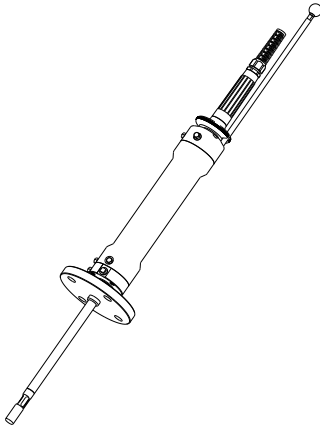


Enhanced InTrac[®] 777/295

When a longer immersion is crucial!

Technical data



InTrac 777/295

Short description

InTrac retractable housings from METTLER TOLEDO enable the installation of electrodes/sensors in the chemical and pharmaceutical industry. Sensors can be calibrated and cleaned without interrupting the process which dramatically increases sensor life and reduces intensive maintenance.

Features

- Cleaning and calibration without interrupting the process
- A very long immersion depth to suit reactors, tanks or pipes sizes
- Flexible process adaptations for the chemical and pharmaceutical industry
- Easy installation and withdrawal while the process is running
- ATEX (94/9/EC)
- TRI-LOCK™ safety system

Content

Operation and System	2	Technical specifications	6
General operation	2	Process connections	6
Complete measuring system	2	Technical specifications	6
Automation with EasyClean	3	Suitable electrodes	7
Pneumatic and other connections	4		
		Ordering information	8
Dimensional drawings	5	Product structure InTrac777/295	8
Dimensional drawings InTrac777/295	5	Accessories	9
		Spare parts	9

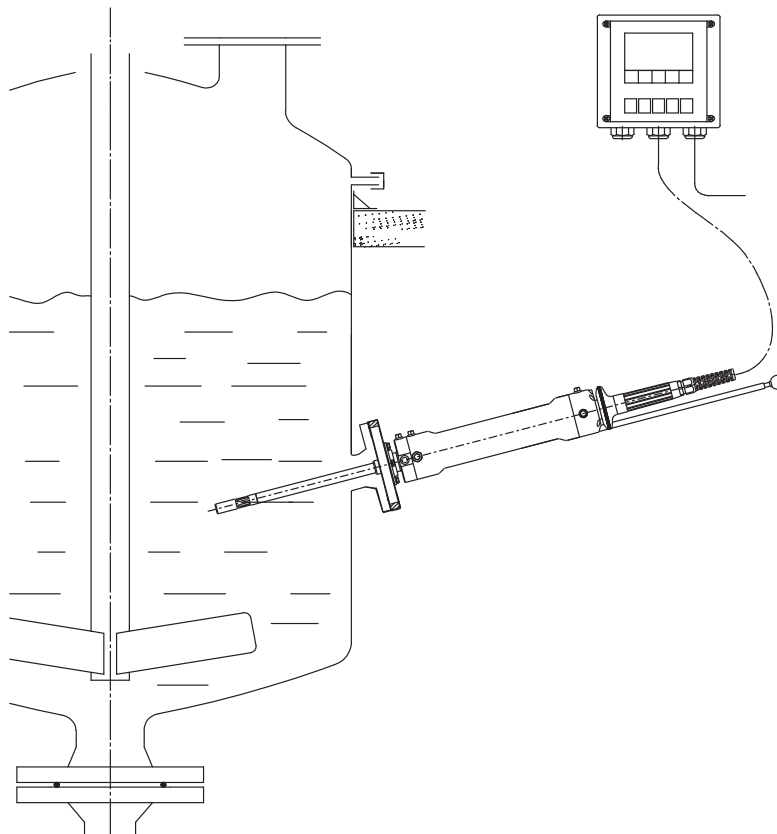
METTLER TOLEDO

General operation

With InTrac retractable housings reliable measurements of pH/ORP and dissolved oxygen can be achieved in process applications. Flexible process adaptation makes the housings suitable for applications in the chemical industry and also meets the demands of engineering companies. The housing can be operated pneumatically and allows electrodes/sensors to be:

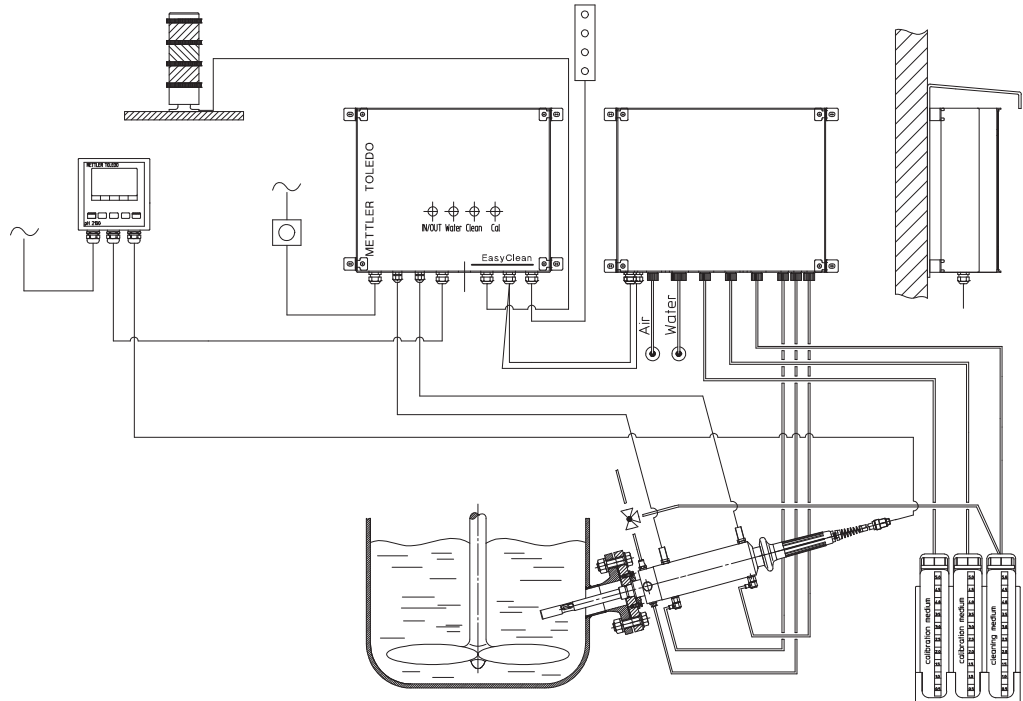
- separated from the process and retracted into the flushing chamber
- rinsed with water or cleaning solution
- calibrated
- completely un-installed

The InTrac 777/295 is available in stainless steel DIN 1.4404/AISI 316L as a configurable housing [(i.e. Hastelloy C22 or titanium (on special request))] as wetted part. A wide range of process fittings are available to meet your requirements.

Complete measuring system**Basic measuring system**

Basic side-entry installation consisting of an InTrac housing, a sensor and a transmitter.

Measuring system combined with fully automatic EasyClean cleaning and calibration system



In combination with an EasyClean cleaning and calibration system you can fully automate your pH measurement. The measuring system consists of an InTrac housing with position indicators, a sensor, a transmitter and the EasyClean cleaning and calibration system. For complete installation in hazardous areas an EasyClean 400X is required in combination with a fully approved housing.

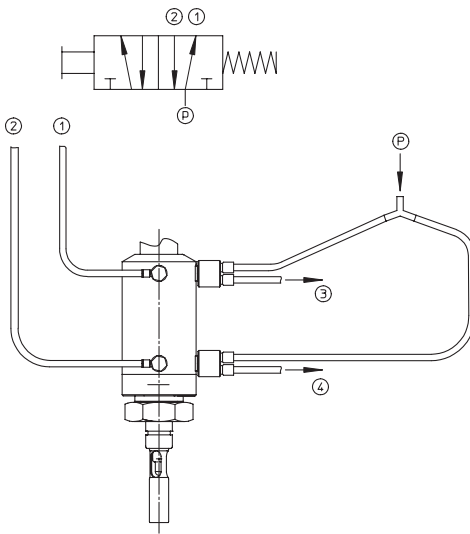
Pneumatic and other connections

Pneumatic connections (continuously adjustable)

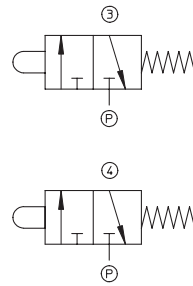
For pneumatic operation of the housing, connections **1** and **2** are to be linked to the air lines **1** and **2** as shown below.

Attention! Only the original fittings supplied with the housing may be used. If the position indicator system is to be used, the two connections **3** and **4** are to be linked to the position indicator valves **3** and **4**.

5/2-way valve



3/2-way valve



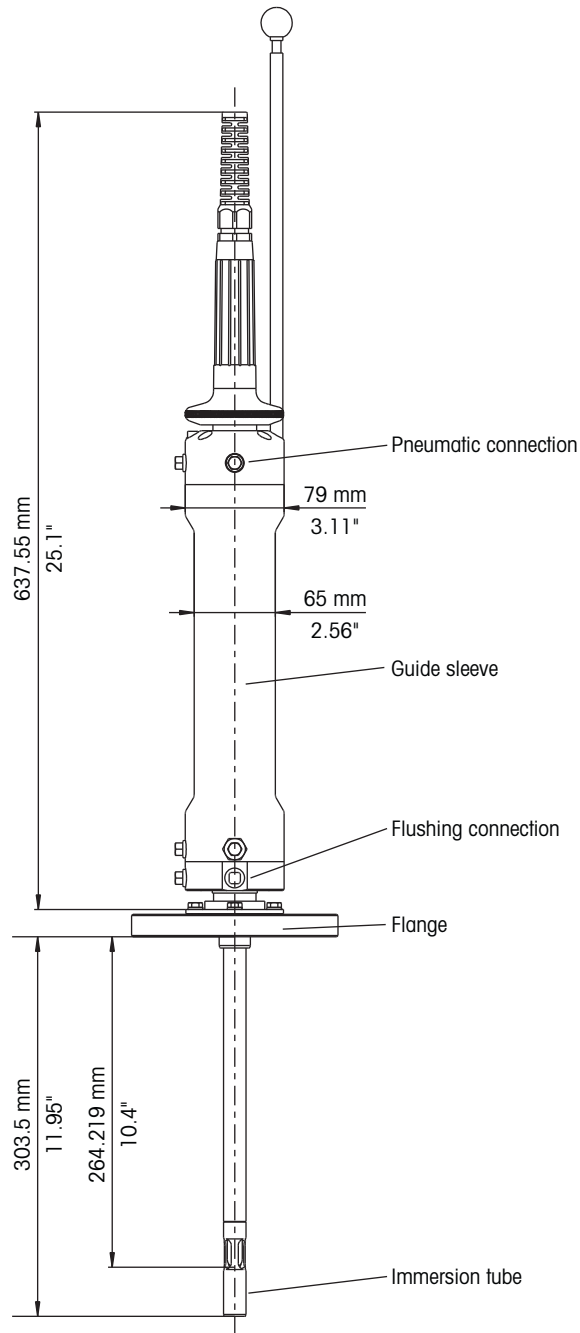
- p = Compressed air supply
- 1 = Feed «Measurement»
- 2 = Feed «Maintenance»
- 3 = Position indication «Maintenance»
- 4 = Position indication «Measurement»

The operating pressure of the pneumatic system is 4...8 bars. The control air must be water and oil-free, and filtered (40 µm). The hoses must have a minimum size of 6/4 mm. The speed of the movement can be continuously adjusted.

Note!

If the air pressure can go above 8 bars (also short spikes), the use of a pressure reducer is recommended.

InTrac 777



Process connections

The following table shows the possible adaptations and materials:

Material		1.4404/316L	2.4602/Alloy C22*	Ti*
Process connection	Dimension			
For Ingold				
weld-in socket DN25	DN25	●	●	●
Flange DIN	DN32 PN16	●	●	●
	DN40 PN16	●	●	●
	DN50 PN16	●	●	●
	DN80 PN16	●	●	●
Flange ANSI	A150-1.5"	●	●	●
	A150-2"	●	●	●
	A150-3"	●	●	●
NPT thread	NPT 1"	●		
	NPT 1 1/4"	●		
	NPT 1 1/2"	●		
Tri-Clamp	TC 1.5"	●		
	TC 2"	●		
Tuchenhagen	Varivent DN50	●		

* on request (special offer)

Technical specifications

Ambient conditions

Temperature	-10 ... 70 °C / 14 ... 158 °F
Functional pressure range	0 ... 8 bar / 0 ... 116 psig
Max. permissible pressure [PS]/[TS] ¹	16 bar / 140 °C (232 psig / 284 °F)

Operation pneumatic

Insertion length 295 mm

Wetted parts
 - DIN 1.4404/AISI 316L
 - DIN 2.4602/AISI Alloy C22²
 - titanium²

Wetted O-rings Viton®-FDA, EPDM-FDA², Kalrez®-FDA²

Non-wetted parts
 body: DIN 1.4404/AISI 316L
 protective sleeve: DIN 1.4404/AISI 316L

Weight approx 6.0 kg

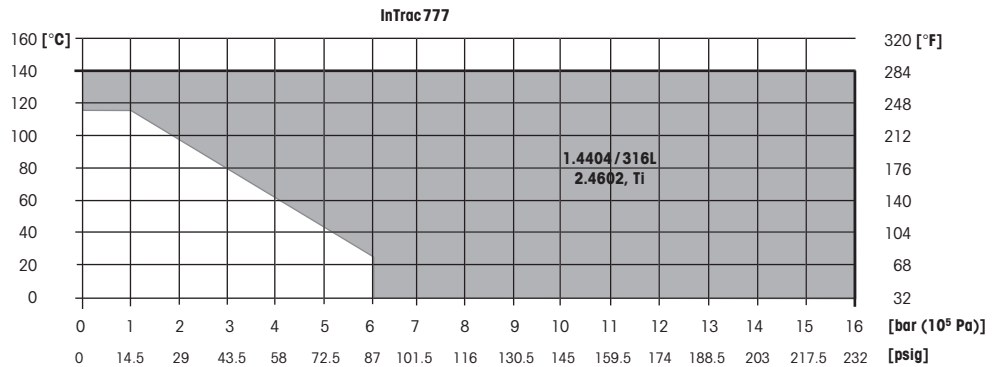
Pneumatic connections 4 ... 8 bar / 58 ... 116 psig

Air quality to ISO 8573-1
 - air moisture content class 4 (dew point +3°C)
 - solids class 5 (filter 40 µm)
 - max. oil content class 2 (0.1 mg/m³)
 - air connections for hoses 6/4 mm

¹ pressure rating according to PED 97/23/EC

² on request (special offer)

Technical specifications (cont.)



Flushing connections

(Water, cleaning solutions)

2 ... 6 bar/29 ... 87 psig

1 × connection IN: thread G 1/8"

1 × connection OUT: thread G 1/4"

1 × connection TEMP: thread G 1/8"

Position monitoring

pneumatic check-back (3/2 way-valve); G 1/8"

inductive check-back, non-Ex, M12 × 1

inductive check-back, Ex, M12 × 1

Pressure information

According to PED-Article 1, Section 2.2:

"Pressure" is referenced to atmospheric pressure, e.g. an overpressure. Accordingly, a pressure in the vacuum region will be expressed as a negative pressure.

Explosion protection

(Valid for all housings with medium-wetted parts made of metal)

According to ATEX guidelines (94/9/EC):

⊕ II 1/2 GD IIC T6/T5/T4/T3

IP6X T 69 °C/T 81 °C/T 109 °C/T 161 °C

SNCH O3 ATEX 3590 X

According to FM guidelines: IS CL I,II,III, Div 1, GR ABCDEFG/T6

Certificates/approvals

Declaration of conformity CE

Pressure equipment directive (PED) 97/23/EC

Certificate of compliance with the order EN10204-2.1

Inspection certificate 3.1B

ATEX (94/9/EC), FM certificate

Suitable electrodes/sensors

Insertion length

H = 295 mm

Length of sensor/electrode

425 mm/420 mm

pH

InPro 3100 (i), InPro 3250 (i), InPro 3253 (i), InPro 4260 (i), InPro 4800 (i)

ORP

HA405, Pt4805

Dissolved oxygen, gaseous oxygen

InPro 6800 (G), 6850i, 6900 (i) (G), 6950 (i) (G)

Product structure

Flushing chamber																																			
7	single flushing chamber																																		
Electrode/sensor type																																			
7	Sensors with Pg 13.5 thread																																		
Operation mode																																			
P	pneumatic operation																																		
R	pneumatic operation with pneumatic position indication																																		
I	pneumatic operation with inductive position indication non-Ex																																		
X	pneumatic operation with inductive position indication Ex																																		
Insertion length (H)																																			
2	9	5	H = 295 mm																																
Material (other materials – Alloy C22 or titanium – to be ordered by special offer)																																			
4	4	0	4	DIN 1.4404/AISI 316L																															
Process connections																																			
D	0	0	Ingold DN25 weld-in socket																																
D	0	2	Flange DN32 PN16 (SS-version only)																																
D	0	3	Flange DN40 PN16																																
D	0	4	Flange DN50 PN16																																
D	0	6	Flange DN80 PN16																																
A	0	2	ANSI flange A150-1.5"																																
A	0	3	ANSI flange A150-2"																																
A	0	4	ANSI flange A150-3"																																
N	0	1	NPT thread 1"																																
N	0	2	NPT thread 1 1/4"																																
N	0	3	NPT thread 1 1/2"																																
T	0	1	Tri-Clamp 1.5"																																
T	0	2	Tri-Clamp 2"																																
V	0	1	Varivent DN50																																
O-ring material																																			
V	i	Viton®-FDA																																	
E	P	EPDM-FDA																																	
K	a	Kalrez®-FDA																																	
Body material																																			
S	DIN 1.4404/AISI 316L																																		
Flushing connections																																			
0	without																																		
1	Serto ss																																		
2	PVC																																		
3	PVDF																																		
4	Gyrolok ss																																		
5	Swagelok ss																																		
Specials																																			
0	None																																		
1	Special																																		
InTrac 7	7	7	/	2	9	5	/	4	4	0	4	/				/				/	S														
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30												

- Housings made of Alloy C22 or titanium* are supplied with Kalrez® O-rings as a standard.
- Housings made of Alloy C22 or titanium* are supplied with cap nut made of stainless steel as standard.
- Flanges are also made of stainless steel and supplied with a sealing plate made of PTFE.
- Varivent and Tri-Clamp flanges are available in stainless steel only.
- * on request (to be ordered by special offer)

Accessories

Designation	Order nr
Pt100-764/5 m	10 1003 104IG
Pt1000-764/5 m	10 1003 116IG
3/2-way reversion valve set (2 pcs), pneumatic	52 401 324
Inductive check-back, non-Ex (2 pcs)	52 402 398
Inductive check-back, Ex (2 pcs)	52 402 399
Fitting Set SERTO	52 400 842
Fitting Set SWAGELOK	52 400 843
Fitting Set GYROLOK	52 400 844
Fitting Set PVDF	52 400 768
Fitting Set PVC	52 400 769
Pneumatic connection (throttle valve 1 pc*)	20 102 1049
Positive position rod, long 7XXe	52 403 121

* 2 pcs required per housing

Spare parts

Designation	Order nr
O-ring set Viton®-FDA	52 403 172
O-ring set Kalrez®-FDA	52 403 173
O-ring set EPDM-FDA	52 403 174
Set cable grommet 5 mm/7 mm	52 403 463

Additional accessories

Designation	Order nr
Blind plug DN25 L=40/inclined	00 764 2002
Blind plug DN25 L=40/straight	00 764 2026

Sales and Service:

Australia

Mettler-Toledo Ltd.
220 Turner Street
Port Melbourne
AUS-3207 Melbourne/VIC
Phone +61 1300 659 761
Fax +61 3 9645 3935
e-mail info.mtaus@mt.com

Austria

Mettler-Toledo Ges.m.b.H.
Südrandstraße 17
A-1230 Wien
Phone +43 1 604 19 80
Fax +43 1 604 28 80
e-mail infoprocess.mtat@mt.com

Brazil

Mettler-Toledo Ind. e Com. Ltda.
Alameda Araguaia, 451
Alphaville
BR-06455-000 Barueri/SP
Phone +55 11 4166 7444
Fax +55 11 4166 7401
e-mail mettler@mettler.com.br
service@mettler.com.br

China

Mettler-Toledo Instruments
(Shanghai) Co. Ltd.
589 Gui Ping Road
Cao He Jing
CN-200233 Shanghai
Phone +86 21 64 85 04 35
Fax +86 21 64 85 33 51
e-mail mtcs@public.sta.net.cn

Croatia

Mettler-Toledo d.o.o.
Mandlova 3
HR-10000 Zagreb
Phone +385 1 292 06 33
Fax +385 1 295 81 40
e-mail mt.zagreb@mt.com

Czech Republic

Mettler-Toledo s.r.o.
Trebohosticka 2283/2
CZ-100 00 Praha 10
Phone +420 2 72 123 150
Fax +420 2 72 123 170
e-mail sales.mtcz@mt.com

Denmark

Mettler-Toledo A/S
Naverland 8
DK-2600 Glostrup
Phone +45 43 27 08 00
Fax +45 43 27 08 28
e-mail info.mtdk@mt.com

France

Mettler-Toledo
Analyse Industrielle S.A.S.
30, Boulevard de Douaumont
BP 949
F-75829 Paris Cedex 17
Phone +33 1 47 37 06 00
Fax +33 1 47 37 46 26
e-mail mtpro-f@mt.com

Germany

Mettler-Toledo GmbH
Prozeßanalytik
Ockerweg 3
D-35396 Gießen
Phone +49 641 507 333
Fax +49 641 507 397
e-mail prozess@mt.com

Great Britain

Mettler-Toledo LTD
64 Boston Road, Beaumont Leys
GB- Leicester LE4 1AW
Phone +44 116 235 7070
Fax +44 116 236 5500
e-mail enquire.mtuk@mt.com

Hungary

Mettler-Toledo Kereskedelmi KFT
Teve u. 41
HU-1139 Budapest
Phone +36 1 288 40 40
Fax +36 1 288 40 50
e-mail mthu@axelero.hu

India

Mettler-Toledo India Private Limited
Amar Hill, Saki Vihar Road
Powai
IN-400 072 Mumbai
Phone +91 22 2857 0808
Fax +91 22 2857 5071
e-mail sales.mtin@mt.com

Italy

Mettler-Toledo S.p.A.
Via Vialba 42
I-20026 Novate Milanese
Phone +39 02 333 321
Fax +39 02 356 2973
e-mail customercare.italia@mt.com

Japan

Mettler-Toledo K.K.
Process Division
4F Izumikan Sanbancho Bldg.
3-8 Sanbancho
Chiyoda-ku
JP-102-0075 Tokyo
Tel. +81 3 3222 7103
Fax +81 3 3222 7118
e-mail helpdesk.ing.jp@mt.com

Malaysia

Mettler-Toledo (M) Sdn Bhd
Bangunan Electrocon Holding, U 1-01
Lot 8 Jalan Astaka U8/84
Seksyen U8, Bukit Jelutong
MY-40150 Shah Alam Selangor
Phone +60 3 78 44 58 88
Fax +60 3 78 45 87 73
e-mail
MT-MY.CustomerSupport@mt.com

Mexico

Mettler-Toledo S.A. de C.V.
Ejercito Nacional #340
Col. Chapultepec Morales
Del. Miguel Hidalgo
MX-11570 México D.F.
Tel. +52 55 1946 0900
e-mail ventas.lab@mt.com

Poland

Mettler-Toledo (Poland) Sp.z.o.o.
ul. Polezki 21
PL-02-822 Warszawa
Phone +48 22 545 06 80
Fax +48 22 545 06 88
e-mail polska@mt.com

Russia

Mettler-Toledo Vostok ZAO
Sretenskij Bulvar 6/1
Office 6
RU-101000 Moscow
Phone +7 495 621 56 66
Fax +7 495 621 63 53
e-mail inforus@mt.com

Singapore

Mettler-Toledo (S) Pte. Ltd.
Block 28
Ayer Rajah Crescent #05-01
SG-139959 Singapore
Phone +65 6890 00 11
Fax +65 6890 00 12
+65 6890 00 13
e-mail precision@mt.com

Slovakia

Mettler-Toledo s.r.o.
Hattalova 12/A
SK-831 03 Bratislava
Phone +421 2 4444 12 20-2
Fax +421 2 4444 12 23
e-mail predaj@mt.com

Slovenia

Mettler-Toledo d.o.o.
Pot heroja Trtnika 26
SI-1261 Ljubljana-Dobrunje
Phone +386 1 530 80 50
Fax +386 1 562 17 89
e-mail keith.racman@mt.com

South Korea

Mettler-Toledo (Korea) Ltd.
Yeil Building 1 & 2 F
124-5, YangJe-Dong
SeCho-Ku
KR-137-130 Seoul
Phone +82 2 3498 3500
Fax +82 2 3498 3555
e-mail Sales_MTKR@mt.com

Spain

Mettler-Toledo S.A.E.
C/Miguel Hernández, 69-71
ES-08908 L'Hospitalet de Llobregat
(Barcelona)
Phone +34 93 223 76 00
Fax +34 93 223 76 01
e-mail bcn.centralita@mt.com

Sweden

Mettler-Toledo AB
Virkesvägen 10
Box 92161
SE-12008 Stockholm
Phone +46 8 702 50 00
Fax +46 8 642 45 62
e-mail sales.mts@mt.com

Switzerland

Mettler-Toledo (Schweiz) GmbH
Im Langacher
Postfach
CH-8606 Greifensee
Phone +41 44 944 45 45
Fax +41 44 944 45 10
e-mail salesola.ch@mt.com

Thailand

Mettler-Toledo (Thailand) Ltd.
272 Soi Soonvijai 4
Rama 9 Rd., Bangkapi
Huay Kwang
TH-10320 Bangkok
Phone +66 2 723 03 00
Fax +66 2 719 64 79
e-mail
MT-TH.ProcessSupport@mt.com

USA/Canada

Mettler-Toledo Ingold, Inc.
36 Middlesex Turnpike
Bedford, MA 01730, USA
Phone +1 781 301 8800
Freephone +1 800 352 8763
Fax +1 781 271 0681
e-mail mtprous@mt.com



Management System
certified according to
ISO 9001 / ISO 14001

Subject to technical changes.
© Mettler-Toledo AG, Process Analytics
09/09. Printed in Switzerland. 52 403 986

Mettler-Toledo AG, Process Analytics
Im Hackacker 15, CH-8902 Urdorf, Switzerland
Phone +41 44 729 62 11, Fax +41 44 729 66 36

www.mt.com/pro