

Vane Spindles

Spindleset Vanes



Includes vane spindles V71 to V73.
Spindle V73 is also available separately.

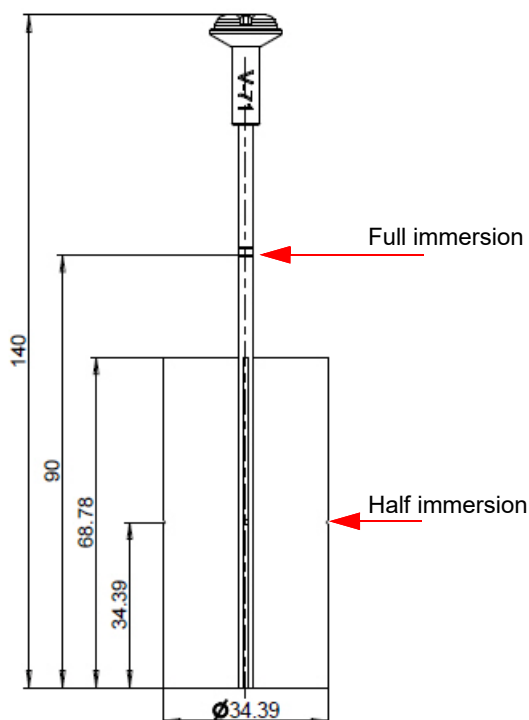
Spindles made of stainless steel AISI 316L (1.4404 / 1.4435). Equipped with Toolmaster™ and magnetic coupling. Intended for measuring paste or gel like substances, or shear sensitive substances, respectively. Vane spindles keep particles in suspension during measurement. Come with immersion marks for full or half immersion depth.

NOTE: The software package V-Curve is required for determining the yield stress with the vane technique (Method: AP Yield Point).

- ViscoQC 100 calculates viscosity with full immersion.
- ViscoQC 300 uses full immersion as default for calculation of viscosity. If only low sample volume is available and half immersion of V71 to V73 is needed, set the correct immersion depth in the method settings of ViscoQC 300.

The recommended speed range for vane spindles is up to 10 rpm. Above 10 rpm turbulences (Eddy currents) might cause higher viscosity readings. For yield stress determination (ViscoQC 300 + V-Curve), the maximum speed is 5 rpm.

Spindle V71

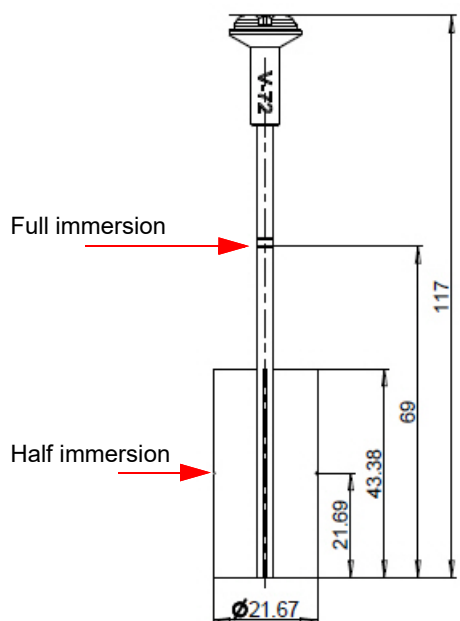


TIP: Spindle V71 should not be used with ViscoQC-L.

- The default SCF (Spindle Correction Factor) is 1.
- Viscosity limits calculated for a torque range of 10 % to 100 %.
- Viscosity limits specified for full immersion.
- Size of particles in samples: from 0.2 mm up to max. 2 mm

ViscoQC Model	Sample volume full / half immersion mL	SMC ^a	SRC ^b	YMC ^c	Minimum viscosity ^d Pa·s	Maximum viscosity Pa·s
R	600 mL beaker: 500 / 300	2.62	---	0.5	@ 10 rpm: 0.262	@ 10 rpm: 2.620
H	600 mL beaker: 500 / 300	2.62	---	0.5	@ 10 rpm: 2.096	@ 10 rpm: 20.96

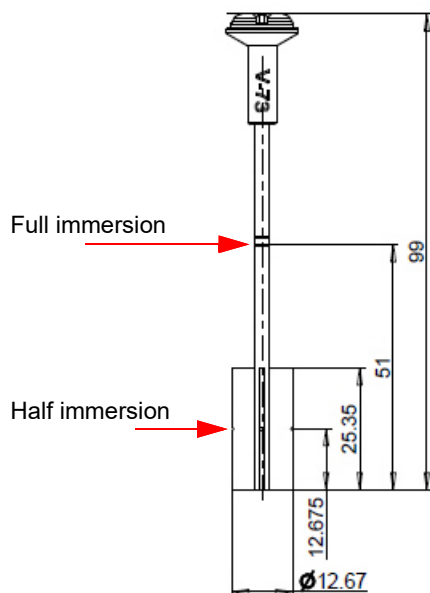
- a. Spindle Multiplier Constant – for full immersion depth. Multiply by 2 to get the SMC for half immersion depth.
 b. Shear Rate Constant – not available for relative measuring systems
 c. Yield Multiplier Constant – for yield stress determination with vane spindles and V-Curve
 d. The recommended maximum speed is 10 rpm (to avoid turbulences).

Spindle V72


- The default SCF (Spindle Correction Factor) is 1.
- Viscosity limits calculated for a torque range of 10 % to 100 %.
- Viscosity limits specified for full immersion.
- Size of particles in samples: from 0.2 mm up to max. 2 mm

ViscoQC Model	Sample volume full / half immersion mL	SMC ^a	SRC ^b	YMC ^c	Minimum viscosity ^d Pa·s	Maximum viscosity Pa·s
L	400 mL beaker: 350 / 250	11.1	---	2.0	@10 rpm: 0.104	@10 rpm: 1.04
R	400 mL beaker: 350 / 250	11.1	---	2.0	@10 rpm: 1.11	@10 rpm: 11.1
H	400 mL beaker: 350 / 250	11.1	---	2.0	@10 rpm: 8.88	@10 rpm: 88.8

- Spindle Multiplier Constant – for full immersion depth. Multiply by 2 to get the SMC for half immersion depth.
- Shear Rate Constant – not available for relative measuring systems
- Yield Multiplier Constant – for yield stress determination with vane spindles and V-Curve
- The recommended maximum speed is 10 rpm (to avoid turbulences).

Spindle V73


Dimensions in mm

- The default SCF (Spindle Correction Factor) is 1.
- Viscosity limits calculated for a torque range of 10 % to 100 %.
- Viscosity limits specified for full immersion.
- Size of particles in samples: from 0.2 mm up to max. 2 mm

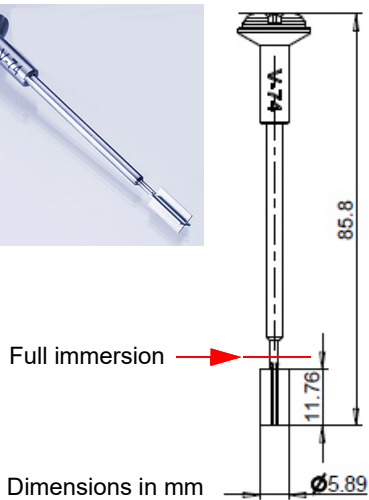
ViscoQC Model	Sample volume full / half immersion mL	SMC ^a	SRC ^b	YMC ^c	Minimum viscosity ^d Pa·s	Maximum viscosity Pa·s
L	250 mL beaker: 200 / 160	53.5	---	10.0	@10 rpm: 0.500	@10 rpm: 5
R	250 mL beaker: 200 / 160	53.5	---	10.0	@10 rpm: 5.330	@10 rpm: 53.3
H	250 mL beaker: 200 / 160	53.5	---	10.0	@10 rpm: 42.64	@10 rpm: 426.4

a. Spindle Multiplier Constant – for full immersion depth. Multiply by 2 to get the SMC for half immersion depth.

b. Shear Rate Constant – not available for relative measuring systems

c. Yield Multiplier Constant – for yield stress determination with vane spindles and V-Curve

d. The recommended maximum speed is 10 rpm (to avoid turbulences).

Spindle V74


Spindle made of stainless steel AISI 316L (1.4404 / 1.4435). Equipped with Toolmaster™ and magnetic coupling. Intended for measuring paste or gel like substances, or shear sensitive substances, respectively. Vane spindles keep particles in suspension during measurement.

Has only full immersion. For very low sample volume.

NOTE: The software package V-Curve is required for determining the yield stress with the vane technique (Method: AP Yield Point).

ViscoQC Model	Sample volume mL	SMC ^a	SRC ^b	YMC ^c	Minimum viscosity ^d Pa·s	Maximum viscosity Pa·s
L	25 mL beaker: 20	543.0	---	100.0	@10 rpm: 5.090	@10 rpm: 50.9
R	25 mL beaker: 20	543.0	---	100.0	@10 rpm: 54.3	@10 rpm: 543
H	25 mL beaker: 20	543.0	---	100.0	@10 rpm: 434.4	@10 rpm: 4 344

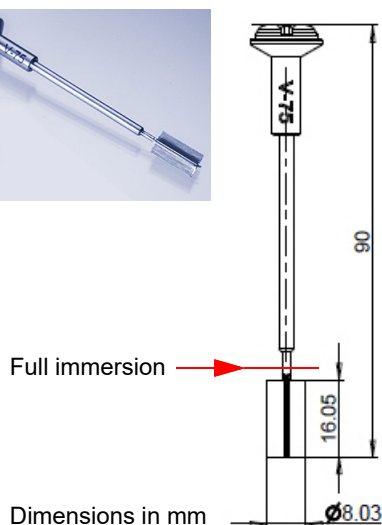
a. Spindle Multiplier Constant

b. Shear Rate Constant – not available for relative measuring systems

c. Yield Multiplier Constant – for yield stress determination with vane spindles and V-Curve

d. The recommended maximum speed is 10 rpm (to avoid turbulences).

- The default SCF (Spindle Correction Factor) is 1.
- Viscosity limits calculated for a torque range of 10 % to 100 %.
- Size of particles in samples: from 0.2 mm up to max. 2 mm

Spindle V75


Spindle made of stainless steel AISI 316L (1.4404 / 1.4435). Equipped with Toolmaster™ and magnetic coupling. Intended for measuring paste or gel like substances, or shear sensitive substances, respectively. Vane spindles keep particles in suspension during measurement.

Has only full immersion. For very low sample volume.

NOTE: The software package V-Curve is required for determining the yield stress with the vane technique (Method: AP Yield Point).

ViscoQC Model	Sample volume mL	SMC ^a	SRC ^b	YMC ^c	Minimum viscosity ^d Pa·s	Maximum viscosity Pa·s
L	100 mL beaker: 60	213.0	---	40.0	@10 rpm: 1.996	@10 rpm: 19.96
R	100 mL beaker: 60	213.0	---	40.0	@10 rpm: 21.3	@10 rpm: 213
H	100 mL beaker: 60	213.0	---	40.0	@10 rpm: 170.4	@10 rpm: 1 704

a. Spindle Multiplier Constant

b. Shear Rate Constant – not available for relative measuring systems

c. Yield Multiplier Constant – for yield stress determination with vane spindles and V-Curve

d. The recommended maximum speed is 10 rpm (to avoid turbulences).

- The default SCF (Spindle Correction Factor) is 1.
- Viscosity limits calculated for a torque range of 10 % to 100 %.
- Size of particles in samples: from 0.2 mm up to max. 2 mm