ROTARY VISCOMETER



Rotary Viscometers MYR V0/V1/V2 acc. to ISO 2555/ASTM (Brookfield method)

SERIE VR 3000

VISCOMETERS VR 3000

The MYR viscometers, models V0, V1 and V2, are rotational viscometers for the fast determination of viscosity as specified in ISO 2555 and other ASTM norms. Instrument offers viscosity measurements which are 100% compatible with the Brookfield method and permits to carry out comparative measurements in accordance to recognized standards in quality control laboratories

All models are available in three different versions: version "L" for low to medium viscosity, version "R" for medium to high viscosity and version "H" for high to very high viscosity.

FEATURES

The basic model, V0, has digital display for direct reading of diverse parameters (see detail), under- or over-range warning signal and 24 months warranty.

Model V1 adds interface RS232, software ViscosoftBasic for data gathering and temperature probe (PT 100). Used together with a thermal printer (optional) meets requirements of the storage data in quality control Additionally model V2 has 2 more speeds —and consequently a wider viscosity range —, bi-directional interface RS232 and optionally, software ViscosoftPlus, for the automated control of viscometer and the issuing of rheological studies.



COMPATIBILITY

Standard ISO 2555 describes a viscometer in torque, speed and spindle geometry. MYR rotary viscometers meet such specifications and are therefore 100% Brookfield method compatible.

DISPLAYED DATA

Speed selected	rpm
Spindle used	spindle reference
Dynamic viscosity	mPas or cP
	(in version H, dPas or P)
Full scale percentage	%
Sample temperature	°C or °F
Auto range to display	mPas or cP
Auto range to display viscosity limits	mPas or cP (in version H, dPas or P)
viscosity limits	(in version H, dPas or P)
viscosity limits Shear Rate (SR)	(in version H, dPas or P) 1/sec

ACCESORIES





ADAPTER FOR SMALL SAMPLE VOLUME

The Adapter for small sample volume (APM) consists in a precision spindle rotating inside a sample container. Container fits into a circulating water jacket for precise temperature control (- 10° C to + 100° C). It is commonly used when available sample is in very small quantities (8 – 13 ml) and depending on the viscometer version uses a different set of cylindrical spindles which have to be ordered separately.

Direct readout of sample temperature is possible by ordering an Adapter with embedded temperature sensor in lower cap.

Viscosity range

V0L + special spindles set (TL5 – TL7):	3 - 200.000 mPas/cP
VOR + special spindles set (TR8 – TR11):	: 50 - 3.300.000 mPas/cP
V0H + special spindles set (TR8 – TR11):	: 4 - 266.000 dPas/P
V1L + special spindles set (TL5 – TL7):	1,5 - 200.000 mPas/cP
V1R + special spindles set (TR8 – TR11):	: 25 - 3.300.000 mPas/cP
V1H + special spindles set (TR8 – TR11):	: 2 - 266.000 dPas/P
V2L + special spindles set (TL5 – TL7):	1,5 - 600.000 mPas/cP
V2R + special spindles set (TR8 – TR11):	: 25 - 10.000 000 mPas/cP
V2H + special spindles set (TR8 – TR11):	: 2 - 800.000 dPas/P



SPINDLE R1

Only applicable to versions R and H. It allows extending the lower viscosity limit.

with model	VOR:	10	-	33.000	mPas/cP
with model	V1R:	5	-	33.000	mPas/cP
with model	V2R:	5	-	100.000	mPas/cP
with model	V0H:	0,8	-	2.666	mPas/cP
with model	V1H:	0,4	-	2.666	dPas/P
with model	V2H:	0,4	-	8.000	dPas/P

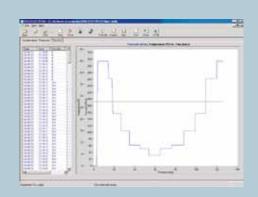


ACCESORIES

PC BASED SOFTWARE

ViscosoftBasic supplied together with model V1 allows to download data directly from Viscometer. Measured values are shown in a chart and can be saved in Excel format for posterior evaluation.

Use **ViscosoftPlus** with model V2 and control instrument from your PC. Software permits to program different analysis methods (processes) to obtain graphics and charts including test data. Results obtained can be displayed in graphics. Viscosity plots can be configured vs. different parameters.



ADAPTER FOR LOW VISCOSITY MATERIALS

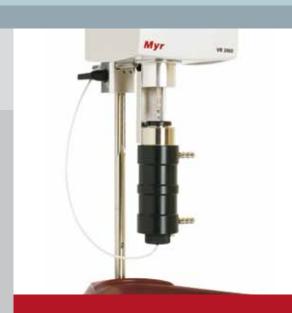
The Adapter for low viscosity materials (LCP) is an accessory which consists in a precision spindle rotating inside a sample container. Container fits into a circulating water jacket for precise temperature control

Used together with the MYR viscometers it allows accurate and reproducible measurements on low viscosity materials and shear rate determinations. It is commonly used to enlarge low viscosity ranges until 1 cP. It is also available with embedded PT 100 in lower cap for a direct readout of sample temperature and without water jacket for samples requiring to be temperized at high temperatures (up to 200°C).

Viscosity range

VOL:	0,6	-	2.000	mPas/cP
VOR:	6,4	-	21.333	mPas/cP
V0H:	0,51	-	1.700	dPas/P
V1L:	0,3	-	2.000	mPas/cP
V1R:	3,2	-	21.333	mPas/cP
V1H:	0,25	-	1.700	dPas/P
V2L:	0,3	-	6.000	mPas/cP
V2R:	3,2	-	64.000	mPas/cP

V2H: 0,25 - 5.120 dPas/P





ACCESORIES

ADAPTER FOR HELICOIDAL MOVEMENT

Used together with the viscometers of the VR 3000 serie, the Adapter for Helicoidal movement allows comparative viscosity measurements in substances which cannot be analyzed using standard methods and spindles. Useful to measure viscosity in creams, gels, gelatins and other materials which do not flow easily.

The up-down movement permits spindle to trace a helicoidal path in material avoiding holes and channels.in material. Adapter is supplied with 6 T-type special spindles (PA,PB,PC,PD, PE, PF)

Viscosity range

V0L + special spindles T-Type (PA-PF):	156 - 3.120.000 mPas/cP
VOR + special spindles T-Type (PA-PF):	1.660 - 33.300.000 mPas/cP
V0H + special spindles T-Type (PA-PF):	133 - 2.666.660 dPas/P
V1L + special spindles T-Type (PA-PF):	156 - 3.120.000 mPas/cP
V1R + special spindles T-Type (PA-PF):	1.660 - 33.300.000 mPas/cP
V1H + special spindles T-Type (PA-PF):	133 - 2.666.660 dPas/P
V2L + special spindles T-Type (PA-PF):	156 - 9.400.000 mPas/cP
V2R + special spindles T-Type (PA-PF):	1.660 -100.000.000 mPas/cP
V2H + special spindles T-Type (PA-PF):	133 - 8.000.000 dPas/P





APLICATIONS

MYR viscometers are present in different industrial sectors – chemical, food, pharmaceutical, cosmetic and print industry- to measure viscosity beneath others of products like: adhesives, paints and coatings, inks, dairy products, hot wax, solvents, paper pulp, gel, asphalt, chocolate, varnish, oils, food industry, chemical industry, pharmaceutical industry, print industry.



SCOPE OF DELIVERY

Our viscometers are supplied as a complete system in a very robust carrying case, including a complete set of standard spindles with storage rack (4 spindles with version L and 6 spindles with version R and H), spindle guard, temperature sensor PT 100 (only models V1 and V2) calibration certificate and user manual.

VISCOMETER SERIE VR 3000





ROTATIONAL VISCOMETER Model:V2-L Ser.No. Hour:08:15:30 Date:10-01-06 RESULTS mPas: 00000930

%: 46.9 sp: L3 rpm: 60 T: 25.9C

Signature



TECHNICAL DATA

Speeds

Model V0: 0.3, 0.5, 0.6, 1, 1.5, 2, 2.5, 3, 4, 5, 6, 10, 12, 20, 30, 50, 60, 100 rpm Model V1: 0.3, 0.5, 0.6, 1, 1.5, 2, 2.5, 3, 4, 5, 6, 10, 12, 20, 30, 50, 60, 100, 200 rpm Model V2: 0.1, 0.2, 0.3, 0.5, 0.6, 1, 1.5, 2, 2.5, 3, 4, 5, 6, 10, 12, 20, 30, 50, 60, 100, 200 rpm

Spindles

Version L (low viscosity): (4 spindle L1 – L2 – L3 – L4)

Version R (medium viscosity): (6 spindle R2 – R3 – R4 – R5 – R6 – R7) Version H (high viscosity): (6 spindle R2 – R3 – R4 – R5 – R6 – R7)

Viscosity range

V0 L: - 2.000.000 mPas/cP -72 ranges (18 speeds with 6 spindles) V0 R: 40 - 13.000.000 mPas/cP -108 ranges (18 speeds with 6 spindles) V0 H: 3,2 - 1.066.660 dPas/P -108 ranges (18 speeds with 6 spindles) V1 L: 3 - 2.000.000 mPas/cP - 76 ranges (19 speeds with 6 spindles) 20 - 13.000.000 mPas/cP -V1R: 114 ranges (19 speeds with 6 spindles) V1 H: 1,6 - 1.066.660 dPas/P - 114 ranges (19 speeds with 6 spindles) 6.000.000 mPas/cP -V2 L: 84 ranges (21 speeds with 6 spindles) V2 R: 20 - 40.000.000 mPas/cP - 126 ranges (21 speeds with 6 spindles) V2 H: 3.200.000 dPas/P 126 ranges (21 speeds with 6 spindles)

Accuracy: \pm 1% of full scale

Repeatability: $\pm 0.2\%$

Thermometer

Temperature range: $-15^{\circ}\text{C a} + 180^{\circ}\text{C (} + 5^{\circ}\text{F a} + 356^{\circ}\text{F)}$

Resolution: 0,1°C (0,1722°F

Accuracy: ± 0,1°C

CALIBRATION STANDARDS

Silicone oils certified, available on request.

STANDARDS

MYR viscometers, models V0, V1 and V2, comply with following standards:

BS: 6075, 5350 ISO: 2555, 1652

ASTM: 115, 789, 1076, 1084, 1286, 1417, 1439, 1638, 1824, 2196, 2336, 2364, 2393,

2556, 2669, 2849, 2983, 2994, 3232, 3236, 3716



Viscotech Hispania, SL

C/ Vidriers, 21 - 43700 El Vendrell - España Tel.: +34 977 668 020 / Fax: +34 977 668 030 viscotech@myr.com.es / www.myr.com.es