

### Cast Iron Receivers

For years of dependable service. Warranted for 20 years from date of shipment against failure due to corrosion.

### Centriflo® Centrifugal Boiler Feed Pumps

Provide generous running clearances. Standard 3500 RPM for best hydraulic efficiencies, optional 1750. Vertical mounting puts motors above dirt and water, saves floor space

### Make-up Water

Double pole heavy duty, externally adjustable float switch, Solenoid valve and "Y" strainer.

### Optional Equipment Includes

- Factory Mounted Control Panels
- Water Level Gauge
- Dial Thermometer
- Inlet Basket Strainer
- Suction Butterfly Valves
- Discharge Pressure Gauges
- Make up Water 3 Valve By-Pass
- Make up Water Air Gap Fitting
- Lifting Eyes
- Additional float switches (high/low level, low water cut-off and combinations)



**With 20 Year Warranty Cast Iron Receivers**

# Domestic® Pump Series CM™ Boiler Feed Units

SINGLE OR DUPLEX 1,000 THRU 75,000 SQ. FT. EDR  
40 THRU 545 BOILER HORSEPOWER



## Series CM Boiler Feed Units

System or Boiler Capacity	Pump Data					Receiver Data		Model No.
	Pump Capacity (gpm)	Discharge Pressure (psig)	Discharge Size (inch)	Motor Horsepower		Receiver Capacity (gal)	Opening Sizes (inch)	
				3500 rpm	1750 rpm			
1,000 thru 6,000 sq. ft. EDR 45 BHP 1,553 lb/hr	6	10-15	3/4	1/3	1/3	23	Inlet 2" Overflow 2" Vent 2"	61.5CM
		20		1/3	1/2			62CM
		25		1/2	3/4			62.5CM
		30		1/2	1 1/2			63CM
		40		1	-			64CM
		50		1 1/2	-			65CM
		60		2	-			66CM
		75		3	-			67.5CM
		90		3	-			69CM
9,000 sq. ft. EDR 65 BHP 2,243 lb/hr	9	10-15	3/4	1/3	1/3	36	Inlet 3" Overflow 2" Vent 2"	91.5CM
		20		1/3	1/2			92CM
		25		1/2	3/4			92.5CM
		30		3/4	1 1/2			93CM
		40		1	-			94CM
		50		1 1/2	-			95CM
		60		2	-			96CM
		75		3	-			97.5CM
		90		3	-			99CM
12,000 sq. ft. EDR 85 BHP 2,933 lb/hr	12	10-15	3/4	1/3	1/3	52	Inlet 3 Overflow 2" Vent 2"	121.5CM
		20		1/3	3/4			122CM
		25		1/2	3/4			122.5CM
		30		3/4	1 1/2			123CM
		40		1	-			124CM
		50		1 1/2	-			125CM
		60		2	-			126CM
		75		3	-			127.5CM
		90		5	-			129CM
15,000 sq. ft. EDR 110 BHP 3,795 lb/hr	15	10-15	3/4	1/3	1/2	75	Inlet 4" Overflow 2 1/2" Vent 2 1/2"	151.5CM
		20		1/3	3/4			152CM
		25		1/2	1			152.5CM
		30		3/4	1 1/2			153CM
		40		1	-			154CM
		50		1 1/2	-			155CM
		60		2	-			156CM
		75		3	-			157.5CM
		90		5	-			159CM
22,000 sq. ft. EDR 160 BHP 5,520 lb/hr	22	10-15	3/4	1/3	1/2	75	Inlet 4" Overflow 2 1/2" Vent 2 1/2"	221.5CM
		20	1 1/2	1/2	3/4			222CM
		25		3/4	1			222.5CM
		30		3/4	1 1/2			223CM
		40		1 1/2	-			224CM
		50		2	-			225CM
		60		3	-			226CM
		75		3	-			227.5CM
		90		5	-			229CM
30,000 sq. ft. EDR 215 BHP 7,418 lb/hr	30	10-15		1 1/2	1/2	3/4	120	Inlet 4" Overflow 2 1/2" Vent 2 1/2"
		20	3/4		3/4	302CM		
		25	3/4		1 1/2	302.5CM		
		30	1		1 1/2	303CM		
		40	1 1/2		-	304CM		
		50	2		-	305CM		
		60	3		-	306CM		
		75	5		-	307.5CM		
		90	5		-	309CM		
37,000 sq. ft. EDR 270 BHP 9,315 lb/hr	37	10-15	1 1/2	1/2	3/4	120	Inlet 4" Overflow 2 1/2" Vent 2 1/2"	371.5CM
		20		3/4	1			372CM
		25		1	1 1/2			372.5CM
		30		1 1/2	1 1/2			373CM
		40		2	-			374CM
		50		3	-			375CM
		60		3	-			376CM
		75		5	-			377.5CM
		90		5	-			379CM

## Series CM Boiler Feed Units

System or Boiler Capacity	Pump Data					Receiver Data		Model No.
	Pump Capacity (gpm)	Discharge Pressure (psig)	Discharge Size (inch)	Motor Horsepower		Receiver Capacity (gal)	Opening Sizes (inch)	
				3500 rpm	1750 rpm			
45,000 sq. ft. EDR 325 BHP 11,213 lb/hr	45	1 1/2	15	3/4	3/4	250	Inlet 4" Overflow 2 1/2" Vent 3"	451.5CM
			20	1	1			452CM
			25	1	1 1/2			452.5CM
			30	1 1/2	2			453CM
			40	2	-			454CM
			50	3	-			455CM
			60	3	-			456CM
			75	5	-			457.5CM
			90	5	-			459CM
60,000 sq. ft. EDR 325 BHP 11,213 lb/hr	60	2	15	1	1	250	Inlet 4" Overflow 2 1/2" Vent 3"	601.5CM
			20	1 1/2	1 1/2			602CM
			25	1 1/2	1 1/2			602.5CM
			30	2	2			603CM
			40	3	-			604CM
			50	3	-			605CM
			60	5	-			606CM
			75	5	-			607.5CM
75,000 sq. ft. EDR 545 BHP 18803 lb/hr	75	2	15	1 1/2	1 1/2	250	Inlet 4" Overflow 2 1/2" Vent 3"	751.5CM
			20	1 1/2	2			752CM
			25	2	2			752.5CM
			30	2	3			753CM
			40	5	-			754CM
			50	5	-			755CM
			60	5	-			756CM
			75	7 1/2	-			757.5CM

### BOILER FEED UNIT DESCRIPTION

Series CM units consist of a cast iron receiver, one or two pumps, automatic make-up valve, and overflow connection. The pumps are controlled by a pump control on the boiler (available as optional) responding to water level change in the boiler. This maintains optimum steaming level for maximum performance and safety.

The make-up valve is a float-switch-operated solenoid valve, with cushioned closing and epoxy resin encapsulated coil. Tempering the added cold water with the hot condensate in the receiver minimizes the danger of thermal shock to the boiler.

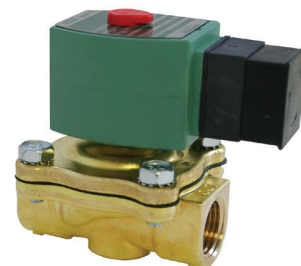
Receiver is pre-selected for 5 minute net storage based on system return rate; this is normally ample for small systems up to 545 BHP. For larger systems refer to Series CMHD & CMED units or increase receiver size accordingly.

### STANDARD UNIT FEATURES

- Cast Iron Receiver, with a 20-year warranty against failure due to corrosion. Receiver sized for a minimum 5 minute net storage.
- Centrifugal Pump(s) with drip-proof motors. Pump capacity sized 2 times system return rate.
- Float switch, solenoid valve and "Y" strainer make up water assembly.

### OPTIONAL FEATURES AVAILABLE AS SPECIFIED

- Water level gauge w/shut off valve
- Dial Thermometer
- Inlet Basket Strainer
- Lifting Eyes
- Discharge Pressure Gauges
- 3 Valve By Pass around Solenoid Make-up Water Valve
- Air Gap Fitting for Make-up Valve
- Suction Butterfly Valves. (Up to 115 gpm maximum)
- TEFC motors
- NEMA 2 UL Control Panels, see page 4 for description of options



### WATER MAKE-UP VALVE

To replace condensate lost from the system, CM receivers are equipped with a float-switch-actuated electric solenoid valve. Control is "on-off", and the valve is sized to equal the capacity of one boiler feed pump. The solenoid valve furnished is an extremely reliable packless type, piston-pilot-operated with cushioned closing feature and epoxy-resin molded waterproof coil. Water make-up valves are furnished with a "Y" strainer for maximum reliability.

### BOILER FEED UNIT CONTROLS

Boiler feed unit wiring diagrams are based on customer's specification for the number of pumps, number of boilers, piping arrangement, required control sequence and options. Several of the most common piping arrangements and control options are shown in the Bell & Gossett Specification 190B Domestic Pump Boiler Feed Control.

**Optional Electric Controls**  
**(See Bell & Gossett Specification 190B Domestic Pump Boiler Feed Control)**

Consolitrol® Control Cabinets are available to comply with other NEMA and JIC specifications. Panels may be factory mounted and wired with liquid tight flexible metal conduit or furnished separately for wall mounting.

**Description of Optional Panel Components:**

- **Magnetic Starters** must be used on all boiler feed units.
- **Disconnect Switches and Circuit Breakers.** Either fuses or a circuit breaker is required ahead of the starters to protect against short circuits. A disconnect switch or circuit breaker also provides a means of shutting off power for service.
- **Control Circuit Disconnect** duplex boiler feed panels use an independent power supply for the control circuit. A separate disconnect switch or circuit breaker is required for the control circuit and is supplied when combination starters are ordered.
- **Selector Switches.** "Auto-Off-Hand" switches provide a means of shutting off pumps and a means of testing in the "Hand" position. "Off-Hand-Lead-Lag" selector switches may be furnished on duplex units with 2 switches set to close at different levels mounted on the boiler.
- **Electric Alternator** may be furnished on duplex units to provide automatic sequencing of lead pump. Use only when magnetic starters are provided. A 2 level switch mounted on the boiler should be provided so that the second pump can be started as required to meet boiler demand.
- **Transformers** are required by the National Electrical Code to reduce control voltage when power supply exceeds 250 volts. Transformers are recommended when voltage exceeds 130 volts.
- **Pilot Lights.** Pump running pilot lights are available to indicate pump operation.
- **Audible Alarm.** An alarm to indicate low or high water level may be furnished. A separate tank mounted level switch should be provided with an alarm.

Specified Panel Components to be furnished with unit at extra cost.

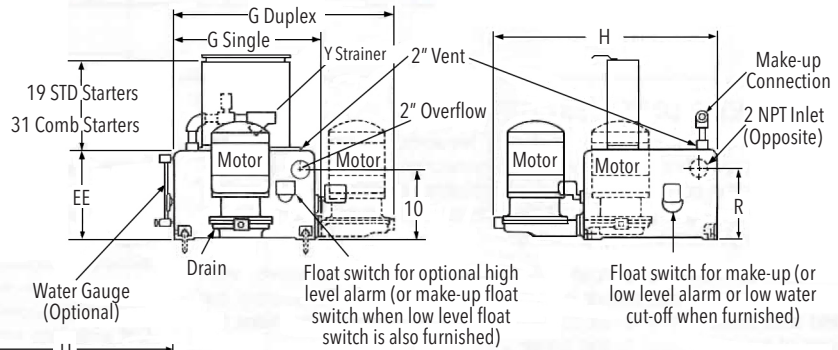
**NEMA 2 - U.L. Listed panels are the standard when specified.**



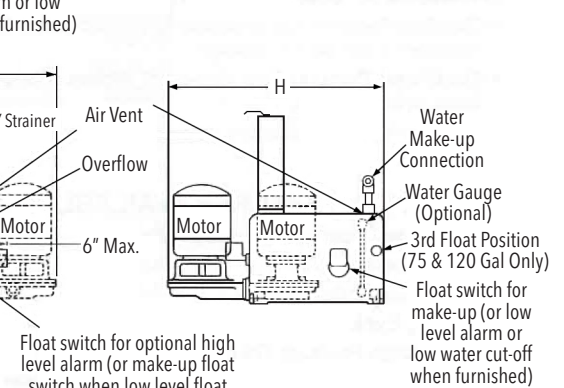
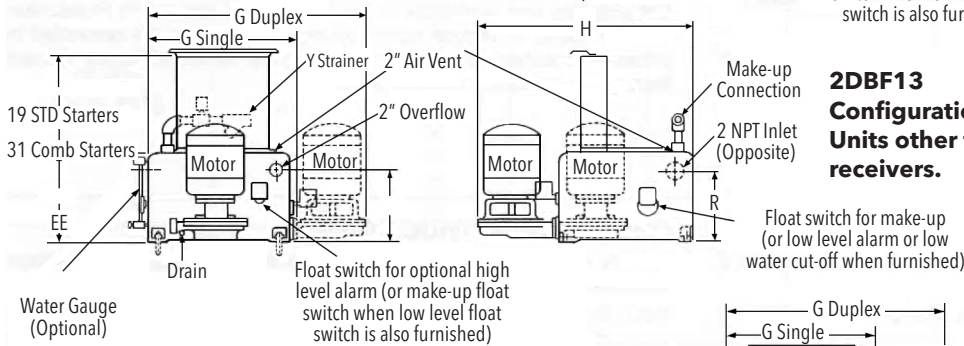
**Roughing-in Dimensions**

Not to be used for installation -  
 CERTIFIED DIMENSIONS ON REQUEST

**2DBF12**  
 Configuration of 1000 thru 15,000 EDR  
 10, 15, 20 psi; 3500 RPM Units with  
 23 gallon receivers.



**2DBF13**  
 Configuration of 1000 thru 15,000 EDR  
 Units other than above with 23 gallon  
 receivers.



**2DBF14**  
 Configuration of 36-120 gallon receiver.

Rec. Cap.		EE	G-Max.		H max	Inlet	R	Air Vent
Gross	Net		Single	Duplex				
23	16	13	23	35	37	2	10	2
36	25	16	26	39	38	3	13	2
52	33	17	29	42	42	3	14	2
75	48	20	33	46	46	4	16	2 1/2
120	91	24	41	54	46	4	20	2 1/2
250	190	32	60	60	48	4	26	3

All dimensions are in inches



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