPT x 3/4" FPT, 9 GPM				

NOTE: Part #s in BOLD ITALIC are stocking items

Flush Cart

The professional's choice to purge air and flush debris from residential and light commercial geothermal ground loops, this premium Flush Cart includes all the important features required to safely flush and purge the loop including power flushing, power draining, pump and dump, and debris filtering. Its compact design utilizes standard components which allows for easy field service. The 1.5 HP self-priming 115V pump is mounted above the cart's axle, providing a well balanced system that is easy to maneuver.



Service Tools

Part	Description		
Number	Loop Tools & Accessories		
TLGGO	Geo-Gooser loop pressurization device		
TLPG1	Pressure gauge, 0-100 psig, 3.5" dial w/PT adapter		
TLGAD	Gauge adapter P/T plug w/guard		
TLFLK	Loop Service and Flush Kit		
TLHYD	Hydrometer, Alcohol		

NOTE: Part #s in BOLD ITALIC are stocking items

TLFLK



Contact Replacement Components for flow center replacement pumps, 3-way valve re-build kits, and other replacement parts for geothermal accessories (see page 22 for parts list).





Replacement Parts



Replacement pump head -- "NV" (no volute) part numbers* 9428/9405/9104

9424

3479/3480







r rrf

in 4026 in 4282 (pack of 10) (pack of 10)



3977



3685

Contact Replacement Components for flow center replacement pumps, 3-way valve re-build kits, and other replacement parts for geothermal accessories.

Part	Description						
Number	Replacement Pumps - Flow Centers						
9425NV	UPS26-99 (3-speed), 230V Grundfos pump, no volute*						
9428	UPS26-99F (3-spd), 230V Grundfos pump, cast iron volute						
9405NV	UP26-116 (single-speed), 230V Grundfos pump, no volute*						
9405	UP26-116F (sngl spd), 230V Grundfos pump, cast iron volute						
9457	Grundfos UPMXL 25-124 var. speed, 230V, cast iron						
	Replacement Pump - Flush Cart						
9424	Munro 1.5 HP 115V/208-230V single phase						
	Blank-off Plate Kits (convert 2-pump to 1-pump flow center)						
3480	Blank-off Plate Kit, Flo-Link Double O-ring flow centers						
3479	Blank-off Plate Kit, 1" FPT flow centers						
	Flow Center 3-Way Valve Repair Kits						
2938	Repair Kit, Composite Valve, Flo-Link Double O-ring						
3518	Repair Kit, Brass Valve, Flo-Link Double O-ring						
3341	Repair Kit, Brass Valve, FPT Connections						
	Swivel Fitting Replacement Parts						
4026	Pack of 10, 1" gaskets for swivel fittings at heat pump						
4282	Pack of 10, spiral rings for swivel fittings at heat pump						
4283	Pack of 4, female nuts for swivel fittings at heat pump						
	Wiring KIts						
3977	Wiring kit for residential flow centers (included w/flow centers)						
3760	AC wall adapter for 4062						
3807	Barrel connector for 3760						
4129	Wiring kit for Infinity units using var. spd. flow center (purchased separately from RC)						
	Replacement Parts for Variable-Speed Flow Centers						
3685	UPC GEO variable-speed pump controller (replacement)						
3683	Flow sensor and tube, VFS10-200 (replacement)						
3986	Thermistor 10K, 1/4" MPT brass immersion (replacement)						
3728	Isolation relay, 24VAC, SPST/NO (replacement)						

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Flow Center Kit for Outdoor Split Application

Contact Replacement Components for flow center replacement parts and other replacement parts for geothermal accessories.

Part	Description				
Number	Replacement Parts - Outdoor Split Flow Center Kits				
4258	Temperature sensor/switch				
4404	Single pump wiring harness (FCP11BDOS)				
4405	Double pump wiring harness (FCP21BDOS)				
4301	Wiring kit for relays				
4249	Base Panel				
4416	Cover, Top and Bottom				
4299	Desuperheater switch plug				



Dort Number	Description			
Part Number	Energy Tracking Kit For use with R-410A units only			
KHAGT0101KT	Energy Tracking Kit for use with GC and GZ models			
Note: Requires V14 software or later				

Residential Unit Nomenclature - Carrier Geothermal Units

R410A NOMENCLATURE



NOTE: Refer to product data book for performance data, weight, and dimensional data.

Residential Unit Nomenclature - Carrier Geothermal Units



NOTE: Refer to product data book for performance data, weight, and dimensional data.

Application Notes for Hose Kits with P/T Plugs at the Flow Center

For heat pumps with water connections under the return air duct or for any system that could benefit from installing P/T plugs at the flow center instead of at the heat pump, there are hose kits available (HK4PM and HK4QM) that provide an option for the location of the P/T plugs (at the heat pump or at the flow center). Flow center connections with P/T ports and a set of 1/4" MPT brass plugs are included to allow the placement of the P/T plugs at either location.

NOTE: When the P/T plugs are placed at the flow center, additional pressure drop must be added to the heat pump heat exchanger pressure drop to determine flow rate. Use the table below for the additional hose kit pressure drop. An example follows.

			_									
	Pressure Drop at Various Flow Rates/Antifreeze Concentration (includes fittings & 12 ft. of hose)											
Flow	20% Pro	opylene	25% Pro	opylene			12.	5%				
Rate	Gyl	lcol	Gly	vcol	20% E [.]	thanol	Meth	nanol	20% M	ethanol	Wa	ter
(U.S.	Ft. of		Ft. of		Ft. of		Ft. of		Ft. of		Ft. of	
GPM)	Hd.	PSI	Hd.	PSI	Hd.	PSI	Hd.	PSI	Hd.	PSI	Hd.	PSI
4	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.0	0.1	0.0	0.1	0.0
5	0.2	0.1	0.3	0.1	0.2	0.1	0.2	0.1	0.2	0.1	0.2	0.1
6	0.3	0.1	0.4	0.2	0.3	0.1	0.3	0.1	0.3	0.1	0.2	0.1
7	0.4	0.2	0.5	0.2	0.4	0.2	0.4	0.2	0.4	0.2	0.3	0.1
8	0.5	0.2	0.6	0.3	0.5	0.2	0.5	0.2	0.5	0.2	0.4	0.2
9	0.7	0.3	0.7	0.3	0.7	0.3	0.6	0.3	0.6	0.3	0.5	0.2
10	0.8	0.3	0.9	0.4	0.8	0.3	0.7	0.3	0.7	0.3	0.6	0.3
11	0.9	0.4	1.0	0.4	1.0	0.4	0.8	0.3	0.9	0.4	0.7	0.3
12	1.1	0.5	1.2	0.5	1.1	0.5	1.0	0.4	1.0	0.4	0.8	0.3
13	1.2	0.5	1.4	0.6	1.3	0.6	1.1	0.5	1.2	0.5	1.0	0.4
14	1.4	0.6	1.6	0.7	1.5	0.6	1.3	0.6	1.3	0.6	1.1	0.5
15	1.6	0.7	1.8	0.8	1.6	0.7	1.4	0.6	1.5	0.6	1.2	0.5
16	1.8	0.8	2.0	0.9	1.8	0.8	1.6	0.7	1.7	0.7	1.4	0.6
17	2.0	0.9	2.2	1.0	2.0	0.9	1.8	0.8	1.8	0.8	1.5	0.6
18	2.2	1.0	2.5	1.1	2.3	1.0	2.0	0.9	2.0	0.9	1.7	0.7

Hose Kit Pressure Drop*

*Use the above chart for entering water temperatures between 30°F and 50°F. For temperatures above 50°F, use the column labeled "Water". Antifreeze is shown in % by volume.

Example:

Hose kit part number HK4PM is installed between a model GC048 and an FCP21BD flow center with the P/T plugs installed at the flow center. The entering water temperature is 30°F, and the antifreeze is 20% propylene glycol. The heat pump is in the heating mode. The hose kit pressure drop must be added to the heat exchanger (HX) pressure drop in order to determine the flow rate of the system when using P/T plugs at the flow center.

GC048 HEATING PERFORMANCE - FULL LOAD

A CONTRACTOR		GC048	Heating performanc	e – Ful	
Entering Water, °F	Water flow, GPM	Pressure Drop Ft. Water	Pressure Drop (Psi)	Ent. °F	
	6	2.9	1.3 🗲	6C 7C 8C	—— 1.3 (HX) + 0.1 (hose kit) = 1.4 psi @ 6 GPM
30	8	4.9	2.1 🔫	6C 7C 8C	— 2.1 (HX) + 0.2 (hose kit) = 2.3 psi @ 8 GPM
	12	10.2	4.4 🗲	60 70 80	—— 4.4 (HX) + 0.5 (hose kit) = 4.9 psi @ 12 GPM

LoopLink Geothermal Ground Loop Design Software

🔀 LoopLink RLC

GEOTHERMAL DESIGN

CARRIER GEOTHERMAL DESIGN SOFTWARE

Features

- Effortlessly Up-to-date: Web-based format means that every time you log in, you're assured to be working with the latest version.
- **Ready Where You Are:** Web-based format provides access from any device, anywhere you have an internet connection. Doesn't tie you down to a single workstation.
- Accurate, Repeatable Results: Design with confidence using the only software built on the calculations methods outlined in the IGSHPA Residential/Light Commercial Design Manual.
- **Demonstrate Your Expertise:** Using LoopLink gives you a competitive advantage over dealers who don't demonstrate this level of professionalism to potential customers.
- **Experience Applied:** LoopLink software programmers have over 50 years of cumulative geothermal design experience.
- User Support: LoopLink is intuitive and easy to use. But if you need assistance, phone support is available, Monday-Friday 8AM 5PM central, or by e-mail 8AM 10PM 7 days a week.

Includes

- Capability to do projects with multiple heat pumps: Up to 10 zones with any number of heat pumps per zone.
- Load Estimator: Use your own load calculators or the Load Estimator tool for a quick estimate.
- **Unit Sizing:** Includes all current Carrier models. Once selection is made, the software displays efficiencies, capacities, run hours, energy usage etc. Warnings are displayed where equipment selection is insufficient.
- Loop Sizing: Many loop configurations are available. Let the software calculate the loop length or use the fixed length mode.
- **Dual Fuel:** Capability to size systems with geothermal splits and gas furnace back-up.
- **Economic Analysis:** Accurate cost estimates are just as important as getting the design right. LoopLink calculates simple payback, operating cost comparisons, ownership cost breakdowns, accrued 30-year savings.
- **Carbon Emissions Calculator:** Compares the upstream and point-of-use carbon emissions for those "green" customers.
- **Professional Reports:** Present your customers with professionally designed reports that take seconds to generate and can be saved as a PDF.

Work Online

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- Ease of Ownership: Never worry about updates or downloads.
- Peace of Mind: All your projects are stored remotely on secure mirrored servers running regular back-ups.

Check it out at http:/carrier.looplinkrlc.com

Geothermal Design Calculators

Geothermal System Design Calculators are available free of charge on the Geo-Flo website at www.geo-flo.com (Geo-Flo is the manufacturer of Carrier/Bryant flow centers). This comprehensive suite of calculators provides geothermal and hydronic design tools, concentrating on the hydronic portions of the system. From pressure drop calculation to pump sizing to flushing requirements, the design suite is just the starting point for new services continually being developed. To learn more about the design suite, go to www.geo-flo.com, and select "Design Calculators." Sign up for an account, and gain instant access.

Geo-Flo Calculators

ALL PRESSURE DROP CALOUL	PUMP SIZING CALCULATO	RS SERVICE CALCULATORS (GENERAL CALCULATORS		
		PRESSURE DROP CALCULATORS			
SINGLE UNIT	TWO UNIT (NPD) FLOW CENTER	SINGLE UNIT INSIDE HEADER	TWO UNITS ONE FLOW CENTER		
MULTI-UNIT, CENTRAL PUMPING	MULTI-UNIT NPM FLOW CENTER	PIPE SEGMENT	MULTI-UNIT, DISTRIBUTED PUMPING		
LOAD SIDE CALCULATOR	RADIANT FLOOR CALCULATOR				
		PUMP SIZING CALCULATORS			
PUMP SIZING CALCULATOR	PUMP SIZING MAGNA3				
		SERVICE CALCULATORS			
CV CALCULATOR	FLUSH CART CALCULATOR	HEAT PUMP FLOW RATE CALCULATOR	HE-HR CALCULATOR		
FLOW RATE-PRESSURE DROP	REVNOLDS NUMBER	ANTIFREEZE ADDITION CALCULATOR	ANTIPREEZE CALCULATOR		
		GENERAL CALCULATORS			
BUFFER TANK CALCULATOR	EXPANSION TANK SIZING-GEO	EXPANSION TANK SIZING-RADIANT SYSTEM	POND COIL CALCULATOR		

Grundfos UPS26-99, UP26-99, and UP26-116

UPS26-99 (3-speed) and UP26-116 (single-speed) pumps are used on current residential flow centers. UP26-99 (single-speed) pumps are still in use on older flow centers.



Grundfos Pump UP and UPS Performance Curves (Single Pump)*

*Above pump curves are for a single pump. Pumps for two-pump flow centers are piped in series. To determine the pressure drop with multiple pumps, multiply the head shown on the chart by the number of pumps. For example, one UP26-116 pump can produce 24 ft. of head at 15 GPM; two UP26-116 pumps in series can produce 48 ft. of head.

Curves are manufacturer's reported averages using water at 68°F [20°C].

Pump Curves

Grundfos UPMXL 25-124 Variable-Speed

The UPMXL 25-124 pump is used on residential Flo-Link (double O-ring) pressurized flow centers and on NP series non-pressurized flow centers. For two-pump variable-speed flow centers, use the graph on the next page.



UPMXL 25-124 PERFORMANCE CURVES

*Above pump curves are for a single pump. The UPMXL 25-124 (variable-speed) pump adjusts speed (when used with a controller) to maintain flow rate or temperature difference. The pump can operating anywhere between the upper and lower curves to provide the flow rate set point.

Curves are manufacturer's reported averages using water at 68°F [20°C].

Grundfos UPMXL 25-124 Variable-Speed with Second Pump in Series (UPS 26-99)

The UPMXL 25-124 pump is used on residential Flo-Link (double O-ring) pressurized flow centers and on NP series non-pressurized flow centers. The graph below is for two-pump flow centers.



* When the UPMXL 25-124 pump is used with a second pump in series, the second pump is constant speed. The UPMXL 25-124 (variable-speed) pump adjusts speed (when used with a controller) to maintain flow rate or temperature difference. The controller energizes the constant speed pump (UPS26-99) when the UPMXL 25-124 cannot meet set point, and adjusts the UPMXL 25-124 pump accordingly.

Curves are manufacturer's reported averages using water at 68°F [20°C].

Multiple Heat Pump Installations

Multiple heat pumps can be installed on a shared ground loop. The required flow center for each heat pump must be selected assuming all heat pumps are running simultaneously to ensure each heat pump receives the required flow rate in worst-case conditions. A detailed pressure drop calculation is required to ensure that each flow center will overcome the system head loss and deliver the required flow to each heat pump when all units are running. Check valves are mandatory when installing multiple geothermal heat pumps with dedicated flow centers on a shared ground loop. The check valve prevents fluid from bypassing the ground loop through one of the adjacent heat pumps. An optional balancing valve may be installed at each heat pump.



Like pressurized flow centers, NP flow centers can be installed in parallel on a shared ground loop. Like pressurized flow centers, each NP must have a check valve on the discharge of the pump. However, there are some additional requirements. First, all NP flow centers must be at the same installation level in the same mechanical room. Second, each NP tank must be connected to ensure that the pressure is balanced and the fluid level in each tank is the same. Keep in mind that non-pressurized flow centers cannot be installed where there is overhead piping or an uphill ground loop that is 30 feet or more above the flow center.



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