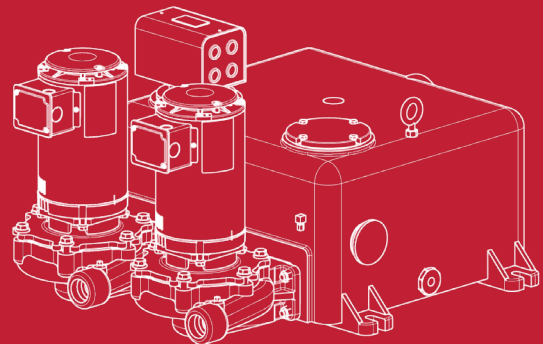
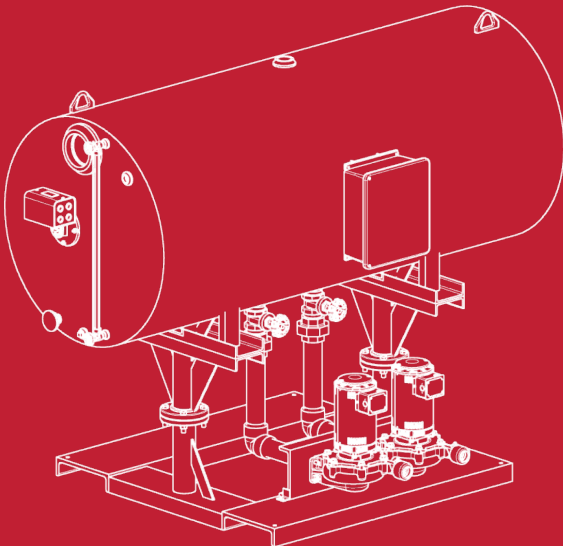
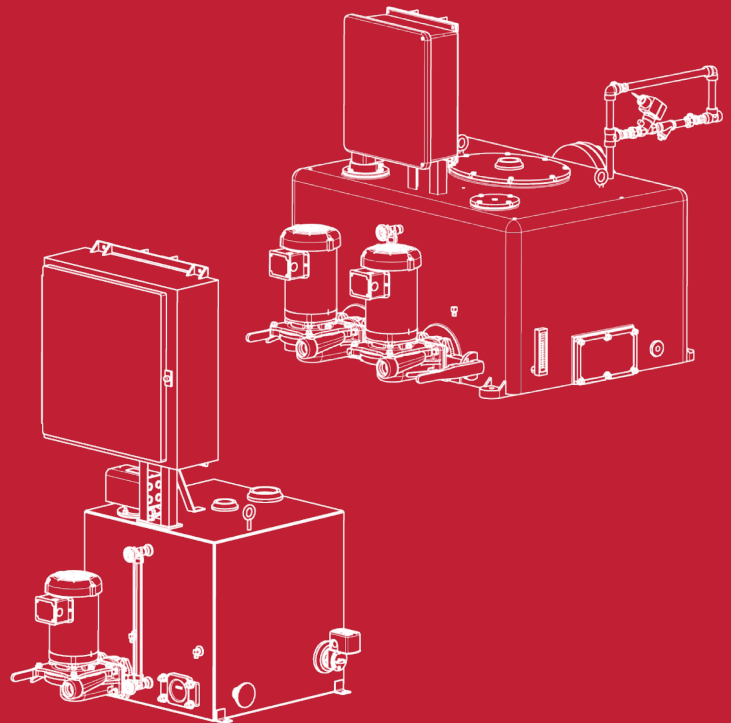
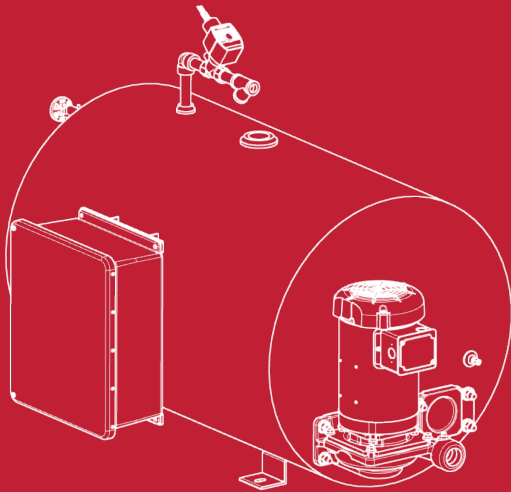


Vent-Rite®

A Swan Group Company



CONDENSATE, BOILER FEED
AND TRANSFER SYSTEMS

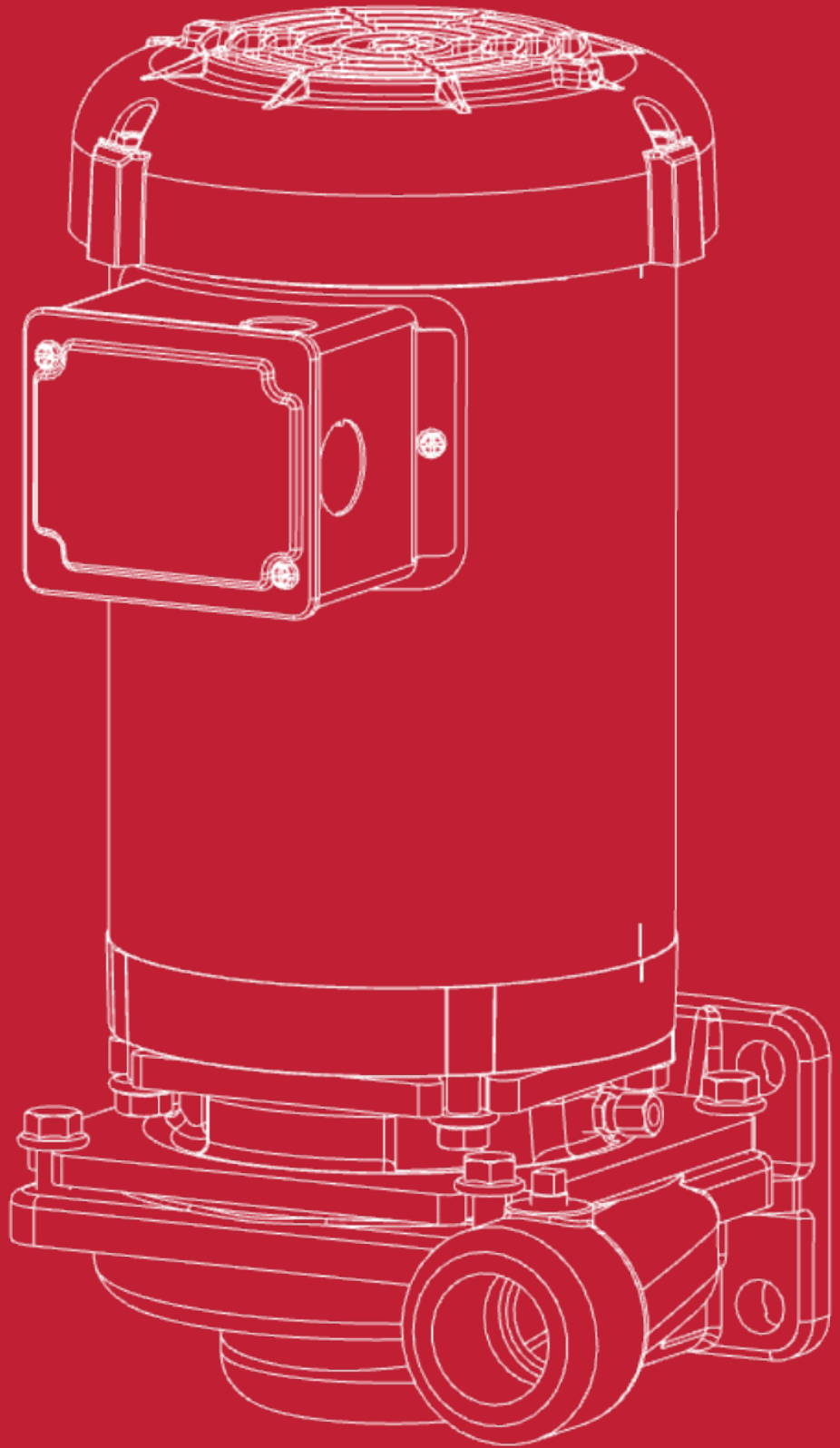
Guardian-PlusSeries

Complete Pump and Motor Assembly

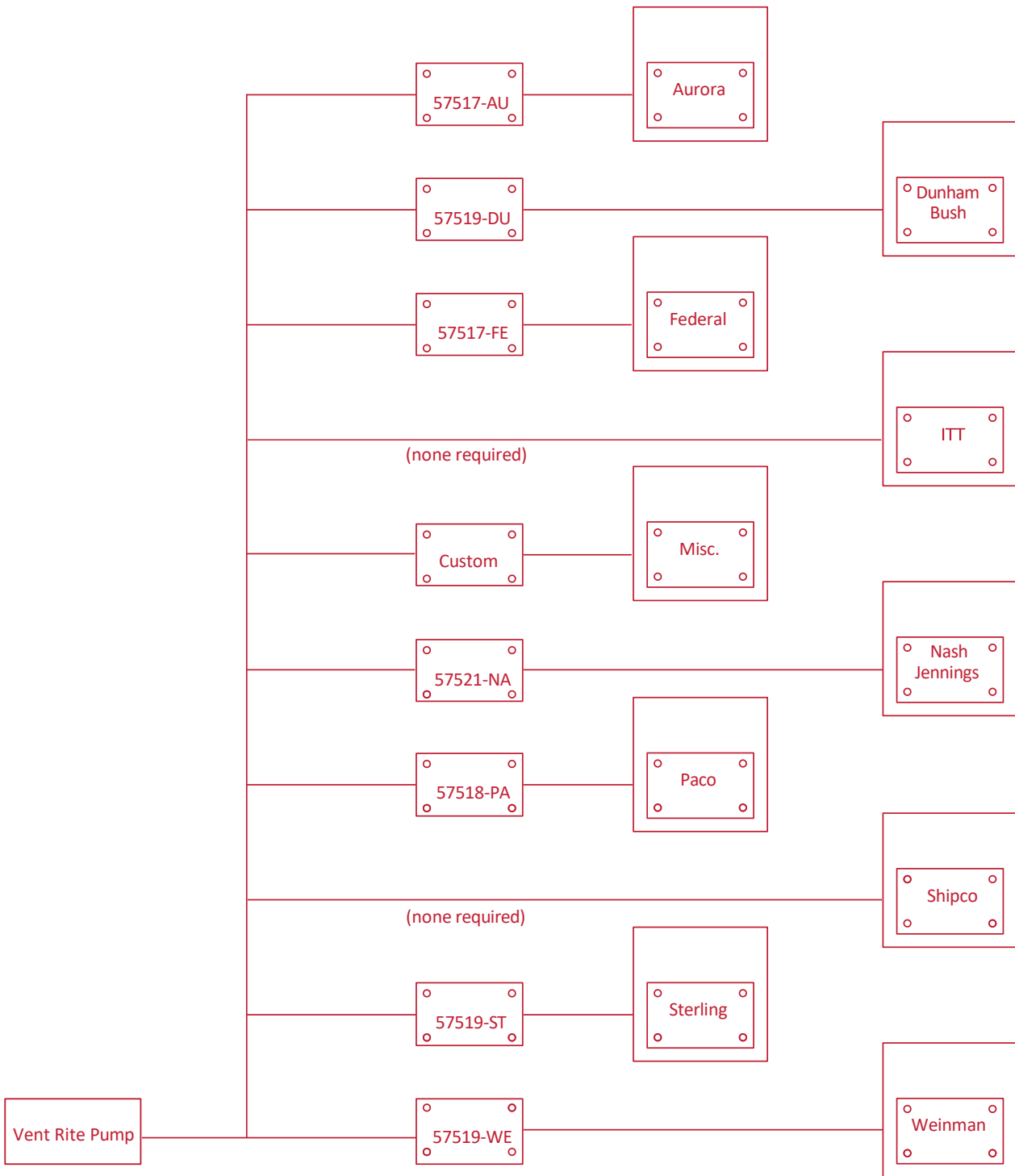
Guardian-Plus Features & Specifications

CRV/AWP Pumps

- Compact and space-saving mechanical configurations
- Mechanical seals able to withstand temperatures up to 250°F
- Simple in-field hookup
- Available in simplex, duplex, triplex, and quadruplex units
- Easily customizable with special motors such as TEFC, explosion-proof, or wash-down
- Steel receivers can be modified to fit just about any installation.
- Motors ranging from 1/3 hp to 10 hp available in 115, 208, or 230 single phase or 208, 230, or 460 three phase, 3,500 RPM

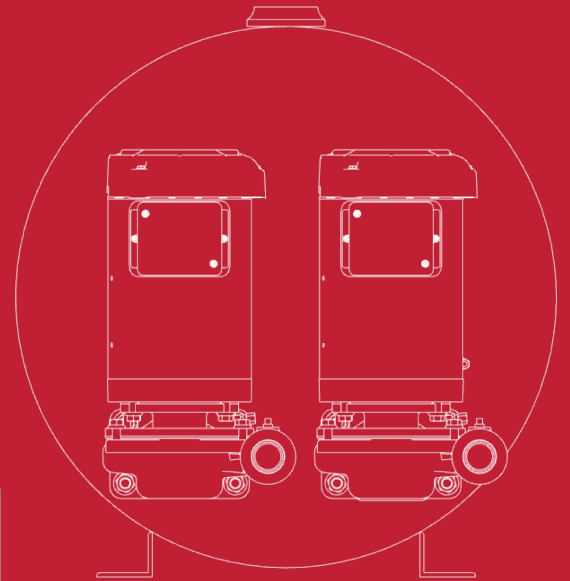


Interchangeability



Description

The Guardian Plus Series condensate and boiler feed units can handle hot (210°F) or cold water. The series is available in simplex or duplex, either condensate return or boiler feed. Many units have low profiles for low-headroom applications.



TYPICAL MODEL NUMBER

G5V - 1 0 0 0 - 1 .00

G5V	1	0	0	0	-	1	.00
Pump Line	Volute Size	Speed	Unused			Impeller Type	Impeller Trim

GUARDIAN PLUS

Guardian-Plus Condensate Return

Capacity
1,000 to 100,000 sq. ft. EDR
Discharge Pressures
10-20 psi with 1,750 rpm units
10-75 psi with 3,450 rpm units

The Guardian-Plus condensate return quickly collects and returns condensate back to a boiler feed unit. The pump action is controlled by either a float switch (simplex) or a mechanical alternator (duplex) designed to energize the pump motor when liquid levels get too high. Various sizes of cast iron or carbon steel receivers are available to meet just about any installation requirement.

ACCESSORIES AND OPTIONAL EQUIPMENT

Condensate Pumps -Standard Equipment

- Simplex units have opening blanked-off for the 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 backup)
- Gauge glass and thermometer tappings
- Name-brand heavy-duty motors

Condensate Pumps -Optional Equipment

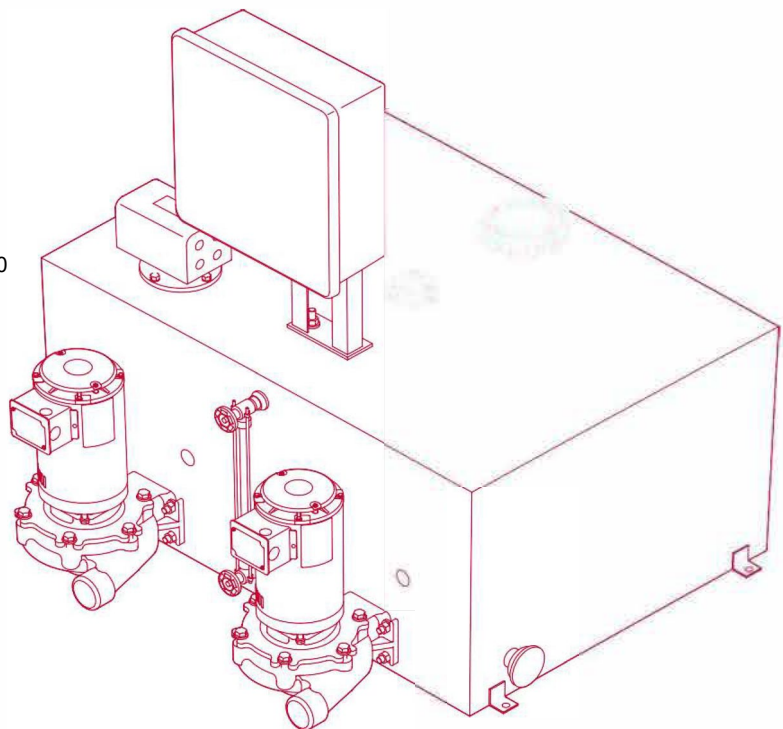
- Electrical control panel -factory mounted and wired
- Thermometer
- Two float switches (duplex units)
- Electric alternator - mounted on unit and factory-wired
- Suction isolation valves
- Inlet strainers -"Y" or basket type
- Gauge glass
- Magnesium corrosion inhibitor
- Corrosion-resistant receiver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

TYPICAL APPLICATIONS

Condensate Pump Packages:

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

Cast Iron rectangular receivers are available in 15 and 110 gallon capacities



Cast Iron Receiver (Duplex Unit shown)

Guardian-Plus Boiler Feed

Capacity:

1,000 to 100,000 sq. ft. EDR

Discharge Pressures

10-20 psi with 1,750 rpm units

10-75 psi with 3,450 rpm units

The Guardian-Plus boiler feed is used to pump condensate and makeup water directly into the boiler(s). Pump action is controlled by a boiler-mounted level controller that senses boiler water level requirements. Each Guardian-Plus boiler feed pump comes equipped with a float-operated makeup valve to bring in makeup water. Various sizes of cast iron and carbon steel receivers are available to meet just about any installation requirement.

ACCESSORIES AND OPTIONAL EQUIPMENT

Boiler Feed or Makeup Pumps-Standard Equipment

- Simplex units have opening blanked-off for the 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

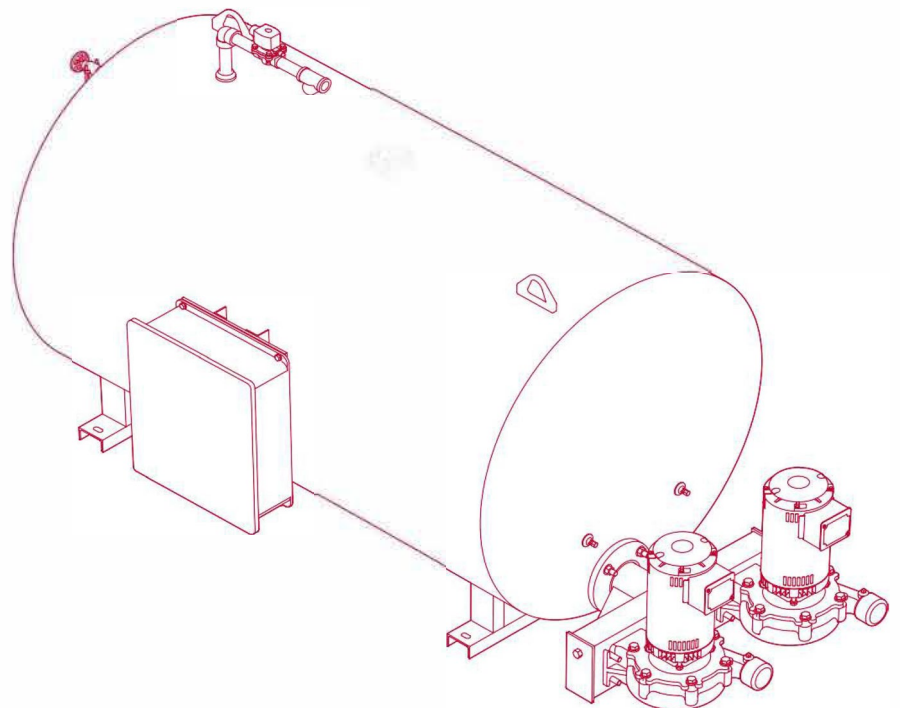
- Electrical control panel - factory mounted and wired
- Thermometer
- Makeup feeders - external type, or reverse acting float switch and solenoid valve type
- Magnesium corrosion inhibitor
- Corrosion-resistant receiver linings (steel receivers)
- Suction isolation valves
- Inlet strainers - "Y" or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

TYPICAL APPLICATIONS

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. The pump action is controlled by the fluid level in the boiler.

Heavy-duty, welded carbon steel receivers are available in rectangular or cylindrical configurations with capacities of 10 to 110 gallons and 49 to 1000, respectively. Consult your local representative for custom-engineered receivers and rust-resistant linings.



Carbon Steel Receiver (Duplex Unit shown)

PUMP SELECTION CHART

CAPACITY GPM	DISCHARGE PRESSURE PSIG	1750 RPM				3450 RPM				
		CATALOG NO.	NEW MODEL #	MOTOR HP	DISC. SIZE	CATALOG NO.	NEW MODEL #	MOTOR HP	DISC. SIZE	
1-1/2	10	CRV110-1E	G6V-1100-1.16	1/3	1-1/4"	CRV110-2E	G5V-1000-1.24	1/3	1-1/4"	
	20	CRV120-1E	G7V-1100-1.12	1/2	1-1/2"	CRV120-2E	G5V-1000-1.22			
	30	Consult Factory				CRV130-2E	G5V-1000-1.12			1/2
	40	Consult Factory				CRV140-2E	G6V-1000-1.16			1
	50	Consult Factory				CRV150-2E	G6V-1000-1.10			1-1/2
	60	Consult Factory				CRV160-2E	G6V-1000-1.02			2
3	10	CRV210-1E	G6V-1100-1.16	1/3	1-1/4"	CRV210-2E	G5V-1000-1.24	1/3	1-1/4"	
	20	CRV220-1E	G7V-1100-1.12	1/2	1-1/2"	CRV220-2E	G5V-1000-1.20			
	30	Consult Factory				CRV230-2E	G5V-1000-1.10			1/2
	40	Consult Factory				CRV240-2E	G6V-1000-1.16			1
	50	Consult Factory				CRV250-2E	G6V-1000-1.10			1-1/2
	60	Consult Factory				CRV260-2E	G6V-1000-1.02			2
6	10	CRV410-1E	G6V-1100-1.16	1/3	1-1/4"	CRV410-2E	G5V-1000-1.24	1/3	1-1/4"	
	20	CRV420-1E	G7V-1100-1.12	1/2	1-1/2"	CRV420-2E	G5V-1000-1.20 / GNV-1000-1.12			1/3 / 1/2
	30	Consult Factory				CRV430-2E	G5V-1000-1.12 / GNV-1000-1.06			1/2 / 3/4
	40	Consult Factory				CRV440-2E	G6V-1000-1.16 / GNV-1000-1.06			1 / 1
	50	Consult Factory				CRV450-2E	G6V-1000-1.08			1-1/2
	60	Consult Factory				CRV460-2E	G6V-1000-1.02			2
9	10	CRV610-1E	G6V-1100-1.16	1/3	1-1/4"	CRV610-2E	G5V-1000-1.24	1/3	1-1/4"	
	20	CRV620-1E	G7V-1100-1.12	1/2	1-1/2"	CRV620-2E	G5V-1000-1.20 / GNV-1000-1.12			1/3 / 1/2
	30	Consult Factory				CRV630-2E	G5V-1000-1.12 / GNV-1000-1.06			3/4 / 3/4
	40	Consult Factory				CRV640-2E	G6V-1000-1.16 / GNV-1000-1.00			1 / 1-1/2
	50	Consult Factory				CRV650-2E	G6V-1000-1.08			1-1/2
	60	Consult Factory				CRV660-2E	G6V-1000-1.02			2
12	10	CRV810-1E	G6V-1100-1.16	1/3	1-1/4"	CRV810-2E	G5V-1000-1.24	1/3	1-1/4"	
	20	CRV820-1E	G7V-1100-1.12	3/4	1-1/2"	CRV820-2E	G5V-1000-1.20 / GNV-1000-1.12			1/3 / 1/2
	30	Consult Factory				CRV830-2E	G5V-1000-1.12 / GNV-1000-1.06			3/4 / 3/4
	40	Consult Factory				CRV840-2E	G6V-1000-1.16 / GNV-1000-1.00			1 / 1-1/2
	50	Consult Factory				CRV850-2E	G6V-1000-1.08			1-1/2
	60	Consult Factory				CRV860-2E	G6V-1000-1.02			2
15	10	CRV1010-1E	G6V-1100-1.14	1/3	1-1/4"	CRV1010-2E	G5V-1000-1.24	1/3	1-1/4"	
	20	CRV1020-1E	G7V-1100-1.12	3/4	1-1/2"	CRV1020-2E	G5V-1000-1.20 / GNV-1000-1.12			1/3 / 1/2
	30	Consult Factory				CRV1030-2E	G5V-1000-1.12 / GNV-1000-1.06			3/4 / 3/4
	40	Consult Factory				CRV1040-2E	G6V-1000-1.16 / GNV-1000-1.00			1 / 1-1/2
	50	Consult Factory				CRV1050-2E	G6V-1000-1.08			1-1/2
	60	Consult Factory				CRV1060-2E	G6V-1000-1.02			2
22-1/2	10	CRV1510-1E	G6V-1100-1.10	1/3	1-1/4"	CRV1510-2E	G5V-1000-1.24	1/3	1-1/4"	
	20	CRV1520-1E	G7V-1100-1.12	3/4	1-1/2"	CRV1520-2E	G5V-1000-1.20 / GNV-1000-1.12			1/2 / 1/2
	30	Consult Factory				CRV1530-2E	G5V-1000-1.10 / GNV-1000-1.06			3/4 / 1
	40	Consult Factory				CRV1540-2E	G6V-1000-1.14 / GNV-1000-1.00			1-1/2 / 1-1/2
	50	Consult Factory				CRV1550-2E	G6V-1000-1.08			2
	60	Consult Factory				CRV1560-2E	G6V-1000-1.02			3
30	10	CRV2010-1E	G6V-1100-1.08	1/3	1-1/4"	CRV2010-2E	G5V-1000-1.24	1/3	1-1/4"	
	20	CRV2020-1E	G7V-1100-1.12	1	1-1/2"	CRV2020-2E	G5V-1000-1.20 / GNV-1000-1.12			1/2 / 1/2
	30	Consult Factory				CRV2030-2E	G5V-1000-1.10 / GNV-1000-1.04			3/4 / 1-1/2
	40	Consult Factory				CRV2040-2E	G6V-1000-1.14 / GNV-1000-1.00			1-1/2 / 2
	50	Consult Factory				CRV2050-2E	G6V-1000-1.08			2
	60	Consult Factory				CRV2060-2E	G6V-1000-1.00			3
70	Consult Factory				CRV2070-2E	G7V-1000-1.18	5	1-1/2"		

*Only 3-Phase motors available

*Models in **RED** designate 2 Ft. NPSH capability

NOTE: We may need to increase HP when using TEFC or Explosion Proof motors. Consult factory for HP.

PUMP SELECTION CHART (continued)

CAPACITY GPM	DISCHARGE PRESSURE PSIG	1750 RPM				3450 RPM									
		CATALOG NO.	NEW MODEL #	MOTOR HP	DISC. SIZE	CATALOG NO.	NEW MODEL #	MOTOR HP	DISC. SIZE						
37-1/2	10	CRV2510-1E	G6V-1100-1.02	1/3	1-1/4'	CRV2510-2E	G5V-1000-1.24	1/2	1-1/4"						
	20	CRV2520-1E	G7V-1100-1.12	1	1-1/2'	CRV2520-2E	G5V-1000-1.18	3/4							
	30	Consult Factory				CRV2530-2E	G5V-1000-1.10 / GNV-2000-1.12	1 / 3	1-1/4" / 2"						
	40					CRV2540-2E	G6V-1000-1.12 / GNV-2000-1.09	2 / 3							
	50					CRV2550-2E	G6V-1000-1.06 / GNV-2000-1.04	3 / 3							
	60					CRV2560-2E	G6V-1000-1.00 / GNV-2000-1.01	3 / 5							
	70				CRV2570-2E	G7V-1000-1.18	5	1-1/2"							
45	10	CRV3010-1E	G7V-1100-1.32	3/4	1-1/2'	CRV3010-2E	G5V-1000-1.24	1/2	1-1/4"						
	20	CRV3020-1E	G7V-1100-1.10	1		CRV3020-2E	G5V-1000-1.16	3/4							
	30	Consult Factory				CRV3030-2E	G5V-1000-1.10 / GNV-2000-1.12	1-1/2 / 3	1-1/4" / 2"						
	40					CRV3040-2E	G6V-1000-1.12 / GNV-2000-1.09	2 / 3							
	50					CRV3050-2E	G6V-1000-1.04 / GNV-2000-1.04	3 / 5							
	60					CRV3060-2E	G7V-1000-1.24 / GNV-2000-1.01	5 / 5		1-1/2" / 2"					
	70				CRV3070-2E	G7V-1000-1.18	5	1-1/2"							
60	10	CRV4010-1E	G7V-1100-1.32	3/4	1-1/2'	CRV4010-2E	G5V-1000-1.18	3/4	1-1/4"						
	20	CRV4020-1E	G7V-1100-1.08	1-1/2		CRV4020-2E	G5V-1000-1.12 / GNV-2000-1.17	1-1/2 / 1-1/2							
	30	Consult Factory				CRV4030-2E	G5V-1000-1.06 / GNV-2000-1.12	1-1/2 / 3	1-1/4" / 2"						
	40					CRV4040-2E	G6V-1000-1.08 / GNV-2000-1.08	3 / 3							
	50					CRV4050-2E	G6V-1000-1.02 / GNV-2000-1.03	3 / 5							
	60					CRV4060-2E	G7V-1000-1.22 / GNV-2000-1.01	5 / 5		1-1/2" / 2"					
	70				CRV4070-2E	G7V-1000-1.16	5	1-1/2"							
75	10	CRV5010-1E	G7V-1100-1.28	1	1-1/2'	CRV5010-2E	G5V-1000-1.12	1-1/2	1-1/4"						
	20	CRV5020-1E	G7V-1100-1.04	1-1/2		CRV5020-2E	G5V-1000-1.06 / GNV-2000-1.16	1-1/2 / 2							
	30	Consult Factory				CRV5030-2E	G5V-1000-1.00 / GNV-2000-1.12	2 / 3	1-1/4" / 2"						
	40					CRV5040-2E	G6V-1000-1.02 / GNV-2000-1.06	3 / 5							
	50					CRV5050-2E	G7V-1000-1.28 / GNV-2000-1.03	5 / 5		1-1/2" / 2"					
	60					CRV5060-2E	G7V-1000-1.22 / GNV-2000-1.00	5 / 5							
	97-1/2	10	Consult Factory				CRV6510-2E	G6V-1000-1.12	3	1-1/4"					
20		CRV6520-2E					G6V-1000-1.08								
30		CRV6530-2E					G7V-1000-1.40	3							
40		CRV6540-2E					G7V-1000-1.34								
50		CRV6550-2E					G7V-1000-1.26	5	1-1/2"						
60		CRV6560-2E					G7V-1000-1.20								
120		20					Consult Factory				CRV8020-2E	G7V-1000-1.44	3	1-1/2"	
	30	CRV8030-2E	G7V-1000-1.36												
	40	CRV8040-2E	G7V-1000-1.30	5											
	50	CRV8050-2E	G7V-1000-1.22												
	60	CRV8060-2E	G7V-1000-1.18	7-1/2											
	150	20	Consult Factory								CRV10020-2E	G7V-1000-1.38	5		1-1/2"
		30									CRV10030-2E	G7V-1000-1.32			
40		CRV10040-2E					G7V-1000-1.26	7-1/2							
50		CRV10050-2E					G7V-1000-1.20								
60		CRV10060-2E					G7V-1000-1.14	10							

*Only 3-Phase motors available

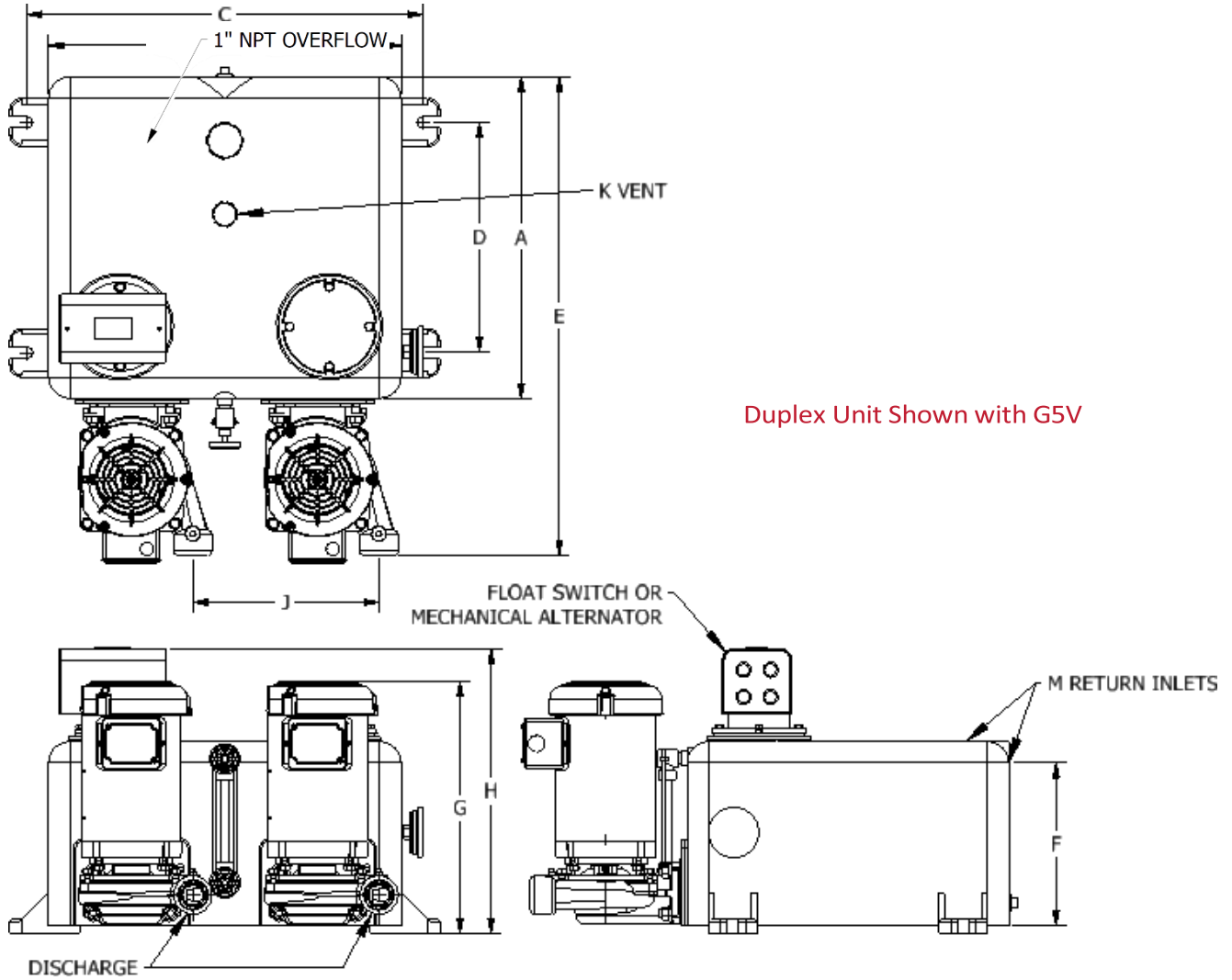
*Models in RED designate 2 Ft. NPSH capability

NOTE: We may need to increase HP when using TEFC or Explosion Proof motors. Consult factory for HP.

DIMENSION DATA

CRV(D) PUMPS WITH RECTANGULAR CAST IRON RECEIVERS

Simplex or Duplex Condensate or Boiler Feed Units



Duplex Unit Shown with G5V

Rectangular Steel Receivers											
APPROXIMATE DIMENSIONS (in)											
Receiver Size (GAL)	A	B	C	D	E	F	G	H	J	K	M
15	15	17-1/4	19-7/8	N/A	24-3/4	13-1/8	15-3/4	21-3/8	11	1	2
21	20-3/4	22-3/4	25-1/2	14-7/8	30-7/8	9-3/4	12-3/8	18-1/2	12	1-1/4	2
45	25-3/4	26-3/4	28-3/4	20	35-3/4	14	17	23	15	1-1/2	2-1/2
65	28-1/2	28-1/2	30-1/2	22-3/4	38-3/4	18-9/16	21-7/8	28-1/8	15	2	3
110	30	42	36-1/4	32	40-1/8	19-1/8	22-3/8	28-3/8	15	2	5

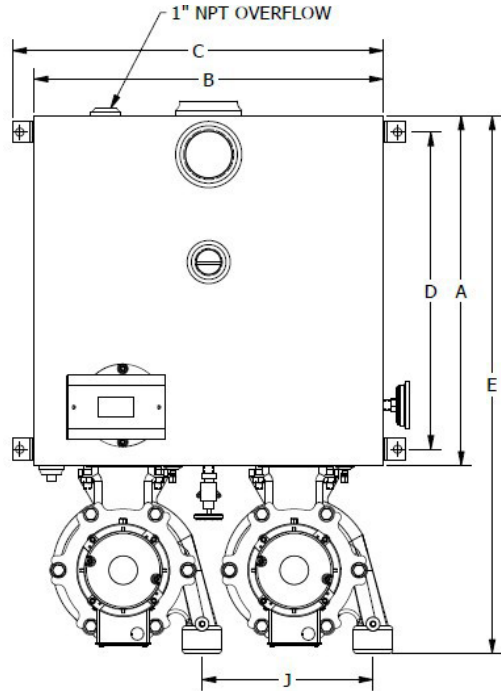
Duplex units shown with G5V Pumps

NOTE: For dimension "E" add 1-7/8 for G6V or 3-3/8 for G7V

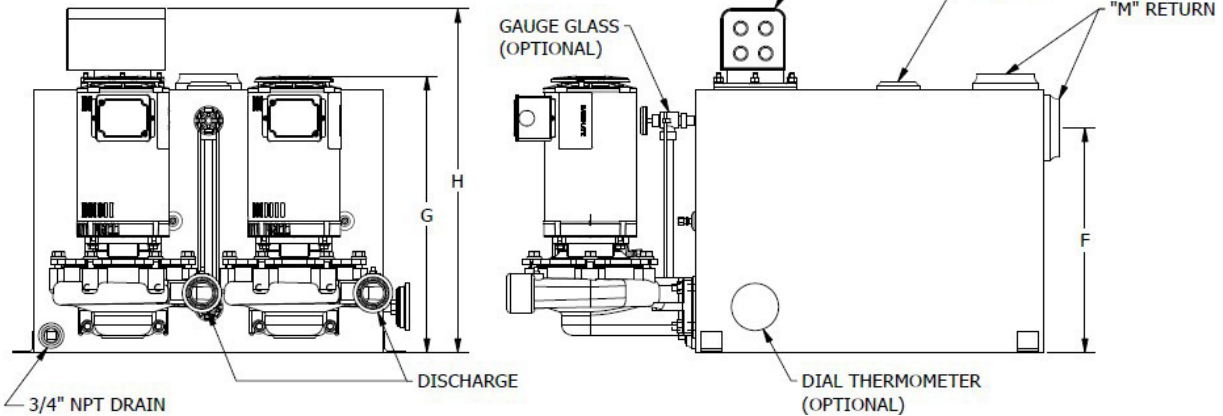
DIMENSION DATA

CRV(D) PUMPS WITH RECTANGULAR STEEL RECEIVERS

Simplex or Duplex Condensate or Boiler Feed Units



Duplex Unit Shown With G7V Pumps



Rectangular Steel Receivers

APPROXIMATE DIMENSIONS (in)

Receiver Size (GAL)	A	B	C	D	E	F	G	H	J	K	M
21	18-3/8	24-3/8	26-3/8	16	28-1/8	9-13/16	12-3/8	18-1/8	12	1-1/4	2-1/2
45	24-3/8	24-3/8	26-3/8	22-1/8	34-1/8	15-11/16	18-3/8	24-1/8	12	1-1/2	3
65	24-3/8	24-3/8	26-3/8	22-1/8	34-1/8	21-11/16	24-3/8	30-1/8	12	2	3
110	30-1/2	43	45	25	40-1/4	16-9/16	20-1/2	26-3/16	22	2	4

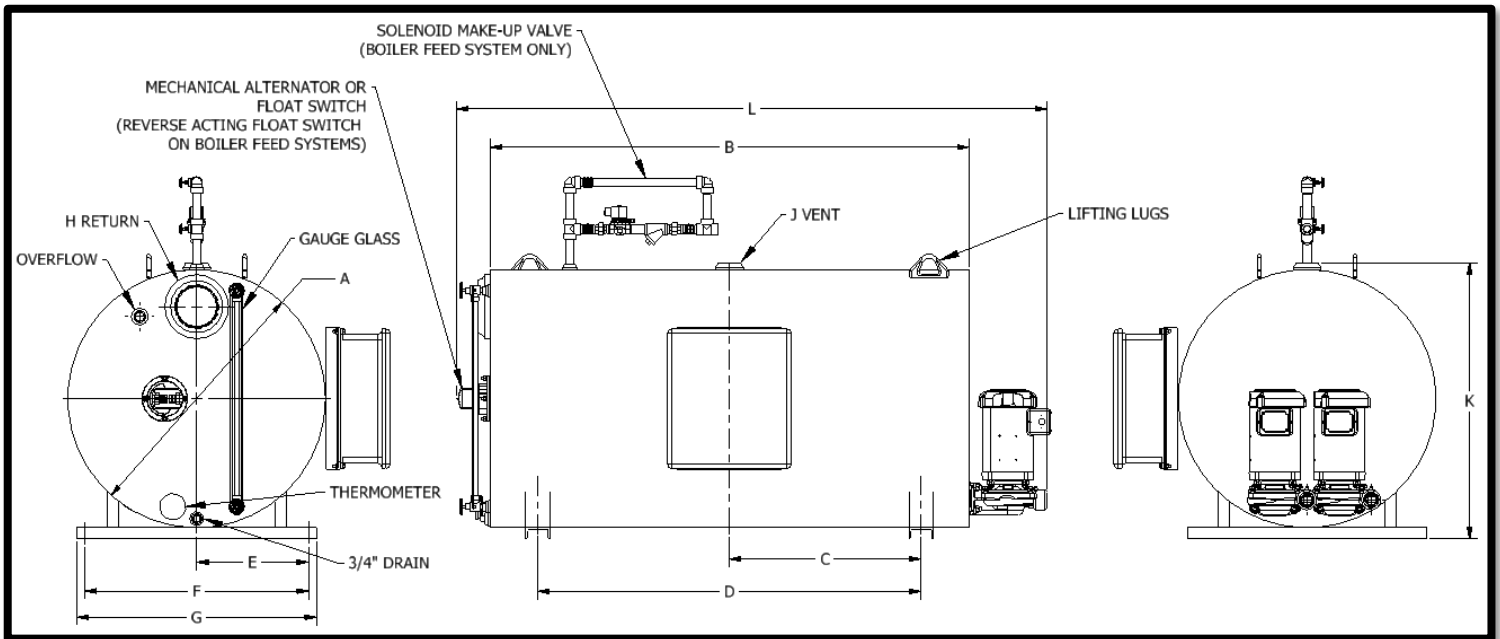
Duplex units shown with G5V Pumps

NOTE: For dimension "E" add 1-7/8 for G6V or 3-3/8 for G7V

DIMENSION DATA

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

Simplex or Duplex Condensate or Boiler Feed Units



Cylindrical Steel Receivers												
APPROXIMATE DIMENSIONS (in)												
Receiver Size (GAL)	A	B	C	D	E	F	G	H	J	K	L	M
49	22	30	10-1/2	21	7-1/2	15	17	2-1/2	1-1/4	23	45-1/2	20
71	24	36	10-1/2	21	7-1/2	15	17	3	1-1/2	25-1/2	51-1/2	21-9/16
117	24	60	15	30	7-1/2	15	17	4	2	25-1/2	75-1/2	21-9/16
209	32	60	24	48	14	28	30	5	2	34-1/2	75-1/2	29
260	36	60	24	48	14	28	30	5	2	38-1/2	75-1/2	33-1/8
370	36	84	28	56	14	28	30	5	2	38-1/2	99-1/2	33-1/8
500	42	84	28	56	14	28	30	5	2	44-3/4	99-1/2	39-1/2
650	42	108	28	56	14	28	30	5	2	44-3/4	123-1/2	39-1/2
750	48	96	28	56	19	38	40	5	2	50-3/4	111-1/2	45-1/2
1000	48	132	48	96	19	38	40	5	2	50-3/4	147-1/2	45-1/2

Duplex units shown with G5V Pumps

NOTE: For dimension "L" add 1-7/8 for G6V or 3-3/8 for G7V

TYPICAL ENGINEERING SPECIFICATIONS

1. Duplex Condensate Pump with Cast Iron or Steel Receiver

- 1.1 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.
- 1.2 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.
- 1.3 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.

Vent-Rite® Model No.	Pump Capacity (GPM)	Pump Discharge Pressure (psig)	Motor Power (HP)	Motor Speed (RPM)	Motor Voltage (V)	Motor Phase	Motor Frequency (HZ)	Tank Capacity	Tank Material

2. Duplex Boiler Feed with Cast Iron or Steel Receiver

- 2.1 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.
- 2.2 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.
- 2.3 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.

Vent-Rite® Model No.	Pump Capacity (GPM)	Pump Discharge Pressure (psig)	Motor Power (HP)	Motor Speed (RPM)	Motor Voltage (V)	Motor Phase	Motor Frequency (HZ)	Tank Capacity	Tank Material

Makeup Water Supply Pressure (psig)	Number of Boilers Serving	Number Standby

Vent-Rite®

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MANUFACTURING AND DESIGN OF QUALITY HVAC SYSTEMS SINCE 1921

Acquired from Barnes & Jones Inc. in 1979, Vent-Rite Valve Corp. was established by its current parent company, The Swan Group, in 1984. Since 2004, VRVC has used MEPCO designs for Condensate and Boiler Feed Systems and MEPCO Vacuum Systems.

And through it all, we've always been focused on putting quality first. Not only do we believe in making great products for our customers, but we believe in doing it right—every single time. That's why every pump that leaves our doors has been carefully crafted and tested against the strictest standards, ensuring you receive the safest, highest-quality product possible.

ventritepump.com

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