



# NorDrill

Innovation & Power combined

**Advanced Geotechnical drilling systems**



NorDrill have been delivering state of the art Top Drive systems to the oil and gas industry for the last 20 years.

In 2020 we used our experience from the oil and gas industry to design our first Compact Top Drive specifically designed to meet the Geotechnical drilling operators' requirements, which boasts a 5" (127mm) through bore, from Gooseneck to end of shaft.

After studying the Geotechnical vessel operation, we now have designed our first Power Swivel. The 6 inch (152,4 mm) inner diameter enables the Power Swivel to operate both in API and Piggyback drilling modes. This is a major efficiency improvement, eliminating the need for rig downtime to rig up/rig down Swivels when alternating between drill modes, while also allowing the application of a wider range of downhole/sampling tools.

The systems are highly automated to deliver increased drilling efficiency and operational safety for personnel and equipment. Further, the systems are module based making them easy to maintain. The washpipe assemblies are designed for easy rig up and rig down. Both for changing the washpipe entirely and packings. Motors and pistons are hydraulically driven and the choice of different ratios makes the drilling systems fit for different operations.

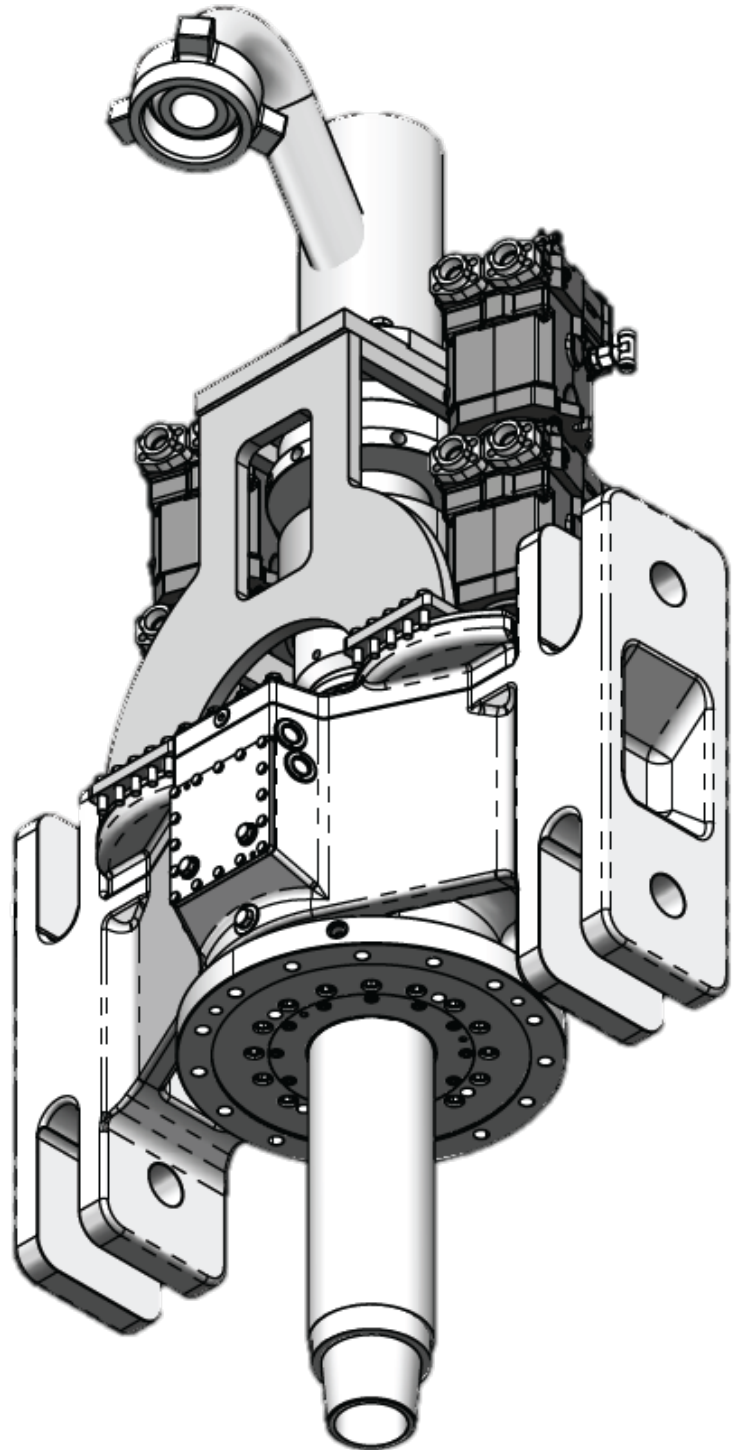


# PS-120 Power Swivel

The NorDrill PS-120 is a state of the art Power Swivel with a 120 metric ton lifting capacity. 6 inch inner diameter allows the full range of core sampling tools to pass through the swivel.

## Main Features

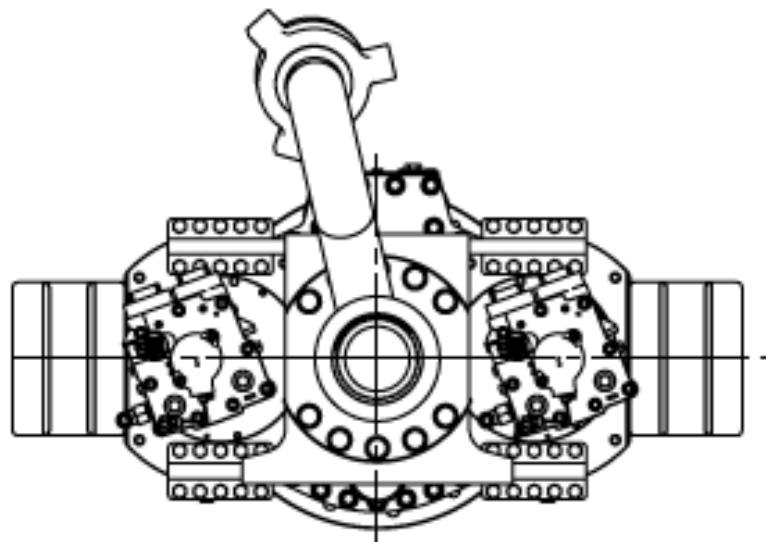
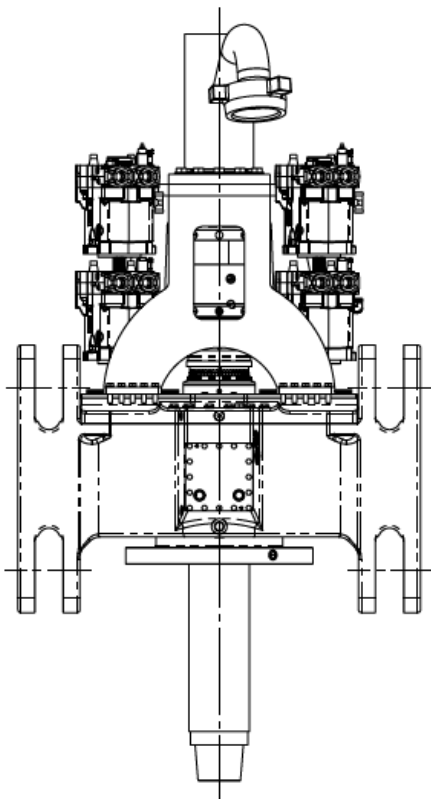
<b>Bearings</b>	High capacity bearings
<b>Communication</b>	Single BUS cable for communication between the Power Pack and the Power swivel
<b>Modular Design</b>	Enables larger overhauls and repairs on-site
<b>Delivery</b>	Can be delivered as standalone system, or integrated in existing rig structure
<b>Interface</b>	Intelligent, safe and intuitive interface
<b>Support</b>	Remote Access System enables NorDrill's engineers to support customers all over the world without the need of on-site assistance
<b>Lubrication system</b>	Self-maintained gear lubrication system
<b>Tilt system</b>	Remote operated tilt system that can tilt 90 degrees
<b>Shaft lock</b>	Hydraulic shaft lock
<b>Gear</b>	Custom made gear ratio for optimal speed and torque
<b>Compact Design</b>	Will fit most existing rigs
<b>Mode</b>	Power Swivel can operate in both API and Piggyback mode
<b>Inner diameter</b>	The wide inner diameter allows all core sample tools to pass through the swivel



## Technical information – Hydraulic driven Power swivels

120 Tons	Ratio	Gear 1 drill torque at max RPM	Gear 2 drill torque at max RPM
	9,9	29 100 ft.lb @ 107 rpm	13 800 ft.lb @ 220 rpm
	11,6	34 100 ft.lb @ 91 rpm	16 200 ft.lb @ 188 rpm
	12,66	37 200 ft.lb @ 84 rpm	17 600 ft.lb @ 172 rpm
	14,4	42 300 ft.lb @ 73 rpm	20 100 ft.lb @ 152 rpm

**Estimated dimensions (l x w x h) mm: 1000 x 800 x 3000**

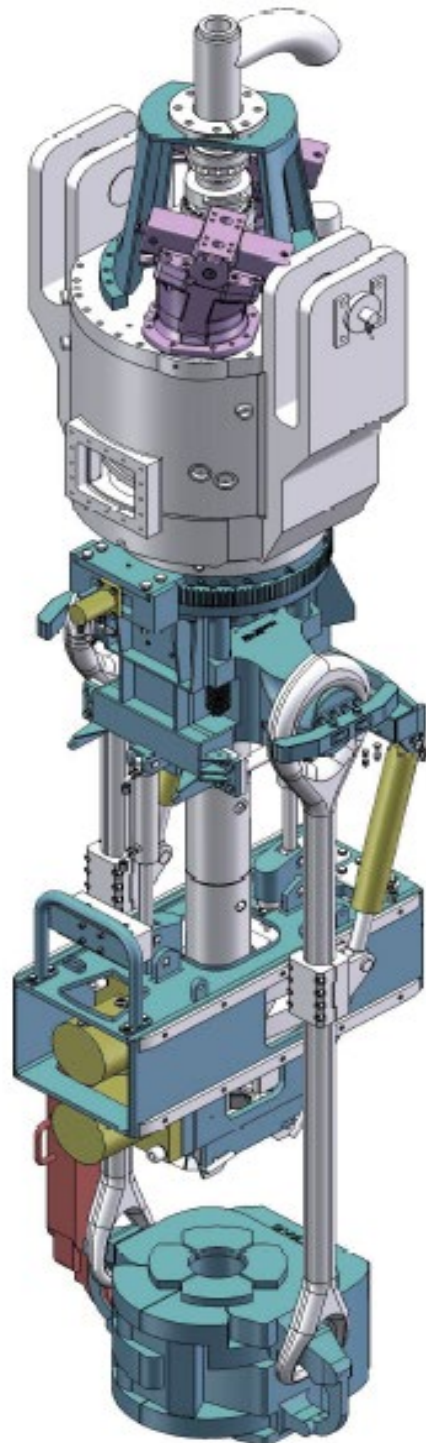


# ND-250H-CTD Compact Top Drive

NorDrill's ND-250-H-CTD (Compact Top Drive) is a highly compact Hydraulic Top Drive system with 360 degrees rotational pipehandler including torque wrench. Inner diameter of 5 in allows most core sample tools to pass through swivel.

## Main Features

<b>Bearings</b>	High capacity bearings
<b>Communication</b>	Single BUS cable for communication between the Power Pack and the Power swivel
<b>Modular Design</b>	Enables larger overhauls and repairs on-site
<b>Delivery</b>	Can be delivered as standalone system, or integrated in existing rig structure
<b>Interface</b>	Intelligent, safe and intuitive interface
<b>Support</b>	Remote Access System enables NorDrill's engineers to support customers all over the world without the need of on-site assistance
<b>Lubrication system</b>	Self-maintained gear lubrication system
<b>Tilt system</b>	Remote operated tilt system that can tilt 70 degrees
<b>Shaft lock</b>	Manual shaft lock
<b>Gear</b>	Custom made gear ratio for optimal speed and torque
<b>Compact Design</b>	Will fit most existing rigs
<b>Torque Wrench</b>	Handles most connections including main shaft to sub
<b>Inner diameter</b>	The wide inner diameter allows core sample tools to pass through the swivel

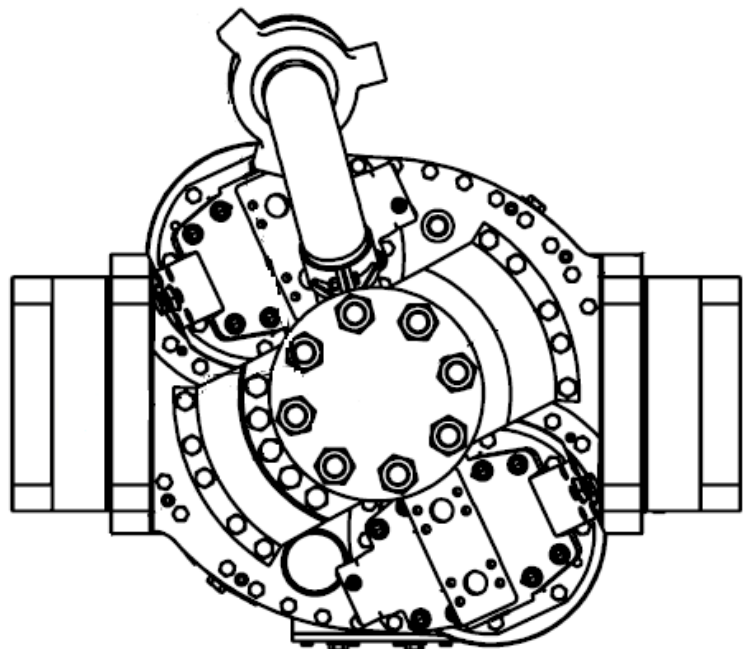
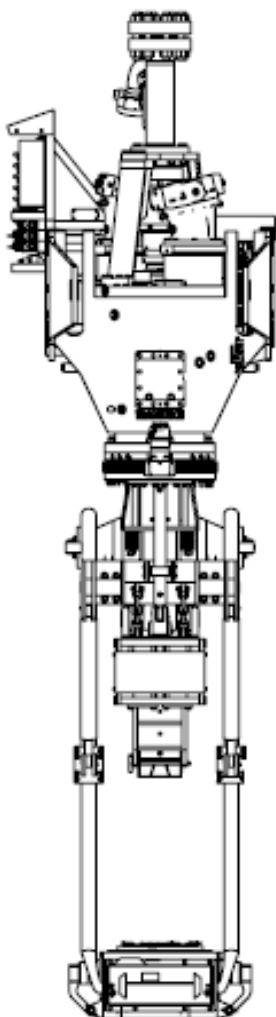




## Technical information – Hydraulic driven Compact Top Drive

250 Tons	Ratio	Gear 1 drill torque at max RPM	Gear 2 drill torque at max RPM
	9,9	30 600 ft.lb @ 112 rpm	14 600 ft.lb @ 212 rpm
	11,6	35 900 ft.lb @ 96 rpm	17 200 ft.lb @ 181 rpm
	12,66	39 200 ft.lb @ 88 rpm	18 700 ft.lb @ 176 rpm
	14,4	44 600 ft.lb @ 77 rpm	21 300 ft.lb @ 146 rpm

**Estimated dimensions (l x w x h) mm: 1600 x 1135 x 6095**



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