

Droplet6 Extension Package

- Brazed plate heat exchanger, single wall
- Circulator pump (select Option)
- Mechanical Room Controller
 - (4) Storage tank temperature sensors
 - PLC to communicate storage tank conditions with Droplet

Required Field Wiring

- Storage Tank temperature sensor in Tank thermowell (min. one landed)
- Start/Stop signal from Mech. Room Controller to Circulator Pump
- Temperature probe from pump to return pipe thermowell
 - Allows pump to adjust speed to maintain 140°F to Storage Tank
- Ethernet connection from Mech. Room Controller to remote Droplet6
- Mech. Room Controller whip plugged into standard 110VAC wall outlet
- *Optional:* Temp. probe from Mech. Room Controller to return pipe thermowell
 - Can be used to remotely monitor system performance

Heat Exchanger Performance

Heat Load		92,400 Btu/hr	27 kW
High-Lift Conditions	Temperature, Domestic Water (DW) IN	45°F	7.2°C
	Temperature, DW OUT	140°F	60°C
	Temperature, Heat Pump (HP) OUT	145°F	62.8°C
	Temperature, HP RETURN	52.7°F	11.5°C
	Flow, DW	1.96 US gpm	7.42 l/min
	Δp	0.19 ft	0.06 m
End-of-run (EOR) Conditions	Temperature, Domestic Water (DW) IN	115°F	46.1°C
	Temperature, DW OUT	140°F	60°C
	Temperature, Heat Pump (HP) OUT	145°F	62.8°C
	Temperature, HP Return	116.4°F	46.9°C
	Flow, DW	7.5 US gpm	28.4 l/min
	Δp	1.95 ft	0.59 m

Booster Pump Performance

Option 1	Max. Available Head*	17.7 ft	5.4 m
	Min. System Head Loss Required**	3.27 ft @ 1.96 gpm	1.00m @ 7.42 l/min
Option 2	Max. Available Head*	30.8 ft	9.4 m
	Min. System Head Loss Required**	3.27 ft @ 1.96 gpm	1.00m @ 7.42 l/min
Option 3	Max. Available Head*	37.4 ft	11.4 m
	Min. System Head Loss Required**	3.27 ft @ 1.96 gpm	1.00m @ 7.42 l/min
Option 4	Max. Available Head*	57.1 ft	17.4 m
	Min. System Head Loss Required**	3.27 ft @ 1.96 gpm	1.00m @ 7.42 l/min

*Max. Pump Head - Δp (HX) at EOR Flow

**System pressure drop at high-lift flow conditions to achieve stable deliver temperature at pump min. speed

NOTES:

Booster pump varies speed based on constant temperature (140°F at storage tank).
 Pump requires pipe thermowell/remote temp. sensor; start/stop signal from Droplet controller. See Pg.2 for detail.

SMALL PLANET SUPPLY TUMWATER, WA		
TITLE: DROPLET6 EXTENSION PACKAGE (TECHNICAL DATASHEET)		
SIZE B	DWG. NO. 003-00040	REV A
SCALE: 1:1		SHEET 1 OF 4

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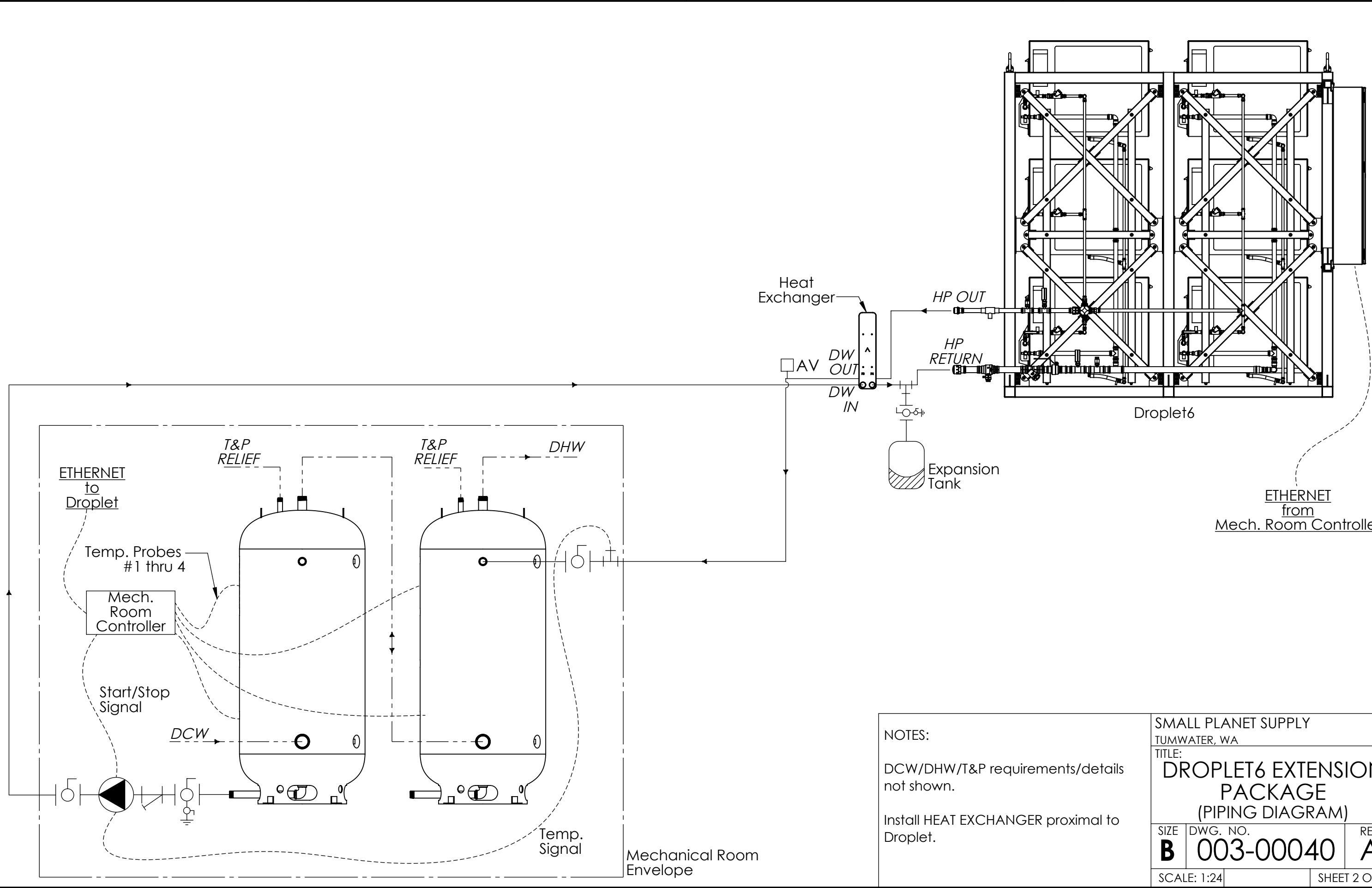
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NOTES:
 DCW/DHW/T&P requirements/details not shown.
 Install HEAT EXCHANGER proximal to Droplet.

SMALL PLANET SUPPLY TUMWATER, WA		
TITLE: DROPLET6 EXTENSION PACKAGE (PIPING DIAGRAM)		
SIZE B	DWG. NO. 003-00040	REV A
SCALE: 1:24		SHEET 2 OF 4

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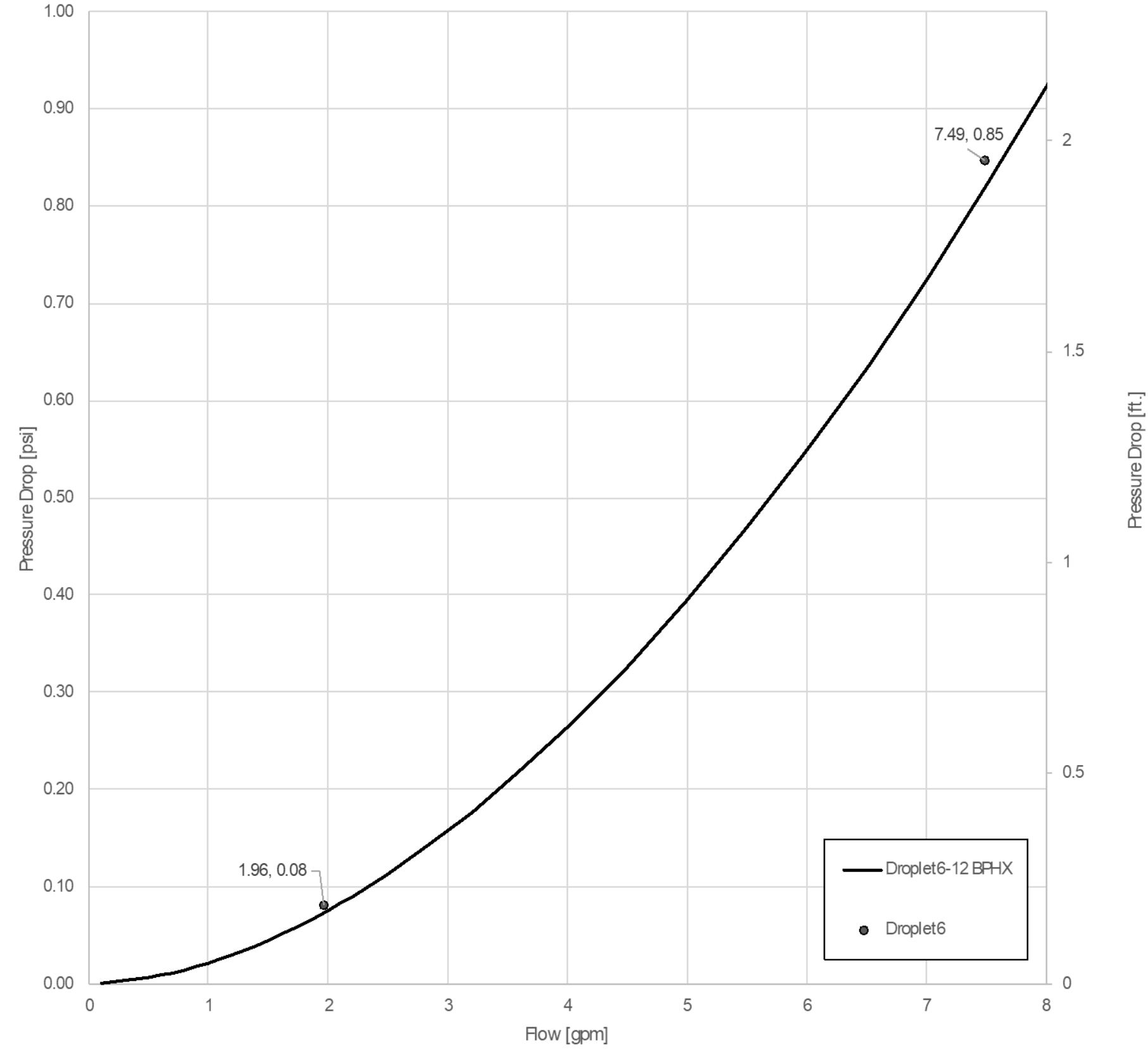
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Droplet6 Flow v. Pressure Drop (Building Side)

High Lift: 45°F→140°F; End-of-run: 115°F→140°F; Air Temp.: ≥5°F



— Droplet6-12 BPHX
● Droplet6

NOTES:
Pressure drop of building-side heat exchanger at Droplet6 boundary conditions (high-lift & end-of-run).

SMALL PLANET SUPPLY TUMWATER, WA		
TITLE: DROPLET6 EXTENSION PACKAGE (BPHX PRESSURE DROP CURVE)		
SIZE B	DWG. NO. 003-00040	REV A
SCALE: 1:1		SHEET 3 OF 4

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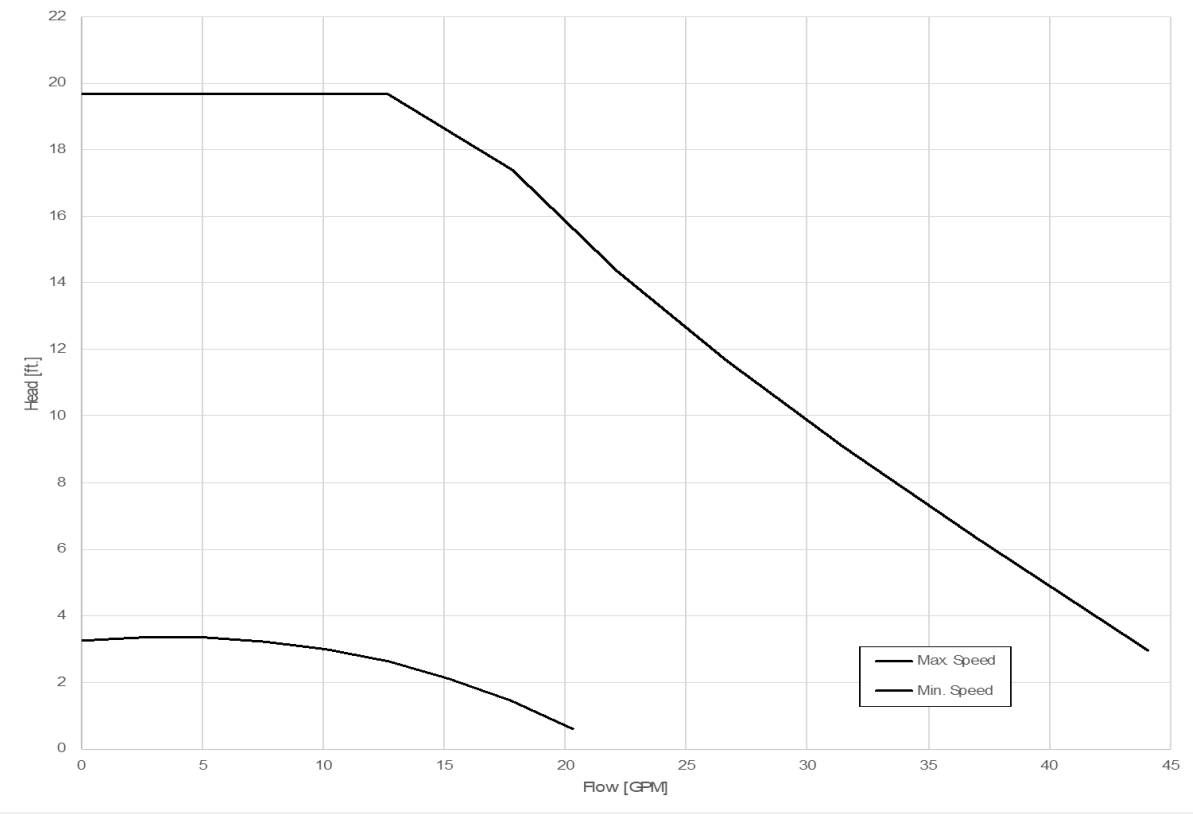
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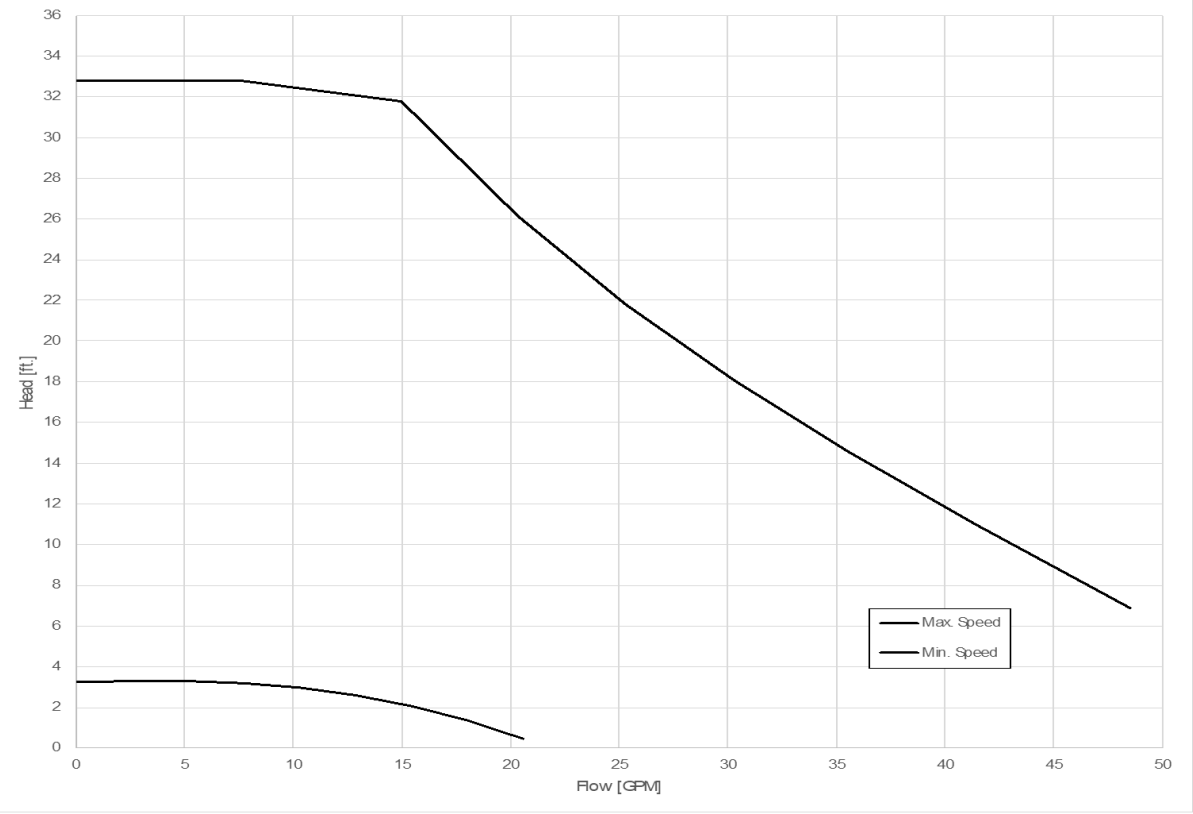
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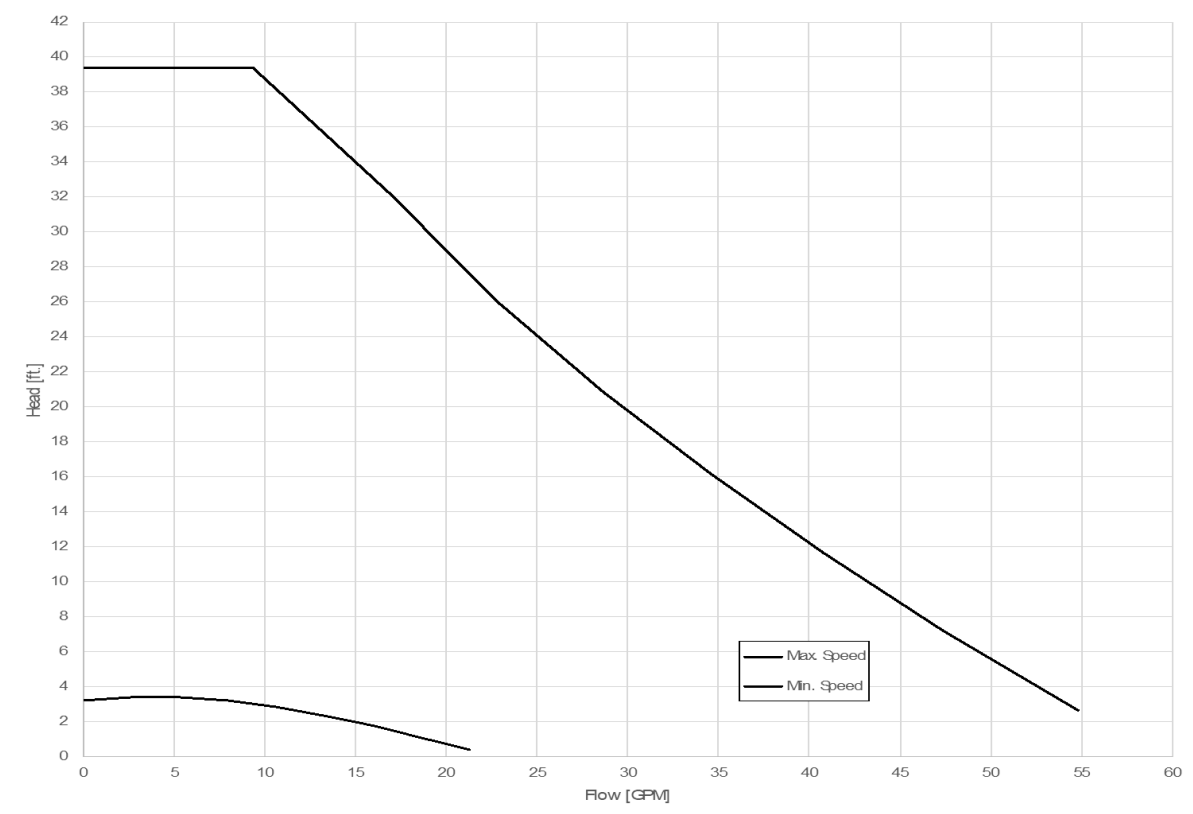
Circulator Pump Option #1
Head v. Flow



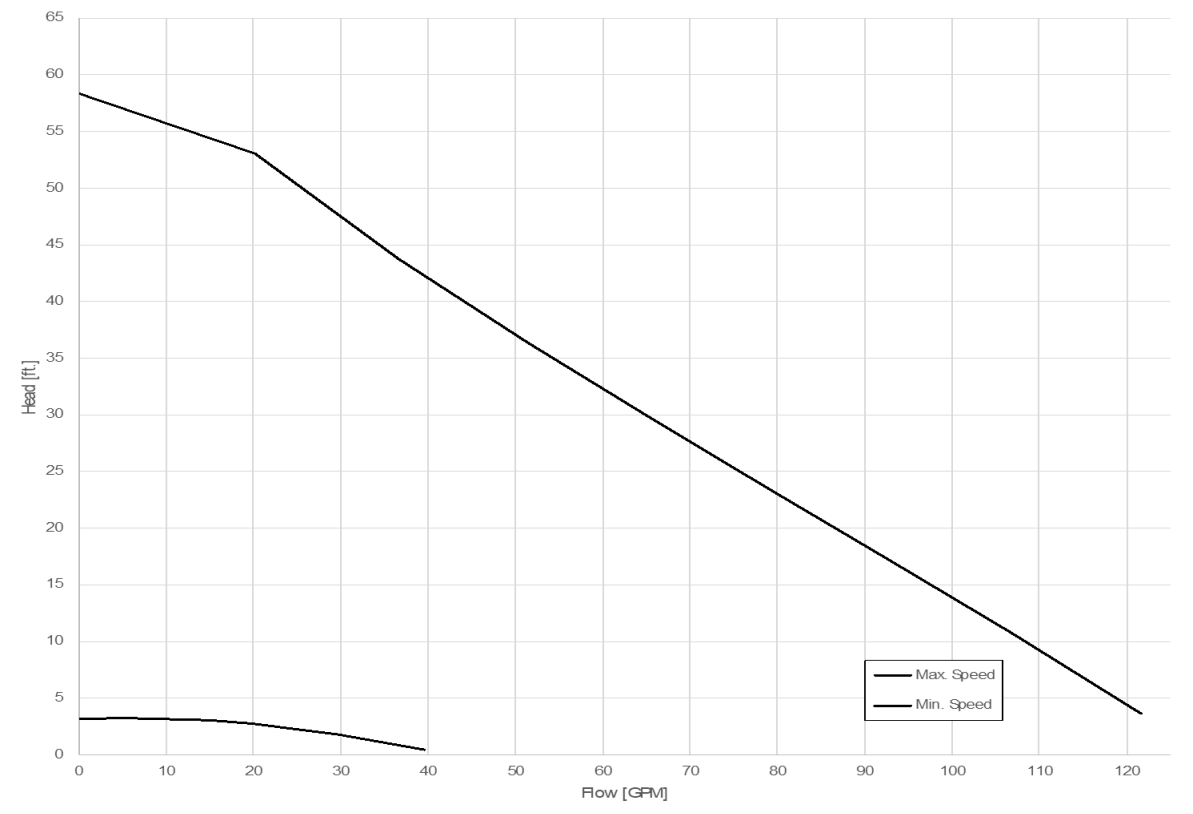
Circulator Pump Option #2
Head v. Flow



Circulator Pump Option #3
Head v. Flow



Circulator Pump Option #4
Head v. Flow



SMALL PLANET SUPPLY TUMWATER, WA		
TITLE: DROPLET6 EXTENSION PACKAGE (CIRCULATOR PUMP CURVES)		
SIZE B	DWG. NO. 003-00040	REV A
SCALE: 1:1		SHEET 4 OF 4

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