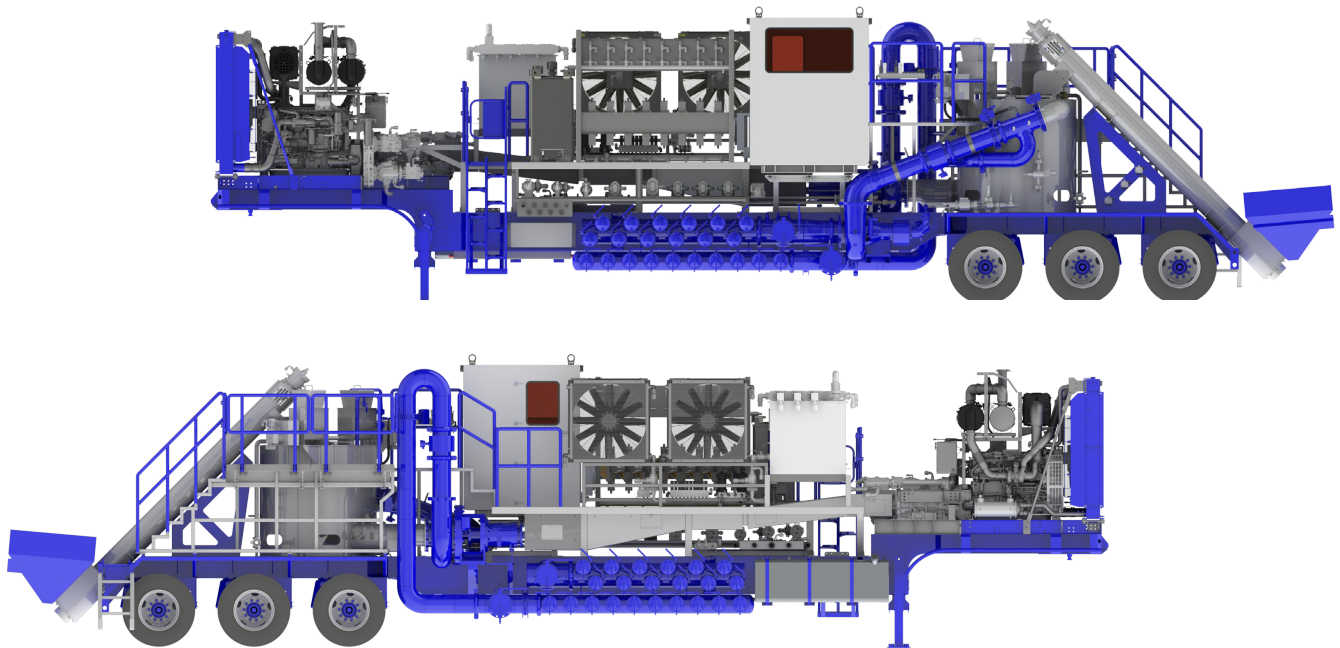




120 BPM BLENDER

SPECIFICATION: PS-FB120D

DELIVERING A NEW LEVEL OF PERFORMANCE



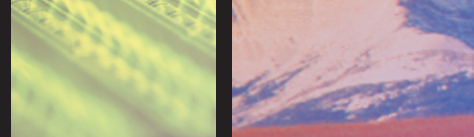
**YOU'RE IN THE BUSINESS OF
OIL+GAS RECOVERY.**

WE'RE IN THE BUSINESS OF ENSURING THAT HAPPENS.

The most technologically advanced blender in the market combines innovative controls, modular design and serviceability. It utilizes the PowerServe Mix Master Tub design to ensure a consistent homogeneous blend. The modular sand screws provides the simplest, maintenance friendly system along with the most reliable and flexible sand delivery for a variety of job requirements.

Equipment designed by PowerServe Oilfield Equipment.

120 BPM BLENDER



This specification covers the construction + design requirements for a 120 bpm fracturing blender trailer. The unit is capable of mixing fracturing slurries at 120 bpm. The unit is rated for well service operations in ambient conditions of 10°F (-12°C) to 120°F (46°C).

MIXING + DELIVERY RATES	
FLUID RATE	12.0 to 120 bpm rate at 80 psi minimum discharge pressure
SAND DELIVERY RATE	1,100 lb/min to 28,000 lb/min
SAND CONCENTRATION	Up to 15.0 ppg sand up at pump Rates up to 75.0 bpm 7.0 ppg sand concentration at 120 bpm

Two (2) US EPA Tier compliant diesel engines are used to drive the hydraulic pumps and discharge pump on the blender. Customer options on engines include:

ENGINE	OPTION 1
MODEL: QSX15	Cummins
CERTIFICATION:	U.S. EPA Tier 4 Final
RATED OUTPUT POWER:	600 BHP x 2

ENGINE	OPTION 2
MODEL: C18	Caterpillar
CERTIFICATION:	U.S. EPA Tier 4 Final
RATED OUTPUT POWER:	580 BHP x 2

Other engines available upon request.

FUEL CAPACITY	
325 Gallons	Tanks equipped with equalizing cross-over lines, drain valves, breather vents, and fill filtrations screens.

GEARBOX	Durst 4PD11D
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SUCTION PUMP	
MODEL: 612L20B-B	Gorman Rupp

DISCHARGE PUMP	
MODEL: 10M234	<ul style="list-style-type: none"> Flowserve slurry pump Driveshaft driven (hydraulic drive available) Other pumps available

TRANSMISSION	
MODEL: Allison 4750 OFS	Drives discharge pump with PTO's driving hydraulic pumps

SAND SCREWS	
	<p>The sand screws are designed to be modular to allow quick removal and configuration. The design incorporates the following features:</p> <ul style="list-style-type: none"> Common collection hopper for 3 screw assemblies Top & bottom shaft bearings isolated from contact with proppant Extreme low speed high torque top drive hydraulic motor for reliable start and operation Fixed position screws - ground clearance for travel obtained from high lift trailer suspension

AVAILABLE SIZES & RATES	<ul style="list-style-type: none"> 6" - 250 to 2,500 lb/min 12" - 1,100 to 11,000 lb/min
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LIQUID ADDITIVE SYSTEM	
	<p>Liquid additive chemicals are precisely metered into the slurry. The suction of each LA pump is connected to an off unit connection and to a common clean up tank. The clean up tank is equipped with a calibration column that allows the LA pumps to be bucket tested in-line without physically handling the fluid. The discharge of each LA pump can be directed to either the inlet of the suction pump or to the inlet of the discharge pump. Other injection points can be made available upon request. All valves are located on an easy accessibly LA control panel.</p> <ul style="list-style-type: none"> One 100 gallon cleanup tank with a calibration column for in-line bucket testing One (1) transfer pump for filling the cleanup tank from an external fluid source Up to eight (8) additive metering pumps <ul style="list-style-type: none"> Waukesha, Roper, Ampco, General pumps, others available upon request Dedicated Coriolis meter for each pump, other styles of flow meters available upon request Chemical resistant hoses with camlock fittings

MIXING TUB	
	<p>The PowerServe Mix Master mixing tub has a unique proprietary design that utilizes the clean fluid entry flow to increase the mixing agitation in the tub.</p> <ul style="list-style-type: none"> Clean Fluid Inlet: 10" NPS Discharge Outlet: 16" NPS bottom sump Tub Volume: 12 bbl (10 bbl working volume) Frac pump prime up line Clean and dirty sample lines Dual paddle agitator with low torque hydraulic drive motor

PROCESS MANIFOLD SUCTION /DISCHARGE HEADERS	
	<p>The blender is configured with suction header and discharge headers on both sides of the unit. The discharge header has a crossover to isolate each side of the blender. There is no isolation between the suction headers on each side of the unit.</p> <ul style="list-style-type: none"> Discharge Connections (each side): <ul style="list-style-type: none"> One 8" hose connection Fig. 206 female union (thread) with chained cap Ten (10) 4 inch Fig. 206 female union (thread) with chained caps 4in. Fig. 206 male union half (wing) with plugs available upon request Suction Connections (each side): <ul style="list-style-type: none"> One 8" hose connection Fig 206 female union (thread) with chained cap Twelve 4 inch Fig. 206 female union (thread) with chained caps 4 inch Fig. 206 male union half (wing) with plugs available upon request Hydraulic actuators for reliable operation in extreme environments Clean and dirty magnetic flow meters equipped with grooved Victaulic ends for quick removal and installation. Clean side piping - Standard wall pipe Dirty side piping - XS wall pipe

CONTROLS	
	<p>The R-Blend™ control system provided by Raptor Oilfield Controls is standard. Other control systems may be supplied upon request.</p> <ul style="list-style-type: none"> System: PC based automatic control system Fully automated system with manual backup controls for critical functions

CONTROL CABIN	
CONSTRUCTION:	Custom aluminum control cab
DIMENSIONS:	58" L x 66" W x 82.5" H
AIR CONDITIONER & HEATER:	<ul style="list-style-type: none"> Wall mounted Hydraulic drive compressor
FEATURES:	<ul style="list-style-type: none"> Electrical components only in control house Kick out emergency window

DRY ADDITIVE SYSTEM	
	<p>Two dry additive feeders are mounted on the blender mixing tub and discharge dry chemicals directly into the mixing tub.</p>
	<p>Acrison Model 1015Z with conditioning auger and integral 1 cu.ft. hopper, multiple auger sizes available, stainless steel construction</p>

LIGHTING SYSTEM	
SYSTEM:	<p>Auxbeam LED 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.</p>