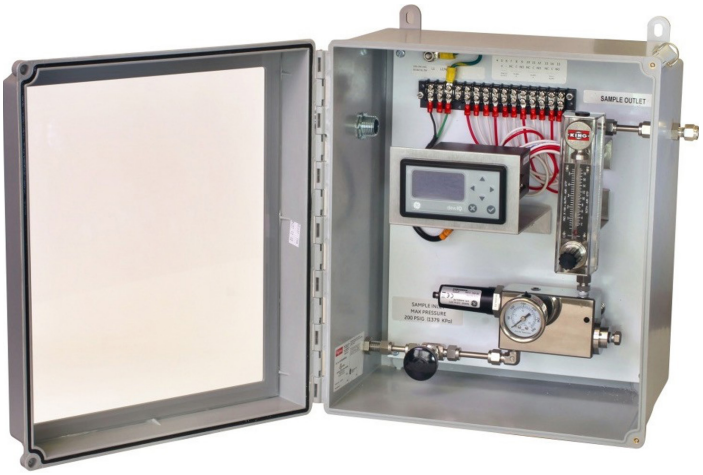


air.IQ

Moisture analyzer packaged solution

Features

air.IQ simplifies the selection and installation of your moisture analyzer. Install the moisture probe, wire your power and outputs to the terminal strip, and connect your gas to the inlet fitting.

- Wall mounted NEMA 4X package
- Includes the analyzer display, moisture probe, interconnecting cable, and sample system
- Features the dew.IQ moisture analyzer
- The IQ.probe makes installation and start-up easy
- Sample system provides isolation, filtration, pressure and flow indication, pre-wired, and a clear door for easy viewing of all readings

Applications

The standard air.IQ package is designed for moisture measurement in any inert gas application, in industrial environments classified as safe areas, where the process gas pressure is slightly positive to a maximum of 200 psig. It combines the Panametrics dew.IQ and IQ.probe with 50 years of sample system design, to deliver the moisture measurement you have come to trust.

Markets and applications served include:

- Industrial gas
- Air dryer/clean dry air
- Plastics drying
- Pharmaceutical
- Aerospace
- Power generation

Panametrics
a Baker Hughes business

Ordering configuration

air.IQ is comprised of the following items:

- DEW.IQ-3-6-1-0
- IQ.PROBE-2-W-0-0-0-0
- 733-1155-00

Application arameters

- Inert gases such as air, nitrogen, SF6
- Sample gas pressure: 0 to 200 psig
- Sample gas temperature: 0 to +50 C
- Moisture content: -110 to +20 C dew/frost point, non-condensing
- Power requirements: 100 - 240 VAC @ 50 - 60 Hz

dew.IQ specifications*

European certification
Complies with EMC directive 2004/108/EC and 2006/95/EC low voltage directive (installation category II, pollution degree II)

Input
Moisture signal from an M series probe or IQ.probe

Analog output
Single internal isolated recorder output, internally optically isolated, 10-bit (0.1%) resolution

Switch-selectable outputs
- 0 to 2 V, 10k Ω minimum load resistance
- 0 to 20 mA, 400 Ω maximum series resistance
- 4 to 20 mA, 400 Ω maximum series resistance
- User-programmable within the range of the instrument and the corresponding sensor or transmitter

Alarm relays
- One fail-safe fault relay
- Two standard form C relays SPDT, rated for 3 A at 250 VAC/30 VDC
- Set to any level within the range of the instrument; programmable from the front panel

Alarm set point repeatability
±0.2°F (±0.1°C) dew point

Datalogger
32 GB capacity with MicroSD card, 2 GB card included

Display
128 x 64 matrix LCD

Display functions
Dew point temperature in °F or °C, ppmv with a constant pressure input, or sensor signals for diagnostics

Power requirements
Universal power 100-240 VAC @ 50-60 Hz
24VDC option available

Temperature
- Operating: –20° to 60°C (–4° to 140°F)
- Storage: –40° to 70°C (–40° to 158°F)

Warm-up time
Meets specified accuracy within three minutes

IQ.probe specifications*

Sensor type
Thin-film aluminum oxide

Dew/frost point temperature
- Overall range capability: –110° to 60°C (–166° to 140°F
- Standard: –80° to 20°C (–112° to 68°F) with data to –110°C (–166°F)

Calibrated accuracy at 77°F (25°C)
- ±3.6°F (±2°C) above -148°F (–100°C)
- ±5.4°F (±3°C) below -148°F (-100°C)

Repeatability
- ±0.4°F (±0.2°C) above -148°F (–100°C)
- ±0.9°F (±0.5°C) below -148°F (–100°C)

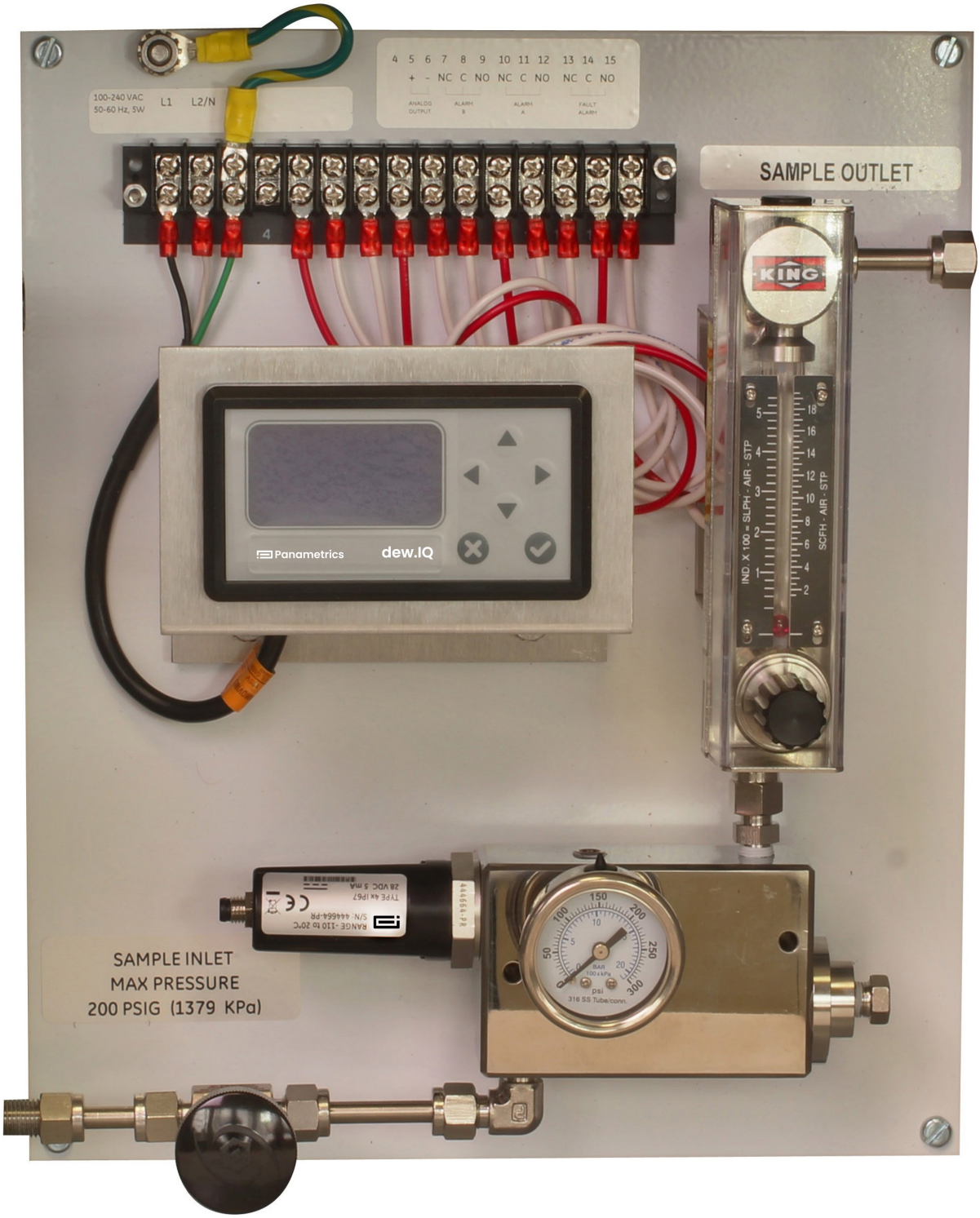
* Refer to dew.IQ and IQ.probe data sheets for complete specification details

Start-up procedure

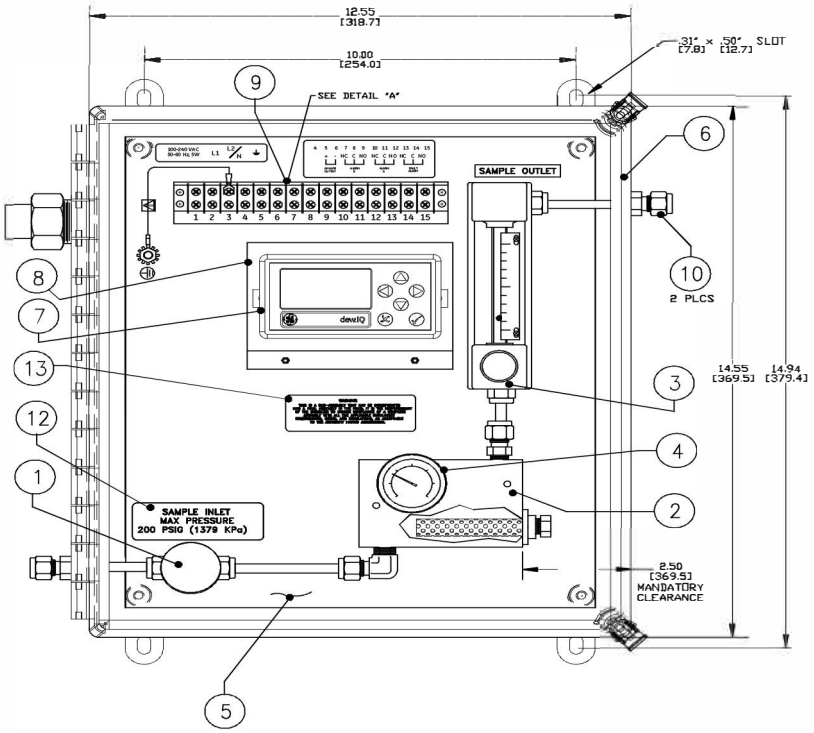
- Insert moisture probe into the sample cell
- Start with the inlet valve and the valve on rotameter fully closed
- For dew points at process pressure, slowly open the inlet valve until fully open; then crack the valve on the rotameter to get flow on scale
- For dew points at atmospheric pressure, fully open the valve on the rotameter; then crack the inlet needle valve on the rotameter to get flow on scale

Shut-down procedure

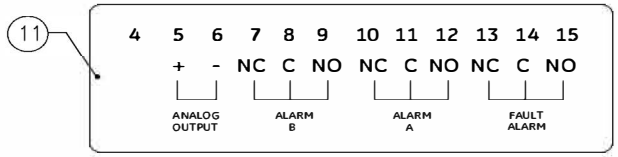
- Slowly close the inlet needle valve
- Slowly open the valve on the rotameter until the pressure on the pressure gauge is 0 psig
- Remove the moisture probe

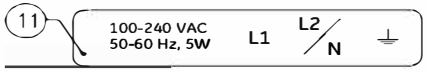


REVISIONS					
REV	ECO	DESCRIPTIONS	DWN	CKD	APVD
1	**	ORIGINATED FOR REV CONTROL	JR 10/25/12	EJ 10/25/12	TK 10/26/12
2	**	UPDATE	JR 12/6/12	EJ 12/8/12	TK 12/8/12

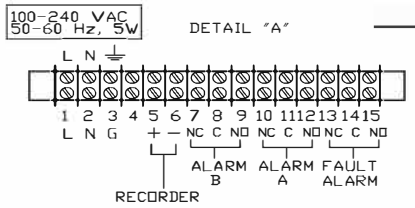


LABEL, SAMPLE SYSTEM,
DEW.IQ OUTPUTS





LABEL, SAMPLE SYSTEM,
DEW.IQ, POWER STRIP



NOTES:
1. ENCLOSURE NEMA 4X: 14.55"Hx12.55"Wx8.00"D (369.5x318.7x203.2)
   PANEL 12.75"x10.88" (323.8x276.3)
2. PROCESS CONNECTIONS: 1/4" COMPRESSION FITTINGS
3. PROCESS TUBING: 1/4" STAINLESS STEEL
4. ELECTRICAL CONNECTION: 1/2" FNPT
5. INCHES/[MM]
6. REF. DWG. BM733-1155-00rev2
7. WIRE PROBE CABLE FROM PROBE TO DEW.IQ PER SHEET 2
8. ALL PIPE THREADS TO BE SEALED USING PTFE THREAD SEALER

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE
FRACTIONS ± 1/32" DECIMALS .XX ± .01 .XXX ± .005 ANGLES ± 1°
SURFACE FINISH 125

THIRD ANGLE PROJECTION

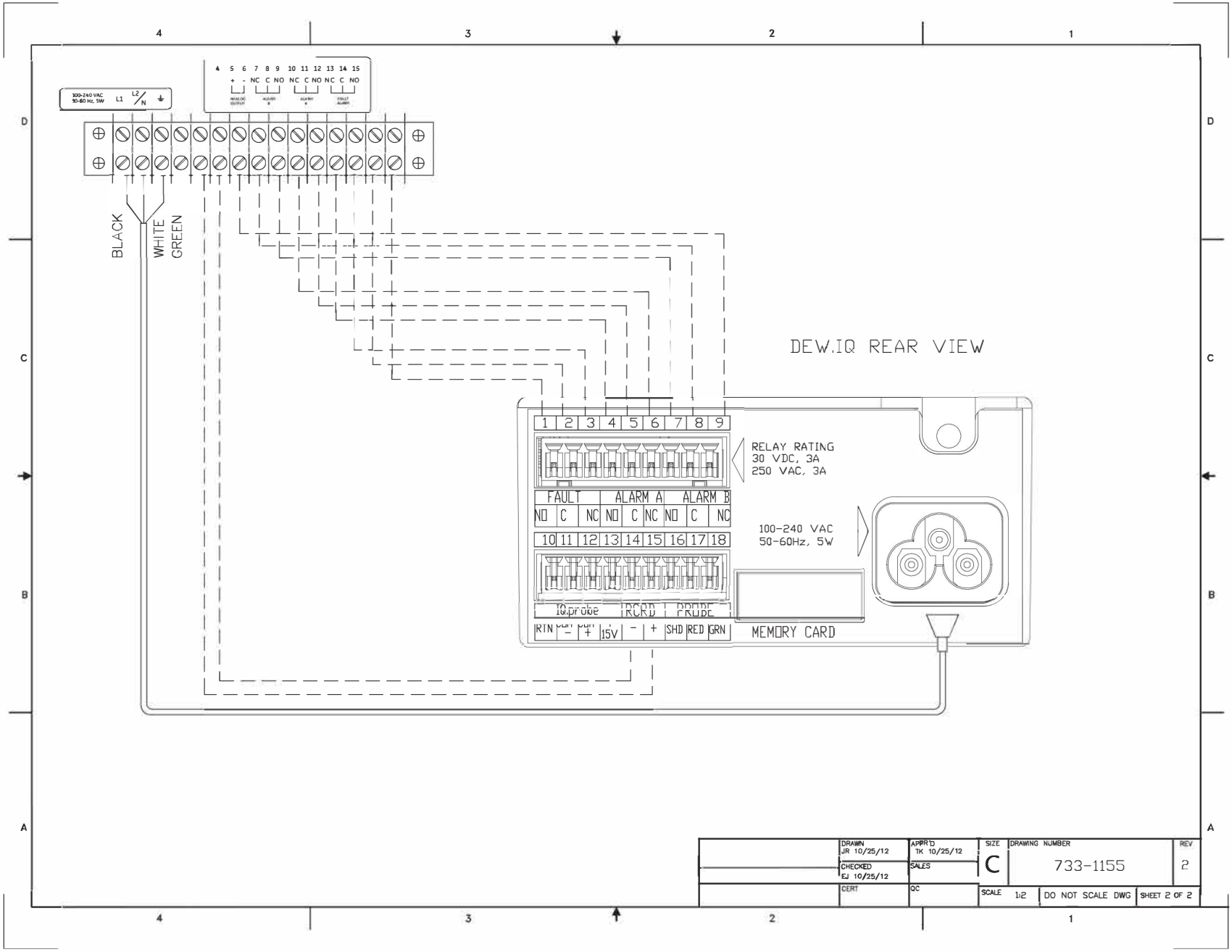
DRAWN JR 10/25/12	APP'D TK 10/25/12	TITLE	SAMPLE SYSTEM
CHECKED EJ 10/25/12	SALES		
CERT	QC	SIZE C	DRAWING NUMBER 733-1155 REV 2
RN	GENERATED USING AUTOCAD		
MODEL NO. SAMPLE SYSTEM		SCALE 1:2	DO NOT SCALE DWG SHEET 1 OF 2

		DRAWN	APPROVED	MODEL NO.		BM	REV
		JR 10/25/12	TK 10/25/12		SAMPLE SYSTEM BILL OF MATERIALS	BM733-1155-00	2
		CHECKED	RELEASE NO.			SHEET 1 OF 1	
		EJ 10/25/12					

DWG ITEM	SALES P/N	PART NO.	DESCRIPTION	QTY PER ASSY(GP) -01
1		255-184	Needle valve, 5000 psig, 316 SS, 1/4" compression fittings	1
2		421-1466	HOUSING, SS880 SAMPLE SYSTEM	1
		410-485	CAP PLUG RED 3/4-16X1/2"	1
		255-165	PIPE PLUG 1/8 NPTF 316 SS	1
		421-1468	PLUG, SS880 SAMPLE SYSTEM	1
		255-160-02	Connector 316 SS, 1/4" compression fitting, 1/8" MNPT	1
		463-002	FILTER SUPPORT CORE GAS/LIQUID	1
		440-023	Filter element, borosilicate microfiber (replacement for 440-024 filter coalescer)	1
		410-548	O-RING 1.049ID 0.103THK VT/FKM	1
		255-161-02	Elbow 316 SS, 1/4" compression fittings, 1/8" MNPT	1
3		443-199	Flowmeter assy, 200 psig, integral inlet flow control valve 2 to 20 SCFH/54 to 540 SLPH, 1/4" compression fittings	1
		255-161-03	Elbow 316 SS, 1/4" compression fittings, 1/4" MNPT	2
		418-061	Bracket, Type AA, 3/4" Hole	2
4		443-046-01	1-1/2" pressure gauge, 316 SS, 1/8" NPTM center back mount, range 0-300 psig	1
5		421-2002	Assembly mounting and piping of sample system components onto a white-enamel painted steel plate, 12.75" x 10.88"	1
6		425-406	NEMA 4X Enclosure, Fiberglass, 14.55"H x 12.55"W x 8"D	1
7			Mounting of DEW.IQ on a sample system plate, DEW.IQ should be specified, priced and ordered as a separate item.	1
8		418-200	Mounting Bracket	1
9		213-2000	Terminal Strip 15 Position	1
		213-2001	Terminal Strip Cover	1
10		255-163-04	Bulkhead, Union, 316 SS, 1/4" compression fittings	2
11		442-1036	Label, Output	1
		442-1345	Label, Power Strip	1
12		442-1347	Sample Inlet Label	1
13		442-1355	Sub Component Label	1
14		255-347	Union, Explosionproof, conduit to conduit fitting, 1/2" NPTM TO 1/2" NPTF, CL 1, DIV 1 & 2, Grp A,B,C & D	1
15		412-2028	1/2' Conduit Locknut	1
16		410-516-01	Gasket, PVC, Self Retaining, with steel ring, 3/8" to 1/2"	1
17		413-540	Spacer, Threaded, Aluminum, 6-32, 1/4"	2

REV	ECN NO.	DATE/APPD	REV	ECN NO.	DATE/APPD	REV	DATE/APPD
1	N/A	10/25/2012					
2	N/A	12/6/2012					

NOTES
1. REF DWG 733-1155rev2
2. PROCESS CONNS: 1/4" COMPRESSION FITTINGS
3. PROCESS TUBING: 1/4" STAINLESS STEELTUBING
4. ELECTRICAL CONN: 1/2" NPTF



DRAWN JR 10/25/12	APPR'D TK 10/25/12	SIZE C	DRAWING NUMBER 733-1155	REV 2
CHECKED EJ 10/25/12	SALES			
CERT	QC	SCALE 1:2	DO NOT SCALE DWG	SHEET 2 OF 2

Panametrics, a Baker Hughes Business, provides solutions in the toughest applications and environments for moisture, oxygen, liquid and gas flow measurement. Experts in flare management, Panametrics technology also reduces flare emissions and optimizes performance.

With a reach that extends across the globe, Panametrics' critical measurement solutions and flare emissions management are enabling customers to drive efficiency and achieve carbon reduction targets across critical industries including: Oil & Gas; Energy; Healthcare; Water and Wastewater; Chemical Processing; Food & Beverage and many others.

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