

# ENGINEER TO ORDER

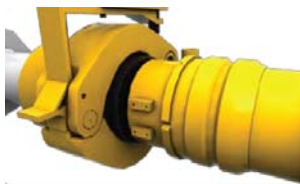
SPECIAL PROJECT INFORMATION SHEET



Project Description	Class 4 to 9,500 N.m Wet Torque Multiplier		
Date created	7 February 2014	Project Number	Q3019 / 21

## INTRODUCTION & APPLICATION

Oil & gas industry application for a sub-sea torque multiplier to actuate 16" pipe clamps. The multiplier will be positioned by an ROV and driven by a standard API Class 4 hydraulic tool. Normal operation output torque 6,000 N.m max. / peak break-out torque 9,500 N.m. A torque verification and transportation kit was also required.



## SOLUTION

Q3019 Torque multiplier with API Class 4 receptacle input, 55mm A/F spring loaded female hexagon output drive and special reaction nose to suit clamp form.  
Q3021 Verification kit comprising a special fixture that replicates the clamp form fixed into a Peli-case, 10,000 N.m transducer, drive adaptor, TTL-HE instrument and lead.



## TECHNICAL SPECIFICATION / DATA HIGHLIGHTS

API Class 4 input tool at 1,900 N.m x 5:1 multiplication gives 9,500 N.m maximum output torque. Oil filled, pressure compensated multiplier gearbox for periodic use at up to 3,000m metres depth. Spring loaded output drive with engaged & disengaged visual indicator. Receptacle with Class 4 tool latching features in the top face and bore. Reaction nose fully home visual indicator pins. Tool is designed for vertical use only and the required 100 hours maximum service life. Dry weight (in air): Q3015 tool only 54 Kg. / complete tool & verification kit in case 125 Kg. Verification kit uses a Norbar harsh environment transducer with 1,000 -10,000 N.m range. The transport case is reinforced and used as a base for torque verification / testing (as image above right).