ABS
A company in the Cardo Group

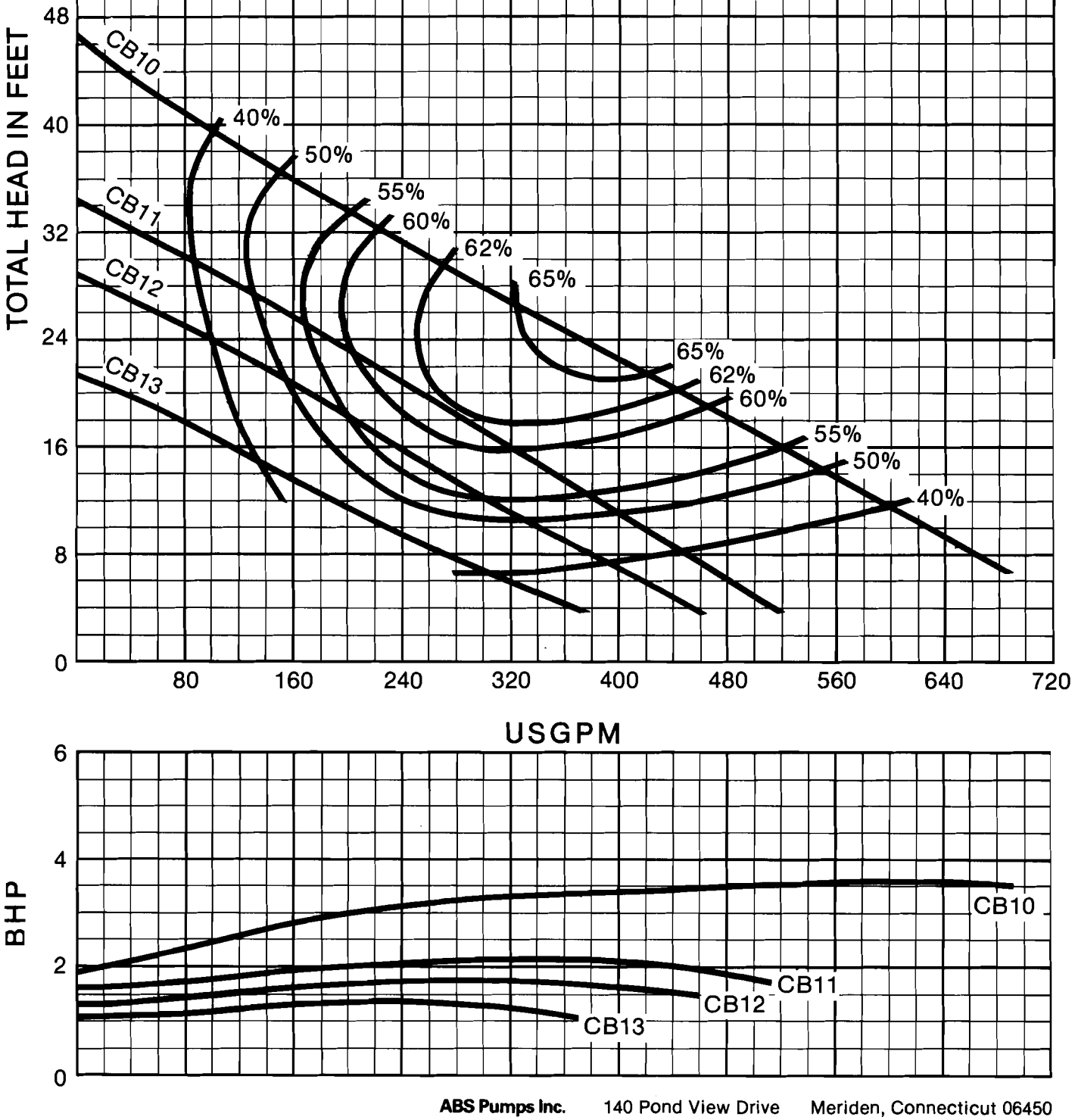
DATE April 1, 1983

STANDARD AND EXPLOSION PROOF

MODEL	AF	13	18	28					-4W-3"
RATED HP		1.75	2.50	3.75					

SOLID SIZE 3 " BLADE 1 SPEED 1750 RPM

DISCHARGE SIZE 3 " VOLTAGE 230 ; 60 Hz 1 PH



ABS Pumps Inc. 140 Pond View Drive Meriden, Connecticut 06450

PUMP SPECIFICATIONS
AF PUMPS
STANDARD & EXPLOSION PROOF

SECT. 200 **TAB** 3" 1Ø **RPM** 1750 **PG.** 102

MODEL AF13, 18, 28-4W-3"

GENERAL

Furnish and install _____ model _____ ABS Submersible Pump(s) to deliver _____ USGPM against a total head of _____ feet. The motor shall be _____ HP _____ RPM connected for operation on a _____ volt _____ HZ single phase service. The motor shall be an integral part of the pumping unit. The pump discharge size shall be _____.

PUMP DESIGN

The pump(s) shall be capable of handling raw unscreened sewage, storm water, and other similar solids-laden fluids without clogging. The suction inlet shall have a wave form with the leading edge of the impeller overlapping the wave form. Should a textile or plastic sheet plug the inlet, the shearing action of the leading edge of the impeller against the wave form of the inlet will cut away enough of the material to clear the inlet.

There shall be no need for personnel to enter the wet well in order to remove or reinstall the pump(s). The pump(s) shall be automatically connected to the discharge piping when lowered into place on a guide rail system, requiring no bolts, nuts or fasteners to effect sealing to the discharge connection.

PUMP CONSTRUCTION

Impeller: The impeller shall be made of erosion-resistant chilled gray cast iron and shall be of the semi-open, non-clogging, dynamically balanced single vane design capable of passing a minimum of _____ diameter spherical solids. The impeller shall have a slip fit onto the motor shaft and drive key and shall be fastened to the shaft by a stainless steel bolt.

Pump Volute: The pump volute shall be made of gray cast iron with smooth internal surfaces free of rough spots or flashing. The volute shall have a centerline discharge.

Self Cleaning Front Plate: The pump shall be equipped with a gray cast iron front plate, mounted to the volute with four stainless steel adjusting screws to permit close tolerance adjustment between the front plate and impeller for maximum pump efficiency. The front plate shall be designed with a wave shaped inlet and an outward spiralling V-shaped groove on the side facing the impeller, to shred and force stringy solids outward from the impeller and through the pump discharge.

Mechanical Seals: Each pump shall be equipped with a tandem double mechanical seal. The oil chamber shall separate the pump from the motor and shall provide lubrication for the seals. Both the lower stationary seal face and rotating seal face shall be made of silicone carbide while the upper stationary seal face shall be made of carbon and the rotating seal face of tool steel. Each stationary seal face shall be sealed with an O-Ring. The positively driven seal faces shall be held in place by individual independent springs. The seals shall require neither routine maintenance nor adjustment and shall not be damaged when the pump is run dry. When required, seal oil inspection shall be achieved without disassembly of the pump. The seal shall not require the pumped liquid as a lubricant.

Seal Failure Warning System: An electrical probe shall be provided in the oil chamber for detecting the presence of water. A solid-state device mounted in the pump control panel or in a separate enclosure shall send a low voltage, low amperage signal to the probe. If water enters the oil chamber, the probe shall close an electrical circuit and energize a warning light on the face of the control panel.

Shaft and Bearings: The pump shaft shall be made of stainless steel supported by a heavy duty lower double row ball bearing and an upper sealed single row ball bearing.

Motor and Cable: The pump motor shall be housed in an air filled watertight housing to provide good heat transfer. The motor shall be a NEMA design B suitable for continuous duty with moisture resistant Class F insulation rated for 155° C. Oil filled motors shall not be considered equal to the dry air filled type nor acceptable.

The motor shall contain a bimetallic electromechanical temperature monitor embedded in the motor windings. The monitors shall be connected in series and coupled to the control circuit of the pump control panel so as to shut the pump down should any one of the monitors detect high temperature. The temperature setting of the temperature monitors shall be 140° C ± 5° C and shall automatically reset once the stator temperature returns to normal.

Power cables shall be 30 feet long of the Ozoflex or SO type construction suitable for submersion in sewage. Strain reliefs shall be provided at each cable entry into the pump.

O-Rings and Fasteners: All mating surfaces of the pump and motor shall be machined and fitted with Buna N O-Rings where watertight sealing is required. Sealing shall be accomplished by the proper fitting of the parts and not by compression or special torque requirements. All external screws and fasteners shall be made of stainless steel. All surfaces coming into contact with the liquid media, other than stainless steel, shall be protected by a corrosion resistant coating.

INSTALLATION

The pump(s) shall automatically connect to discharge connection(s) when lowered into place on a single guide rail system, requiring no bolts, nuts or fasteners to effect proper sealing. Each system shall consist of no more than one guide rail supported at the top by an upper guide bracket and at the bottom by the discharge connection. The guide rail base shall be equipped with a vertical straightening vane which properly aligns the slot in the pump bracket and centers the pump just prior to final seating. Ease and quick removal of pumps from other than the vertical direction over the center of the pump shall be a requirement of the system.

Options: Each model shall be available with rubber coated hydraulic parts (impeller, volute, suction inlet and upper plate).

AF-EX:

1. The seal probe is contained in the motor housing.
2. NSSHOEU power cables shall be provided.
3. The motor shall be FM approved for Class I, Division I, Group C & D locations.

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