

# INKQUALIZER™ IV

## PRODUCT MANUAL

PO No. 5208845  
CSO No. 301402  
GOSS PART No. 5803619, 5803620  
AWS Job # 14764, 14765

Baldwin Oxy-Dry Americas

**800-666-7470**

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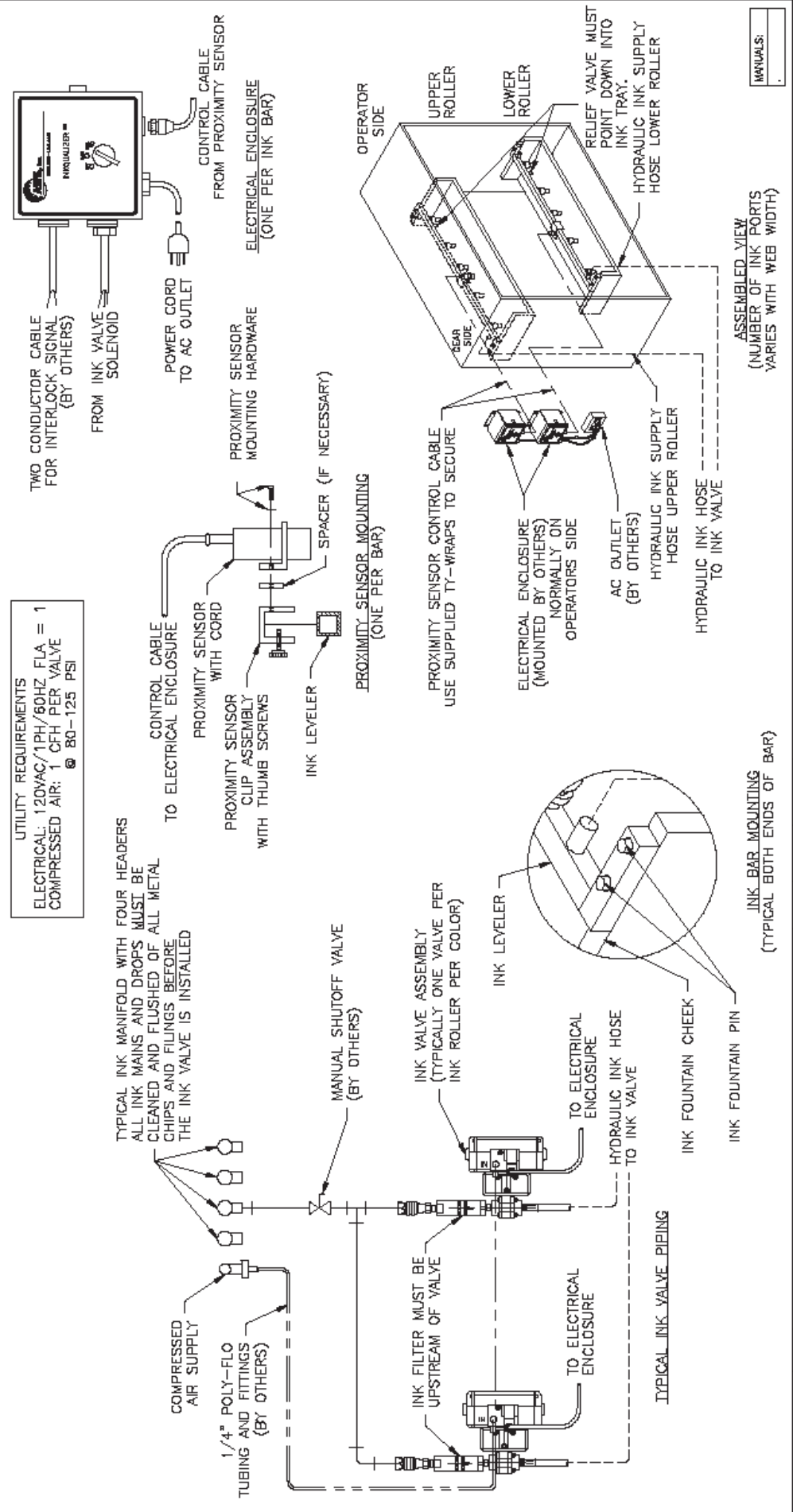


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UTILITY REQUIREMENTS  
 ELECTRICAL: 120VAC/1PH/60HZ FLA = 1  
 COMPRESSED AIR: 1 CFH PER VALVE  
 @ 80-125 PSI

TYPICAL INK MANIFOLD WITH FOUR HEADERS  
 ALL INK MAINS AND DROPS MUST BE  
 CLEANED AND FLUSHED OF ALL METAL  
 CHIPS AND FILINGS BEFORE  
 THE INK VALVE IS INSTALLED



REV.	DESCRIPTION	BY	APP.	DATE
A	INITIAL DRAFT, WAS 500B-221	BCS	JPS	06.13.00
B	ADDED NEW BI-TORQ VALVE	BCS	JPS	06.14.00
C	ADDED NEW ELECTRICAL BOX	BCS	JPS	10.12.01
D	REVISED, ADDED INK BAR MOUNTING BAR.	EN	JWR	02.25.02
E	UPDATED INK BAR NOZZLE ORIENTATION.	ST	EG	06.01.05

INK BAR MOUNTING (TYPICAL BOTH ENDS OF BAR)	REV. E	SCALE
ASSEMBLED VIEW (NUMBER OF INK PORTS VARIES WITH WEB WIDTH)	INKL0036MID1	NA

UNLESS OTHERWISE SPECIFIED  
 TOLERANCES:  
 DIMENSIONS DECIMAL .005  
 FRACTIONS .001  
 THREE PLACE DECIMAL .0005  
 ANGULAR ± 1/2°  
 FINISHED SURF. 125-√  
 BREAK SHARP EDGES 1/32"  
 CONCENTRICITY 0.001 T.I.R.

PROPRIETARY NOTE  
 This drawing contains information proprietary to AWS and is furnished in confidence for the sole purpose of supplying the recipient with needed engineering data. Its contents should not be disclosed or reproduced in any manner without the written consent of AWS.

**AWS**  
 A THERMAL CURE INC. DIVISION

**THERMAL CURE**  
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 WYOMING, WY 83014  
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 FAX: (307) 898-0388  
 WWW.THERMALCURE.COM

DRAWING NO. REV. E

# INKQUALIZER IV INSTALLATION INSTRUCTIONS

*Refer to installation drawing INKL0036MID1 when using these instructions.*

1. The ink bars have integral brackets with holes to fit the bar over the thumbscrews on the top of the fountain cheeks, with a quick release pin that fits between the cheek and the bottom of the thumbscrew.
2. Set the ink leveler in place with the ink supply connection to the ink header side of the press and with the brass cocks facing away from the ink rollers. The pressure relief valve must be pointing down into the ink tray. The electrical cable should also be run to the gear side of the press. Secure the ink leveler in place with the quick release pins.
3. Locate the level sensor horizontally near the middle of the ink leveler. The sensor may be mounted on either side of the bar. Secure the sensor horizontally by tightening the thumb screw in the mounting bracket.
4. Position the sensor vertically so that the bottom is approximately 1/2 inch above the desired ink level in the ink fountain. (Minimum distance is 1/8 inch, maximum distance is 7/8 inch). See the proximity switch instruction manual for more information about the switch and its operation.
5. The location of the ink main and their drops, the 120VAC electrical outlet and the control enclosure must be determined by considering the length of the various cables and hoses and the space and clearance required to safely access these locations. Unusual mounting locations or conditions may require special length cables and hoses.
6. The electrical control box should be mounted close to the ink leveler to make the cable connections (cable length is approximately 6 feet). Note the location of the sensor cord socket on the bottom of each box, and mount the box so that the sensor cord from the sensor on the bar reaches the socket. Connect cable from the proximity switch (sensor) to the electrical enclosure. The electrical enclosure should be mounted within 6 feet of an isolated 120VAC grounded outlet. **DO NOT** plug in the electrical power cord until all connections and settings have been made and checked. See step 13.
7. Install the ink supply and the compressed air components in the order shown on the installation diagram. **The ink filter must be upstream of the ink valve, as shown on the installation drawing.**
8. **The ink mains and drops must be cleaned and flushed of all metal chips and filings before the ink valve is installed.**
9. Securely mount the air operated ball valve and the ink filter between the ink supply drop as shown. Lay out hose lengths to determine the valve location. Connect the high pressure hydraulic hose from the ball valve to the swivel on the ink leveler. The ball valve and the ink filter are connected to the ink main drop with the male quick disconnect (supplied).
10. The Inkqualizer IV is supplied with one male quick disconnect for connection to one ink main. If multiple connections are required at each station, the additional male quick disconnects must be

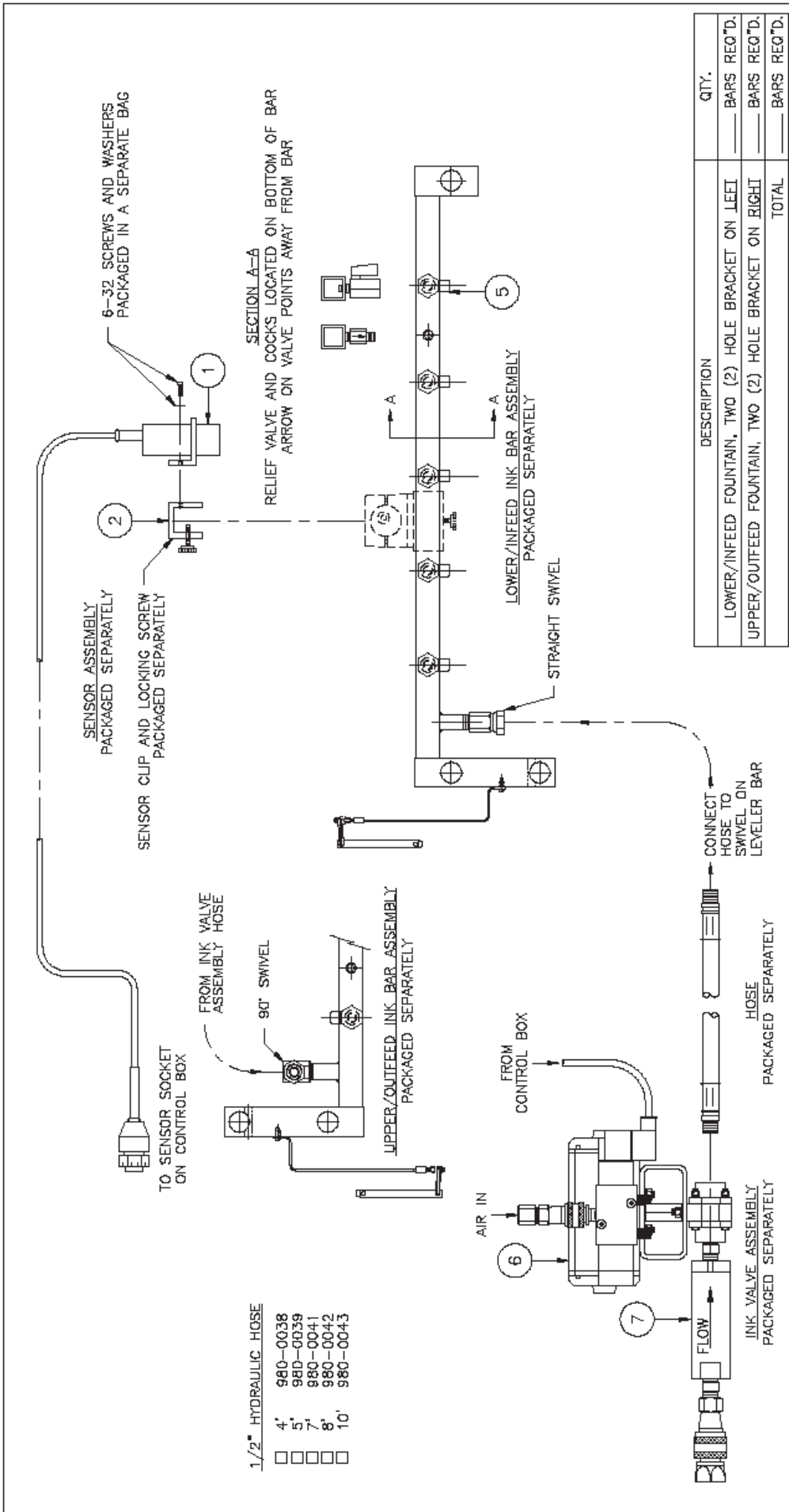
supplied by the customer.

11. The compressed air header location can be on either side of the ink main manifold. The air operated ball valve is supplied with a Poly-Flo quick disconnect coupling. The compressed air supply can be piped to the ball valve with 1/4 inch diameter Poly-Flo tubing. **This tubing is supplied by the customer.** There must be two air drops per print station (one for each ink fountain color). The Poly-Flo tubing must be long enough to allow both valves to be moved to all of the drops provided at each station.

12. Connect the clean, dry and lubricated compressed air supply to the inlet connection of the ball valve. The valve is supplied with a quick disconnect fitting and adapter for 3 inch diameter Poly Flo tubing (**supplied by others**).

13. Before plugging in the control enclosure power cord, turn the selector switch to the **"OFF"** position. The air operated ball valve is "normally closed." It opens only when the sensor senses a low ink level, or the selector switch is in **the "MANUAL"** position.

14. It may be necessary to adjust the ink flow at each of the brass cocks in the leveler bar. First, open all cocks to prevent a pressure build up. Second, turn the selector switch to the "AUTO" position. Start the adjustments from the ink supply side (gear side) after the ink is flowing from all of the cocks. Adjust each handle to provide an equal flow rate of ink from each valve.



- 1/2" HYDRAULIC HOSE
- 4'
  - 5'
  - 7'
  - 8'
  - 10'

UNLESS OTHERWISE SPECIFIED:  
 TOLERANCES: DECIMAL .001  
 TWO PLACE DECIMAL .005  
 THREE PLACE DECIMAL .0005  
 ANGULAR ± 1/2°  
 FINISHED SURF. 125√  
 REAMED HOLES .63√  
 BREAK SHARP EDGES .1/32"  
 CONCENTRICITY 0.001" I.P.T.

REV. DESCRIPTION BY APP. DATE

△ INITIAL DRAFT, WAS DWG 5008-271 BGS JPS 08.18.00

△ UPDATED HYDRAULIC HOSE PART NUMBERS INFO EG EG 10.16.02

△ UPDATED NOZZLE ORIENTATION EG EG 09.01.05

△ REVERSED IMAGE MA MA 10.14.05

△ REVISED TO UPPER/OUTFEED, LOWER/INFEED SPECIFIC JWR JWR 06.05.06

INKQUALIZER IV ASSEMBLY AND PACKING FOR GOSS M600 PRESS UPPER/OUTFEED, LOWER/INFEED

PROPRIETARY NOTE: This drawing contains information proprietary to AWS and is furnished in confidence for the sole purpose of supplying the recipient with needed engineering data. Its contents should not be disclosed or reproduced in any manner without the written consent of AWS.

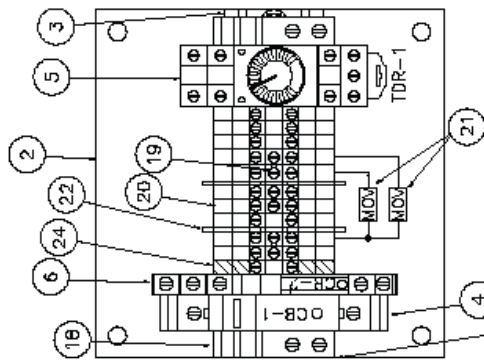
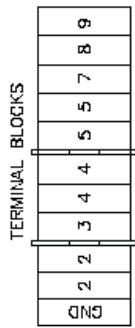
**AWS**  
 A THERMAL CARTRIDGE INC. DIVISION  
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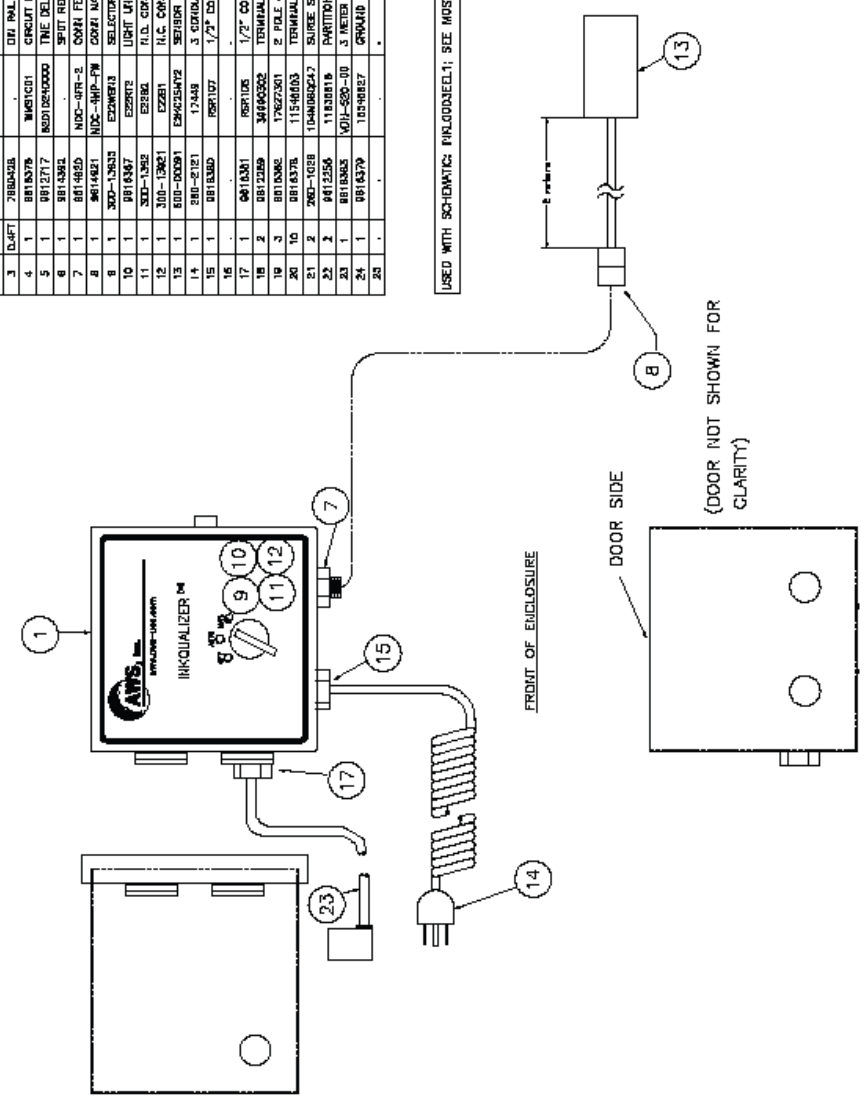
INKL0085MGA1 REV. E SCALE NA

<b>RECOMMENDED SPARE PARTS LIST</b>		
<b>QTY.</b>	<b>DESCRIPTION</b>	<b>GNA PART No.</b>
1	LEVEL SENSOR	500-00091
1	VALVE	980-0212
1	INK FILTER	500-0037
1	CONTROL RELAY, 24VAC/DC	9614392
1	CIRCUIT BREAKER 1 AMP	300-70725
1	LEVEL SENSOR CLIP	500-0163
1	QUARTER TURN VALVE	200-0253
1	PRESSURE RELIEF VALVE	200-05802

ITEM	QTY	AWS PART No.	MFG PART No.	DESCRIPTION
1	1	300-0040		ENCLOSURE, 8" H X 8" W X 3" D
2	1	300-0004		SUB PANEL, 8" X 8" (INCLUDED WITH ITEM #1)
3	1	280-0008		DRY PAUL
4	1	8818078	8818078	CIRCUIT BREAKER, 1 AMP
5	1	9812717	9812717	TIME DELAY RELAY
6	1	8814882		SPOT RELAY W/LED AND SOCKET 2ANZE
7	1	8814882		COIL PLWALE 4 TURNS 57R MCRD DC
8	1	9814881		COIL WALE 4 TURNS 57R MCRD DC
9	1	300-10633		SELECTOR SWITCH, 3 POSITION, ILLUMINATED GREEN
10	1	9818307		LIGHT UNIT-5/8" FOR SELECTOR SW 116/120 60V BULB
11	1	300-1362		R.I.D. CONTACT BLOCK
12	1	300-1362		R.I.C. CONTACT BLOCK
13	1	800-00091		SPRINGER
14	1	8818300		1/2" CONDUCTOR COILED LINE COORD
15	1	8818300		1/2" COIL CRP, .25 - .375 10
16	1	8818300		1/2" COIL CRP, .25 - .375 10
17	1	8818301		1/2" COIL CRP, .125 - .25 10
18	2	8818302		TERMINAL BLOCK END ANCHOR
19	3	8818306		2 POLE JUMPER
20	10	8818378		TERMINAL BLOCK
21	2	280-1058		SURGE SUPPRESSOR
22	3	8818356		PARTITION PLATE
23	1	8818363		3 METER CABLE 80 GA 3/C (M1303 WRG)
24	1	8818379		GROUND BLOCK
25	1			



SUB PANEL  
(NOT TO SCALE)



REV.	DESCRIPTION	BY	APP.	DATE
1	INITIAL DRAFT (S058778)			03.17.10
2				
3				
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6				
7				
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9				
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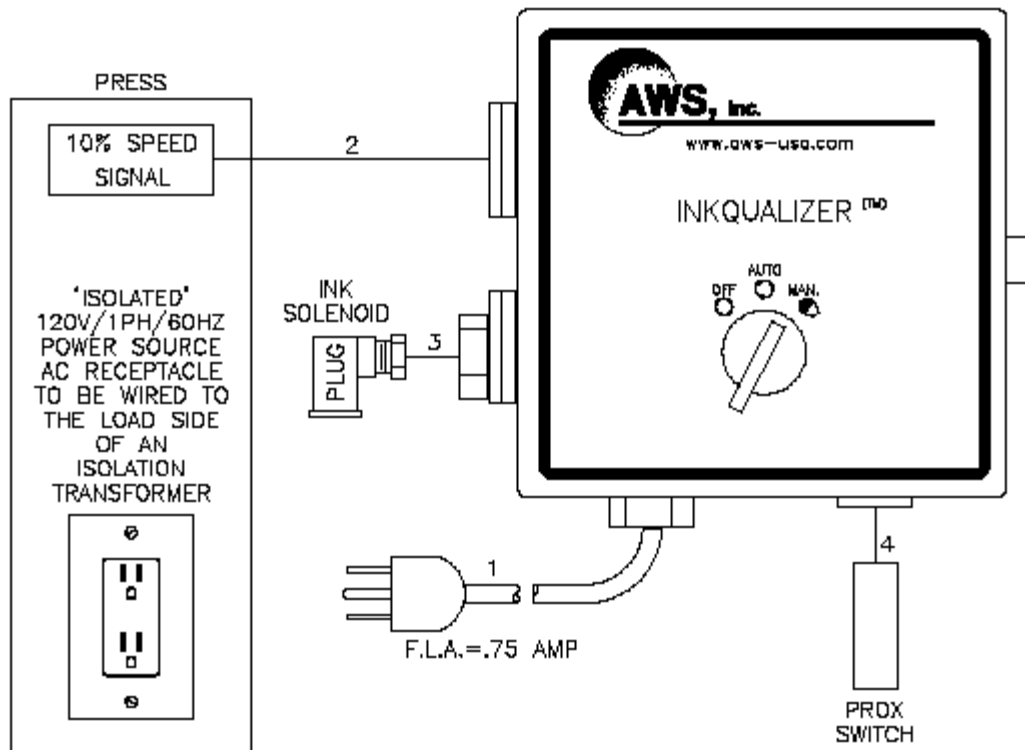
AWS, INC.  
INKQUALIZER IV  
PANEL COMPONENTS LAYOUT  
P/N 500-80054 REV 000

PROPRIETARY NOTE  
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TERMINAL  
BLOCKS  
AWS  
300-10633  
8818307  
8818300  
8818301  
8818302  
8818306  
8818378  
8818356  
8818363  
8818379  
280-1058  
300-0040  
300-0004  
280-0008  
8818078  
9812717  
8814882  
9814881  
300-10633  
9818307  
300-1362  
800-00091  
8818300  
8818300  
8818301  
8818302  
8818306  
280-1058  
8818356  
8818363  
8818379

REV. A  
SCALE 5/8" = 1"

RUN	NO. OF WIRES-SIZE	NOTES	DESCRIPTION
1	(1) 2 CONDUCTOR (+GND) COILED LINE CORD	1,3	INK LEVELER POWER SUPPLY CORD (MALE END PLUGS INTO RECEPTACLE)
2	(2) 16ga. WIRES	2	10% SPEED, OPTIONAL INTERLOCK
3	(1) 2 CONDUCTOR (+GND) 20ga. WIRE	3,4	CONNECT SOLENOID TO INK ENCLOSURE
4	(1) PROX CABLE	3	PROX SWITCH CABLE PLUGS INTO RECEPTACLE ON INK LEVELER ENCLOSURE



**NOTES:**

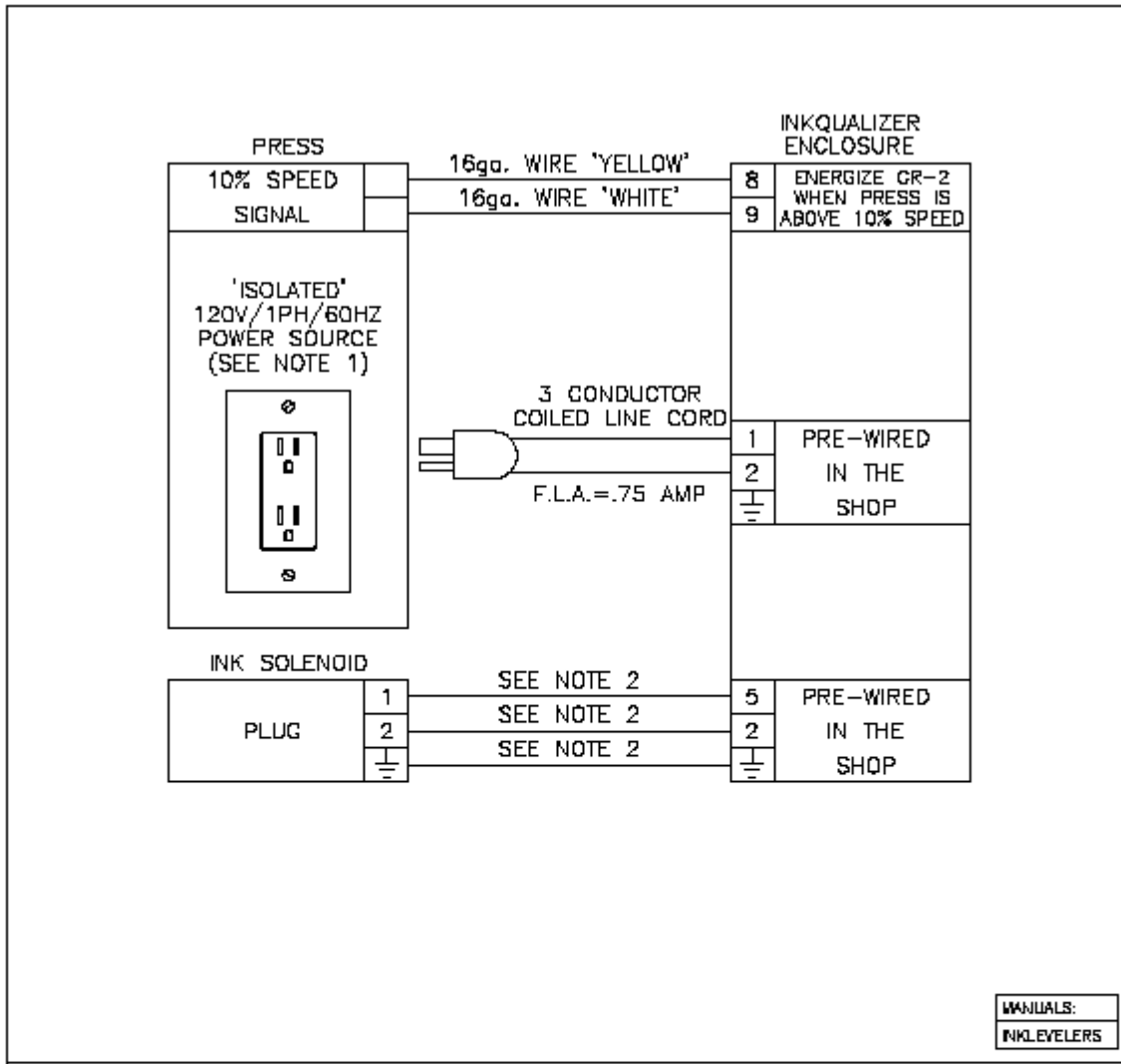
- 1) THE INKQUALIZER MUST BE POWERED BY AN 'ISOLATED' POWER SOURCE. IF NECESSARY, USE AN ISOLATION TRANSFORMER, SUCH AS ISLATROL IC-107 (AWS P/N 500-000212).
- 2) THIS RUN TO CONTAIN 1 YELLOW COLORED WIRE AND 1 WHITE COLORED WIRE.
- 3) SUPPLIED WITH INK ENCLOSURE.
- 4) CABLE IS AWS PART #280-50072.

MANUALS:  
INKLEVELERS

REV.	DESCRIPTION	BY	APP.	DATE
1	INITIAL DRAFT	BGS	JPS	5/11/00
2	ADDED NEW BOX AND SILK SCREENING	BGS	JJ	10/9/00
-	-	-	-	-

<p>UNLESS OTHERWISE SPECIFIED TOLERANCES: DIMENSIONS: .015 TWO PLACE DECIMAL .0005 THREE PLACE DECIMAL .00005 ANGULAR ± 1/2° FINISHES: SURF. 1.00/ RECESSED HOLES .015/ BREAK SHARP EDGES 1/32" CONCENTRICITY 0.001" TYP.</p>	<p><b>AWS, INC.</b> <b>INKQUALIZER IV</b> <b>WIRE PULL</b></p>	<p><b>PROPRIETARY NOTE</b> This drawing contains information proprietary to AWS and is furnished in confidence for the sole purpose of supplying the recipient with needed engineering data. Its contents should not be disclosed or reproduced in any manner without the written consent of AWS.</p> <p><b>AWES</b> 1500 N. LEEBACH AVE. MILWAUKEE, WI 53214-0481 PHONE: (414) 949-1000 FAX: (414) 949-0000 www.aws-usa.com</p> <p><b>THERMAL CARE</b></p> <p>DRAWING NO. <b>INKL001EWP1</b>    <b>B</b></p>
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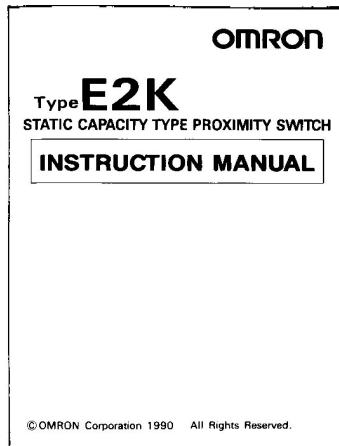


NOTES

- 1) THE INKQUALIZER MUST BE POWERED BY AN 'ISOLATED' POWER SOURCE. IF NECESSARY, USE AN ISOLATION TRANSFORMER, SUCH AS ISLATROL IC-107. (AWS PART #500-000212)
- 2) THE INK SOLENOID IS CONNECTED TO THE ENCLOSURE BY 10 FEET OF CABLE, AWS PART #260-50072. (CABLE SUPPLIED WITH ENCLOSURE)

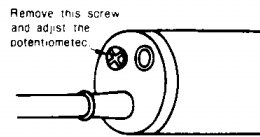
REV.	DESCRIPTION	BY	APP.	DATE
1	INITIAL DRAFT	BGS	JPS	5/11/00
2		-	-	-
3		-	-	-

	<p>AWS, INC. INKQUALIZER IV WIRE TERMINATION</p>	<p>PROPRIETARY NOTE This drawing contains information proprietary to AWS and is furnished in confidence for the sole purpose of supplying the recipient with needed engineering data. Its contents should not be disclosed or reproduced in any manner without the written consent of AWS.</p>
		<p>7700 N. LEE HIGH AVE. MILWAUKEE, WI 53214-3401 PH: (262) 666-1000 FAX: (262) 666-2888 www.aws.com</p> <p>AWTHERMALCABE</p>
<p>DRAWING NO. INKLD002EFT1</p>		<p>REV. A</p>



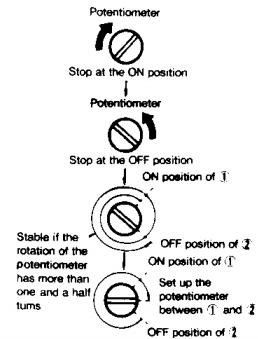
## ■ Sensitivity adjustment

Carry out sensitivity adjustment as shown in the illustration as shown below; remove the M5 screw on the rear of the proximity switch and rotate the potentiometer on the inner part with the attached adjusting screwdriver. Rotating the potentiometer clockwise increases the detecting distance. Rotating it counterclockwise decreases the detecting distance. Though the number of adjusting rotations is  $15 \pm 3$  turns, even if the potentiometer turns fully clockwise or counterclockwise, it does not stop rotating, but idle. Therefore, its overrotation does not cause breakage.



- When detecting objects within the non-metallic container (level detection)

- ① Rotate the potentiometer slowly clockwise without any detectable object, and stop it at the position where the proximity switch goes to ON. (If not ON, rotate it fully clockwise.)
- ② Next, rotate the potentiometer counterclockwise with detectable object, and stop it at the position where the proximity switch goes to OFF.
- ③ If the difference of the number of adjusting rotations of the potentiometer between ON position of ① and OFF position of ② is more than one and a half turns, stable detection can be obtained.
- ④ Sensitivity setting can be completed by positioning the potentiometer between ① and ②.



- ⑤ When the space between the proximity switch and a detectable object is variable, operate ② at the longest position of the space between them.
- When detecting objects in the front
    - ① Adjust the potentiometer at its maximum (if it goes to ON, set it to ON.) in the same way for the preceding items.
    - ② Set objects to the required position.
    - ③ Turn the proximity switch OFF by rotating the potentiometer counterclockwise.
    - ④ Detectable if the rotation of the potentiometer has more than one and a half turns in the adjusting process from ① to ③.
    - ⑤ Set up the potentiometer between ① and ③.

## ■ Maintenance and inspection

- Keep the variation of supply voltage within operating supply voltage.
- Set ambient temperature in operation within the range of  $-25 \sim +70^\circ\text{C}$ .
- Remove periodically metallic dust, water, oils, etc. which are attached or accumulated around the switch, or it may cause malfunction.
- Check if the fittings are free from looseness, unsteadiness, due to vibrations, shocks, etc.
- When the switch does not work or return even if detectable objects are brought close or away from it, check the following.
  - (1) Correct supply voltage
  - (2) Correct wiring and connection
  - (3) Detectable objects are adequate.
  - (4) Things except detectable objects are not close to the switch.
  - (5) Metallic dust, water, oil, etc. do not attach to or accumulate at the detecting surface.
  - (6) Correct sensitivity setting
  - (7) No reciprocal interference
- Avoid using switch in such environment as organic solvent (thinner and so on). The material of case is ABS which is affected by organic solvent.

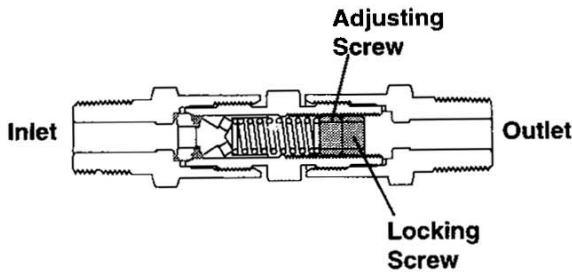


# CA & CPA Series Check Valve Cracking Pressure Adjustment

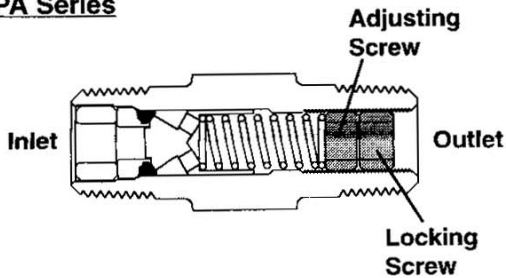
**Tools Needed**

CA & 4CPA 5/32 in. hex key	8CPA 5/16 in. hex key
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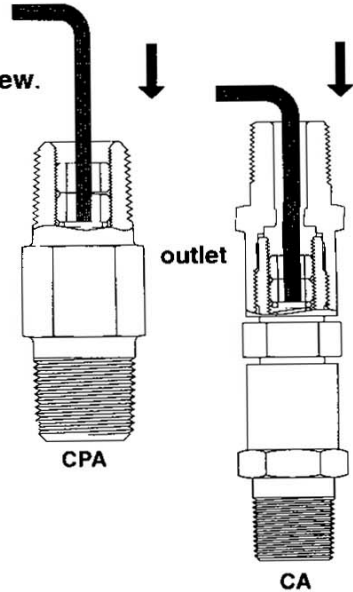
## CA Series



## CPA Series

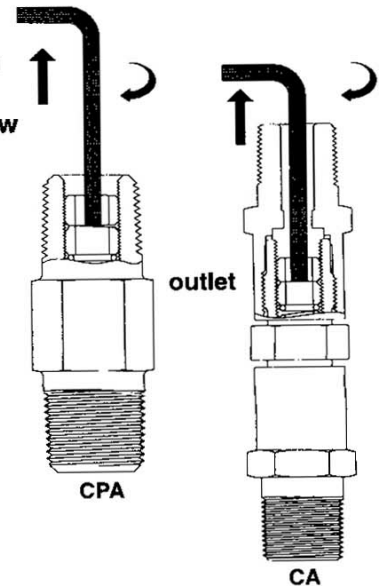


2. Slide wrench down into adjusting screw.



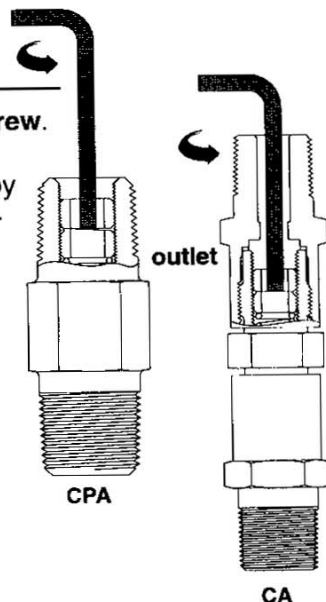
3. Turn both screws to reach desired cracking pressure. (Turn clockwise to increase cracking pressure, counter clockwise to decrease cracking pressure)

4. Slide wrench back up into locking screw and turn clockwise to lock.



1. Insert wrench into locking screw.

Loosen screw by turning counter-clockwise.



5. Verify cracking pressure and adjust screws if required.



NUPRO Company  
4800 E. 345th Street  
Willoughby, Ohio 44094, U.S.A.



# AWS

A DIVISION OF THERMAL CARE, INC  
7720 N. LEHIGH AVE, NILES, IL 60714  
SERVICE AND INSTALLATION ACCEPTANCE FORM

AWS Job #: J14764,14765

Model #: **INKQUALIZER** (TM)

Installation/Start Date: \_\_\_\_\_

1. Installation completed in a timely manner. Yes \_\_\_\_\_ No

COMMENTS:

2. Operator(s) was given proper training on start up and operation of the system.

Yes \_\_\_\_\_ No

COMMENTS:

3. Service manual furnished with the unit. Yes \_\_\_\_\_ No \_\_\_\_\_ Back ordered

4. Replacement of water/glycol mix was demonstrated. Yes \_\_\_\_\_ No \_\_\_\_\_ NA

5. Routine maintenance of system was fully explained. Yes \_\_\_\_\_ No

COMMENTS:

6. GNA has successfully completed all installation and training. Yes \_\_\_\_\_ No \_\_\_\_\_

7. Please list name, address and phone number of your local HVAC company.

Name:

Address:

Phone: \_\_\_\_\_

AWS Service Technician: \_\_\_\_\_ Date:

Customer: \_\_\_\_\_ Date:

**For service questions, please contact the AWS Service Department at: 1-888-828-7387.**