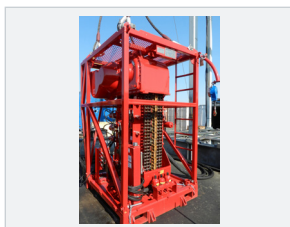




# Coiled-Tubing Spread CTU-045



Weatherford's CTU-045 is a skid-based coiled-tubing spread meeting Rigsafe specifications and is constructed of Det Norske Veritas (DNV)-approved offshore containers with overspeed protection and antistatic provisions. The unit's power pack drives and controls the tubing reel, injector head, stuffing box, and blowout preventers (BOPs), which together form a complete coiled-tubing spread.

## Advantages

- Compact, single lift units with minimal footprint
- Durable, fully containerized construction, finished with a high level of corrosion protection
- Reliable, field-proven
- Maintainable, extremely low maintenance due to superior component quality
- Environmental, insulated operator cabin and power pack for excellent thermal and acoustic properties
- Ergonomic, well laid-out control console with all-electric controls and instrumentation for excellent controllability, quiet operator environment, and a cooler cabin.

## Specifications

		Operator Cabin	
Envelope Dimensions		Operating Envelope	
Length (ft/m)	9.8 2.98	Deployment Area	Safe-area use only
Width (ft/m)	8 2.4	Structural Design	Based EN12079/DNV 2.7-1
Height (ft/m)	8.8 2.6	Design Temperature (°F/°C)	-4 to 122 -20 to 50
Weight (lb/kg)	12,500 5669		
Lifting Lugs	4x top corner positions		
Fork Pockets (in./mm)	16 x 6 x 81 centers 406.4 x 152.4 x 2057.4 centers		

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## *Coiled-Tubing Spread CTU-045*

### *Specifications (continued)*

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#### **Reel**

Reel capacity, 1.75-in. (ft/m)	30,854 9404.3
Reel capacity, 2-in. (ft/m)	23,851 7269.8
Reel capacity, 2.38-in. (ft/m)	16,271 4959.4
Length (in./mm)	220.0 5588.0
Width (in./mm)	117.0 2971.8
Height (in./mm)	186.5 4737.1
Weight, empty (lb/kg)	24,500 11 113.0
Weight, maximum capacity loaded (lb/kg)	96,825 43 919.1
Core size (in./mm)	114 2895.6

#### **HR5100 Injector Head**

Pulling capacity, continuous (lb/kg)	100,000 45 359.2
Snub-force capacity, continuous (lb/kg)	50,000 22 679.6
Maximum speed (ft/min, m/min)	140 42.7
Tubing sizes (in./mm)	1.5 to 3.5 38.1 to 88.9
Gooseneck radius (in./mm)	120 3048

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## *Coiled-Tubing Spread CTU-045*

### *Specifications (continued)*

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#### **Container Specification**

- Single major compartment with operator chair, console, witness bench, and worktable
- Fully insulated construction for floors, walls, and roof
- Armored thermopane 12/6/6 front window with protective top-hinge shutter providing sun/rain cover
- Single access door to the right side of the cabin
- Supplementary windows with protective bars to the sides of the cabin and access door
- All doors and shutters equipped with heavy-duty handles and marine seals
- Access steps fold and store in cabin floorspace for transport
- Operator console easily accessed for maintenance or complete removal
- Four-cylinder hydraulic-lift system, mechanical lock at 39 in. (990.6 mm)

#### **Electrical Installation—230V**

- Two external flood lights, 250W high-pressure sodium type
- Two internal luminaires
- 4kW wall-mounted air-conditioner/heater
- 24V converter for backup of instrumentation and data acquisition system
- Electrical installation—24V
- Income from engine alternator/battery for supply to electrical instrumentation, controls, and data acquisition system

#### **Control Console—Electric Instrumentation**

- Operator console features all-electric gauges and displays
- Weight indicator with single scale of 40,000 lb (18 143 kg) pipe (light) to 100,000 lb (45 359 kg) pipe (heavy) and tare knob
- Depth and speed displays for two inputs with optional combining channel
- Circulating pressure
- Wellhead pressure
- Engine speed
- Injector head drive pressure
- Tubing reel drive pressure
- Top traction
- Middle traction
- Bottom traction
- Chain tension
- BOP system pressure
- Stuffing box 1
- Stuffing box 2

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## *Coiled-Tubing Spread CTU-045*

### *Specifications (continued)*

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#### **Control Console—Electric Instrumentation**

- Blind rams
- Sheer rams
- Pipe rams
- Aux rams 1
- Aux rams 2

#### **Control Console—Electric Controls**

- Operator console features all-electric controls, connected by umbilical to the actuating valves in the power pack
- Panel activate
- Engine start
- Engine stop
- Engine speed adjust (throttle)
- Horn
- Reel direction
- Reel back tension
- Levelwind up/down
- Levelwind override left/right
- Reel brake override
- Injector direction and speed
- Injector stall force in-hole
- Injector stall force out-hole
- Injector speed select low/high
- Injector brake override
- Fine speed select
- Fine speed control
- Injector lubricate
- Reel spray
- Top traction increase and decrease
- Middle traction increase and decrease
- Bottom traction increase and decrease
- Chain tension increase and decrease
- Stuffing box 1 pack and retract
- Stuffing box 2 pack and retract
- BOP activate confirm
- Blind rams open/close
- Shear rams open/close
- Slip rams open/close
- Pipe rams open/close
- Aux rams 1 open/close
- Aux rams 2 open/close

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## *Coiled-Tubing Spread CTU-045*

### *Specifications (continued)*

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#### **Container Specification**

- Three internal compartments: (A) engine bay, (B) cooler bay, (C) accumulators, tanks, and hose-reel bay
- Insulated construction for floors, walls, and roof
- Four access doors to engine bay: two sliding at the end and two 180° hinged to side
- Two access doors for hose reels: 270° opening with additional hose run hatches
- Protective side-hinged shutter for auxiliary control panel
- All doors and shutters equipped with heavy-duty handles and marine seals

#### **Prime Mover and Ancillaries**

- Caterpillar C9 242kW (325HP) rated
- Electric starter (nonsparking certified)
- Compressor coupled to Wabco air filter/dehumidifier and two 13-gallon (49.2-L) receivers
- 24V 70A alternator coupled to 200Ah battery
- Hydraulic drive cooling fan for intercooler, oil, and engine radiator, mounted in a single bank
- 132-gallon (499.7-L) fuel tank with filters and drain

#### **Hydraulic System—Major Components**

- Closed-loop injector drive and coiled-tubing (CT) reel drive
- Load-sensing drive for all other functions
- Five-pump group for injector, CT reel, and cooler drives, control/auxiliary supply, and BOP on 1:0.3 speed increasing drive
- BOP pump coupled to five 13-gallon (49.2-L) accumulators
- 5200-psi (35.8-MPa) injector drive and CT reel drive
- 3000-psi (20.6-MPa) cooler, auxiliary, BOP, and stripper supplies
- High efficiency variable displacement drive system for all circuits
- Twin hydraulic tanks for (A) BOP accumulator system 85 gallon (321.8 L) and (B) power hydraulics 145 gallon (548.9 L)
- Full-flow suction line filters for all circuits
- Additional in-line high-pressure filters for injector drive and CT reel drive

#### **Auxiliary Control Panel—Instrumentation**

- Positioned at the side of the power pack behind a protective shutter
- Engine speed and hours run
- Coolant temperature
- Oil pressure
- Air pressure



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## *Coiled-Tubing Spread CTU-045*

### *Specifications (continued)*

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#### **Auxiliary Control Panel—Instrumentation**

- Hydraulic oil temperature
- Injector head drive pressure
- Injector head control pressure
- Tubing reel drive pressure
- Tubing reel control pressure
- Auxiliary pressure
- Auxiliary control pressure
- Top traction
- Middle traction
- Bottom traction
- Chain tension
- BOP system pressure
- Stuffing box 1
- Stuffing box 2
- Blind rams
- Shear rams
- Slip rams
- Pipe rams
- Aux rams 1
- Aux rams 2

#### **Auxiliary Control Panel—Controls**

- Engine start
- Engine stop
- Reel direction
- Reel back tension
- Levelwind up/down
- Levelwind override left/right
- Injector direction and speed
- Injector stall force in-hole
- Injector stall force out-hole
- Cabin up/down
- Top traction increase and decrease
- Middle traction increase and decrease
- Bottom traction increase and decrease
- Chain Tension increase and decrease
- Stuffing box 1 pack and retract
- Stuffing box 2 pack and retract
- BOP activate confirm
- Blind rams open/close
- Shear rams open/close
- Slip rams open/close
- Pipe rams open/close
- Aux rams 1 open/close
- Aux rams 2 open/close
- Injector drive hose reel rewind
- Injector control hose reel rewind
- Reel drive hose reel rewind
- BOP activate hose reel rewind

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## *Coiled-Tubing Spread CTU-045*

### *Specifications (continued)*

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#### **Hose Reels and Other Interconnections**

- Power-driven hose reels, fitted with swivel joints and multicore umbilical hoses
- Injector drive diameter
- Injector drive length
- Injector control diameter
- Injector control length