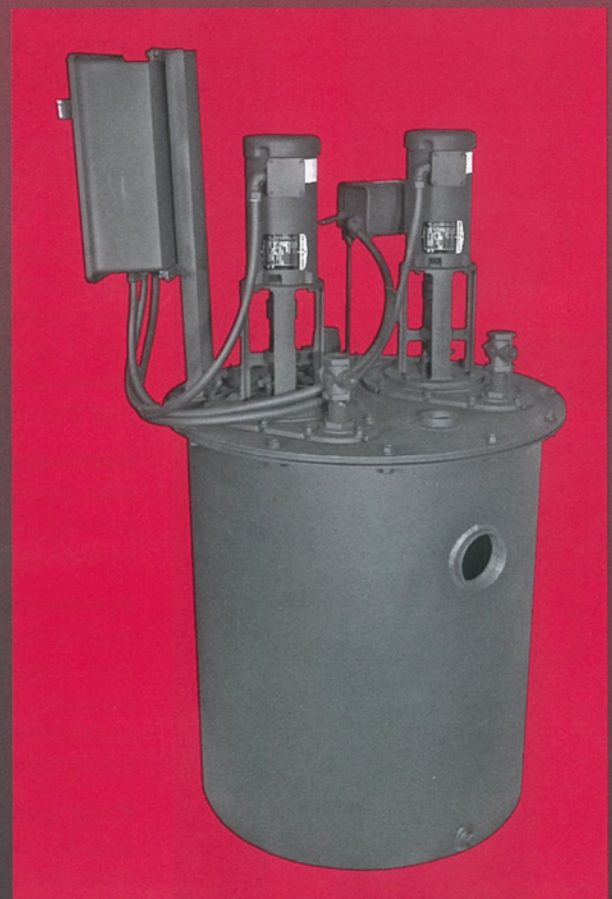
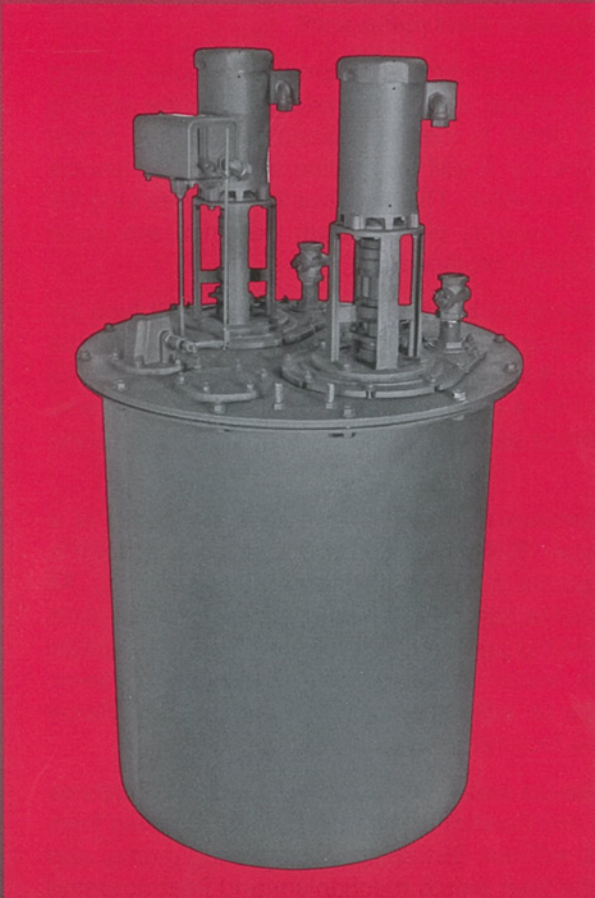


# Skidmore®

Bulletin 19C

April, 2008

## 'UV' CONDENSATE RETURN AND BOILER FEED PUMP

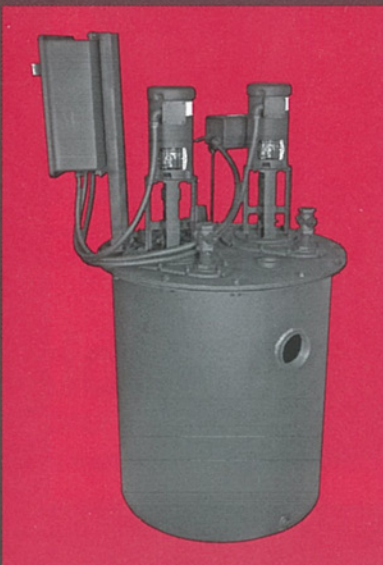
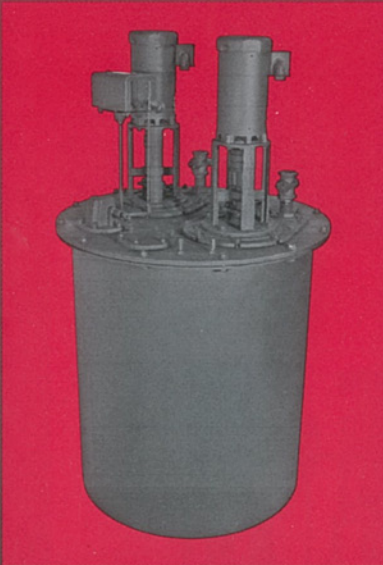




## GENERAL INFORMATION

The type UV pump is manufactured in both the single and duplex units. Furnished with either float mechanism to control pump from water level in receiver, or with float operated make-up valve for supplying cold water make-up to receiver when pump is controlled from boiler water level.

Open type concrete pits are not required and the pump can be installed with the receiver underground and the receiver cover plate flush with the floor. Pump motor and control switches are above floor level and out of danger from flooding such as is often the case in open pits...offered in a wide range of capacities and discharge pressures up to 75 lb.



## CONSTRUCTION

**The type UV pump consists of a vertical pump and motor unit** with flange-type float and float switch mechanism or flange-type float operated make-up valve bolted to main cover plate which in turn is bolted to top of sump-type receiver. Each unit is completely assembled and carefully tested before leaving the factory, and a permanent record of such test is retained.

**The pump unit is bronze fitted throughout**, with pump housing, shaft housing, and main cover plate of close grain cast iron construction. The impeller is of bronze construction, centrifugal enclosed type, especially designed for handling hot water and it is keyed and locked on a stainless steel pump shaft.

**The motor stand is of cast iron construction** with integral stuffing or packing box and a ball thrust bearing elevated above the stuffing box. The vertical pump shaft is well supported by the ball thrust bearing, and guided below by a self lubricating sleeve type bronze bearing directly above the impeller. This construction assures long life and proper alignment of rotating parts. Both bearings are quite accessible and therefore easily replaced.

**The packing gland is made of bronze** and it is of the split type for accessibility when repacking the stuffing box. A heavy duty type flexible coupling connects the pump shaft to the motor shaft. The electric motor flange fits into a machined register on top motor stand, thereby guaranteeing perfect alignment. Motor is attached by means of four cap screws.

**The float switch mechanism** of the Skidmore type UV pump is a complete direct acting type. Simplex units have a single float switch, while duplex units incorporate a mechanical alternator assembly. All float and switch mechanisms can be removed from main cover plate without disturbing or removing pump and motor unit. This mechanism is adjustable to various water levels directly at the switch lever, eliminating float rod stops or adjustments, within the receiver. Probe controls available (consult factory).

**The float operated make-up water valve (boiler feed)** has features equal to the float switch mechanism and it also can be removed from main sump cover plate without disturbing or removing pump and motor unit. Flanges of the float switch mechanism and float operated make-up valve are of same physical dimensions, bolt holes, etc., so that they are interchangeable.

**Receivers, standard construction**, are of 304 stainless steel with inlet opening. Welded carbon steel receiver can also be furnished if desired. Carbon steel receivers would be coated with rust resistant interior coating.

**Pumps can be furnished with receivers** deeper than the standard depths indicated in the engineering data on back page. With deeper than standard receivers, the pump units are furnished with intermediate bronze bearings to support and align the pump shaft. Lubrication line(s) insure sufficient recirculation water for lubricating of intermediate bearing(s).

**Float switches and electric motors** used on all pumps sizes are of proper capacity, as manufactured and guaranteed by leading manufacturers. Electric motors are of standard design, NEMA C face mounting, and open drip-proof motors are supplied with a canopy.

**Replacement Pump and Motor Assemblies** can be furnished to replace many obsolete manufacturers. Contact factory for information.



# ENGINEERING DATA AND CAPACITY TABLE

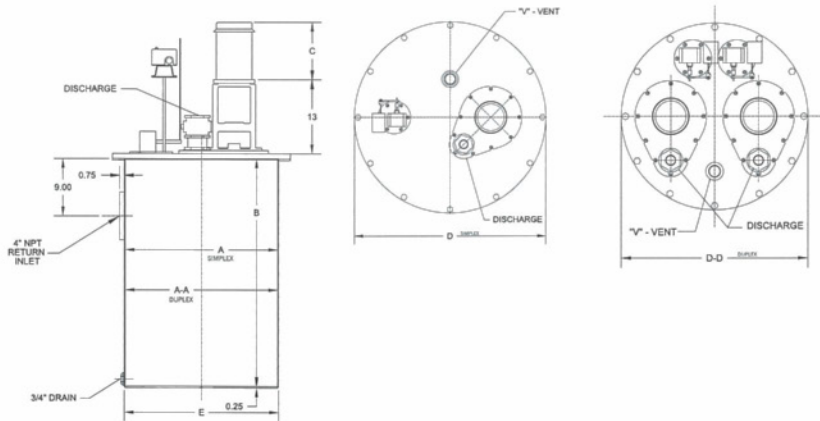
For 60 cycle motors only — operating at 1750 rpm\* or 3500 rpm. Units have plug cock installed at factory and set at pump condition point.

PUMP TYPE AND SIZE	MAX SQ. FT. E.D.R.	DISCH. PRESS. AT PUMP	PUMP CAP. G.P.M.	MOTOR H.P.	RECEIVER SIZE		RETURN PIPE SIZE	DISCH. PIPE SIZE
					SINGLE	DUPLEX		
UV-21		10		*1/3	16"	30"	3"	1 1/4"
UV-21 1/2		15		*1/3	Dia.	Dia.	Single	
UV-22		20		*1/2	x	x	4"	
UV-22 1/2		25		*3/4	36"	36"	4"	
UV-23	2,000	30	3	*1	Deep	Deep	Duplex	
UV-23		30		3/4	16"	30"	3"	1 1/4"
UV-24		40		1	Dia.	Dia.	Single	
UV-25	2,000	50	3	1 1/2	x	x	4"	
UV-26		60		2	36"	36"	4"	
UV-27 1/2		75		3	Deep	Deep	Duplex	
UV-41		10		*1/3	16"	30"	3"	1 1/4"
UV-41 1/2		15		*1/3	Dia.	Dia.	Single	
UV-42		20		*1/2	x	x	4"	
UV-42 1/2		25		*3/4	36"	36"	4"	
UV-43	4,000	30	6	*1	Deep	Deep	Duplex	
UV-43		30		3/4	16"	30"	3"	1 1/4"
UV-44		40		1	Dia.	Dia.	Single	
UV-45	4,000	50	6	1 1/2	x	x	4"	
UV-46		60		2	36"	36"	4"	
UV-47 1/2		75		3	Deep	Deep	Duplex	
UV-61		10		*1/3	16"	30"	3"	1 1/4"
UV-61 1/2		15		*1/3	Dia.	Dia.	Single	
UV-62		20		*1/2	x	x	4"	
UV-62 1/2		25		*3/4	36"	36"	4"	
UV-63	6,000	30	9	*1	Deep	Deep	Duplex	
UV-63		30		3/4	16"	30"	3"	1 1/4"
UV-64		40		1	Dia.	Dia.	Single	
UV-65	6,000	50	9	1 1/2	x	x	4"	
UV-66		60		2	36"	36"	4"	
UV-67 1/2		75		3	Deep	Deep	Duplex	
UV-101		10		*1/3	20"	30"	4"	1 1/4"
UV-101 1/2		15		*1/3	Dia.	Dia.	Single	
UV-102		20		*1/2	x	x	4"	
UV-102 1/2		25		*3/4	36"	36"	4"	
UV-103	10,000	30	15	*1	Deep	Deep	Duplex	
UV-103		30		3/4	20"	30"	4"	1 1/4"
UV-104		40		1	Dia.	Dia.	Single	
UV-105	10,000	50	15	1 1/2	x	x	4"	
UV-106		60		2	36"	36"	4"	
UV-107 1/2		75		3	Deep	Deep	Duplex	
UV-151		10		*1/3	20"	30"	4"	1 1/4"
UV-151 1/2		15		*1/2	Dia.	Dia.	Single	
UV-152		20		*3/4	x	x	4"	
UV-152 1/2		25		*1	36"	36"	4"	
UV-153	15,000	30	22 1/2	*1 1/2	Deep	Deep	Duplex	
UV-153		30		1	20"	30"	4"	1 1/4"
UV-154		40		1 1/2	Dia.	Dia.	Single	
UV-155	15,000	50	22 1/2	2	x	x	4"	
UV-156		60		3	36"	36"	4"	
UV-157 1/2		75		3	Deep	Deep	Duplex	
UV-201		10		*1/3	20"	30"	4"	1 1/4"
UV-201 1/2		15		*1/2	Dia.	Dia.	Single	
UV-202		20		*1	x	x	4"	
UV-202 1/2		25		*1 1/2	36"	36"	4"	
UV-203	20,000	30	30	*1 1/2	Deep	Deep	Duplex	
UV-203		30		1 1/2	20"	30"	4"	1 1/4"
UV-204		40		1 1/2	Dia.	Dia.	Single	
UV-205	20,000	50	30	2	x	x	4"	
UV-206		60		3	36"	36"	4"	
UV-207 1/2		75		5	Deep	Deep	Duplex	

PUMP TYPE AND SIZE	MAX SQ. FT. E.D.R.	DISCH. PRESS. AT PUMP	PUMP CAP. G.P.M.	MOTOR H.P.	RECEIVER SIZE		RETURN PIPE SIZE	DISCH. PIPE SIZE
					SINGLE	DUPLEX		
UV-251	25,000	10		37 1/2	*1/2	SAME AS BELOW		
UV-251 1/2		15			*3/4			
UV-252		20		1 1/2	30"	36"	Single and Duplex	1 1/2"
UV-253		30		2	Dia.	Dia.	4"	
UV-254	25,000	40	37 1/2	2	x	x	4"	
UV-255		50		3	36"	36"	4"	
UV-256		60		3	Deep	Deep	4"	
UV-257 1/2		75		5				
UV-301	30,000	10		45	*1/2	SAME AS BELOW		
UV-301 1/2		15			*3/4			
UV-302		20		1 1/2	30"	36"	Single and Duplex	1 1/2"
UV-303		30		2	Dia.	Dia.	4"	
UV-304	30,000	40	45	2	x	x	4"	
UV-305		50		3	36"	36"	4"	
UV-306		60		3	Deep	Deep	4"	
UV-307 1/2		75		5				
UV-401	40,000	10		60	*3/4	SAME AS BELOW		
UV-401 1/2		15			*1			
UV-402		20		1 1/2	36"	36"	Single and Duplex	1 1/2"
UV-403		30		2	Dia.	Dia.	4"	
UV-404	40,000	40	60	3	x	x	4"	
UV-405		50		5	36"	36"	4"	
UV-406		60		5	Deep	Deep	4"	
UV-407 1/2		75		7 1/2				
UV-501	50,000	10		75	*1	SAME AS BELOW		
UV-501 1/2		15			*1 1/2			
UV-502		20		2	36"	36"	Single and Duplex	2"
UV-503		30		3	Dia.	Dia.	4"	
UV-504	50,000	40	75	3	x	x	4"	
UV-505		50		5	36"	36"	4"	
UV-506		60		7 1/2	Deep	Deep	4"	
UV-507 1/2		75		10				
UV-651	65,000	10		97 1/2	*1 1/2	SAME AS BELOW		
UV-651 1/2		15			*1 1/2			
UV-652		20		2	42"	42"	Single and Duplex	2"
UV-653		30		3	Dia.	Dia.	4"	
UV-654	65,000	40	97 1/2	5	x	x	4"	
UV-655		50		5	36"	36"	4"	
UV-656		60		7 1/2	Deep	Deep	4"	
UV-657 1/2		75		10				
UV-801	80,000	10		120	*1 1/2	SAME AS BELOW		
UV-801 1/2		15			2	42"	42"	2"
UV-802		20		3	Dia.	Dia.	4"	
UV-803	80,000	30	120	5	x	x	4"	
UV-804		40		5	36"	36"	4"	
UV-805		50		7 1/2	Deep	Deep	4"	
UV-806		60		7 1/2				
UV-807 1/2		75		10				
UV-1001	100,000	10		150	*2	SAME AS BELOW		
UV-1001 1/2		15			2	48"	48"	2"
UV-1002		20		3	Dia.	Dia.	4"	
UV-1003	100,000	30	150	5	x	x	4"	
UV-1004		40		7 1/2	36"	36"	4"	
UV-1005		50		7 1/2	Deep	Deep	4"	
UV-1006		60		10				

\*UNITS PRINTED IN RED OPERATE AT 1750 RPM  
ALL OTHER UNITS OPERATE AT 3500 RPM





**THE DUPLEX UNIT** consists of one 304 stainless steel receiver, two pumps, two motors, one carbon steel cover plate with vent opening, mechanical alternator and complete float mechanisms. Each pump of the duplex unit is mounted on its own plate so that any one of the pumps may be removed for inspection without disturbing the second unit. Special duplex units available on 24" diameter receivers – consult factory.

**DIMENSIONS FOR #304 STAINLESS STEEL RECEIVERS**

CAP. SQ. FT. E.D.R.	RECOMMENDED RECEIVER CAP. GALS.		MOTOR H.P.	APPROXIMATE DIMENSIONS IN INCHES									
	SINGLE	DUPLEX		A	A-A	B	C	D	D-D	E	V		
				SINGLE	DUPLEX			SINGLE	DUPLEX	SINGLE	DUPLEX		
2,000 to 6,000	31	110	1/3-3/4 1-1½ 2-3	16	30	36	14	20	34	16.27	30.27	1	
10,000 to 20,000	48	110	1/3-3/4 1-1½ 2-3	20	30	36	14	24	34	20.27	30.27	1¼	
25,000 to 30,000	110	158	1/2-3/4 1-1½ 3-5	30	36	36	15	34	40	30.27	36.27	2	
40,000	158	158	3/4 1-3 5-7½	36	36	36	16	40	40	36.27	36.27	2	
50,000	158	158	1-2 3-5 7½	36	36	36	16	40	40	36.27	36.27	2	
65,000	216	216	1½-2 3-5 7½ 10	42	42	36	16	46	46	42.27	42.27	2	
80,000	216	216	1½-3 5-7½ 10	42	42	36	19	46	46	42.27	42.27	2	
100,000	282	282	1½-3 5-7½ 10-15	48	48	36	20	52	52	48.27	48.27	2	

**Architectural Specifications**

Furnish and install as indicated on plans, (1) Skidmore Type UV (single or duplex) condensate return unit. Pumping units shall each have a capacity of \_\_\_\_\_GPM against \_\_\_\_\_psi when pumping 200°F condensate.

Motors shall be (open drip-proof, T.E.F.C. or explosion-proof) \_\_\_\_\_HP, for \_\_\_\_\_volts, (single or three phase, 60 cycle, AC, \_\_\_\_\_(1750 or 3500) RPM.

Receiver shall be (304 stainless steel or rust resistant lined carbon steel) \_\_\_\_\_dia. x \_\_\_\_\_deep, with centerline of return inlet \_\_\_\_\_inches below top flange.

Pumps shall be controlled by mechanical alternator or two float switches for condensate service.

For boiler feed service, pump shall be equipped with a float operated make up valve mounted on the main cover of the receiver.

Provide motor protection magnetic starter, fused or unfused, disconnect(s) H-O-A selector switch, pilot light, transformer as required.

**Skidmore®**

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