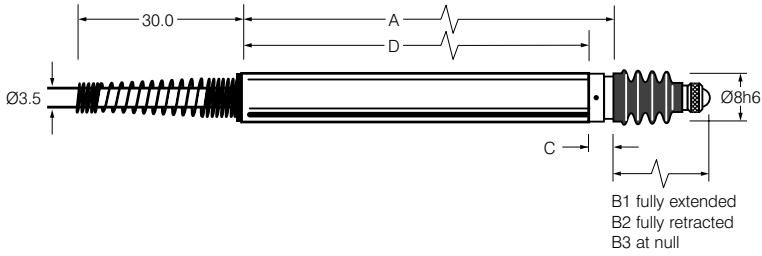


# 56 dimensions (mm)

## traditional gauge probes

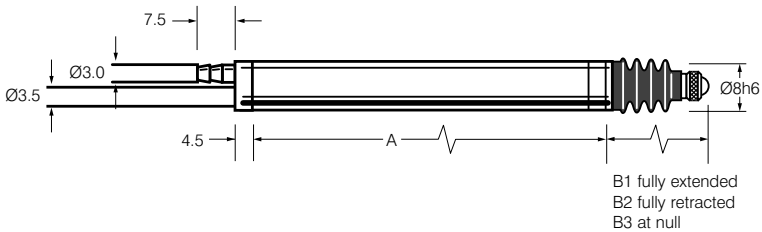
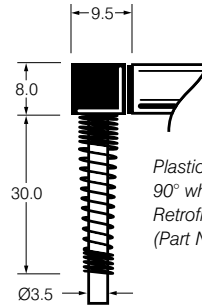
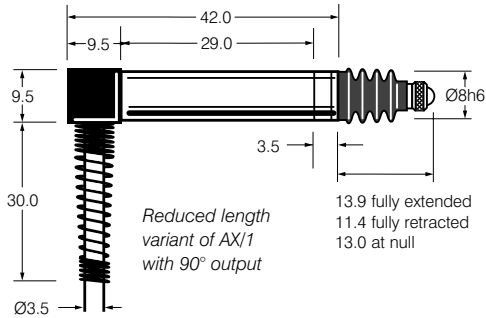
LVDT and half bridge



### spring push AX/S series

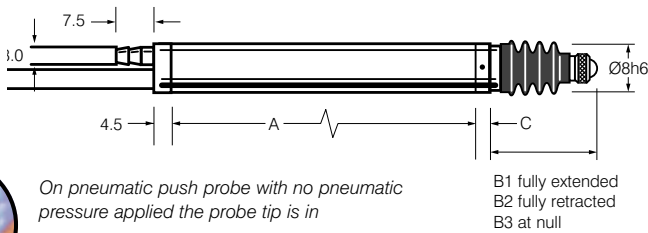
	AX/1.0/S	AX/5.1/S	AX/1.5/S	AX/2.5/S	AX/5.0/S	AX/10.0/S
<b>A</b>	46.5	79.0	62.0	67.0	91.0	133.0
<b>B1</b>	13.9	25.4	15.4	17.4	25.4	44.9
<b>B2</b>	11.4	14.4	11.4	11.4	14.4	23.9
<b>B3</b>	12.75	24.25	13.75	14.75	20.25	34.75
<b>C</b>	3.5	4.0	4.0	4.0	4.0	3.0
<b>D</b>	43.0	75.0	58.0	63.0	87.0	130.0

### spring push AXR/1



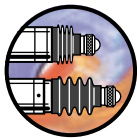
### pneumatic push AX/P series

	AX/1.0/P	AX/5.1/P	AX/2.5/P	AX/5.0/P	AX/10.0/P
<b>A</b>	51.0	86.0	73.0	98.0	132.0
<b>B1</b>	13.9	25.4	17.4	25.4	44.9
<b>B2</b>	10.9	14.4	11.4	14.4	23.9
<b>B3</b>	12.6	24.1	14.6	20.1	34.75



### vacuum retract AX/V series

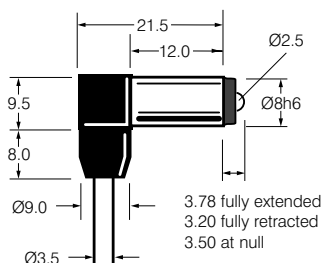
	AX/1.0/V	AX/5.1/V	AX/1.5/V	AX/2.5/V	AX/5.0/V	AX/10.0/V
<b>A</b>	43.0	75.0	58.0	63.5	87.0	130.0
<b>B1</b>	13.9	25.4	15.4	17.4	25.4	44.9
<b>B2</b>	11.4	14.4	11.4	11.4	14.4	23.9
<b>B3</b>	12.75	24.25	13.75	14.75	20.25	34.75
<b>C</b>	3.5	4.0	4.0	4.0	4.0	3.0



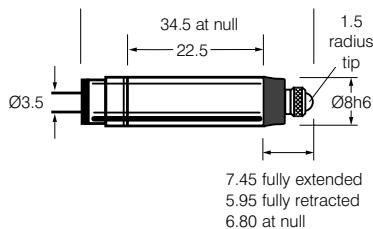
On pneumatic push probe with no pneumatic pressure applied the probe tip is in  
On a vacuum probe with no vacuum applied the probe tip is out

## special application probes

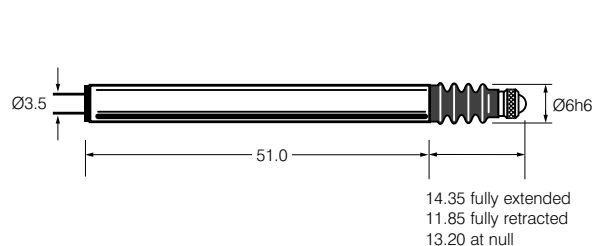
### ultra small AX/0.25/S

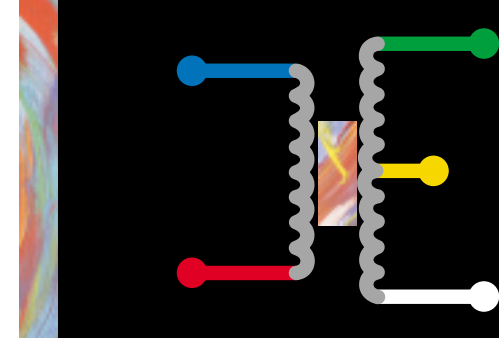


### ultra short AX/0.5/S



### slim 6mmØ A6G/1/S





Standard LVDT	Spring Push									Pneumatic Push				
	A6G/1/S	AX/0.25/S	AX/0.5/S	AX/1.0/S AXR/1.0/S AT/1.0/S ATR/1.0/S	AX/5.1/S	AX/1.5/S	AX/2.5/S	AX/5.0/S	AX/10.0/S	AX/1.0/P	AX/5.1/P	AX/2.5/P	AX/5.0/P	AX/10.0/P
						AT/1.5/S ATR/1.5/S	AT/2.5/S ATR/2.5/S	AT/5.0/S ATR/5.0/S	AT/10.0/S ATR/10.0/S	AT/1.0/P ATR/1.0/P		AT/2.5/P ATR/2.5/P	AT/5.0/P ATR/5.0/P	AT/10.0/P ATR/10.0/P
			Vacuum Retract											
			AX/1.0/V	AX/5.1/V	AX/1.5/V	AX/2.5/V	AX/5.0/V	AX/10.0/V						
Measuring Stroke (mm)	±1.0	±0.25	±0.5	±1.0	±1.0	±1.5	±2.5	±5.0	±10.0	±1.0	±1.0	±2.5	±5.0	±10.0
Outward Travel from zero (mm ±0.05mm)	1.15	0.28	0.65	1.15	1.15	1.65	2.65	5.15	10.15	1.30	1.3	2.80	5.30	10.15
Inward Travel from zero (mm)	1.35	0.3	0.85	1.35	9.85	2.35	3.35	5.85	10.85	1.70	9.7	3.20	5.70	10.85
Pretravel adjustment	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Pretravel adjustment range (reduction of outward travel) (mm)	N/A	N/A	0.5	1.0	-	1.5	1.5	1.5	N/A	1.0	1.0	1.5	1.5	N/A
Repeatability (µm)	<0.15	<0.1	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
Accuracy (% reading or µm, which ever is greater)	0.5% 1µm	0.5% 0.5µm	0.5% 0.5µm	0.5% 1µm	0.5% 1µm	0.5% 1.5µm	0.5% 2.5µm	0.5% 5µm	0.7% 10µm	0.5% 1µm	0.5% 1µm	0.5% 2.5µm	0.5% 5µm	0.7% 10µm
Tip force at electrical zero. Spring push & vacuum retract (AX/S & AX/V) (g)	70	70	70	70	70	70	70	70	70	-	-	-	-	-
Tip force at electrical zero. Spring push feather touch (AT/S) (g)	-	-	-	30	-	30	30	30	30	-	-	-	-	18
Tip force at 0.3 Bar. Pneumatic push (AT/P Series) (g)	-	-	-	-	-	-	-	-	-	18	-	18	18	-
Tip force at 0.4 Bar. Pneumatic push (AX/P Series) (g)	-	-	-	-	-	-	-	-	-	80	35	85	70	70
Tip force at 1.0 Bar. Pneumatic push (AT/P Series) (g)	-	-	-	-	-	-	-	-	-	110	-	110	110	110
Tip force at 1.0 Bar. Pneumatic push (AX/P Series) (g)	-	-	-	-	-	-	-	-	-	280	190	250	250	250
Energising voltage range (Vrms)	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10
Energising frequency range (kHz)	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20
Sensitivity at 5kHz (mV/V/mm ±0.5%)	200	200	200	200	200	133.33	80	40	20	200	200	80	40	20
Energising current at 5kHz (mA/V)	3	2.2	2.2	1.8	1.8	2.0	2.0	1.0	0.6	1.8	1.8	2.0	1.0	0.6
Input/Output phase shift at 5kHz (±2°) (+leading, -lagging)	0°	0°	0°	0°	0°	0°	0°	0°	1°	0°	0°	0°	0°	1°
Calibration voltage (V)	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Calibration frequency (kHz)	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Calibration load (kΩ)	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Storage Temperature (°C)	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100
Operating Temperature (°C)	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80
Temperature Coefficient (% measuring stroke/°C)	<0.02	<0.03	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<b>Unplugged LVDT - as standard LVDT except as below</b>														
Sensitivity at 5kHz (mV/V/mm ±5%)	269	272	272	210	210	150	150	105	33	210	210	150	105	33
Phase shift at 5kHz (±2°) (+leading, -lagging)	+13°	+13°	+13°	+8°	+8°	+8°	+8°	+4°	+5°	+8°	+8°	+8°	+4°	+5°
Zero phase frequency (kHz)	12	14	14	10	10	13	13	10	14.8	10	10	13	10	14.8
Calibration load (kΩ)	100	100	100	100	100	100	100	100	100	100	100	100	100	100

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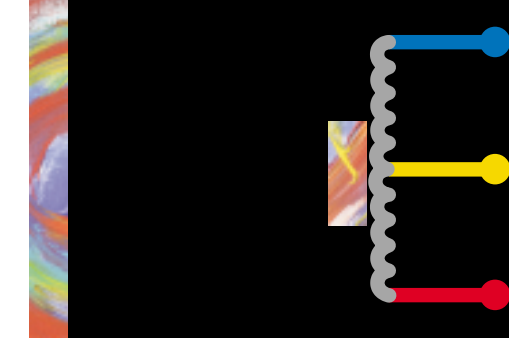


**Recommendation**

To maximise working life of the probe head when the pneumatic actuation is chosen, the air supply should be both clean and dry for continual reliable operation. Maximum relative humidity of 60% and filtered to better than 5µm particle size.

**Operating Pressure Range**

<b>AX/P Series</b>	0.4 Bar to 1.0 Bar relative
<b>AT/P Series</b>	0.3 Bar to 2.0 Bar relative
<b>AX/V Series</b>	0 Bar to 0.27 Bar absolute



Standard Half Bridge	Spring Push									Pneumatic Push																			
	A6G/1/SH	AX/0.25/SH	AX/0.5/SH	AX/1.0/SH AXR/1.0/SH AT/1.0/SH ATR/1.0/SH	AX/5.1/SH	AX/1.5/SH	AX/2.5/SH	AX/5.0/SH	AX/10.0/SH	AX/1.0/PH	AX/5.1/PH	AX/2.5/PH	AX/5.0/PH	AX/10.0/PH															
					Vacuum Retract																								
	AX/1.0/VH				AX/5.1/VH					AX/1.5/VH					AX/2.5/VH					AX/5.0/VH					AX/10.0/VH				
Measuring Stroke (mm)	±1.0	±0.25	±0.5	±1.0	±1.0	±1.5	±2.5	±5.0	±10.0	±1.0	±1.0	±2.5	±5.0	±10.0															
Outward Travel from zero (mm ±0.05mm)	1.15	0.28	0.65	1.15	1.15	1.65	2.65	5.15	10.15	1.30	1.3	2.80	5.30	10.15															
Inward Travel from zero (mm)	1.35	0.3	0.85	1.35	9.85	2.35	3.35	5.85	10.85	1.70	9.7	3.20	5.70	10.85															
Pretravel adjustment	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No															
Pretravel adjustment range (reduction of outward travel) (mm)	N/A	N/A	0.5	1.0	-	1.5	1.5	1.5	N/A	1.0	1.0	1.5	1.5	N/A															
Repeatability (µm)	<0.15	<0.1	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15															
Accuracy (% reading or µm, which ever is greater)	0.5% 1µm	0.5% 0.5µm	0.5% 0.5µm	0.5% 1µm	0.5% 1µm	0.5% 1.5µm	0.5% 2.5µm	0.5% 5µm	0.7% 10µm	0.5% 1µm	0.5% 1µm	0.5% 2.5µm	0.5% 5µm	0.7% 10µm															
Tip force at electrical zero. Spring push & vacuum retract (AX/SH & AX/VH) (g)	70	70	70	70	70	70	70	70	70	-	-	-	-	-															
Tip force at electrical zero. Spring push feather touch (AT/SH) (g)	-	-	-	30	-	30	30	30	30	-	-	-	-	-															
Tip force at 0.3 Bar. Pneumatic push (AT/PH Series) (g)	-	-	-	-	-	-	-	-	-	18	-	18	18	18															
Tip force at 0.4 Bar. Pneumatic push (AX/PH Series) (g)	-	-	-	-	-	-	-	-	-	80	35	85	70	70															
Tip force at 1.0 Bar. Pneumatic push (AT/PH Series) (g)	-	-	-	-	-	-	-	-	-	110	-	110	110	110															
Tip force at 1.0 Bar. Pneumatic push (AX/PH Series) (g)	-	-	-	-	-	-	-	-	-	280	190	250	250	250															
Energising range voltage (Vrms)	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10	1-10															
Energising frequency range (kHz)	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20	2-20															
Sensitivity at 10kHz (mV/V/mm ±0.5%)	73.5	73.5	73.5	73.5	73.5	49.0	29.4	14.7	7.35	73.5	73.5	29.4	14.7	7.35															
Energising current at 10kHz (mA/V)	1.2	1.2	1.2	1	1	1	1	1.2	1.2	1	1	1	1.2	1.2															
Input/Output phase shift at 10kHz (±2°) (+leading, -lagging)	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°	0°															
Calibration voltage (V)	3	3	3	3	3	3	3	3	3	3	3	3	3	3															
Calibration frequency (kHz)	10	10	10	10	10	10	10	10	10	10	10	10	10	10															
Calibration load (kΩ)	2	2	2	2	2	2	2	2	2	2	2	2	2	2															
Storage Temperature (°C)	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100	-40 to +100															
Operating Temperature (°C)	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80	-10 to +80															
Temperature Coefficient (% measuring stroke/°C)	<0.02	<0.03	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01															
<b>Unplugged Half Bridge - as standard Half Bridge except as below</b>																													
Sensitivity at 10KHz (mV/V/mm ±5%)	88	84	84	83	83	82	82	51	33	83	83	82	51	33															
Input/Output phase shift at 10kHz (±2°) (+leading, -lagging)	0°	+2°	2°+	-1°	-1°	0°	0°	0°	-1.5°	-1°	-1°	0°	0°	-1.5°															
Zero phase frequency (kHz)	10	12	12	10	10	10	10	10	7	10	10	10	10	7															
Calibration load (kΩ)	1	1	1	1	1	1	1	1	1	1	1	1	1	1															

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