



VOLANT
Oil Tools Inc.

Casing Running Tool

CRITI



Being able to rotate, circulate and reciprocate casing and liner strings can make the difference between stuck pipe and getting safely to bottom.

Running casing with a top drive takes advantage of many benefits that were previously available only during drilling operations. Volant's CRTi™ Casing Running Tool threads directly onto the quill of any top drive and engages the casing ID below the threads through a torque energized, radially expanding die system. The CRTi™ transfers torque from the top drive, through the casing running tool, and directly into the casing body without engaging the connection threads. Rotational, hoisting, and even pull-down loads can be transferred to the pipe without making thread contact, thus protecting connection integrity.

How much weight can you set down, or pull down on the tool? How much can your rig deliver! The CRTi™ can typically transfer whatever the rig can deliver. With the tool engaged through the torque set into the casing, the push down load can be transferred directly into the pipe, largely bypassing the box. To provide additional thread protection, Safety Nubbins can be threaded into the coupling before stabbing the CRTi™. The Safety Nubbin also increases hoisting security by re-engaging the tool in the unlikely event that slippage occurs between the casing and the dies.

Specific features and benefits of the CRTi™ system include:

- Rigs in quickly, like making up a drill collar connection
- Easy to understand and operate
- Reduces manpower and equipment requirements
- Improves rig floor safety
- Fill, circulate, and rotate
- Compact and lightweight tools for easy handling
- Multiple casing diameters with one base tool
- Quick change die structure
- No hydraulic connections means no fluid leaks

Volant's CRTi™ is designed to be used on top drive equipped rigs in both casing running and casing drilling operations. These tools are mechanically activated in tension, and in both rotational directions, solely by top drive control using TAWG™ (Torque Activated Wedge Grip) technology. This patent pending architecture puts the entire casing running process into the hands of the driller, eliminating personnel exposure to high risk activities, and reducing the need for third party support. Simple, intuitive operating steps for pipe engagement and release closely emulate the familiar make-and-break steps used to run drill pipe, stab, rotate to the right to engage and reverse to disengage. Similarly, rig-in and rig-out steps for the CRTi are simple, intuitive and fast. This architecture has a proven track record, having run more than two million metres of casing to the end of 2008.

Starting from the insertion diameter of the base tool, Volant's CRTi™ can be configured with selectable sizes of integral jaws/dies to enable gripping within larger internal diameters (i.e. decreasing casing weights). Through the use of a patent pending extended reach die structure, the gripping diameter can be increased to handle casing sizes that are significantly larger than the base tool.



Tool Model: CRTi-1-4.5

CRTi Rated Load	Hoist	ton	120
Capacity	Torque	ft-lbs	13,000*
Combined Load	Hoist	ton	100
for Large Hoist	Torque	ft-lbs	6,000
Combined Load	Hoist	ton	50
for Torque	Torque	ft-lbs	10,000
Circulating Pressure		psi	5,000
Base Tool Length		in.	40
Tool Stroke		in.	0.47
Max. Tool Diameter		in.	10.2
Through Hole		in.	1
Tool Joint Connection			NC 50

**Note: 10,000 ft-lb with 13.5 lb cage*

Tool Model: CRTi-2,3-7.0

CRTi Rated Load	Hoist	ton	320
Capacity	Torque	ft-lbs	50,000
Comb. Load	Hoist	ton	250
Large Hoist	Torque	ft-lbs	23,000
Comb. Load	Hoist	ton	100
for High Torque	Torque	ft-lbs	40,000
Circulating Pressure		psi	5,000
Base Tool Length		in.	52
Tool Stroke		in.	0.61
Max. Tool Diameter		in.	14.4
Through Hole		in.	1.5
Tool Joint Connection			NC 50 or 6-5/8 REG

Tool Model: CRTi-4-7.0

CRTi Rated Load	Hoist	ton	420
Capacity	Torque	ft-lbs	50,000
Comb. Load	Hoist	ton	300
Large Hoist	Torque	ft-lbs	30,000
Comb. Load	Hoist	ton	200
for High Torque	Torque	ft-lbs	50,000
Circulating Pressure		psi	5,000
Base Tool Length		in.	57
Tool Stroke		in.	.61
Max. Tool Diameter		in.	20
Through Hole		in.	1.5
Tool Joint Connection			6-5/8 REG

Tool Model: CRTi-1-5.5

CRTi Rated Load	Hoist	ton	200
Capacity	Torque	ft-lbs	25,000
Combined Load	Hoist	ton	150
for Large Hoist	Torque	ft-lbs	13,000
Combined Load	Hoist	ton	75
for High Torque	Torque	ft-lbs	20,000
Circulating Pressure		psi	5,000
Base Tool Length		in.	50
Tool Stroke		in.	0.523
Max. Tool Diameter		in.	12
Through Hole		in.	1.25
Tool Joint Connection			NC 50

**Note: 20,000 ft-lb with 23 lb cage*

Tool Model: CRTi-1-8.63

CRTi Rated Load	Hoist	ton	660
Capacity	Torque	ft-lbs	85,000
Combined Load	Hoist	ton	575
for Large Hoist	Torque	ft-lbs	40,000
Comb. Load High	Hoist	ton	475
for Torque	Torque	ft-lbs	70,000
Circulating Pressure		psi	5,000
Base Tool Length		in.	65
Tool Stroke		in.	0.75
Max. Tool Diameter		in.	20
Through Hole		in.	2
Tool Joint Connection			6-5/8 REG



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