

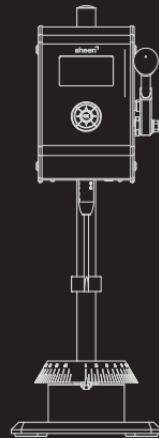


sheen[®]

Gel Strength Tester

DV2400 - Viscometer

Operating Instructions
(V1.0 0621)



IMPORTANT!

Before taking this instrument in use we strongly advise you to read this manual carefully.

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This product complies to

- Machinery Directive 2006/42 / EC
- Low Voltage Directive 2006/95 / EC
- EMC Directive 2004/108 / EC



This product is RoHS 2 compliant (2011/65/EU)

1 GENERAL

1.1 Importance of operating manual

This manual is written in order to become familiar with all the functions and possible applications of the instrument. It contains important instructions about how to use the instrument safely and economically; according to the purpose designated. Following these instructions is not only essential to avoid risks. It also reduces repair costs and down-time and increases the products reliability and service-life.

Anyone who works with the instrument should follow the instructions in this manual, particularly the safety related instructions. Additionally local rules and regulations relating to environmental safety and accident prevention should be observed.

1.2 User-responsibility

The user should

- a) Only allow persons to work with the instrument who are familiar with the general instructions on how to work safely and to prevent accidents. The use of the instrument should have been instructed duly. The safety chapter and the warnings in this manual should have been read and understood; acknowledged as evidenced by their signature.
- b) Regularly check the safety-awareness of personnel at work.

1.3 Responsibility of personnel

Before commencing work anyone appointed to work with the instrument should pay attention to the general regulations relating to working safety and accident prevention. The safety chapter and the warnings in this manual should have been read and understood; acknowledged as evidenced by their signature.

1.4 Dangers

This instrument has been designed and constructed in accordance with state-of-the-art technology and the acknowledged safety regulations. Nevertheless, working with the instrument may cause danger to the life and health of the operator or to others, or damage to the instrument or other property. Therefore the instrument should only be used for its designated purpose, and in a perfect technical condition. Any defect that could have a negative effect on safety should be repaired immediately.

1.5 Designated purpose

The Sheen Gel Strength Tester is exclusively designed to be used to measure the viscosity of paint and relate products in G.CM in laboratory and production environment. The design is setup for use with Sheen pindles and is carefully calibrated to conform to use according ISO 2884-2. Other applications constitute improper use. Industrial Physics will not be held liable for damage resulting from improper use.

1.6 Copyright

The copyright of this operating manual remains with Industrial Physics.

This operating manual is intended solely for the user and his personnel. Its instructions and guidelines may not be duplicated, circulated or otherwise passed on to others, neither fully, nor partly.

Infringement of these restrictions may lead to legal action may be taken if these restrictions are infringed upon.

1.7 Manufacturer's/Supplier's address




Industrial Physics
Molenbaan 19
2908 LL Capelle aan den IJssel

The Netherlands
T +31(0)10-7900100
F +31 (0)10-7900129

2 SAFETY INSTRUCTIONS

2.1 Meaning of Symbols

The following symbols for dangers are used in this instruction manual.

Symbol	Explanation	Warning
 Danger	Possible immediate danger to the life or health of personnel	If this guideline is not noted it can lead to severe danger to health, up to fatal injury
 Warning	A dangerous situation could be caused	Non observance of this guideline can lead to injury or to damage to equipment.
 NOTE	Special tips and particular information	Guidelines to make optimal use of the instrument.

2.2 Availability of Safety Information

The instruction manual should be kept at the place where the instrument is operated.

In addition to the information contained in the instruction manual, general and local regulations for accident prevention and environmental protection shall be kept available and observed.

Always ensure all guidelines in respect of safety and dangers on the instrument are in readable condition.

In case of danger the instrument has to be switched off. Then eliminate danger.

2.3 Training of Personnel

- Anyone who operates the instrument should be trained properly.
- It has to be clear who has which responsibility regarding commissioning, set-up of maintenance and repairs, installation, and operation.
- Anyone who hasn't finished training should be supervised by an experienced person while working with the instrument.

2.4 Dangers from Electrical Energy

- Work on the electrical supply may only be done by a qualified electrician.
- The electrical equipment of the instrument must be checked regularly. Loose connections and cable damaged by heat must be corrected immediately.
- Always make sure the instrument's power is turned off while adjusting any electrical component.

2.5 Points of special danger - Gel Stength Tester



Danger

**The Gel Stength Tester use a powerfull motor.
Do not touch moving parts during testing.**

**Contacting a moving spindle may cause injuries.
Though the Gel Stength Tester is limited in strength it can still cause pain.**



Warning

Don't leave the Gel Stength Tester unattended for extended periods.

2.6 Care, Maintenance, Repairs

- Always make sure the instrument is connected to an earthed socket.
- Maintenance and inspection should be carried out at the correct intervals.
- Operating personnel should be informed before starting with maintenance or repair work .
- Always make sure the instruments power is turned off and the instrument is not connected to a socket while adjusting any electrical component whenever maintenance, inspection or repair work is done.
- Do not open the instrument. In case of malfunction always consult the manufacturer.
- Never touch electronics or circuit boards when not ESD secured.

2.7 Modifications to the Equipment

- Any modifications or additions or alterations to the instrument may solely be made with permission from the manufacturer.
- All measures involving modifications require written confirmation of approval from Industrial Physics.
- Instruments which are not in fault-free condition must immediately be switched off.
- Only use replacement parts from the original supplier. Parts used from other sources aren't guaranteed to take the loading and meet the safety requirements.

2.8 Cleaning of the Instrument and Disposal of Materials

- When in use it is not always possible to avoid some spill of paint on the work surface.
- Try to keep the instrument as clean as possible to prevent distortions of functions.
- To clean the instrument properly use a suitable solvent to dispose remains of paint or ink.
- Wear gloves during cleaning; Don't spill an overdose of solvent during cleaning.
- Cleaning materials must always be used and disposed of correctly.

3 TRANSPORT AND STORAGE

3.1 Packing

Please take note of pictorial symbols on the packing.

3.2 User: Check on Receipt

Check packing for damage

After unpacking check complete supply.

3.3 Reporting Transport Damage and Documentation

Any damage should be documented as accurately as possible (possibly photographed) and reported to the relevant insurers or, in the case of sales "delivered to customers works", to the supplier.

3.4 Storage and Protective Measures when not in use

The instrument must be stored in a dry ($\pm 40\%rH$) place at a temperature between 10 - 40°C.

The storage period should not be longer than 3 months. Store instrument in the original packing if possible.

4 SCOPE OF SUPPLY

- DV2400 - Gel Strength Tester*
- Handle
- Can
- 240V/110V power adapter
- Spindle

*Adicional and calibration oils have to be ordered separately.

5 FEATURES

- easy to use
- highly accurate
- manual and automatic operation
- four lines digital display with backlight
- level adapter set (½ pint, 1 pint) included

6 INSTRUMENT DATA

6.1 Name / Article

DV2400 Sheen Gel Strength Tester

6.2 Accessories (Optional)

Art. Nr.	Paddle ID	Number of blades	Blade size: (Height x Width)
DV2401	D	2	20.0 x 40.0 mm (Standard supply with 414N)
DV2402	D2	2	10.0 x 30.0 mm
DV2403	D3	2	10.0 x 20.0 mm
DV2404	D4	4	50.0 x 55.0 mm
DV2405	D5	2	20.0 x 20.0 mm
DV2406	D6	2	40.0 x 40.0 mm
DV2407	D7	2	50.0 x 20.0 mm
DV2408	D8	2	3.0 x 40.0 mm

6.3 Technical Data

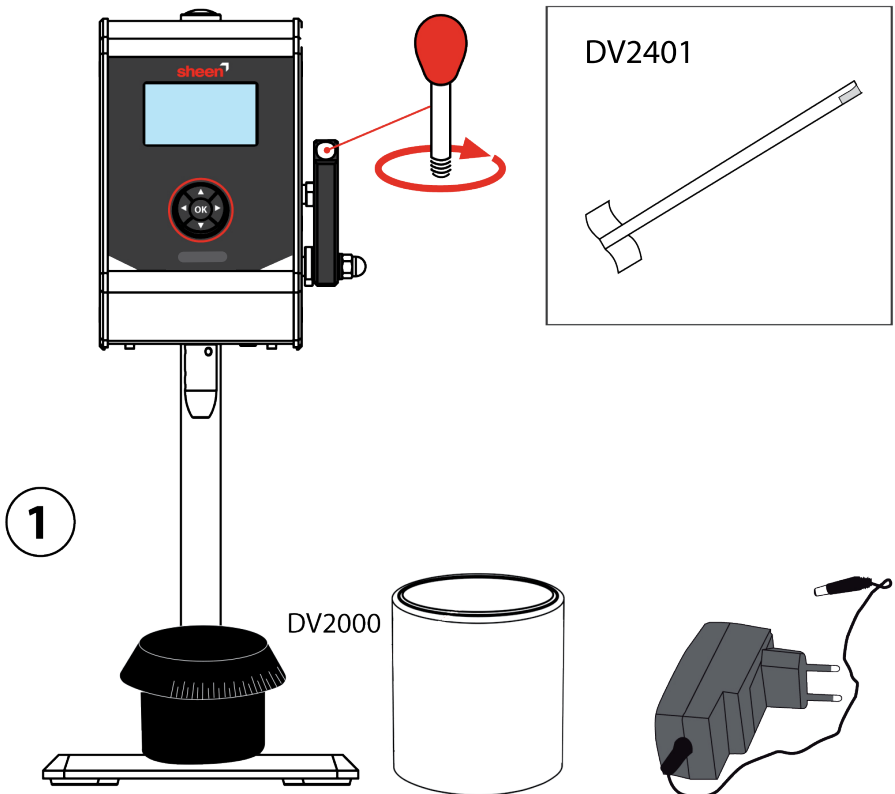
Mains : 100-240V / 50-60Hz
Operating temperature : +5°C - +40°C / +41°F - 104 °F
Net weight : 8500 g / 18.7 lbs
Speed : 0.5 - 5.0 rpm

Spindle : Gel Strength Tester DV2401
Range : 0 – 450 g/cm
Resolution : 10 g . cm
Accuracy : ± 2% of full scale Repeatability
 ± 1% of full scale
Sample container : Minimal diameter of opening.
Dimensions : 200 x 360 x 550mm / 7.9 x 14.2 x 21.7inch (w x d x h)

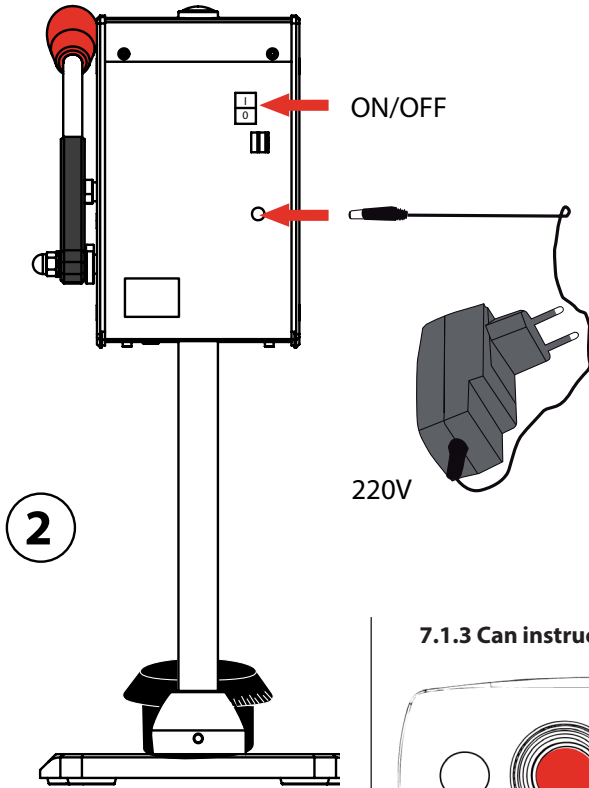
7 OPERATION

7.1 Assembly

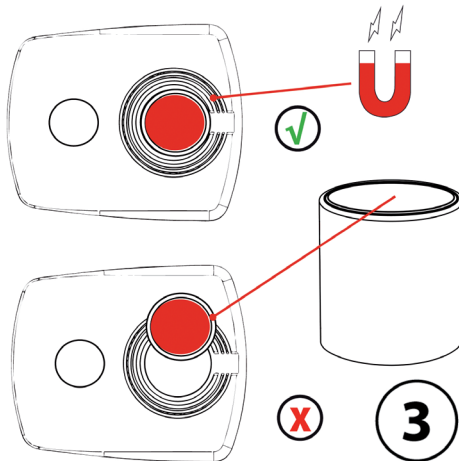
7.1.1 Parts



7.1.2 Plug connection ON/OFF switch

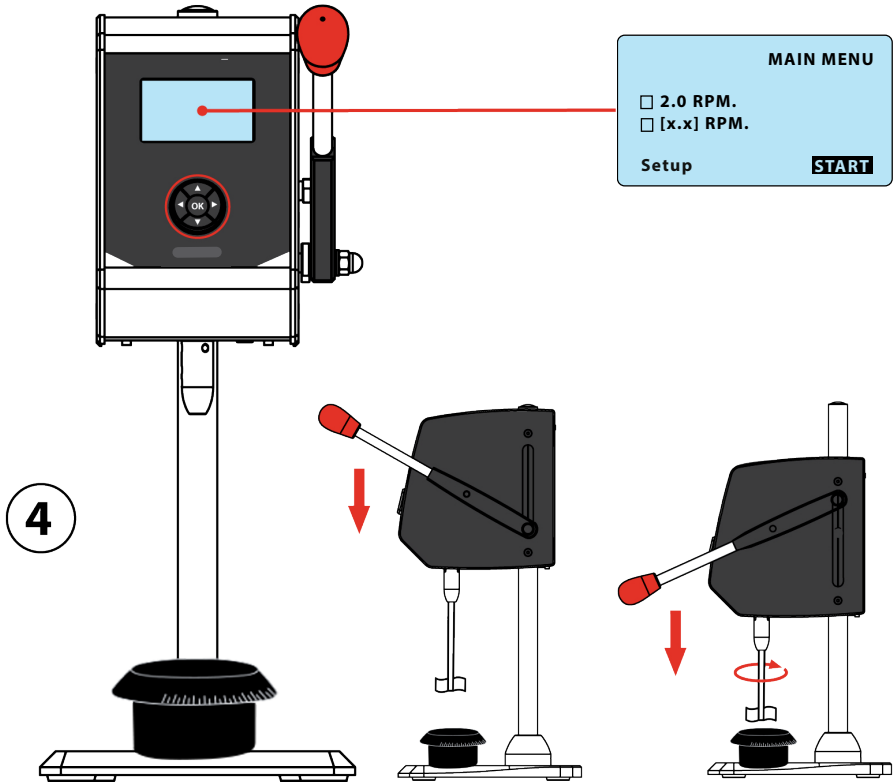


7.1.3 Can instruction

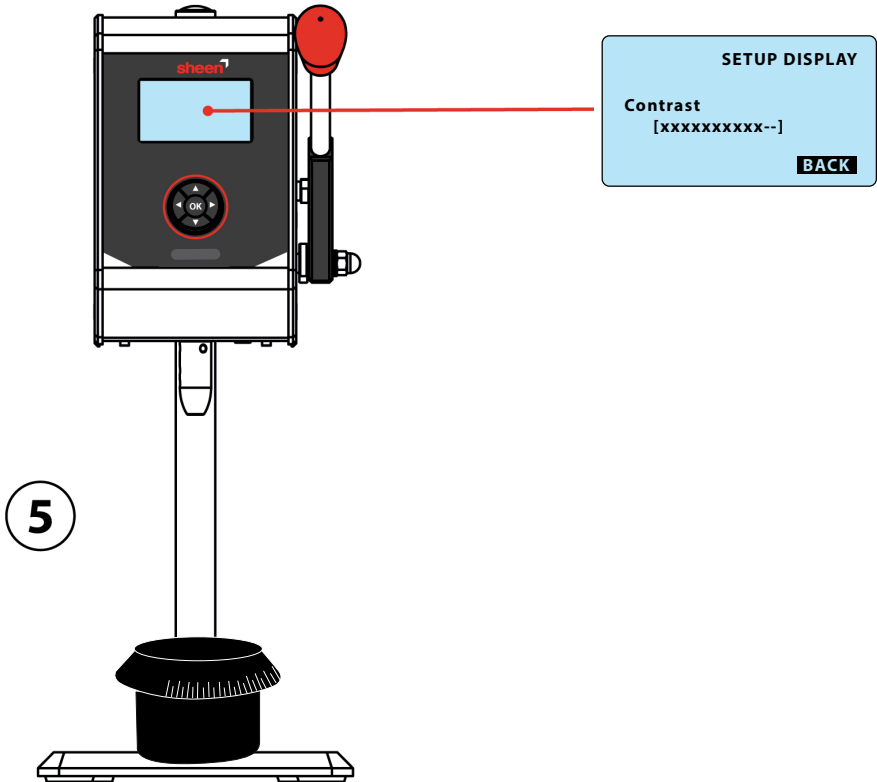


Fill the can **WITH THE SPINDLE IN IT** to 1 cm below the rim.

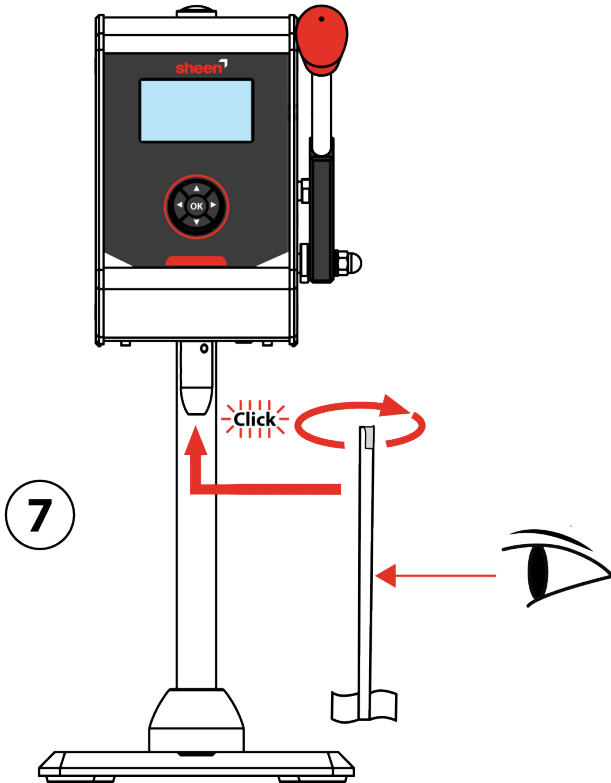
7.2 Main menu



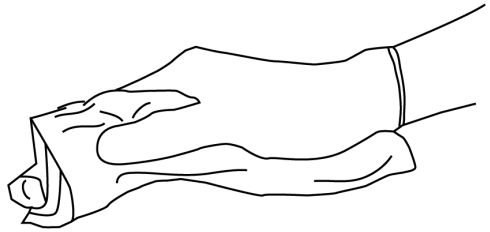
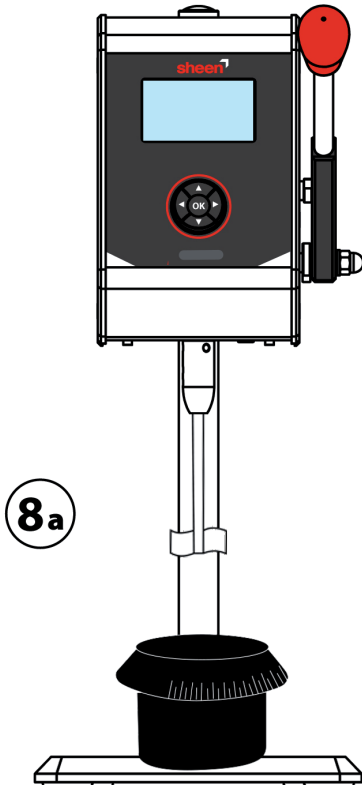
7.3 Setup menu

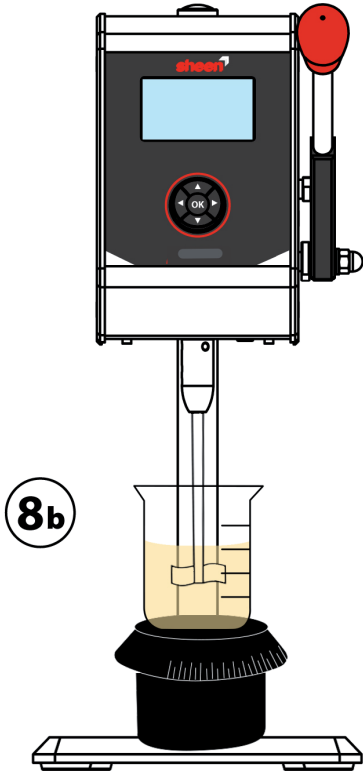


7.3.1 Setup spindle



7.4 Cleaning





7.5 Calibration

Calibration is only possible at Industrial Physics service department.
Contact us for a service agreement.

8 CARRYING OUT A MEASUREMENT

8.1 Inspection and Maintenance

The Gel Strength Tester is a redesign of the Sheen 414N, The model has some enhanced features to the original Sheen 414N. The TQC Sheen model is enhanced with the full range of spindles as once supplied by Sheen. The new model is equipped with variable speed in the range from 0.5 to 5 rpm, in contradiction to the original 2 rpm of the 414N. This allows for a wider range of tests and possibilities. The selection of smaller spindles or a lower rpm allow for testing of thicker products. Bigger spindles and a higher speed allow for testing of products with a lower viscosity.

9 CARE AND MAINTENANCE

9.1 Customer Service

When requesting service always include Model No. and Serial No. from device tag.
Customer service is provided on request by:

Industrial Physics

Molenbaan 19
2908 LL Capelle aan den IJssel
The Netherlands,
T +31 (0)10 7900100
F +31 (0)10 7900129
Email: sales-ic@industrialphysics.com

Conformity Declaration

Industrial physics Inks & Coatings B.V., hereby declares that the product(s) mentioned on this declaration have been produced according, and comply with our internal standards and if applicable with the relevant international standards.

The product(s) have been tested according the appropriate quality instruction, which is part of IPIC's quality system, which is annually audited by DNV GL – Business Assurance as the independent national accredited body, and has been found conform to the Management System Standard NEN-EN-ISO 9001:2015, traceable through Certificate Number: 258308-2018-AQ-NLD-RvA

Product	Sheen Gel Strength Tester
Manufacturer	Industrial Physics
Reference Standard	-
Applicable safety standards	The machine conforms to all applicable safety guidelines for CE marking.
Article codes	DV2400

Remco Wever



Industrial physics Inks & Coatings B.V.
Molenbaan 19
2908 LL Capelle aan den IJssel
The Netherlands

Made in: Capelle aan den IJssel, 24 June 2021

11. DISCLAIMER

The right of technical modifications is reserved.

The information given in this manual is not intended to be exhaustive and any person using the product for any purpose other than that specifically recommended in this manual without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. Whilst we endeavor to ensure that all advice we give about the product (whether in this manual or otherwise) is correct we have no control over either the quality or condition of the product or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing to do so, we do not accept any liability whatsoever or howsoever arising for the performance of the product or for any loss or damage (other than death or personal injury resulting from our negligence) arising out of the use of the product. The information contained in this manual is liable to modification from time to time in the light of experience and our policy of continuous product development.

