



Videojet 1650

Illustrated Parts List

Illustrated Parts List

The Illustrated Part List (IPL) contains the illustrations and the parts lists for the different assemblies in the printer. The parts lists give the part numbers, description and quantity of all the items and the modules in the printer. You can order the items and the modules for which the part numbers are given.

How to Read the IPL

This section describes how the higher assemblies are broken down to their related sub assemblies and other separate parts.

Illustrations

Table 1 on page 1 shows the symbols used to indicate the different levels of main assemblies in a printer, and the sub assemblies under the main assembly.

Assembly	Symbol
Main Assembly	→ 
Sub Assembly 1	→ 
Sub Assembly 2	→ 
Sub Assembly 3	→ 
Sub Assembly 4	→ 
	↓

Table 1: Symbols Representation - Assemblies

-----► Indicates further explosion.

Alphabets

- An alphabet is assigned to the main assemblies of a printer and each sub assembly under the main assembly. See Figure 1 on page 1-3.

For example: If A, B, C and D identify the main assemblies of a printer, then the alphabets E, F, and so on identify sub assemblies below each main assembly in a sequence.

- The alphabets assigned to main assemblies are used only for one time.
- The alphabets “I” and “O” are not used because they look like the numbers 1 and 0.

Numbers

A natural number (1,2,3,...) is assigned to the stand alone parts (in ascending order) through out the breakdown of main assemblies. See Figure 1.

Note: The numbers assigned to main assemblies can be used only for one time.

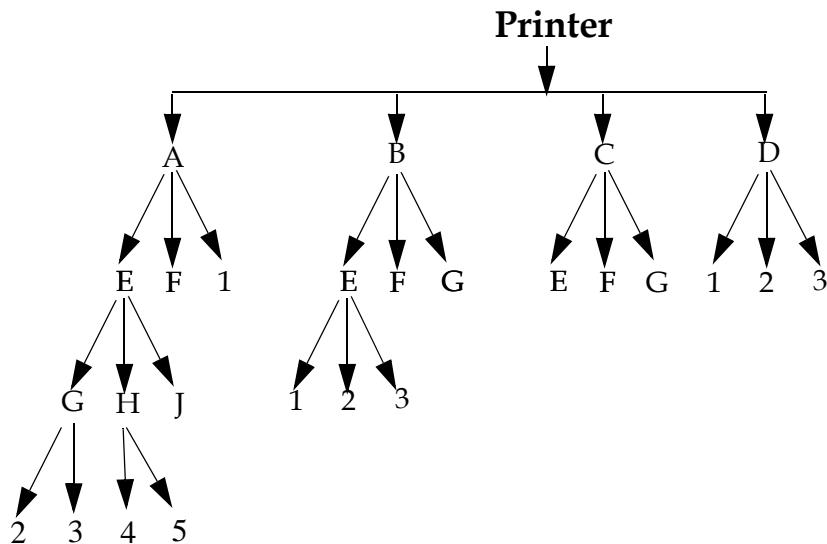


Figure 1: Graphical Representation of the Different Subassemblies and Parts

Tables

Figure 2 describes the styles used to show the explosion of the main assemblies in parts lists.

	Item Number	P/N	Description	Qty
Main Assembly	A			
	3			
Subassembly 1	E			
	4			
Subassembly 2	H			
	5			
Parts under the Subassembly OR Stand-alone Part	6			
	J			
	7			
	8			

Figure 2: Representation of the different Subassemblies and parts in the Table

Notes

Notes provide useful information. Some examples for note are as follows:

Note: To order this item, use part number of item 9 in this table.

Note: This screw is a part of Core Module.

Note: This item can be ordered separately.

Videojet 1650 Printer

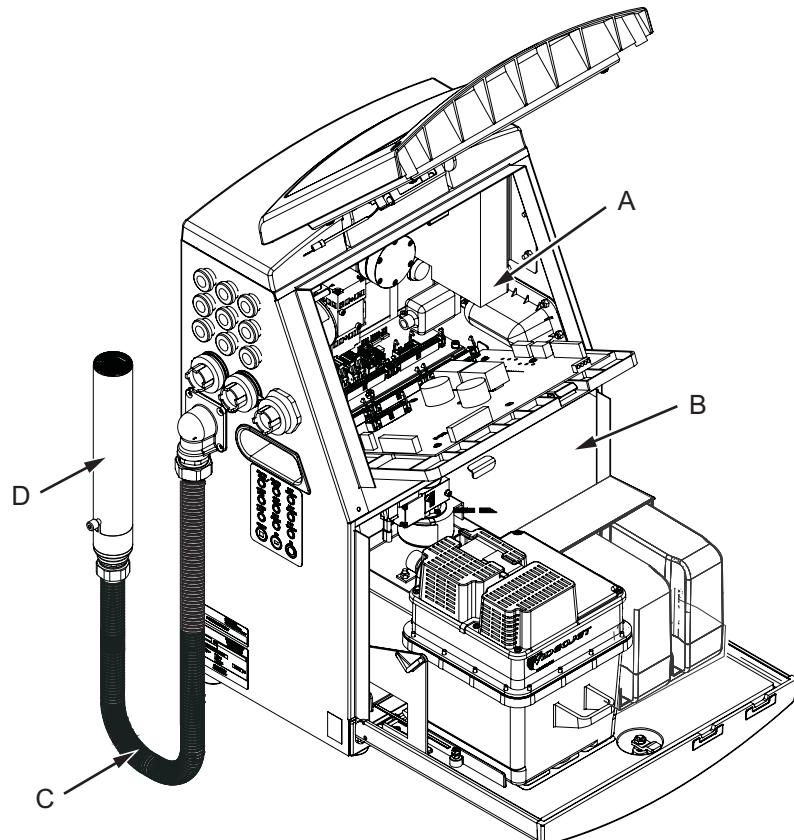


Figure 3: Main Parts of the Printer

Table 2 shows the sub assemblies of the printer.

Item	Descriptions
A	Electronics Compartment
B	Ink Compartment
C	Umbilical
D	Printhead

Table 2: Videojet 1650 Printer Assemblies

Electronics Compartment

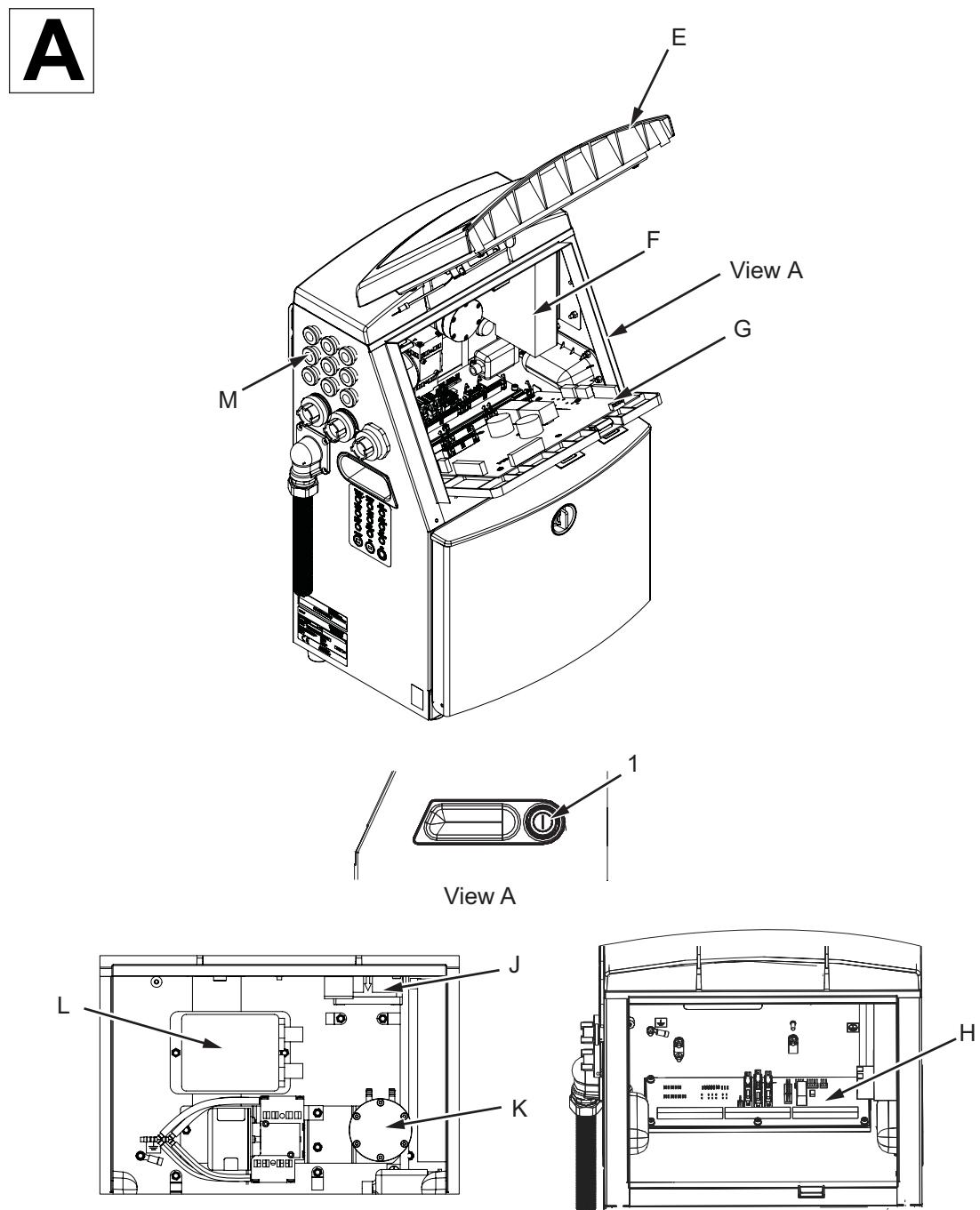


Figure 4: Electronics Compartment

Power Switch

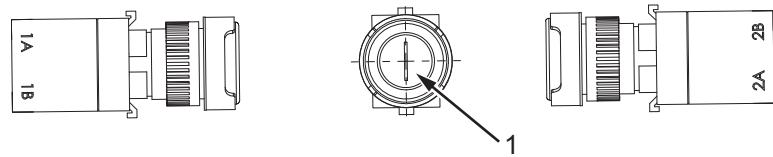


Figure 5: Power Switch

Electronics Door Assembly

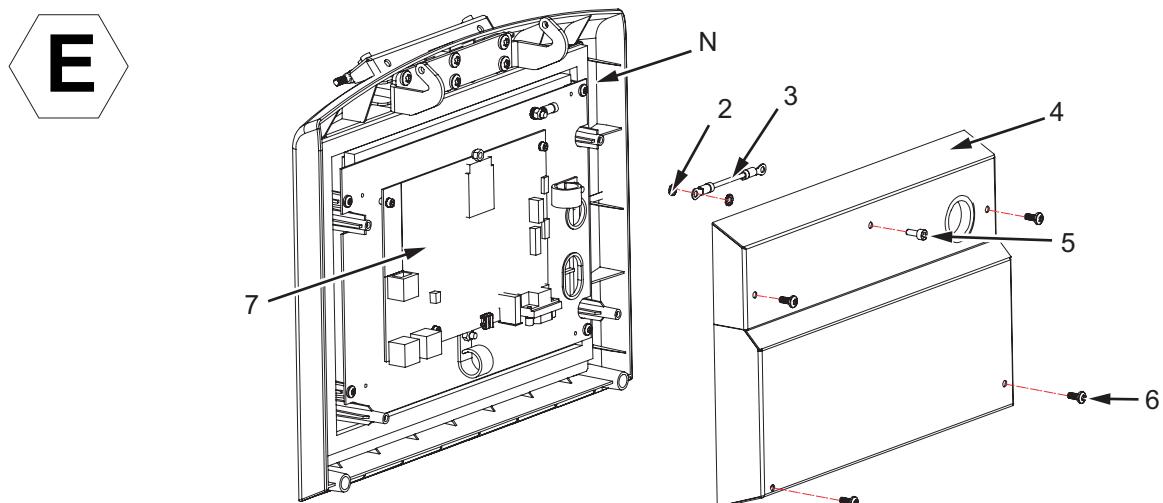


Figure 6: Electronics Door Assembly

Retrofit Touch Screen

N

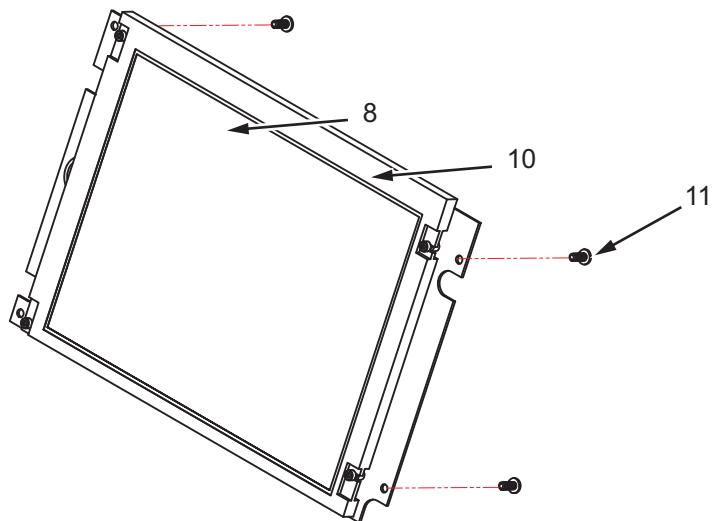


Figure 7: LCD and FIB

Display Door

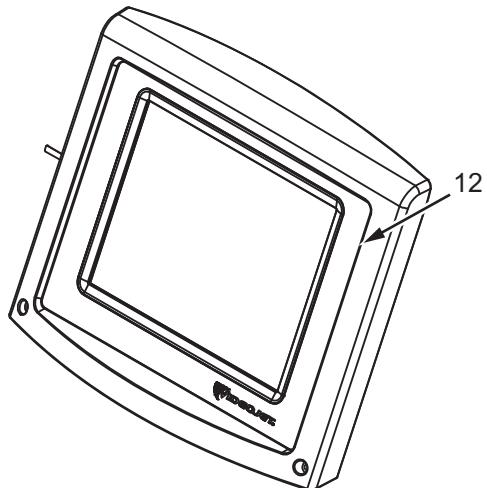


Figure 8: Display Door

Power Supply Unit Assembly

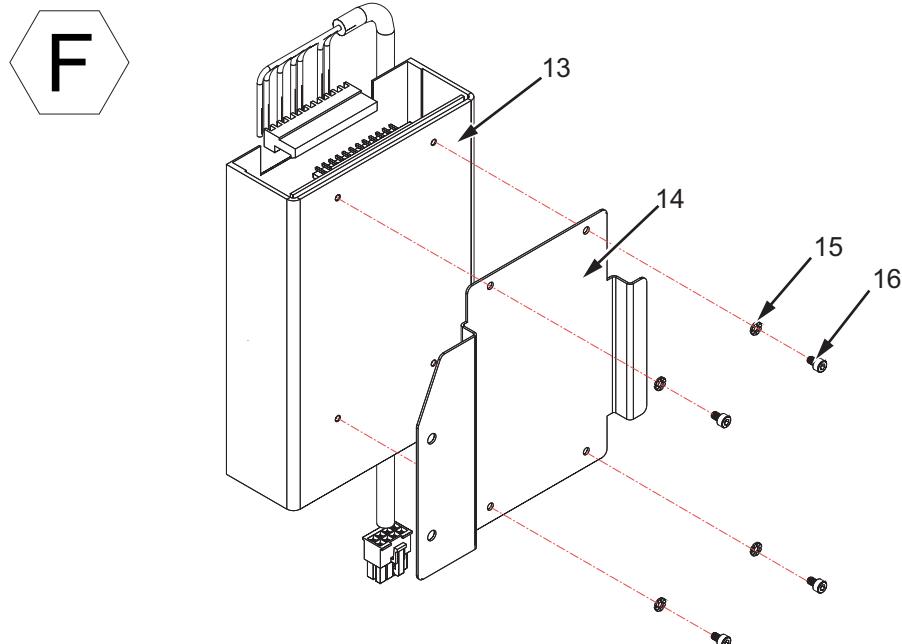


Figure 9: Power Supply Unit Assembly

Control System Board (CSB) with Back Plate

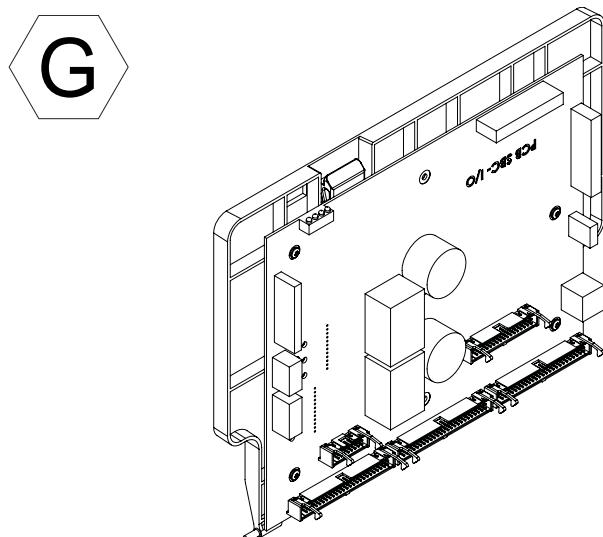


Figure 10: Control System Board Assembly with Back Plate

Printer Interface Board Assembly (PIB)

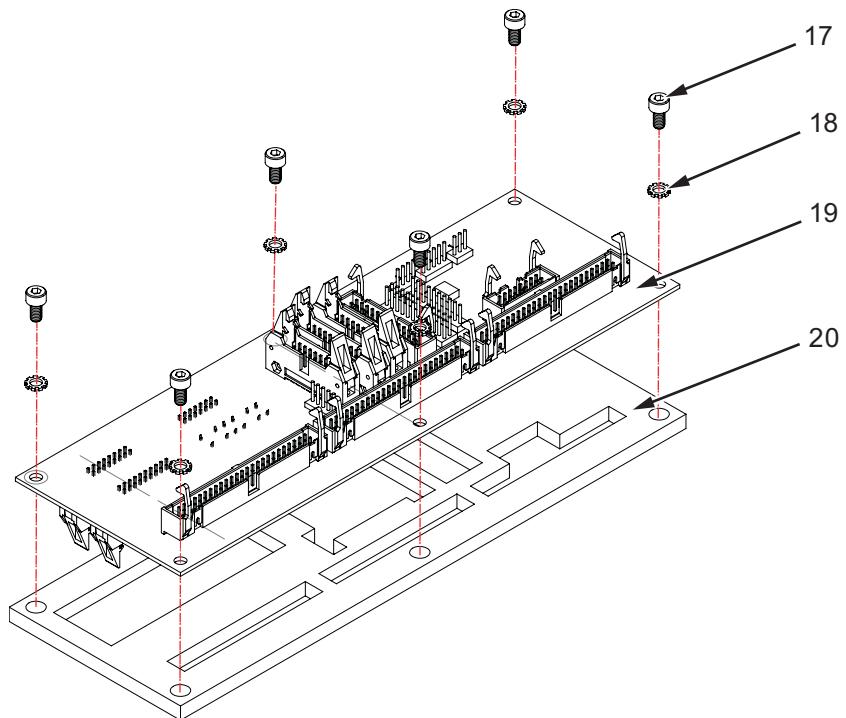


Figure 11: Printer Interface Board Assembly

Electronics Fan Assembly

J

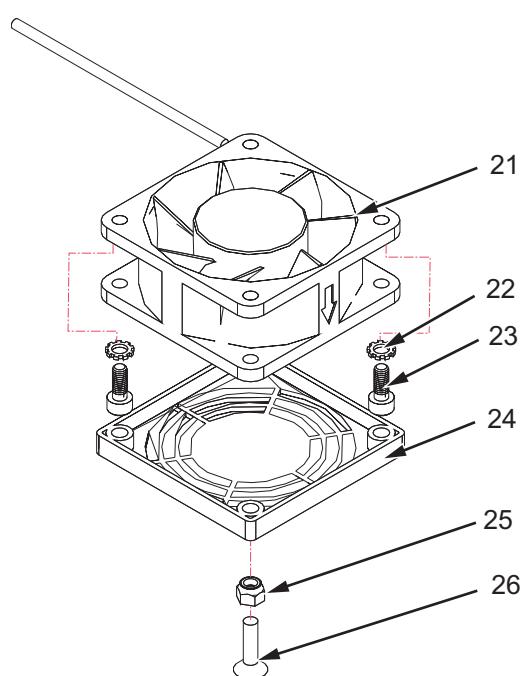


Figure 12: Electronics Fan Assembly

Air Pump Assembly

K

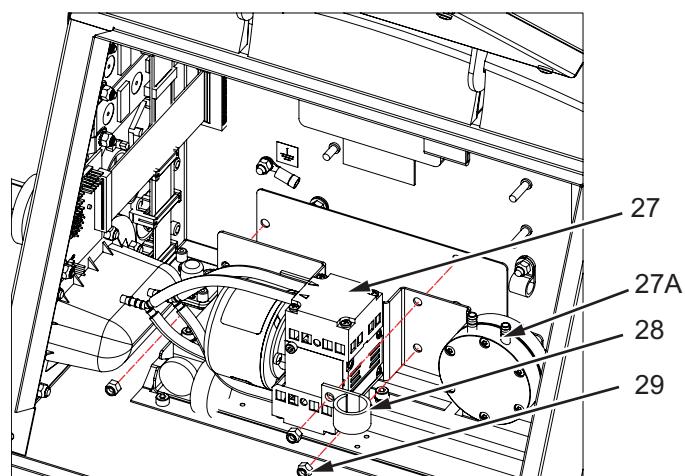


Figure 13: Positive Air Pump Assembly

EHT Module

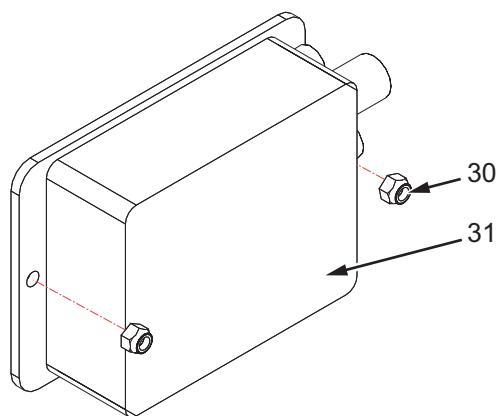


Figure 14: EHT Module

Connector Panel

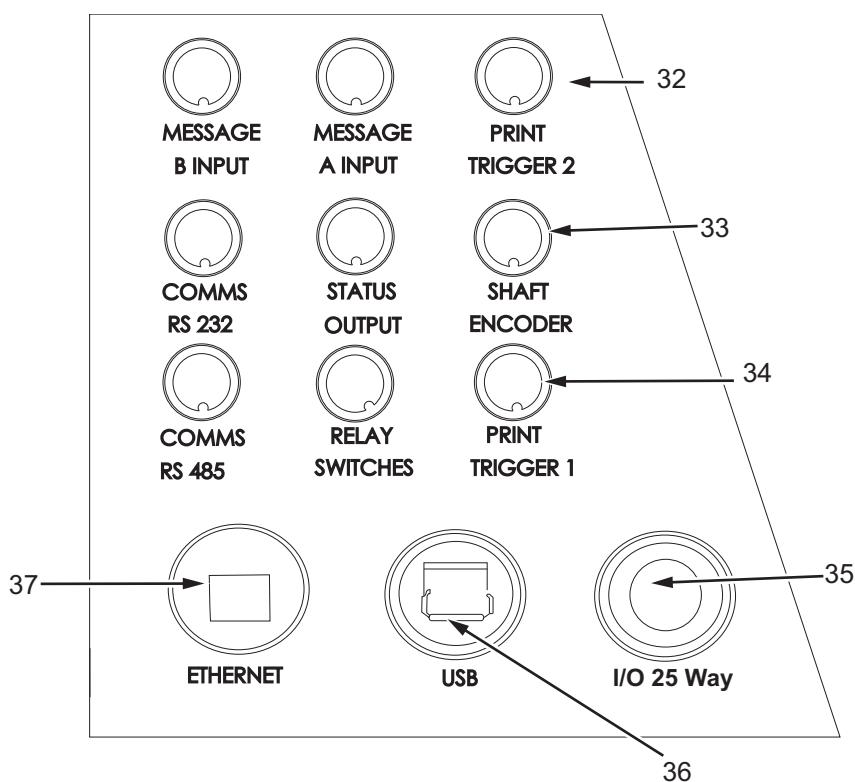


Figure 15: Connector Panel

PCB Assembly

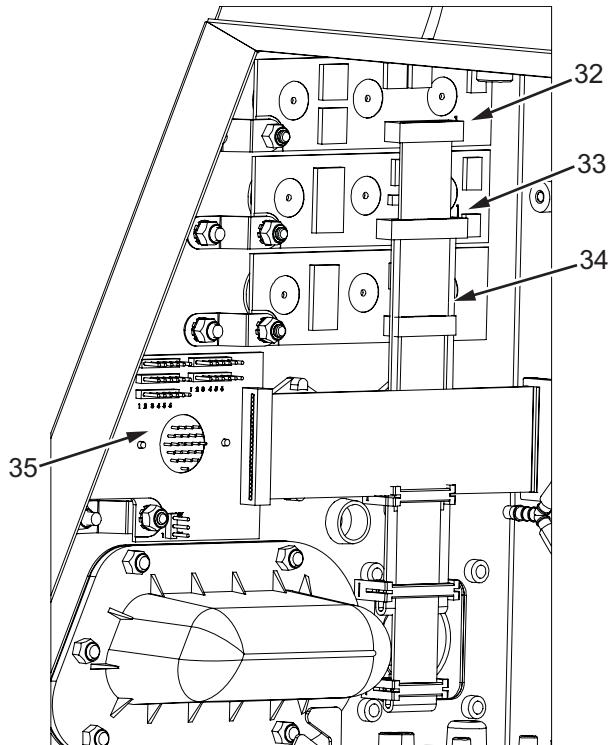


Figure 16: PCB 1,2,3 and 4 Assemblies

Item Number	P/N	Description	Qty
A		Electronics Compartment	
1	SP219041	Power Switch	1
E		Electronics Door Assembly	
N	395795	RETROFIT, TOUCH SCREEN	
2		M4 ET Washer	2
3		Display Ground Wire	1

Table 3: Electronics Compartment

Item Number	P/N	Description	Qty
4		Display Rear Cover	1
5		M4 x 10 Cap-head Screw	1
6		K40 x 10 Pan-head Torx Screw	4
7	395791	CLARiTY PCB (FIB) Spare	
8	395790	Touch Screen (LCD) Spare	
9*	395893	SD CARD Spare	
10		LCD and FIB Assembly	1
11		Screw	4
12	395889	Display Door Surround Spare	
F	395897	Power Supply Unit (PSU) Assembly with Mount	
13		PSU	1
14		PSU Mounting Plate	1
15		M3 ET Washer	4
16		M3 x 5 Cap-head Screw	4
G	395891	Control System Board (CSB) with Back Plate	1
H	399473	Printer Interface Board (PIB) Assembly	
17		M4 x 8 Cap-head Screw	6
18		M4 ET Washer	6
19		PIB	1
20		PIB Gasket	1
J	399079	Electronics Fan Assembly	
21		Fan, 60 mm	1
22		M4 ET Washer	2
23		M4 x 10 Cap-head Screw	2
24		Finger guard, 60 mm	1
25		M4 Nyloc Nut	2
26		M4 x 16 Counter Sunk Screw	2

Table 3: Electronics Compartment (Continued)

Item Number	P/N	Description	Qty
K	SP399399	Double Headed Air Pump Assembly (for single head system (Single Head Printer))	
27		Positive Air Pump	1
27A		Dampener	1
28		P-Clip	1
29		M4 Nyloc Nut	3
L	399081	EHT Module Assembly	
30		M4 Nyloc Nut	2
31		EHT Module	1
M		Connector Panel	
32	SP500096	PCB 3 Assembly	1
33	SP500097	PCB 2 Assembly	1
34	SP500095	PCB 1 Assembly	1
36	399475	PCB 4 Assembly	1
37	395898	USB A-B BULKHEAD	1
38	395899	ETHERNET BULKHEAD	1

Table 3: Electronics Compartment (Continued)

Ink Compartment

B

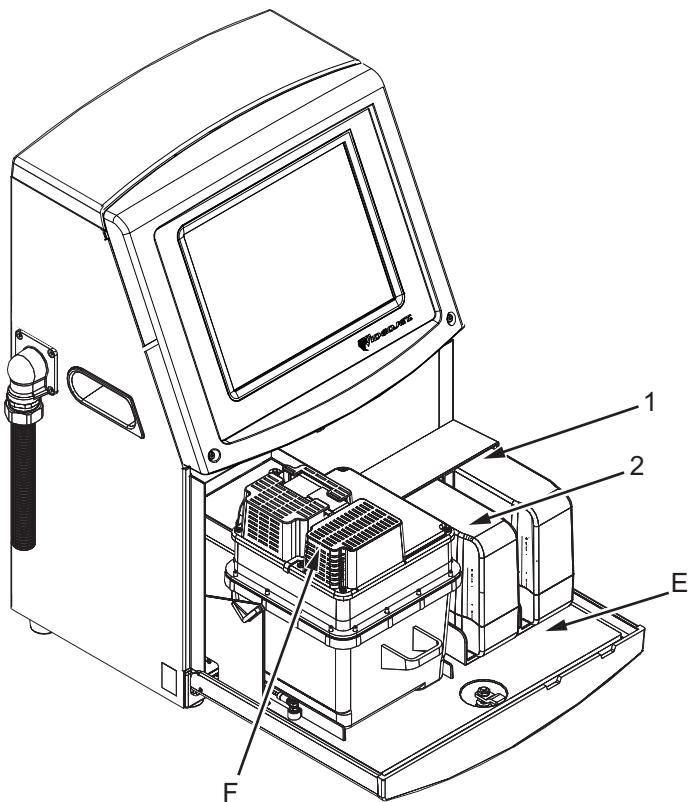


Figure 17: Ink System

Ink Cartridge

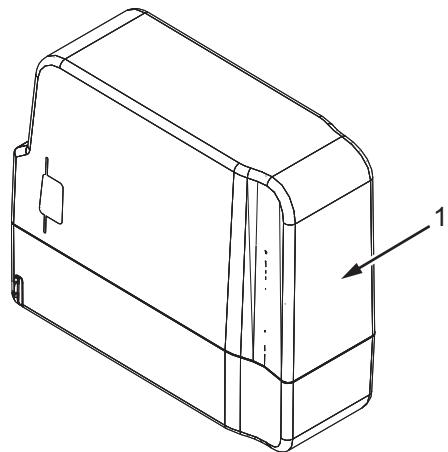


Figure 18: Ink Cartridge

Make-up Cartridge

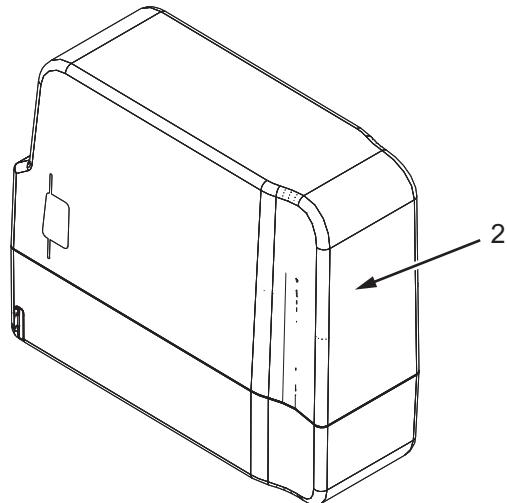


Figure 19: Make-up Cartridge

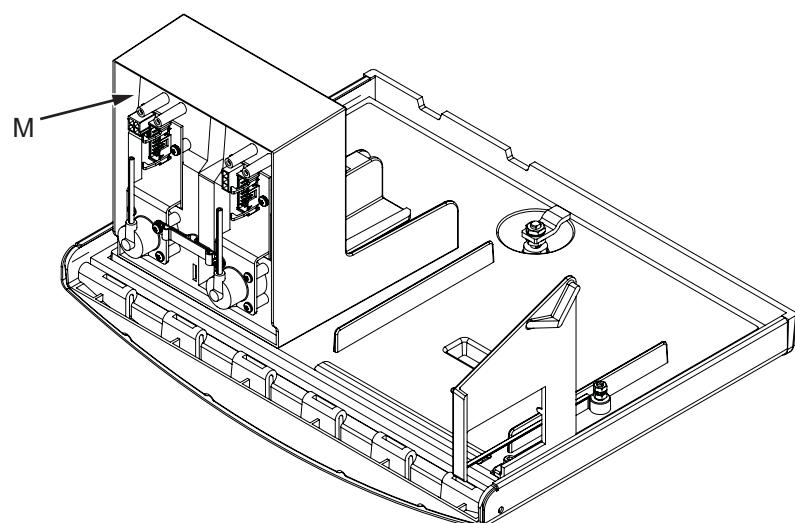


Figure 20: Ink Door Assembly

Septum Assembly

M

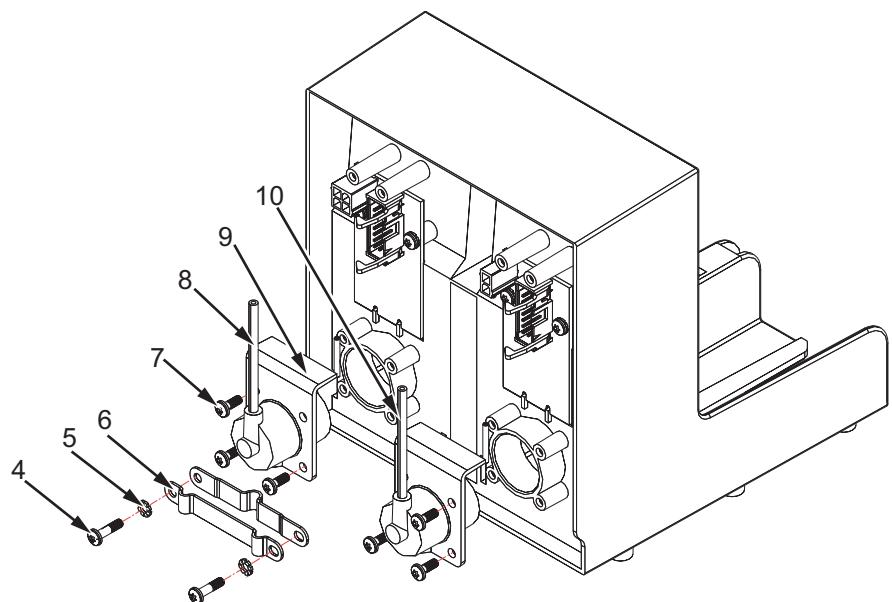


Figure 21: Septum Assembly

Ink Core Module Assembly

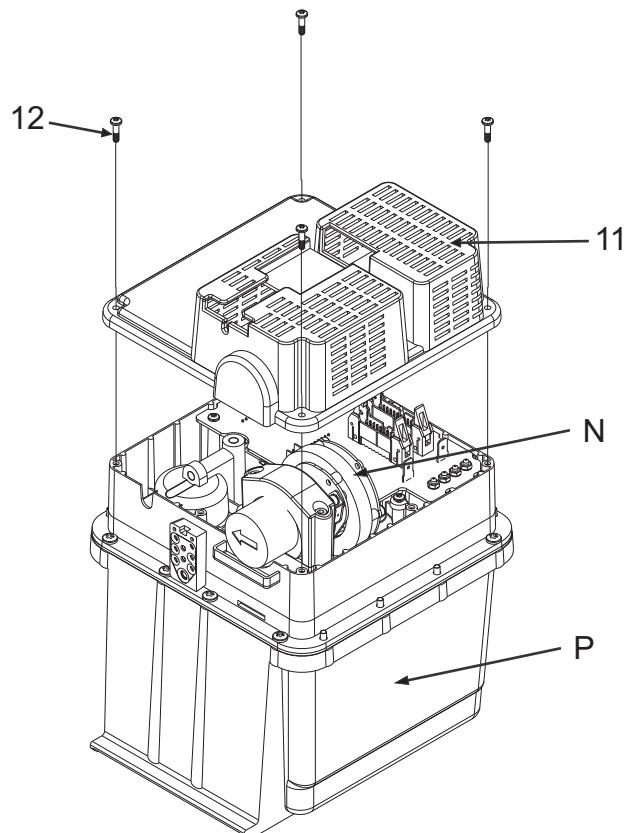


Figure 22: Core Module

Ink Core Pump

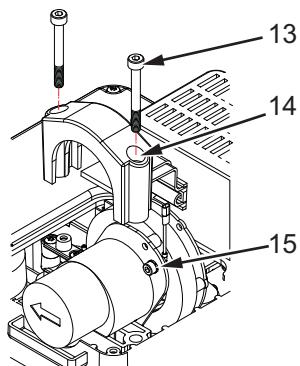


Figure 23: Ink Core Pump Assembly

Ink Core Without Pump

P

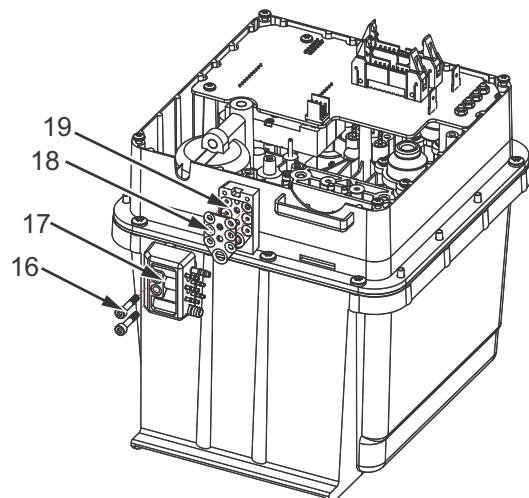
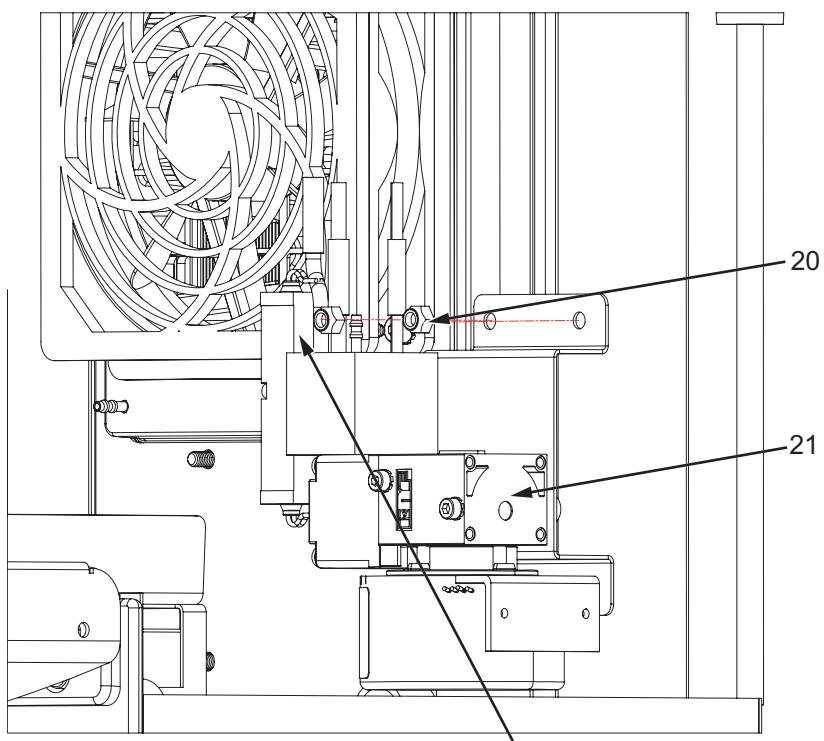


Figure 24: Ink Core Module Without Pump

Gutter Pump Assembly

G



22

Figure 25: Gutter Pump Assembly

Ink System Fan

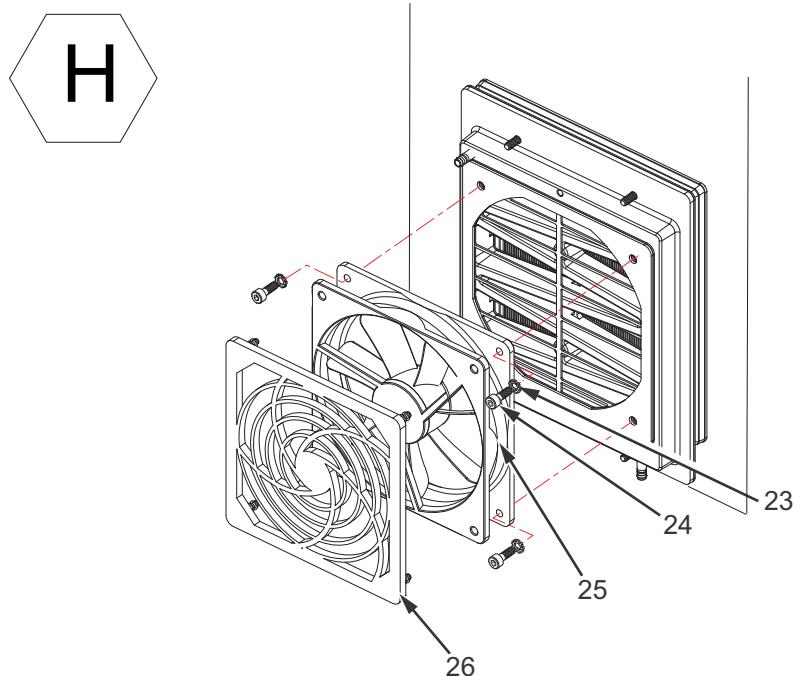


Figure 26: Ink System Fan Assembly

Condenser Assembly

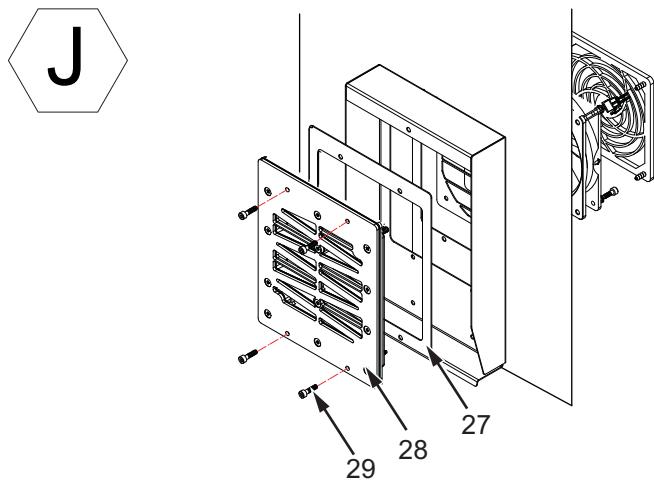


Figure 27: Condenser Assembly

Ink System Filter Assembly

K

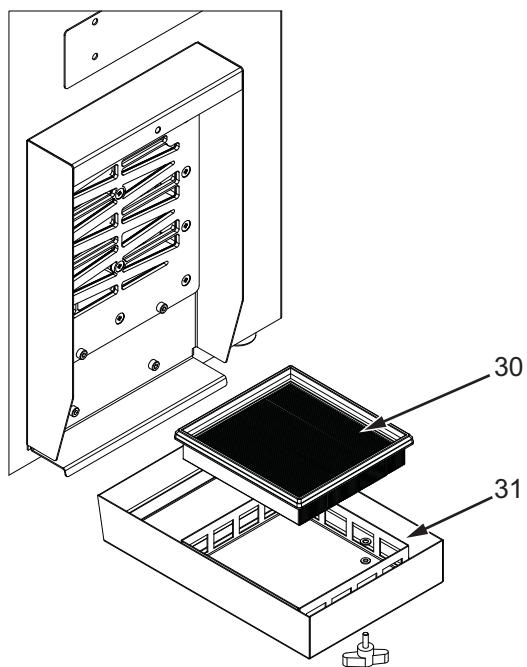


Figure 28: Ink System Filter Assembly - IP65

Floor Filter - IP65

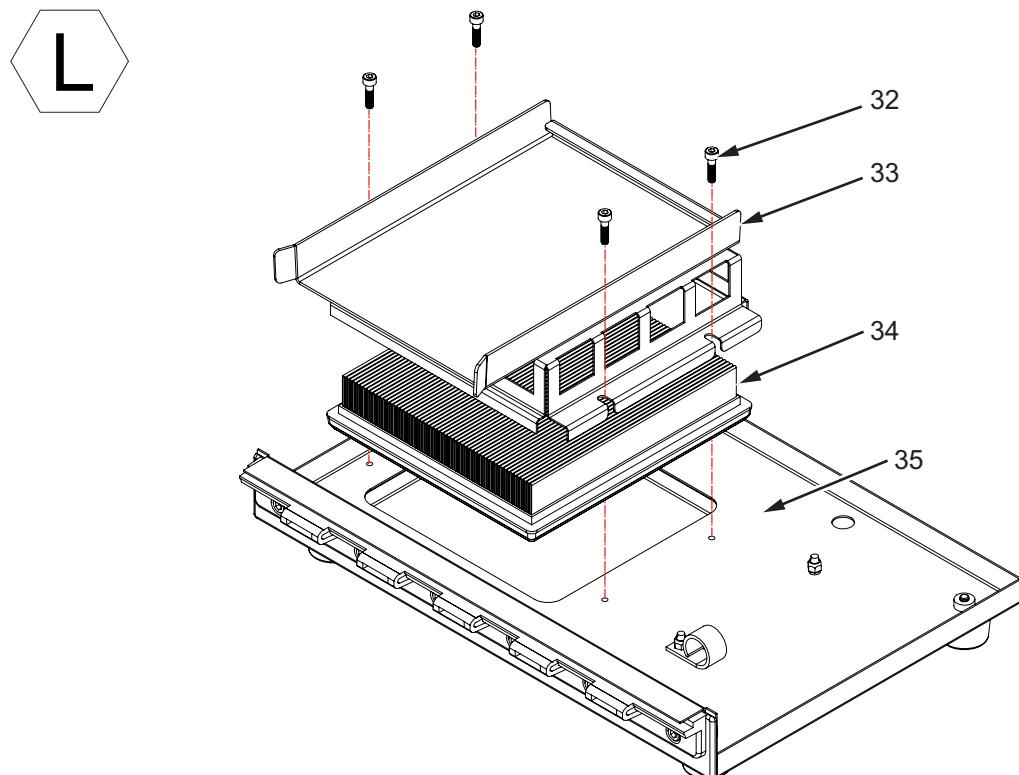


Figure 29: Floor Filter - IP65

Cabinet Foot

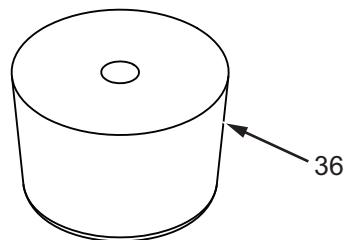


Figure 30: Cabinet Foot

Item Number	P/N	Description	Qty
B		Ink Compartment	
1		Ink Cartridge	1
2		Make-up Cartridge	1
E	399472	Ink Door Assembly	
	399585	Ink Door Assembly FG	
3*		Hinge Pin	1
M	399073	Septum Assembly	
	399391	Septum Assembly Kit FG	
4		K30 x 12 Pan-head Torx Screw	2
5		M3 ET Washer	2
6		Tube and Ribbon Cable Clamp	1
7		K30 x 8 Pan-head Torx Screw	6
8		Black Stripe Tube (Ink System)	1
9		Septum	2
10		Green Stripe Tube (Make-up System)	1
F	SP392128	Ink Core with Pump	
	SP392129	Ink Core with pump FG	
11		Ink Core Pump Cover	1
12		K30 x 12 Pan-head Torx Screw	2
N	399076	Ink Core Pump	
	399384	Ink Core Pump FG	
13		M4 x 35 Cap-head Screw	2
14		Saddle Clamp	1
15		Ink Core Pump	1
P	SP392169	Ink Core without Pump	

Table 4: Ink Compartment

Item Number	P/N	Description	Qty
	SP392170	Ink Core without Pump FG	
16		M3 x 7 Manifold Screw	2
17		Ink Core Manifold (Male)	1
18		Ink Core Manifold Gasket	1
19		Ink Core Manifold (Female)	1
G	399171	Gutter Pump Assembly	
	399393	Gutter Pump Assembly FG	
20		M4 Nyloc Nut	2
21		Gutter Pump	1
22		3 Way Valve	1
H	399080	Ink System Fan Assembly	
23		M4 ET Washer	4
24		M4 x 12 Cap-head Screw	4
25		Fan	1
26		Fan Guard	1
J	399350	Condenser Assembly	
27		Condenser Body Gasket	1
28		Condenser Assembly	1
29		M4 x 16 Cap-head Screw	4
K		Ink System Filter Assembly	
30	SP234502	Filter Element	1
31	395763	Filter Cover	1
L		Floor Filter Assembly	
32		M4 x 16 Cap-head Screw	4
33		Ink Core Support	1
34	SP234502	Filter Element	1

Table 4: Ink Compartment

Item Number	P/N	Description	Qty
35		Filter Cover	1
	392004	Cabinet Feet Kit	
36	234500	Cabinet Foot	4

Table 4: Ink Compartment

* - Items are not shown in the figure.

Printhead

D

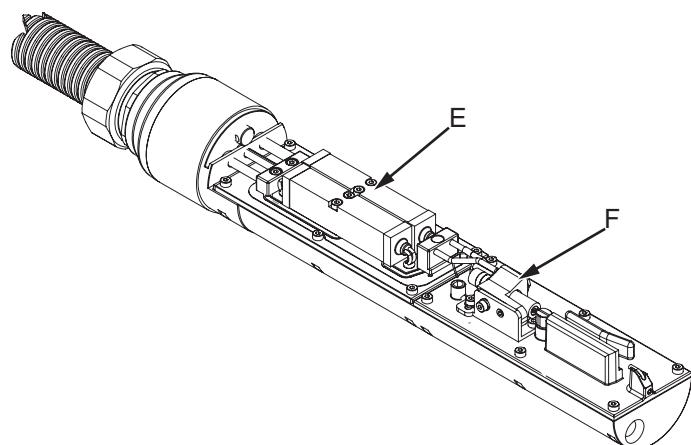


Figure 31: Printhead

D

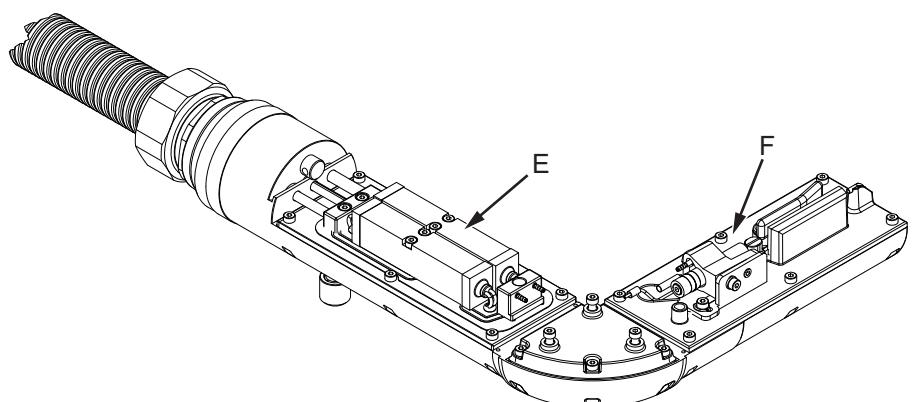


Figure 32: 90 Degree Printhead

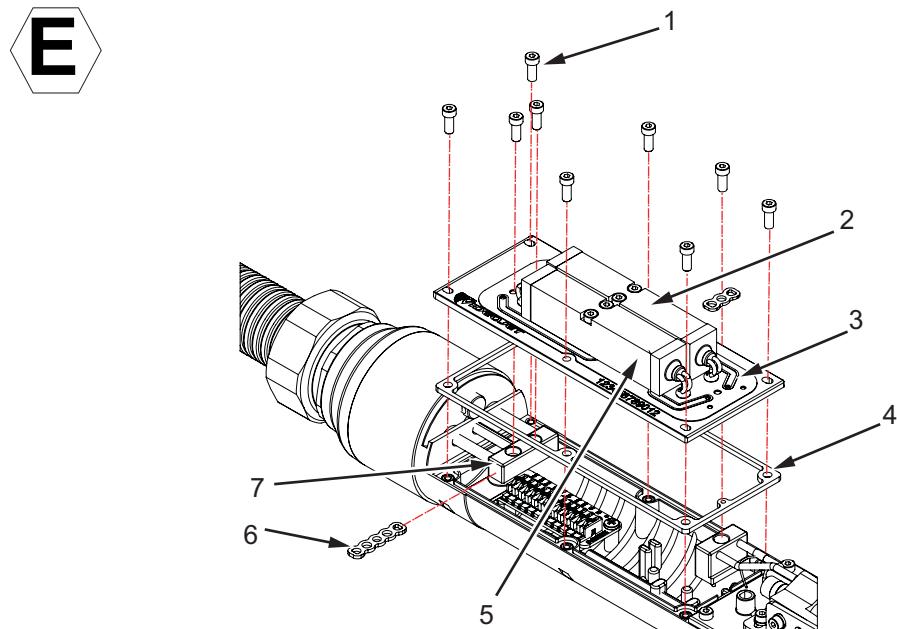
Printhead Valve Module

Figure 33: Printhead Valve Module

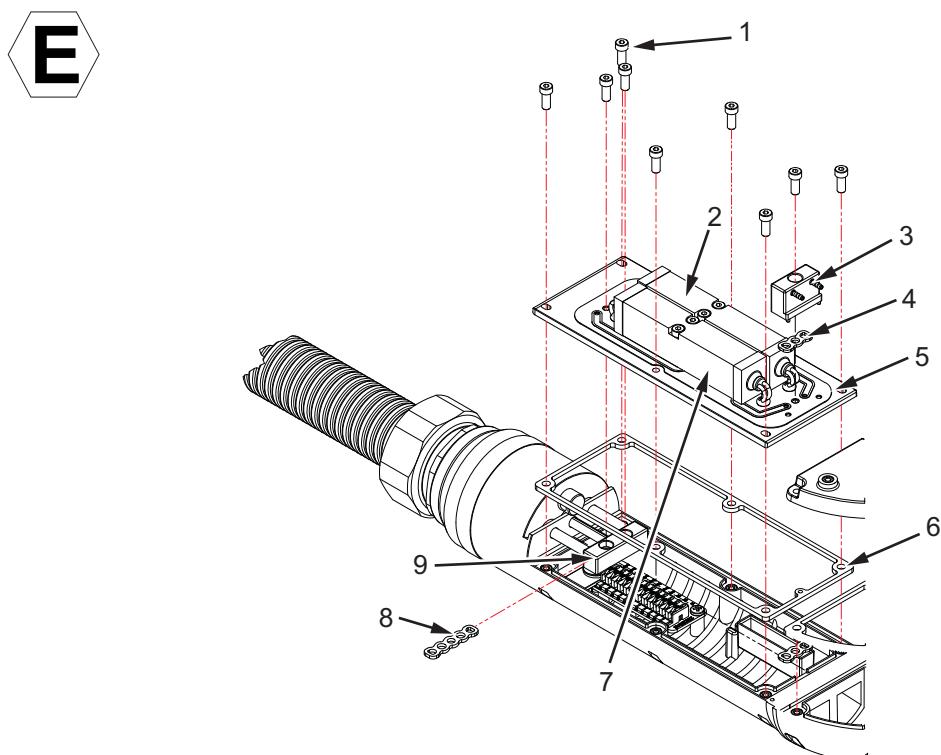


Figure 34: 90 Degree Printhead Valve Module

Printhead Engine

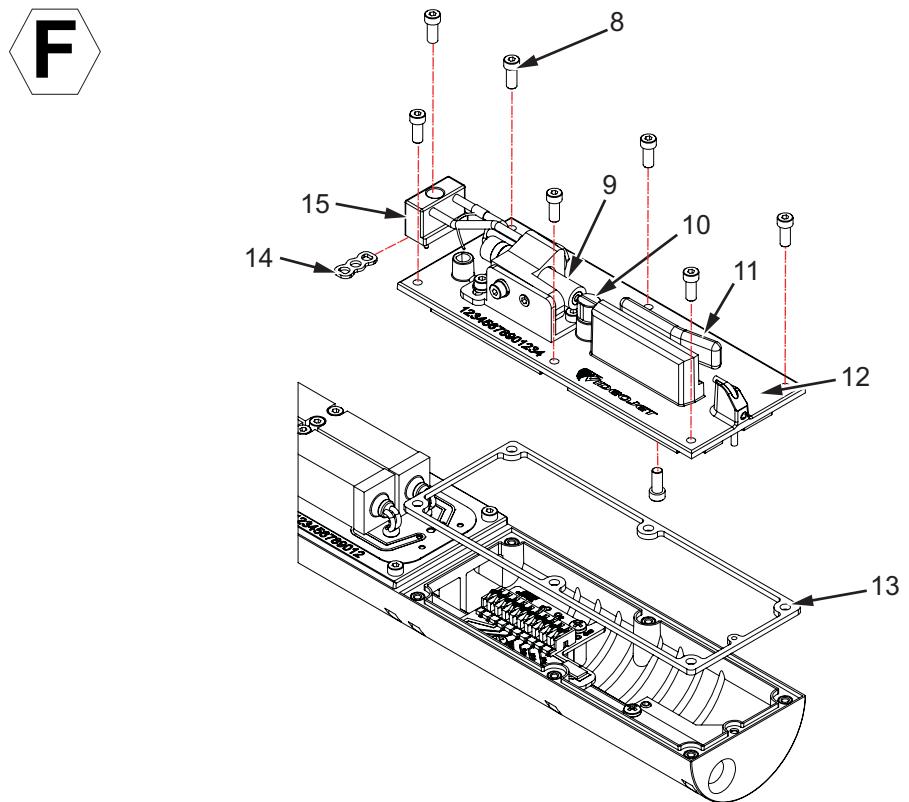


Figure 35: Printhead Engine

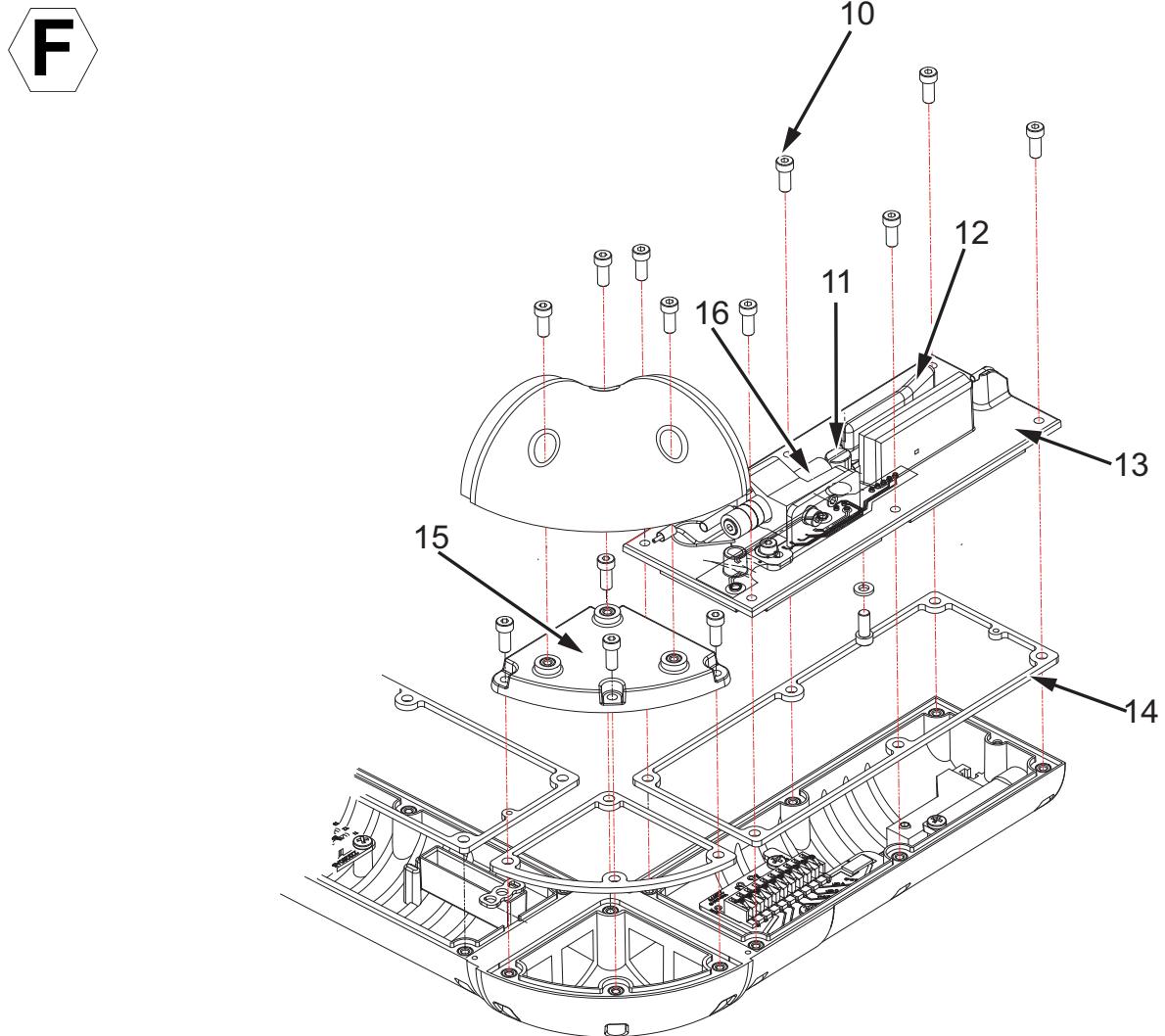


Figure 36: 90 Degree Printhead Engine

Printhead

Item Number	P/N	Description	Qty
D		Printhead	
E	399181	Printhead Valve Module	
	399386	Printhead Valve Module FG	

Table 5: Printhead Assembly

Item Number	P/N	Description	Qty
1		M2 x 6 Cap-head Screw	9
2		Gutter Valve	1
3		Printhead Valve Module Deck	1
4	Refer to Item 16	Printhead Valve Module Gasket	1
5		Feed Valve	1
6	Refer to Item 16	Rear Manifold Gasket	1
7		3 Way Manifold Assembly (Rear Tubing Manifold)	1
F	399422	Printhead Engine (60 micron)	
	399180	Printhead Engine (70 micron)	
	399586	Printhead Engine FG (60 micron)	
	399385	Printhead Engine FG (70 micron)	
8		M2 x 6 Cap-head Screw	8
9		Nozzle Assembly	1
10		Charge Electrode	1
11		Deflector Plate	1
12		Printhead Engine Deck	1
13	Refer to Item 16	Printhead Engine Gasket	1
14	Refer to Item 16	Front Tubing Manifold Gasket	1
15		2 Way Manifold Assembly (Front Tubing Manifold)	1
16	399336	Printhead Gasket Kit	
		Gasket, Printhead	10
		Gasket, 3 way Manifold	10
		Gasket, 2 way Manifold	10
*		Connection Manifold Gasket	10
*		4.47 x 1.78 O-ring	10

Table 5: Printhead Assembly

90 Degree Printhead

Item Number	P/N	Description	Qty
D		Printhead	
E	399181	Printhead Valve Module	
	399386	Printhead Valve Module FG	
1		M2 x 6 Cap-head Screw	9
2		Gutter Valve	1
3		2 Way Manifold Assembly (Front Tubing Manifold)	1
4	Refer to Item 17	Front Tubing Manifold Gasket	1
5		Printhead Valve Module Deck	1
6	Refer to Item 17	Printhead Valve Module Gasket	1
7		Feed Valve	1
8	Refer to Item 17	Rear Manifold Gasket	1
9		3 Way Manifold Assembly (Rear Tubing Manifold)	1
F	SP399621	90 Degree Printhead Engine (60 micron)	
	SP399622	90 Degree Printhead Engine (70 micron)	
	SP399658	90 Degree Printhead Engine FG (60 micron)	
	SP399659	90 Degree Printhead Engine FG (70 micron)	
10		M2 x 6 Cap-head Screw	14
11		Charge Electrode	1
12		Deflector Plate	1
13		Printhead Engine Deck	1
14	Refer to Item 17	Printhead Engine Gasket	1
15		Corner Chassis Cap-Insert Assembly	1
16		Nozzle Assembly	1
17	399660	90 Degree Printhead Gasket Kit	

Table 6: 90 Degree Printhead Assembly

Item Number	P/N	Description	Qty
		Gasket, Printhead	10
		Gasket, 3 way Manifold	10
		Gasket, 2 way Manifold	10
*		Connection Manifold Gasket	10
*		4.47 x 1.78 O-ring	10
		Gasket, Corner	10

Table 6: 90 Degree Printhead Assembly

*- Items are not shown in the figure

Cables

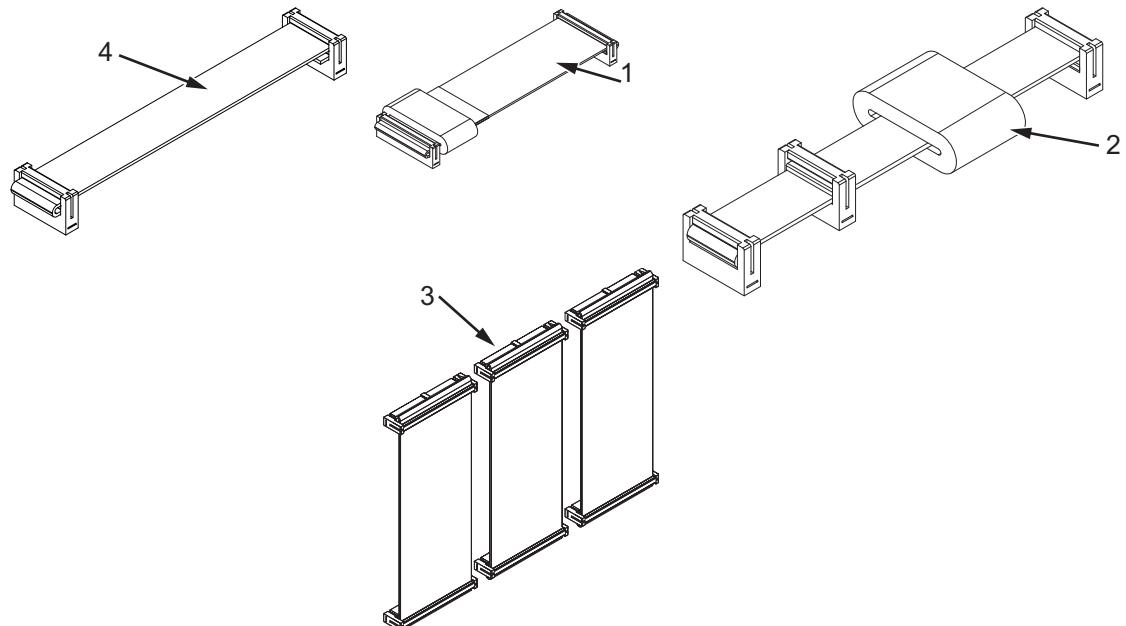


Figure 37: Cables

Item Number	P/N	Description	Qty
	399505	Ribbon Cable Spare Kit	
1		Ribbon Cable Assembly Display	1
2	SP399052	Ribbon Cable Assembly Smart Chip and Pump 14 Way	1
3		50 Way Ribbon Cables	3
4		16 Way Ribbon Cable	1
5*	395792	Touch Screen Cable Kit Spare	1

Table 7: Cables

*- Items are not shown in the figure5

Optional Accessories

Beacon Kit

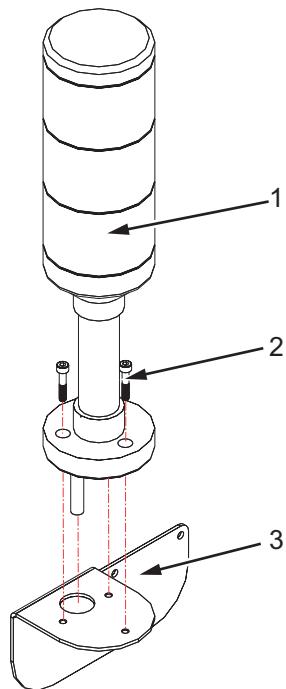


Figure 38: Beacon Kit

Dry Air Kit Assembly

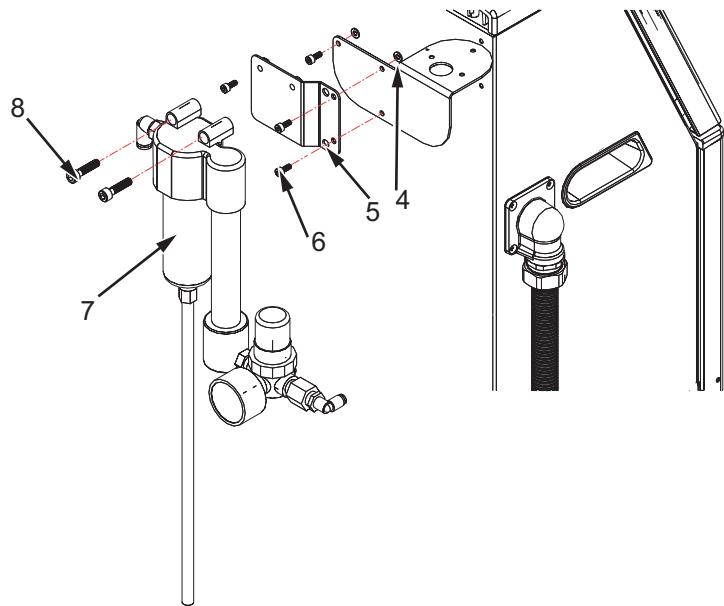


Figure 39: Dry Air Kit Assembly

Static Stand

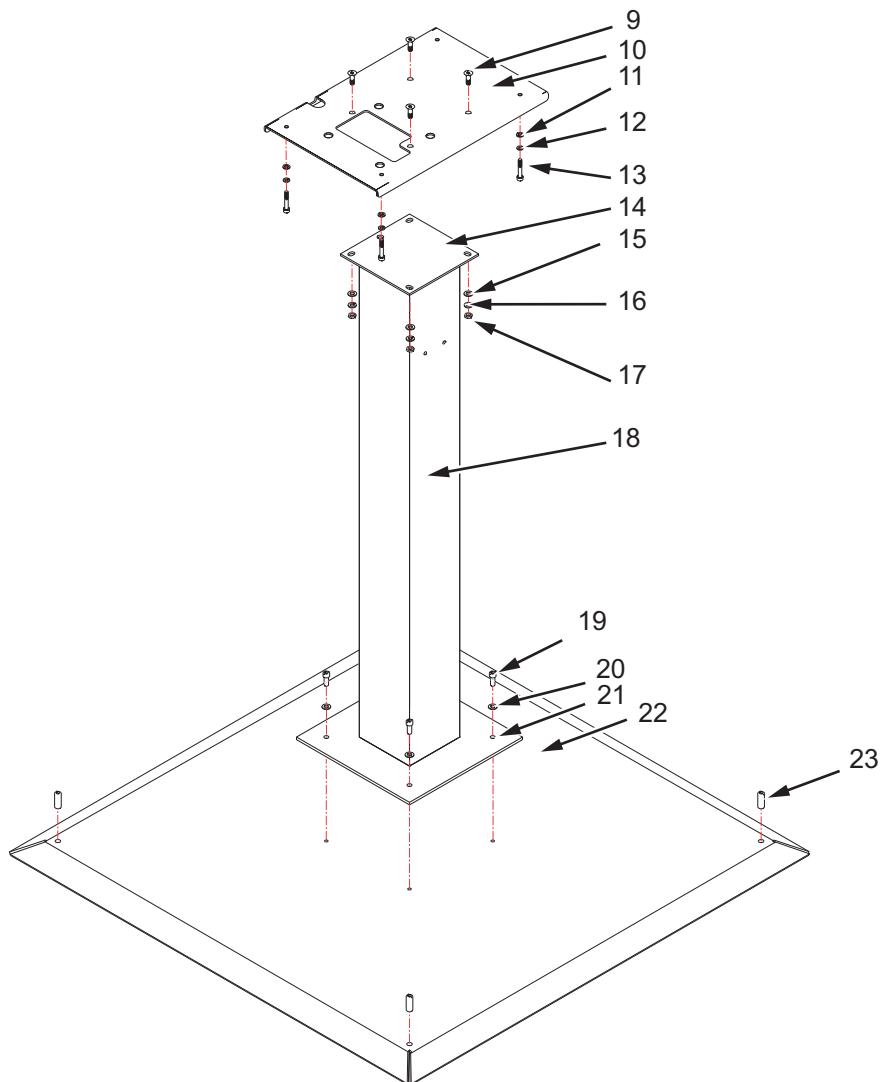


Figure 40: Static Stand

Mobile Stand

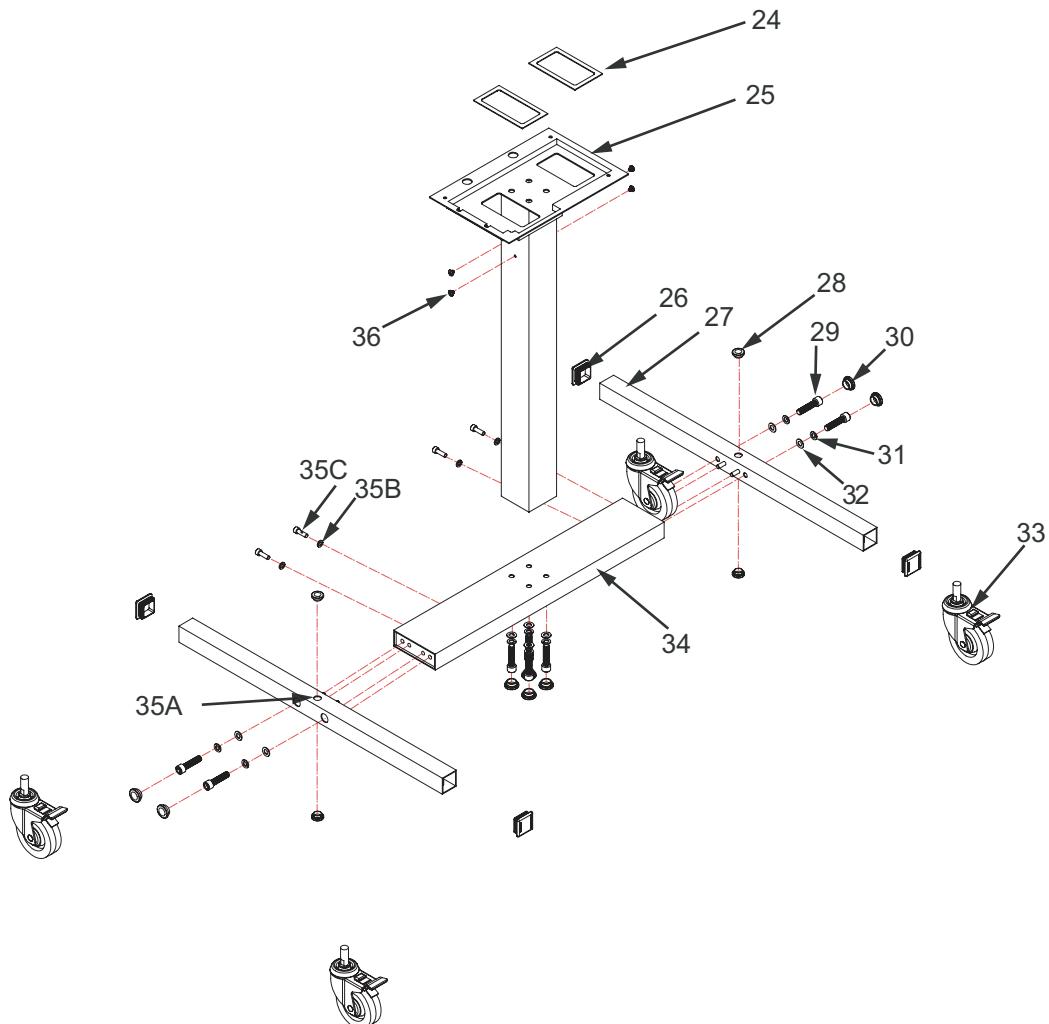


Figure 41: Mobile Stand

Printhead Stand

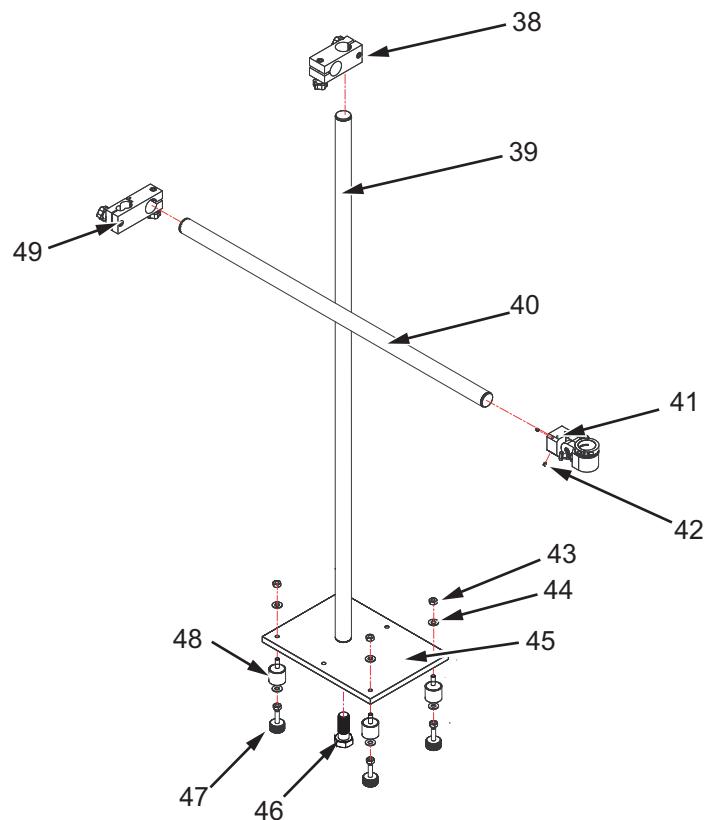


Figure 42: Printhead Stand

Printhead Photocell Holder

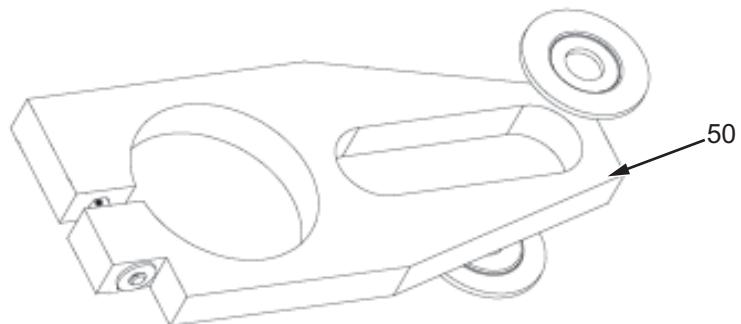


Figure 43: Printhead Photocell Holder - 6 mm, 8 mm, 18 mm

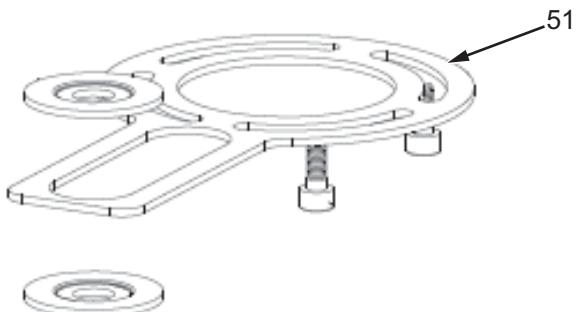


Figure 44: Printhead Photocell Holder -6 mm, 8 mm, 18 mm

Wash Station Assembly

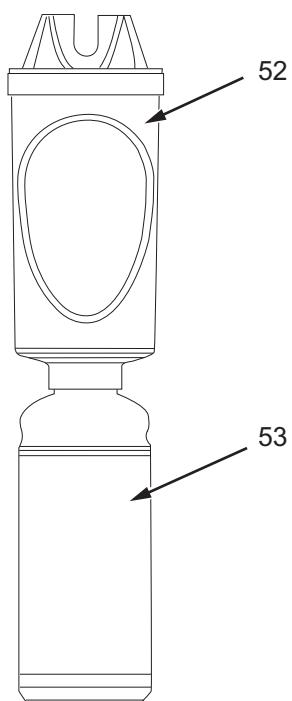


Figure 45: Printhead Photocell Holder -6 mm, 8 mm, 18 mm

Shaft Encoder



Figure 46: Shaft Encoder

Shaft Encoder Accessories

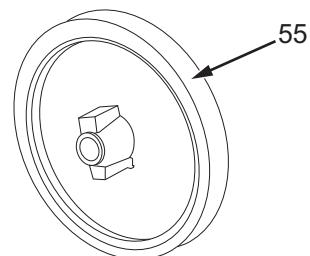


Figure 47: Circular Wheel

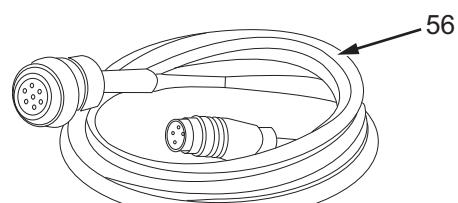


Figure 48: Shaft Cable



Figure 49: Spring Bracket

Product Detectors

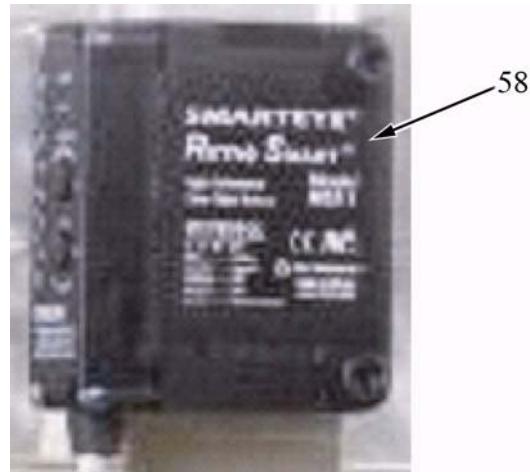


Figure 50: Detector Retro Smart

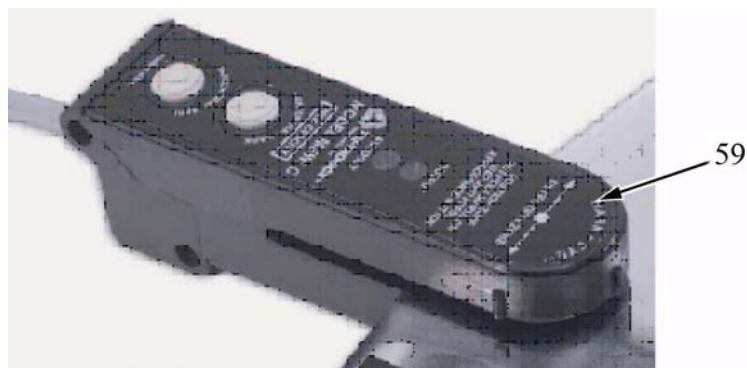


Figure 51: Detector Label Eye

Power Accessories



Figure 52: Power Conditioner



Figure 53: Uninterrupted Power Supply

Power Cord

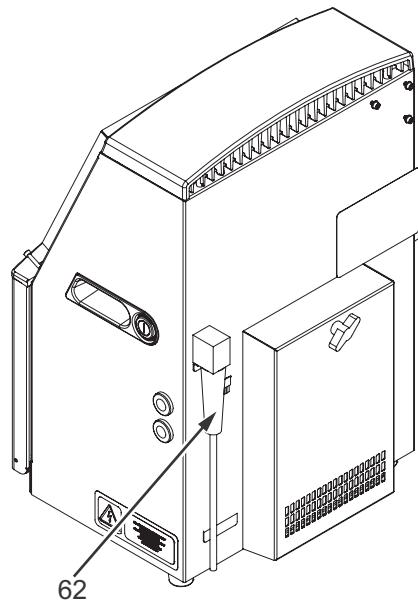


Figure 54: Power Cord

Din Plugs



Figure 55: 3 Way DIN Plug



Figure 56: 7 Way DIN Plug

Item Number	P/N	Description	Qty
	SP399089	Beacon Assembly	
1		Beacon	1
2		M4x10 Socket-head Cap Screw	3
3		Beacon Mounting Bracket	1
	399474	Dry Air Kit Assembly	
4		M4 Nylon Washers	2
5		Air Dryer Mounting Bracket	1
6		M4 x 10 Socket-head Cap Screw	3
7		Air Dryer	1
8		1/4 inch-20 x 1 inch Socket-head Screw	2
	399099	Static Stand Standard	
9		M6 x 16 Long Flat Socket-head Screw	4
10	234116	Adapter Plate	1
11		M5 Flat Washers	4
12		M5 Spring Lock Washers	4
13		M5 x 20 Long Socket-head Screw for IP55 Printers (or) M5 x 30 Long Socket-head Screw for IP65 printers	4
14		Column Top Plate	1
15		M6 Flat Washer	4

Table 8: Accessories

Item Number	P/N	Description	Qty
16		M6 Spring Lock Washer	4
17		M6 Hex Nut	4
18		Column	1
19		Cap-head Hex Screw, 1/4" x 20 UNC x 0.625	4
20		Flat Washer	4
21		Column Bottom Plate	1
22		Floor Plate	1
23		3/8" - 16 Flat Point Socket-head, 1" Long	4
	399362	Mobile Stand Standard	
24		Mounting Plate Gasket	2
25		Printer Stand Upright	1
26		Tubing Plastic End Cap	4
27		Printer Stand Leg	4
28		16 mm Blanking Plug	4
29		SS M10-1.5 x 50 Socket-head Screw	8
30		20 mm Blanking Plug	8
31		M10 Split Washer	8
32		M10 Flat Washer	8
33		Locking Caster	4
34		Printer Stand Base	1
35A		Printhead Stand Hole	2
35B		M8 Spring Washer	4
35C		M8 x 25 Socket-head Screw	4
36		1/4"-20 Pan-head Screw	4
37*		M8 x 1.0 Screw Hole	
	399086	Printhead Stand	
38		Clamp Assembly	1
39		Vertical Tube	1

Table 8: Accessories (Continued)

Item Number	P/N	Description	Qty
40		Printhead Cross Tube	1
41		Printhead Mount Assembly	1
42		M6 x 8 Grub Screw	2
43		M10 Nut	8
44		M10 Washer	8
45		Stand Base Plate	1
46		M16 X 40 Hex Bolt	1
47		Adjustable Foot	4
48	399093	Anti-vibration Mounting	4
49		Umbilical Clamp Assembly	1
50	399278	Printhead Photocell Holder 6 mm, 8 mm, 18 mm	1
51	399294	Printhead Photocell Holder 6 mm, 8 mm, 18 mm	1
52	399085	Wash Station Assembly	1
	202047	250ml Wash Bottle	1
53	301-0007-005	Empty 1 Liter Bottle	1
54		Shaft Encoder	
		Encoders	
	41000255	2500 PPR	1
	377530	3600 PPR (use with 21000217)	1
	41000256	5000 PPR	1
		Encoder Kits	
	378815	1800 PPR kit (encoder, 25ft cable)	1
	40331750	2500 PPR kit (encoder, mounting bracket, wheel)	1
	378821	3600 PPR kit (encoder, 25ft cable)	1
	80200266	5000 PPR kit (encoder, mounting bracket, wheel)	1

Table 8: Accessories (Continued)

Item Number	P/N	Description	Qty
55	21000217	12 inch Circular Wheel	1
	377529	12 inch Circular Wheel (With replaceable ring)	1
	377523	Replaceable ring for part 377529	1
56	378192	3 m Shaft Cable	1
	378193	6 m Shaft Cable	1
	378985	Encoder Adapter Cable Kit (To convert from older style Conxall (excel) connectors to new DIN connectors)	1
57	377519	Spring Bracket	1
58	234215	Detector Retro Smart (Clear Materials)	1
59	234213	Detector Label Eye (Web Printing)	1
	234214	Detector Mark Eye (Web Registration Mark)	1
59A*	378981	Product Detector Adapter Cable (To convert from older style Conxall (excel) connectors to new DIN connectors)	1
60	356841-02	120 V Power Conditioner	1
	234597	240 V Power Conditioner	1
61	80000008	Uninterrupted Power Supply (120 V Version)	1
62		Power Cord (Refer to Table 1-9 on page 48)	1
63	500-0036-578	3 Way DIN Plug (Photo Cell) For product detector and reverse printing input	1
64	500-0036-583	7 Way DIN Plug (Relays) For Print Ready output and warnings	1
65*	500-0036-577	6 Way DIN Plug (Alert Beacon)	1
66*	500-0036-581	4 Way DIN Plug (Shaft Encoder)	1
67*	500-0036-584	8 Way DIN Plug (Message Select A/B)	1
68*	500-0076-141	DIN Plug Dust Cap	1
69*	399133	Exhaust Kit	1
70*	Refer item 48	Anti Vibration Kit Stand	1
71*	399068	Printhead Mounting	1
72*	399098	Universal Printhead Mounting	1

Table 8: Accessories (Continued)

Item Number	P/N	Description	Qty
73*	500-0036-582	5 Way DIN Plug (RS232)	1
74*	234433	5 Way DIN Plug (RS485)	1
75*	399504	25 way I/O (PCB 4) Cable	1
76*	SP378810	Alarm cable - 7 way DIN connector with 6ft cable	1
77*	SP378982	Encoder Adapter Cable	1
78*	399475	25 way I/O (PCB 4) Cable Kit	1

Table 8: Accessories (Continued)

*- Items are not shown in the figure

Power Cord

Part Number	Description
SP399205	Mains Power Cable International
399251	120V Molded Plug Power Cord (Type B)
399252	European Union Molded Plug Power Cord (Type F)
399253	Danish Molded Plug Power Cord (Type K)
399254	Italian Molded Plug Power Cord (Type C)
399255	Swiss Molded Plug Power Cord (Type J)
399256	UK Molded Plug Power Cord (Type G)
399257	China Molded Plug Power Cord (Type I)
399258	India Molded Plug Power Cord (Type D)
399261	Swedish Molded Plug Power Cord
399262	Finnish Molded Plug Power Cord
399263	Norwegian Molded Plug Power Cord

Table 1-9: Power Cord

Miscellaneous Accessories

Connectivity

Part Number	Description
80200258	RS-232 Cable
399186	Extension Cables 3 m RS485
399062	Extension Cables 6 m RS232
399279	Lampstack Extension Cable Beacon 6m
223213	External Ethernet Connector Cable 5 m
395898	Ethernet Connector Kit Spares
395899	USB Connector Kit Spares

Table 1-10: Connectivity

Hydraulics

Part Number	Description
399072	Tubing Kit Spare

Table 1-11: Hydraulics

Printhead and Umbilical

Part Number	Description
399506	Printhead and Umbilical Complete (3 m) 60 micron
395679	Printhead and Umbilical Complete (3 m) 70 micron
399555	Printhead and Umbilical Complete (3 m) 60 micron FG
395681	Printhead and Umbilical Complete (3 m) 70 micron FG
399507	Printhead and Umbilical Complete (6 m) 60 micron
395680	Printhead and Umbilical Complete (6 m) 70 micron
399556	Printhead and Umbilical Complete (6 m) 60 micron FG

Table 1-12: Printhead and Umbilical

Part Number	Description
395682	Printhead and Umbilical Complete (6 m) 70 micron FG
399508	Printhead Chassis and Umbilical (3 m)
399587	Printhead Chassis and Umbilical (3 m) FG
399509	Printhead Chassis and Umbilical (6 m)
399588	Printhead Chassis and Umbilical (6 m) FG
	Printhead Cover and Screw
395677	Cleaning Brush
395676	Cleaning Kit

Table 1-12: Printhead and Umbilical

90 Degree Printhead and Umbilical

Part Number	Description
399644	90 Degree Printhead and Umbilical Complete (3m) 60 micron
395710	90 Degree Printhead and Umbilical Complete (3m) 70 micron
399653	90 Degree Printhead and Umbilical Complete (3m) 60 micron FG
395712	90 Degree Printhead and Umbilical Complete (3m) 70 micron FG
399645	90 Degree Printhead and Umbilical Complete (6m) 60 micron
395711	90 Degree Printhead and Umbilical Complete (6m) 70 micron
399654	90 Degree Printhead and Umbilical Complete (6m) 60 micron FG
395713	90 Degree Printhead and Umbilical Complete (6m) 70 micron FG
399634	90 Degree Printhead Chassis and Umbilical (3m)
399655	90 Degree Printhead Chassis and Umbilical (3m) FG
399635	90 Degree Printhead Chassis and Umbilical (6m)
399656	90 Degree Printhead Chassis and Umbilical (6m) FG

Table 1-13: 90 Degree Printhead and Umbilical

Part Number	Description
SP399594	90 Degree Printhead Sleeve and Screw

Table 1-13: 90 Degree Printhead and Umbilical

Tools Kit

There are several tools in the tool kit for normal maintenance of printer.

The Service Tool Kit (TL399250)

Table 1-14 lists the tool kit items and their part numbers.

Part Number	Description
234639	Allen/Hex Key, 0.035 inch, Set of 5
234638	M4 Nut Spinner (7mm)
234642	Ball Driver 2mm
234643	Ball Driver 2.5mm
234644	Ball Driver 3mm
234645	Ball Driver 4mm
234650	Side Cutters
234640	Allen/Hex Key 1.27mm, Set of 5
234641	Allen/Hex Key 1.5mm, Set of 5
234651	Folding Knife
234652	Knife Blades
234653	Spanner/Wrench 7mm
234654	Spanner/Wrench 1/2 inch
234655	Screwdriver Flat Blade 2.5mm
234657	DIN Spanner/Wrench
234658	Tube Cutter
355269	Loupe Magnifying Glass
234494	USB A to USB A Cable
399280	System Manifold Pressure Test Tool
399247	Nozzle Bypass Manifold Kit

Table 1-14: TL399250 Tool Kit Parts List

Part Number	Description
234646	Torx Driver T10
234647	Torx Driver T20
234632	USB Memory Stick 2GB
234638	M4 Nut Spinner (7mm)
234648	No.1 Pozidrive
234649	No.2 Pozidrive
399519	Bonding Strap
	Tool Bag

Table 1-14: TL399250 Tool Kit Parts List (Continued)