

EasySampler 1210

Sampling Made Easy



METTLER TOLEDO

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1 Introduction

EasySampler 1210 enables automated and unattended sampling of chemical reactions 24/7. The unique sampling probe facilitates sampling of a wide range of chemical reactions with precision, including heterogeneous reactions, reactions at elevated pressure and sub-ambient temperatures as well as air and moisture sensitive chemistries. The representative samples gained with EasySampler 1210 provide accurate analytical data for improved reaction understanding while increasing chemists' productivity.

2 Safety Information

2.1 Definition of signal warnings and symbols

Safety notes are marked with signal words and warning symbols. These show safety issues and warnings. Ignoring the safety notes may lead to personal injury, damage to the instrument, malfunctions and false results.

Signal words

DANGER	for an imminent danger with high risk, resulting in severe injuries or death if not avoided.
WARNING	for a hazardous situation with medium risk, possibly resulting in severe injuries or death if not avoided.
CAUTION	for a hazardous situation with low risk, resulting minor or medium injuries if not avoided.
Attention	(no symbol) for important information about the product.
Note	(no symbol) for useful information about the product.

2.2 Product specific warnings and symbols



NOTICE

Sampling reaction at elevated pressure

When using EasySampler 1210 to sample reactions at elevated pressure, do not exceed the operating conditions specified in the EasySampler 1210 technical data section.

For safe operation of the EasySampler probe, limit the maximum pressure in the reactor to 12 bar using an adequate rupture disc.

The Operating Instructions must be read and understood. Exceeding operating conditions can cause leak of reaction mixture and damage of EasySampler 1210 and/or the Sampling Probe.



WARNING

Grounding of the power supply outlet

Make sure to plug the power cable supplied into a power supply outlet that is grounded! A technical fault could otherwise result in serious injury or death.



CAUTION

Potentially explosive environment

- Never work in an environment subject to explosion hazards! The housing of the EasySampler 1210 is not gas tight (explosion hazard due to spark formation, explosion caused by ingress of gases).
- Avoid electrostatic charge formation.



CAUTION

Crush Hazard

Do not remove the needle protection shield when the EasySampler 1210 is ON: an exposed needle can cause personal injuries.



CAUTION

Pocket

To avoid blockages, please ensure that solids sampled into the pocket are dissolved within 10 seconds. Make sure you select appropriate Quench and Dilution solvents to dissolve the solids.



CAUTION

Pump

Make sure that the viscosity of the solvents used for Quench, Dilution and Reaction is not higher than 3 mPas. As the pump will error at 6 bar pressure.



CAUTION

General conditions

Exclude the following environmental influences:

- Powerful vibration
- Direct sunlight
- Atmospheric humidity greater than 80 %
- Temperature below 5 °C or above 40 °C
- Powerful electric or magnetic field



CAUTION

Usage

- In case of damage, please contact METTLER TOLEDO.
- EasySampler 1210 is intended for indoor usage only.
- Never open the instrument! Have it serviced only by METTLER TOLEDO.
- Operate EasySampler 1210 only with standard and optional equipment provided by METTLER TOLEDO.
- While installing EasySampler 1210, make sure there is enough space to disconnect the device from the main power line.
- The operating instructions must be read and understood. If EasySampler 1210 is not used according to these operating instructions, warranty protection of the instrument may be impaired and METTLER TOLEDO assumes no liability.
- Never remove the needle protection shield when the instrument is switched on. This may cause severe injuries.
- When installing EasySampler 1210 the first time, keep in mind that isopropanol may still be present in the instrument.
- When moving the instrument or disconnecting the Sampling Probe, be aware of the solvent type in the device and probe. Run a Clean process with an alternative solvent if necessary.

3 EasySampler 1210 General Information and Prerequisites

This document provides the necessary guidelines to set-up and prepare EasySampler 1210 to take samples. In-depth information on the installation and operation of EasySampler 1210 can be found in the Operating Instructions (30091777).

Technical data

EasySampler 1210 System

Materials	Housing: Polypropylene PP 30% Talcum Tubing: PTFE Needle: Stainless steel Valve: Ceramic Pump: Ceramic, PTFE
Power Connection	100...240 V 50 Hz/60 Hz
User Interface	METTLER TOLEDO Touchscreen
Weight	9 kg, 20 lbs
Vials	10 mL, borosilicate glass
Rack	12 x 10 mL vials

EasySampler Probe

	210	330	450
Weight	0.8 kg, 1.76 lbs	0.84 kg, 1.85 lbs	0.88 kg, 1.94 lbs
Length	213 mm / 8.38"	333 mm / 13.11"	453 mm / 17.83"
Materials	Wetted parts: Alloy C-22, PTFE Non-wetted parts: Anodized aluminum, stainless steel		
Pocket Size	20 µL ±10%		
Temperature Range	-20 °C to 140 °C (for reactions at atmospheric pressure)		
Pressure	1.013 bar to 10 bar, 14.7 psi to 145 psi with the following conditions: <ul style="list-style-type: none"> • Temperature range: 20 °C to 100 °C • Maximum reactor volume: 1000 mL 		
Recommended sleeve change	<ul style="list-style-type: none"> • At ambient pressure: every 100 samples • At elevated pressure: after each experiment or 24 samples (maximum 24 samples per reaction) 		
Minimum Sampling Interval	2 min 52 sec		
pH	1 to 14		

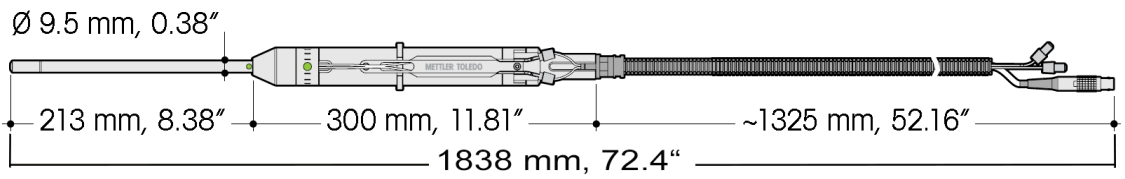
Place it in fume hood/laboratory

EasySampler 1210 can be easily lifted using the front and back handles.

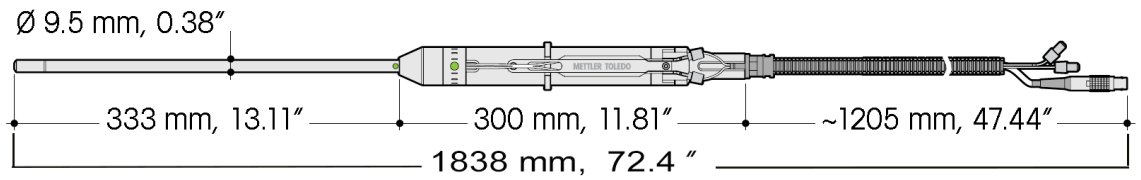


3.1 Probe Dimensions

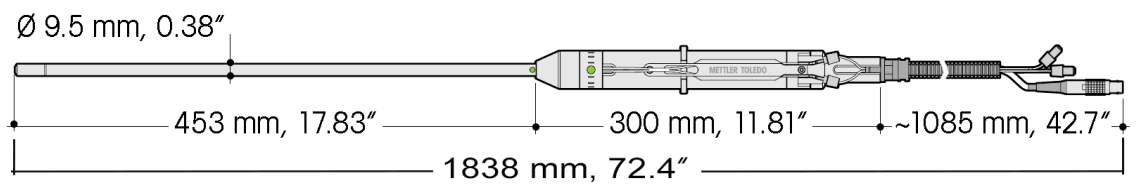
Probe 210



Probe 330



Probe 450



4 Installation and Set-up

Follow the described steps to set up EasySampler 1210. Be aware of the Safety Measures described in Chapter [Safety Information ▶ 4].



- 1 Assemble the vials by mounting the caps. Fill the rack with vials.
- 2 The vials must be properly inserted in the rack to avoid system damage during normal operation.



- 3 Align the blue arrow on the rack with the blue arrow on EasySampler 1210.
- 4 Rotate the rack lever clockwise to lock it in place.



- 5 Place the sampling probe into its holder.



- 6 Ensure the probe is securely positioned.



- 7 Secure the probe cable to the holder.



- 8 Connect the sampling probe lines (grey line to the grey port and black line to the black port; to avoid leaks, screw the fitting nuts in until you hear a "click") and the probe power cable .



- 9 Carefully insert the needle into its holder.



- 10 Fix the needle in place with the knurled screw.



11 Connect the fitting nut to the needle.
12 To avoid leaks, screw the fitting nut in until you hear a "click".



13 Mount the needle protection shield.



14 Place 3 solvent bottles (minimum 180 mL each) next to EasySampler 1210, on the left hand side.
15 Pierce the septum and carefully push the line through the hole into the bottle.



16 Fit the septum and cap onto the waste bottle (500 mL) and place the bottle under the needle.




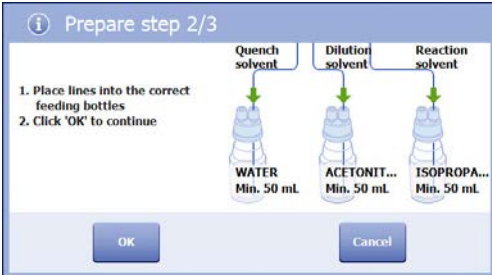


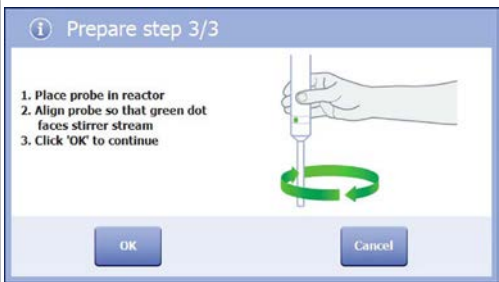

17 Connect the power cable to the back side of the device (100 V – 240 V, 50 Hz/60 Hz).



18 Press the power button to switch EasySampler 1210 on.

5 Getting Started

1	<p>Up to three solvents will be used for sampling operations.</p> <p>Do not insert the probe into to reaction at this point. The EasySampler 1210 touchscreen will instruct you when to do so during the Prepare process. One Cleaning solvent will be used for the Clean process prior to sampling.</p> <p>Clean the outside of the probe with isopropanol, or another appropriate solvent, if the EasySampler 1210 was in use before.</p>	
2		<ul style="list-style-type: none"> • Select Clean to remove air and purge the fluid lines. • Follow the instructions on the touchscreen. Less than 50 mL of Cleaning solvent will be used for a Clean process. • Make sure to prepare enough solvent so the solvent lines do not run dry during the Clean process.
3		<ul style="list-style-type: none"> • Select Prepare to fill the lines with the selected sampling solvents. • Do not insert the probe into the reaction at this point. Follow the instructions on the screen and insert the probe when prompted.
4		<ul style="list-style-type: none"> • Name the Quench solvent (e.g. WATER). Quench solvent will be used to quench reactive species in the sample. If Quench solvent is not selected, only Dilution solvent will be used in the Sampling process. • Name the Dilution solvent (e.g. ACETONITRILE). This solvent will dilute the 20 µL reaction sample based on the user-specified Dilution factor. • Name the Reaction solvent (e.g. ISOPROPANOL). Reaction solvent will fill the pocket in preparation for taking the next sample. • Define a Dilution factor between 80 and 450. (Dilution factor is how many times the 20 µL sample is diluted, e.g. Dilution factor 80 means 20 µL sample is diluted 80 times (20 µL x 80 = 1.6 mL in the vial)) • Select Next.
5		<ul style="list-style-type: none"> • Follow the instructions on the touchscreen. • The pocket will move out, and then back in as part of the Prepare process. • Select OK.

<p>6</p>		<ul style="list-style-type: none"> • The touchscreen will indicate the time to place the probe into the reactor and the pocket will move out (8 mm). Loosen the collar (with the green dot) on the probe headpiece and align the green dot with the pocket. Tighten the collar. • Fit an appropriate adapter onto the probe and carefully insert the probe to the empty reactor. • Adjust the height of the probe in the reactor so that the probe tip remains clear of any stirrer and other probes. Tighten the adapter onto the probe so that the height of the probe in the reactor is fixed. • Select OK on the touchscreen, and the pocket will move back in. • Prepare the reactor for the reaction by adding the necessary solvents, starting materials and reagents. • Turn the probe so that the sample pocket (indicated by the green dot) faces 180° away from the stirrer. This ensures reproducible samples of the reaction mixture, and is especially important for precise sampling of heterogeneous reactions. • Ensure the probe tip is fully immersed in the reaction mixture. EasySampler 1210 is now ready to take samples.
<p>7</p>		<ul style="list-style-type: none"> • Select Take 1 Sample. • After the sample process is completed, the system is ready to take the next sample. • Please refer to the Operating Instructions on how to program a sample sequence.

6 Certifications

6.1 CE Declaration of conformity 20140016.pdf

METTLER TOLEDO

(EN) EU Declaration of Conformity / (DE) EU-Konformitätserklärung / (FR) Déclaration de conformité européenne / (ES) Declaración de conformidad UE / (IT) Certificazione di conformità UE / (BG) EC декларация за съответствие / (CS) EU Prohlášení o shodě / (DA) EU-overensstemmelseserklæring / (EL) Δήλωση συμμόρφωσης Ε.Ε. / (ET) ELi vastavusdeklaratsioon / (FI) EU-vaatimustenmukaisuusvakuutus / (GA) Dearbhú Comhréachta AE / (HR) EU izjava o skladnosti / (HU) EU Megfelelőségi nyilatkozat / (JA) EU 適合宣言 / (KO) EU 적합성 선언 / (LT) ES atitikties deklaracija / (LV) ES atbilstības deklarācija / (MT) Dikjarazzjoni ta' Konformità tal-UE / (NL) EU-conformiteitsverklaring / (PL) Deklaracja zgodności UE / (PT) Declaração de Conformidade da UE / (RO) Declarație de conformitate UE / (RU) Декларация о соответствии требованиям ЕС / (SK) EU Vyhlásenie o zhode / (SL) Izjava o skladnosti EU / (SV) EU-försäkran om överensstämmelse / (TH) เอกสารแสดงการปฏิบัติตามมาตรฐานสหภาพยุโรป (Declaration of Conformity) / (ZH) EU 一致性声明

Product / Produkt / Product / Producto / Prodotto / Продукт / Výrobek / Produkt / Προϊόν / Toode / Tuote / Tårge / Proizvod / Termék / 製品名 / 제품 / Gaminys / Istražđajums / Produkt / Product / Produkt / Produto / Produis / Продукция / Produkt / Izdelek / Produkt / 製品 / 产品	Sample Taker EASYSAMPLER 1210
Manufacturer / Hersteller / Fabricant / Fabricante / Produttore / Производител / Výrobce / Producent / Κατασκευαστής / Tootja / Valmistaja / Déantúsóir / Proizvođač / Gyártó / メーカー / 제조업체 / Gamintojas / Ražotājs / Manufaktur / Producent / Producent / Fabricante / Producător / Производител / Výrobca / Proizvajalec / Tililverkare / 製造商 / 製造商	Mettler-Toledo GmbH Im Langacher 44 8606 Greifensee SWITZERLAND

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The object of the declaration described above is in conformity with the following European directives and standards or normative documents: / Der oben beschriebene Gegenstand der Erklärung erfüllt die Vorschriften der folgenden Europäischen Richtlinien und Normen oder normativen Dokumente: / L'objet de la déclaration décrit ci-dessus est en conformité avec les directives et normes européennes suivantes et autres documents à vocation normative: / El objeto de la declaración descrita anteriormente se ajusta a lo establecido en las siguientes directivas, normas y documentos normativos europeos: / L'oggetto della dichiarazione di cui sopra è conforme a direttive, norme o standard europei di seguito: / Предметът на декларацията, описан по-горе, е в съответствие със следните европейски директиви и стандарти или нормативни документи: / Vyše popsaný předmět prohlášení je v souladu s následujícími evropskými směrnici a normami nebo normativními dokumenty: / Genstanden for erklæringen, som beskrevet ovenfor, er i overensstemmelse med følgende europæiske direktiver og standarder eller normative dokumenter: / Το αντικείμενο της δήλωσης που περιγράφεται παραπάνω συμμορφώνεται με τις παρακάτω ευρωπαϊκές οδηγίες και πρότυπα ή κανονιστικά έγγραφα: / Üthaljelatand deklarereintav toode on kooskõlas järgmistega Euroopa direktiivide ja standardite või normdokumentidega: / Yllä määrätyn vakuutuksen tavoite noudattaa seuraavien eurooppalaisten direktiivien, normien tai normatiivisten asiakirjojen vaatimuksia: / Tá eusóir an dearbháithe a dtugtar cuir-síos air thuas de réir na dtreoracha agus na gcaighníomh Eorpacha nó de réir na ndoiciméad normatach Eorpach seo a leanas: / Predmet izjave naveden iznad u skladu je sa sledećim evropskim direktivama i normama normativnih dokumenata: / A fent emittett nyilatkozat tárgya megfelel az alábbi európai irányelveknek, szabványoknak, illetve normatív dokumentumoknak: / 上述的宣言書的目的是，儀器以下的歐洲指令および規格あるいは規定文書に適合していることを宣言することです: / 위에서 설명한 이 선언의 목적은 다음의 유럽 지침 및 표준 또는 규범 문서를 준수하는 데 있습니다. / Pirmliau aprašytas deklaracijos objektas atitinka šias Europos direktyvas ir standartus ar norminius dokumentus: / Lepriekš aprakstītais deklarācijas priekšmets atbilst tālāk norādītajām Eiropas direktīvām un standartiem vai normatīvajiem dokumentiem: / L-oggett tad-dikjarazzjoni deskritta hawn fuq hu konformi mad-direttivi Ewropej u l-standards jew id-dokumenti normattivi li ġejjin: / Het voorwerp van vooropzette verklaring is in overeenstemming met de volgende Europese richtlijnen en normen of normatieve documenten: / Tresz powyższej deklaracji jest zgodna z następującymi dyrektywami europejskimi oraz normami lub dokumentami normatywnymi: / O objeto da declaração acima mencionada está em conformidade com as seguintes diretivas e normas europeias ou documentos normativos: / Obiectul declarației descris mai sus este în conformitate cu următoarele directive și standarde europene sau acte normative: / Предмет декларацията, описаният выше, съответствува следуюцим европейским директивам и стандартам или нормативным документам: / Predmet vyššie uvedeného vyhlásenia o zhode je v súlade s nasledujúcimi evropskými smernicami a normami alebo normatívnymi dokumentmi: / redmet zgoraj opisane izjave je skladen z naslednjimi evropskimi direktivami in standardi ali normativnimi dokumenti: / Föremålet för försäkran som beskrivs ovan överensstämmer med följande europeiska direktiv och standarder eller harmoniserade dokument: / วัตถุประสงค์ของเอกสารตามที่ยืนยันไว้ข้างต้นสอดคล้องกับข้อกำหนดและมาตรฐานหรือเอกสารกฎระเบียบของสหภาพยุโรปที่ได้อ้างถึง: / 上述声明的目标与下面的欧洲指令、标准或规范性文件相符。

EC - DECLARATION OF CONFORMITY

KD No.: 30083900

Document No.: 20140016

The undersigned, representing the following manufacturer

**Mettler-Toledo GmbH
Im Langacher 44
8606 Greifensee, SWITZERLAND**



herewith declares that the product

**Sample Taker
EASYSAMPLER 1210**

certified model: --

is in conformity with the provisions of the following EC directives (incl. amendments)


2006/95/EC; 2014/35/EC *** Low voltage (LVD)
2004/108/EC; 2014/30/EC *** Electromagnetic compatibility (EMC)

and that the standards have been applied. *** valid after 20.04.2016

Last two digits of the year in which the CE marking was affixed: **14**

8606 Greifensee
18.04.2016


.....
Roel Ferwerda
General Manager AutoChem


.....
Christoph Jung
Head SPG Chemistry Sampling Solutions

References of standards for this declaration of conformity, or parts thereof:
Harmonized standards of Europe and Switzerland:

Safety standards:
IEC/EN61010-1:2010

EMC standards (* Emission; ** Immunity):
IEC61326-1:2012 / EN61326-1:2013 (class B *)
IEC61326-1:2012 / EN61326-1:2013 (Industrial requirements **)

Metrological standards:
--

IP standards:
--

Standards for Canada, USA and Australia:
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EC - DECLARATION OF CONFORMITY

KD No.: 30083900

Document No.: 20140016

Type code



other types of same construction:

WXSS204

Tested type

WXxyyyxx

Series name

x

Design (built in or desk top version)

x

Terminal (standard or professional)

yyy

Load cell (mechanical)

xx

Function (software)

Where y in the model designation may be up to 3 digits can be any number 0 to 9. Where x in the model designation may be any letter A to Z denoting SELV/ELVEL secondary circuits or minor mechanical differences.

Remarks:



Certificate: 70020551

Master Contract: 173467

Project: 70020551

Date Issued: January 22, 2015

APPLICABLE REQUIREMENTS

CSA Standards:

CAN/CSA-C22.2 No. 61010-1-12 - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements

UL Standards:

UL Std. No. 61010-1 (3rd Edition) - Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use, Part 1: General Requirements

CONDITIONS OF ACCEPTABILITY

1. The main supply cord set provided with the equipment must be an approved type acceptable to the authorities in the country where the equipment is sold.
2. If at any time there is a conflict between the system safety provisions and any relevant local (national or regional) requirements, the local requirements always take precedence.
3. Equipment is not to be used with flammable liquids.

Manufacturing of Pressure Assemblies

In reference to 2014/68/EU

Pressure Assemblies: EasySampler Probe 450 (part number: 30279540)
EasySampler Probe 330 (part number: 30306934)
EasySampler Probe 210 (part number: 30043400)

Manufacturer: Mettler Toledo GmbH, Im Langacher, Greifensee (CH)

Product Specifications at elevated pressure

Maximum / Minimum specified Pressure (PS)	10 bar / 1.013 bar
Maximum / Minimum specified Temperature (TS)	100 °C / 20 °C
Maximum Reactor Volume applied:	1000 ml
Nominal Size of EasySampler Probe (DN)	< 6

Safety Equipment: None

Classification according directive 2014/68/EU Annex II/Chapter 4 Paragraph 3

Conformity Assessment Procedure

The listed pressure assemblies are outside the scope of directive 2014/68/EU, Chapter 1, Article 1, 2(f) with reference to Article 13 and in accordance with Annex II of this directive. Design specification, manufacturing and testing has been conducted in accordance with the sound engineering practice in order to ensure safe use. Applied parameters in product testing: 20 to 110 °C temperature range, 17.5 bar pressure, reactor volume of 100 ml.

CE Labeling

According to chapter 4 (3) of the directive 2014/68/EU the listed pressure assemblies shall not bear the CE marking referred to in the directive 2014/68/EU.

Instructions for safe use are included in the EasySampler operating instructions.

Date and Location	Manufacturer
May, 17 2016 Schwerzenbach	METTLER TOLEDO

Signature



Head Strategic Product Group CSS

METTLER TOLEDO



To protect your product's future:

METTLER TOLEDO Service assures the quality, measuring accuracy and preservation of value of this product for years to come.

Please request full details about our attractive terms of service.

www.mt.com/EasySampler

For more information

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www.mt.com/contact

Subject to technical changes.
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30091776A

