

## DEDICATED BOILER CIRCULATORS:

Primary Pumps for Primary-Secondary Arrangements

## FOR USE WITH:

Fulton Endura, Endura+, Endura XE, and Vantage

## OVERVIEW

Although not required, it is acceptable to install Fulton firetube hydronic boilers in a decoupled primary-secondary flow system. These arrangements require dedicated boiler circulators ("primary pumps") to provide flow through each boiler. Optional pumps are shipped loose for field installation. Pumps are to be installed on the inlet side of the boiler only, pumping into the boiler, one pump is used per each boiler. A check valve (not supplied) is also required per boiler.

The typical sequence of operation (SOO) to control primary pumps is to enable the pump upon burner demand, modulate the pump speed (0-10VDC or 4-20mA) with the burner rate to vary flow, and disable after a time delay when burner demand ends. This SOO is included with the Fulton SOLA, ModSync SE, and PURE Control™.



## PRIMARY PUMP SELECTION CHART

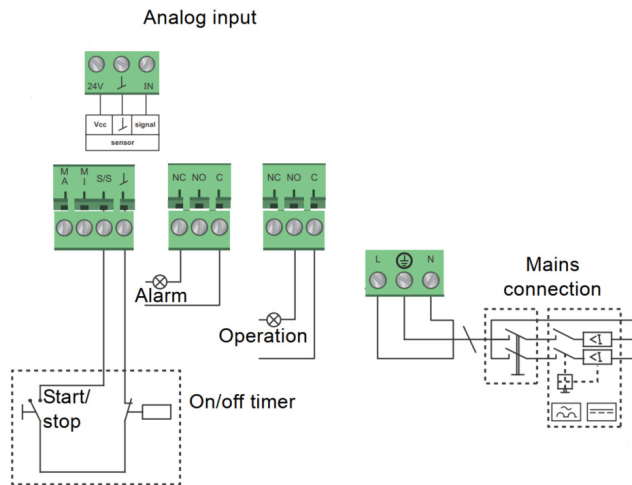
Boiler Model	20° Delta-T			40° Delta-T		
	Flow Rate (GPM)	Pump Head (ft H <sub>2</sub> O)	Part Number	Flow Rate (GPM)	Pump Head (ft H <sub>2</sub> O)	Part Number
EXE-399	38	8.2	2-30-001763	19	2.5	2-30-001764
EXE-500	48	10.8	2-30-001763	24	3.3	2-30-001764
EXE-650	62	17.2	2-30-001762	31	4.7	2-30-001764
EXE-750	72	22.4	2-30-001762	36	6.2	2-30-001764
EDR-750	72	20.2	2-30-001762	36	5.4	2-30-001764
EDR-1000	95	31.6	2-30-001761	48	9.5	2-30-001763
EDR-1500	140	4.2	2-30-001762	70	1.3	2-30-001763
EDR-2000	187	7.5	2-30-001762	94	2.1	2-30-001763
EDR+2500	235	13.4	2-30-001761	118	3.6	2-30-001762
EDR+3000	289	20.5	Consult Factory	145	6.8	2-30-001762
EDR+4000	383	8.5	Consult Factory	192	2.2	2-30-001762
EDR+5000	480	12.5	Consult Factory	240	3.5	2-30-001761
EDR+6000	580	18.2	Consult Factory	290	4.7	2-30-001761
VTG-2000/DF	192	6.3	2-30-001762	96	1.6	2-30-001762
VTG-3000/DF	289	11.3	Consult Factory	144	2.8	2-30-001762
VTG-4000/DF	387	8.0	Consult Factory	194	0.8	2-30-001762
VTG-5000/DF	454	13.2	Consult Factory	227	1.7	2-30-001761
VTG-6000/DF	564	17.1	Consult Factory	282	4.2	2-30-001761

**Note:** Flow rate is calculated based on rated boiler output at the specified delta-T. Pressure drop is estimated using a boiler primary loop with 200 equivalent feet of pipe at a diameter matching the water outlet connection of the boiler. Standard pump selections may not be appropriate for alternate system conditions that fall outside of these specified parameters. Consult the factory for alternatives.

## ELECTRICAL SPECIFICATIONS

	Volts (AC)	Phase (Ø)	Min Current (A)	Max Current (A)
2-30-001761	208/230	1	0.32	6.78
2-30-001762	208/230	1	0.18	3.32
2-30-001763	115	1	0.30	2.57
2-30-001764	115	1	0.29	1.01

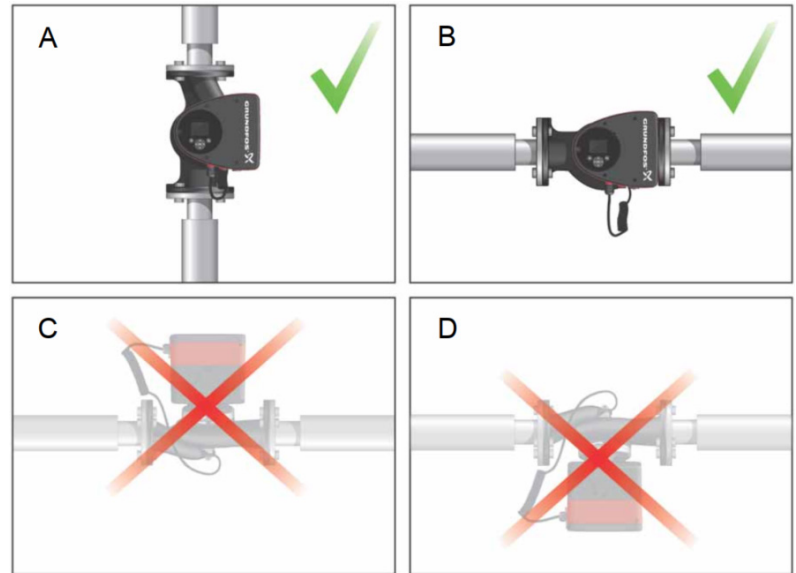
**Note:** Do not power pump through the boiler control panel. Pumps require a separate power source.



## PUMP SPECIFICATIONS

Max. Operating Pressure: 174 psi  
 Water Temperature Range: 14° - 230°F  
 Ambient Temperature Range: -4° - 104°F  
 cETLus Listed and Labeled

**Note:** For use with water or water/glycol mixture closed loop heating hot water systems only



## WEIGHTS AND DIMENSIONS

	Flange (GF)	B2 (inch)	B6 (inch)	B7 (inch)	L1 (inch)	L5 (inch)	H2 (inch)	H3 (inch)	H4 (inch)	Weight (lbs)
2-30-001761	100	6.46	7.01	7.01	17.72	8.03	12.99	17.01	4.72	76
2-30-001762	53/65	6.46	5.24	5.24	13.40	8.03	12.28	15.20	3.70	49
2-30-001763	15/26/40/43	6.46	4.37	4.37	8.50	8.03	11.97	14.80	2.76	32
2-30-001764	15/26/40/43	4.38	4.18	4.18	6.50	6.23	7.37	9.49	2.76	14

