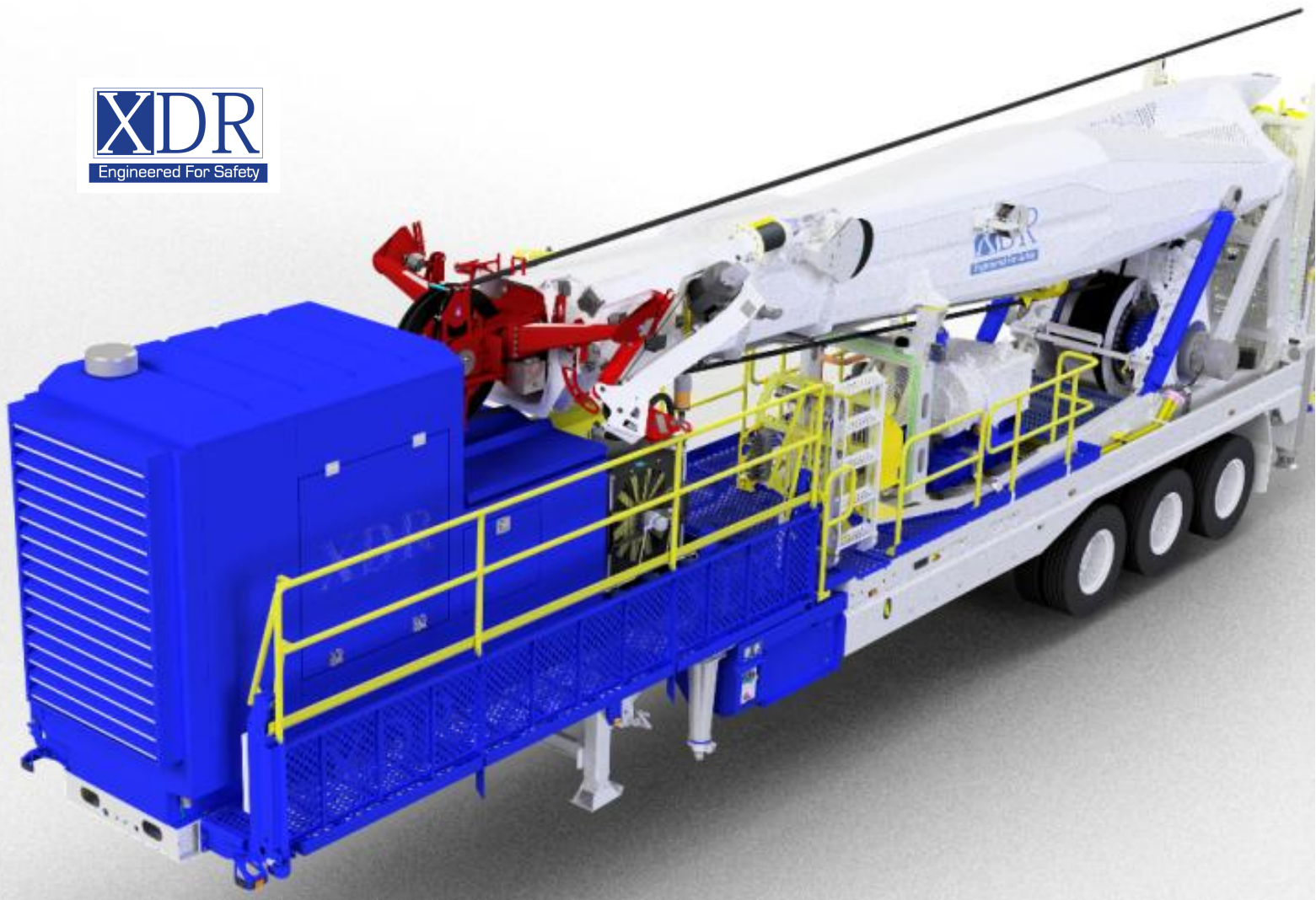




160,000 LB HOOKLOAD • API 4F • SIL 2 WORKOVER RIG SPECIFICATION • TRAILER-MOUNTED, DIESEL

XDR 160

Patented freestanding telescopic mast on a purpose-built RVCS compliant trailer — power, hydraulics, platforms and the mud pump all on one chassis.

72,600 kg

STATIC HOOK CAPACITY

22.00 m

MAST HEIGHT

80 m/min

DRAWWORKS LINE SPEED

11.2 m²

WORK FLOOR

CONFORMS WITH

API 4F:2013 • API 9B:2011 • API RP 505:1997 • AISC-335-89 • BS 7608:2018 • AS 1418.1:2002 • AS 1657:2018

EXPLORATION DRILL RIGS PTY LTD
REDBANK, QUEENSLAND, AUSTRALIA

TECHNICAL SPECIFICATION
XDR.COM.AU

THE RIG

A 160,000 lb rig that arrives *on one trailer*.

The XDR 160T is a self-contained trailer-mounted workover rig. The patented telescopic mast is **freestanding and non-guyed**, hydraulically raised and extended. Power, hydraulics, work platforms and the mud pump are all carried on the one RVCS compliant chassis, driven by an onboard **700 hp Volvo** diesel.

160,000 lb Static hook capacity, single line — 72,600 kg	700 hp Volvo TAD1642VE-B, EU Stage II / EPA Tier 2	33,000 kg GVM on a tri-axle RVCS compliant trailer	SIL 2 Rated to Queensland Government requirements
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STANDARDS AND COMPLIANCE

PETROLEUM AND STRUCTURAL

API 4F:2013 · API 9B:2011 · API RP 505:1997 · AISC-335-89 · BS 7608:2018

AUSTRALIAN STANDARDS

AS 1418.1:2002 · AS 1657:2018

FUNCTIONAL SAFETY

SIL 2 rated, as per the requirements of the Queensland Government

TRAILER COMPLIANCE

RVCS compliant chassis with ADR compliant lighting and marking systems

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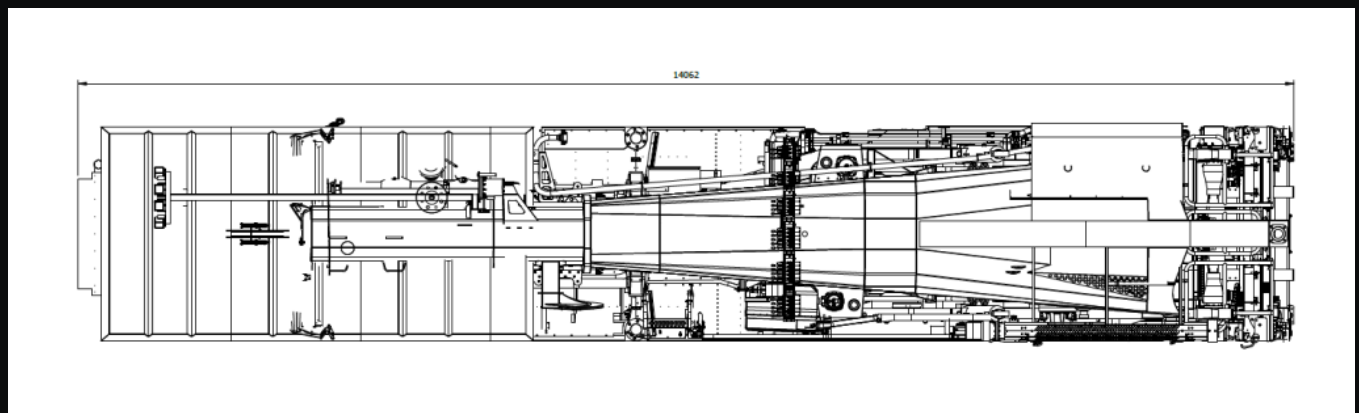
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01 / GENERAL ARRANGEMENT

14.06 m long. 2.50 m wide. 4.30 m high.

Rigged down, the XDR 160 travels as a single trailer load on a tri-axle chassis rated to HML 22.5 t with a 12.5 t kingpin mass.



TRANSPORT OUTLINE - 14,060 MM OVERALL - DIMENSIONS IN MM

33,000 kg GVM

Tri-axle trailer, HML 22.5 t, kingpin mass 12.5 t. OEM axle weight limit 34,500 kg.

RVCS compliant

Custom designed and manufactured chassis with ADR compliant lighting and marking systems.

Self-contained

Onboard 700 hp Volvo diesel, 500 l fuel tank, hydraulics and mud pump carried on the one chassis.

02 / MAST AND STRUCTURE

EQUIPMENT	DESCRIPTION & SPECIFICATION – BASE PACKAGE	NOTES & OPTIONS
01 Mast	— Type: patented telescopic mast with single tele-boom (Range 2) — Freestanding mast, hydraulically raised and extended — Designed and built to conform to the requirements of API 4F — Mast height: 22.00 m (72 ft), top of crown to ground — Static hook capacity, single line: 72,600 kg (160,000 lb) — Pick-up hook load at 10° past vertical: 10,000 kg (22,000 lb)	
02 Mast safety	— 2 × crown saver for the drawworks winch (1 software, 1 hard-wired) — 1 hard-wired crown saver for each tugger winch — 1 physical crown saver for the jib winch — The rig automatically adjusts pull-back relative to mast angle — Floor saver — Mast overpull protection	
03 Mast lighting	— Fixed lighting installed, compliant with Australian requirements — Aircraft aviation light at the crown — All units installed with secondary retention	
04 Auxiliary winches	— 1 × 3,000 kg jib winch — 2 × 2,000 kg auxiliary / torque rein winches — The auxiliary winches double as the torque rein system during rotating operations — 1 × 2,000 kg service winch, 45 m rope	
05 Standpipe	— 2" pipe, 5,000 psi, with integral butt-weld 1502 hammer unions bolted to the mast and hosed to deck 1502 thread	
06 Anchoring system	— Freestanding, non-guyed — Maximum wind rating 111 km/h (60 knots) unexpected wind load; 80 km/h maximum working wind rating — 1 × grillage beam with torque rein anchors; two front jack stands	
07 Levelling jacks	— 4 off mechanical hydraulic locking jacks	

03 / DRAWWORKS AND POWER

EQUIPMENT	DESCRIPTION & SPECIFICATION – BASE PACKAGE	NOTES & OPTIONS
08 Drawworks	— 72,600 kg (160,000 lb) — Variable-speed hydraulic drawworks up to 80 m/min, single line pull — Drawworks sheave 1,200 mm — Integral hydraulic braking, wet disc park braking — 42 mm GR2150 drill line — no spooler required — Integrated crown sheave load pin — overpull limiter	
09 Hydraulic system	— Flywheel drive hydraulic power unit — Hydraulic tank with case drain and return line filters — Two Parker gold cup transmission pumps, one open-circuit Parker pump and a dual gear pump — Two Poclain motors on the drawworks winch — Powers the hydraulic power swivel — no additional HPU required — One set of quick connects to power a catwalk	
10 Pneumatic system	— Compressed air to be supplied from an on-site air compressor — Air control for pneumatic slips	NOTE On-site air compressor not included
11 Electrical system	— 24 V electrical supply from the onboard diesel engine — All lighting circuits are 24 V — XDR Xenon Ram Saver — XDR Xenon Remote Access	
12 Work platform	— Hydraulic cantilever work platform, variable from ground 1,900 to 5,000 mm; setup height 1,350 mm — Work area 11.2 m² — Hydraulic operating rig floor; man riding without gear on the platform — Capable of 90°, 180° and 270° operation — Handrails, kick rails, tool board — Two points of access / egress — Distributed safe work limit 3,000 kg	



One operating system for the *whole site*.

Xenon sits at the heart of every piece of XDR third-generation oilfield equipment — built to increase productivity, cut non-productive time, add layers of safety and simplify troubleshooting. The standard operating system is scalable with the packages below.

01	Transmits selected parameters from any piece of XDR plant on site to anywhere in the world — equipment activity, hydraulic fluid levels, mud flows, pit volume totalisation and trending graphs.
Xenon Live Telemetry	
02	Gives the rig operator control of the plant on site from the rig control cabin.
Xenon Live Integration	
03	Repetitive tasks — magazine to catwalk, catwalk to rig floor — run from the site office. One operator runs the magazines and catwalk from a climate-controlled environment via PC or laptop. VOIP links the site team live. Fewer people are needed at the rig site, and they work out of harm's way. Programmed in C#, ISO/IEC 23270 compliant.
Xenon Live Remote Control	
04	Monitors the mechanical movement of moving parts and alerts the maintenance department to prepare spares — hydraulic, engine and gearbox oils, drawworks rope change and triplex pump lubrication.
Xenon Live Maintenance	
05	Tracks up to 175 data points and stores more than 12 months of operation. After an incident the CSV files graph directly, showing joystick positions, hydraulic pressures, hook loads and other parameters that contributed to it.
Xenon Live Black Box	

Xenon is XDR's control and telemetry brand — the PLC that runs the machine, the telemetry that streams off it, and **Xenon Prevent**, the back end that watches it. Prevent reads the rig's live telemetry and judges it against norms written by XDR's own engineers, working from the signal map taken from the rig's own control program. Deterministic safety checks — chassis stability, hook load against interlock state — sit above an AI layer that cross-references pressures, the loads they serve and the control states they depend on into subsystem findings. Issues become numbered cases with memory rather than alarms that fire and vanish, so the crew hears about the new, the worsening and the neglected, and is left alone otherwise.

04 / PLATFORMS AND CONTROLS

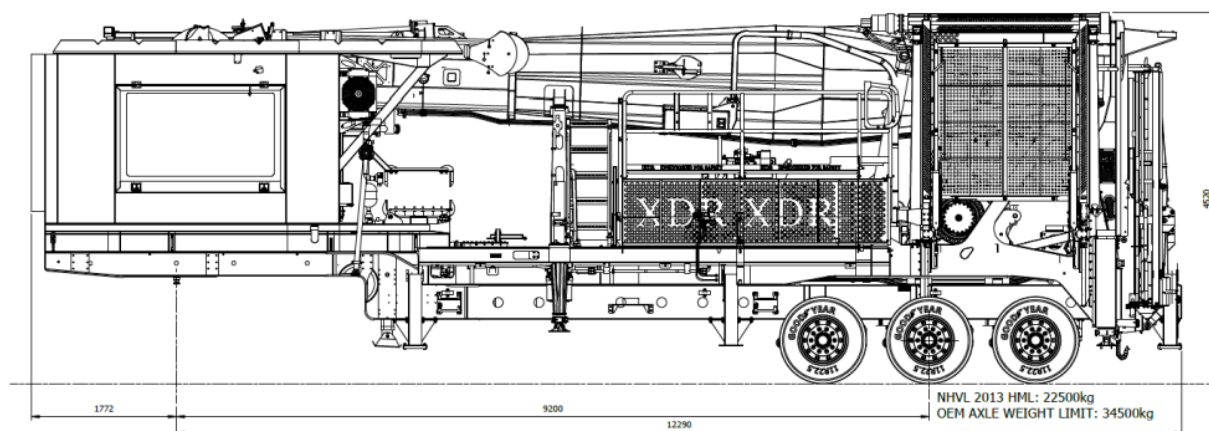
EQUIPMENT	DESCRIPTION & SPECIFICATION – BASE PACKAGE	NOTES & OPTIONS
13 Operator's platform	- Hydraulic cantilever operator's platform, variable from 1,600 mm to 4,500 mm - Work area 4.6 m² - Allows easy access to the work floor - Handrails, kick rails, tool board - Two points of access / egress	
14 Walkways and platforms	- All walkways are hydraulically deployed, reducing lifting of heavy loads and increasing rig up / down efficiency - All walkways, stairs and platforms comply with current Australian standards and requirements	
15 Driller's console	- All controls required to operate the XDR 160 rig - Adjustable to suit various operations - Removable driller's shade to cover the platform	NOTE Driller's cabin — not included in this specification
16 Control panel gauges	1 x driller HMI screen with integrated IP 67 rated levers and joysticks	
17 Paint	Equipment painted to the XDR paint specification and colour scheme	NOTE Customer can nominate the equipment paint scheme as required
18 Bullhorn	- Dual load path 80 t (176,000 lb) WLL using bail link ears - Single load path sucker rod hook, 25,000 kg WLL - Fitted with a switchable anti-spin system to prevent unwanted hook rotation - Fitted with safety latches to prevent bails and slings from disengaging	NOTE Sucker rod hook to be supplied by the customer

05 / TRAILER AND MUD PUMP

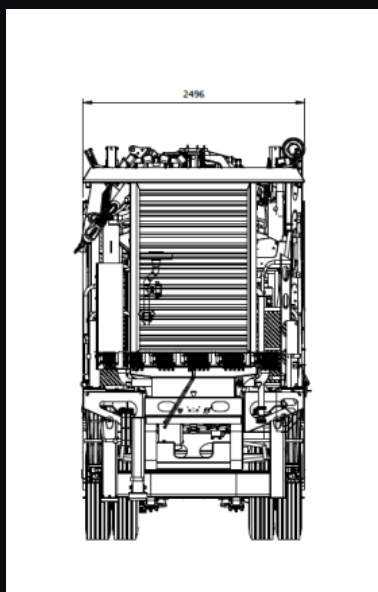
EQUIPMENT	DESCRIPTION & SPECIFICATION – BASE PACKAGE	NOTES & OPTIONS
19 Trailer assembly	— Overall transport dimensions 14,060 mm (L) × 2,495 mm (W) × 4,300 mm (H) — GVM 33,000 kg — Custom designed and manufactured RVCS compliant trailer chassis, complete with ADR compliant lighting and marking systems — Tri-axle HML 22.5 t; kingpin mass 12.5 t — Volvo TAD1642VE-B 700 hp EU Stage II / EPA Tier 2 diesel engine with air inlet shutoff valve — Engine mounted in an enclosure with noise reducing materials to reduce operating noise — Spark arresting muffler installed in the engine enclosure — Exhaust manifold, exhaust piping, turbocharger and spark arresting muffler covered with high-grade fibreglass to eliminate potential vapour ignitions while operating — 500 l capacity fuel tank incorporated into the trailer design	
20 Mud pump assembly	— Flow: minimum 1.16 bbl, maximum 7.8 bbl — Maximum pressure 2,150 psi — Jereh 600S horizontal triplex plunger pump with 4" plungers — Closed-loop hydraulic drive with reducing belt drive — Suction and pressure pulsation dampener — Discharge flap type check valve — Oteco shear type pressure relief valve — Choke manifold mounted on the rig — eight manual 2" 5,000 psi valves and one manual 2" 5,000 psi choke valve, all API 6A certified — Allowance for one suction point from an offboard charge pump system — Allowance for one pressure relief discharge point to an offboard tank — Mud pump controls integrated into the PLC control system and displayed on the driller's console — Layout as per P&ID supplied by XDR	NOTE Suction lines, charge pump systems and pressure relief lines to offboard systems are not included

05.1 / ELEVATIONS

Rig layout — *trailer assembly.*



SIDE ELEVATION — NHVL 2013 HML 22,500 KG · OEM AXLE WEIGHT LIMIT 34,500 KG · DIMENSIONS IN MM



FRONT ELEVATION — 2,496 MM WIDE

DRAWING REFERENCE

DRAWING NO.

GR02-00-010C-00

PART NO.

GR02-00-010A-00

TITLE

XDR160 rig layout — trailer assembly

SHEET · SIZE · REV

1 of 1 · A2 · Rev A

ISSUED

25 October 2022 — issued for information

Six differences that *show up on the invoice*.

Measured across XDR's operating fleet, against the conventional hoists the XDR 160 replaces. Six of them, and what each is worth.

	XDR	CONVENTIONAL HOIST
Setup and pack-up time	30 min / 30 min	120 min / 120 min
	Hydraulic man-riding platform, no guy lines to deploy, final adjustment by the mast over the well.	
Man-riding floor	Certified man-riding floor, used during well servicing	Not capable
	Hydraulically deployed cantilever floor — quicker and safer, saving around two hours each well.	
Rig road gauge	Package is within legal road width	Package is not within legal road width
	Eliminates waiting on daylight or permits — around six hours per well.	
Drill line	Single line, so no slip and cut	Line runs through the travelling block; slip and cut required on ton mileage
	Removes slip-and-cut time and the risk exposure that comes with it.	
Set lifting capacity	Protects tubing strings from accidental overpulling	Not capable
	Integrated crown sheave load pin acts as the overpull limiter, preventing parting of the string and equipment damage.	
Non-productive time	Under 1% for XDR hoists working in the field	Around 5% reported
	20.4 hours saved per well — equivalent to 3.9 additional wells per rig per year.	

CONTACT

Spec the XDR 160 for *your operation.*

Tell us about the wells you service and we will come back with a configuration, lead time and a service plan.

SUPPLIED BY

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SCOPE

Any equipment not clearly specified in this document is not included in XDR's scope of supply.

Equipment will be produced in accordance with the standards listed in this document. Standards are to be agreed prior to issue of the final supply agreement. Drawing references and dimensions are taken from drawing GR02-00-010C-00, rig layout, trailer assembly.

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