

6.75 SureSteer Rotary Steerable System

SureSteer-RSS675

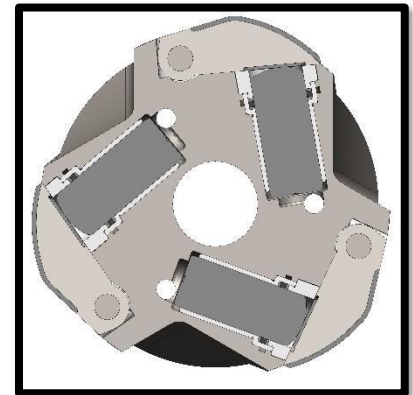


Designed for directional drilling applications throughout the world, the APS SureSteer™ Rotary Steerable tools provide “major service company” rotary steerable system functionality with the straightforward directional control procedures used with steerable motors. Utilizing APS’s proprietary control systems, SureSteer can be programmed to use a closed-loop feedback system for vertical or tangent angle control, or to operate with surface-supplied instructions to efficiently drill any directional well plan.

The SureSteer-RSM® is designed to maximize horsepower at the bit, and the SureSteer-RSS™ to maximize build rate. Together, they provide an unparalleled capability to match the major service companies’ advanced trajectory control.

SureSteer-RSS675 Description

The SureSteer-RSS 675 actuation housing houses the steering pads; directional measurement and control electronics; and the electrical and hydraulic power systems, which are driven by an integrated turbine and alternator system. The control electronics provide timing signals to a hydraulic manifold to control the steering direction and force to achieve the desired directional objective.



Modes of Operation

Utilizing APS’s proprietary control systems, the SureSteer-RSS 675 can be programmed to use a closed-loop feedback system for vertical or tangent angle control, or to operate with surface-supplied instructions to efficiently drill any directional well plan. The mode of operation can easily be changed while the tool is downhole. A series of timed pump speed changes allow for switching between modes or turning the tool off for events such as wiper trips, drilling out or back-reaming.

Programmable Downhole

The APS SureSteer-RSS 675 is straightforward to use. The desired build rate and steering direction is communicated with timed pump speed changes. SureShot integration provides real-time downlink feedback to the user. This minimizes the amount of time spent downlinking.

SureShot Integration

The SureSteer-RSS 675 provides real-time, near-bit inclination while rotating and Azimuthal Gamma-ray imaging for fine well bore placement and control. The SureSteer-RSS 675 is fully integrated with the APS SureShot system for continuous tool monitoring. Depending on the deployment method, the SureSteer-RSS 675 can also directly linked to other APS MWD and LWD products for higher-level, comprehensive trajectory and geosteering control.

6.75 SureSteer Rotary Steerable System

Product Specifications

The SureSteer-RSS675 can be run alone or with a variety of drilling motors. The specifications below are shown for the SureSteer-RSS-475 alone. Contact our sales office for details.



Headquarters Wallingford, USA

7 Laser Lane, Wallingford, CT 06492 USA
 Phone: 860.613.4450 Fax: 203.284.7428
 contact@aps-tech.com

© APS Technology, Inc. 2022

Specifications subject to change without notice.

TDS-10023 Rev A
 ECO 22-090 10/24/22

Dimensions

DIM	Description	Dimensions	
		8.50 in. (215.9 mm)	8.75 in. (222.3 mm)
	Nominal Hole Size		
A	Bit Box to Center of Steering Pad	1.2 ft (0.36 m)	
B	Bit Box to Center of Sleeve Stabilizer	10.0 ft (3.10 m)	
C	Azimuthal Gamma Measure Point	3.0 ft (0.91 m)	
D	Gamma Measure Point (typical)	18.3 ft (5.58 m)	
E	MWD Measure Point (typical)	22.6 ft (6.89 m)	
F	Overall Length including Pulser	BHA Dependent	
G	Steering Pad Dia.	Retracted	8.4 in (212 mm)
		Extended	8.9 in (225 mm)
D	Steering Pad Upset Dia.	7.6 in (193 mm)	
E	Sleeve Stabilizer Dia.	8.438 in (214.3 mm)	8.687 in (220.6 mm)
	Bottom Connection	4-1/2 in. API REG box	
	Top Connection – Standard, Housing	4-1/2 in. IF box	

Operational

Flow Rate	300 to 700 gpm (19 to 44 l/sec)
Maximum Drill String Rotation Speed	300 RPM
Maximum Operating Torque	21,000 ft-lbs (28,500 N-m)
Make Up Torque	20,000 ft-lbs (27,000 N-m)
Pressure Drop	<200 psi @ 450 gpm (<1.4 MPa @ 28 l/sec) with
Maximum Overpull	500,000 lbs (226.8 t)
Maximum Weight on Bit	60,000 lbs (27.2 t) Build
Rate Capability	To 12 °/100 ft (3.93 °/10 m)

Environmental

Maximum Temperature	350 °F (175 °C)
Maximum Pressure	20,000 psi (137.9 MPa)
Maximum Bend Radius – Rotating	13 °/100 ft (4.26 °/10m)
Maximum Bend Radius – Sliding	20 °/100 ft (6.56 °/10m)

Working Fluid Limitations

Maximum Sand Content	<1% by volume
LCM Tolerance	50 lb/bbl medium nut plug
Mud Debris	Not Allowed (mud filter screen required)
Solids Content	<9% by volume recommended