ULTRA-PRECISION VISCOSITY ANALYZER

(PULSE TECHNIQUE) MPVA-Series

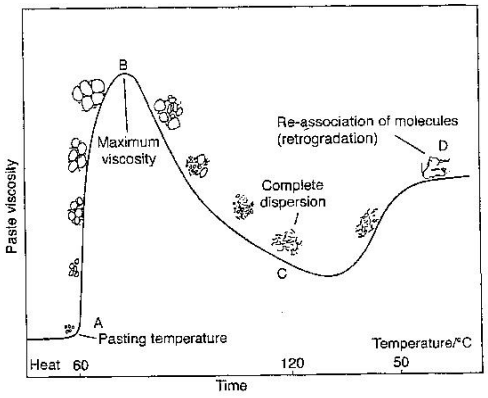
Introduction: MPVA series of precision viscosity analyzer up are available in more than ten different models virtually offering tribological measurement solutions for fabiric,polymer,metal, ceramic ,srubber, Printed cartons ,Flexible packaging, Printing, Rubber, Paper, coating, composite, leather etc in Cartesian/radian co-ordinate system with facility to measure peak friction/average viscosity at different radial velocity/pressure simulated under different thermal conditions. It can effectively measures static/dynamic viscosity sample 9.0000 to 9999.9100.0 mili Newton.sec/rad under varied temperature, humidity conditions. These viscosity analyzer meters are offered . On account of above, these viscosity analyzer meters are first choice for paper, polymers, cosmetic, foam, leather, PVC, wood, cotton, insulator material, laminates, filters, civil structure, soil, fins, food items etc medical diagnostic, agro, biomedical, petrochemical, automobile, organic/inorganic chemical, milk plant, sugar, textiles, beverages, water management/treatment, academic and defense. These viscosity analyzer are available for various functions namely……

1. **Low torque/low R.P.M. 2. High torque /Low R.P.M. 3. Low torque /High R.P.M. 4. 4. High torque /High R.P.M.**

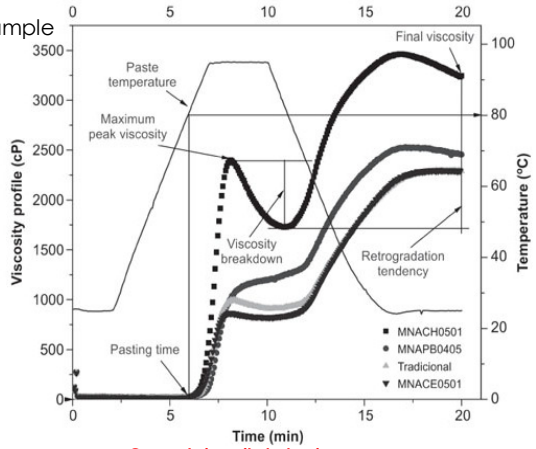
OperatingPrinciple: Sample under examination is place on rotary disc and clamped. Sensing finger coupled to torque sensor(strain gauge/electromagnetic type) measures the viscosity force between sensing finger and sample. Such result may be conducted at different speed. Ratio of Viscous force to dead weight is C.O.F. Such set-up can static/dynamic viscosity at different r.p.m./pressure..

$\mu = F_f/W_t$ -- where μ = static/dynamic viscosity value F_f=Viscosity force, W_t: weight of sample

Portable viscosity analyzer



Viscosity Vs temperature vs time



General viscosity behaviour

ELECTRICAL/MECHANICAL Specifications OF Low pressure/low R.P.M. Viscosity Analyzer:

MODEL	Pressure Psi	Angular Velocity R.P.M./option	Ave-Peak Viscosity range p.u.	Accuracy / Repeatability	Burdon	Accuracy Restricted to Resolution level	Resolution Quantified/ optional	interface
MPVA-00011	0.01-0.100	0.0001.0-001.0	0.0001- 99.9999	99.9/100	**< 100 micro-N.m**	**99.99999%**	**1/2/5**	**RS-232**
MPVA-00011	0.01-1.000	0.0001.0-001.0	0.0001- 99.9999	99.9/100	**< 100 micro-N.m**	**99.99999%**	**1/2/5**	**RS-232**
MPVA-00021	0.01-2.000	0.0001.0-001.0	0.0001- 99.9999	99.9/100	**< 100 micro N.m**	**99.99999%**	**1/2/5**	**RS-232**
MPVA-00041	0.01-4.000	0.0001.0-001.0	0.0001- 99.9999	99.9/100	**< 100 micro N.m**	**99.99999%**	**1/2/5**	**RS-232**
MPVA-00071	0.01-7.000	0.0001.0-001.0	0.0001- 99.9999	99.9/100	**< 100 micro N.m**	**99.99999%**	**1/2/5**	**RS-232**
MPVA-00101	0.01-10.00	0.0001.0-001.0	0.0001- 99.9999	99.9/100	**< 100 micro N.m**	**99.99999%**	**1/2/5**	**RS-232**
MPVA-00201	0.01-20.00	0.0001.0-001.0	0.0001- 99.9999	99.9/100	**< 100 micro N.m**	**99.99999%**	**1/2/5**	**RS-232**
MPVA-00501	0.01-50.00	0.0001.0-001.0	0.0001- 99.9999	99.9/100	**< 100 micro N.m**	**99.99999%**	**1/2/5**	**RS-232**
MPVA-00801	0.01-80.00	0.0001.0-001.0	0.0001- 99.9999	99.9/100	**< 100 micro N.m**	**99.99999%**	**1/2/5**	**RS-232**
MPVA-0991	0.01-99.00	0.0001.0-001.0	0.0001- 99.9999	99.9/100	**< 100 micro N.m**	**99.99999%**	**1/2/5**	**RS-232**

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Not of authorized commercial practices

ULTRA-PRECISION VISCOSITYALYZER

(PULSE TECHNIQUE)

Electrical/Mechanical Specification of low pressure /high R.P.M.. Viscosity Analyzer: MPVA-Series

MODEL	Pressure Psi	Angular Velocity R.P.M./option	Ave-peak-viscosity range p.u.	Accuracy / Repeatability	Burdon	Accuracy Restricted to Resolution level	Resolution Quantified/ optional	interface
MPVA-00012	0.01-0.100	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro-N.m	99.99999%	1/2/5	RS-232
MPVA-00022	0.01-1.000	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00042	0.01-2.000	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00072	0.01-4.000	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00102	0.01-7.000	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00202	0.01-10.00	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00502	0.01-20.00	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-01002	0.01-50.00	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-02002	0.01-80.00	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232

Electrical/Mechanical Specification of High Pressure/low R.P.M. Viscosity Analyzer: MPVA-Series

MODEL	Pressure Psi	Angular Velocity R.P.M./option	Ave-Peak Viscosity range p.u.	Accuracy / Repeatability	Burdon	Accuracy Restricted to Resolution level	Resolution Quantified/ optional	interface
MPVA-00013	001.0-100.0	0.0001.0-001.0	0.0001- 99.9999	99.9/100	< 100 micro-N.m	99.99999%	1/2/5	RS-232
MPVA-00023	001.0-200.0	0.0001.0-001.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00043	001.0-400.0	0.0001.0-001.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00053	001.0-500.0	0.0001.0-001.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00063	001.0-600.0	0.0001.0-001.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00083	001.0-800.0	0.0001.0-001.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00093	001.0-0900.0	0.0001.0-001.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00103	001.0-1000	0.0001.0-001.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00203	001.0-2000	0.0001.0-001.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232

ELECTRICAL/MECHANICAL Specifications OF High Pressure/High R.P.M. Viscosity analyzer PFA-Series

MODEL	Pressure Psi	Angular Velocity R.P.M./option	Ave-Peak Viscosity range p.u.	Accuracy / Repeatability	Burdon	Accuracy Restricted to Resolution level	Resolution Quantified/ optional	interface
MPVA-00013	001.0-100.0	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro-N.m	99.99999%	1/2/5	RS-232
MPVA-00023	001.0-200.0	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00043	001.0-400.0	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00053	001.0-500.0	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00063	001.0-600.0	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00083	001.0-800.0	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00093	001.0-0900.0	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00103	001.0-1000	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232
MPVA-00203	001.0-2000	0.10.0-01000.0	0.0001- 99.9999	99.9/100	< 100 micro N.m	99.99999%	1/2/5	RS-232

Company may offer tailor made solution to the requirement.

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(PULSE TECHNIQUE)

MPVA-Series

General electrical/mechanical specifications of Viscosity analyzer:

Operating voltage: 220 volt A.C. (50-20,000 Hz)/ 12 N.m D.C.
Measurement range (full scale): as above in different model.
Sample size: 0.1-100 micro diameters in different ranges of pressure/flow
Shear rate range:0.0000- 20000.00 s^{-1}
Shear stress range: 0-99.9999 mili- Newton
Torque range: 0-9999.9 mili Newton's.
Viscosity range: Range: 0.00001 – 999999 x 10^7 Pas
R.P.M. range: 0.01 TO 1000 R.P.M.
Operation humidity: 10-100%
Operation temperature: -10 °C to +200 °C
Sample size: DIAMETER: 1"/2"/3"/4"/5"/6" or option
Response time: 1000 sample/sec
Pressure drop Burden: less than 100 $x10^{-8}$ N.m.
Accuracy for Viscosity: 0.5/1.0/2.0 % reading
Repeatability : 100 of reading
Resolution : 1/5 count and may be altered based on-time behavior of signal
Linearity adjustment: upto 100 count
Input imedence: ultra low (<1000 count),
Filtering: low pass (adjustable)
Offset: variable upto 10,000 count (manual/auto)
CMMR: >80 db at 50-60 Hz
Isolation: > 100 giga ohm
Connector: BNC-9 pinx2 and BNC-25 pinx2
Size: 8X8x12 inches/rack mounted or portable
Additional: roughened co-axial cylinder 2. Double gap co-axial cylinder 3.plate O.D.-15-30 m.m.
Interface: RS-232
Option: ADDITIOL SOFTWARE to plot T/Rh/Viscosity analyzer, fabric thickness.
Or other inferential parameter.
Company may dedicate instruments to meet specific requirement. /
NOTES: The numeral after product code indicates the viscosity analyzer to be measured

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