

PACKOFF WITH INTERNAL LOCKDOWN MECHANISM

ABSTRACT

A packoff (18) is located within a wellhead housing (12) and a casing hanger (14). The packoff (18) has an internal ratchet ring (44) that engages a threaded profile (64) on the exterior of the casing hanger (16) thereby allowing installation of the packoff (18) to be achieved by simply stabbing the packoff (18) over the protruding neck of the casing hanger (16). This ratchet ring (44) significantly reduces the rotation required during installation, decreasing potential for damage to seals. The casing hanger (16) has an external lock ring (68) that is inwardly biased. During installation of the packoff (18), the packoff (18) acts to activate the lock ring (68) to thereby force it outward. The lock ring (68) is forced outward and into a recess (49) formed in the interior of the wellhead housing (12). The lock ring (68) and the ratchet ring (44) locks the packoff (18) and casing hanger (16) into place with the wellhead housing (12) without the need of external lockdown screws, thereby minimizing leak paths.

Figure 3