

RVM - 3000

Rotational Viscometer



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Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

►► Overview

The six-speed rotary viscometer can measure various rheological parameters, draw rheological curves based on multi-point measurement values, determine the flow pattern of the liquid in the flow process, select appropriate calculation formulas, and perform more accurate measurement of non-Newtonian fluids. It is used for the research and analysis of on-site drilling fluid rheological parameters. At the same time, it can measure a series of technical parameters such as dynamic and static shear force, fluidity index and consistency coefficient. Conducive to the needs of safe, fast and scientific drilling. It has the characteristics of convenient operation and accurate testing.

►► Model and specifications

RVM-3000 type F1 torsion spring measuring assembly
F0.2 torsion spring measuring assembly (optional)

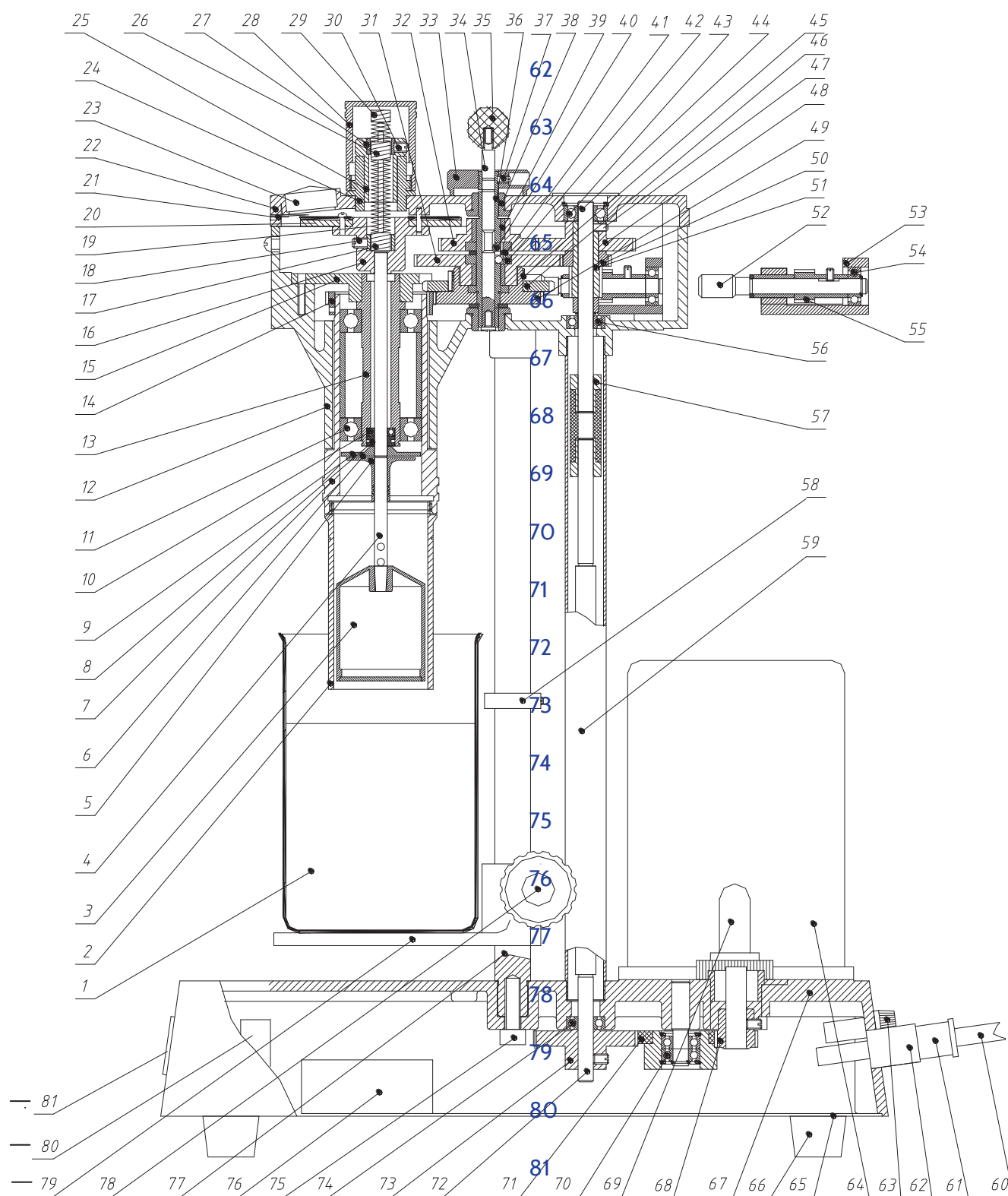
►► Main technical parameters

Serial number	Item	Specification
1	Power supply	220V±5% 50Hz
2	Motor power	7.5W/15W
3	Motor speed	750/1500 r/min
4	Variable speed range	3、6、100、200、300、600r/min
5	Speed elevator	5、10、170、340、511、1022 S
6	Measuring accuracy	1~25 mPa·s±1 mPa.s (Newtonian fluid) 25 mPa·s above ±4% (Newtonian fluid)
7	Viscosity measurement range	Newtonian fluid: 1~300mPa.s (F1 measuring component) 1~60mPa.s (F0.2 measuring component) Non-Newtonian fluid: 1~150 mPa.s (F1 measuring component) 1~30 mPa.s (F0.2 measuring component) Shear stress: 0~153.3Pa (F1 measuring component) 0~30.7Pa (F0.2 measuring component)
8	Outer packaging size	520*420*250mm
9	Total weight	12.6Kg

►► Working principle

The six-speed rotary viscometer is a rotary instrument powered by a motor. The measured liquid is in the annular space between two concentric cylinders. The outer drum rotates at a constant speed through a variable-speed transmission. The outer drum generates a torque through the measured liquid on the inner drum, which causes the inner drum connected with the torsion spring to rotate a corresponding angle. According to Newton's law, the size of the rotation angle is The viscosity of the liquid is proportional, so the measurement of the liquid viscosity is converted to the measurement of the rotation angle of the inner cylinder. The needle reading reflected on the dial is calculated as liquid viscosity and shear stress.

►► Structure diagram



Six-speed rotational viscometer structure diagram

►► Six-speed rotational viscometer structure list

No.	Model	Item And Specification	No.	Model	Item and specification
1	N6-03-05-01	Measuring cup	41	N6-02-03-08	Shift shaft gasket
2	N6-03-04-08	Outer drum	42	N6-02-03-07	Gear ring
3	N6-03-01-01	Inner tube	43	GB276-82	Bearing D16
4	N6-03-03-01	Inner cylinder shaft	44	N6-01-01-08	Drive stub shaft
5	N6-03-04-06	Collar	45	N6-02-03-13	Torsion spring
6	GB893.3-86	Spring retainer	46	N66-02-03-15	Worm gear
7	N6-03-04-03	Tumbler	47	GB73-85	Set screw
8	N6-03-04-05	Shaft sleeve	48	N6-02-05-01	Driving gear(2)
9	N6-03-04-05	Bearing cap	49	N6-02-03-16	Variable gear
10	GB276-82	Bearing D1000085	50	N6-02-05-02	Driving gear(1)
11	GB276-82	Bearing 102	51	N6-02-05-03	Driving gear(3)
12	N6-02-01-01	Gear box	52	N6-02-04-01	Worm
13	N6-03-04-02	Shaft sleeve	53	N6-02-04-05	Worm base
14	N6-03-04-14	Transmission gear	54	GB276-82	Bearing D1000096
15	N6-03-04-01	Shaft plate	55	N6-02-04-04	Helical gear
16	N6-03-03-03	Dial seat	56	GB276-82	Bearing D1000096
17	N6-03-02-01	Lower spring seat	57	N6-01-01-07	Connection sleeve
18	GB73-85	Set screw	58	N6-01-03-06	Positioning sleeve
19	N6-03-02-02	Spring	59	N6-01-03-05	Outer casing
20	N6-03-03-06	Dial	60	RVV300/500V	Power cable
21	N6-02-02-04	Pointer	61	X2	Power plug 10A

No.	Model	Item And Specification	No.	No.	No.
22	N6-03-05-01	Gear box cover	62	X1	Power socket 10A
23	N6-03-04-08	Magnifier	63	FU	Capacitor 250V 2A
24	N6-03-01-01	Spring seat	64	9TZ5H3-2	Two-speed motor
25	N6-03-03-01	Adjustment ring	65	N6-01-02-01	Base cover
26	N6-03-04-06	Kink	66	N6-04-00-10	Rubber feet
27	GB893.3-86	Clamping ring	67	N6-01-01-09	Base
28	N6-03-04-03	Shield	68	N6-01-01-01	Driving gear
29	N6-03-04-05	Upper spring seat	69	KN1-203	Three position switch 3A250V
30	N6-03-04-05	Set screw	70	GB276-82	Bearing D1000096
31	GB276-82	Variable gear(10)	71	N6-01-01-02	Transition gear
32	GB276-82	Variable gear(12)	72	N6-01-01-06	Transmission shaft
33	N6-02-01-01	Variable speed turntable	73	N6-01-01-03	Bottom drive gear
34	N6-03-04-02	T ie rod	74	GB276-82	Bearing D1000096
35	N6-03-04-14	T ie head	75	GB70-85	Bolt
36	N6-03-04-01	Shift shaft	76	C	Capacitance 6μF
37	N6-03-03-03	Set screw	77	N6-01-03-07	Bracket
38	N6-03-02-01	Gear shift sleeve	78	N6-01-03-04	Star handwheel
39	GB73-85	Shaft sleeve	79	N6-01-03-01	Pallet
40	N6-03-02-02	Ball φ3	80	220V AC 5A	Relay
			81	N6-04-00-07	Nameplate

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