

CRTi™ Internal Grip Casing Running Tool

Volant's CRTi casing running tool is designed for casing running or drilling with top drive equipped rigs to makeup, breakout, reciprocate, rotate, fill, circulate and cement casing and liner strings, reducing non-productive time and associated costs. Casing drilling is achieved through the standard tool configuration, but if increased flow is desired, Volant's Highflow¹ option features a larger through hole for additional fluid flow. This tool is mechanically activated in tension and both rotational directions solely by top drive control using TAWG™ wedge grip technology.

This patented architecture puts control in the hands of the driller, reducing the need for third party support to run casing. Intuitive operations 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 are simple, intuitive and efficient.

Starting from the insertion diameter of the base tool (cage OD), selectable sizes of integral jaws/dies are used to configure the CRTi to support gripping casing of increasing internal diameter. Through the use of a patented extended reach die structure, the gripping diameter can be further increased to include casing sizes much greater than the base tool.

Tool Model: CRTi1-10.75 Specification Summary

Base Tool Characteristics²

CRTi Rated Load Capacity	Hoist	ton (tonne)	1,250 (1,133)
	Torque	ft.lbs (N.m)	125,000 (169,400)
Combined Load Large Hoist	Hoist	ton (tonne)	1,200 (1,088)
	Torque	ft.lbs (N.m)	80,000 (108,400)
Combined Load High Torque	Hoist	ton (tonne)	1,110 (1,006)
	Torque	ft.lbs (N.m)	125,000 (169,400)
Set-Down Load Capacity ³		ton (tonne)	100 (90)
Typical Circulation Pressure Limit ⁴		psi (MPa)	5,000 (34.4)
Maximum Pressure End Load		ton (tonne)	500 (453)
Base Tool Length ⁵		in (mm)	94.0 (2,390)
Base Tool Weight ⁶		lbs (kg)	2,300 (1,050)
Diametrical Stroke		in (mm)	1.11 (28.0)
Through Hole		in (mm)	2.25 (57.5)
Maximum Flow Rate ⁷		gpm (m ³ /min)	1,450 (5.50)
Tool Joint			8.63 REG
Turns to Stroke Out			0.84

Tool Configuration with
Integral Slip Dies

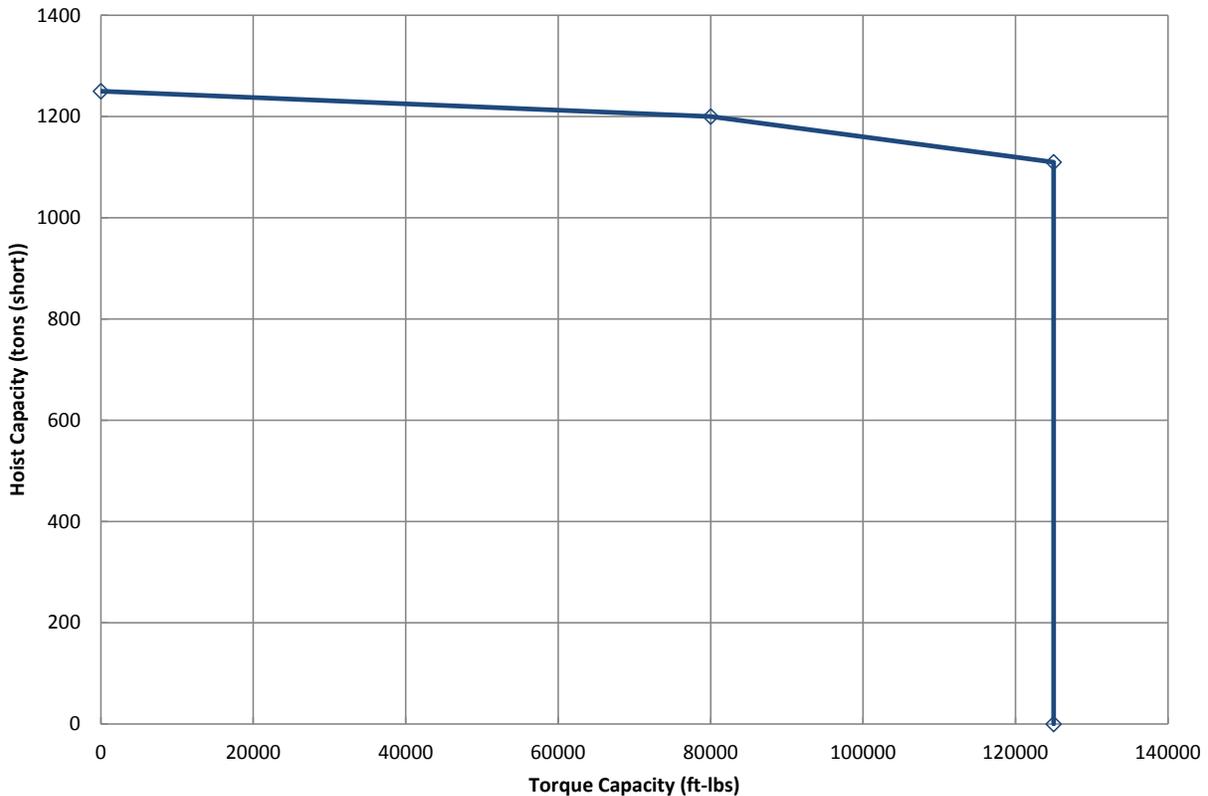


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Combined Load Operation Curve

Please refer to the Base Tool Characteristics on page 1 of this Specification Summary for numeric values such as CRTi Rated Load Capacity, Combined Load Large Hoist, and Combined Load High Torque illustrated in the graph below:



1. For details and availability on the Highflow option contact Volant sales at +1 780.784.7099
2. Characteristics are based on design objective of the standard tool components and are independent of specific limitations of cage and accessories.
3. Maximum allowable set-down load applied to the tool. Some set-down load may be reacted through the coupling. This rating does not take into account bearing load limitations of the coupling.
4. CRTi tool circulation pressure capacity is generally governed by packer cup pressure capacity. Pressure capacity may be less than indicated if alternative seal arrangements are used.
5. Base tool length applies for all casing seal assemblies. Overall tool length does not change.
6. Tool weight is approximate and represents 10.75" base tool configuration. Contact Volant sales for further information on tool weight at +1 780.784.7099
7. Maximum flow rate is based on minimizing erosion rates when using typical fluids. Erosion rates may vary depending upon the fluid contents. Please inspect tool bore regularly.

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