

# Boiler Feed Pump Controllers

## Simplex - Duplex

Boiler feed pump controllers are installed to automatically start and stop pump motor(s) in order to provide water to a boiler. Automatic level control is provided by a start and stop float switch. Provisions for a low water cut off float switch, make up control float switch and solenoid valve are standard on both simplex and duplex units.

The completely assembled and wired controllers are factory tested before shipping. All components are UL listed.

Tornatech favors fuseless motor protection for easy field maintenance.

### Standard Features included in **Simplex** and **Duplex** Boiler Feed Pump Controllers:

Standard Features	Simplex	Duplex
NEMA 1 enclosure ASA 61 grey	1	1
Main disconnect switch (HP rated) c/w door interlocked handle	1	1
Thermomagnetic motor protector(s) (Overload & Short circuit protection)*	1	2
Across-the-line contactor(s) (HP rated)	1	2
Control transformer 120V. secondary c/w secondary fuse	1	1
"Power On" white pilot light	1	1
"Run" green pilot light(s)	1	2
"Hand-Off-Auto" selector switch(es)	1	2
Provision to connect boiler level controller	1	1
Provision to connect low water cut off float switch	3	3
120 V.AC circuit for water make up solenoid & float switch	1	1
Provision for make up solenoid	1	1



\*Replaced by single pole circuit breaker(s) and overload relay(s) in single phase controllers.

## Optional features available (Contact factory for details):

- High level indication
- Various types of enclosure: NEMA/CSA 3R, NEMA/CSA 4...
- Pilot lights, buzzer and alarm contacts for different conditions such as overload, high level...
- Push-to-test pilot light(s)
- Elapsed time meter(s)
- Ammeter(s) single phase or three phase
- Voltmeter
- Anticondensation heater and thermostat

## Start-up instructions

- Check name plate rating of condensate return pump controller and compare with incoming voltage and motor(s) rating(s).
- Adjust overload relay setting to full motor current rating.
- Check that motor protector push actuator(s) is(are) in start position.
- Check that float switches are adjusted to the desired levels.
- Check that controller is properly connected to pump motor(s)
- Turn Hand-Off-Auto selector switch(es) to Off position. Switch main disconnect switch to On position.
- Turn Hand-Off-Auto selector switch(es) to Hand position. Pump motor(s) should start. Check motor(s) for proper rotation.
- If all above checks out correctly, turn Hand-Off-Auto selector switch(es) to Auto position. Activate float switches manually and test if pump(s) start and stop are the desired level.

**HOW TO ORDER:** AB- V/ C x HP/ Ph/ Hz  
Ex: DBF3- 480/ 2 x 7.5/ 3/ 60

A = SBF simplex	B = 1 single phase (120V)	V = 120	C = 1 one pump	HP = anything	Ph = 1 single phase (120V)	Hz = 50
DBF duplex	2 single phase (240V)	208	2 two pumps	between	2 single phase (240V)	60
	3 three phase	240		.25 and 20	3 three phase	
		380				
		415				
		416				
		480				
		600				

## Sequence of Operation SIMPLEX Boiler Feed pump controller

- Once the level reaches the pump start float switch level, the pump motor is energized and the pump starts pumping into the boiler.
- Once the level reaches the pump stop float switch level, the pump motor is de-energized and the pump stops.
- If a low water cut off float switch is installed, the pump motor is de-energized when a low water level is reached.

## DUPLEX Boiler Feed pump controller

- Once the level reaches the pump start float switch level, the pump motor is energized and the pump starts pumping into the boiler.
- If the pump motor overloads or short circuits the next pump will start.
- Once the level reaches the pump stop float switch level, the pump motor is de-energized and the pump stops.
- If a low water cut off float switch is installed, the pump motor is de-energized when a low water level is reached.

### AMERICAS

Tornatech Inc.

Head Office

Laval, Québec, Canada

Tel: +1 514 334 0523

Toll free: +1 800 363 8448