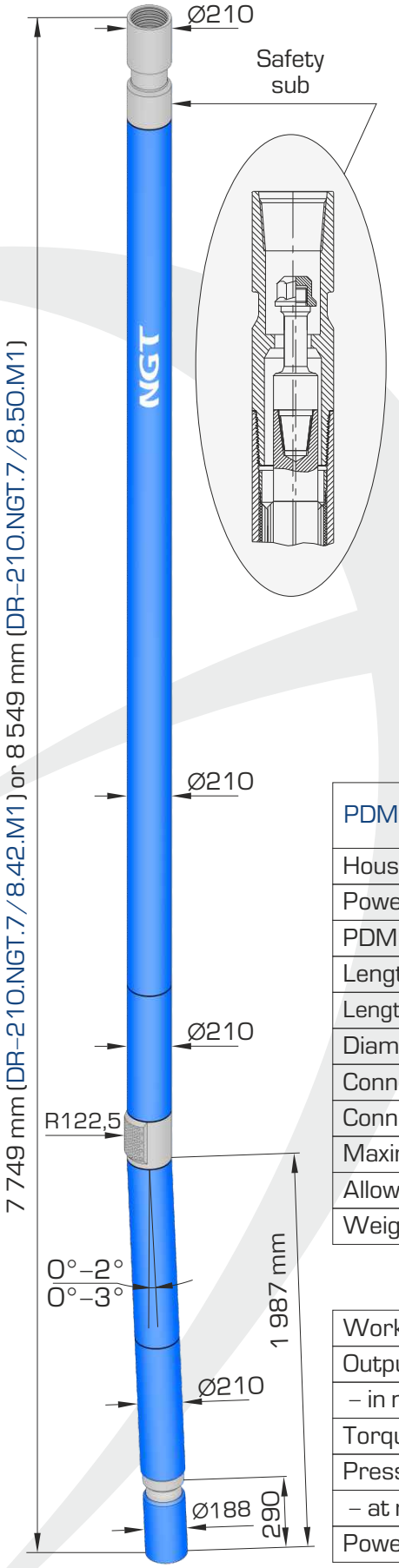
# DR–210.NGT.7/8.42.M1 and DR–210.NGT.7/8.50.M1




PDM's DR–210.NGT.7/8.42.M1 and DR–210.NGT.7/8.50.M1 are new universal hydraulic downhole motors used for drilling of oil and gas wells with rock and PDC bits of 250,8 – 374.6 mm diameter.

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°.

The bearing section has multi–row thrust ball bearing of enhanced load–carrying capacity and radial hard alloy bearings.

PDMs are completed with imported extended power sections with enhanced operation life.

Due to very short shoulder up to the point of axes misalignment (only 1987 mm) the 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–210.NGT.7/8.42.M1 | DR–210.NGT.7/8.50.M1 |
|---|---|---|
| Housing OD, mm | 210 | 210 |
| Power section lobe configuration | 7/8 | 7/8 |
| PDM length, mm | 7 749 | 8 549 |
| Length of stator rubber lining, mm | 4 200 | 5 040 |
| Length of bearing section up to a curvature point, mm | 1 987 | 1 987 |
| Diameter of bits used, mm | 250,8–374,6 | 250,8–374,6 |
| Connecting thread to drill pipes | 6 5/8 Reg | 6 5/8 Reg |
| Connecting thread to bits | 6 5/8 Reg | 6 5/8 Reg |
| Maximum density of drilling mud, g/cm$^3$ | 1,9 | 1,9 |
| Allowed axial load, kN | 300 | 300 |
| Weight, kg | 1 570 | 1 730 |

## Power specification

| Working fluid flow rate, l/s | 22,4–44,2 | 26,3–52,7 |
|---|---|---|
| Output shaft rotation speed: | | |
| – in no–load conditions, RPM | 69–138 | 121–242 |
| Torque at maximum power, kN*m | 13,8 | 16,2 |
| Pressure drop: | | |
| – at maximum power, MPa | 5,6 | 5,6 |
| Power, kW | 179 | 216 |