

Lovibond® Water Testing

Tintometer® Group



Manual of Methods

MD50

Hazen

EN MD50 Photometer

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NL MD50 Fotometer

Zijde 40

RU Фотометр MD50

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DE MD50 Photometer

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FR MD50 Photomètre

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IT Fotometro MD50

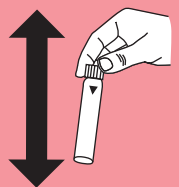
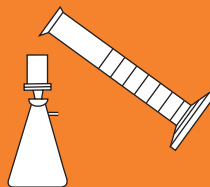
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TR MD50 fotometre

Sayfa 46

ZH MD50 光度计

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KS4.3 T / 20


Method name

Method number

Bar code for the detection of the methods

Measuring range

20

S:4.3

Chemical Method

Display in the MD 100 / MD 110 / MD 200

Instrument specific information

The test can be performed on the following devices. In addition, the required cuvette and the absorption range of the photometer are indicated.

| Instrument Type | Cuvette | λ | Measuring Range |
|---|---------|--------|---------------------------|
| MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | ø 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |
| SpectroDirect, XD 7000, XD 7500 | ø 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |

Material

Required material (partly optional):

| Reagents | Packaging Unit | Part Number |
|-------------------|----------------|-------------|
| Alka-M-Photometer | Tablet / 100 | 513210BT |
| Alka-M-Photometer | Tablet / 250 | 513211BT |

Application List

- Waste Water Treatment
- Drinking Water Treatment
- Raw Water Treatment

Notes

1. The terms Alkalinity-m, m-Value, total alkalinity and Acid demand to $K_{S4.3}$ are identical.
2. For accurate results, exactly 10 ml of water sample must be used for the test.

Language codes ISO 639-1

Revision status

EN Handbook of Methods 01/20

Performing test procedure

Implementation of the provision Acid capacity $K_{S_{4.3}}$ with Tablet

Select the method on the device

For this method, no ZERO measurements are to be carried out with the following devices: XD 7000, XD 7500



Fill 24 mm vial with **10 ml sample**.



Close vial(s).



Place **sample vial** in the sample chamber. • Pay attention to the positioning.

• • •



Dissolve tablet(s) by inverting.



Place **sample vial** in the sample chamber. • Pay attention to the positioning.



Press the **TEST (XD: START)** button.

The result in Acid Capacity $K_{S_{4.3}}$ appears on the display.



Hazen 24

M204

10 - 500 mg/L Pt

PtCo

(APHA) Platinum Cobalt Standard
Method

EN

Material

Required material (partly optional):

| Reagents | Packaging Unit | Part Number |
|---------------------|----------------|-------------|
| no reagent required | | |

Preparation

1. Sample collection, preservation and storage:
Pour the water sample into clean glass or plastic containers and analyse as soon as possible after the sample is taken. If this is not possible, fill the container right up to the top and seal tightly. Do not stir the sample and avoid lengthy contact with the air. The sample may be stored in a dark place at a temperature of 4 °C for 24 hours. Before carrying out any measurements, the water sample should be brought up to room temperature.

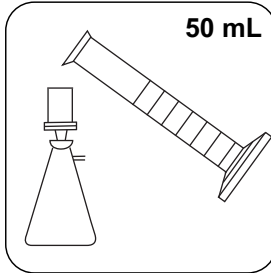
Notes

1. This colour scale was originally developed by A. Hazen as a visual comparison scale. It is therefore necessary to ascertain whether the extinction maximum of the water sample is in the range between 420 and 470 nm, as this method is only suitable for water samples with yellowish to yellowish-brown colouration. Where applicable, a decision should be made based on visual inspection of the water sample.
2. This method is calibrated on the basis of the standards specified by "Standard Methods for the Examination of Water and Wastewater" (also see EN ISO 7887:1994). Pt-Co colour unit $\hat{=}$ 1 mg/L of platinum as chloroplatinate ion
3. Colour may be expressed as "true" or "apparent" colour. The apparent colour is defined as the colour of a solution due to dissolved substances and suspended particles in the sample. This manual describes the determination of true colour by filtration of the water sample. To determine the apparent colour, non-filtrated deionised water and sample are measured.
4. The estimated detection limit for this method is 15 mg/L Pt.

Determination of Colour, true and apparent

Select the method on the device.

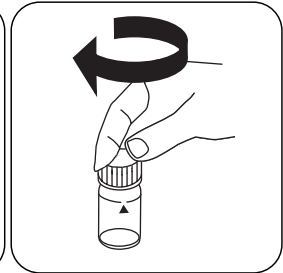
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



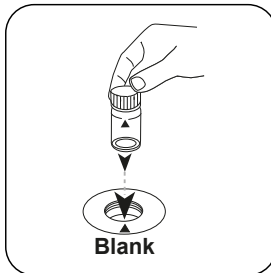
Filter approx. 50 mL sample with a pre-rinsed filter (pore size 0.45 µm).



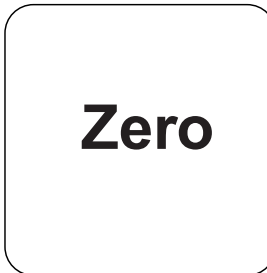
Put **10 mL deionised water** in the blank.



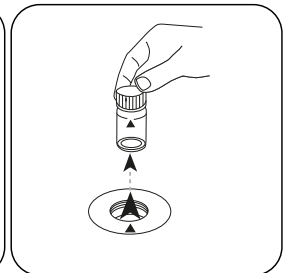
Close vial(s).



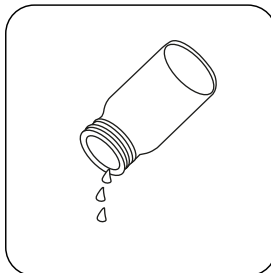
Place **blank** in the sample chamber. Pay attention to the positioning.



Press the **ZERO** button.



Remove the vial from the sample chamber.

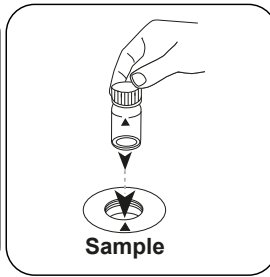


Empty vial.

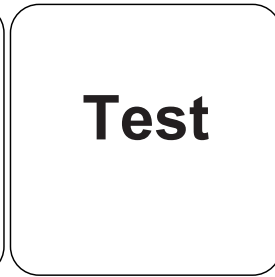
For devices that require **no ZERO measurement**, start here.



Fill 24 mm vial with **10 mL** prepared sample .



Place **sample vial** in the sample chamber. Pay attention to the positioning.



Press the **TEST** (XD: **START**) button.

The result in Pt-Co units appears on the display.



Chemical Method

(APHA) Platinum Cobalt Standard Method

Appendix

According to

DIN 7887-C1
(WL 430, 455 nm;
Standard: 410 nm)

EN

KS4.3 T / 20


Methoden Name

Methodennummer

Barcode zur Methodenerkennung

Messbereich

20

S:4.3

Chemische Methode

Säure / Indikator

Displayanzeige im MD 100 MD 110 / MD 200

Instrumentenspezifische Informationen

Der Test kann auf den folgenden Geräten durchgeführt werden. Zusätzlich sind die benötigte Küvette und der Absorptionsbereich der Photometer angegeben.

| Geräte | Küvette | λ | Messbereich |
|---|---------|-----------|---------------------------|
| MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | ø 24 mm | 610 nm | 0,1 - 4 mmol/l $K_{S4.3}$ |
| SpectroDirect, XD 7000, XD 7500 | ø 24 mm | 615 nm | 0,1 - 4 mmol/l $K_{S4.3}$ |

Material

Benötigtes Material (zum Teil optional):

| Reagenzien | Form/Menge | Bestell-Nr. |
|-------------------|----------------|-------------|
| Alka-M-Photometer | Tablette / 100 | 513210BT |
| Alka-M-Photometer | Tablette / 250 | 513211BT |

Anwendungsbereich

- Abwasserbehandlung
- Trinkwasseraufbereitung
- Rohwasserbehandlung

Anmerkungen

1. Die Begriffe Alkalität-m, m-Wert, Gesamtalkalität und Säurekapazität $K_{S4.3}$ sind identisch.
2. Die exakte Einhaltung des Probevolumens von 10 ml ist für die Genauigkeit des Analyseergebnisses entscheidend.

Sprachkürzel nach ISO 639-1

Revisionsstand

DE Methodenhandbuch 01/20

Durchführung der
Messung**Durchführung der Bestimmung Säurekapazität $K_{s4,3}$ mit Tablette**

Die Methode im Gerät auswählen.

Für diese Methode muss bei folgenden Geräten keine ZERO-Messung durchgeführt werden: XD 7000, XD 7500



24-mm-Küvette mit **10 ml Probe** füllen.

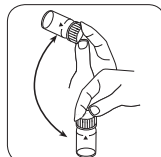


Küvette(n) verschließen.

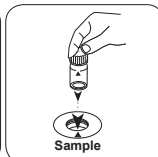


Die **Probeküvette** in den Messschacht stellen. Positionierung beachten.

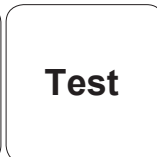
• • •



Tablette(n) durch Umschwenken lösen.



Die **Probeküvette** in den Messschacht stellen. Positionierung beachten.



Taste **TEST** (XD: **START**) drücken.

In der Anzeige erscheint das Ergebnis als Säurekapazität $K_{s4,3}$.



Hazen 24

M204

10 - 500 mg/L Pt

PtCo

(APHA) Platin-Kobalt Standard Methode

Material

DE

Benötigtes Material (zum Teil optional):

| Reagenzien | Form/Menge | Bestell-Nr. |
|---------------------------|------------|-------------|
| kein Reagenz erforderlich | | |

Vorbereitung

1. Probennahme, Konservierung und Lagerung:
Die Wasserprobe in saubere Glas- oder Kunststoffbehälter füllen und möglichst sofort nach der Probenahme analysieren. Sollte dies nicht möglich sein, den Behälter bis zum Rand mit der Wasserprobe füllen und fest verschließen. Die Probe nicht rühren und längeren Kontakt mit der Luft vermeiden. Für 24 Stunden kann die Probe im Dunkeln bei 4 °C gelagert werden, dann ist die Wasserprobe vor der Durchführung der Messung auf Raumtemperatur zu bringen.

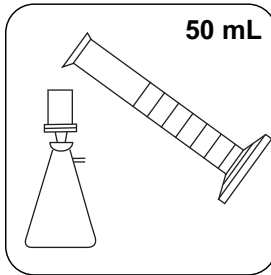
Anmerkungen

1. Ursprünglich wurde diese Farbskala von A. Hazen als visuelle Vergleichsskala entwickelt. Es ist daher notwendig zu überprüfen, ob sich das Extinktionsmaximum der Wasserprobe im Bereich 420 nm bis 470 nm befindet, da diese Methode nur für gelblich bis gelbbraun gefärbte Wasserproben geeignet ist. Gegebenenfalls ist dies durch visuelle Betrachtung der Wasserprobe zu entscheiden.
2. Die Methode ist auf der Basis des von "Standard Methods for the Examination of Water and Wastewater" angegebenen Standards kalibriert (siehe auch EN ISO 7887:1994).
3. 1 Pt-Co-Farbeeinheit \pm 1 mg/L Platin als Chlorplatinat-Ion.
4. Der Begriff Farbe kann als "echte" und "scheinbare" Farbe ausgedrückt werden. Unter der scheinbaren Farbe versteht man die Farbe einer Lösung, welche nicht nur von gelösten Substanzen in der Probe verursacht wird, sondern auch durch suspendierte Stoffe.
5. Die Anleitung beschreibt die Bestimmung der echten Farbe durch Filtration der Wasserprobe. Zur Bestimmung der scheinbaren Farbe wird sowohl unfiltriertes VE-Wasser, als auch eine unfiltrierte Wasserprobe verwendet.
6. Die Geschätzte Nachweisgrenze für diese Methode liegt bei 15 mg/L Pt.

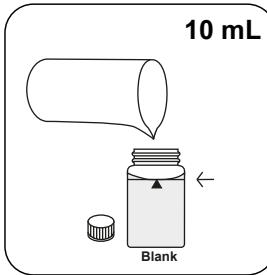
Durchführung der Bestimmung Farbe, echt und scheinbar

Die Methode im Gerät auswählen.

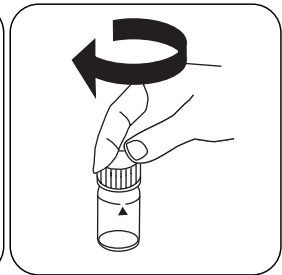
Für diese Methode muss bei folgenden Geräten nicht jedes mal eine ZERO-Messung durchgeführt werden: XD 7000, XD 7500



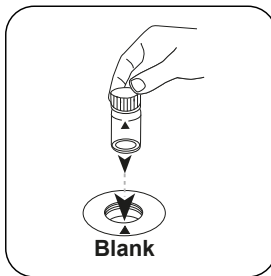
Etwa 50 mL Probe mit einem vorgespülten Filter (Porenweite 0,45 µm) filtrieren.



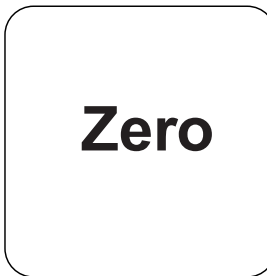
10 mL **VE-Wasser** in die Nullküvette geben.



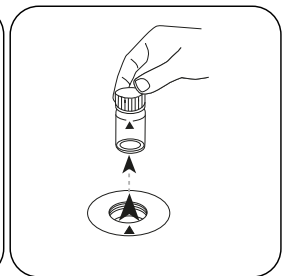
Küvette(n) verschließen.



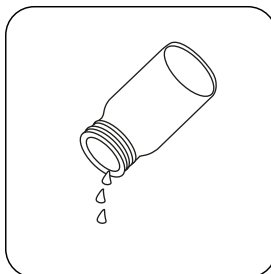
Die **Nullküvette** in den Messschacht stellen. Positionierung beachten.



Taste **ZERO** drücken.

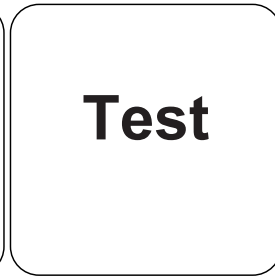
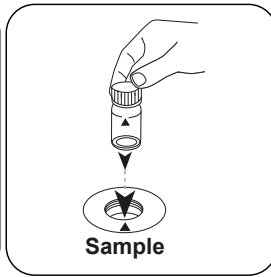
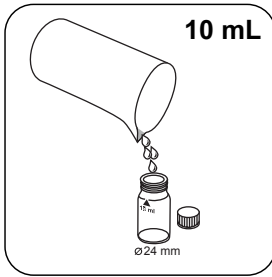


Küvette aus dem Messschacht nehmen.



Küvette entleeren.

Bei Geräten, die **keine ZERO-Messung** erfordern, **hier beginnen**.



DE

24-mm-Küvette mit **10 mL** **vorbereiteter Probe** füllen.

Die **Probenküvette** in den Messschacht stellen. Positionierung beachten.

Taste **TEST (XD: START)** drücken.

In der Anzeige erscheint das Ergebnis als Pt-Co-Einheiten.



Chemische Methode


(APHA) Platin-Kobalt Standard Methode

Appendix

Gemäß

DIN 7887-C1
(WL 430, 455 nm;
Norm: 410 nm)

DE

KS4.3 T / 20


Nombre del método

Número de método

Código de barras para reconocer el método

Rango de medición

20

S:4.3

Indicación en la pantalla de MD 100 / MD 110 / MD 200

Método químico

Información específica del instrumento

La prueba puede realizarse en los siguientes dispositivos. Además, se muestran la cubeta requerida y el rango de absorción del fotómetro.

| Dispositivos | Cubeta | λ | Rango de medición |
|---|---------------------|-----------|---------------------------|
| MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | \varnothing 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |
| SpectroDirect, XD 7000, XD 7500 | \varnothing 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |

Material

Material requerido (parcialmente opcional):

| Título | Unidad de embalaje | Referencia No |
|------------------|--------------------|---------------|
| Fotómetro alca-M | Tabletas / 100 | 513210BT |
| Fotómetro alca-M | Tabletas / 250 | 513211BT |

Lista de aplicaciones

- Tratamiento de aguas residuales
- Tratamiento de aguas potables
- Tratamiento de aguas de aporte

Notas

1. Las definiciones de alcalinidad-m, valor-m y capacidad ácida $K_{S4.3}$ son idénticas.
2. Añadir un volumen de muestra de exactamente 10 ml, ya que este volumen influye de forma decisiva en la exactitud del resultado.

Códigos de idioma ISO 639-1

Estado de revisión

ES Manual de Métodos 01/20

ES

Realización de la determinación

Ejecución de la determinación Capacidad ácida $K_{a4.3}$ con tableta

Seleccionar el método en el aparato.

Para este método no es necesario realizar medición CERO en los aparatos siguientes: XD 7000, XD 7500



Llenar la cubeta de 24 mm con 10 ml de muestra .

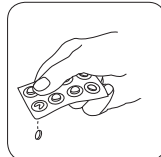


Cerrar la(s) cubeta(s).



Poner la **cubeta de muestra** en el compartimiento de medición. ¡Debe tenerse en cuenta el posicionamiento!

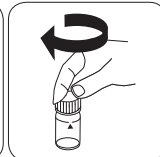
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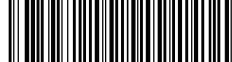
Añadir **tableta ALKA-M-PHOTOMETER**.



Triturar la(s) tableta(s) girando ligeramente.



Cerrar la(s) cubeta(s).



Hazen 24

M204

10 - 500 mg/L Pt

PtCo

(APHA) método platino cobalto

ES

Material

Material requerido (parcialmente opcional):

| Reactivos | Unidad de embalaje | No. de referencia |
|---------------------------|--------------------|-------------------|
| sin necesidad de reactivo | | |

Preparación

1. Toma de muestras, conservación y almacenamiento:
Añadir la muestra acuosa directamente a un recipiente limpio de vidrio o plástico, analizándola, si fuera posible, inmediatamente después de la toma. De no ser posible el análisis inmediato, llenar el recipiente hasta el borde, cerrándolo fuertemente con su tapa. No agitar la muestra y evitar un contacto prolongado con el aire. La muestra se puede almacenar en lugar oscuro, a 4 °C durante 24 horas; antes de realizar la determinación deberá restablecerse la temperatura ambiental de la muestra acuosa.

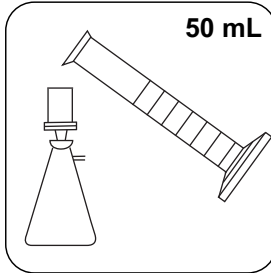
Notas

1. Originalmente, la escala colorimétrica de A. Hazen fue desarrollada como escala de comparación visual. Por ello, es necesario comprobar que el máximo de extinción de la muestra acuosa se encuentre en el campo de medición entre 420 nm hasta 470 nm, puesto que este método solo es apto para muestras acuosas coloreas de color amarillo o amarillo-marrón. Si fuese necesario, decidir mediante observación visual.
2. El método está calibrado básicamente con los estándares expuestos en "Standard Methods for the Examination of Water and Wastewater" (véase también EN ISO 7887:1994).
1 unidad coloreas Pt-Co \pm 1 mg/L de platino como ion cloroplatinado.
3. La palabra color puede ser expresada como color "auténtico" y "aparente". Como color aparente se entiende el color de una solución, que no ha sido originado solamente por sustancias disueltas en la muestra, sino también por materias suspendidas.
Las instrucciones describen la definición del color auténtico por filtración de la muestra de agua. Para la definición del color aparente se utilizará tanto agua desionizada sin filtrar, como también una muestra de agua sin filtrar.
4. El límite de determinación calculado para este método es de aprox. 15 mg/L Pt.

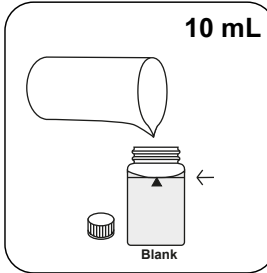
Ejecución de la determinación Color, auténtico y aparente

Seleccionar el método en el aparato.

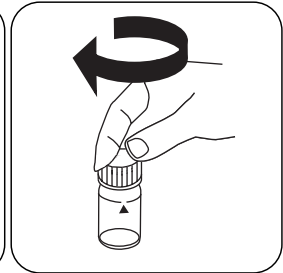
Para este método, no es necesario realizar una medición CERO cada vez en los siguientes dispositivos: XD 7000, XD 7500



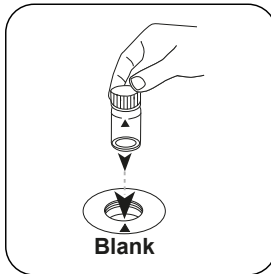
Filtrar unos 50 mL de muestra con un filtro prelavado (porosidad 0,45 μm).



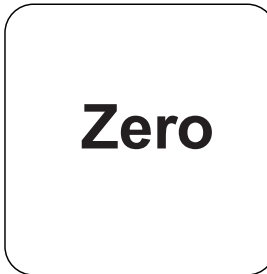
Añadir **10 mL de agua desionizada** en la cubeta en blanco.



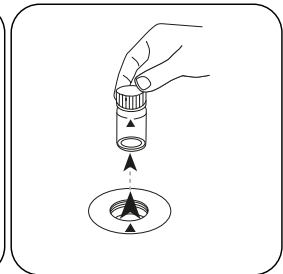
Cerrar la(s) cubeta(s).



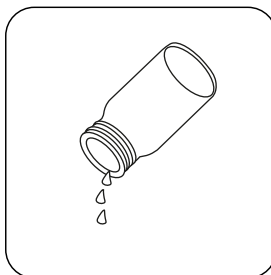
Poner la **cubeta en blanco** en el compartimiento de medición. ¡Debe tenerse en cuenta el posicionamiento!



Pulsar la tecla **ZERO**.

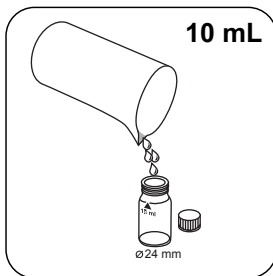


Extraer la cubeta del compartimiento de medición.

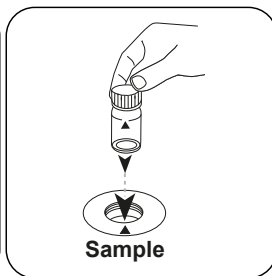


Vaciar la cubeta.

Para los aparatos que **no requieran medición CERO**, empezar aquí.



Llenar la cubeta de 24 mm con **10 mL de la muestra preparada** .




Poner la **cubeta de muestra** en el compartimento de medición. ¡Debe tenerse en cuenta el posicionamiento!



Pulsar la tecla **TEST** (XD: **START**).

A continuación se visualizará el resultado como unidades Pt-Co.

ES



Método químico

(APHA) método platino cobalto


Apéndice

De acuerdo a

DIN 7887-C1
(WL 430, 455 nm;
Norma: 410 nm)

ES

KS4.3 T / 20



Nom de la méthode → KS4.3 T

Numéro de méthode → 20

Code à barres pour reconnaître la méthode → [Barcode]

Plage de mesure → 0.1 - 4 mmol/l $K_{S4.3}$

Méthode chimique → Acide / Indicateur

Affichage dans le MD 100 / MD 110 / MD 200 → S:4.3

Informations spécifiques à l'instrument

Le test peut être effectué sur les appareils suivants. De plus, la cuvette requise et la plage d'absorption du photomètre sont indiquées.

| Appareils | Cuvette | λ | Gamme de mesure |
|---|---------|-----------|---------------------------|
| MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | ø 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |
| SpectroDirect, XD 7000, XD 7500 | ø 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |

Matériel

Matériel requis (partiellement optionnel):

| Titre | Pack contenant | Code |
|-------------------|-----------------|----------|
| Alka-M-Photometer | Pastilles / 100 | 513210BT |
| Alka-M-Photometer | Pastilles / 250 | 513211BT |

Liste d'applications

- Traitement des eaux usées
- Traitement de l'eau potable
- Traitement de l'eau brute

Indication

1. Les termes Alcalinité-m, Valeur m, Alcalinité totale et Capacité acide $K_{S4.3}$ sont identiques.
2. L'observation exacte du volume d'échantillon de 10 ml est décisive pour l'exactitude du résultat de l'analyse.

Codes de langue ISO 639-1 → FR

État de révision → 01/20

FR Méthodes Manuel 01/20

Procédure du test

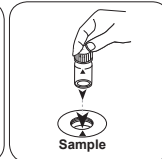
Réalisation de la quantification Capacité acide $K_{s4.3}$ avec pastille

Sélectionnez la méthode sur l'appareil.

Cette méthode ne nécessite aucune mesure du zéro sur les appareils suivants : XD 7000, XD 7500

Remplissez une cuvette de 24 mm de **10 ml d'échantillon**.

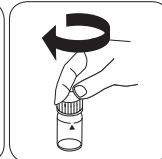
Fermez la(les) cuvette(s).

Placez la **cuvette réservée à l'échantillon** dans la chambre de mesure. Attention à la positionner correctement.

• • •

Ajoutez une **pastille de ALKA-M-PHOTOMETER**.

Écrasez la(les) pastille(s) en la(les) tournant un peu.



Fermez la(les) cuvette(s).

**Couleur 24****M204****10 - 500 mg/L Pt****PtCo****(APHA) Méthode Platine Cobalte
Standard**

FR

Matériel

Matériel requis (partiellement optionnel):

Réactifs**Pack contenant****Code**

Ne nécessite aucun réactif

Préparation

1. Prélèvement de l'échantillon, conservation et stockage :
Versez l'échantillon d'eau dans des récipients en verre ou en plastique propres et analysez-le immédiatement. Si ce n'est pas possible, remplissez le récipient au ras d'échantillon d'eau et obturez-le. Ne pas toucher à l'échantillon et éviter tout contact prolongé avec l'air. L'échantillon peut être conservé à une température de 4 °C pendant 24 heures. Il sera amené à la température ambiante avant la mesure.

Indication

1. À l'origine, cette échelle de couleurs de A. Hazen était une échelle comparative visuelle. C'est pourquoi, il est nécessaire de vérifier si le maximum d'extinction de l'échantillon d'eau figure dans une plage de 420 nm à 470 nm, car cette méthode ne convient qu'aux échantillons d'eau colorés, jaunâtres à jaune-marron. Ceci sera éventuellement déterminé par un contrôle visuel de l'échantillon d'eau. 2. La méthode est étalonnée sur la base des méthodes « Standard Methods for the Examination of Water and Wastewater » (voir aussi EN ISO 7887:1994).

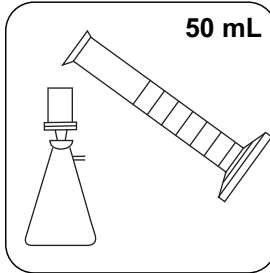
1 unité Pt-Co \triangleq 1 mg/L platine comme ion de chloroplatinate. 3. Le terme Couleur peut être décliné en couleur « vraie » ou couleur « apparente ». La couleur apparente est la couleur d'une solution qui n'est pas due uniquement aux substances dissoutes dans l'échantillon mais qui est également liée aux matières en suspension.

Les instructions portent sur la quantification de la couleur vraie par filtration de l'échantillon d'eau. Pour quantifier la couleur apparente, on utilise de l'eau déminéralisée non filtrée et un échantillon d'eau non filtrée. 4. La limite de détection estimée pour cette méthode est de 15 mg/L Pt.

Réalisation de la quantification Couleur, vraie et apparente

Sélectionnez la méthode sur l'appareil.

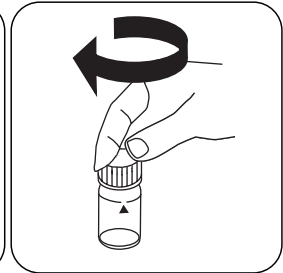
Pour cette méthode, il n'est pas nécessaire d'effectuer une mesure ZERO à chaque fois sur les appareils suivants : XD 7000, XD 7500



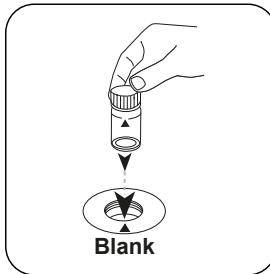
Filtrez environ 50 mL d'échantillon avec un filtre prélavé (taille des pores 0,45 µm).



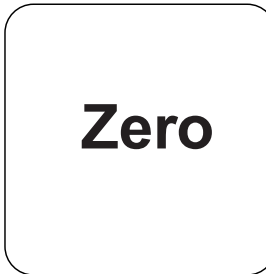
Versez **10 mL d'eau déminéralisée** dans la cuvette du blanc.



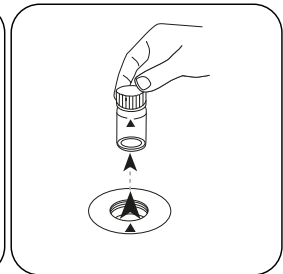
Fermez la(les) cuvette(s).



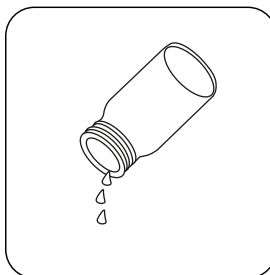
Placez la **cuvette du blanc** dans la chambre de mesure. Attention à la positionner correctement.



Appuyez sur la touche **ZERO**.

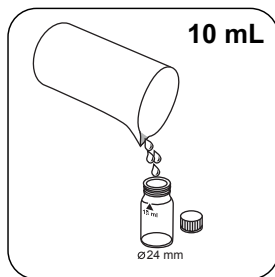
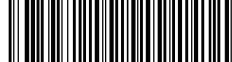


Retirez la cuvette de la chambre de mesure.

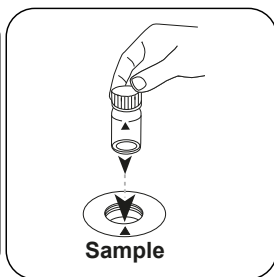


Videz la cuvette.

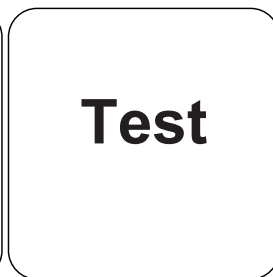
Sur les appareils ne nécessitant **aucune mesure ZÉRO**, commencez ici.



Remplissez une cuvette de 24 mm de **10 mL d'échantillon préparé**.



Placez la **cuvette réservée à l'échantillon** dans la chambre de mesure. Attention à la positionner correctement.



Appuyez sur la touche **TEST** (XD: **START**).

Le résultat s'affiche à l'écran en Unités Pt-Co.



Méthode chimique

(APHA) Méthode Platine Cobalte Standard

Appendice

Selon


DIN 7887-C1

(WL 430, 455 nm ;

Norme : 410 nm)

FR

KS4.3 T / 20



Nome do método

Número do método

Código de barras para a detecção dos métodos

Área de medição

$K_{S_{4.3}} T$
0.1 - 4 mmol/l $K_{S_{4.3}}$
Ácido / Indicador

20
S:4.3

Indicado no display: MD 100 / MD 110 / MD 200

Método Químico

Informação específica do instrumento

O teste pode ser realizado nos seguintes dispositivos. Além disso, a cubeta necessária e a faixa de absorção do fotómetro são indicadas.

| Dispositivos | Cubeta | λ | Faixa de Medição |
|---|---------|-----------|------------------------------|
| MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | ø 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S_{4.3}}$ |
| SpectroDirect, XD 7000, XD 7500 | ø 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S_{4.3}}$ |

Material

Material necessário (parcialmente opcional):

| Título | Unidade de Embalagem | Artigo No |
|-------------------|----------------------|-----------|
| Alka-M-Photometer | Pastilhas / 100 | 513210BT |
| Alka-M-Photometer | Pastilhas / 250 | 513211BT |

Lista de Aplicações

- Tratamento de Esgotos
- Tratamento de Água Potável
- Tratamento de Água Bruta

Notas

1. Os termos alcalinidade-m, m-valor, alcalinidade total e capacidade de acidez $K_{S_{4.3}}$ são idênticos.
2. O cumprimento exato do volume da amostra de 10 ml é decisivo para a precisão do resultado de análise.

Códigos de idioma ISO 639-1

Nível de revisão

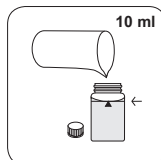
PT Métodos Manual 01/20

Efetuar a medição

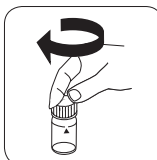
Realização da determinação Capacidade de acidez $K_{s4.3}$ com pastilha

Escolher o método no equipamento.

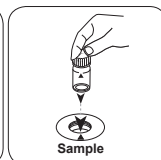
Para este método não tem de ser efetuada uma medição ZERO nos seguintes equipamentos: XD 7000, XD 7500



Encher a célula de 24 mm com 10 ml de amostra .

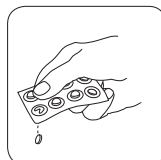


Fechar a(s) célula(s).

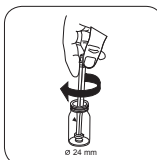


Colocar a **célula de amostra** no compartimento de medição. Observar o posicionamento.

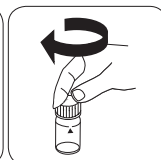
• • •



Pastilha ALKA-M-PHOTO-METER.



Esmagar a(s) pastilha(s) rodando ligeiramente.



Fechar a(s) célula(s).

PT Métodos Manual 01/20

PT



Hazen 24

M204

10 - 500 mg/L Pt

PtCo

(APHA) Método Padrão Platino Cobalto

Material

PT

Material necessário (parcialmente opcional):

| Reagentes | Unidade de Embalagem | Código do Produto |
|---------------------------|----------------------|-------------------|
| não é necessário reagente | | |

Preparação

- Recolha de amostra, conservação e armazenamento:
Introduzir a amostra de água em recipientes de vidro ou de plástico limpos e analisá-los se possível logo após a recolha da amostra. Se isso não for possível, encha o recipiente com a amostra de água até à borda e feche bem. Não agite a amostra e evite o contacto prolongado com o ar. A amostra pode ser mantido no escuro durante 24 horas a 4 °C, e depois tem de colocar a amostra de água à temperatura ambiente antes de realizar a medição.

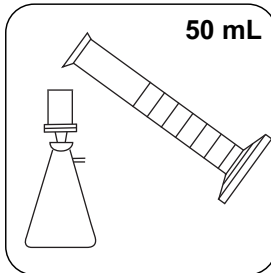
Notas

- Escala de cores foi originalmente desenvolvida por A. Hazen como escala de comparação visual. É, por isso, necessário verificar se o máximo de absorção da amostra de água se encontra entre 420 nm e 470 nm, pois este método é apenas adequado a amostras de água amareladas até castanho-claras. Isto pode ser eventualmente decidido por observação visual da amostra de água. 2. O método está calibrado com base nos padrões indicados em "Standard Methods for the Examination of Water and Wastewater" (ver também EN ISO 7887:1994). 1 Pt-Co-unidade de cor \pm 1 mg/L platina como ião de platina de cloro. 3. O termo pode ser expresso como cor "real" e "aparente". Por cor aparente entende-se a cor de uma solução que não é só causada por substâncias dissolvidas na amostra, mas também por substâncias suspensas. Nas instruções é descrita a determinação da cor real por filtração da amostra de água. Para determinar a cor aparente usa-se tanto água desmineralizada não filtrada como também uma amostra de água não filtrada. 4. O limite de prova estimado para este método situa-se em 15 mg/L Pt.

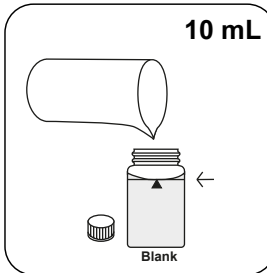
Realização da determinação Cor, real e aparente

Escolher o método no equipamento.

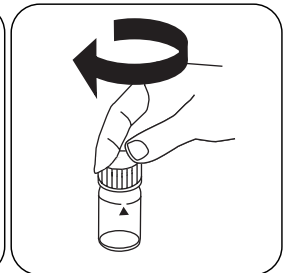
Para este método, uma medição ZERO não precisa ser realizada todas as vezes nos seguintes dispositivos: XD 7000, XD 7500



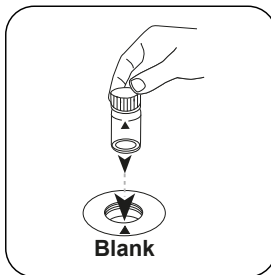
Filtrar cerca de 50 mL de amostra com um filtro pré-enxaguado (dimensão dos poros 0,45 μm).



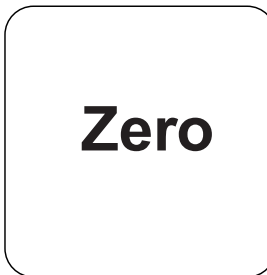
Adicionar **10 mL de água desmineralizada** à célula zero.



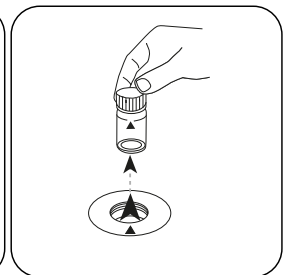
Fechar a(s) célula(s).



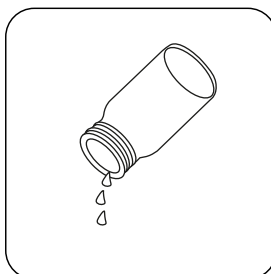
Colocar a **célula zero** no compartimento de medição. Observar o posicionamento.



Premir a tecla **ZERO**.

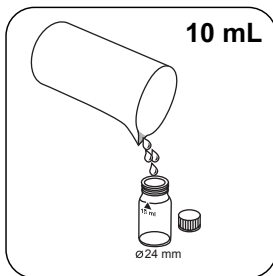


Retirar a célula do compartimento de medição.

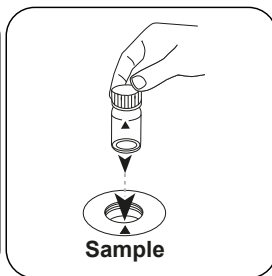


Esvaziar a célula.

Nos equipamentos que **não requerem uma medição ZERO**, deve começar aqui.



Encher a célula de 24 mm com **10 mL de amostra preparada**.



Colocar a **célula de amostra** no compartimento de medição. Observar o posicionamento.



Premir a tecla **TEST** (XD: **START**).

No visor aparece o resultado como Unidades Pt-Co.

PT



Método Químico

(APHA) Método Padrão Platino Cobalto

Apêndice

De acordo com

DIN 7887-C1
(WL 430, 455 nm;
Norma: 410 nm)

PT

KS4.3 T / 20

Denominazione metodo

Numero metodo

Codice a barre per riconoscere il metodo

Range di misura

Indicazione sul display del MD 100 / MD 110 / MD 200

$K_{S_{4.3} T}$ 20
0.1 - 4 mmol/l $K_{S_{4.3}}$ S:4.3
Acido/indicatore

Metodo chimico

Informazioni specifiche dello strumento

Il test può essere eseguito sui seguenti dispositivi. Inoltre, sono indicate la cuvetta richiesta e il range di assorbimento del fotometro.

| Dispositivi | Cuvetta | λ | Campo di misura |
|---|---------|-----------|------------------------------|
| MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | ø 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S_{4.3}}$ |
| SpectroDirect, XD 7000, XD 7500 | ø 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S_{4.3}}$ |

Materiale

Materiale richiesto (in parte facoltativo):

| Titolo | Unità di imballaggio | N. ordine |
|-------------------|----------------------|-----------|
| Alka-M-Photometer | Pastiglia / 100 | 513210BT |
| Alka-M-Photometer | Pastiglia / 250 | 513211BT |

Campo di applicazione

- Trattamento acqua di scarico
- Trattamento acqua potabile
- Trattamento acqua non depurata

Note

1. I termini alcalinità M, valore M, alcalinità totale e capacità acida $K_{S_{4.3}}$ sono equivalenti.
2. Per l'accuratezza del risultato dell'analisi è fondamentale che il volume del campione misuri esattamente 10 ml.

ISO 639-1 codici linguistici

Stato di revisione

IT Manuale dei Metodi 01/20

Svolgimento della misurazione

Esecuzione della rilevazione Capacità acida $K_{s4,3}$ con pastiglia

Selezionare il metodo nel dispositivo.

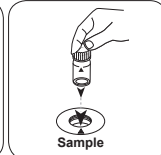
Con i seguenti dispositivi, per questo metodo non è necessario eseguire una misurazione ZERO: XD 7000, XD 7500



Riempire una cuvetta da 24 mm con **10 ml di campione**.

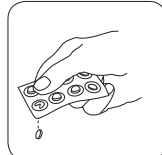


Chiudere la/e cuvetta/e.

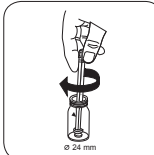


Posizionare la **cuvetta del campione** nel vano di misurazione. Fare attenzione al posizionamento.

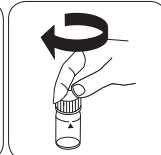
• • •



Aggiungere una **pastiglia ALKA-M-PHOTOMETER**.



Frantumare la/e pastiglia/e con una leggera rotazione.



Chiudere la/e cuvetta/e.



Hazen 24

M204

10 - 500 mg/L Pt

PtCo

Metodo standard al platino-cobalto
(APHA)

IT

Materiale

Materiale richiesto (in parte facoltativo):

| Reagenti | Unità di imballaggio | N. ordine |
|---------------------------|-------------------------|-----------|
| Nessun reagente richiesto | | |

Preparazione

1. Prelievo del campione, conservazione e immagazzinamento:
Versare il campione di acqua in recipienti in vetro o in plastica puliti e analizzarlo immediatamente dopo il prelievo laddove possibile. Qualora ciò non sia possibile, riempire il recipiente fino all'orlo con il campione di acqua e chiuderlo bene. Non agitare il campione ed evitare il contatto prolungato con l'aria. Il campione può essere conservato a 4 °C per 24 ore; prima di eseguire la misurazione il campione di acqua dovrà essere portato alla temperatura ambiente.

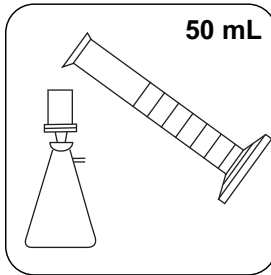
Note

1. Questa scala cromatica è stata originariamente sviluppata come scala visiva comparativa. Pertanto è necessario controllare se il limite massimo di estinzione del campione di acqua si trovi nel range che va da 420 nm a 470 nm, in quanto questo metodo è adatto soltanto a campioni di acqua con una colorazione da giallastra a giallo-marrone. Eventualmente la valutazione dovrà essere effettuata tramite osservazione visiva del campione di acqua.
2. Il metodo è calibrato in base agli standard specificati in "Standard Methods for the Examination of Water and Wastewater" (vedere anche EN ISO 7887:1994).
3. 1 unità cromatica Pt-Co \pm 1 mg/L di platino come ione cloroplatinato.
4. Il concetto di colore può essere espresso come colore "reale" e "apparente". Per colore apparente si intende il colore di una soluzione che non è provocato soltanto da sostanze disciolte nel campione ma anche da sostanze sospese.
5. La guida descrive la determinazione del colore reale tramite filtrazione del campione di acqua. Per determinare il colore apparente si utilizza sia acqua demineralizzata non filtrata che un campione di acqua non filtrato.
6. Il limite di rilevabilità stimato per questo metodo è di 15 mg/L di Pt.

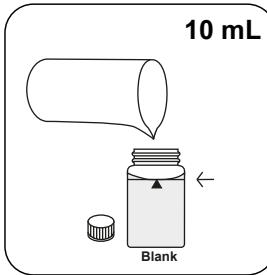
Esecuzione della rilevazione Colore, reale e apparente

Selezionare il metodo nel dispositivo.

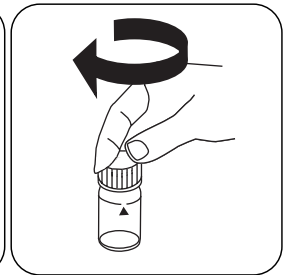
Per questo metodo, non è necessario eseguire una misurazione ZERO ogni volta sui seguenti dispositivi: XD 7000, XD 7500



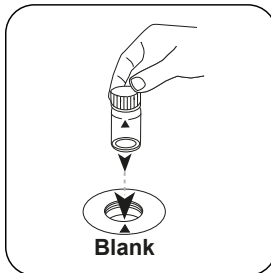
Filtrare circa 50 mL di campione con un filtro precedentemente risciacquato (diametro pori 0,45 μm).



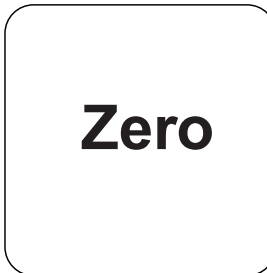
Immettere **10 mL di acqua demineralizzata** nella cuvetta zero.



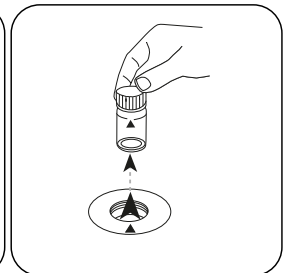
Chiudere la/e cuvetta/e.



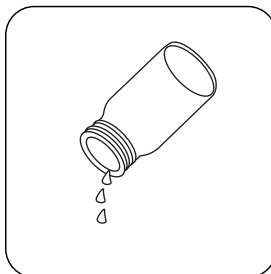
Posizionare la **cuvetta zero** nel vano di misurazione. Fare attenzione al posizionamento.



Premere il tasto **ZERO**.

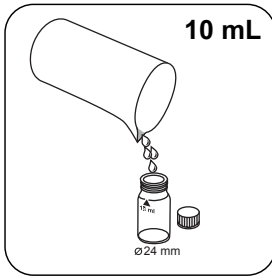


Prelevare la cuvetta dal vano di misurazione.

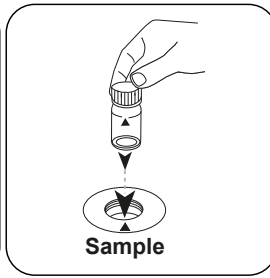


Svuotare la cuvetta.

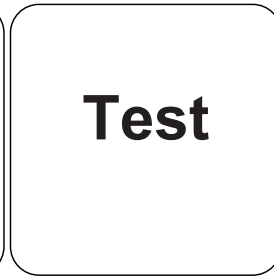
In caso di dispositivi che **non richiedono una misurazione ZERO**, iniziare da qui.



Riempire una cuvetta da 24 mm con **10 mL del campione preparato**.



Posizionare la **cuvetta del campione** nel vano di misurazione. Fare attenzione al posizionamento.



Premere il tasto **TEST** (XD: **START**).

Sul display compare il risultato come Unità Pt-Co.



Metodo chimico

Metodo standard al platino-cobalto (APHA)

Appendice

Secondo

DIN 7887-C1
(WL 430, 455 nm;
norma: 410 nm)

IT

KS4.3 T / 20



Naam van de methode

Nummer methode

Streepjescode ter identificatie van de methode

Meetbereik

$K_{S_{4.3}} T$ M20
0.1 - 4 mmol/l $K_{S_{4.3}}$ S:4.3
Zuur / Indicator

Chemische methode

Uitlezing in MD
100 MD 110 / MD
200

Instrument specifieke informatie

De test kan op de volgende apparaten worden uitgevoerd. Bovendien worden de vereiste cuvette en het absorptiebereik van de fotometer aangegeven.

| Toestellen | Cuvet | λ | Meetbereik |
|---|---------------------|-----------|------------------------------|
| MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | \varnothing 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S_{4.3}}$ |
| SpectroDirect, XD 7000, XD 7500 | \varnothing 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S_{4.3}}$ |

Reagentia

Benodigd materiaal (deels optioneel):

| Titel | Verpakkingseenheid | Bestelnr. |
|-------------------|--------------------|-----------|
| Alka-M-Photometer | Tablet / 100 | 513210BT |
| Alka-M-Photometer | Tablet / 250 | 513211BT |

Toepassingsbereik

- Afvalwaterzuivering
- Behandeling drinkwater
- Zuivering vervuild water

Aantekeningen

1. De termen alkaliteit-m, m-waarde, totale alkaliteit en zuurcapaciteit_{S_{4.3}} zijn identiek.
2. De exacte naleving van het monstervolume van 10 ml is bepalend voor de nauwkeurigheid van het analysesresultaat.

Beknopte naam conform de norm ISO 639-1

Herziene versie

NL Handboek van Methoden 01/20

Uitvoering van de meting

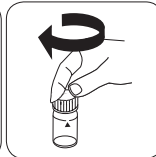
Uitvoering van de bepaling Zuurcapaciteit $K_{s4,3}$ met tablet

De methode in het apparaat selecteren.

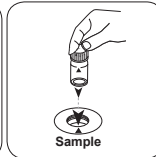
Voor deze methode moet bij de volgende apparaten geen nulmeting worden uitgevoerd:
XD 7000, XD 7500



Spoelbakje van 24 mm met **10 ml staal** vullen.

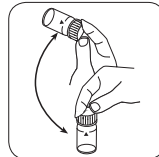


De spoelbakjes afsluiten.



Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letten.

• • •



Tabletten oplossen door om te draaien



Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letten.



De toets **TEST** (XD: **START**) indrukken.

De display toont het resultaat als Zuurcapaciteit $K_{s4,3}$.

Test



Hazen 24

M204

10 - 500 mg/L Pt

PtCo

(APHA) Platinakobalt standaardmethode

Reagentia

Benodigd materiaal (deels optioneel):

| Reagentia | Verpakkingseenheid | Bestelnr. |
|--------------------|--------------------|-----------|
| geen reagens nodig | | |

Vorbereiding

1. Bemonstering, bewaring en opslag:
Giet het watermonster in schone glazen of plastic recipiënten en analyseer het zo snel mogelijk na de bemonstering. Als dit niet mogelijk is, vul het vat dan tot aan de rand met het watermonster en sluit het goed af. Roer het monster niet om en vermijd langdurig contact met de lucht. Het monster kan gedurende 24 uur bij 4 °C in het donker worden bewaard, waarna het watermonster op kamertemperatuur moet worden gebracht voordat de meting wordt uitgevoerd.

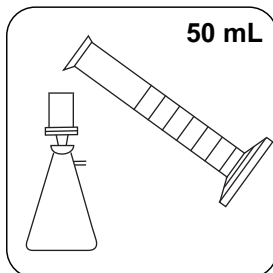
Aantekeningen

1. Oorspronkelijk is deze kleurschaal ontwikkeld door A. Hazen als een visuele vergelijkingsschaal. Daarom is het noodzakelijk om na te gaan of het extinctiemaximum van het watermonster in het bereik 420 tot 470 nm ligt, omdat deze methode alleen geschikt is voor watermonsters met een geelachtige tot geelbruine kleur. Zo nodig wordt hiertoe besloten door visuele inspectie van het watermonster.
2. De methode is gekalibreerd op basis van de norm "Standard Methods for the Examination of Water and Wastewater" (zie ook EN ISO 7887:1994).
3. 1 Pt-Co kleureenheid \pm 1 mg/L platina als chloorplatina-ion.
4. De term kleur kan worden uitgedrukt als "echte" en "schijnbare" kleur. De schijnbare kleur is de kleur van een oplossing die niet alleen wordt veroorzaakt door opgeloste stoffen in het monster, maar ook door zwevende stoffen.
5. De handleiding beschrijft de bepaling van de werkelijke kleur door filtratie van het watermonster. Zowel ongefilterd gedeïoniseerd water als een ongefilterd watermonster worden gebruikt om de schijnbare kleur te bepalen.
6. De geschatte aantoonbaarheidsgrens voor deze methode is 15 mg/L Pt.

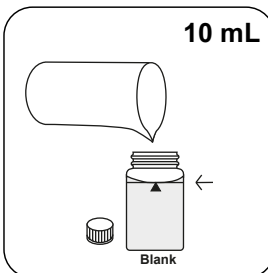
Uitvoering van de bepaling Kleur, echt en schijnbaar

De methode in het apparaat selecteren.

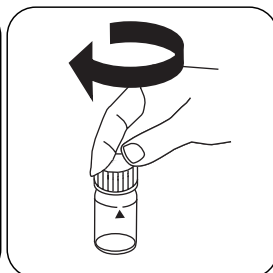
Voor deze methode hoeft niet elke keer een nulmeting uitgevoerd te worden op de volgende apparaten: XD 7000, XD 7500



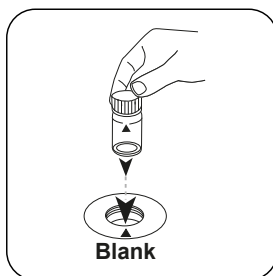
Ongeveer 50 mL staal met een voorgespoelde filter (poriegrootte 0,45 μm) filteren.



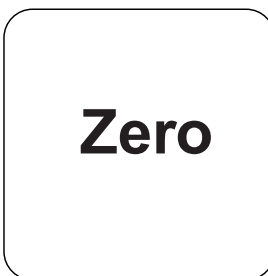
10 mL gedeïoniseerd water in het nulspoelbakje doen.



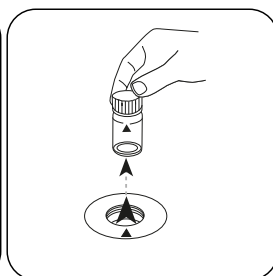
De spoelbakjes afsluiten.



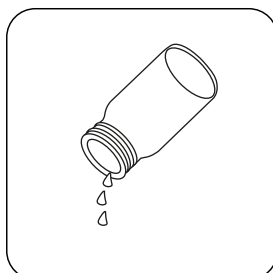
Het **nulspoelbakje** in de meetschacht plaatsen. Op de positionering letten.



De toets **NUL** indrukken.

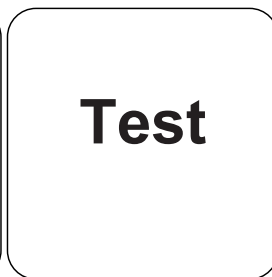
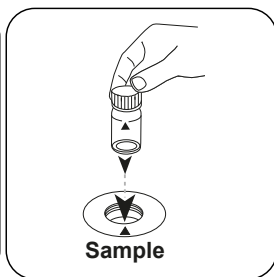
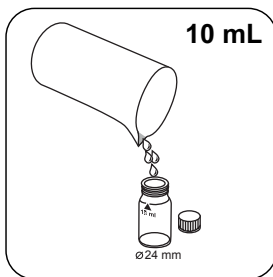


Het spoelbakje uit de meetschacht nemen.



Het spoelbakje ledigen.

Bij apparaten die **geen nulmeting** vereisen, **hier beginnen**.



NL

Spoelbakje van 24 mm met **10 mL voorbereid staal** vullen.

Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letteren.

De toets **TEST** (XD: **START**) indrukken.

De display toont het resultaat als Pt-Co-eenheden.



Chemische methode

(APHA) Platinakobalt standaardmethode

Aanhangsel

Overeenkomstig

DIN 7887-C1
(WL 430, 455 nm;
Norm: 410 nm)

NL

KS4.3 T / 20

Yöntem Adı

Yöntemleri numarası

Yöntemi tanımak için barkod

Ölçüm aralığı

Kimyasal Metod

$K_{S4.3} T$
0.1 - 4 mmol/l $K_{S4.3}$
Asit / Gösterge

20
S:4.3

Ekrandaki: MD
100 MD 110 / MD
200

Enstrümana özel bilgi

Test, aşağıdaki cihazlarda gerçekleştirilebilir. Ek olarak, gerekli küvet ve fotometrenin emilim aralığı belirtilmiştir.

| Cihazlar | Küvet | λ | Ölçüm Aralığı |
|---|---------|-----------|---------------------------|
| MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | ø 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |
| SpectroDirect, XD 7000, XD 7500 | ø 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |

Malzeme

Gerekli materyal (kısmen isteğe bağlı):

| Başlık | Paketleme Birimi | Ürün No |
|-------------------|------------------|----------|
| Alka-M-Photometer | Tablet / 100 | 513210BT |
| Alka-M-Photometer | Tablet / 250 | 513211BT |

Uygulama Listesi

- Atık Su Arıtma
- İçme Suyu Arıtma
- Ham Su Arıtma

Notlar

1. Alkalite-m, m değeri, toplam alkalite ve asit kapasitesi $K_{S4.3}$ kavramları ayrıdır.
2. 10 ml'lik numune hacmine tam riayet edilmesi, analiz sonucunun doğruluğu bakımından önemlidir.

Dil kodları ISO
639-1

Revizyon durumu

TR Metotlar Kılavuzu 01/20

Testin uygulanması
Tespitin uygulanması Tabletli asit kapasitesi $K_{S4,3}$

Cihazda metot seçin.

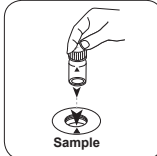
Bu metot için şu cihazlarda ZERO ölçümü yapılması gerekmez: XD 7000, XD 7500



24 mm'lik küveti **10 ml numune** ile doldurun.

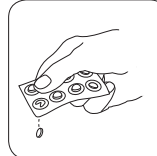


Küveti(küvetleri) kapatın.

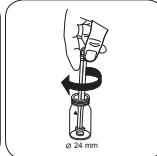


Numune küvetini ölçüm haznesine koyun. Doğru konumlandırılmasına dikkat edin.

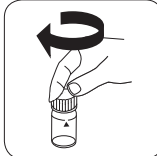
• • •



ALKA-M-PHOTOMETER tablet ilave edin.



Tableti(tabletleri) hafifçe döndürerek ezin.



Küveti(küvetleri) kapatın.



Hazen 24

M204

10 - 500 mg/L Pt

PtCo

(APHA) Platinyum Kobalt Standart
Metod

TR

Malzeme

Gerekli materyal (kısmen isteğe bağlı):

| Ayrıçlar | Paketleme Birimi | Ürün No |
|----------------|------------------|---------|
| ayrıç gerekmez | | |

Hazırlık

- Numune alımı, saklama ve depolama:
Su numunesini temiz cam ya da plastik kaba doldurun ve numune alımından sonra olabildiğince hızlı analiz edin. Eğer bu mümkün olmazsa kabı kenarına kadar su numunesi ile doldurun ve sıkıca kapatın. Numuneyi karıştırmayın ve hava ile uzun süre temas etmesini önleyin. Numune 24 saat boyunca 4 °C'de karanlıkta depolanabilir, ardından su numunesi ölçüm uygulanmadan önce oda sıcaklığına getirilmelidir.

Notlar

1. Bu renk skalası esas olarak A. Hazen tarafından görsel mukayese skalası olarak geliştirilmiştir. Dolayısıyla, su numunesinin ekstinksiyon maksimumunun 420 nm ile 470 nm aralığında bulunup bulunmadığını kontrol etmek önemlidir. Çünkü bu metod, yalnızca sarımsı ve sarı-kahverengi su numuneleri için uygundur. Gerekliğinde buna su numunesinin görsel izlenmesi ile karar verilmelidir. 2. Metod, "Standard Methods for the Examination of Water and Wastewater" altında belirtilen standartlar uyarınca kalibre edilmiştir (ayrıca bk. EN ISO 7887:1994).

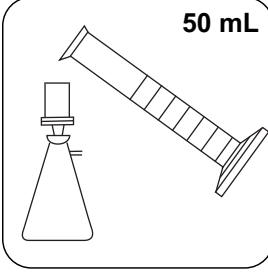
1 Pt-Co renk birimi \pm 1 mg/L, klorplatinat iyon olarak platin. 3. Renk kavramı, "gerçek ve "görülebilir" renk olarak ifade edilebilir. Görülebilir renk altında, yalnızca çözünen maddeler tarafından numunede oluşmasında etkisi olan değil, aynı zamanda süspanse edilen maddelerle de etkisi olan bir çözelti rengi anlaşılır.

Kılavuz, su numunesinin filtrasyonu ile gerçek renk tespitini açıklamaktadır. Görülebilir renk tespiti için, hem filtrelenmemiş demineralize su, hem de filtrelenmiş bir su numunesi kullanılır. 4. Bu metod için tahmini ispat sınırı 15 mg/L pt.'dir.

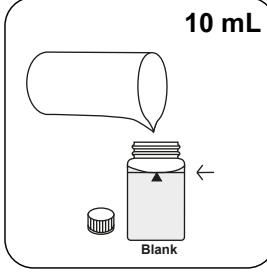
Tespitin uygulanması Renk, gerçek ve görünür

Cihazda metot seçin.

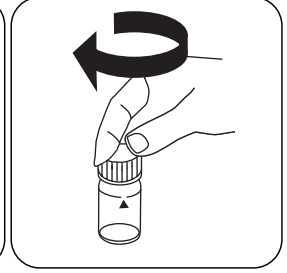
Bu yöntem için, aşağıdaki cihazlarda her seferinde SIFIR ölçümünün yapılması gerekmez: XD 7000, XD 7500



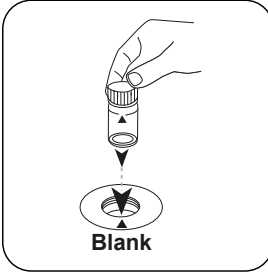
Yakl. 50 mL numuneyi önceden yıkanmış bir filtre ile (0,45 µm gözenek genişliği) filtreleyin.



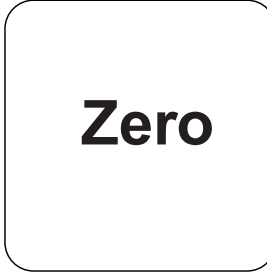
Boş küvete **10 mL demineralize su** ekleyin.



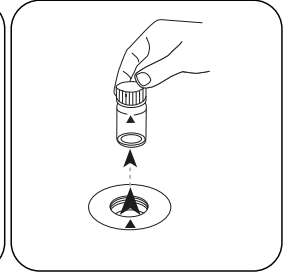
Küveti(küvetleri) kapatın.



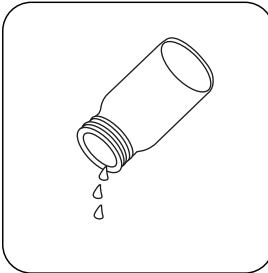
Boş küveti ölçüm haznesine koyun. Doğru konumlandırılmasına dikkat edin.



ZERO tuşuna basın.



Küveti ölçüm haznesinden alın.

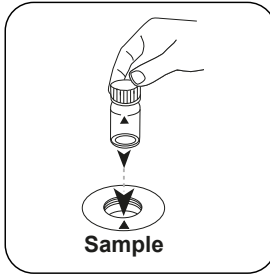


Küveti boşaltın.

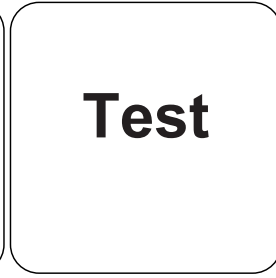
ZERO ölçümü gerektirmeyen cihazlarda buradan başlayın.



24 mm'lik küveti **önceden hazırlanmış 10 mL numune** ile doldurun.



Numune küvetini ölçüm haznesine koyun. Doğru konumlandırılmasına dikkat edin.



TEST (XD: **START**) tuşuna basın.

Ekranda sonuç Pt-Co birimleri olarak belirir.

TR



Kimyasal Metod

(APHA) Platinyum Kobalt Standart Metod


Apandis

Göre

DIN 7887-C1
(WL 430, 455 nm;
Norm: 410 nm)

TR

KS4.3 T / 20



Название метода → KS4.3 T

Номер метода → M20

Штрих-код для распознавания метода → [Barcode]

Диапазон измерений → 0.1 - 4 mmol/l $K_{S4.3}$

Химический метод → Кислота / индикатор

Отображение на дисплее в MD 100 MD 110 / MD 200 → S:4.3

Специфическая информация об инструменте

Тест может быть выполнен на следующих устройствах. Кроме того, указывается требуемая кювета и диапазон поглощения фотометра.

| Приборы | Кювета | λ | Диапазон измерений |
|---|---------|-----------|---------------------------|
| MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | ø 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |
| SpectroDirect, XD 7000, XD 7500 | ø 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |

Материал

Необходимый материал (частично необязательный):

| Заголовок | Упаковочная единица | Номер заказа |
|-------------------|---------------------|--------------|
| Alka-M-Photometer | Таблетка / 100 | 513210BT |
| Alka-M-Photometer | Таблетка / 250 | 513211BT |

Область применения

- Обработка сточных вод
- Подготовка питьевой воды
- Обработка сырой воды

Примечания

1. Термины Щелочность M, m-значение, общая калийность и кислотная сила $K_{S4.3}$ идентичны.
2. Точное соблюдение объема пробы в 10 мл имеет решающее значение для точности результатов анализа.

Сокращенное обозначение языка в соответствии с ISO 639-1 → RU

Статус редакции → 01/20

RU Методическое руководство 01/20

**Выполнение
измерения**
Выполнение определения Кислотная сила $K_{s4.3}$ с таблеткой

Выберите метод в устройстве.

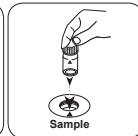
Для этого метода измерения нуля не требуется для следующих устройств: XD 7000, XD 7500



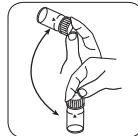
24-Наполните ковеву -мм
10 пробой мл.



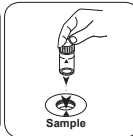
Закройте ковеву(ы).



Поместите ковеву для
проб в измерительную
шахту. Обращайте
внимание на
позиционирование.



Растворите таблетку
(таблетки) покачиванием.



Поместите ковеву для
проб в измерительную
шахту. Обращайте
внимание на
позиционирование.



Нажмите клавишу TEST
(XD: СТАРТ).

На дисплее отображается результат в виде Кислотная сила $K_{s4.3}$.



Hazen 24

M204

10 - 500 mg/L Pt

PtCo

Стандартный метод «Платина-
кобальт» (APHA)

RU

Материал

Необходимый материал (частично необязательный):

| Реактивы | Упаковочная единица | Номер заказа |
|-----------------------------|---------------------|--------------|
| Нет потребности в реагентах | | |

Подготовка

- Отбор проб, сохранение и хранение:
Залейте пробу воды в чистые стеклянные или пластиковые емкости и проанализируйте ее как можно скорее после отбора пробы. Если это невозможно, залейте пробу воды в контейнер до края и плотно закройте его. Не перемешивайте пробу и избегайте длительного контакта с воздухом. Пробу можно хранить в темноте при температуре 4 °C в течение 24 часов, после чего перед проведением измерения пробу воды необходимо довести до комнатной температуры.

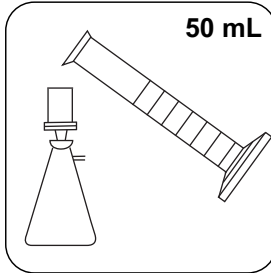
Примечания

- Первоначально эта цветовая гамма была разработана А. Хазеном в качестве визуальной сравнительной шкалы. Поэтому необходимо проверить, находится ли максимальная экстинкция пробы воды в диапазоне от 420 нм до 470 нм, поскольку этот метод подходит только для проб воды с желтоватым или желтовато-коричневым цветом. При необходимости решение об этом принимается в ходе визуального осмотра пробы воды.
- Метод откалиброван на основе стандартов, указанных в "Стандартных методах исследования воды и сточных вод" (см. также EN ISO 7887:1994).
- 1 единица цвета Pt-Co \pm 1 мг/л платины в виде иона хлороплатината.
- Термин цвет может быть выражен как "реальный" и "кажущийся" цвет. Очевидным цветом является цвет раствора, вызванный не только растворенными веществами в пробе, но и взвешенными веществами.
- В руководстве описывается определение реального цвета путем фильтрации пробы воды. Для определения видимого цвета используется как полностью деминерализованная вода, так и нефилтрованная проба воды.
- Предполагаемый предел обнаружения для этого метода составляет 15 мг/л Pt.

Выполнение определения Цвет, реальный и видимый

Выберите метод в устройстве.

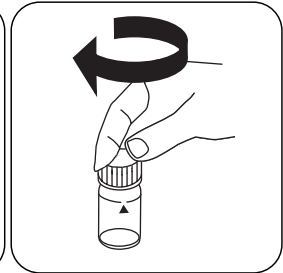
Для этого метода необязательно проводить измерение НУЛЯ каждый раз на следующих устройствах: XD 7000, XD 7500



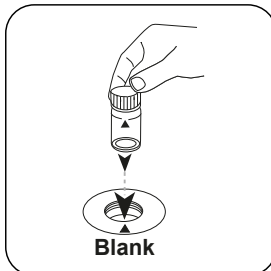
Отфильтруйте пробу объемом около 50 мл предварительно промытым фильтром (размер пор 0,45 мкм).



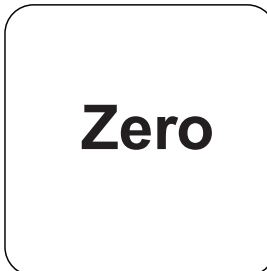
Добавьте **10 мл полностью деминерализованной воды** в нулевую кювету.



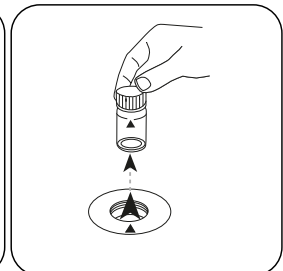
Закройте кювету(ы).



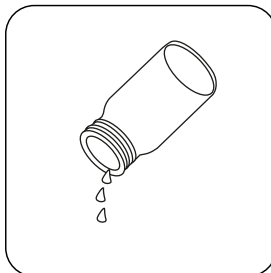
Поместите **нулевую кювету** в измерительную шахту. Обращайте внимание на позиционирование.



Нажмите клавишу **НОЛЬ**.

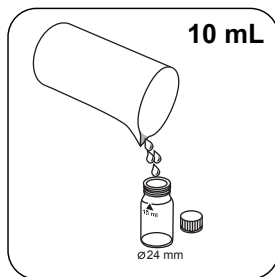


Извлеките кювету из измерительной шахты.

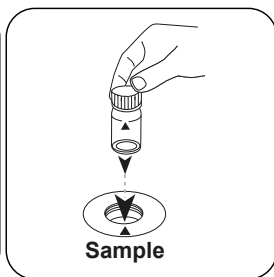


Опорожните кювету.

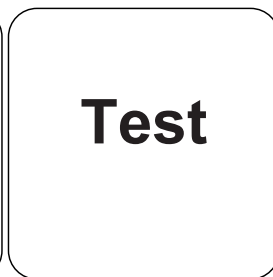
Для приборов, для которых не требуется измерение нулевого значения, начните отсюда.



Наполните кювету 24-мм
**10 мл подготовленной
пробы** .



Поместите **кювету для
проб** в измерительную
шахту. Обращайте
внимание на
позиционирование.



Нажмите клавишу **ТЕСТ**
(XD: **СТАРТ**).

На дисплее отображается результат в виде РТ-Со единицах.

RU



Химический метод

Стандартный метод «Платина-кобальт» (APHA)

Приложение

Согласно

DIN 7887-C1

(WL 430, 455 нм;

Стандарт: 410 нм)

RU

KS4.3 T / 20


方法名称

方法号

用于方法检测的条形码

测量范围

酸性 / 指示剂

化学方法

仪器的具體信息

測試可以在以下設備上執行。此外還指出了所需的比色杯和光度計的吸收範圍。

| 儀器類型 | 比色皿 | λ | 測量範圍 |
|---|---------------------|-----------|---------------------------|
| MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630 | \varnothing 24 mm | 610 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |
| SpectroDirect, XD 7000, XD 7500 | \varnothing 24 mm | 615 nm | 0.1 - 4 mmol/l $K_{S4.3}$ |

材料

所需材料 (部分可選) :

| 標題 | 包裝單位 | 貨號 |
|-------------------|----------|----------|
| Alka-M-Photometer | 片劑 / 100 | 513210BT |
| Alka-M-Photometer | 片劑 / 250 | 513211BT |

應用列表

- 污水處理
- 飲用水處理
- 原水處理

備註

1. 術語總度-m、m-值、總碱度和酸容量 $K_{S4.3}$ 是相同的。
2. 準確地遵守 10 ml 的樣本體積對分析結果的準確度至關重要。

語言代碼ISO 639-1

修訂狀態

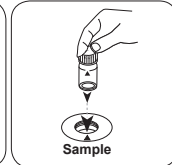
CN 方法手冊 01/20

开始测量

进行测定 $K_{s4.3}$ 片剂酸容量

选择设备中的方法。

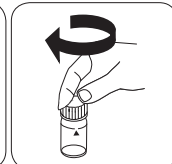
对于这种方法，在以下设备上不能进行 ZERO 测量：XD 7000, XD 7500

用 10 ml 样本填充 24 mm 比密封比色杯。
色杯。将样本比色杯放入测量轴
中。注意定位。

• • •

加入 ALKA-M-PHOTOME-
TER 片剂。

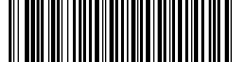
用轻微的扭转压碎片剂。



密封比色杯。

CN 方法手册 01/20

ZH



Hazen色度单位 24

M204

10 - 500 mg/L Pt

PtCo

(APHA) 铂钴标准法

材料

所需材料 (部分可选) :

ZH

试剂

包装单位

货号

不需要试剂

准备

1. 取样、保存和储存 :

将水样放入干净的玻璃或塑料容器中, 取样后尽快分析。如果不可能, 用水样将容器装满并密封。不要搅拌样本, 避免长时间接触空气。样本可在 4 °C 的黑暗中储存 24 小时, 然后将水样置于室温下进行测量。

备注

1.最初该色标是 A. Hazen 开发的一个视觉比较标尺。因此, 有必要检查水样的最大吸光度是否在 420 nm 到 470 nm 范围内, 因为这种方法只适用于黄色到黄棕色的水样。如有必要, 应通过对水样进行目视检查来决定。2.该方法根据“水和废水检测标准方法”(参见 EN ISO 7887:1994) 的标准进行校准。

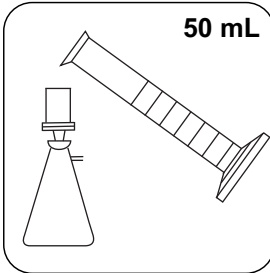
1 铂钴颜色单位 ± 1 mg/L 铂为氯铂酸盐离子。3.术语颜色可以表示为“真实”和“表观”的颜色。表观颜色是由样本中的溶解物和悬浮物共同引起的溶液颜色。

说明书描述了通过过滤水样测定真实颜色。为了测定表观颜色, 使用未过滤的去离子水和未过滤的水样。4.该方法的估计检出限为 15 mg/L Pt。

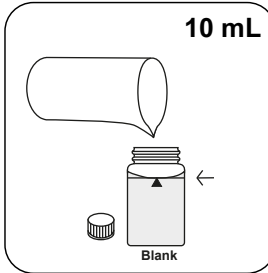
进行测定 颜色，真实和表现

选择设备中的方法。

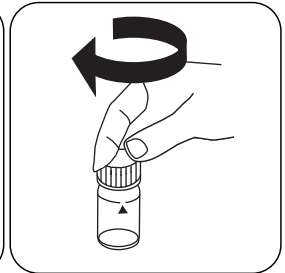
对于此方法，不必每次都在以下设备上上进行零测量：XD 7000, XD 7500



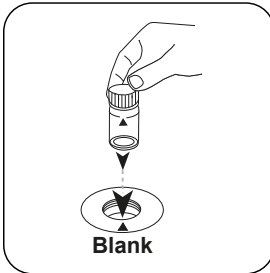
用预清洗的过滤器（孔径 0.45 μ m）过滤大约 50 mL 的样本。



加入 10 mL 去离子水到比色杯中。



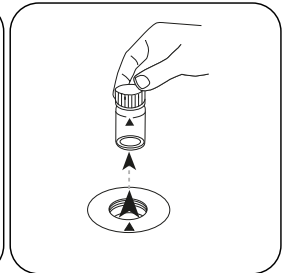
密封比色杯。



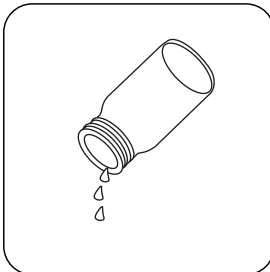
将空白比色杯放入测量轴中。注意定位。



按下 **ZERO** 按钮。

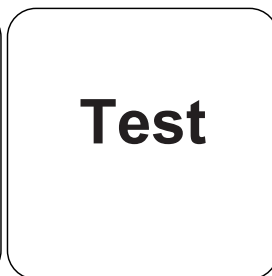
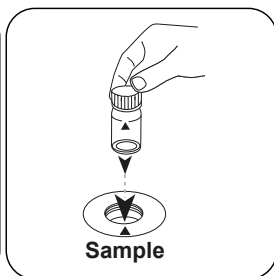
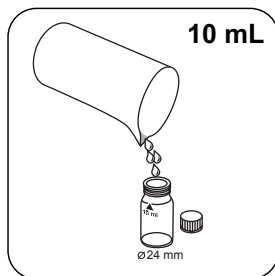
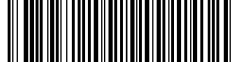


从测量轴上取下比色杯。



倒空比色杯。

对于不需要 **ZERO** 测量的设备，从这里开始。



ZH

用 10 mL 准备好的样本填充 24 mm 比色杯。

将样本比色杯放入测量轴中。注意定位。

按下 **TEST (XD: START)** 按钮。

结果在显示屏上显示为 Pt-Co 铂钴色度。



化学方法

(APHA) 铂钴标准法

附錄

参照

DIN 7887-C1
(WL 430, 455 nm;
Norm: 410 nm)

ZH

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