Progressing Cavity Pump

Economical Variable Frequency Drive

Voltage rating: 380V to 480V, 50/60Hz

DCUS

PVR Series Variable Frequency Drives

Industry Power & Control for Artificial Lift Application

Input power supply	3 phase 380V to 480V ±10%, 50/60Hz ±5%
Converter type	6 pulse diode rectifier
Input low harmonic	Built-in passive harmonic filter, THID<5% at full load
Inverter type	IGBTs
Input current protection	Circuit breaker
Output voltage	The same as power supply
Output frequency	0 Hz to ±500Hz
Motor control	Vector control, V/F
Motor technology	Induction Motor (IM)
Efficiency	>97% at full load
Power factor	0.98 at nominal load
Handling regenerative energy	Brake chopper and brake resistors
Overload rating	150% for 1min/5min
Certifications	ISO9001, ISO14001
Enclosure rating	IP55 [equivalent to NEMA3]
Cooling method	Forced air cooling
Altitude	0 to 1000m without derating
Ambient operating Temp.	-20 degC to 50 degC
Relative humidity	20% to 95% maximum(noncondensing)
H_2S protection	Conformal-coated PCBs & bus bars
Material	Carbon steel, the thickness is 2mm
Power incoming and outgoing	From the bottom of the VFD
Operating interface	7" touched screen panel
Analog inputs/outputs	2 programmable analog inputs and expandable
	2 programmable analog outputs and expandable
Digital inputs/outputs	6 programmable digital inputs
	2 digital inputs/outputs
	1 digital input interlock
	3 programmable relay outputs

Cost-effective Variable frequency drive

VFD design

Industry Power & Control for Artificial Lift Application

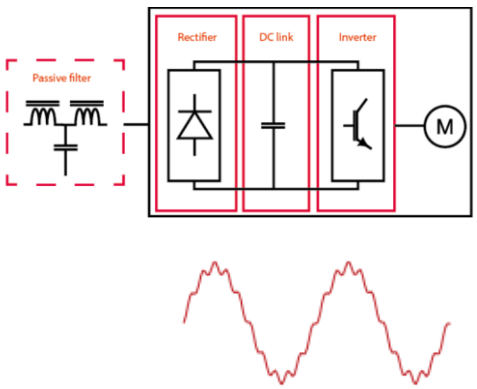
Drive module

+ Wall mounted drive module, used to be integrated in outdoor installation VFD
+ Benefits of reliable long service life design continue after installation (10 year design)
+ Vector control, 150% overload capacity
+ Drive modules include a built-in control software that is designed specifically for progressing cavity pump (PCP). This control software provides several features such as backspin control , pressure protection, level control and acceleration ramps that improve your production and help protect your pumping system
+ Coated circuit boards for harsh conditions. Each drive module factory-tested at full load

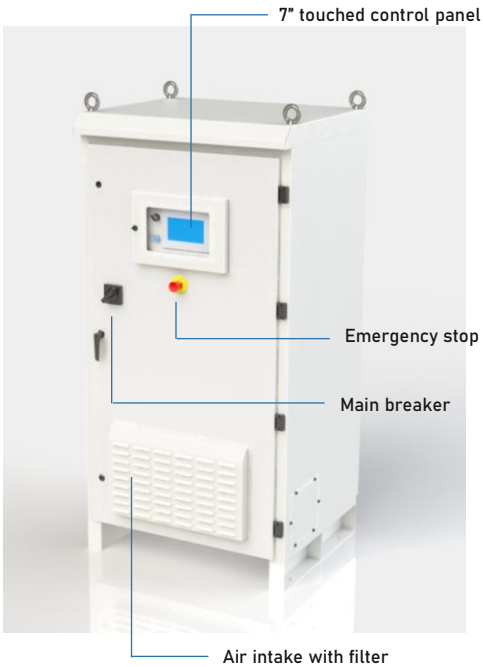
Low harmonic solutions

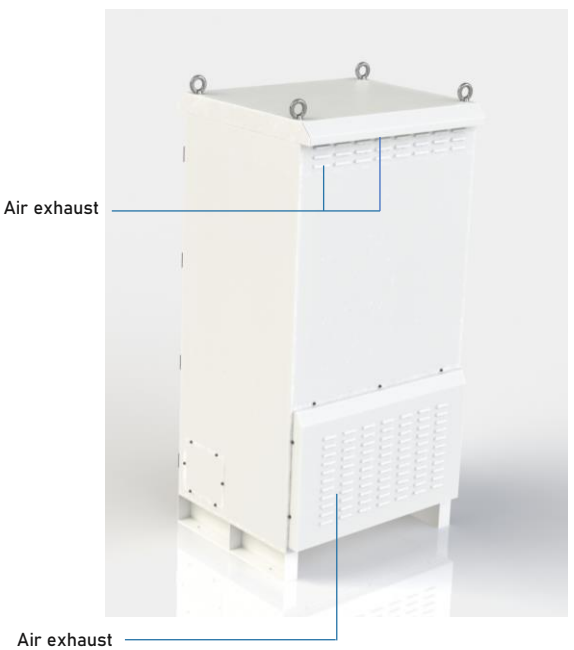
+ Passive Harmonic Filter solution

A passive filter VFD uses a combination of inductors and capacitors. The capacitors in the filter are charged from the power line. The drive module then draws its current from the capacitors when needed. The inductors between the capacitors and the power line prevent the current to the drive module from having a significant impact on the power line. This combination filters out the harmonic current distortion over a wide range but are generally tuned between the 5th and 7th harmonics where the highest magnitude of the harmonic content originates from.

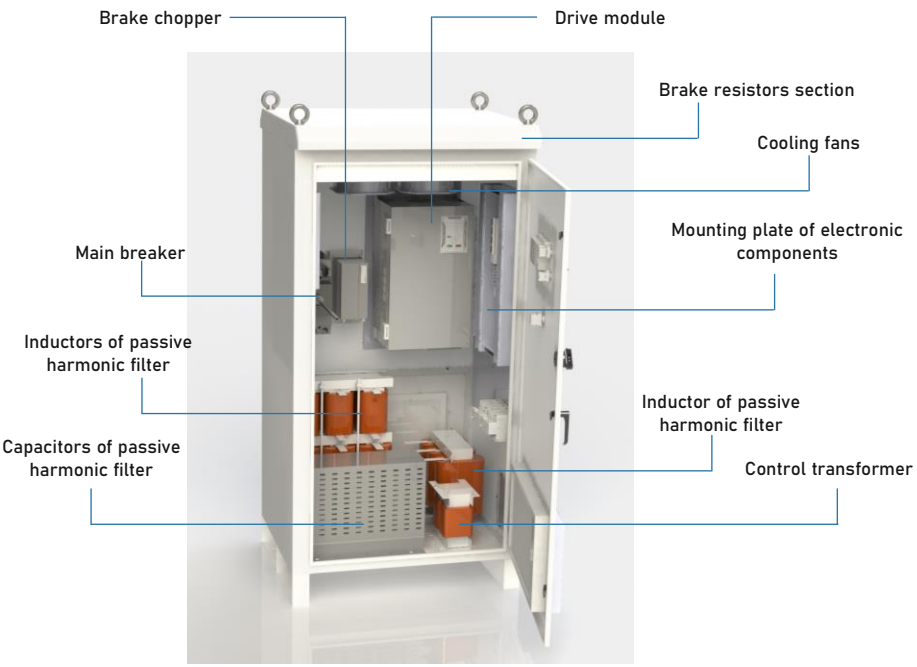


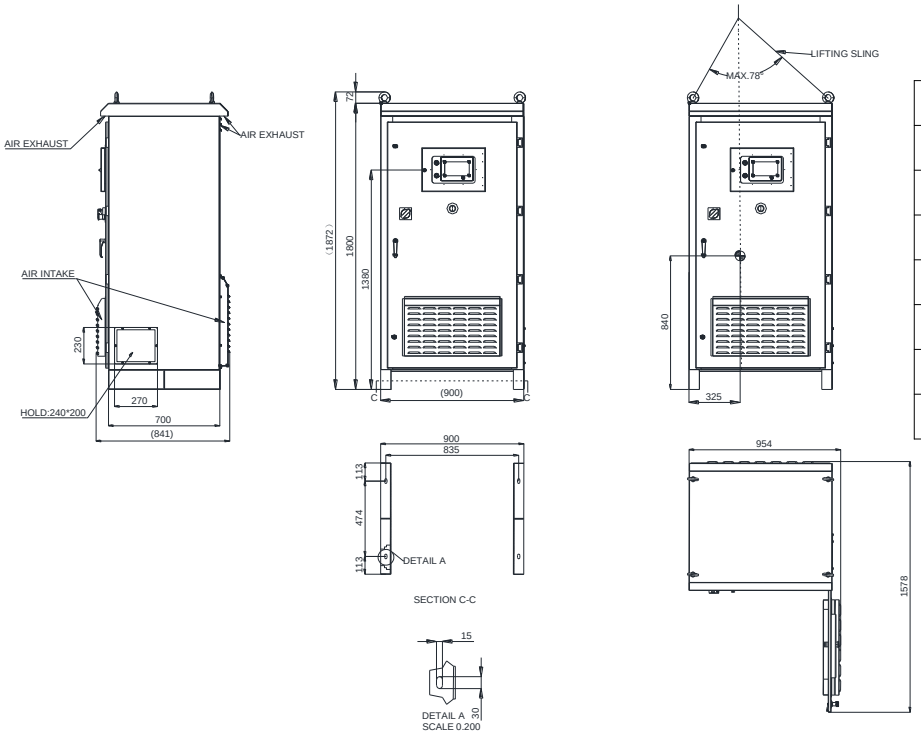
VFD introduction





VFD drawing and data sheet





VFD rating	Output current
50HP (37kW)	75A
75HP (55kW)	110A
100HP (75kW)	150A
150HP (110kW)	210A
200HP (132kW)	253A
Dimension H×W×D [mm]	
1872×900×841	

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