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RapidX TAML 5 high-strength, hydraulic-sealed multilateral junction

Aligned with United Nations Sustainable Development Goals:
12—Responsible consumption and production,
13—Climate action

Simple, field-proven, reliable, and efficient access to reserves for new developments or retrofit applications

Emissions Avoided:
1,500–18,500 t† of embodied CO_2e
and 500–3,500 t‡ of generated CO_2e

Casing Sizes:
7, 9⅝, and 10¾ in

Pressure Rating:
up to 2,500 psi [17,200 kPa]

Applications

- New oil and gas development producer or injector wells
- Retrofit laterals for existing producing or injection wells

How RapidX junctions improve oil and gas field development

RapidX* TAML 5 high-strength, hydraulic sealed multilateral junction delivers maximum reservoir contact, faster time to production, and more flexibility with lower capex as compared with conventional single-bore well development or sidetracks after plug and abandonment (P&A). Its simpler installation and more robust, field-proven technology reduce operator risk, and its large bore enables higher production rates as compared with conventional multilateral systems, especially in retrofit applications.

Benefits of multilateral technology can be enormous. Field development plans define well counts required to drain the reservoir—often with significant technical constraints and uncertainty. Multilateral well completions maximize reservoir contact per well, reducing the number of wells required. Having fewer wells simplifies surface and subsea infrastructure designs and reduces field development costs.

Robust, field-proven RapidX junctions deliver more reservoir contact without additional wells, reducing carbon footprint, risk, time to production, and capex.

As fields mature, reservoir certainty increases, and near-field exploration offers additional opportunities to target accretive reserves; however, the production infrastructure is often slot limited. Meanwhile, if regulators or economics encourage operators to P&A dead or underperforming wells, they become an enticing target for sidetracking—even if they are not optimally positioned to reach the new reserves without complicated trajectories.

With retrofit multilaterals using RapidX multilateral junctions, operators can select optimally positioned candidate wells to intersect accretive resource targets, with lateral initiation from intermediate or production casing—greatly reducing infill drilling and completion complexity and maintaining the production from the existing main bore.

† Sources of embodied carbon include but are not limited to steel and cement used to construct wells and associated production infrastructure. Quarried rock used to protect subsea infrastructure in the case of offshore subsea field developments where required represents a significant source of embodied carbon.

‡ Sources of generated carbon include but are not limited to the energy sources used to operate drilling rigs, operational support vessels, and specialized vessels used to construct and install subsea production systems (SPS) and subsea umbilicals, risers, and flowlines (SURF).

RapidX

How RapidX multilateral junctions support industry carbon intensity reduction goals

Multilateral well construction and completions reduce generated and embodied carbon during field development. Drilling rigs that are used to drill the boreholes represent sources of generated carbon of varying intensity based on their power source and consumption. Steel casing and cement that are used to construct wells represent sources of embodied carbon of varying intensity based on their source of origination.

By targeting accretive reserves with a RapidX junction versus drilling a new well or sidetracking a poorly placed well, operators avoid carbon-generating activities by eliminating rig time—in some cases, 10 days or more. Operators reduce embodied carbon sources by eliminating procurement and installation of multiple steel casing strings and cement to surface, instead initiating the multilateral junction casing exit deep in the producing well. Operators further reduce embodied and generated carbon sources in the subsea environment by eliminating procurement and installation of additional subsea production system components, including SURF that require specialized subsea construction vessels.

The carbon savings equates to 5 to 55 million miles [8 to 89 million km] driven by an average passenger vehicle.[§]

Where can I learn more about multilateral wells?

For more information, read The Defining Series: Multilateral Wells

What else I should know about the RapidX junction

RapidX junction provides pressure isolation to 2,500 psi [17,200 kPa]. This field-proven, strong, reliable, and robust technology combines simple installation with junction flexibility and large IDs in both the lateral and main bore.

The junction features sealing with a continuously interlocking rail system to create one of the strongest TAML 5 junctions in the industry. The junction stabilizes the formation at the casing exit and is well suited for unstable or caprock applications. Because the lateral liner is run before the junction, conventional extended-reach lateral liner technologies can be used.

RapidX multilateral junctions are fully stackable and enable selective reentry to laterals with wireline, coiled tubing, or drillpipe. The junctions install without any preset casing orientation, enabling retrofitting in existing wellbores.

RapidX junctions are also fully retrievable and compatible with sandface completions.

How can I monitor and control reservoir flow contribution?

The large ID accommodates high flow rates and multilateral intelligent completions, allowing for junction or in-lateral control of flow using hydraulic, electrohydraulic, and all-electric intelligent completion systems.

RapidX Junction Specifications

Casing size, in	7	9⅝	10¾[††]	10¾
Casing weight, lbm/ft [kg/m]	23–29 [34.22–43.25]	40–53.5 [59.52–79.60]	50.50–60.70 [75.15–90.33]	50.50–60.70 [75.15–90.33]
Main bore ID, in [mm]	2.635 [66.93]	4.563 [115.90]	4.563 [115.90]	6.008 [152.60]
Nominal lateral hole size, in	6⅛	8½	9½	8½, 9½
Lateral ID, in [mm]	2.312 [58.72]	3.958 [100.50]	3.958 [100.50]	4.750 [120.65]
Pressure rating, psi [kPa]	2,500 [17,200]	2,500 [17,200]	2,500 [17,200]	950 [6,550]
Window type	Milled casing exit	Milled casing exit	Milled casing exit	Milled casing exit
TAML level	5	5	5	5

All specifications are subject to change without notice.

[††] 9⅝-in system with gauge rings to fit 10¾-in casing

[§] From https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

slb.com/multilaterals

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