



Retractable Electrode Housing
Static Fittings & Accessories
Process Automation

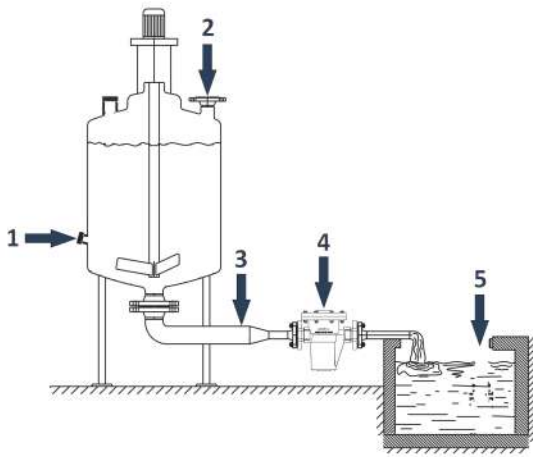
DETM **DYNAMIC**
Process Equipment

pH Measurement: The Better Way

Out of many variables in liquid processes pH Value is one of the most important and crucial parameter which has a major impact on overall process efficiency. Thus continuous pH Value measurement is very important in many industrial applications such as Pharmaceuticals, Chemicals, Dyes-Intermediates, Effluent/Water Treatment, Paper & Pulp Processing, Sugar Processing, Power Plant etc.

Various products from our SmartDip Series and Accessories can be implemented in major process applications such as Chemical Reactors, Bio-Reactors, Fermentation Vessels, Food and Dairy Equipment, Collection Tanks, Pipes etc. to make the task of continuous pH measurement Easy, Reliable, Safe & More Efficient.

Equipment for Anywhere



POSITION	SUITABLE EQUIPMENT TYPE	PRODUCT SERIES
1	STATIC FITTING OR RETRACTABLE ELECTRODE HOUSING THROUGH SIDE NOZZLE ON PROCESS VESSEL	SmartDip Pneumatic 400, SmartDip Manual 200 & SmartDip Static 100
2	TOP MOUNT ASSEMBLY FOR VERTICAL ENTRY ON PROCESS VESSEL (GLR, MS-RL/RLBL)	SmartDip TopMount 300
3	STATIC FITTING OR RETRACTABLE ELECTRODE HOUSING FOR INLINE MEASUREMENT IN PIPE	SmartDip Pneumatic 400, SmartDip Manual 200 & SmartDip Static 100
4	FLOW THROUGH ASSEMBLY FOR INLINE MEASUREMENT IN PIPE	SmartFlow Assembly
5	IMMERSION DIP PIPE FOR OPEN BASINS OR COLLECTION TANKS	Customized

Above image and table describes the various possible location for application of pH measurement apparatus along with our suitable products. Depending on the application there could be specific requirements for Safety, Strength, Hygiene, Sensor Life Improvement, Corrosion Resistance and Insertion Depth. Our team from Dynamic Process Equipment can provide a complete solution for your requirement ranging from simple static fittings to completely automated systems capable of cleaning and calibrating your pH measurement setup.

Why Retractable Electrode Housing?

Our Retractable Housings for Electrode can be used where pH Value is a very important parameter and,

- The location of measurement is inaccessible and unsafe.
- Available life cycle of process electrode is too short.
- The Electrode is required to be cleaned and calibrated frequently without interrupting the process.
- CIP/SIP Cycles need to be performed in Hygienic applications.
- Manual cleaning of Electrode is not possible due to presence of hazardous media.
- Batch Processes with longer standby periods where Electrode needs to be kept from drying off.

Benefits:

- ☑ Much Safer and Reliable pH Measurement
- ☑ Improved life cycle of Electrode (Upto 5Times)
- ☑ Complete automation of measurement point with Pneumatically Retractable Electrode Housings
- ☑ Process Continuity during Calibration and Replacement

Retractable Electrode Housings

SmartDip Pneumatic (400 Series)

Retractable Electrode Housings with our Unique Modular Pneumatic Drive Unit.



401M



405M



420M



401P



405P



420P

SmartDip Manual (200 Series)

Retractable Electrode Housings with our Unique Modular Manual Drive Unit with Ergonomic Rotary Handle.



220M



220P

SmartDip Pneumatic	SmartDip Manual	MOC	Immersion	Stroke Length	Connection
401M	201M	SS316L/SS904L/C22	69mm (Extended 169mm)	40mm	Flange
401P	201P	DELIN/PP/PVDF	69mm	40mm	
405M	205M	SS316L/SS904L/C22	109mm (Extended 209mm)	40mm	
405P	205P	DELIN/PP/PVDF	109mm	40mm	
420M	220M	SS316L/SS904L/C22	40mm	40mm	Flange, Ingold DN25, Triclover
420P	220P	DELIN/PP/PVDF	40mm	40mm	
410M	210M	SS316L/SS904L/C22	-	70mm	

Features:

- ☑ Retractable Electrode Housings for implementation of standard 12mm glass pH electrodes with PG I 3.5 Process Connection.
- ☑ Various MOCs for Body, Wetted Parts & Seals to adapt any process conditions.
- ☑ Suitable for other 12mm Electrodes such as ORP, Dissolved Oxygen etc. with PG I 3.5 process connection.
- ☑ Surface Roughness Ra < 0.35 or Better.
- ☑ Various applicable standard electrode lengths for different models: 225mm, 325mm, 420/425mm.

Unique Features of our Retractable Electrode Housings



Unique 40mm Stroke Length



Unique Storage Chamber with Thorough Cleaning Technology, Wiper Ring with Backup seal for harsh media.



Manual Drive Unit with Ergonomic Rotary Handle & Position Interlocks



Pneumatic Drive Unit with Electrode Safety Interlock and Optional Pneumatic or Magnetic Reed Switch Feedback

SmartControl Auto (500 Series)

Control Panel for Operation of SmartDip Pneumatic 400 and 300 Series.



SmartControl Auto 500

For safe area application.



SmartControl Auto 500F

Flameproof Panel for Hazardous Area Application

SmartControl Manual 505

Manually Operated Pneumatic Control Panel for Operation of SmartDip Pneumatic 400 and 300 Series.

Features:

- ☑ Electro-Pneumatic control panel for automated operation of pneumatically operated retractable electrode housings.
- ☑ Programmable operations of Electrode Insertion to Measurement Position, Electrode Retraction to Service Position and Cleaning Cycles as per process requirements.
- ☑ Programmable Operations for SIP/CIP cycles as per process requirements.
- ☑ Optional version with HMI for touch screen operation and graphical representation.
- ☑ Customization available to integrate other Instruments to show different process parameters such as Temperature, Pressure, Conductivity/TDS, Dissolved Oxygen etc.
- ☑ Customization available for Process Automation such as Auto Dosing System for Acidic/Alkaline Reagents.

SmartDip TopMount (300 Series)

Top Mounted Pneumatically Retractable Assembly for reactors where side entry is not available.



Models 300M & 300P for Metallic & Plastic MOC wetted part respectively, Immersion length available up to 2500mm.

Features:

- ☑ Top Mounted Pneumatic Assembly for large reactors without side entry
- ☑ Flushing of electrode chamber for sensor cleaning & removal of material clogging
- ☑ Water retention in sensor chamber to keep the electrode from drying off
- ☑ Dip Pipe design for baffle action
- ☑ Integration for automated measurement with our **SmartControlAuto** control panel.

SmartDip Static (100 Series)

Static Electrode Housings to implement standard 12mm Electrode such as pH Glass Electrodes, Dissolved Oxygen Sensors, ORP Sensors etc. with PG 13.5 process connection and 120mm electrode length.

- ☑ Body Material SS316L and Others.
- ☑ Fittings compatible with ISO & DIN Standards.
- ☑ Surface Roughness Ra < 0.35 or Better.



110M



120M



140-45



110P



120P



150-45

Series	Connection	Model No.	MOC	Immersion
SmartDip Static	NPT 3/4"	110M	SS316L	-
		110P	Delrin/PTFE/PP	-
	NPT 1"	115M	SS316L	-
		115P	Delrin/PTFE/PP	-
	Ingold DN25	120M	SS316L	70mm
		120P	Delrin/PTFE/PP	70mm
	Dairy Fitting DN50	140-45	SS316L	45mm
		140-80	SS316L	80mm
	Dairy Fitting DN65	145-45	SS316L	45mm
		145-80	SS316L	80mm
	Triclover Fitting DN25/32 (ISO/DIN)	150-45	SS316L	45mm
		150-80	SS316L	80mm
	Triclover Fitting DN40 (ISO/DIN) /DN50 (DIN)	155-45	SS316L	45mm
		155-80	SS316L	80mm

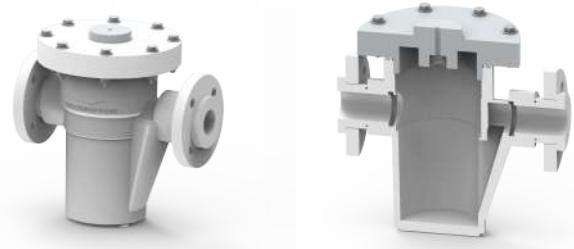
Accessories



SmartDip Sensor Cap

For protection of Electrode Connector and Stress Relief of Electrode Cable. Optional and applicable for various SmartDip Manual, SmartDip Static and SmartDip Pneumatic Fittings.

SmartFlow Assembly



Our Unique Inline Flow Through Assembly for Electrode Mounting in application of harsh & corrosive liquids. Rugged Molded body for maximum strength, Liquid retention to keep the electrode from drying off, Non metallic MOC - PP & PPH for harsh liquids with flange connection 3/4", 1", 1-1/2", 2".

Process Automation

Dynamic Process Equipment provides customized process automation solutions and multiple instrument integration for different process applications.



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