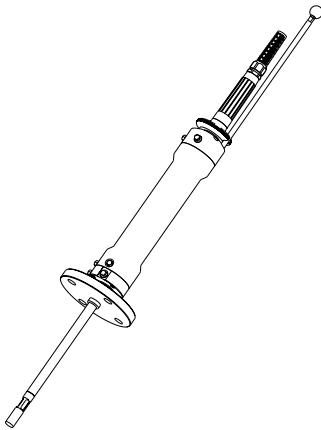


Enhanced InTrac 777/295

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

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General operation

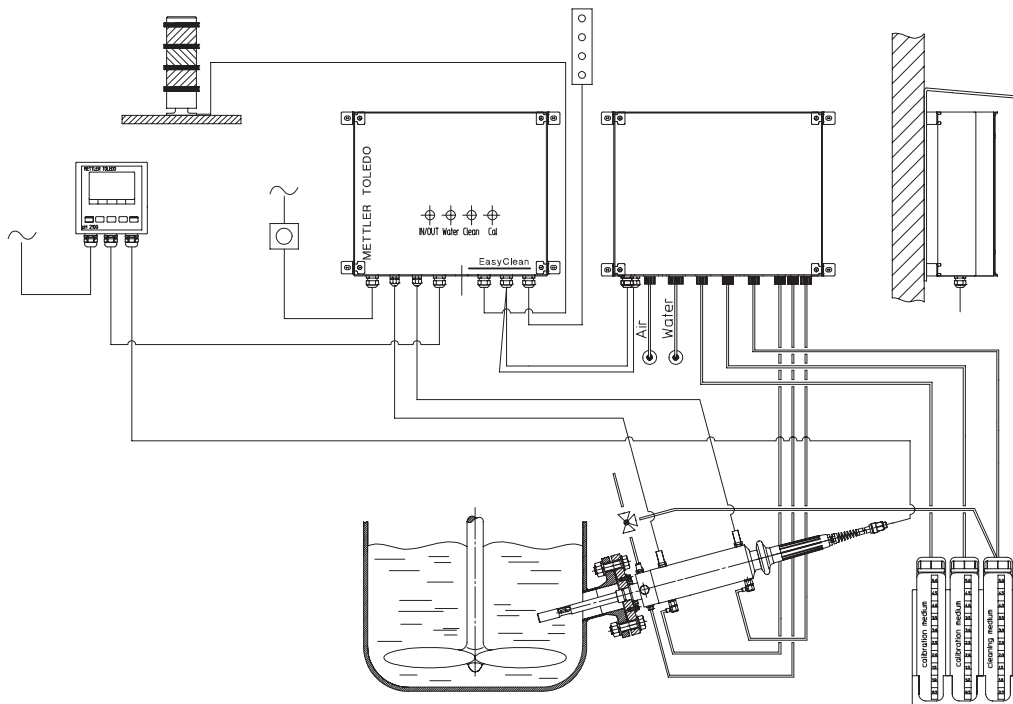
With InTrac retractable housings reliable measurements of pH / ORP and dissolved oxygen can be achieved in process applications. Flexible process adaptation makes the housings suitable for applications in the chemical industry and also meets the demands of engineering companies. The housing can be operated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

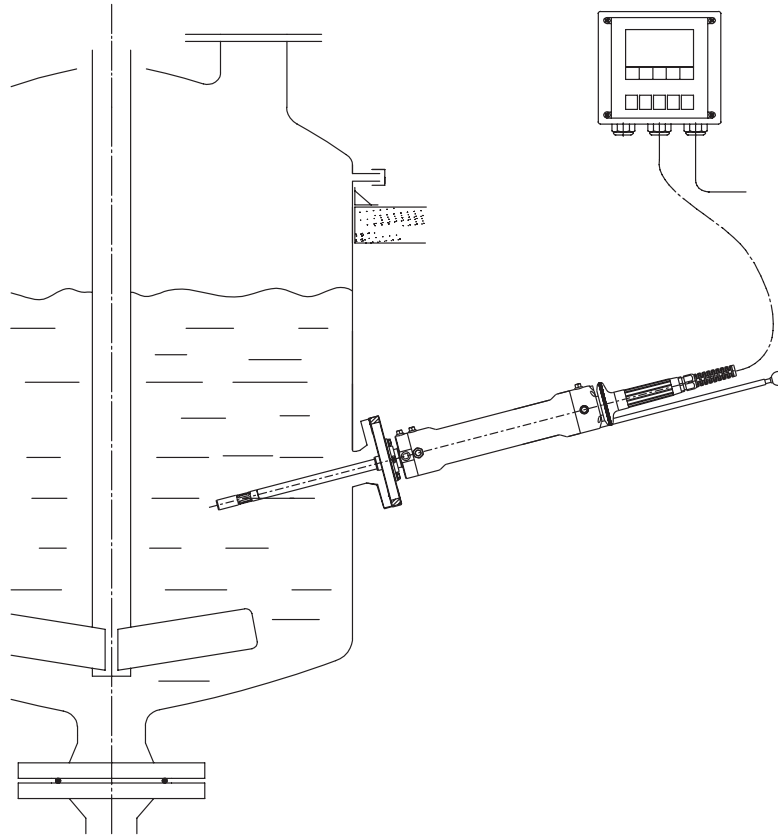
Complete measuring system

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

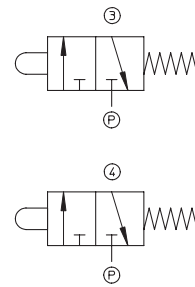
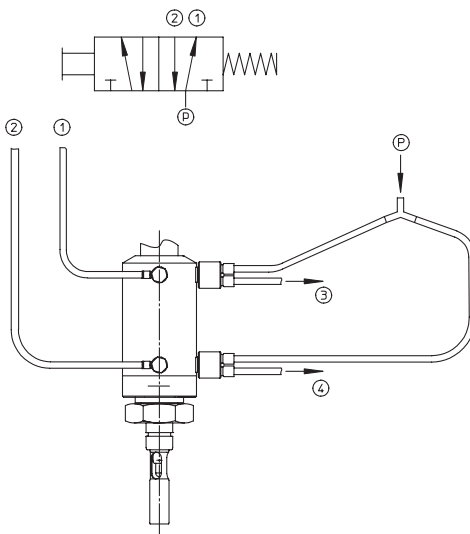
Pneumatic connections (continuously adjustable)

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»

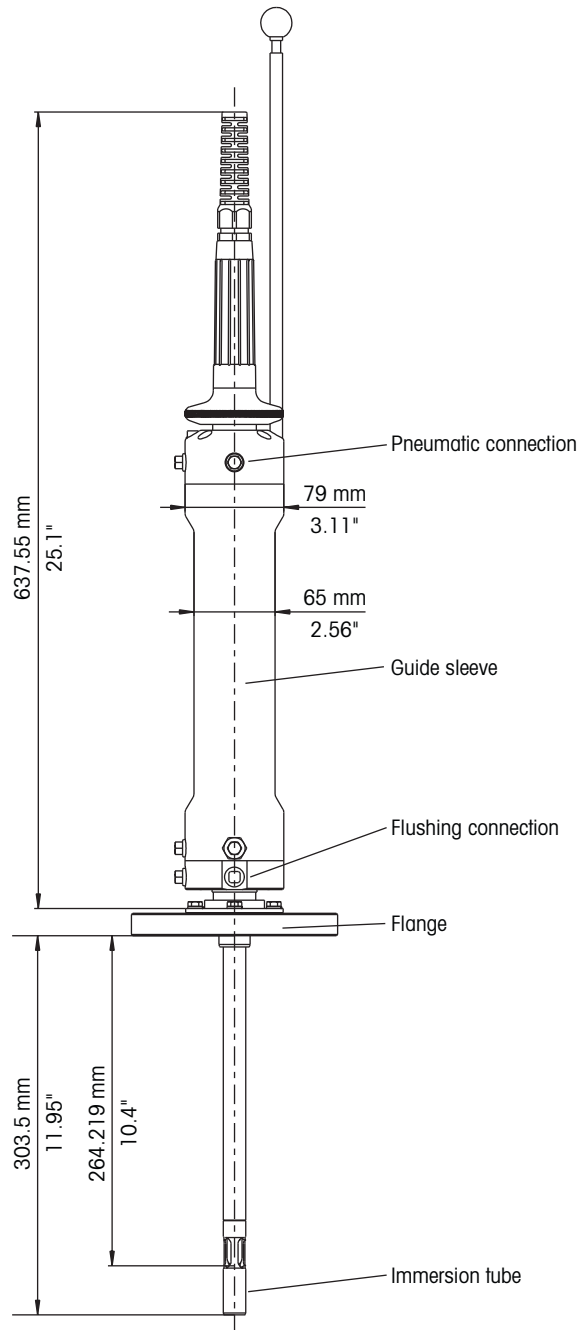
The operating pressure of the pneumatic system is 4...8 bars. The control air must be water and oil-free, and filtered (40 µm). The hoses must have a minimum size of 6 / 4 mm. The speed of the movement can be continuously adjusted.

Note!

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

Dimensional drawing

InTrac 777



Process connections

The following table shows the possible adaptations and materials:

Material		1.4404 / 316L	2.4602 / Alloy C22 ¹⁾	Ti ¹⁾
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 1¼"	●		
	NPT 1½"	●		
Tri-Clamp	TC 1.5"	●		
	TC 2"	●		
Tuchenhagen	Varivent DN50	●		

1) 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 FKM-FDA, EPDM-FDA²⁾, FFKM-FDA²⁾

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

Weight approx 6.0 kg

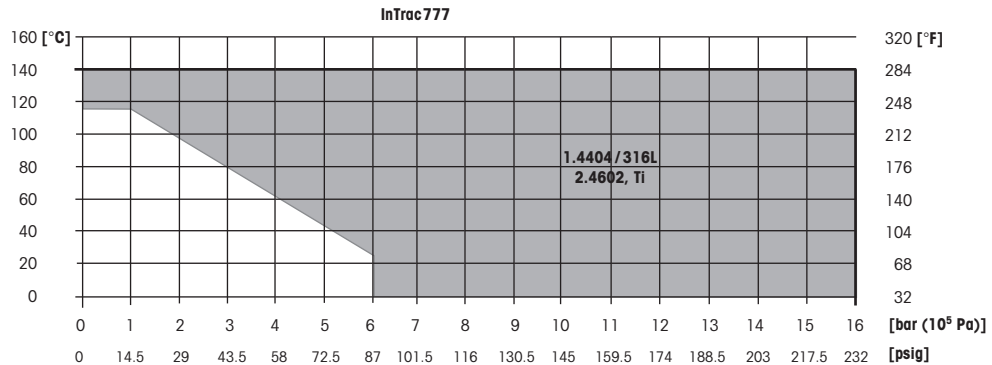
Pneumatic connections 4...8 bar / 58...116 psig

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

pH

ORP

Dissolved oxygen, gaseous oxygen

Length of sensor / electrode

425 mm / 420 mm

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

HA 405, Pt 4805

InPro 6800 (G), 6850 i, 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	FKM-FDA																																		
E	P	EPDM-FDA																																		
K	a	FFKM-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 ¹⁾ are supplied with FFKM O-rings as a standard.
 - Housings made of Alloy C22 or titanium ¹⁾ 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.
- ¹⁾ On request (to be ordered by special offer)

Accessories

Designation	Order nr
Pt 100-764 / 5 m	10 1003 104IG
Pt 1000-764 / 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 ¹⁾)	20 102 1049
Positive position rod, long 7XX e	52 403 121

1) 2 pcs required per housing

Spare parts

Designation	Order nr
O-ring set FKM-FDA	52 403 172
O-ring set FFKM-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

For addresses of METTLER TOLEDO
Market Organizations please go to:
www.mt.com/contacts

www.mt.com/pro

For more information



Management System
certified according to
ISO 9001/ISO 14001

METTLER TOLEDO Group

Process Analytics

Local contact: www.mt.com/contacts

Subject to technical changes.

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MarCom Urdorf, CH



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