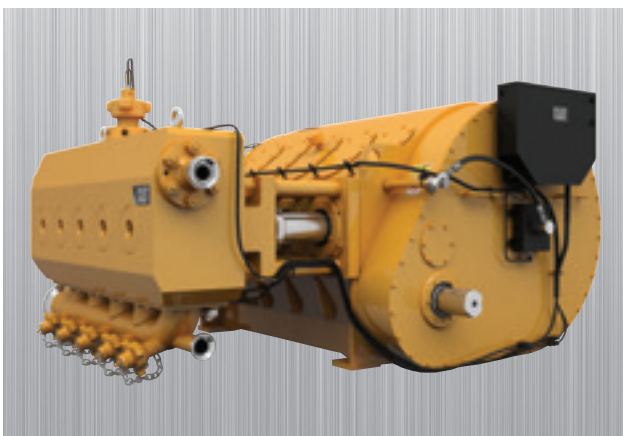
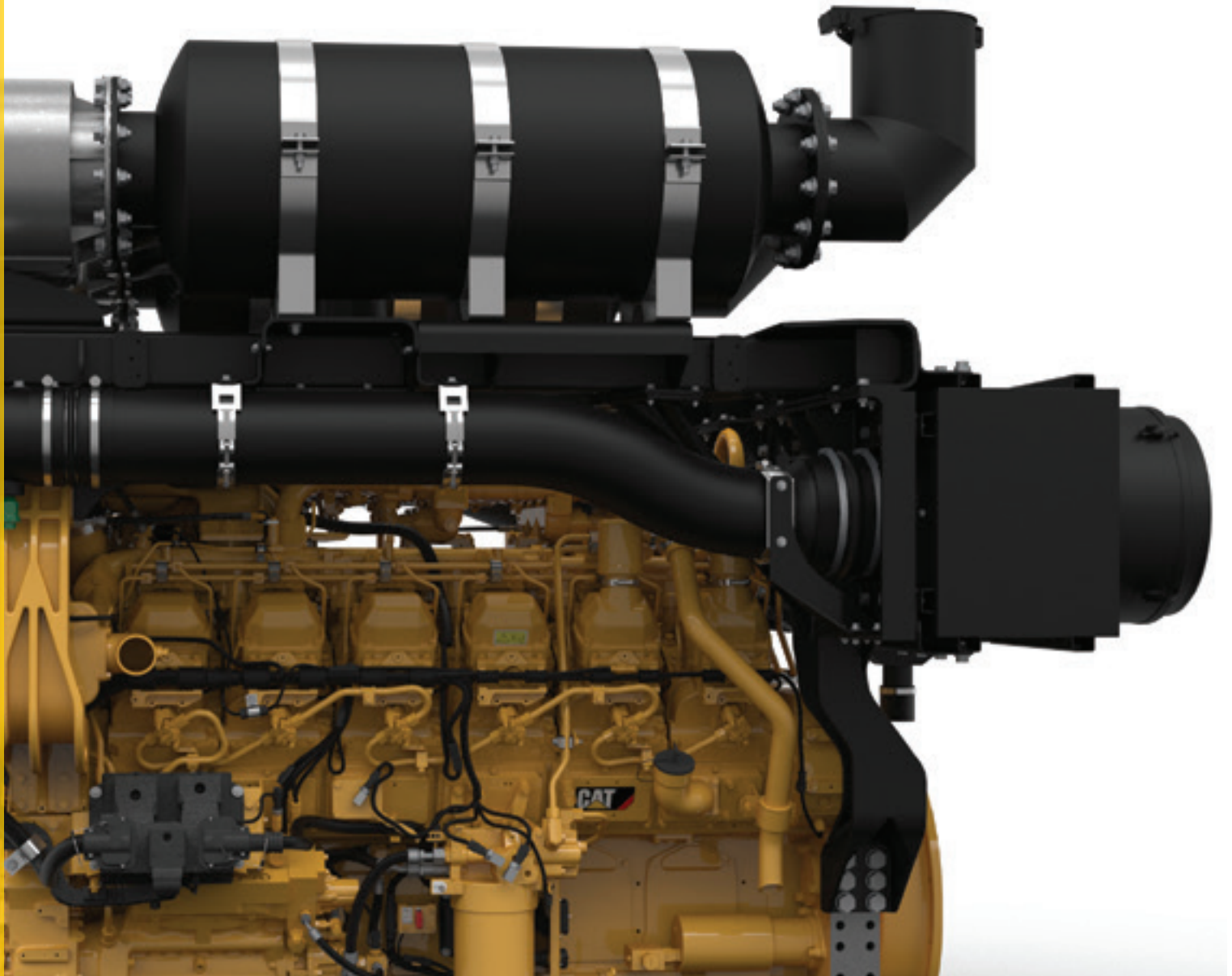
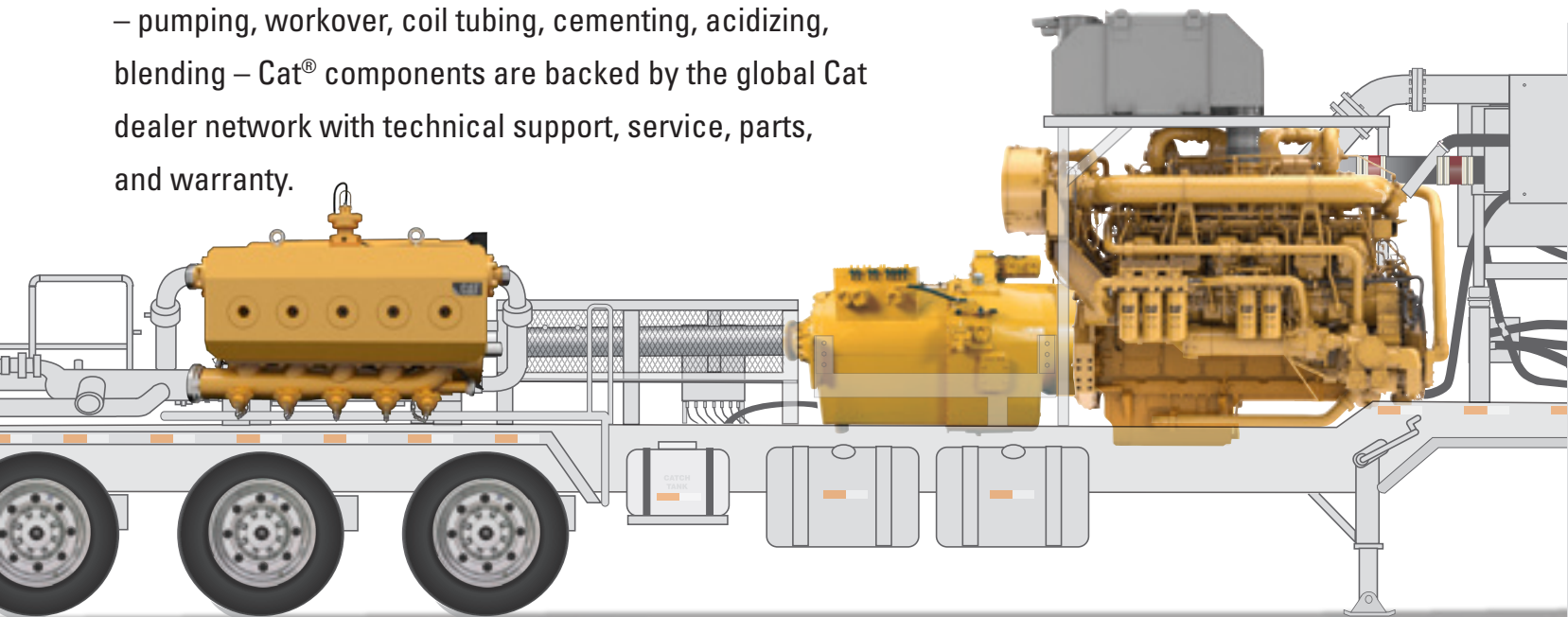


CAT WELL SERVICE



Low owning and operating costs. HIGH CONFIDENCE.

Get industry-leading power density, excellent product availability, global product support, and U.S. EPA Tier 4, EU Stage IV emissions technology. Our solutions include diesel engines, engines with Dynamic Gas Blending™ (DGB™), well service transmissions, well stimulation pumps, and hazardous location engines. Whatever your application – pumping, workover, coil tubing, cementing, acidizing, blending – Cat® components are backed by the global Cat dealer network with technical support, service, parts, and warranty.



All available Cat® products shown in yellow.

Legendary dealer support

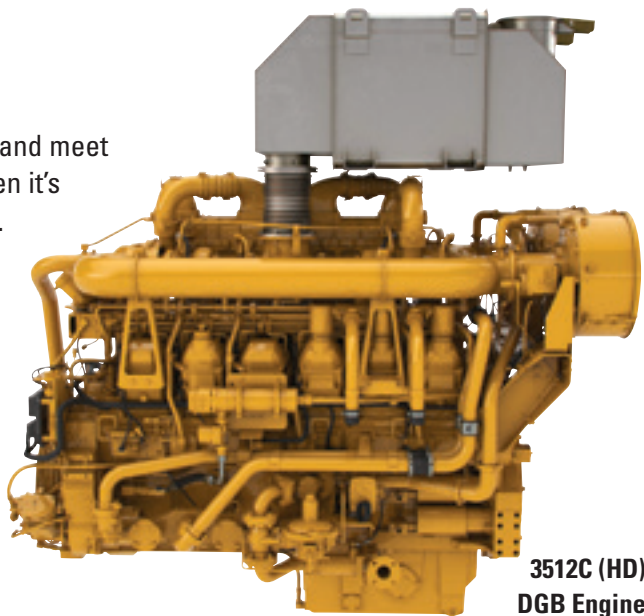
Caterpillar and the Cat dealer network stand behind your complete well service solution to make sure your operation stays up and running. Global parts distribution and more than 100,000 trained technicians make sure you're never without the parts and support you need.



Well Stimulation

Cat Dynamic Gas Blending is your dual-fuel solution to lower costs and meet emissions standards with no sacrifice to performance. Use gas when it's available and continuously modulate gas substitution when needed.

- Lower fuel costs with replacement of diesel with gas
- Maintain existing service intervals and component life
- Increase display and diagnostic performance with ADEM™ A4 controls
- Can run on field gas as an alternative to flaring
- Designed with CSA certified components
- Embedded safety features
- Maintain original certifications with retrofit kit



3512C (HD)
DGB Engine

Well Stimulation Engines (2250-3300 bhp)

Engine Model	3512C (HD)	3512E	3516C (HD)
Rated Speed	1900 RPM	1800 RPM	1900 RPM
DGB Available	X		
Power	1864 bkW (2500 bhp)	1865 bkW (2500 bhp)	2461 bkW (3300 bhp)
	1678 bkW (2250 bhp)	1678 bkW (2250 bhp)	2349 bkW (3150 bhp)
			2237 bkW (3000 bhp)
Emissions	EPA Tier 2 NR, China III NR	EPA Tier 4 Final	EPA Tier 2 NR
Cooling System	ATAAC and SCAC	ATAAC and SCAC	SCAC

You have OPTIONS

If you choose to retrofit your existing equipment, you get all the benefits of Dynamic Gas Blending and all the advantages of a complete package, including full warranty coverage and genuine parts from the Cat dealer network.

You have FLEXIBILITY

Dynamic Gas Blending automatically adjusts to changes in incoming fuel quality and pressure, allowing your engines to run on a wide variety of fuels, from associated gas to gasified LNG.



3512E
ATAAC
Petroleum
Engine

Cat 3512E Petroleum Engine

- Air shutoff – integrated with engine controls
- EGR/Diesel Oxidation Catalyst (DOC)/common rail fuel system to meet Tier 4 Final emission standards
- DEF free solution – eliminates storage, logistics, and issues involved with SCR/DEF design engines
- Optional engine-mounted transmission oil cooler allows for easy integration with Cat transmissions
- Standard engine-mounted upper structure with included aftertreatment, heavy-duty air cleaners, and residential grade mufflers available in stainless steel or carbon steel

Well Constructed

Your transmission is as crucial to your power solution as the engine. Caterpillar engineering expertise makes sure your transmission integrates with the rest of the power train for proven exceptional power, ease of operation, and shifting options ideal for your well service operation.

Quality

Caterpillar manufacturing quality procedures meet or exceed SAE, ASTM, ISO, Class A, and DIN standards. Cat transmissions are built for your specific application needs:

- For rugged harsh-duty applications, TH transmissions are built with a robust cast iron casing.
- For highly mobile applications requiring permitted loads, CX transmissions are tough, yet extremely lightweight.

Safety

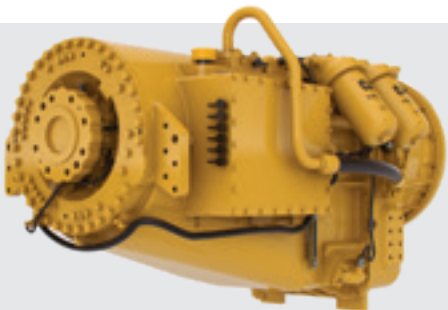
Even more important on the job site than productivity is safety. Cat transmissions and packages incorporate built-in security features to keep operators and site personnel safe on the job.

Performance

Equipment is proven in the field, and Cat purpose-built transmissions deliver more power to the well with fewer trailers. Our well service transmissions deliver continuous operation under full load, smooth shifting at any speed, and maximum uptime, with unmatched durability and easy maintenance.

CX48-P2300

- Lightest weight transmission for well stimulation applications
- Simple installation and maintenance
- Designed to match engine life
- Torque converter design eliminates wearing friction material and damaging engine harmonics during pressure testing



CX48-P2300 Transmission

TH55-E90 • TH55-E70

- Long hours to overhaul
- Warm-up mode gets you up and running faster
- Torsional coupling protects driveline from abusive vibration
- Engine-transmission diagnostics via Cat Electronic Technician streamlines support
- Easy integration with Cat engines for optimized power train



TH55 Transmission

CX31-P600 • CX35-P800

- Travel light, but work hard
- Highest power density in the industry
- Significant weight reduction without sacrifice in power
- The most advanced electronic controls available



CX35-P800 Transmission

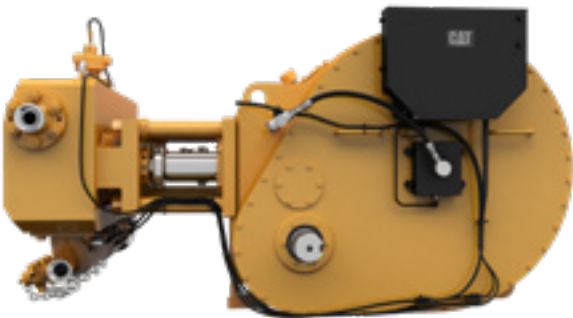
Single-source package confidence

Cat well service pumps are designed and manufactured to integrate across our product line and industry standards. High quality materials, advanced manufacturing techniques, heat treatment processes, high-performance surface treatments, and special coatings ensure exceptional product life and performance.

PUMP ELECTRONIC MONITORING SYSTEM (PEMS)

With PEMS technology for well service operations, you can reduce downtime, avoid catastrophic failure, extend power end and fluid end life — and more. PEMS collects real-time data from onboard sensors and sends an alert to the pump operator if that data uncovers a potential problem.

- Receive immediate notifications about impending failures
- Make smarter, faster maintenance decisions
- Keep operational interruptions and downtime to a minimum
- Use data to ensure safe operation



WS255

Quintuplex Well Stimulation Pump

2500 bhp
(1864 bkW)

330

5

8 in
(203.2 mm)

238,000 lb
(107 960 kg)

16,600 lb
(7 530 kg)

6.353:1



WS273 XD

Triplex Well Stimulation Pump

2700 bhp
(2014 bkW)

275

3

10 in
(254 mm)

275,000 lb
(124 738 kg)

16,500 lb
(7 485 kg)

5.55:1



WS305 XD

Quintuplex Well Stimulation Pump

3000 bhp
(2237 bkW)

275

5

10 in
(254 mm)

250,000 lb
(113 398 kg)

25,500 lb
(11 357 kg)

5.55:1



Exceeding expectations

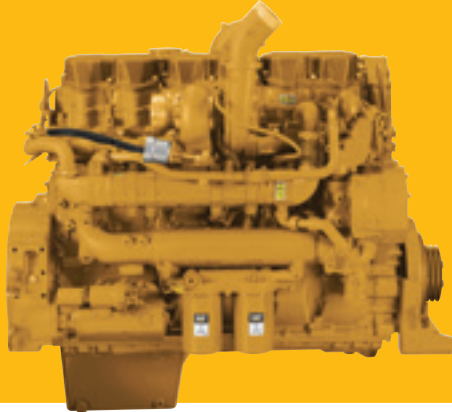
Your operation presents a unique set of challenges. Cat engines meet these challenges with a wide range of engine capabilities at the lowest owning and operating cost. Cat engines meet the latest Tier 4 emission standards without sacrificing performance, while consistently delivering value.

- Maximize uptime with support from the Cat dealer network
- Long life to overhaul
- Simplified aftertreatment optimized for oil and gas applications
- Designed with technology to meet the latest U.S. EPA Tier 4, EU Stage IV, and China III NR emission standards
- Up to five percent improvement in fuel efficiency

U.S. EPA Tier 4 Final Engines (>560 bkW/750 bhp)

C18 ACERT™

429-597 bkW | 575-800 bhp | 1800-2000 rpm



C27 ACERT

597-708 bkW | 800-950 bhp | 1800 rpm



C32 ACERT

839 bkW | 1125 bhp | 1800 rpm



3512E

1678-1865 bkW | 2250-2500 bhp | 1800 rpm



The ideal match

Design the solution to the operation. See how everything fits together for your application.

Engine	Pump	Transmission	Engine Rated Power (bhp)	Hydraulic Power Units	Coil Tubing	Pumping**	Workover	Blender	Well Stimulation
C4.4				X					
C7				X	X	X			
C9 ACERT		CX31-P600*	400	X	X	X	X		
C11 ACERT		CX31-P600*	450	X		X	X		
C13 ACERT		CX31-P600*	520	X		X	X	X	
C15 ACERT		CX31-P600*	595	X		X	X	X	
		CX35-P800							
C18 ACERT		CX31-P600*	600	X		X	X	X	
		CX35-P800	800						
C27 ACERT	WS223	CX35-P800	800	X		X	X	X	X
		TH48-E70	1150						
C32 ACERT	WS223	TH48-E70	1500	X		X		X	X
3512B	WS223 WS255 WS273 WS305	CX48-P2300	2250						X
3512C 3512E	WS223 WS255 WS273 WS305	CX48-P2300	2250						X
		TH55-E70/E90	2500						
3516C	WS305	TH55-E70/E90	3300						X

*2WD and 4WD drop box option available for workover application
**Pumping includes Cementing, Acidizing, Nitrogen, and Pump Skids.



One source, one solution

Specialized solutions for your specialized industry. Caterpillar understands your high-pressure business and supplies the industry's deepest line for well service. Cat engines can run on almost any fuel, meet the toughest emissions standards, and are backed by the expert support of the worldwide Cat dealer network. Everything you need comes from one source.

We're built to help you succeed.

See for yourself what a Cat complete power train can do for you.

Visit catoilandgasinfo.com or talk to your dealer today.

BUILT FOR IT.™

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