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## GUARDIAN® Plus



**Cast Iron And  
Steel Receivers**

**Simplex, Duplex, Triplex  
And Quadruplex Units**

**Pump Capacities To  
150 GPM**

**Discharge Pressure To  
75 PSI**

## TYPICAL APPLICATIONS

### Condensate Pump Packages

Vent-Rite® are complete, compact assemblies for returning water to a boiler feed system from a gravity steam system. These pumps will quickly and automatically lift condensate from extremely low to high return lines.

In many installations, the Vent-Rite® condensate pump has accounted for impressive fuel savings by efficiently returning hot condensate, thus reducing the amount of make-up water required, minimizing difficulties from boiler encrustation and reducing boiler treatment chemical cost.

### Boiler Feed Pump Packages

Boiler feed pump systems are used to pump and precisely control the condensate and make-up water required by the boiler(s) in low pressure steam applications. Pump action is controlled by the fluid level in the boiler.

### Receivers

Cast Iron rectangular receivers are available in 15 to 110 gallon capacities.

Heavy duty, welded rust resistant steel receivers are available in rectangular or cylindrical configurations with capacities from 10 gallons to 1000 gallons. Consult your local representative for custom engineered receivers and rust resistant linings.

## ACCESSORIES AND OPTIONAL EQUIPMENT

### Condensate Pumps – Standard Equipment

- Simplex units have opening blanked-off for addition of a second pump at a later date
- One float switch (simplex units)
- Mechanical alternator (duplex units – equalizes running time between the two pumps and provides emergency back-up)
- Gauge glass and thermometer tapings
- Name brand heavy duty motors

### Condensate Pumps – Optional Equipment

- Electrical control panel - factory mounted and wired (Ref: Bulletin VMACC-700)
- Thermometer
- Two float switches (duplex units)

- Electric alternator - mounted on unit and factory wired
- Suction isolation valves
- Inlet strainers - "Y" or basket type
- Gauge glass
- Magnesium corrosion inhibitor
- Corrosion resistant receiver linings (steel receivers)
- Discharge pressure gauges
- Discharge check valves
- Discharge gate valves
- Special motors - T.E.F.C., explosion proof, washdown duty

### Boiler Feed Or Makeup Pumps – Standard Equipment

- Simplex units have opening blanked-off for addition of a second pump at a later date
- Float operated makeup valve
- Gauge glass and thermometer tapings
- Name brand heavy duty motors

### Boiler Feed Or Makeup Pumps – Optional Equipment

- Electrical control panel - factory mounted and wired (Ref: Bulletin MACC-700)
- Thermometer
- Makeup feeders - external type, or reverse acting float switch and solenoid valve type
- Magnesium corrosion inhibitor
- Corrosion resistant receiver linings (steel receivers)
- Suction isolation valves
- Inlet strainers - "Y" or basket type
- Gauge glass
- Three valve bypass and inlet strainer assembly
- Feedwater pre-heaters
- Discharge pressure gauges
- Discharge check valves
- Discharge gate valves
- Special motors - T.E.F.C., explosion proof, wash down duty

**PUMP SELECTION CHART**

CAPACITY GPM	DISCHARGE PRESSURE PSIG	1750 RPM			3450 RPM		
		CATALOG NO.	MOTOR HP	DISC SIZE	CATALOG NO.	MOTOR HP	DISC SIZE
1-1/2	10	CRV110-1E	1/3	1-1/4"	CRV110-2E	1/3	1-1/4"
	15	CRV115-1E	1/2	1-1/2"	CRV115-2E	1/2	
	20	CRV120-1E	1/2		CRV120-2E		
	30	CRV130-1E	1	CRV130-2E	1/2		
	40	CRV140-1E	1-1/2	CRV140-2E	1		
	50			CRV150-2E	1-1/2		
3	60				CRV160-2E	2	
	10	CRV210-1E	1/3	1-1/4"	CRV210-2E	1/3	1-1/4"
	15	CRV215-1E	1/2	1-1/2"	CRV215-2E	1/2	
	20	CRV220-1E	1/2		CRV220-2E		
	30	CRV230-1E	1	CRV230-2E	1/2		
	40	CRV240-1E	1-1/2	CRV240-2E	1		
50			CRV250-2E	1-1/2			
6	60				CRV260-2E	2	
	10	CRV410-1E	1/3	1-1/4"	CRV410-2E	1/3	1-1/4"
	15	CRV415-1E	1/2	1-1/2"	CRV415-2E	1/2	
	20	CRV420-1E	1/2		CRV420-2E		
	30	CRV430-1E	1	CRV430-2E	1/2		
	40	CRV440-1E	1-1/2	CRV440-2E	1		
50			CRV450-2E	1-1/2			
9	60				CRV460-2E	2	
	10	CRV610-1E	1/3	1-1/4"	CRV610-2E	1/3	1-1/4"
	15	CRV615-1E	1/2	1-1/2"	CRV615-2E	3/4	
	20	CRV620-1E	1/2		CRV620-2E		
	30	CRV630-1E	1	CRV630-2E	1		
	40	CRV640-1E	1-1/2	CRV640-2E	1		
50			CRV650-2E	1-1/2			
12	60				CRV660-2E	2	
	10	CRV810-1E	1/3	1-1/4"	CRV810-2E	1/3	1-1/4"
	15	CRV815-1E	1/2	1-1/2"	CRV815-2E	3/4	
	20	CRV820-1E	3/4		CRV820-2E		
	30	CRV830-1E	1	CRV830-2E	1		
	40	CRV840-1E	1-1/2	CRV840-2E	1		
50			CRV850-2E	1-1/2			
15	60				CRV860-2E	2	
	10	CRV1010-1E	1/3	1-1/4"	CRV1010-2E	1/3	1-1/4"
	15	CRV1015-1E	1/2	1-1/2"	CRV1015-2E	3/4	
	20	CRV1020-1E	3/4		CRV1020-2E		
	30	CRV1030-1E	1	CRV1030-2E	1-1/2		
	40	CRV1040-1E	1-1/2	CRV1040-2E	2		
50			CRV1050-2E	2			
22-1/2	60				CRV1060-2E	2	
	10	CRV1510-1E	1/3	1-1/4"	CRV1510-2E	1/3	1-1/4"
	15	CRV1515-1E	1/2	1-1/2"	CRV1515-2E	1/2	
	20	CRV1520-1E	3/4		CRV1520-2E		
	30	CRV1530-1E	1-1/2	CRV1530-2E	3/4		
	40	CRV1540-1E		CRV1540-2E	1-1/2		
50			CRV1550-2E	2			
30	60				CRV1560-2E	3	
	70				CRV1570-2E	5	
	10	CRV2010-1E	1/3	1-1/4"	CRV2010-2E	1/3	1-1/4"
	15	CRV2015-1E	1/2	1-1/2"	CRV2015-2E	3/4	
	20	CRV2020-1E	1		CRV2020-2E		
	30	CRV2030-1E	1-1/2	CRV2030-2E	1-1/2		
40	CRV2040-1E	2	CRV2040-2E	2			
50			CRV2050-2E	3			
37-1/2	60				CRV2060-2E	5	
	70				CRV2070-2E	5	
	10	CRV2510-1E	1/2	1-1/4"	CRV2510-2E	1/2	1-1/4"
	15	CRV2515-1E	3/4	1-1/2"	CRV2515-2E	1	
	20	CRV2520-1E	1		CRV2520-2E		
	30	CRV2530-1E	1-1/2	CRV2530-2E	2		
40			CRV2540-2E	3			
50			CRV2550-2E	3			
45	60				CRV2560-2E	5	
	70				CRV2570-2E	5	
	10	CRV3010-1E	3/4	1-1/2"	CRV3010-2E	1/2	1-1/4"
	15	CRV3015-1E	1	1-1/2"	CRV3015-2E	1-1/2	
	20	CRV3020-1E	1-1/2		CRV3020-2E		
	30	CRV3030-1E	2	CRV3030-2E	2		
40			CRV3040-2E	3			
50			CRV3050-2E	5			
45	60				CRV3060-2E	5	
	70				CRV3070-2E	5	

**PUMP SELECTION CHART (continued)**

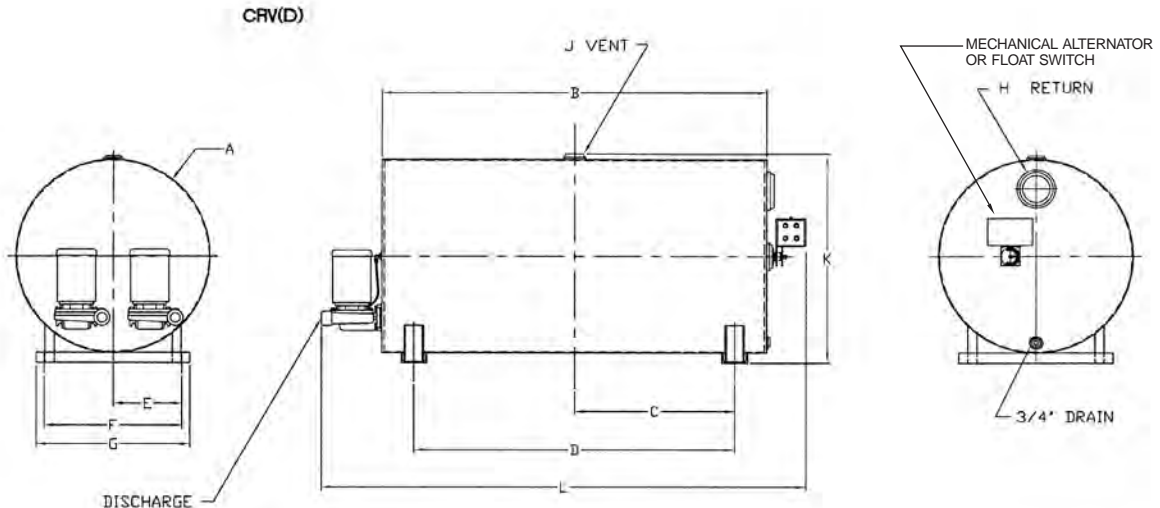
CAPACITY GPM	DISCHARGE PRESSURE PSIG	1750 RPM			3450 RPM		
		CATALOG NO.	MOTOR HP	DISC SIZE	CATALOG NO.	MOTOR HP	DISC SIZE
60	10	CRV4010-1E	1	1-1/2"	CRV4010-2E	3/4	1-1/4"
	15	CRV4015-1E			CRV4015-2E	1	
	20	CRV4020-1E	1-1/2		CRV4020-2E	1-1/2	
	30	CRV4030-1E	2		CRV4030-2E		
	40			CRV4040-2E	3		
	50			CRV4050-2E			
	60			CRV4060-2E	5		
	70			CRV4070-2E			
75	10	CRV5010-1E	1	1-1/2"	CRV5010-2E	1-1/2	1-1/4"
	15	CRV5015-1E	1-1/2		CRV5015-2E		
	20	CRV5020-1E			CRV5020-2E		
	30	CRV5030-1E	3	CRV5030-2E	2		
	40			CRV5040-2E	3		
	50			CRV5050-2E	5		
97-1/2	10				CRV6510-2E	3	1-1/4"
	15				CRV6515-2E		
	20				CRV6520-2E		
	30				CRV6530-2E	3	
	40				CRV6540-2E	5	
	50				CRV6550-2E		
120	60				CRV6560-2E	7-1/2	1-1/2"
	20				CRV8020-2E	3	
	30				CRV8030-2E	5	
	40				CRV8040-2E		
	50				CRV8050-2E	7-1/2	
150	60				CRV8060-2E		
	20				CRV10020-2E	5	1-1/2"
	30				CRV10030-2E		
	40				CRV10040-2E	7-1/2	
	50				CRV10050-2E		
60				CRV10060-2E	10		

**NOTE: When using TEFC or Explosion Proof motors, we may need to increase HP. Check specific pump curve or consult factory.**

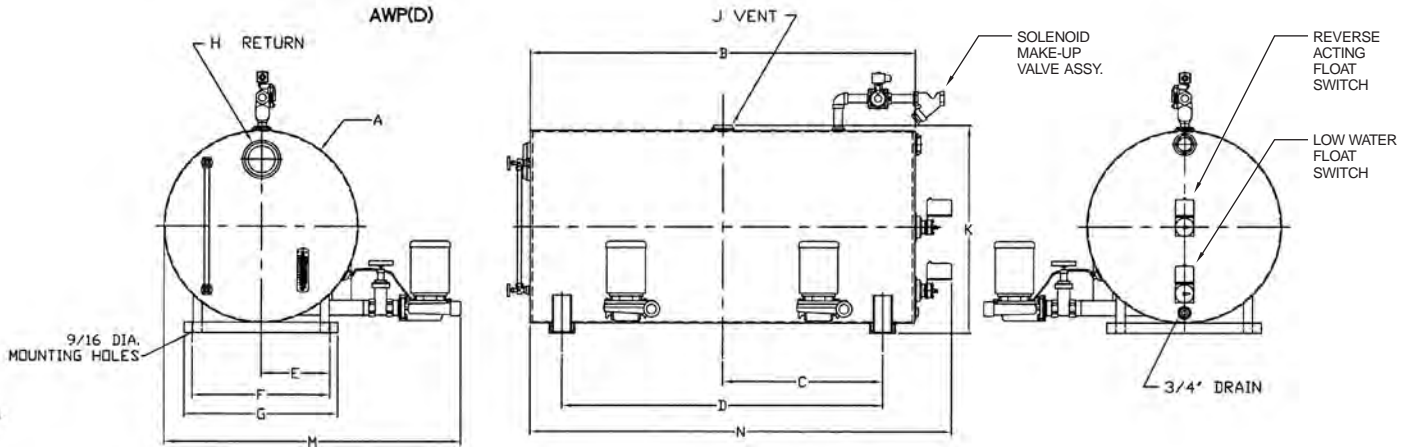
# DIMENSION DATA

## CRV(D) AND AWP(D) PUMPS WITH CYLINDRICAL STEEL RECEIVERS

Simplex, Duplex, Triplex Or Quadruplex Condensate Or Boiler Feed Units



Duplex Unit Shown With G5V Pumps



### APPROXIMATE DIMENSIONS

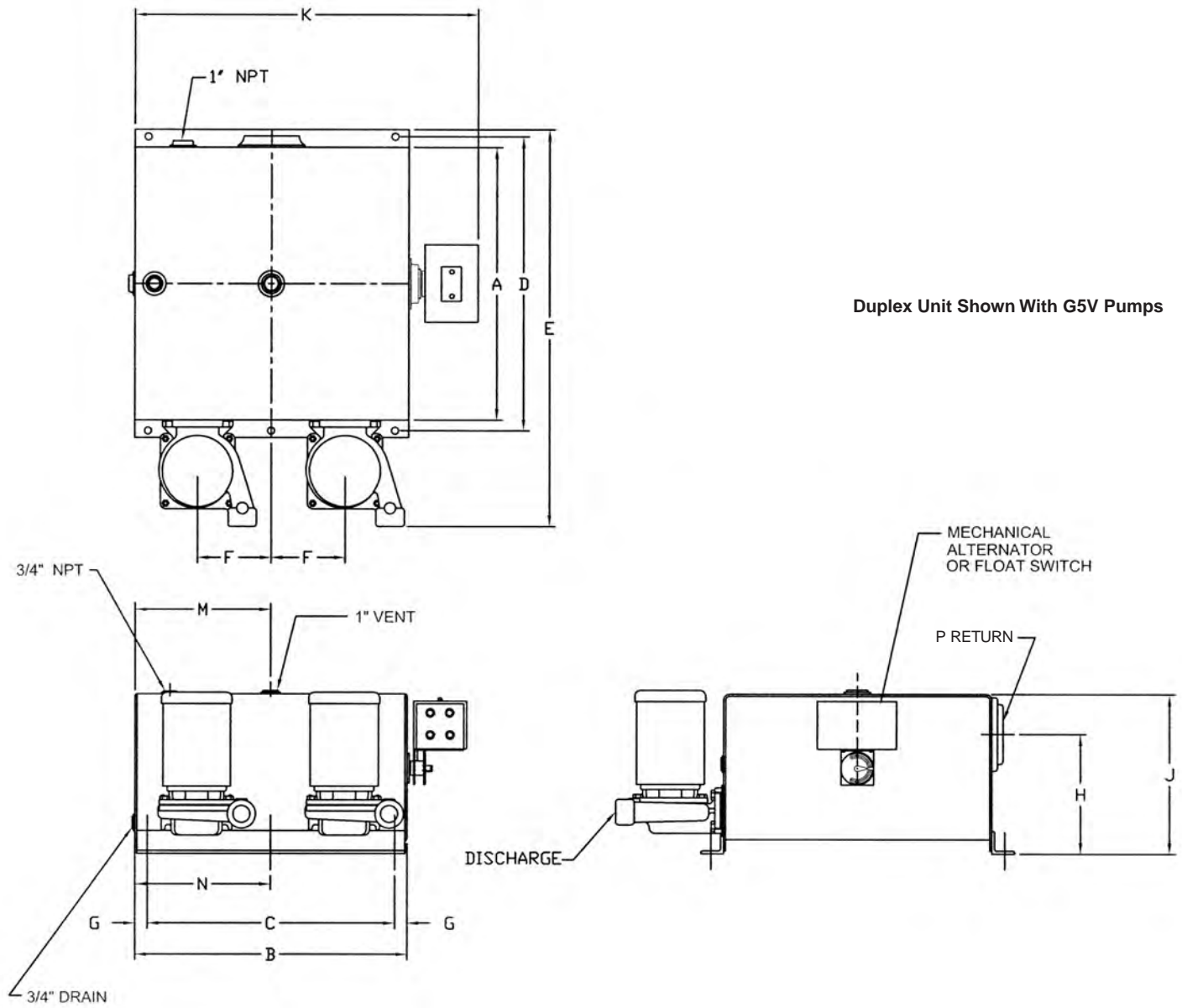
RECEIVER SIZE (GAL)	A	B	C	D	E	F	G	H	J	K	L	M	N
21	14	30	10-1/2	21	6-1/4	12-1/2	14-1/2	2	1	15	45-5/8	-	-
49	22	30	10-1/2	21	7-1/2	15	17	2-1/2	1-1/4	23	45-5/8	39-1/2	35-3/4
71	24	36	10-1/2	21	7-1/2	15	17	3	1-1/2	25-1/4	51-5/8	40-1/2	41-3/4
117	24	60	15	30	7-1/2	15	17	4	2	25-1/4	75-5/8	40-1/2	65-3/4
150	30	48	18	36	11	22	24	4	2	32-1/2	63-5/8	42-1/2	53-3/4
209	32	60	24	48	14	28	30	5	2	34-1/2	75-5/8	46-1/2	65-3/4
260	36	60	24	48	14	28	30	5	2	38-1/2	75-5/8	51-1/2	65-3/4
370	36	84	28	56	14	28	30	5	2	38-1/2	99-5/8	51-1/2	89-3/4
500	42	84	28	56	14	28	30	5	2	44-3/4	99-5/8	57-1/2	89-3/4
650	42	108	28	56	14	28	30	5	2	44-3/4	123-5/8	57-1/2	113-3/4
750	48	96	28	56	19	38	40	5	2	50-3/4	111-5/8	64-1/2	101-3/4
1,000	48	132	48	96	19	38	40	5	2	50-3/4	147-5/8	64-1/2	137-3/4

NOTE: For dimension "L" or "M" add 2-3/8 for G6V or 3-5/8 for G7V

## DIMENSION DATA

### CRV(D) PUMPS WITH STEEL RECTANGULAR RECEIVERS

Simplex Or Duplex Condensate Or Boiler Feed Units



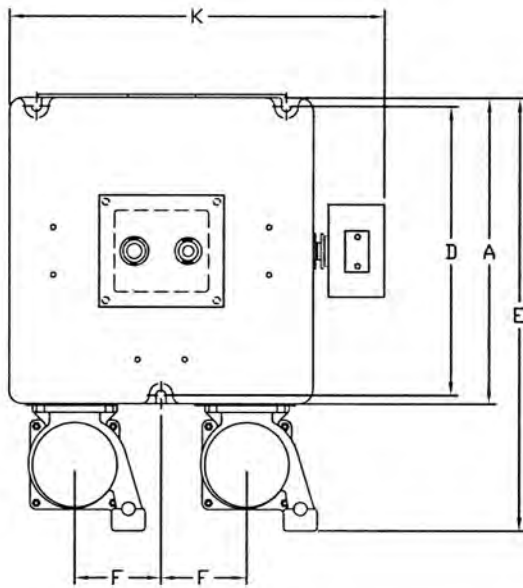
APPROXIMATE DIMENSIONS - STEEL RECEIVER MODELS													
RECEIVER SIZE (GAL)	A	B	C	D	E	F	G	H	J	K	M	N	P
10	14	17-1/8	15-1/8	15-13/16	24-7/8	5-1/4	1	9	11-3/16	23-1/4	8-9/16	8-9/16	2
16	18	18-1/16	16-1/16	20	29-1/16	5-11/16	1	9-7/8	12-1/2	24-5/32	9-1/32	9	2
24	15	21	19-1/8	16-7/8	25-15/16	6-1/4	15/16	15	18-1/2	27-3/32	10-1/2	-	4
33	21	21-1/2	19-1/8	22-7/8	31-15/16	6-1/2	1-3/16	15	18-1/2	27-19/32	10-3/4	-	4
44	24	24	22-1/8	25-7/8	34-15/16	6-1/2	15/16	15	18-1/2	30-3/32	12	-	4
70	30	30	27-13/16	32-1/4	41-3/8	9	1-3/32	14-7/8	18	36-3/32	15	-	4
100	36	36	33-13/16	38-1/4	47-3/8	10	1-3/32	14-7/8	18	42-3/32	18	-	4
120	34	34	22	36-1/4	45-3/8	10-1/4	6	14-5/8	23-5/8	40-3/32	17	-	4

NOTE: For dimension "E" add 2-3/8 for G6V or 3-5/8 for G7V

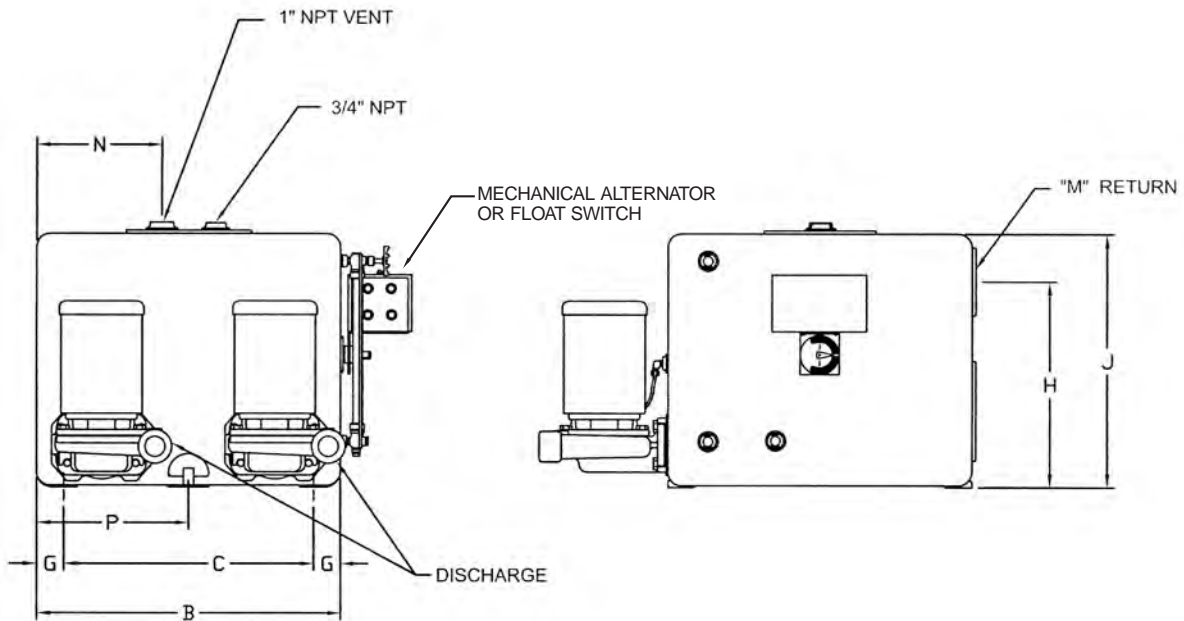
## DIMENSION DATA

### CRV PUMPS WITH CAST IRON RECTANGULAR RECEIVERS

Simplex Or Duplex Condensate Or Boiler Feed Units



Duplex Unit Shown With G5V Pumps



APPROXIMATE DIMENSIONS - CAST IRON RECEIVER MODELS

RECEIVER SIZE (GAL)	A	B	C	D	E	F	G	H	J	K	M	N	P
15	12	21	17	10-3/4	21-3/8	6-1/4	2	15	18-1/2	26-1/4	2	8-1/2	10-1/2
21	15	21	17	13-3/4	24-3/8	6-1/4	2	15-1/2	19	26-1/4	2	8-1/2	10-1/2
36	22-1/2	22-1/2	18-1/2	21-1/4	31-7/8	6-3/8	2	15	18-1/2	27-3/4	3	9-1/4	11-1/4
50	31	22-1/2	18-1/2	29-3/4	40-3/8	6-3/8	2	15	18-1/2	27-3/4	3	9-1/4	11-1/4
75	26	36	32	24-3/4	35-3/8	13	2	16	21	41-1/4	4	16	18
110	37	36	32	35-3/4	46-3/8	13	2	16	21	41-1/4	4	16	18

NOTE: For dimension "E" add 2-3/8 for G6V or 3-5/8 for G7V



## TYPICAL ENGINEERING SPECIFICATIONS

### Duplex Condensate Pump With Cast Iron Or Steel Receiver

Furnish and install according to plans and manufacturer's instructions the quantity of condensate pump units as shown on the drawings. Each unit shall consist of one (1) condensate receiver, (2) condensate pumps, and (1) mechanical alternator.

The condensate pumps shall be centrifugal design; permanently aligned and driven by vertical close coupled drip proof motors with drip covers. The motor and rotating parts shall be removable without disturbing suction or discharge piping. Pumps shall be bronze fitted with enclosed bronze centrifugal impeller, stainless steel shaft, dripless mechanical seals suitable for 250°F, mechanical seal face flushing line with vent to receiver. Capacities and electrical characteristics shall be as scheduled on the drawings.

The receiver shall be manufactured of rust resisting steel or cast iron and shall have a capacity of not less than that shown on the drawings. Receiver shall be equipped with water level gauge glass, and one (1) mechanical alternator. Factory provided and wired Nema I UL electrical control panel with: (1) disconnect, (1) fuse block or circuit breaker per pump, (1) magnetic starter with overload per pump, (1) HOA selector switch per pump, (1) control circuit transformer on all 3-phase.

Capacity Schedule

Vent-Rite® Model No. \_\_\_\_\_

\_\_\_\_\_ gpm @ \_\_\_\_\_ psig \_\_\_\_\_ HP \_\_\_\_\_ RPM

\_\_\_\_\_ volts \_\_\_\_\_ PH \_\_\_\_\_ HZ \_\_\_\_\_ gallon steel; cast iron receiver

### Duplex Boiler Feed Pump With Steel Receiver

Furnish and install according to plans and manufacturer's instructions the quantity of boiler feed units as shown on the drawings. Each unit shall consist of one (1) steel boiler feed receiver, two (2) boiler feed pumps, one (1) water make-up assembly, electrical controls, and accessories.

The boiler feed pumps shall be centrifugal design, permanently aligned and driven by vertical close coupled drip proof motor with drip cover. The motor and rotating parts shall be removable without disturbing suction or discharge piping. Pump shall be bronze fitted with enclosed bronze centrifugal impeller, stainless steel shaft, dripless mechanical seals suitable for 250°F, mechanical seal face flushing line with vent to receiver. Capacities and electrical characteristics shall be as scheduled on the drawings.

The receiver shall be manufactured of rust resistant steel and shall have a capacity of not less than that shown on drawings. Receiver shall be equipped with water level gauge glass, two (2) isolation valves between pump and receiver, dial thermometer, and Vent-Rite® makeup water valve with capacity equal to one (1) boiler feed pump. Factory provided and wired Nema I UL electrical control panel with: (1) disconnect, (1) fuse block or circuit breaker per pump, (1) magnetic starter with overload per pump, (1) HOA selector switch per pump, (1) control circuit transformer on all 3-phase.

Capacity Schedule

Vent-Rite® Model No. \_\_\_\_\_

\_\_\_\_\_ gpm @ \_\_\_\_\_ psig \_\_\_\_\_ HP \_\_\_\_\_ RPM

\_\_\_\_\_ volts \_\_\_\_\_ PH \_\_\_\_\_ HZ \_\_\_\_\_ gallon steel; cast iron receiver

Makeup water supply pressure \_\_\_\_\_ psig

Serving \_\_\_\_\_ boilers \_\_\_\_\_ standby

# Vent-Rite®

Manufacturing and Design of Quality HVAC Systems Since 1921

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