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Pride

Quality

Craftsmanship



DSS-GNU

U.S. Patent #4,932,846

BULLETIN 177
Revised 7/25

TYPE DSS-GNU

**ALL STAINLESS STEEL
INTERIOR UNITS
LOW INLET CONDENSATE PUMP
INCLUDING FLOAT SWITCH
OR
MECHANICAL ALTERNATOR
(INTERNALLY STAINLESS STEEL)**

- 316 Stainless Steel Pump and Impeller with our US Patent #4,932,846
- Capacities up to 100 GPM
- Pump pressures up to 60 PSIG
- Motor Enclosure ODP, TEFC, Explosion Proof
- Special design and custom-built Float Switches and/or Mechanical Alternators with Stainless Steel Internals that touch water
- Excellent for RO or DI water or clean steam application where purified water exists
- 304L or 316 Stainless Steel (3/16" thick minimum)
- All common voltages available
- Stainless Steel accessories also available

SHIPCO[®]
PUMPS are equipped with Mechanical Seals rated up to a standard 250°F.
Consult Performance Curves for Temperature Rating.
Customized Receivers Available Upon Request.

TYPE DSS-GNU CONDENSATE UNITS

CAP. SQ.FT. EDR	PUMP CAP. GPM	DISCH. PRESS. PSIG	MOTOR HP 3500 RPM ONLY	PHASE	DISCH. SIZE INCHES	SIMPLEX CATALOG NO.	DUPLEX CATALOG NO.	REC. CAP. GALS.	INLET SIZE INCHES
6,000	6	10	1/2	1	1"	60 DSS-GNU	60 DSSD-GNU	20 Single 27 Duplex	2"
		10	1/2	3		60 DSS-GNU	60 DSSD-GNU		
		15	1/2	1		61 DSS-GNU	61 DSSD-GNU		
		15	1/2	3		61 DSS-GNU	61 DSSD-GNU		
		20	1/2	1		62 DSS-GNU	62 DSSD-GNU		
		20	1/2	3		62 DSS-GNU	62 DSSD-GNU		
		25	3/4	3		62.5 DSS-GNU	62.5 DSSD-GNU		
		25	3/4	3		62.5 DSS-GNU	62.5 DSSD-GNU		
		30	3/4	3		63 DSS-GNU	63 DSSD-GNU		
		30	3/4	3		63 DSS-GNU	63 DSSD-GNU		
		40	1	3		64 DSS-GNU	64 DSSD-GNU		
		50	2	3		65 DSS-GNU	65 DSSD-GNU		
		60	3	3		66 DSS-GNU	66 DSSD-GNU		
		9,000	9	10		1/2	1		
10	1/2			3	90 DSS-GNU	90 DSSD-GNU			
15	1/2			1	91 DSS-GNU	91 DSSD-GNU			
15	1/2			3	91 DSS-GNU	91 DSSD-GNU			
20	1/2			1	92 DSS-GNU	92 DSSD-GNU			
20	1/2			3	92 DSS-GNU	92 DSSD-GNU			
25	3/4			1	92.5 DSS-GNU	92.5 DSSD-GNU			
25	3/4			3	92.5 DSS-GNU	92.5 DSSD-GNU			
30	3/4			1	93 DSS-GNU	93 DSSD-GNU			
30	3/4			3	93 DSS-GNU	93 DSSD-GNU			
40	1			3	94 DSS-GNU	94 DSSD-GNU			
50	2			3	95 DSS-GNU	95 DSSD-GNU			
60	3			3	96 DSS-GNU	96 DSSD-GNU			
12,000	12			10	3/4	1	1"	120 DSS-GNU	120 DSSD-GNU
		10	3/4	3	120 DSS-GNU	120 DSSD-GNU			
		15	3/4	1	121 DSS-GNU	121 DSSD-GNU			
		15	3/4	3	121 DSS-GNU	121 DSSD-GNU			
		20	3/4	1	122 DSS-GNU	122 DSSD-GNU			
		20	3/4	3	122 DSS-GNU	122 DSSD-GNU			
		25	3/4	1	122.5 DSS-GNU	122.5 DSSD-GNU			
		25	3/4	3	122.5 DSS-GNU	122.5 DSSD-GNU			
		30	3/4	1	123 DSS-GNU	123 DSSD-GNU			
		30	3/4	3	123 DSS-GNU	123 DSSD-GNU			
		40	1-1/2	3	124 DSS-GNU	124 DSSD-GNU			
		50	2	3	125 DSS-GNU	125 DSSD-GNU			
		60	3	3	126 DSS-GNU	126 DSSD-GNU			
		15,000	15	10	3/4	1		1"	150 DSS-GNU
10	3/4			3	150 DSS-GNU	150 DSSD-GNU			
15	3/4			1	151 DSS-GNU	151 DSSD-GNU			
15	3/4			3	151 DSS-GNU	151 DSSD-GNU			
20	3/4			1	152 DSS-GNU	152 DSSD-GNU			
20	3/4			3	152 DSS-GNU	152 DSSD-GNU			
25	3/4			1	152.5 DSS-GNU	152.5 DSSD-GNU			
25	3/4			3	152.5 DSS-GNU	152.5 DSSD-GNU			
30	3/4			1	153 DSS-GNU	153 DSSD-GNU			
30	3/4			3	153 DSS-GNU	153 DSSD-GNU			
40	1-1/2			3	154 DSS-GNU	154 DSSD-GNU			
50	2			3	155 DSS-GNU	155 DSSD-GNU			
60	3			3	156 DSS-GNU	156 DSSD-GNU			
18,000	18			10	3/4	1	1"		180 DSS-GNU
		10	3/4	3	180 DSS-GNU	180 DSSD-GNU			
		15	3/4	1	181 DSS-GNU	181 DSSD-GNU			
		15	3/4	3	181 DSS-GNU	181 DSSD-GNU			
		20	3/4	1	182 DSS-GNU	182 DSSD-GNU			
		20	3/4	3	182 DSS-GNU	182 DSSD-GNU			
		25	3/4	1	182.5 DSS-GNU	182.5 DSSD-GNU			
		25	3/4	3	182.5 DSS-GNU	182.5 DSSD-GNU			
		30	1	1	183 DSS-GNU	183 DSSD-GNU			
		30	1	3	183 DSS-GNU	183 DSSD-GNU			
		40	1-1/2	3	184 DSS-GNU	184 DSSD-GNU			
		50	2	3	185 DSS-GNU	185 DSSD-GNU			
		60	3	3	186 DSS-GNU	186 DSSD-GNU			

TYPE DSS-GNU CONDENSATE UNITS

CAP. SQ.FT. EDR	PUMP CAP. GPM	DISCH. PRESS. PSIG	MOTOR HP 3500 RPM ONLY	PHASE	DISCH. SIZE INCHES	SIMPLEX CATALOG NO.	DUPLEX CATALOG NO.	REC. CAP. GALS.	INLET SIZE INCHES		
22,000	22	10	3/4	1	1"	220	DSS-GNU	220	DSSD-GNU	27	2"
		10	3/4	3		220	DSS-GNU	220	DSSD-GNU		
		15	3/4	1		221	DSS-GNU	221	DSSD-GNU		
		15	3/4	3		221	DSS-GNU	221	DSSD-GNU		
		20	3/4	1		222	DSS-GNU	222	DSSD-GNU		
		20	3/4	3		222	DSS-GNU	222	DSSD-GNU		
		25	1	1		222.5	DSS-GNU	222.5	DSSD-GNU		
		25	1	3		222.5	DSS-GNU	222.5	DSSD-GNU		
		30	1	1		223	DSS-GNU	223	DSSD-GNU		
		30	1	3		223	DSS-GNU	223	DSSD-GNU		
		40	1-1/2	3		224	DSS-GNU	224	DSSD-GNU		
		50	2	3		225	DSS-GNU	225	DSSD-GNU		
		60	3	3		226	DSS-GNU	226	DSSD-GNU		
		30,000	30	10		1	1	1-1/4"	300		
10	1			3	300	DSS-GNU	300		DSSD-GNU		
15	1			1	301	DSS-GNU	301		DSSD-GNU		
15	1			3	301	DSS-GNU	301		DSSD-GNU		
20	1			1	302	DSS-GNU	302		DSSD-GNU		
20	1			3	302	DSS-GNU	302		DSSD-GNU		
25	1-1/2			3	302.5	DSS-GNU	302.5		DSSD-GNU		
30	2			3	303	DSS-GNU	303		DSSD-GNU		
40	3			3	304	DSS-GNU	304		DSSD-GNU		
50	5			3	305	DSS-GNU	305		DSSD-GNU		
37,000	37			10	1	1	1-1/4"		370	DSS-GNU	370
		10	1	3	370	DSS-GNU		370	DSSD-GNU		
		15	1	1	371	DSS-GNU		371	DSSD-GNU		
		15	1	3	371	DSS-GNU		371	DSSD-GNU		
		20	1	1	372	DSS-GNU		372	DSSD-GNU		
		20	1	3	372	DSS-GNU		372	DSSD-GNU		
		25	1-1/2	3	372.5	DSS-GNU		372.5	DSSD-GNU		
		30	2	3	373	DSS-GNU		373	DSSD-GNU		
		40	3	3	374	DSS-GNU		374	DSSD-GNU		
		50	5	3	375	DSS-GNU		375	DSSD-GNU		
45,000	45	10	1-1/2	1	1-1/4"	450	DSS-GNU	450	DSSD-GNU	61	3"
		10	1-1/2	3		450	DSS-GNU	450	DSSD-GNU		
		15	1-1/2	1		451	DSS-GNU	451	DSSD-GNU		
		15	1-1/2	3		451	DSS-GNU	451	DSSD-GNU		
		20	2	1		452	DSS-GNU	452	DSSD-GNU		
		20	2	3		452	DSS-GNU	452	DSSD-GNU		
		25	2	3		452.5	DSS-GNU	452.5	DSSD-GNU		
		30	2	3		453	DSS-GNU	453	DSSD-GNU		
		40	3	3		454	DSS-GNU	454	DSSD-GNU		
		50	5	3		455	DSS-GNU	455	DSSD-GNU		
60,000	60	10	1-1/2	3	1-1/2"	600	DSS-GNU	600	DSSD-GNU	84	3"
		15	1-1/2	3		601	DSS-GNU	601	DSSD-GNU		
		20	1-1/2	3		602	DSS-GNU	602	DSSD-GNU		
		25	3	3		602.5	DSS-GNU	602.5	DSSD-GNU		
		30	3	3		603	DSS-GNU	603	DSSD-GNU		
		40	5	3		604	DSS-GNU	604	DSSD-GNU		
75,000	75	10	1-1/2	3	1-1/2"	750	DSS-GNU	750	DSSD-GNU	84	3"
		15	2	3		751	DSS-GNU	751	DSSD-GNU		
		20	2	3		752	DSS-GNU	752	DSSD-GNU		
		25	3	3		752.5	DSS-GNU	752.5	DSSD-GNU		
		30	5	3		753	DSS-GNU	753	DSSD-GNU		
		40	5	3		754	DSS-GNU	754	DSSD-GNU		
90,000	90	10	2	3	1-1/2"	900	DSS-GNU	900	DSSD-GNU	119	3"
		15	2	3		901	DSS-GNU	901	DSSD-GNU		
		20	3	3		902	DSS-GNU	902	DSSD-GNU		
		25	3	3		902.5	DSS-GNU	902.5	DSSD-GNU		
		30	5	3		903	DSS-GNU	903	DSSD-GNU		
		40	5	3		904	DSS-GNU	904	DSSD-GNU		

DSS-GNU UNIT DESCRIPTION

Type **DSS-GNU** is constructed with a 300 Series Stainless Steel Receiver. It is made for areas where an extremely low inlet height need exists. The standard inlet can be modified upon request, either higher or lower.

Unit is made for clean steam, RO, and DI water applications. Everything that is exposed to the inside elements and liquids is made of stainless steel.

MODEL GNU PUMP FEATURES

The Heart of the Unit is the Modified Model GNU Pump (U.S. patent #4,932,846) shortened to fit the height of the receiver. The pump is mounted on top of the tank and excellent for limited floor space areas where a pump mounted on the side of the tank takes up too much floor space. It eliminates the need for a suction isolation valve(s) since you can just unbolt and lift the pump out of the tank.

All units come with side mounted float switches as standard in a NEMA 1 classification.

316L Stainless Steel Enclosed Impeller and Pump with 250°F Mechanical Seal

Standard Suction Column in either 304 or 316 Stainless Steel
Standard Suction Rubber Bearing Assembly is US Patent #4,932,846

UNIT ACCESSORIES

These units can be fitted with any of the following accessories:

Stainless Steel Basket Inlet Strainers are a recommended feature of the units. The large dirt pocket and vertical self-cleaning screens help prevent unnecessary wear and problems with the pumps.

Stainless Steel Gauge Glass Assembly provides a quick check of receiver water level and has automatic stops if the glass is broken.

Stainless Steel Dial Thermometer provides a quick check of condensate temperature.

Stainless Steel Mechanical Alternator used on Duplex units only where the pumps will alternate after each cycle. Provides backup if the lead pump fails and / or the lead pump cannot keep up with the load.

Stainless Steel Discharge Pressure Gauges provide a quick check of the pump operation at design conditions.

Stainless Steel High Water Alarm Switch provides a signal to alert when the pumps fail to keep up.

All units are completely assembled, piped, wired, and individually tested before shipment. Testing includes a complete hydrostatic test for leaks, electrical tests for controls and accessories, and performance test for pumps at design conditions. After testing, the units are packaged for shipment.

When a control panel is added, the complete package unit bears a UL stamp.

ENGINEERING SELECTION DATA

Receiver Sizing

The receivers in this series of units are sized to allow for approximately one minute net 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 room as quickly as possible to reduce make-up requirements and heat loss.

Condensate Pump Sizing

The condensing rate for 1,000 sq. ft. EDR is .5 GPM (see table). The type DSS-GNU Condensate return pumps are sized at twice (2 times) the normal condensing rate or 1.0 GPM per 1,000 sq. ft. EDR. The low NPSH requirements and minimal capacity loss of centrifugal pumps from normal wear has shown from experience to provide more than adequate pump capacity.

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