



**CHANDLER**  
ENGINEERING

## Model 5265MG

### MECHANICAL GEL STRENGTH APPARATUS

A Critical Tool for Oil Well Drilling and Cementing

The Model 5265MG Gel Strength Analyzer is an addition to Chandler Engineering's world leading line of cement testing equipment. The need to measure gel development, gel duration and gel strength are critical in the design of cement slurries. The Model 5265MG allows an operator to study the development and resulting gel strength throughout the gel phase of cement slurries. This tool equips the operator with the knowledge required to improve slurry designs and to meet the critical requirements of well placement.

The Chandler Engineering Model 5265MG measures the onset of gel strength as well as the continued development of gel strength. A precision motor coupled with a reaction force transducer allows the instrument to measure the phase changes. The motor is capable of extremely accurate step motion down to 0.2 degrees per minute while measuring gel strength and up to 150 RPM while conditioning the slurry. The motor is coupled to the paddle using a magnetically coupled shaft keeping the motor and measurement electronics outside of the high pressure/high temperature environment within the cylinder. The torque transducer performs measurement throughout a broad range of force from 10 lbf/100 ft<sup>2</sup> up to 1500 lbf/100 ft<sup>2</sup>. The cylinder is designed for insertion into an existing Chandler Engineering Model 4265 UCA or Model 5265 SGSA making use of existing instrumentation.

The Model 5265MG provides versatile and adaptable technology. The measurement principle includes a motor Start/Stop method for Gel Strength determination. As an added function, the motor may be run at a continuous rate if desired by the operator. The geometry of the paddle is industry specific or may be adapted to other geometries as needed. Operating temperatures up to 400°F (204°C) and operating pressures up to 20,000 psi (138 MPa) provide full well bore simulation.



### FEATURES

- ✓ Independent cylinder for use with existing UCA's and SGSA's
- ✓ 0.2 degrees/min up to 150 RPM motor speed range
- ✓ Reaction torque measurement from 10 lbf/100ft<sup>2</sup> up to 1500 lbf/100ft<sup>2</sup>
- ✓ Operating temperature up to 400°F (204°C)
- ✓ Operating Pressure up to 20,000 psi (138 MPa)
- ✓ Utilizes Chandler Engineering Model 5270 Data Acquisition and Control Software

# Model 5265MG

## Specifications

### Regulatory:

Designed to meet ASME, CE/PED and NRTL Certifications  
API RP10B-6 Compliant

### Sample Environment:

Maximum Pressure: 20000 psi / 138 MPa  
Maximum Temperature: 400°F / 204°C

### Pressure Vessel:

Same external diameter as UCA or SGSA vessels  
Accessory to Model 4265 UCA, Model 5265 SGSA  
Elastomer and metal backup ring seals (Viton)

### Sample Characteristics:

Oil well cements

### SGS Measurement System:

Flat paddle design, shaft mounting adaptable to other  
paddle geometry  
Rotated paddle, measured reaction torque scaled to SGS  
Accuracy:  $\pm 1\%$  of F.S. or better  
Moment arm and load cell  
Easy to use calibration feature

### Motor System:

Magnetic coupling to paddle shaft  
Programmable motor system designed to implement the  
Start/Stop method for determining SGS per API 10B-6 and  
ISO 10426-6  
Paddle speed range: 0.2 degrees/min - 150 RPM

### Temperature Control:

Programmable PID Controller (built into UCA or SGSA)

### Pressure Control (Pump and Valve):

Internal air/liquid pump and back pressure regulator  
Pressure control accuracy:  $\pm 500$  psi of F.S.  
Optional external Q5000 Quizix series pump system  
Pressure control accuracy:  $\pm 25$  psi of F.S.

### Pressurizing Fluid:

Water

### Data Acquisition and Control System:

Chandler Engineering 5270 software, including motor  
control, SGS measurement, calibration features

### Instrument Utilities:

Power: 115 or 230 VAC,  $\pm 10\%$ , 50 or 60Hz

### System Documentation:

System Operation Manuals  
Wiring Diagram  
Plumbing Diagram  
Assembly Drawings  
Replacement and Spare Parts Lists



Model 5265MG System

Scan the below QR Code with your  
phone to view product information  
on our Website.



**AMETEK**<sup>®</sup>  
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