



SHIPPENSBURG PUMP CO. INC.

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Pride

Quality

Craftsmanship

BULLETIN 104

Revised 2/14



TYPE DS
DURABLE CONDENSATE PUMPS
WITH STEEL RECEIVERS

Condensate temperature of unit is generally 200°F.

Temperature is a function of pump NPSH and elevation above sea level.

Certain pumping points have NPSH requirements of 2 feet and therefore can handle 210°F without elevating the receiver.

SHIPCO[®]
PUMPS are equipped with Mechanical Seals rated up to a standard 250°F.
Higher temperature seals and special faces available upon request.

Charted units are a representation of the typical systems and sizes used.

Higher pump pressures and larger pump capacities are available.

TYPE DS CONDENSATE UNITS

CAP. SQ. FT. EDR	PUMP CAP. GPM	PUMP DISCH. PRESS. PSIG	MOTOR 3500 RPM		MOTOR 1750 RPM		DISCH. SIZE INCHES	CATALOG NO.	REC. CAP. GALS.	INLET SIZE AND INLET HEIGHT IN.
			HP	PHASE	HP	PHASE				
1,000	2	10	1/3	1 or 3	1/3	1 or 3	3/4"	10 DS	15	Inlet - 2" Inlet Centerline Height Inches 11"
		15	1/3	1 or 3	1/3	1 or 3		11 DS		
		20	1/3	1 or 3	1/2	1 or 3		12.0 DS		
		25	1/2	1 or 3	1/2	1 or 3		12.5 DS		
		30	3/4	1 or 3				13 DS		
		40	1	1 or 3				14 DS		
		50	1-1/2	1 or 3				15 DS		
		60	2	1 or 3				16 DS		
		70	3	3				17 DS		
		80	3	3				18 DS		
90	5	3			19 DS					
2,000	3	10	1/3	1 or 3	1/3	1 or 3	3/4"	20 DS	15	Inlet - 2" Inlet Centerline Height Inches 11"
		15	1/3	1 or 3	1/3	1 or 3		21 DS		
		20	1/3	1 or 3	1/2	1 or 3		22.0 DS		
		25	1/2	1 or 3	1/2	1 or 3		22.5 DS		
		30	3/4	1 or 3				23 DS		
		40	1	1 or 3				24 DS		
		50	1-1/2	1 or 3				25 DS		
		60	2	1 or 3				26 DS		
		70	3	3				27 DS		
		80	3	3				28 DS		
90	5	3			29 DS					
4,000	6	10	1/3	1 or 3	1/3	1 or 3	3/4"	40 DS	15	Inlet - 2" Inlet Centerline Height Inches 11"
		15	1/3	1 or 3	1/3	1 or 3		41 DS		
		20	1/3	1 or 3	1/2	1 or 3		42.0 DS		
		25	1/2	1 or 3	1/2	1 or 3		42.5 DS		
		30	3/4	1 or 3				43 DS		
		40	1	1 or 3				44 DS		
		50	1-1/2	1 or 3				45 DS		
		60	2	1 or 3				46 DS		
		70	3	3				47 DS		
		80	3	3				48 DS		
90	5	3			49 DS					
6,000	9	10	1/3	1 or 3	1/3	1 or 3	3/4"	60 DS	15	Inlet - 2" Inlet Centerline Height Inches 11"
		15	1/3	1 or 3	1/3	1 or 3		61 DS		
		20	1/3	1 or 3	1/2	1 or 3		62.0 DS		
		25	1/2	1 or 3	1/2	1 or 3		62.5 DS		
		30	3/4	1 or 3	1-1/2	3		63 DS		
		40	1	1 or 3	3	3		64 DS		
		50	1-1/2	1 or 3				65 DS		
		60	2	1 or 3				66 DS		
		70	3	3				67 DS		
		80	3	3				68 DS		
90	5	3			69 DS					
8,000	12	10	1/3	1 or 3	1/3	1 or 3	3/4"	80 DS	15	Inlet - 2" Inlet Centerline Height Inches 11"
		15	1/3	1 or 3	1/3	1 or 3		81 DS ⁴		
		20	1/3	1 or 3	1/2	1 or 3		82.0 DS		
		25	1/2	1 or 3	3/4	1 or 3		82.5 DS		
		30	3/4	1 or 3	1-1/2	3		83 DS		
		40	1	1 or 3	3	3		84 DS		
		50	1-1/2	1 or 3				85 DS		
		60	2	1 or 3				86 DS		
		70	3	3				87 DS		
		80	3	3				88 DS		
90	5	3			89 DS					
10,000	15	10	1/3	1 or 3	1/3	1 or 3	3/4"	100 DS	15	Inlet - 2" Inlet Centerline Height Inches 11"
		15	1/3	1 or 3	1/3	1 or 3		101 DS		
		20	1/3	1 or 3	1/2	1 or 3		102.0 DS		
		25	1/2	1 or 3	3/4	1 or 3		102.5 DS		
		30	3/4	1 or 3	1-1/2	3		103 DS		
		40	1	1 or 3	3	3		104 DS		
		50	1-1/2	1 or 3				105 DS		
		60	2	1 or 3				106 DS		
		70	3	3				107 DS		
		80	3	3				108 DS		
90	5	3			109 DS					
12,000	18	10	1/3	1 or 3	1/3	1 or 3	1-1/2"	120 DS	21	Inlet - 2" Inlet Centerline Height Inches 14"
		15	1/3	1 or 3	1/2	1 or 3		121 DS		
		20	1/3	1 or 3	1/2	1 or 3		122.0 DS		
		25	1/2	1 or 3	3/4	1 or 3		122.5 DS		
		30	3/4	1 or 3	1-1/2	3		123 DS		
		40	1-1/2	1 or 3	3	3		124 DS		
		50	2	1 or 3				125 DS		
		60	3	3				126 DS		
		70	3	3				127 DS		
		80	3	3				128 DS		
90	5	3			129 DS					
15,000	22-1/2	10	1/3	1 or 3	1/3	1 or 3	1-1/2"	150 DS	21	Inlet - 2" Inlet Centerline Height Inches 14"
		15	1/3	1 or 3	1/2	1 or 3		151 DS		
		20	1/2	1 or 3	3/4	1 or 3		152.0 DS		
		25	3/4	1 or 3	3/4	1 or 3		152.5 DS		
		30	3/4	1 or 3	1-1/2	3		153 DS		
		40	1-1/2	1 or 3	3	3		154 DS		
		50	2	1 or 3				155 DS		
		60	3	3				156 DS		
		70	3	3				157 DS		
		80	5	3				158 DS		
90	5	3			159 DS					

TYPE DS CONDENSATE UNITS

CAP. SQ. FT. EDR	PUMP CAP. GPM	PUMP DISCH. PRESS. PSIG	MOTOR 3500 RPM		MOTOR 1750 RPM		DISCH. SIZE INCHES	CATALOG NO.	REC. CAP. GALS.	INLET SIZE AND INLET HEIGHT IN.					
			HP	PHASE	HP	PHASE									
20,000	30	10	1/3	1 or 3	1/3	1 or 3	1-1/2"	200 DS	35	Inlet - 3" Inlet Centerline Height Inches 18"					
		15	1/2	1 or 3	1/2	1 or 3		201 DS							
		20	3/4	1 or 3	3/4	1 or 3		202.0 DS							
		25	3/4	1 or 3	3/4	3		202.5 DS							
		30	1	1 or 3	1-1/2	3		203 DS							
		40	1-1/2	1 or 3	3	3		204 DS							
		50	2	1 or 3				205 DS							
		60	3	3				206 DS							
		70	5	3				207 DS							
		80	5	3				208 DS							
90	5	3			209 DS										
25,000	37-1/2	10	1/2	1 or 3	1/3	1 or 3	1-1/2"	250 DS	35	Inlet - 3" Inlet Centerline Height Inches 18"					
		15	1/2	1 or 3	3/4	1 or 3		251 DS							
		20	3/4	1 or 3	3/4	1 or 3		252.0 DS							
		25	1	1 or 3	1	3		252.5 DS							
		30	1	1 or 3	2	3		253 DS							
		40	2	1 or 3	3	3		254 DS							
		50	3	3				255 DS							
		60	5	3				256 DS							
		70	5	3				257 DS							
		80	5	3				258 DS							
90	5	3			259 DS										
30,000	45	10	3/4	1 or 3	1/2	1 or 3	1-1/2"	300 DS	45	Inlet - 3" Inlet Centerline Height Inches 16"					
		15	3/4	1 or 3	3/4	1 or 3		301 DS							
		20	1	1 or 3	1	1 or 3		302.0 DS							
		25	1-1/2	1 or 3	1-1/2	3		302.5 DS							
		30	1-1/2	1 or 3	2	3		303 DS							
		40	2	1 or 3	3	3		304 DS							
		50	3	3				305 DS							
		60	5	3				306 DS							
		70	5	3				307 DS							
		80	5	3				308 DS							
90	7-1/2	3			309 DS										
40,000	60	10	1	3	1	1 or 3	1-1/2"	400 DS	60	Inlet - 3" Inlet Centerline Height Inches 22"					
		15	1	3	1-1/2	1 or 3		401 DS							
		20	1-1/2	3	1-1/2	1 or 3		402.0 DS							
		25	2	3	2	3		402.5 DS							
		30	2	3	2	3		403 DS							
		40	3	3	3	3		404 DS							
		50	5	3				405 DS							
		60	5	3				406 DS							
		70	7-1/2	3				407 DS							
		80	7-1/2	3				408 DS							
50,000	75	10	1-1/2	3	1	1 or 3	2"	500 DS	81	Inlet - 4" Inlet Centerline Height Inches 19"					
		15	2	3	1-1/2	3		501 DS							
		20	2	3	2	3		502.0 DS							
		25	2	3	2	3		502.5 DS							
		30	3	3	3	3		503 DS							
		40	5	3	3	3		504 DS							
		50	5	3				505 DS							
		60	5	3				506 DS							
		70	7-1/2	3				507 DS							
		80	7-1/2	3				508 DS							
65,000	97-1/2	10	2	1 or 3	1-1/2	1 or 3	2"	650 DS	81	Inlet - 4" Inlet Centerline Height Inches 19"					
		15	2	1 or 3	1-1/2	3		651 DS							
		20	2	1 or 3	2	3		652.0 DS							
		25	3	3	2	3		652.5 DS							
		30	3	3	3	3		653 DS							
		40	5	3				654 DS							
		50	5	3				655 DS							
		60	7-1/2	3				656 DS							
		70	10	3				657 DS							
		75,000	112-1/2	10	2	1 or 3		1-1/2			3	2"	750 DS	128	Inlet - 4" Inlet Centerline Height Inches 30"
15	2			1 or 3	2	3	751 DS								
20	3			3	2	3	752.0 DS								
25	3			3	2	3	752.5 DS								
30	3			3	3	3	753 DS								
40	5			3			754 DS								
50	5			3			755 DS								
60	7-1/2			3			756 DS								
100,000	150			10	3	1 or 3	2	3	2-1/2" on 3500 RPM 3" on 1750 RPM	1000 DS	128		Inlet - 4" Inlet Centerline Height Inches 30"		
				15	3	1 or 3	2	3		1001 DS					
		20	3	3	3	3	1002 DS								
		25	5	3	5	3	1002.5 DS								
		30	5	3	5	3	1003 DS								
		40	7-1/2	3			1004 DS								
		50	7-1/2	3			1005 DS								
		60	10	3			1006 DS								

NOTE: Units are sized at 3 times the normal condensing rate. Upon proper application, units can be sized at 2 times the condensing rate and therefore handle 1½ times the tabled capacity in sq. ft. EDR. This is based upon design and operating experience.

Charted units are a representation of the typical systems and sizes used. Higher pump pressures and larger pump capacities are available.

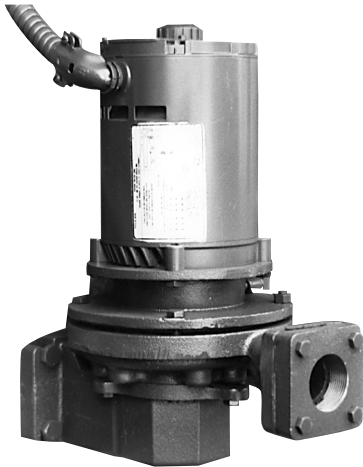
Sizing Condensate Pumps — DS Units

The condensing rate for 1,000 sq. ft. EDR is .5 GPM (see table). The condensate return pumps are sized at 3 times the condensing rate or 1.5 GPM per 1,000 sq. ft. EDR.

Note: Units are sized at 3 times the normal condensing rate. Upon proper application, units can be sized at 2 times the condensing rate and therefore handle 1½ times the tabled capacity in sq. ft. EDR. This is based upon design and operating experience.

Table — Values of Heat and Power

	GPM	BTU	Lbs/Hr	Sq. Ft. EDR
1 Boiler Horsepower	.069	33,475	34.5	139.4
1,000 sq. ft. EDR	.50	240,000	247.3	1,000



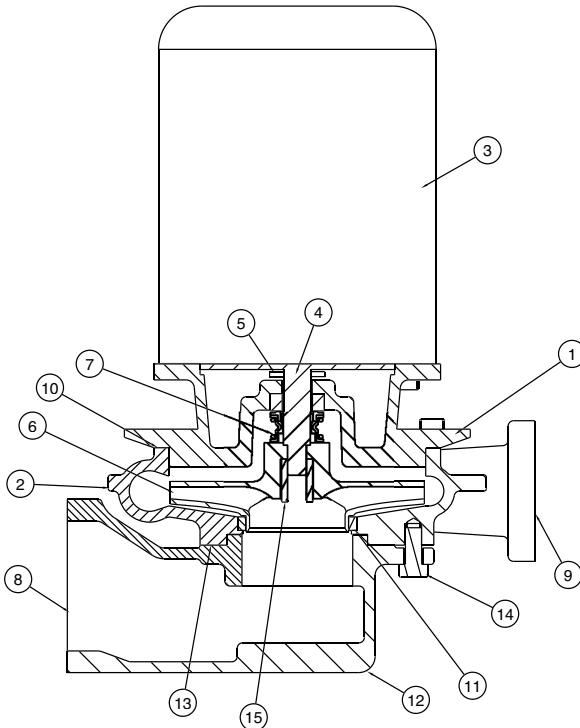
Receiver Sizing — DS Units

The receivers in this series of units are sized to allow for approximately a one minute storage capacity (where practical). The condensate return pumps need to run for approximately a one minute period to prolong the life of the motors in intermittent operation. The condensate is returned to the boiler rooms as quickly as possible to reduce make-up requirements and heat loss.

The Durable Line of Condensate Handling Equipment is constructed with Steel Receivers that provide years of service even with the most aggressive waters.

- Receivers available from 15 gallon to 235 gallon capacity.
- Centrifugal Pumps designed for many years of dependable service with low maintenance.
- Pumps are bronze fitted to resist corrosion and prevent seizing.
- Bronze Impellers are cast one piece construction trimmed and balanced to design capacities.
- Pump has no internal bearings. (Motor bearings refer to motor manufacturer's instructions.)
- Units are available in most popular voltages.
- Control panels (optional) are available and can be factory mounted and wired to NEMA and J.I.C. specifications.

NOTE: Magnetic Starters should be provided for all three phase motors.



Model D

1. Pump Head
2. Pump Case
3. Motor
4. Motor Shaft
5. Water Slinger
6. Impeller
7. Mechanical Seal
8. Pump Suction
9. Pump Discharge
10. Head Gasket
11. Case Wearing Ring
12. Suction Housing
13. Suction Housing Gasket
14. Capscrews
15. Impeller Lock