

# Capacitance Probe Reference Table

PROBE TYPE	Max. Length	① Max. Temp. °F	① Max. PSI	NPT Mount -ing Thread Size	Gland Capac. pF	⑤ Gain pF/Ft.	Bare O.D.	Ins. O.D.	Teflon Ins.	Poly-ethylene Ins.	Teflon Faced Flange	Maximum Span/Probe Length in a High Dielectric Conductive Product									
												Model 304B	Model 310	Model 314B	Model 318A	Model 158A	Model 167	Model 5100	Model 5400 5400A	Model 5000A	Model 7000 7000A
702A-B	⑥ 240"	350°	1000#	3/4"	12 pF	60 pF	.218"	.375"	Std.	N/A	N/A	42"	42"	97"	49"	240"	240"	240"	240"	240"	240"
702A-D High Gain	⑥ 240"	350°	1000#	3/4"	12 pF	250 pF	.437"	.500"	Std.	N/A	N/A	8"	8"	21"	9"	93"	93"	141"	141"	240"	240"
727A High Temp	④ 96"	800°	1000#	1"	- Short-Stop Type -					N/A	N/A	N/A	N/A	N/A	96"	N/A	N/A	96"	N/A	N/A	N/A
728B Heavy Duty	⑥ 240"	350°	1000#	1"	40 pF	60 pF	.47"	.75"	Std.	N/A	N/A	37"	37"	92"	44"	240"	240"	240"	240"	240"	240"
729A-B, -D, -G Flexible	⑥ 100'	350°	1000#	1"	20 pF	60 pF	.218"	.375"	Std.	N/A	N/A	41"	41"	96"	48"	33'	33'	50'	50'	100'	100'
729A-C, -E, -H Flexible	⑥ 100'	150°	1000#	1"	20 pF	65 pF	.218"	.375"	N/A	Std.	N/A	38"	38"	88"	44"	30'	30'	46'	46'	92'	92'
732A	④ 96"	350°	1000#	3/4"	- Short-Stop Type -					N/A	N/A	N/A	N/A	N/A	96"	N/A	N/A	96"	N/A	N/A	N/A
736B-A TFE Faced Flange	240"	350°	1000#	N/A	12 pF	60 pF	N/A	.375"	Std.	N/A	Std.	42"	42"	97"	49"	240"	240"	240"	240"	240"	240"
736B-B TFE Faced/Heavy Duty	240"	350°	1000#	N/A	40 pF	60 pF	N/A	.750"	Std.	N/A	Std.	37"	37"	92"	44"	240"	240"	240"	240"	240"	240"
737A Flexible Bare High Temp	100'	600°	3000#	3/4"	22 pF	③	.125"	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	-	-
737A rigid Bare High Temp	96"	600°	3000#	3/4"	22 pF	③	.25"	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	-	-
738A High Temp/Press Ceramic	36"	1000°	3000#	3/4"	25 pF	60 pF	N/A	.375"	N/A	N/A	N/A	36"	36"	36"	36"	36"	36"	36"	36"	36"	36"
739B	- Sanitary Flange Adaption for Probes Listed. See Product Specification Sheets -																				
740A General Purpose	⑥ 240"	350°	2000#	3/4"	24 pF	60 pF	.218"	.375"	Std.	N/A	N/A	40"	40"	95"	47"	240"	240"	240"	240"	240"	240"
740C General Purpose, Registered in Canada	⑥ 240"	350°	2000#	3/4"	24 pF	60 pF	.218"	.375"	Std.	N/A	N/A	40"	40"	95"	47"	240"	240"	240"	240"	240"	240"
741A High Gain	⑥ 240"	350°	600#	3/4"	56 pF	250 pF	.44"	.50"	Std.	N/A	N/A	8"	8"	21"	9"	93"	93"	141"	141"	240"	240"
741C High Gain Registered in Canada	⑥ 240"	350°	600#	3/4"	56 pF	250 pF	.44"	.50"	Std.	N/A	N/A	8"	8"	21"	9"	93"	93"	141"	141"	240"	240"
750 Economical General Purpose	⑥ 240"	350°	1000#	3/4"	29 pF	60 pF	.218"	.375"	Std.	N/A	N/A	40"	40"	95"	47"	240"	240"	240"	240"	240"	240"
150KB284 Flexible Bare High Temp	100'	1000°	5000#	3/4"	22 pF	③	.125"	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	-	-
150KB285 Rigid Bare High Temp	96"	1000°	5000#	3/4"	22 pF	③	.25"	N/A	N/A	N/A	N/A	-	-	-	-	-	-	-	-	-	-

## NOTES:

- ① MAXIMUM TEMPERATURE AND MAXIMUM PRESSURE CANNOT OCCUR AT THE SAME TIME.
2. N/A means NOT AVAILABLE or NOT APPLICABLE.
- ③ These are bare probes for use in low dielectric/non-conductive products. Gain is dependent on dielectric constant and can be calculated using table shown in "Choosing A Bare, Non-insulated Probe". Maximum span (probe length) depends on calculated value for pF/ft. DO NOT EXCEED SPAN OF INSTRUMENT. Bare probes can also be used for point level **ONLY** (no differential) in high dielectric/conductive products.
- ④ 727A/732A Short-Stop probes can only be used with Models 318A and 5100 with Short-Stop options.
- ⑤ Gain shown is for probe in high dielectric/conductive product. For gain in lower dielectric materials refer to "Choosing An Insulated Probe" and click on probe type.
- ⑥ Bare, non-insulated probes also available. See applicable P.S. Sheet. Bare probes must be used for measuring low dielectric/non-conductive materials unless using for point level-no differential measurement.

## Capacitance Instruments

Model	2 or 4 Wire	SUPPLY			HSG		MTG		Continuous Level Span	Intern. Alarms	On-Off Level Range	Adj. Diff.	Adj. T.D.	Anti-Coating	OUTPUT				Relay Type	PID Control	Hart Comm.	Serial Comm	Special Features	
		(5) 26.5 VDC	120 VAC	240 VAC	Expl Prf.	W/T	Direct	Remote							1-5 mADC	4-20 mADC	10-50 mADC	Floating or GD						
158A	4	Op	X	Op	Op	X		X	(8) - 2000 pF					Op	X	Op	G							Gen. Purpose Transmitter
167A	2	X			X	X	X		(9) 10-1700 pF				X		X		F							Anti-Coating Transmitter
167B	4		X		X	X	X		(9) 10-1700 pF				X		X		F							Anti-Coating Transmitter
167C	4			X	X	X	X		(9) 10-1700 pF				X		X		F							Anti-Coating Transmitter
5000A	4	Op	X	Op	Op	X		X	10-6000 pF	X		X	X		Op		F	DP						Level-Lance Transmitter
304B	4	Op	X	Op	X	X	X			X	15-225 pF	X	X					DP						Gen. Purpose On-Off
310	4	Op	X	Op	Op	X		X		X	20-225 pF	X	X					DP						Gen. Purpose On-Off
314B	4	Op	X	Op	X	X	X			X	15-500 pF	X		X				SP						Duplex On-Off, Anti-Coating
318A-X1	4	Op	X	Op	X	X	X			X	0-260 pF		X					DP						Gen. Purpose On-Off
318A-X2	4	Op	X	Op	X	X	X			X	0-260 pF		X	X				DP						Anti-Coating On-Off (2)
352	4		X	Op	X	X	X			X	Conductivity							DP						Conductivity Type On-Off
5100	4	Op	X	Op	Op	X		X		X	0.2-3000 pF	X	X	Op				DP						Level-Lance On-Off (4)
5400A	4	Op	X	X	Op	X		X		X	0.2-3000 pF	X	X	Op				DP						Level-Lance On-Off Four (3)
7000	4		X	X	Op	X		X	(6) - 6000 pF	OP	(6) - 6000 pF	X	X	Op		Op		F	(7)	Op	Op	Op		Smart Level Control
7000A	4	Op	X	X	Op	X		X	(6) - 6000 pF	OP	(6) - 6000 pF	X	X	Op		Op		F	(7)	Op	Op	Op		Smart Level Control

### NOTES:

#### 1 DEFINITIONS:

- Supply = Supply power required.
- HSG = Housing, Explosion-Proof or Weathertight.
- MTG = Mounting, Direct or Remote.
- Relay Type = DP means Double Pole Double Throw.  
SP means Single Pole Double Throw.
- Op = Optional Item.
- Floating or GD = F means the output is floating type.  
G means the output is grounded type.

(2) Use only with Short-Stop probes 727A and 732A.

(3) 1-4 optional plug-in relay cards for multi-point control.

(4) Short-Stop option available for use with 727A and 732A probes **ONLY** to provide point level anti-coating capability.

(5) 167A Supply requirement is 17-35 VDC.

318A-A, 5000A, 5100 and 5400A DC Supply requirement is 18-30 VDC.

7000A Supply requirement is 18-36 VDC.

(6) Minimum span when used with anti-coating PFM Transmitter varies from 2 to 30 pF depending on range selected.

Minimum span when used with standard PFM Transmitter is 10 pF.

(7) 2 SP relays or 4 SP relays available.

(8) Minimum span is 10 pF plus 1 pF for each 10 feet of triaxial cable.

(9) Maximum Total Capacitance (terminal, zero suppression & maximum span) is 2000 pF. Span is 10-1700 pF.

Terminal Capacitance Range is 30 –1000 pF.