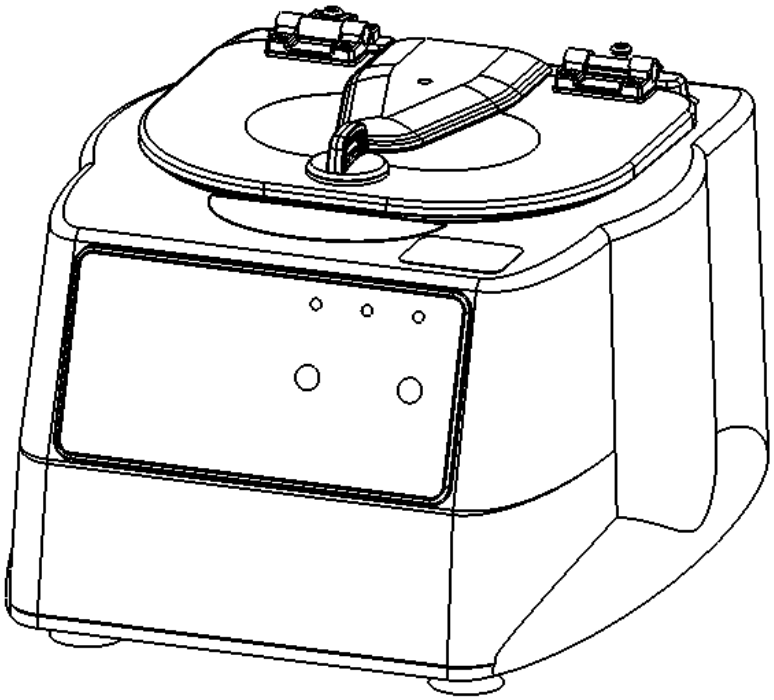
Service Manual

Model Dash Coag Centrifuge



CONTENTS

1 PREFACE

1.1 The purpose of this manual is to provide the service technician with information for troubleshooting, testing, and repair of laboratory centrifuge model Apex 6. Only qualified technically trained personnel should attempt any of the servicing described in this document. Failure to follow the procedures in this document may result in personal injury or instrument damage. Drucker Diagnostics will not be held liable for any injury or damage as a result of improper servicing.

1.2 Information contained within this manual is subject to change without notice.

2 GENERAL DESCRIPTION OF MAJOR COMPONENTS

2.1 Motor: Brushless DC Motor

2.2 Printed Circuit Board: The PCB is the microcontroller based control center of the centrifuge. All control signals are generated in the PCB.

2.3 Lid Locking Tray Assembly: The lid tray assembly contains a solenoid and limit switch that are used to determine the state of the lid (Open or Closed) and to keep the lid locked during centrifugation cycles.

2.4 Rotor: The centrifuge rotor is the main component that spins in the centrifuge. The rotor is loaded with tube holders, and the samples are placed into the tube holders for processing.

3 WARRANTY INFORMATION

3.1 Drucker Diagnostics warrants its centrifuges to be free from defects in workmanship and parts for two years.

4 SPECIFICATIONS

	Dash Coag	
	Centrifuge Serial Number containing: YYMM79AA001	Centrifuge Serial Number containing: YYMM46AA001
Maximum Speed	6600 RPM	
Maximum RCF	4400 xg	
Maximum Capacity	12 Tubes (16 x 100mm)	
Dimensions (in)	9.0 (H) x 12.0 (W) x 14.0 (L)	
Ambient Temperature	5 – 40 deg C	
Typical Noise Level (At Maximum Speed)	< 62 db A	

Supply Voltage	100 – 240 (+/- 10%) VAC (+/- 10V) power supply input (48VDC output)
Supply Frequency	50 – 60 Hz
Current Consumption	2.2A at 115VAC 1.1A at 230VAC

5 TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION
The lid does not open.	No Power	Check line cord.
	No Power	Check external power supply.
	No Power	Check wall outlet.
	Lid knob is ajar	Rotate the lid knob fully clockwise before pressing the 'OPEN' button.
	Lid lock is active (Unlock timed out)	Press the 'OPEN' button to de-activate the lid.
	Lid tray is unplugged from PCB or defective	Requires service.
	PCB is damaged	Requires service.
		To gain access to the rotor - Remove the 'OPEN/CLOSE' sticker and slide the lid latch lever toward the front of the centrifuge. This will unlock the lid.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Excessive vibration	Rotor improperly loaded	Load equally filled tubes symmetrically in the rotor. All carriers and/or tube holders must be present in the rotor, whether loaded, or empty.
	Debris lodged within the rotor or tube carriers	Carefully inspect all rotor pockets, tube holders and crevasses for debris.
	Centrifuge housing is loose	Requires service.
	Missing/damaged feet	Requires service.
	Motor failure	Requires service.
	Rotor windshield damage	Requires service.
	Rotor damaged	Replacement required.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Rotor does not spin	No Power	Check line cord.
	No Power	Check external power supply.
	No Power	Check wall outlet.
	Lid not properly latched	Press down firmly on lid and rotate lid knob clockwise until the 'Locked' light illuminates.
	Internal connection failure	Requires service.
	PCB failure	Requires service.
	Motor Failure	Requires service.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Clicking noise during braking	Rotor is loose	Tighten rotor screw.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Whistling noise while running	Debris in air intake / exhaust ports	Remove power before clearing debris.
	Gasket failure	Requires service.
	Gasket failure	Requires service.

6 SERVICE INSTRUCTIONS

6.1 Cleaning

a) Use appropriate Personal Protective Equipment (PPE)

b) The cabinet, rotor top and accessories shall be thoroughly cleaned using soap and water, isopropyl alcohol, or a mild bleach solution.

c) Apply cleaning solutions with a dampened towel or cloth ONLY. Do not spray or pour cleaning solution directly onto or into the centrifuge. Do not saturate or submerge the

centrifuge in water or other cleaning solutions as this will cause damage, create a safety risk; and void the warranty.

d) Under no circumstances should any of the following be used: Fully/Partially Halogenated Hydrocarbons, Ketones and Esters.

e) Use of any chemicals not prescribed by the manufacturer may cause damage to the rotor and tube carriers / holders and shall not be used.

6.2 Removing the Rotor

a) Use a 1/8” hex driver to loosen the center rotor screw (turn counter-clockwise).

b) Lift the rotor core straight up and out of the rotor chamber.

c) To install the rotor core reverse steps A and B above.

d) Take care to align the rotor with the motor cross pins. If unsure, purposefully place it into the lower assembly so that it is not on the motor cross pin and spin the rotor until you hear it drop onto the cross pins.

e) Tighten the rotor screw with a 1/8” hex driver to 3.5 Nm.

6.3 Maintaining the Rotor

a) Keep the rotor clean; any corrosive materials must not be allowed contact with the rotor and should be cleaned immediately.

b) The rotor should be checked periodically for signs of wear.

c) Remove the rotor from service if any of the following are found: cracks, deep scratches, corrosion or discoloring.

6.4 Rotor Screw

a) If the rotor screw needs to be tightened, use a 1/8” hex driver and tighten to 3.5 Nm.

6.5 Speed Calibration

a) Check the centrifuge speed periodically, at least every two years is recommended.

b) No calibration adjustment of speed can be made, only a verification of rotor speed.

6.6 Removing the Cabinet (Upper Housing)

a) There are six screws that fasten the centrifuge cabinet to the base.

b) Begin by unplugging the centrifuge and waiting 10 minutes for internal voltages to dissipate.

c) Use a #2 Phillips screwdriver to remove the cabinet screws (three on the back, six on the underside).

d) The centrifuge control panel is attached to the base internally with cable harnesses. Be careful not to stress the cables when removing the cabinet.

e) Stand directly in front of the centrifuge and lift the cabinet straight up and off the base, setting it down on its right side.

f) Gently remove the motor harness from the PCB.

g) Gently remove the power supply harness from the PCB.

h) Disconnect the PCB grounding strap from the base panel using a 11/32” nut driver.

6.7 Replacing the Lid Tray Assembly

a) The lid tray assembly is accessible once the cabinet has been removed.

b) The lid tray assembly is held in place with four screws.

c) Peel the ‘open/close’ label off of the cabinet.

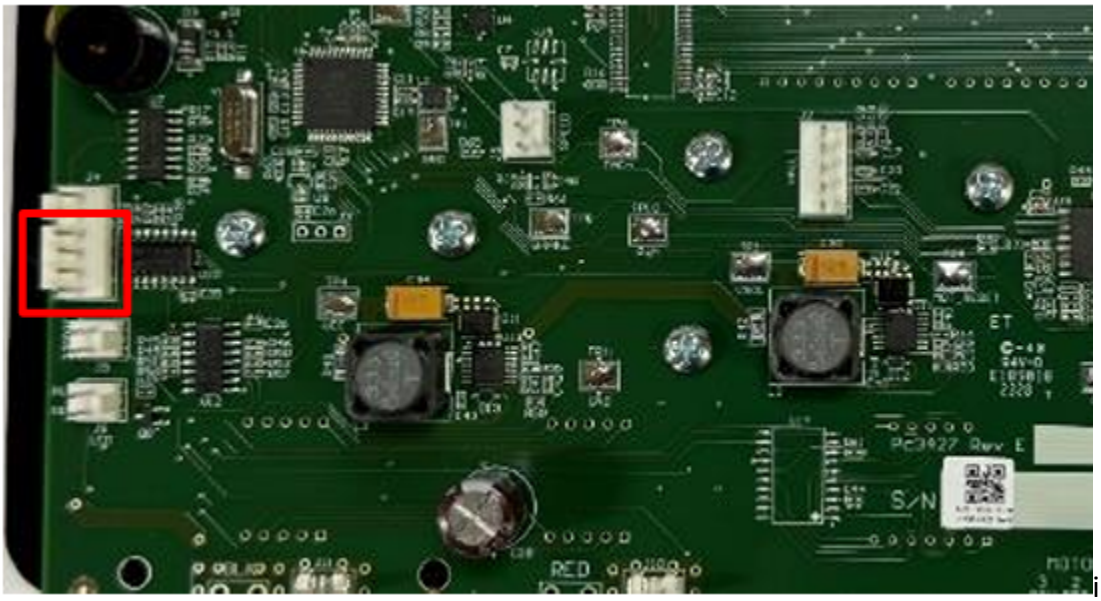
d) Use a #2 Phillips screwdriver to remove the two lid tray screws concealed beneath the label.

e) Gently remove the lid tray wire harness from the PCB.

f) Use a #2 Phillips screwdriver to remove the two lid tray screws inside the cabinet

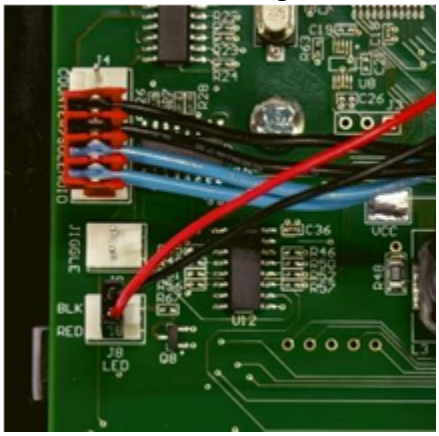
g) To install the lid tray, reverse steps F through C above

h) Complete the installation by gently plugging the lid tray wire harness into the PCB header ‘J2’, as shown in the image below.



i)

i) Connect the lid LED light connector to the PCBA as shown in the image below.

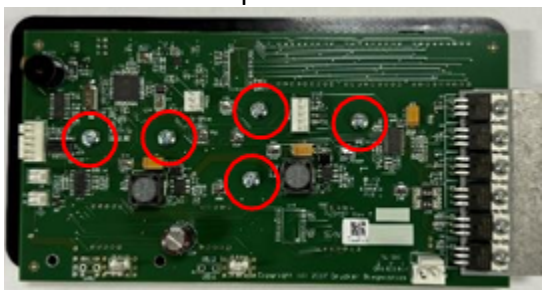


6.8 Replacing the PCB

a) The PCB is accessible once the cabinet has been removed. Make certain that all wire harnesses have been disconnected.

b) The PCB has capacitors that will remain charged for a period after the centrifuge is unplugged. Make certain to use standard precautions for handling potentially charged capacitors when working with the PCB.

c) The PCB is held in place with five #6 screws, as shown in the below image



d) Use a #2 screwdriver to remove the PCB screws. The screw on the lower left corner of the PCB also secures the grounding strap.

e) To install the PCB, align the PCB with the mounting standoffs of the front panel.

f) Use a #2 screwdriver to install the PCB screws. Ensure the grounding strap is installed at the lower left corner of the PCB.

g) Important: over tightening the PCB screws can cause malfunction by stripping the screw threads away from the plastic mounting boss.

6.9 Replacing the Rotor

a) The rotor is accessible once the cabinet has been removed.

b) The rotor is held in place with the rotor screw and washer.

c) Use a 1/8” hex driver to remove the center rotor screw and washer (turn counter-clockwise).

d) Pull up on rotor to remove from guard bowl.

e) Place new rotor onto motor cross pins and fully seat inside the guard bowl. If unsure of this, purposefully place into the lower assembly so that it is not on the cross pin and spin the rotor until you hear it drop onto the cross pins.

f) Place washer onto center of rotor core and insert rotor screw. Use a 1/8” hex driver and tighten to 3.5 Nm.

6.10 Replacing the Motor for centrifuge serial number containing: YYMM79AA001

a) Make certain that a new rubber gasket is used on the motor mounting studs when installing a motor.

b) Position the motor assembly so its wires are adjacent to the notch in the bottom rim of the guard bowl.

c) Install the motor and gasket into the guard bowl with the wire harness positioned as described above.

d) Secure the motor to the guard bowl using four #8 washers and four #8 Nylok nuts.

e) Drive the four #8 Nylok nuts onto the motor studs with an 11/32” nut driver.

f) Turn the guard bowl assembly upside down.

g) Place the base assembly onto the guard bowl.

h) Ensure the motor wires pass through the notch in the bottom rim of the guard bowl.

i) Ensure the guard bowl and base assembly are oriented such that the motor wires exit the guard bowl closest to the back left corner of the base assembly.

j) **IMPORTANT: Make certain that no wires are pinched between the guard bowl and base!**

k) Fasten the guard bowl to the base with six #8 thread cutting screws.

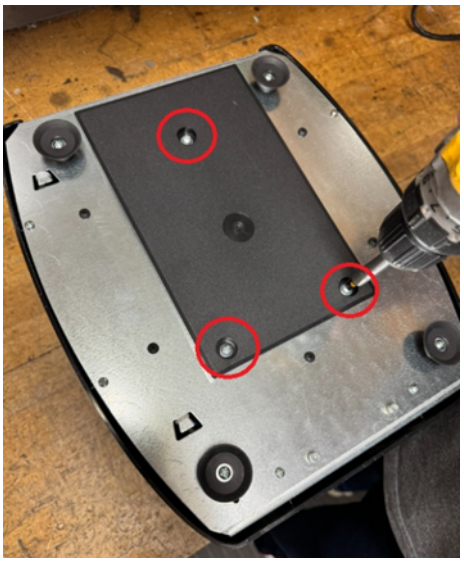
l) Install the exhaust air cover with three #8 screws and washers.

m) Secure the wire harnesses to the base assembly with zip ties.

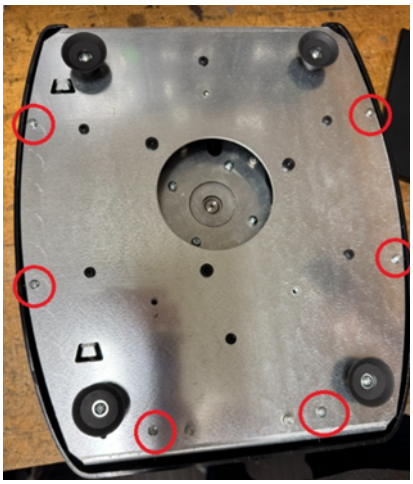
n) The lower assembly is complete.

6.11 Replacing the Motor for centrifuge serial number containing: YYMM46AA001

6.11.1 With the bottom of the unit exposed, remove the three SEMS screws securing the exhaust cover to the machine's base.



6.11.2 Remove the six screws located around the perimeter of the bottom panel.



6.11.3 Carefully return the unit to an upright position (resting on its feet) and remove the three screws for the rear cabinet panel.

6.11.4 Lay the detached cabinet on its side and disconnect the following connections from the PCB:

6.11.5 Drive the four #8 Nylok nuts onto the motor studs with an 11/32” nut driver.

6.11.6 Turn the guard bowl assembly upside down.

6.11.7 Place the base assembly onto the guard bowl.

6.11.8 Ensure the motor wires pass through the notch in the bottom rim of the guard bowl.

6.11.9 Ensure the guard bowl and base assembly are oriented such that the motor wires exit the guard bowl closest to the back left corner of the base assembly.

6.11.10 **IMPORTANT: Make certain that no wires are pinched between the guard bowl and base!**

6.11.11 Fasten the guard bowl to the base with six #8 thread cutting screws.

6.11.12 Install the exhaust air cover with three #8 screws and washers.

6.11.13 Secure the wire harnesses to the base assembly with zip ties.

6.11.14 The lower assembly is complete.

6.12 Power Connections and Final Assembly

a) Make certain that the lower assembly is unplugged from the external power supply.

b) Connect the motor/power connector to J14 on the PCB.

c) Connect the motor/hall sensor connector to J10 on the PCB.

d) Connect the power supply harness connector to J17.

e) Connect the grounding strap to the base assembly using a 11/16” nut driver.

f) Carefully place the cabinet onto the base taking care not to pinch any wires between the two.

g) Complete the assembly by replacing the nine screws and three washers using a #2 Phillips screwdriver.

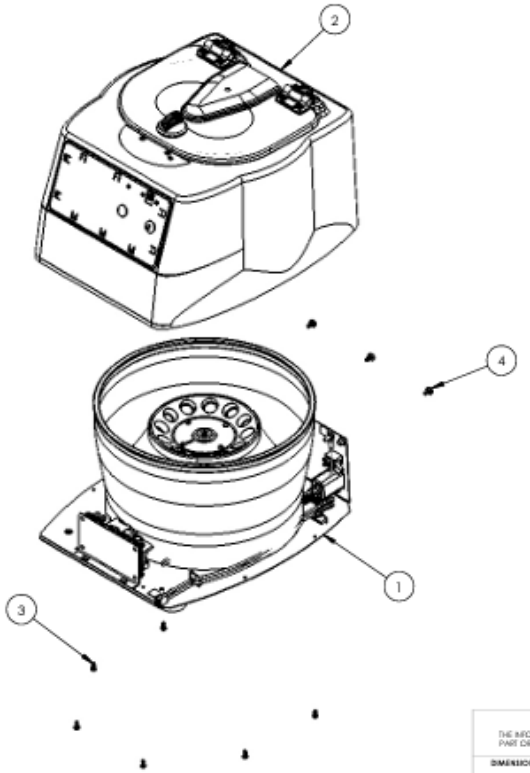
7 ASSEMBLY DRAWINGS - DASH COAG SERIAL NUMBER CONTAINING: YYMM79AA001

7.1 FINAL CENTRIFUGE ASSEMBLY

7.1.1 Reference drawing 01-676-109-002

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	02-003-0-0141	DASH APEX 6 LOWER ASSEMBLY
2	1	02-002-0-0136	DASH COAG CABINET & LID ASSY, VARIABLE LED PCBA
3	6	30-000015	SCREW, 6-19 X 5/16", THREAD FORMING, PAN HEAD
4	3	30-000089	SCREW, SEMS, 8-32 X 3/8, PH, SQUARE CONE WASHER

REV.	DESCRIPTION	DATE	ORIGINATOR
A	INITIAL RELEASE - SEE DR-9316		SLH



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DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS NOTED:
FRACTIONAL - ±1/64
.XX - ± .01
.XXX - ± .005
.XXXX - ± .0005
ANGLES - 1°

MATERIAL: --
FINISH: --

DRAWN BY: S HUDSON 8/16/2024
APPROVED BY: C IVORY 8/16/2024

MACHINE SERIES: DASH COAG
FOR MATERIAL SEE CHART: INSPECT

DRUCKER DIAGNOSTICS

DASH COAG FINAL ASSY, TALL ROTOR

SIZE B | DWG. NO. 01-676-109-002

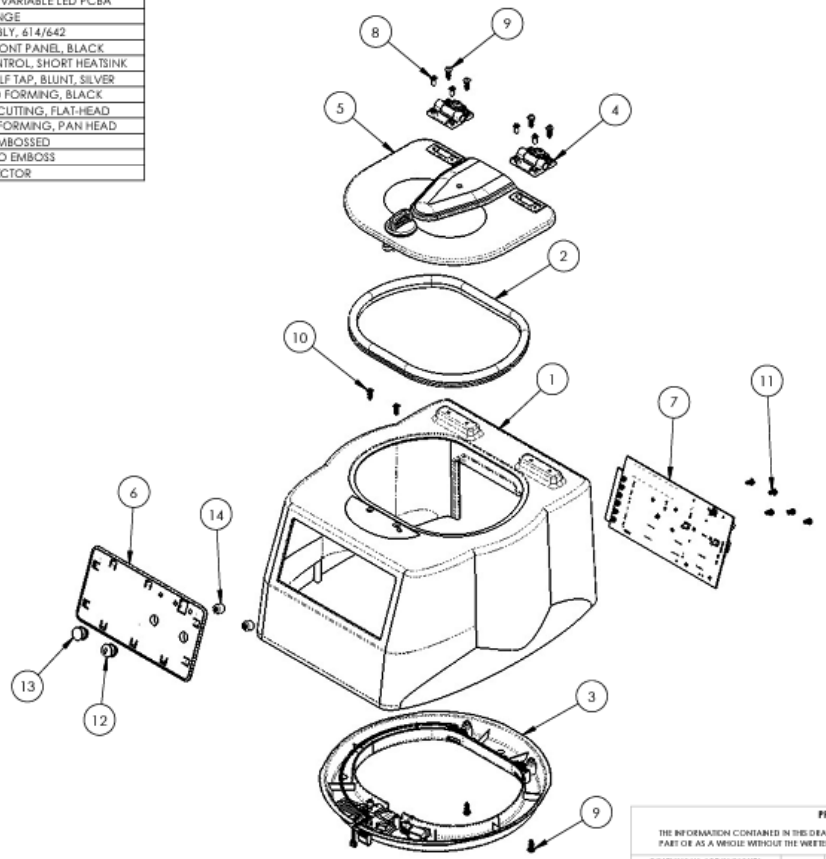
AS COMPLETED MUST BE ROHS COMPLIANT | NTS | SHEET 1 OF 1

CABINET ASSEMBLY

7.1.2 Reference drawing 02-0020-0136

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	03-1-0002-0068	MOLDED CABINET, 600/800, BLACK
2	2.42'	7732018	MOTOR WELL GASKET
3	1	02-002-1-0114	DASH APEX 6 LID TRAY ASSY, VARIABLE LED PCBA
4	2	7724071	FRICTION HINGE
5	1	02-002-1-0027	MOLDED LID ASSEMBLY, 614/642
6	1	03-1-0002-0069	DASH/HORIZON PLASTIC FRONT PANEL, BLACK
7	1	02-006-0-0028MOD_HS	PCBA, BLDC, V/E, FULL LED CONTROL, SHORT HEATSINK
8	4	3012004	SCREW, #6 x .375, PH/PHIL, SELF TAP, BLUNT, SILVER
9	6	30-000013	SCREW, 8-16 X 1/2", THREAD FORMING, BLACK
10	2	30-000014	SCREW, 8-32 X 1/2", THREAD CUTTING, FLAT-HEAD
11	5	30-000015	SCREW, 6-19 X 5/16", THREAD FORMING, PAN HEAD
12	1	03-1-0002-0089	BUTTON COVER,EMBOSSED
13	1	03-1-0002-0090	BUTTON COVER, NO EMBOSS
14	2	03-1-0002-0099	BUTTON PROTECTOR

REV.	DESCRIPTION	DATE	ORIGINATOR
A	INITIAL RELEASE - SEE DR-8406	11/18/2022	SLH
B	PCBA SWAP - SEE DR-9630		SLH



DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS NOTED:
FRACTIONAL - ±1/64
.XX - ± .01
.XXX - ± .005
.XXXX - ± .0005
ANGLES - 1°

	NAME	DATE
DRAWN BY	S HUDSON	11/7/2022
APPROVED BY	C IVORY	11/7/2022

MACHINE SERIES: DASH COAG & APEX 6
FOR INTERNAL USE ONLY: INSPECT

MATERIAL: –
FINISH: –

DRUCKER DIAGNOSTICS

DASH COAG/APEX 6
CABINET & LID ASSEMBLY

SIZE B | DWG. NO. 02-002-0-0136
ALL COMPONENTS MUST BE ROHS COMPLIANT | NTS | SHEET 1 OF 1

7.2 LOWER ASSEMBLY

7.2.1 Reference drawing 02-003-0-0141

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	02-003-1-0039	DASH APEX 6 BASE ASSEMBLY
2	1	02-005-1-0014	DASH COAG MOTOR ASSEMBLY
3	1	03-1-0004-0037	GUARD BOWL, MOLDED, 600 SERIES
4	1	03-1-0004-0036	GASKET, MOLDED GB
5	1	7713027	EXHAUST AIR DEFLECTOR
6	2	7732009	EXHAUST GASKET
7	1	02-001-0-0027	DASH COAG ROTOR ASSEMBLY, TALL
8	1	30-000069	ROTOR WASHER
9	1	30-000080	FHSCS, STAINLESS, BLACK OXIDE, 10-32 X 3/4"
10	3	3012007	SCREW, PHILLIPS, 8-32, 0.50 LONG
11	7	3033003	WASHER #8, FLAT, SILVER
12	6	30-000013	SCREW, 8-16 X 1/2", THREAD FORMING, BLACK
13	4	3022003	8/32 NYLOCK NUT
14	2	3033012	#8 INTERNAL TOOTH WASHER
15	2	3022001	NUT, HEX, 8-32
16	4	7724037	614/642 #8-32 SUCTION FOOT
17	2	3094002	TIES, PLASTIC, SELF LOCKING, 4.0"
18	2	30-000110	PHMS, 4-40 X 5/16", SS, BLACK
19	1	03-1-0005-0194	AC LINE FILTER, 250V, 3A
20	1	03-1-0002-0095	BRACKET, IPS, W/ INSERTS
21	2	30-000089	SCREW, SEMS, 8-32 X 3/8, PH, SQUARE CONE WASHER
22	1	03-1-0005-0192	INTERNAL POWER SUPPLY, 225W, 48V
23	4	30-000127	PHMS, SS, W/SPRING WASHER, 4-40 X 1/4"
24	4	30-000128	NYLON PLASTIC WASHER, #4, .250 OD
25	1	03-1-0005-0223	APEX 6 POWER HARNESS IPS TO PCBA
26	1	03-1-0005-0227	POWER HARNESS, AC INLET TO IPS
27	1	03-1-0005-0228	GROUND WIRE ASSEMBLY
28	1	03-1-0005-0118	POWER SWITCH
29	1	03-1-0005-0220	POWER HARNESS, AC INLET TO SWITCH
30	1	0000-099-172	LOCTITE 242
31	1	03-1-0010-0147	WARNING SYMBOL LABEL
32	2	7724002	GROUND LABEL

REV.	DESCRIPTION	DATE	ORIGINATOR
A	INITIAL RELEASE - SEE DR-9316	6/6/2024	SLH

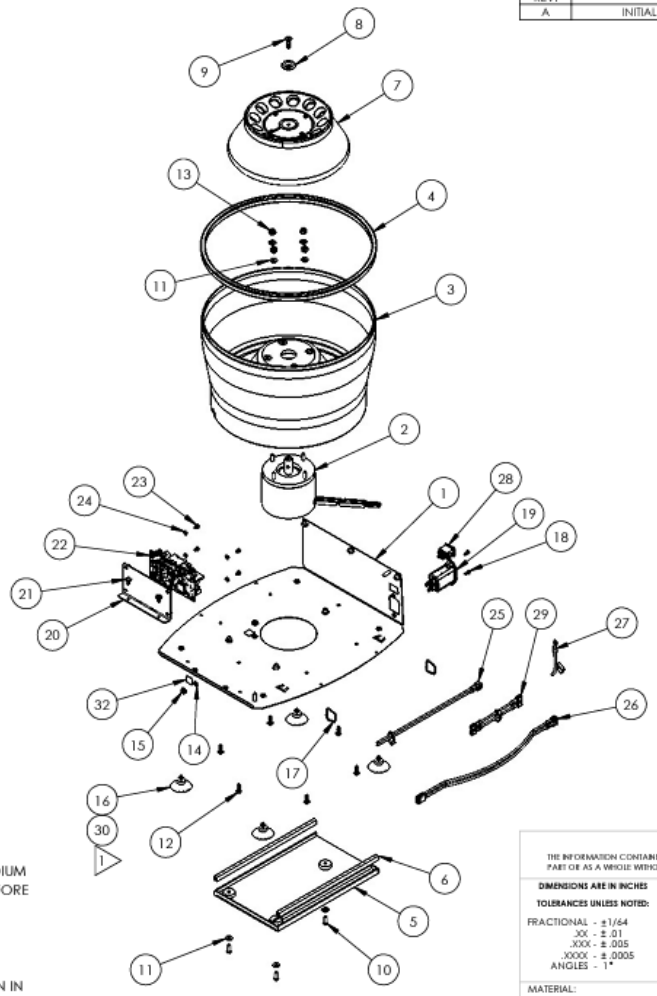
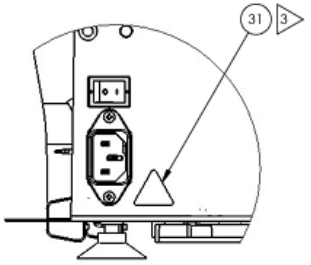


FIGURE 2



NOTES:

1. FOLLOWING THE MANUFACTURER'S INSTRUCTIONS FOR USE, APPLY A MEDIUM STRENGTH THREAD LOCKER TO THE THREADS OF EACH SUCTION FOOT BEFORE ASSEMBLY.
2. ASSEMBLE PER MP358
3. APPLY WARNING LABEL (31) TO REAR OF BASE NEAR AC INLET AS SHOWN IN FIGURE 2

DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS NOTED:
FRACTIONAL - ±1/64
.XX - ±.01
.XXX - ±.005
.XXXX - ±.0005
ANGLES - 1°

	NAME	DATE
DRAWN BY	S HUDSON	5/30/2024
APPVD BY	C IVORY	5/30/2024

MACHINE SERIES: DASH COAG
FOR INTERNAL USE ONLY: INSPECT

MATERIAL: --
FINISH: --

DRUCKER DIAGNOSTICS

DASH COAG LOWER ASSEMBLY, TALL

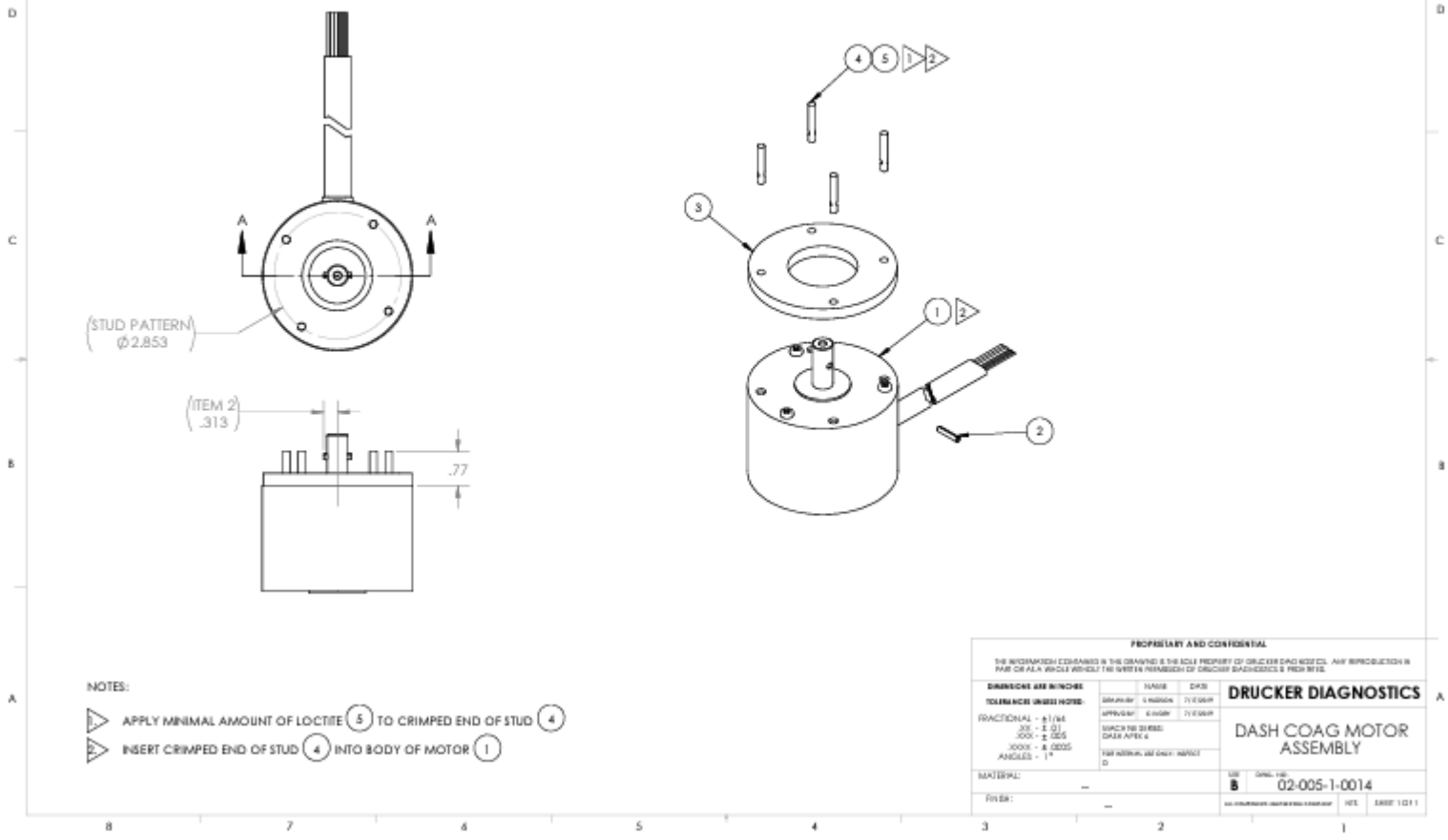
SIZE B | DWG. NO. 02-003-0-0141
ALL COMPONENTS MUST BE ROHS COMPLIANT | NTS | SHEET 1 OF 1

7.3 MOTOR ASSEMBLY

7.3.1 Reference drawing 02-005-1-0014

ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	08-1-0334-0014	NINGBO 35W MOTOR
2	1	30403313	1/8 x 5/8 ROLL PIN
3	1	08-1-0334-0006	BLADE MOTOR MOUNT SEAL
4	4	30-0100014	CRIMPED THREADED STUD, 8-32 X 1 X .23 CRIMP, SST
5	A/R	0203-0199-172	LOCTITE 242

REV.	DESCRIPTION	DATE	ORIGINATOR
A	INITIAL RELEASE - SEE DR-4713	7/17/2019	SLH
B	UPDATE MOTOR IMAGE - SEE DR-7095	1/30/2020	SLH
C	NINGBO MOTOR SWAP - SEE DR-9163	3/8/2024	SLH



NOTES:

1. APPLY MINIMAL AMOUNT OF LOCTITE (5) TO CRIMPED END OF STUD (4)
2. INSERT CRIMPED END OF STUD (4) INTO BODY OF MOTOR (1)

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DRUCKER DIAGNOSTICS

DASH COAG MOTOR ASSEMBLY

SIZE B — 02-005-1-0014

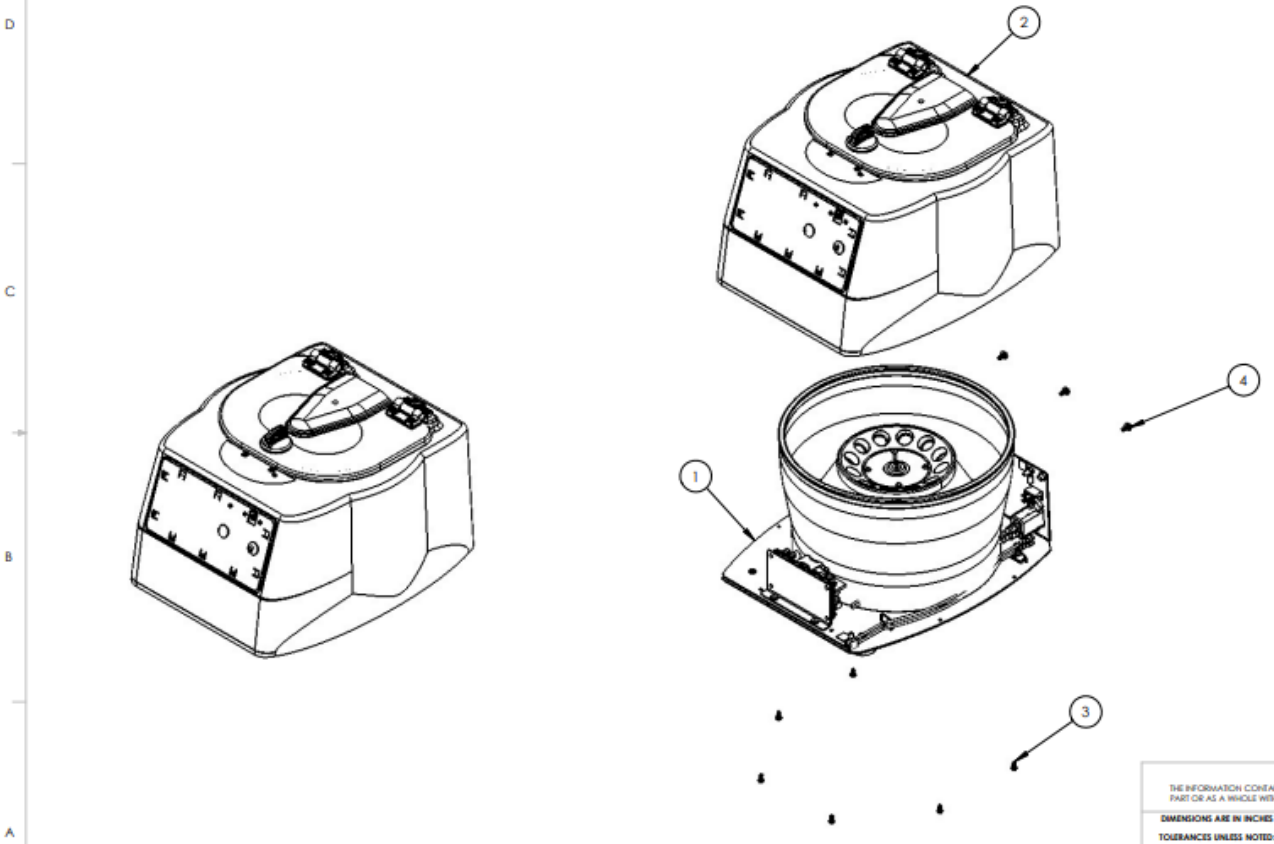
8 ASSEMBLY DRAWINGS - DASH COAG SERIAL NUMBER CONTAINING: YYMM46AA001

8.1 FINAL CENTRIFUGE ASSEMBLY

8.1.1 Reference drawing 01-676-109-003

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	02-003-0-0146	DASH COAG LOWER ASSY WEIGHT PLATE VMS
2	1	02-002-0-0136	DASH COAG/APEX 6 CABINET & LID ASSEMBLY
3	6	30-000015	SCREW, 6-19 X 5/16", THREAD FORMING, PAN HEAD
4	3	30-000089	SCREW, SEMS, 8-32 X 3/8, PH, SQUARE CONE WASHER

REV.	DESCRIPTION	DATE	ORIGINATOR
A	INITIAL RELEASE - SEE DR-001223	3/3/2025	SLH



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.XXXX - ± .0005
ANGLES - 1°

	NAME	DATE
DRAWN BY	S HUDSON	3/3/2025
APPROVED BY	C IVORY	3/3/2025

MACHINE SERIES:
DASH COAG TALL

FOR INTERNAL USE ONLY. INSPECT

MATERIAL: --

FINISH: --

DRUCKER DIAGNOSTICS

DASH COAG TALL FINAL ASSY, PLATFORM

SIZE B | DWG. NO. 01-676-109-003

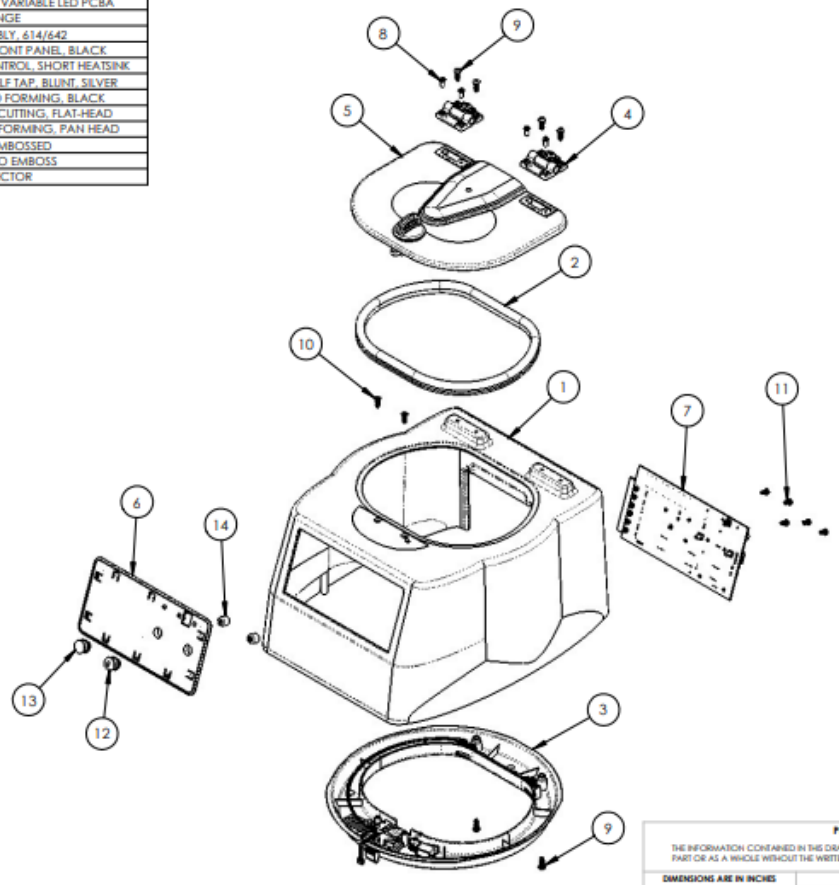
ALL COMPONENTS MUST BE ROHS COMPLIANT | NTS | SHEET 1 OF 1

CABINET ASSEMBLY

8.1.2 Reference drawing 02-002-0-0136

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	03-1-0002-0068	MOLDED CABINET, 600/800, BLACK
2	2.42'	7732018	MOTOR WELL GASKET
3	1	02-002-1-0114	DASH APEX 6 LID TRAY ASSY, VARIABLE LED PCBA
4	2	7724071	FRICTION HINGE
5	1	02-002-1-0027	MOLDED LID ASSEMBLY, 614/642
6	1	03-1-0002-0069	DASH/HORIZON PLASTIC FRONT PANEL, BLACK
7	1	02-006-0-0028MOD_HS	PCBA, BLDC, V/E, FULL LED CONTROL, SHORT HEATSINK
8	4	3012004	SCREW, #6 x .375, PH/PHIL, SELF TAP, BLUNT, SILVER
9	6	30-000013	SCREW, 8-16 X 1/2", THREAD FORMING, BLACK
10	2	30-000014	SCREW, 8-32 X 1/2", THREAD CUTTING, FLAT-HEAD
11	5	30-000015	SCREW, 6-19 X 5/16", THREAD FORMING, PAN HEAD
12	1	03-1-0002-0089	BUTTON COVER,EMBOSSED
13	1	03-1-0002-0090	BUTTON COVER, NO EMBOSS
14	2	03-1-0002-0099	BUTTON PROTECTOR

REV.	DESCRIPTION	DATE	ORIGINATOR
A	INITIAL RELEASE - SEE DR-8406	11/18/2022	SLH
B	PCBA SWAP - SEE DR-9630		SLH



DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS NOTED:
FRACTIONAL - ±1/64
.XX - ± .01
.XXX - ± .005
.XXXX - ± .0005
ANGLES - 1°

	NAME	DATE
DRAWN BY	S HUDSON	11/7/2022
APPROVED BY	C IVORY	11/7/2022

MACHINE SERIES:
DASH COAG & APEX 6
FOR INTERNAL USE ONLY. INSPECT

MATERIAL:
FINISH:

DRUCKER DIAGNOSTICS

DASH COAG/APEX 6
CABINET & LID ASSEMBLY

SIZE B | DWG. NO. 02-002-0-0136
ALL COMPONENTS MUST BE ROHS COMPLIANT | NTS | SHEET 1 OF 1

8.2 LOWER ASSEMBLY

8.2.1 Reference drawing 02-003-0-0146

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	02-003-1-0080	DASH APEX 6 & COAG BASE, MOTOR MOUNT PLATE WEIGHT SYSTEM WITH PEMS
2	12	3023001	NUT INSERT, 8-32 THREAD
3	2.95'	03-1-0004-0036	GASKET, MOLDED GB
4	1	03-1-0004-0037	GUARD BOWL, MOLDED, 600 SERIES
5	1	02-005-0-0005	6 SERIES MOTOR WEIGHT PLATE ASSEMBLY NINGBO MOTOR
6	3	30-000136	MOTOR MOUNT, HOURGLASS
7	6	30-000254	SHCS, ULTRA LOW PROFILE, M6 X 8mm L
8	3	30-000267	WASHER, 18-8 FOR 1/4", .281" ID, .625" OD
9	6	30-000013	SCREW, 8-16 X 1/2", THREAD FORMING, BLACK
10	1	02-001-0-0027	DASH COAG ROTOR ASSEMBLY, TALL
11	1	30-000069	ROTOR WASHER
12	1	30-000080	FHSCS, STAINLESS, BLACK OXIDE, 10-32 X 3/4"
13	7	3012007	SCREW, PHILLIPS, 8-32, 0.50 LONG
14	7	3033003	WASHER #8, FLAT, SILVER
15	1	7713027	EXHAUST AIR DEFLECTOR
16	2	7732009	EXHAUST GASKET
17	4	03-1-0003-0023	SUCTION FOOT, BLACK NITRILE
18	2	3033012	#8 INTERNAL TOOTH WASHER
19	2	3022001	NUT, HEX, 8-32
20	2	7724002	GROUND LABEL
21	1	03-1-0005-0118	POWER SWITCH
22	1	03-1-0005-0194	AC LINE FILTER, 250V, 3A
23	2	30-000110	PHMS, 4-40 X 5/16", SS, BLACK
24	1	03-1-0002-0095	BRACKET, IPS, W/ INSERTS
25	2	30-000089	SCREW, SEMS, 8-32 X 3/8, PH, SQUARE CONE WASHER
26	1	03-1-0005-0192	INTERNAL POWER SUPPLY, 225W, 48V
27	4	30-000127	PHMS, SS, W/SPRING WASHER, 4-40 X 1/4"
28	4	30-000128	NYLON PLASTIC WASHER, #4, .250 OD
29	1	03-1-0005-0223	APEX 6 POWER HARNESS IPS TO PCBA
30	1	03-1-0005-0227	POWER HARNESS, AC INLET TO IPS
31	1	03-1-0005-0228	GROUND WIRE ASSEMBLY
32	1	03-1-0005-0220	POWER HARNESS, AC INLET TO SWITCH
33	2	3094002	TIES, PLASTIC, SELF LOCKING, 4.0"
34	1	03-1-0010-0147	WARNING SYMBOL LABEL

REV.	DESCRIPTION	DATE	ORIGINATOR
A	INITIAL RELEASE - SEE DR-001096	12/10/2024	SLH

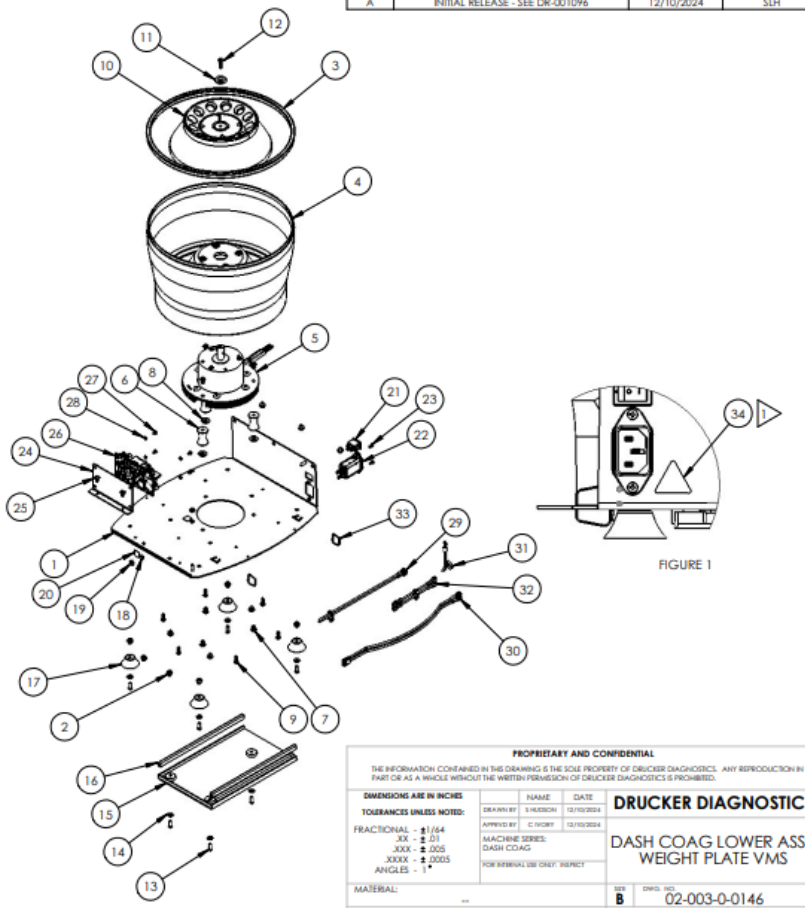


FIGURE 1

NOTES:

1. APPLY WARNING LABEL (34) TO REAR OF BASE NEAR AC INLET AS SHOWN IN FIGURE 1

DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS NOTED:
FRACTIONAL ± 1/64
.XX ± .01
.XXX ± .005
.XXXX ± .0005
ANGLES ± 1°

	NAME	DATE
DRAWN BY	S HUDSON	12/10/2024
APPROVED BY	C IVORY	12/10/2024

MACHINE SERIES: DASH COAG
FOR INTERNAL USE ONLY. INSPECT

MATERIAL: --
FINISH: --

DRUCKER DIAGNOSTICS

DASH COAG LOWER ASSY WEIGHT PLATE VMS

SIZE B | DWG. NO. 02-003-0-0146 | NTS | SHEET 1 OF 1

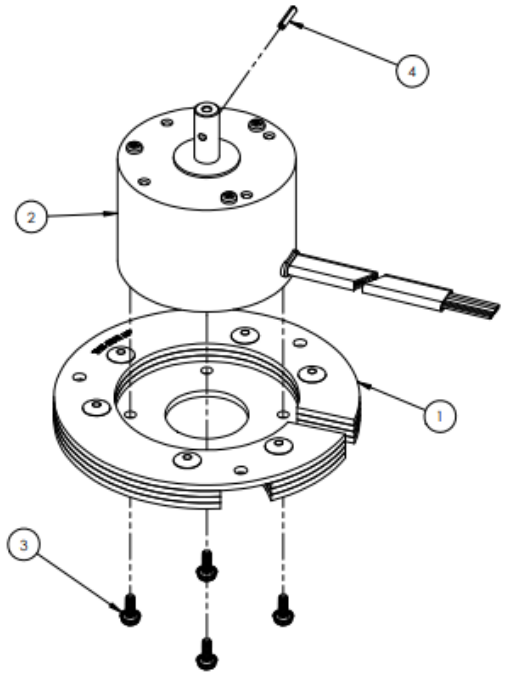
8.3

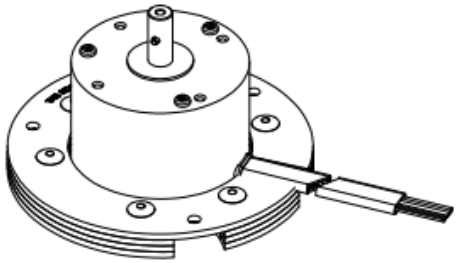
MOTOR ASSEMBLY

8.3.1 Reference drawing 02-005-1-0014

ITEM NO.	QTY	PART NUMBER	DESCRIPTION
1	1	02-005-1-0022	6 SERIES MOTOR WEIGHT PLATE SUB ASSEMBLY, LASER CUT
2	1	03-1-0006-0014	NINGBO 354 WATT MOTOR
3	4	30-000255	8-32 x 1/2 SS PH SEMS
4	1	3062003	1/8 x 5/8 ROLL PIN

REV.	DESCRIPTION	DATE	ORIGINATOR
A	INITIAL RELEASE - SEE DR-001096	11/11/2024	SGF
B	HARDWARE - SEE DR-001136	1/22/2025	SLH





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DIMENSIONS ARE IN INCHES
TOLERANCES UNLESS NOTED:
FRACTIONAL - ±1/64
.XX - ±.01
.XXX - ±.005
.XXXX - ±.0005
ANGLES - 1°

	NAME	DATE
DRAWN BY	S PARSONS	11/11/2024
APPROVED BY	C IVORY	11/11/2024

MACHINE SERIES:
DASH APEX 6/COAG

FOR INTERNAL USE ONLY. INSPECT

MATERIAL:

FINISH:

DRUCKER DIAGNOSTICS

6 SERIES MOTOR WEIGHT PLATE ASSY, LASER CUT, NINGBO MOTOR

SIZE B | DWG. NO. 02-005-0-0005

ALL CONFIGURATIONS MUST BE ROHS COMPLIANT | NTS | SHEET 1 OF 1

9 REVISION HISTORY

Revision #	Date	DR	Details of Change
A			Original Issue