



Submittal Data

NP SERIES Dual Circuit Non-pressurized Flow Center

Models 1304,1305,1306,1307, 1308, 1309 NPD2LA/NPD2NA NPD2LL/NPD2NN NPD3ML/NPD3PN



Project Name:		Representative:
Contractor:		Engineer:
Ref/P.O. #:		Date:
Submitted by:		Date:
Qty:	Part #:	Description:

Technical Data

Circulator: Grundfos UPMXL 25-124 (vari. speed)*; UPS26-99 (3 speed), UP26-99 and/or UP26-116 (single speed)

Cabinet: Powder coated galvanized steel

Tank: Polyvinyl chloride (PVC)

Insulation: CFC-free polyurethane foam

Valves: Quantity six 1", 3-way, 4-position flushing and isolation/service valves. Four bottom valves have composite body and spool; Top valves have brass body and spool. All valves utilize NBR seals and stainless steel retaining ring.

*Available with standard or inverse profile PWM signal. Cable and/or controller required.

Max. fluid temp.: 140°F [60°C]
Min. fluid temp.: 20°F [-7°C]
Max. operating press.: 13 psig [89.6 kPa]
Max. ambient air temp.: 104°F [40°C]

Electrical Data

UPS26-99 motor: 208-230V, 60 Hz, single phase, 2-pole UL and CSA approved, internal thermal overload protection, insulation class F, three speed

UPMXL 25-124 motor: ECM, 208-230V, 50/60 Hz, single phase, 2-pole, ETL_{C/US} approved (meets UL and CSA requirements), electronically protected, insulation class F, 0.04 to 1.5 Amps, variable speed, PWM controlled via external signal

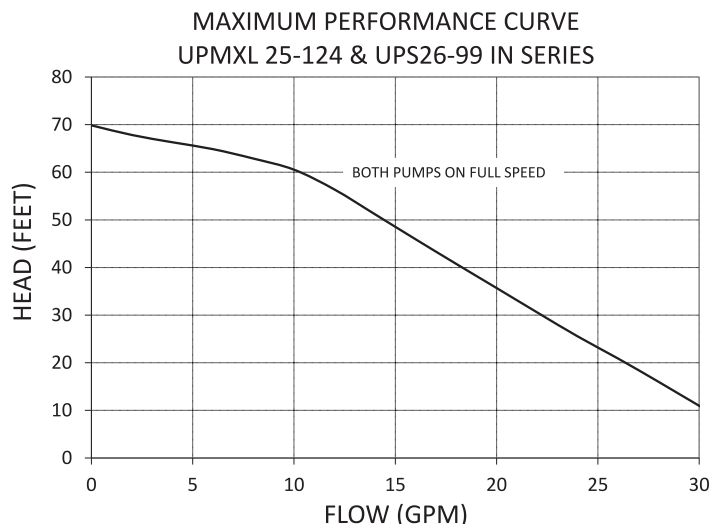
UP26-116 motor: 208-230V, 60 Hz, single phase, 2-pole UL and CSA approved, internal thermal overload protection, insulation class F, single speed

UP26-99 motor: 208-230V, 60 Hz, single phase, 2-pole UL and CSA approved, internal thermal overload protection, insulation class F, single speed

Pump Motor	Speed	Nominal HP	Volts	Amps @ 230V*	Watts @ 230V*	Capacitor	Pump Housing (Volute)
UPS26-99	High	1/6	208-230	0.9	196	5µF/400V	Cast Iron
	Medium			0.8	179		
	Low			0.7	150		
UPMXL 25-124	Variable	N/A	208-230	0.04-1.5	3-180	N/A	Cast Iron
UP26-116	--	1/6	208-230	1.8	385	2.5µF/380V	Cast Iron
UP26-99	--	1/6	208-230	1.07	245	2.5µF/380V	Cast Iron

*Data is maximum for UP26-99 & UPS26-99. UPMXL 25-124 varies with RPM.

Pump Performance Curves¹



Approved Antifreeze

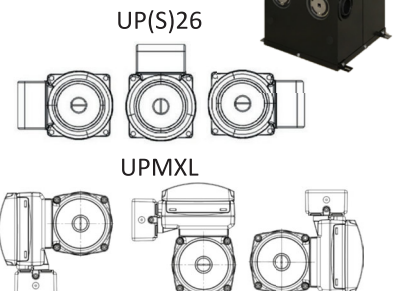
Propylene Glycol
Methanol
Ethanol

Mounting

Flow center is designed for indoor installation only.

Flow center must be installed in an upright position as shown to the right.

The terminal box(s) should be located in one of the following orientations:



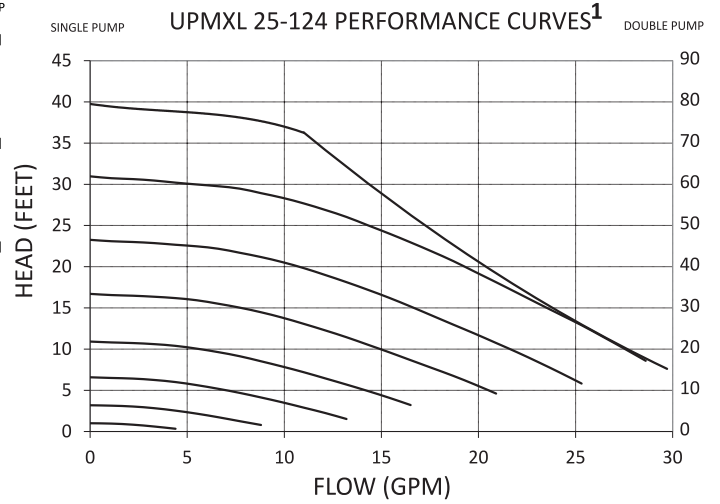
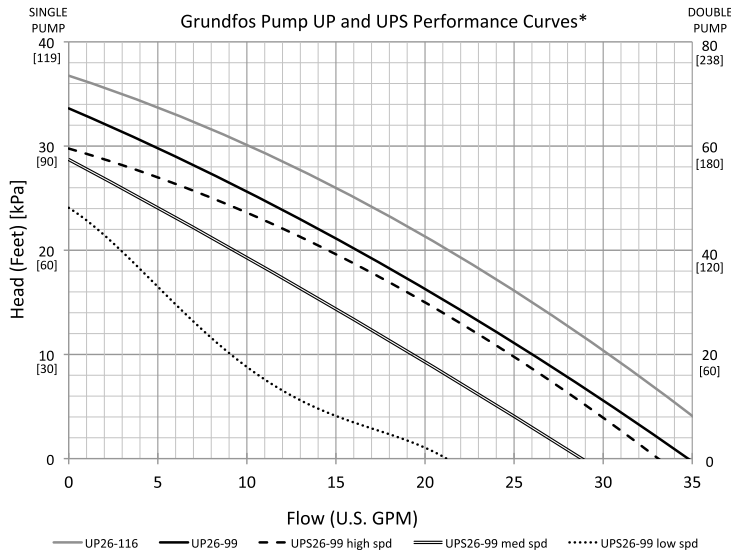
GEO-FLO CORPORATION

905 Williams Park Drive
Bedford, IN 47421 U.S.A.

PH: 812-275-8513; FAX: 812-275-8523

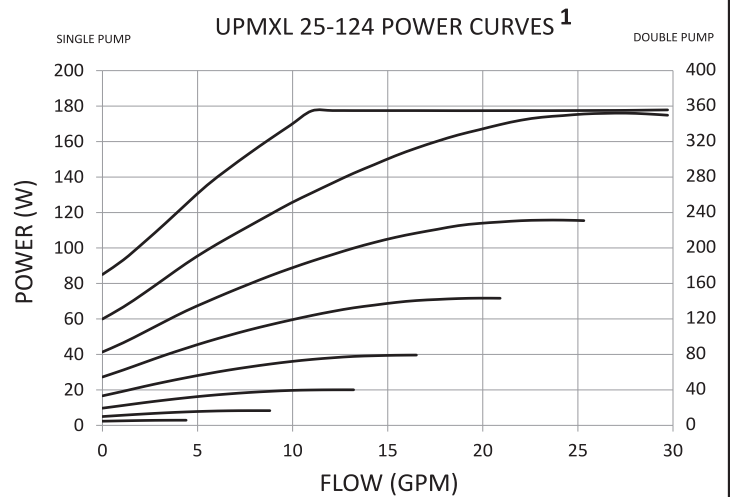
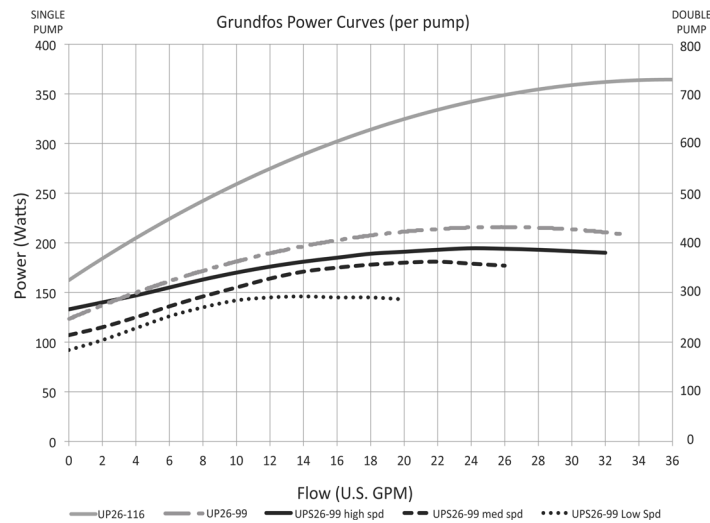
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Pump Performance Curves



All pump curves are manufacturer's reported averages using water at 68°

Pump Power Curves

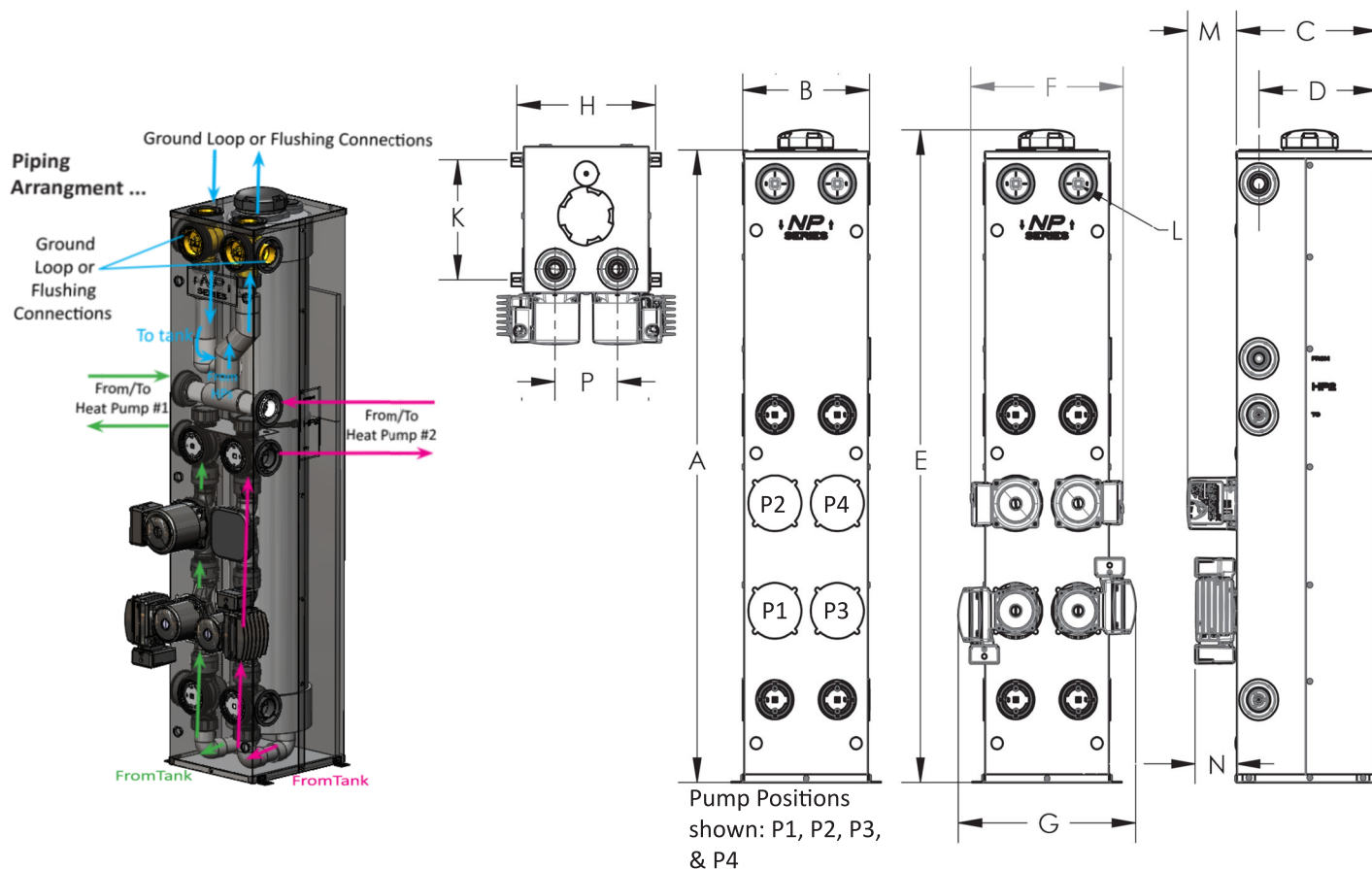


All pump curves are manufacturer's reported averages using water at 68°

Dimensional Data²

UNITS	A	B	C	D	E	F	G	H	K	L	M	N	P
Inches	48 ¼	10 ⅞	11 1/4	9 ½	49 ¾	12 ¾	14 ¾	11 ⅞	9 ⅞	3/8 DRIVE SOCKET	3 15/16	3 5/16	5
CM	122.5	25.8	28.7	24.1	126.4	31.0	36.0	28.2	23.2		9.9	8.4	12.7

Note: Dimensions F and G are not applicable to every model. Shown for maximum distance between like pumps.



# OF PUMPS	PART NUMBER	DESCRIPTION	P1	P2	P3	P4	WEIGHT (LBS)
2	1304	FLOW CENTER, NPD2-99, 3-SPEED, 208-230V	UPS26-99	--	UPS26-99	--	84
	1307	FLOW CENTER, NPD2-116, 208-230V	UP26-116	--	UP26-116	--	84
	NPD2LA	FLW CNTR, NPD2, UPMXL 25-124 & UPS26-99, 208-230V	UPMXL 25-124	--	UPS26-99	--	83
	NPD2NA	FLW CNTR, NPD2, UPMXL 25-124 INV PWM & UPS26-99, 208-230V	UPMXL 25-124	--	UPS26-99	--	83
	NPD2LL	FLW CNTR, NPD2, (2) UPMXL 25-124, 208-230V	UPMXL 25-124	--	UPMXL 25-124	--	80
	NPD2NN	FLW CNTR, NPD2, (2) UPMXL 25-124 INV PWM, 208-230V	UPMXL 25-124	--	UPMXL 25-124	--	80
3	1305	FLOW CENTER, NPD3-99, 3-SPEED, 208-230V	UPS26-99	UPS26-99	UPS26-99	--	90
	1308	FLOW CENTER, NPD3-116, 208-230V	UP26-116	UP26-116	UP26-116	--	90
	NPD3ML	FLW CNTR, NPD3, UPMXL+UPS26-99 & UPMXL, 208-230V	UPMXL 25-124	UPS26-99	UPMXL 25-124	--	83
	NPD3PN	FLW CNTR, NPD3, UPMXL INV+UPS26-99 & UPMXL INV, 208-230V	UPMXL 25-124	UPS26-99	UPMXL 25-124	--	83
4	1306	FLOW CENTER, NPD4-99, 3-SPEED, 208-230V	UPS26-99	UPS26-99	UPS26-99	UPS26-99	96
	1309	FLOW CENTER, NPD4-116, 208-230V	UP26-116	UP26-116	UP26-116	UP26-116	96

NOTE: All connections require Flo-Link™ (double O-ring) transition fittings or hose kits. Check valves are factory-installed on the discharge sides of the flow center (To HP connections).

NOTES:

1. Pump operates in between maximum and minimum curves. Intermediate curves are provided for reference.
2. Dimensional data provided for informational purposes and is rounded to nearest 1/16". Metric data is a simple conversion of imperial data and should not be considered more accurate.

Application Notes

1. The dual circuit flow center includes a pump(s) for each heat pump. The pump(s) for HP1 is in parallel with the pump(s) for unit HP2. If one side has two pumps, those two pumps are in series. Page 3 shows a transparent view of the flow center with internal piping.
2. When sizing pumps for a dual circuit flow center, a pressure drop calculation should be done for the entire system assuming both heat pumps are running. Pump/ flow center selection must be based upon both units running. For example, if the left side is a 4 ton heat pump with two pump, and the right side is a 2 ton heat pump with one pump, each side must be able to provide adequate flow and head when both units are running.
3. The pressure drop for the internal check valves and 3-way valves must be added to the system pressure drop before selecting pumps. The table below provides information based upon the flow rate for each heat pump.

Pressure Drop Addition for Internal Check Valves and 3-Way Valves			
Flow Rate (GPM)			Tot. Press. Drop (ft. hd.)*
Side A	Side B	Total	
6	6	12	2.3
	9	15	3.1
	12	18	4.2
	15	21	5.6
9	6	15	3.1
	9	18	4.1
	12	21	5.3
	15	24	6.8
12	6	18	4.2
	9	21	5.3
	12	24	6.7
	15	27	8.3
15	6	21	5.6
	9	24	6.8
	12	27	8.3
	15	30	10.1
*Includes internal check valves and 3-way valves.			

Use the chart above to account for the pressure drop of the internal components of the dual circuit flow center.

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