

# Lipstick Camera

## Multiple Mount Process View

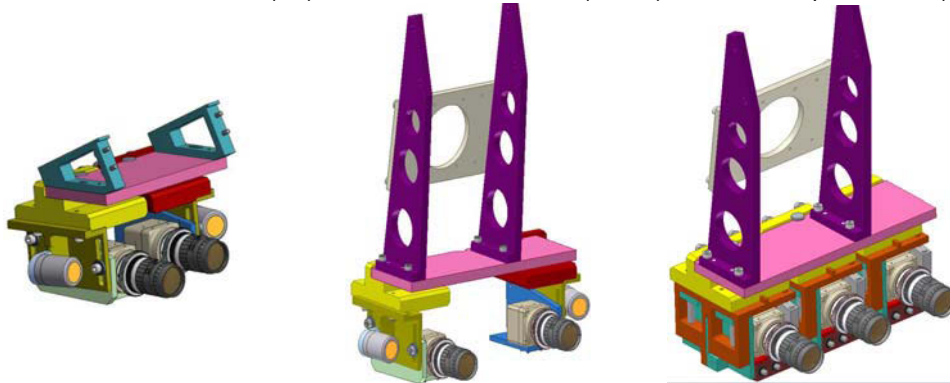
For Camera Models: 22101482, 22101482-0001, 22101482-0003, 22293271, 22293271-0001

### Introduction

The Multiple Mount Process View Lipstick Camera enables the operator to view operations at either two or three head stations on dedicated monitors. Each of the multiple color video cameras is dedicated to a single head.

Adjustments can be made to adapt camera alignment, angle, focal point, and lighting to current conditions. Camera lighting illuminates the viewing area for the lipstick video camera.

**Figure 1:** Multiple Mount Process View Cameras have a camera & light dedicated to each head station. MAX Series dual camera (left). DS Series dual camera (center). DS Series triple camera (right).



### Safety Notices



**WARNING**  
Hazardous voltage  
enclosed.  
Do not attempt to  
open or repair.  
Disassembly and  
repair must be  
performed by  
qualified personnel.

**DANGER:** Risk of Electrical Shock - Do Not Open. Do not attempt to disassemble the camera. There are no user-serviceable parts inside. Refer servicing to qualified service personnel.



**WARNING**  
Hazardous voltage  
enclosed.  
Do not attempt to  
open or repair.  
Disassembly and  
repair must be  
performed by  
qualified personnel.

**DANGER:** Risk of Electrical Shock - Do Not Expose Camera to Moisture. Moisture can damage the camera and can create the danger of electric shock.



**CAUTION:** DO NOT bend, crush, or pinch the camera cable.



**CAUTION:** DO use caution when operating the camera in the vicinity of spot lights or other lights and light-reflecting objects. Never face the camera, whether in use or not, toward the sun.

### Adjustments

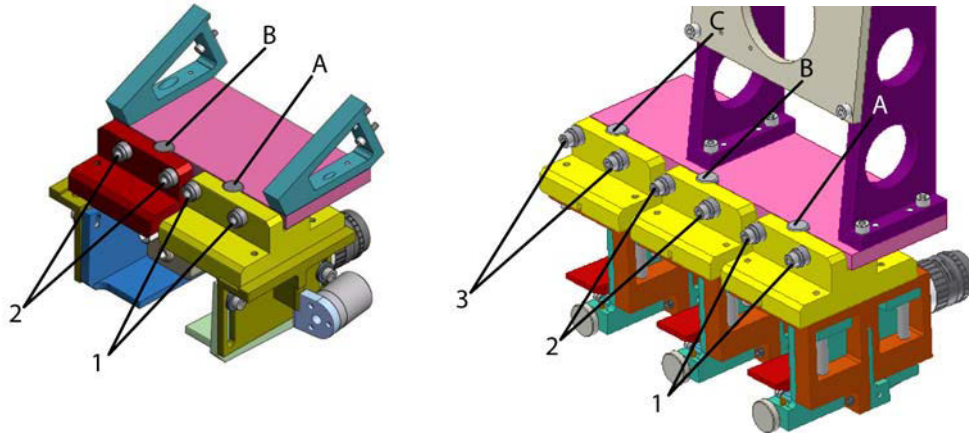
Each camera is factory set on the dispense system to view operations at a specific dispense head. If changes become necessary, you can adjust the following aspects:

- Camera angle and focal point can be altered.
- Camera position may be swiveled into precise alignment with the needle.
- Camera Lamp angle is independently adjustable on dual camera model.

## Camera-to-Needle Alignment

To adjust camera-to-needle alignment, swivel the camera assembly around the swivel screw as follows.

**Figure 2:** Location of Camera-to-Needle Alignment Screws. Dual camera (left). Triple camera (right).



### Camera for Head Station 1

Loosen or tighten adjustment screws (Item 1) and swivel the camera around swivel screw (Item A).

### Camera for Head Station 2

Loosen or tighten adjustment screws (Item 2) and swivel the camera around swivel screw (Item B).

### Camera for Head Station 3

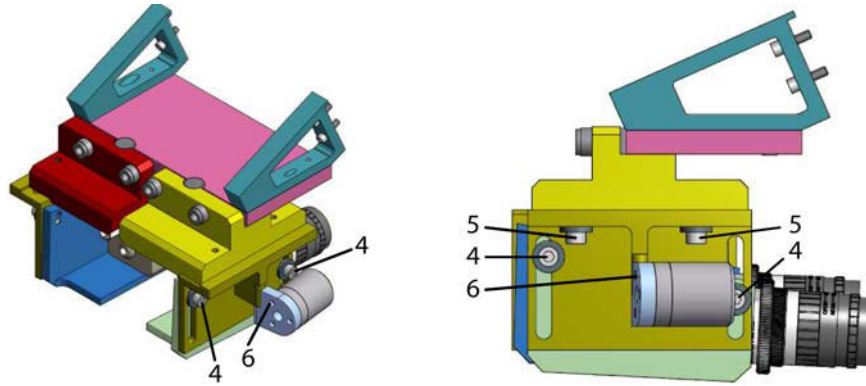
Loosen or tighten adjustment screws (Item 3) and swivel the camera around swivel screw (Item C).

## Camera Angle

Camera angle can be adjusted as follows.

### Dual Camera Model

*Figure 3: Location of Camera Angle Adjustments for Head Station 1*



#### Rotation in X Axis Translational in Z Axis

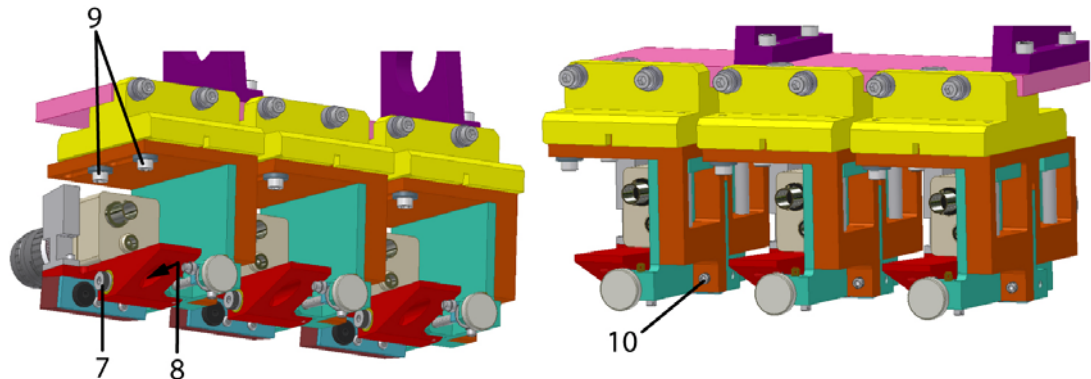
Loosen pair of cap screws (Item 4), adjust camera position, then tighten cap screws.

#### Translational in Y Axis

Loosen pair of cap screws (Item 5), adjust camera position, then tighten cap screws.

### Triple Camera Model

*Figure 4: Location of Camera Angle Adjustments for Head Station 3*



#### Rotation in X Axis

Loosen cap screw (Item 7), adjust camera position with thumbscrew (Item 8), then tighten cap screw.

#### Translational in Y Axis

Loosen pair of cap screws (Item 9), adjust camera position, then tighten cap screws.

#### Translational in Z Axis

Loosen set screw (Item 10), adjust camera position, then tighten set screw.

## Focal Point

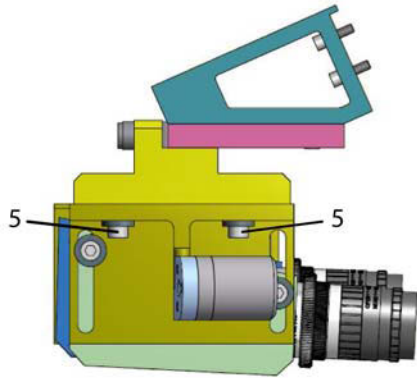
### Dual Camera Model

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To modify coarse focus, loosen the cap screws (Figure 5, Item 5) and reposition the camera forward or backward relative to the pump. Re-tighten the screws.

To modify fine focus, adjust the camera lens setting.

**Figure 5:** Location of Camera Focal Point Adjustment for Head Station 1



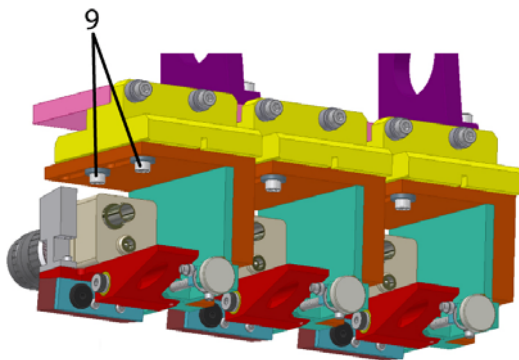
### Triple Camera Model

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To modify coarse focus, loosen the cap screw (Figure 6, Item 9) and reposition the camera forward or backward relative to the pump. Re-tighten the screws.

To modify fine focus, adjust the camera lens setting.

**Figure 6:** Location of Camera Focal Point Adjustment for Head Station 3



## Lamp Angle

### Dual Camera Model

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The angle of the light can be changed relative to the camera by adjusting the position of the lamp mount.

To adjust the angle of the camera lamp relative to the camera, loosen the set screw (Figure 5, Item 6) located at the base of the lamp mount, pivot the lamp until the desired position is achieved, and then re-tighten the set screw.

### Triple Camera Model

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The LED camera lights move in tandem with the camera. Adjusting the camera [Focal Point](#) (pg 4) also adjusts the angle of the camera lighting.

## Maintenance - Daily

After turning off system power:

- Use a soft dry cloth to clean the camera body and lamp body.
- Use pressurized air spray to clean the surface of the camera glass. DO NOT scratch the surface of the glass.
- Use lens cleaning paper to clean the lamp lens.
- While the camera is not in use, keep the lens or lens cap on the camera to prevent dust or contamination from getting in the CCD area and scratching or damaging this area.

## Specifications

### Dual Camera Model (PN 22293271, 22101482-0001)

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#### Lamp

Power supply . . . . . 12VDC, 50 mA

#### Video Camera (Compact NTSC Color CCD Video Camera)

Image sensor . . . . . 1/3 inch Interline CCD, NTSC: ICX408AK

Effective Picture Element 768 (H) x 494 (V)

Chip Size . . . . . 5.59 mm (H) x 4.69 mm (V)

Unit Cell Size . . . . . 6.35  $\mu$ m (H)  $\mu$ m x 7.4  $\mu$ m (V)

Pixel Clock Frequency . 14.318 MHz

Horizontal Frequency . . 15.734 KHz

Vertical Frequency . . . . 59.94 Hz

Scanning Systems . . . . 2:1 interlace

Video Output Level . . . . 1.0 Vp-p / 75 Ohm

Horizontal Resolution . . 480TV Lines

Minimum Scene Illumination 0.17 Lux with F1.2 lens

S/N ratio . . . . . More than 48 dB

$\gamma$  correction . . . . . 0.45

White balance: . . . . . Auto White Balance mode only

Aperture Correction . . . . ON

AGC . . . . . ON

Pixel Blemish Correction ON

Flicker Compensation . . ON/OFF (DIP SW selectable)

Mirror Image . . . . . ON/OFF (DIP SW selectable)

Back Light Compensation ON/OFF (DIP SW selectable)  
Shutter Functions . . . . . 1/60, Electronic Iris (DIP SW selectable)  
Electronic Iris . . . . . 1/60 - 1/100,000 sec  
External Sync. Method . . None  
Power Input Voltage . . . 10.5 - 14.0Vdd  
Power consumption . . . 150 mA at 12Vdc  
Dimensions . . . . . 35 mm (W) x 42.5 mm (H) x 54.5 (D)  
Weight, camera only . . . 63.5 g (2.24 oz)

### **Triple Camera Model (PN 22101482)**

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#### LED Illumination

Power supply . . . . . 12VDC, 60 mA

Video Camera . . . . . same specifications as stated for

[Dual Camera Model \(PN 22293271, 22101482-0001\)](#) (pg 5)

#### Triple Camera Assembly with Mount

Weight . . . . . 3,910 g (137.92 oz)

## **Mechanical Drawings**

- [Dual Process View Camera for MAX Series Dispenser - 22293271](#) (pg 7)
- [Dual Process View Camera for MAX Series Dispenser - 22293271-0001](#) (pg 8)
- [Dual View Process Camera for DS Series Dispenser - 22101482-0001](#) (pg 9)
- [Triple View Process Camera for DS Series Dispenser - 22101482](#) (pg 10)
- [Triple View Process Camera for DS Series OFG Dispenser - 22101482-0003](#) (pg 11)

# Dual Process View Camera for MAX Series Dispenser - 22293271

4      1      3      2      1

REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
-	-	-	ORIGINAL ISSUE

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	22203293	CAMERA MOUNT,Z-ADJ
2	1	22203688	DUAL PROCESS CAMERA_ BASE PLATE
3	1	22203689	DUAL PROCESS VW CMRA_ BKT_ RGT INTRFC
4	1	22203690	DUAL PROCESS VW CMRA_ BKT_ LFT INTRFC
5	1	22203691	DUAL PROC. CMRA_ BASE_ RGT ROTATION
6	1	22203692	DUAL PROC CMRA_ BASE_ LFT ROTATION
7	2	22203693	DUAL PROC CAMERA_ BKT_ Y AND Z ADJUST
8	1	22203694	DUAL PROC CAMERA_ BKT_ RGT_ Y ROTATE
9	1	22293026	CAMERA LIGHT,LIPSTICK,LUXEON
10	1	22293026	CAMERA LIGHT,LIPSTICK,LUXEON
11	2	3700-0188	CAMERA_COLOR_ 1/3CCD_NTSC_BNC
12	2	10/1502	LENS,CAMERA 35MM
13	2	10/1503	FOCUS TUBE 5MM
14	2	10/2176	LENS 2X
15	2	DA50100	DOWEL PIN 1/2 X 1 LONG
16	8	SACSN0632050	6-32 X 1/2 CAP SCREW
17	8	WFRBH010	#10 HARD WASHER
18	4	10/4146	WASHER,SPHERICAL #10SCREW
16	8	SACAN1032050	10-32 X 1/2LG SHCS

TOLERANCES UNLESS OTHERWISE SPECIFIED

	METRIC	INCH
FRACTIONS	± 1/32	± 0.005
XX	± 0.015	± 0.0005
X .XX	± 0.005	± 0.0002
ANGULAR	± 0.5°	± 0.0041
PLACEMENT	± 0.003 T.I.R.	± 0.0001

FINISH

GPD Global

DESCRIPTION

DUAL PROCESS VIEW CAMERA ASSEMBLY

ASSEMBLY

22293271

MATERIAL

DWG NO

22293271

HEAT TREATMENT

DWG SIZE

C

4      1      3      2      1

REV	DATE	BY	DESCRIPTION
-	-	-	ORIGINAL ISSUE



# Dual Process View Camera for MAX Series Dispenser - 22293271-0001

REVISION HISTORY			DESCRIPTION
REV	DATE	BY	ORIGINAL ISSUE
-	-	-	-

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	22203293	CAMERA MOUNT_Z-ADJ
2	1	22203688	DUAL PROCESS CAMERA_BASE PLATE
3	1	22203689	DUAL PROCESS VW CMRA_BKT_RGT INTRFC
4	1	22203690	DUAL PROCESS VW CMRA_BKT_LFT INTRFC
5	1	22203691	DUAL PROC. CMRA_BASE_RGT ROTATION
6	1	22203692	DUAL PROC CMRA_BASE_LFT ROTATION
7	2	22203693	DUAL PROC CAMERA_BKT_Y AND Z ADJUST
8	1	22203694	DUAL PROC CAMERA_BKT_RGT_Y ROTATE
9	2	22293026	CAMERA LIGHT_LIPSTICK_LUXEON
15	2	DA50100	DOWEL PIN 1/2 X 1 LONG
16	8	SACSN0632050	6-32 X 1/2 CAP SCREW
17	8	WFRBH010	#10 HARD WASHER
18	4	10/4146	WASHER_SPHERICAL #10SCREW
16	8	SACAN1032050	10-32 X 1/2LG SHCS
17	2	10/1502	LENS_CAMERA 35MM
18	2	10/1503	FOCUS TUBE 5MM
19	2	10/2176	LENS_2X
20	2	3700-0188	CAMERA_COLOR_1/3CCD_NTSC_BNC

TOLERANCES UNLESS OTHERWISE SPECIFIED		DESCRIPTION
FRACTIONS	± 1/32	DUAL PROCESS VIEW CAMERA ASSEMBLY ASSEMBLY 22293271 MATERIAL
XX	± 0.015	
X .XX	0.0MM ± 0.1MM ± 0.4MM	
ANGULAR	± 0.5°	
FINISH	± 0.003 T.I.R.	
HEAT TREATMENT		DWG NO 22293271-0001
DWG SIZE C		DRAWN BY BTM 12/4/2015 SHEET 1 OF 1



# Dual View Process Camera for DS Series Dispenser - 22101482-0001

REVISION HISTORY				
ZONE	REV	DESCRIPTION	DATE	APPROVED

ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	SACSN1032062	CAP SCREW 10-32 X 5/8LG SST
2	1	22101490	STIFFNER_PROCESS VIEW_3 CAM OPTION
3	12	SACSN1032050	CAP SCREW 10-32 X 1/2LG SST
4	2	22101489	BRACE_PROCESS VIEW_3 CAM OPTION
5	4	DA18050	DOWEL PIN 3/16 X 1/2LG
6	1	22101493	BASE PLATE_PROCESS VIEW_3 CAM OPTION
7	4	SACSN1032125	CAP SCREW 10-32 X 1-1/4LG SST
8	4	10/4146	WASHER_SPHERICAL #10SCREW
9	1	22203691	DUAL PROC. CMRA_BASE_RGT ROTATION
10	2	22203693	DUAL PROC CAMERA_BKT_Y AND Z ADJUST
11	8	WFRBH010	#10 HARD WASHER
12	2	22293026	CAMERA LIGHT_LIPSTICK,LUXEON
13	2	SACSN0256037	SCREW_ALLEN_SS_2-56 X 3/8
14	2	3700-0188	CAMERA_COLOR_1/3CCD_NTSC_BNC
15	1	22203293	CAMERA MOUNT_Z-ADJ
16	8	SACSM020040008	SCR_A.CP.SST.MET.M2X.4_8MM LG
17	2	10/2176	LENS,2X
18	2	10/1503	FOCUS TUBE 5MM
19	2	10/1502	LENS,CAMERA 35MM
20	1	22203694	DUAL PROC CAMERA_BKT_RGT_Y ROTATE
21	1	22203692	DUAL PROC CMRA_BASE_LFT ROTATION
22	2	DA50100	DOWEL PIN 1/2 X 1 LONG

TOLERANCES UNLESS OTHERWISE SPECIFIED		<b>GPD Global</b>
FRACTIONS	METRIC	
XX.XX	0.015	DESCRIPTION PROCESS VIEW 2 STN. 2 CAMERAS_VSWITCH ASSEMBLY DS9100SA MATERIAL ASSEMBLY DWG NO <b>22101482-0001</b>
X.XXX	0.005	
ANGULAR	0.005 T.I.R.	
RUNOUT	0.003 T.I.R.	
FINISH	NA	HEAT TREATMENT NA
		DWG SIZE C
		DRAWN BY MW 11/11/2016 SHEET 1 OF 1

LAST MODIFIED 02/10/2017

# Triple View Process Camera for DS Series Dispenser - 22101482

REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
-	-	-	ORIGINAL ISSUE

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	6	00_0036	BEARING,FLANGE,BRZ 1/4ID X 3/8OD X 1/4L
2	6	10/4146	WASHER,SPHERICAL #10SCREW
3	6	10_3743	SCREW SET 10-32X3/8 BRASS TIPPED
4	3	22101494	PROCESS VIEW TRIPLE_CAM SWIVEL
5	3	22101495	PROCESS VIEW TRIPLE_SPINDLE BASE
6	3	22101496	PROCESS VIEW TRIPLE_CAMERA INTRFC
7	3	22101499	PROCESS VIEW TRIPLE_LIGHT RISER
8	3	22101500	PROCESS VIEW TRIPLE_MOUNT MODS
9	6	2525-0044	BOLT_SHOULDER 1/4" 1 1/2 10-24
10	3	2525-0045	BOLT_SHOULDER 1/4 1 3/4 10-24
11	3	DA50100	DOWEL PIN 1/2 X 1 LONG
12	3	G6504	SHIM_SS WASHER 1/4ID 3/8OD
13	6	L0301	BUSHING, DU - 1/4 ID X 1/4 LG
14	3	10_4892	GROMMET 1/8"THRU 1/2" OVERALL
15	3	22101487	HOUSING_LIGHT BAR PROCESS VIEW
16	3	22101488	COVER_LIGHT BAR PROCESS VIEW
17	9	LED ASSY	
18	6	SABSN0440025	SCREW,BUTTON HEAD,4-40 X 1/4 SST
19	6	PBT-0119	SPRING ANCHOR - 6-32
20	6	SACAN1032050	10-32 X 1/2LG SHCS
21	6	SACSN0440025	CAP SCREW 4-40 X 1/4LG SST
22	6	WFRBH010	#10 HARD WASHER
23	6	10_4326_NO NUT	CAM FOLLOWER .250 X .109W
24	3	22101497	PROCESS VIEW_TRIPLE_DRIFT SCREW
25	3	22101498	PROCESS VIEW_TRIPLE_CAM BLOCK
26	3	G1596	RING,RETAINING,E-STYLE .250SHAFT,.025THK
27	3	L0001	BEARING,SLEEVE,DU 1/8IDX3/16ODX3/16L
28	3	L0301	BUSHING, DU - 1/4 ID X 1/4 LG
29	3	S7012	WASHER WAVE .269ID .423OD .07HGT
30	1	22101493	BASE PLATE PROCESS VIEW_3 CAM OPTION
31	2	22101489	BRACE PROCESS VIEW_3 CAM OPTION
32	1	22101490	STIFFNER PROCESS VIEW_3 CAM OPTION
33	4	DA18050	DOWEL PIN 3/16 X 1/2LG
34	8	SACSN1032050	CAP SCREW 10-32 X 1/2LG SST
35	6	SACSN1032075	CAP SCREW 10-32 X 3/4LG SST

LAST REVISED 11/08/2016		<b>GPD Global</b>
<small>TOLERANCES UNLESS OTHERWISE SPECIFIED</small> FRACTIONS ± .125 METRIC .XXX ± 0.015 0.1MM ± 0.1MM X.XXX ± 0.005 0.01MM ± 0.04MM ANGULAR ± 0.5° 0.00MM ± 0.1MM FINISH ± 0.003 T.R.		
DESCRIPTION PROCESS VIEW 3 STATION 3 CAMERAS ASSEMBLY DS SERIES PROCESS VIEW MATERIAL AS NOTED DWG NO <h2 style="text-align: center;">22101482</h2>		
HEAT TREATMENT NA	DWG SIZE C	DRAWN BY BM 10/26/2016 SHEET 1 OF 1

# Triple View Process Camera for DS Series OFG Dispenser - 22101482-0003

REVISION HISTORY			
REV	DATE	BY	DESCRIPTION
-	-	-	ORIGINAL ISSUE

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	6	00_0036	BEARING,FLANGE,BRZ 1/4ID X 3/8OD X 1/4L
2	6	10/4146	WASHER,SPHERICAL #10SCREW
3	6	10_3743	SCREW SET 10-32X3/8 BRASS TIPPED
4	3	22101494	PROCESS VIEW TRIPLE_CAM SWIVEL
5	3	22101495	PROCESS VIEW TRIPLE_SPINDLE BASE
6	3	22101496	PROCESS VIEW TRIPLE_CAMERA INTRFC
7	3	22101499	PROCESS VIEW TRIPLE_LIGHT RISER
8	3	22101500	PROCESS VIEW TRIPLE_MOUNT MODS
9	6	2525-0044	BOLT_SHOULDER 1/4" 1 1/2 10-24
10	3	2525-0045	BOLT_SHOULDER 1/4 1 3/4 10-24
11	3	DA50100	DOWEL PIN 1/2 X 1 LONG
12	3	G6504	SHIM_SS WASHER 1/4ID 3/8OD
13	6	L0301	BUSHING, DU - 1/4 ID X 1/4 LG
14	3	10_4892	GROMMET 1/8"THRU 1/2" OVERALL
15	3	22101487	HOUSING_LIGHT BAR PROCESS VIEW
16	3	22101488	COVER_LIGHT BAR PROCESS VIEW
17	9	LED ASSY	
18	6	SABSNO440025	SCREW,BUTTON HEAD,4-40 X 1/4 SST
19	6	PBT-0119	SPRING ANCHOR - 6-32
20	6	SACAN1032050	10-32 X 1/2LG SHCS
21	6	SACSN0440025	CAP SCREW 4-40 X 1/4LG SST
22	6	WFRBH010	#10 HARD WASHER
23	6	10_4326_NO NUT	CAM FOLLOWER .250 X .109W
24	3	22101497	PROCESS VIEW_TRIPLE_DRIFT SCREW
25	3	22101498	PROCESS VIEW_TRIPLE_CAM BLOCK
26	3	G1596	RING,RETAINING,E-STYLE .250SHAFT,.025THK
27	3	L0001	BEARING,SLEEVE,DU 1/8IDX3/16ODX3/16L
28	3	L0301	BUSHING, DU - 1/4 ID X 1/4 LG
29	3	S7012	WASHER WAVE .269ID .423OD .07HGT
30	1	22101493	BASE PLATE PROCESS VIEW_3 CAM OPTION
31	2	22101489	BRACE PROCESS VIEW_3 CAM OPTION
32	1	22101490	STIFFNER PROCESS VIEW_3 CAM OPTION
33	4	DA18050	DOWEL PIN 3/16 X 1/2LG
34	8	SACSN1032050	CAP SCREW 10-32 X 1/2LG SST
35	6	SACSN1032075	CAP SCREW 10-32 X 3/4LG SST

LAST REVISED 11/08/2016		<b>GPD Global</b>
<small>TOLERANCES UNLESS OTHERWISE SPECIFIED</small> FRACTIONS ± .125 METRIC .XXX ± 0.015 0.1MM ± 0.1MM X.XXX ± 0.005 0.1MM ± 0.4MM ANGULAR ± 0.5° 0.00MM ± 0.1MM FINISH ± 0.003 T.R.		
DESCRIPTION PROCESS VIEW 3 STATION 3 CAMERAS ASSEMBLY DS SERIES PROCESS VIEW		<b>22101482</b> DWG NO
MATERIAL AS NOTED		
HEAT TREATMENT NA		DRAWN BY BM 10/26/2016 SHEET 1 OF 1