Features -

- **H** Full length concentric rod/insulator/body design withstands heavy loads and resists bending
- Secondary PTFE seal prevents failures and false alarms due to moisture and condensation
- (D) For alarm or high/low control action
- Can be installed in tiled or concrete silos
- Heavy-duty, proven reliability
- Suitable for many chunk solid applications
- Easy model selection when using picofarad calculations to accurately forecast service results

Description –

The side-mounted Delta Controls **Model P80 Series 1** Capacitance Probes feature a full length concentric rod/insulator/body design to withstand heavy loads and resist bending. The secondary PTFE seal **prevents failures** and **false alarms** due to moisture and condensation, or high/low control action.

The probes are rigid and rod-type for dry powders and granular solids. The sensing rod has a through-thegland design for maximum strength and is resistant to bending. The glands are sealed against water and moisture. The sensing rod and body are 300 Stainless Steel. The insulator is Delrin® and the seal is PTFE.

The P80 Series are heavy-duty with proven reliability in tiled or concrete silos. The weight factor and picofarad calculations should be used to model probe results.

Model P81 is a general-duty side inserted probe. The probe may be covered by 26 feet of sand or 65 feet of grain.

Model P82 is a medium-duty, rugged, side inserted probe. The probe may be covered with up to 55 feet of sand or 130 feet of grain.

Model P83 is a heavy-duty, side-inserted probe for more demanding applications. The probe may be covered with up to 75 feet of sand or 180 feet of grain and will withstand small to medium size chunk solids.

Model P84 is an extreme-duty side-inserted probe for the toughest of applications. The probe may be covered with up to 150 feet of sand or 375 feet of grain and can withstand larger chunk size solids.



Model P80 Series 1 (P81)

Specifications -

Туре:	Side Mount
Working Pressure:	+1500 psig (+103.4 bar) at +100 °F (38 °C)
Working Temperature:	-460 °F to +400 °F (-273 °C to +204 °C)
Bulk Density:	3150 lb/ft 3 to 14 900 lb/ft 3
Insertion Length:	Custom
Process Connection:	0.75 in to 1.25 in MPT
Available Wetted Materials:	316 Stainless Steel, PTFE

	C	OMPARISON	CHART OF N	IODELS	
	MPT	"H"	"S"	O.D.	NPT
P81	0.75 in	3.0 (76)	1.0 (25)	0.37 (9)	0.75 in
P82	0.75 in	3.0 (76)	1.5 (38)	0.50 (13)	0.75 in
P83	1 in	3.1 (79)	2.0 (51)	0.625 (16)	1 in
P84	1.25 in	3.7 (94)	2.0 (51)	0.875 (22)	1 in

WEIGHT FACTORS*		
P81	3,150	
P82	6,590	
P83	8,880	
P84	14,900	

*Use to calculate Maximum Allowable Material Elevation

Maximum Allowable Elevation of Material

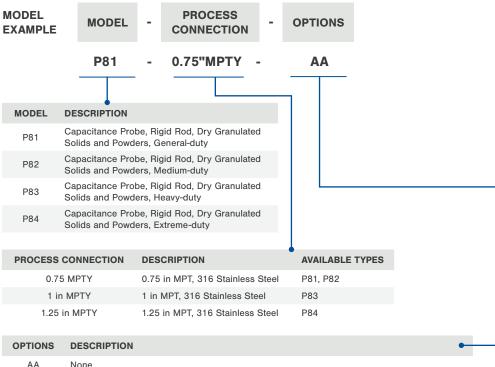
The horizontal sensing probe can withstand heavy loads without bending or failing. The loading on a probe is a function of the material's density. How deeply the sensing probe is covered, and the probe rod size and location. Delta Controls has simplified this complex relationship into a simple and easy to use equation. A "Weight Factor" value has been derived for each model. The maximum amount of coverage is easily determined by dividing the weight factor by the bulk density of the process material as follows:

Weight Factor	 – Maximum Allowable Feet of Coverage 		WEIGHT FACTORS			
Bulk Density (lb/ft3)	- Maximum Anowable Feet of Coverage	P81	P82	P83	P84	
	Weight Factor	3,150	6,590	8,880	14,900	
Maximum Coverage =						

EXAMPLE: Using a Model P82 sensing probe for 48 lb/ft^{3 of} whole kernel corn

	6590	
Maximum Coverage =		= 137 ft (42 m)
Maximum Coverage -	48	

Model Numbering System



AA	None
PH4	Probe head housing with terminals for use with remote mounted electronics unit, 4X housing
PH7	Probe head housing with terminals for use with remote mounted electronics unit, 7X housing

REQUIRED ORDERING INFORMATION:

· Detailed model number

- Tag or nameplate detail (if required)
- Documentation & testing packages (if required, refer to Additional Resources)

APPLICATION DETAILS:

- Process fluid or material name
- Process fluid or material dieletric constant
- Maximum process temperature
- Maximum process pressure