STATE OF THE ART CONTROLS

- NEMA 4X control Enclosures Standard
- All external devices are 24 VDC for Operator Safety
- Allen Bradley PLC w/modem, Touch Screen, VFD’s, BFP HMI and Motor starters
- Modem and Ethernet included for support by factory technicians
- VFD’s are controlled via an expandable serial network
- Alarm history standard (review of past alarms with time/date stamp via touch screen)
- Message history standard (review of past 128 operator adjustments with time/date stamp via touch screen)
- Alarm and system timers are adjustable by the operator via the touch screen and belt press mounted remote
- Auto/Manual selection of all ancillary equipment by operator (each piece can be started individually for maintenance)
- Easily expandable control system (The PLC and Touch screen can be programmed to control more ancillary equipment without adding push buttons, pilot lights, etc)
- Hour meters for all equipment built into controls for maintenance purposes
- Belt press mounted operators station (a monochrome HMI on the belt press allows the operator view the gravity deck and make all necessary adjustments to the system. The main touch screen could be removed and the system can still be operated at the belt press.
- Belt speed in FPM and Percent of Maximum
- Sludge Flow in G.P.M. and Gallons Processed and Reset-able Gallons Processed on the touch screen with an Optional Flow Meter

DEWATERING
SYSTEM FEATURES

STAINLESS STEEL CONSTRUCTION

The patented radius wedge section brings the sludge into contact with both belts sooner than in a typical straight wedge section. This results in application of applying pressure to the sludge over a greater area than a straight wedge. The large radius of the wedge simulates a large diameter roll as well as promoting superior drainage by breaking lower belt surface tension on 2” centers. Unlike a straight wedge, this system does not require any user adjustments.

GRAVITY SECTION

The Inclined Gravity Deck features fully adjustable plow assemblies and 1/2” UHMW support bars on 2” centers designed to maximize drainage by breaking surface tension and maximizing capillary action. The moving belts in contact with the support bars break the water surface tension allowing it to flow through the pores in the belt. As the water travels through the belt it creates a vacuum effect on the top side of the belt, thereby pulling in more water. This principle is the same as the effect of touching the roof of a wet tent. The surface tension of the water keeps the water droplets from penetrating the tent until something touches the material and then it will leak at the contact point. Since the contact bars are spaced closer than many of those of our competitors our gravity decks are more effective for any given belt area.

RADIUS WEDGE SECTION

304 Stainless Steel Frame and Roll construction is standard on all Bright Technologies Belt Filter Presses.

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Bright BFP Features

**HIGH PRESSURE ZONE**

The Presses feature a minimum of eight pressure rolls. These rolls have a minimum of four decreases in roll diameter, which allow for greater pressure to be applied to the sludge cake.

**NEUMATIC BELLOWS**

The belt tension and steering is accomplished by pneumatic bellows assemblies that are not subject to “freeze up” due to corrosion that cause frustration with pneumatic cylinders. These bellows are not subject to “freeze up” from corrosion as may happen with pneumatic cylinders. Further, with the bellows design there is no concern of a leaking hydraulic system.

**STEERING SENSORS**

The belt steering is accomplished by a patented belt following assembly that utilizes stainless steel proximity sensors that are easily adjustable. These sensors are connected to the PLC which controls pneumatic valves that are protected from the environment inside a NEMA 4X cabinet. The sensors for Belt Steering, Belt Off Track, and Belt Breakage are identical and can be easily replaced.

**DRAINAGE ROLLER**

Our patented first pressure roll is a large diameter fabricated roll that features 50% open area drainage for both the upper and lower belts. Unlike perforated rolls (30-35% open area), our patented Wing Roller channels water to the outside of the roll as the roll rotates upward and washes the majority of the solids present out of the roll so that they do not impede drainage in subsequent operation. The Wing Roll is also easy to clean at the end of the day’s operation unlike perforated rolls which can stubbornly retain solids buildup inside the roll leading to diminished dewatering capacity and odors.

Bright Ancillary Equipment

**SLUDGE PUMP**

We offer rotary lobe sludge pumps which are very compact and easier to service than progressive cavity pumps. Rotary lobe pumps can also operate dry for a longer period. Rotary Lobe Pumps can also operate equally well in either flow direction. Unlike many pumps they can also operate at 25 feet of suction lift. Repair is easily accomplished in most cases by removing a cover and replacing the lobes without disconnecting the piping.

**SLUDGE MIXING VALVE**

We use a pneumatically controlled variable orifice valve for sludge-polymer mixing. The valve is the full sludge pipe size until air pressure is applied. The orifice gets smaller as air pressure rises. There are no shafts or metal parts exposed to the sludge or to plug up the valve. No inspection plate is needed for removing debris.

**AIR COMPRESSOR**

Our systems use only 4 CFM Max. Our Air Compressors are cast iron construction. A quality industrial air compressor, with a 30 Gallon Receiver Tank.

**POLYMER SYSTEM**

We manufacture our own polymer feed and blend systems. Our polymer systems feature dilution water flow control, dilution water low pressure shut off, built in water pressure regulators and four port injection of the polymer into the sludge line is standard.

**SLUDGE FLOW METER**

With our flow meters, you can tell the sludge flow in GPM at any time from our touch screen or belt press mounted remote. Total gallons processed are available on the touch screen in a reset-able and non reset-able form.

**STAINLESS STEEL CONVEYORS**

Our modular sludge cake conveyors offer a variety of conveyor lengths. Our conveyors utilize a 2 foot drive section with 10 foot and 6 foot interchangeable sections. These conveyor sections are constructed with 2” by 10” formed channel to provide a very rugged frame. Our typical 18” wide by 22 foot long conveyor can easily load a roll off box or small dump truck. Other conveyor options include stainless steel covers and belly pans.

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