



ITT

Bulletin S-225G

Bell & Gossett



Domestic® Series CB™ and CBE™ Condensate Units

APPLICATION

Series CB and CBE units are designed for transfer of hot condensate in steam heating or process applications. In any system, large or small, temperature fluctuates and can approach boiling temperature. DOMESTIC offers these two styles of condensate units to meet high temperature and low return line applications.

Series CBE receivers are elevated 24 inches (610mm) above the floor and recommended where height of return lines permits their use. Featuring Series B-35 pumps, the CBE unit will handle boiling condensate (212°F/100°C at sea level).

Series CB is designed for systems with low return lines. Fitted with Series B-35 pumps, which require a maximum of 2 ft. NPSH, it will handle condensate up to 210°F (98.9°C) at sea level.

DEPENDABILITY AND EXTENDED OPERATING LIFE ARE BUILT INTO EVERY CONDENSATE UNIT COMPONENT ...

CAST IRON RECEIVERS are high quality, close grained gray iron of uniform dimensions. These receivers offer maximum protection from corrosion failure and are warranted for 20 years from date of shipment against failure due to corrosion. Each receiver comes standard with a low inlet connection, an overflow and a minimum 2" NPT air vent connection.

Series B-35 pumps assure no pump cavitation even when steam traps are leaking. These pumps use a suction inducer to create adequate NPSH assuring dependable operation. Other pumps may claim to be low NPSH, but without an inducer they merely allow cavitation to slowly destroy the pump. All DOMESTIC pumps use mechanical seals rated for 250°F (121.1°C) to assure long life.



Engineered for life

SELECTION DATA

ALL PUMPS ARE 3500 RPM

SYSTEM CAPACITY*	PUMP CAPACITY GPM (L/m)	DISCHARGE PRESSURE PSIG (kPa)	MOTOR HORSEPOWER 3500 RPM	DISCHARGE SIZE IN. (mm)	SERIES CB MODEL NO.	CB REC. CAP. GPM (L)	CB INLET SIZE IN. (mm)	SERIES CBE MODEL NO.	CBE REC. CAP. GAL (L)	CBE INLET SIZES IN. (mm)
1,000 to 9,000 Sq. Ft. EDR 250 thru 2,250 lb./hr. (113-1,021 kg/hr)	9 (34)	10-15 (69-103)	1/3	1 1/2 (38)	23CB9-15	23 (87)	2 (51)	23CBE9-15	23 (87)	2 (51)
		20 (138)	1/3		23CB9-20			23CBE9-20		
		25 (172)	1/2		23CB9-25			23CBE9-25		
		30 (207)	3/4		23CB9-30			23CBE9-30		
		40 (276)	1 1/2		23CB9-40			23CBE9-40		
		50 (345)	1 1/2		23CB9-50			23CBE9-50		
		60 (414)	3		23CB9-60			23CBE9-60		
		75 (518)	3		23CB9-75			23CBE9-75		
		85 (589)	5		23CB9-85			23CBE9-85		
		100 (690)	5		23CB9-100			23CBE9-100		
12,000 Sq. Ft. EDR 3,000 lb./hr. (1,361 kg/hr)	12 (45)	10-15 (69-103)	1/3	1 1/2 (38)	23CB12-15	23 (87)	2 (51)	23CBE12-15	23 (87)	2 (51)
		20 (138)	1/3		23CB12-20			23CBE12-20		
		25 (172)	1/2		23CB12-25			23CBE12-25		
		30 (207)	3/4		23CB12-30			23CBE12-30		
		40 (276)	1 1/2		23CB12-40			23CBE12-40		
		50 (345)	2		23CB12-50			23CBE12-50		
		60 (414)	3		23CB12-60			23CBE12-60		
		75 (518)	5		23CB12-75			23CBE12-75		
		85 (589)	5		23CB12-85			23CBE12-85		
		100 (690)	5		23CB12-100			23CBE12-100		
15,000 Sq. Ft. EDR 3,750 lb./hr. (1,701 kg/hr)	15 (51)	10-15 (69-103)	1/3	1 1/2 (38)	23CB15-15	23 (87)	2 (51)	23CBE15-15	23 (87)	2 (51)
		20 (138)	1/2		23CB15-20			23CBE15-20		
		25 (172)	3/4		23CB15-25			23CBE15-25		
		30 (207)	3/4		23CB15-30			23CBE15-30		
		40 (276)	1 1/2		23CB15-40			23CBE15-40		
		50 (345)	2		23CB15-50			23CBE15-50		
		60 (414)	3		23CB15-60			23CBE15-60		
		75 (518)	5		23CB15-75			23CBE15-75		
		85 (589)	5		23CB15-85			23CBE15-85		
		100 (690)	5		23CB15-100			23CBE15-100		
22,000 Sq. Ft. EDR 5,500 lb./hr. (2,495 kg/hr)	22 (83)	10-15 (69-103)	1/2	1 1/2 (38)	23CB22-15	23 (87)	2 (51)	23CBE22-15	23 (87)	2 (51)
		20 (138)	1/2		23CB22-20			23CBE22-20		
		25 (172)	3/4		23CB22-25			23CBE22-25		
		30 (207)	3/4		23CB22-30			23CBE22-30		
		40 (276)	1 1/2		23CB22-40			23CBE22-40		
		50 (345)	2		23CB22-50			23CBE22-50		
		60 (414)	3		23CB22-60			23CBE22-60		
		75 (518)	5		23CB22-75			23CBE22-75		
		85 (589)	5		23CB22-85			23CBE22-85		
		100 (690)	5		23CB22-100			23CBE22-100		
30,000 Sq. Ft. EDR 7,500 lb./hr. (3,402 kg/hr)	30 (114)	10-15 (69-103)	1/2	1 1/2 (38)	36CB30-15	36 (136)	3 (76)	36CBE30-15	36 (136)	3 (76)
		20 (138)	3/4		36CB30-20			36CBE30-20		
		25 (172)	3/4		36CB30-25			36CBE30-25		
		30 (207)	1		36CB30-30			36CBE30-30		
		40 (276)	2		36CB30-40			36CBE30-40		
		50 (345)	3		36CB30-50			36CBE30-50		
		60 (414)	3		36CB30-60			36CBE30-60		
		75 (518)	5		36CB30-75			36CBE30-75		
		85 (589)	5		36CB30-85			36CBE30-85		
		100 (690)	7 1/2		36CB30-100			36CBE30-100		
37,000 Sq. Ft. EDR 9,250 lb./hr. (4,196 kg/hr)	37 (140)	10-15 (69-103)	1/2	1 1/2 (38)	36CB37-15	36 (136)	3 (76)	36CBE37-15	36 (136)	3 (76)
		20 (138)	3/4		36CB37-20			36CBE37-20		
		25 (172)	1		36CB37-25			36CBE37-25		
		30 (207)	1		36CB37-30			36CBE37-30		
		40 (276)	3		36CB37-40			36CBE37-40		
		50 (345)	3		36CB37-50			36CBE37-50		
		60 (414)	5		36CB37-60			36CBE37-60		
		75 (518)	5		36CB37-75			36CBE37-75		
		85 (589)	5		36CB37-85			36CBE37-85		
		100 (690)	7 1/2		36CB37-100			36CBE37-100		
45,000 Sq. Ft. EDR 11,250 lb./hr. (5,130 kg/hr)	45 (170)	10-15 (69-103)	3/4	1 1/2 (38)	52CB45-15	52 (197)	3 (76)	52CBE45-15	52 (197)	3 (76)
		20 (138)	3/4		52CB45-20			52CBE45-20		
		25 (172)	1		52CB45-25			52CBE45-25		
		30 (207)	1 1/2		52CB45-30			52CBE45-30		
		40 (276)	3		52CB45-40			52CBE45-40		
		50 (345)	3		52CB45-50			52CBE45-50		
		60 (414)	5		52CB45-60			52CBE45-60		
		75 (518)	5		52CB45-75			52CBE45-75		
		85 (589)	7 1/2		52CB45-85			52CBE45-85		
		100 (690)	7 1/2		52CB45-100			52CBE45-100		

*Sq. Ft. EDR / 4 = Lb./hr.

SYSTEM CAPACITY*	PUMP CAPACITY GPM (L/m)	DISCHARGE PRESSURE PSIG (kPa)	MOTOR HORSEPOWER 3500 RPM	DISCHARGE SIZE IN. (mm)	SERIES CB MODEL NO.	CB REC. CAP. GPM (L)	CB INLET SIZE IN. (mm)	SERIES CBE MODEL NO.	CBE REC. CAP. GAL (L)	CBE INLET SIZES IN. (mm)
60,000 Sq. Ft. EDR 15,000 lb./hr. (6,804 kg/hr)	60 (227)	15 (103) 20 (138) 25 (172) 30 (207) 40 (276) 50 (345) 60 (414) 75 (518) 85 (589) 100 (690)	1 1/2 1 1/2 2 2 3 5 5 7 1/2 7 1/2 7 1/2	2 (51)	75CB60-15 75CB60-20 75CB60-25 75CB60-30 75CB60-40 75CB60-50 75CB60-60 75CB60-75 75CB60-85 75CB60-100	75 (284)	4 (102)	75CBE60-15 75CBE60-20 75CBE60-25 75CBE60-30 75CBE60-40 75CBE60-50 75CBE60-60 75CBE60-75 75CBE60-85 75CBE60-100	75 (284)	4 (102)
75,000 Sq. Ft. EDR 18,750 lb./hr. (8,505 kg/hr)	75 (284)	15 (103) 20 (138) 25 (172) 30 (207) 40 (276) 50 (345) 60 (414) 75 (518) 85 (589) 100 (690)	1 1/2 2 2 3 5 5 7 1/2 10 10 15	2 (51) 2 1/2 (64)	75CB75-15 75CB75-20 75CB75-25 75CB75-30 75CB75-40 75CB75-50 Not Available Not Available Not Available Not Available	75 (284)	4 (102)	75CBE75-15 75CBE75-20 75CBE75-25 75CBE75-30 75CBE75-40 75CBE75-50 75CBE75-60 75CBE75-75 75CBE75-85 75CBE75-100	75 (284)	4 (102)
90,000 Sq. Ft. EDR 22,500 lb./hr. (11,000 kg/hr)	90 (341)	15 (103) 20 (138) 25 (172) 30 (207) 40 (276) 50 (345) 60 (414) 75 (518) 85 (589)	1 1/2 2 3 3 5 7 1/2 7 1/2 10 10	2 (51)	120CB90-15 120CB90-20 120CB90-25 120CB90-30 120CB90-40 Not Available Not Available Not Available	120 (454)	4 (102)	120CBE90-15 120CBE90-20 120CBE90-25 120CBE90-30 120CBE90-40 120CBE90-50 120CBE90-60 120CBE90-75 120CBE90-85	120 (454)	4 (102)
112,000 Sq. Ft. EDR 28,000 lb./hr. (12,701 kg/hr)	112 (424)	15 (103) 20 (138) 25 (172) 30 (207) 40 (276) 50 (345) 60 (414) 75 (518) 85 (589)	3 3 5 5 7 1/2 7 1/2 10 10 15	2 (51) 2 1/2 (64) 2 (51)	NOT AVAILABLE	-	-	120CBE112-15 120CBE112-20 120CBE112-25 120CBE112-30 120CBE112-40 120CBE112-50 120CBE112-60 120CBE112-75 120CBE112-85	120 (454)	4 (102)
140,000 Sq. Ft. EDR 34,748 lb./hr. (15,762 kg/hr)	140 (530)	25 (172) 30 (207) 40 (276) 50 (345) 60 (414) 75 (518) 85 (589)	5 5 7 1/2 7 1/2 10 15 15	2 1/2 (64) 2 (51)	NOT AVAILABLE	-	-	120CBE140-25 120CBE140-30 120CBE140-40 120CBE140-50 120CBE140-60 120CBE140-75 120CBE140-85	120 (454)	4 (102)

*Sq. Ft. EDR / 4 = Lb./hr.

Series CB Standard Unit Features

- Cast iron receiver.
- All simplex receivers have a blanked opening for second pump.
- Cast Iron Receivers are warranted for 20 years from date of shipment against failure due to corrosion.
- Series B35 centrifugal pump(s) with drip-proof motors. Pump capacity sized 2 times system return rate.
- Float switch(es).

Optional Features

- Water level gauge w/shutoff valve
- Dial Thermometer
- Inlet Basket Strainer
- Discharge Pressure Gauges
- Mechanical Alternator provides sequencing of duplex pumps and stand-by of second pump on high level.
- NEMA 2 – U.L. Listed Control Panels – see page 4.
- Suction Butterfly Valve (optional on Series CB Units only, on capacities to 75 gpm)
- Lifting Eyes

Ordering Instructions

Specify Model No., single or duplex, phase, operating voltage, special features.

Note: TEFC and explosion proof motors are available. The motor horsepower requirement is often greater using explosion proof motors as they have unity service factor. A horsepower increase is not necessary when using TEFC Motors.

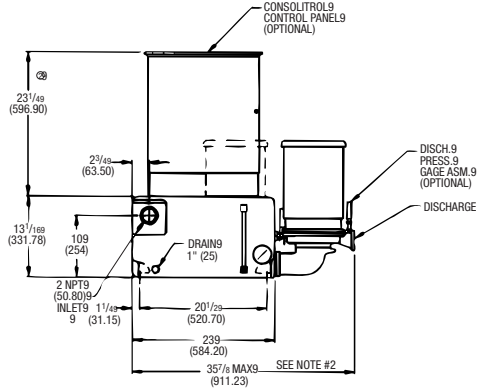
Series CBE Standard Unit Features

- Cast iron receiver mounted on a welded steel stand.
- All simplex receivers have a blanked opening for second pump.
- Cast Iron Receivers are warranted for 20 years from date of shipment against failure due to corrosion.
- Series B35 centrifugal pump(s) with drip-proof motors. Pump capacity sized 2 times system return rate.
- Float switch(es).
- Suction piping isolation valves.

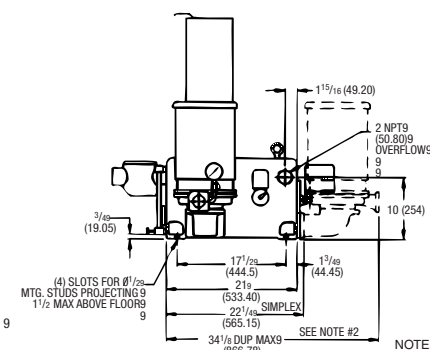
ROUGHING-IN DIMENSIONS All dimensions in inches (mm)

Not to be used for installation – CERTIFIED DIMENSIONS ON REQUEST

SERIES CB CONDENSATE UNITS

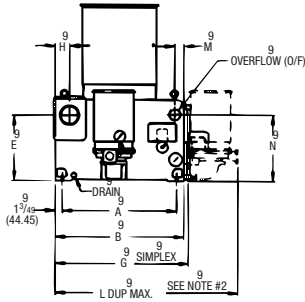


NUMBERS IN () = MM

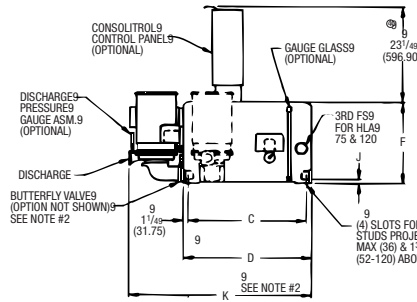


NOTES:
1. OPTIONAL BASKET STRAINER SHIPPED LOOSE.
2. OPTIONAL BUTTERFLY VALVE(S) REQUIRES THE ADDITION OF 2\"/>

2DCB01
23 GALLON (87L)



NUMBERS IN () = MM

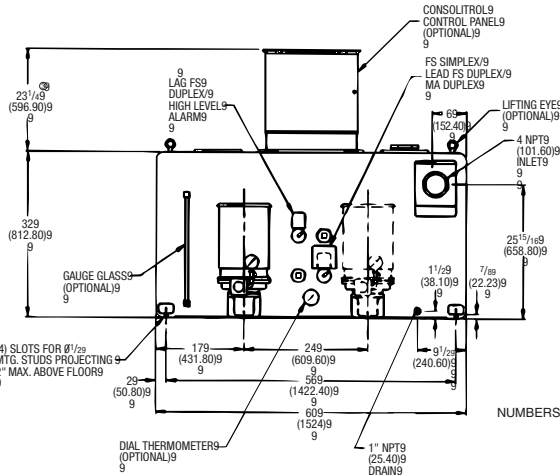


NOTES:
1. OPTIONAL BASKET STRAINER SHIPPED LOOSE.
2. OPTIONAL BUTTERFLY VALVE(S) REQUIRES ADDITION TO THE OVERALL DIMENSION AS FOLLOWS:
2\"/>

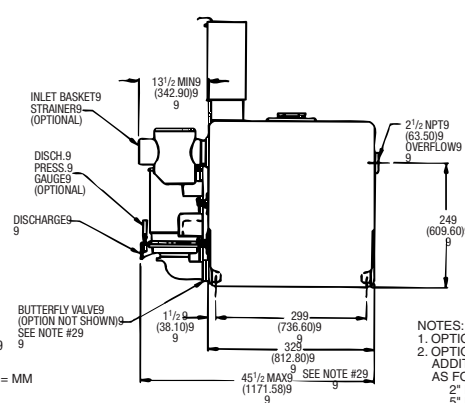
2DCB02
36-120 GALLON
(136-454L)

CAP CAP (L)	VENT & O/F	INLET	A	B	C	D	E	F	G	H	J	K MAX	L MAX	M	N	DRAIN
36 (136)	2 (51)	3 (76)	21 1/4 (540)	24 3/4 (629)	21 1/2 (546)	24 (610)	13 (330)	15 13/16 (402)	26 5/16 (668)	2 1/2 (64)	3/4 (19)	38 1/8 (968)	38 7/8 (987)	1 15/16 (49)	12 1/2 (318)	1 (25)
52 (197)	2 (51)	3 (76)	24 1/4 (616)	27 3/4 (705)	25 1/4 (641)	27 3/4 (705)	14 (356)	16 13/16 (427)	29 5/16 (745)	2 7/8 (73)	1 (25)	41 7/8 (1064)	41 7/8 (1064)	1 15/16 (49)	13 1/2 (343)	1 (25)
75 (284)	2 1/2 (64)	4 (102)	27 3/4 (705)	31 1/4 (794)	28 3/4 (730)	31 1/4 (794)	16 (406)	19 13/16 (503)	32 13/16 (833)	3 1/2 (89)	1 (25)	45 3/8 (1153)	45 3/8 (1153)	2 3/16 (56)	15 7/32 (387)	1 (25)
120 (454)	2 1/2 (64)	4 (102)	36 1/4 (921)	39 3/4 (1010)	30 3/4 (781)	32 3/4 (832)	20 (508)	24 (610)	41 3/16 (1046)	4 (102)	1 (25)	46 7/8 (1191)	53 7/8 (1368)	2 1/2 (64)	19 7/32 (488)	2 1/2 (64)

SERIES CB RECEIVER



NUMBERS IN () = MM



NOTES:
1. OPTIONAL BASKET STRAINER SHIPPED LOOSE.
2. OPTIONAL BUTTERFLY VALVE(S) REQUIRES ADDITION TO THE OVERALL DIMENSION AS FOLLOWS:
2\"/>

2DCB03
250 GALLON (946L)



**NEMA 2/U.L. LISTED
CONTROL PANEL**

OPTIONAL ELECTRIC CONTROLS

Description of Optional Panel Components:

- Magnetic Starters must be used on all 3 phase motors and single phase motors over 2 HP.
- 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.
- Selector Switches – “Auto-Off-Hand” selector 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 float switches to provide manual alternation.
- Electric Alternator may be furnished on duplex units to provide automatic sequencing of lead pump. Use only when magnetic starters are provided and only with 2 float switches.
- Transformer is required by the National Electrical Code to reduce control voltage when power supply exceeds 250 volts. A transformer is recommended when voltage exceeds 130 volts. Refer to local codes for requirements.
- 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.

Standard panels are supplied with NEMA 2 enclosures and are U.L. listed unless otherwise specified.

