

SPECIFICATION
SOMAT MODEL 1PB-6D SOM-A-SYSTEM
SLUDGE DEWATERING SYSTEM
with POLYMER AUTO FEED
PER DRAWING NO. P-3257-1

The **SLUDGE DEWATERING SYSTEM** shall include, within a single skid-mounted assembly, one (1) screw press, emulsion-type polymer dilution/feed system, head tank with $\frac{3}{4}$ HP variable speed flocculator, control panel and all necessary piping, valves, and wiring to optimize mixing and feeding of polymer with the sludge prior to entering the screw press.

Cleanout ports and all other equipment necessary for the sludge dewatering process, with the exception of the sludge feed pump, when supplied, shall be on the skid.

SCREW PRESS - one (1) Model PB-6D press, as follows:

The housing shall be rigid Type 304 stainless steel weldment, supported by structural carbon steel base. Housing shall have removable doors for screen access. Press to have stainless steel discharge chute with hinged lid and safety shut-off switch.

The drive unit shall consist of an electric motor, gear reducer and V-belt/sheave arrangement. The motor shall be a 3 HP, 1200 RPM, TEFC motor. The gear reducer shall be a helical, shaft-mounted reducer, 25:1 gear ratio with side arm tension bar bolted to head flange. Screw speed shall be variable over a range of 1 RPM to 15 RPM through variable speed inverter, mounted on control panel.

The screw assembly shall consist of a stainless steel shaft with welded-on stainless steel helical flight. A plug cutter shall be attached to the screw shaft in the head area. A mono-filament brush shall be attached to the screw flights. The screw shaft shall be attached to the gear reducer and supported in the head by a radial bearing.

The screen assembly shall be Type 304 stainless steel and consist of an inner screen and outer screen. Inner screen shall have .023" diameter holes; outer screen shall have 0.25" diameter holes.

An emulsion-type **POLYMER SYSTEM** shall be furnished for metering and dilution of polymer to the sludge stream. The unit shall be mounted, piped and electrically interlocked as an integral part of the skidded sludge dewatering system.

Polymer unit shall be sized in accordance with the following requirements:

Emulsion Polymer 0.05 - 1.0 gph

Fresh Water Supply 60 - 600 gph @ Max. Pressure 100 PSIG
Min. Pressure 35 PSIG

1PB-6D SOM-A-SYSTEM with POLYMER AUTO FEED (continued)

SLUDGE CONDITIONING/HEAD TANK - one (1) 30-gallon capacity, cone bottom, tank of molded, corrosion and impact-resistant polyethylene. A high level flow cut off and alarm shall be mounted to tank and wired into the system control circuit. Tank assembly shall include a paddle type flocculator, with $\frac{3}{4}$ HP variable speed drive.

All **SLUDGE PIPING** shall be 3", Type 1, Schedule 80, PVC. Sludge feed connection shall be 3" flanged. Pressate discharge connection shall be 3" flanged. **VALVES** shall be ball type. Cleanout and drain connections shall be provided in the sludge piping. All sludge, pressate and water piping, and valves to and from the skid assembly, shall be by others.

All **POLYMER PIPING** shall be $\frac{1}{2}$ ", Type 1, Schedule 80, PVC. **VALVES** shall be ball type.

The **SKID** frame shall be a rigid support structure fabricated of carbon steel channels of adequate design for rigidity during transport and sliding into place. One inch steel pads shall be welded to all four (4) corners of the skid to facilitate in-place leveling. All skid carbon steel surfaces will be abrasively blasted and coated with an electrostatically applied powder coated paint system.

The **ELECTRICAL CONTROL PANEL** shall be painted, carbon steel, NEMA 4X, U.L. approved, with all necessary electrical components mounted and prewired. All start-stop switches for system functions shall be mounted on the panel. All switches shall be identified as to function and motor affected. The panel shall be designed to accept * _____, 4 wire, A.C. service to the line side of a three pole, molded case, circuit breaker operable from outside the cabinet.

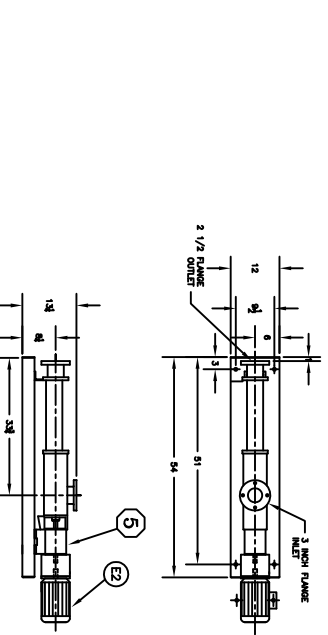
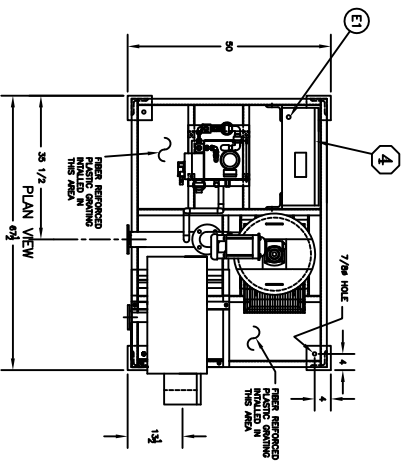
* Customer to specify supply voltage as 208/230 **or** 460 volt, 3 phase, 60 hertz.

Equipment Manufactured by SOMAT Company
Coatesville, PA 19320
Sold under manufacturer's warranty.

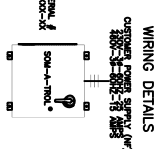
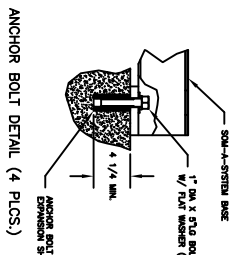
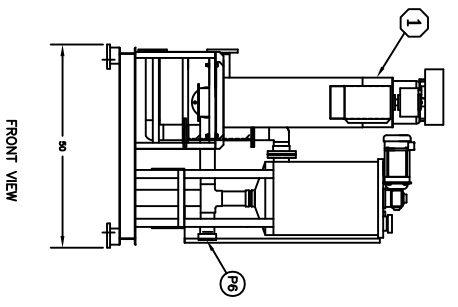
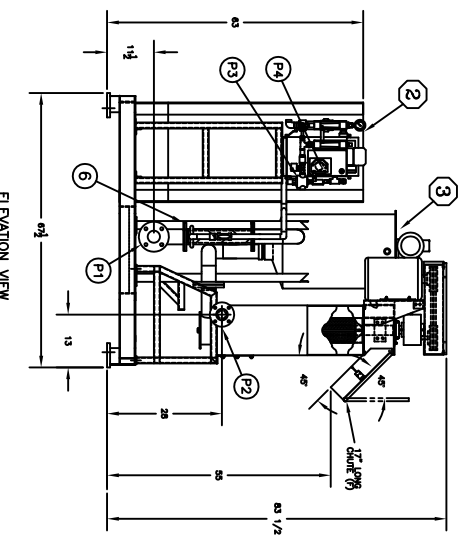
REV	DESCRIPTION	DATE	APPROVED
G	UPDATED & REDESIGNED EQUIPMENT	4-21-98	JC
H	DELETED SLUDGE VALVE TO PRESS	10/17/01	BAA
I	RE-DESIGN OF SMD BASE	12/14/08	SME

CONNECTION	DIMENSION	SERVICE	COMMENTS
E1	-	CUSTOMER POWER SUPPLY	-
E2	-	SLUDGE PUMP DRIVE	-
F1	3"	SLUDGE INLET	FLANGED
F2	2"	PRESSURIZED OUTLET	FLANGED
F3	3/4"	FRESH WATER INLET	FLANGED NPT
F4	3/8"	POLYMER INLET	SIPHON TUBE CONNECTION
F5	1/2"	PRESSURIZED TEST TAP	CLEANOUT
F6	-	CLEANOUT	-
F7	-	-	-

CONNECTION NUMBERS BEGINNING WITH 'E' REPRESENT ELECTRICAL CONNECTIONS, CONNECTION NUMBERS BEGINNING WITH 'F' REPRESENT PIPE CONNECTIONS.



SLUDGE FEED PUMP
(NOT MOUNTED ON SKID)
NIM0385V01L068 W/3 HP. DIRECT DRIVE
PROGRESSING CAVITY PUMP



- NOTES:
- 1) REMOVED CONTROL PANELS BY SOMAT
 - 2) REMOVED ALL ELECTRICAL EQUIPMENT
 - 3) REMOVED ALL CONTROL PANELS
 - 4) REMOVED ALL POLYMER CONTROLS
 - 5) REMOVED ALL TEST TAPS
 - 6) REMOVED ALL PRESSURIZED TEST TAPS
 - 7) REMOVED ALL CLEANOUTS
 - 8) REMOVED ALL POLYMER INLETS
 - 9) REPRESENTS ITEM NOT FURNISHED BY SOMAT CORPORATION.
 - 10) REPRESENTS ITEM FURNISHED BY SOMAT CORPORATION.

- NOTES:
- 1) EQUIPMENT TO BE MOUNTED ON SKID AS SUPPLIED AND PREPARED.
 - 2- ALL PIPING IS SCHEDULE 80 PIPE UNLESS OTHERWISE SPECIFIED.
 - 3- ALL PIPING IS SCHEDULE 40 PIPE UNLESS OTHERWISE SPECIFIED.
 - 4- DIMENSIONS FOR 1" AND 1 1/2" ARE APPROXIMATE (C/L).

ITEM NO.	QTY.	PART OR IDENTIFYING NO.	DESCRIPTION
1	1		NON-MOUNTED SKID OR DESCRIPTION
2	1		EXHAUSTION POLYMER MIX/FEED SYSTEM (SIZE FOR APPLICATION)
3	1		30 GAL. SLUDGE CONDITIONING TANK W/3/4 HP. FLOCCULATOR
4	1		SOM-A-TMCK CONTROL PANEL, NEMA 4X, STAINLESS STEEL.
5	1		SLUDGE PUMP (SEE PUMP NOTES ABOVE)
6	1		IN-LINE STATIC MIXER, 3 INCH, STAINLESS STEEL.

UNLESS OTHERWISE SPECIFIED	NOTICE
DIMENSIONS TO UNLESS OTHERWISE SPECIFIED	SEE THE BOTTOM OF THIS DRAWING FOR DIMENSIONS TO UNLESS OTHERWISE SPECIFIED
FINISHES TO UNLESS OTHERWISE SPECIFIED	SEE THE BOTTOM OF THIS DRAWING FOR FINISHES TO UNLESS OTHERWISE SPECIFIED
WELDING TO UNLESS OTHERWISE SPECIFIED	SEE THE BOTTOM OF THIS DRAWING FOR WELDING TO UNLESS OTHERWISE SPECIFIED
ASSEMBLY TO UNLESS OTHERWISE SPECIFIED	SEE THE BOTTOM OF THIS DRAWING FOR ASSEMBLY TO UNLESS OTHERWISE SPECIFIED
SCALE: 1/16" = 1"	DATE: 1/16

somat

(1) PB-6D SOM-A-SYSTEM
DEWATERING SYSTEM
SOMAT P/N 1PB-6D SOM-A-SYSTEM

P-3257

SHEET 1 OF MANY