

ALUMINATE™ VFD

Nema 3R Variable Frequency Drive



The **ALUMINATE™ VFD** combines an innovative aluminum design, intelligent controls, and advanced protection to deliver maximum reliability and efficiency for ESP systems. Engineered for durability and seamless integration, it ensures safer operation, lower downtime, and optimized production.

Specification

Dimensions: 1491 × 1350 × 2080 mm

Enclosure Material: Aluminium, 3mm

Input Voltage: 300 to 500 V

Output Frequency: 0 to 120 Hz

Temperature Rating: -20 to 50 °C

THDi:

- less than 5% (for AFE)
- ~35% (for 6-pulse)

Cooling System: Forced air cooling

Audible Noise Level: 83 dBA

Certifications: CE-rated

Artificial Lift Controls:

- 8×AI, 16×DI, 16×DO
- Safe torque off (ESD)
- Modbus TCP/IP



Highlights

- Integrated Operator Interface Box (Junction Box)
- Separate lockable control and power compartments
- Mounting rails for auxiliary equipment

Options

- Down Hole Sensor integration
- Cold Weather package
- Supply Line Monitor
- Remote Monitoring
- MODBUS RS-485 RTU
- Data Buffer for Brown Outs
- Hazardous Zone Barriers
- Auxiliary junction boxes

ALUMINATE

AI

3R

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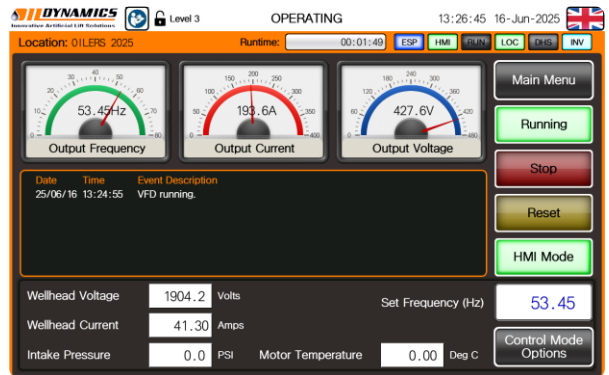


Key Features

- Human Machine Interface(HMI):** Advanced multi-function operator Interface
- Full-color Touchscreen Display:** Intuitive and responsive multi-color interface with full-text visualization
- Multi-language Support:** EN, DE, RO, UA, more on your request.
- Communication Modes:** Remote 2-Wire, 3-Wire, Network
- Control Modes:** PID, Duty Cycle, Rocking Start, I-Limit, Delta Pressure Mode.
- Smart Protection System:** Overload, Underload, Stall prevention, under frequency protection.
- Recovery Features:** Auto-Restart after power up, automatic restart after minor trip.
- Real-Time Monitoring & Logging:** Wellhead voltage and current display, 32 Gb Internal Logging, programmable.

Applications

- ESP (Electrical Submersible Pump)
- HPS (Horizontal Pumping System)
- DHHC (Down Hole Heating Cable)
- PCP (Progressive Cavity Pump)
- ESPCP (Electrical Submersible PCP)



Ratings and Features

DRIVE CAPACITY, A ⁽¹⁾	66	156	260	361	481	610
DRIVE CAPACITY, kVA ⁽²⁾	45/54	108/129	170/206	237/287	316/383	401/485
INPUT TYPE	AFE ⁽³⁾			6-pulse		
INPUT FILTER	Integrated			Optional		
SINE WAVE FILTER	Integrated			Optional		
AIR CAPACITY, m ³ /hr	1690	2535				
HEAT DISSIPATION, kW	1,2	4,2	4,9	4,8	6,2	7,9
WEIGHT, kg	400	500			600	

(1) – Other sizes available on demand. (2) – At 400/480 V input. (3) – Active Front End

Lighter Than Steel. Stronger Than Limits.



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