

JOFRA™ ASC300

Advanced Signal Calibrator



The ASC300 is substantial enough to cover all your needs for a process signal calibrator with superior accuracy and compact enough to fit into your tool box and operate with one hand for easy field calibration.

The ASC300 can change your entire calibration regimen for signal, pressure, and temperature. You can combine this versatile calibrator with the APM external pressure modules or a JOFRA dry-block calibrator to meet your calibration needs.



Multi-function signal calibrator

with high accuracy. Ideal for both field and maintenance shop use.

Input and output

RTD: 14 different types
TC: 13 different types
Current 0-24 mA DC
Voltage 0-20 V DC
Frequency 0 to 10 KHz
Pulse train output
Resistance 5 to 4000 Ohm

High level of protection

with full fuseless protection to 240 VAC.

Simultaneous read-back

including isolated read-back from device-under-test of mA, V, and pressure.

Fast RTD simulation

this feature is fast enough to work with all pulsed transmitters.

Calibrate pressure

at varying reference levels using external pressure modules with accuracies up to 0.01% F.S.

Calibrate temperature

using JOFRA dry-block calibrators with accuracies up to 0.04°C / 0.07°F.

Multi-information

graphical display for simultaneous reading of both output and read-back.

Full remote control

of all functions with the help of simple ASCII commands.

ISO 9001
Manufacturer

PRODUCT DESCRIPTION

The JOFRA ASC300 combines a full numerical keypad with a series of function keys and a graphical user interface making it easy to perform various tasks in a short period of time. This advanced calibrator employs the latest technology in supporting your calibration needs.

The JOFRA ASC300 measures and sources: TCs, RTDs, current, voltage, frequency, and pulse trains. This instrument is also designed to be compatible with the JOFRA APM pressure modules and thus offering true multi-function operability. There are two channels of operation providing the user with an isolated read-back circuit. The graphical display makes it is easy to recognize the status of the instrument, take readings, and simulate different functions.

The JOFRA ASC300 has full fuseless protection to 240 VAC, which is an important feature as most failures in signal calibrators result from over-voltage conditions.

AMETEK[®]
CALIBRATION INSTRUMENTS

JOFRA ASC300 LAYOUT

Read-back display

The upper half of the graphical display is dedicated to the read-back signal from the device-under-test. This input section is electrically isolated from the circuitry. You can also read pressure from the JOFRA APM pressure modules in this display section.

Primary display

This part is used for all input or output combinations. The primary display plus the read-back display gives a full comprehensive and simultaneous input-output functionality and an excellent overview of the test in progress.

Soft keys

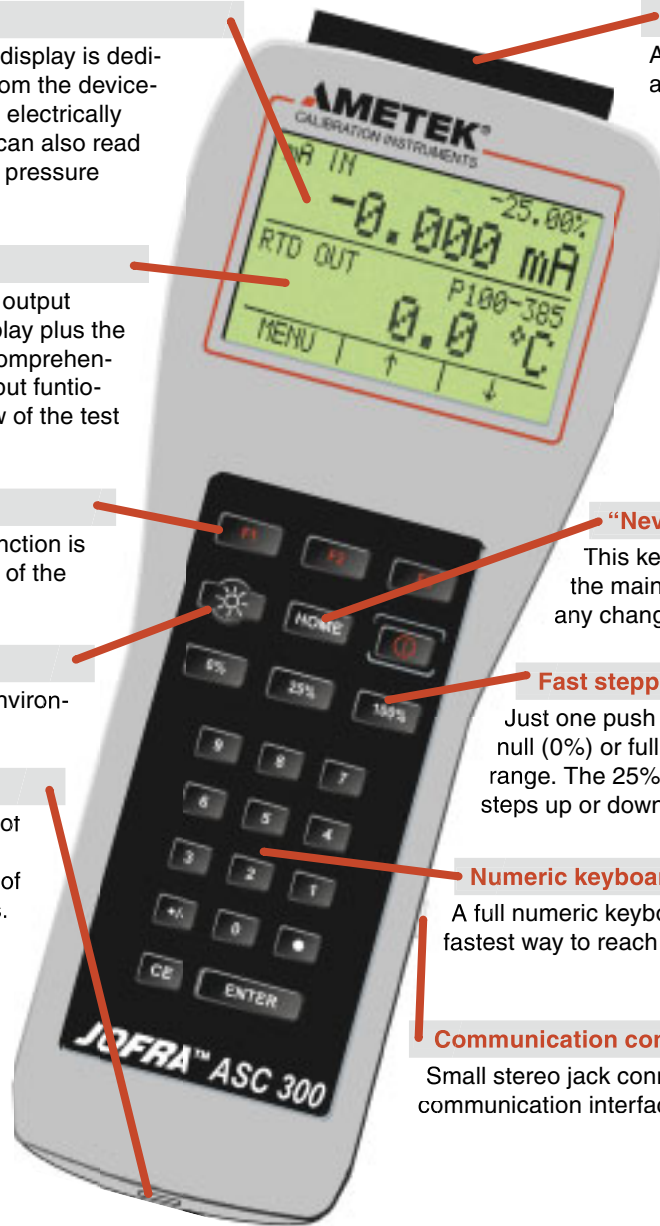
Three navigation keys. Their function is clearly explained in the bottom of the display.

Backlit display - ON/OFF

Turn the back light on in dark environments.

Pressure modules

LEMO connector in the bottom of the instrument to provide easy connection for the entire range of JOFRA APM pressure modules.



Terminal block

All input and output connectors are placed away from the display and keyboard to give you the maximum freedom to operate the unit.



“Never get lost” - HOME key

This key sends you immediately back to the main operating display without making any changes to the setup.

Fast stepping keys

Just one push of a button and you can output null (0%) or full span (100%) of your desired range. The 25% button cycles the output in 25% steps up or down each time you push it.

Numeric keyboard

A full numeric keyboard gives you the absolute fastest way to reach your desired set values.

Communication connection

Small stereo jack connector for the serial communication interface.

Simultaneous input and output

The JOFRA ASC300 offers simultaneous input and output. This means that you can calibrate and adjust a temperature transmitter on the table with no other necessary instruments. Output the sensor signal and input the mA from the transmitter. If you select mA Loop the JOFRA ASC300 will also supply the 24 VDC for the loop. In the display you will see both your output temperature and the return mA from the transmitter. Enter the zero and full scale values and you can make quick 25% steps or go direct to zero or full span values. The JOFRA ASC300 has dedicated keys for this operation so adjustment on the transmitter is made easier.



SPECIFICATIONS

Fuseless protection

The JOFRA ASC300 contains a very useful fuseless protection feature. The most common mistake is to connect the instrument to the mains supply - this normally means that you will have to send the instrument for an expensive repair and re-calibration. This is not the case with the JOFRA ASC300. This instrument is protected for up to 240 VAC on any combination of connections made on the test lead connectors. Just remove the test leads and the instrument is ready for operation after only 10 seconds.

Useful soft case

The soft case that protects the instrument is engineered so that it becomes a useful part of the instrument. The soft case is designed for easy vertical operation so that when you open the case you will have easy access to all your test leads in the pocket. A flap in the top and an opening in the bottom provide access to the termination block and the pressure module connector.

The soft case includes a shoulder strap for convenient transportation of the instrument when climbing ladders, etc.

At the back of this case you will also find a handy strap that fits your hand or makes it possible to hang the instrument on a pipe, ladder or the like while performing the calibration, test, or service task.



Temperature reading at reference level

The JOFRA ASC300 offers the possibility to characterize an RTD sensor. Use this feature to add a missing special curve or to characterize a reference RTD.

If you choose a reference RTD from the JOFRA STS100 series of high accurate and stable temperature sensors, they will be delivered with a traceable calibration certificate including the necessary Van Dusen coefficients. Enter the figures into the JOFRA ASC300 and you have a temperature reference. Complement this with a JOFRA dry-block temperature calibrator and your JOFRA ASC300 becomes the heart of your portable calibration lab.



For more details about the JOFRA STS100 series see specification sheet: SS-CP-2279

Thermocouple - TC

TC types B C E J K L N R S T U BP XK
Cold junction compensation ON/OFF control..... Yes

Thermocouple mV	Range		Accuracy ± 12 months
	min	max	
TC mV read	-10.000 mV	75.000 mV	0.02% rdg +10µV
TC mV source	-10.000 mV	75.000 mV	0.02% rdg +10µV

Maximum current output is 1 mA with an output impedans of <= 1 ohm.

Thermocouple Cold junction	Range		Accuracy ± 12 months
	min	max	
CJC compensation	18°C 64°F	28°C 83°F	0.2°C 0.36°F
CJC outside above			0.05°C/°C 0.05°F/°F

Thermo- couple		Range		Accuracy ± 12 months
		from	to	
B	°C	600°C	800°C	1.2°C
		800°C	1000°C	1.3°C
		1000°C	1800°C	1.5°C
	°F	1112°F	1472°F	2.15°F
		1472°F	1832°F	2.34°F
1832°F		3272°F	2.7°F	
C	°C	0°C	1000°C	0.6°C
		1000°C	2316°C	2.3°C
	°F	32°F	1832°F	1.08°F
		1832°F	4200°F	4.14°F
E	°C	-200°C	-100°C	0.6°C
		-100°C	950°C	0.2°C
	°F	-328°F	-148°F	1.08°F
		-148°F	1742°F	0.36°F
J	°C	-200°C	0°C	0.4°C
		0°C	800°C	0.2°C
		800°C	1200°C	0.3°C
	°F	-328°F	32°F	0.72°F
		32°F	1472°F	0.36°F
		1472°F	°F	0.54°F
K	°C	-200°C	0°C	0.6°C
		0°C	1000°C	0.3°C
		1000°C	1370°C	0.5°C
	°F	-328°F	32°F	1.08°F
		32°F	1832°F	0.54°F
1832°F		2498°F	0.9°F	
L	°C	-200°C	0°C	0.25°C
		0°C	900°C	0.2°C
	°F	-328°F	32°F	0.45°F
		32°F	1652°F	0.36°F
N	°C	-200°C	0°C	0.8°C
		0°C	1300°C	0.4°C
	°F	-328°F	32°F	1.44°F
		32°F	2372°F	0.72°F

Does not include thermocouple wire error and CJC.

Thermo-couple	Range		Accuracy ± 12 months	
	from	to		
R °C	-20°C	0°C	1.8°C	
	0°C	1750°C	1.2°C	
	°F	-4°F	32°F	3.24°F
		32°F	3182°F	2.16°F
S °C	-20°C	0°C	1.8°C	
	0°C	900°C	1.2°C	
	°F	-4°F	32°F	3.24°F
		32°F	1652°F	2.16°F
T °C	-200°C	0°C	0.6°C	
	0°C	400°C	0.2°C	
	°F	-328°F	32°F	1.08°F
		32°F	752°F	0.36°F
U °C	-200°C	0°C	0.5°C	
	0°C	400°C	0.25°C	
	°F	-328°F	32°F	0.9°F
		32°F	752°F	0.45°F
XK °C	-200°C	800°C	0.2°C	
	°F	-328°F	1472°F	0.36°F
BP °C	0°C	800°C	0.9°C	
	800°C	2500°C	2.3°C	
	°F	32°F	1472°F	1.62°F
		1472°F	4532°F	4.14°F

Does not include thermocouple wire error and C.J.C.

Volt V	Range		Accuracy ± 12 months
	min	max	
Read (Isolated)	0.000 V	30.000 V	0.015% rdg +2mV
Read (non-isolated)	0.000 V	20.000 V	0.015% rdg +2mV
Source	0.000 V	20.000 V	0.015% rdg +2mV

Maximum current output in voltage ranges is 1 mA with an output impedance of <= 1 ohm.

Frequency Pulse	Range		Accuracy ± 12 months
	min	max	
CPM read	2.0	600.0	0.05% rdg +0.1CPM
Hz read	1.0	1000.0	0.05% rdg +0.1Hz
KHz read	1.00	10.00	0.05% rdg +0.01KHz
CPM source	2.0	600.0	0.05%
Hz source	1.0	1000.0	0.05%
KHz source	1.0	10.0	0.125%
Pulse (source only) Rate: 2CPM to 10KHz	1	30000	

Input voltage amplitude range on frequency is 1 to 20 V zero based square wave only.
Output amplitude is adjustable from 1 to 20 V and is a square wave with a 50% duty cycle.
For output frequency, a slight negative offset of approximately -0.1 V is present to assure zero crossing.

Ohm	Range		Accuracy ± 12 months
	min	max	
Ohm read (low)	0.00	400.00	0.025% rdg +0.05 ohm
Ohm read (high)	0.00	4000.0	0.025% rdg +0.5 ohm
Ohm source (low) @ 0.1 to 0.5 mA	5.0	400.0	0.025% rdg +0.1 ohm
	5.0	400.0	0.025% rdg +0.05 ohm
Ohm source (high) @ 0.05 to 0.8 mA @ 0.05 to 0.4 mA	400	1500	0.025% rdg +0.5 ohm
	1500	4000	0.025% rdg +0.5 ohm

Unit is compatible with pulsing transmitters.
Frequency response is <= 5 mSec.

Resistance - RTD

RTD types Pt10 Pt25 Pt50 Pt100 Pt200 Pt500 Pt1000
..... Cu10 Cu50 Cu100 Ni120 YSI400
Response time Less than 5 mSec.
Connection 2, 3 and 4-wire

RTD	Range		Accuracy ± 12 months	
	from	to		
Pt10 °C Alpha 385	-200°C	100°C	1.4°C	
	100°C	300°C	1.6°C	
	300°C	600°C	1.8°C	
	600°C	800°C	2.0°C	
	°F	-328°F	212°F	2.5°F
		212°F	572°F	2.9°F
572°F		1112°F	3.2°F	
Pt50 °C Alpha 385	-200°C	100°C	0.4°C	
	100°C	300°C	0.5°C	
	300°C	600°C	0.6°C	
	600°C	800°C	0.7°C	
	°F	-328°F	212°F	0.72°F
		212°F	572°F	0.90°F
572°F		1112°F	1.08°F	
Pt100 °C Alpha 385	-200°C	100°C	0.2°C	
	100°C	300°C	0.3°C	
	300°C	600°C	0.4°C	
	600°C	800°C	0.5°C	
	°F	-328°F	212°F	0.36°F
		212°F	572°F	0.54°F
572°F		1112°F	0.72°F	
Pt100 °C Alpha 3926	-200°C	100°C	0.2°C	
	100°C	300°C	0.3°C	
	300°C	630°C	0.4°C	
	°F	-328°F	212°F	0.36°F
		212°F	572°F	0.54°F
		572°F	1166°F	0.72°F
Pt100 °C Alpha 3916	-200°C	100°C	0.2°C	
	100°C	300°C	0.3°C	
	300°C	630°C	0.4°C	
	°F	-328°F	212°F	0.36°F
		212°F	572°F	0.54°F
		572°F	1166°F	0.72°F

Read accuracy is based on 4 wire input.

For 3-wire input add ±0.005 ohm assuming all three RTD leads are matched.

RTD	Range		Accuracy ± 12 months	
	from	to		
Pt200 °C <small>Alpha 385</small>	-200°C	100°C	0.8°C	
	100°C	300°C	0.9°C	
	300°C	630°C	1.0°C	
	-328°F	212°F	1.44°F	
	212°F	572°F	1.62°F	
Pt500 °C <small>Alpha 385</small>	-200°C	100°C	0.4°C	
	100°C	300°C	0.5°C	
	300°C	630°C	0.6°C	
	-328°F	212°F	0.72°F	
	212°F	572°F	0.90°F	
Pt1000 °C <small>Alpha 385</small>	-200°C	100°C	0.2°C	
	100°C	300°C	0.3°C	
	300°C	630°C	0.4°C	
	-328°F	212°F	0.36°F	
	212°F	572°F	0.54°F	
Cu10 °C	-80°C	260°C	1.4°C	
	-112°F	500°F	2.52°F	
	Cu50 °C	-180°C	200°C	0.4°C
	-292°F	392°F	0.72°F	
	Cu100 °C	-100°C	200°C	0.3°C
-148°F	392°F	0.54°F		
Ni120 °C	-80°C	260°C	0.2°C	
	-112°F	500°F	0.36°F	
YSI400 °C	15°C	50°C	0.1°C	
	59°F	122°F	0.18°F	

Read accuracy is based on 4 wire input.

For 3 wire input add ±0.005 ohm assuming all three RTD leads are matched.

Current - mA and loop

Range mA 0 to 24 (-25% to 125%)
 Loop power for transmitters Yes, 24 VDC
 Isolated input Yes

Current mA	Range		Accuracy ± 12 months
	min	max	
Read (Isolated)	0.000 mA	24.000 mA	0.015% rdg +2µA
Read (non-isolated)	0.000 mA	24.000 mA	0.015% rdg +2µA
Source	0.000 mA	24.000 mA	0.015% rdg +2µA

Max. load on mA source is 1000 ohms

Voltage input range on simulation mode is 5 to 30 V

Temperature stability - unless other specified

Operating temperature -10 to 50°C / 14 to 122°F
 Storage temperature -20 to 70°C / -4 to 158°F
 All specifications specified
 at ambient temperature: 23°C ±5°C / 73°F ±9°F
 Outside ambient 23°C ±5°C ±0.005% rdg/°C
 Outside ambient 73°F ±9°F ±0.0028% rdg/°F

Power specifications

Batteries 4 x AA batteries
 Re-chargeable battery pack optional
 Low battery warning Yes

Serial communication

Communication rate 9600 baud, ASCII
 Electrical interface ±5 V non isolated

Miscellaneous

CE - EMC EN50082-1: 1992 and EN55022: 1994 Class B
 Safety: CSA C22.2 No. 1010.1: 1992

Physical specifications

Instrument LxHxW 235x53x95 mm / 9.3x2.1x3.7 in.
 Weight inclusive batteries 510 g / 1.1 lb
 Instr. in soft case LxHxW ... 250x95x110 mm / 9.8x3.7x4.3 in.
 Weight incl. test leads and shoulder strap 950 g / 2.1 lb
 Shipping cargo box size LxHxW 285x110x160 mm
 11.2x4.3x6.3 in.
 Shipping weight 1300 g / 2.9 lb

Pressure specifications

The JOFRA ASC300 can read out pressure from the JOFRA APM series of modules in any of the below mentioned engineering units.

psi pound per square inch
 inH2O4°C inches of water at 4°C
 inH2O20°C inches of water at 20°C
 cmH2O4°C centimeters of water at 4°C
 cmH2O20°C centimeters of water at 20°C
 BAR bars
 mBAR millibars
 KPAL kilopascals
 inHG 0°C inches of mercury at 0°C
 mmHG 0°C millimeter of mercury at 0°C
 Kg/cm2 kilograms per square centimeter

PRESSURE MODULES



**JOFRA APM
Advanced
Pressure
Module**

The APM series of pressure modules offer the flexibility to perform pressure calibrations with the ASC300. The pressure modules are compatible with the JOFRA AMC900 bench top

calibration system and the JOFRA ASC300 handheld multi-function calibrator. Independent of the engineering unit of the module you can change units on the ASC300 (11 different engineering units) at any time.

These rugged modules are engineered for both field and laboratory use. They are ready to use with the JOFRA calibrators and the protocol allows for immediate recognition and use of the module once it is plugged into the calibrator. All calibration data are stored in the modules. You only need to maintain the traceability of the modules - not the indicator, and, you can always add more as your needs change. For use out-of-the-box any where in the world all units are supplied with a 1/4 in. NPT and a BSP female adapter.



APM S series

The JOFRA APM S series are industrial pressure modules with good accuracies. The modules are designed so that the cable is integrated into the module housing, and an overall profile for easy storage of multiple modules.

Resolution: 5 digits (20 to 100 ppm depending on range)
Dimensions: 60 x 45 x 75 mm / 2.4 x 1.8 x 3 in.
Weight: 350 g / 0.77 lb.



APM H Series

The JOFRA APM H series are high accuracy laboratory units: 0.01% of F.S. The outstanding performance makes these modules perfect for use as an electronic pressure reference at the top of your calibration hierarchy. These modules are easy to work with and easy to transport.

Resolution: 6 digits (2 to 10 ppm depending on range)
Dimensions: 99 x 55 x 55 mm / 3.9 x 2.18 x 2.18 in.
Weight: 450 g / 1 lb.

For more details about the JOFRA APM series see specification sheet: SS-CP-2190

PRESSURE SOURCES

The flexible pressure solution: A JOFRA ASC300 a JOFRA APM pressure module and one of the AMETEK pressure pumps below and you have a complete pressure test and calibration system. If future tasks require other pressure ranges, just complement your system with an extra module and pressure source.



The T-810 / 811 series of small "bicycle" pumps is designed for very economical pressure test solutions. Vacuum to -0.8 bar / -23 inHg or pressure to 15 bar / 200 psi.



The T-730 / 40 / 50 series of rugged pneumatic hand pumps for pressure up to 15 bar / 200 psi or down to -0.8 bar / -23 inHg.



The T-910 pump is an easy-to-use, single-hand operation pneumatic pump featuring both vacuum and pressure generation up to 40 bar / 580 psi.



The T-720 is small, lightweight, and convenient portable hydraulic pump. Medium is oil. Pressure generation up to 350 bar / 5,000 psi.



The screw pump is designed for very easy tabletop operation and offers exceptional pressure control. Generates up to 350 bar / 5,000 psi. Medium is water or oil.



This hydraulic pump is designed for high pressure oil applications. The small size and weight makes it a good rugged portable solution. Pressure up to 700 bar / 10,000 psi.



The type T pump is designed for high pressure applications up to 1000 bar / 15,000 psi with either water, hydraulic oil, or Skydrol as pressure medium. All wetted parts are stainless steel.

JOFRA APM-S pressure modules

Range	Type	psi	bar	Pressure port*2	Reference port*2	Reference accuracy*3	12 month accuracy*4	Part number
10 inH ₂ O*1	Gauge	0.3612	0.0249	DRY	DRY	0.20%	0.30%	APM010WGSG
1 psi*1	Gauge	1.0000	0.0689	DRY	DRY	0.15%	0.30%	APM001PNMSG
5 psi*1	Gauge	5.0000	0.3447	DRY	DRY	0.05%	0.10%	APM005PNMSG
15 psi*1	Gauge	15.000	1.0342	DRY	N/A	0.025%	0.05%	APM015PNMSG
1 psi	Gauge	1.0000	0.0689	316L SS	DRY	0.075%	0.15%	APM001PGSG
5 psi	Gauge	5.0000	0.3449	316L SS	DRY	0.025%	0.05%	APM005PGSG
15 psi	Gauge	15.000	1.0342	316L SS	N/A	0.025%	0.05%	APM015PGSG
30 psi	Gauge	30.000	2.0684	316L SS	N/A	0.025%	0.05%	APM030PGSG
100 psi	Gauge	100.00	6.8948	316L SS	N/A	0.025%	0.05%	APM100PGSG
200 psi	Gauge	200.00	13.790	316L SS	N/A	0.025%	0.05%	APM200PGSG
300 psi	Gauge	300.00	20.684	316L SS	N/A	0.025%	0.05%	APM300PGSG
500 psi	Gauge	500.00	34.486	316L SS	N/A	0.025%	0.05%	APM500PGSG
1000 psi	Gauge	1000.0	68.948	316L SS	N/A	0.025%	0.05%	APM01KPGSG
2000 psi	Gauge	2000.0	137.90	316L SS	N/A	0.025%	0.05%	APM02KPGSG
3000 psi	Gauge	3000.0	206.84	316L SS	N/A	0.025%	0.05%	APM03KPGSG
5000 psi	Gauge	5000.0	344.76	316L SS	N/A	0.025%	0.05%	APM05KPGSG
10000 psi	Gauge	10000	689.48	316L SS	N/A	0.025%	0.05%	APM10KPGSG
7 kPa	Gauge	1.0152	0.0700	316L SS	DRY	0.10%	0.20%	APM007KSGSG
35 kPa	Gauge	5.0761	0.3500	316L SS	DRY	0.035%	0.07%	APM035KSGSG
70 kPa	Gauge	10.152	0.7000	316L SS	N/A	0.035%	0.07%	APM070KSGSG
200 kPa	Gauge	29.006	2.0000	316L SS	N/A	0.025%	0.05%	APM200KSGSG
350 kPa	Gauge	50.761	3.5000	316L SS	N/A	0.025%	0.05%	APM350KSGSG
10 bar	Gauge	145.03	10.000	316L SS	N/A	0.025%	0.05%	APM010BGS
21 bar	Gauge	304.56	21.000	316L SS	N/A	0.025%	0.05%	APM021BGS
60 bar	Gauge	870.18	60.000	316L SS	N/A	0.025%	0.05%	APM060BGS
160 bar	Gauge	2320.5	160.00	316L SS	N/A	0.025%	0.05%	APM160BGS
200 bar	Gauge	2900.6	200.00	316L SS	N/A	0.025%	0.05%	APM200BGS
400 bar	Gauge	5801.2	400.00	316L SS	N/A	0.025%	0.05%	APM400BGS
700 bar	Gauge	10152	700.00	316L SS	N/A	0.025%	0.05%	APM700BGS
5 psi	Differential	5.0000	0.3449	316L SS	DRY	0.035%	0.07%	APM005PDSG
100 psi	Differential	100.00	6.8948	316L SS	DRY	0.025%	0.05%	APM100PDSG
5 psi	Absolute	5.0000	0.3448	316L SS	N/A	0.035%	0.07%	APM005PASG
15 psi	Absolute	15.000	1.0342	316L SS	N/A	0.025%	0.05%	APM015PASG
30 psi	Absolute	30.000	2.0684	316L SS	N/A	0.025%	0.05%	APM030PASG
7 bar	Absolute	101.52	7.0000	316L SS	N/A	0.025%	0.05%	APM007BASG
±15 psi	Combination	±15.000	±1.0342	316L SS	N/A	0.035%	0.07%	APM015PCSG
-15/200 psi	Combination	-015.00 +200.00	-1.0342 +13.790	316L SS	N/A	0.025%	0.05%	APM200PCSG
-29 inHg	Vacuum	-14.243	-1.0342	316L SS	DRY	0.035%	0.07%	APM029HVSG

Note *1 Non isolated transducer - dry air or non-corrosive gas compatible media only

Note *2 Media compatibility on pressure or reference port side of the module - DRY indicates dry air or non-corrosive gas as compatible media. 316L SS indicates media compatible with type 316 stainless steel

Note *3 Reference uncertainty is expressed as % F.S. and includes only linearity, hysteresis, and repeatability at laboratory conditions.

Note *4 12 month accuracy - expressed as % F.S. Includes linearity, repeatability, hysteresis, and temperature compensation 0 to 50°C / 32 to 122°F.

Note *5 6 month accuracy - expressed as % F.S. Includes linearity, repeatability hysteresis, and temperature compensation 15 to 45°C / 59 to 113°F.

Note *6 The resolution is 6 digits from the H module. The ASC300 and the AMC900 reads and display the first 5 digits

JOFRA APM-H pressure modules

Range	Type	psi*6	bar*6	Pressure port*2	Reference port*2	6 month Accuracy*5	Part number
15 psi	Gauge	15.0000	1.03427	DRY	DRY	0.010%	APM015PGHG
50 psi	Gauge	50.0000	3.44756	DRY	DRY	0.010%	APM050PGHG
100 psi	Gauge	100.0000	6.89512	DRY	DRY	0.010%	APM100PGHG
500 psi	Gauge	500.000	34.4756	DRY	DRY	0.010%	APM500PGHG
1000 psi	Gauge	1000.00	68.9513	DRY	DRY	0.010%	APM01KPGHG
15 psi	Absolute	15.0000	1.03427	DRY	N/A	0.010%	APM015PAHG
50 psi	Absolute	50.0000	3.44756	DRY	N/A	0.010%	APM050PAHG
100 psi	Absolute	100.000	6.89512	DRY	N/A	0.010%	APM100PAHG
500 psi	Absolute	500.000	34.4756	DRY	N/A	0.010%	APM500PAHG
1000 psi	Absolute	1000.00	68.9513	DRY	N/A	0.010%	APM01KPAHG
3000 psi	Absolute	3000.00	206.854	DRY	N/A	0.010%	APM03KPAHG

JOFRA ASC 300 ORDERING INFORMATION

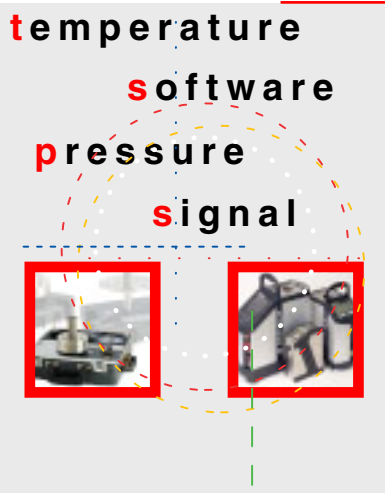
Order No.	Description
ASC300	Base model number (1st thru 6th characters) Handheld calibrator
G	Certificate (7th character) NIST traceable certificate (standard)
H	Accredited certificate
ASC300G	Sample order number JOFRA ASC300 with standard NIST traceable certificate.

STANDARD DELIVERY	
1 pcs.	JOFRA ASC300 instrument
1 pcs.	Battery set (4 x AA)
1 pcs.	Manual
1 pcs.	Set of test leads
1 pcs.	Soft carrying case and shoulder strap
1 pcs.	NIST traceable certificate

ACCESSORIES	
Part No.	Description
SPK-HHC-001	Softcase for the ASC300 unit
120517	Thermocouple plug for type K (Yellow)
120515	Thermocouple plug for type T (Blue)
120514	Thermocouple plug for type N (Orange)
2206011	Thermocouple plug + K wire + alligator clips in type K material
65-PT100-LB-CABLE	LEMO to banana plugs with 1 m / 3 ft. cable
104203	Test lead kit
SPK-ASC-001	Manual for JOFRA ASC300
123958	Serial communication cable for the ASC300 unit
SPK-ASC-002	Rechargeable battery pack
SPK-ASC-003	Charger for the rechargeable battery pack (115/230 VAC)



Soft carrying case
The soft case that protects the instrument is designed so that it is a useful part of the instrument.



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