

Lovibond® Water Testing

Tintometer® Group



Manual of Methods

MD 100 • MD 110 • MD 200

(EN) Manual of Methods

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(IT) Manuale dei Metodi

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(NL) Handboek Methoden

Zijde 16

(DE) Methodenhandbuch

Seite 6

(FR) Méthodes Manuel

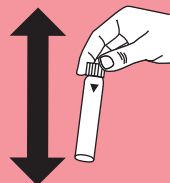
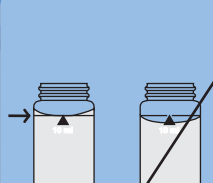
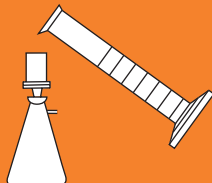
Page 10

(PT) Métodos Manual

Página 14

(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

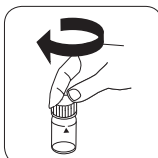
Performing test procedure
Implementation of the provision Acid capacity $K_{s4.3}$ with Tablet

Select the method on the device

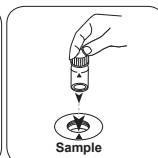
For this method, no ZERO measurements are to be carried out with the following devices: XD 7000, XD 7500



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

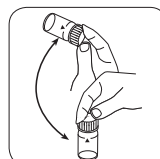


Close vial(s).

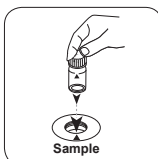


Place **sample vial** in the sample chamber. • Pay attention to the positioning.

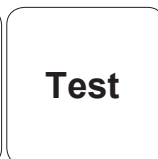
• • •



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



Methoden Name

Methodennummer

Barcode zur Methodenerkennung

Messbereich

$K_{S4.3} T$
0,1 - 4 mmol/l $K_{S4.3}$
Säure / Indikator

20
S:4.3

Displayanzeige
im MD 100 MD 110
/ MD 200

Chemische Methode

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

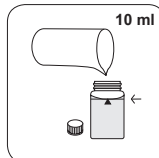
DE Methodenhandbuch 01/20

DE

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

Die Methode im Gerät auswählen.

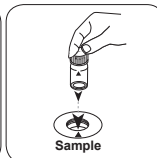
Für diese Methode muss bei folgenden Geräten keine ZERO-Messung durchgeführt werden: XD 7000, XD 7500



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

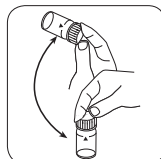


Küvette(n) verschließen.

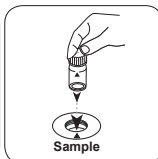


Die **Probenküvette** in den Messschacht stellen. Positionierung beachten.

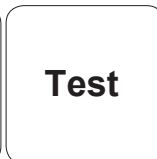
• • •



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

8

EN Handbook of Methods

Realización de la determinación

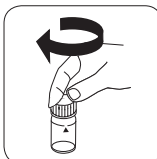
Ejecución de la determinación Capacidad ácida $K_{s4.3}$ con tableta

Seleccionar el método en el aparato.

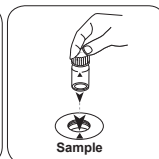
Para este método no es necesario realizar medición CERO en los aparatos siguientes: XD 7000, XD 7500



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

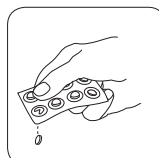


Cerrar la(s) cubeta(s).



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

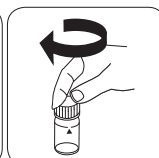
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Añadir tableta ALKA-M-PHOTOMETER.



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



Cerrar la(s) cubeta(s).

KS4.3 T / 20



Nom de la méthode

Numéro de méthode

Code à barres pour reconnaître la méthode

Plage de mesure

Affichage dans le MD 100 / MD 110 / MD 200

Méthode chimique

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

État de révision

FR Méthodes Manuel 01/20

Procédure du test

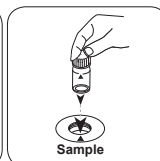
Réalisation de la quantification Capacité acide $K_{s4.3}$ avec pastille

Sélectionnez la méthode sur l'appareil.

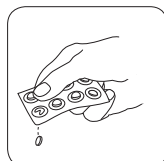
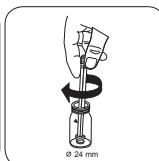
Cette méthode ne nécessite aucune mesure du zéro sur les appareils suivants : XD 7000, XD 7500

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

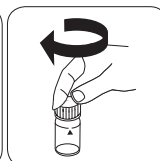
Fermez la(les) cuvette(s).

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).

KS4.3 T / 20

Denominazione metodo

Range di misura

Metodo chimico

Numero metodo

Codice a barre per riconoscere il metodo

$K_{S4.3} T$

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

Acido/indicatore

20

S:4.3

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

Codice a barre per riconoscere il metodo

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

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.

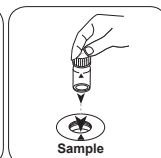
Con i seguenti dispositivi, per questo metodo non è necessario eseguire una misurazione ZERO: XD 7000, XD 7500



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

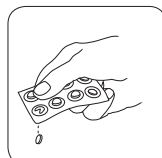


Chiudere la/e cuvetta/e.

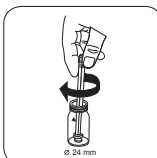


Posizionare la **cuvetta del campione** nel vano di misurazione. Fare attenzione al posizionamento.

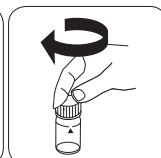
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Aggiungere una pastiglia **ALKA-M-PHOTOMETER**.



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

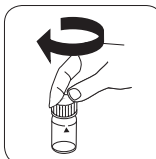
Realização da determinação Capacidade de acidez $K_{s4.3}$ com pastilha

Escolher o método no equipamento.

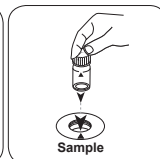
Para este método não tem de ser efetuada uma medição ZERO nos seguintes equipamentos: XD 7000, XD 7500



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

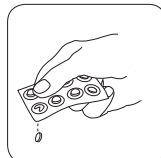


Fechar a(s) célula(s).

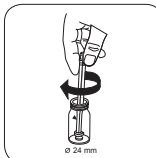


Colocar a **célula de amostra** no compartimento de medição. Observar o posicionamento.

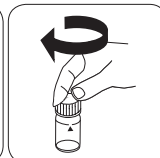
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Pastilha ALKA-M-PHOTO-METER.



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



Fechar a(s) célula(s).

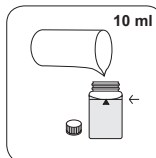
16

Uitvoering van de meting

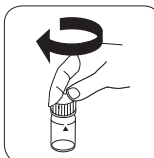
Uitvoering van de bepaling Zuurcapaciteit $K_{s4.3}$ met tablet

De methode in het apparaat selecteren.

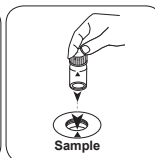
Voor deze methode moet bij de volgende apparaten geen nulmeting worden uitgevoerd:
XD 7000, XD 7500



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

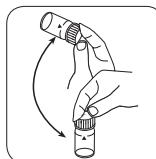


De spoelbakjes afsluiten.

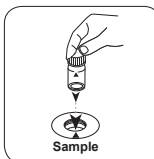


Het **staalspoelbakje** in de meetschacht plaatsen. Op de positionering letten.

• • •



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 $K_{s4.3}$.

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

儀器的具體信息

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	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. 術語鹼度-m、m-值、總鹼度和酸容量 K_{4.3} 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

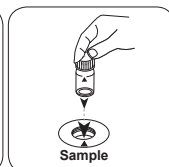
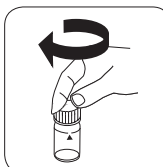
进行测定 $K_{s4.3}$ 片剂酸容量

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

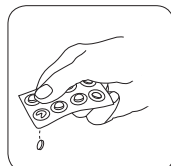


用 10 ml 样本填充 24 mm 比密封比色杯。

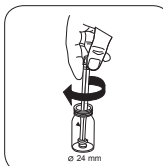


将样本比色杯放入测量轴中。注意定位。

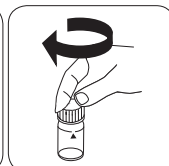
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加入 ALKA-M-PHOTOMETER 片剂。



用轻微的扭转压碎片剂。



密封比色杯。

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