



LM-120 Iron Roughneck is widely used during land and marine petroleum drilling operation, LM-120 Iron Roughneck is a wellhead instrument for operating makeup and breakout on drilling string (drill pipe, collar, casing and various tool joints) with caliber size of 3 1/2" ~9 5/8" . It can greatly reduce labor intensity of workers while operating trip out and trip in on drilling platform, and also improve the operation safety and efficiency.

The Iron Roughneck is installed on the drilling platform and adopts the mode of manual control, control of waist panel box or PLC touch control in driller's cabin to extend its mechanical arm freely towards the position of wellhead or mousehole. This iron roughneck can turn laterally the whole clamp extended out, adjust the rotating angle, align itself with offset drilling string in mousehole, and therefore realize makeup and breakout of drilling string in mousehole.

This roughneck uses the hydraulic system as its power source, and uses any of the three modes to implement the movement of run of elevating mechanism, extension of arm assembly and clamping and spinning of torque wrench. The spinner assembly adopts the spring mount support to allow vertical movement of roller along with turning in and out of tool joint screw, so that guarantee the normal operation of makeup and breakout. The function of main clamp is to act for final pre-tightening in makeup of drilling string, and pre-loosening of screw in breakout. The function of back-up jaw is to grip the tool joint of drilling string for the operation of makeup and breakout by spinner and main clamp.



Description	Parameters
Catch range	3 1/2"-9 5/8"
Max · breakout torque	160kN · m (118kft · lbs)
Max · makeup torque	140kN · m (103kft · lbs)
Spinning speed	70r/min
Max · horizontal moving distance of wrench port	1390mm(55")
Max · vertical moving distance of wrench port	670mm(27.5")
Torque wrench rotating angle in the horizontal plane	± 45°
Torque wrench rotating angle in the vertical plane	± 10°
Rotating angle of main clamp for makeup and breakout	27°
Max · spinning torque	4kN · m ( 2900kft · lbs)
External dimension after withdrawal ( l×w×h)	82"×63"×160"(2090mm×1590mm×4050mm)
Package weight	5.9t(13000lbs)
Pressure of hydraulic system	17.5-21MPa(2540-3047psi)
Flow Rate	80L/min [17.6Gallon/min(UK)]
Power supply	AC 110/230V,10A,50/60Hz

### LM120 Iron Roughneck functions:

1. The wrench head features angle deflection 10° , which achieves the makeup&breakout in the mouse hole.
2. It would bring less damage to tool joint with three cylinders clamp structure.
3. There are 3 ways to operate the iron roughneck: remote box,touch screen and valve banks.