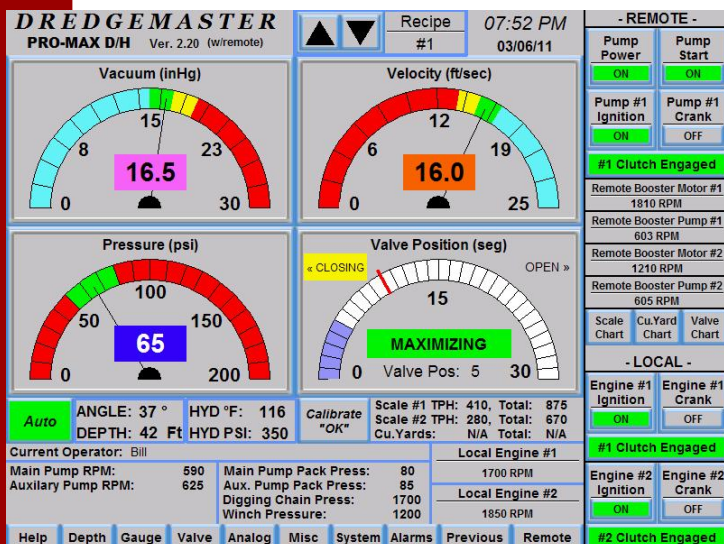




Produced Exclusively By

With the integrated use of Dredgemaster software, a PLC, a common butterfly valve and a color touch-screen monitor, we are able to **INCREASE** the **PRODUCTIVITY** of your dredge operations by:

- *Eliminating pipeline plugging*
- *Reducing pump cavitation and mini water hammers*
- *Reducing operator fatigue*
- *Decreasing fuel consumption*
- *Creating a continuous flow of product in the pipeline increasing dredge production*





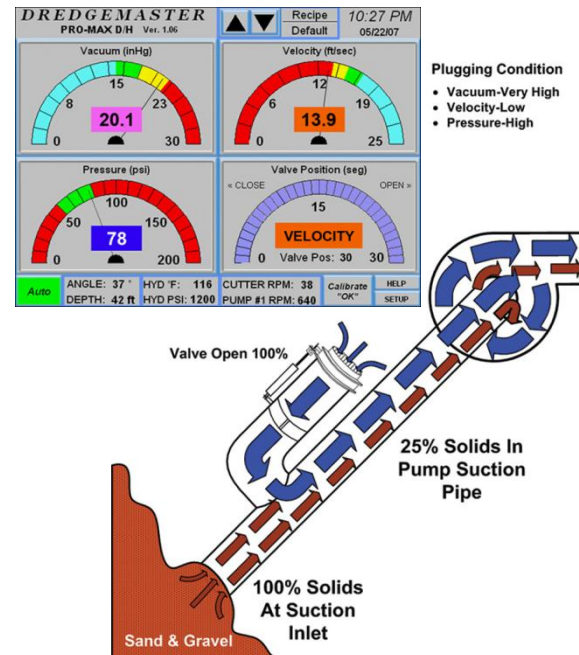
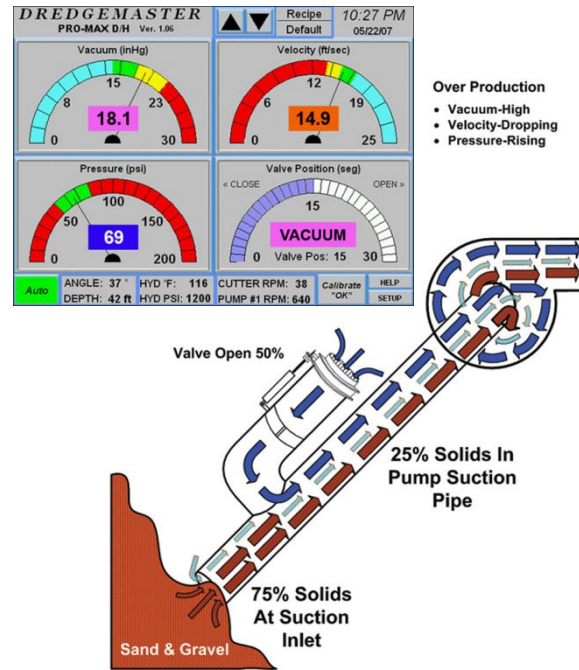
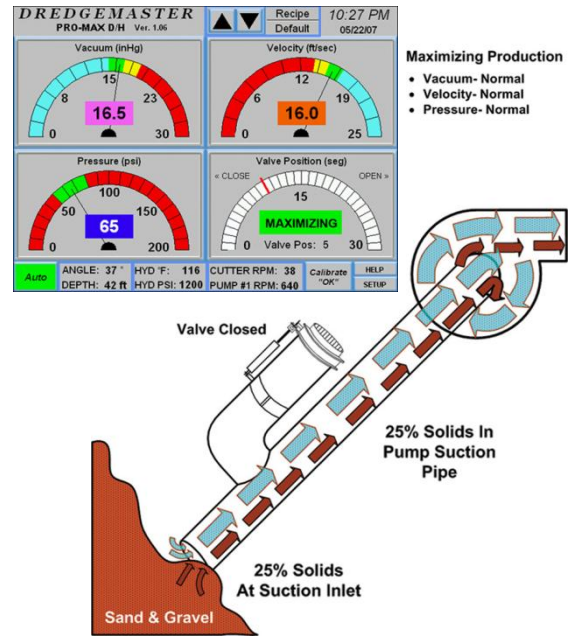
The **DREDGEMASTER** by **CORNERSTONE INDUSTRIES** utilizes several major components (**DREDGEMASTER** software, color touch-screen monitor, a PLC, a hydraulic-activated butterfly valve, precision hydraulics, and vacuum, pressure and velocity transducers) to maximize dredge performance. Once installed, the dredge operator will set parameter ranges for vacuum, velocity, and pressure on the touch screen. These parameters are based on values that produce maximum production. Once set, the PLC will automatically work to maintain these maximum production ranges.

In response to changes in pipeline vacuum, velocity and pressure, the **DREDGEMASTER** software will quickly make calculated decisions about operating the butterfly valve, i.e. controlling the valve position. Production is maximized when the valve is completely closed. Therefore, the **DREDGEMASTER** software always works to obtain a closed valve position. However, there are pipeline conditions that prevent maximum production. The **DREDGEMASTER** reacts to these conditions much more quickly and efficiently than an operator can. Whenever vacuum, velocity or pressure lie outside the maximizing range, the butterfly valve will step open or closed to the appropriate position to maintain maximum production. The speed and position of the butterfly valve depends on the scenario. In the event of a cave in, the valve will open rapidly to allow maximum water flow in the suction pipeline to prevent a discharge pipeline plug and pump construction.

Regardless of the scenario, the **DREDGEMASTER** software will always work to immediately obtain maximum production!

Top-of-the-line technology utilized by the **DREDGEMASTER** further ensures maximum production. The 10" color touch screen is easy to use and does not interfere with vision in the dredge. The hydraulic system gives the butterfly valve the ability to move in small precise increments to prevent pipeline pulsations or water hammering and move rapidly to eliminate pipeline plugging. The hydraulics tap into any open or closed center hydraulic system, requiring only 3-4 g.p.m. The butterfly valve provides immediate response and has an EPDM seal that is water tight to allow maximum production when the valve is closed. Most importantly, the **DREDGEMASTER** does not use any underwater electronics, which can easily fail, and uses off-the-shelf components making installation and replacement easy and cost effective.

Best of all, the **DREDGEMASTER** is competitively priced with other control bypass valves on the market. However, the **DREDGEMASTER** provides superior performance, reliability, easy-to-use technology, the highest quality components, and the ability to be custom installed to any slurry pump dredge. Add in all the optional features available with the Dredgemaster system and you can see why the Dredgemaster system is the #1 choice for dredge automation. Call **CORNERSTONE INDUSTRIES** today and see how we can help you maximize your dredge's production!



Dredgemaster Remote Capabilities

How many times does a dredge operator wish he or she knew what they were producing? The Dredgemaster offers two options to the question.

Option #1

Bringing belt scale data from the plant site wirelessly to The Dredgemaster screen provides valuable production information to the dredge operator.



How convenient would it be to operate and monitor a booster pump from the dredge cabin?

It all can be performed from the Dredgemaster monitor. In conjunction with the Throttemaster system located at the booster, wireless communication allows the dredge operator to take control of the booster. With a push of a button on the Dredgemaster screen, the operator can start a diesel engine, control the engine RPM, engage/disengage the pump and monitor the booster pump engine data. Engine data includes RPM, water temp, oil pressure, percent load & battery voltage. Pump data includes: booster pump inlet pressure, packing pressure, discharge pressure, and pump vibration. An electric motor powered booster can be started or stopped from the Dredgemaster screen & monitor motor data: motor amps, hertz motor speed, & motor temp. It also displays motor faults if they should occur.

Option #2

Install a density meter on the dredge discharge. This option does a mathematic calculation of the density along with the flow (GPM) and converts it to a Tonnage or Cu/yrd value that is displayed on The Dredgemaster screen. Now the dredge operator knows instantaneously what the dredge's production is. This valuable information aids the dredge operator to maximize the dredge's production.



The Dredgemaster system can also control or monitor equipment at the plant wireless from the dredge cab.



Plant Manager or Operations Manager Wants Production Feedback? No Problem!



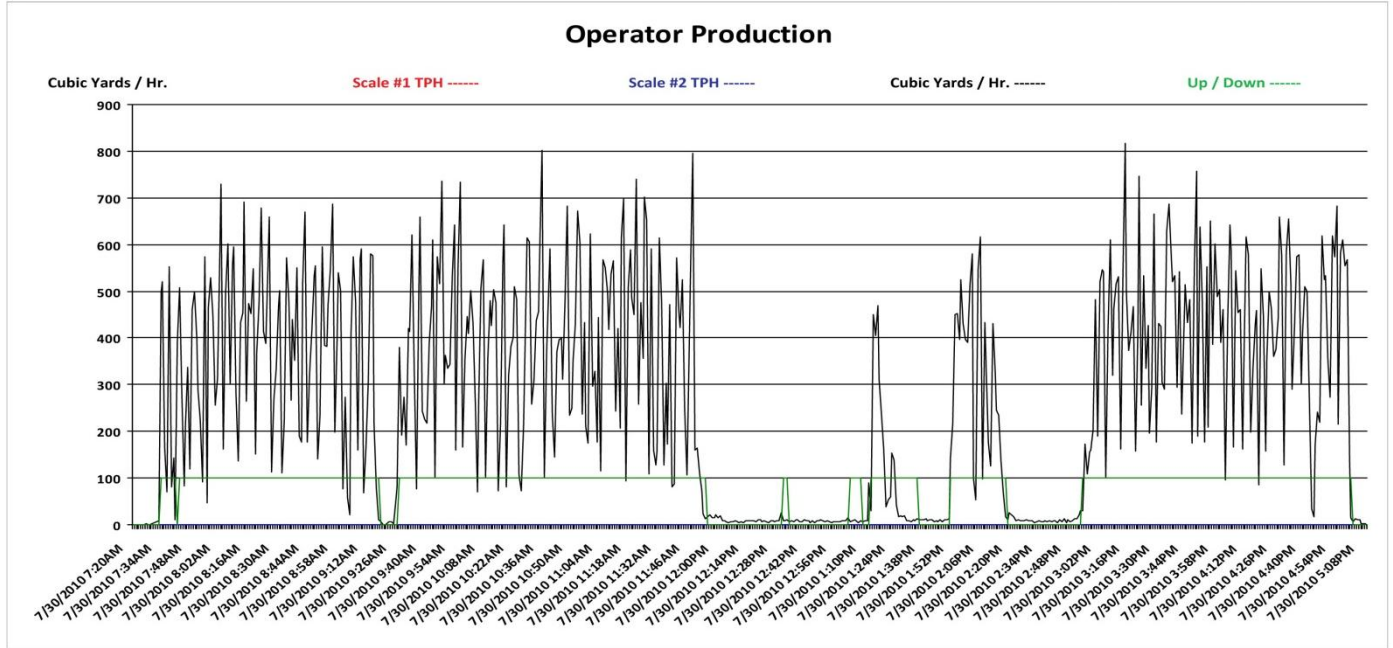
The Dredgemaster screen can be displayed wireless to a plant office making The Dredgemaster screen viewable live. Have Internet? If yes, it can be displayed worldwide for viewing from corporate offices, home office or on your cell phone lying on the beach. No more wondering if the dredge is producing. It's all at your fingertips for viewing anywhere.

Dredgemaster Production Report Examples

Up Time Total: 7.32 Hrs
 Down Time Total: 2.97 Hrs
 Up Time Percent: 0.71 %
 Operator Name: All

ABC Dredging Company
 Intercoastal Project

Cubic Yards Total: 2637
 Scale #1 Total: 0
 Scale #2 Total: 0
 Scale #1 & 2 Total: 0



ABC Dredging Company Intercoastal Project Dredge Production

Start Date: 7/30/2010
 End Date: 8/29/2010

	Scale #1	Scale #2	Scale #1 & 2	Cubic Yards	Up/Down Time
DAVE					
Average Production:	0.00	0.00	0.00	357.11	
Total Production:	0	0	0	39227	
Total Uptime Hours:					78.43
Total Downtime Hours:					29.85
Uptime Percent:					0.72
Phillip					
Average Production:	0.00	0.00	0.00	294.30	
Total Production:	0	0	0	49436	
Total Uptime Hours:					120.98
Total Downtime Hours:					52.20
Uptime Percent:					0.70
Rick					
Average Production:	0.00	0.00	0.00	0.00	
Total Production:	0	0	0	0	
Total Uptime Hours:					0.03
Total Downtime Hours:					0.00
Uptime Percent:					1.00
TOTAL for Dredge					
Average Production:	0.00	0.00	0.00	318.30	
Total Production:	0	0	0	88663	
Total Uptime Hours:					199.45
Total Downtime Hours:					82.05
Uptime Percent:					0.71



**Cornerstone
 Industries™**

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