

- ±0.1% F.S. accuracy – ASME B40.1, Grade 4A
- Ranges from 15-100,000 psi
- Solid front protective case
- High and low pressure limit stops
- Mirror band dial to eliminate parallax reading error
- Optional temperature compensation maintains 0.1% accuracy from -25 to +125°F

the-art precision machining and the world's most refined Bourdon tube technology. This eliminates the need for a power source and precludes the associated problems such as susceptibility to electronic line noise, power outage or potential fire hazard. In addition, this mechanical instrument is simple to operate, easy to troubleshoot, and can be readily flushed or purged to remove foreign matter or trapped gas. Accurate and reliable, the Ashcroft A4A sets a new standard for precision test gauges.



The Ashcroft precision pressure gauge yields consistent, reliable accuracy through the use of state-of-

STANDARD FEATURES & SPECIFICATIONS

Total Accuracy ±0.1% F.S. Includes Certificate of NIST traceability	Bourdon Tube Bleeder tipped for easy flushing or purging
Repeatability ±0.02% F.S.	Case Cast aluminum solid front
Hysteresis ±0.1% F.S.	Blowout rear cover
Dial White, high resolution with mirror band	Integral panel mounting flange
Pointer Knife edge pointer to eliminate parallax errors	Ranges Available in Gauge, Compound, Vacuum and Absolute (requires manual barometric compensation)

A4A

Pointer Travel 350° (15-30,000 psi) 300° (40,000-50,000 psi) 270° (60,000-100,000 psi)	Ranges 0/15-0/100,000 psi
	Dial Sizes 6", 8 1/2", 12" & 16"

INLETS AND BOURDON TUBES (STANDARD VS. OPTIONS)

STANDARD		OPTIONAL	
Inlet Location			
Back Fittings		Bottom or Back Fittings	
• 1/4" NPT female fitting (ranges up to and including 10,000 psi)	• 1/4" NPT female fitting (standard with back location)	• 1/4" NPT male	• 1/8" NPT male or female
• 9/16"-18 UNF-2B high pressure for 1/4" O.D. high pressure tubing (ranges over 10,000 psi)	• 9/16"-18 UNF-2B high pressure for 1/4" O.D. high pressure tubing	• MS33656-4 male (7/16"-20, 37° flare for 1/4" flare tubing)	• AND10050-4/MS33649-4 female (7/16"-20, 37° flare for 1/4" flare tubing)
Material and Range			
• Beryllium copper (through 40 psi)	• Beryllium copper (50-5000 psi)	• 403 SS (50 psi and above)	• 403 SS (below 50 psi)

OPTIONAL FEATURES (PROVIDED ONLY WHEN SPECIFIED)

- Custom scales/units of measure
- Thermal compensation (maintains 0.1% accuracy from -25 to +125°F)
- Slotted link (protects movement during sudden pressure release)
- Wall mounting brackets
- Peak load indicator
- Dual scale dial

psi	
STANDARD BOURDON TUBE MATERIAL**	STANDARD RANGE psi
BERYLLIUM	0-15
	0-20
COPPER	0-25
	0-30
	0-40
	0-50
	0-60
	0-75
	0-100
	0-150
	0-200
	0-250
403 STAINLESS STEEL	0-300
	0-400
	0-500
	0-600
	0-750
	0-1000
	0-1500
	0-2000
	0-2500
	0-3000
403 STAINLESS STEEL	0-4000
	0-5000
	0-6000
	0-7500
	0-10,000
	0-15,000
	0-20,000
	0-25,000
	0-30,000
	0-40,000
0-50,000	
0-60,000*	
0-75,000*	
0-100,000*	

*Available in 8 1/2", 12", 16". Dial face diameters only.
**For optional Bourdon Tube Materials consult factory.

INCHES MERCURY	
STANDARD BOURDON TUBE MATERIAL**	STANDARD RANGE INCHES MERCURY
BERYLLIUM COPPER	0-30
	0-40
	0-50
	0-60
	0-75
	0-100
	0-125
403 STAINLESS STEEL	0-150
	0-200
	0-250
	0-300
	0-400
	0-500
	0-600
	0-750
	0-1000
	0-1500
VACUUM	
BERYLLIUM COPPER	-30 to 0
COMPOUND	
BERYLLIUM COPPER	VACUUM-PRESSURE
	15 in.Hg - 15 in.Hg
	30 in.Hg - 30 in.Hg
403 STAINLESS STEEL	30 in.Hg - 60 in.Hg
	30 in.Hg - 100 in.Hg
BERYLLIUM COPPER	30 in.Hg - 150 in.Hg
	30 in.Hg - 15 psi
403 STAINLESS STEEL	30 in.Hg - 30 psi
	30 in.Hg - 60 psi
	30 in.Hg - 100 psi
	30 in.Hg - 150 psi
INCHES WATER	0-450
	0-500
	0-600
	0-750
	0-1000

*Available in 8 1/2", 12", 16". Dial face diameters only.

MILLIMETERS MERCURY			
STANDARD BOURDON TUBE MATERIAL**	STANDARD RANGE MILLIMETERS MERCURY		
BERYLLIUM COPPER	0-760		
	0-1000		
	0-1250		
	0-1500		
	0-2000		
403 STAINLESS STEEL	0-2500		
	0-3000		
	0-4000		
	0-5000		
BERYLLIUM COPPER	0-100	0-100	-
	0-160	0-160	-
	0-200	0-200	-
	0-250	0-250	-
	0-300	0-300	-
	0-400	0-400	-
	0-500	0-500	-
	0-600	0-600	-
	0-750	0-750	-
	0-1000	0-1000	0-1
0-1200	0-1200	0-1.5	
0-1600	0-1600	0-1.6	
0-2000	0-2000	0-2	
0-2500	0-2500	0-2.5	
0-3000	0-3000	0-3	
0-4000	0-4000	0-4	
0-5000	0-5000	0-5	
0-6000	0-6000	0-6	
0-7500	0-7500	0-7.5	
0-10000	0-10,000	0-10	
0-12500	-	0-12.5	
0-16000	-	0-16	
0-20000	-	0-20	
0-25000	-	0-25	
0-40000	-	0-40	
0-50000	-	0-50	
0-60000	-	0-60	
0-75000	-	0-75	
0-100000	-	0-100	
0-125000	-	0-125	
0-160000	-	0-160	
0-250000	-	0-250	
0-400000	*-	0-400	
0-600000	*-	0-600	
0-700000	*-	0-700	
VACUUM			
BERYLLIUM COPPER	-1 to 0	-100 to 0	-

Control & Power, Inc. - 1.877.835.5274 - www.controlandpower.com

- Temperature-compensated movement that significantly reduces temperature error
- MicroSpan™ adjustment for ease in span calibration
- Hydraulically staked movement with Teflon-coated gears and bearings improves stability
- Externally adjustable dial on standard model
- White aluminum dial, black numbers with polished mirror band
- High and low pressure movement stops are standard

The standard Ashcroft® test gauge case style features a solid-front aluminum case with a hinged ring. The dial has a polished mirror band for pointer reflection to prevent parallax error and is available in 4½", 6" and 8½" dial sizes in both lower and back connection. Pointer is a balanced-friction adjustable design with red knife edge tip for easy reading. The standard test gauge is competitively priced and available from stock for most ranges, tube materials and case sizes.



STANDARD RANGES

Pressure psi	kg/cm ² - bar	kPa
0/15	0/1	0/100
0/30	0/1.6	0/160
0/60	0/2.5	0/250
0/100	0/4	0/400
0/150	0/6	0/600
0/200	0/10	0/1000
0/300	0/16	0/1600
0/400	0/25	0/2500
0/600	0/40	0/4000
0/800	0/60	0/6000
0/1000	0/100	0/10,000
0/1500	0/160	0/16,000
0/2000	0/250	0/25,000
0/3000	0/400	0/40,000
0/5000	0/600	0/60,000
0/10,000		
Vacuum		
30 in.Hg/0	-1/0	-100/0
Compound		
30 in.Hg/15 psi	-1/1.5	-100/150
30 in.Hg/30 psi	-1/3	-100/300
30 in.Hg/60 psi	-1/5	-100/500
30 in.Hg/100 psi	-1/9	-100/900
30 in.Hg/150 psi		
30 in.Hg/200 psi		
30 in.Hg/300 psi		
30 in.Hg/400 psi		

BOURDON SYSTEM SELECTION

Ordering Code	Bourdon Tube & Tip Material ⁽¹⁾ (all joints TIG welded except "A")	Socket Material	Tube Type	Range Selection Limits (psi)	NPT Conn.
A	Phosphor Bronze Tube-Brass Tip, Silver Brazed	Brass	C-Tube	vac/400 psi	¼, ½
P	K Monel	Monel 400	⁽²⁾	vac/10,000 psi	¼, ½

(1) For selection of the correct bourdon system material, see the media application table on page 253.
 (2) vac through 1500 psi-C-Tube
 2000 through 10,000 psi-Helical
 See page 181 for optional test gauge carrying case and handle.

TO ORDER THIS 1082 TEST GAUGE:

Select: _____ **45** _____ **1082** _____ **PS** _____ **02L** _____ **2000#**

1. Dial size—4½", 6", 8½" _____

2. Case type—1082 _____

3. Bourdon system selection ordering code _____

4. Connection size—¼ (02) _____

5. Connection location—Lower (L), Back (B) _____

6. Standard pressure range—2000 psi _____

(★) "S" denotes solid-front case design

- Available in a 3" dial size
- Stainless steel movement with Teflon-coated bearings and pinion gear
- Black, adjustable pointer with red-painted knife-edge tip
- Stainless steel construction
- Zero-adjustable white aluminum dial with polished mirror band
- ¼ NPT lower connection only

With an accuracy of ±0.5%, Grade 2A, plus rugged stainless steel construction, the Ashcroft® Type 1084 more than exceeds the requirements for on-the-spot inspections. To improve

accuracy, stability and socket thread life, the Bourdon tube and socket assembly is made of type 316 stainless steel with all-welded construction; this system is standard for all ranges.

To make reading easier and faster, each unit is provided with a new, highly readable dial. Reading error caused by parallax is eliminated by aligning the knife-edge tip pointer with its reflection in the mirror band on the dial. Also available is a stainless steel cover that fits securely over the window and protects the gauge from damage while being carried in a tool box or pocket. An attractive, cushioned Nylon fabric pouch with carrying strap is offered as standard equipment.



STANDARD RANGES

Pressure psi	kg/cm ² - bar	kPa
0/15	0/1	0/100
0/30	0/2	0/200
0/60	0/3	0/300
0/100	0/4	0/400
0/150	0/7	0/700
0/200	0/11	0/1100
0/300	0/14	0/1400
0/400	0/20	0/2000
0/600	0/28	0/2800
0/1000	0/40	0/4000
	0/70	0/7000
Vacuum		
30 in.Hg/0	-1/0	-100/0
Compound		
30 in.Hg/15 psi	-1/1	-100/100
30 in.Hg/30 psi	-1/3	-100/300
30 in.Hg/60 psi	-1/6	-100/600
30 in.Hg/100 psi	-1/10	-100/1000
30 in.Hg/150 psi		
30 in.Hg/300 psi		

BOURDON SYSTEM SELECTION

Ordering Code	Bourdon Tube & Tip Material ⁽¹⁾ (all joints TIG welded)	Socket Material	Tube Type	Range Selection Limits (psi)	NPT Conn.
S	316 stainless steel	316 stainless steel	C-Tube	vac/1000 psi	¼

TO ORDER THIS 1084 POCKET TEST GAUGE:

Select: 30 1084 S 02L 0/1000#

1. Dial size—3" _____

2. Case type—1084 _____

3. Bourdon system selection ordering code _____

4. Connection size—¼ (02) _____

5. Connection location—Lower (L) _____

6. Standard pressure range—1000 psi _____

- Unmatched accuracy of $\pm .05\%$ total error band
 - Temperature corrected from 0/150°F
- Breakthrough readability and portability
 - 5 digit LCD display
 - Largest display height of .66" ...larger than competitors 4 1/2" gauges
- Rugged portable design
 - Weatherproof NEMA IV, IP65 case
 - CE, FM, CSA and (Cenelec-ATEX 100 approval pending)
 - Stainless steel case-to-socket weld for strength

- Stainless steel cover protects keypad
- Global/highly configurable
 - Nine options including 12 units of measure, 7 languages and password protected calibration and disable function
- Safety features include
 - Pressure range on keypad to reduce accidental overpressure
 - Proof pressure 2 x gauge range
 - Meets ASME B40.7
- % of reading bar graph

LOOK FOR THESE AGENCY MARKS ON OUR PRODUCTS



PRODUCT SPECIFICATIONS

Type:	2089 (0.05% F.S. accuracy), 2086 (0.10% F.S. accuracy), 2084 (0.25% F.S. accuracy)
Accuracy:	0.05%, 0.10% or 0.25% all Full Scale, Terminal Point, Total Error Band (TEB) Including Hysteresis, Linearity, Repeatability and Temperature (0/150°F)
Case Size:	3"
Case Material:	300 Series Stainless Steel
Case Finish:	Electropolished
Case Rating:	Weatherproof, IP65, NEMA 4
Wetted Parts:	316 Stainless Steel
Inlet Fittings:	1/4 NPT Male, JIS, DIN, SAE, (others on application)
Connection:	Lower - 6 o'clock standard, 3 and 9 o'clock optional
Ranges:	Vac. thru 7000 psi (see engineering units below for other units of measurement)
Units:	psi =# bar=BR kPa=KP mPa=MP inHg=IM inH ₂ O=IW mmH ₂ O=MMW cmH ₂ O=CMW millibar=MB kg/cm ² =KSC
Operating Temp.:	0/150°F (-18/65°C)
Storage Temp.:	-40/180°F (-40/82°C)
Temp. Corrected:	Yes
DISPLAY	
Type:	LCD
Display Digits:	5, 99999 display counts
Character Height:	.66"
Backlite:	Off by default
Bar Graph:	Yes
Battery Life:	>1000 hrs. (3 AAA alkaline batteries)
Agency Approvals:	CE EN 50082-1 (1997), FM, CSA and (Cenelec)
KEYPAD FUNCTIONS	
On/Off:	Manually turns unit on and off (auto off options in configuration menu)
Backlite:	Manually turns backlite on and off (auto off options in configuration menu)
Min/Max:	Stores min. and max. values when displayed

Zero/Clear:	Zeros display or clears min. and max. values when displayed
Enter:	Selects items in configuration menu
Configuration Mode:	Allows scrolling through configuration menus to select available options
Engineering Units:	psi, Hg, H ₂ O*, ftSW, Bar, mBar, kPa, mPa, mmHg, cmH ₂ O, mmH ₂ O, kg/cm ² (*Allows choice of reference temperatures 4°C, 20°C or 60°F)
Update Rate:	Four Selections: 10x/sec, 5x/sec, 2x/sec, 1x/sec
Auto Off:	Five Options: Never, 2 min., 5 min., 15 min., 30 min.
Dampening:	Five Selections: None, average 2, 4, 6, 8 readings
Language:	Seven Languages: English, Spanish, French, Italian, German, Portuguese, Dutch
Backlite:	Five Selections: On/off, 10 sec., 30 sec., 1 min., 5 min.
Calibrate:	Zero and Span (password protected)
Contrast:	Seven available options
Disable:	Locks in current configuration settings.
Calibration Chart:	10 point individual calibration chart, standard for Type 3089, others optional
Standard Features:	300 Series SS Protective Cover, Protective Carrying Pouch
Optional Features:	Flange for Panel Mounting = FF, Metal Tag Wired to Case = NH, Paper Tag Wired to Case = NN, Protective Rubber Boot = B1, Certificate of Conformance = C1, Calibration Certificate (2084 & 2086 only. Standard w/2089) = C4, Weatherproof ABS Carrying Case = S7, Clean for Gaseous Oxygen Service = 6B, Clean for Liquid Oxygen Service = 6D

psi Gauge	psi Compound	psi Absolute	bar/kb/cm ² Gauge	bar Compound
vac.	15 & vac.	25	1	-1 to 0
5	30 & vac.	40	1.6	-1 to 1
10	60 & vac.	60	2.5	-1 to 2
15	100 & vac.	100	4	-1 to 30
30		160	6	-1 to 30
60		250 ⁽¹⁾	10	
100		400	16	
160		600	25	
200		1000	40	
300			60	
500			100	
600			160	
800			250	
1000			400	
1500			500	
2000				
2500				
3000				
5000				
7000				

mmH ₂ O Gauge	mPa Gauge	mBar/cmH ₂ O Gauge	kPa Gauge
3000	1	250	25
5000	1.6	300	40
10,000	2.5	400	60
	6	500	100
	10	600	160
	40	1000	250
		1600	400
		2000	600
		2500	1000
		4000	
		5000	
		6000	
		10,000	

TO ORDER THIS DIGITAL TEST GAUGE:

Select:	Example:	30	2089	SD	02L	100#	B1, 6B
1. Dial Size: 3" = 30							
2. Model: 2084, 2086, 2089							
3. Case: 316 SS = SD							
4. Connections: 1/4 NPT Male Lower = 02L							
5. Range Value: (see range chart)							
Unit of Measurement: (see "Units" list)							
6. Options: (see "Optional Features" list)							

Consult factory for guidance in product selection
Phone (203) 385-0217, Fax (203) 385-0602 or
visit our web site at www.ashcroft.com

Handheld LCD Digital Calibrator Type ATE-100 Pressure, Temperature, Voltage and Current Measurement

- Interchangeable pressure and temperature modules
- Pressure measurement accuracies of $\pm 0.025, 0.05$ and 0.10% , or $.06/.07\%$
- Pressure ranges from 0.25 in. H₂O to 10000 psi
- Supports most standard RTD probes and thermocouples
- Min/max, tare, flow, leak, programmable damping, percent function, trip detect, all standard
- High static DP measurement capability
- Optional:
FM Approval for Class I, Div. 1, Groups A, B, C & D hazardous areas
Datalogging, Hi/low alarm relays

The Ashcroft® ATE-100 is a calibration system with a vast array of capabilities. These capabilities extend far beyond those of precision pressure measurement. The base unit contains a wide variety of application-specific firmware as well as the ability to measure both current and voltage inputs. In addition, this unit has the ability to interface the system with a computer, data acquisition system or dumb terminal via the standard RS232 interface.



LOOK FOR THIS AGENCY
MARK ON OUR PRODUCTS

FM

PRODUCT SPECIFICATIONS

BASE UNIT PHYSICAL SPECIFICATIONS

Dimensions

7.88 in. (L) x 4.24 in. (W) x 3.25 in. (H)

Weight

Max. 2.2 lbs. w/2 pressure modules installed

Case Material

High impact ABS

Sensor Module Capacity

2 bays for Ashcroft AQS "Quick Select"™ sensor modules

Display

2 line LCD, 0.037 in. height per line. Can display simultaneous readings from 2 modules

Electrical Connection

Miniature recessed banana jacks (one set of test leads provided with each ATE-100)

BASE UNIT OPERATING SPECIFICATIONS

Operating Temperature Range

Standard: 32° to 120° F
Optional: -4 to 120° F

Storage Temperature

-4° to 158° F

Update Rate

130 ms (nominal) with one sensor installed

Resolution

$\pm 0.002\%$ of span, 60,000 count (max)

Warm-Up

5 minutes for rated accuracy

Damping (Measurement Averaging)

Programmable averaging from zero through 16 consecutive readings

Electrical Measurements

0-50 mA or 0-30 Vdc

Input (volts)	Accuracy
0/10 Vdc	$\pm 0.025\%$ FS
0/30 Vdc	$\pm 0.10\%$ FS
0/20mA	$\pm 0.03\%$ FS
0/50mA	$\pm 0.05\%$ FS
Auto Ranging 10/30 Vdc and 20/50mA	

Temperature Effect; Electrical Measurement

$\pm 0.001\%$ of Span per $^{\circ}$ F over compensated range

Serial Interface

Type: RS-232

Baud Rate: 300, 1200, 2400 or 9600 selectable

Field Calibration

Both Quick Select pressure modules and base unit electronics can be calibrated in the field via prompted keypad commands

Options

Datalogging with Hi-Lo Relay Feature – Datalogging manually or automatically stores up to 715 measured values for upload to PC. Includes upload utility software. Hi-Lo relay feature allows programming of setpoints for activation of alarms or control valves. (Hi-Lo not available with FM approval.)

Enhanced LCD – For -4 to 120° F operating range
FM Approval – Class 1, Div. 1, Groups A, B, C & D (Not available with CE Mark)
CE Mark – EMI/RFI immunity rating (not available with FM approval)

Power Requirements

Standard: (2) 9Vdc Alkaline Batteries (provides up to 30 hours operation per set)
Optional: 110 or 220 Vac transformer to power calibrator from line power

Certification

N.I.S.T. Traceable certification document provided for base display unit and sensor modules

PRESSURE SENSOR MODULE SPECIFICATIONS

AQS-1

Pressure Types

Gauge, differential & compound

Available Ranges

(See Chart)

Available Accuracies

± 0.06 (0/2-0/200 in. H₂O), ± 0.07 (0/0.25-0/1 in. H₂O) or 0.1% of Span

Compensated Temperature Range

20° F to 120° F

Temperature Effect

$\pm 0.004\%$ of Span per $^{\circ}$ F over compensated range (from reference temperature range of $70^{\circ} \pm 3^{\circ}$)

Repeatability

$\pm 0.01\%$ of span (range 0/1 in. H₂O or higher)
 $\pm 0.02\%$ of span (ranges below 0/1 in. H₂O)

Sensitivity

$\pm 0.002\%$ of span (typical)

Media Compatibility

Clean, dry, non-conductive, non-corrosive gas

Under/Overpressure Capability

-15 to 50 psi

Maximum Static (line) Pressure

100 psi

Process Connection

Standard: $1/8$ NPT female
Optional: G $1/8$ British standard

Other Options

FM Approved (for use with FM approved base unit)
CE Mark (for use with CE Mark rated base unit)

AQS-2

Pressure Types

Gauge, absolute, compound & vacuum

Available Ranges

(See Chart)

Available Accuracies

$\pm 0.025, 0.05$ or 0.1% of Span (± 0.025 & 0.05% not available on 0/10,000 psi range)

Compensated Temperature Range

20° F to 120° F

Temperature Effect

Standard: $\pm 0.004\%$ of Span per $^{\circ}$ F over the compensated range (from reference temperature range of $70^{\circ} \pm 3^{\circ}$)
Optional: No additional error due to temperature over the compensated range

Repeatability

$\pm 0.01\%$ of span

Sensitivity

$\pm 0.002\%$ of span (typical)

Consult factory for guidance in product selection
Phone (203) 385-0217, Fax (203) 385-0602 or
visit our web site at www.ashcroft.com

Handheld LCD Digital Calibrator Type ATE-100, Pressure, Temperature, Voltage and Current Measurement

Media Compatibility

0/5-0/10,000 psi ranges: Any medium compatible with 316 stainless steel isolation.
Optional: Cleaned for Oxygen Service (0/5-0/10,000 psi ranges only)

Overpressure Capability

200% for ranges up to 1000 psi
150% for ranges over 1000 psi

Process Connection

Standard: 1/8 NPT female
Optional: 1/8 NPT female with flush port (ranges 10 psi and over)
G 1/8 British standard
G 1/8 British standard with flush port (ranges 10 psi and over)
Welded VCR fitting with standard finish

Other Options

FM Approved (for use with FM approved base unit)
CE Mark (for use with CE Mark rated base unit)

TEMPERATURE INTERFACE MODULES

AQS-RT Series (RTD)

AQS-RT1 and AQS-RT2 interface modules allow the ATE-100 to measure temperature with an RTD

AQS-RT1: Accommodates Pt100, Ni120, Cu120 and other common 2, 3 or 4 wire probes with resistance outputs of 400 ohms or less.

AQS-RT2: Accommodates Pt1000 and other common 2, 3 or 4 wire probes with resistance outputs of 4000 ohms or less.

Selectable Units of Measure

°C, °F, °K, °R and ohms



Model ATE-100 with
AQS-RT1 and RTD Probe installed

Input Receptacle

Accepts TA4F type RTD connector

RTD Probes Available

Pt-100 probes, 6" or 12" length, with or without handle. DIN Class A accuracy. Includes mating TA4F connector. Consult factory for details and availability.

Options

FM approved (for use with FM approved base unit) (CE) not available

AQS-TC1 (Thermocouple)

The AQS-TC1 interface module allows the ATE-100 to measure temperature with a thermocouple

Compatibility

Programmed to provide direct temperature readout from types J, K, T, E, R, S, B & N thermocouples or direct millivolt readout from any thermocouple.

Reference Junction

Automatic internal or manual external

Resolution

Automatic or manually selectable, up to .01°

Units of Measure

Selectable; °C, °F, °K, °R and millivolts

Receptacle

Accepts "miniature thermocouple connector", Omega® type SMP

Options

FM approved (for use with FM approved base unit) (CE) not available



Model ATE-100 with
AQS "Quick Select" Modules

ACCESSORIES

110Vac/60 Hz ac Adapter
220Vac/50 Hz ac Adapter
Contoured protective case
Soft carrying case
Hard carrying case
External 24vdc Loop Power Supply – to power transducers and pressure switch test circuit
SM-1 Voltage Adapter – allows ATE-100 to be used to check "live" pressure switches

STANDARD RANGES

AQS-2 psi (gauge and absolute pressure)	AQS-1 in. H ₂ O (gauge/ differential pressure)	Other Engineering Units**
5	0.25*	psi
10	0.5*	in. H ₂ O
15	1.0*	in. Hg
20	2.0*	ftSW
25	3.0*	bar
30	5.0*	mbar
50	10*	kPa
60	15*	MPa
100	25*	mmHg
150	50*	cmH ₂ O
200	100*	mmH ₂ O
250	150*	kg/cm ²
300	200*	User Selectable
500		
600		
1000		
1500		
2000		
2500		
3000		
5000		
6000		
7500		
10,000		
vacuum		
5		
10		
15		
compound		
±5	±0.125*	
±10	±0.25*	
±15	±0.5*	
-15/+30	±1.0*	
-15/+60	±1.5*	
	±2.5*	
	±5.0*	
	±7.5*	
	±12.5*	
	±25*	
	±50*	
	±75*	
	±100*	

**Note: Engineering units identified above are accessible through the unit select feature. However, readout will default to the primary unit of measure on start-up. Sensor modules scaled in primary units other than in. H₂O (AQS-1) or psi (AQS-2) are also available. Consult factory.

* Non-isolated, for clean dry gas only

TO ORDER

Base Display Unit

- Specify Model: ATE-100
- Specify Options: (Datalogging, Enhanced LCD, FM Approval, CE Mark)

Sensor Modules

- Type (AQS-1 or AQS-2)
- Pressure Range and Unit of Measure (see range chart)
- Pressure Type (see specifications)
- Accuracy (see specifications)
- Specify Options
 - "zero temperature error over compensated range" (AQS-2 only)

- Optional fitting (see specifications)
- Clean for Oxygen Service (AQS-2, 0/5-1/10,000 psi only)
- FM approval or CE Mark

Temperature Interface Module

- Type (AQS-RT1, AQS-RT2 or AQS-TC1)
 - Specify FM approval if required
- RTD Probe Type (when required. Consult factory for probe P/N)

Accessories

- Specify required accessories

Consult factory for guidance in product selection
Phone (203) 385-0217, Fax (203) 385-0602 or
visit our web site at www.ashcroft.com

Standard Features

- Dual display – simultaneous measurement and display of pressure, temperature, voltage or current in any combination
- Accuracy ratings of $\pm 0.1\%$, $\pm 0.05\%$ and ± 0.025 of span (pressure)
- Pressure ranges from 0.25 inches of water to 10,000 psi
- Interchangeable pressure and temperature modules
- Multiple engineering units – 12
- High static DP measurement capability
- Temperature measurement with most common RTDs and thermocouples
- Programmable damping
- Tare capability
- Display hold
- RS232 two way communications

- Standard NIST traceable certificate of calibration

Optional Features

- 24 Vdc power supply
- Data logging – Automatic, manual and delayed actuation
- Data logging
- Relays – hi/lo programmable configurations – N/O and N/C
- Battery power – 5 AA NiCads with built-in charger

The ST-2A is the perfect bench companion product to the Ashcroft® ATE-100 field handheld calibrator. This bench top (or panel mounting) package shares the same pressure and temperature modules and interfaces with the same software package as the



Ashcroft ATE-100. An intuitive, menu-driven user interface puts all of the ST-2A's power at the simple press of a key. It uses the AQS (Ashcroft Quick-Select™) modular sensor system to provide the ultimate in measurement flexibility.

PRODUCT SPECIFICATIONS
PHYSICAL SPECIFICATIONS
Dimensions

10.9 in. (L) x 6.74 in. (W) x 4.0 in. (H)

Panel Cutout

6.56 in. x 3.53 in.

Weight

Max. 4.08 lbs. w/2 pressure modules installed

Case Material

High impact ABS

Sensor Module Capacity

2 bays for Ashcroft AQS "Quick Select"™ sensor modules

Display

2 line LCD, 0.037 in. height per line. Can display simultaneous readings from 2 modules.

Electrical Connection

Standard banana jacks

BASE UNIT OPERATING SPECIFICATIONS
Operating Temperature Range

32° to 120°F

Storage Temperature

-4° to 158°F

Update Rate

130 ms (nominal) with one sensor installed

Resolution

$\pm 0.002\%$ of span, 60,000 counts (max)

Warm-Up

5 minutes for rated accuracy

Electrical Measurements

0-50 mA or 0-30 Vdc

Options

Datalogging with Hi-Lo Relay Feature – Datalogging manually or automatically stores up to 643 measured values for upload to PC. Includes upload utility software. Hi-Lo relay feature allows

programming of setpoints for activation of alarms or control valves.

Backlit Display

Built-in NiCad Rechargeable Battery Pack

Built-in 24Vdc Loop Power Supply

Handle

Panel Mounting Brackets

Power Requirements

Standard: ac adapter provided for 110Vac/60 Hz

Available: ac adapter provided for 220Vac/50 Hz

ac adapter provided for 100Vac/60 Hz

Optional: Built-in rechargeable NiCad Battery Pack*

*(Life: 20 hours nominal without backlit LCD, 2 hours nominal with backlit LCD. Activating RS232 results in approximately 30% reduction in battery life.)

Certification

N.I.S.T. Traceable certification document provided for base display unit and sensor modules

PRESSURE SENSOR MODULE SPECIFICATIONS
AQS-1
Pressure Types

Gauge, differential & compound

Available Ranges

(See Chart)

Available Accuracies

± 0.06 (0/2-0/200 in. H₂O), ± 0.07 (0/0.25-0/1 in. H₂O) or 0.1% of Span

Compensated Temperature Range

20°F to 120°F

Temperature Effect

$\pm 0.004\%$ of Span per °F over compensated range (from reference temperature range of 70° $\pm 3^\circ$)

Repeatability

$\pm 0.01\%$ of span (range 0/1 in. H₂O or higher)
 $\pm 0.02\%$ of span (ranges below 0/1 in. H₂O)

Sensitivity

$\pm 0.002\%$ of span (typical)

Media Compatibility

Clean, dry, non-conductive, non-corrosive gas

Under/Overpressure Capability

-15 to 50 psi

Maximum Static (line) Pressure

100 psi

Process Connection

Standard: 1/8 NPT female

Optional: G 1/8 British standard

AQS-2
Pressure Types

Gauge, absolute, compound and vacuum

Available Ranges

(See Chart)

Available Accuracies

± 0.025 , 0.05 or 0.1 % of Span (± 0.025 & 0.05% not available on 0/10,000 psi range)

Compensated Temperature Range

20°F to 120°F

Temperature Effect

Standard: $\pm 0.004\%$ of Span per °F over the compensated range (from reference temperature range of 70° $\pm 3^\circ$)

Optional: No additional error due to temperature over the compensated range

Repeatability

$\pm 0.01\%$ of span

Sensitivity

$\pm 0.002\%$ of span (typical)

Media Compatibility

0/5 -0/10,000 psi ranges: Any medium compatible with 316 SS isolation.

Consult factory for guidance in product selection
Phone (203) 385-0217, Fax (203) 385-0602 or
visit our web site at www.ashcroft.com

Optional: Cleaned for Oxygen Service
(0/10-0/10,000 psi ranges only)

Overpressure Capability

200% for ranges up to 1000 psi
150% for ranges over 1000 psi

Process Connection

Standard: 1/8 NPT female
Optional: 1/8 NPT female with flush port
(ranges 10 psi and over)
G 1/8 British standard
G 1/8 British standard with flush port
(ranges 10 psi and over)
Welded VCR fitting with standard
finish

TEMPERATURE INTERFACE MODULES

AQS-RT1 and AQS-RT2 interface modules allow the ST-2A to measure temperature with an RTD:

AQS-RT1: Accommodates Pt100, Ni120, Cu120 and other common 2, 3 or 4 wire probes with resistance outputs of 400 ohms or less.

AQS-RT2: Accommodates Pt1000 and other common 2, 3 or 4 wire probes with resistance outputs of 4000 ohms or less.

Selectable Units of Measure

°C, °F, °K, °R and ohms

Input Receptacle

Accepts TA4F type RTD connector


RTD Probes Available

Pt-100 probes, 6" or 12" length, with or without handle. DIN Class A accuracy. Includes mating TA4F connector. Consult factory for details and availability.

The AQS-TC1 interface module allows the ST-2A to measure temperature with a thermocouple:

AQS-TC1
Compatibility

Programmed to provide direct temperature readout from types J, K, T, E, R, S, B & N thermocouples or direct millivolt readout from any thermocouple.

Reference Junction

Automatic internal or manual external

Resolution

Automatic or manually selectable, up to .01°

Units of Measure

Selectable; °C, °F, °K, °R and millivolts

Receptacle

Accepts "miniature thermocouple connector", Omega® type SMP

ACCESSORIES

110Vac/60 Hz ac Adapter
220Vac/50 Hz ac Adapter

STANDARD RANGES

AQS-2 psi (gauge and absolute pressure)	AQS-1 in.H ₂ O (gauge/ differential pressure)	Other Engineering Units**
5		
10	0.25*	psi
15	0.5*	in.H ₂ O
30	1.0*	in.Hg
50	2.0*	ftSW
60	3.0*	bar
100	5.0*	mbar
150	10*	kPa
200	15*	MPa
250	25*	mmHg
300	50*	cmH ₂ O
500	100*	mmH ₂ O
600	150*	kg/cm ²
1000	200*	User Selectable
1500		
2000		
2500		
3000		
5000		
6000		
7500		
10,000		
vacuum		
5		
10		
15		
compound		
±5		
±10	±0.125*	
±15	±0.25*	
-15/+30	±0.5*	
-15/+60	±1.0*	
	±1.5*	
	±2.5*	
	±5.0*	
	±7.5*	
	±12.5*	
	±25*	
	±50*	
	±75*	
	±100*	

**Note: Engineering units identified above are accessible through the unit select feature. However, readout will default to the primary unit of measure on start-up. Sensor modules scaled in primary units other than in. H₂O (AQS-1) or psi (AQS-2) are also available. Consult factory.

* Non-isolated, for clean dry gas only

TO ORDER
Base Unit

- Specify Model: ST-2A
- Specify Power Requirements: 110, 220 or 100Vac
- Specify Options: (Datalogging, Backlit Display, etc.)

Sensor Modules

- Type (AQS-1 or AQS-2)
- Pressure Range and Unit of Measure (see range chart)
- Pressure Type (see specifications)
- Accuracy (see specifications)
- Specify Options
 - "zero temperature error over compensated range" (AQS-2 only)
 - Optional fitting (see specifications)
 - Clean for Oxygen Service (AQS-2, 0/5-1/10,000 psi only)

Temperature Interface Module

- Type (AQS-RT1, AQS-RT2 or AQS-TC1)
- RTD Probe Type (when required. Consult factory for probe P/N)

Accessories

- Specify required accessories

Deadweight Tester Type 1305D, Accuracy ($\pm 0.1\%$ of reading)

Ashcroft® Type 1305D deadweight testers provide an easy means of precisely generating pressure to an accuracy of 0.1% of reading. Ashcroft 1305D units are available for operating ranges up to 10,000 psi. They are ideal for use in calibrating, setting, testing and repairing pressure measurement and control devices. Each 1305D unit is traceable to the National Institute of Standards and Technology, assuring instrument accuracy.

These pressure systems are designed to be field portable. A single carrying case holds the pressure generation pump as well as all the necessary tools and accessories. A second box contains the weights used for pressure generation (10,000 psi units require two boxes of weights). Ashcroft deadweight testers qualify as primary standards for pressure calibration.

The pump is a two-stage hydraulic pressure generator. A built-in shuttle valve allows for rapid pressure increase at low pressures. The rate of increase per pump cycle can be reduced at higher pressures to minimize resistance. This is accomplished by simply repositioning the two-position shuttle valve. With the shuttle valve in the high-pressure position,

increasing pressure even when near the 10,000 psi upper limit can be accomplished quickly and easily. Final, precise adjustment is accomplished through the use of an integral vernier-adjustment knob.

The 1305D is provided with two-piston cylinder assemblies. A low-pressure piston for pressure ranges from 15 to 2000 psi and a high-pressure unit for pressures from 75 to 10,000 psi. The high-pressure piston has an area of $\frac{1}{80}$ th of a square inch while the low pressure piston has an area of $\frac{1}{16}$ th of a square inch. Weights are provided for pressure increments of 5, 10, 20, 25, 40, 50, 100, 200 and 500 psi (depending on piston in use). Ashcroft 1305D testers can be used anywhere within their operational range without any change in accuracy. The same weights are used with both piston and cylinder assemblies.

Ashcroft 1305 units are available for psi ranges. Each unit comes complete with a hand jack set (for removal of pointers on gauges being calibrated), spare O-rings and all tools, accessories and fittings required for normal use.



- Accuracy: 0.1% of reading
- Operating Pressure: 15 psi to 10,000 psi
- Operating Media:
 - 1305D: SAE 20 weight automotive or machine oil
 - 1305DH: Phosphate-based or glycol fluids
- O-ring Material:
 - 1305D: Buna-N (D series)
 - 1305DH: Ethylene Propylene (DH Series)
- Piston and Cylinder Material: Stainless steel
- Weight Material: Non-magnetic die cast zinc
- Reservoir Volume: Approximately 1.5 pints (0.7 liter)
- Special "CD-5" Certification package available (see Price Sheet TE/PS-1)

1305D STANDARD PRESSURE RANGES

psi Type	Piston Assembly Pressure Range		Piston Value		Number of Weights by Value					Net Weight	
	Low	High	Low	High	L-5 H-25	L-10 H-50	L-20 H-100	L-40 H-200	L-100 H-500	lb	kg
1305D-10	15/200	75/1000	5	25	1	3	2	3	-	60	27
1305D-20	15/400	75/2000	5	25	1	3	2	3	2	70	32
1305D-30	15/600	75/3000	5	25	1	3	2	3	4	85	39
1305D-50	15/1000	75/5000	5	25	1	3	2	3	8	105	48
1305D-100	15/2000	75/10,000	5	25	1	3	2	3	18	175	80

Pressure Gauge Comparator
Type 1327D, Accuracy ($\pm 0.25\%$)
Type 1327CM, Accuracy ($\pm 0.1\%$)

Ashcroft® Types 1327D and 1327CM are designed to be field-portable pressure generation and test systems. A single carrying case holds the pump used to generate pressure as well as the gauges selected as the test standard.

Both units include an Ashcroft two-stage hydraulic pressure pump. A built-in shuttle valve allows for rapid pressure increase at low pressures. The rate of increase per pump cycle can be reduced at higher pressures in order to minimize resistance. This is accomplished by simply repositioning the two-position shuttle valve. With the shuttle valve in the high-pressure position, increasing pressure even when near 10,000 psi can be accomplished quickly and easily. Final adjustment is accomplished through the use of an integral vernier-adjustment knob.

Type 1327CM

The Ashcroft Type 1327CM is a precision gauge comparator which is provided with 6-inch Ashcroft $\pm 0.1\%$ F.S. accuracy Type A4A gauges. The gauges provided include temperature compensation which maintains the

$\pm 0.1\%$ F.S. accuracy over an operating range of -25°F to $+125^{\circ}\text{F}$. Available ranges include 30, 100, 500, 1000, 5000 and 10,000 psi.

Type 1327D

The Ashcroft 1327D is available with between one and four Ashcroft gauges covering the operating range of 0 through 10,000 psi. Metric range models are also available.

The 1327DG is provided with $4\frac{1}{2}$ " Ashcroft Type 1082 test gauges. These gauges provide an accuracy of $\pm 0.25\%$ F.S. The Ashcroft test gauges include temperature compensation and have a maximum thermal error of 0.005% F.S. per degree F.

Ashcroft Types 1327CM and 1327D are ideally suited for use as in-field pressure standards. Both come with temperature-compensated gauges, further enhancing their field worthiness. A single carrying case holds everything needed to take full advantage of the capabilities of the test set. psi and metric ranges are available for either system. Both systems are traceable to NIST with the 1327CM provided with calibration certificates for each gauge selected.



- Operating Pressure: 0-10,000 psi (maximum) (0-70,000 kPa)
- Operating Media:
Standard:
 SAE 20 weight automotive or machine oil
Optional:
 Phosphate-based or glycol fluids
 Distilled water for oxygen service
- O-ring Material:
Standard: Buna N (D Series)
Optional: Ethylene Propylene (DH Series)
- Reservoir Volume: Approximately 1.5 pints (0.7 liter)

SPECIFICATIONS TYPE 1327DG

- Accuracy: $\pm 0.25\%$ F.S.
- Gauge Type: Ashcroft $4\frac{1}{2}$ inch Type 1082 gauges with temperature compensation
- Special "CD-4" Certification package available (see Price Sheet TE/PS-1)

SPECIFICATIONS TYPE 1327CM

- Accuracy: $\pm 0.1\%$ F.S.
- Gauge Type: Ashcroft 6-inch Type A4A with temperature compensation
- Temperature Compensation: -25°F to $+125^{\circ}\text{F}$ (will maintain $\pm 0.1\%$ F.S. accuracy)

1327D STANDARD PRESSURE RANGES

Unit of Measure	Type	Gauge Range(s) Included				Net Weight	
						lb	kg
psig	1327DG-2	0/150	—	—	—	36	16
	1327DG-6	0/150	0/600	—	—	38	17
	1327DG-50	0/150	0/600	0/5000	—	40	18
	1327DG-100	0/150	0/600	0/5000	0/10000	42	19
kg/cm ²	1327DMG-10	0/10	—	—	—	36	16
	1327DMG-40	0/10	0/40	—	—	38	17
	1327DMG-250	0/10	0/40	0/250	—	40	18
	1327DMG-600	0/10	0/40	0/250	0/600	42	19
bar	1327DBG-10	0/10	—	—	—	36	16
	1327DBG-40	0/10	0/40	—	—	38	17
	1327DBG-250	0/10	0/40	0/250	—	40	18
	1327DBG-600	0/10	0/40	0/250	0/600	42	19
kPa	1327DAG-1000	0/1000	—	—	—	36	16
	1327DAG-4000	0/1000	0/4000	—	—	38	17
	1327DAG-25000	0/1000	0/4000	0/25000	—	40	18
	1327DAG-60000	0/1000	0/4000	0/25000	0/60000	42	19

For hydraulic fluid service (phosphate base and glycols) specify 1327DH, DMGH, DBGH or DAGH.
 For oxygen service (distilled water) specify 1327DGO, DMGO, DBOGO or DAGO.

Pressure Tester Model PT, Dual Display LCD Digital Pressure Indicator

STANDARD FEATURES

- Push-button zero adjust
- Max/min memory
- Selectable engineering units
- Variable damping
- Tare
- Port select
- Push-to-print
- RS232 I/O
- High static DP capability

OPTIONAL FEATURES

- Backlit display
- Rechargeable battery pack

The Ashcroft® PT indicator is an extremely versatile pressure measurement and test instrument. It can simultaneously display the output of two pressure sensors, two RTD's or one of each. It offers 12 standard user selectable engineering units and one custom value. Other dedicated front panel buttons make it easy to set zero, check max/min values, adjust measurement damping, select either or both ports for standard display, additive or differential display, print the display and configure the RS232 output. All front panel features are accessible via the RS232 port for remote configuration or data acquisition.



PRODUCT SPECIFICATIONS

PHYSICAL SPECIFICATIONS

Dimensions

7.72 in. (L) x 6 in. (W) x 2.95 in. (H)

Panel Cutout

5.4 in. x 2.68 in.

Weight

Depending on configuration
Max. <4 lbs. w/2 sensors and battery pack

Case Material

High impact ABS

Sensor Capacity

2 bays for Ashcroft PPT sensors

Display

2 line LCD, 0.038 in. height per line. Can display simultaneous readings from 2 modules.

Options

Backlit Display
Built-in NiCad Rechargeable Battery Pack
Handle
Panel Mounting Brackets

OPERATING SPECIFICATIONS

Operating Temperature Range

32° to 120°F

Storage Temperature

-4° to 158°F

Update Rate

130 ms (nominal) with one sensor installed

Resolution

±0.002% of span, 60,000 counts (max)

Power Requirements

Standard: ac adapter provided for 110Vac/60 Hz
Available: ac adapter provided for 220Vac/50 Hz
ac adapter provided for 100Vac/60 Hz
Optional: Built-in rechargeable NiCad Battery Pack*

* (Life: 25 hours nominal without backlit LCD, 5 hours nominal with backlit LCD. Activating RS232 results in approximately 30% reduction in battery life.)

Certification

N.I.S.T. Traceable certification document provided for base display unit and sensor modules

PRESSURE SENSOR SPECIFICATIONS

PPT-1

Pressure Types

Gauge, differential and compound

Available Ranges

(See Chart)

Available Accuracies

±0.06 (0/2-0/200 in. H₂O), ±0.07 (0/0.25-0/1 in. H₂O) or 0.1% of Span

Compensated Temperature Range

20°F to 120°F

Temperature Effect

±.004% of Span per °F over compensated range (from reference temperature range of 70° ±3°)

Repeatability

±0.01% of span (range 0/1 in. H₂O or higher)
±0.02% of span (ranges below 0/1 in. H₂O)

Sensitivity

±0.002% of span (typical)

Media Compatibility

Clean, dry, non-conductive, non-corrosive gas

Under/Overpressure Capability

-15 to 50 psi

Maximum Static (line) Pressure

100 psi

Process Connection

Standard: 1/8 NPT female
Optional: G 1/8 British standard

PPT-2

Pressure Types

Gauge, absolute, compound and vacuum

Available Ranges

(See Chart)

Available Accuracies

±0.025, 0.05 or 0.1 % of Span (±0.025 & 0.05% not available on 0/10,000 psi range)

Compensated Temperature Range

20°F to 120°F

Temperature Effect

Standard: ±.004% of Span per °F over the compensated range (from reference temperature range of 70° ±3°)

Optional: No additional error due to temperature over the compensated range

Repeatability

±0.01% of span

Sensitivity

±0.002% of span (typical)

Media Compatibility

0/5-0/10,000 psi ranges: Any medium compatible with 316 SS isolation.

Optional: Cleaned for Oxygen Service

Overpressure Capability

200% for ranges up to 1000 psi
150% for ranges over 1000 psi

Process Connection

Standard: 1/8 NPT female
Optional: 1/8 NPT female with flush port

(ranges 5 psi and over)

G 1/8 British standard

G 1/8 British standard with flush port (ranges 5 psi and over)

Welded VCR fitting with standard finish

RTD INTERFACE ASSEMBLY

PPT-RT1: Accommodates Pt100, Ni120, Cu120 and other common 2, 3 or 4 wire probes with resistance outputs of 400 ohms or less.
 PPT-RT2: Accommodates Pt1000 and other common 2, 3 or 4 wire probes with resistance outputs of 4000 ohms or less.

Input Receptacle

Accepts TA4F type RTD connector

RTD Probes Available

Pt-100 probes, 6" or 12" length, with or without handle. DIN Class A accuracy. Includes mating TA4F connector. Consult factory for details and availability.



Rear view of Model PT
with 2 pressure sensors installed

STANDARD RANGES

PPT-2 psi (gauge and absolute pressure)	PPT-1 in. H ₂ O (gauge/ differential pressure)	Other Engineering Units**
5		
10	0.25*	psi
15	0.5*	in. H ₂ O
30	1.0*	in. Hg
50	2.0*	ftSW
60	3.0*	bar
100	5.0*	mbar
150	10*	kPa
200	15*	MPa
250	25*	mmHg
300	50*	cmH ₂ O
500	100*	mmH ₂ O
600	150*	kg/cm ²
1000	200*	User Selectable
1500		
2000		
2500		
3000		
5000		
6000		
7500		
10,000		
vacuum		
5		
10		
15		
compound		
±5		
±10	±0.125*	
±15	±0.25*	
-15/+30	±0.5*	
-15/+60	±1.0*	
	±1.5*	
	±2.5*	
	±5.0*	
	±7.5*	
	±12.5*	
	±25*	
	±50*	
	±75*	
	±100*	

**Note: Engineering units identified above are accessible through the unit select feature. However, readout will default to the primary unit of measure on start-up. Sensor modules scaled in primary units other than in. H₂O (PPT-1) or psi (PPT-2) are also available. Consult factory.

* Non-isolated, for clean dry gas only

TO ORDER
Base Display Unit

- Specify Model: PT
- Specify Power Requirements: 110, 220 or 100Vac
- Specify Options: (Backlit, NiCad Battery Pack, Handle, Panel Mounting Brackets)

Sensors

(Base Display Unit can hold a total of 1 or 2 pressure sensors or RTD interface assemblies simultaneously. Sensors and interface assemblies will be installed into the base display unit at the factory.)

- Type (PPT-1 or PPT-2)
- Pressure Range and Unit of Measure (see range chart)
- Pressure Type (see specifications)
- Accuracy (see specifications)
- Specify Options
 - "zero temperature error over compensated range" (PPT-2 only)
 - Optional fitting (see specifications)
 - Clean for Oxygen Service (PPT-2, 0/5-1/10,000 psi only)

RTD Interface Assembly

- Type (PPT-RT1 or PPT-RT2)
- Probe Type (when required. Consult factory for probe P/N)

Ashcroft® precision-pressure volume controllers provide a quick-and-easy method for precisely setting a pressure in a closed pneumatic system. They are ideal for use with Ashcroft test gauges for the calibration of other pressure-measurement and control devices.

The AVC unit consists of a volume chamber with an internal piston assembly. The piston seals across the diameter of the chamber. Once the AVC unit is connected to a pneumatic system, the volume of the chamber becomes part of the volume of the system. The pressure-adjust knob at the front of the unit repositions the piston within the chamber through interaction with a precision-machined lead screw. Piston movement within the chamber increases or decreases the volume of the system, depending on the direction of movement. In a closed system where gas cannot leak out upon compression or be drawn in upon expansion, this volume change results in a change in the internal pressure. Increasing the volume by moving the piston toward the front of the AVC unit will decrease the pressure. Conversely, decreasing the volume by moving the piston toward the rear of the unit will increase the pressure. The pressure change

generated by a given amount of piston travel is proportional to the change in volume as compared to the total system volume.

AVC units are available for pressures up to 3000 psi. The AVC-1000 can be used to set pressures from vacuum through 1000 psi while the AVC-3000 can be used for pressures from vacuum through 3000 psi.

An integral balance valve provides a means for equalizing pressure on both sides of the piston prior to making the final adjustments when setting the pressure. This minimizes the resistance encountered when repositioning the piston and assures ease of pressure setting, even at 3000 psi. The balance valve also serves as a pressure-relief valve, assuring that the differential pressure across the piston does not reach unsafe levels.

AVC units can also be used without a compressed air source for the generation of moderate levels of positive pressure and vacuum. The high resolution of the AVC, combined with the ability to generate pressure and vacuum, make it an ideal tool for low-pressure (below 1 psi) calibration and test as well as higher pressure calibration and test activities.



GENERAL SPECIFICATIONS

Type	AVC-1000	AVC-3000
Range (psi)	vacuum-1000	vacuum-3000
Resolution (psi)	0.00025	0.0005
Volume Change (cubic inches)	3.5	2.5
Mechanical Rotation (turns)	31	61
Proof Pressure (psi)	2000	6000
Burst Pressure (psi)	6000 min	12,000 min
Operating Temperature Range	20-120°F	20-120°F
Operating Media	Clean, dry noncorrosive gas such as compressed air or nitrogen	
Construction	Aluminum body, stainless steel, brass Teflon, Delrin and Buna N	

Consult factory for guidance in product selection
Phone (203) 385-0217, Fax (203) 385-0602 or
visit our web site at www.ashcroft.com