

Lovibond® Water Testing

Tintometer® Group



Manual of Methods

MD 100 • MD 110 • MD 200

(EN) Manual of Methods

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(ES) Manual de Métodos

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(IT) Manuale dei Metodi

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(NL) Handboek Methoden

Zijde 16

(DE) Methodenhandbuch

Seite 6

(FR) Méthodes Manuel

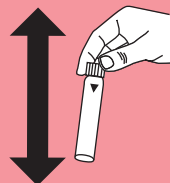
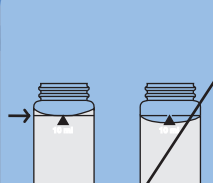
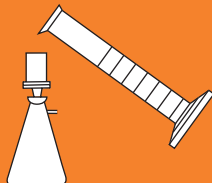
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(PT) Métodos Manual

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(ZH) 方法手册

Page 18



KS4.3 T / 20

Method name

Method number

Measuring range

Chemical Method



Bar code for the detection of the methods

K_{S4.3} T

0.1 - 4 mmol/l K_{S4.3}

Acid / Indicator

20

S:4.3

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

EN

Revision status

Handbook of Methods 01/20

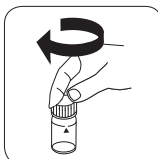
Performing test procedure
Implementation of the provision Acid capacity $K_{s4.3}$ with Tablet

Select the method on the device

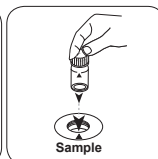
For this method, no ZERO measurements are to be carried out with the following devices: XD 7000, XD 7500



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

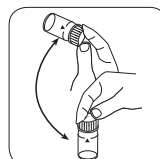


Close vial(s).

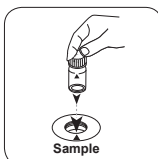


Place **sample vial** in the sample chamber. • Pay attention to the positioning.

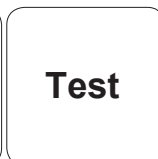
• • •



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 $K_{s4.3}$ appears on the display.

KS4.3 T / 20



**Barcode zur
Methodenerkennung**

Methoden Name

Methodennummer

**Barcode zur
Methodenerkennung**

Messbereich

Chemische Methode

**Displayanzeige
im MD 100 MD 110
/ MD 200**

KS_{4.3} T **20**

0,1 - 4 mmol/l K_{S4.3} **S:4.3**

Säure / Indikator

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

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

**Sprachkürzel nach
ISO 639-1**

Revisionsstand

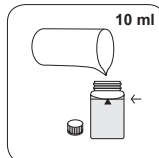
DE Methodenhandbuch 01/20

DE

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

Die Methode im Gerät auswählen.

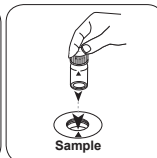
Für diese Methode muss bei folgenden Geräten keine ZERO-Messung durchgeführt werden: XD 7000, XD 7500



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

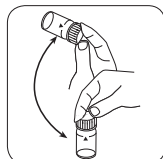


Küvette(n) verschließen.

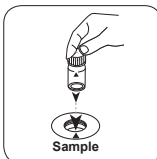


Die **Probenküvette** in den Messschacht stellen. Positionierung beachten.

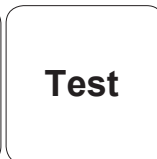
• • •



Tablette(n) durch Umschwenken lösen.



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



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

Test

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

KS4.3 T / 20

Nombre del método

Rango de medición

Método químico

Número de método

Código de barras para reconocer el método

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

KS_{4.3} T

0.1 - 4 mmol/l K_{4.3}

Ácido / Indicador

20

S:4.3

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	ø 24 mm	610 nm	0.1 - 4 mmol/l K _{4.3}
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l K _{4.3}

Material

Material requerido (parcialmente opcional):

Título	Unidad de embalaje	Referencia No
Fotómetro alcal-M	Tabletas / 100	513210BT
Fotómetro alcal-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_{4.3} 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

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EN Handbook of Methods

Realización de la determinación

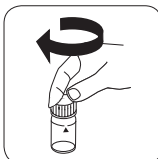
Ejecución de la determinación Capacidad ácida $K_{s4.3}$ con tableta

Seleccionar el método en el aparato.

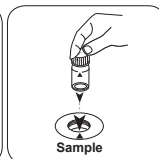
Para este método no es necesario realizar medición CERO en los aparatos siguientes: XD 7000, XD 7500



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

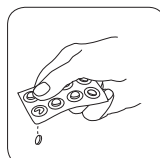


Cerrar la(s) cubeta(s).

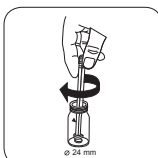


Poner la cubeta de muestra en el compartimiento de medición. ¡Debe tenerse en cuenta el posicionamiento!

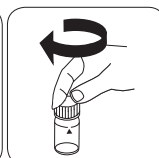
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Añadir tableta ALKA-M-PHOTOMETER.



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



Cerrar la(s) cubeta(s).

KS4.3 T / 20

Nom de la méthode

Plage de mesure

Méthode chimique

Numéro de méthode

Affichage dans le MD 100 / MD 110 / MD 200

Code à barres pour reconnaître la méthode

20

S:4.3

KS_{4.3} T

0.1 - 4 mmol/l K_{4.3}

Acide / Indicateur

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 _{4.3}
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l K _{4.3}

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_{4.3} 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

État de révision

FR Méthodes Manuel 01/20

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EN Handbook of Methods

Procédure du test

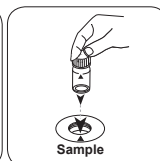
Réalisation de la quantification Capacité acide $K_{s4.3}$ avec pastille

Sélectionnez la méthode sur l'appareil.

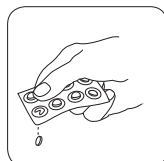
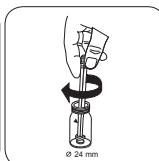
Cette méthode ne nécessite aucune mesure du zéro sur les appareils suivants : XD 7000, XD 7500

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

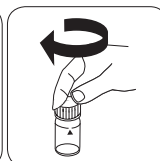
Fermez la(les) cuvette(s).

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).

KS4.3 T / 20

Denominazione metodo

Numero metodo

Codice a barre per riconoscere il metodo

Range di misura

KS_{4.3} T

0.1 - 4 mmol/l K_{S4.3}

Acido/indicatore

20

S:4.3

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

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 _{S4.3}
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l K _{S4.3}

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_{S4.3} 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

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**Svolgimento della
misurazione**
Esecuzione della rilevazione Capacità acida $K_{s4.3}$ con pastiglia

Selezionare il metodo nel dispositivo.

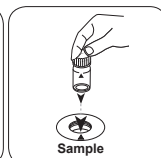
Con i seguenti dispositivi, per questo metodo non è necessario eseguire una misurazione ZERO: XD 7000, XD 7500



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

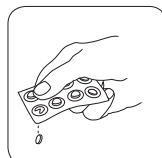


Chiudere la/e cuvetta/e.

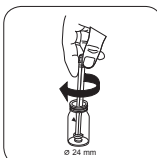


Posizionare la **cuvetta del campione** nel vano di misurazione. Fare attenzione al posizionamento.

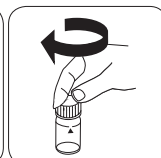
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Aggiungere una pastiglia **ALKA-M-PHOTOMETER**.



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



Chiudere la/e cuvetta/e.

KS4.3 T / 20

Nome do método

Número do método

Código de barras para a detecção dos métodos

Área de medição

KS_{4.3} T

0.1 - 4 mmol/l K_{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 fotômetro 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 _{4.3}
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l K _{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_{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

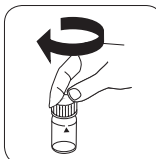
Realização da determinação Capacidade de acidez $K_{s4.3}$ com pastilha

Escolher o método no equipamento.

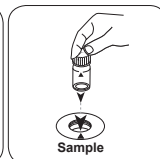
Para este método não tem de ser efetuada uma medição ZERO nos seguintes equipamentos: XD 7000, XD 7500



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

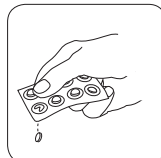


Fechar a(s) célula(s).

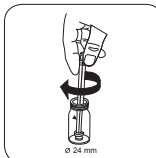


Colocar a **célula de amostra** no compartimento de medição. Observar o posicionamento.

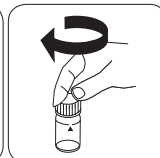
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Pastilha ALKA-M-PHOTO-METER.



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



Fechar a(s) célula(s).

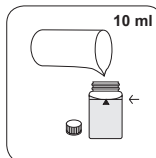
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Uitvoering van de meting

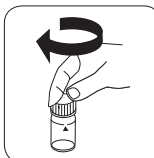
Uitvoering van de bepaling Zuurcapaciteit $K_{s4.3}$ met tablet

De methode in het apparaat selecteren.

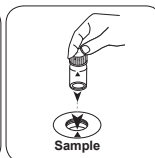
Voor deze methode moet bij de volgende apparaten geen nulmeting worden uitgevoerd:
XD 7000, XD 7500



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

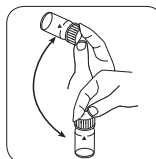


De spoelbakjes afsluiten.

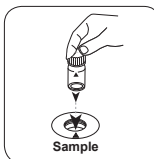


Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letten.

• • •



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

ZH

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

KS_{4.3} T

0.1 - 4 mmol/l K_{4.3}

酸性 / 指示剂

20

S:4.3

屏幕显示: MD 100 / MD 110 / MD 200

化学方法

仪器的具体信息

测试可以在以下设备上执行。此外还指出了所需的比色杯和光度计的接收范围。

仪器类型	比色皿	λ	测量范围
MD 200, MD 600, MD 610, MD 640, MultiDirect, PM 620, PM 630	ø 24 mm	610 nm	0.1 - 4 mmol/l K _{4.3}
SpectroDirect, XD 7000, XD 7500	ø 24 mm	615 nm	0.1 - 4 mmol/l K _{4.3}

材料

所需材料 (部分可选) :

标题	包装单位	货号
Alka-M-Photometer	片剂 / 100	513210BT
Alka-M-Photometer	片剂 / 250	513211BT

应用列表

- 污水处理
- 饮用水处理
- 原水处理

备注

1. 术语碱度-m、m-值、总碱度和酸容量 K_{4.3} 是相同的。
2. 准确地遵守 10 ml 的样本体积对分析结果的准确度至关重要。

语言代码ISO 639-1

修订状态

CN 方法手册 01/20

开始测量

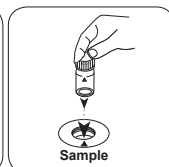
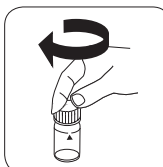
进行测定 $K_{s4.3}$ 片剂酸容量

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

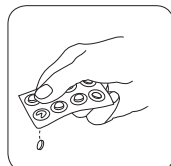


用 10 ml 样本填充 24 mm 比密封比色杯。

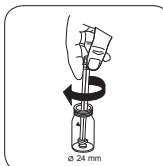


将样本比色杯放入测量轴中。注意定位。

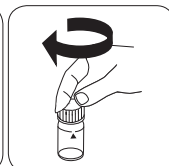
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加入 ALKA-M-PHOTOMETER 片剂。



用轻微的扭转压碎片剂。



密封比色杯。

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