



240 BARREL GEL HYDRATION

SPECIFICATION: PS-Gel 240

PowerServe Hydration units deliver a consistent homogenous gel using the proprietary PowerServe High Shear Mixing System™. The mixing system puts more shear into the gel than conventional paddle mixing systems. The 240 bbl hydration tank with torturous path baffling insures adequate hydration time with a first in/first out fluid path.

SPECIFICATIONS

UNIT DIMENSIONS

Length 49' (overall) 41'-5" (kingpin to bogey)
 Width 8'-6"
 Height..... 13'-2" (mounted on 52" high fifth wheel)

One (1) hydraulic power unit will be used on the unit. The HPU will be powered by a US EPA Tier compliant diesel engine per following specifications. Customer option on engine make between:

ENGINE— OPTION 1

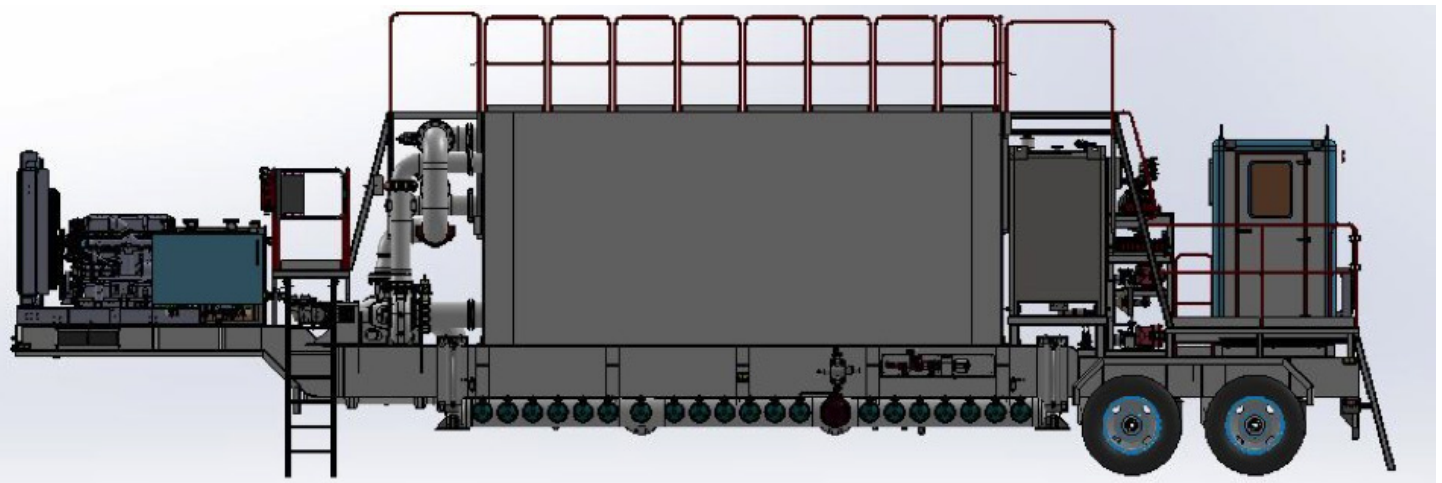
Model:
 • Cummins QSX15
 Rated Output Power:
 • 600 BHP

ENGINE— OPTION 2

Model:
 • Caterpillar C15
 Rated Output Power:
 • 580 BHP

ENGINE— OPTION 3

Model:
 • MTU Detroit Diesel
 Rated Output Power:
 • 660 BHP



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GEARBOX

Durst 4PD11D

SUCTION PUMP

Gorman Rupp

- Model: 612L20-B/S2

RECIRCULATION PUMP

Gorman Rupp

- Model: 610M20-B

LIQUID ADDITIVE SYSTEM

Liquid additive chemicals are metered into the suction piping immediately before the suction pump. Onboard tanks are used for storing LGC for low rate jobs. The liquid additive pumps meter the chemicals into the process piping at precise ratios. The LA system is completely customizable to meet specific customer needs and preferences.

LIQUID ADDITIVE TANKS

- Quantity: Up to 2
- Capacity: 550 gallon
- Construction: Stainless steel construction

LIQUID ADDITIVE PUMPS

- Quantity: Up to 6
- Types:
 - Lobe pumps – Waukesha, Ampco
 - Progressive Cavity – Roper, Tarby
 - Other pump types and manufacturers can be accommodated based upon specific customer requests.
- Mounting: Universal base for quick and easy pump swap out
- Chemical resistant hoses from LA pumps to connections on inlet of suction pump piping

HYDRATION TANK

- Carbon steel construction with internal corrosion resistant lining
- Transverse torturous path baffling
- 240 bbl volume
- Recirculation shear mixer

PROCESS MANIFOLD

The unit is configured with a header arrangement that can take suction or discharge from either side of the unit. The headers are equipped with isolation valves to allow the operator to recirculate external frac tanks.

- Construction: Schedule 40 steel piping
- Connections (per side):
 - One (1) 8" Fig. 206
 - Twenty (20) 4" Fig. 206
 - Custom arrangements of 4" & 8" connections can be made upon request
- Hydraulic actuated valves on all crossover valves

HYDRAULICS

- 110 gallon custom tank with in-tank filters
- ASA hydraulic cooler
- Sundstrand-Sauer Series 90 hydrostats for centrifugal pumps
- Parker P3 Series open loop pump
- Tub Level: Parker D1FH directional proportional valves
- LA Pumps: Parker D1TX directional proportional valves
- Misc. Valves: Parker

CONTROL CABIN

- Construction: Custom aluminum control cab
- Dimensions: 66" L x 54" W x 84" H
- Air Conditioner: Wall mounted
- Features:
 - Electrical components/systems only in control house (no hydraulics or pneumatics in cab)
 - Kick-out emergency window

CONTROLS

The R-Blend™ control system provided by Raptor Oilfield Controls is standard. Other control systems may be supplied upon request.

- System: PC based control system
- Type: Parker electrohydraulic valves
 - 4 – 20 mA signals for proportional controls
 - 24 VDC system

INSTRUMENTATION

- Viscometer: TT100 Brookfield
- pH sensors: Endress Hauser pH sensor
- Clean flow meter: Rosemount magnetic flow meter
- LA flow meters: Micromotion coriolis mass meters
- Tub level: Rosemount guided wave radar

LIGHTING SYSTEM

Work lights will be mounted at various locations on the unit to illuminate the unit work zones and surrounding area. Lighting will be powered from the deck engine 24 volt system.

