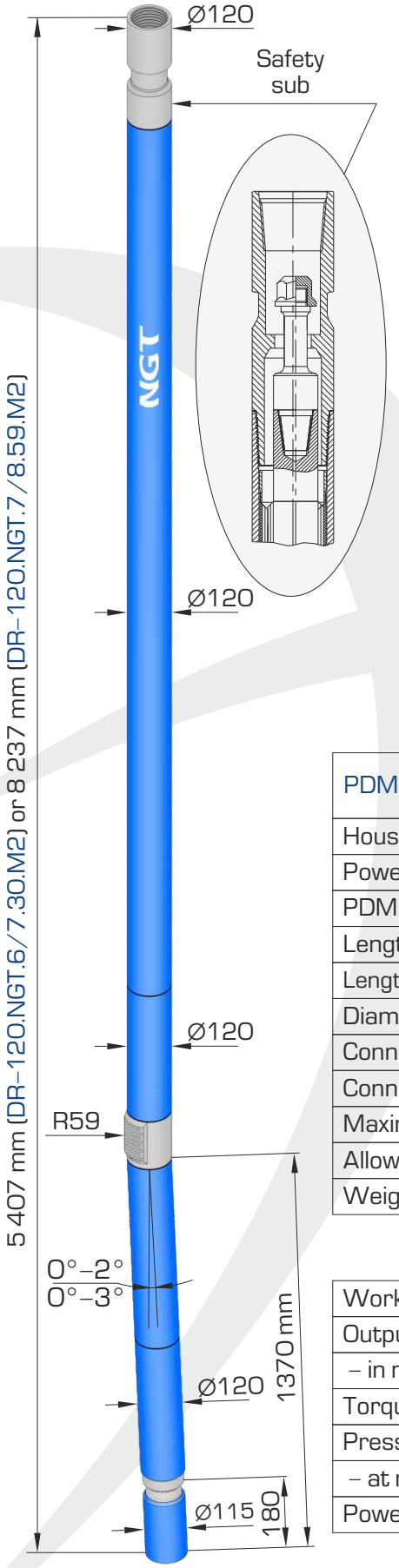
DR–120.NGT.6/7.30.M2 and DR–120.NGT.7/8.59.M2



PDM's DR–120.NGT.6/7.30.M2 and DR–120.NGT.7/8.59.M2 are new universal hydraulic downhole motors used for:

– drilling of oil and gas wells with 139.7 – 165.1 mm bits,
– well reconstruction by sidetracking with rock bits, PDC bits, including bicentric ones;
– well workover operations.

An adjustable bent sub is placed between bearing section and power section. The adjustment range is between 0° and 2° or between 0° and 3°.

Bearing section has axial multi–row rolling bearing and radial hard alloy bearings. Due to a very short shoulder up to the point of axes misalignment (only 1370 mm) drillers can:

– perform tripping without significant pressing of a bit to internal walls in the production string;
– perform sidetracking of complex profile where it is required to alternate deviated intervals of more than 5°/10 m built rate and stabilization intervals with rotation of a drill string without the assembly tripping–out to replace the bend angle.
– minimize risk of leaving the motor parts in the well, as all the threads are screwed applying Loctite glue, and each motor is completed with safety sub.
– do a large volume of work with one motor (it is especially important for hard–to–reach regions) as the overhaul life reaches approximately 200 hrs.

Technical specification

PDM model	DR–120.NGT.6/7.30.M2	DR–120.NGT.7/8.59.M2
Housing OD, mm	120	120
Power section lobe configuration	6/7	7/8
PDM length, mm	5 407	8 237
Length of stator rubber lining, mm	3 000	5 900
Length of bearing section up to a curvature point, mm	1 370	1 370
Diameter of bits used, mm	139,7–165,1	139,7–165,1
Connecting thread to drill pipes	NC 38	NC 38
Connecting thread to bits	3 1/2 Reg	3 1/2 Reg
Maximum density of drilling mud, g/cm^3	1,6	1,6
Allowed axial load, kN	100	100
Weight, kg	358	545

Power specification

Working fluid flow rate, l/s	10–20	12–25
Output shaft rotation speed:		
– in no–load conditions, RPM	162–324	130–261
Torque at maximum power, kN*m	4,7	5,3
Pressure drop:		
– at maximum power, MPa	9,0–13,5	5,2–7,3
Power, kW	101	122