

**Precise measuring instruments  
for viscosity and surface science**

**Product range 2024 / 2025**

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# Cleaning modules VRM

**Precise data. Constant values.**

## Cleaning modules VRM



The analysis of most polymers requires the use of hazardous solvents such as phenol / dichlorobenzene (e.g. for PET), m-cresol or concentrated sulfuric acid (e.g. for PA). The VRM cleaning module enables the fully automatic cleaning and drying of the viscometers, preventing the user of getting in direct contact with those harmful substances.

Depending on the configuration, one or two viscometers can be connected and two different cleaning liquids can be handled separately. The VRM 4 HT series is designed to handle even very hot samples of up to 160°C or highly viscous samples with 1,000 mm<sup>2</sup>/s. The glass viscometers are cleaned by using cleaning solvents and dried with a volatile solvent and ambient air.

The VRM 4 S enables automatic cleaning even with concentrated sulfuric acid.

### Special Features:

- || Automatic rinsing of the viscometer without removing it
- || Inert and corrosion-free for all standard solvents
- || Individual definition of cleaning procedures using PC software
- || No external connections necessary
- || Two different rinsing liquids (the first for cleaning, the second for drying) can be handled
- || **VRM 4** for use with most common solvents, **VRM 4 S** with resistance to sulfuric acid, **VRM 4 HT** for high temperatures and high viscosity (external suction pump VRP (LMRZ809) required)

Technical data	VRM 4 (LMR 911)	VRM 4 S (LMR 912)	VRM 4 HT (LMR 913)
Temperature range	20...100°C	20...100°C	20...160°C
Viscosity range of samples	0.3...100 mm <sup>2</sup> /s	0.3...100 mm <sup>2</sup> /s	0.3...1,000 mm <sup>2</sup> /s
Number of cleaning agents	2	2	2
Dimensions (WxDxH)	130x160x130 mm	130x160x130 mm	130x160x130 mm
Weight, net	4.8 kg	4.8 kg	4.6 kg

### Note:

VRM can only be used in combination with a PVS system (not with iVisc) and are mandatory for VAS systems. For using VRM 4 HT the suction pump VRP (LMRZ809) is needed additionally.

### Necessary accessories:

- || Connection sets with sample transfer locks for capillaries
- || Mounting sets for suitable viscothermostats
- || Waste and reservoir bottles

### Scope of supply:

- || Cleaning Module VRM4/S/HT (UD 692/UD 739/UD 740)
- || Tubing set for waste and reservoir bottle (LMRZ932)
- || Connection cable to PVS (UK 230)

## Accessories for VRM

### LMRZ809 Suction pump VRP

Viscosity rinsing pump VRP for use with VRM 4 HT, PC controlled, incl. connection cable VRM

### Connection sets with manual transfer locks

For **each** measuring stand S5 there is an individual connection set needed, according to the viscometer type used.

#### LMRZ909 Connection set 1

For viscometer with aspirating leg (Type 2, Type 6), viscosity range 0.3...100 mm<sup>2</sup>/s, incl. manual transfer lock 1 (UD 500), tubing set 4-leg (LMRZ937)



LMRZ909

#### LMRZ910 Connection set 2

For viscometer without aspirating leg (Type 1, Type 3, Type 5, Type 7), viscosity range 0.3...30 mm<sup>2</sup>/s, incl. manual transfer lock 2 (UD 501), tubing set 3-leg (LMRZ938)

#### LMRZ920 Connection set 6

For dilution viscometer (Type 4), incl. manual transfer lock 2 (UD 501), tubing set dilution (LMRZ939)

#### LMRZ923 Connection set 9

For viscometer with aspirating leg (Type 2, Type 6), viscosity range 100...1,000 mm<sup>2</sup>/s, incl. manual transfer lock 4 (UD 702), tubing set 3-leg (LMRZ938)



LMRZ927

### Mounting sets for viscothermostats

For proper installation of the VRM modules it is absolutely essential to select the appropriate mounting set for the corresponding viscothermostat.

#### LMRZ904 Mounting set for Viscotemp Pro 15 (L)

For mounting of max. **one** VRM module to the viscothermostat

#### LMRZ905 Mounting set for Viscotemp Pro 24 (L)

For mounting of max. **two** VRM modules to the viscothermostat

#### LMRZ906 Mounting set for Viscotemp Pro 36

For mounting of max. **three** VRM module to the viscothermostat

#### LMRZ945 Mounting set for Viscotemp ET

For mounting of max. **one** VRM module to the viscothermostat

#### LMRZ916 Mounting set for Viscotemp ET

For mounting of max. **two** VRM module to the viscothermostat

#### LMRZ927 Mounting set for Viscotemp 15 / 24

For mounting of max. **one** VRM module to the viscothermostat



LMRZ931

### Waste and reservoir bottles

#### LMRZ931 Set of flasks and tubings 15

5x flasks DURAN (1x 2 liter, 4x 1 liter), 3x stopper with tubings

#### LMRZ930 Set of flasks and tubings 24

6x flasks DURAN (1x 5 liter, 2x 2 liter, 3x 1 liter), 3x stopper with tubings

#### LMRZ907 Stopper with tubings



LMRZ907





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