



Free Point Indicator

Accurately locate stuck drill pipe, tubing, or casing

The **Free Point Indicator (FPI)** from Baker Hughes is an electro-mechanical assembly designed to accurately measure torque or stretch in harsh conditions to locate precisely where drill pipe, tubing, or casing is stuck or partially stuck.

The Free Point Indicator assembly consists of a non-grounded collar locator (SAS40092), upper motorized anchor (SFUA), sensor section (SAS40018), and lower motorized anchor (SFLA) to determine the stuck point. A classic assembly typically consists of sinker bars to overcome the holding ability of the pre-set anchors and a slack joint to relieve weight above the tool assembly when at the correct measurement depth. For greater flexibility, the FPI can be configured with bow springs or magnets instead of motorized anchors. Bow springs, used when the inner diameter of the pipe is too large for the motorized arms, have carbide-coated outer springs that grip

the pipe to aid anchoring. If the inner diameter is too large for both bow springs and motorized anchors, magnetic anchors can be used.

The FPI creates less friction or drag, making it easier to maneuver into high-angle and horizontal wells. It uses a controllable anchoring force downhole, instead of setting a constant force before the run, and a shorter tool string. Its four-arm system, faster setup time, and simple maintenance make it ideal for deployment in horizontal wells. There is no need for extra force to pass over restrictions, and shear pins enable retrieval if communication to the tool is lost. The FPI system is available with crossovers to several service company connections, for improved flexibility.

Contact your Baker Hughes representative to learn how the Free Point Indicator can help you locate stuck pipe, tubing, or casing in horizontal wells or visit bakerhughes.com.

Applications

- High-angle and horizontal wells
- Wells with stuck or partially stuck pipe, tubing, or casing

Benefits

- Reduces setup time
- Maneuvers more easily in difficult wells
- Eliminates the need for extra equipment

Options

Motorized anchor dogs

Set	Length	I.D. range	Typical application
S413504-2	1.6 in. 40.64 mm	1.6 to 4.0 in. 40.64 to 101.6 mm	<ul style="list-style-type: none"> • 2³/₈", 2⁷/₈", 3¹/₂" 4", 4¹/₂" drill pipe • 3¹/₂", 4", 4¹/₂", 5", 5¹/₂" heavy weight drill pipe • 4¹/₂" casing
S413504-1	2.20 in. 55.88 mm	3.9 to 5.1 in. 99.06 to 129.54 mm	<ul style="list-style-type: none"> • 5", 5¹/₂" drill pipe • 5", 5¹/₂" casing



Slack joints

Set	Stroke	Makeup length	Shipping length
AS40016	16 in. 406.4 mm	39.125 in. 993.78 mm	43.625 in. 1,108.08 mm
AS40016-24	24 in. 609.6 mm	50.125 in. 1,273.18 mm	54.625 in. 1,387.47 mm
AS40016-36	36 in. 914.4 mm	63.25 in. 1,606.55 mm	67.75 in. 1,720.85 mm

Specifications

Temperature rating**	350°F	177°C
Pressure rating	20,000 psi	137.9 MPa
Voltage supply	115V AC 3A	
Max. operating current	260 mA	
Operating current range	100 mA to 260 mA	
Tool O.D	1 ³ / ₈ in.	34.92
Top connection	GO Type Box (Female)	
Makeup length	9.27 ft	2.83 m
Makeup weight	~ 35 lb	~ 16 kg
Anchoring range	1.6 to 5.1 in.	39.4 to 128.2 mm
Opening time		20 to 60s

Collar locator (AS40092)

Makeup length	14.125 in.	358.8 mm
Shipping length	17.125 in.	434.98 mm
Weight	4.10 lb	1.86 kg

Upper anchor section (FUA)

Makeup length	33.1 in.	840 mm
Shipping length	37.6 in.	954 mm
Weight	11 lb	5.0 kg

Lower anchor section (FLA)

Makeup length	34.9 in.	810 mm
Shipping length	37.6 in.	886 mm
Weight	11 lb	5.0 kg

** Sensor section and collar locator rated to 500°F (260°C)



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