



*Simplex Three Phase Controls provide automatic operation for a single pump application.

BF-03 ~ 208/230/460/575 volts, three phase, 60hz, 5hp max

Standard Product Features

- NEMA type 1 indoor steel enclosure.
- NEMA rated motor starter with class 10 solid state overloads and phase loss/reversal protection.
- Control circuit transformer with fused secondary providing 120 volt control power.
- Pump hand-off-automatic selector switch.
- Pump run indicator light.
- Easy to read wiring diagram.
- UL/CUL 508 approved.

**See page 4 for a complete list of options to customize these controls.*



*Simplex Single Phase Controls provide automatic operation for a single pump application.

BF-01 ~ 120/230 volts, single phase, 60hz, 2hp max

Standard Product Features

- NEMA type 1 indoor steel enclosure.
- Motor contactor.
- Pump hand-off-automatic selector switch.
- Pump run indicator light.
- Easy to read wiring diagram.
- UL / CUL 508 approved.

*See page 4 for a complete list of options to customize these controls.

Simplex Control Panel Enclosure Options

Note: When selecting alternative enclosures, the external alarm device is not included. Select the appropriate audio and/or visual alarm device to complete your control.

| NEMA Rating | Option # |
|---|----------|
| <u>NEMA 3R</u> • Dead front | S-110 |
| <u>NEMA 4 Steel</u> • Dead front | S-120 |
| <u>NEMA 4X Fiberglass</u> • Dead front | S-130 |
| <u>NEMA 12</u> • Dead front | S-140 |

| Simplex Control Panel Enclosure Options | | Panel Alarm Devices | |
|--|----------|---|----------------|
| Feature | Option # | Features | Option # |
| • Thru door mounted selector switches and pilot lights. To provide access without opening enclosure door. | S-200 | Grille Horn *NEMA 1 *NEMA 3R/4/ 4X/12 | D-440 D-450 |
| • Dead front hinged inner door. To provide access to switches without entering actual panel. (Not available on NEMA 1 enclosures.) | S-240 | Alarm Buzzer *All enclosures | D-460 |
| • Keyed entry for NEMA 1 only. To protect against unauthorized opening of panel. | S-250 | Flashing Red Light *All enclosures | D-480 |
| | | *Option S-330 High Level Alarm Circuit, is required when adding any alarm device. | |

Simplex Control Panel Alarm Circuit Options

| Feature | Option # |
|---|----------|
| • High level alarm circuit with pilot light and dry contacts. | S-300 |
| • Low level alarm circuit with pilot light and pump shutdown. | S-320 |
| • Powered high level alarm contacts to signal remote alarm device. | S-330 |
| • Seal failure circuit with pilot light. | S-350 |
| • Phase guard protection against low voltage. Phase loss and phase reversal circuit. (Three Phase only) | S-370 |

Simplex Control Panel Power Equipment Options

| Feature | Option # |
|--|-------------------------|
| • Main non-fused disconnect with lockable thru door operating handle. | S-650 |
| • Main fused disconnect with lockable thru door operating handle. | S-660 |
| • Main & control circuit breakers <ul style="list-style-type: none"> • Single phase • Three phase (208/230 volts) • Three phase (460/575 volts) | S-600 S-610 S-620 |
| • Main circuit breaker with door mounted lockable disconnect. <ul style="list-style-type: none"> • Single phase • Three phase | S-630 S-640 |

***Note:** S-630/S-640 not available on hinged inner door. Consult Factory.

Simplex Control Panel Accessories

| Feature | Option # |
|---|----------|
| • Condensation heater | S-710 |
| • Elapsed time meter | S-740 |
| • Cycle counter | S-750 |
| • Intrinsically safe control (1 required per float) | S-760 |
| • Test push buttons overrides float to simulate operation of level controls. | S-770 |
| • Lightning protection | |
| • Single phase | S-790 |
| • Three phase | S-800 |
| • Overload protection provides thermal overload protection for single phase panels only. | S-830 |

Duplex Three Phase Controls

- Provides automatic operation for two pumps. Lead pump is alternated on every cycle to provide equal run time on pumps, reducing wear. Allows both pumps to operate in times of excessive flow. High level alarm with horn and dry contacts standard.



BF-402 ~ 208/230 volts, three phase, 60hz, 5hp max

BF-404 ~ 460/575 volts, three phase, 60hz, 5hp max

Standard Product Features

- NEMA type 1 indoor steel enclosure.
- Pump and control circuit breakers, providing re-settable short circuit protection.
- NEMA rated motor starters with class 10 solid state overloads and phase loss/reversal protection.
- Control circuit transformer with fused secondary providing 120 volt control power.
- Pump hand-off-automatic selector switches.
- Pump run indicator lights.
- High level alarm circuit with 4" alarm horn (NEMA 1 design only), pilot light, reset and silence switches and dry contacts.
- Solid state Duplex alternating pump controller with lead pump selector (overrides alternator), float level indicating LED's, field adjustable for operation by 3 or 4 float switches, capable of separate 120V power supply.
- Easy to read wiring diagram.
- UL/CUL 508 approved.

**See page 10 for a complete list of options to customize these controls.*

Duplex Single Phase Controls

- Provides automatic operation of two single phase pumps. Lead pump is alternated on every cycle to provide equal run time on pumps, reducing wear. Allows both pumps to operate in times of excessive flow. High level alarm with horn and dry contacts standard.



BF-001 ~ 120 volts, single phase, 60hz, 1/2hp max

BF-201 ~ 120/230 volts, single phase, 60hz, 2hp max

Standard Product Features

- NEMA type 1 indoor steel enclosure.
- Pump circuit breakers, providing re-settable short circuit protection.
- Motor contactors.
- Pump hand-off-automatic selector switches.
- Pump run indicator lights.
- High level alarm circuit with 4" alarm horn (NEMA 1 design only), pilot light, reset and silence switches and dry contacts.
- Solid state duplex alternating pump controller with lead pump selector (overrides alternator), float level indicating LED's, field adjustable for operation by 3 or 4 float switches, capable of separate 120 volt power supply.
- Easy to read wiring diagrams
- UL / CUL 508 approved.

**See page 10 for a complete list of options to customize these controls.*

Duplex Three Phase Control with Fused Disconnect

- Provides many of the same features as the standard Duplex controls with the convenience of lockable fused disconnects for each pump.



BF-402FD ~ 208/230 volts, three phase, 60hz, 5 hp max

BF-404FD ~ 460/575 volts, three phase, 60hz, 5 hp max

Standard Product Features

- NEMA type 1 indoor steel enclosure.
- Fused disconnects for each pump with through door lockable handles.
- Control circuit breaker.
- NEMA rated motor starters with class 10 solid state overloads and phase loss/reversal protection.
- Control circuit transformer with fused secondary providing 120 volt control power.
- Pump hand-off-automatic selector switches.
- Pump run indicator lights.
- Lag pump start alarm circuit.
- High level alarm circuit with automatic reset.
- Common 4" alarm horn with silence button. Rated 100dB at 10 feet.
- Provisions for separate 120 volt power supply.
- Solid state alternator.
- Conventional plug in relay design.
- Easy to read wiring diagram.
- UL / CUL 508 approved.
- Designed for four float applications only.

**Consult factory about options.*

Duplex Control Panel Enclosure Options

*Note: When selecting alternative enclosures, the external alarm device is not included.
Select the appropriate audio and/or visual alarm device to complete your control.*

| NEMA Rating | Option # |
|--|-----------------|
| <u>NEMA 3R</u> -Dead front | D-110 |
| <u>NEMA 4 Steel</u> -Dead front | D-120 |
| <u>NEMA 4X Fiberglass</u> -Dead front | D-130 |
| <u>NEMA 12</u> -Dead front | D-140 |

| Duplex Control Panel Enclosure Options | | Panel Alarm Devices | |
|---|-----------------|---|-----------------|
| Feature | Option # | Feature | Option # |
| -Thru door mounted selector switches and pilot lights. To provide access without opening enclosure door. | D-200 | -Grille Horn *NEMA 1 D-440 *NEMA 3R/4/4X/12 D-450 | |
| -Hinged dead front inner door. To provide access to switches without entering actual panel. (Not available on NEMA 1 enclosures.) | D-240 | -Alarm Buzzer *All enclosures D-460 | |
| -Keyed entry for NEMA 1 only. To protect against unauthorized opening of panel. | D-250 | -Flashing Red Light *All enclosures D-480 | |

Duplex Control Panel Alarm Circuit Options

| Feature | Option # |
|---|----------|
| -Guaranteed pump submergence/ low level alarm with pilot light & pump shutdown. | D-320 |
| -Powered high level alarm contacts to signal remote alarm device. | D-330 |
| -Seal failure circuit with pilot lights. | D-350 |
| -Phase guard protection against low voltage. Phase loss and Phase reversal circuit. (Three Phase only) | D-370 |

Duplex Control Panel Power Equipment Options

| Feature | Option # |
|--|----------|
| -Main non-fused disconnect with lockable thru door operating handle. | D-650 |
| -Main fused disconnect with lockable thru door operating handle. | D-660 |
| -Main circuit breaker | |
| -Single phase | D-600 |
| -Three phase (208/230 volts) | D-610 |
| -Three phase (460/575 volts) | D-620 |
| -Main circuit breaker with door mounted lockable disconnect. | |
| -Single phase | D-630 |
| -Three phase | D-640 |

***Note:** D-630/D-640 not available on hinged inner door. Consult Factory.

Duplex Control Panel Accessories

| Feature | Option # |
|--|----------|
| -Condensation heater | D-710 |
| -Lag pump start time delay | D-720 |
| -Elapsed time meters | D-740 |
| -Cycle counters | D-750 |
| -Intrinsically safe control (1 required per float) | D-760 |
| -Test push buttons overrides float to simulate operation of level controls. | D-770 |
| -Lightning protection | |
| -Single phase | D-790 |
| -Three phase | D-800 |
| -Overload protection provides thermal overload protection for single phase panels only. | D-830 |



Level Alarm Controls

- Provide audio and visual notification of a high level condition.



BF-HLA ~ 120 volts, single phase, 60hz

Standard Product Features

- NEMA type 1 indoor steel enclosure.
- Power on light.
- High level alarm indicator light, 4" horn and an off-reset-normal operation switch.
- Easy to read wiring diagram.
- UL / CUL 508 approved.

BF-HLA-4X ~ 120 volts, single phase, 60hz

Standard Product Features

- NEMA type 4X fiberglass corrosion proof enclosure with a hasp for padlocking. Suitable for indoor and outdoor applications.
- Power on light.
- High level alarm top mounted flashing light, buzzer, internally mounted indicator light and off-reset-normal operation switch.
- Easy to read wiring diagram.
- UL / CUL 508 approved.

Available options for level alarm controls:

- ~ S-340 Dry Contacts
- ~ S-330 Powered Contacts

Seal Sensor / Seal Failure Controls

-Conveniently upgrade your existing station to include failure detection. Saves costly repairs to pumps.



BF-SSS ~ Simplex seal failure sensor ~ 120 volts, single phase, 60hz

BF-DSS ~ Duplex seal failure sensor ~ 120 volts, single phase, 60hz

Standard Product Features

- NEMA type 3R rainproof enclosure for indoor or outdoor installations with a hasp for padlocking.
- External seal failure indicator light (Simplex) or individual seal failure indicator lights (Duplex).
- Easy to read wiring diagram.
- UL / CUL 508 approved.

* **Note** these controls are non-modifiable.

Series 2 Controls

Boulay Fabrication, Inc. saw the need for quality cost effective control panels, suitable for almost any environment. The Series 2 controls were designed to fill that need. While not as modifiable as our standard control panels, these Series 2 controls come standard with many great features.





Series 2 Simplex Three Phase Controls

-Provides automatic operation for a single pump application in a versatile control match the motor full load amps to the adjustable amp range of the control. Suitable for all three phase voltages. Control comes complete with a high level alarm.

*All Three Phase Series 2 controls are rated for 208/230/460/575 volt. Three Phase at 60hz, match the control rating to the motor FLAs.

| | | |
|-------|---|--------------|
| BF3AS | ~ | 1.6-2.5 AMPS |
| BF3BS | ~ | 2.5-4.0 AMPS |
| BF3CS | ~ | 4.0-6.3 AMPS |
| BF3DS | ~ | 6.3-10 AMPS |
| BF3ES | ~ | 10-16 AMPS |
| BF3FS | ~ | 16-20 AMPS |
| BF3GS | ~ | 20-25 AMPS |

Standard Product Features

- NEMA type 4X fiberglass corrosion proof enclosure with hasp for padlocking. Suitable for indoor and outdoor applications.
- Pump motor circuit protectors with class 10 adjustable overloads and phase loss/reversal protection.
- Three phase motor contactors.
- Control circuit transformer with fused secondary providing 120 volt control power.
- Exterior mounted pump run indicator lights.
- Interior mounted pump hand-off-auto selector switch to prevent tampering.
- Interior mounted control on-off switch.
- High level alarm circuit with top mounted flashing light, alarm buzzer, test, and silence push buttons exterior mounted and dry contacts.
- Solid state pump controller with float level indicating LED's capable of separate 120 volt power supply.
- Easy to read wiring diagram.
- UL / CUL 508 approved.

Available Options

| Feature | Option # |
|--|----------|
| - Elapsed Time Meter | S-740 |
| - Lightning Arrestor | D-800 |
| - Simplex Seal Fail Circuit with Pilot Light | S-350 |
| - Condensation Heater | D-710 |



Series 2 Simplex Single Phase Controls

-Provides automatic operation for a single pump application, up to 20 amps, in a versatile control. Control comes complete with a high level alarm.

BF120S ~ 120/230 volts, single phase, 60hz, 20 amps max

Standard Product Features

- NEMA type 4X fiberglass corrosion proof enclosure with hasp for padlocking. Suitable for indoor and outdoor applications.
- Motor contactor.
- Exterior mounted pump run indicator light.
- Interior mounted control on-off switch.
- Interior mounted pump hand - off - auto selector switch to prevent tampering.
- High level alarm circuit with top mounted floating light, alarm buzzer, test, and silence push buttons exterior mounted and dry contacts.
- Solid state pump controller with float level indicating LED's capable of separate 120 volt power supply.
- Easy to read wiring diagram.
- UL / CUL 508 approved.

Available Options

| Feature | Option # |
|--|----------|
| - Elapsed Time Meter | S-740 |
| - Lightning Arrestor | D-790 |
| - Simplex Seal Fail Circuit with Pilot Light | S-350 |
| - Condensation Heater | D-710 |

Series 2 Simplex Single Phase Controls (NEMA 1)

-Provides automatic operation for a single pump application up to 20 amps. Cost effective control in a NEMA 1 enclosure, comes complete with a high level alarm.



BF120SN1 ~ 120/230 volts, single phase, 60hz, 20 amps max

Standard Product Features

- NEMA type 1 indoor steel enclosure.
- Motor contactor.
- Pump run indicator light.
- Pump hand-off-auto selector switch.
- Control power on-off switch.
- High level alarm circuit with top mounted flashing light, alarm buzzer, dry contacts, and test and silence switches.
- Solid state pump controller with float level indicating LED's capable of separate 120 volt power supply.
- Easy to read wiring diagram.
- UL / CUL 508 approved.

* **Note** these controls are non-modifiable.



Series 2, Duplex Three Phase Controls

-Provides automatic operation for two pumps in a versatile control. Match the motor full load amps to the adjustable amp range of the control, suitable for all three phase voltages.

*All Three Phase Series 2 controls are rated for 208/230/460/575 volts Three Phase at 60hz, match the control rating to the motor FLA's.

| | | |
|-------|---|--------------|
| BF3AD | ~ | 1.6-2.5 Amps |
| BF3BD | ~ | 2.5-4.0 Amps |
| BF3CD | ~ | 4.0-6.3 Amps |
| BF3DD | ~ | 6.3-10 Amps |
| BF3ED | ~ | 10-16 Amps |
| BF3FD | ~ | 16-20 Amps |
| BF3GD | ~ | 20-25 Amps |
| BF3HD | ~ | 22-32 Amps |

Standard Product Features

- NEMA type 4X fiberglass corrosion proof enclosure with hasp for padlocking. Suitable for indoor and outdoor applications.
- Pump motor circuit protectors with class 10 adjustable overloads and phase loss/reversal protection.
- Three phase motor contactors.
- Control circuit transformer with fused secondary providing 120 volt control power.
- Exterior mounted pump run indicator lights.
- Interior mounted pump hand-off-auto selector switches to prevent tampering.
- Interior mounted control on-off switch.
- High level alarm circuit with top mounted flashing light, alarm buzzer, test, reset and silence push buttons exterior mounted and dry contacts.
- Solid state duplex alternating pump controller with lead pump selector (overrides alternator), float level indicating LED's, field adjustable for operation by 3 or 4 floats, capable of separate 120 volt power supply.
- Easy to read wiring diagram.
- UL / CUL 508 approved.

Available Options

| Feature | Option # |
|---|----------|
| -Elapsed Time Meter | D-740 |
| -Lightning Arrestor | D-800 |
| -Duplex Seal Fail Circuit with Pilot Lights | D-350 |
| -Condensation Heater | D-710 |

Series 2 Duplex Single Phase Control

- Provides automatic operation for two pumps in a versatile control. Operates single phase motors up to 20 amps each.

BF120D ~ 120/230 volts, single phase,
60hz, 20 amps max per load



Standard Product Features

- NEMA type 4X fiberglass corrosion proof enclosure with hasp for padlocking. Suitable for indoor and outdoor applications.
- Pump circuit breakers providing re-settable short circuit protection.
- Motor contactors.
- Exterior mounted pump run indicator lights.
- Interior mounted pump hand-off-auto selector switches to prevent tampering.
- Interior mounted control on-off switch.
- High level alarm circuit with top mounted flashing light, alarm buzzer, test, reset and silence push buttons exterior mounted and dry contacts.
- Solid state duplex alternating pump controller with lead pump selector (overrides alternator), float level indicating LED's, field adjustable for operation by 3 or 4 floats, capable of separate 120 volt power supply.
- Easy to read wiring diagram.
- UL / CUL 508 approved.

Available Options

| Feature | Option # |
|--|----------|
| -Elapsed Time Meters | D-740 |
| -Lightning Arrestor | D-790 |
| -Duplex Seal Fail Circuit with Pilot Lights | D-350 |
| -Condensation Heater | D-710 |