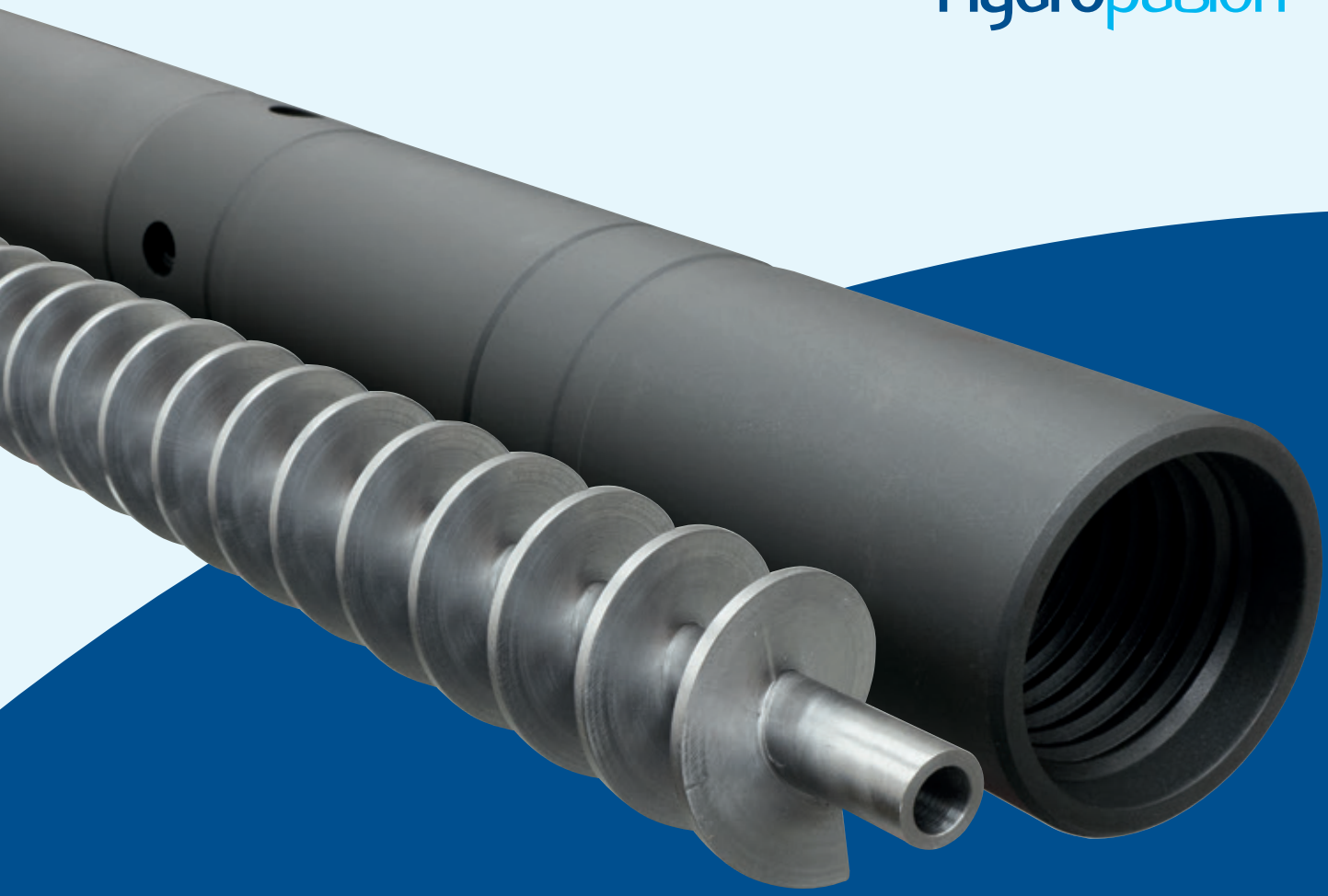
Hydropulsion



GAS MANAGEMENT & SEPARATION SYSTEM

GMASS®

GMASS® is a system that separates fluid from gas using centrifugal forces.

Hydropulsion

The system was designed for well drilling and intervention operations where underbalance conditions are to be used and is comprised of two components, a Gas Management Module and a Gas Separation Module.

The separator is placed above the Motor or Jetting Tool and separates the gas from liquid phases in a nitrified fluid. This reduces the volume of gas passing through the BHA preventing damage to motors and increasing the impingement force of jets while maintaining an underbalanced condition in the annulus.

A single Separator Stem and housing composes the separating section in which the fluid phase is forced to the internal walls of the housing as a result of its density and the centrifugal forces acting upon it.

The gas is then allowed to remain in the centre where it is vented through the centre of the Separator Stem. Fluid continues its path through the BHA and the gas moves upwards and into the annulus via side ports located above the separating section.

FEATURES AND BENEFITS

Enhance equipment reliability and performance, particularly with PDM's, by minimising the amount of gas that passes through the motor thus minimising damage to the stator and reducing downtime, which in turn and maximises operational time and minimises cost.

Control downhole gas flow by either venting into the annular space or through the BHA as required depending on the volume and rate of gas being injected at surface.

Minimise formation damage by allowing operations to be carried out in live wells without compromising safety, resulting in improved productivity.

Simplify surface equipment requirements by removing the need for a parasitic string resulting in faster rig up times and lower cost.

Ensure faster drilling/milling operations by maximising fluid volumes reach the motor increasing efficiency and power delivery.

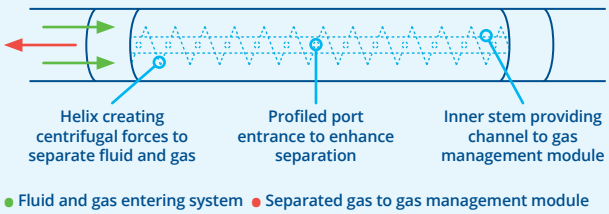
Remove the need to retrieve and change BHA configuration once gas is not required as GMASS® can work with single fluids or multiphase fluids.

Remove a portion of the complexity of under-balanced operations.

TECHNICAL SPECIFICATIONS

	3-1/2"	2-7/8"	2-1/8"	1-11/16"
Max. Diameter (in)	3.750	2.875	2.125	1.688
Length (in)	120	90	90	60
Min. Material Yield (psi)	80,000	80,000	80,000	80,000
Tensile Load (lbs)	86,000	65,000	54,000	27,000
Max. Pressure (psi)	7,500	5,000	4,250	4,000
Liquid Rate (bpm)	4-7	2-5	1.5-3	0.5-1.5
Gas Rate (scfm)	600-1800	300-1200	200-600	100-400
Pressure Loss (psi)	300	300	300	300
Top Connection	3" EUE Box	2-3/8" PAC Box	1-1/2" AMMT Box	1" AMMT Box
Bottom Connection	3" EUE Pin	2-3/8" PAC Pin	1-1/2" AMMT Pin	1" AMMT Pin

OPERATING PRINCIPLES



Hydropulsion Ltd
154 Forest Avenue
Aberdeen UK
AB15 4UN

Telephone: +44 (0)1224 200125
Fax: +44 (0)1224 515010
Email: info@hydropulsion.com

www.hydropulsion.com