

# Ideal™ Auto Driller and Brake Control Safety System

National Oilwell Varco's Ideal™ Auto Driller and Brake Control Safety System represents a unique combination of National Oilwell Varco's experience in design and manufacture of drilling automation products. The Ideal Auto Driller and Brake Control Safety System includes all the features of our field proven Kinetic Energy Monitoring System and our 75 years of Auto Driller manufacturing experience enhanced by the addition of a joystick control for remote band brake operation. The joystick control of the band brake uses our knowledge and experience gained from almost 20 years of custom remote band brake operation projects. This expertise coupled with state of the art technology produces outstanding band brake control. The accurate and immediate response of the band brakes to the joystick commands allows smooth and safe block lowering operations.

The ability to move the driller from the drawworks to the optimum position on the rig floor and negate the fatigue factors associated with the heavy brake handle give great improvements in safety and efficiency. The Electronic Control System is provided with a dedicated UPS to allow it to continue operating during electrical power failures. The Hydraulic Power Unit is air operated allowing it to function from the rigs air accumulators if required. In addition the HPU uses twin pneumatic to hydraulic pressure reservoirs. The emergency stop and KEMS functions utilize spring applied pneumatic cylinders to apply the brakes. The hydraulic brake actuating cylinder is supplied complete with a socket for replacing the original brake handle. Both electronic and hydraulic by-pass features are incorporated into the system. This is for adjustment of the brake mechanism and brake linings and also for temporary use in case of emergency.



**Ideal™ Auto Driller and Brake Control Safety System**

## FEATURES:

- Easy to use Auto Driller
- Floor and crown saver with soft stop and maximum speed control
- Band brake pads adjust/wear alarm
- Informative multi-function display
- Compact control station fits easily at Driller's position

## BENEFITS:

- Safer conditions for driller; reduces fatigue, optimally positioned
- More informed driller; block information always available
- Intuitive, user friendly controls
- Safer rig floor; low risk of block collision
- Improved ROP and bit life

## OPTIONS:

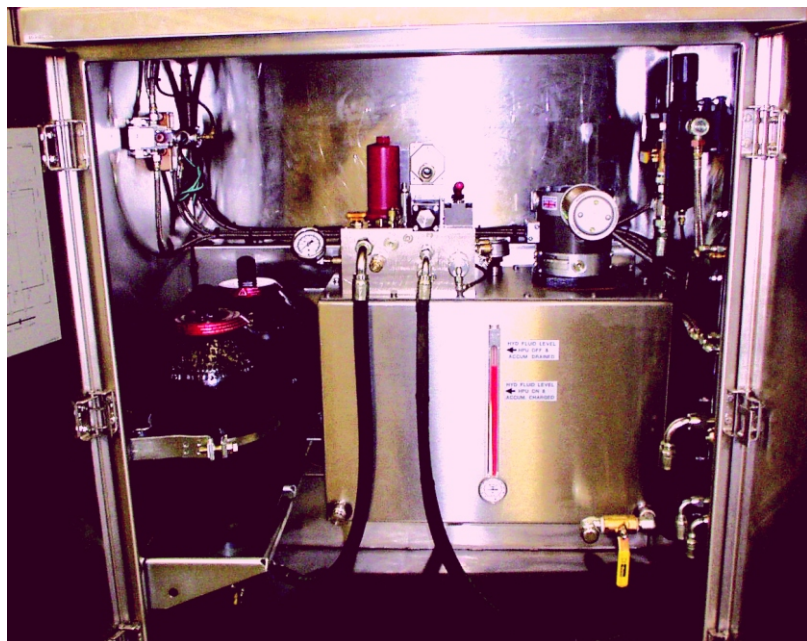
- Adjustable pedestal or console mounts
- Pneumatic over hydraulic or all electric controls
- Drawworks clutch function
- Weight indicator
- Combination band and Elmagco™ brake operation

[www.nov.com](http://www.nov.com) / [corporatemarketing@nov.com](mailto:corporatemarketing@nov.com)

10000 Richmond Avenue  
Houston, Texas 77042  
United States  
Phone: 713 346 7500  
Fax: 713 435 2195

 **NATIONAL OILWELL VARCO**

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Hydraulic Power Unit

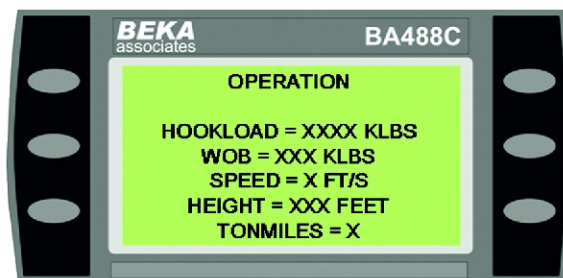


Brake Actuator

## HYDRAULIC POWER UNIT (HPU)

The HPU is approximately 53" (1346 mm) high x 47" (1194 mm) wide x 28" (711 mm) deep. It contains the following equipment:

- Air Supply Filter/Regulator
- Vertically mounted air motor/gear-pump assembly
- 8 gallon oil tank with:
  - 10 micron return filter
  - Sight glass level gauge
  - Filler breather
  - Suction strainer
  - Pressure gauge
- Twin Hydraulic Accumulators, 2½ gallon, bladder type
- Hydraulic Manifold and Control Valves



Screen Display

## Specifications

<b>Operating Ambient Temperature</b>	Control System And Hydraulics	15°F to +130°F (-10°C to +55°C)
	UPS	32°F to +105°F (0°C to +40°C)
<b>Operating Ambient Humidity</b>	Control System And Hydraulics	95% (non-condensing)
	UPS	95% (non-condensing)
<b>Utility Requirements</b>	Electrical	Single phase, 1000 VA, Voltage and frequency are user specified
	Rig Air	120 PSI (75 PSI Min.), 80 SCFM (Max.).

## Hazardous Area Certification

The National Oilwell Varco Ideal™ Auto Driller and Brake Control Safety System components located on the rig floor are intrinsically safe and suitable for use in Class 1 Div. 1 (Zone 1) hazardous areas. The system is provided with a full third party component certification package which is included in the standard documentation package.

## Equipment Enclosures

All equipment enclosures are manufactured of 316 grade stainless steel and constructed to NEMA 4 X (IP65) standards. Display Screen Parameters - Ton Miles, Hook Load, Block Speed, Height from Floor, Rate of Penetration / Weight on Bit, Brake Position / Pad Wear Indication, Brake Pad Wear Alarm, Height Sensor Calibration Alarm, Set-up Menu and Maintenance Menu.

[www.nov.com](http://www.nov.com) / [corporatemarketing@nov.com](mailto:corporatemarketing@nov.com)

10000 Richmond Avenue  
Houston, Texas 77042  
United States  
Phone: 713 346 7500  
Fax: 713 435 2195

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